Appendix E

Final Human Health Risk Assessment

FINAL HUMAN HEALTH RISK ASSESSMENT FOR THE AVILA TANK FARM PROPERTY IN SUPPORT OF THE COMMUNITY VISION PLAN

AUGUST 2013

Prepared for:
Avila Tank Farm
Collaborative Assessment Team

Prepared by:
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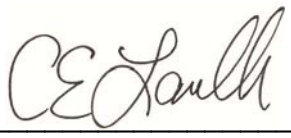

_____ August 20, 2013

Charles Lambert, PhD, DABT **Date**
Principal Toxicologist

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EXECUTIVE SUMMARY

This Final HHRA evaluated the potential cancer risks and noncancer hazards from chemicals known to be present at the Avila Tank Farm to future Site users in specific exposure areas identified in the Vision Plan. Cancer risks exceed the lower end of the USEPA risk management range, which is defined as an incremental cancer probability of one in one million, for people potentially spending time indoors in Exposure Areas C, E, Ib, J, K, and for recreational open space users. Modeled concentrations of volatile chemicals in indoor air, especially benzene and chloroform, contribute the majority of cancer risks for indoor receptors. Polycyclic aromatic hydrocarbons in soil, specifically the maximum concentration of dibenzo(a,h)anthracene, account for the majority of recreational open space user cancer risks. The noncancer hazard is below the level of concern (1.0) for all potential Site users in all exposure areas. It is anticipated that these findings will be used to aid risk managers with finalizing development plans and remediation activities at the Site.

Members of the Avila Community developed a development plan concept for the former Avila Tank Farm (the Site). The Site consists of 95 acres and is situated directly east of the community of Avila Beach, California, in an unincorporated portion of San Luis Obispo County. The Vision Plan integrates elements suggested by community members, other stakeholders, and Chevron (see Figure ES-1). The results of the 2005 Avila Tank Farm Baseline Human Health Risk Assessment (HHRA) were used to assist in the scoping of the Vision Plan, thereby limiting certain land uses for specific areas on the Site. In order to proceed with implementation of the Vision Plan, a Pre-Feasibility Study is being prepared. A critical need in support of the Pre-Feasibility Study is the evaluation of the potential impacts on human health associated with land uses proposed in the Vision Plan. This Final HHRA addresses that need, and integrates new Site-related information collected since the completion of the 2005 HHRA, as well as the Supplemental HHRA and the Addendum to the Supplemental HHRA (McDaniel Lambert 2005, 2011, 2012).

The Avila Tank Farm Collaborative Assessment Team (ATCAT), a collaborative stakeholder group first convened in 2003, has been examining the potential impacts to human and ecological health from both petroleum hydrocarbons and non-petroleum chemicals that may be present in various media at the Site. The stakeholders in the collaborative process include Chevron and the California Central Coast Regional Water Quality Control Board (RWQCB), as well as several other government agencies. The ATCAT has played a critical role in the risk assessment process, providing both guidance and oversight of both risk assessment and data collection activities at the former Avila Tank Farm.

The Vision Plan identifies various types of development in discrete areas of the Site. The Final HHRA focused on potential risks to receptors in each of these development areas, or *exposure areas*. A total of 16 exposure areas were identified (A through O, Open Space,

Native Gardens and Drainage Area) and shown in Figure ES-2. The uses identified for each of the exposure areas and evaluated in the Final HHRA are[1]:

- Exposure Area A – Unspecified commercial development (default commercial structure)
- Exposure Area C – Family cottage clusters (bungalow and/or default commercial structure)
- Exposure Area D – Wellness Center (spa, fitness, and pool) with guestrooms (bungalow and/or default commercial structure)
- Exposure Area E – Wellness Center (spa, fitness, and pool) with guestrooms (bungalow and/or default commercial structure)
- Exposure Area G – Community amphitheater with associated support buildings (e.g., restrooms, vendors; default commercial structures)
- Exposure Area Ia – Single or multiple unit guestrooms/conference center villas (bungalow and/or default commercial structure)
- Exposure Area Ib - Single or multiple unit guestrooms/conference center villas (bungalow and/or default commercial structure)
- Exposure Area J – Living roof guestrooms (bungalow and/or default commercial structure)
- Exposure Area K – Resort, public restaurants and meeting rooms (default commercial building)
- Exposure Area L – Family cottage clusters (bungalow and/or default commercial structure)
- Exposure Area M – Parking lot (default commercial structure); although buildings are not proposed, a default commercial structure is evaluated
- Exposure Area N – Parking lot (default commercial structure); although buildings are not proposed, a default commercial structure is evaluated
- Exposure Area O – Parking lot, Shuttle and Gate House (default commercial structure)
- Open Space – Recreation areas
- Native Gardens – Gardens to include produce for use in Site restaurants
- Drainage Area – Outdoor commercial use for general grounds maintenance

This Final HHRA evaluated the potential cancer risks and noncancer hazards from chemicals known to be present at the Site to future users, as identified from the Vision Plan. The exposures and associated risks detailed in this Supplemental HHRA were developed using the reasonable maximum exposure (RME) approach, as promulgated by the California Environmental Protection Agency (Cal/EPA 1994) and U.S. Environmental Protection Agency (USEPA 1989). The RME approach, which estimates the maximum reasonably expected to occur in a population, is intended to provide a conservative estimate of exposure within the range of possible exposures. Exposure assumptions were made in accordance with regulatory guidance (Cal/EPA 1994, USEPA 1989), land uses identified in the Vision Plan, and best professional judgment.

[1] Exposure Areas B, F and H are no longer included in the development plan, and therefore not evaluated in the Final HHRA.

Although the Site is currently zoned industrial, potential human populations that could be exposed to residual contamination at the Site based on the aforementioned uses and evaluated in the Vision HHRA include short-term residents (adult and child), commercial employees (indoor and outdoor adults), intrusive utility workers (adult), and recreational open space users (adult and child).[2] While the Vision Plan as illustrated in Figure ES-1 includes various sized buildings located in specific areas, the specifics regarding construction and placement of buildings has yet to be determined. Therefore, the Final HHRA conservatively assumed use of any portion of an Exposure Area and includes the evaluation of "default" commercial structures, as defined by current guidance (Cal/EPA 2005b and d). The Final HHRA evaluated the incidental ingestion of and dermal contact with soil, inhalation of soil particles and associated vapors, and inhalation of indoor air vapors via subsurface contamination. The evaluation of health risks to intrusive utility workers included incidental ingestion of and dermal contact with soil, inhalation of soil particles and associated vapors, and incidental ingestion of and dermal contact with contaminated groundwater. The Final HHRA also evaluated potential health risks associated with restaurant patrons consuming produce grown in an agricultural area slated for the Native Gardens. Groundwater was not evaluated as a source of drinking water because general mineral analyses indicate that groundwater quality at the Site is poor, and it is unlikely that it will be used in the future for drinking water. Recreational use (adult and child) and offsite residential (adult and child) exposure to soil particulates and associated vapors from a site-wide source was re-examined to update results of the 2005 HHRA (in case no development occurs on the Site).

Table ES-1 summarizes the potential health risks and associated uncertainties to future Site users identified in the Vision Plan in terms of the incremental lifetime cancer risk (ILCR) and the noncarcinogenic hazard index (HI), based on current environmental conditions at the Site. The ILCR may be compared to a range of acceptable probabilities to determine whether the potential risk poses an unacceptable cancer health risk. The USEPA acceptable risk management range is 1 in 1,000,000 ($1x10^{-6}$) to 1 in 10,000 ($1x10^{-4}$; USEPA 1990a, 1991). The acceptable noncancer hazard index for Cal/EPA and USEPA is less than or equal to 1. In exposure areas where lead was carried forward as a COPC, the potential for lead-related health effects was evaluated by comparing the exposure area EPC to the lead soil California Human Health Screening Levels (CHHSLs; Cal/EPA 2009a). To address San Luis Obispo County Environmental Health Services (SLO County EHS) concerns with respect to the Childhood Lead Poisoning Prevention Program, maximum lead levels were compared to the 1,000 mg/kg threshold for areas where children may be present. The Final HHRA also compared methane soil gas concentrations to the lower explosive limit (LEL) of 5%.

[2]Exposure assumptions for the intrusive utility worker generally follow those identified in guidance for the construction worker; this worker is intended to represent a person involved in non-remediation activities that would occur following development of the Site, such as digging trenches for maintenance purposes.

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Table ES-1. Summary of Potential Health Effects and Uncertainties and Recommendations Associated with Estimates Above Acceptable Threshold Levels

Receptor	ILCR*	HI	Primary Risk Driver(s)**	Uncertainties
Exposure Area A				
Default Bldg. Short-term Res Adult	2E-07	0.003		
Default Bldg. Short-term Res Child		0.008		
Default Bldg. Indoor Employee	8E-08	0.002		
Outdoor Employee	1E-07	0.008		
Intrusive Utility Worker	2E-08	0.007		
Exposure Area C				
Bungalow Short-term Resident Adult	2E-06	0.008	• Bungalow short-term resident cancer risks are driven by chloroform in indoor air (chloroform modeled from soil gas maximum at 5' bgs)	• Maximum shallow soil gas chloroform detection of 3.5 µg/L (and nearly all other carcinogenic COPC maximums) occurred at SV-45. Next highest chloroform shallow soil gas detect is 0.55 µg/L (SV-45), which combined with the remaining original maximums corresponds to a cancer risk less than 1E-06.
Bungalow Short-term Resident Child		0.02		
Bungalow Indoor Employee	1E-06	0.02		
Default Bldg. Short-term Res Adult	7E-07	0.006		
Default Bldg. Short-term Res Child		0.02		
Default Bldg. Indoor Employee	6E-07	0.01		
Outdoor Employee	1E-07	0.04		
Intrusive Utility Worker	5E-08	0.03		
Exposure Area D				
Bungalow Short-term Resident Adult	9E-07	0.02	• The soil lead EPC of 1600 mg/kg (maximum) for all receptors exceeds the commercial CHHSL • The maximum lead concentration within 0-2 ft bgs (1600 mg/kg) exceeds the Childhood Lead Prevention Program 1,000 mg/kg threshold • Methane in soil gas exceeds 5% LEL	• The next highest lead detect in exposure area is 100 mg/kg • Methane LEL exceedances occur in only 15' bgs samples
Bungalow Short-term Resident Child		0.1		
Bungalow Indoor Employee	7E-07	0.1		
Default Bldg. Short-term Res Adult	5E-07	0.02		
Default Bldg. Short-term Res Child		0.1		
Default Bldg. Indoor Employee	3E-07	0.1		
Outdoor Employee	2E-07	0.3		
Intrusive Utility Worker	9E-08	0.4		

Table ES-1. Continued

Receptor	ILCR*	HI	Primary Risk Driver(s)**	Uncertainties
Exposure Area E				
Bungalow Short-term Resident Adult	2E-04	0.2	• Indoor receptor cancer risks are driven by estimated benzene concentrations in indoor air • The intrusive worker soil lead EPC (490 mg/kg) exceeds the commercial CHHSL • Methane in soil gas exceeds 5% LEL (at 5' bgs)	• Benzene concentrations in indoor air are modeled from soil gas levels at 15' bgs; indoor air cancer risks based on 5-foot maximum soil gas concentrations are above 1E-05 for indoor receptors • Next highest lead detect in exposure area is 88 mg/kg.
Bungalow Short-term Resident Child		0.2		
Bungalow Indoor Employee	2E-04	0.5		
Default Bldg. Short-term Res Adult	9E-05	0.08		
Default Bldg. Short-term Res Child		0.1		
Default Bldg. Indoor Employee	8E-05	0.2		
Outdoor Employee	1E-06	0.1		
Intrusive Utility Worker	1E-06	0.8		
Exposure Area G				
Default Bldg. Indoor Employee	2E-07	0.02		
Outdoor Employee	2E-07	0.09		
Intrusive Utility Worker	6E-08	0.08		
Exposure Area Ia				
Bungalow Short-term Resident Adult	6E-07	0.004	• Intrusive utility worker soil lead EPC (1100 mg/kg) exceeds the commercial CHHSL • The maximum lead concentration within 0-2 ft bgs (1100 mg/kg) exceeds the Childhood Lead Prevention Program 1,000 mg/kg threshold	• Next highest lead detect in exposure area is 150 mg/kg
Bungalow Short-term Resident Child		0.01		
Bungalow Indoor Employee	4E-07	0.008		
Default Bldg. Short-term Res Adult	4E-07	0.004		
Default Bldg. Short-term Res Child		0.01		
Default Bldg. Indoor Employee	2E-07	0.007		
Outdoor Employee	3E-07	0.02		
Intrusive Utility Worker	5E-08	0.04		

Table ES-1. Continued

Receptor	ILCR*	HI	Primary Risk Driver(s)**	Uncertainties
Exposure Area Ib				
Bungalow Short-term Resident Adult	2E-04	0.2	• Indoor receptor cancer risks are driven by estimated chloroform concentrations in indoor air	• Modeled chloroform concentrations in indoor air are based on soil gas levels at 15 ft bgs. Total cancer risks based on 5-ft maximum soil gas concentrations remain above 1E-06 for only the bungalow short-term resident (2E-06); default building short-term resident value equals 1E-06.
Bungalow Short-term Resident Child		0.2		
Bungalow Indoor Employee	2E-04	0.5		
Default Bldg. Short-term Res Adult	1E-04	0.08		
Default Bldg. Short-term Res Child		0.1		
Default Bldg. Indoor Employee	1E-04	0.2		
Outdoor Employee	7E-07	0.1		
Intrusive Utility Worker	1E-07	0.3		
Exposure Area J				
Bungalow Short-term Resident Adult	2E-04	0.2	• Indoor receptor cancer risks are driven by chloroform in indoor air • Intrusive utility worker soil lead EPC (350 mg/kg) exceeds the commercial CHHSL	• Chloroform indoor air concentrations are modeled from soil gas levels at 15 ft bgs. Total cancer risks based on 5-ft maximum soil gas concentrations are an order of a magnitude lower, but remain above 1E-06 for all indoor receptors • Next highest lead detect in exposure area is 320 mg/kg
Bungalow Short-term Resident Child		0.2		
Bungalow Indoor Employee	2E-04	0.5		
Default Bldg. Short-term Res Adult	1E-04	0.08		
Default Bldg. Short-term Res Child		0.1		
Default Bldg. Indoor Employee	9E-05	0.2		
Outdoor Employee	1E-06	0.1		
Intrusive Utility Worker	1E-07	0.7		
Exposure Area K				
Default Bldg. Short-term Res Adult	7E-06	0.009	• Indoor receptor cancer risks are driven by chloroform in indoor air	• Chloroform indoor air concentrations are modeled from soil gas levels at 15 ft bgs. Total cancer risks based on 5-ft bgs maximum soil gas concentrations are below 1E-06 for all indoor receptors
Default Bldg. Short-term Res Child		0.02		
Default Bldg. Indoor Employee	6E-06	0.02		
Outdoor Employee	2E-07	0.04		
Intrusive Utility Worker	2E-08	0.04		

Table ES-1. Continued

Receptor	ILCR*	HI	Primary Risk Driver(s)**	Uncertainties
Exposure Area L				
Bungalow Short-term Resident Adult	4E-07	0.01	• Intrusive utility worker soil lead EPC (690 mg/kg) exceeds the commercial CHHSL	• Lead levels in two additional soil samples in exposure area exceed commercial CHHSL
Bungalow Short-term Resident Child		0.04		
Bungalow Indoor Employee	2E-07	0.02		
Default Bldg. Short-term Res Adult	3E-07	0.01		
Default Bldg. Short-term Res Child		0.04		
Default Bldg. Indoor Employee	1E-07	0.02		
Outdoor Employee	3E-07	0.09		
Intrusive Utility Worker	8E-08	0.5		
Exposure Area M				
Default Bldg. Short-term Res Adult	5E-07	0.006		
Default Bldg. Short-term Res Child		0.03		
Default Bldg. Indoor Employee	3E-07	0.02		
Outdoor Employee	2E-07	0.06		
Intrusive Utility Worker	5E-08	0.1		
Exposure Area N (Parking Lot)				
Default Bldg. Short-term Res Adult	1E-07	0.004		
Default Bldg. Short-term Res Child		0.02		
Default Bldg. Indoor Employee	3E-08	0.006		
Outdoor Employee	9E-08	0.04		
Intrusive Utility Worker	5E-08	0.04		

Table ES-1. Continued

Receptor	ILCR*	HI	Primary Risk Driver(s)**	Uncertainties
Exposure Area O				
Default Bldg. Short-term Res Adult	3E-07	0.006		
Default Bldg. Short-term Res Child		0.03		
Default Bldg. Indoor Employee	2E-07	0.01		
Outdoor Employee	1E-07	0.05		
Intrusive Utility Worker	8E-08	0.05		
Open Space				
Recreational Adult (0-2 ft bgs)	2E-06	0.01	• Shallow soil recreational cancer risk driven by dermal contact with and ingestion of dibenzo(a,h)anthracene in soil • 0-10 ft bgs recreational cancer risk driven by PAHs (dibenzo(a,h)anthracene and BaP TEQ) and soil-associated benzene	• Dibenzo(a,h)anthracene detected only 3 times in shallow soil, therefore cancer risk based on maximum value. Total cancer risk based on next-highest result is 6E-07.
Recreational Child (0-2 ft bgs)		0.2		
Recreational Adult (0-10 ft bgs)	2E-06	0.03		
Recreational Child (0-10 ft bgs)		0.2		
Outdoor Employee	7E-07	0.1		
Drainage Exposure Area				
Outdoor Employee	1E-06	0.06		
Intrusive Utility Worker	2E-07	0.2		
Native Gardens				
Restaurant Visitor Adult	3E-08	0.002		
Restaurant Visitor Child		0.005		
Outdoor Employee	7E-08	0.01		

Table ES-1. Continued

Receptor	ILCR*	HI	Primary Risk Driver(s)**	Uncertainties
Site-wide Exposure Area (No Development Scenario)				
Offsite Resident Adult (0-2 ft bgs)	2E-06	0.008	• Offsite resident cancer risk driven by soil-associated ethylbenzene	• Results of air sampling for the Town of Avila (Applied Measurement Science 2001) consistent with those anticipated for a clean, coastal environment
Offsite Resident Child (0-2 ft bgs)		0.008		
Recreational Adult (0-2 ft bgs)	8E-07	0.01		
Recreational Child (0-2 ft bgs)		0.2		
Recreational Adult (0-10 ft bgs)	1E-06	0.08		
Recreational Child (0-10 ft bgs)		0.9		

*Cancer risk is age-weighted and assumes 6 years of exposure as a child and 24 years as an adult; ILCR is the incremental probability of an individual developing cancer over a lifetime as a result of exposure to the potential carcinogen; 2E-07 = 0.0000002 = two in ten million

**Risk drivers are identified if the ILCR exceeds $1x10^{-6}$ or the HI exceeds 1.0. Health risks from vapor intrusion were evaluated based on the soil gas sampling depth (5 or 15' bgs) that resulted in the highest modeled indoor air concentration; results based on the 15' sample may overestimate vapor intrusion-related risks (see Sections 5.1.4.2 and 7.4.3.7).

Major conclusions reached in the Final HHRA are as follows:

- Health risks were evaluated based on current environmental conditions and land uses identified in the Vision Plan, which includes commercial use of all exposure areas (that may include hotels, characterized as short-term residential use), and recreational use of Open Space. If the Site changes dramatically due to a catastrophic event (e.g., natural disaster such as earthquake), or development plans become inconsistent with land uses and structures evaluated in this risk assessment, additional evaluation of potential health risks may be necessary.
- In Exposure Areas A, G, M, N, O, Native Gardens and the Drainages, there are no exceedances of the low end of the USEPA cancer risk management range ($1x10^{-6}$), the noncancer threshold of 1.0, the commercial lead CHHSL, the Childhood Lead Prevention Program threshold of 1,000 mg/kg, or the methane LEL of 5%.
- The only exceedances in Exposure Areas D, Ia, and L are associated with the methane LEL and/or the commercial lead CHHSL. In Exposure Area D, the lead EPC for all receptors (maximum) exceeds the commercial lead CHHSL and the Childhood Lead Prevention Program threshold and methane in soil gas collected from 15 ft bgs exceed the LEL. In Exposure Area Ia, the intrusive utility worker lead EPC exceeds the commercial lead CHHSL and 0-2 ft bgs maximum exceeds the Childhood Lead Prevention Program threshold. In Exposure Area L, the intrusive utility worker lead EPC exceeds the commercial lead CHHSL.
- Estimated risks for short-term residents and/or indoor employees exceed $1x10^{-6}$ in Exposure Areas C, E, Ib, J, and K, with maximums ranging from $2x10^{-6}$ (Exposure Area C bungalow indoor short-term residents) to $2x10^{-4}$ (Exposure Areas E, Ib, and J bungalow short-term residents and indoor employees). For these indoor receptors, cancer risks are driven by exposure to modeled concentrations of benzene or chloroform in indoor air. With the exception of Exposure Area C, the indoor air risks are driven by maximum soil gas concentrations from 15 ft bgs; when risk calculations are based on maximum 5 ft soil gas samples, the maximum cancer risks drop below or equal $1x10^{-6}$ in Exposure Areas Ia (except bungalow short-term residents) and K. Indoor air risks in Exposure Area C are based primarily on maximum shallow soil gas results associated with SV-45.
- In Exposure Areas C, E, Ib, J, and K, outdoor worker cancer risks and all receptor noncancer hazards are below $1x10^{-6}$ and 1.0, respectively. However, in Exposure Area E intrusive utility worker lead EPC exceeds the commercial lead CHHSL, and methane in soil gas exceeds the 5% LEL.
- For recreational use of Open Space, the shallow soil cancer risk is $2x10^{-6}$ and the child noncancer hazard is 0.2. The recreational cancer risk is driven by the maximum detection of dibenzo(a,h)anthracene, which was detected in only three samples. Outdoor employee health effects are below all thresholds.
- Health risks associated with consumption of produce grown at the Site are very low, with a cancer risk of $3x10^{-8}$ and a noncancer hazard of 0.005 (child).

- Under the no development scenario, the estimated offsite resident cancer risk and noncancer hazard are $2x10^{-6}$ and 0.008, respectively, with the cancer risk driven by modeled concentrations of ethylbenzene in ambient air. However, previous ambient air sampling conducted at the property showed ambient air as would be expected of a coastal environment distant from urban areas. Maximum recreational user cancer risks and noncancer hazards in the no development scenario are $1x10^{-6}$ and 0.9 (child), respectively.
- Compared to the 2011 Supplemental HHRA, cancer risks for receptors that include childhood exposures increased due to the use of age-dependent adjustment factors for all carcinogens as opposed to only those with a mutagenic mode of action. The uncertainty associated with this overall assumption of enhanced toxicity is particularly evident for Exposure Area C bungalow short-term residents, Open Space recreators (0-10 ft bgs), and Site-wide no development offsite residents, where cancer risks just exceed the low end of the USEPA risk management range but include non-mutagenic VOCs among the main risk drivers (chloroform, benzene, and ethylbenzene, respectively); therefore these cancer risks may be overestimated.
- Risks associated with specific remediation and/or construction projects, yet to be identified, are beyond the scope of this risk assessment and best addressed in the CEQA process. However, health risks for a hypothetical remediation scenario downwind resident, assuming worst-case exposure to COPCs during excavation in Exposure Area E, are $1x10^{-4}$ and 0.4, and are driven almost exclusively by modeled concentrations of soil-associated volatiles in outdoor air.
- Potential cumulative health impacts to Avila Beach residents from any remediation and/or construction projects identified for the Site are best addressed in the CEQA process.
- A data quality assessment of soil and soil gas sampling results for key risk drivers showed that sample sizes are sufficient to support defensible risk management decisions, based on results presented in this Final HHRA. For areas that may have insufficient data, remedial action will likely be required and data sufficiency will be addressed in the remediation phase.

FIGURE ES-1

COMMUNITY PLAN FOR CHEVRON TANK FARM

FORMER AVILIA TANK FARM
SAN LUIS OBISPO TANK FARM

PREPARED FOR

CHEVRON INC
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

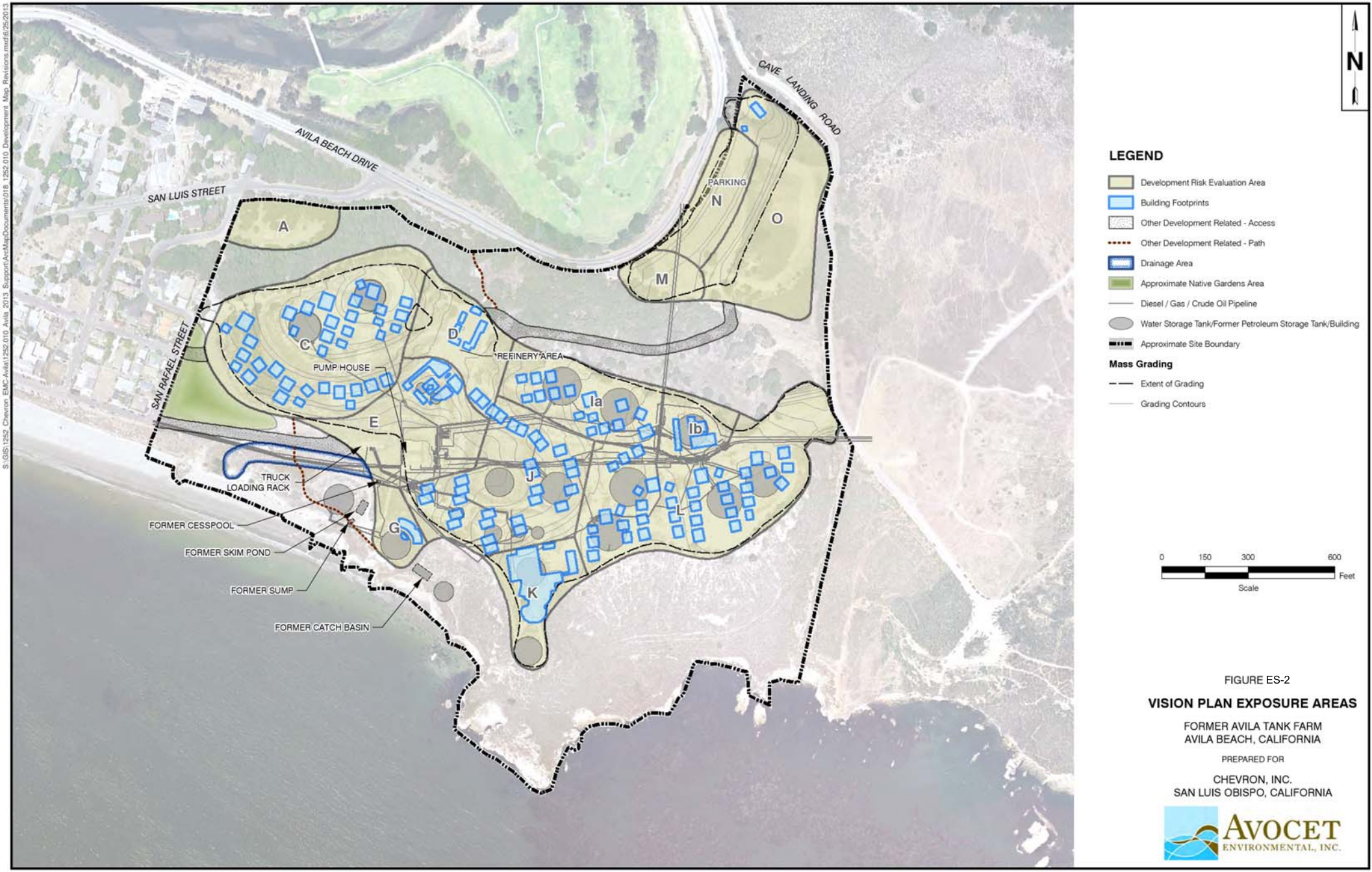

FIGURE ES-2

VISION PLAN EXPOSURE AREAS

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON, INC.
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

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1.0 INTRODUCTION

The former Avila Tank Farm (the Site), acquired by Chevron Corporation (Chevron) from Union Oil Company of California (Unocal) in 2005, is located on the Central Coast of California, directly east of the community of Avila Beach, California, in an unincorporated portion of San Luis Obispo County. The Site encompasses approximately 95 acres and is bordered by the community of Avila Beach to the west, the San Luis Creek and a golf course to the north, open space to the east, and the Pacific Ocean to the South (see Figure 1-1 below). The Site was acquired by Unocal in 1906 and served as a petroleum storage and distribution facility, pump station, and crude oil refinery, with some operations continuing into the late 1990s.

Figure 1-1. Avila Tank Farm Site and Vicinity

Environmental assessments of the Site have been ongoing since the early 1990s. In 2003, the Avila Tank Farm Collaborative Team (ATCAT), a multi-agency collaborative group, convened to evaluate the potential impacts to human and ecological health from petroleum and other chemicals at the Site. In addition to Chevron (Unocal pre-2005), members of the

ATCAT group have included: California Office of Environmental Health Hazard Assessment (OEHHA), the California Central Coast Regional Water Quality Control Board (RWQCB), the San Luis Obispo County Environmental Health Services Division (SLO County EHS), and the San Luis Obispo County Air Pollution Control District (SLOAPCD) (see Attachment 1 for current participants). The ATCAT helped to scope, review, and ratify the 2005 Baseline Human Health Risk Assessment (the 2005 Baseline HHRA), prepared by McDaniel Lambert, Inc. The 2005 Baseline HHRA evaluated the potential health risks to current (nearby residents and recreators/trespassers) and future Site users from residual chemicals in soil, soil gas, and groundwater (using data collected through 2004), although no development plan(s) for the Site had been proposed at the time.

Since completion of the 2005 Baseline HHRA, Chevron, in conjunction with the ATCAT, has conducted additional studies to better characterize residual contamination at the Site. In addition, a general community development plan concept was created, which integrated development elements suggested by community members, other stakeholders, a potential developer, and Chevron. The results of the 2005 Baseline HHRA were used to assist in the scoping of the community plan, thereby limiting certain land uses for specific areas on the Site. Other constraints on development at the Site, such as the preservation of archaeological areas and oak woodlands, the presence of wetlands, and the physical limitations presented by steep slopes at the property.

Implementation of the community plan requires environmental review by various regulatory agencies and other interested parties. To prepare for the risk management process, the ATCAT reconvened to review and refine the previously prepared risk assessments. The ATCAT reviewed sampling data available for the Site, provided recommendations for additional sampling, and oversaw sampling events and the preparation of reports refining the human and ecological risk assessments for the Site. In 2007, the ATCAT identified the need for a Supplemental HHRA to identify the potential impacts on human heath associated with the specifically proposed land uses. The Supplemental HHRA followed a single-text approach for addressing technical issues, in which a single text was revised from initial versions through a final accepted version. Participants in the collaborative process reviewed this document during its development, culminating with ATCAT ratification of the final version (v3.0). Based on the Supplemental HHRA, SLO County EHS issued a determination letter on March 16, 2012 to specify future actions for development areas (see Attachment 2). One of the specific actions requested by SLO County EHS was to collect additional soil gas data to meet the required sample size identified in the Data Quality Assessment (DQA; McDaniel Lambert 2010).

Since commencement of the Supplemental HHRA activities in 2007, additional Site soil, soil gas and groundwater sampling activities have occurred. Additionally, the proposed community plan has been revised in regard to development area boundaries and associated land uses. The current concept for future use of the Site is referred to as the Vision Plan, and a generalization of future development is illustrated in Figure 1-2. As agreed upon by ATCAT (January 12, 2011 conference call, see Attachment 2), an Addendum to the Supplemental HHRA was prepared to refine the human health risk results based on the Vision Plan land uses and additional site assessment data. However, SLO County EHS requested that this Final HHRA be prepared to integrate the Supplemental HHRA and the Addendum results, as well as to address some changes in risk methodologies since commencement of the Supplemental HHRA in 2007. The primary objective of this Final HHRA is to support risk management activities at the Site, including the California Environmental Quality Act (CEQA) process.

This Final HHRA was prepared in accordance with, and follows the procedures and methodologies described in, guidance documents from the California Environmental Protection Agency (Cal/EPA) and U.S. Environmental Protection Agency (USEPA). The characterization of petroleum hydrocarbons and other chemicals at the Site, and the evaluation of potential human health risks, were addressed through a collaborative process among ATCAT members with facilitation provided by Strategic Initiatives. As appropriate, the Final HHRA relies upon the results from and information included in the 2005 Baseline HHRA, the Supplemental HHRA, and the Addendum to the Supplemental HHRA (McDaniel Lambert 2005, 2011, 2012).

1.1 OBJECTIVE AND SCOPE

The overall objective of the Final HHRA is to quantify the magnitude of potential human health risks from residual chemical contamination at the Site and to support the Pre-Feasibility Study for the specific land uses proposed in the Vision Plan. To achieve this objective, the following site-specific information was used:

- Analyses of soil, soil gas, asphalt, and groundwater samples collected from the Avila Tank Farm;
- Analyses of background soil samples collected in the vicinity of the Avila Tank Farm and the nearby town of Avila;
- Physical characteristics of the Avila Tank Farm; and
- Future proposed land use activity patterns, as per the Vision Plan.

Although land use at the Site is currently zoned industrial, the Vision Plan includes the following Site users:

- Short-Term Residents (adult and child),
- Commercial Employees, indoor and outdoor (adult),
- Intrusive Utility Worker (adult), and
- Recreational Open Space User (adult and child).

The Final HHRA estimates potential health risks to the future users identified above by integrating available site-specific information and the concentrations of chemicals detected in each medium at the Site. This evaluation of risk to future users at the Site is intended to aid risk managers through the cooperative process and focuses solely on the proposed Vision Plan. To that end, the Final HHRA evaluates the potential risks to receptors in the exposure areas identified from the Vision Plan. While the Vision Plan as illustrated in Figures 1-2 and 1-3 includes various sized buildings located in specific areas, the specifics regarding construction and placement of buildings has yet to be determined. Therefore, the Final HHRA conservatively assumes use of any portion of an Exposure Area and includes the evaluation of "default" commercial structures in each area, as defined by current guidance (Cal/EPA 2005b and d). For areas described as "family cluster cottages" and "living roof guestrooms", evaluation of a site-specific structure for short-term hotel use also is included for some areas – this structure is referred to as a "hotel bungalow" throughout this risk assessment. As detailed in Section 4.2, while the exposure assumptions for the intrusive utility worker generally follow those identified in guidance for construction workers (e.g., USEPA 2002a), this worker is intended to represent a person involved in non-remediation activities that would occur following development of the Site, such as digging trenches for maintenance purposes.

Because remedial activities and specific construction activities have yet to be identified, evaluation of potential risks to remediation/construction workers is beyond the scope of this document, and is best addressed in the environmental impact report (EIR). Moreover, it is anticipated that workers engaged in any Site-related remediation/construction efforts will be covered by the Occupational Safety and Health Act (OSHA), and that these activities will include a significant hazard communication component as well as air monitoring and dust suppression. However, SLO County EHS requested that the HHRA include the evaluation of a downwind resident potentially exposed to dust generated during an excavation-type remedial action (see correspondence in Attachment 2), with the remediation area identified as the existing exposure area with the highest non-vapor

intrusion-related health risks. This receptor is hereto referred to as the "hypothetical remediation scenario downwind resident", and the potential health risks are discussed in Section 7.5.

While the 2005 Baseline HHRA evaluated risks to people who currently could be exposed to contamination at the Site – recreators/trespassers and offsite residents – additional data has been collected since that report was completed. Moreover, risk managers indicated that an updated evaluation of a "no development" scenario would be useful. Therefore, the Final HHRA also re-examines the potential risks to offsite residents and recreators if no development occurs on the Site; these receptor-exposure pathway combinations are referred to as the "no development scenario" offsite resident and recreator.

Based on these objectives and scope, it is important to note that the results of this Final HHRA apply only to current conditions under the identified Vision Plan. If the Site changes dramatically due to a catastrophic event (e.g., natural disaster such as earthquake), or development plans become inconsistent with land uses and structures evaluated in this risk assessment, additional evaluation of potential health risks may be necessary.

1.2 HUMAN HEALTH RISK ASSESSMENT OVERSIGHT

Preparation of the Supplemental HHRA began in Spring 2007, and was conducted under the oversight of the ATCAT. A subgroup of the ATCAT was responsible for overseeing the details associated with the completion of the HHRA. This HHRA Work Group (HHWG) included the following members:

- Chevron
- California Central Coast Regional Water Quality Control Board (RWQCB)
- San Luis Obispo County Environmental Health Services Division (SLO County EHS)
- San Luis Obispo County Air Pollution Control District (SLOAPCD)
- Avocet Environmental, Inc. (Avocet)
- McDaniel Lambert, Inc.
- Padre Associates, Inc. (Padre)

The HHWG reported back to the ATCAT on progress and on major issues that required decisions by the full ATCAT. The final version of the Supplemental HHRA (v3.0) reflected comments received from both the ATCAT and the HHWG on the Supplemental HHRA development process. The Addendum to the Supplemental HHRA provided health risks based on changes to the community development plan and additional sampling activities,

while following the same risk assessment methodology as the Supplemental HHRA. As requested by SLO County EHS in its review of the Addendum, this Final HHRA integrates the Supplemental HHRA with the Addendum and is consistent with current regulatory guidance. The minutes from the ATCAT meetings, conference calls, and associated correspondence (e.g. electronic mail) supporting the preparation of this Final HHRA are included in Attachment 2.

1.3 SITE DESCRIPTION AND HISTORY

The Avila Tank Farm is situated on a moderately dissected, topographic highland, the flanks and top of which are punctuated by relatively level, elevated marine platforms. Site elevation ranges from 220 feet above mean sea level (ft amsl) along the platforms at the top of the highland, to sea level at the bottom of the sea cliffs bordering the Site on the south. The platform topping the highland is dissected by two partially buried valleys. One valley runs north-south from the coast to the topographic saddle (Figure 1-4, prepared by Avocet). The second, east-west-trending valley is a tributary to the first. The southern margin of the Site generally consists of a narrow, gently-sloping, wave-cut platform or terrace that terminates seaward in 40 to 80-foot high cliffs. Near the center of the south margin, the terrace is interrupted by a bold outcropping of resistant bedrock known as Fossil Point (England & Associates 1998), which is shown along with other views of the Site in Figure 1-5. Because of this feature the whole Site is often referred to as Fossil Point.

The Site was acquired by Unocal in 1906, and then by Chevron in 2005, and served as a petroleum storage and distribution facility, pump station, and for a short time as a crude oil refinery. The last storage tanks were removed from operation in the late 1990's. Historical infrastructure at the Site is shown in Figure 1-3. Petroleum handled at the Avila facility entered or left the Site through one of three pipeline corridors (eastern, northern, and Front Street corridors) or via trucks loading gasoline or diesel fuel for market at the truck loading rack. The Front Street pipeline corridor allowed for receipt and/or distribution of petroleum products via ships at the Port San Luis/Unocal wharf. The northern pipeline corridor connected the Site with the Santa Margarita pump station, and the eastern corridor provided the most direct route between Port San Luis and the Santa Maria and Orcutt oil fields (England & Associates 1998).

Figure 1-5. Views of the Former Avila Tank Farm

Petroleum materials received at the Site either passed through the Site via pipelines or were stored temporarily in aboveground tanks (ASTs). A minimum of 27 large ASTs was used at the Avila facility for storing petroleum and related products. As shown in Figure 1-3, the majority of the ASTs were located in Exposure Areas Ia, Ib, J, K and L in the vicinity of the Front Street pipeline. Based on historical records, storage capacities at the Site were allocated as follows: approximately 78% for crude oil and tar; 12% for gas oil; 5% for gasoline and diesel fuel, and 5% for oil/water mixtures (England & Associates 1998).

The former Avila refinery, located in Exposure Area D, was a simple crude oil distillation plant, which operated on the Site between c1910 and c1950. The refinery used heat distillation to separate crude oil into a few generic boiling fractions, which were shipped elsewhere for finishing into more refined marketable products. The original refinery facility processed approximately 12,000 barrels of crude per day. As reconstructed sometime after 1926, the refinery processed only 4,000 to 7,000 barrels per day until the facility was decommissioned sometime in the late 1940's. The processes used in the

production of these raw products were rudimentary, utilized few chemicals, and produced little waste (England & Associates 1998). Exposure Area D was the most highly industrialized portion of the Site, and in addition to the refinery complex included the truck loading rack, the pump house, storeroom, and laboratory.

The geology of the region is extremely complex and was examined in detail in the Site Characterization Report (England & Associates 1998), and is discussed briefly here and in some additional detail in Section 5.1.4.2. Figure 1-4 depicts the surface geology of the Site and region; this map incorporates the geology as originally mapped by the California Division of Mines and Geology (Hall 1973) and the results of the mapping and characterization work by England & Associates (1998). The dominant structural feature of the Avila Beach region is the northwest-trending Pismo Syncline (see Figure 1-4). The Pismo Syncline is a simple structural down-fold in the earth's crust that acted as a sedimentary basin during the Miocene and Pliocene (22 to 3.5 million years before present [my BP]), accumulating over 10,000 ft of predominantly sedimentary deposits. The Pismo Syncline subsided along basin-bounding faults, one of which, the San Miguelito Fault, occurs along the east and north property lines of the Site. The area of the Avila facility existed as a topographic high during much of the Miocene and Pliocene, and because it was subjected to erosion rather than deposition, it accumulated only a partial stratigraphic section. The stratigraphic section at the Site skips from the Obispo Formation (15 to 17 my BP) to the Gragg Member of the Pismo Formation (4 to 3 my BP) without intervention from the Monterey Formation and Edna/Miguelito Members of the Pismo Formation. During the late Pleistocene, the surface of the Avila facility was eroded by north-south and east-west drainages which have subsequently filled with up to 30 ft of fine-grained colluvium. The subsurface distribution and structural relationships of these geologic units are depicted on the cross-sections in Figure 1-6a and b (prepared by Avocet).

England & Associates (1998) identified bituminous sandstones or residues (naturally occurring hydrocarbon material) in several of the geologic units surrounding the Avila Tank Farm Site, with total petroleum hydrocarbon (TPH) concentrations ranging from 29 to 19,900 milligrams per kilogram (mg/kg). England & Associates (1998) indicated that although it is generally possible to discriminate between refined petroleum and petroleum of natural origin, they were unable to distinguish between highly weathered anthropogenic crude oil and naturally-occurring bituminous material observed within fractures and/or detritus within the onsite Obispo and Pismo Formations.

England Geosystem, Inc. (2002a) identified three hydrostratigraphic units as defining the hydrogeology of the Avila facility: unconsolidated sediments (colluvium and alluvium), the Gragg Member of the Pismo Formation, and the Obispo Formation. Groundwater recharge occurs primarily in the higher elevations of the Site through vertical fractures in the Pismo Formation and via infiltration into unconsolidated sediments. Groundwater flow in the Pismo and Obispo Formations beneath the Site is to the north, west and south, away from the topographically high recharge areas. Flow in these formations occurs primarily within fractures with relatively low permeabilities and storativities. The aquifers are horizontally anisotropic with a preferred groundwater flow trending to the north in the northern portion of the Site and to south-southwest elsewhere on the Site. Depth to groundwater at the site is variable and depends on the season, year and area of the site. In the late winter and spring, groundwater may occur very near the ground surface in several areas of the site. In extremely wet years, groundwater may rise above the ground surface in lower elevation areas such as the area around the pump house. Avocet has observed artesian flow in wells in the vicinity of the former pump house (Exposure Area E) and in northeastern corner of the Site (Exposure Area M and N). In higher elevation areas of the site, such as the north slope, groundwater rarely occurs at depths of less than 100 ft below ground surface (bgs). Discounting these extremes, depths to groundwater in the range of 15 to 75 ft are most common at the Site.

In addition to being low yielding aquifers, England Geosystem reported that general mineral analyses indicate that groundwater quality at the Site is poor, and that drinking water standards for iron, manganese, chloride, sulfate, and total dissolved solids are frequently exceeded (England Geosystem, Inc. 2002a). Given the poor quality of groundwater at the Site, it is unlikely that it will be used in the future for drinking water. Therefore, groundwater was not evaluated as a source of drinking water in this risk assessment.

1.4 SITE CHARACTERIZATION STUDIES

Numerous field investigations and related studies have been conducted at the Site since the late 1990s, and have resulted in the drilling of more than 300 soil borings, the excavation of 25 exploratory trenches, the collection of soil gas from 100 locations, and the establishment of more than 80 groundwater monitoring wells. The relevant summary studies and technical reports used in the preparation of this HHRA include:

1. *Site Characterization, Unocal Avila Station, Avila Beach, California*
   England & Associates, February 1998

2. *Additional Site Characterization, Western and Northern Areas, Unocal Avila Pump Station, Avila Beach, California*
England & Associates, February 2000
3. *Final Supplemental Site Characterization, Unocal Avila Pump Station, Avila Beach, California*
England Geosystem, Inc., April 2002a
4. *Soil Gas Monitoring Report, September 2002, Unocal Avila Pump Station, Avila Beach, California*
England Geosystem, Inc., November 2002b
5. *Shallow Soil Characterization, Unocal Avila Terminal, Avila Beach, California*
England Geosystem, Inc., November 2003
6. *Remediation Technology Panel Assessment of Off-Site Migration of Hydrocarbons at the Avila Beach Tank Farm Site*
Huntley et al., April 2004
7. *Additional Shallow Soil Characterization in Support of Risk Assessment, Avila Terminal, Avila Beach, California*
Avocet Environmental, Inc., 2004a
8. *Analysis of Background Metals, Unocal Avila Tank Farm, Avila Beach, California*
Avocet Environmental, Inc. and Blasland, Bouck & Lee, Inc., September 2004b
9. *Additional Soil Sampling and TPH Profile in Shallow Soil, Former Avila Tank Farm, Avila Beach, California*
Avocet Environmental, Inc., 2008a
10. *Soil Gas Investigation Report, Former Avila Tank Farm, Avila Beach, California*
Avocet Environmental, Inc., August 2008b
11. *Supplemental Cliff Area Characterization, Former Union Oil Company of California Avila Terminal, Avila Beach, San Luis Obispo County, California.*
Padre Associates, Inc., 2012a
12. *Supplemental Soil Gas Assessment, Former Unocal Avila Terminal, Avila Beach, California*
Padre Associates, Inc., 2012b
13. *Report of Findings, Second Semi-Annual 2012 Groundwater, Cliff Springs, and Intertidal Zone Monitoring Event, Former Unocal Avila Terminal, Avila Beach, California*
Padre Associates, Inc., 2013a
14. *Report of Findings, First Semi-Annual 2013 Groundwater, Cliff Springs, and Intertidal Zone Monitoring Event, Former Unocal Avila Terminal, Avila Beach, California*
Padre Associates, Inc., 2013b
15. *Analytical Report for Soil Samples T1A-C, T2A-C and T3A-C,* Oilfield Environmental and Compliance, Inc., November 16, 2011 Provided in Attachment 7.

With the exception of recent groundwater results, the data from these various sources were compiled into a database by Avocet, and subsequently incorporated into the site-wide risk assessment dataset by McDaniel Lambert, Inc. Figure 1-7 (prepared by Avocet) depicts soil, groundwater, soil gas, and asphalt sampling locations across the Site.[3] The majority of the Site data used in this HHRA was collected between 1997 and 2012. Reports completed prior to 2005 were summarized in the 2005 Baseline HHRA, with key findings included below. More complete summaries are included for assessments completed since the completion of 2005 Baseline HHRA.

England & Associates' 1998 Site Characterization report details the Site history, geology, hydrogeology, and includes a detailed subsurface investigation. The report identified potential substances of concern at the Site, including crude oil and raw and finished petroleum products, lead-based paint, petroleum-based and possibly chlorinated solvents, polychlorinated biphenyls (PCBs) associated with transformers and former power house, and metals and salts associated with the boilers. Other structures identified as "areas of concern" included the cesspool, catch basin, former sump, and oil skimming pond (see Figure 1-3). The report also cited a 1982 weed abatement contract which delineated approximately 21.1 acres of the Site for oiling for general weed abatement and erosion control.

England Geosystem observed that TPH concentrations greater than 1,000 mg/kg were most prevalent along the pipeline corridors, and in the vicinity of two former ASTs and the truck loading rack, with the bulk of the contaminated soil encountered at 10 to 20 ft bgs. Detections of benzene, toluene, ethylbenzene and xylenes (BTEX) and other volatile organic compounds (VOCs) were generally less than 1 mg/kg, although elevated benzene was identified beneath former ASTs in the refinery area, in the vicinity of the truck loading rack, and below the central pipeline just east of the former pump house. Polycyclic aromatic hydrocarbon (PAH) concentrations were generally less than 1 mg/kg, and no methyl-tert butyl ether (MTBE) or PCBs were detected in soil.

Light non-aqueous phase liquid (LNAPL) was observed in 19 of the 45 groundwater monitoring well casings, with thicknesses ranging from trace (13 wells) to 0.84 ft.[4]

[3]Asphalt refers to samples identified in the field as asphaltic or tar, and recorded as that matrix in Avocet's Site database. Subsequent analyses of TPH in soil at the Site have suggested that the majority of TPH detected in shallow soils is highly weathered material that may be related to the application of oil to large portions of the property as a means of weed and erosion control.

[4]Much greater accumulations of LNAPL were observed in subsequent groundwater monitoring and characterization events.

England identified the truck loading rack and former AST No. 125 in Exposure Area E, (near sampling locations B-14/SV-60), and AST No. 622 in Exposure Area J (near sampling locations B-61/SP-6) as sources of low molecular weight TPH detected in groundwater. High molecular weight TPH in groundwater was interpreted as limited to the north-south valley and underlying pipelines east of the pump house (Exposure Area E). The report concluded that it was unlikely that significant concentrations of TPH were migrating offsite. Several classes of VOCs were detected in groundwater, including:

- Fire extinguishing agents – bromodichloromethane, bromoform, carbon tetrachloride, chloroform, and dibromochloromethane. These chemicals were detected only in monitoring well B-14, near former tank 125 (Exposure Area E);
- Fuel components/additives – in addition to BTEX, fuel-related chemicals detected in groundwater included butylbenzene isomers, isopropylbenzene, methylbenzenes, naphthalene, MTBE, 1,2-dichloroethane, and 1,2-dichloropropane (a lead scavenger), among others. The highest benzene concentrations also were detected in B-14, and England identified three sources of BTEX in groundwater – the truck loading rack, the former tank 125 (both formerly located in Exposure Area E, and gasoline storage tank 622 (location - B-61, Exposure Area J). The highest concentrations of other fuel-related VOCs also were detected in B-14, and in wells located southeast of the pump house near a former fuel-AST (B-61, Exposure Area J), and in the vicinity of the truck loading rack (B-33, Exposure Area E).
- Chlorinated solvents – tetrachloroethene (PCE) and trichloroethene (TCE) were detected only in well B-14.

The objective of the *Additional Site Characterization, Western and Northern Areas, Unocal Avila Station, Avila Beach, California* (England & Associates 2000) was to identify the extent of free product and dissolved-phase "plumes", and the primary migration pathways associated with the western and northern facility boundaries. The results of the soil assessment did not result in significant modification of the contaminant distribution delineated in the original site characterization report. England & Associates concluded that there was no evidence of preferential flow paths or significant offsite migration of contaminants.

The *Final Supplemental Site Characterization* (England Geosystem, Inc. 2002a) was performed to address data gaps identified by the Remediation Technology Panel (RTP) in their assessment of the potential for offsite migration of hydrocarbon contaminants at the Site. Vapor phase constituents were very low in wells along the perimeter of the Site, and highest in areas along the central pipeline corridor, south of the former refinery, east of the

pump house, downgradient of the truck loading rack, and in the vicinity of the former fuel ASTs.

Based on the distribution of C4-C40 TPH in soil samples analyzed for the reports described above, the distribution of TPH in soil from all depths (generally ≥5 ft bgs) is illustrated in Figure 1-7. Concentrations of TPH >1,000 mg/kg generally follow the contours of the north-south and east-west colluvium-filled valleys (see Section 1.3), which were also the primary pipeline corridors. The highest TPH concentrations (>10,000 mg/kg) generally fall within the pipeline corridors. Soil with concentrations of TPH >100 mg/kg are laterally more diffuse, but generally follow the contours of higher TPH concentrations in soil.

The *Shallow Soil Characterization, Unocal Avila Terminal, Avila Beach, California* (England Geosystem, Inc. 2003) was undertaken to address data gaps identified by the HHRAWG. Based on field and laboratory results, England Geosystem suggested that the majority of shallow hydrocarbon contamination at the Site consists of disseminated, solid material, with hydrocarbon characterization results characteristic of a degraded (weathered), high molecular weight source. Fuel-related VOCs were detected in only one of the 93 shallow samples analyzed (in the vicinity of the former refinery). Low concentrations of PAHs were detected in 49 of the 50 samples analyzed. Chlorinated herbicides and pesticides were not detected in the nine soil samples analyzed.

In April 2004, the RTP released its *Assessment of Off-Site Migration of Hydrocarbons at the Avila Beach Tank Farm Site* (Huntley et al. 2004). The Panel concluded that, as LNAPL had not been detected in perimeter wells along the north, west, and east boundaries, offsite migration in these areas is unlikely. The RTP acknowledged the lack of LNAPL migration across the southwest boundary. The Panel also concluded that offsite migration of dissolved contaminants is unlikely along the north, west, and east boundaries, but recommended continuing monitoring efforts for dissolved contaminants along the southern boundary. Overall, the Panel concluded that future offsite migration of LNAPL or dissolved-phase contaminants across the west, north, east, or southeast boundaries is very unlikely, but recommended ongoing monitoring in the vicinity of the southwest boundary and cliff springs areas before conclusions are drawn for this area.

In an effort to fill data gaps identified by the ATCAT following completion of the 2005 Baseline HHRA and the concurrent ecological evaluation, Avocet conducted additional soil and soil gas investigations. Results of the soil sampling effort are summarized in the Avocet report titled *Additional Soil Sampling and TPH Profile in Shallow Soil, Former Avila*

Tank Farm, Avila Beach, California (Avocet 2008a). Eighty-nine soil samples were collected from depths of 1 to 10 ft bgs at 40 locations. Soil analyses for TPH, BTEX, VOCs and metals were conducted. Based on the PCB overview memorandum ratified by the ATCAT in September 2007 (included as Attachment 3), no additional evaluation of PCBs in soil were warranted. The analytical laboratory results were validated and added to the project database maintained by Avocet. Results generally were consistent with previous sample results, with no previously undocumented areas of contamination or new chemicals of concern identified.

This report also re-evaluated the TPH profile in shallow soil at the Site by combining field and geochemical evidence to characterize TPH as "asphaltic" versus "petroleum". Field evidence of the type of TPH included visual and/or olfactory evidence recorded in boring logs. Geochemical evidence was based on the carbon-range composition of TPH detected in samples, with samples containing 70% or more of the TPH in the C25 to C40 carbon range classified as asphalt, and samples with less than 70% in this highest carbon range classified as petroleum. Avocet determined that the majority of shallow petroleum at the Site occurs at depths of 2 ft or less beneath the former pump house and truck loading rack, and at depths of approximately 4 ft beneath the principle pipeline arteries. Petroleum in shallow soils along pipelines was delineated primarily in the eastern portion of the Site, and generally was of higher molecular weight TPH occurring as a stain/coating in fractures of weathered bedrock. Petroleum in the central portion of the Site included a larger amount of the lower molecular weight component, and was detected as stain or residual free product within the soils. These findings generally are consistent with England Geosystem's 2003 *Shallow Soil Characterization, Unocal Avila Terminal, Avila Beach, California,* which suggested that the majority of shallow hydrocarbon contamination at the Site consists of disseminated, solid material, with hydrocarbon characterization results characteristic of a degraded (weathered), high molecular weight source.

One of the major data gaps identified in the 2005 Baseline HHRA was the lack of adequate soil gas data for the Site. Prior to 2007, soil gas sampling was limited to collections from nine multi-depth soil gas probes (SP-1 to SP-9) initially installed as part of the *Supplemental Site Characterization* (England Geosystem, Inc. 2002a) to characterize the composition, concentrations, and flux of soil gas in background and various petroleum-impacted areas of the Site. These probes were sampled occasionally as part of a soil gas monitoring program (e.g., *Soil Gas Monitoring Report, September 2002, Unocal Avila Pump Station, Avila Beach, California,* England Geosystem, Inc. 2002b). Samples typically were analyzed for fixed gases, C1 to C5 hydrocarbons, and limited samples for BTEX and H_2S.

Historically, vapor-phase BTEX concentrations were generally very low, with the exception of samples collected downgradient of the truck loading rack (SP-2, Exposure Area F) and near the former fuel ASTs (SP-6, Exposure Area J), which contained moderately elevated BTEX concentrations that increased with increasing depth. Soil gas samples also were collected from seven of the monitoring locations as part of Avocet's *Additional Shallow Soil Characterization, Unocal Avila Terminal, Avila Beach, California* (2004). Benzene concentrations averaged 38 micrograms per liter (µg/L) in SP-3, located south of the former refinery area (Exposure Area E). Chloroform was detected in soil gas collected near the former fuel ASTs 622 (SP-6, 93 µg/L, Exposure Area J) and AST 630 (SP-7A, 0.021 µg/L, Exposure Area Ia). No other VOCs were detected.

In addition to the limited spatial and analytical scope of soil gas samples collected prior to 2007, collection of these samples pre-dated the California Department of Toxic Substances Control (DTSC) Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Cal/EPA 2005b, 2011). Therefore, following consultation with the ATCAT, Avocet conducted a series of soil gas sampling events from July through December 2007. These sampling efforts, and the associated results, are reported in Avocet's *Soil Gas Investigation Report, Former Unocal Avila Tank Farm, Avila Beach, California* (Avocet 2008b). The soil gas investigation was performed with a phased approach over the course of several months, from July to November 2007. A total of 70 semi-permanent dual-nested gas probes were installed and 206 soil gas samples collected from across the Site in accordance with the ATCAT-approved work plan (Avocet 2007). Both shallow (5 ft) and deep probes (15 ft) were installed to identify vertical VOC gradients. Site-specific soil physical parameter data also was collected for use in the Johnson-Ettinger (J&E) modeling. Multiple VOCs were detected across the Site, including fuel-related VOCs (e.g. BTEX and fuel additives), solvent-related VOCs (e.g. tetrachloroethene and methylene chloride), fire extinguishing agent VOCs (e.g. bromodichloromethane, chloroform, and carbon tetrachloride), and fixed gases (e.g. oxygen, carbon dioxide, and methane).

As reported by Avocet (2008b), elevated soil gas VOC concentrations generally occurred in samples collected from probes located south of the former refinery area and north of the truck loading rack (Exposure Areas D and E). Other areas with elevated soil gas VOC concentrations included the vicinity of former fuel ASTs near the cliffs (near Exposure Area G) and southeast of the pump house (Exposure Area J), as well as the convergence of the eastern and northern pipeline corridors in the eastern part of the Site (Exposure Area Ib). Site-wide, the dominant VOCs detected were hexane and cyclohexane, with lesser amounts of chloroform, acetone (a common laboratory contaminant), heptane, and BTEX

constituents. Overall, the distribution of VOCs in soil gas were not significantly different in shallow (5 ft bgs) versus deep (15 ft bgs) probes, although concentrations were about an order of magnitude greater in the deeper samples, suggesting a soil gas attenuation factor of about 0.1 between 15 and 5 ft bgs (particularly in samples close to source areas). The greatest temporal variability occurred in areas removed from potential sources: samples collected in September and November 2007 produced fewer detected constituents and lower concentrations than observed in the initial July sampling event.

In June 2011, Padre Associates, Inc. conducted soil and groundwater sampling to further characterize petroleum-related chemicals of potential concern (COPCs) in the vicinity of groundwater monitoring well B-223 and soil gas probe SV-66 (in Exposure Area G and Open Space). This supplemental sampling was prompted by petroleum-related VOC detections in these two areas (Padre 2012a). Padre collected soil samples from eight drill holes (B-224 to B-231) at depths ranging from below the former tank pad (at 3 ft below grounds surface [ft bgs]) to 100 ft bgs. Soil samples were collected at five foot increments and analyzed for full list VOCs including fuel oxygenates, lead, and petroleum hydrocarbons in three carbon ranges. Detectable TPH occurred in 9% of the soil samples analyzed at levels ranging from 126 mg/kg to 6,650 mg/kg (B-230-15'). The majority of TPH (75%) was detected as low molecular weight TPH (C4-C10 range). BTEX were detected in 43% of soil samples analyzed, with a maximum benzene concentration of 11 mg/kg.

Avocet conducted additional soil sampling in in October and November 2011 in Exposure Areas D, E, and L. Based on the electronic data file and laboratory data packages received from Avocet, a total of nine soil borings were advanced to depths ranging from one to six ft bgs, and soil samples were collected at one-foot increments. Summary tables and laboratory data packages for this sampling event are provided in Attachment 7. All of these samples were analyzed for TPH in the three carbon ranges and four samples were analyzed for metals, PCBs, full list VOCs, PAHs, organochlorine pesticides, and other semi-volatile organic compounds (SVOCs). TPH was detected in the majority of soil samples (93%) at levels ranging from 21 mg/kg to 26,410 mg/kg. Benzene was detected in 80% of these soil samples with concentrations ranging from 0.006 to 0.08 mg/kg. In addition to BTEX, other COPCs detected during the October/November 2011 soil sampling event included metals, PAHs, VOCs, and the pesticide endrin aldehyde.

To satisfy the soil gas data quality objectives described in the Supplemental HHRA (McDaniel Lambert 2012), the *Action Determination Letter* issued by SLO County Health identified Exposure Areas A, K, and M as having insufficient soil gas samples. To address

this request for additional soil gas data, Padre collected a total of 27 soil gas samples at 5 ft and/or 15 ft from 21 locations (SV-71 through SV-91) in Exposure Areas A, K, M, N and O (Padre 2012b). Each soil gas sample was analyzed for volatile TPH (TPHv), TPHv speciation including aliphatic and aromatic fractions, fixed gases, and VOCs (including fuel oxygenates and naphthalene). The primary soil gas risk drivers identified in the sHHRA included chloroform and benzene. Chloroform was detected in shallow (maximum of 15 $\mu g/m^3$ in Exposure Area A) and deep (maximum of 62,000 $\mu g/m^3$ in Exposure Area K) samples. Benzene was detected in shallow (maximum of 15 $\mu g/m^3$ in Exposure Area N) and deep (maximum of 46 $\mu g/m^3$ in Exposure Area K) samples. TPHv was detected in all of the soil gas samples at concentrations ranging from 1,300 $\mu g/m^3$ to 2,700 $\mu g/m^3$ in shallow samples, and from to 1,500 $\mu g/m^3$ to 53,000 $\mu g/m^3$ in deep samples. Methane was detected in only two of the 27 soil gas samples, at low concentrations (<0.01%). Eight soil samples were collected and analyzed for soil gas transport properties to support site-specific vapor intrusion modeling.

As shown in Figures 1-9a and b, the highest concentrations of fuel-related VOCs (BTEX, butylbenzene isomers, cyclohexane, hexane, isopropylbenzene, n-propylbenzene, trimethylbenzenes, EDC, 1,2-dichloropropane, MTBE, and naphthalene) in soil gas were focused in the vicinity of SV-60 and SV-61 (Exposure Area E). Hexane and cyclohexane accounted for 84% (in deep probes) to more than 90% (in shallow probes) of the total fuel-related VOCs. Total concentrations were at least an order of magnitude greater in samples collected from 15 ft bgs (Figure 1-9b) than in samples collected from 5 ft bgs (Figure 1-9a). The areas of greatest fuel-related VOC detections are consistent with detections of LNAPL (Figures 1-8, 1-9a and b).

The distribution of fire extinguishing VOCs (bromodichloromethane, bromoform, carbon tetrachloride, chloroform, and dibromochloromethane) in soil gas samples collected from 5 and 15 ft bgs (Figures 1-10a and b) differed from hydrocarbon-related VOCs. While concentrations were higher at depth than in 5-foot samples, maximum concentrations are focused around SV-10 (Exposure Area Ib), and SV-27 and SV-28 (Exposure Area J and open space, respectively). Elevated concentrations were detected in the 15-foot bgs samples around SV-60. Fire extinguishing VOCs were overwhelmingly dominated by chloroform, with lesser amounts of carbon tetrachloride and bromodichloromethane. These fire extinguishing VOCs were detected in groundwater only in monitoring well B-14, near former tank 125 (Exposure Area E). The distributions of selected chlorinated solvents (such as PCE, TCE, 1,1-dichloroethene, chloroethane, chloromethane, and methylene chloride) are shown in Figures 1-11a and b. Significant detections in the 5-ft samples were

limited to the vicinity of SV-66. Isopleths of chlorinated solvent VOCs at depth (15-ft bgs) are more like fuel-related VOCs, clustering around Exposure Areas E, and K (where chloromethane and methylene chloride dominated), and Exposure Area Ib (which contained predominantly PCE and TCE). Chlorinated solvents were detected in groundwater only in well B-14.

As shown in Figures 1-12a and b, the distribution of methane in soil gas is similar to that of hydrocarbon-related VOCs, with the highest methane concentrations focused in the vicinity of SV-63 (Exposure Area E) and SV-58 (Exposure Area D). Detectable methane occurred in 77 of the 138 soil gas samples collected, with concentrations ranging from 0.00025 to 41%. Concentrations exceeding half the lower explosive limit of 5% are focused in the vicinity of the refinery and truck loading rack, with additional detections at depth near the former ASTs along the cliffs (Figures 12a and b). Total methane concentrations are generally an order of magnitude greater in samples collected from 15 ft bgs (Figure 1-12b) than in samples collected from 5 ft bgs (Figure 1-12a); this demonstrates a substantial rate of vertical methane attenuation. Elevated levels of methane at the Site, coincident with elevated levels of carbon dioxide and depressed levels of oxygen, are considered indirect evidence of anaerobic biodegradation of hydrocarbons (Avocet 2008b).

In addition to soil gas samples, three ambient air samples also were collected from the Site by Avocet in 2007. These samples were taken upwind and downwind of the most heavily impacted portion of the property in Exposure Area E. Other than the common laboratory contaminants, acetone and ethanol, no VOCs were detected in these samples. However, these samples were analyzed using the same reporting limits as those used for soil gas. These reporting limits (e.g. 3 $\mu g/m^3$ for benzene) are above typical ambient benzene concentrations on the Central Coast. Previous ambient air sampling was conducted at eight locations around the Town of Avila, including two monitoring stations at the Avila Tank Farm—at the fence line along the western property boundary and the Scout House (Exposure Area A). Reflective of its coastal environment, average benzene and ethylbenzene concentrations at the Tank Farm in 1998 were 0.56 and 0.34 $\mu g/m^3$ (Applied Measurement Science 2001, included as Attachment 4), which are below/similar to average benzene and ethylbenzene concentrations of 2.8 and 0.35 $\mu g/m^3$, respectively, for California during the same year (CARB 2010).

When the Supplemental HHRA process was initiated, groundwater data was collected quarterly (*Second Semiannual 2007 Groundwater and Cliff Springs Monitoring Report,* Parsons 2008). During the fourth quarter 2007, 88 onsite wells were gauged. Parsons

observed that groundwater flow at the Site was consistent with previous reports, with flow generally toward the north, west, and southwest, away from topographically high recharge areas. LNAPL was observed in 21 wells (thicknesses ranging from sheen to 19.95 ft).[5] TPH-diesel range and/or TPH-crude oil range were detected in groundwater collected from 43 of 44 monitoring wells, with the maximum TPH-diesel and TPH-crude concentrations (5,980 and 3,960 µg/L, respectively) detected in B-35-70 (located just south of the former pump house). Gasoline-range TPH was detected in eight of 44 wells (maximum of 6,980 µg /L in B-223-88). BTEX constituents were detected in 10 of 44 wells collected during the fourth quarter 2007. Historically high concentrations of other VOCs were detected during this sampling event, in wells primarily downgradient of the truck loading rack and fuel pipelines (B-29-50, B-57-65, B-167-95, B-185, and B-223-88. However, these historical highs were only slightly above the historical range or method detection limits. PAHs were detected in nine of 11 wells analyzed in the fourth quarter sampling, consistent with historical sampling results, with the highest concentrations detected in B-35 (just south of the truck loading rack) and B-153 (Exposure Area C). Metals analyses were conducted on groundwater from wells, with arsenic and cadmium noted to be above USEPA drinking water maximum contaminant levels (MCLs) in a number of wells.

More recently, Padre has been sampling groundwater on a semiannual basis (during second and fourth quarters) since the first quarter 2010. Limited gauging and sampling activities occurred during the first and third quarters. During the fourth quarter 2012, groundwater samples were collected from 56 monitoring wells and analyzed for TPH in three carbon ranges and BTEX. Only select wells were analyzed for PAHs, VOCs, fuel oxygenates, and metals. The occurrence of LNAPL or sheen within groundwater monitoring wells is illustrated on Figure 1-7; the physical properties of the majority of LNAPL are consistent with crude oil (Padre 2013a). Measurable LNAPL was observed at 14 of the monitoring locations (thicknesses ranging from 0.01 to 5.82 ft). The occurrence of LNAPL generally is limited to former operation areas, including the former refinery, truck loading rack and associated pipelines. An exception to this is three localized areas of lighter-end petroleum-impacted groundwater at the Site: (1) truck-loading rack, (2) southwest area of the Site near well B-23, and (3) area near B-230 and B-231. The groundwater flow directions documented during the fourth quarter 2012 sampling event are similar to historical groundwater flow patterns. Groundwater elevations rebounded from above average precipitation in 2011, and a decreasing trend of groundwater

[5]LNAPL thickness was greatest in the vicinity of the former refinery (well B-163, Exposure Area D).

elevations was reported at the end of 2012 (varying on average 2 to 4 ft between 2011 and 2012).

Groundwater monitoring activities also have included cliff springs monitoring and intertidal zone observation monitoring. During routine sampling of the tidal area in May 2012, sheen was observed at intertidal zone monitoring location IZ-3. Analysis of the water sample collected from the tidal pool where the sheen was observed indicated the presence of VOCs, including BTEX, naphthalene, and TPHg. The source(s) of the sheen and odor has not been determined, and ongoing monitoring of water, sediment, and ambient air in the tidal area is intended to better characterize the frequency that constituents are detected and the size of the area impacted. However, the VOCs detected in the tide pool sample during May 2012 sampling activities suggest a possible connection to lighter end petroleum detected in monitoring wells B-230 and B-231, which are located at the top of the cliff near former storage tanks. The intertidal zone is not included in this risk assessment, and is being addressed separately (see Section 1.5.4).

1.5 PREVIOUS AVILA TANK FARM HUMAN HEALTH RISK ASSESSMENTS AND RELATED DOCUMENTS

A baseline HHRA was completed for the Avila Tank Farm in 2005 (McDaniel Lambert, Inc. 2005). Prior to completion of the 2005 Baseline HHRA for the Avila Tank Farm, three HHRAs were also completed to assess potential health impacts to the town of Avila from hydrocarbon contamination in soil and groundwater from leaking pipelines leading up to the Site. These three risk assessments investigated residential and visitor exposures in the town before and during excavation and remediation activities. In addition, shortly after reconvening in Spring 2007, the ATCAT requested an evaluation of the possible human health impacts from potentially petroleum impacted water seeping from the cliff springs along Avila Beach adjacent to the former Avila Tank Farm (McDaniel Lambert, Inc. 2007, Attachment 5). Finally, in response to the observation of sheen in the Avila tidal area, a screening HHRA was completed. The HHRAs and related documents completed for the town of Avila and the former Tank Farm include:

1. *Health and Environmental Risk Assessment for Site Specific Clean Up Levels, Avila Beach, California*
   Environ Corporation, February 13, 1995
2. *Avila Beach Health Study*
   Risk Science Associates (on behalf of San Luis Obispo (SLO) County Health), April 22, 1998
3. *Human Health Risk Assessment Remediation Phase, Avila Beach, California*
   SOMA Corporation (on behalf of SLO County Health), October 12, 2000

4. *Avila Beach Remediation Community Monitoring Program Results*.
   Applied Measurement Science, July 2001
5. *Baseline Human Health Risk Assessment for the Avila Tank Farm Property*
   McDaniel Lambert, Inc. February 2005
6. *Final Screening Human Health Risk Assessment for the Cliff Springs at the Former Avila Tank Farm*
   McDaniel Lambert, Inc. November 2007
7. *Supplemental Human Health Risk Assessment for the Former Avila Tank Farm*
   McDaniel Lambert, Inc. November 2011
8. *Addendum to the Supplemental Human Health Risk Assessment for the Former Avila Tank Farm*
   McDaniel Lambert, Inc. November 2012
9. *Screening Human Health Risk Assessment for the Intertidal Zone at the Former Avila Tank Farm*
   McDaniel Lambert, Inc. June 2012

1.5.1 Pre-2005 Health Studies

Results of the risk assessments conducted prior to 2005 are covered in more depth in Section 1.5 of the 2005 Baseline Risk Assessment. Briefly, based on results of the three Avila town health risk assessments listed above (Environ 1995, Risk Science Associates 1998, SOMA 2000), the weight-of-the-evidence indicates that there were no significant health risks to the community of Avila, with the sole exception of a hypothetical resident who comes into direct and repeated contact with contaminated soil by digging. The incremental cancer risk calculated for this hypothetical resident exposed for 30 years (6 years as a child and 24 years as an adult) to this soil was 4 in 100,000. This contaminated soil has since been excavated. The SOMA 2000 risk assessment indicated that there were no significant concentrations of chemicals released into the air by the remediation of contaminated soil, and that the background air quality in the town of Avila and at the Tank Farm was comparable to other small coastal towns.

SOMA determined that most of the risk associated with the remediation was associated with the use of diesel powered remediation equipment, with the maximum incremental cancer risk for an Avila resident adult exposed to the 95% upper confidence limit (UCL) diesel air concentration over the 15 months of excavation activities being 4 in 1,000,000.[6] As previously discussed, air quality at the Avila Tank Farm area was evaluated during two

[6]The exposure duration was 15 months, the period of time over which remedial activities involving diesel equipment took place. The averaging time used in risk calculations was 70 years.

sampling events conducted prior to the start of the main excavation project in 1999 as part of the air quality report for the Avila Beach excavation (Attachment 4). The data collected in these studies showed that the air quality at the Avila Tank Farm was substantially unaffected by the emissions from developed areas in the region.

1.5.2 2005 Baseline Human Health Risk Assessment

A Baseline HHRA was performed to identify the potential impacts on human heath associated with both present and potential future land uses at the Site (*Baseline Human Health Risk Assessment for the Avila Tank Farm Property, McDaniel Lambert, Inc. 2005*). This HHRA evaluated the potential cancer risk and noncancer hazard to current and possible future Site users from chemicals known to be present at the Avila Tank Farm. Exposure assumptions were made in accordance with regulatory guidance (Cal/EPA 1994, USEPA 1989), current zoning for the property, potential future land uses, and best professional judgment. Because no specific development plan had been identified at that time, potential risk was evaluated for on- and offsite residents, recreational users, trespassers, short-term residents, indoor and outdoor commercial employees, and intrusive utility workers, based on surrounding land uses and potential activity patterns. Exposure pathways considered in this HHRA included incidental ingestion of soil, dermal contact with soil, inhalation of soil particles and associated vapors, ingestion of homegrown produce, inhalation of indoor air vapors via subsurface contamination, and incidental ingestion of and dermal contact with contaminated groundwater.

The two basic findings of the 2005 Baseline HHRA were that (1) the Tank Farm property is safe for outdoor recreational use and for current Avila residents, and (2) that most of the 95 acre property is currently suitable for either industrial or commercial uses. The risk assessment found that some areas are suitable for residential development without further action; other areas would require remediation or engineering controls for development, due to elevated concentrations of petroleum hydrocarbons, petroleum-related compounds, and heavy metals at some locations. Table 1-1 below summarizes the quantitative potential health risks to current and hypothetical future populations at the Avila Tank Farm in terms of the incremental lifetime cancer risk (ILCR) and the noncarcinogenic hazard index (HI), based on the site characterization data collected up to 2004/2005 (McDaniel Lambert, Inc. 2005). Potential health risks were presented for three exposure scenarios: risks associated with the whole Site (site-wide exposure), and risks associated with exposure within and outside the 1,000 mg/kg TPH contour. The 1,000 mg/kg TPH contour identifies areas of the Site where the bulk of subsurface (</= five ft bgs) TPH

contamination has been identified, and was anticipated to act as a constraint in any development plans.

Estimated cancer risks were within the 1 in 1,000,000 ($1x10^{-6}$) to 1 in 10,000 ($1x10^{-4}$) risk management range stipulated by the USEPA (1990a) for all receptors and exposure scenarios. Modeled concentrations of benzene and chloroform in indoor air were the principal cancer risk drivers for hypothetical future onsite residents, and indoor and outdoor hotel employees. For exclusively outdoor (onsite) populations, benzo(a)pyrene (BaP) in soil was the major contributor to the overall cancer risks. Cancer risk for offsite residents, for whom the only exposure pathway is the inhalation of soil particles and particle-associated volatiles, was driven primarily by soil-associated volatile contaminants (benzene, naphthalene, and ethylbenzene). When residential exposure was limited to areas outside the 1,000 mg/kg TPH contour, the total ILCR dropped to below $1x10^{-5}$, with exposure to BaP in soil, and BaP and benz(a)anthracene in produce the major contributors to the risk estimate.

Table 1-1. Summary of Avila Tank Farm 2005 Baseline HHRA Results

Population	Total ILCR[Ŧ]	Total Hazard (HI)
Site-wide Exposure Scenario		
Onsite Resident Adult*	**1E-04**	**0.3**
Onsite Resident Child	**NA**	**1.3**
*Offsite Resident Adult**	***1E-06***	***0.009***
Offsite Resident Child	***NA***	***0.02***
Recreational User Adult*	**5E-06**	**0.05**
Recreational User Child	**NA**	**0.4**
Short-term Resident Adult*	**1E-06**	**0.006**
Short-term Resident Child	**NA**	**0.04**
Trespasser	***8E-07***	***0.05***
Indoor Hotel Employee	**5E-06**	**0.05**
Outdoor Hotel Employee	**4E-06**	**0.08**
Intrusive Utility Worker	**2E-07**	**0.8**
Within 1,000 mg/kg TPH Contour Exposure Scenario		
Onsite Resident Adult*	**1E-04**	**0.3**
Onsite Resident Child	**NA**	**1.5**
Outside 1,000 mg/kg TPH Contour Exposure Scenario		
Onsite Resident Adult*	**5E-06**	**0.2**
Onsite Resident Child	**NA**	**0.9**

Source: Baseline HHRA (McDaniel Lambert, Inc. 2005)
*Cancer risk is age-weighted and assumes 6 years of exposure as a child and 24 years as an adult, thus risk is reported for adults and not applicable (NA) to child receptors;
[Ŧ]ILCR is the incremental probability of an individual developing cancer over a lifetime as a result of exposure to the potential carcinogen; 1E-04 = 0.0001 = one in ten thousand
Italics indicate populations that currently may be exposed to site-related contaminants.

The estimated noncancer hazards for site-wide exposure were below the level of concern of 1.0 for all potential Site users except the hypothetical future onsite resident child. The primary hazard drivers for the hypothetical resident child were vanadium, nickel, and TPH in soil. Because vanadium and nickel were identified as hotspots in the 2004 inorganic background evaluation (Avocet 2004b), these two metals were evaluated based on maximum, as opposed to 95% UCL concentrations. Because the maximum concentrations of nickel and vanadium do not co-occur, it was considered unlikely that any potential Site user would simultaneously be exposed to both these maximum concentrations.

For all populations and exposure scenarios, the blood lead levels calculated using the California DTSC LeadSpread model were below the Cal/EPA and Centers for Disease Control (CDC) action level of 10 µg lead/dl blood. Individual lead concentrations exceeded the California-modified Region IX residential preliminary remediation goal (PRG) of 146 mg at 14 locations across the Site.[7] These lead PRG exceedances (ranging from 150 to 1600 mg/kg) generally were limited to the vicinity of the former above-ground storage tanks.

1.5.3 Screening HHRA for the Cliff Springs at the Former Avila Tank Farm

In November 2007, McDaniel Lambert, Inc. completed a screening Human Health Risk Assessment to evaluate the possible human health impacts from potentially petroleum impacted water seeping from the cliff springs along Avila Beach adjacent to the former Avila Tank Farm (Attachment 5). The screening HHRA concluded that, based on an unrealistically high exposure to water seeping from the cliff springs and maximum chemical concentrations detected in seep samples collected through May 2007, there are no significant risks to beach users.

1.5.4 Screening HHRA for the Intertidal Zone at the Former Avila Tank Farm

In June 2012, McDaniel Lambert, Inc. completed a Screening Human Health Risk Assessment based on the analytical results for the surface water grab samples collected on May 8, 2012 from the tidal area below the cliff face (McDaniel Lambert, 2012a). Chemicals were detected in only one of the samples collected from the tide pool where sheen was observed. Based on maximum chemical concentrations detected during the May sampling event, the screening HHRA concluded that there is no significant risk to beach users who might wade in the tidal pools.

[7]Since completion of the Baseline HHRA, the Cal/EPA has revised the approach for evaluating lead, which has resulted in a revised residential soil screening level for lead of 80 mg/kg (Cal/EPA 2009a).

1.6 VISION PLAN EXPOSURE AREA DESCRIPTIONS

Based on the Vision Plan (Figure 1-2), the 13 "development bubbles" were identified as exposure areas in the Final HHRA. Three additional exposure areas, "open space" where development is not anticipated, a portion of open space for "native gardens", and a "drainage area" have been planned and identified for evaluation in the Final HHRA. The 16 exposure areas (A through O, Open Space, Native Gardens and Drainage Area) are shown in Figure 1-3. Revisions to the development plan have resulted in the following exposure areas and land uses[8]:

- Exposure Area A – Unspecified commercial development (default commercial structure)
- Exposure Area C – Family cottage clusters (bungalow and/or default commercial structure)
- Exposure Area D – Wellness Center (spa, fitness, and pool) with guestrooms (bungalow and/or default commercial structure)
- Exposure Area E – Wellness Center (spa, fitness, and pool) with guestrooms (bungalow and/or default commercial structure)
- Exposure Area G – Community amphitheater with associated support buildings (e.g., restrooms, vendors; default commercial structures)
- Exposure Area Ia[9] – Single or multiple unit guestrooms/conference center villas (bungalow and/or default commercial structure)
- Exposure Area Ib[7] - Single or multiple unit guestrooms/conference center villas (bungalow and/or default commercial structure)
- Exposure Area J – Living roof guestrooms (bungalow and/or default commercial structure)
- Exposure Area K – Resort, public restaurants and meeting rooms (default commercial building)
- Exposure Area L – Family cottage clusters (bungalow and/or default commercial structure)
- Exposure Area M – Parking lot (default commercial structure); although buildings are not proposed, a default commercial structure is evaluated
- Exposure Area N – Parking lot (default commercial structure); although buildings are not proposed, a default commercial structure is evaluated

[8] Exposure Areas B, F and H are no longer included in the development plan, and therefore not evaluated in the Final HHRA.

[9]As described in Section 1.4, the results of the 2007 soil gas sampling events showed elevated levels of VOCs in probes SV-10 and SV-11 (within Exposure Area I), located near the convergence of the eastern and northern pipelines. Given the variability of soil gas results, Exposure Area I was subdivided into Ia and Ib, with the northern pipeline corridor as the delineator.

- Exposure Area O – Parking lot, Shuttle and Gate House (default commercial structure)
- Open Space – Recreation areas (open space between the various development areas)
- Native Gardens – Gardens to include produce for use in Site restaurants
- Drainage Area – Outdoor commercial use for general grounds maintenance

Overall, the Vision Plan identifies just over 51 acres of the 95-acre Site for potential development. Current conditions in the exposure areas range from disturbed soil, residual asphalt, and patchy vegetation in some areas, to open grasslands and oak woodlands in others. Table 1-2 identifies the receptors (user groups) likely to be associated with each of the exposure areas and therefore evaluated in this HHRA; the identification of these user groups is discussed in detail in Section 4.2. Table 1-2 also identifies the anticipated building types (sizes and air exchange rates) for each of the exposure areas, based on the Vision Plan.[10] Additional details about the exposure areas, such as historic uses and potential sources of contamination are included in Sections 1.6.1 through 1.6.15 below. Figure 1-3 provides the overall layout of the Site, including Exposure Areas and the historical infrastructure, while Figures 1-7 through 1-12b, show the nature and extent of contamination detected in each of the exposure areas.

As discussed in Section 1.1, the risk assessment also includes a "Site-wide exposure area" to provide an updated evaluation of a "no development" scenario.

1.6.1 Exposure Area A – Unspecified Commercial Development

Exposure Area A, located just east of the Avila Town, had no operational-related structures on it, and historic industrial use was extremely limited. This exposure area covers 1.55 acres. Currently, there is a small dwelling that has been used as offices and by the community (e.g. Scout House), an associated gravel parking lot, and some oak woodlands. The Vision Plan does not specify the type of commercial development slated for this area, therefore a default commercial structure with overnight short-term residents is evaluated in this area. Soil and soil gas sampling indicates limited areas of very low level contamination.

[10]Building sizes, ceiling heights and air exchange rates are important in evaluating the vapor intrusion pathway, which is discussed in detail in Sections 4.1.3 and 5.1.4.2.

1.6.2 Exposure Area C – Family Cottage Clusters

Exposure Area C also is located just east of the Avila Town, along the western slope of the Site. This exposure area covers 9.27 acres. Historic use of this area included petroleum ASTs and fire suppression equipment. Currently, this is an open grassland area that slopes up towards the Avila Town water supply tank. This area is slated for small bungalow units that are part of a hotel or conference center complex. Recent soil and soil gas sampling as well as historical data indicate little contamination in this area.

1.6.3 Exposure Area D – Wellness Center and Guestrooms

Exposure Area D covers 2.74 acres, and is the former refinery area, and historical infrastructure included the refinery and numerous refinery support structures. Fire extinguishing equipment was kept in this area. Exposure Area D is slated for guestrooms with living roofs that use green technology to optimize energy efficiency. Since overnight visitors are expected, short-term residents are evaluated in this area. Historic and recent environmental investigations have identified petroleum-related contamination in this area (see Figures 1-7, 1-8, 1-9a and b).

1.6.4 Exposure Area E – Wellness Center and/or Commercial Support Buildings

Exposure Area E is located within the central valley of the Site. This exposure area includes 4.48 acres and historically the most industrialized portion of the Site. Infrastructure in this portion of the Site included the pump house (and associated oil heating equipment), storage facilities, a laboratory, and the truck loading rack. The pump house itself is still standing (see Figure 1-2). Various pipelines passed through this area as well. In the Vision Plan, this area is slated for unspecified commercial development that could include a Wellness Center and/or bungalows with overnight guests. This area of the Site includes some of the highest soil, soil gas, and groundwater impacts from petroleum hydrocarbons and related materials (see Figures 1-7 through 1-12b, and Avocet 2008a, 2008b, Parsons 2008, data summarized in McDaniel Lambert, Inc. 2005).

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Table 1-2. Summary of Exposure Area Uses, Receptors, and Buildings

Exposure Area*	Size (acres)	Use Identified in Vision Plan	Receptors Evaluated in HHRA	Buildings Evaluated in HHRA (for Indoor Air Pathway)
A	1.55	Unspecified Commercial	Default Commercial – Short-term Resident and Indoor Employee Outdoor Employee Intrusive Utility Worker	Default commercial building (residential default parameters except 1.0 exchanges per hour)
C	9.27	Family Cottage Clusters	Bungalow – Short-term Resident and Indoor Employee Default Commercial – Short-term Resident and Indoor Employee Outdoor Employee Intrusive Utility Worker	Bungalow (400 sq ft, 10 ft ceilings, 0.5 exchanges per hour) Default commercial building (residential default parameters except 1.0 exchanges per hour)
D	2.74	Wellness Center (Spa, Fitness, and Pool), Living Roof Guestrooms (green roofs)	Bungalow – Short-term Resident and Indoor Employee Default Commercial – Short-term Resident and Indoor Employee Outdoor Employee Intrusive Utility Worker	Bungalow (400 sq ft, 10 ft ceilings, 0.5 exchanges per hour) Default commercial building (residential default parameters except 1.0 exchanges per hour)
E	4.48	Wellness Center (Spa, Fitness, and Pool)	Bungalow – Short-term Resident and Indoor Employee Default Commercial – Short-term Resident and Indoor Employee Outdoor Employee Intrusive Utility Worker	Bungalow (400 sq ft, 10 ft ceilings, 0.5 exchanges per hour) Default commercial building (residential default parameters except 1.0 exchanges per hour)
G**	1.03	Amphitheater/Gathering Area	Default Commercial Indoor Employee Outdoor Employee Intrusive Utility Worker	Default commercial building (residential default parameters except 1.0 exchanges per hour)
Ia	3.53	Family Cottage Clusters	Bungalow – Short-term Resident and Indoor Employee Default Commercial – Short-term Resident and Indoor Employee Outdoor Employee Intrusive Utility Worker	Bungalow (400 sq ft, 10 ft ceilings, 0.5 exchanges per hour) Default commercial building (residential default parameters except 1.0 exchanges per hour)

Table 1-2. Summary of Exposure Area Uses, Receptors, and Buildings (cont.)

Exposure Area	Size (acres)	Use Identified in Vision Plan	Receptors Evaluated in HHRA	Buildings Evaluated in HHRA (for Indoor Air Pathway)
Ib	1.41	Resort "Back-of-House"	Bungalow – Short-term Resident and Indoor Employee Default Commercial – Short-term Resident and Indoor Employee Outdoor Employee Intrusive Utility Worker	Bungalow (400 sq ft, 10 ft ceilings, 0.5 exchanges per hour) Default commercial building (residential default parameters except 1.0 exchanges per hour)
J	6.16	Living Roof Guestrooms (green roofs)	Bungalow – Short-term Resident and Indoor Employee Default Commercial – Short-term Resident and Indoor Employee Outdoor Employee Intrusive Utility Worker	Bungalow (400 sq ft, 10 ft ceilings, 0.5 exchanges per hour) Default commercial building (residential default parameters except 1.0 exchanges per hour)
K	2.39	Resort, Public Restaurants, and Meeting Rooms	Default Commercial – Short-term Resident and Indoor Employee Outdoor Employee Intrusive Utility Worker	Default commercial building (residential default parameters except 1.0 exchanges per hour)
L	9.07	Family Cottage Clusters	Bungalow – Short-term Resident and Indoor Employee Default Commercial – Short-term Resident and Indoor Employee Outdoor Employee Intrusive Utility Worker	Bungalow (400 sq ft, 10 ft ceilings, 0.5 exchanges per hour) Default commercial building (residential default parameters except 1.0 exchanges per hour)

Table 1-2. Summary of Exposure Area Uses, Receptors, and Buildings (cont.)

Exposure Area	Size (acres)	Use Identified in Vision Plan	Receptors Evaluated in HHRA	Buildings Evaluated in HHRA (for Indoor Air Pathway)
M**	1.2	Project Parking Lot	Default Commercial – Short-term Resident and Indoor Employee Outdoor Employee Intrusive Utility Worker	Default commercial building (residential default parameters except 1.0 exchanges per hour)
N**	2.17	Project Parking Lot	Default Commercial – Short-term Resident and Indoor Employee Outdoor Employee Intrusive Utility Worker	Default commercial building (residential default parameters except 1.0 exchanges per hour)
O**	6.03	Project Parking Lot, Shuttle/ Gate House	Default Commercial – Short-term Resident and Indoor Employee Outdoor Employee Intrusive Utility Worker	Default commercial building (residential default parameters except 1.0 exchanges per hour)
Open Space	44.26	Recreation Areas	Recreational User Outdoor Employee	NA
Native Gardens	3.04	Restaurant Produce Agricultural Area	Produce/Restaurant Visitor Outdoor Employee	NA
Drainage	0.924	Outdoor Commercial	Outdoor Employee Intrusive Utility Worker	NA
Site-Wide	50.65	No Development Scenario	Baseline Offsite Resident Baseline Recreational User	NA

*Exposure Areas B, F and H are no longer included in the development plan, and therefore not evaluated in the Final HHRA.

**The Vision Plan does not propose overnight accommodations in Exposure Areas G, M, N, or O; the HHRA includes risk estimates for these receptors to provide risk managers with maximum flexibility.

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1.6.5 Exposure Area G –Community Amphitheater and/or Gathering Area

This exposure area is located along the southwestern terrace, near the cliffs at the southern edge of the Site. Exposure Area G covers 0.69 acres, and historic infrastructure consists of an AST, and is located near pipeline operations, and an oil skimming pond and sump. A community amphitheater, with some small commercial structures such as restrooms and venders, is the development project proposed within Exposure Area G. Site characterization data indicate that there are some elevated levels of VOCs in soil gas (see Figures 1-9a and b and Avocet 2008b, Padre 2012b) and groundwater (Padre 2013a, b).

1.6.6 Exposure Area Ia and Ib – Hotel Bungalows and Commercial Support Structures

Exposure Areas Ia and b are located in the northeastern portion of the Site (covering 3.53 and 1.41 acres, respectively). As described in Section 1.4, the results of the 2007 soil gas sampling events showed elevated levels of VOCs in probes SV-10 and SV-11 in the eastern end of this development bubble where the northern and eastern pipeline corridors converge. Given the variability of soil gas results, Exposure Area I was subdivided into Ia and Ib, with the northern pipeline corridor as the delineator. Historic operations in this area included three large ASTs and associated piping. In the Vision Plan, Exposure Area Ia is designated for family cottage clusters with bungalows similar to those designated for other areas of the Site. Exposure Area Ib is slated for commercial support buildings, which would facilitate operation of the family cottages. Petroleum-related soil contamination appears limited to pipeline operations within both Ia and Ib (see Figure 1-7 and Avocet 2008a, Padre 2012b), while the 2007 and 2012 soil gas sampling results showed elevated levels of fire extinguishing and chlorinated VOCs in Ib (see Figures 1-10a and b, 1-11a and b, and Avocet 2008b, Padre 2012b).

1.6.7 Exposure Area J – Living Roof Guestrooms

Exposure Area J is located in the center of the Site, occupying 6.16 acres in the center of the Site. Historic infrastructure in this area included ASTs and related piping, the eastern pipeline corridor, and a stormwater retention pond. This area is also slated for guestrooms that are a part of the hotel or conference center complex. Petroleum-related impacts in soil appear restricted to the area around the pipeline corridor (Avocet 2008a). Elevated levels of fire extinguishing agents and chlorinated VOCs were detected in soil gas collected in this area (see Figures 1-10a and b, 1-11a and b, and Avocet 2008b and Padre 2012b).

1.6.8 Exposure Area K – Resort, Public Restaurants and Meeting Rooms

Exposure Area K is the southern-most portion of the Site slated for development. It includes 2.39 acres and historically included two large ASTs and related piping. The Vision Plan identifies this as the location of the Chumash Cultural Center. There are some petroleum related impacts in soil and soil gas, particularly along the northern border with Exposure Area J (Avocet 2008a and b, Padre 2012b).

1.6.9 Exposure Area L – Family Cottage Clusters

At 6.4 acres, Exposure Area L is the largest of the development areas identified for the Site. This exposure area is 9.07 acres, and included four large ASTs as well as the eastern pipeline corridor. Under the proposed Vision Plan, this area would be used for additional family cottages. Petroleum impacts to soil generally are limited to portions of the eastern pipeline corridor (see Figures 1-7 and Avocet 2008a) while limited impacts to soil gas were detected in the vicinity of SV-19 (see Figures 1-10a and b, 1-11a and b, Avocet 2008b and Padre 2012b).

1.6.10 Exposure Area M – Parking Lot and/or Unspecified Commercial

Exposure Area M, in the northeastern corner of the Site across from the Avila creek, historically included cottages for refinery workers in the early 1900's. Exposure Area M covers 1.20 acres. The northern pipeline corridor passes through the southeastern corner of this exposure area. The Vision Plan has this area slated for a parking lot. Impacts to soil and soil gas were detected near the pipeline corridor in Exposure Area M (see Figure 1-7, Avocet 2008b, Padre 2012b).

1.6.11 Exposure Area N – Parking Lot and/or Unspecified Commercial

Exposure Area N, located north of Exposure Area M, encompasses 2.17 acres. The northern pipeline corridor passes through the southern tip of this exposure area. The Vision Plan identifies this as the location of the main entry gate for the Site and a parking area. There may be a small commercial structure in the parking lot. There appear to be only minor impacts to soil and soil gas in this exposure area (Avocet 2008b, Padre 2012b).

1.6.12 Exposure Area O – Parking Lot and/or Unspecified Commercial

Exposure Area O, located adjacent to Exposure Area N, encompasses 6.03 acres. The Vision Plan does not specify they type of development for this area, however evaluation of default commercial buildings in this area allow for the possibility of support structures. s this as the location of the main entry gate for the Site and a parking area. There may be a small

commercial structure near the parking lot, such as a gate house or shuttle stop. There appear to be only minor impacts to soil and soil gas in this exposure area (Avocet 2008b, Padre 2012b).

1.6.13 Drainage Area

The drainage area is a small 0.92 acre portion of the Site, where outdoor maintenance activities are expected to take place. The Vision Plan does not propose any structures in this area. There appear to be some VOC impacts to soil in this exposure area.

1.6.14 Open Space Exposure Area – Recreational Space

Any part of the former Tank Farm that is not included in the 14 areas identified for development (Exposure Areas A through O[11], and Drainage Area) is considered to be potential open space. These areas, which encompass 44.26 acres, include small portions of some of the most heavily impacted portion of the Site (in the vicinity of the former refinery and truck loading areas, sump and catch basin) as well as some of the least historically-developed areas (e.g. the oak woodlands and steep hillsides). While no historical infrastructure has been identified on the steep hillsides in the southeast portion of the Site, elevated levels of petroleum hydrocarbons, PAHs, and some metals have been detected in soil samples collected from this area.

1.6.15 Native Gardens

In the Vision Plan (Figure 1-2), the open space adjacent to Exposure Area C is identified as "Native Gardens" and is considered a likely place to grow produce that might be served at restaurants included in the development of the Site. At 3.04 acres, the Native Gardens area is located along the western slope of the Site and had limited industrial use. Activities associated with the Front Street pipeline corridor have resulted in limited petroleum-related impacts from operations at the former Tank Farm (see Figure 1-7, Avocet 2004a).

1.7 HUMAN HEALTH RISK ASSESSMENT PROCESS

The Avila Tank Farm risk assessment evaluates the potential health risks to human receptors associated with current Site conditions and future uses of the Site based on the Vision Plan. As shown in the Figure 1-13 below, the risk assessment process consists of six distinct steps.

[11] Exposure Areas B, F and H are no longer included in the development plan, and therefore not evaluated in the Final HHRA.

In *Step 1*, the data associated with the Site are reviewed and the analytical results compiled. The data are screened according to data usability criteria established for risk assessment. Constituents with data meeting these quality criteria are carried forward in the risk assessment as the Chemicals of Potential Concern (COPCs).

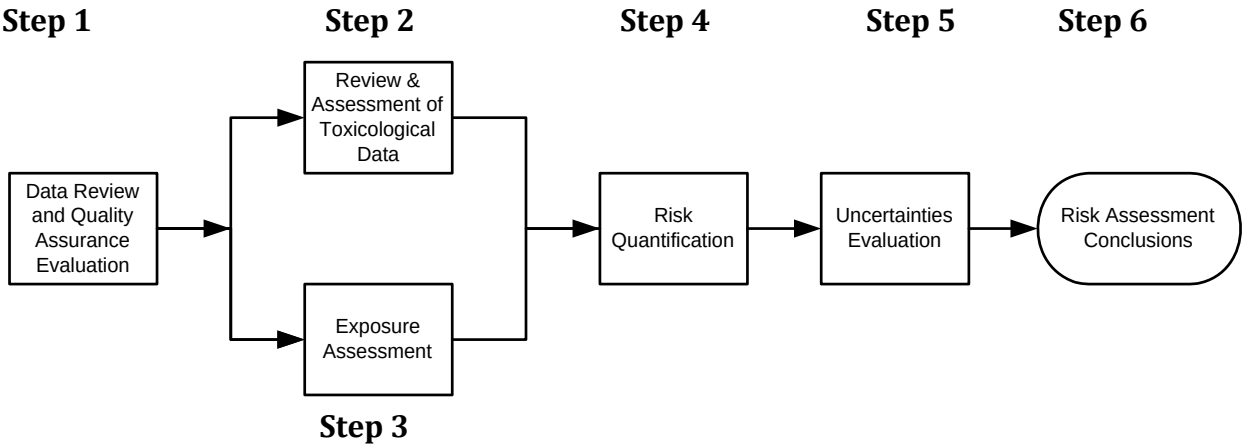

Figure 1-13. Human Health Risk Assessment Process

In *Step 2*, COPC-specific toxicity values are compiled for use in the quantitative risk analysis. The following toxicity values are used: (1) values published in Cal/EPA's Office of Environmental Health Hazard Assessment (OEHHA) Toxicity Criteria Database (Cal/EPA 2013a), other Cal/EPA sources (e.g. OEHHA Table of Reference Exposure Levels, 2008), (2) USEPA's Integrated Risk Information System (IRIS) (USEPA 2012), or USEPA's Regional Screening Levels (RSLs) (USEPA 2012b), (3) Toxicology for Excellence in Risk Assessment (TERA) Database (2013) values or (3) surrogate values.

In *Step 3*, exposure scenarios re developed to (1) describe the potential exposures at the Site for a planned range of development options and (2) provide a basis for quantifying those exposures. Each exposure scenario addresses the residual COPCs, the potential route or mechanism of exposure, and potentially exposed human populations (known as receptors). When site-specific data for scenario development are unavailable, conservative values found in USEPA and Cal/EPA regulatory guidance are used.

In *Step 4*, the toxicity and exposure assessments are summarized and integrated into quantitative expressions of risk. This includes COPC-specific, multi-pathway risks for each of the Site's potential receptors. The risk values presented in a risk assessment are conditional estimates derived from a considerable number of conservative, health-protective assumptions about exposure and toxicity. Thus, to place the risk estimates in

proper perspective, it is important to specify the assumptions and uncertainties inherent in the risk assessment. This process is conducted in *Step 5.* This step may also involve the reevaluation of data or the identification of additional data requirements to decrease uncertainty.

Step 6 involves the development and presentation of conclusions that can be inferred from the findings of the risk assessment. This step provides risk managers with insight into the interpretation of the risk assessment results.

1.8 GUIDANCE DOCUMENTS

The following guidance documents and/or information sources were used in the preparation of this risk assessment:

- *Preliminary Endangerment Assessment Guidance Manual* (PEA) (Cal/EPA 1994; reprinted in 1999)
- *Risk Assessment Guidance for Superfund (RAGS), Volume I—Human Health Evaluation Manual*, Part A, Interim Final (USEPA 1989)
- *Risk Assessment Guidance for Superfund (RAGS), Volume I—Human Health Evaluation Manual, Part C, Risk Evaluation of Remedial Alternatives* (USEPA 1991)
- *Risk Assessment Guidance for Superfund (RAGS), Volume I—Human Health Evaluation Manual, Part E, Supplemental Guidance for Dermal Risk Assessment*, Interim (USEPA 2004a)
- *Risk Assessment Guidance for Superfund (RAGS), Volume I—Human Health Evaluation Manual, Part F, Supplemental Guidance for Inhalation Risk Assessment*, (USEPA 2009a)
- *Guidance for Data Usability in Risk Assessment* (USEPA 1992a)
- *Exposure Factors Handbook* (USEPA 2011)
- *Supplemental Guidance for Developing Soil Screening Levels at Superfund Sites* (USEPA 2002a)
- *Guidance for Comparing Background and Chemicals Concentrations in Soil for CERCLA Sites* (USEPA 2002b)
- *Air Toxics Hot Spots Risk Assessment Guidelines. Part II: Technical Support for Describing Available Cancer Potency Factors* (Cal/EPA 2005c)
- OEHHA Toxicity Criteria Database (Cal/EPA 2013)
- Integrated Risk Information System (IRIS) database (USEPA 2013a)
- USEPA Regional Screening Levels (RSLs; USEPA 2013b)

- *Total Petroleum Hydrocarbon Criteria Working Group Series*: Volumes 4 and 5 (TPHCWG 1997 and 1999)
- *Interim Guidance: Evaluating Human Health Risks from Total Petroleum Hydrocarbons* (Cal/EPA 2009c)

1.9 REPORT ORGANIZATION

The HHRA is divided into eight additional sections:

Section 2 identifies the COPCs for the Site. The data sources used in the risk assessment are discussed within the context of a hierarchy developed on the basis of the data quality criteria and objectives.

Section 3 summarizes the toxicity information (for both carcinogenic and noncarcinogenic health effects) for each chemical. The toxicity criteria used to characterize potential health risks are identified.

Section 4 addresses the conceptual exposure model. This section characterizes the physical and chemical setting of the Site, with an emphasis on current geological and hydrological conditions, COPCs present, land use, and potentially exposed populations. Through this conceptual exposure model, possible exposure pathways are identified, and those pathways deemed significant are selected for quantitative evaluation.

Section 5 presents the calculations for exposure point concentrations (i.e., concentrations of chemicals in soil and air that may contact the potential receptors). The results of the statistical evaluations of soil and the analysis of chemical fate and transport are presented.

Section 6 presents the characterization of potential health risks to the exposed receptors. The risk characterization methodology is presented along with the health risk estimates for the Site land uses and associated exposure scenarios developed in Section 4.

Section 7 discusses uncertainties associated with the estimated risk values. The potential magnitude and direction of bias that may be introduced by each identified uncertainty factor to the estimated risk values are evaluated. The discussion includes identification of uncertainties in risk characterization results related to COPC selection (including data usability), exposure assessment (including receptor selection and potential exposure pathways), and toxicity determination, as well as a qualitative discussion regarding potential cumulative impacts to Avila Beach residents (Section 7.6).

Section 8 summarizes the findings and the conclusions of this report regarding risks associated with chemicals detected at the Site and future land uses identified in the Vision Plan.

Section 9 identifies the references used in this report.

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2.0 CHEMICALS OF POTENTIAL CONCERN

The results of sampling at the Site are compiled and chemicals are selected for evaluation in the risk assessment. Chemicals detected at the Site include organic and inorganic compounds and petroleum hydrocarbon mixtures.

This section identifies the COPCs present at the Site to be included in the health risk evaluation. The selection of chemicals is based on sampling data for compounds that are present in soil and, for exposure to indoor air, soil gas. As discussed in Section 1.3, given that groundwater in the area does not appear to be suitable for use as domestic water, it was not evaluated as a source of drinking water in this risk assessment. Because the intrusive utility worker may be exposed to groundwater during digging activities, COPC selection for this potential receptor – exposure pathway combination was based on fourth quarter 2012 and second quarter 2013 groundwater sampling results (Padre 2013a, b). Consistent with the 2005 Baseline HHRA, asphalt samples are excluded from the risk assessment because exposure to asphalt is expected to be limited to occasional dermal contact and the available toxicology literature suggests that the toxicity of asphalt is low.[12] The potential toxicity associated with asphalt is discussed further in Section 3.2.3.

As described in Section 1.4, numerous field investigations have been conducted at the Avila Tank Farm. Samples collected include surface soils, subsurface soils, bedrock, asphalt (berms), groundwater, and soil gas. Most of these samples were analyzed for the presence of TPH, volatile aromatics (BTEX), and other petroleum hydrocarbon constituents such as PAHs. Samples also have been analyzed for various non-petroleum-related compounds such as metals, PCBs, and pesticides. As described in the 2005 Baseline HHRA, samples were collected from the areas surrounding the Site for background metals evaluations. Section 2.1 assesses the usability of data available for the Site. Section 2.2 addresses the spatial adequacy of the data for use in this Final HHRA, while Section 2.3 presents the methodology used to select COPCs at the Site.

[12]In the risk assessment for the SLO Tank Farm (McDaniel Lambert, Inc. 2005) it was determined that the health risks associated with exposure to weathered hardened asphaltic debris was deemed to be minimal. Asphalt samples excluded from the risk assessment are only those with the matrix identified as asphalt/tar, based on field observations, in the Avocet Site database. The Final HHRA does not exclude soil sampling locations where TPH was characterized as asphalt based on geochemical evidence (Avocet 2008a).

2.1 DATA VALIDATION AND USABILITY

Avocet maintains an electronic database of soil, sediment, bedrock (rock), asphalt (tar) and soil gas data for the Site, and in preparation of the 2005 Baseline HHRA performed a number of steps to ensure the completeness and accuracy of the database. The database verification process utilized is detailed in Attachment 8 of the 2005 Baseline HHRA. Avocet has incorporated solid matrix and soil gas analytical results reported since 2004 into the database, following verification of the data.

McDaniel Lambert, Inc. initially received the Site database from Avocet in February 2008, and updated versions in March 2010 and June 2012.[13] In addition to analytical results, the database included sample location and elevation information, and designated the exposure area of each sample. To develop the HHRA soil and soil gas dataset, McDaniel Lambert, Inc. selected only Site soil and sediment samples to which humans potentially could be exposed to be included (0-10 ft bgs). Sediment samples were collected from wetlands at the Site, and because these features may be relocated for enhancement, the potential for human contact with sediment exists; therefore these locations were evaluated in the Final HHRA as potential soil exposure. A limited number of soil samples from areas that were subsequently excavated were excluded from the HHRA dataset. In order to ensure that soil gas sampling and analytical procedures were consistent with current guidance (Cal/EPA 2005b, 2011), only soil gas samples collected since 2005 were included in the HHRA dataset. Laboratory duplicate samples were evaluated as part of the data usability process (described below), but were excluded from the HHRA dataset. The resulting HHRA soil and soil gas dataset is included as Attachment 6.[14] Selection of groundwater COPCs was based on the groundwater sampling data from Padre's 2012 fourth quarter and 2013 second quarter groundwater monitoring data for the Site, which is included as Attachment 7.

The soil and soil gas data included in both the 2005 Baseline HHRA and this Supplemental HHRA were subjected to data usability analyses (USEPA 1988, 1992a) in order to assess the quality and usability of the data for the HHRA process. The guidance follows six criteria to evaluate data usability:

1. Criterion I - Reports: In this case the assessment and characterization reports containing the historical or legacy environmental analytical data were evaluated.

[13]The database update in March 2010 included the reclassification of some sample matrices from soil to asphalt/tar. Between sHHRA versions 2.0 and 2.1, this resulted in the exclusion of 13 samples that had previously been classified as soil from the sHHRA dataset.

[14]Samples collected from ambient air during the 2007 soil gas sampling events were included in Avocet's database as soil gas samples; these samples are included in the HHRA dataset, but with a matrix designation of "AA" for ambient air.

The data should be reported in a format that provides adequate data and data documentation.

2. Criterion II - Documentation: Data collection and analysis procedures must be accurately documented to substantiate the analysis of the sample, conclusions derived from the data, and the reliability of the analytical data.
3. Criterion III - Data Sources: For historical analytical data to be useful in quantitative risk assessment, sampling design, sampling and analytical techniques, and detection limits must be well documented.
4. Criterion IV - Analytical Methods and Detection Limits: Documents that the appropriate analytical methods are able to identify COPCs and that detection limits that meet risk assessment requirements.
5. Criterion V - Data Review: An examination of laboratory and method performance for the samples and analytes.
6. Criterion VI - Data Quality Indicators: Data quality indicators provide quantitative measures of the completeness, comparability, representativeness, precision, and accuracy of the environmental analytical data. These indicators are assessed through the review of sampling and analytical data and accompanying documentation.

2.1.1 2005 Avocet Data Usability Assessment

Avocet conducted the data usability evaluation for soil and soil gas data collected through 2004 for its use in the 2005 Baseline HHRA (Attachment 8, *Data Usability Evaluation - Human Health Risk Assessment Database*). In short, over 40 reports were used to assemble the 2004 analytical dataset (including background soil, and onsite soil, soil gas, and groundwater) intended to support the 2005 HHRA. Avocet's review found that overall, these reports and the data within adequately met the required usability criteria.

2.1.2 2007 Neptune & Company Data Validation and Usability Report

Neptune & Company, Inc. (Neptune) performed a data validation and data usability evaluation for soil, sediment, and soil gas samples collected from the Site after Avocet's compilation of the 2004 database. This included samples from a single soil boring completed in May 2004, sediment samples collected as part of the ecological wetland evaluation in 2005, soil samples from trenching conducted in 2005, and soil and soil gas samples collected in 2007. Neptune's data validation and data usability report is appended as Attachment 9 of this document.

The *data validation* evaluation performed by Neptune summarizes the quality assurance evaluation of the data according to precision, accuracy, representativeness, completeness,

and comparability (PARCC) relative to the National Functional Guidelines, providing an assessment of the data and identifying potential sources of error, uncertainty, and bias that may affect the overall usability.[15] Professional judgment was used in some cases to qualify the results. The results of the data validation evaluation for the 2007 soil and soil gas data, the 2005 trench data, and the 2005 wetlands data can be found in Attachment 9. The *data usability* evaluation was performed using the six criteria provided by USEPA and is described in Section 2.1.

There is some overlap between the data validation and data usability assessments. The overlap mostly concerns the role of the PARCC parameters evaluation, which occurs in both evaluations. However, the data validation is aimed at summarizing according to quality assurance metrics. Qualifiers are added to data as a consequence of any inconsistencies with the functional guidelines. Data usability also involves evaluation of the data with respect to the PARCC parameters, but the goal is to evaluate data for a specific use or purpose. This evaluation addresses the usability of the data for the given purpose, which in this case is a human health risk assessment. That is: can the data be used in a risk assessment? The data usability performed for these data reached into some data adequacy areas, but only in a qualitative way. That is, evaluations were performed of the spatial representativeness or adequacy of the data to characterize each source term on the site, and to support risk assessment in each evaluation area that has been defined.

The full report in Attachment 9 is organized by stand-alone documents for both the data validation and data usability. The most significant findings of Neptune are identified below (italics indicate language drawn directly from the Neptune reports) along with how these findings impact the HHRA:

1) *Comparability of the various data sets is an issue. The results were not consistently reported in wet weight or dry weight. In some cases, how the results were reported was not specifically noted in the laboratory documentation. Assumptions were made based on the available information to complete the data validation and data usability evaluations*.
   The 2005 Baseline HHRA was conducted using only wet weight soil concentrations. Analytical results for concentrations of PAHs in soil samples collected during 2007

[15]Neptune's data usability evaluation did not specifically address PARCC in terms of the site conceptual model, particularly with respect to the broader question of how well the data captures key COPCs and/or media of concern. However, following completion of the 2005 Baseline HHRA, the ATCAT collaboratively evaluated additional sampling needs at the Site, and identified soil gas as the only media type that was inadequate based on historical operations and future development plans, and also identified some areas for additional shallow soil sampling. The ATCAT's review resulted in the 2007 sampling events and associated data subsequently evaluated by Neptune. The ATCAT also determined that with the additional soil gas VOC analyses, historical chemical analyses were appropriate based on Site sources and proposed future land uses.

were reported by the laboratory and incorporated into the Site database by Avocet in mg/kg *dry* weight. Wet weight concentrations are lower than dry weight concentrations, making risk estimates for soil based on wet weight concentrations lower than those for dry weight. Moreover, human health soil screening levels such as California Human Health Screening Levels (CHHSLs) and some parameters used in risk assessment are in terms of dry weight. Uncertainties resulting from this inconsistency can be alleviated by ensuring that any future sampling at the Site (such as confirmation sampling) should include moisture content and/or be reported as dry weight.[16]

2) *All sediment data results are considered usable only for screening information due to the lack of QA/QC data.*
   This comment refers to a small number of samples. However, given the potential for development in wetland areas they were included in this assessment.

3) *Most of the reporting limit issues were related to high dilution factors during the sample analysis and therefore general sensitivity was acceptable for risk assessment purposes.*
   This confirms discussions with the laboratory about the reporting limit issues, in which high hexane concentrations had to be diluted. This is an uncertainty that is further discussed in Section 7.2.3.2.

4) *There were results associated with only one sample, volatile fuel hydrocarbons in sample SV-51-01, that were not considered usable, so these data should not be used for this human health risk assessment.*
   The analytical result for "volatile fuel hydrocarbons" for this sample, located in Exposure Area C, was removed from the HHRA soil dataset.

5) *Several air samples had elevated reporting limits.*
   Neptune identified only the soil gas data listed in #4 above as unusable. Therefore, soil gas samples with elevated detection limits were included in the HHRA dataset. The uncertainties associated with the impact of elevated detection limits on COPC selection are discussed in Section 7.2.3.2.[17]

6) *The data in the south-east corner were analyzed at a different laboratory, and the concentrations are greater than elsewhere in general, despite a lack of apparent source term.*
   The data for this area were gathered specifically to address whether petroleum sludge had been buried in this portion of the Site. Reporting limits were elevated for all chemicals other than TPH. This area is on a steep slope near the ocean, is part of the Open Space, will only have recreational exposures, and will have no other uses. In discussion with SLO County EHS, it was decided to retain this data in the HHRA.

7) *The source terms appear to be adequately characterized.*

[16]Uncertainties associated with the use of wet weight data in the sHHRA are further discussed in Section 7.4.3.2.

[17]As noted in Section 1.4, reporting limits for ambient air samples collected by Avocet in 2007 were the same as for the concurrently collected soil gas samples. Although reporting limits generally were adequate to evaluate potential vapor intrusion health effects, they are above typical ambient levels.

This finding is consistent with the investigation reports discussed in Section 1.4.

8) *It is not clear that there is enough data in each evaluation area to support evaluation area specific human health risk assessments. This is of most concern for Area M, for which the few data point do not seem sufficient for risk assessment.*
"Area M" refers to the Development Plan evaluated in the Supplemental HHRA, but is the much larger Exposure Area O in the Vision Plan. This potential data gap issue is no longer relevant to the current Vision Plan. In addition to Neptune's data validation, the data quality for the Site is discussed further in Section 2.1.4.

With the exceptions noted and discussed above, Neptune found that the potential sources at the Site had been well characterized, there were sufficient data in most individual areas (relative to the Development Plan), and that the data were overall of sufficient quality to proceed with the HHRA. The uncertainties associated with the inclusion of specific samples identified by Neptune as "usable" for risk assessment purposes, but for which some data usability issues were identified, are discussed in Section 7.2.2.

2.1.3 Data Usability and Data Validation for Data Collected Since 2007

Additional data was collected since the completion of the 2007 Neptune Data Validation and Usability Report, and were used in this risk assessment – specifically, cliff springs soil sampling in 2011, soil gas sampling in 2012, and groundwater monitoring in fourth quarter 2012 and first quarter 2013. These data were subjected to a data usability analysis following the same six criteria specified above. The data usability review was conducted in the form of Laboratory Data Package Review Checklists, detailing the availability of the information identified above. The laboratory data package reviews are included as Attachment 10, which includes reviews of data packages for soil, soil gas, and groundwater analyses. In the laboratory data package review checklists, the word "Yes" to the left of the documentation item indicates that the report(s) contain the recommended information and the word "No" indicates that the suggested documentation is not contained within the report(s). In general, the data packages include adequate documentation of the: 1) analytical methods and reporting limits, 2) chain of custody forms, 3) analytical results on a per-sample basis, and 4) reasonable documentation of field and laboratory quality control (QC) data results. Review of the laboratory data reports and electronic files newly incorporated into the Addendum and Final HHRA determined that overall the data adequately meet the required criteria and are considered useable for risk assessment purposes, with some issues related to equipment blank contamination that do not significantly impact the health risk assessment results.

Two VOCs, methylene chloride and 1,2,4-trimethylbenzene, were detected in the method blank associated with four soil samples collected from borings B-224 (Open Space) and B-225 (Exposure Area G); however, these analytes were not detected in the associated field samples. As presented in Attachment 2, several matrix spike recoveries and relative percent differences were outside laboratory-specific control limits. In addition, matrix spike and matrix spike duplicates for several QC samples also were outside the range of acceptable limits. However, because the corresponding laboratory control sample results were acceptable, the data were not qualified by the laboratory and were determined to be usable in the risk assessment. Uncertainties associated with matrix spikes and other data usability issues are discussed in detail in Section 7.2.2.

2.1.4 McDaniel Lambert, Inc. Data Quality Assessment

As part of the 2007 data usability evaluation, Neptune noted that quantitative data quality objectives (DQOs) were not presented; therefore the sufficiency of the data using statistical calculations in the data validation and usability evaluation could not be addressed. Instead, Neptune performed a qualitative assessment using spatial representation of the data (Attachment 9). As requested by SLO County EHS, McDaniel Lambert, Inc. has conducted a quantitative data quality assessment (DQA) for the Site to verify that data collected through 2012 and used in the Final HHRA are sufficient to support risk-based decisions (Attachment 11). The DQA evaluation is based on guidance from the USEPA's Office of Information Quality Staff (USEPA 2006a and b) and was developed in general concurrence with Neptune. The DQA quantitatively assessed whether sufficient data to support the risk assessment with the desired level of confidence has been collected for risk-significant chemicals for each exposure area.[18] Future risk management decisions could potentially include 1) remedial action or 2) no remedial action.

USEPA's DQA process was applied to each risk-significant chemical to make sure acceptable performance criteria were met. The statistical software package Visual Sample Plan (Version 6.0, Pacific Northwest Laboratory 2010) was used to calculate the sample size required to compare the mean site concentration of a risk-significant chemical with its risk-based concentration (RBC). Specific DQOs used in this evaluation include the USEPA default Type I and Type II error rates of 5% and 20%, respectively, and a gray region (or minimum detectable difference) equal to 20% of the RBC. If the Final HHRA sample size did not meet the desired sample size, a sensitivity analysis was conducted using an array of

[18]As described in Attachment 11, the DQA is based on the risk results presented in this report but is suimmarized here as part of the overall data usablity and quality discussion.

possible inputs: Type II error range of 15%, 20% and 25%; Type I error range of 5%, 10% and 15%; and minimum detectable differences of 10%, 20%, and 30%. Sample sizes were then compared to this range of statistically calculated sample sizes. If the sample size is not sufficient, the level of confidence in possible risk management decisions is limited. Table 2-1 summarizes the DQA results and identifies HHRA sample sizes that do not meet the default USEPA error rates when the grey region equals 20% of the RBC. Cases for which the default USEPA error rates are not met are discussed in Section 7.2.1 and Attachment 11.

As discussed in Neptune's Data Validation and Usability Report, some exposure areas contained very few surface soil or soil gas samples, and were identified as possibly having insufficient sample sizes. In particular, the soil dataset for Exposure Area G was noted as having very few samples.[19] The DQA results indicate that sample sizes for risk-significant chemicals in this area meets the required sample sizes. The exposure area-chemical combinations where risk-significant chemical soil sample sizes do not meet the USEPA criteria are Open Space benzene (0-10 foot soil horizon) and dibenzo(a,h)anthracene (0-2 foot soil horizon), Site-wide 2,4-dinitroluene (0-10 foot soil horizon), and lead in Exposure Areas D and Ia.

In the Final HHRA, worst-case indoor air concentrations are derived from the maximum 5- or 15-ft soil gas concentrations that result in the highest indoor air concentrations. In most cases, the maximum indoor air concentration results from the 15-foot soil gas data. As discussed in Section 7.4.3.7, there is a substantial attenuation of soil gas concentrations between the 15-foot and 5-foot samples. Therefore, when the indoor air risk calculations are based on deeper results, the sufficiency of the 5-ft soil gas data was evaluated in addition to evaluating the sufficiency of the 15-ft soil gas data. The DQA results demonstrate that the 2012 supplemental soil gas sampling activities accomplished the data quality objectives by providing sufficient sample sizes to evaluate indoor air risks in Areas A, K, M, N, and O (see Table 2-1). The following risk-significant chemicals in soil gas at the specified depths do not meet the default USEPA criteria:

- Area D: ethylbenzene (15 ft; data are sufficient for 5-ft soil gas)
- Area E; benzene (5 and 15 ft)
- Area Ia: chloroform (15 ft; data are sufficient for 5-ft soil gas)
- Area Ib: chloroform (5 and 15 foot)
- Area J: chloroform (5 and 15 foot)

[19]Exposure Area B also was noted as having a small sample size, but the Vision Plan combines Exposure Areas B and C into a larger Exposure Area C.

- Area K: chloroform (15 foot; data are sufficient for 5-ft soil gas)

With the exception of the risk-significant chemicals in the exposure areas noted above and highlighted in Table 2-1, the results of the DQA indicate that the soil and soil gas sampling designs accomplished the objective of collecting data to support this Final HHRA. Exposure areas with insufficient sample sizes will be addressed in the Pre-Feasibility and/or Feasibility Study.

In addition to the DQO and DQA for risk-significant chemicals identified in the Final HHRA, SLO County EHS requested a review of the background arsenic data to verify that there were sufficient sample sizes to conduct the background evaluation, *Analysis of Background Metals* (see Section 2.2.1 and Attachment 12), which concluded that Site arsenic concentrations are consistent with background levels. Using the open source statistical software program R (www.r-project.org), the DQA confirmed that the sample size is sufficient to support this conclusion (see Section 3.0 of Attachment 11).

By general agreement, the background DQA for arsenic for this Final HHRA was first performed qualitatively, which led to the use of onsite data to supplement the offsite background data. The subsequent quantitative DQA for arsenic verified the appropriateness of these decisions and provides a detailed summary of data sufficiency with regards to making risk-management decisions.

2.2 SELECTION CRITERIA FOR CHEMICALS OF POTENTIAL CONCERN

COPCs for the Site were selected by determining which chemicals detected in environmental media had the potential to adversely impact human health. The COPCs were identified based on the results of field sampling and data analysis for media of concern for the HHRA (soil, indoor air via soil gas, and groundwater). Specifically, COPCs were selected based on data in the HHRA soil and soil gas dataset (Attachment 6) and the most recent groundwater monitoring report (Attachment 7). COPCs were selected separately for each of the 17 exposure areas evaluated (the 13 development bubbles, open space, native gardens, drainages, and site-wide).

Soil COPCs for each exposure area were identified based on data from the 0-2 foot and 0-10 foot depth horizons, and follow a four-step process agreed upon with SLO County EHS.

1. Review of the frequency and range of detections of each chemical analyzed in soil.
2. Inorganics (e.g., metals) detected in soil were screened based on comparisons with one-tenth of the residential CHHSL, as well as background site concentrations. The

inorganic background comparison is detailed in the *Analysis of Background Metals* (Attachment 12) and summarized in Section 2.2.1 below.

3. Organic chemicals were excluded as a COPC if the compound was detected with less than 5% frequency and are not a petroleum hydrocarbon-related constituent.
4. Remaining chemicals were screened based on best professional judgment, subject to approval by the ATCAT. The basis for exclusion of any chemical is described in subsequent sections.

With respect to potential exposure to indoor air, any constituent detected in soil gas was carried forward as a COPC, with the exception of acetone and ethanol (as discussed with SLO County EHS). These two chemicals were detected very frequently, including in the ambient air samples. Acetone and ethanol were detected in samples from areas with no or little contamination (e.g. Native Gardens), as well as in samples from heavily impacted areas (e.g. Exposure Area E), and are considered likely laboratory contaminants. Acetone and ethanol have low toxicity via the inhalation route of exposure and would not have a significant impact on risk.

To evaluate the potential exposure of intrusive utility workers to groundwater, COPCs were selected based on the 2012 fourth quarter and 2013 second quarter groundwater sampling data (Padre 2013a,b).[20] As described in Section 1.3, depths to groundwater generally have been observed in the range of 15 to 75 ft. Intrusive utility worker contact with soil or groundwater is expected to be limited to 10 ft bgs, and in the 2005 Baseline HHRA only constituents detected in wells where the depth to groundwater was ≤10 ft bgs were carried forward as COPCs. In order to account for some of the variability in groundwater levels, this risk assessment extends the depth to 15 ft bgs. During the most recent sampling events, the depth to groundwater was within 15 ft bgs in the following monitoring wells where groundwater samples were collected: B-45R and B-57-20 (in Exposure Area E), B-146 and B-202 (Exposure Area M) and B-147(Exposure Area N).

Section 2.2.1 summarizes the metals background evaluation completed for this risk assessment. The subsequent sections summarize the exposure area-specific COPC selection process and present the COPCs for soil, indoor air, and groundwater (Exposure Areas E, M and N). Note that the reporting of xylenes differed among soil samples, and between soil and soil gas samples. In soil samples, xylenes were analyzed as total xylenes and/or m,p-xylenes and o-xylene. When reported, the xylenes isomers are summarized in

[20]Groundwater samples and COPCs of interest were not analyzed in the 2013 first quarter sampling event.

COPC selection process summary tables, but for consistency the COPC carried forward in the risk assessment is "xylenes (total)". All soil gas samples were tested for the xylene isomers (m,p-xylenes and o-xylenes), and are identified discretely in the COPC soil gas selection process and carried forward in the risk assessment (where applicable).

2.2.1 Background Metals Evaluations

To support earlier risk assessment activities at the Site, Avocet and Blasland, Bouck & Lee (BBL, now ARCADIS), prepared a report entitled *Analysis of Background, Unocal Avila Tank Farm, Avila Beach, California* (included as Attachment 8 of the 2005 Baseline HHRA), which identified inorganic background threshold concentrations for the Avila Tank Farm based on the distribution of 17 California Assessment Manual (CAM) metals in soil on and in the vicinity of the Site. Background determinations were made based on several lines of evidence, including comparative statistical analyses, box and cumulative probability plots (graphical methods), and spatial distributions (both lateral and vertical) of metals concentrations at the Site. The approach used was consistent with USEPA guidance (2002b) and California Department of Toxic Substances Control (DTSC) guidance (Cal/EPA 1997).

However, SLO County EHS had some concerns about the 2004 background evaluation, specifically the omission of the influence of varying geology on the background comparison tests, and additional Site soil metals data were collected following its completion. Therefore, the selection of inorganic chemicals as soil COPCs in this risk assessment is based on a process developed in conjunction with SLO County EHS, which accounts for the influence of different geologies on background concentrations of inorganic COPCs.[21]

The COPC selection process for metals in soil is detailed in Attachment 12, *Analysis of Background Metals*. Briefly, this process included several lines of evidence as summarized below:

1. *Site-wide comparison with one-tenth of the residential CHHSL* – As recommended by SLO County EHS, the maximum site-wide concentration was compared to one-tenth of the residential CHHSL.[22] If the maximum site-wide concentration exceeded one-tenth of the residential CHHSL, the metal was further evaluated

[21]The background evalaution was completed duing the Supplemental HHRA has not been revised to inlcude the five additional onsite metals samples that were collected in 2011. Given that metals are well characterized at the Site (313 site-wide samples analyzed for metals), the addition of five samples is not likely to change background conclusions. Uncertianties associated with the exlsusion of these five samples reautls is discussed in Section 7.2.3.

[22]The CHHSLs used in the inorganic screening process were current at the time of submission (August 2008).

using background comparison tests, including exploratory data analysis (EDA), statistical hypothesis tests, and spatial analysis.

2. *Site-wide background comparison tests by geology* – Background comparison tests were conducted according to the "Gilbert Toolbox" approach; this includes four statistical hypothesis tests: the parametric t-test, non-parametric Wilcoxon Rank Sum/Gehan, quantile and slippage tests.
3. *Spatial intensity plots* – Graphical displays of the data were used to identify any specific exposure areas with evidence of systematic contamination. This spatial analysis was conducted even for metals for which no significant statistical differences were identified between Site and background data. Background comparison tests were conducted for individual exposure areas as necessary.
4. *Influence of site geology* – The 2004 background evaluation (Avocet and BBL 2004) indicates that some metals may occur preferentially in the Obispo Formation, especially arsenic. Electron probe microanalysis results provide an additional line of evidence in the background evaluation for arsenic.

Results of the inorganic COPC selection process are summarized in Table 2-2. Of the 17 CAM metals detected across the Site, beryllium, cobalt, molybdenum, selenium, silver, and zinc never exceed one-tenth of the residential CHHSL; therefore these metals did not require the background analysis. Antimony, cadmium, mercury, and thallium have low frequencies of detection, which prevented the statistical hypothesis tests from reasonably being conducted; therefore these metals are carried forward as COPCs in exposure areas where they are detected.

Background comparison tests of the remaining metals determined that site-wide arsenic, barium, copper, and nickel concentrations do not differ from background concentrations. The spatial intensity plots and associated exposure area-specific background comparison tests support the conclusion that these metals are not elevated above background. Site-wide background comparison tests indicate that chromium and lead are elevated above background in the Obispo Formation, and that vanadium is elevated above background in the Pismo Formation. Because site-related activities associated with these metals are not limited to a specific geology, these three metals are carried forward as where detected.

As a preliminary screen for metals in groundwater, maximum concentrations were compared to one-tenth the corresponding tapwater RSL (USEPA 2013b). Inorganics in groundwater were analyzed only in samples collected from Exposure Area E, with only arsenic, chromium, lead, nickel, and molybdenum detected (see Table 2-9). Maximum arsenic and molybdenum concentrations exceed one-tenth of the tapwater RSL; however

there is evidence of arsenic within background soil and bedrock concentrations (see Attachment 12). Therefore molybdenum is the only inorganic included as a groundwater COPC.

2.2.2 Exposure Area A COPCs

The COPC selection process for Exposure Area A is presented in Table 2-3. In addition to chromium, lead and vanadium, two other metals were identified as inorganic COPCs – cadmium and mercury. TPH-d and TPH-mo were detected in soil samples at maximum concentrations of 11 mg/kg and 36 mg/kg, respectively, and were included as COPCs. Fifteen PAHs were detected at least once in soil samples collected from this exposure area and were carried through as COPCs; carcinogenic effects of PAHs were evaluated as BaP toxic equivalency quotient (TEQ) which was detected at a maximum of 0.10 mg/kg.[23]

Thirty-six chemicals were detected in soil gas and carried forward as COPCs, including BTEX, bromodichloromethane, 1,3-butadiene, 2-butanone, tert-butylalcohol, tert-butylbenzene, carbon disulfide, chloroform, chloromethane, cyclohexane, dichlorodifluoromethane, 4-ethyltoluene, ethyl acetate, n-heptane, hexane, 2-hexanone, isopropyl alcohol, isopropylbenzene, p-isopropyltoluene, methylene chloride, 4-methyl-2-pentanone, methyl tert-butyl ether, n-propylbenzene, propylene, styrene, 1,1,1,2-tetrachloroethane, tetrachloroethene, tetrahydrofuran, trichlorofluoromethene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2,2,4-trimethylbenzene, and Naphthalene. Groundwater was not detected within 15 ft bgs in this area, and therefore not included in the intrusive utility worker risk evaluation.

2.2.3 Exposure Area C COPCs

The COPC selection process for Exposure Area C is presented in Table 2-4. In addition to chromium, lead, and vanadium, cadmium and mercury were identified as inorganic COPCs in this exposure area. Isopropylbenzene and p-isopropyltoluene were the only two VOCs detected and included as COPCs. TPH-d was detected in ten of 34 soil samples at a maximum concentration of 390 mg/kg, and included as COPC. TPH-mo was detected in 14 of 34 soil samples at a maximum concentration of 1700 mg/kg, and also included as COPC. All detected PAHs were retained as COPCs including anthracene, benz(a)anthracene, benzo(b)fluorenthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, BaP, chrysene, dibenz(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene and pyrene; the maximum BaP TEQ was 0.17 mg/kg.

[23]Refer to Section 5.1.1.2

Thirty-two chemicals were detected in soil gas and carried through as COPCs, including BTEX, bromodichloromethane, bromoform, 1,3-butadiene, 2-butanone, tert-butylalcohol, carbon disulfide, carbon tetrachloride, chlorobenzene, chloroethane, chloroform, chloromethane, cyclohexane, dibromochloromethane, 4-ethyltoluene, n-heptane, hexane, 2-hexanone, isopropyl alcohol, isopropylbenzene, methylene chloride, n-propylbenzene, tetrachloroethene, tetrahydrofuran, trichloroethene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2,2,4-trimethylbenzene, and 1,4-dioxane. Groundwater was not detected within 15 ft bgs in this area, and therefore not included in the intrusive utility worker risk evaluation.

2.2.4 Exposure Area D COPCs

The COPC selection process for Exposure Area D is presented in Table 2-5. In addition to chromium, lead, and vanadium, three other metals were identified as inorganic COPCs - antimony, cadmium, and mercury. TPH-g, TPH-d, and TPH-mo were each detected in soil samples and were included as COPCs; TPH-g was detected once at 77 mg/kg, TPH-d was detected 27 times with a maximum concentration of 11,000 mg/kg and TPH-mo was detected 29 times with a maximum concentration of 13,000 mg/kg. BTEX was also detected in one sample and carried forward as a COPC. The only other VOC detected in soil in Area D and retained as a COPC was methylene chloride which was detected once. Fourteen PAHs were detected in soil in this area including acenaphthylene, benz(a)anthracene, benzo(b)fluorenthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, BaP, chrysene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, 1-methylnaphthalene, naphthalene, phenanthrene and pyrene; the maximum BaP TEQ was 0.12 mg/kg.

Twenty chemicals were detected in soil gas and included as COPCs – BTEX, bromodichloromethane, 1,3-butadiene, 2-butanone, tert-butylalcohol, carbon disulfide, chloroform, cyclohexane, 4-ethyltoluene, n-heptane, hexane, isopropylbenzene, methylene chloride, n-propylbenzene, tetrahydrofuran, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. Groundwater was not detected within 15 ft bgs in this area, and therefore not included in the intrusive utility worker risk evaluation.

2.2.5 Exposure Area E COPCs

The COPC selection process for Exposure Area E is presented in Table 2-6. In addition to chromium, lead, and vanadium, two other metals were identified as inorganic COPCs - cadmium and mercury. Volatile chemicals detected in soil and retained as COPCs include

BTEX, n-butylbenzene, sec-butylbenzene, tert-butylbenzene, chlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, isopropylbenzene, p-isopropyltoluene, n-propylbenzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene. All three TPH carbon ranges were detected in Area E and carried forward as COPCs. TPH-g was detected in 57 of 86 soil samples at a maximum concentration of 3,100 mg/kg, TPH-d was detected in 77 of 86 soil samples at a maximum concentration of 19,000 mg/kg, and TPH-mo was detected in seventy-five of 86 soil samples at a maximum concentration of 12,000 mg/kg. Eighteen PAH were detected in soil and carried forward as COPCs; the maximum BaP TEQ was 0.55 mg/kg. 2,4-dinitortoluene was the only other SVOC detected and retained as a COPC in Exposure Area E.

Twenty-three chemicals were detected in soil gas and carried forward as COPCs, including BTEX, 2-butanone, tert-butylalcohol, carbon disulfide, chloroform, cyclohexane, 1,2-dichlorobenzene, 1,2-dichloroethane, 4-ethyltoluene, n-heptane, hexane, isopropylbenzene, methylene chloride, methyl tert-butyl ether, n-propylbenzene, 1,1,2,2-tetrachloroethane, tetrahydrofuran, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and 2,2,4-trimethylpentane.

Groundwater was detected within 15 ft bgs in two monitoring wells in this area: B-35-45R and B-57-20. Molybdenum was detected in two of the four samples at the maximum concentration of 0.035 exceeding one-tenth the tapwater RSL, and was included as COPC. VOCs detected in groundwater samples and retained as COPCs include ethylbenzene, toluene, xylenes, tert-butylalcohol, n-butylbenzene, sec-butylbenzene, tert-butylbenzene, 1,2-dichloropropane, isopropylbenzene, p-isopropyltoluene, methyl tert-butyl ether, n-propylbenzene, and 1,2,4-trimethylbenzene. Six PAHs including acenaphthalene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene, were detected and included as COPCs (none are components of the BaP TEQ). TPH-g, TPH-d, and TPH-mo were all detected and were included as COPCs.

2.2.6 Exposure Area G COPCs

The COPC selection process for Exposure Area G is presented in Table 2-7. Five metals were identified as inorganic COPCs – cadmium, chromium, lead, mercury, and vanadium. Benzene, chloroform and 1,3,5-trimethylbenzene were the only VOCs detected in soil and retained as COPCs. All three TPH carbon ranges were detected in soil in this area and carried forward as COPCs: TPH-g was detected once out of 16 soil samples at 0.7 mg/kg, TPH-d was detected in five of 16 soil samples at a maximum concentration of 3,300 mg/kg, and TPH-mo was detected in five of 16 soil samples at a maximum concentration of 1,500

mg/kg. Fourteen PAHs were detected in soil and were carried through as COPCs including acenaphthylene, anthracene, benz(a)anthracene, benzo(b)fluorenthene, benzo(g,h,i)perylene, BaP, chrysene, dibenz(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene and pyrene; the maximum BaP TEQ was 0.041 mg/kg.

Twenty-three chemicals were detected in soil gas and included as COPCs: BTEX, 2-butanone, carbon disulfide, chloroform, chloromethane, cyclohexane, 4-ethyltoluene, n-heptane, hexane, isopropyl alcohol, isopropylbenzene, methylene chloride, n-propylbenzene, tetrachloroethene, tetrahydrofuran, trichloroethene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2,2,4-trimethylpentane, and naphthalene. Groundwater was not detected within 15 ft bgs in this area, and therefore not included in the intrusive utility worker risk evaluation.

2.2.7 Exposure Area Ia COPCs

The COPC selection process for Exposure Area Ia is presented in Table 2-8. In addition to chromium, lead, and vanadium, cadmium was identified as an inorganic COPC. Benzene, ethylbenzene and xylenes were the only VOCs detected in Area Ia soil and carried forward as COPCs. TPH was detected in all three carbon ranges in this area: TPH-g was detected in one of 16 soil samples at a concentration of 11 mg/kg, TPH-d was detected in 10 of 16 soil samples (maximum concentration of 1,100mg/kg), and TPH-mo was detected in 10 of 16 soil samples (maximum concentration of 2,200 mg/kg). Twelve PAHs were detected in Area Ia including acenaphthylene, benz(a)anthracene, benzo(b)fluorenthene, benzo(k)fluorenthene, benzo(g,h,i)perylene, BaP, chrysene, dibenz(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene and pyrene; the maximum BaP TEQ was 0.11 mg/kg.

A total of 20 chemicals were detected in soil gas and identified as COPCs, including BTEX, bromodichloromethane, 2-butanone, tert-butylalcohol, carbon disulfide, carbon tetrachloride, chloroform, cyclohexane, 4-ethyltoluene, n-heptane, hexane, isopropyl alcohol, isopropylbenzene, n-propylbenzene, tetrachloroethene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. Groundwater was not detected within 15 ft bgs in this area, and therefore not included in the intrusive utility worker risk evaluation.

2.2.8 Exposure Area Ib COPCs

The COPC selection process for Exposure Area Ib is presented in Table 2-9. In addition to chromium, lead, and vanadium, mercury was identified as an inorganic COPC. BTEX were the only VOCs detected in soil in this area and carried forward as COPCs. TPH was detected in all three carbon ranges in this area: TPH-g was detected in eight of 18 soil samples with a maximum concentration of 1,200 mg/kg, TPH-d was detected in 13 of 18 soil samples with a maximum concentration of 20,000 mg/kg, and TPH-mo was detected in 14 of 18 soil samples with a maximum concentration of 9,100 mg/kg. Ten PAHs were detected in soil in Area Ib and carried forward as COPCs including acenaphthene, acenaphthylene, benzo(b)fluoranthene, benzo(g,h,i)perylene, chrysene, fluorene, naphthalene, phenanthrene, and pyrene; the maximum BaP TEQ was mg/kg.

A total of 25 chemicals were detected in soil gas and identified as COPCs, including BTEX, bromodichloromethane, bromoform, 2-butanone, tert-butylalcohol, carbon disulfide, carbon tetrachloride, chloroform, cyclohexane, dibromochloromethane, 1,1-dichloroethene, 4-ethyltoluene, n-heptane, hexane, isopropylbenzene, methylene chloride, n-propylbenzene, styrene, tetrachloroethene, trichloroethene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. Groundwater was not detected within 15 ft bgs in this area, and therefore not included in the intrusive utility worker risk evaluation.

2.2.9 Exposure Area J COPCs

The COPC selection process for Exposure Area J is presented in Table 2-10. In addition to chromium, lead, and vanadium, cadmium and mercury were also identified as inorganic COPCs. BTEX were the only VOCs detected in soil and were carried through as COPCs. TPH was detected in all three carbon ranges in Area J soil: TPH-g was detected in 11 of 64 soil samples (maximum concentration of 6,600 mg/kg), TPH-d was detected in 34 of 64 soil samples (maximum concentration of 24,000 mg/kg), and TPH-mo was detected in 34 of 64 soil samples (maximum concentration of 13,000 mg/kg). Fifteen PAHs were detected in Area J soil and carried forward as COPCs; the maximum BaP TEQ was 0.31 mg/kg.

Twenty-nine chemicals were detected in soil gas and carried forward as COPCs, including BTEX, bromodichloromethane, 1,3-butadiene, 2-butanone, tert-butylalcohol, carbon disulfide, carbon tetrachloride, chloroform, cyclohexane, 1,1-dichloroethane, cis-1,2-dichloroethene, trans-1,2-dichloroethene, 4-ethyltoluene, n-heptane, hexane, isopropylbenzene, methylene chloride, n-propylbenzene, tetrachloroethene, tetrahydrofuran, trichloroethene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2,2,4-

trimethylpentane, vinyl chloride, and 1-4-dioxane. Groundwater was not detected within 15 ft bgs in this area, and therefore not included in the intrusive utility worker risk evaluation.

2.2.10 Exposure Area K COPCs

The COPC selection process for Exposure Area K is presented in Table 2-11. In addition to chromium, lead, and vanadium, mercury was identified as an inorganic COPC. No VOCs were detected in soil samples collected from this area. TPH-d was detected in five of 12 soil samples with a maximum concentration of 980 mg/kg, and TPH-mo was detected in eight of 12 soil samples with a maximum concentration of 2,000 mg/kg, and included as COPCs. TPH-g was not detected in any of the 12 samples collected in this area. Ten PAHs were detected and carried forward as COPCs including benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, BaP, chrysene, dibenz(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, and pyrene; the maximum BaP TEQ was 0.13 mg/kg.

A total of 43 chemicals were detected in soil gas and included as COPCs: BTEX, bromodichloromethane, 2-butanone, tert-butylalcohol, n-butylbenzene, sec-butylbenzene, carbon disulfide, carbon tetrachloride, chloroform, chloromethane, cyclohexane, dichlorodifluoromethane, 1,1-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, 4-ethyltoluene, ethyl acetate, n-heptane, hexane, 2-hexanone, isopropyl alcohol, isopropylbenzene, methylene chloride, 4-methyl-2-pentanone, n-propylbenzene, propylene, styrene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, tetrachloroethene, tetrahydrofuran, trichloroethene, 1,1,1-trichloroethane, trichlorofluoromethane, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2,2,4-trimethylbenzene, naphthalene, and 1,4-dioxane. Groundwater was not detected within 15 ft bgs in this area, and therefore not included in the intrusive utility worker risk evaluation.

2.2.11 Exposure Area L COPCs

The COPC selection process for Exposure Area L is presented in Table 2-12. In addition to chromium, lead, and vanadium, cadmium and mercury were identified as inorganic COPCs. Fourteen VOCs were detected in soil samples and included as COPCs: BTEX, n-butylbenzene, sec-butylbenzene, tert-butylbenzene, isopropylbenzene, p-isopropyltoluene, methylene chloride, methyl tert-butyl ether, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. TPH was detected in all three carbon ranges in this area: TPH-g

was detected in 16 of 61 soil samples (maximum concentration of 1,000 mg/kg), TPH-d was detected in 37 of 63 soil samples (maximum concentration of 31,000 mg/kg), and TPH-mo was detected in 40 of 61 soil samples (maximum concentration of 12,000 mg/kg). Sixteen PAHs were detected in soil in Area L and carried forward as COPCs; the maximum BaP TEQ was 0.20 mg/kg).

Twenty-one chemicals were detected in soil gas and included as COPCs: BTEX, bromodichloromethane, 2-butanone, carbon disulfide, chloroform, cyclohexane, dibromochloromethane, 4-ethyltoluene, n-heptane, hexane, isopropylbenzene, methylene chloride, n-propylbenzene, tetrahydrofuran, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and 2,2,4-trimethylpentane. Groundwater was not detected within 15 ft bgs in this area, and therefore not included in the intrusive utility worker risk evaluation.

2.2.12 Exposure Area M COPCs

The COPC selection process for Exposure Area M is presented in Table 2-13. In addition to chromium, lead, and vanadium, cadmium and mercury were identified as inorganic COPCs. Nine VOCs were detected and carried forward as COPCs: ethylbenzene, toluene, xylene, sec-butylbenzene, tert-butylbenzene, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. TPH was detected in all three carbon ranges in Area M: TPH-g was detected in one of 14 soil samples at a concentration of 13 mg/kg, TPH-d was detected in six of 14 soil samples (maximum concentration of 7,600 mg/kg) and TPH-mo was detected in seven of 14 samples (maximum concentration of 5,200 mg/kg). All eighteen PAHs that were analyzed for were detected at least once in soil; the maximum BaP TEQ was 0.14 mg/kg,

Thirty-one chemicals were detected in soil gas and retained as COPCs including BTEX, 2-butanone, tert-butylalcohol, carbon disulfide, chloroform, chloromethane, cyclohexane, dichlorodofluoromethane, 4-ethyltoluene, ethyl acetate, n-heptane, hexane, 2-hexanone, isopropyl alcohol, isopropylbenzene, methylene chloride, 4-methyl-2-pentanone, n-propylbenzene, propylene, styrene, 1,1,1,2-tetrachloroethane, tetrachloroethene, tetrahydrofuran, trichlorofluoromethane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and 2,2,4-trimethylbenzene.

Groundwater was detected within 15 ft bgs in two monitoring wells in this area: B-146 and B-202. Toluene was detected in two of four groundwater samples at a maximum concentration of 0.00026 µg/L.

2.2.13 Exposure Area N COPCs

The COPC selection process for Exposure Area N is presented in Table 2-14. In addition to chromium, lead, and vanadium, two other metals were identified as inorganic COPCs - cadmium and mercury. The only VOC detected in soil and carried forward was a COPC was 1,2,4-trimethylbenzene. TPH-d and TPH-mo were both detected once out of thirteen soil samples at 160 mg/kg and 150 mg/kg, respectively.

Thirteen PAHs were detected and retained as COPCs including anthracene, benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, BaP, chrysene, fluoranthene, indeno(1,2,3-cd)pyrene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene; the maximum BaP TEQ was 0.069 mg/kg.

A total of 44 chemicals were detected in soil gas and included as COPCs: including BTEX, 2-butanone, tert-butylalcohol, n-butylbenzene, sec-butylbenzene, tert-butylbenzene, carbon disulfide, chloroform, chloromethane, cyclohexane, dichlorodofluoromethane, 1,1-dichloroethane, cis-1,2-dichloroethene, 4-ethyltoluene, ethyl acetate, n-heptane, hexane, 2-hexanone, isopropyl alcohol, isopropylbenzene, methylene chloride, 4-methyl-2-pentanone, n-propylbenzene, propylene, styrene, 1,1,1,2-tetrachloroehane, 1,1,2,2-tetrachloroehane, tetrachloroethene, tetrahydrofuran, trichloroethene, 1,1,1-trichloroethane, 1,1,2-trichlorotrifluoroethane, trichlorofluoromethane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2,2,4-trimethylbenzene, naphthalene, vinyl chloride, and 1,4-dioxane.

Groundwater was detected within 15 ft bgs in one monitoring wells in this area: B-147. Toluene was detected in one of two groundwater samples at a maximum concentration of 0.0003 µg/L.

2.2.14 Exposure Area O COPCs

The COPC selection process for Exposure Area O is presented in Table 2-15. In addition to chromium, lead, and vanadium, cadmium and mercury were identified an inorganic COPCs. TPH-mo was detected in one of 10 soil samples at a concentration of 15 mg/kg, and included as COPC. No VOCs or PAHs were detected in soil samples collected from this area. Thirty-six chemicals were detected in soil gas and included as COPCs: BTEX, 2-butanone, tert-butylalcohol, tert-butylbenzene, n-butylbenzene, carbon disulfide, chloroform, chloromethane, cyclohexane, dichlorodofluoromethane, cis-1,2-dichloroethene, 4-ethyltoluene, ethyl acetate, n-heptane, hexane, 2-hexanone, isopropyl alcohol,

isopropylbenzene, methylene chloride, 4-methyl-2-pentanone, methyl tert-butyl ether, n-propylbenzene, propylene, styrene, tetrachloroethene, tetrahydrofuran, trichloroethene, trichlorofluoromethane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2,2,4-trimethylpentane and naphthalene. Groundwater was not detected within 15 ft bgs in this area, and therefore not included in the intrusive utility worker risk evaluation.

2.2.15 Open Space COPCs

The COPC selection process for Open Space is presented in Table 2-16. In addition to chromium, lead, and vanadium, two other metals were identified as inorganic COPCs - cadmium, and mercury. The volatiles BTEX, n-butylbenzene, sec-butylbenzene, tert-butylbenzene, isopropylbenzene, p-isopropyltoluene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene were detected in soil and are retained as COPCs. TPH was detected in all three carbon ranges in this area: TPH-g was detected in seven of 112 soil samples (maximum concentration of 3,800 mg/kg), TPH-d was detected in 70 of 155 soil samples (maximum concentration of 8,400 mg/kg), and TPH-mo was detected in 83 of 155 samples (maximum concentration of 11,000 mg/kg). All eighteen PAHs that were analyzed for were detected in Open Space; the maximum BaP TEQ was 0.5 mg/kg. Soil gas and groundwater exposure are not relevant to potential receptors in this area (see Section 4).

2.2.16 Native Gardens COPCs

The COPC selection process for edible products grown in and outdoor employee exposure to soil Native Gardens is presented in Table 2-17. It should be noted, that because the exposure evaluation for this area is for the potential growth of herbs/produce, COPCs were selected for the upper five ft of soil (for produce exposure), as well as the 0-10 foot depth horizon (for worker exposure) of soil. The chemicals identified as COPCs in the two depth horizons did not differ. In addition to chromium, lead, and vanadium, two other metals were identified as COPCs - cadmium and mercury. TPH-d and TPH-mo was detected in soil samples from the area and were included as COPCs (maximum concentrations of 68 mg/kg and 260 mg/kg, respectively). TPH-g was not detected in Native Gardens. Eight PAHs were detected and carried forward as COPCs in this area including benz(a)anthracene, benzo(b)fluoranthene, benzo(g,h,i)perylene, BaP, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, and pyrene; the maximum BaP TEQ was 0.018 mg/kg. No VOCs were detected in soil in this area.

Soil gas exposure is not relevant in this exposure area. The depth to groundwater in monitoring wells in this area is well over 10 ft bgs (see Attachment 7), therefore produce grown here is not expected to be exposed to any potentially contaminated groundwater.

2.2.17 Drainage COPCs

The COPC selection process for Drainage is presented in Table 2-18. In addition to chromium, lead, and vanadium, mercury was identified as an inorganic COPC. Benzene, ethylbenzene and xylenes were the only VOCs detected in soil and were carried through as COPCs. All three TPH carbon ranges were detected in this area: TPH-g was detected in one of 10 soil samples at a concentration of 510 mg/kg, TPH-d was detected in seven of 10 soil samples (maximum concentration of 4,300 mg/kg), and TPH-mo was detected in seven of 10 samples (maximum concentration of 12,000 mg/kg). Twelve PAHs were detected at least once and carried forward as COPCs; the maximum BaP TEQ was 0.069 mg/kg. Soil gas and groundwater exposure are not relevant to potential receptors in this area (see Section 4).

2.2.18 Site-Wide COPCs

The COPC selection process for the site-wide exposure scenario is presented in Table 2-19. COPC selection for the 0-2 foot soil horizon is included in this exposure area to evaluate the offsite resident receptor, as discussed in Section 5.1.1. In addition to chromium, lead, and vanadium, three other metals were identified as inorganic COPCs- antimony, cadmium, and mercury. Across the site, TPH-g was detected in 104 of 554 soil samples (maximum concentration of 6,600 mg/kg), TPH-d was detected in 311 of 597 soil samples (maximum concentration of 31,000 mg/kg), and TPH-mo was detected in 341 of 597 samples (maximum concentration of 13,000 mg/kg). Eighteen PAHs were detected and carried forward as COPCs; the maximum BaP TEQ was 0.5 mg/kg. The only other SVOC detected was 2,4-dinitrotoluene, which was detected in one of five soil samples at a concentration of 0.64 mg/kg. Ten VOCs were detected and included as COPCs in the 0-2 ft soil horizon, and 19 VOCs in the 0-10 ft soil horizon. The pesticide endrin aldehyde was detected in one of 14 soil samples at a concentration of 0.0023 mg/kg, and therefore also was included as a COPC in the 0-10 ft soil horizon (not detected in the 0-2 ft soil horizon).

The final list of soil COPCs for the Site is presented in Table 2-20. Soil gas and groundwater COPCs are presented in Tables 2-21 and 2-22, respectively.

3.0 DOSE-RESPONSE ASSESSMENT

The objective of this section is to provide information regarding the potential for health risks from exposure to chemicals detected at the Site. Specifically, this section provides a quantitative estimate of the relationship between exposure and severity or probability of human biological effects for the COPCs identified in Section 2. Section 3.1 describes how dose-response, or toxicity values, are established and used for noncarcinogenic COPCs, with the exception of TPH mixtures. Total petroleum hydrocarbon mixtures are discussed in Section 3.2. Section 3.3 presents a similar discussion for potentially carcinogenic COPCs.

In accordance with Cal/EPA's suggested hierarchy of sources to identify dose-response values (Cal/EPA 1994 and 2005d), relevant carcinogenic and noncarcinogenic dose-response values were obtained from the following sources (in descending order of preference):

1. OEHHA Toxicity Criteria Database (Cal/EPA 2013a)
2. Other California EPA sources, such as OEHHA's Table of Reference Exposure Levels (RELs; Cal/EPA 2008)
3. Integrated Risk Information System (IRIS) database (USEPA 2013)
4. USEPA Regional Screening Levels (USEPA 2013b)
5. Toxicology for Excellence in Risk Assessment (TERA) Database (2013)

Following guidance in the DTSC's Office of Human and Ecological Risk (HERO) HHRA Note Number 3 (Cal/EPA 2013b), toxicity values from the 2004 Region IX Preliminary Remediation Goals (USEPA 2004b) were used for chemicals included in the PRG table but for which there is no corresponding RSL.

3.1 NONCARCINOGENIC CONSTITUENTS

For the noncarcinogenic effects of specific constituents, USEPA assumes a dose exists below which no adverse health effects will be seen (USEPA 1989). Below this "threshold" it is believed that exposure to a chemical can be tolerated without adverse effects. Adverse effects become manifest only when physiologic protective mechanisms are overcome by exposure to doses above the threshold. For all exposure routes, a chemical-specific reference value (e.g. reference dose [RfD] or reference concentration [RfC]), is derived. The RfD, expressed in units of milligrams per kilogram-day (mg/kg-d), represents the daily oral intake of a constituent (averaged over a year) per kilogram of body weight that is below the effect threshold for the constituent. The RfC, expressed in units of milligrams per cubic

meter (mg/m^3) is "an estimate of continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious effects during a lifetime" (USEPA 2009a). The USEPA assumes noncarcinogenic exposure doses are not cumulative from age group to age group over a lifetime of exposure (USEPA 1989).

The oral RfDs and inhalation RfCs for noncarcinogenic COPCs are presented in Table 3-1. Dermal RfDs were derived from oral RfDs, as described in Section 3.3. Following Cal/EPA guidance, when an inhalation RfC was unavailable, the oral RfD was used (route extrapolation, converted from dose [see also Section 3.3]; Cal/EPA 2013b). When reference values were not available, values for surrogate compounds were selected, based on structure-activity relationships (surrogate compounds are identified as sources in Table 3-1).

No toxicity factors were identified for several organic COPCs: tert-butyl alcohol, 4-ethyltoluene, n-heptane, and 2,2,4-trimethylpentane. Based on structure activity relationships, MTBE was identified as a surrogate for tert-butyl alcohol, p-xylene as a surrogate for 4-ethyltoluene, and hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane. The use of these surrogates is based on best professional judgment and consultation with SLO County EHS.

The noncarcinogenic hazard associated with exposure to a constituent is expressed as the *Hazard Quotient* (HQ). An HQ is a ratio of the estimated constituent intake, based on the measured or calculated exposure to the constituent (dose) divided by the appropriate noncancer toxicity value. If the HQ exceeds 1.0, some harmful effect may occur or the threshold dose may be exceeded. If the HQ is equal to or less than 1.0, the exposure level is not likely to cause adverse effects. In keeping with USEPA guidance (USEPA 1989), all noncarcinogenic risk is considered additive for individual receptors. The potential for harmful effects from exposure to multiple chemicals is assessed by summing the HQs. The resulting sum is designated the Hazard Index (HI). Since the noncarcinogenic COPCs affect distinct target organs and systems, the assumption of additivity of effects likely overstates the potential for harmful effects estimated for the Site (see Section 7.3.2).

3.1.1 Noncarcinogenic Evaluation of Lead

The noncarcinogenic health effects of lead are assessed separately from other COPCs. The health effects associated with lead typically are estimated on the basis of blood-lead concentrations (i.e. µg/dL). In 2009 the Cal/EPA revised the approach for evaluating lead:

instead of using an action level of 10 µg/dL, the lead CHHSLs are based on changes in child (residential) and fetal (pregnant commercial worker) blood lead of 1 µg/dL, irrespective of background levels (Cal/EPA 2009c). The resultant lead soil CHHSLs are 80 mg/kg for residential use and 320 mg/kg for commercial use. Although traditional residential use is not evaluated in this HHRA, the residential CHHSL (80 mg/kg) is used as a point of reference to evaluate recreational receptors. As demonstrated in Attachment 12, the commercial CHHSL of 320 mg/kg is protective of the short-term resident child; when the "exposure days per week" factor in the LeadSpread model used to derive the revised residential lead soil CHHSL is changed from seven days per week to 0.56 (28 days per year/50 weeks per year), the soil lead concentration that would give rise to a 90th percentile estimate of increase in blood lead of 1 µg/dL is 960 mg/kg. The results of the EPC-CHHSL comparisons are discussed separately from the HIs derived for the noncarcinogenic component of the other COPCs.

As noted by the SLO County EHS at other Central Coast sites (see Attachment 1), under the Childhood Lead Poisoning Prevention Program, the California Health and Safety Code (HSC; 105275 to 105310) and the US Code of Federal Regulations require mitigation of lead in surface soil (0-0.5") that exceeds 400 mg/kg in childhood play areas and 1,000 mg/kg in areas where children may be present. Since children may be present as overnight guests or for recreational activities, the evaluation of lead in soil at the Site includes comparisons to the 1,000 mg/kg benchmark in the applicable exposure areas. Because the Vision Plan does not have any playgrounds, the 400 mg/kg benchmark is not used in this HHRA.

3.1.2 Methane Gas Evaluation

The major hazards associated with methane are: (1) at very high concentrations it can act as an asphyxiant by causing oxygen deprivation, and (2) at lower concentrations it presents an explosion hazard (5% methane in air is the lower explosive limit, or LEL). The risks from methane are best evaluated using the LEL as an action level. Effects associated with methane are relevant only when it can accumulate, namely inside buildings that are not vented. Because methane is lighter than air, any methane that escapes from the ground outdoors should immediately disperse into the atmosphere. Potential risks from methane, as for other risks deemed unacceptable, will be addressed in the Pre-Feasibility Study for the Site.

3.1.3 Noncarcinogenic Evaluation of Total Petroleum Hydrocarbon Mixtures

The Cal/EPA interim guidance (2009a, rescinded) provides the technical basis for identification of fraction-specific RfDs and RfCs for TPH, and recommends evaluation of six discrete aliphatic and aromatic hydrocarbon ranges. The RfDs and RfCs identified by Cal/EPA for each TPH carbon range are shown in Table 3-2.

Table 3-2. Cal/EPA Recommended TPH Toxicity Criteria (2009a; rescinded)

Carbon Range	Oral RfD (mg/kg-day)	Inhalation RfC (mg/m^3)	Critical Health Effect
Aliphatic Fractions			
>C5-C8	0.04	0.7	Neurotoxicity
>C8-C18	0.1	0.3	Hepatic, hematological and body
>C18-C32	2.0	Not Available	Hepatic granuloma, hystiocytosis in
Aromatic Fractions			
>C6-C8	Evaluate individual COPCs		COPC-specific
>C8-C16	0.03	0.05	Hepatic, lung and nephrotoxicity and body weight changes
>C16-C32	0.03	Not available	Hepatic and nephrotoxicity

The analytical ranges for TPH detected in soil at the Site are different than those identified in Table 3-2. Depending on the sampling event, soil samples were analyzed for various carbon ranges. Some soil samples were analyzed for TPH in three carbon ranges (TPH-g, TPH-d and TPH-mo), while other soil samples were analyzed for TPH in small incremental carbon ranges (e.g. C6-C8, C8-C9). Analytical carbon ranges were grouped into the three carbon ranges shown above, and toxicity values presented in Table 3-2 were used for the analytical ranges accordingly.

3.1.4 Asphalt Toxicity

Consistent with the approach taken in the Baseline Supplemental HHRAs, this Final HHRA excludes samples where the matrix is identified as tar/asphalt in the Avocet Site database (based on field observations). In the initial risk assessment for the SLO Tank Farm (McDaniel Lambert, Inc. 2004) it was determined that the health risks associated with exposure to weathered hardened asphaltic debris was deemed to be minimal. Limited toxicological data on possible health effects associated with exposure to solid weathered asphalt similar to the asphalt present at the Site are available (Molenaar et al. 2001). The World Health Organization (WHO), however, indicates that asphalt toxicity is low, and cooled, solidified asphalt is generally regarded as a safe material (WHO 1982). Long-term

exposure to asphalt has been addressed in a number of animal toxicity studies (e.g., Simmers et al. 1959; Simmers 1965a, 1965b, 1966; Kireeva 1968). These studies have indicated that the presence and type of long-term health effects are affected by the composition of the asphalt, with the hardness of the asphalt and the PAH concentration playing critical roles.

Existing epidemiologic data for acute asphalt exposure in humans are inconclusive. It is possible that acute dermal exposure to hardened asphalt may lead to skin irritation and that prolonged and repeated exposure may cause redness, peeling, skin discoloration, and throat and eye irritation in sensitive people (Bingham et al. 1980). Eye contact may cause severe irritation, redness, tearing, and blurred vision. Epidemiologic studies of cancer risk from long-term asphalt exposure have been difficult to interpret. This is because workers (who are the most heavily exposed to hot asphaltic fumes) are grouped by their exposure to any asphalt-like material, including coal tar, which has a much higher level of carcinogenic PAHs than asphalt (Molenaar et al. 2001). In general, however, no studies have established an association between asphalt exposure and cancer or lung disease in humans.

3.2 CARCINOGENIC CONSTITUENTS

The ILCR attributed to a carcinogen is calculated as a product of the daily intake (mg/kg-d) or a time-weighted exposure concentration (µg/m^3) and the cancer slope factor (CSF) or inhalation unit risk (IUR). USEPA's model of carcinogenesis assumes the relationship between exposure to a carcinogen and cancer risk is linear over the entire dose range, except at very high doses (USEPA 1989). This linearity assumes there is no threshold-of-exposure dose below which harmful effects will not occur. Because of this, carcinogenic effects are considered to be cumulative across age groups when considering lifetime exposures.

No dermal CSFs are available, but USEPA has devised a method for making route-to-route (oral-to-dermal) extrapolations for systemic effects (USEPA 2004), as described in Section 3.3. The CSFs and IURs for the COPCs evaluated in this report are presented in Table 3-1. Given the inclusion of age-dependent adjustment factors for COPCs identified as having a mutagenic mode of action, as discussed in Section 3.2.1 below, the "uncorrected" BaP oral cancer slope factor of 1.7 mg/kg-day^{-1} identified by Cal/EPA during development of the BaP public health goal for drinking water (Cal/EPA 2010) is the appropriate toxicity value to use for the BaP TEQ.

3.2.1 Early Life Exposure Adjustments

As part of the Air Toxics "Hot Spots" Information and Assessment Act, OEHHA prepared a "Technical Support Document for Cancer Potency Factors (TSD)" that identifies cancer unit risks and potency factors the carcinogenic substances or groups of substances for which emissions must be quantified in the Air Toxics Hot Spots program. In 2009 OEHHA revised the TSD to update calculation procedures used to derive the estimated unit risk and cancer potency factors, and to describe the procedures to consider the increased susceptibility of infants and children compared to adults to carcinogens (Cal/EPA 2009b). Based on their analysis of the potency by life stage at exposure, OEHHA proposed weighting cancer risk for all carcinogens, regardless of purported mechanism of action, unless chemical-specific data exist to the contrary. In contrast, the USEPA guidance recommends modifying toxicity only for carcinogens with a mutagenic mode of action (MOA; USEPA 2005). Because children (offsite residents and recreators) are evaluated in this HHRA, default age-dependent adjustment factors (ADAFs) proposed in the OEHHA analysis of potency by life stage (Cal/EPA 2009a) are applied to weight cancer risk as follows: a factor of 10 for exposures that occur from the third trimester of pregnancy to 2 years of age (2.25 years) and a factor of 3 for exposures that occur from 2 years through 15 years of age (14 years).

3.3 ROUTE-TO-ROUTE EXTRAPOLATION

Ideally, route-specific toxicity factors account for dosimetry information on the dose-response relationship for systemic effects from the absorbed dose. In the absence of dermal toxicity factors, USEPA has devised a method for making route-to-route (oral-to-dermal) extrapolations for systemic effects (USEPA 2004a). Using absorption efficiency information from oral administration studies, toxicity factors are adjusted to represent the absorbed dose rather than the administered dose. When gastrointestinal absorption of a chemical in the critical study is poor (e.g., 10%), the absorbed dose is much smaller than the administered dose. To account for this, the RfDs and CSFs are multiplied or divided, respectively, by the recommended GI absorption values (ABS_{GI}; see Table 5-1). For inorganics that do not have specific ABS_{GI} values, it is assumed that 100% of the administered oral dose is absorbed; this may result in the underestimation of risk for inorganics that are actually poorly absorbed. The USEPA recommends the adjustment of toxicity values for the assessment of both soil and water contact (USEPA 2004a).

Consistent with Cal/EPA guidance, this risk assessment also implemented route-to-route extrapolation between the inhalation and oral exposure pathways to develop noncancer thresholds for chemicals where toxicity values for only one of the pathways was available (Cal/EPA 2013b). Specifically, in HHRA Note 3, the DTSC Office of Human and Ecological

Risk (HERO) identifies the lack of route-to-route extrapolation between the oral and inhalation exposure pathways as a concern with the USEPA RSLs and "recommends that such extrapolations be conducted, particularly for organic compounds in which systemic effects are known to occur and significant portal of entry effects are not anticipated". Reference doses (mg/kg-day) were converted to RfCs using the same approach as Cal/EPA; multiplying by the adult body weight (70 kg) and dividing by the adult inhalation rate (20 m^3/day; Cal/EPA 2013b, see for example Table 3). Inhalation values were extrapolated to RfDs using the reverse approach: multiplying by the inhalation rate and dividing by the body weight. Uncertainties associated with the development of noncancer toxicity values using route-to-route extrapolation are discussed in Section 7.3.1.

3.4 BIOAVAILABILITY

The National Research Council (NRC) defines the "bioavailability processes" as the "individual physical, chemical, and biological interactions that determine the exposure of organisms to chemicals associated with soils and sediments" (NRC 2003). An oral bioavailability factor (BF) accounts for the difference between absorption in the controlled dose-response study in the laboratory upon which the toxicity criteria are mostly based and the actual absorption likely to occur upon human exposure. Oral BFs are based on such considerations as the chemical form of the COPC, solubility, binding to soil, and weathering of organic materials (NRC 2003). Bioavailability in this risk assessment refers to an absorption adjustment factor. This value is only used in the exposure intake equation for incidental ingestion of soil as the absolute oral bioavailability for the COPC in soil is known to differ from absolute bioavailability implicit in the toxicity value used. The only COPCs carried forward in this risk assessment for which there is good precedent for using oral BFs are PAHs (Magee et al. 1996; NRC 2003). Based on a number of studies in rats and mice, Magee et al. (1996) determined a point estimate of 29% (or 0.29) oral bioavailability of PAHs in soil. The 29% value is consistent with values previously used in PAH risk assessments with USEPA as the lead agency overseeing completion of the risk assessment (NRC 2003), and is the value supported by SLO County EHS (ATCAT Meeting March 2008). A health protective oral BF of 100% (1.0) was used for all other COPCs in this HHRA, per USEPA guidance (1989).

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4.0 CONCEPTUAL EXPOSURE MODEL

The physical and chemical setting of the Site is described with an emphasis on current geological and hydrological conditions, chemical sources, land use, and potentially exposed populations ("receptors"). This information is integrated through the development of a conceptual exposure model, in which possible exposure pathways are identified and those pathways that are applicable to the identified receptors are selected for quantitative evaluation. Exposure pathways of potential concern identified given the potential for future uses at the Site include: inhalation of soil particulates and indoor air vapors, dermal contact and incidental ingestion of soil, ingestion of homegrown produce, and dermal contact with and incidental ingestion of groundwater.

The conceptual exposure model (CEM) provides the basis for a comprehensive evaluation of the risks to human health by identifying the mechanisms through which receptors may be exposed to residual COPCs. The CEM traces the Site COPCs in a logical migration from their sources through various release mechanisms and exposure routes to potentially affected receptors. The CEM identifies the exposure routes that are potentially complete under the given land use(s). These pathways are evaluated in the quantitative risk assessment for each receptor. The CEM also facilitates the analysis and screening of exposure pathways not likely to pose significant risks.

This section presents a CEM that summarizes our understanding of Site conditions regarding the nature and extent of petroleum constituents; the potential for petroleum constituents to migrate from one environmental medium to another; future land uses; and the potential human exposure pathways and receptors. Section 4.1 describes sources of Site COPCs, and how the associated chemicals migrate from the original source(s) through various environmental media to the exposure media. Section 4.2 discusses how various human populations visiting the Avila Tank Farm may be exposed to Site COPCs as chemicals migrate from the original source through various environmental media.

4.1 SOURCES AND TRANSPORT MECHANISMS

Primary, secondary, and tertiary sources of contaminants are listed in the CEM (Figure 4-1). Sources include environmental matrices (e.g., soil, water, air) where COPCs can be found. COPCs may migrate from primary to secondary and tertiary sources. According to Site data, COPCs are predominantly related to TPH, although some metals and chlorinated

compounds that may be related to Site activities are also present. Leaks from pipelines, storage tanks, and refinery operations on the property during its operation from approximately 1906 to 1998 are the primary sources of the petroleum-related COPCs at the Site. Leaking crude oil and/or petroleum products would have been released to surface and/or subsurface soils (termed a secondary source). Chemicals associated with pipeline and other releases may also have migrated into groundwater. From these secondary sources, COPCs may have migrated to tertiary sources such as dust in outdoor air and vapors in indoor air. These sources of COPC exposure are discussed further in the following sections. Areas of concern are defined as areas where released COPCs and human receptors are likely to co-occur. Based on the Vision Plan, each exposure area is evaluated separately in addition to a Site-wide no development scenario.

4.1.1 Surface and Subsurface Soils

Direct releases of petroleum at the Site have resulted in the contamination of surface and subsurface soils. Surface and subsurface soils serve not only as potential sources for direct exposure (direct contact with soil such as ingestion and dermal contact), but also as potential sources for release of COPCs to dust in outdoor air and vapors in indoor air. Compounds adsorbed to soil particles may be entrained into the air as dust and inhaled. Compounds may also be taken up by fruits and/or vegetables grown in contaminated soil (the "soil-plant-human" exposure pathway, USEPA 1996). Petroleum constituents in the subsurface soils also may leach into the groundwater. However, as discussed in Section 1.4, the RTP concluded that offsite migration of contaminants dissolved in groundwater at the Avila Tank Farm is unlikely along the north, west, and east boundaries, but recommended continuing monitoring efforts for dissolved contaminants along the southern boundary (Huntley et al. 2004). Potentially TPH-impacted surface water seeping from Cliff Springs along the southern edge of the Site were evaluated separately and found not to represent a significant risk to beach-goers who might come into contact with these seeps (McDaniel Lambert, Inc. 2007). Additionally, potential exposure to potentially petroleum-related impacts observed in the tidal area has been and will continue to be evaluated (McDaniel Lambert, Inc. 2012).

4.1.2 Outdoor Air

COPCs in soil can become airborne through the disturbance of soil by wind or mechanical means and the entrainment of soil particles in air. Airborne particulates, i.e. dust, are available for exposure through inhalation when a receptor is outdoors. COPCs also could be released to outdoor air via vapor migration from subsurface contamination. Ambient air

monitoring during the Avila Beach (Front Street) remediation included two monitoring stations at the Avila Tank Farm, and demonstrated that outdoor air in the area had very low concentrations of VOCs, comparable to other coastal areas removed from significant urban impacts (Attachment 4; personal communication Dr. Eric Winegar). Three ambient air samples also were taken during the 2008 soil gas sampling event in Area E (Avocet 2008b; data included in Attachment 6), an area of high hydrocarbon soil and soil gas impacts, and there were no detectable concentrations of COPCs in the ambient air.[24]

4.1.3 Indoor Air

COPCs can enter indoor air through vapor migration. Potential sources of COPCs to indoor air include surface and subsurface soils and groundwater. This pathway is only relevant to volatile COPCs, and indoor air vapors are available for exposure via inhalation when a receptor is indoors. Indoor air COPCs concentrations are derived from maximum soil gas concentrations used to model worst-case indoor air concentrations. Soil gas sampling, conducted following DTSC vapor intrusion guidance and sampling protocols (Cal/EPA 2005b, 2011), indicates the presence of numerous hydrocarbon-related and other VOCs in soil gas at the Site (Avocet 2008b and Padre 2012b). Consistent with historical sampling events, where methane was the predominant gas found in soil gas monitoring, methane is still present at significant levels in some areas of the Site.

4.1.4 Site-grown Produce

The Vision Plan proposes to install "Native Gardens" in the southwest corner of the Site. Produce and herbs grown in this area could be used in restaurants developed on the Site. Indirect exposure may result from ingestion of the leafy, fruit, and/or tuber portions of Site-grown produce. Chemicals may be present in aboveground produce via direct deposition of particles, vapor transfer with plant foliage, and/or root uptake and subsequent transfer to the aboveground portion of the plant. Root uptake of COPCs in soil is the mechanism of exposure from belowground produce (USEPA 2005). COPCs of primary concern with respect to growing produce include metals and PAHs. Risks associated with exposure of VOCs via food-chain pathways generally have not been considered significant primarily because they are typically low-molecular-weight chemicals that do not persist in the environment and do not bioaccumulate. The 1998 HHRA for Avila Beach included limited sampling of backyard garden fruits and grass, with

[24]As noted in Section 1.4, reporting limits for ambient air samples collected by Avocet in 2007 were the same as for the concurrently collected soil gas samples. Although reporting limits generally were adequate to evaluate potential vapor intrusion health effects, they were above typical ambient levels.

no PAHs detected in the vegetation sampled (Risk Science Associates 1998).[25] Based on the lack of COPC detections in homegrown produce, the fruit and vegetable pathway was deemed incomplete in the Avila Beach HHRA (Risk Science Associates 1998).

4.1.5 Groundwater

Petroleum constituents may be transported into the underlying groundwater by infiltration/percolation. As discussed in Section 1.2, given the poor quality of groundwater at the Site it is unlikely that it will be used in the future for drinking water. Therefore, groundwater was not evaluated as a source of drinking water in this risk assessment. However, receptors engaged in trenching activities, such as intrusive utility workers, may have incidental contact with shallow groundwater, resulting in ingestion and/or dermal absorption of associated COPCs. These groundwater exposure pathways were included in the risk assessment for intrusive utility workers only. The two most recent groundwater monitoring results (Padre 2013a,b) were used in this intrusive utility worker assessment.

Sections 4.1.1 through 4.1.5 provide the rationale for including the following migration pathways in the CEM:

- Migration of constituents in surface soil down to subsurface soil
- Migration of constituents in subsurface soil down to the groundwater
- Adsorption of compounds to soil particles entrained in the air as dust
- Uptake of compounds from soil to homegrown produce
- Vaporization of constituents in subsurface soil and groundwater into indoor air

Section 4.2 discusses how populations associated with the proposed Vision Plan may be exposed to Site COPCs as chemicals migrate from their original sources through various environmental media to the exposure media. Figure 4-1 illustrates the sources, release mechanisms, exposure media, and potential exposure routes evaluated in this Final HHRA. Uncertainties associated with the exclusion of selected receptors and/or exposure pathways are discussed in Section 7.4.

4.2 SUMMARY OF POTENTIALLY EXPOSED POPULATIONS AND PATHWAYS

In an evaluation of the potential public health risks posed by a site, it is necessary to identify populations that may be exposed to site-related chemicals and to determine the

[25]Co-located soil samples were not collected, therefore no data exists regarding PAHs concentrations in garden soils. No PAHs were detected in a grass sample collected over the shallowest point of the Avila Beach plume (Risk Science Associates 1998).

routes by which these exposures may occur. In this study, identification of the potentially exposed populations requires an evaluation of the community Vision Plan and the proposed uses of different areas of the former Avila Tank Farm. Sections 4.2.1 and 4.2.2 present the rationale for the selection of potentially exposed human populations and the identification of exposure routes at the Site, respectively. Section 4.2.3 summarizes the complete exposure pathways for each relevant population.

4.2.1 Identification of Potentially Exposed Receptor Populations

The Avila Tank Farm property is currently zoned industrial. Populations which currently could be exposed to Site-related chemicals (offsite residents and trespassers/recreational users) were assessed in the 2005 Baseline HHRA (see Section 1.5.2), but are reevaluated in the Final HHRA. Based on the Vision Plan, future land uses include lodging for overnight guests, commercial, and recreational. To be health protective and provide as much information as possible to risk managers, the following potential receptors were considered for the exposure areas identified in the HHRA:

- Short-Term Resident (adult and child),
- Indoor Commercial Employee (adult),
- Outdoor Commercial Employees (adult),
- Intrusive Utility Worker (adult),
- Recreational Open Space User (adult and child),
- Offsite Resident (adult and child)

The consumption of produce and/or herbs grown at the Site, evaluated as a "Restaurant Visitor" (adult and child), is included in the quantitative risk estimates for only the short-term residents. Uncertainties associated with the exclusion of this pathway for other receptors are addressed in Section 7.4.1.2.

4.2.2 Potential Exposure Pathways

The USEPA (1989) defines an exposure pathway as "the course a chemical or pollutant takes from the source to the organism exposed." An exposure route is "the way a chemical or pollutant enters an organism after contact" (USEPA 1989). A complete exposure pathway requires four key elements: onsite chemical sources; migration routes (i.e., environmental transport); potentially exposed human receptors; and routes of exposure to contaminated media (e.g., inhalation of chemicals in air). All four factors are required for a complete exposure pathway; if any one factor is missing, the pathway is considered

incomplete. Because an incomplete pathway does not pose a potential health hazard, incomplete exposure pathways were not evaluated quantitatively in the HHRA. Human exposure routes investigated in the Final HHRA are described below.

4.2.2.1 Inhalation Exposure Pathways

Exposures via inhalation pathways occur when COPCs transported in air as vapor (from soil and/or groundwater) and/or suspended particulates are inhaled by a receptor. The inhalation pathways reviewed for inclusion in this risk assessment in accordance with Cal/EPA and USEPA guidance (Cal/EPA 2005d, USEPA 2002a) were:

- Inhalation of particle-associated COPCs in outdoor air (fugitive dust)
- Inhalation of volatile COPCs in outdoor air (outdoor vapors)
- Inhalation of COPC vapors in indoor air (via migration from subsurface contamination)

It is possible that all potential receptors except indoor employees could be exposed to chemicals via inhalation of outdoor air. Therefore, inhalation of particle-associated contaminants (both fugitive dust and outdoor vapors) in outdoor air is evaluated in the risk assessment. As detailed in Section 5.1.4.1, the inhalation of outdoor dust/vapors is evaluated quantitatively via modeling based on soil data. Outdoor vapors are evaluated quantitatively despite evidence that exposure to vapors in outdoor air from subsurface contamination is unlikely to be a significant exposure pathway: (1) ambient air monitoring at nearby Avila Beach demonstrated that outdoor air at the Avila Tank Farm had very low concentrations of VOCs, (Attachment 4; personal communication Dr. Eric Winegar) and (2) limited ambient air monitoring carried recently conducted by Avocet (Avocet 2008b) detected no COPCs in the ambient air samples, even in areas with the highest soil gas concentrations.

Indoor air vapor inhalation applies only to people who spend time inside buildings on the Site – onsite residents, short-term residents, and indoor commercial employees. Based on detections of COPCs in soil gas in some areas of the Site, this exposure pathway is considered complete, and is evaluated for short-term residents and indoor employees. The 2007 and 2012 soil gas data for the Site are the basis for modeling and evaluating inhalation exposure to vapors in indoor air.

4.2.2.2 Dermal Contact Exposure Pathways

Dermal contact exposure pathways encompass all receptor activities that result in direct contact with soil or groundwater containing COPCs. The following dermal contact exposure pathways were reviewed for inclusion in this risk assessment:

- Dermal contact with soils
- Dermal contact with groundwater

Dermal contact with soils is anticipated for all potential receptor groups and was evaluated in the risk assessment except indoor employees and offsite residents. Because groundwater in the area does not appear to be suitable for use as domestic water, incidental dermal groundwater contact is considered a complete pathway only for intrusive utility workers.

4.2.2.3 Ingestion Exposure Pathways

The following ingestion exposure pathways were reviewed for inclusion in this risk assessment:

- Incidental ingestion of soil
- Incidental ingestion of groundwater
- Ingestion of Site-grown produce (grown in an isolated area for consumption at restaurants developed on the Site)

The incidental ingestion of soil is anticipated for all potential receptor groups evaluated in this risk assessment except offsite residents. Indoor employees may incidentally ingest soil that has been tracked into buildings ("indoor dust" USPEA 2002a). Because groundwater in the area does not appear to be suitable for domestic use, incidental ingestion of groundwater is considered a complete pathway for only potential intrusive utility workers. The Site-grown produce pathway is evaluated as a discrete pathway specific to consumption of "homegrown" produce served in restaurants developed on the Property. In addition to the restaurant visitors, receptors who may ingest Site-grown produce include onsite residents, short-term residents, commercial workers, and recreators. Exposure to Site-grown produce is included as a complete exposure pathway for short-term residents. The potential contribution of the Site-grown produce pathway to the overall risk estimates for the other receptors who may eat at Site restaurants is discussed in Section 7.4.1.2.

4.2.3 Summary of Complete Exposure Scenarios

The following exposure scenarios were quantitatively evaluated in this risk assessment:

1. The future short-term resident (adult and child) who is exposed to:

    - soil via direct ingestion and dermal contact
    - soil particles and vapors via inhalation of outdoor air
    - indoor air vapors via inhalation of indoor air
    - ingestion of produce grown in the Native Garden

Based on the Vision Plan, short-term residential exposure in hotel bungalows and/or default structures could occur in Exposure Areas A, C, D, E, Ia, Ib, J, K, and L. Although overnight lodging is not planned for Exposure Areas G, M, N, and O short-term residential exposure in default commercial structures also was evaluated to provide risk managers with maximum flexibility.

2. The future indoor commercial employee (adult) who is exposed to:

    - soil via direct ingestion of indoor dust
    - indoor air vapors via inhalation of indoor air

Based on the Vision Plan, structures are planned for Exposure Areas A through L and O[26]. Although the Vision Plan does not identify buildings in Exposure Areas M and N, indoor employee exposures in default commercial structures were evaluated to provide risk managers with maximum flexibility.

3. The future outdoor commercial employee (adult) who is exposed to:

    - soil via direct ingestion and dermal contact
    - soil particles and vapors via inhalation of outdoor air

Outdoor employee exposures could occur in Exposure Areas A through O, the Native Gardens, Drainages, and Open Space.

4. The future intrusive utility worker (adult) who is exposed to:

    - soil via direct ingestion and dermal contact
    - soil particles and vapors via inhalation outdoor air
    - groundwater via ingestion and dermal contact

[26] Exposure Areas B, F and H are no longer included in the development plan, and therefore not evaluated in the Final HHRA.

It is assumed that intrusive utility worker exposures could occur in Exposure Areas A through N[27].

5. The future recreational open space user (adult and child) who is exposed to:
    - soil via direct ingestion and dermal contact
    - soil particles and vapors via inhalation of outdoor air

Recreational exposures could occur in Open Space under the Vision Plan or Site-wide if no development occurs.

6. The current and future (if no development occurs) offsite resident (adult and child) who is exposed to Site-wide sources of:[28]
    - soil particles and vapors in surface soils (0-2 ft bgs) via inhalation of outdoor air

[27] Exposure Areas B, F and H are no longer included in the development plan, and therefore not evaluated in the Final HHRA.
[28]Potential risks for the "hypothetical remediation scenario downwind resident" are discussed in Section 7.5.

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5.0 EXPOSURE ASSESSMENT

The representative concentration of each chemical in each medium (soil, outdoor and indoor air, and groundwater) is estimated. Equations and parameters used to estimate the daily doses associated with the various exposure scenarios are presented.

The exposure assessment process quantifies the magnitude, frequency, and duration of exposure for those populations and pathways selected for quantitative evaluation in the conceptual exposure model (Section 4). To quantify exposures, where appropriate and sufficient data are available, statistically representative concentrations were estimated for COPCs present in impacted environmental media. For some exposure scenarios, or when only a limited number of samples are available for a particular exposure area, maximum concentrations are used as the COPC exposure point concentrations (EPCs). These EPCs are assumed to be equal to the representative concentration in the medium for direct exposures such as dermal contact and incidental ingestion. For indirect exposure pathways such as inhalation of particulates or vapors in outdoor or indoor air, and ingestion of Site-grown produce, representative concentrations are predicted based on medium-specific EPCs coupled with fate and transport modeling. Where appropriate, EPC calculation methods and exposure parameters are the same as those agreed upon by the ATCAT for use in the 2005 Baseline HHRA.

5.1 DEVELOPMENT OF EXPOSURE POINT CONCENTRATIONS

This Final HHRA evaluates potential health risks from soil, outdoor air, indoor air, ground water and produce using different EPCs, depending on the media, exposure scenario and/or COPC sample size. Section 5.1.1 below summarizes the calculations that were necessary to perform prior to determining EPCs, including identification of TPH carbon ranges, and a summary value for carcinogenic PAHs. Calculation of EPCs for receptor-exposure medium combination are discussed subsequently in this section. Section 5.1.3 summarizes the derivation of outdoor and indoor air exposure point concentrations, and Section 5.1.4 provides the derivation of Site-grown produce exposure point concentrations.

5.1.1 Analytical Data Manipulations

5.1.1.1 TPH Carbon Ranges and Fractions

Petroleum hydrocarbon mixtures consist of hundreds of different types of hydrocarbon compounds. This makes risk assessment for petroleum hydrocarbons a complex undertaking, given that each hydrocarbon compound exhibits a particular set of physical

characteristics (solubility, sorption, etc.) and each can have a particular toxicological effect. The Cal/EPA issued interim guidance for evaluating potential health risks from TPH (Cal/EPA 2009c), that builds on approaches previously described by TPHCWG and MADEP. Although the Cal/EPA recently indicated that this guidance is no longer active, it provides a conservative basis for assessing TPH risk until future approaches are recommended by Cal/EPA or USEPA. Evaluation of TPH at other sites on the Central Coast and discussions with DTSC have concluded that the Cal/EPA interim guidance serves as a health protective approach (personal communication, Steve DiZio, DTSC, June 15, 2010). In this guidance, Cal/EPA recommends evaluating the potential risk from TPH as the aliphatic and aromatic fractions of three carbon ranges that generally correspond to analytical measures of TPH-g, TPH-d, and TPH-mo.

At the Avila Tank Farm, TPH carbon ranges in soil were reported as C4-C10 or C4-C12 for TPH-g; C13-C22, C10-C24, or C10-25 for TPH-d; and C25-C40 or C23-C40 for TPH-mo. As discussed in the 2005 Baseline HHRA, aliphatic and aromatic fraction data are available for soil samples collected from the Avila Tank Farm. Because no new TPH fraction data has been collected, the median fraction percentages in soil developed for the 2005 Baseline HHRA, 26% aliphatic and 15% aromatic compounds, are used in this risk assessment. The remaining portion of the petroleum hydrocarbon in soil is either asphaltene or NSO compounds, which are not considered in this risk assessment.[29] Soil aliphatic and aromatic exposure point concentrations for each area are estimated multiplying the EPC value for each exposure area by the respective fraction percentages. The resulting aliphatic and aromatic EPCs for TPH are presented in Tables 5-4, 5-6, 5-8, 5-10, 5-12, 5-14, 5-16, 5-18, 5-20, 5-22, 5-24, 5-26, 5-28, 5-30, 5-32, 5-34, and 5-36.

Volatile TPH by EPA Method TO-15 was analyzed in soil gas in only the samples collected in 2012, and therefore are result are available for only a small fraction of the soil gas sampling locations. To be consistent among exposure areas and with the approach used in the ratified Supplemental HHRA, petroleum-related impacts to soil gas are evaluated based on individual constituents of TPH and TPHv was not included as a COPC. As discussed in Section 7.2.2, most of the TPHv detected in soil gas samples collected in 2012 comprised the less toxic aliphatic fractions and its exclusion as a soil gas COPC does not impact the overall risk conclusions.

[29] The conservativeness of the TPH methodology is discussed in Sections 3.2.2 and 7.3.2.

No site-specific TPH fraction data are available for groundwater. Because the aromatic fraction has a greater potential to dissolve in water and has a higher toxicity criteria than the aliphatic fraction, it is assumed that 100% of the TPH in groundwater was the aromatic fraction (see Section 7.2.2 for additional discussion of the uncertainties associated with this assumption).

5.1.1.2 PAHs as BaP TEQ

As previously indicated, potential exposures to carcinogenic PAHs detected at the Site (other than dibenzo(a,h)anthracene and naphthalene) were evaluated using the BaP TEQ approach. This approach is consistent with the current methodology recommended by DTSC (Cal/EPA 2011b), and uses OEHHA potency equivalency factors (PEFs) to assess the toxicity of certain PAHs and PAH derivatives. The PEFs were developed by comparing the cancer activity of PAHs relative to BaP, in part because of the large amount of toxicological data available for BaP (compared with other PAHs). The list of PEFs presented in Table 5-1 below reflects carcinogenic PAHs evaluated as BaP TEQ in this HHRA. The BaP TEQs were calculated for each soil sample by multiplying the concentration of each detected PAH compound by its respective PEF (Cal/EPA 1993, 2002, 2011b). If a PAH was not detected, to be conservative it was included in the TEQ calculation at half the reporting limit. The resulting BaP TEQ concentrations for each soil sample, which are used as the basis for soil EPCs, are presented in the Table 5-2.

Table 5-1. Summary of Cal/EPA Cancer PEFs for PAHs

PAH	Cal/EPA Cancer Potency Factor
Benzo(a)pyrene (index compound)	1.0
Benz(a)anthracene	0.1
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.1
Indeno(1,2,3-cd)pyrene	0.1
Chrysene	0.01

Sources: Cal/EPA 1993, 2002, 2011b

5.1.2 Soil Exposure Point Concentrations

Soil EPCs generally are based on wet-weight soil concentrations and include samples where the matrix is identified as sediment.[30] Consistent with the 2005 Baseline HHRA,

[30]Analytical results for PAHs analyzed in 2007 soil samples and all COPCs in 2011 soil samples were reported by the laboratory and incorporated into the Site database by Avocet in mg/kg *dry* weight. Historical data was

where duplicate samples were analyzed and a COPC was detected in both samples, the maximum of the duplicate concentrations is used in statistical calculations. In some samples, naphthalene has been analyzed via both the 8260 and 8270 methods, with both results included in the Site database and subsequent HHRA soil and soil gas dataset. Duplicate results for naphthalene are addressed as follows in the EPC calculations:

- When both methods showed detectable levels of naphthalene, the maximum value is used;
- When only one method showed a detectable result (and the second value was reported as a non-detect), the detected value is used;
- If both analyses showed no detected naphthalene, the minimum reporting limit value is used.

The approach used for analytical duplicates described above also was used for three of the 2005 trench samples, in which PAHs were analyzed by both EPA Methods 8270c and 8270 selected ion monitoring (SIM) mode; as well as any other field duplicates identified in the database.

Potential health risks from soil are evaluated using different EPCs, depending on the exposure scenario and/or COPC sample size. Per Cal/EPA and USEPA guidance (Cal/EPA 2005a; USEPA 2002a), COPC concentrations in surface soils (0-2 ft bgs) and in subsurface soils that may be brought to the surface (0-10 ft bgs) should be used to determine the EPC, depending on the exposure scenario. For short-term residents and commercial employees, the 0-2 foot depth horizon was identified as the appropriate zone for derivation of the soil EPC (USEPA 2002a; see also Attachment 2), using the 95% UCL of the arithmetic mean concentration, as sample sizes allow. However, coverage of the 0-2 foot soil profile is limited in some exposure areas. Therefore, to be health protective, short-term resident and indoor and outdoor commercial employee soil representative concentrations are the greater of the EPCs (maximum or UCL, as appropriate) calculated for the 0-2 and 0-10 foot depth horizons. The EPCs for produce grown in the Native Gardens are based on analytical data for soil samples collected from 0-5 feet bgs, while worker exposure in this area is evaluated to 10 feet bgs (per previous agreement with SLO County EHS).

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reported in wet weight. Wet weight concentrations are lower than dry weight concentrations, making risk estimates based on wet weight concentrations lower than those for dry weight. Because human health soil screening levels such as CHHSLs, and some parameters used in risk assessment are in terms of dry weight, any future sampling at the Site (such as confirmation sampling) should include moisture content and/or be reported as dry weight.

Because utility workers could dig in small areas of any exposure area, EPCs for this receptor are based on maximum detected soil COPC concentrations from the 0-10 foot depth horizons.

For recreational exposures in both the open space and no development scenarios, the outdoor air (vapor and particulate) COPC concentrations are modeled using the greater of the soil EPCs calculated for the 0-2 and 0-10 foot depth horizons. Since recreational users are more likely to come in contact with surface soil (0-2 ft), a separate evaluation of recreational users based on EPCs calculated for the 0-2 foot depth horizon is also conducted.

Based on discussions with the ATCAT, offsite resident outdoor air COPC concentrations for the no development scenario are modeled using soil EPCs calculated for the 0-2 foot depth horizon (Attachment 2; October 25, 2010 meeting summary). This is consistent with USEPA guidance (1989), which recommends evaluating the inhalation of wind-blown dust exposure using surface soil.

The 95% UCL calculations were conducted when COPC sample size exceeded nine and there were greater than three detects. The parametric Student's-t UCL was selected as the primary method of UCL estimation, based on the assumption that the means for each COPC are approximately normal even in cases when the data distributions are not normal (email communication, Neptune and Company, July 9, 2008). Generally, in cases of skewed data (standard deviation of log-transformed data exceeds 1.5), the Bootstrap BCa method is used to calculate the 95% UCL. Since these two methods provide good coverage under a wide range of conditions, they were the primary methods used in UCL calculation. When ProUCL did not recommend one of these methods, the most conservative (maximum) of these two methods was used. In the cases of a high frequency of nondetects, the corresponding Kaplan Meier (KM) method was used to censor nondetects. In cases where the 95% UCL value exceeds the maximum value detected in an exposure area, the maximum value is used as the EPC.[31] For exposure areas where the number of analyses for a COPC is less than ten, the EPC equals the maximum detected value.[32] When a COPC was not detected in a sample, the reporting limit was substituted for the value used in the UCL

[31]In the EPC summary tables, bold text identifies the soil COPC values where the maximum was used as the EPC.

[32]Naphthalene in soil has been analyzed via EPA Methods 8260 and 8270, and for some areas the number of sampling results for naphthalene exceeds nine, while the number of samples for the remaining PAHs is less than nine. In order to consistently evaluate the PAHs, the 95%UCLs are used as EPCs only when the sample sizes for all 16 parent-PAHs exceeded nine.

calculation. The ProUCL (USEPA 2011b) "output" for each exposure area is included as Attachment 14.

5.1.2.1 Exposure Area A EPCs

Unspecified commercial use is slated for this area. The maximum value from the 0-10 foot soil profile was used as the soil EPC for intrusive utility workers.[33] Potential risks to short-term residents and commercial workers in this area also were evaluated using the maximum value as the EPC. Summary statistics for Exposure Area A soil COPCs are presented in Table 5-3. Exposure point concentrations for Exposure Area A are presented in Table 5-4.

5.1.2.2 Exposure Area C EPCs

Future use in Exposure Area C is proposed to be family cottage clusters for overnight lodging. The EPCs for all receptors were based on maximum values, most of which occurred within the 0-10 foot soil horizon. Summary statistics for soil COPCs in this area are presented in Table 5-5. Exposure point concentrations for Exposure Area C are presented in Table 5-6.

5.1.2.3 Exposure Area D EPCs

Future use in Exposure Area D is proposed to be commercial, including a Wellness Center and guestrooms. For short-term residents and indoor and outdoor employees, cadmium and TPH EPCs were based on the 95% UCL from the 0-2 foot soil profile, while the EPCs for other COPCs were based on the maximum value from the 0-10 ft soil horizon. Summary statistics for Exposure Area D soil COPCs are presented in Table 5-7. Exposure point concentrations for Exposure Area D are presented in Table 5-8.

5.1.2.4 Exposure Area E EPCs

Future use in Exposure Area E is proposed to a Wellness Center that includes various commercial structures. For short-term residents and indoor and outdoor employees, EPCs for most metals and TPH were based on the 95% UCL from the 0-2 foot soil profile while EPCs for most VOCs and a few PAHs were based on the 95% UCL from the 0-10 foot soil profile; other EPCs were based on the maximum value from the 0-2 or 0-10 foot soil profile.

[33]In all exposure areas, the utility worker EPC is based on the maximum value in the 0-10 foot depth horizon; this information is not repeated in all of the subsequent EPC summaries.

Summary statistics for Exposure Area E soil COPCs are presented in Table 5-9. Exposure point concentrations for Exposure Area E are presented in Table 5-10.

5.1.2.5 Exposure Area G EPCs

Future use in Exposure Area G is proposed to be commercial. COPC sample sizes did not allow for UCL calculations so the maximum COPC concentration (from either the 0-2 or 0-10 foot soil profile) was used as the EPC for all receptors. Summary statistics for Exposure Area G soil COPCs are presented in Table 5-11. Exposure point concentrations for Exposure Area G are presented in Table 5-12.

5.1.2.6 Exposure Area Ia EPCs

Future use in Exposure Area Ia is proposed to be family cottage clusters with overnight lodging. For all COPCs except lead, the soil sample sizes were insufficient to calculate 95% UCLs in both the 0-2 and 0-10 depth horizons. Therefore, most short-term resident and indoor and outdoor worker EPCs were the maximum concentration detected in the area, except the lead EPC was based on the 95% UCL. Summary statistics for Exposure Area Ia soil COPCs are presented in Table 5-13. Exposure point concentrations for Exposure Area Ia are presented in Table 5-14.

5.1.2.7 Exposure Area Ib EPCs

Future use in Exposure Area Ib is proposed to be various commercial structures to support the resort. The COPC soil sample sizes were insufficient to calculate 95% UCLs in both the 0-2 and 0-10 depth horizons except for BEX, benzo(g,h,i)perylene, TPH-g, TPH-d and TPH-mo. Therefore, short-term resident and indoor and outdoor worker EPCs were the maximum value for all COPCs except for the aforementioned, which were based on the 95% UCL from the 0-10 foot depth horizon. Summary statistics for Exposure Area Ib soil COPCs are presented in Table 5-15. Exposure point concentrations for Exposure Area Ib are presented in Table 5-16.

5.1.2.8 Exposure Area J EPCs

Future use in Exposure Area J is proposed to be commercial with overnight guestrooms. EPCs for benzene, some PAHs, TPH-d and TPH-mo were based on the 95% UCL from the 0-10 foot profile while EPCs for metals, and TEX were based on the 95% UCL from the 0-2 foot soil profile; EPCs for other COPCs were the maximum value. Summary statistics for Exposure Area J soil COPCs are presented in Table 5-17. Exposure point concentrations for Exposure Area J are presented in Table 5-18.

5.1.2.9 Exposure Area K EPCs

Future use in Exposure Area K is proposed to be commercial. COPC sample sizes did not allow for UCL calculations in both the 0-2 and 0-10 depth horizons, therefore EPCs for all receptors in this exposure area were based on the maximum concentration. Summary statistics for Exposure Area K soil COPCs are presented in Table 5-19. Exposure point concentrations for Exposure Area K are presented in Table 5-20.

5.1.2.10 Exposure Area L EPCs

Future use in Exposure Area L is proposed to be family cottage clusters. For short-term residents and indoor and outdoor employees, EPCs for lead, BTEX, TPH-g and TPH-d were based on the 95% UCL from the 0-2 foot soil profile while the EPC for TPH-mo was based on the 95% UCL from the 0-10 foot soil profile; EPCs for all other receptors in this exposure area were based on the maximum concentration. Summary statistics for Exposure Area L soil COPCs are presented in Table 5-21. Exposure point concentrations for Exposure Area L are presented in Table 5-22.

5.1.2.11 Exposure Area M EPCs

Although a parking lot is proposed for this area, the final HHRA evaluates commercial use. Since the sample sizes for most COPCs were less than 10, EPCs for all receptors are based on the maximum detected concentration except for TPH-d and TPH-mo which was based on the 95% UCL from the 0-10 foot soil profile. Summary statistics for Exposure Area M soil COPCs are presented in Table 5-23. Exposure point concentrations Exposure Area M are presented in Table 5-24.

5.1.2.12 Exposure Area N EPCs

Although a parking lot is proposed for this area, the final HHRA evaluates commercial use. In order to address any potential development in this area, the risk to potential commercial workers are evaluated. Only cadmium, chromium and lead had sufficient sample sizes and detections and were therefore, EPCs for these COPCs were based on the 95% UCL from the 0-10 foot soil horizon. EPCs for the remaining COPCs were based on the maximum detected concentration. Summary statistics for Exposure Area N soil COPCs are presented in Table 5-25. Exposure point concentrations for Exposure Area N are presented in Table 5-26.

5.1.2.13 Exposure Area O EPCs

Similar to exposure areas M and N, a parking lot is proposed for this area however the final HHRA evaluates commercial use. The COPC soil sample sizes were less than nine, so the maximum COPC concentration (from either the 0-2 or 0-10 foot soil profile) was used as the EPC for all receptors. Summary statistics for Exposure Area O soil COPCs are presented in Table 5-27. Exposure point concentrations for Exposure Area O are presented in Table 5-28.

5.1.2.14 Open Space EPCs

The Open Space area is the largest exposure area (approximately 44 acres), and is evaluated for the risk to potential recreational users. The Open Space area was not subdivided further into smaller exposure areas because recreational users are not expected to spend a large amount of time in any specific area of Open Space. Discussion related to the uncertainties associated with the EPCs for this large exposure area, particularly the spatial distribution of risk drivers in Open Space, is presented in Section 7.4.3.3. Since recreational users are most likely to come in contact with shallow soil (0-2 ft bgs), EPCs for recreational users were calculated for the 0-2 foot and 0-10 foot soil horizons separately. Generally, all soil COPCs sample sizes exceed nine, and the 95% UCL was used as the EPC except for VOCs and various PAHs which were based on the maximum. Summary statistics for Open Space soil COPCs are presented in Table 5-29. Exposure point concentrations for Open Space are presented in Table 5-30.

5.1.2.15 Native Gardens EPCs

Herbs and/or produce for use by Site restaurants may be grown in the Native Gardens area. Two soil EPCs were calculated for this exposure area: (1) the top five feet of soil to estimate produce COPC estimates and (2) the 0-10 foot depth horizon to evaluate exposures for outdoor workers. Only the sample sizes for TPH exceeded nine and there were only enough detects to calculate a 95% UCL for TPH-mo, therefore the maximum was used for the remaining soil COPCs. Summary statistics for Native Gardens soil COPCs are presented in Table 5-31. Exposure point concentrations for Native Gardens are presented in Table 5-32.

5.1.2.16 Drainage Area EPCs

Only outdoor commercial use is considered for this area. The 95% UCL was used as the EPC for TPH-d and TPH-mo, but the maximum was used for the remaining soil COPCs.

Summary statistics for Native Gardens soil COPCs are presented in Table 5-33. Exposure point concentrations for Native Gardens are presented in Table 5-34.

5.1.2.17 Site-Wide EPCs

Under current conditions, offsite residents may be exposed to soil particulates that are generated on a site-wide basis from the 0-2 foot depth horizon. Therefore, two soil EPCs were calculated for this area: (1) the upper two feet of soil to evaluate offsite resident exposures from wind-blown dust and recreational users, and (2) 0-10 foot depth horizon was also used to evaluate potential recreational user exposures. Due to the large sample sizes available for the Site-wide exposure area, 95% UCLs were used as the EPCs for all soil COPCs, except for benzene and other VOCs in the 0-2 foot soil horizon and antimony, some VOCs, 2,4-dinitrotoluene and endrin aldehyde in the 0-10 foot soil horizon in which the 95% UCL exceeded the maximum because of the small number of detections. Summary statistics for Site-wide soil COPCs are presented in Table 5-35. Exposure point concentrations for Site-wide soil are presented in Table 5-36.

For receptors other than the intrusive utility worker, the EPCs based on 95% UCLs are summarized in Table 5-37 by exposure area.

5.1.3 Groundwater Exposure Point Concentrations

Groundwater EPCs are based on data from the fourth quarter 2012 and second quarter 2013 monitoring results for wells in which groundwater was encountered at 15 feet bgs or less (Padre 2013a,b). Groundwater was encountered in the upper 15 feet in three exposure areas: Exposure Area E, M and N. Given the small sample size of wells in each area, the maximum COPC concentrations were used as the EPCs.

Table 5-37
Summary of 95% UCL Exposure Point Concentrations

COPC	95 % UCL
Exposure Area D	
Cadmium	**3.02E+00**
TPH Diesel	**4.03E+03**
TPH Motor Oil	**5.08E+03**
Exposure Area E	
Chromium (total)	2.31E+01
Lead	**1.34E+02**
Mercury	**2.44E-01**
Vanadium	**3.08E+01**
Benzene	1.20E+00
Ethylbenzene	1.94E+00
Toluene	1.50E+00
Xylenes (total)	8.60E+00
n-Butylbenzene	5.31E-01
sec-Butylbenzene	4.88E-01
tert-Butylbenzene	2.40E-01
1,2-Dichlorobenzene	2.70E-01
Isopropylbenzene	7.97E-01
p-Isopropyltoluene	4.62E-01
n-Propylbenzene	1.05E+00
1,2,4-Trimethylbenzene	2.98E+00
1,3,5-Trimethylbenzene	1.15E+00
Acenaphthene	3.98E-01
Acenaphthylene	9.85E-02
2-Methylnaphthalene	6.00E+00
Naphthalene	1.29E+00
TPH Gasoline	3.92E+02
TPH Diesel	**5.69E+03**
TPH Motor Oil	**7.00E+03**
Exposure Area Ia	
Lead	**2.95E+02**
Exposure Area Ib	
Benzene	2.00E-01
Ethylbenzene	1.45E+00
Xylenes (total)	5.85E+00
Benzo(g,h,i)perylene	2.50E-02
TPH Gasoline	3.63E+02
TPH Diesel	5.58E+03
TPH Motor Oil	2.82E+03

COPC	95 % UCL
Exposure Area J	
Chromium (total)	**3.19E+01**
Lead	**6.93E+01**
Vanadium	**1.96E+01**
Benzene	8.92E-02
Ethylbenzene	**2.00E+01**
Toluene	**6.36E+00**
Xylenes (total)	**1.57E+02**
Acenaphthene	2.12E-01
Acenaphthylene	1.89E-01
Fluorene	7.83E-01
Naphthalene	3.28E+00
Phenanthrene	1.92E+00
TPH Diesel	2.36E+03
TPH Motor Oil	1.07E+03
Exposure Area L	
Lead	9.20E+01
Benzene	1.00E-02
Ethylbenzene	1.99E-01
Toluene	2.00E-01
Xylenes (total)	8.45E-01
TPH Gasoline	7.48E+01
TPH Diesel	2.89E+03
TPH Motor Oil	**2.63E+03**
Exposure Area M	
TPH Diesel	2.29E+03
TPH Motor Oil	1.35E+03
Exposure Area N	
Cadmium	1.44E+00
Chromium (total)	2.80E+01
Vanadium	6.90E+01

COPC	95 % UCL
Open Space	
Cadmium	1.10E+00
Chromium (total)	**2.06E+01**
Lead	**4.21E+01**
Mercury	**4.88E-01**
Vanadium	**2.58E+01**
Benzene	5.40E-01
Ethylbenzene	9.52E-01
Toluene	8.60E+00
Xylenes (total)	5.68E+00
1,2,4-Trimethylbenzene	9.49E+00
BaP TEQ	**1.43E-01**
Acenaphthylene	7.52E-02
Benz(a)anthracene	**1.45E-01**
Benzo(b)fluoranthene	**1.55E-01**
Benzo(k)fluoranthene	**6.80E-02**
Benzo(g,h,i)perylene	**1.07E-01**
Benzo(a)pyrene	**2.09E-01**
Chrysene	**5.58E-01**
Fluoranthene	**1.02E-01**
Fluorene	6.49E-01
Indeno(1,2,3-cd)pyrene	**6.52E-02**
Naphthalene	6.79E+00
Phenanthrene	**2.15E-01**
Pyrene	**4.22E-01**
TPH Gasoline	2.76E+02
TPH Diesel	**5.61E+02**
TPH Motor Oil	**1.07E+03**
Native Gardens (0-10 ft bgs)	
TPH Motor Oil	6.10E+01
Drainage	
TPH Diesel	1.46E+03
TPH Motor Oil	4.01E+03

COPC	95 % UCL
Site Wide Offsite Resident (0-2 ft)	
Cadmium	**8.73E-01**
Chromium (total)	**2.20E+01**
Lead	**7.19E+01**
Mercury	**2.70E-01**
Vanadium	**2.56E+01**
Benzene	**2.61E-03**
Ethylbenzene	**4.54E+00**
Toluene	**1.44E+00**
Xylenes (total)	**2.67E+01**
BaP TEQ	**8.42E-02**
Acenaphthylene	**1.53E-02**
Anthracene	**1.38E-01**
Benz(a)anthracene	**7.18E-02**
Benzo(b)fluoranthene	**8.44E-02**
Benzo(k)fluoranthene	**3.30E-02**
Benzo(g,h,i)perylene	**6.89E-02**
Benzo(a)pyrene	**6.42E-02**
Chrysene	**2.31E-01**
Dibenz(a,h)anthracene	**2.36E-02**
Fluoranthene	**5.49E-02**
Fluorene	**8.44E-01**
Indeno(1,2,3-cd)pyrene	**3.20E-02**
1-Methylnaphthalene	**5.58E-01**
2-Methylnaphthalene	**2.66E-01**
Naphthalene	**4.92E-01**
Phenanthrene	**1.61E-01**
Pyrene	**1.68E-01**
TPH Gasoline	**1.53E+02**
TPH Diesel	**8.80E+02**
TPH Motor Oil	**1.34E+03**

COPC	95 % UCL
Site Wide Other Receptor	
Cadmium	7.42E-01
Chromium (total)	2.10E+01
Lead	4.01E+01
Mercury	1.45E-01
Vanadium	2.80E+01
Benzene	2.38E-01
Ethylbenzene	1.09E+00
Toluene	6.44E-01
Xylenes (total)	7.44E+00
n-Butylbenzene	2.02E-01
sec-Butylbenzene	1.23E-01
tert-Butylbenzene	1.41E-01
Isopropylbenzene	1.74E-01
p-Isopropyltoluene	1.04E-01
n-Propylbenzene	2.15E-01
1,2,4-Trimethylbenzene	1.10E+00
1,3,5-Trimethylbenzene	2.84E-01
BaP TEQ	5.94E-02
Acenaphthene	1.21E-01
Acenaphthylene	4.28E-02
Anthracene	7.23E-02
Benz(a)anthracene	4.46E-02
Benzo(b)fluoranthene	4.85E-02
Benzo(k)fluoranthene	2.16E-02
Benzo(g,h,i)perylene	3.99E-02
Benzo(a)pyrene	4.52E-02
Chrysene	1.33E-01
Dibenz(a,h)anthracene	1.27E-02
Fluoranthene	4.49E-02
Fluorene	3.65E-01
Indeno(1,2,3-cd)pyrene	2.27E-02
1-Methylnaphthalene	4.50E-01
2-Methylnaphthalene	7.74E-01
Naphthalene	4.67E-01
Phenanthrene	5.15E-01
Pyrene	1.02E-01
TPH Gasoline	1.19E+02
TPH Diesel	1.16E+03
TPH Motor Oil	8.20E+02

Bold text indicates 95% UCL is based on the 0-2 ft depth horizon

5.1.4 Calculation of Exposure Point Concentrations of Chemicals in Air

5.1.4.1 Outdoor Air Particle-associated and Vapor Exposure Point Concentrations

The concentrations of chemicals in the air (particle-associated concentrations) are calculated using the approach suggested in the RSLs (USEPA 2013b). In this approach, inhalation of non-volatile chemicals adsorbed to respirable particles is assessed using a particulate emission factor (PEF). The PEF relates the chemical concentration in soil with the concentration of respirable particles in outdoor air due to fugitive dust emissions from contaminated soil, based on the following relationship:

$$C_a = C_s * 1/PEF \text{ or } VF \qquad (5\text{-}1)$$

where

C_a = exposure point concentration of COPC in air (mg/m^3)
C_s = exposure point concentration of COPC in soil, 0-2 or 0-10 feet bgs (mg/kg)
PEF = particulate emission factor (non-volatile chemicals; m^3/kg)
VF = volatization factor (volatile chemicals; m^3/kg)

In this assessment, the default PEF used by USEPA to calculate soil RSLs (2013b) is used to calculate outdoor air EPCs for short-term residents, indoor and outdoor commercial employees, recreational users, and offsite residents ($1.36x10^9$ m^3/kg). For volatile chemicals, chemical specific default volatilization factors (VFs) are applied to estimate outdoor air concentrations for short-term residents, indoor and outdoor commercial employees, recreational users, and offsite residents (Table 5-38).[34] The resulting representative concentrations for chemicals in outdoor air are presented in Tables 5-4, 5-6, 5-8, 5-10, 5-12, 5-14, 5-16, 5-18, 5-20, 5-22, 5-24, 5-26, 5-28, 5-30, 5-32, 5-34 and 5-36.

Intrusive utility workers are expected to be exposed to higher outdoor air particulate-associated and volatile concentrations than the other receptors evaluated in this HHRA. Particulate emission factor for the intrusive utility worker are estimated based on USEPA's supplemental soil screening PEF calculation for wind erosion and dumping of excavated soils (USEPA 2002a, Equations E-26, E-15, E-16, E-25, E-20, and E-21) as follows:

$$PEF = Q/C_{SA} * 1/F_D * 1/J_T \qquad (5\text{-}2)$$

where

PEF = subchronic particulate emission factor for the construction activities other than traffic on unpaved roads (m^3/kg)

[34]A chemical was considered volatile if its Henry's Constant value is greater than $1x10^{-5}$ and its molecular weight is less than 200 grams/mole (g/mol). Volatization factors identified by Cal/EPA (2005d) were used preferentially. The conservativeness of the use of default VF values to estimate offsite residential exposure is discussed in Section 7.4.3.6.

Q/C_{SA}= subchronic dispersion factor for a ground level area emission source (g/m^2-s per kg/m^3)
F_D = dispersion correction factor (unitless)
J_T = total time-averaged PM_{10} unit emission flux for construction activities other than traffic on unpaved roads(g/m^2-s)

Where:

$$Q/C_{SA} = A*[(\ln A_{site}-B)^2/C] \quad (5\text{-}3)$$

where

Q/C_{SA}= subchronic dispersion factor for a ground level area emission source (g/m^2-s per kg/m^3)
A = constant; default = 2.4538
B = constant; default = 17.5660
C = constant; default = 189.0426
A_{site} = areal extent of site soil contamination (acres)

And:

$$F_D = 0.1852 + (5.3537/t_c) + (-9.6318/t_c^2) \quad (5\text{-}4)$$

where

F_D = dispersion correction factor (unitless); default value is 0.186
t_c = total duration of construction, including periods not worked (hours)

And:

$$J_T = (M_{wind} + M_{excav})/A_{site} * T \quad (5\text{-}5)$$

where

J_T = total time-averaged PM_{10} unit emission flux for construction activities other than traffic on unpaved roads (g/m^2-s)
M_{wind}= unit mass emitted from wind erosion (g)
M_{excav}= unit mass emitted from dumping of excavated soils (g)
A_{site} = areal extent of site soil contamination (m^2)
T = duration of construction during which workers may be exposure (seconds)

And:

$$M_{wind} = RPF * (1-V) * (U_m/U_t)^3 * F(x) * A_{surf} * ED * 8760\ hr/year \quad (5\text{-}6)$$

where

M_{wind}= unit mass emitted from wind erosion (g)
RPF = respirable particle fraction (unitless)
V = fraction vegetative cover (unitless)
U_m = mean windspeed during construction (m/sec)
U_t = equivalent threshold value of windspeed at 7 meters (m/sec)
F(x) = function dependent on U_m/U_t (unitless)
A_{surf} = areal extent of site with surface soil contamination (m^2); same as A_{site}

ED = exposure duration (years)

And:

$$M_{excav} = PM_{mult} * 0.0016 * ((U_m/2.2)^{1.3}/(M/2)^{1.4}) * \rho_{soil} * A_{excav} * d_{excav} * N_A * 10^3 g/kg \quad (5\text{-}7)$$

where

M_{excav} = unit mass emitted from dumping of excavated soils (g)
PM_{mult} = PM10 particle size multiplier (unitless; default = 0.35)
U_m = mean windspeed during construction (m/sec)
M = gravimetric soil moisture content (%)
ρ_{soil} = *in situ* soil density (mg/m^3)
A_{excav}= areal extent of excavation (m^2; used 0.1 acres for all areas)
A_{excav}= average depth of excavation (m; used 2 meters for all areas)
N_A = number of times soil is dumped (unitless; default = 2)

Volatilization factors for the intrusive utility worker were estimated based on USEPA's supplemental soil screening guidance (USEPA 2002a, Equations 5-14 and 5-15) as follows:

$$VF = [(3.14*D_A*T)^{1/2}/2*rho_b*D_A)]*10^{-4}m^2/cm^2*Q/C_{SA}*1/F_D \quad (5\text{-}8)$$

where

VF = subchronic volatilization factor for the construction worker scenario (m^3/kg)
D_A = apparent diffusivity (cm^2/s)
T = total time over which construction occurs (sec)
rho_b = dry soil bulk density (g/cm^3)
Q/C_{SA}= dispersion factor for volatile contaminant emissions construction scenario (g/m^2-s per kg/m^3); see Equation 5-3
F_D = dispersion correction factor (unitless); see Equation 5-4

Where:

$$D_A = [(\theta_a^{10/3}*D_i*H'+\theta_w^{10/3}*D_w)/n^2]/rho_b*K_d+\theta_w+\theta_a*H' \quad (5\text{-}9)$$

where

D_A = apparent diffusivity (cm^2/s)
θ_a = air-filled soil porosity (L_{air}/L_{soil})
D_i = diffusivity in air (cm^2/s)
H' = dimensionless Henry's Law Constant
θ_w = water-filled soil porosity (L_{water}/L_{soil})
D_w = diffusivity in water (cm^2/s)
n = total soil porosity (L_{pore}/L_{soil})
rho_b = dry soil bulk density (g/cm^3)
K_d = soil-water partition coefficient (cm^3/g)

Details regarding the calculation of intrusive utility worker scenario PEFs and VFs are included in Attachment 14. The resulting exposure point concentrations for intrusive utility workers exposure to chemicals in outdoor air (dust & volatiles) are presented in

Tables 5-4, 5-6, 5-8, 5-10, 5-12, 5-14, 5-16, 5-18, 5-20, 5-22, 5-24, 5-26, 5-28, 5-30, 5-32, 5-34 and 5-36.

5.1.4.2 Indoor Air Vapor Exposure Point Concentrations

Volatile COPCs may migrate from the subsurface to indoor air. Because the Site currently does not include bungalow or commercial buildings, making direct measurement of indoor air concentrations impossible, modeling was used to estimate possible future indoor air vapor concentrations. Because Cal/EPA DTSC vapor intrusion guidance (Cal/EPA 2011a) identifies soil gas as a direct measurement of the contamination that may intrude into indoor air, this HHRA used soil gas data to estimate indoor air vapor concentrations. Specifically, the Advanced Soil Gas (SG-ADV) version of the Johnson-Ettinger model for vapor migration into indoor air was used to calculate potential indoor air vapor concentrations for various buildings on the Site.[35,36] The model predicts the theoretical steady-state indoor air concentrations of COPCs based on the diffusion and advection of chemicals in vapor through soil and the building floor (e.g. concrete slab) and indoor air mixing processes. The model is based on the assumption of an infinite or non-diminishing COPC source in the subsurface and does not take into account potential biodegradation of petroleum hydrocarbons. This means that although the mass of COPCs may be too low to support migration for the estimated 25 years of commercial exposure, the model assumes that the COPC concentration is not depleted.

Two potential future structures are evaluated in this risk assessment: small overnight visitor accommodations (referred to as "hotel bungalows") and other commercial buildings ("default commercial"). As shown in Tables 5-39 and 5-40, both default and site-specific parameters recommended by USEPA (2004x) and/or Cal/EPA (2011a) were used to estimate indoor air concentrations. Default commercial parameters for building length, width, and ceiling height were used for the larger buildings (i.e., the same as for residential structures), along with default commercial indoor air exchange rate, and crack ratio recommended by Cal/EPA (2011a). Site-specific parameters were used for the hotel bungalows, which are modeled as 400 square feet with 10-foot ceiling heights and the

[35]Advanced soil gas model (USEPA 2003) as modified by the DTSC; formerly available online at http://www.oehha.ca.gov/risk/jefiles/jande.html

[36]The models' results are designed to provide incremental risk calculations. In this risk assessment, the models were used to calculate conversion factors for soil gas to indoor air, based on the "infinite source building concentration" in the "intercalcs" worksheets.

more conservative residential air exchange rate of 0.5 per hour. The rate of advective flow into the buildings (Qsoil) is consistent with guidance (Cal/EPA 2011a).[37]

The average soil temperature is that reported for two monitoring stations in San Luis Obispo County, CA. The depths and soil parameters for Layers A (9 cm slab underlain by 10 cm of gravel) and B (engineered fill) are consistent with the recommendation of the use of fill for future construction (Cal/EPA 2011a), while site specific data were considered in the selection of the Layer C parameters, as described below.

Soil physical parameter data were collected according to DTSC guidance suggesting that these data be collected at a minimum of three locations associated with a soil gas investigation; therefore physical soil properties are available for only a subset of the soil gas sampling locations (Avocet 2008b and Padre 2012b). The following summary of the Site and regional geology from the Site Characterization Report (England & Associates 1998) is presented here to provide context for the selection of soil physical parameters for the various Exposure Areas; interested readers are referred to this document for specific information.

As discussed in Section 1.3, Figure 1-4 depicts the surface geology of the site and region. This map incorporates the geology as originally mapped by the California Division of Mines and Geology (Hall 1973) and the results of aforementioned detailed mapping and site characterization work conducted by England & Associates (1998). The subsurface distribution and structural relationships of the geologic units are depicted on the cross-sections in Figure 1-6a and b. Figure 5-1 overlays the Site surface geology (from Figure 1-4) and the Exposure Areas along with the soil gas sampling locations. As shown on these figures, the Site is directly underlain by bedrock and unconsolidated sediments. Bedrock units include (listed from oldest to youngest) the Miocene Obispo Formation and the Pliocene Gragg member of the Pismo Formation. The Obispo Formation consists of fine- to coarse-grained, friable to hard, rhyolitic to dacitic tuff and lapilli tuff (i.e., pyroclastics) and outcrops primarily along the south and northwest Site margins. Along the eastern Site boundary, the Obispo pyroclastics have been intruded by diabase (i.e., a dark-colored [igneous] rock). The Gragg member of the Pismo Formation, which unconformably overlies the Obispo Formation, consists of a basal conglomerate, which grades upward into a poorly

[37]The advective flow rate for hotel bunglows was not "scaled to buiklding size" as recommended in Cal/EPA guidance, but the use of the larger default value is conservative.

Table 5-33. Johnson-Ettinger Vapor Intrusion Modeling – Building Parameters

Parameter (units)	Building Type		Source(s)
	Hotel Bungalow	Default Commercial	
Depth below grade to bottom of enclosed space floor (cm)	9	9	Cal/EPA (2005c)
Depth below grade to top of contamination (cm)	Chemical-specific	Chemical-specific	Maximum concentration depth
Average soil temperature (°C)[1]	17	17	Average 2007 soil temperature reported for SLO County
Layer A thickness (cm)[2]	19	19	Cal/EPA (2005c)
Layer A SCS soil type[2]	sand	sand	Cal/EPA (2005c)
Layer A soil dry bulk density (g/cm^3)	**1.66**	**1.66**	**Sand default**
Layer A soil total porosity, unitless	**0.375**	**0.375**	**Sand default**
Layer A soil water-filled porosity, (cm^3/cm^3)	**0.054**	**0.054**	**Sand default**
Layer B thickness (cm)	30	30	Cal/EPA (2005c)
Layer B soil type	Engineered Fill	Engineered Fill	Cal/EPA (2005c)
Layer B soil dry bulk density (g/cm^3)	1.8	1.8	Fill default
Layer B soil total porosity, unitless	0.3	0.3	Fill default
Layer B soil water-filled porosity, (cm^3/cm^3)	0.15	0.15	Fill default
Layer C thickness (cm)	Sample depth –	Sample depth –	Sample depth
Layer C soil type	Site-specific	Site-specific	Avocet (2008) and Padre (2012b)
Layer C soil dry bulk density (g/cm^3)	Site-specific	Site-specific	See Table 5-40
Layer C soil total porosity, unitless	Site-specific	Site-specific	See Table 5-40
Layer C soil water-filled porosity, (cm^3/cm^3)	Site-specific	Site-specific	See Table 5-40
Enclosed floor space length (cm)	609	1000	Site-specific; Cal/EPA (2005c)
Enclosed floor space width (cm)	609	1000	Site-specific; Cal/EPA (2005c)
Total area (square ft)	400	1,076	Site-specific; Cal/EPA (2005c)
Enclosed space height (cm)	304 (10 ft)	244 (8 ft)	Site-specific; Cal/EPA (2005c)
Crack-to-total area ratio (unitless)	0.005	0.005	Cal/EPA (2011a)
Indoor air exchange rate (1/hour)	0.5	1	Cal/EPA (2011a)
Average vapor flow rate into building (L/minute)	5	5	Cal/EPA (2011a)

[1]Data obtained from California Irrigation Management Information System (CIMIS) is a program in the Office of Water Use Efficiency (OWUE), California Department of Water Resources (DWR); on line at http://www.cimis.water.ca.gov

[2]Layer A consists of 9 cm slab underlain by 10 cm gravel, both modeled as sand (Cal/EPA 2005b).

Bold text indicates new soil parameters used to model 2012 soil gas data.

bedded, locally diatomaceous, fine-grained silty sandstone and siltstone. Much of the central part of the Avila facility is underlain directly or at shallow depth by bedrock of the Gragg Member of the Pismo Formation. Unconsolidated surficial soils, consisting of mixtures of gravel, sand, silt, and clay, fill the north-south and east-west drainages in the central part of the Site, mantle the terraces bordering the cliffs to the south, and occur in the northeast corner of the Site where the floodplain of San Luis Obispo Creek encroaches. These surficial deposits variously have been described as alluvium, colluvium, and terrace deposits, based upon interpretations of their depositional history; for purposes of this discussion – because they are similar lithologically, consisting predominately of silt, with lesser amounts of fine sand and clay (England & Associates 1998) – they are considered collectively as surficial soils.

Using Figure 5-1, each of the Exposure Areas can be assigned a "predominant" underlying geologic unit, for the purposes of identifying Site-specific soil parameters:

- Gragg member of the Pismo Formation Exposure Areas: C, Ia, Ib, J, K, and L
- Obispo Formation Exposure Areas: A, M, and O[38]
- Surficial Soil Exposure Areas: D, E, G and N

To account for the temporal variability in soil parameter data, samples were collected in both 2007 and 2012. In 2007, soil parameter data were collected from five locations (SV-14-05 and -15, SV-37-05 and -15, SV-39-05 and -15, SV-45-05, and SV-58-15). During the 2012 supplemental sampling investigation, soil parameter data were collected from five locations (SV-86-15, SV-71-5 and -15, SV-83-5 and -15, SV-77-5, and SV-81-5 and -15). As noted in Table 5-40 below, these sampling locations covered three stratigraphic units: Gragg member of the Pismo Formation, tuff belonging to the Obispo Formation and unconsolidated surficial soils.[39]

As reported by Avocet (2008b), with the exception of SV-45-05 and SV-77-5, the soil parameters identified in 2007 generally fall within the practical range of values recommended as input parameters for vapor intrusion modeling. With respect to soil-dependent properties, the model is most sensitive to soil moisture, with higher water-filled porosities resulting in lower indoor air concentrations (USEPA 2003). Increases in the soil

[38]Exposure Area M falls within both the Obispo formation and surficial soil; it is is categorized as the Obispo which corresponds with the soil parameter data collected within the area (i.e., soil gas location S-77-5 is located in the Obispo Formation).

[39]Although three samples were to be collected from the Obispo Formation in 2007, the hardness of the unit prevented collection of three relatively undisturbed samples (M. Rendina, Avocet, personnel communication).

Table 5-40. Site-specific Soil Parameters Used in Johnson-Ettinger Vapor Intrusion Modeling

ID	Year	Depth	Risk Zone	Sample Description	Equivalent USCS Soil Type[1]	Moisture Content (% wt)	Dry Bulk Density (g/cm^3)	Porosity (all cm^3/cm^3)		
								Total	Air Filled	Water Filled
Pismo										
SV-14-05	2007	5	Ia	Sandstone[2]	Silty sand	22.3	1.21	0.488	0.217	0.271
SV-14-15	2007	15	Ia	Sandstone[2]	Silty sand	16.8	1.24	0.5	0.292	0.208
SV-45-05	2007	5	C	Siltstone[2]	Sandy fat clay	47.3	1.02	0.574	0.091	0.483
					2007 Pismo Average and Median (SV-14)	**19.55**	**1.225**	**0.494**	**0.2545**	**0.2395**
					Pismo Standard Deviation	3.9	0.0212	0.0085	0.0530	0.0445
SV-86-15	2012	15	K		Sandy clay	**20.9**	**1.36**	**0.4740**	**0.1990**	**0.2840**
Surficial Soil										
SV-37-05	2007	5	F/Open	Clay	Sandy lean clay	20.2	1.44	0.429	0.138	0.291
SV-37-15	2007	15	F/Open	Sand	Clayey sand	16.4	1.47	0.421	0.18	0.241
SV-39-05	2007	5	E	Clayey Sand	Clayey sand	15.1	1.48	0.38	0.157	0.223
SV-58-15	2007	15	D	Sandy Clay	Sandy clay	23.5	1.49	0.419	0.069	0.35
					2007 Surficial Soil Average	**18.8**	**1.470**	**0.4123**	**0.1360**	**0.2763**
					2007 Surficial Soil Median	18.3	1.475	0.4200	0.1475	0.2660
					Standard Deviation	3.8	0.022	0.0219	0.0479	0.0570
SV-71-5	2012	5	N		Sand	25.2	0.95	0.586	0.347	0.239
SV-71-15	2012	15	N		Sand	36.2	0.93	0.592	0.254	0.338
					2012 Surficial Soil Average	**30.7**	**0.940**	**0.5890**	**0.3005**	**0.2885**
					2012 Surficial Soil Median	30.7	0.94	0.5890	0.3005	0.2885
					Standard Deviation	7.8	0.014	0.0042	0.0658	0.0700
Obispo Formation										
SV-39-15	2007	15	E	Sandstone[2]	Clayey sand	**14.3**	**1.41**	**0.405**	**0.204**	**0.202**
SV-83-5	2012	5	A		Loamy sand	7.9	1.35	0.412	0.305	0.107
SV-83-15	2012	15	A		Sand	13.1	1.22	0.458	0.297	0.16
SV-77-5	2012	5	M		Silty clay loam	49.8	1.01	0.593	0.089	0.504
SV-81-5	2012	5	O		Sand	51.8	0.78	0.683	0.279	0.403
SV-81-15	2012	15	O		Sand	48.1	0.99	0.606	0.127	0.479
					2012 Obispo Average	**34.1**	**1.070**	**0.5504**	**0.2194**	**0.3306**
					2012 Obispo Median	48.1	1.01	0.5930	0.279	0.4030
					Standard Deviation	21.7	0.221	0.1120	0.1030	0.1847
					2012 Zone A Obispo Average and Median	**10.5**	**1.285**	**0.4350**	**0.3010**	**0.1335**
					Standard Deviation	3.68	0.092	0.0325	0.0057	0.0375
					2012 Zone M/O Obispo Average	**49.9**	**0.927**	**0.6273**	**0.1650**	**0.4620**
					2012 Zone M/O Obispo Median	49.8	0.990	0.6060	0.1270	0.4790
					Standard Deviation	1.85	0.127	0.0486	0.1005	0.0526

(1) As characterized by the geomechanical laboratory.

(2) Samples from SV-14 and SV-45 were described as "highly weathered". Although the degree of weathering was not recorded for the SV-39-15 sample, the sample was described as having a proportion of the glass fragments replaced by zeolite, which indicates a high degree of weathering.

Bold text indicates values used in the J&E models, as reported in Attachment 5.

dry bulk density reduce the indoor air concentrations, while increases in total porosity result in higher indoor air concentrations. Not surprisingly, soil parameter data vary among the different geologic units from which the samples were collected, as well as between the two sampling events. For example, the low density (1.02 g/cm^3) and high moisture content of SV-45-05, typically discounted as outliers, indicate that the sample contained a greater proportion of diatomaceous material than the Pismo Formation samples collected from SV-14 (Avocet 2008b). However, to be conservative, this sample was excluded from the Site-specific 2007 Pismo Formation average because its use could result in estimated indoor air concentrations that are biased low.

Sample SV-39-05, at the time of collection, was described as "completely-weathered Obispo Formation" (Avocet 2008b). This borderline sample, which could be classified as either Obispo Formation or surficial soil, was included in the soil data set because its physical parameters are generally consistent with those reported for other soil samples. In addition, the application of the Obispo Formation tuffaceous sandstone physical parameter results to the Obispo Formation diabase is considered conservative since the intrusive diabase is very highly weathered and contains a high proportion of silt and clay. Geomechanical tests performed on three samples of weathered diabase as part of a geotechnical study by URS (URS 2009) classified this material as "high plastic silt (MH)". Although the Pismo and Obispo Formations are described as "bedrock" and samples from these formations are described using bedrock terminology (i.e., sandstone, siltstone, etc.), the formations behave, at least at shallow depths, more like a continuous (i.e., homogenous) porous medium than a fractured medium. The reasons for this involve the high degree of weathering that characterizes the bedrock units at shallow depth. The amount of weathering decreases with increasing depth below the ground surface, but generally rocks described as highly weathered extend to depths of 25 feet (England & Associates 1998).

The assumption that these bedrock units can be modeled as continuous porous media is supported by the *in situ* permeability tests, which produced similar permeability results for the rock "system" as were determined in the laboratory for discrete samples. Air permeability was evaluated using both laboratory estimates (twelve samples) and *in situ* tests (eight samples) for the 2007 sampling events. As reported in Table 5-41, the laboratory effective vertical air permeabilities ranged from 1.7×10^{-11} to 7.6×10^{-9} cm^2 (Avocet 2008b). *In situ* air permeability field testing resulted in calculated permeability values ranging from 1.60×10^{-10} to 2.04×10^{-8} cm^2, with average and mean values of 9.99×10^{-9} to 7.98×10^{-9} cm^2, respectively. *In situ* permeability tests conducted in areas of Pismo and

Obispo Formation "bedrock" produced air permeability values similar to those reported for the areas underlain by surficial soil. The similarity of the air permeability values for the three geologic units, as well as the agreement between laboratory and *in situ* measurements of air permeability for the individual units, support the assumption the bedrock units may be effectively modeled as continuous porous media.

Table 5-41. Site-Specific Air Permeability Tests (Avocet 2008b)

ID	Depth	Stratigraphic Unit	USCS Soil Type	Laboratory Effective Permeability to Air (cm^2)	*In Situ* Air Perm (cm^2)
SV-14-05	5	Pismo Fm.	Sandstone	3.84E-09	9.88E-09
SV-14-15	15	Pismo Fm.	Sandstone	5.56E-09	5.52E-09
SV-19-15	15	Pismo Fm.	Sandstone	NA	2.38E-10
SV-23-05	5	Pismo Fm.	Sandstone	NA	1.57E-08
SV-23-15	15	Pismo Fm.	Sandstone	NA	6.08E-09
SV-45-05	5	Pismo Fm.	Sandstone	1.70E-11	NA
SV-19-05	5	Surficial Soil	Silty sand	NA	3.02E-09
SV-35-05	5	Surficial Soil	Sand	NA	1.78E-08
SV-37-05	5	Surficial Soil	Clay	1.56E-10	NA
SV-37-15	15	Surficial Soil	Sand	3.54E-09	NA
SV-39-05	5	Surficial Soil	Clayey Sand	1.45E-10	NA
SV-58A-15	15	Surficial Soil	Sandy Clay	2.32E-11	1.60E-10
SV-55-05	6	Surficial Soil	Silty Sand	NA	2.04E-08
SV-58A-05	5	Surficial Soil	Sand	NA	1.59E-08
SV-35-15	15	Obispo Fm.	Tuff	NA	1.95E-08
SV-39-15	15	Obispo Fm.	Tuff	7.62E-09	NA
SV-55-15	15	Obispo Fm.	Tuff	NA	6.01E-09

NA = Not Analyzed

The Supplemental HHRA noted that the 2007 geotechnical data (Avocet 2008b) generally are consistent with available historical physical property measurements at the Site (attached Table 5-42 for reference), although the older soil moisture levels were higher. Soil moisture content varies with the rainfall groundwater table level at the time of sampling, as demonstrated by the additional soil moisture data collected for use in the reporting of chemical dry unit weights (Avocet 2004a) and in the 2012 soil gas sampling event (Padre 2012b). Given the sensitivity of the J&E model to soil moisture parameters, the use of the soil moisture data collected during the sampling event (Table 5-40) is appropriate.

Following Cal/EPA guidance (2011a) for future buildings, the maximum detected concentration of soil gas (as opposed to statistical approximations) was used to estimate indoor air concentrations. In order to ensure that potential health risks are evaluated based on maximum indoor air concentrations, for locations where the maximum soil gas concentration occurred at 15 feet bgs, the maximum 5-foot result also was evaluated (see Tables 5-43 through 5-55). The individual model results for soil gas COPCs in each of the exposure areas where building construction is anticipated are included in Attachment 16.[40] Default chemical properties necessary for modeling were not available for some soil gas COPCs, therefore these COPCs were evaluated using chemical properties from other databases, as available. For COPCs for which no chemical property data were identified, VOCs were evaluated using surrogates based on structure activity relationships. Specifically, p-xylene was identified as a surrogate for 4-ethyltoluene, hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane, methyl ethyl ketone (MEK) as a surrogate for 2-hexanone, and MTBE as a surrogate for tert-butyl alcohol, as noted in Tables 5-43 through 5-55. The use of these surrogates is conservative, based on structure activity relationships, and may result in an overestimation of risk. The chemical properties for these and all other chemicals evaluated using the J&E model are included in Attachment 15. The final indoor air EPCs for all buildings evaluated are reported in Tables 5-4, 5-6, 5-8, 5-10, 5-12, 5-14, 5-18, 5-20, 5-22, 5-24, 5-26 and 5-28 as appropriate.

5.1.5 Site-grown Produce Exposure Point Concentrations

As described in Section 4.1.4, COPCs may accumulate in aboveground produce via wet and dry deposition onto plant surfaces, vapor transfer from air to plant foliage, and root-uptake from soil. Only Native Gardens, designated for development as an agricultural area was assessed for potential impacts of contaminated soil on produce (see Figure 1-2). The approach taken to estimate produce EPCs is identical to that used in the 2005 Baseline HHRA. It is assumed that produce roots could be exposed to COPCs in soil up to five feet bgs. Due to the complexity and uncertainty associated with the first two transfer pathways (USEPA 2005), this risk assessment estimates COPC concentrations in aboveground produce based only on the direct uptake of COPCs from soil through plant roots. Given this simplification, COPC concentrations for exposed and protected aboveground produce are assumed to be the same and are calculated as follows:

$$Pr_{ag} = C_S * Br_{ag} \qquad (5\text{-}10)$$

[40]Attachment 16 includes individual model runs for 2007 soil gas data in each exposure area that was not impacted by the change in development areas as proposed in the current Vision Plan. J&E models completed since the Supplemental HHRA Version 3.0 were run using an Excel macro that runs batches for each exposure area – the model inputs and outputs for each "batch" are also provided in Attachment 16.

where

Pr_{ag} = exposure point concentration of COPC in aboveground produce (mg COPC/kg DW produce)

C_S = exposure point concentration of COPC in soil, 0-5 feet bgs (mg COPC/kg soil)

Br_{ag} = chemical-specific plant-soil bioconcentration factor for aboveground produce (unitless, ([mg COPC/kg DW plant]/mg COPC/kg soil])

A similar calculation was used to estimate COPC concentrations in belowground produce:

$$Pr_{bg} = C_S * Br_{bg} * VG \qquad (5\text{-}11)$$

where

Pr_{bg} = exposure point concentration of COPC in belowground produce (mg COPC/kg DW produce)

C_S = exposure point concentration of COPC in soil, 0-5 feet bgs (mg COPC/kg soil)

Br_{bg} = chemical-specific plant-soil bioconcentration factor for belowground produce (unitless, ([mg COPC/kg DW plant]/mg COPC/kg soil])

VG = empirical correction factor for belowground produce

Equations 5-10 and 5-11 are from USEPA (2005). This guidance also identifies the chemical-specific bioconcentration factors for both above- and belowground produce, which are summarized in Table 5-38. The belowground produce correction factor (VG) reduces the produce concentration of lipophilic COPCs based on the assumption that protective outer skins and the shape of bulky produce limit the transfer of these compounds into root vegetables. USEPA guidance recommends that a VG value of 0.01 be used for COPCs with a log K_{ow} (octanol-water partition coefficient) greater than 4 (all PAHs except acenaphthene and naphthalene), and a value of 1.0 be used for COPCs with a log K_{ow} less than 4 (acenaphthene, naphthalene, and methylnaphthalenes). The final produce EPCs are reported in Table 5-32.

5.2 EXPOSURE QUANTIFICATION

This section provides standard equations for estimating human intake associated with the selected exposure pathways for the Site COPCs. The equations, exposure parameters, and parameter values were taken from Cal/EPA's *Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities* (Cal/EPA 1996); USEPA's *Exposure Factors Handbook* (USEPA 2011); USEPA's *Risk Assessment Guidance for Superfund (RAGS)* (USEPA 1989, 2004a, 2009); USEPA's *Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities* (2005); and USEPA's *Supplemental Guidance for Developing Soil Screening Levels at Superfund Sites* (USEPA 2002a). The receptor-specific exposure parameters are presented in Table 5-57. Tables 5-

58 through 5-64 present the intake equations and associated exposure parameters, along with the resulting intake factors for each exposure route. These intake equations were used to evaluate both cancer risk and noncancer hazard. Cancer risk was age-weighted, assuming that the lifetime exposure of thirty years results from six years of exposure as a child and 24 years of exposure as an adult. The potency adjustments for early-life exposure to carcinogens were discussed in Section 3.2.1.

5.2.1 Receptor-Specific Exposure Parameters

Although the receptor-specific exposure parameters generally follow those used in the 2005 Baseline HHRA, they have been updated to reflect more recent USEPA guidance (USEPA 2011a). Exposure parameters are summarized in Table 5-56, and described below.

5.2.1.1 Short-term Residents

To provide a conservative estimate of their potential exposure, short-term residents are assumed to visit the Site for four weeks every year (28 days), over a period of 30 years. While four weeks is a long vacation period, the annual frequency of stay is unknown, and the uncertainties associated with this parameter are discussed in Section 7.4.2. It is assumed that the overnight visitors are exposed to soil via inhalation of particulates in outdoor air, dermal contact, and ingestion, as well as to indoor air vapors. Ingestion parameters are consistent with guidance (USEPA 2002a), except for the fraction of contaminated soil ingested, for which a site-specific value of 25% (0.25) is used. This adjustment is based on best professional judgment (in consultation with the SLO County EHS), and based on the unique nature of short-term residential use at this Property. Specifically, short-term residents are likely to spend the majority of their time at nearby beach and parks; uncertainties associated with the site-specific fraction ingested parameter are discussed in Section 7.4.2. Inhalation dosimetry, body weights, and skin surface areas are consistent with recent guidance documents (USEPA 2009 and 2011a). Because short-term residents are likely to eat at restaurants on the Site, exposure from Site-grown produce, as calculated for restaurant visitors (Section 5.2.1.7) is included in the health risk estimates for these receptors.

5.2.1.2 Indoor Commercial Employees

Exposure parameters for this receptor based on USEPA guidance (2002a, 2009). It is assumed that indoor commercial employees are exposed to soil via ingestion of indoor dust. The indoor employee is assumed to be inside for eight hours per day, 250 days per year, over a period of 25 years. The soil ingestion rate follows USEPA guidance (USEPA

2002a), and the inhalation exposure duration of 8 hours is consistent with USEPA guidance (2009).

5.2.1.3 Outdoor Commercial Employees

Generally, exposure parameters for the outdoor commercial employee followed USEPA's soil screening guidance (2002a). It is assumed that the outdoor employee is exposed to soil via inhalation of particulates, dermal contact, and ingestion. These workers are outside for eight hours per day, 225 days per year, over a period of 25 years. According to USEPA guidance (USEPA 2002a and 2004a), all outdoor employees are assumed to ingest 100 mg of soil/day, and the head, forearms, and hands are exposed (which corresponds to a dermal exposure area of 3,470 cm^2; USPEA 2011a), while the inhalation exposure duration of 8 hours is consistent with USEPA guidance (2009).

5.2.1.4 Intrusive Utility Workers

As discussed in Section 1.1, evaluation of potential risks to remediation/construction workers is beyond the scope of this document.[41] While the exposure assumptions for the intrusive utility worker generally follow those identified in guidance for construction workers (e.g., USEPA 2002a), this worker is intended to represent a person involved in non-remediation activities that would occur following development of the Site, such as digging trenches for maintenance purposes. While utility workers at the Site are likely to be subject to some form of hazard communication, risk to an intrusive utility worker receptor is evaluated as a conservative measure. The intrusive worker is assumed to be exposed to soil via ingestion, dermal contact, and inhalation of particulates, and to shallow groundwater via incidental ingestion and dermal contact, continuously for a specific period of time. The exposure time and duration are assumed to be eight hours per day and ninety days, respectively. Given the potential to engage in trenching or other digging activities, workers are assumed to ingest large amounts of soil (330 mg/day; USEPA 2002a). As of the outdoor worker, the exposed skin surface are includes the head, forearms, and hands. Dermal exposure to shallow groundwater assumes that only the face, forearms, hands, lower legs, and feet may get wet (exposed skin surface area of 6,490 cm^2), while the ingestion rate of 12.5 ml/day is consistent with the 2005 Baseline HHRA.

[41]It is anticipated that workers engaged in any Site-related remediation/construction efforts will be covered by OSHA, and that these activities will include a significant hazard communication component as well as air monitoring and dust suppression

5.2.1.5 Recreational Users

Adult and child recreational users are assumed to inhale dust from the soil, ingest the soil, and have dermal contact with the soil. Recreational users are assumed to be exposed over a period of 30 years (six years as a child and 24 as an adult). Ingestion parameters are those recommended for residential use (USEPA 2002a). With respect to soil inhalation and ingestion, these users are assumed to be at the Site four hours per day, three days per week, for an exposure frequency of 156 days per year. Cal/EPA (1994) recommends dermal soil contact exposure frequencies of seven events per week for a child and two events per week for an adult, suggesting that an adult's dermal exposure to soil is 30% of a child's exposure. Therefore, children are assumed to have dermal contact with soil during each visit (156 days per year) while adults are assumed to have dermal contact with soil for only 45 days per year. Based on USEPA dermal guidance (2004a) skin exposed to soil includes the face, forearms, hands, lower legs, and feet (children only), which corresponds to surface areas of 6,030 cm^2 for adults and 2,410 cm^2 for children (USEPA 2011a).

5.2.1.6 Site-grown Produce Consumption

Produce consumption exposure factors are similar to those used in the 2005 Baseline HHRA, but have been adjusted from residential estimates to estimates for occasional restaurant visitors. Ingestion rates for aboveground produce include both exposed and protected (USEPA 2005). Short-term residents, if they ate all their meal at the Site, may have the greatest potential for exposure. The meals served to these visitors are assumed to include 25% site-grown produce. The short-term resident exposure duration of 28 days is used to evaluate potential health risks from site-grown produce. As indicated in Section 5.2.1.2, short-term residents at the Site are assumed to have the same exposure to Site-grown produce as restaurant visitors. While other Site visitors and workers may dine in Site restaurants, the frequency with which they may do so is unknown, and therefore this exposure pathway is not quantitatively evaluated in this risk assessment for indoor or outdoor employees, or recreational users. The uncertainties associated with the exclusion of this pathway for some receptors are discussed in Section 7.4.1.2.

5.2.1.7 Offsite Residents

The closest offsite residents live in Avila Beach adjacent to the northwest corner of the Site. The inhalation of windblown dust from the Site is the only complete exposure pathway identified for offsite residents. The offsite resident is assumed to live immediately adjacent to the Site, to have children, and to be exposed continuously for a period of 30 years. Consistent with the 2005 Baseline HHRA, adult and child residents were assumed to live

next to the Site for 350 days per year, and to be exposed to outdoor air 16 hours per day. Inhalation dosimetry and body weights are consistent with recent guidance documents (USEPA 2009 and 2011a).

5.2.2 Air Exposure – Inhalation of Particulates or Indoor Air Vapors

Equations 6 (carcinogens) and 8 (noncarcinogens) from the USEPA's *Risk Assessment Guidance for Superfund RAGS F* (USEPA 2009a) were used to quantify exposure concentrations for each receptor potentially exposed to contaminants via inhalation of outdoor or indoor air:

$$EC_a = (C_a)(ET)(EF)(ED) / (AT) \qquad (5\text{-}12)$$

where

EC_a = exposure concentration of a COPC in air (mg/m^3 or $\mu g/m^3$)
C_a = concentration of COPC in air, particulate (mg/m^3) or vapor ($\mu g/m^3$)
ET = exposure time (hours/day)
EF = exposure frequency (days/year)
ED = exposure duration (year)
AT = averaging time (hours); 70y x 365d/y x 24 h/d (carcinogens) and ED x 365d/y x 24 h/d (noncarcinogens),

The COPC concentration in outdoor air was calculated by dividing the representative soil concentration by the PEF or VF, as described above. The COPC concentration in indoor air was calculated using soil gas concentrations and the J&E model, as described in Section 5.1.4.2.

5.2.3 Soil Exposure - Dermal Contact

Equation 6-15 from the RAGS (USEPA 1989) was used to quantify intake from the dermal contact pathway:

$$I_{sd} = (C_s)(SA)(CF)(AF)(ABS)(EF)(ED) / (BW)(AT) \qquad (5\text{-}13)$$

where

I_{sd} = intake from dermal contact with soil for a COPC (mg/kg-day)
C_s = concentration of a COPC in soil (mg/kg)
SA = skin surface area in contact with soils (cm^2/day)
CF = conversion factor, 10^{-6} kg/mg
AF = soil-to-skin adherence factor (mg/cm^2)
ABS = COPC-specific dermal absorption factor (unitless, see Table 5-30)
EF = exposure frequency (days/year)
ED = exposure duration (year)
BW = body weight (kg)

AT = averaging time (days), ED x 365d/y (noncarcinogens), 70y x 365d/y (carcinogens)

Table 5-57 presents the intake factors for exposure via dermal contact with soil for carcinogens and noncarcinogens.

5.2.4 Soil Exposure - Incidental Ingestion

Equation 6-14 from the RAGS (USEPA 1989) was used to quantify intake from the ingestion pathway:

$$I_{si} = (C_s)(IngR)(CF)(FI)(EF)(ED)(BF) / (BW)(AT) \quad (5\text{-}14)$$

where

I_{si} = intake from incidental ingestion of soil for a COPC (mg/kg-day)
C_s = concentration of COPC in soil (mg/kg)
IngR = ingestion rate (mg/day)
CF = conversion factor, 10^{-6} kg/mg
FI = fraction ingested from COPC source (unitless)
EF = exposure frequency (days/year)
ED = exposure duration (years)
BF = COPC-specific bioavailability factor (unitless, see Table 5-6)
BW = body weight (kg)
AT = averaging time (days), ED x 365d/y (noncarcinogens), 70y x 365d/y (carcinogens)

Table 5-58 presents the intake factors for exposure via soil ingestion for carcinogens and noncarcinogens.

5.2.5 Groundwater Exposure - Dermal Contact

The following equation was used to quantify intake from the dermal contact with groundwater pathway:

$$I_{gw} = (C_{gw})(SA)(CF)(PC)(ET)(EF)(ED) / (BW)(AT) \quad (5\text{-}15)$$

where

I_{gw} = intake from dermal contact with groundwater for a COPC (L/kg-d)
C_{gw} = concentration of a COPC in groundwater (milligrams per liter, or mg/l)
SA = skin surface area in contact with groundwater (cm^2)
CF = conversion factor 10^{-3} (l/cm^3)
PC = dermal permeability constant (cm/hr) (see Table 5-30 and Attachment 17)
ET = exposure time (hours/day)
EF = exposure frequency (days/year)
ED = exposure duration (years)
BW = body weight (kg)

AT = averaging time (d), ED x 365d/y (noncarcinogens), 70y x 365d/y (carcinogens)

Table 5-59 presents the intake factors for dermal exposure to groundwater for noncarcinogens and carcinogens.

5.2.6 Groundwater Exposure - Incidental Ingestion

The following equation was used to quantify intake from the ingestion of groundwater pathway:

$$I_{gw} = (C_{gw})(IngR)(EF)(ED) / (BW)(AT) \quad (5\text{-}16)$$

where

I_{gw} = intake from incidental ingestion of surface water for a COPC (L/kg-d)
C_{gw} = concentration of COPC in groundwater (mg/l)
IngR = ingestion rate (L/day)
EF = exposure frequency (days/year)
ED = exposure duration (years)
BW = body weight (kg)
AT = averaging time (d), ED x 365d/y (noncarcinogens), 70y x 365d/y (carcinogens)

Table 5-60 presents the intake factors for exposure to groundwater via incidental ingestion for noncarcinogens and carcinogens.

5.2.7 Exposure to Site-grown Produce

The USEPA dose equation for the ingestion of homegrown produce is as follows (adapted from USEPA 1998):

$$Ip_i = [(IngR_{ag})(Pr_{ag})+(IngR_{bg})(Pr_{bg})](CF)(HG)(EF)(ED) / (BW)(AT) \quad (5\text{-}17)$$

where:

Ip_i = intake from ingestion of homegrown produce for a COPC (mg/kg-day)
$IngR_{ag}$= ingestion rate of above-ground produce (kg/day)
Pr_{ag} = chemical concentration in above-ground produce (mg/kg)
$IngR_{bg}$= ingestion rate of below-ground produce (kg/day)
Pr_{bg} = chemical concentration in below-ground produce (mg/kg)
CF = conversion factor, 10^{-6} kg/mg
HG = homegrown produce dietary fraction (unitless)
EF = exposure frequency (days/year)
ED = exposure duration (years)
BW = body weight (kg)
AT = averaging time (days), ED x 365d/y (noncarcinogens), 70y x 365d/y (carcinogens)

The COPC concentration in produce was calculated using soil concentrations from 0-5 feet bgs, as described in Section 5.1.5. Table 5-61 presents the intake factors for exposure via produce ingestion for carcinogens and noncarcinogens, respectively.

6.0 RISK CHARACTERIZATION

Potential health risks for future Site users, identified based on the Vision Plan, are estimated. The USEPA and Cal/EPA risk characterization methodologies are presented and followed using site-specific and conservative, default information. Carcinogenic risks and noncarcinogenic hazards are presented for each receptor except where noted otherwise.

Risk characterization, the final step in the risk quantification process, combines data from the dose-response assessment (Section 3), the conceptual exposure model (Section 4), and exposure assessment (Section 5) to estimate the potential carcinogenic and noncarcinogenic effects of COPCs over the applicable duration of exposure. The USEPA (1989) states that for carcinogens "risks are estimated as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to the potential carcinogen." The risk from potential carcinogenic effects resulting from exposure to site-related COPCs is presented as the ILCR. The ILCR is an upper-bound estimate of the incremental cancer probability (i.e., the incremental probability above that of an individual getting cancer for reasons other than the chemical exposure) for individuals who may be exposed to site-related, potentially carcinogenic COPCs under the exposure scenarios previously described. The hazard associated with potential noncarcinogenic health effects is presented as the HI, which is the ratio of the site-related dose of a chemical to the maximum acceptable dose.

Section 6.1 describes the methodology used to characterize potential carcinogenic and noncarcinogenic risks. Section 6.2 summarizes the risks calculated for the Site.

6.1 QUANTITATIVE RISK CHARACTERIZATION METHODOLOGY

As discussed above, health risk assessments use two different values to evaluate potential health impacts: the ILCR and the HI. The ILCR is compared to a range of acceptable probabilities to determine whether the potential risk poses an unacceptable cancer health risk. The USEPA currently uses an ILCR of 1 in 1,000,000 ($1x10^{-6}$) to 1 in 10,000 ($1x10^{-4}$) as the range of acceptable risk (USEPA 1990a, 1991). The risk that is acceptable is very much dependent on site-specific characteristics that include: the number of people potentially exposed, the likelihood of exposure, the chemicals driving the risk, the uncertainties driving risk, the future use(s) of the site, public concerns, and the decisions of risk managers. The HI is compared to a threshold level of 1.0 (Cal/EPA 2005b). Some COPCs

may pose both a noncarcinogenic hazard and a carcinogenic risk to receptors; risks from these COPCs were characterized for both types of health effects.

6.1.1 Carcinogenic Effects

At low doses, the risk of developing cancer (ILCR) is calculated as follows (USEPA 1989):

$$Risk = (CDI_i)(CSF_i) \quad (6\text{-}1)$$

where

CDI_i = chronic lifetime average daily intake for $COPC_i$ (mg/kg-day)
CSF_i = cancer slope factor for $COPC_i$ (mg/kg-day)$^{-1}$

For inhalation exposure, the excess risk of cancer is estimated with the following equation (USEPA 2009a):

$$Risk = (EC_i)(IUR_i) \quad (6\text{-}2)$$

where

EC_i = chronic time-weighted exposure concentration for $COPC_i$ in air (µg/m^3)
IUR_i = inhalation unit risk for $COPC_i$ (µg/m^3)$^{-1}$

Chronic daily intake (CDI) values and ECs were estimated per Section 5, and CSFs and IURs were presented in Section 3. If a receptor may be exposed to several carcinogens via one pathway, the following equation was used to sum cancer risks:

$$Risk_t = Risk\ (COPC_1) + Risk\ (COPC_2) + \ldots Risk\ (COPC_n) \quad (6\text{-}3)$$

where

$Risk_t$ = total risk of cancer incidence for a given pathway
Risk ($COPC_n$) = individual carcinogenic COPC risk

Similarly, if a receptor may be exposed via multiple pathways, the total ILCR was calculated by summing the pathway-specific risks (USEPA 1986). The basis for the carcinogenic slope factor used in cancer risk calculations is either lifetime exposure, or a significant portion of a lifetime.

6.1.2 Noncarcinogenic Effects

The potential for health effects resulting from exposure to a noncarcinogenic COPC is evaluated by comparing a receptor's estimated upper-bound exposure or intake level to the reference dose or reference concentration of that COPC (USEPA 1989, 2009a). As noted in Section 3, the ratio of intake to the RfD or RfC is the hazard quotient. If the HQ is greater than 1.0, there may be concern for potential noncarcinogenic health effects. The level of

concern increases as the HQ increases above unity, although the two are not linearly related (USEPA 1989). The HQ is calculated as follows:

$$HQ_i = CDI_i/RfD_i \quad (6\text{-}4)$$

where

HQ_i =hazard quotient for $COPC_i$ (unitless)
CDI_i =chronic average daily intake of $COPC_i$ (mg/kg-d)
RfD_i =reference dose of $COPC_i$ (mg/kg-d)

For inhalation exposure, the HQ compares a receptor's exposure concentration of a given COPC to the RfC of the COPC (USEPA 2009a) and is defined as:

$$HQ_i = EC_i/RfC_i \quad (6\text{-}5)$$

where

HQ_i =hazard quotient for $COPC_i$ (unitless)
EC_i =chronic time-weighted exposure concentration of $COPC_i$ (mg/m^3)
RfC_i =reference concentration of $COPC_i$ (mg/m^3)

When using the above equations to estimate potential noncarcinogenic hazard, both the exposure and toxicity criteria refer to exposures of similar duration (e.g., chronic, subchronic, or fewer than two weeks). In this risk assessment, long-term activities and all of the exposure scenarios were assessed using chronic values.

When receptors are exposed to more than one COPC, it is useful to develop a total HI. The HI is the sum of HQs across COPCs and pathways (USEPA 1986). HIs were calculated by assuming dose additivity for all COPCs, regardless of the type of toxic effect (e.g., the hazard from chemicals causing effects on the kidney is added to the hazard from chemicals causing effects on the liver; USEPA 1986, 1989). This assumption is conservative and is addressed further in Section 7. In the case of simultaneous exposure of a receptor to several COPCs, the HI was calculated as the sum of the HQs by:

$$HI_t = HQ(COPC_1) + HQ(COPC_2) + \ldots HQ(COPC_n) \quad (6\text{-}6)$$

where

HI_t =total hazard index for a given pathway
$HQ(COPC_n)$ = individual noncarcinogenic COPC hazard

Pathway HIs were then summed to calculate the total HI for each receptor.

6.1.3 Health Risks from Lead

The noncarcinogenic health effects of lead are assessed separately from other COPCs. As discussed in Section 3.1, the fHHRA evaluated lead based on exposure area- and receptor-specific lead EPC comparisons to the revised lead CHHSLs for lead in soil of 80 mg/kg for residential use and 320 mg/kg for commercial use. Although no traditional residential use of the Site is proposed in the Vision Plan, the residential CHHSL is used as a point of reference to evaluate recreational receptors. Further, as discussed in Section 3.1, the commercial lead CHHSL is protective of the short-term resident child (see Attachment 12). In addition, to address regulatory standards developed under the Childhood Lead Prevention Program, 0-2 ft bgs lead levels in areas where children may be present (short-term residents or recreational use; Exposure Areas C, D, E, Ia, Ib, J, K, L, M, N, O, Open Space, and Site-wide no development) are compared to the 1,000 mg/kg benchmark.

6.1.4 Risks from Methane

Methane has been detected in soil gas at the Site, but was not identified as a COPC in this risk assessment because methane is practically inert and has no demonstrated physiological or toxicological effects. As discussed in Section 3.1.2, the risks from methane are best evaluated using the lower explosive limit as an action level. In each exposure area where methane was detected in soil gas, the exposure was evaluated by comparing the maximum concentration detected at 5 or 15 feet bgs to the LEL of 5%. It should be reiterated that the effects associated with methane are relevant only when it can accumulate, namely inside buildings

6.2 HEALTH RISK CHARACTERIZATION FOR THE SITE

Table 6-1 summarizes the ILCRs and HIs for each receptor evaluated under the 16 exposure areas identified for the Site based on the Vision Plan, as well as the Site-wide no development scenario. Table 6-1 also identifies the derivation of the soil EPC (max or 95% UCL) and the dominant contributors to the cancer risks and noncancer HIs in each exposure area. Table 6-2 presents the comparisons of lead EPCs to residential or commercial lead CHHSL, as appropriate. Table 6-3 summarizes exposure area maximum methane concentrations (%) detected in soil gas collected from 5 or 15 ft bgs.

Table 6-1. Summary of Potential Cancer Risks and Noncancer Hazards

Receptor	Soil EPC Basis (Depth)*	ILCR**	HI	COPC Risk Drivers
Exposure Area A				
Default Bldg. Short-term Res Adult	Max - all COPCs (all within 0-2 ft bgs)	2E-07	0.003	• Cancer risks: short-term residents by PAHs in soil (30%) and site-grown produce (18%), and 1,3-butadiene in indoor air (18%); indoor employees by 1,3-butadiene (38%) and benzene (24%) in indoor air; outdoor employees by PAHs in soil (75%); utility worker by inhalation of chromium in soil (70%) • HIs: short-term residents by cadmium in site-grown produce (45-59%) and vanadium in soil (15-33%); indoor employees by vanadium in soil (46%) and trimethylbenzenes in indoor air (24%); outdoor and utility workers by vanadium in soil (77-79%)
Default Bldg. Short-term Res Child		NA	0.008	
Default Bldg. Indoor Employee		8E-08	0.002	
Outdoor Employee		1E-07	0.008	
Intrusive Utility Worker	Max (0-10)	2E-08	0.007	
Exposure Area C				
Bungalow Short-term Resident Adult	Max – all COPCs (0-2 or 0-10; primarily 0-2)	2E-06	0.008	• Cancer risks: indoor receptors by chloroform in indoor air (57-67%); outdoor employees by PAHs in soil (55%); utility workers by inhalation of chromium in soil (69%) • HIs: adult receptors spending time indoors by trimethylbenzenes in indoor air (19-34%), ingestion of and dermal contact with TPH (10-37%) in soil, and for short-term residents cadmium in site-grown produce (20-28%); child short-term residents by TPH (25-27%), and vanadium (25-27%) in soil; outdoor workers by TPH (41-46%) and vanadium (32-37%) in soil
Bungalow Short-term Resident Child		NA	0.02	
Bungalow Indoor Employee		1E-06	0.02	
Default Bldg. Short-term Res Adult		7E-07	0.006	
Default Bldg. Short-term Res Child		NA	0.02	
Default Bldg. Indoor Employee		6E-07	0.01	
Outdoor Employee		1E-07	0.04	
Intrusive Utility Worker	Max (0-10)	5E-08	0.03	
Exposure Area D				
Bungalow Short-term Resident Adult	95% UCL – cadmium and TPH diesel and motor oil Max – all other COPCs (0-2 or 0-10)	9E-07	0.02	• Cancer risk: indoor receptors by ethylbenzene (37-55%) and benzene (22-34%) in indoor air; outdoor employee by chromium (33%), and PAHs (30%) in soil; utility workers by vanadium in soil (51%) • HIs: indoor receptors by antimony (24-52%) and TPH (15-26%) in soil and trimethylbenzenes (2-24%) in indoor air; outdoor by antimony (33-44%), TPH (26-47%), and vanadium (14-19%) in soil
Bungalow Short-term Resident Child		NA	0.1	
Bungalow Indoor Employee		7E-07	0.1	
Default Bldg. Short-term Res Adult		5E-07	0.02	
Default Bldg. Short-term Res Child		NA	0.1	
Default Bldg. Indoor Employee		3E-07	0.1	
Outdoor Employee		2E-07	0.3	
Intrusive Utility Worker	Max (0-10)	9E-08	0.4	

Table 6-1. Summary of Potential Cancer Risks and Noncancer Hazards (cont.)

Receptor	Soil EPC Basis (Depth)*	ILCR**	HI	COPC Risk Drivers
Exposure Area E				
Bungalow Short-term Resident Adult	95% UCL – most metals and VOCs, all TPH carbon ranges Max – cadmium, most PAHs and 2,4-dinitrotoluene (0-2 or 0-10)	2E-04	0.2	• Cancer risk: indoor receptors by benzene in indoor air (95-96%); outdoor receptors by soil-associated benzene (56-82%) • HIs: indoor receptors by benzene in indoor air (37-63%), and for short-term resident children TPH in soil (20-32%); outdoor employees by TPH in soil (72%); utility workers by TPH (36%) and trimethylbenzenes (32%) in soil
Bungalow Short-term Resident Child		NA	0.2	
Bungalow Indoor Employee		2E-04	0.5	
Default Bldg. Short-term Res Adult		9E-05	0.08	
Default Bldg. Short-term Res Child		NA	0.1	
Default Bldg. Indoor Employee		8E-05	0.2	
Outdoor Employee		1E-06	0.1	
Intrusive Utility Worker	Max (0-10)	1E-06	0.8	
Exposure Area G				
Default Bldg. Indoor Employee	Max (0-2 or 0-10)	2E-07	0.02	• Cancer risks: indoor employee by chloroform (46%) and benzene and PCE (both 22%) in indoor air; outdoor employees by PAHs (40%) and chromium (30%) in soil; utility workers by chromium in soil (56%) • HIs: all receptors by TPH (45-60%) and vanadium (25-41%) in soil
Outdoor Employee		2E-07	0.09	
Intrusive Utility Worker	Max (0-10)	6E-08	0.08	
Exposure Area Ia				
Bungalow Short-term Resident Adult	95% UCL – TPH diesel and motor oil Max - all other COPCs (0-2 or 0-10)	6E-07	0.004	• Cancer risk: short-term residents by chloroform in indoor air (32-46%) and benzene in soil (19-29%); indoor employees by chloroform in indoor air (69-71%); outdoor employees by benzene in soil (58%); utility workers by benzene (44%) and chromium (39%) in soil • HIs: short-term residents by cadmium in produce (25-44%) and TPH (17-37%) and vanadium (14-26%) in soil; indoor employees and outdoor workers by TPH in soil (54-73%)
Bungalow Short-term Resident Child		NA	0.01	
Bungalow Indoor Employee		4E-07	0.008	
Default Bldg. Short-term Res Adult		4E-07	0.004	
Default Bldg. Short-term Res Child		NA	0.01	
Default Bldg. Indoor Employee		2E-07	0.007	
Outdoor Employee		3E-07	0.02	
Intrusive Utility Worker	Max (0-10)	5E-08	0.04	
Exposure Area Ib				
Bungalow Short-term Resident Adult	95% UCL – BEX, benzo(g,h,i)-perylene, and all TPH carbon ranges Max – all other COPCs (0-2 or 0-10)	2E-04	0.2	• Cancer risks: indoor receptors by chloroform in indoor air (75%); outdoor employees by naphthalene (48%) and other PAHs (26%) in soil; utility workers by naphthalene (36%) and benzene (35%) in soil • HIs: indoor receptors by chloroform in indoor air (40-64%) and child short-term residents also by TPH in soil (15-25%); outdoor workers by TPH in soil (69-86%)
Bungalow Short-term Resident Child		NA	0.2	
Bungalow Indoor Employee		2E-04	0.5	
Default Bldg. Short-term Res Adult		1E-04	0.08	
Default Bldg. Short-term Res Child		NA	0.1	
Default Bldg. Indoor Employee		1E-04	0.2	
Outdoor Employee		7E-07	0.1	
Intrusive Utility Worker	Max (0-10)	1E-07	0.3	

Table 6-1. Summary of Potential Cancer Risks and Noncancer Hazards (cont.)

Receptor	Soil EPC Basis (Depth)*	ILCR**	HI	COPC Risk Drivers
Exposure Area J				
Bungalow Short-term Resident Adult	95% UCL – chromium, vanadium, BTEX, some individual PAHs, and TPH diesel and motor oil Max – all other COPCs (0-10 or 0-2)	2E-04	0.2	• Cancer risks: indoor receptors by chloroform in indoor air (68%); outdoor workers by ethylbenzene in soil (66-74%) • HIs: indoor receptors by chloroform in indoor air (34-54%), short-term resident child also by TPH in soil (16-27%); outdoor employees by TPH in soil (72%); utility workers by TPH (56%) and xylenes (32%) in soil
Bungalow Short-term Resident Child		NA	0.2	
Bungalow Indoor Employee		2E-04	0.5	
Default Bldg. Short-term Res Adult		1E-04	0.08	
Default Bldg. Short-term Res Child		NA	0.1	
Default Bldg. Indoor Employee		9E-05	0.2	
Outdoor Employee		1E-06	0.1	
Intrusive Utility Worker	Max (0-10)	9E-07	0.7	
Exposure Area K				
Default Bldg. Short-term Res Adult	Max – all COPCs (all within 0-2)	7E-06	0.009	• Cancer risk: indoor receptors by chloroform in indoor air (88-90%); outdoor employees by PAHs in soil (91%); utility workers by chromium (48%) and PAHs (32%) in soil • HIs: adult short-term residents and indoor employees by chloroform in indoor air (45-53%), adult short-term residents also by cadmium in produce (19%); child short-term residents by TPH (34%) and mercury (20%) in soil; outdoor workers by TPH in soil (57-67%)
Default Bldg. Short-term Res Child		NA	0.02	
Default Bldg. Indoor Employee		6E-06	0.02	
Outdoor Employee		2E-07	0.04	
Intrusive Utility Worker	Max (0-10)	2E-08	0.04	
Exposure Area L				
Bungalow Short-term Resident Adult	95% UCL – BTEX, MTBE, naphthalene, phenanthrene, and all TPH carbon ranges Max – all other COPCs (0-2 or 0-10)	4E-07	0.01	• Cancer risks: short-term residents by PAHs in soil (39-52%) and chloroform in indoor air(12-21%); indoor employees by chloroform (37-44%) and benzene (23-24%) in indoor air; outdoor employees by PAHs in soil (81%); utility workers by chromium (52%) and PAHs (35%) in soil • HIs: child short-term residents and all commercial users by TPH in soil (50-82%); adult short-term residents by 1,2,4-trimethylbenzene (37%) and TPH (22-23%) in soil
Bungalow Short-term Resident Child		NA	0.04	
Bungalow Indoor Employee		2E-07	0.02	
Default Bldg. Short-term Res Adult		3E-07	0.01	
Default Bldg. Short-term Res Child		NA	0.04	
Default Bldg. Indoor Employee		1E-07	0.02	
Outdoor Employee		3E-07	0.09	
Intrusive Utility Worker	Max (0-10)	8E-08	0.5	

Table 6-1. Summary of Potential Cancer Risks and Noncancer Hazards (cont.)

Receptor	Soil EPC Basis (Depth)*	ILCR**	HI	COPC Risk Drivers
Exposure Area M				
Default Bldg. Short-term Res Adult	95% UCL- TPH diesel and motor oil Max – all other COPCs (0-2 or 0-10)	5E-07	0.006	• Cancer risks: short-term residents and indoor employees by benzene in indoor air (55-92%); outdoor employees by PAHs in soil (80%); utility workers by PAHs (44%) and vanadium (29%) in soil • HIs: short-term residents by TPH (26-41%) and vanadium (26-36%) in soil and cadmium in produce (13-26%); commercial users by TPH in soil (52-78%)
Default Bldg. Short-term Res Child		NA	0.03	
Default Bldg. Indoor Employee		3E-07	0.02	
Outdoor Employee		2E-07	0.06	
Intrusive Utility Worker	Max (0-10)	5E-08	0.1	
Exposure Area N (Parking Lot)				
Default Bldg. Short-term Res Adult	95% UCL – cadmium, chromium, and vanadium Max – all other COPCs (0-2 or 0-10)	1E-07	0.004	• Cancer risks: short-term residents by PAHs in site-grown produce (24%) and PAHs (20%) and chromium (18%) in soil; indoor employee by benzene (29%) and 1,4-dioxane (13%) in indoor air and PAHs in soil (15%); outdoor employee by PAHs (38%) and chromium (38%) in soil; utility worker by chromium in soil (55%) • HIs: short-term residents by vanadium in soil (42-60%) and cadmium in site-grown produce (19-37%); all commercial users by vanadium in soil (69-80%)
Default Bldg. Short-term Res Child		NA	0.02	
Default Bldg. Indoor Employee		3E-08	0.006	
Outdoor Employee		9E-08	0.04	
Intrusive Utility Worker	Max (0-10)	5E-08	0.04	
Exposure Area O				
Default Bldg. Short-term Res Adult	Max – all COPCs (primarily 0-2)	3E-07	0.006	• Cancer risks: indoor receptors by benzene in indoor air (56-94%); outdoor workers by chromium in soil (53%) • HIs: short-term residents by vanadium in soil (49-73%) and cadmium in site-grown produce (13-25%); all commercial users by vanadium in soil (61-90%)
Default Bldg. Short-term Res Child		NA	0.03	
Default Bldg. Indoor Employee		2E-07	0.01	
Outdoor Employee		1E-07	0.05	
Intrusive Utility Worker	Max (0-10)	8E-08	0.05	
Drainage Exposure Area				
Outdoor Employee	95% UCL – TPH-d and -mo Max – all other COPCs (0-2 or 0-10)	1E-06	0.06	• Cancer risks: for all receptors by benzene in soil (61-76%) • HIs: for all receptors by TPH in soil (71-87%)
Intrusive Utility Worker		2E-07	0.2	
Native Gardens†				
Restaurant Visitor Adult	95% UCL – TPH-mo Max – all other COPCs (0-5)	3E-08	0.002	• Cancer risk by modeled produce PAH concentrations (100%) • HI by modeled produce cadmium concentrations (82%)
Restaurant Visitor Child		NA	0.005	
Outdoor Employee	95% UCL – TPH-mo Max – all other COPCs (0-10)	7E-08	0.01	• Cancer risk by PAHs in soil (52%) • HI by vanadium in soil (61%)

Table 6-1. Summary of Potential Cancer Risks and Noncancer Hazards (cont.)

Receptor	Soil EPC Basis (Depth)*	ILCR**	HI	COPC Risk Drivers
Open Space Exposure Area				
Recreational Adult	95% UCL – metals, BTEX, most PAHs, and all TPH carbon ranges Max – all other COPCs	2E-06 (0-2) 2E-06 (0-10)	0.01 (0-2) 0.03 (0-10)	• Cancer risk: for all receptors by PAHs in soil (totaling 54-99%); recreator (0-10) and outdoor worker also soil associated benzene (31-38%) • HIs: recreators (0-2) by TPH in soil (44-50%) and vanadium (24-26%) in soil; recreators (0-10) and outdoor workers by 1,2,4-trimethylbenzene (26-50%) and TPH (16-39%) in soil
Recreational Child		NA	0.2 (0-2) 0.2 (0-10)	
Outdoor Employee		7E-07	0.1	
Site-Wide Exposure Area (No Development Scenario)††				
Offsite Resident Adult	Max –most VOCs, acenaphthene 95% UCL - all other COPCs (0-2)	2E-06	0.008	• Cancer risk: by ethylbenzene in soil (65%) • HIs: by xylenes in soil (52%)
Offsite Resident Child		NA	0.008	
Recreational Adult	Max – antimony, some VOCs, 2,4-dinitrotoluene, endrin aldehyde 95% UCL – all other COPCs (0-2 or 0-10)	8E-07 (0-2) 1E-06 (0-10)	0.01 (0-2) 0.08 (0-10)	• Cancer risk: recreators (0-2) by PAHs in soil (55%); recreators (0-10) by 2-dinitrotoluene in soil (52%) • HIs: recreators (0-2) TPH in soil (59-60%); recreator (0-10) by antimony in soil (81-82%)
Recreational Child		NA	0.2 (0-2) 0.9 (0-10)	

*Soil EPC basis excludes lead, which is addressed in Table 6-2.

**Cancer risk is age-weighted and assumes 6 years of exposure as a child and 24 years as an adult, therefore risk is reported for short-term adult and not applicable (NA) to child receptors; ILCR is the incremental probability of an individual developing cancer over a lifetime as a result of exposure to the potential carcinogen; 2E-07 = 0.0000002 = two in ten million.

†Restaurant visitor cancer risk and noncancer hazard estimates are incorporated in the short-term resident cumulative ILCRs and HIs.

††Offsite resident cancer risk is a conservative estimate based on modeled outdoor air VOC concentrations (see Section 7.4.3.6 of Final HHRA).

Table 6-2. Comparison of Lead EPCs to CHHSLs for Vision-Plan Based Exposure Areas

	EPC		Exceeds Residential CHHSL (80 mg/kg)	Commercial Uses* EPC Exceeds Commercial CHHSL (320 mg/kg)	Intrusive Utility Worker Maximum EPC Exceeds Commercial CHHSL (320 mg/kg)
	Maximum (0-10 ft bgs)	95% UCL			
Area A	19	N/R		No	No
Area C	68	33		No	No
Area D	1600	N/R		**Yes**	**Yes**
Area E	490	134		No	**Yes**
Area G	9.4	N/R		No	No
Area Ia	1100	295		No	**Yes**
Area Ib	44	N/R		No	No
Area J	350	69		No	**Yes**
Area K	56	N/R		No	No
Area L	690	92		No	**Yes**
Area M	11	N/R		No	No
Area N	13	N/R		No	No
Area O	6	N/R		No	No
Open Space		0-2: 42 0-10: 24	No**	No	No
Drainage		22		No	No
Native Gardens	7.8	N/R		No	No
Site Wide		0-2: 72 0-10: 40	No**	No	No

*Commercial uses include short-term hotel residents and indoor and outdoor workers.

**Comparison of Open Space and Site-wide lead EPCs to residential CHHSL included to evaluate recreational use potential risk from lead in soil.

N/R = Not enough distinct observations to calculate a 95% UCL value.

Shaded cells indicate that EPC value or CHHSL comparison is not applicable.

Table 6-3. Methane Detections for 2007 and 2012 Soil Gas Data

Exposure Area	Frequency Detects/Total	% Concentration Detects (min – max)	Location	Max Exceeds LEL (5%?)
A	1/10	0.00053 – 0.00053	Single detection at SV-55-15	No
C	11/20	0.00026 – 0.007	Maximum at SV-44-15	No
D	4/8	0.021 – 29	Maximum at SV-58A-15	**Yes**
E	13/13	0.0012 – 41	Maximum at SV-63-05	**Yes**
G	2/2	0.052 – 3.2	Maximum at SV-35-15	No
Ia	3/6	0.00047 – 0.039	Maximum at SV-13-15	No
Ib	3/4	0.082– 0.57	Maximum at SV-10-15	No
J	13/14	0.00025 – 4.7	Maximum at SV-16-15	No
K	5/12	0.00028 – 0.053	Maximum at SV-88-15	No
L	13/16	0.00044 – 0.044	Maximum at SV-18-15	No
M	2/7	0.0065 – 2.8	Maximum at SV-04-15	No
N	0/7	Not Detected	NA	No
O	0/10	Not Detected	NA	No
Open Space	10/28	0.0016 – 4.5	Maximum at SV-66-15	No

The exposures and associated risks detailed in this HHRA were developed using the reasonable maximum exposure (RME) approach, as promulgated by Cal/EPA and USEPA. The RME approach, which estimates the maximum exposure reasonably expected to occur in a population, is intended to provide a conservative estimate of exposure within the range of possible exposures. Because the RME approach was used to quantify potential health risks in this assessment, if the RME values are below acceptable limits, then all other, lesser exposures related to the Site are below these limits (USEPA 1989). Each entry in the tables below is supported by detailed calculations of health risks by receptor, COPC, and pathway (Tables 6-4 through 6-88).

6.2.1 Exposure Area A

Health risk estimates for Exposure Area A are summarized in Tables 6-1 and 6-4. Exposure pathway- and chemical-specific results are shown in Tables 6-5 through 6-8. Soil COPCs in Exposure Area A include cadmium, chromium, lead, mercury, PAHs, and TPH in the diesel and motor oil ranges; 37 VOCs (including naphthalene) are included as soil gas COPCs. Health effects to all receptors are evaluated based on maximum soil and soil gas COPC concentrations.

Exposure Area A cancer risks range from $2x10^{-8}$ for intrusive utility workers to $2x10^{-7}$ for short-term residents (default structures). PAHs in soil, primarily via dermal contact and/or ingestion, account for 11% (utility workers) to 75% (outdoor employees) of the

cancer risks for receptors in this exposure area. Cancer risk for intrusive utility workers is dominated by inhalation of chromium on soil particulates (70%). For receptors spending time indoors, inhalation of COPCs in indoor air (primarily 1,3-butadiene and benzene) account for 41 (default building short-term residents) to 87% (default building indoor employees) of the cancer risks. Noncancer hazards in Exposure Area A are very low, ranging from 0.002 for the indoor employee to 0.008 for the child short-term resident and outdoor employee. For short-term residents, noncancer hazards are dominated by the ingestion of site-grown produce, especially due to estimated levels of cadmium (45-59%). Vanadium in soil is the main noncancer hazard driver for the remaining receptors (46-79%), primarily via dermal contact and/or incidental ingestion for indoor employees.

The lead EPC for all receptors is the maximum of 19 mg/kg (within 0-2 ft bgs), is well below the commercial CHHSL and the Childhood Lead Prevention Program threshold of 1,000 mg/kg. Methane was detected in only one soil gas sample at a concentration well below the 5% LEL.

6.2.2 Exposure Area C

Health risk estimates for Exposure Area C are summarized in Tables 6-1 and 6-9. Exposure pathway- and chemical-specific results are shown in Tables 6-10 through 6-13. Lead EPC comparisons to CHHSLs are presented in Table 6-2. Soil COPCs in Exposure Area C include five metals, two VOCs, PAHs, and TPH in the diesel and motor oil carbon ranges; 32 VOCs as well as 1,4-dioxane are included as soil gas COPCs. For all receptors, health effects are based on maximum soil and maximum soil gas COPC concentrations.

Exposure Area C cancer risks range from $5x10^{-8}$ for intrusive utility workers to $2x10^{-6}$ for bungalow short-term residents. Vapors in indoor air dominate the total cancer risk (85-99%) for short-term residents and indoor employees, with chloroform the primary COPC (57-66% of the total cancer risk). For outdoor employees, PAHs in soil, primarily through dermal contact and ingestion, account for 52% of the cancer risk. Chromium in soil, via inhalation of soil particulates, accounts for 69% of the intrusive utility worker cancer risk. Noncancer hazards in Exposure Area C are very low, ranging from 0.006 for default commercial building adult short-term residents to 0.04 for the outdoor employee. For receptors spending time indoors, the dominant pathways/COPCs for noncancer hazards vary with building size and receptor. For example, estimated concentrations of VOCs in indoor air, especially trimethylbenzenes, account for 8% (child short-term resident in default commercial buildings) to 57% (hotel bungalow indoor employee) of the total

noncancer hazard. For short-term residents, ingestion of site-grown produce accounts for 19-34% of the total noncancer hazards. TPH in soil (primarily diesel range via ingestion of and dermal contact) accounts for 25-46% of the total noncancer hazards, and is the primary driver for outdoor workers. Vanadium in soil accounts for 11-37% of the total noncancer hazards.

The lead EPC for the intrusive utility worker is the maximum of 68 mg/kg and for all other receptors is the 95% UCL of 33 mg/kg; these are well below the commercial CHHSL as well as the Childhood Lead Prevention Program threshold of 1,000 mg/kg. The maximum methane concentration detected in Exposure Area C soil gas is well below the 5% LEL.

6.2.3 Exposure Area D

Health risk estimates for Exposure Area D are summarized in Tables 6-1 and 6-14. Exposure pathway- and chemical-specific results are shown in Tables 6-15 through 6-18. Lead EPC comparisons to CHHSLs are presented in Table 6-2. Soil COPCs in Exposure Area D include six metals, BTEX, methylene chloride, PAHs, and TPH in all three carbon ranges; 21 VOCs are included as soil gas COPCs. For all receptors health effects are based on maximum soil and soil gas COPC concentrations, with the exception of short-term resident and indoor and outdoor employee exposures to cadmium and TPH-d and -mo.

Exposure Area D cancer risks range from $9x10^{-8}$ for intrusive utility workers to $9x10^{-7}$ for bungalow short-term residents. Vapors in indoor air, primarily ethylbenzene and benzene, account for the majority of total cancer risks for receptors spending time indoors, ranging from 66% for default building short-term residents to 99% for hotel bungalow indoor employees. Outdoor employee risks are driven by chromium (inhalation of soil particulates; 33%) and PAHs (primarily dermal contact and ingestion; 30%) in soil. Vanadium in soil (via inhalation of soil particulates) accounts for 51% of the cancer risk for intrusive utility workers. Noncancer hazards in Exposure Area D range from 0.02 for short-term resident adults to 0.4 for intrusive utility workers. For all but default building adult short-term residents, exposure to antimony in soil is the largest contributor to the total HI (17-52%). TPH-d and –mo in soil (via ingestion and dermal contact) account for 15-47% of the noncancer hazards. For indoor receptors, indoor air COPCs account for 3 to 29% of the total noncancer hazards.

The lead EPC for all receptors is the maximum of 1,600 mg/kg (within 0-2 ft bgs), which exceeds both the commercial CHHSL and the Childhood Lead Prevention Program

threshold of 1,000 mg/kg. Methane was detected in four soil gas samples, two of these samples (at depth) detected methane above the LEL of 5%.

6.2.4 Exposure Area E

Health risk estimates for Exposure Area E are summarized in Tables 6-1 and 6-19. Exposure pathway- and chemical-specific results are shown in Tables 6-20 through 6-25. Lead EPC comparisons to CHHSLs are presented in Table 6-2. Soil COPCs in Exposure Area E include five metals, BTEX, and 15 other VOCs, PAHs, 2,4-dinitrotoluene, and TPH in all three carbon ranges; 24 VOCs are included as soil gas COPCs. For intrusive utility worker exposure to groundwater, the COPCs include molybdenum, TEX and 10 other VOCs, six PAHs, and TPH in all three carbon ranges. For receptors other than intrusive utility workers, health effects are based on 95% UCL soil concentrations for BTEX and most VOCs, on maximum soil concentrations for all other COPCs, and maximum soil gas COPC concentrations. Intrusive utility worker health effects are based on maximum soil and groundwater concentrations.

Exposure Area E cancer risks range from $1x10^{-6}$ for outdoor workers to $2x10^{-4}$ for bungalow short-term residents and indoor employees. Cancer risks for indoor receptors are dominated by estimated concentrations of benzene vapors in indoor air, accounting for 95% to 96% of the total cancer risks. Cancer risks for outdoor receptors are dominated (56-82%) by benzene in soil (through inhalation of soil–associated vapors). Noncancer hazards in Exposure Area E range from 0.08 for short-term resident adults to 0.8 for intrusive utility workers. Exposure to indoor vapors account for most of the total hazard for indoor receptors (53-92%), with the majority contributed by estimated concentrations of benzene followed by trimethylbenzenes. The majority of the outdoor employee noncancer hazard is driven by TPH in soil, primarily TPH-d (38%) and TPH-mo (32%). TPH in soil also is the primary noncancer driver for intrusive utility workers, accounting for 36% of the total (mostly TPH-d), while trimethylbenzenes in soil-associated vapors account for 32%.

The lead EPC for the intrusive utility worker is the maximum of 490 mg/kg, which exceeds the commercial CHHSL. For all other receptors the lead EPC is the 95% UCL of 134 mg/kg, which is below the commercial CHHSL; the 0-2 ft bgs maximum of 409 also is below the Childhood Lead Prevention Program threshold of 1,000 mg/kg. Methane was detected in all thirteen soil gas samples; six of these samples detected methane above the LEL of 5%.

6.2.5 Exposure Area G

Health risk estimates for Exposure Area G are summarized in Tables 6-1 and 6-26. Exposure pathway- and chemical-specific results are shown in Tables 6-27 through 6-30. Lead EPC comparisons to CHHSLs are presented in Table 6-2. Soil COPCs in Exposure Area G include five metals, benzene, chloroform, 1,3,5-trimethylbenzene, PAHs, and all three TPH carbon ranges; 24 VOCs (including naphthalene) are included as soil gas COPCs. All health effects are based on maximum soil and soil gas COPC concentrations.

Exposure Area G cancer risks range from $6x10^{-8}$ for intrusive utility workers to $2x10^{-7}$ for both default commercial building indoor employees and outdoor employees. Indoor employee risks are driven by estimated levels of COPCs in indoor air, especially chloroform (46%), benzene (22%), and PCE (22%). PAHs in soil, primarily through ingestion and dermal contact, account for 40% of the outdoor employee cancer risk, while chromium in soil, primarily through inhalation of particulates, accounts for 30%. Intrusive utility workers cancer risk is driven by inhalation of chromium (56%) in soil. Noncancer hazards in Exposure Area G are very low, ranging from 0.02 for indoor employees to 0.09 for outdoor employees. For all receptors, TPH in soil, primarily TPH-d via dermal contact and/or ingestion, is the greatest contributor to the noncancer hazard, ranging from 45% (outdoor employee) to 60% (indoor employee). For the outdoor worker, vanadium accounts for 41% of the total HI (primarily via dermal contact and ingestion).

The lead EPC for all receptors is the maximum of 9.4 mg/kg (located within 0-2 ft bgs), is well below the commercial CHHSL. Methane was detected in both soil gas samples analyzed from Exposure Area G at concentrations below the 5% LEL.

6.2.6 Exposure Area Ia

Health risk estimates for Exposure Area Ia are summarized in Tables 6-1 and 6-31. Exposure pathway- and chemical-specific results are shown in Tables 6-32 through 6-35. Lead EPC comparisons to CHHSLs are presented in Table 6-2. Soil COPCs in Exposure Area Ia include four metals, BEX, PAHs, and all three TPH carbon ranges; 21 VOCs are included as soil gas COPCs. Health effects are based primarily maximum soil COPC concentrations and maximum soil gas COPC concentrations.

Exposure Area Ia cancer risks range from $5x10^{-8}$ for intrusive utility workers to $6x10^{-7}$ for hotel bungalow short-term residents. For receptors spending time indoors, cancer risks are dominated by estimated concentrations of vapors in indoor air (44-97%) especially

chloroform. Soil-associated benzene vapors account for the following percentages of total cancer risk: 19-29% for short term resident cancer risks, 58% for outdoor employees, and 44% for intrusive utility workers. Inhalation of chromium in soil accounts for 39% of the intrusive utility worker risk. Noncancer hazards in Exposure Area Ia are very low, ranging from 0.004 for short-term adult residents to 0.04 for intrusive utility workers. For all but adult short-term resident receptors, TPH in soil is the greatest single COPC contributor to the noncancer hazard, accounting to 36% (child hotel bungalow short-term resident) to 73% (intrusive utility workers). The majority of the adult short-term resident noncancer hazard (40-44%) is driven by exposure to cadmium via consumption of produce grown in the Native Gardens; this exposure also accounts for 25-26% of the child short-term resident total HIs.

The intrusive utility worker lead EPC of 1,100 mg/kg (within 0-2 ft bgs) exceeds the commercial CHHSL. The lead EPC for short-term residents and commercial workers is the 95% UCL value of 295 mg/kg, which is below the commercial CHHSL. Only the maximum detection within 0-2 ft bgs (1,100 mg/kg) exceeds the Childhood Lead Prevention Program threshold of 1,000 mg/kg. Methane was detected in three out of six samples evaluated from Exposure Area Ia at concentrations well below the LEL of 5%.

6.2.7 Exposure Area Ib

Health risk estimates for Exposure Area Ib are summarized in Tables 6-1 and 6-36. Exposure pathway- and chemical-specific results are shown in Tables 6-37 through 6-40. Lead EPC comparisons to CHHSLs are presented in Table 6-2. Soil COPCs in Exposure Area Ib include four metals, BTEX, PAHs, and TPH in all three carbon ranges; 26 VOCs are included as soil gas COPCs. For all receptors except the intrusive utility worker, health effects are based on 95% UCL soil concentrations for BEX and TPH, maximum soil concentrations for all other COPCs, and maximum soil gas COPC concentrations. Intrusive utility worker health effects are based on the maximum soil concentrations.

Exposure Area Ib cancer risks range from $1x10^{-7}$ for intrusive utility workers to $2x10^{-4}$ for hotel bungalow short-term residents and indoor employees. For receptors spending time indoors, indoor air vapors account for nearly 100% of the total cancer risk; this risk is dominated by estimated concentrations of chloroform and, to a lesser extent, carbon tetrachloride. Cancer risks for outdoor receptors are dominated PAHs in soil (40-74%), especially by inhalation of soil-associated naphthalene vapors (36-48%). Soil-associated benzene vapors account for 35% of the intrusive utility worker cancer risk. Noncancer

hazards in Exposure Area Ib range from 0.08 for default building adult short-term residents to 0.5 for hotel bungalow indoor employees. Inhalation of estimated concentrations of COPCs in indoor air accounts for 59% to 94% of the total hazard for receptors spending time indoors, with the majority contributed by chloroform. TPH in soil, primarily TPH-d via ingestion and dermal contact, is the greatest single COPC contributor to the noncancer hazard for outdoor employees (69%) and intrusive utility workers (86%).

The lead EPC for all receptors is the maximum of 44 mg/kg (which occurs within the upper two ft bgs), which is well below the commercial CHHSL as well as the Childhood Lead Prevention Program threshold of 1,000 mg/kg. Methane was detected in three of four samples at concentrations below the LEL of 5%.

6.2.8 Exposure Area J

Health risk estimates for Exposure Area J are summarized in Tables 6-1 and 6-41. Exposure pathway- and chemical-specific results are shown in Tables 6-42 through 6-45. Lead EPC comparisons to CHHSLs are presented in Table 6-2. Soil COPCs in Exposure Area J include five metals, BTEX, PAHs, and TPH in all three carbon ranges; 29 VOCs and 1-4 dioxane are included as soil gas COPCs. For receptors other than the intrusive utility worker, health effects are based on a combination of 95% UCL and maximum soil COPC concentrations (depending on the data available) and maximum soil gas COPC concentrations. Intrusive utility worker health effects are based on the maximum soil concentrations.

Exposure Area J cancer risks range from $9x10^{-7}$ for intrusive utility workers to $2x10^{-4}$ for hotel bungalow short-term residents and indoor employees. For indoor receptors, cancer risks result almost exclusively from vapors in indoor air, with chloroform accounting for most of this risk (68%). Cancer risks for outdoor receptors are driven by ethylbenzene in soil (66% and 74% for outdoor employees and intrusive utility workers, respectively). Noncancer hazards in Exposure Area J range from 0.08 for adult default building short-term residents to 0.7 for intrusive utility workers. For indoor receptors, indoor air hazards dominate, with estimated concentrations of chloroform (34-54%) and benzene (12-20%) accounting for the majority of the total noncancer hazard. For outdoor receptors, TPH in soil, via ingestion and dermal contact, accounts for 56% (intrusive utility worker) to 72% (outdoor workers) of the total noncancer hazard; the primary TPH driver for outdoor workers is TPH-g, while for intrusive utility workers it is TPH-d.

The lead EPC for the intrusive utility worker is the maximum of 350 mg/kg (which occurs within the upper 2 ft bgs), which just exceeds the commercial CHHSL. The lead EPC for all other receptors is the 95% UCL of 69 mg/kg, which is below the commercial CHHSL, and the 0-2 ft bgs maximum lead level (350 mg/kg) is below the Childhood Lead Prevention Program threshold of 1,000 mg/kg. Methane was detected in thirteen out of fourteen, and the maximum concentration is just below the LEL of 5%.

6.2.9 Exposure Area K

Health risk estimates for Exposure Area K are summarized in Tables 6-1 and 6-46. Exposure pathway- and chemical-specific results are shown in Tables 6-47 through 6-50. Lead EPC comparisons to CHHSLs are presented in Table 6-2. Soil COPCs in Exposure Area K include four metals, PAHs and TPH-d and -mo; 37 VOCs (including naphthalene) and 1,4-dioxane are included as soil gas COPCs. For all receptors, health effects are based on maximum soil and soil gas COPC concentrations.

Exposure Area K cancer risks range from $2x10^{-8}$ for intrusive utility workers to $7x10^{-6}$ for default commercial building short-term residents. For short-term residents and indoor employees, cancer risks are dominated by estimated concentrations of chloroform in indoor air (88% and 90%, respectively). Exposure to PAHs, primarily via dermal contact and ingestion, accounts for 91% of the cancer risk for outdoor employees. Exposure to chromium via inhalation of soil particulates accounts for 48% of the total cancer risk for intrusive utility workers, while PAHS in soil account for 32%. Noncancer hazards in Exposure Area K are low, ranging from 0.009 (adult short-term residents) to 0.04 (intrusive utility workers). The noncancer hazards for adult short-term residents and indoor employees are driven by estimated concentrations of chloroform in indoor air (45% and 53%, respectively). For child short-term residents, outdoor employees, and intrusive utility workers, TPH in soil (primarily via ingestion and dermal contact) accounts for 34-67% of the noncancer hazard. Other significant noncancer contributors include cadmium in site-grown produce for adult short-term residents (19%) mercury in soil for child short-term residents (20%).

The lead EPC for all receptors in Exposure Area K is the maximum of 56 mg/kg, which is below the commercial CHHSL and the Childhood Lead Prevention Program threshold of 1,000 mg/kg. Methane was detected in five of twelve soil gas samples, but at concentrations below the LEL of 5%.

6.2.10 Exposure Area L

Health risk estimates for Exposure Area L are summarized in Tables 6-1 and 6-51. Exposure pathway- and chemical-specific results are shown in Tables 6-52 through 6-55. Lead EPC comparisons to CHHSLs are presented in Table 6-2. Soil COPCs in Exposure Area L include five metals, BTEX, and other VOCs PAHs, and TPH in all three carbon ranges; 21 VOCs are included as soil gas COPCs. For receptors other than the intrusive utility worker, health effects are based on a combination of 95% UCL and maximum soil COPC concentrations (depending on the data available) and maximum soil gas COPC concentrations. Intrusive utility worker health effects are based on the maximum soil concentrations.

Exposure Area L cancer risks range from $8x10^{-8}$ for intrusive utility workers to $4x10^{-7}$ for hotel bungalow short-term residents. PAHs in soil, including inhalation of soil-associated naphthalene vapors, are the primary cancer risk drivers for intrusive utility workers, (35%), short-term residents (39-52%) and outdoor employees (81%). For hotel bungalow short-term residents and all indoor employees, vapors in indoor air (especially chloroform and benzene) account for 44-90% of the total cancer risk. Intrusive utility worker risks are dominated (49%) by inhalation of chromium in soil. Noncancer hazards in Exposure Area L range from 0.01 for adult short-term residents to 0.5 for intrusive utility workers. For all receptors except short-term resident adults, TPH in soil, mostly TPH-d via ingestion and dermal contact, is the greatest single COPC contributor to the noncancer hazard (50% to 77%). The majority of the adult short-term resident noncancer hazard is driven by exposure to soil-associated 1,2,4-trimethylobenzene vapors (37%) and cadmium via consumption of produce grown in the Native Gardens (15-16%).

The intrusive utility worker lead EPC (690 mg/kg; 0-10 ft bgs maximum but within upper 2 ft) exceeds the commercial CHHSL. The lead EPC for short-term residents and indoor and outdoor employees is 92 mg/kg (95% UCL; within the 0-2 feet depth horizon), which is below the commercial CHHSL. The 0-2 ft bgs maximum lead level (690 mg/kg) is below the Childhood Lead Prevention Program threshold of 1,000 mg/kg. Methane was detected in thirteen of sixteen soil gas samples analyzed at concentrations below the LEL of 5%.

6.2.11 Exposure Area M

Health risk estimates for Exposure Area M are summarized in Tables 6-1 and 6-56. Exposure pathway- and chemical-specific results are shown in Tables 6-57 through 6-62. Lead EPC comparisons to CHHSLs are presented in Table 6-2. Soil COPCs in Exposure Area

M include five metals, ETX and 6 other VOCs, PAHs, and TPH in all three carbon ranges; 31 VOCs are included as soil gas COPCs. For intrusive utility worker exposure to groundwater, toluene is the only COPC. For receptors other than the intrusive utility worker, health effects are based on a combination of 95% UCL and maximum soil COPC concentrations (depending on the data available) and maximum soil gas COPC concentrations. Intrusive utility worker health effects are based on the maximum soil and groundwater concentrations.

Exposure Area M cancer risks range from $5x10^{-8}$ for the intrusive utility worker to $5x10^{-7}$ for default commercial building short-term residents. For indoor receptors, benzene vapors in indoor air account for the majority of the cancer risk (55-92%). Outdoor employee cancer risks are dominated by PAHs in soil, including inhalation of soil-associated naphthalene vapors, accounting for 80% of the total. The intrusive utility worker cancer risk results primarily from inhalation of naphthalene (37%) and vanadium (29%) in soil. Noncancer hazards in Exposure Area M are low, ranging from 0.006 for adult short-term residents to 0.1 for the intrusive utility worker. For all but adult short-term residents, TPH in soil, primarily TPH-d via ingestion and dermal contact, is the greatest contributor to the noncancer hazard, accounting for 41% for the child short-term resident to 78% for the intrusive utility worker. Dermal contact with and ingestion of vanadium in soil also is a significant contributor to the total HI (36%) for the child short-term resident. Three COPCs each contribute 26% to the adult short-term resident HI: cadmium in site-grown produce and TPH and vanadium in soil.

The lead EPC for all receptors is the maximum of 11 mg/kg (which occurs within the upper two feet bgs), which is well below both the commercial CHSSL and the Childhood Lead Prevention Program threshold of 1,000 mg/kg. Methane was detected in two of seven soil gas samples analyzed from Exposure Area M at concentrations below the 5% LEL.

6.2.12 Exposure Area N

Health risk estimates for Exposure Area N are summarized in Tables 6-1 and 6-63. Exposure pathway- and chemical-specific results are shown in Tables 6-64 through 6-69. Lead EPC comparisons to CHHSLs are presented in Table 6-2. Soil COPCs in Exposure Area N include five metals, 1,2,4-trimethylbenzene, PAHs, and TPH-d and -mo; 41 VOCs (including naphthalene) and 1,4-dioxane are included as soil gas COPCs. For intrusive utility worker exposure to groundwater, toluene is the only COPC. For receptors other than the intrusive utility worker, health effects are based on a combination of 95% UCL

concentrations for some metals and maximum concentrations for other COPCs in soil and maximum soil gas COPC concentrations. Intrusive utility worker health effects are based on the maximum soil and groundwater concentrations.

Exposure Area N cancer risks range from $5x10^{-8}$ for intrusive utility workers to $1x10^{-7}$ for default building short-term residents. Short-term resident cancer risk is driven PAHs in site-grown produce (24%) and soil (20%) as well as inhalation of soil-associated chromium particulates (18%). Indoor employee cancer risk is dominated by vapors in indoor air, account for 85% of the total, with benzene the greatest single contributor (29%), followed by 1,4-dioxane (13%); ingestion of dust contaminated with PAHs accounts for 15% of the total cancer risk. Outdoor employee cancer risk is dominated by ingestion of and dermal contact with PAHs in soil (38%), followed by inhalation of chromium in soil (32%). Chromium in soil, via inhalation of soil particulates, accounts for 55% of the intrusive utility workers cancer risk. Noncancer hazards in Exposure Area N are very low, ranging from 0.004 for adult short-term residents to 0.04 for outdoor employees and intrusive utility workers. For indoor and outdoor employees, vanadium in soil, primarily via ingestion, is the greatest single COPC contributor to the noncancer hazard (nearly 60%). For all receptors, exposure to vanadium in soil, primarily via dermal contact and/or ingestion, is the greatest single contributor to the HI, accounting for 42% (adult short-term resident) to 80% (intrusive utility worker) of the total. Ingestion of cadmium associated with produce grown in the Native Gardens accounts for 37% of the adult short-term resident noncancer hazard.

The lead EPC for all receptors is the maximum of 13 mg/kg (which is within 0-2 ft bgs), which is well below the commercial CHHSL and the Childhood Lead Prevention Program threshold of 1,000 mg/kg. Methane was not detected in soil gas samples collected from Exposure Area N.

6.2.13 Exposure Area O

Health risk estimates for Exposure Area O are summarized in Tables 6-1 and 6-70. Exposure pathway- and chemical-specific results are shown in Tables 6-71 through 6-74. Lead EPC comparisons to CHHSLs are presented in Table 6-2. Soil COPCs in Exposure Area O include five metals and TPH-mo; 36 VOCs (including naphthalene) are included as soil gas COPCs. For all receptors, health effects are based on and maximum soil gas and/or soil COPC concentrations.

Exposure Area O cancer risks range from $8x10^{-8}$ for intrusive utility workers to $3x10^{-7}$ for default building short-term residents. Indoor receptor cancer risks are dominated by estimated levels of benzene vapors in indoor air (56-94%). For outdoor receptors, cancer risks are driven by inhalation of soil-associated chromium (53%). Noncancer hazards in Exposure Area O are very low, ranging from 0.006 for adult short-term residents to 0.05 for outdoor employees and intrusive utility workers. For all receptors, dermal contact with and/or ingestion of vanadium in soil is the greatest single COPC contributor to the noncancer hazards (49-90%). Exposure to cadmium via consumption of produce grown in the Native Gardens accounts for 25% of the adult short-term resident total HI.

The Exposure Area O lead EPC for all receptors is the maximum of 6 mg/kg (which is within 0-2 ft bgs), which is well below the commercial CHHSL and the Childhood Lead Prevention Program threshold of 1,000 mg/kg. Methane was not detected in soil gas samples collected from Exposure Area O.

6.2.14 Open Space

Health risk estimates for potential exposures in Open Space are summarized in Tables 6-1 and 6-75. Exposure pathway- and chemical-specific results are shown in Tables 6-76 and 6-77. Lead EPC comparisons to CHHSLs are presented in Table 6-2. Soil COPCs in Open Space include five metals, BTEX and eight other VOCs, PAHs, and TPH in all three carbon ranges. Health effects for receptors in Open Space are based on primarily on 95% UCL soil concentrations, as the data permitted.

Recreational user cancer risk in Open Space is $2x10^{-6}$, regardless of the soil horizon evaluated. Outdoor employee cancer risk is estimated to be $7x10^{-7}$. Cancer risks are driven by PAHs, which account for 54-99% of the totals, although the specific PAH varies with depth. Recreational cancer risk for shallow soil is driven by dibenzo(a,h)anthracene (81%); recreational cancer risk inclusive of soil up to 10 ft bgs is nearly equally distributed among dibenzo(a,h)anthracene and naphthalene (both 22%) and BaP TEQ (17%) while soil-associated benzene contributes 31% of the total. The primary PAH cancer risk driver for outdoor employee exposure is naphthalene (44%); soil-associated benzene accounts for 38% of the total cancer risk. Noncancer hazards in Open Space are low, ranging from 0.01 for adult recreators (0-2 ft bgs) to 0.2 for child recreators (regardless of soil horizon evaluated). For recreational exposure to 0-2 ft bgs soil, TPH accounts for the majority (44-50%) of these hazards. TPH also is the primary driver for child recreator exposure to

deeper soil (39%) while the single greatest contributor for adult receptor exposures to deeper soil is 1,2,4-trimethylbenzene (41-50%).

For the recreator (0-2 ft bgs) and outdoor employee, the lead Open Space EPC is the 95% UCL value of 42 mg/kg; the lead EPC for recreational exposure to 0-10 ft bgs is the 95% UCL value of 24 mg/kg. These are below both the residential and the commercial CHHSLs. The maximum Open Space 0-2 ft bgs lead detection is 400 mg/kg, which is below the Childhood Lead Prevention Program threshold of 1,000 mg/kg. Enclosed structures are not planned in Open Space; however, methane was detected in 10 of 28 soil gas samples analyzed, with a maximum concentration just below the LEL of 5%.

6.2.15 Native Gardens

Health risk estimates for outdoor employees tending the agricultural area and restaurant visitors consuming produce grown in Native Gardens are summarized in Tables 6-1 and 6-78. Exposure pathway- and chemical-specific results are shown in Tables 6-79 through 6-82. Lead EPC comparisons to CHHSLs are presented in Table 6-2. Soil COPCs in Native Gardens include five metals, PAHs and TPH-d and -mo. Health effects for outdoor employee exposure to soil in the Native Gardens and restaurant consumption of produce grown in Native Gardens are based on maximum soil concentrations with the exception of TPH-mo (95% UCL concentrations).

Cancer risk to the outdoor employee exposed to soil in the Native Gardens is estimated to be $7x10^{-8}$, and result primarily from dermal contact with and ingestion of PAHs (52%). The outdoor employee noncancer hazard is very low, 0.01, and results from exposure to vanadium (61%), primarily via dermal contact and ingestion. The lead EPC is the maximum of 7.8 mg/kg, which is well below the commercial CHHSL.

Cancer risks from the consumption of produce grown in Native Gardens are estimated to be $2x10^{-8}$, and result entirely from modeled concentrations of PAHs in produce. Noncancer hazards are very low, ranging from 0.002 for an adult to 0.005 for a child, and result primarily from modeled concentrations of cadmium (82%) in produce.

Enclosed structures are not planned in the Native Gardens, and soil gas samples were not collected from this exposure area.

6.2.16 Drainages

Health risk estimates for potential exposures in the Drainages are summarized in Tables 6-1 and 6-83. Exposure pathway- and chemical-specific results are shown in Tables 6-84 and 6-85. Lead EPC comparisons to CHHSLs are presented in Table 6-2. Soil COPCs in the Drainage area include four metals, BEX, PAHs, and TPH in all three carbon ranges. For all but outdoor employee exposure to TPH-d and –mo, health effects for the Drainages are based maximum soil concentrations.

In the Drainage area, the outdoor employee and intrusive utility worker cancer risks are $1x10^{-6}$ and $4x10^{-7}$, respectively. The majority of these risks are driven by soil-associated benzene, primarily via inhalation (61-76%). The noncancer hazards are 0.06 and 0.2, and are driven by direct contact with TPH (71-87%; primarily TPH-mo).

The lead EPC for both receptors is the maximum of 22 mg/kg, which is below the commercial CHHSL. Enclosed structures are not planned in the Drainages, and soil gas samples were not collected from this exposure area.

6.2.17 Site-Wide No Development Scenario

Health risk estimates for offsite residents and recreators under a no development scenario are summarized in Tables 6-1 and 6-86. Exposure pathway- and chemical-specific results are shown in Tables 6-87 and 6-88. Lead EPC comparisons to CHHSLs are presented in Table 6-2. Site-wide soil COPCs include six metals, BTEX and 19 other VOCs, PAHs, 2,4-dinitrotoluene, gamma-BHC, and TPH in all three carbon ranges. As discussed in Section 5.1.1, health effects for offsite residents are based on 0-2 feet bgs EPCs, which with the exception of most VOCs generally are 95% UCL soil concentrations. Recreational exposures are evaluated for both the 0-2 and 0-10 foot depth horizons. Outdoor employee exposures are based on the greater of the soil EPCs calculated for the 0-2 and 0-10 foot depth horizons, which include maximum and 95% UCL values.

The cancer risk for offsite residential exposure to an undeveloped Site is estimated to be $2x10^{-6}$, with inhalation of ethylbenzene and naphthalene vapors associated with soil accounting for 65% of the total.[42] The noncancer hazard for offsite residential exposure to an undeveloped Site is very low (0.008); inhalation of xylenes accounts for the majority of this hazard (52%).

[42]This offsite resident cancer risk is a conservative estimate based on modeled outdoor air VOC concentrations. Uncertainties associated with this risk estimate are further discussed in Section 7.4.3.6.

The cancer risk for recreational exposure to an undeveloped Site is estimated to be ranges from $4x10^{-7}$ (0-2 ft bgs) to $4x10^{-7}$ (0-10 ft bgs). Exposure to PAHs in soil account for 55% of the total shallow soil cancer risk estimate; 2,4-dinitrotoluene accounts for 52% of the cancer risk inclusive of deeper soil. The noncancer hazards for recreational exposure to an undeveloped Site range from 0.01 for the adult exposed to shallow soil to 0.9 for the child exposed 0-10 ft bgs. For shallow soil, exposure to TPH accounts for the majority of the recreator hazards (59-60%). When deeper soil is included, antimony is the primary recreational hazard driver (81-82%). The lead EPCs for recreators range from 40 mg/kg for soil 0-10 ft bgs to 72 mg/kg for shallow soil (both 95% UCL values); both are below the residential CHHSL. Of the 231 soil samples from collected from 0-2 ft bgs and analyzed for lead, only two exceed the Childhood Lead Prevention Threshold of 1,000 mg/kg (ID samples here).

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7.0 UNCERTAINTIES

The level of uncertainty inherent in the risk assessment process is discussed, as are the methods used to err on the side of overestimation of the projected risks. Particular attention is given to the interpretation of Site sampling data and laboratory analytical results, and to assumptions regarding chemical exposure pathways and human intake. The state of medical knowledge regarding the potential health effects from exposure to the chemicals of concern also is considered.

The goal of a health risk assessment is to provide scientific and objective risk estimates that enable effective risk management. However, when using health risk assessment results for decision-making, the methods employed in deriving the predicted risk values should be considered. Reviewers may be misled if they rely only on a simplified numerical representation without considering the uncertainties, limitations, and assumptions inherent in the health risk assessment process. In order to provide the reader with perspective on the quality of the predicted risk values, this section considers the uncertainty and associated conservatism inherent in the Avila Tank Farm HHRA, as recommended by USEPA and Cal/EPA guidance.

7.1 SOURCES OF UNCERTAINTY

Health risk assessments generally incorporate two types of uncertainty, measurement and informational. Measurement uncertainty includes the use of discrete samples to define overall site conditions and the variability of COPC concentrations. For example, this risk assessment assumes that chemicals are present in specific exposure areas at concentrations equal to the 95% UCL of the mean or at the maximum detection of each COPC. Gaps in information necessary to complete risk calculations result in a different kind of uncertainty. In this risk assessment, default conservative parameters recommended by USEPA and/or Cal/EPA were used in some models to estimate air particulate and indoor vapor concentrations from chemicals in the soil. This may have resulted in estimated air concentrations that differ from actual air particulate or future building indoor vapor concentrations.

In some instances, the impact of informational uncertainty is significant. For example, information on whether and how a chemical causes health effects may be lacking (USEPA 1992b). In other instances, the upper limits of uncertainty can be estimated using the information available, coupled with reasonable assumptions. This approach can be applied

to uncertainties such as the interactions of constituent mixtures in the human body (e.g., the derivation of reference doses for aromatic and aliphatic TPH carbon ranges based on indicator compounds or discrete oil mixtures). The high-to-low dose and interspecies extrapolations for dose-response relationships (which are the basis of the toxicity factors) also can be used to limit uncertainty.

Risk assessment is an iterative process involving sequential evaluation of all site data. Once any type of uncertainty is introduced into the early stages of the process, it propagates as calculations proceed. In its guidance for human health risk assessments, the USEPA states that "*it is more important to identify the key site-related variables and assumptions that contribute most to the uncertainty than to precisely quantify the degree of uncertainty in the health risk assessment*" (USEPA 1989).

7.2 UNCERTAINTIES IN SITE CHARACTERIZATION AND CHEMICALS OF POTENTIAL CONCERN SELECTION

Site characterization and COPC selection are potential sources of uncertainty in any health risk assessment. Specific uncertainties related to these activities for the Avila Beach Tank Farm are presented below.

7.2.1 Site Characterization and Sampling Activities

Frequently, a major source of uncertainty in risk assessment is the quality and quantity of the site characterization data upon which the risk assessment is based. Historically, nearly all of the site characterization data at the Avila Tank Farm were collected in or near areas of suspected contamination. These data likely represent chemical concentrations in the most contaminated areas of the Site, as opposed to concentrations over the Site as a whole. However, several sampling events were undertaken specifically to support the evaluation of potential risk at the Site (England Geosystem, Inc. 2003, Avocet 2004a, Avocet 2008a,b, Padre 2012a,b, and Padre 2013a,b). Neptune determined that spatial coverage of sampling at the Site is adequate for health risk assessment purposes.

To supplement the other data quality evaluations conducted for the Site, including the *Data Validation and Data Usability Report,* a quantitative DQA evaluated whether the data used in this Final HHRA are sufficient to make health protective risk-based decisions. The approach used followed USEPA DQO and DQA guidance to calculate the number of samples needed to support the specified performance criteria. A primary limitation of this approach is the disconnect between USEPA's guidance for the classical approach to DQA

and that for human health risk assessment. The DQA evaluated whether the data are sufficient to determine if the sample mean is below the specified risk-based goal, while health risks for the majority of scenarios in this HHRA were calculated based on the maximum COPC concentrations. Even though the maximum concentration is a much less stable measurement than the mean, the use of the maximum to estimate risk is considered health protective.

Section 2.1.4 and Table 2-1 summarize the DQA results and identify HHRA sample sizes that do not meet the default USEPA criteria when the grey region (or minimum detectable difference) equals 20% of the RBC. Several COPCs in soil were identified as not having enough samples to meet the USEPA default criteria: benzene (0-10 ft) and dibenz(a,h)anthracene (0-2 ft) in Open Space, 2,4-dinitrotoluene in Site-wide (0-10 ft), and lead in Exposure Areas D and Ia. Although sample sizes for these COPCs do not meet the USEPA default criteria, they are within the desired range of sample sizes that reflect a Type I error of 5% to 15% and Type II of 15% to 25%. Additionally, soil gas sample sizes were less than desirable in Exposure Areas D, E, Ia (15-ft only), Ib, J and K (15-ft only). In summary, the results of this DQA show that the soil and soil gas sampling designs accomplished the objective of collecting data to support defensible risk management decisions.

The quality of COPC identification also is related to temporal coverage. This is most relevant for media where concentrations may change over time. The 2007 and 2012 soil gas sampling events (Avocet 2008b, Padre 2012b) resulted in the identification of many more soil gas COPCs in this supplemental assessment than in the 2005 Baseline HHRA, when only benzene and chloroform were detected. Therefore, the additional sampling events reduced the likelihood that risks from the subsurface vapor intrusion pathway have been underestimated.

7.2.2 TPH in Soil Gas

Consistent with the Supplemental HHRA (v3.0), petroleum-related impacts to soil gas were evaluated based on individual constituents of TPH and the 2012 TPHv analytical results were not included in the quantitative risk calculations. TPHv detections in soil gas during the 2012 sampling event were relatively low (1,400 to 3,600 µg/m^3), with the exception of two samples collected at depth in Exposure Area K (35,000 and 53,000 µg/m^3 at SV-90-15' and SV-89-15', respectively). Although no 5-ft bgs samples were collected from these probes, there is a site-wide trend of soil gas attenuation between 15- and 5-ft bgs (see

Section 7.4.3.6). Moreover, the majority of TPHv detected in the 2012 soil gas samples was comprised of the less toxic aliphatic fractions. For example, in Exposure Area K the fraction results for SV-89-15' (the maximum TPHv result) were nondetect for all but the C6-C8 aliphatics (75,000 µg/m^3; higher than the TPHv result). For default building indoor employees, this corresponds to a noncancer hazard of only 0.0014. Therefore, exclusion of TPHv as a COPC does not result in an underestimate noncancer hazard in the Final HHRA.

7.2.3 Data Validation and Usability

7.2.3.1 Accuracy and Precision

As detailed in Section 2.1.2, Neptune's 2008 data validation and usability evaluation (Attachment 9) included validation of soil, sediment, soil gas, and ambient air samples collected from 2005 onward and analyzed for inorganic and organic constituents. The data validation process included review of quality control (QC) samples such as surrogates, laboratory control samples, matrix spike samples, and blanks. Overall, the data validation and data usability evaluation concluded that with the exception of the results for volatile fuel hydrocarbons in one soil sample, the data were considered "usable" for risk assessment purposes. However, data usability issues were identified for some soil and soil gas samples, and the uncertainties associated with the inclusion of these data in the risk calculations are discussed below.

7.2.3.1.1 Soil Matrix Data for Metals

Of the 89 soil samples analyzed for metals and included in the data validation/data usability report, the recoveries for up to 11 metals in matrix spikes in six samples were slightly below the laboratory target range. Matrix spikes are used to assess matrix effects on analytical performance. Low matrix spike recoveries indicate that associated sample results may be underestimated, or that reported nondetect results have a "slight potential" for being false negatives. The identified samples are from Exposure Area E (SV-61-05), Exposure Area N (SV-02-10 and S-47-10), and Open Space (SV-53-01 and S-1A-03). The soil sample from Exposure Area E with low metals recoveries is one of 40 samples for which metals were analyzed; given the sample coverage in this area it is unlikely that this single sample significantly affects the risk results. Moreover, the metals not detected in sample SV-61-05 also were not detected in the adjacent sample from the same borehole (SV-61-01), making the likelihood of false negatives extremely low.

Similarly, only two (SV-53-01 and S-1A-03) of approximately 103 soil samples from Open Space and analyzed for metals were identified as having low metals matrix spike recoveries

(antimony and/or arsenic). Antimony was not detected in either of these Open Space samples, nor was it detected in nearby samples. Antimony also was not detected in the Exposure Area N (SV-02-10 and SV-47-10) samples with low antimony matrix spike recoveries for these samples. Considering the low frequency of detection of antimony across the Site (only one detection in Exposure Area D), the non-detects reported for these samples are consistent with the site-wide results and uncertainties associated with these samples are unlikely to significantly impact the risk characterization results for these exposure areas.

Although the matrix spike sample for S-1A-03 suggests that the reported arsenic value (5.9 mg/kg) may be biased low, this result is within the range of arsenic concentrations detected in other Open Space samples in its vicinity (S-1, S-1B and S-1C, 1 to 9.3 mg/kg); therefore any uncertainty in this result is unlikely to change the overall site characterization. Only one out of the 11 samples from Exposure Area N had a low recovery for arsenic, and the reported value in this sample is consistent with results for samples from this area.

Slightly elevated matrix spike recoveries for barium were identified for one sample each from Exposure Areas M (SV-02-10) and Exposure Area N (S-47-10); however, the reported barium results are comparable to nearby sample results. Similarly, the mercury value in one sample in Open Space is potentially biased high, but is representative of average mercury concentrations in adjacent boreholes.

Overall, while metals concentrations in samples with matrix spike recoveries outside the target range may be slightly under- or overestimated, or falsely reported nondetect values, as described above, the results reported for theses samples are generally consistent with nearby sample metals results and/or these samples account for only a few within in a particular exposure area. Therefore, the inclusion of these samples in the HHRA dataset is unlikely to have a significant effect on site characterization and/or the risk results. McDaniel Lambert, Inc. also reviewed the matrix spike recoveries for metals analyzed in 2007 soil data, and recoveries are within laboratory control limits for samples used in the Final HHRA (see Attachment 10).

7.2.3.1.2 Soil Matrix for Volatile Fuel Hydrocarbons

Of the 85 soil samples analyzed for volatile fuel hydrocarbons/GRO (C4-C12) included in the data validation/data usability report, surrogate recoveries of 4-bromofluorobenzene

were outside the target range for 14 samples. Surrogate recoveries for environmental samples are used to evaluate matrix interference on a sample-specific basis. In eleven of the identified samples, the reported TPH "gasoline" values were nondetect, but the surrogate recoveries were below the laboratory target range. Although the bias of these recoveries cannot be inferred without additional information, these results are consistent with the overall low frequency of detection of gasoline range TPH at the Site. Gasoline range organics were detected in only 104 of 554 soil samples (0-10 feet, see Table 2-19), most of which are in Exposure Area E. Three samples had surrogate recoveries above the laboratory target range, two with detected results, both of which were from samples collected from Exposure Area E (SV-60-05 and SV-61-05), one of the most heavily industrialized and contaminated areas of the Site. While there is some uncertainty in the gasoline range TPH values reported for these samples, elevated levels of volatile fuel hydrocarbons are reported for this exposure area.

Overall, while gasoline range TPH concentrations in samples with surrogate recoveries outside the target range may be under- or overestimated, or falsely reported nondetect values, as described above the results reported for theses samples are generally consistent with gasoline range TPH results for the Site. Therefore, the inclusion of these samples in the HHRA dataset is unlikely to have a significant effect on site characterization and/or the risk results. Review of volatile fuel hydrocarbons/GRO analytical results for 2011 soil samples was also completed through the form of data package reviews (see Attachment 10), and matrix spike recoveries are reported within the specified laboratory control limits for samples used in the Final HHRA.

7.2.3.1.3 Soil Matrix Data for Volatile Organics with Oxygenates

Of the 92 soil samples analyzed for VOCs using USEPA Method 8260 included in the data validation/data usability report, surrogate recoveries of 4-bromofluorobenzene in 22 samples, dibromofluoromethane in three samples, and toluene-d8 in one sample were outside the laboratory target limits. The majority of these samples had surrogate recoveries only slightly lower than the QC limits, while four of the samples had surrogate recoveries slightly higher than the QC limits. In general, when identified, VOC risk drivers in soil included benzene, ethylbenzene, xylenes and trimethylbenzenes (see Table 6-1), and occurred in areas of the Site with known industrial impacts (e.g., Exposure Areas E and J). While there is some uncertainty in the reported VOC concentrations in samples with surrogate recoveries outside the target limits, the inclusion of these samples in the HHRA dataset is unlikely to significantly impact risk results.

Five soil samples (SV-04-05, SV-08-01, SV-38-05, SV-36-05, and SV-58-02) had low matrix spike recoveries, with none of the targeted analytes detected in the unspiked samples. Although the low matrix spike recoveries suggest that the reported nondetect values may be false negatives at concentrations around the reporting limit, the target VOCs were never identified as risk drivers from direct exposure to soil, therefore these samples are unlikely to have a significant impact on the risk results.

As shown in Attachment 10 for 2011 soil data, several matrix spike recoveries are outside laboratory control limits for VOCs. Four samples (B-244-5', B-244-10', B-225-5', B-225-10') had elevated matrix spike recoveries for toluene, with none of the targeted analytes detected in the unspiked samples. Five samples (B-277-10', B-228-5', B-228-10', B229-5', B-229-10') had low matrix spike recoveries for 1,1-dichloroethene. Although the elevated or low matrix spike recoveries have the potential to bias results, the target analytes were never detected above the reporting limit in the corresponding samples and these analytes are not risk drivers in soil. Additionally, chlorobenzene and trichloroethene in soil samples T2C-4', T2C-6', T3B-6' had low matrix spike recoveries, and these analytes were not detected. Although this may have resulted in false negatives, these two analytes are not risk drivers. Toluene in these same three soil samples had a very elevated matrix spike recoveries and toluene was detected at low levels (0.008 to 0.009 mg/kg), therefore these results have the potential to be false positive. Given the low levels reported for toluene, there is no impact on the risk results.

7.2.3.1.4 Soil Matrix Data for PAHs

Of the 89 soil samples analyzed for PAHs USEPA Method 8270/SIM included in the data validation/data usability report, the relative percent difference (RPD) between the laboratory control samples (LCS and LCSD) was greater than 30% for 2-methylnaphthalene, 1-methylnaphthalene, indeno[1,2,3-cd]pyrene, and dibenz(a,h)anthracene, indicating variability greater than 30% for these analytes.[43] While PAHs as a group contribute significantly to the soil-related cancer risk reported for some exposure areas, benzo(a)pyrene is usually the dominant PAH contributor. Therefore, the variability associated with the four PAHs identified above is not likely to have a significant impact on the risk results. Furthermore, the lab did not qualify the associated results because the individual recoveries for these analytes met the QC limits.

[43]The LCS recoveries are used to measure accuracy, while the relative percent difference between the LCS and LCSD are used as a measure of precision.

Matrix spike recoveries of both the spike (MS) and duplicate (MSD) QC samples were below the laboratory target limits for some PAHs in two samples, indicating that the reported concentrations of these PAHs may be biased low. Specifically, the recoveries of benzo(g,h,i)perylene in both the MS and MSD for SV-36-05 (Open Space) are below target limits. Similarly, recoveries of chrysene, fluorene, and benzo(a)anthracene in the MS/MSD for SV-35-01 (Exposure Area G) were below the laboratory target range; in addition, MS/MSD recoveries above the target limit were reported for naphthalene and methylnaphathenes in this samples. While concentrations some PAHs may be underestimated (benzo(g,h,i)perylene in Open Space and chrysene, fluorene, and benzo(a)anthracene in Exposure Area G), these PAHs are not identified as the predominant soil cancer risk drivers for any area of the Site, suggesting that the inclusion of this data in the Final HHRA is not likely to have a significant impact on the risk results. Similarly, while the concentration of naphthalenes in soil may be overestimated in Exposure Area G, these COPCs do not contribute significantly to the cancer risks from soil in this exposure area.

A review of MS/MSD samples for the 2011 soil data did not find any recoveries outside of laboratory control limits for PAHs (see Attachment 10).

7.2.3.1.5 Soil Matrix Data for Hydrocarbon Distribution

Of the 89 soil samples analyzed for extractable fuel hydrocarbons (EFH; C10-C40) included in the data validation/data usability report, surrogate recoveries of n-octacosane were outside the laboratory target range for 17 samples; all had detected analytes. The majority of these samples had high recoveries, indicating the potential for high bias, and the concentrations reported as estimates. Most of these samples were collected from Exposure Area E, an area known to be heavily impacted by petroleum hydrocarbon contamination. Therefore, the inclusion of these samples in the HHRA dataset is unlikely to have a significant effect on site characterization and/or the risk results.

As shown in Attachment 10, several matrix spike recoveries are outside laboratory control limits for VOCs in 2011 soil data. Two samples (B-224-5', B-224-10') in Exposure Area G and two samples in Open Space (B-225-5', B-225-10') had low matrix spike recoveries for TPH-mo (C25-C40), with none of the targeted analytes detected above the reporting limit in the unspiked samples. Although the low matrix spike recoveries suggest that the reported nondetect values may be false negatives at concentrations around the reporting limit, it is unlikely that a single sample location in each of these two areas would

significantly underestimate the risk results since there is adequate sample coverage for TPH-mo.

7.2.3.1.6 Air Toxics Data

The data validation/data usability report evaluated 231 soil gas/ambient air samples analytical results. The quality control parameters were within acceptable laboratory limits, except for recoveries in four laboratory control samples (LCS), detections of m,p-xylenes in one equipment blank, and detection of two analytes at concentrations exceeding the calibration range (in two samples). Specifically, recoveries of four compounds in four LCS samples (64%-69%) were just below the lower laboratory target limit (70%). While results associated with these samples may be slightly underestimated, estimated indoor air risks for the Site are unlikely to be significantly underestimated. The equipment blank sampled in November 2007 contained m,p-xylenes at 0.0095 ug/L. Although this analyte was detected in the blank, most of the detected levels of m,p-xylenes in the associated samples are at least one order of magnitude greater. While samples associated with this blank may have overestimated concentrations of m,p-xylenes, this analyte is generally not a risk driver for indoor air exposure.

Reported concentrations of cyclohexane in soil gas sample SV-38-15 (Open Space) and chloroform in sample SV-10-15 (Exposure Area Ib) exceed the instrument calibration range. Actual concentrations of these chemicals in these samples may be higher or lower than those reported. However, because no enclosed buildings are to be constructed in Open Space, this data quality issue for SV-38-15 does not affect the Final HHRA. While the concentration of cyclohexane in the Exposure Area Ib sample is uncertain, risks are elevated in this exposure area; therefore any under- or over-estimation of risk does not significantly impact the HHRA conclusions.

McDaniel Lambert, Inc. reviewed the 2012 soil gas sampling data and QC parameters according to the data usability criteria defined in Section 2 (see Attachment 10). The laboratory controls spike and surrogate recoveries were within the target limits. Chloroform was detected in both trip blank samples at concentrations of 12 and 13 $\mu g/m^3$, while it was not detected in the laboratory blank samples. These trip blank detections indicate potential contamination may have occurred during transportation of the samples to the laboratory, and therefore the chloroform detected at low levels in Exposure Areas A, M and O may be affected although the risk results are not impacted. In Exposure Area K, where chloroform is a an indoor air risk driver and is detected at more than ten times the

trip blank detections in Exposure Area K, the trip blank detections do not impact the HHRA conclusions.

7.2.3.2 Detection Limits

A potential source of uncertainty lies in the treatment of "nondetect" analytical results. Generally, chemicals unlikely to be associated with site activities and that are not detected (provided detection limits are adequate) are not carried forward in the risk assessment as COPCs. Neptune noted some detection limit issues in their Data Validation and Usability Report (Attachment 9). For example, reporting limits were elevated for soil sample data from the south-east corner of the Site; this was particularly true for PAHs. However, the matrix for the majority of these samples subsequently was identified as asphalt/tar as opposed to soil, and the samples excluded from the HHRA dataset. For carcinogenic PAHs not detected, it was assumed that the PAH was present at half the reporting limit (RL) in the development of the BAP TEQ calculation. The inclusion of carcinogenic PAHs chemicals that were not detected in particular areas of concern at the Site is a conservative approach that may result in the overestimation of potential risk.

Neptune also noted that several soil gas samples have elevated reporting limits. This resulted from high hexane concentrations in these soil gas samples that required high dilution factors during the sample analysis. Neptune did not consider the elevated reporting limits in some soil gas samples to be a significant issue in the data usability assessment. Some chemicals with elevated reporting limits were not included as COPCs because they were never detected in samples collected from a particular exposure area. Elevated reporting limits were observed in Exposure Areas D, E, Ib, and J, and may have resulted in the exclusion of some soil gas COPCs from health risk estimates. However, most exposure areas with elevated reporting limits for some chemicals had elevated inhalation risks. In most cases these inhalation risk levels exceeded general USEPA and Cal/EPA risk management levels. Therefore, even if individual COPCs were excluded from a particular exposure area due to elevated reporting limits, it is unlikely that the inhalation of vapors in indoor air would have been excluded as a pathway of potential concern from a risk management perspective. In addition, SLO County EHS found only a handful of samples with reporting limits significantly elevated above risk-based concentrations, most of which are samples from 15 feet bgs. The limited number of shallow samples with elevated RLs are found in commercial exposure areas where "mitigation will be necessary", and subsequently concluded that there is "no impact on the HRA of these shallow soil gas samples with high RLs" (see May 14, 2009 email communication in Attachment 2).

7.2.4 Inorganic COPCs Screening Based on Background Evaluation

As discussed in Section 2.2.1, inorganic background COPC screening in this risk assessment was based on the results of the *Analysis of Background Metals* (McDaniel Lambert, Inc., Attachment 12). Metals with a maximum site-wide concentration greater than one-tenth the CHHSL were evaluated using site-wide background comparisons by geology and spatial intensity plots. Since completion of the background evaluation, five additional metals samples have been collected from the Site. The small number of soil samples collected from onsite locations in 2011 is unlikely to impact the background analysis results that were based on a total of 313 samples. A cursory review of 2011 metals data was completed to ensure the new data would not impact the background analysis conclusions. For confirmation, arsenic concentrations were examined in more detail since this is a metal within background that has elevated toxicity. Arsenic in the 2011 soil samples were compared to historical soil data using summary statistics and normal quantile plots. As shown in Figure 7-1, the distribution of the new arsenic data is consistent with the distribution of the data included in the background analysis, therefore exclusion of these samples from the statistical comparison tests does not affect the results.

The background evaluation concluded that Site concentrations of chromium and lead are above background representative of the Obispo Formation, and vanadium is elevated above background representative of the Pismo Formation. Although chromium, lead and vanadium are elevated in only one type of geology at the Site, these three metals were carried forward as COPCs in every exposure area regardless of its predominant geology. Four other metals (antimony, cadmium, and mercury) were included as COPCs in exposure areas where they are detected because low detection frequencies limited the ability to conduct statistical hypothesis tests. Although proportions tests can be conducted to compare the frequency of detection between site and background data sets, in most cases the frequency of detection was so small that statistical tests are not useful; especially for antimony and thallium, which were not detected in any background samples. Overall, the selection of inorganic COPCs was health protective, and as a result the subsequent risk estimates for some exposure areas may have overestimated risks related exclusively to Site activities.

The background evaluation (Attachment 11) concluded that arsenic concentrations in soil are within local background concentrations, based on previous investigations of the Site's geology and geologic-specific statistical comparisons. Although the source of arsenic (volcanic glass; geogenic) is not related to historical site operations (anthropogenic), the

exclusion of arsenic as a COPC may result in an underestimation of non-Site related cancer risk.

7.2.5 Species of Site Constituents

The potential natural attenuation and weathering of petroleum hydrocarbons and related components introduces additional uncertainty into the COPC selection process. Natural attenuation is the reduction of chemical concentrations due to naturally occurring processes in the environment. Natural attenuation includes physical processes such as dispersion, diffusion, dilution by recharge, and volatilization. Combined with *in situ* chemical reactions, such as sorption and biodegradation, over time, these processes may alter concentrations and/or the structures of existing chemicals. Changes in chemical composition and/or concentration occur at the Site could result in changes in the risks and hazards calculated in this assessment. Most significantly, the absence of a biodegradation estimate for the petroleum-related soil gas COPCs likely results in an overestimation of indoor air risks over the 25 to 30-year period evaluated.

7.3 UNCERTAINTIES IN DOSE-RESPONSE ASSESSMENT

Considerable uncertainty is associated with the qualitative (hazard assessment) and quantitative (dose-response) evaluations of the constituents. The hazard assessment deals with characterizing the nature and strength of the evidence of causation, or the likelihood that a constituent that induces adverse effects in laboratory animals will induce adverse effects in humans. Dose-response assessment is the process of characterizing the relationship between the administered dose of an agent and the incidence and severity of adverse health effects in an exposed population.

In this assessment, COPC dose-response values (cancer slope factors, inhalation unit risk factors, and reference doses and concentrations) were taken from the guidelines recommended by the agencies involved and professional organizations. To ensure that potential health impacts to the exposed receptors will not be underestimated, regulatory agencies use uncertainty (or safety) factors in calculating dose-response values. The built-in uncertainty (and associated conservatism) with the derivation of the dose-response values carries through to the predicted risk values. This risk assessment also used the hazard index, which assumes that the toxic effects of all noncarcinogenic constituents are additive. The uncertainties associated with extrapolation and hazard indices are discussed in greater detail below.

7.3.1 Extrapolation

Uncertainties related to toxicity assessment are inherent in the modeling of dose-response relationships for exposure to constituents and in calculating numerical estimators to predict health effects with a margin of safety. In the absence of (or in addition to) reliable epidemiological data, experimental laboratory data are used for dose-response assessments. Extrapolation from animals to humans is also inherent to the process of toxicity testing, as is route-to-route extrapolation. The inference that adverse effects found in animal bioassays conducted in the laboratory are indicative of likely human toxicity is fundamental to toxicological research and risk assessment. Examples of uncertainties that may be used in modeling of dose-response relationships, upon which CSF, IUR, RfD, or RfC values are based, include extrapolation of findings:

- from laboratory animal experiments to humans (uncertainties arising from surface-area-based dose conversion and interspecies extrapolation);
- from high exposure levels to low exposure levels;
- from acute exposures to chronic exposures or from occupational conditions to non-occupational or environmental conditions; and
- from oral toxicity values to dermal and inhalation toxicity values, using gastrointestinal absorption factors, when available.

The level of uncertainty of constituents varies because information concerning some constituents and their associated health effects is comparatively scarce while, for others, more information is available from health effects studies. Although there is some uncertainty in extrapolating between exposure routes, the route-to-route extrapolations applied in this risk assessment are consistent with guidance (USEPA 2004a and Cal/EPA 2013b). The primary assumption of route-to-route extrapolation is that the health effect of concern is related to systemic (e.g., expressed in tissues/organs distant from the site of administration) as opposed to local toxicity. The oral-to-dermal cancer and noncancer toxicity extrapolations include an adjustment for absorption efficiency to represent the toxicity factor in terms of absorbed, as opposed to administered, dose (ABS_{GI}; USEPA 2004a). However, a limited number of chemical-specific absorption adjustment factors are available, and use of the recommended default value of 100% (no adjustment of oral value) could result in underestimating risk, with the magnitude inversely proportional to the actual oral absorption of the chemical. Moreover, as noted in USEPA's dermal risk assessment guidance, the extrapolated dermal values account only for systematic toxicity and not direct dermal toxicity, such as allergic contact dermatitis, urticarial reactions, chemical irritation, and skin cancer (USEPA 2004a). However, chemical specific dermal

toxicity values, and guidance does not address potential dermal toxicity associated with direct contact. Extrapolations between oral and inhalation noncancer toxicity values account only for conversion from dose to concentration, or vice-versa. However, as noted by Cal/EPA, systemic effects are known to occur and significant portal of entry effects are not anticipated for organic compounds, which are the primary COPCs at the Avila Tank Farm (Cal/EPA 2013b). Overall, while the use of route-extrapolated toxicity values may under- or overestimate the noncancer health effects associated with a specific chemical, its application is more conservative than excluding COPCs from the quantitative risk assessment because chemical specific-criteria are not available.

For noncarcinogenic constituents chronic toxicity criteria (RfDs and RfCs) were used for subchronic exposure scenarios (e.g. short-term resident and intrusive utility worker receptors). This use of chronic toxicity criteria for less than chronic exposures is conservative and probably results in an overestimation of noncancer risk.

7.3.2 Early Life Exposure Adjustment

There are many carcinogenic MOAs , including but not limited to inhibition of cell death, immune suppression, and mutagenicity. Understanding the mode of action can be a key to identifying processes that may cause chemical exposures to differentially affect a particular population segment or life stage. As discussed in Section 3.2.1, the evaluation of children (short-term residents, recreators, and offsite residents) in this risk assessment includes the application of age-dependent adjustment factors for all carcinogens, regardless of purported mechanism of action, consistent with OEHHA methodology (Cal/EPA 2009b). In contrast, USEPA guidance recommends modifying toxicity for only carcinogens with a mutagenic MOA (USEPA 2005). Further, in their review of the use of the USEPA RSLs, DTSC does not recalculate or recommend recalculating the screening levels for carcinogens with non-mutagenic modes of action (Cal/EPA 2013b). Given the inconsistency in approach among governmental agencies, there is considerable uncertainty in how best to evaluate non-mutagenic carcinogens. In the Final HHRA, the application of age-adjustment factors is conservative and additionally protective of infants and children, but may result in an overestimation of risk from carcinogens with modes of action other than mutagenicity. This is particularly true for Exposure Area C bungalow short-term residents, Open Space recreators (0-10 ft bgs), and Site-wide no development offsite residents, where cancer risks just exceeds the low end of the USEPA risk management range, but include non-mutagenic VOCs among the primary risk drivers (chloroform, benzene, and ethylbenzene, respectively).

7.3.3 Additive Noncarcinogenic Effects

For noncarcinogenic constituents, the use of the hazard index introduces uncertainty and a measure of conservatism to the estimate of risk. The basis of the HI is the assumption that the toxic effects of all noncarcinogenic constituents are additive. It is clear, however, that all noncarcinogenic constituents do not have identical toxic effects and mechanisms of action. For example, some chemicals act specifically on the liver, while others act on the lung. In this risk assessment, HQs have not been calculated for each generalized toxic effect or mechanism of action, as is recommended in the RAGS (USEPA 1989). If the HIs calculated in Section 6 were segregated according to target organ, the overall potential for noncarcinogenic effects would be diminished in some cases.

7.3.4 Chemicals without Toxicity Factors

Noncancer toxicity factors were not identified for some VOCs and PAHs: m&p-xylenes, o-xylenes, sec-butylbenzene, tert-butylbenzene, 4-ethyltoluene, n-heptane, p-isopropyltoluene, 2,2,4-trimethylpentane, benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, BaP, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, and phenanthrene. Based on structure activity relationships total xylenes was identified as a surrogate for m&p-xylenes, o-xylenes, and 4-ethyltoluene, hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane, n-butylbenzene as a surrogate for sec-butylbenzene and tert-butylbenzene, anthracene as a surrogate for benz(a)anthracene and dibenz(a,h)anthracene, fluoranthene as a surrogate for benzo(b)fluoranthene and benzo(k)fluoranthene, and pyrene as a surrogate for benzo(g,h,i)perylene, BaP, chrysene, and indeno(1,2,3-cd)pyrene. The use of these surrogates is believed to be conservative, based on structure activity relationships, but may result in an under- or overestimation of risk, depending on the actual toxicity of the chemicals for which data are not available.

The primary sources of toxicity criteria (USEPA or Cal/EPA) do not report an inhalation RfC for cis-1,2-dichloroethene, and a suitable surrogate was not identified. Although both USEPA and ATSDR have determined there are insufficient inhalation toxicity data to derive an RfC for cis-1,2-dichloroethene, the TERA database lists a value based on the LOAEL from an inhalation study of limited duration for the isomer, trans-1,2-dichloroethylene. However, studies have reported different inhalation uptake rates and metabolism pathways between the isomers (USEPA 2010), therefore the suitability of trans-1,2-dichlorethene as a surrogate for cis-1,2-dichloroethene has been debated. The use of route extrapolation to develop the RfC for cis-1,2-dichloroethene (see Table 3-1) is consistent

with the recommendation specified for this chemical in HERO's HHRA Note 3 (Cal/EPA 2013b, see especially Table 3).

7.4 UNCERTAINTIES IN EXPOSURE ASSESSMENT

The uncertainty associated with the exposure point concentrations depends on the quality of the selected input parameters. This section addresses the uncertainty related to the quantification of exposure concentrations and COPC intakes with regard to these input parameters.

7.4.1 Receptor Selection and Exposure Pathways

Section 4 identified the human populations that, based on the Vision Plan, could be exposed to residual chemicals at the Site. Complete exposure pathways also were identified. The usefulness of this risk assessment is dependent upon the accuracy of this information.

7.4.1.1 Produce Consumption Uncertainties

Potential health effects from exposure to chemicals in produce grown on in the Native Gardens was quantitatively evaluated for restaurant visitors, who were assumed to eat all their meals, each containing 25% Site-grown produce at Site restaurants for 28 days. The resulting cancer risk estimate is $3x10^{-8}$, and the noncancer hazards are very low (0.002 to 0.005). As indicated in Section 5.2.1.8, the short-term residents were identified as the most likely restaurant visitors; therefore the health risk estimates for produce consumed by restaurant visitors were included in the quantitative risk estimates for only these receptors. Other receptors most likely to ingest produce grown in the Native Gardens and served at restaurants on the Site include indoor and outdoor employees, and recreational visitors to the Site. The Site-grown produce ingestion rates and restaurant dining frequencies for these receptors are likely to be highly variable. Of these Site receptors, indoor employees such as restaurant workers, who may receive free or discounted meals, are likely to have the highest level of consumption of produce grown in the Native Gardens. If these workers eat a meal containing 25% Site-grown produce on each of their 250 working days, the resulting cancer risk estimate would be $2x10^{-8}$ and the noncancer hazard would be 0.006. As shown in Table 6-1, estimated total cancer risks for indoor employees range from $3x10^{-8}$ to $2x10^{-4}$ and total noncancer hazards range from 0.002 to 0.5. Therefore, while this level of produce consumption by indoor employees could be a significant exposure pathway in some exposure areas, its exclusion for receptors other than short-term visitors is unlikely to impact risk management decisions at the Site.

7.4.2 Exposure Parameters

Many assumptions must be made in order to estimate human exposure to chemicals. The exposure assessment requires assumptions about general characteristics and potential human exposures in various development areas at the Site. For each exposure pathway, assumptions were made about several exposure parameters, including the following: the activity patterns for an individual that may result in exposure; the frequency for occurrence of each activity; the routes of exposure by which an individual could be exposed; and the amount of contaminated media an individual may contact during the activity. In the absence of site-specific data for this risk assessment, assumptions used in the calculation of risk are consistent with Cal/EPA and USEPA guidance for deriving estimates for the reasonable maximum exposure (RME). Many of the exposure variables recommended by the Cal/EPA and USEPA for the RME case represent the upper 90th or 95th percentile values. Because chemical intake may be overestimated substantially using this conservative approach, cancer risks and noncancer hazards likely are overestimated.

One of the most important assumptions influencing the results is the rate of dermal absorption of chemicals from soil and water. Very few directly applicable data exist to support estimates of the rate at which chemicals present in the water and soil may be absorbed through the skin during and following dermal contact. Estimates of chemical intake for dermal contact exposure pathways are based on health protective assumptions about the frequency and amount of dermal contact with each medium. In addition, estimates of the fraction of a chemical that is subsequently transported across the skin (i.e., absorbed) are also included in the chemical intake estimates.

The fraction of soil ingested (FI) by a receptor in a particular exposure area is also a critical assumption. This FI value is typically 1.0 for standard residential exposure. However, much of the short-term resident's time would likely be spent at other locations outside of the individual exposure areas (e.g. the beach, the golf course, nearby parks etc.). Therefore a fraction ingested of 0.25 was used for short-term residents at the Site, as these receptors are very unlikely to be in one specific location for an extended period of time. The FI was applied only to the ingestion route of exposure and not other routes of soil exposure. This assumption of an FI of less than 1.0 could result in an underestimation of risk, but based area recreational opportunities, it is believed to be a reasonable representation of likely short-term resident exposure.

Another assumption that tends to overestimate exposure is that chemicals in soil are 100% bioavailable upon oral ingestion. In this assessment, oral bioavailability factors were used

for chemicals where there was strong support in the literature for doing so (see Section 3.4). The use of the 29% bioavailability factor for PAHs likely results in a more accurate prediction of risk for these COPCs than for COPCs where bioavailability was assumed to be 100%.

Short-term residents are assumed to visit the Site 28 days per year for 30 years; some visitors may stay longer and others for only a few days. Therefore, the estimated health risks may under- or overestimate actual total cancer risks and noncancer hazards for these Site visitors depending on the actual frequency of stay. Table 7-1 below shows the annual frequency of stay (days) required to result in a total cancer risk of $1x10^{-6}$ and a noncancer hazard of 1.0. For all Exposure Areas except C (hotel bungalow), and E, Ib, J, and K (hotel bungalow and default commercial building), the cancer risk for short-term residents would remain below $1x10^{-6}$ even if they stay longer than 28 days (33 to 220 days). The child noncancer hazard remains below 1.0 for short-term residents in any exposure areas if they stay longer than 28 days (138 to 3,369 days).

Table 7-1. Uncertainties Associated with Short-term Resident Frequency of Stay

Exposure Area	Building	Cancer Risk		Child Noncancer Hazard	
		ILCR	Days to equal $1x10^{-6}$	HI	Days to equal 1
A	Default Commercial	1.7E-07	163	0.01	3369
C	Hotel Bungalow	1.6E-06	18	0.02	1182
	Default Commercial	7.4E-07	38	0.02	1297
D	Hotel Bungalow	8.6E-07	33	0.13	221
	Default Commercial	5.1E-07	54	0.12	228
E	Hotel Bungalow	1.8E-04	<1	0.20	139
	Default Commercial	8.9E-05	<1	0.13	216
Ia	Hotel Bungalow	6.1E-07	46	0.01	1882
	Default Commercial	4.1E-07	69	0.01	1927
Ib	Hotel Bungalow	2.2E-04	<1	0.20	141
	Default Commercial	1.0E-04	<1	0.12	235
J	Hotel Bungalow	2.1E-04	<1	0.20	138
	Default Commercial	9.8E-05	<1	0.12	229
K	Default Commercial	6.9E-06	4	0.02	1132
L	Hotel Bungalow	4.2E-07	66	0.04	781
	Default Commercial	3.2E-07	88	0.04	784
M	Default Commercial	4.9E-07	57	0.03	946
N	Default Commercial	1.3E-07	220	0.02	1427
O	Default Commercial	2.8E-07	101	0.03	987

Note: Based on the exposure duration, the number of days cannot actually exceed 350.

7.4.3 Exposure Point Concentrations

7.4.3.1 Detection Limits

In addition to introducing uncertainty in the COPC selection process, treatment of nondetects also introduces uncertainty in exposure point concentration calculations. In this risk assessment, nondetect analytical results were assumed to be equal to half of the reporting limit for BaP TEQ calculations. This approach is consistent with regulatory guidance. It is conservative and assures that nondetect analytical results do not artificially underestimate potential constituent concentrations.

As discussed in Section 7.2.3.2, Neptune identified elevated reporting limits in some soil gas samples. While the elevated reporting limits may have resulted in the exclusion of some soil gas maximums from being used in the indoor air risk calculations, most occurred

in samples from depth (15 ft bgs). While a few shallow (5 ft bgs) soil gas samples had elevated RLs, but these sample are located in commercial exposure areas where SLO County EHS indicated that "mitigation will be necessary". SLO County EHS concluded that there is "no impact on the HRA of these shallow soil gas samples with high RLs" (see May 14, 2009 email communication in Attachment 2).

7.4.3.2 Wet Weight versus Dry Weight Soil Data

The data used in this assessment are primarily wet weight values, with the exception of results for PAHs from soil samples collected during 2007 and cliff samples collected during 2011, which were reported as dry weight. Published soil risk thresholds such as the CHHSLs are in terms of dry weight. Wet weight concentrations are lower than dry weight concentrations, therefore the use of mostly wet weight data results in an associated underestimation of soil risk. However, it is not anticipated that this will significantly impact the overall Site risk characterization results, given that health risks to receptors spending time indoors generally result from the indoor air (as opposed to soil) pathway, and because PAHs, for which dry weight data were available, are the most commonly identified soil risk drivers for outdoor receptors. Any future sampling at the Site (such as confirmation sampling) should include moisture content and/or be reported as dry weight.

7.4.3.3 Soil Depth Horizon

As discussed in Section 5.1, the 0-2 ft depth horizon was identified as the appropriate zone for derivation of the soil EPC for short-term residents and indoor and outdoor commercial employees (USEPA 2002a; see also Attachment 2), using the 95% UCL of the arithmetic mean concentration, as sample sizes allow. Because of concerns regarding coverage within the 0-2 ft soil profile in some exposure areas, soil representative concentrations for these receptors are the greater of the EPCs (maximum or UCL, as appropriate) calculated for the 0-2 and 0-10 ft depth horizons. As such, soil-related risks for these receptors may be overestimated.

7.4.3.4 Small Sample Size and the Use of Maximum Soil Concentrations as EPCs

Inherent in small sample sizes is uncertainty in the statistical analyses of these data, and any resulting statistical values used as EPCs in this risk assessment. As discussed in Section 5.12, for most receptors, the 95% UCL is the preferred EPC used to evaluate health risks. However, for exposure areas where the number of analyses for a COPC is less than ten and the number of detections was less than four, the maximum detected value was used as the soil EPC. Short-term resident and commercial employee soil representative concentrations

are the greater of the EPCs calculated for the 0-2 and 0-10 ft depth horizons; in many cases the sample size in the 0-2 ft soil horizon was not large enough to calculate a 95% UCL and the maximum concentration from this soil horizon was greater than the 95% UCL from the 0-10 ft soil profile. In such cases, potential risks probably are overestimated for short-term residents and indoor and outdoor employees, because these receptors are unlikely to be continuously exposed to the maximum detected soil concentrations in a particular exposure area. This is especially true for larger exposure areas where all or most soil EPCs are maximum values (e.g., Exposure Areas C, Ia, and L).

7.4.3.5 Offsite Resident Outdoor Air Representative Concentrations

As described in Section 1.1, this risk assessment examined the potential risks to offsite residents if no development occurs on the Site. Under this scenario, the only potential exposure pathway for offsite residents is inhalation of particle-associated COPCs in outdoor air resulting from wind erosion (fugitive dust) and volatile COPCs in outdoor air (outdoor vapors). As described in Section 5.1.4.1, these offsite outdoor air exposures were modeled from onsite soil concentrations, using the EPCs calculated for the 0-2 ft depth horizon. The use of this depth horizon is consistent with guidance (USEPA 1989) and is more realistic with respect to the potential for wind-blown dust than the 0-10 ft depth horizon. The offsite resident risk reported in Section 6 (2x10-6), resulted from estimated concentrations ethylbenzene in outdoor air, which were calculated using site-wide soil 95% UCL concentrations and residential default VFs (see Section 5). Because VOCs were detected more frequently and at higher concentrations in the 0-10 ft depth horizon than the 0-2 ft depth horizon, risks based on this deeper, but less realistic, horizon would be higher. However, the overall evaluation of the offsite resident remains conservative in a number of ways. First, although offsite residents are located along the western boundary of the Site where soil contamination is limited, the use of site-wide 95% UCLs assumes contributions from the most contaminated portions of the Site. Moreover, the default residential soil-to-air VFs assume an infinite contaminant source and that soil contamination begins at the soil surface (USEPA 2002a). In addition, dispersion modeling demonstrates that the onsite air concentration is always higher than the offsite air concentration (assuming a square emission source; USEPA 2002a). Given these conservative assumptions, it is likely that soil-related risks for offsite residents for the no development scenario are overestimated. Further, as discussed in Section 1.4, ambient air monitoring during the Avila Beach (Front Street) remediation included two monitoring stations at the Avila Tank Farm, and demonstrated that outdoor air in the area had low concentrations of VOCs, comparable to other coastal areas removed from significant urban impacts ambient air sampling

conducted at the property (Attachment 4), which showed ambient air as would be expected of a coastal environment distant from urban areas.

7.4.3.6 Indoor Air Representative Concentrations

Indoor air vapor concentrations were estimated based on the J&E model (USEPA 2003), and were modeled using the maximum detected soil gas concentrations (from the 2007 and 2012 sampling events) for a particular exposure area. Parameters used by Cal/EPA in the J&E model were designed to be "conservative and reasonable enough to cover a variety of existing site conditions" (Cal/EPA 2005c). Because maximum detected soil gas concentrations were used, and the model assumes a non-diminishing source (no biodegradation or natural attenuation), the soil gas concentrations used in the model likely overestimate future indoor air exposures, particularly over the 25 to 30-year period evaluated. The remaining input parameters and model assumptions may over- or underestimate indoor air concentrations resulting from subsurface soil contamination depending on site- and building-specific conditions, although the default parameters recommended by Cal/EPA (2005c, 2011a) are designed to be conservative.

As for chemicals without toxicity factors (Section 7.3.3) available chemical properties, VOCs for which the chemical properties necessary for modeling were not available were evaluated using surrogates. Based on structure activity relationships, p-xylene was identified as a surrogate for 4-ethyltoluene, hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane, 2-butanone as a surrogate for 2-hexanone, and MTBE as a surrogate for tert-butyl alcohol, as noted in Tables 5-43 through 5-55. The chemical properties for these and all other chemicals evaluated using the J&E model are included in Attachment 16. The use of these surrogates is conservative, based on structure activity relationships, and may result in an overestimation of risk.

The 2007 and 2012 soil gas sampling field work included sampling at two depths, 5 and 15 ft bgs (per Cal/EPA guidance and ATCAT approval), with health risks based on the depth that resulted in the greatest indoor air levels. At some locations, in addition to the July 2007 sampling, soil gas samples were collected in September 2007 and/or November/December 2007. Several general temporal and spatial trends are apparent in the 2007 data.[44] As shown in Table 7-2, overall the number of chemicals detected at a sampling location decreased dramatically over subsequent sampling events (for each

[44]The 2012 soil gas results are not included in this evaluation because they were collected from new sampling locations and inlcuded analyses of a larger suite of VOCs.

sampling event, the number of chemicals detected at 5/15 ft are shown). In addition, generally more chemicals were detected in the 15-ft samples than in the 5-ft samples.

Table 7-2. Chemicals Detected in Soil Gas Over 2007 Sampling Events

Sample Location	Number of Chemicals Detected		
	July 2007	September 2007	Nov/Dec 2007
SV-01	16/17	NS	1/0; 2/0
SV-03	17/20	NS	2/0
SV-05	16/18	2/4	2/4
SV-10	13/17	5/17	NS
SV-11	3/16	4/2	NS
SV-16	19/11	NS	4/6
SV-17	10/6	NS	5/3
SV-19	10/13	NS	10/12
SV-26	2/13	NS	10/NS
SV-27	21/20	NS	6/17
SV-28	24/14	NS	2/4
SV-35	23/8	NS	10/15
SV-38	16/20	5/5	3/3
SV-39	15/9	NS	NS/12
SV-41	9/9	NS	2/3
SV-45	28/15	NS	12/10
SV-50	5/9	2/3	¼
SV-51	10/17	3/9	3/6
SV-52	13/24	2/18	2/8
SV-53	11/17	2/12	6/12
SV-54	17/22	4/21	2/16
SV-61	7/6	NS	11/13

#/# refers to 5/15-ft samples.
NS = Not sampled.

In addition to the diminishing trend in the number of chemicals detected, soil gas COPC concentrations are generally higher in the July 2007 samples than at the same depths in subsequent sampling events (September and November/December 2007). Maximum soil gas concentrations are lower overall in the samples collected in 2012. Both sampling events indicate a substantial rate of attenuation with depth, as the 15 ft bgs samples tend to have higher COPC concentrations than the 5 ft bgs samples. To be health protective, this risk assessment used the maximum estimated indoor air vapor concentrations resulting from *either* the 5- or 15-ft soil gas result (see Section 5.1.4.2), and did not consider whether or not soil gas concentrations diminished (or were not detected) in subsequent sampling events. Despite the observation of substantial attenuation with depth, it was considered

health protective to use the maximum resulting indoor air concentration, regardless of "source" depth, because at this time precise building placement, construction parameters, and earth-moving activities are not known.

Exposure Areas where indoor receptor cancer risks and/or noncancer hazards are overwhelmingly dominated by the indoor air pathway include C, E, Ia, Ib, J, K, M, and O (see Table 6-1). As shown in Table 7-3, for all but Exposure Area C, maximum concentrations of indoor air COPC risk drivers occurred at 15 ft bgs. Table 7-3 compares the 15-ft soil gas concentrations and risk results to those for the 5-ft maximum soil gas detection in the same exposure area. Generally, estimated indoor air vapor concentrations are much lower based on the 5-ft samples; this suggests that the J&E model does not adequately capture the magnitude of vertical soil gas attenuation occurring at the Site. As such, risk estimates based on the 15-ft results may overestimate subsurface vapor intrusion risks in most Exposure Areas at the Site.

Table 7-4 demonstrates that for exposure areas where indoor receptor cancer risk(s) exceed $10x10^{-6}$, total cancer risks are up to two orders of magnitude lower based on the 5-ft soil gas sampling results.

Table 7-3. Comparison of 15-ft and 5-ft Maximum Soil Gas Concentrations and Associated Risks for Primary Risk Drivers

COPC	15' Maximum Soil Gas Used in HHRA				5' Maximum Soil Gas			
	Soil Gas (µg/L)	J&E Model Result (µg/m^3)	ILCR Result	Sample Details	Soil Gas (µg/L)	J&E Model Result (µg/m^3)	ILCR Result	Sample Details
Exposure Area C – Hotel Bungalow Short-term Resident								
Chloroform					3.5	2.42	9.9E-07	SV-45-05
Exposure Area E – Hotel Bungalow Short-term Resident								
Benzene	1600	75.9	1.7E-04	SV-60-15	160	27.1	6.0E-05	SV-61-05
Exposure Area Ia – Hotel Bungalow Indoor Employee								
Chloroform	2.6	0.69	2.7E-07	SV-14-15	0.53	0.37	1.4E-07	SV-14-05
Exposure Area Ib – Hotel Bungalow Short-term Resident								
Chloroform	1500	398	1.6E-04	SV-10-15	2.5	1.73	7.1E-07	SV-10-05
Exposure Area J – Hotel Bungalow Short-term Resident								
Chloroform	1300	345	1.4E-04	SV-27-15	36	24.9	1.0E-05	SV-27-05
Exposure Area K – Default Commercial Building Short-term Resident								
Chloroform	120	14.9	6.1E-06	SV-25-15	1.2	0.35	1.4E-07	SV-25-5
Exposure Area M – Default Commercial Building Indoor Employee								
Benzene	1.5	0.12	2.6E-07	SV-03-15	0.18	0.039	8.7E-08	SV-04-05
Exposure Area O – Default Commercial Building Indoor Employee								
Benzene	0.87	0.07	1.5E-07	SV-01-15	0.27	0.057	1.2E-07	SV-05-05

NOTE: Building-receptor combinations corresponding to exposure area maximum risk values vary depending on the buildings and receptors evaluated.
NA = Not Applicable

Table 7-4. Comparison of Total Health Risks Based on 15-ft and 5-ft Maximum Soil Gas Concentrations

Receptor	Final HHRA Calculation		5-ft Maximum Calculation**	
	ILCR*	HI	ILCR*	HI
Exposure Area C				
Bungalow Short-term Resident Adult	2E-06	0.008	2E-06	0.008
Bungalow Short-term Resident Child	NA	0.02	NA	0.02
Bungalow Indoor Employee	1E-06	0.02	1E-06	0.02
Default Comm. Bldg. Short-term Resident Adult	7E-07	0.006	7E-07	0.006
Default Comm. Bldg. Short-term Resident Child	NA	0.02	NA	0.02
Default Comm. Bldg. Indoor Employee	6E-07	0.01	6E-07	0.01
Exposure Area E				
Bungalow Short-term Resident Adult	2E-04	0.2	6E-05	0.1
Bungalow Short-term Resident Child	NA	0.2	NA	0.1
Bungalow Indoor Employee	2E-04	0.5	6E-05	0.2
Default Comm. Bldg. Short-term Resident Adult	9E-05	0.08	3E-05	0.1
Default Comm. Bldg. Short-term Resident Child	NA	0.1	NA	0.1
Default Comm. Bldg. Indoor Employee	8E-05	0.2	3E-05	0.1
Exposure Area Ib				
Bungalow Short-term Resident Adult	2E-04	0.2	2E-06	0.01
Bungalow Short-term Resident Child	NA	0.2	NA	0.1
Bungalow Indoor Employee	2E-04	0.5	1E-06	0.03
Default Comm. Bldg. Short-term Resident Adult	1E-04	0.08	1E-06	0.01
Default Comm. Bldg. Short-term Resident Child	NA	0.1	NA	0.05
Default Comm. Bldg. Indoor Employee	1E-04	0.2	4E-07	0.03
Exposure Area J				
Bungalow Short-term Resident Adult	2E-04	0.2	2E-05	0.03
Bungalow Short-term Resident Child	NA	0.2	NA	0.1
Bungalow Indoor Employee	2E-04	0.5	2E-05	0.1
Default Comm. Bldg. Short-term Resident Adult	1E-04	0.08	9E-06	0.02
Default Comm. Bldg. Short-term Resident Child	NA	0.1	NA	0.1
Default Comm. Bldg. Indoor Employee	9E-05	0.2	8E-06	0.1
Exposure Area K				
Default Comm. Bldg. Short-term Resident Adult	7E-06	0.009	3E-07	0.004
Default Comm. Bldg. Short-term Resident Child	NA	0.02	NA	0.02
Default Bldg. Indoor Employee	6E-06	0.02	2E-07	0.01

* Cancer risk is age-weighted and assumes 6 years of exposure as a child and 24 years as an adult, therefore risk is reported for adults and not applicable (NA) to child receptors;

**When a soil gas COPC is not detected at 5 ft bgs, risk calculations exclude that chemical as a COPC.

7.4.3.7 Site-grown Produce Representative Concentrations

No site-specific produce data are available for the Site, therefore concentrations of COPCs in produce that may be grown in Native Gardens (for use in restaurants developed on the property) were conservatively estimated using bioconcentration factors identified for the development of soil-screening levels (USEPA 2005). As discussed by Cal/EPA in its development of health-based soil screening numbers, "the uncertainties in the food pathway exposure assessment are considerable" (Cal/EPA 2005d), and include the lack of a well-developed understanding of the transfer mechanisms (and quantification thereof) between soil contaminants and plants, as well as substantial variability in the amount of site-grown produce consumed. The Cal/EPA (2005d) concluded that:

> *While dealing with uncertainties in quantifying exposure pathways for health risk assessment is not unusual, dealing with the scope of uncertainties for the food pathway is especially difficult. For this reason, USEPA and California agencies regulating site cleanups, have chosen not to routinely include this pathway in site-specific risk assessments for most chemicals.*

It should be noted that site-specific produce data were available for the Town of Avila, where PAHs were also identified as COPCs (Risk Science Associates 1998), but were not detected in any of the vegetation sampled. According to Risk Science Associates (contractor to the County of SLO Health Department):

> *Laboratory analysis of seven fruit samples obtained in February 1998 from backyard gardens within Avila Beach was conducted. Three orange samples, three lemon samples, and one avocado sample were analyzed for PAHs by EPA method 8270……PAHs were not detected in any Avila or control fruits at a method detection limit of 10-100 ppb. Additionally, grass samples were obtained from three locations in Avila Beach, one of which was located over the shallowest point of the plume (within four ft of the surface), and analyzed for PAHs. All grass samples were reported non-detect for PAHs. These results indicate that uptake into above ground crops and grass does not occur. The only remaining issue regarding this potential exposure pathway is the uptake of PAH contamination into below ground crops such as potatoes, carrots and radishes…. There is no evidence to support the notion that there would be significant uptake into below-ground crops and there is no indication that PAH uptake into root crops would be any different than uptake into fruits or grass.*

Given the uncertainties associated with modeling uptake of metals and PAHs into fruits and vegetables, the conservative approach used in this risk assessment to model potential exposure of site-grown produce eaten in restaurants on the Site may result in an overestimation of the actual risk from this pathway.

7.5 HYPOTHETICAL REMEDIATION SCENARIO DOWNWIND RESIDENT RISKS

As described in Section 1.1, the SLO County EHS has requested that the risk assessment include the evaluation of a downwind resident potentially exposed to dust generated during an excavation-type remedial action (see correspondence in Attachment 2), with the remediation area identified as the existing exposure area with the highest non-vapor intrusion-related health risks. Because this is an excavation scenario, risks are evaluated based on COPC concentrations in the 0-10 ft depth. Because intrusive utility workers were evaluated using the maximum detected concentrations as EPCs, this receptor can be used as the indicator of the exposure area posing the greatest soil inhalation-related health risks. As shown in Table 6-1, cancer risks and noncancer hazards for the intrusive worker are greatest in Exposure Area E and are driven primarily by inhalation of volatiles in soil. Therefore, Exposure Area E was identified for the hypothetical remediation scenario.

For the downwind resident in the hypothetical remediation scenario, only inhalation of fugitive dusts and outdoor vapors is relevant (Section 4.2.3 and Figure 4-1); these intakes are described for the offsite resident in Sections 5.2.1.8 and 5.2.2. The soil COPCs for the hypothetical downwind resident are the same as those identified in Exposure Area E summary tables (Tables 2-6 and 5-9). Because final development plans (such as building placement) and associated exposure-area specific remediation plans have yet to be defined, no specific portion of Exposure Area E can be specified as the "remediation area". Therefore, to be conservative, the maximum detected COPC soil concentrations are used as the soil EPCs (see Table 7-5). Concentrations of chemicals in dust (particle-associated concentrations) are calculated as outlined in Section 5.1.4, however the PEF is the default value for offsite residential exposure during construction activities recommended by guidance (4.4×10^8 m^3/kg; USEPA 2002a). This value includes particulate emissions to offsite residents resulting from dust emitted by road traffic (USEPA 2002a Equation 5-10) and by wind erosion (USEPA 2002a Equation 5-11), and assumes that exposure occurs at the site/source boundary. The default PEF assumes a 0.5 acre source size, but can be calculated for source sizes up to 500 acres. The source size in Exposure Area E is unknown; however increasing the source size increases the PEF, which results in lower estimated COPC dust concentrations, so it is conservative to use the default value in this hypothetical scenario. For volatile chemicals, the default chemical specific volatilization factors (VFs) are used to estimate outdoor air concentrations (Table 5-38).

Estimated cancer risk for the downwind resident in this hypothetical remediation scenario is 1×10^{-4} and is driven almost exclusively by modeled concentrations of benzene in outdoor

air (Table 7-6). The noncancer hazard is 0.4 and also results from estimated concentrations of volatiles in outdoor air, especially benzene and the trimethylbenzenes (Table 7-7). While these are worst-case estimates, this scenario demonstrates the importance monitoring both vapor and particulate phase COPCs in ambient air during remedial activities. Additionally, a more specific risk for downwind residents can be estimated during the planning phases of any site remediation.

7.6 CUMULATIVE RISK UNCERTAINTIES

The SLOAPCD requested discussion of cumulative risk with regard to Avila Tank Farm HHRA and previous risk assessments completed for the Town of Avila. Of the three risk assessments completed for the Town of Avila (see Section 1.5), only the SOMA assessment is relevant to a qualitative discussion of cumulative risk (SOMA 2000). The SOMA risk assessment, conducted on behalf of SLO County Health and SLOAPCD, looked at the incremental risk produced by diesel exhaust during the excavation of TPH-contaminated soil in an area underneath and surrounding Front Street (SOMA 2000). The period of remediation-related diesel exposure lasted from November 1998 to April 2000 (including two months of work delays). The worst-case diesel exposure potentially experienced by some residents during this time was carefully monitored, and there is a high degree of confidence associated with the results. The calculated incremental risk for a child living in Avila and inhaling diesel exhaust over the 15 months of excavation was $9x10^{-6}$, which approached the significant risk level for the Site of 10 in one million. The calculated incremental cancer risk for a resident adult was $4x10^{-6}$. At the time the risk assessment was completed, Cal/EPA expressed concern that the use of less than a lifetime exposure duration (15 months) raised significant questions about the nature of the diesel dose-response relationship. In general, the use of cancer slope factors in risk calculations implies a lifetime exposure duration of up to 70 years, and Cal/EPA commented that a minimum exposure period of at least seven to nine years would have been preferable. Those involved with SOMA risk assessment, including some current members of the ATCAT, believed that the cancer risk estimated using a 15 month exposure period was meaningful and useful in risk management decisions reached during the Avila Front Street project. Therefore, if significant remediation and/or construction occur at the Avila Tank Farm, the additive risk of diesel exhaust from these activities should be evaluated carefully to address SLOAPCD's cumulative risk concerns. Based on discussion with SLOAPCD, cumulative risk issues are best addressed in the CEQA process.

7.7 CONCLUSIONS REGARDING UNCERTAINTY

Although it is difficult to quantify the uncertainties associated with all the assumptions made in this risk assessment, the use of conservative assumptions likely contributed to a substantial overestimation of exposure and risk. Language suggested by the USEPA (1989) to explain the effect of using conservative assumptions in cancer risk assessments is as follows:

> *These values are upper-bound estimates of excess cancer risk potentially arising from lifetime exposure to the chemical in question. A number of assumptions have been made in the derivation of these values, many of which are likely to overestimate exposure and toxicity. The actual incidence of cancer is likely to be lower than these estimates and may be zero.*

In summary, the primary site-specific issues that likely result in overestimates of cancer risk and/or noncancer hazards at the Site:

1. In some exposure areas, the limited number of samples required that maximum soil COPC concentrations, as opposed to 95% UCLs, be used to represent area-wide exposures for non-residential receptors.
2. Detection limits for some risk drivers were elevated due to analytical interferences.
3. In many exposure areas, cancer risks for receptors spending time indoors are driven by model-predicted indoor air concentrations estimated from maximum soil gas measurements, which occurred predominantly at 15 ft bgs. Estimated risks are up to two orders of magnitude lower based on the 5-ft sampling results, suggesting that attenuation of soil gas over the 15- and 5-ft depth horizon is greater than predicted by the J&E model.
4. The assumption of enhanced early-life toxicity for all carcinogens, not just those with a mutagenic MOA.

An uncertainty that may lead to the underestimation of cancer risk and/or noncancer hazards at the Site is:

1. Indoor air concentrations for future buildings are modeled using maximum soil gas concentrations collected under existing site conditions – with no development. The distribution of soil gas concentrations may change dramatically once buildings are constructed on the Site. While the actual impact of construction at the Site on soil gas concentrations is unknown, soil gas could accumulate under these structures. If this is the case, indoor air concentrations could be higher than those modeled in the Final HHRA.

8.0 DISCUSSION AND CONCLUSIONS

This Final HHRA evaluated the potential cancer risk and noncancer hazard to future Site users in specific exposure areas identified in the Vision Plan from chemicals known to be present at the Avila Tank Farm. In the conclusions section the risk findings are presented. It is anticipated that these findings will be used to aid risk managers with finalizing development plans and remediation activities at the Site.

This Final HHRA evaluated the potential cancer risk and noncancer hazard to future Site users identified in the Vision Plan from chemicals known to be present at the Avila Tank Farm. Information regarding the types and concentrations of residual chemicals is available in the HHRA soil and soil gas dataset (Attachment 6), groundwater monitoring report (Attachment 7), and is summarized in Tables 2-2 through 2-38 for the 17 exposure areas (including Site-wide no development). Exposure assumptions were made in accordance with regulatory guidance (Cal/EPA 1994, USEPA 1989), land uses identified in the Vision Plan, and best professional judgment. Although land use at the Site is currently zoned industrial, the Vision Plan includes short-term residents (adult and child), commercial employees (indoor and outdoor adults), intrusive utility workers (adult), and recreational open space users (adult and child). This risk assessment also re-examined the potential risks to both offsite residents and recreators in the "Site-wide no development" scenario.

Exposure pathways considered in this Final HHRA as described in Section 4.0 included incidental ingestion of soil, dermal contact with soil, inhalation of soil particles and associated vapors, ingestion of produce grown onsite, inhalation of indoor air vapors via subsurface contamination, and incidental ingestion of and dermal contact with contaminated groundwater (intrusive utility worker only). With respect to the inhalation of indoor air vapors, two building types were evaluated based development plans for each exposure area – hotel bungalows and default commercial buildings.

Intrusive utility workers were assumed to be exposed to the maximum soil COPC concentrations (0-10 ft bgs), because this work has the potential to be concentrated in a small area. For all other receptors, either soil maximum or 95% UCL concentrations were used as the EPCs, depending on the number of soil samples available in each exposure

area.[45] The maximum modeled indoor air COPC concentrations resulting from *either* the 5- or 15-ft soil gas data were used to estimate indoor air risks. The approaches and equations used to determine EPCs and to calculate risks are described in Sections 5 and 6, respectively. Risk results for all exposure areas and receptors can be found in Tables 6-1 through 6-88.

Table 8-1 summarizes the potential health risks to future Site users identified in the Vision Plan in terms of the ILCR and the HI, based on current environmental conditions. Table 8-1 identifies the risk drivers for when the cancer risk exceeds the low end of the USEPA risk management range of 1 in 1,000,000 ($1x10^{-6}$) or the noncancer hazard exceeds the Cal/EPA and USEPA threshold of 1.0. Uncertainties associated with these risk exceedances are summarized in this table, as appropriate.

Noncancer hazards are below the threshold level for all receptors under all exposure scenarios. Cancer risk exceeds $1x10^{-6}$ for:

- Short-term residents in Exposure Areas C (hotel bungalows only), E, Ib, J, and K;
- Indoor employees in Exposure Areas E, Ib, J, and K;
- Recreational users of Open Space (both soil horizons); and
- Offsite residential exposure under the no development scenario.

[45]As discussed in Section 5.1, the 0-2 foot depth horizon was identified as the appropriate zone for derivation of the soil EPC for short-term residents and indoor and outdoor commercial employees (USEPA 2002a; see also Attachment 2) using the 95% UCL of the arithmetic mean concentration, as sample sizes allow. Because of concerns regarding coverage within the 0-2 foot soil profile in some exposure areas, soil representative concentrations for these receptors are the greater of the EPCs (maximum or UCL, as appropriate) calculated for the 0-2 and 0-10 foot depth horizons.

Table 8-1. Summary of Potential Health Effects and Uncertainties and Recommendations Associated with Estimates Above Acceptable Threshold Levels

Receptor	ILCR*	HI	Primary Risk Driver(s)**	Uncertainties
Exposure Area A				
Default Bldg. Short-term Res Adult	2E-07	0.003		
Default Bldg. Short-term Res Child		0.008		
Default Bldg. Indoor Employee	8E-08	0.002		
Outdoor Employee	1E-07	0.008		
Intrusive Utility Worker	2E-08	0.007		
Exposure Area C				
Bungalow Short-term Resident Adult	2E-06	0.008	• Bungalow short-term resident cancer risks are driven by chloroform in indoor air (chloroform modeled from soil gas maximum at 5' bgs)	• Maximum shallow soil gas chloroform detection of 3.5 µg/L (and nearly all other carcinogenic COPC maximums) occurred at SV-45. Next highest chloroform shallow soil gas detect is 0.55 µg/L (SV-45), which combined with the remaining original maximums corresponds to a cancer risk less than 1E-06.
Bungalow Short-term Resident Child		0.02		
Bungalow Indoor Employee	1E-06	0.02		
Default Bldg. Short-term Res Adult	7E-07	0.006		
Default Bldg. Short-term Res Child		0.02		
Default Bldg. Indoor Employee	6E-07	0.01		
Outdoor Employee	1E-07	0.04		
Intrusive Utility Worker	5E-08	0.03		
Exposure Area D				
Bungalow Short-term Resident Adult	9E-07	0.02	• The soil lead EPC of 1600 mg/kg (maximum) for all receptors exceeds the commercial CHHSL • The maximum lead concentration within 0-2 ft bgs (1600 mg/kg) exceeds the Childhood Lead Prevention Program 1,000 mg/kg threshold • Methane in soil gas exceeds 5% LEL	• The next highest lead detect in exposure area is 100 mg/kg • Methane LEL exceedances occur in only 15' bgs samples
Bungalow Short-term Resident Child		0.1		
Bungalow Indoor Employee	7E-07	0.1		
Default Bldg. Short-term Res Adult	5E-07	0.02		
Default Bldg. Short-term Res Child		0.1		
Default Bldg. Indoor Employee	3E-07	0.1		
Outdoor Employee	2E-07	0.3		
Intrusive Utility Worker	9E-08	0.4		

Table 8-1. Continued

Receptor	ILCR*	HI	Primary Risk Driver(s)**	Uncertainties
Exposure Area E				
Bungalow Short-term Resident Adult	2E-04	0.2	• Indoor receptor cancer risks are driven by estimated benzene concentrations in indoor air • The intrusive worker soil lead EPC (490 mg/kg) exceeds the commercial CHHSL • Methane in soil gas exceeds 5% LEL (at 5' bgs)	• Benzene concentrations in indoor air are modeled from soil gas levels at 15' bgs; indoor air cancer risks based on 5-foot maximum soil gas concentrations are above 1E-05 for indoor receptors • Next highest lead detect in exposure area is 88 mg/kg.
Bungalow Short-term Resident Child		0.2		
Bungalow Indoor Employee	2E-04	0.5		
Default Bldg. Short-term Res Adult	9E-05	0.08		
Default Bldg. Short-term Res Child		0.1		
Default Bldg. Indoor Employee	8E-05	0.2		
Outdoor Employee	1E-06	0.1		
Intrusive Utility Worker	1E-06	0.8		
Exposure Area G				
Default Bldg. Indoor Employee	2E-07	0.02		
Outdoor Employee	2E-07	0.09		
Intrusive Utility Worker	6E-08	0.08		
Exposure Area Ia				
Bungalow Short-term Resident Adult	6E-07	0.004	• Intrusive utility worker soil lead EPC (1100 mg/kg) exceeds the commercial CHHSL • The maximum lead concentration within 0-2 ft bgs (1100 mg/kg) exceeds the Childhood Lead Prevention Program 1,000 mg/kg threshold	• Next highest lead detect in exposure area is 150 mg/kg
Bungalow Short-term Resident Child		0.01		
Bungalow Indoor Employee	4E-07	0.008		
Default Bldg. Short-term Res Adult	4E-07	0.004		
Default Bldg. Short-term Res Child		0.01		
Default Bldg. Indoor Employee	2E-07	0.007		
Outdoor Employee	3E-07	0.02		
Intrusive Utility Worker	5E-08	0.04		

Table 8-1. Continued

Receptor	ILCR*	HI	Primary Risk Driver(s)**	Uncertainties
Exposure Area Ib				
Bungalow Short-term Resident Adult	2E-04	0.2	• Indoor receptor cancer risks are driven by estimated chloroform concentrations in indoor air	• Modeled chloroform concentrations in indoor air are based on soil gas levels at 15 ft bgs. Total cancer risks based on 5-ft maximum soil gas concentrations remain above 1E-06 for only the bungalow short-term resident (2E-06); default building short-term resident value equals 1E-06.
Bungalow Short-term Resident Child		0.2		
Bungalow Indoor Employee	2E-04	0.5		
Default Bldg. Short-term Res Adult	1E-04	0.08		
Default Bldg. Short-term Res Child		0.1		
Default Bldg. Indoor Employee	1E-04	0.2		
Outdoor Employee	7E-07	0.1		
Intrusive Utility Worker	1E-07	0.3		
Exposure Area J				
Bungalow Short-term Resident Adult	2E-04	0.2	• Indoor receptor cancer risks are driven by chloroform in indoor air • Intrusive utility worker soil lead EPC (350 mg/kg) exceeds the commercial CHHSL	• Chloroform indoor air concentrations are modeled from soil gas levels at 15 ft bgs. Total cancer risks based on 5-ft maximum soil gas concentrations are an order of a magnitude lower, but remain above 1E-06 for all indoor receptors • Next highest lead detect in exposure area is 320 mg/kg
Bungalow Short-term Resident Child		0.2		
Bungalow Indoor Employee	2E-04	0.5		
Default Bldg. Short-term Res Adult	1E-04	0.08		
Default Bldg. Short-term Res Child		0.1		
Default Bldg. Indoor Employee	9E-05	0.2		
Outdoor Employee	1E-06	0.1		
Intrusive Utility Worker	1E-07	0.7		
Exposure Area K				
Default Bldg. Short-term Res Adult	7E-06	0.009	• Indoor receptor cancer risks are driven by chloroform in indoor air	• Chloroform indoor air concentrations are modeled from soil gas levels at 15 ft bgs. Total cancer risks based on 5-ft bgs maximum soil gas concentrations are below 1E-06 for all indoor receptors
Default Bldg. Short-term Res Child		0.02		
Default Bldg. Indoor Employee	6E-06	0.02		
Outdoor Employee	2E-07	0.04		
Intrusive Utility Worker	2E-08	0.04		

Table 8-1. Continued

Receptor	ILCR*	HI	Primary Risk Driver(s)**	Uncertainties
Exposure Area L				
Bungalow Short-term Resident Adult	4E-07	0.01	• Intrusive utility worker soil lead EPC (690 mg/kg) exceeds the commercial CHHSL	• Lead levels in two additional soil samples in exposure area exceed commercial CHHSL
Bungalow Short-term Resident Child		0.04		
Bungalow Indoor Employee	2E-07	0.02		
Default Bldg. Short-term Res Adult	3E-07	0.01		
Default Bldg. Short-term Res Child		0.04		
Default Bldg. Indoor Employee	1E-07	0.02		
Outdoor Employee	3E-07	0.09		
Intrusive Utility Worker	8E-08	0.5		
Exposure Area M				
Default Bldg. Short-term Res Adult	5E-07	0.006		
Default Bldg. Short-term Res Child		0.03		
Default Bldg. Indoor Employee	3E-07	0.02		
Outdoor Employee	2E-07	0.06		
Intrusive Utility Worker	5E-08	0.1		
Exposure Area N (Parking Lot)				
Default Bldg. Short-term Res Adult	1E-07	0.004		
Default Bldg. Short-term Res Child		0.02		
Default Bldg. Indoor Employee	3E-08	0.006		
Outdoor Employee	9E-08	0.04		
Intrusive Utility Worker	5E-08	0.04		

Table 8-1. Continued

Receptor	ILCR*	HI	Primary Risk Driver(s)**	Uncertainties
Exposure Area O				
Default Bldg. Short-term Res Adult	3E-07	0.006		
Default Bldg. Short-term Res Child		0.03		
Default Bldg. Indoor Employee	2E-07	0.01		
Outdoor Employee	1E-07	0.05		
Intrusive Utility Worker	8E-08	0.05		
Open Space				
Recreational Adult (0-2 ft bgs)	2E-06	0.01	• Shallow soil recreational cancer risk driven by dermal contact with and ingestion of dibenzo(a,h)anthracene in soil • 0-10 ft bgs recreational cancer risk driven by PAHs (dibenzo(a,h)anthracene and BaP TEQ) and soil-associated benzene	• Dibenzo(a,h)anthracene detected only 3 times in shallow soil, therefore cancer risk based on maximum value. Total cancer risk based on next-highest result is 6E-07.
Recreational Child (0-2 ft bgs)		0.2		
Recreational Adult (0-10 ft bgs)	2E-06	0.03		
Recreational Child (0-10 ft bgs)		0.2		
Outdoor Employee	7E-07	0.1		
Drainage Exposure Area				
Outdoor Employee	1E-06	0.06		
Intrusive Utility Worker	2E-07	0.2		
Native Gardens				
Restaurant Visitor Adult	3E-08	0.002		
Restaurant Visitor Child		0.005		
Outdoor Employee	7E-08	0.01		

Table 8-1. Continued

Receptor	ILCR*	HI	Primary Risk Driver(s)**	Uncertainties
Site-wide Exposure Area (No Development Scenario)				
Offsite Resident Adult (0-2 ft bgs)	2E-06	0.008	• Offsite resident cancer risk driven by soil-associated ethylbenzene	• Results of air sampling for the Town of Avila (Applied Measurement Science 2001) consistent with those anticipated for a clean, coastal environment
Offsite Resident Child (0-2 ft bgs)		0.008		
Recreational Adult (0-2 ft bgs)	8E-07	0.01		
Recreational Child (0-2 ft bgs)		0.2		
Recreational Adult (0-10 ft bgs)	1E-06	0.08		
Recreational Child (0-10 ft bgs)		0.9		

*Cancer risk is age-weighted and assumes 6 years of exposure as a child and 24 years as an adult; ILCR is the incremental probability of an individual developing cancer over a lifetime as a result of exposure to the potential carcinogen; 2E-07 = 0.0000002 = two in ten million

**Risk drivers are identified if the ILCR exceeds $1x10^{-6}$ or the HI exceeds 1.0. Health risks from vapor intrusion were evaluated based on the soil gas sampling depth (5 or 15' bgs) that resulted in the highest modeled indoor air concentration; results based on the 15' sample may overestimate vapor intrusion-related risks (see Sections 5.1.4.2 and 7.4.3.7).

Cancer risks for short-term residents range from $1x10^{-7}$ (default building in Exposure Area N) to $2x10^{-4}$ (hotel bungalows in Exposure Areas E, Ib and J), and exceed $1x10^{-6}$ in Exposure Areas C (hotel bungalows only), E, Ib, J, and K. Cancer risks above $1x10^{-6}$ for indoor receptors generally result from exposure to modeled concentrations of COPCs in indoor air. As shown in Table 8-1, differences in risks resulting from exposures in hotel bungalows and default commercial structures generally are small. Benzene is the primary indoor air driver in Exposure Area E, while chloroform dominated indoor air risks in Exposure Areas C, Ib, J and K. In Exposure Area C, maximum indoor air concentrations result primarily from the 5-ft results, with most carcinogenic COPC maximums occurring in samples collected from SV-45-05. When indoor air chloroform is modeled using the second highest 5-ft result (0.55 µg/L at SV-47-05), the Exposure Area C hotel bungalow short-term total cancer risk is less than $1x10^{-6}$. In Exposure Areas E, Ib, J, and K, the principal cancer risk drivers for the exceedances for short-term residents result from modeled concentrations of VOCs in indoor air based on the deeper (15 ft bgs) soil gas measurements. As discussed in Section 7.4.3.7, estimated vapor concentrations generally are much lower based on the 5-ft samples than 15-ft samples, suggesting that the J&E model does not adequately capture the magnitude of vertical soil gas attenuation occurring at the Site. When exposure in these areas are evaluated using the maximum 5-ft soil gas analytical results, short-term resident total cancer risks fall below $1x10^{-6}$ in Exposure Area K. Using the 5-ft soil gas maximums in Exposure Area Ib results in cancer risks of $1x10^{-6}$ for default building short-term residents and $2x10^{-6}$ for the hotel bungalow visitors. Cancer risks for short-term residents remain well above $1x10^{-6}$ when calculated using the 5-foot samples in Exposure Areas E and J, areas known to be heavily impacted by historical activities at the Site (see Figure 1-7).

Cancer risks for indoor employees range from $8x10^{-8}$ (default building in Exposure Area A) to $2x10^{-4}$ (hotel bungalows in Exposure Areas E, Ib and J), and exceed $1x10^{-6}$ in Exposure Areas E, Ib, J, and K. Drivers of cancer risks for indoor employees in Exposure Areas E, Ib, J, and K are the same as those described for short-term residents. When exposure in these four areas is evaluated using the 5-ft soil gas maximum results, indoor employee cancer risks fall below or are equal to $1x10^{-6}$ in Exposure Areas Ib and K.

Outdoor worker cancer risks do not exceed the low end of the USEPA risk management level. Specifically, cancer risks for outdoor employees range from $7x10^{-8}$ (Native Gardens) to $1x10^{-6}$ (Exposure Areas E and J). Intrusive utility worker cancer risks range from $2x10^{-8}$ (Exposure Areas A and K) to $1x10^{-6}$ (Exposure Area E).

Recreators are assumed to use all of the available open space on the Site. Cancer risk for recreational use of Open Space is $2x10^{-6}$, regardless of the soil horizon evaluated. While PAHs are the primary driver for both soil horizons, dibenzo(a,h)anthracene accounts for most of the risk (88%) in shallow soil while the BaP TEQ, dibenzo(a,h)anthracene, and naphthalene contribute 17-22% each based on the 0-10 ft bgs soil horizon. As noted in Section 5.1.2, recreational users are likely to come into contact only with soil in the upper 2 ft bgs. Dibenzo(a,h)anthracene was detected in Open Space shallow soil in only 3 of 28 samples, with concentrations ranging from to 0.016 to 0.28 mg/kg. Because of the limited number of detects, shallow recreational health effects are based on the maximum value (SV-36-01); the next highest detect is an order of magnitude lower (0.022 mg/kg at S-10-0.5). When the Open Space shallow soil recreational cancer risk is based on the second highest detect dibenzo(a,h)anthracene, the total drops to $6x10^{-7}$.

Under the "No Development Scenario", cancer risk to offsite residents is $2x10^{-6}$, and is driven by inhalation of soil-associated ethylbenzene vapors. The cancer risk for offsite residents is driven by inhalation of a modeled concentration of soil-associated ethylbenzene vapor in outdoor air of 0.85 $\mu g/m^3$ (0.26 ppb). This modeled level is higher than actual ambient air concentrations detected during sampling in 1998 at the Avila Tank Farm, where the average ethylbenzene concentration was 0.34 $\mu g/m^3$ (0.10 ppb, Attachment 4). Cancer risks for recreational users in the "No Development Scenario" range from $8x10^{-7}$ (0-10 ft bgs soil horizon) to $1x10^{-6}$ (0-2 ft bgs soil horizon).

The estimated noncancer hazards for all receptors in all exposure areas are below the level of concern of 1.0. Based on the Vision Plan, the Site-wide maximum noncancer hazard is associated with the intrusive utility worker in Exposure Area E (0.8). The Site-wide maximum noncancer hazard of 0.9 occurs for the child recreator under the Site-wide no development scenario.

This risk assessment also evaluated the consumption of produce grown on site, the risk posed by lead in certain areas, and the potential methane hazards across the Site. Estimated health risks associated with consumption of produce grown in the Native Gardens by short-term residents at Site restaurants (as part of three meals per day over a 28-day stay) were very low, with a cancer risk of $3x10^{-8}$ and a maximum noncancer hazard of 0.005 (child). Cancer risk is driven by estimated levels of PAH in produce, while the noncancer hazards result primarily from modeled concentrations of cadmium. These low risk estimates are consistent with the results of the 1998 HHRA for Avila Beach, which included limited sampling of backyard garden fruits and grass in which no PAHs were

detected (Risk Science Associates 1998). The Final HHRA determined the level of risk associated with produce consumption by Site-workers who may eat a daily free or discounted meal. If these workers ate one meal per day containing 25% Site-grown produce, on all of their 250 working days, the resulting cancer risk estimate is $2x10^{-8}$ and the noncancer hazard is 0.006.

To determine the potential for lead-related health effects, the Final HHRA compared receptor-specific EPCs to Cal/EPA's residential or commercial soil lead CHHSL (Cal/EPA 2009a).[46] Lead EPCs for recreators in Open Space and the Site-wide no development scenario are below the residential CHHSL. Commercial use (short-term residents and indoor and outdoor employees) EPCs exceeded the commercial CHHSL in only Exposure Area D. However, this lead EPC is based on the maximum value and the next highest detect is well below the commercial CHHSL. Site-wide, only two lead analytical results for 0-2 ft bgs exceed the Childhood Lead Prevention Program threshold of 1,000 mg/kg for areas where children may be present: one each in Exposure Areas D and Ia. The evaluation of potential lead health effects for intrusive utility worker was very conservative, in that maximum concentrations (0-10 feet bgs) were compared to the commercial CHHSL; exceedances occur in Exposure Areas D, E, Ia, J, and L. The second highest lead detect exceeds the commercial CHHSL in only Exposure Area L.

Methane concentrations exceed the 5% lower explosive limit (LEL) in Exposure Areas D and E, and in Exposure Area E are limited to the deeper samples results (15 ft bgs).

At the request of SLO County EHS, the Final HHRA evaluated a downwind resident potentially exposed to dust generated during an excavation-type remedial action, with the remediation area identified as the existing exposure area with the highest non-vapor intrusion-related health risks (Exposure Area E). Health risks were evaluated based on exposure area-maximum soil concentrations, and assume an excavation area of 0.5 acres. Estimated cancer risk for the downwind resident in this hypothetical remediation scenario is $1x10^{-4}$, and is driven by modeled concentrations of soil-associated benzene, ethylbenzene, and naphthalene vapors in outdoor air. The noncancer hazard is 0.4 and also results from estimated concentrations of volatiles in outdoor air, especially trimethylbenzenes and benzene.

[46]Although no residential use of the Site is planned, the residential CHHSL (80 mg/kg) was considered as a point of reference for recreational receptors. As demonstrated in Attachment 12, the commercial CHHSL of 320 mg/kg is protective of the short-term resident child.

Major uncertainties that may have led to an overestimation of risk in this HHRA include: 1) the limited number of samples in some exposure areas required that maximum soil COPC concentrations, as opposed to 95% UCLs, be used to represent area-wide exposures for receptors other than the intrusive utility worker; 2) cancer risks for receptors spending time indoors are driven by maximum model-predicted indoor air concentrations, which occurred predominantly from 15 ft bgs soil gas analytical results, with estimated risks generally lower based on the 5-ft results; and 3) the assumption of enhanced early-life toxicity for all carcinogens, not just those with a mutagenic MOA. Although the conservative approach used for evaluating indoor air exposures may result in overestimates, the impact that remediation and/or construction activities may have on the distribution of soil gas COPCs at the Site is unknown.

Major conclusions reached in the Final HHRA are as follows:

- Health risks were evaluated based on current environmental conditions and land uses identified in the Vision Plan, which includes commercial use of all exposure areas (that may include hotels, characterized as short-term residential use), and recreational use of Open Space. If the Site changes dramatically due to a catastrophic event (e.g., natural disaster such as earthquake), or development plans become inconsistent with land uses and structures evaluated in this risk assessment, additional evaluation of potential health risks may be necessary.
- In Exposure Areas A, G, M, N, O, Native Gardens and the Drainages, there are no exceedances of the low end of the USEPA cancer risk management range ($1x10^{-6}$), the noncancer threshold of 1.0, the commercial lead CHHSL, the Childhood Lead Prevention Program threshold of 1,000 mg/kg, or the methane LEL of 5%.
- The only exceedances in Exposure Areas D, Ia, and L are associated with the methane LEL and/or the commercial lead CHHSL. In Exposure Area D, the lead EPC for all receptors (maximum) exceeds the commercial lead CHHSL and the Childhood Lead Prevention Program threshold and methane in soil gas collected from 15 ft bgs exceed the LEL. In Exposure Area Ia, the intrusive utility worker lead EPC exceeds the commercial lead CHHSL and 0-2 ft bgs maximum exceeds the Childhood Lead Prevention Program threshold. In Exposure Area L, the intrusive utility worker lead EPC exceeds the commercial lead CHHSL.
- Estimated risks for short-term residents and/or indoor employees exceed $1x10^{-6}$ in Exposure Areas C, E, Ib, J, and K, with maximums ranging from $2x10^{-6}$ (Exposure Area C bungalow indoor short-term residents) to $2x10^{-4}$ (Exposure Areas E, Ib, and J bungalow short-term residents and indoor employees). For these indoor receptors, cancer risks are driven by exposure to modeled concentrations of benzene or chloroform in indoor air. With the exception of Exposure Area C, the indoor air risks are driven by maximum soil gas concentrations from 15 ft bgs; when risk calculations are based on maximum 5 ft soil gas samples, the maximum cancer risks drop below or equal $1x10^{-6}$ in Exposure Areas Ia (except bungalow short-term

residents) and K. Indoor air risks in Exposure Area C are based primarily on maximum shallow soil gas results associated with SV-45.

- In Exposure Areas C, E, Ib, J, and K, outdoor worker cancer risks and all receptor noncancer hazards are below $1x10^{-6}$ and 1.0, respectively. However, in Exposure Area E intrusive utility worker lead EPC exceeds the commercial lead CHHSL, and methane in soil gas exceeds the 5% LEL.
- For recreational use of Open Space, the shallow soil cancer risk is $2x10^{-6}$ and the child noncancer hazard is 0.2. The recreational cancer risk is driven by the maximum detection of dibenzo(a,h)anthracene, which was detected in only three samples. Outdoor employee health effects are below all thresholds.
- Health risks associated with consumption of produce grown at the Site are very low, with a cancer risk of $3x10^{-8}$ and a noncancer hazard of 0.005 (child).
- Under the no development scenario, the estimated offsite resident cancer risk and noncancer hazard are $2x10^{-6}$ and 0.008, respectively, with the cancer risk driven by modeled concentrations of ethylbenzene in ambient air. However, previous ambient air sampling conducted at the property showed ambient air as would be expected of a coastal environment distant from urban areas. Maximum recreational user cancer risks and noncancer hazards in the no development scenario are $1x10^{-6}$ and 0.9 (child), respectively.
- Compared to the 2011 Supplemental HHRA, cancer risks for receptors that include childhood exposures increased due to the use of age-dependent adjustment factors for all carcinogens as opposed to only those with a mutagenic mode of action. The uncertainty associated with this overall assumption of enhanced toxicity is particularly evident for Exposure Area C bungalow short-term residents, Open Space recreators (0-10 ft bgs), and Site-wide no development offsite residents, where cancer risks just exceed the low end of the USEPA risk management range but include non-mutagenic VOCs among the main risk drivers (chloroform, benzene, and ethylbenzene, respectively); therefore these cancer risks may be overestimated.
- Risks associated with specific remediation and/or construction projects, yet to be identified, are beyond the scope of this risk assessment and best addressed in the CEQA process. However, health risks for a hypothetical remediation scenario downwind resident, assuming worst-case exposure to COPCs during excavation in Exposure Area E, are $1x10^{-4}$ and 0.4, and are driven almost exclusively by modeled concentrations of soil-associated volatiles in outdoor air.
- Potential cumulative health impacts to Avila Beach residents from any remediation and/or construction projects identified for the Site are best addressed in the CEQA process.
- A data quality assessment of soil and soil gas sampling results for key risk drivers showed that sample sizes are sufficient to support defensible risk management decisions, based on results presented in this Final HHRA. For areas that may have insufficient data, remedial action will likely be required and data sufficiency will be addressed in the remediation phase.

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FIGURES

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FIGURE 1-2

COMMUNITY PLAN FOR CHEVRON TANK FARM

FORMER AVILIA TANK FARM
SAN LUIS OBISPO TANK FARM
PREPARED FOR
CHEVRON INC
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

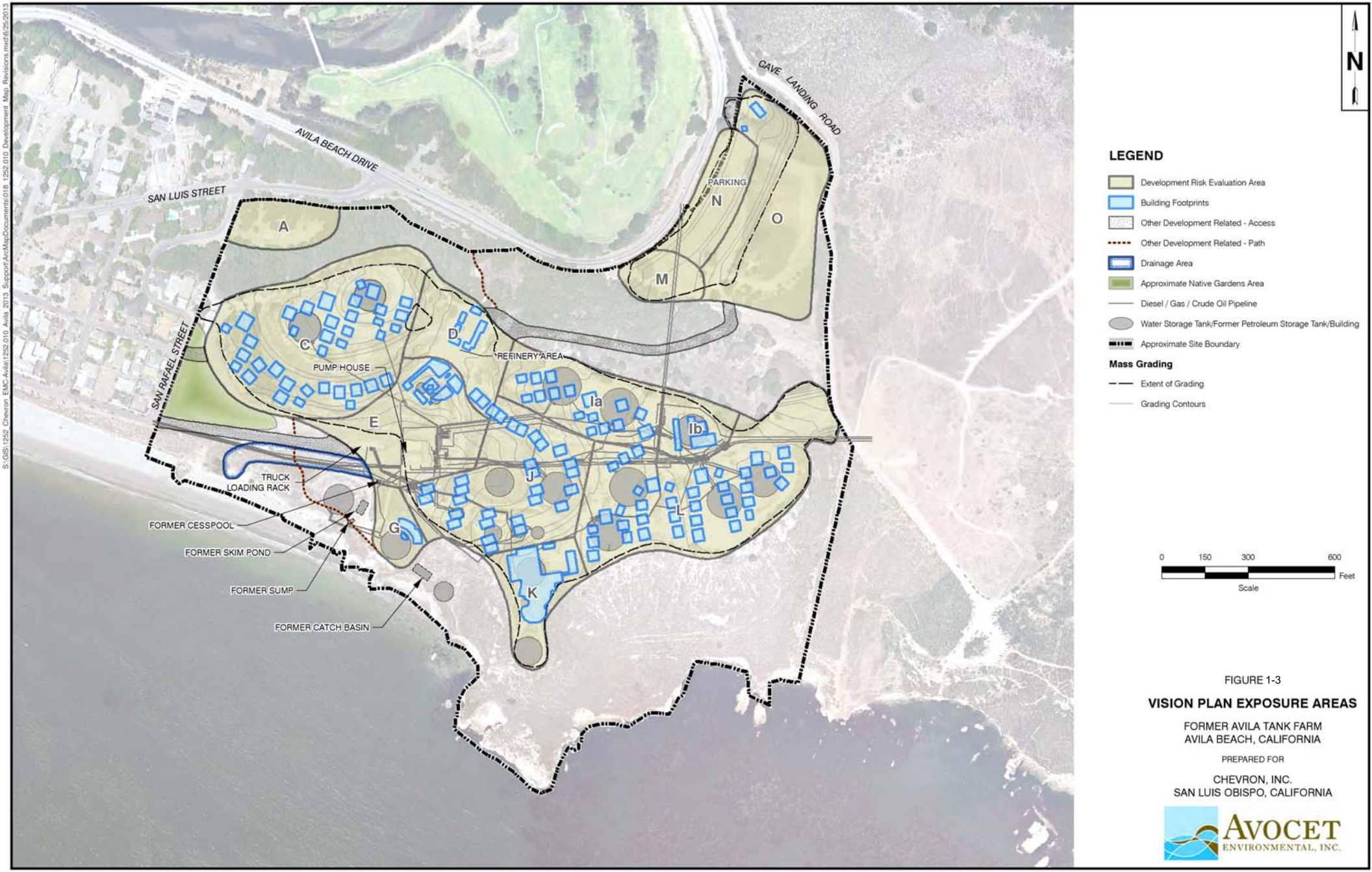

FIGURE 1-3

VISION PLAN EXPOSURE AREAS

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON, INC.
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

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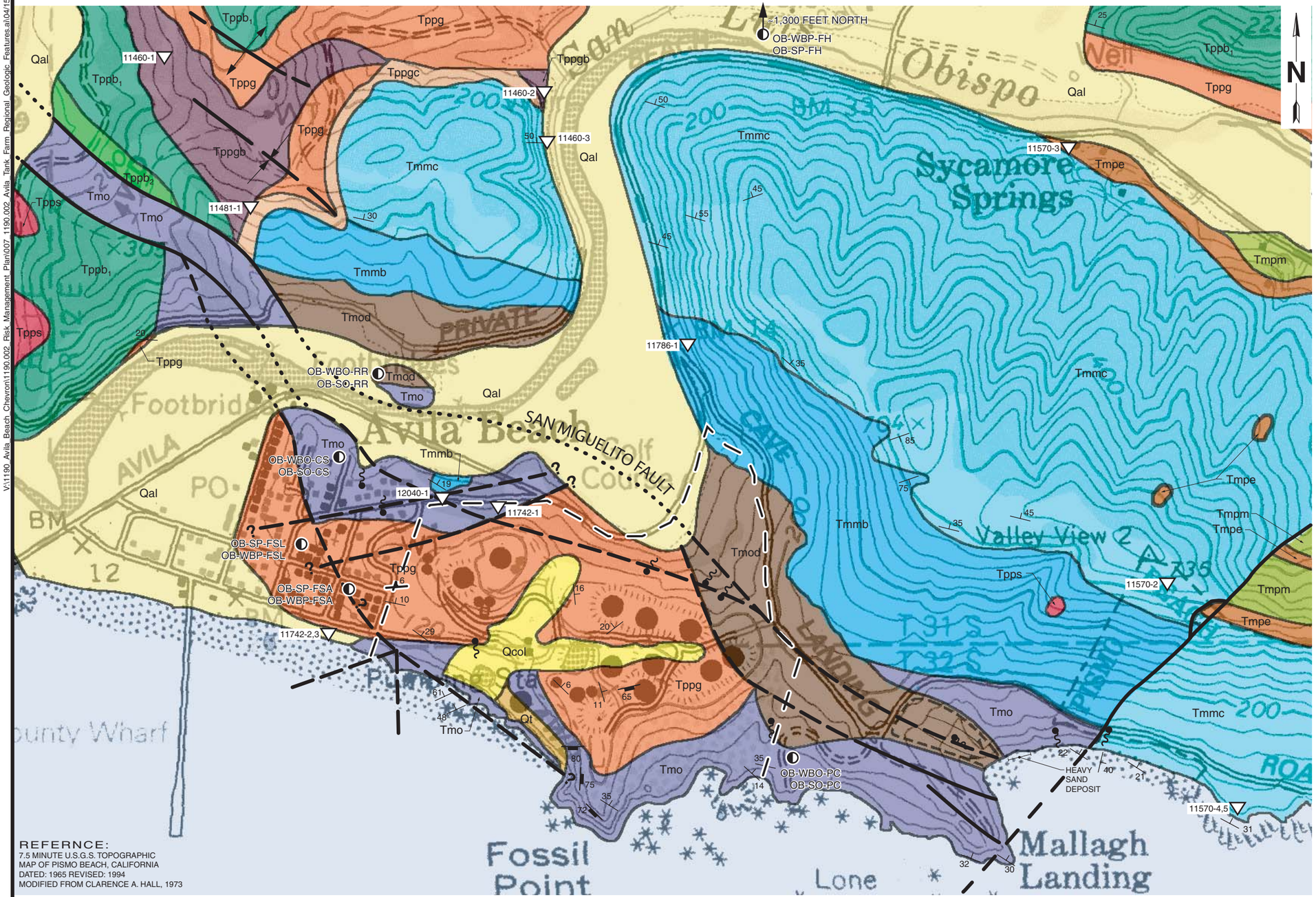

REFERNCE:
7.5 MINUTE U.S.G.S. TOPOGRAPHIC
MAP OF PISMO BEACH, CALIFORNIA
DATED: 1965 REVISED: 1994
MODIFIED FROM CLARENCE A. HALL, 1973

EXPLANATION

QUATERNARY — Holocene

- **Qal** — ALLUVIAL DEPOSITS. Qal, UNCONSOLIDATED, STREAM DEPOSITED PEBBLES, SAND, SILT, AND CLAY.LOCALLY INCLUDES BEACH SAND.
- **Qcol** — COLLUVIAL DEPOSITS. Qcol, UNCONSOLIDATED, SAND, SILT AND CLAY.

QUATERNARY — Pleistocene

- **Qt** — TERRACE DEPOSITS. Qt, UNCONSOLIDATED, SAND, SILT, CLAY, PEBBLES. DEPOSITS ON MARINE AND STREAM TERRACES

TERTIARY — Pliocene — Pismo Formation

- **Tpps** — SQUIRE MEMBER. Tpps, MASSIVE WHITE MEDIUM-TO COARSE-GRAINED SANDSTONE, LOCALLY BITUMINOUS SANDSTONE.
- **$Tppb_2$** (1) — BELLEVIEW MEMBER. $Tppb_1$, CLAYSTONE, SILTSTONE; $Tppb_2$ BEDDED SANDSTONE AND SILT BECOMING SANDY WITH DIATOMITE BEDS.
- **?Tppg** (b, c) — GRAGG MEMBER. Tppg, MASSIVE WHITE SANDSTONE; Tppgb, LOCALLY BITUMINOUS SANDSTONE; Tppgc, CHERT, PEBBLE CONGLOMERATE.
- **Tpmm** — MIGUELITO MEMBER. Tmpm, BROWN CLAY AND SILT, BECOMING MORE DIATOMACEOUS AND WITH CHERTY OR OPALINE SHALE BEDS, LOCALLY BITUMINOUS.
- **Tpme** — EDNA MEMBER. Tmpe, BITUMINOUS QUARTZ SANDSTONE, LOCALLY WITH PEBBLES AT BASE.

TERTIARY — Miocene

- **Tmmc** (b) — MONTEREY FORMATION. Tmmb, SILTSTONE OR CHERT AND BLOCKY WEATHERING DOLOMITIC CLAYSTONE OR SILT, LOCALLY BITUMINOUS; Tmmc, OPALINE OR CHERTY SHALE, SOME DOLOMITE.
- **Tmo** (d) — OBISPO FORMATION. Tmo, FINE-TO-COARSE-GRAINED WHITE TUFF OR CRYSTALLINE TUFF, LOCALLY RESISTANT, SILICIFIED OR ZEOLITIZED TUFF; Tmod, DIABASE AND SOME TUFFACEOUS SILTSTONE OR TUFF.

GEOLOGIC SYMBOLS

- CONTACT, DASHED WHERE APPROXIMATELY LOCATED, QUERIED WHERE INFERRED
- FAULT, DASHED WHERE APPROXIMATELY LOCATED, QUERIED WHERE INFERRED, DOTTED WHERE CONCEALED
- ANTICLINE, SHOWING TRACE OF AXIAL SURFACE. DASHED WHERE APPROXIMATELY LOCATED
- SYNCLINE, SHOWING TRACE OF AXIAL SURFACE. DASHED WHERE APPROXIMATELY LOCATED.
- 35 — STRIKE AND DIP OF BED INCLINED
- 72 — STRIKE AND DIP OF FRACTURE
- 68° / 51° — APPARENT DIP - CIRCLED NUMBER REPRESENTS CORRECTION FOR 2X VERTICAL EXAGGERATION
- 11742-2,3 — HYDROCARBON SEEPS WITH SAMPLE NUMBER
- SPRINGS - TUFA COMMON
- OB-WBO-PC / OB-SO-PC — OFF-SITE SHALLOW SOIL BORING
- APPROXIMATE SITE BOUNDARY

FIGURE 1-4

AVILA TANK FARM
REGIONAL GEOLOGIC FEATURES

PREPARED FOR

UNOCAL CORPORATION
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

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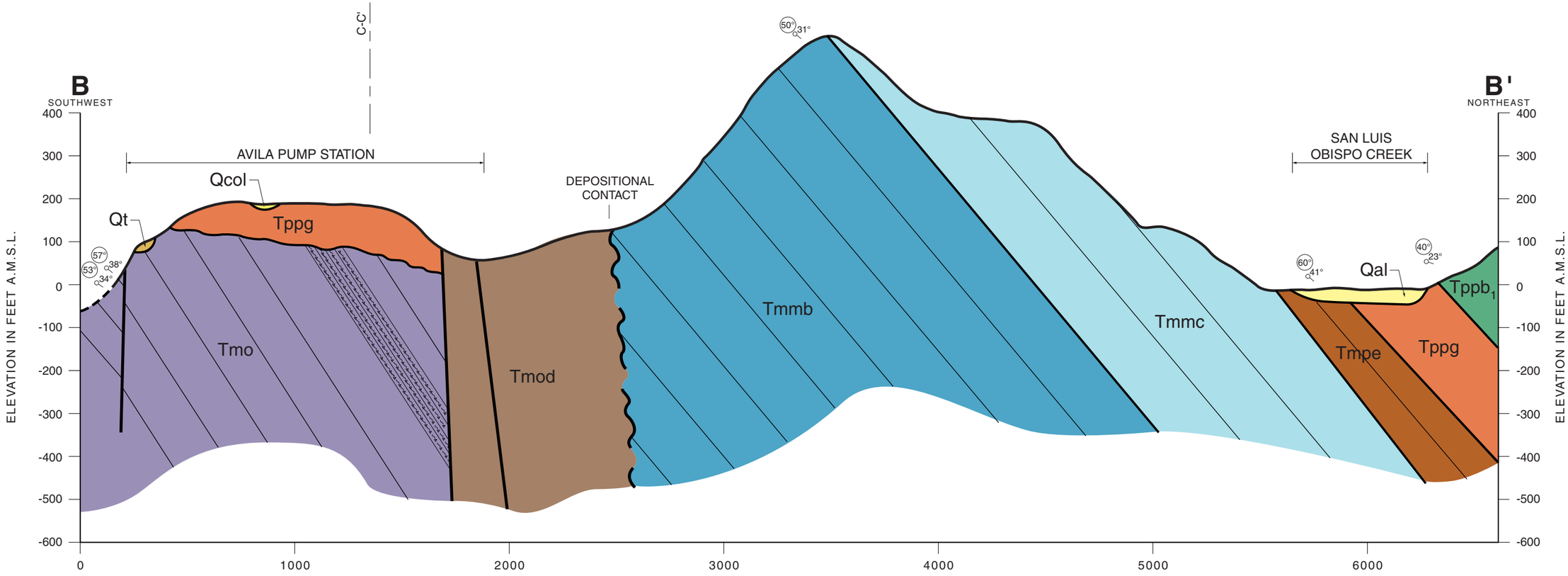
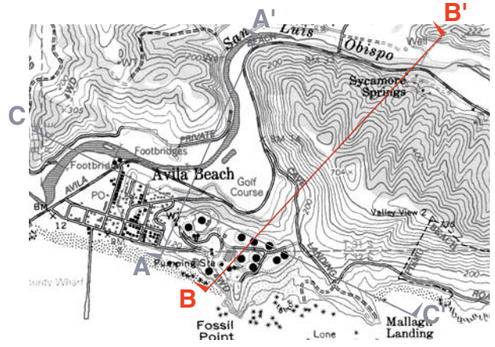


0 500 1000 FEET

HORIZONTAL SCALE
2X VERTICAL EXAGGERATION

SEE FIGURE 1-4
FOR EXPLANATION



CROSS SECTION LOCATION MAP

FIGURE 1-6A

REGIONAL GEOLOGIC CROSS SECTION B-B'

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON CORPORATION
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

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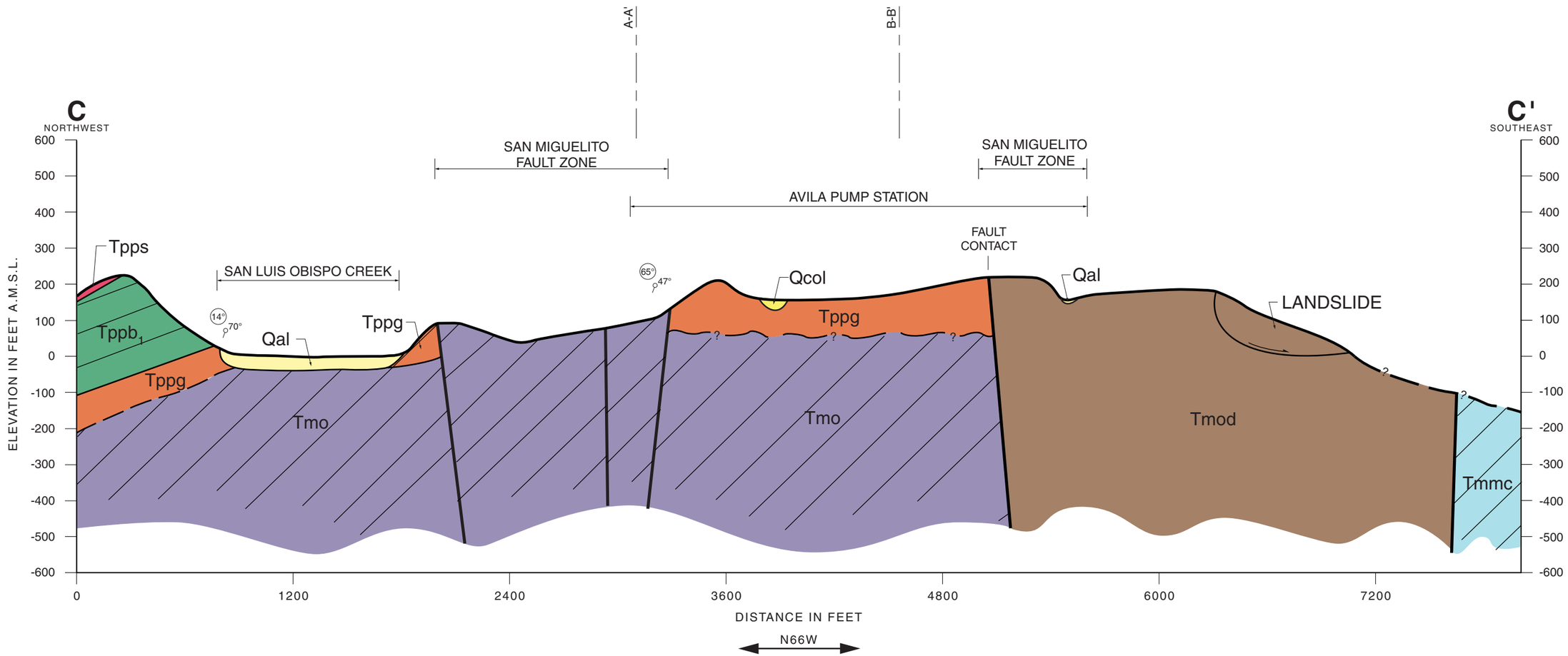
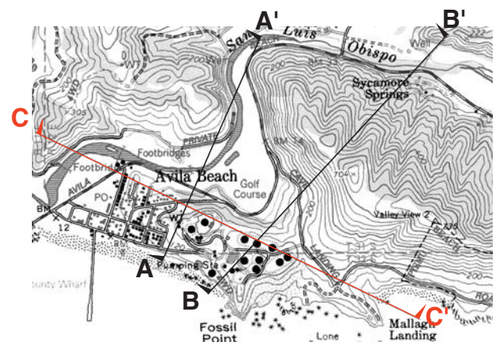


0 600 1200 FEET

HORIZONTAL SCALE
2X VERTICAL EXAGGERATION

SEE FIGURE 1-4
FOR EXPLANATION



CROSS SECTION LOCATION MAP

FIGURE 1-6B

REGIONAL GEOLOGIC CROSS SECTION C-C'

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON CORPORATION
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

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EXPLANATION

- Asphalt Sample
- Soil Sample
- Groundwater Monitoring Well
- Soil Gas Monitoring Probe

Ranges in TPH (C_4 -C_{40}) Concentration All Depths

- 100 mg/kg - 999 mg/kg
- 1,000 mg/kg - 9,999 mg/kg
- > 10,000 mg/kg
- Development Risk Evaluation Area
- Diesel / Gas / Crude Oil Pipeline
- Water Storage Tank/Former Petroleum Storage Tank/Building
- Property Line
- Initial Evaluation Area

N

0 150 300 600 Feet

FIGURE 1-7

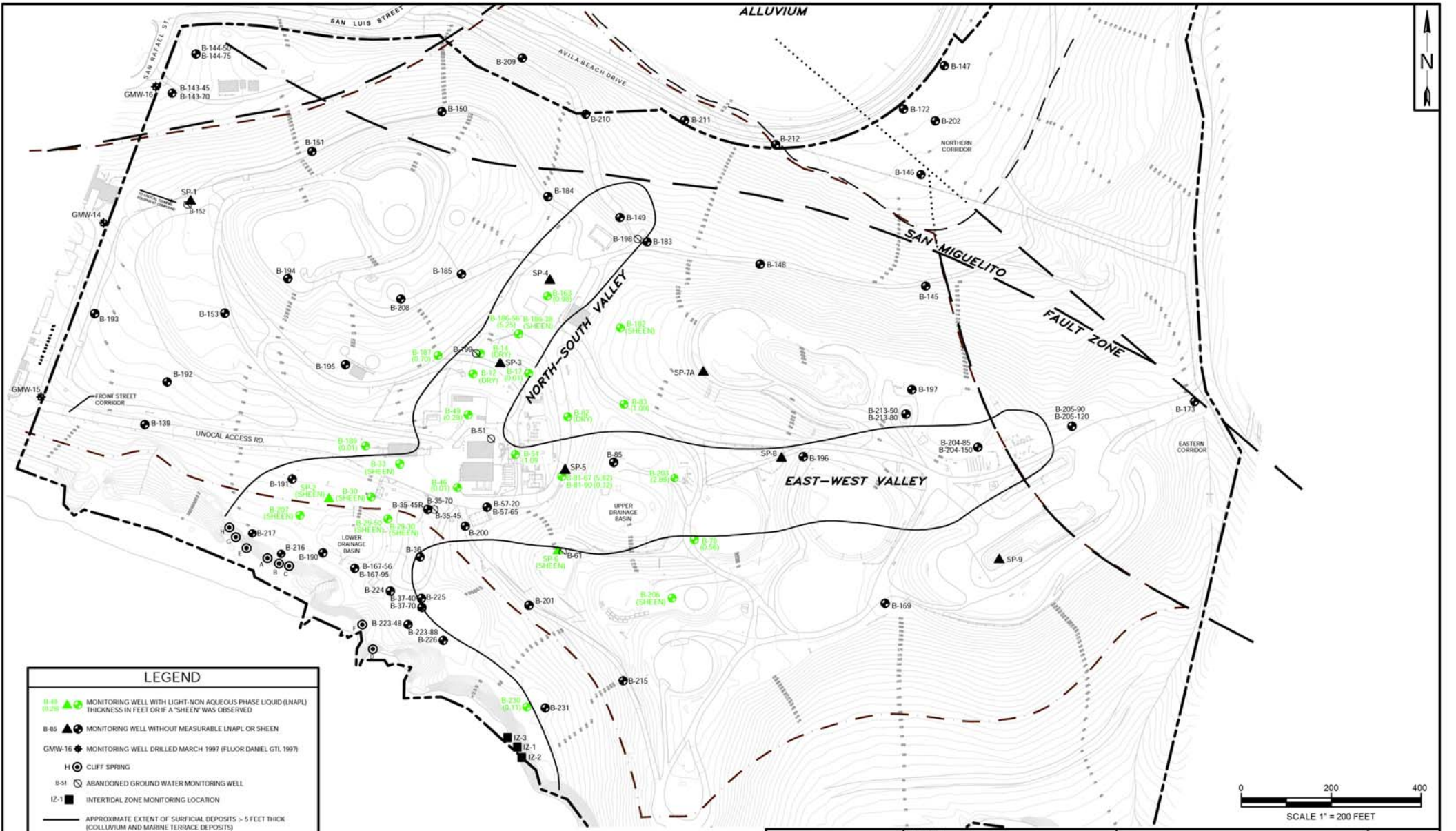
AVILA TANK FARM SOIL (≤10 FEET BGS) SOIL GAS, GROUNDWATER, AND ASPHALT SAMPLING LOCATIONS

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON CORPORATION
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.



LEGEND

- MONITORING WELL WITH LIGHT-NON AQUEOUS PHASE LIQUID (LNAPL) THICKNESS IN FEET OR IF A "SHEEN" WAS OBSERVED
- MONITORING WELL WITHOUT MEASURABLE LNAPL OR SHEEN
- MONITORING WELL DRILLED MARCH 1997 (FLUOR DANIEL GTI, 1997)
- CLIFF SPRING
- ABANDONED GROUND WATER MONITORING WELL
- INTERTIDAL ZONE MONITORING LOCATION
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS > 5 FEET THICK (COLLUVIUM AND MARINE TERRACE DEPOSITS)
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS OF ALLUVIUM
- APPROXIMATE EXTENT OF PISMO FORMATION

NOTE:
TOPOGRAPHIC BASE MAP PROVIDED BY CANNON & ASSOCIATES. 02/13/03. DRAWING NO. 010901.03
TOPOGRAPHIC CONTOURS IN 5 FOOT INTERVALS.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CEMC
FORMER UNOCAL
AVILA TERMINAL
AVILA BEACH, CA

PROJECT NUMBER: 0801-0898
DATE: January 2013

LNAPL OCCURENCE MAP 4Q12

FIGURE 1-8

S:\GIS\1252_Chevron_EMC-Avila\1252.010_Avila_2013_Support\ArcMapDocuments\023_1252.010_Site_Plan_Fuel-Related_VOCs_Shallow_Probes.mxd 7/8/2013

Explanation

- Monitoring Well with No Discernable LNAPL
- Monitoring Well Containing LNAPL
- Supplemental 5' Soil Gas Probe
- Nested Soil Gas Probe
- Nested Soil Gas Probe with Soil Sample Collection to 5'
- Nested Soil Gas Probe with Soil Sample Collection to 10'
- 7.39 — Concentration of Fuel-Releated VOCs in ug/L
- 10 — Approximate Contour of Fuel-Related VOCs Concentration in ug/L. Dashed where Approximate
- Development Risk Evaluation Area
- Approximate Site Boundary
- Diesel/Gas/Crude Oil Pipeline
- Water Storage Tank/Former Petroleum Storage Tank/Building
- Initial Evaluation Area

Notes:
(1) Fuel-related VOCs reflects the sum of the following: benzene, toluene, ethyl benzene, and total xylenes, 1,2,4-trimethylbenzene, 1,2-dichloroethane, 1,2-dichloropropane, 1,3,5-trimethylbenzene, cyclohexane, ethyl-tert-butyl ether, hexane, methyl tert-butyl ether, naphthalene, propylbenzene, tert-amyl methyl ether, and tert-butyl alcohol.
(2) For probes with multiple sampling events, the median of the sum values is used.
(3) Note variable contour intervals.
(4) Supplemental soil gas investigation conducted June-2012.

0 150 300 600 FEET

Approximate Scale

FIGURE 1-9A

FUEL-RELATED VOC CONCENTRATIONS IN SHALLOW PROBES

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON INC.
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

S:\GIS\1252_Chevron_EMC-Avila\1252.010_Avila_2013_Support\ArcMapDocuments\024_1252.010_Site_Plan_Fuel-Related_VOCs_Deep_Probes.mxd1/9/2013

SV-85 0.055
SV-56 0.08
SV-55 0.21
SV-65 1.17
SV-01 8.8
SV-70 0.01
SV-82 0.073
SV-03 5.72
SV-02 (NOT SAMPLED)
SV-69 2.64
SV-81 0.058
SV-05 0.02
SV-80 0.048
SV-83 0.206
SV-84 0.146
SV-41 0.06
SV-64 0.5
SV-48 0.7
SV-47 0.14
SV-04 1.11
SV-57 0.15
SP-1
SV-51 0.06
SV-49 0.08
SV-42 0.35
SV-40 0.28
SV-68 0.7
Refinery Area
SP-4
SV-58 584.2
SV-59 0.78
SV-08 0.05
SV-07 0.37
SV-06 0.39
SV-45 1.62
SV-46 0.7
SV-52 0.25
SV-50 0.01
SV-14 0.08
SV-43 694.8
SV-60 9849
SV-67 0.23
SV-44 0.36
SV-12 0.05
SV-53 5.96
SV-61 3922
SP-3
SV-15 1.77
SP-7
SV-13 1.84
SV-11 0.29
SV-54 12.25
SV-17 5.99
SV-09 0.55
SV-20 0.1
Truck Loading Rack
SV-38 0.01
SV-16 7.77
SP-8
SV-18 0.35
SV-63 8230
Pump House
SV-62 44.73
SV-19 0.31
SV-10 115.77
SV-37 1.04
SV-39 791.25
SV-26 2696.8
SV-36 1638.3
SP-6 36.77
SV-22 0.24
SP-9
SV-21 0.32
SV-28 0.87
SV-23 0.14
SV-27 377.12
SV-24 0.11
SV-29 0.11
SV-25 0
SV-88 0.201
SV-90 ND
SV-89 ND
SV-35 20.68
SV-66 4359
SV-91 0.073
SV-87 0.062
SV-30 0.08
SV-86 0.076
SV-34 0.2
SV-32 1.31
SV-31 0.32
SV-33 1.02
A
8
C
6
D
10
N
1
O
M
7
9
Ia
Ib
2
E
5
J
3
L
G
K
4
10
1,000
100
10

Explanation

- Monitoring Well with No Discernable LNAPL
- Monitoring Well Containing LNAPL
- Supplemental 15' Soil Gas Probe
- Nested Soil Gas Probe
- Nested Soil Gas Probe with Soil Sample Collection to 5'
- Nested Soil Gas Probe with Soil Sample Collection to 10'
- 7.77 — Concentration of Fuel-Releated VOCs in ug/L
- 10 — Approximate Contour of Fuel-Related VOCs Concentration in ug/L
- Approximate Site Boundary
- Development Risk Evaluation Area
- Diesel/Gas/Crude Oil Pipeline
- Water Storage Tank/Former Petroleum Storage Tank/Building
- Initial Evaluation Area

Notes:
(1) Fuel-related VOCs reflects the sum of the following: benzene, toluene, ethyl benzene, and total xylenes, 1,2,4-trimethylbenzene, 1,2-dichloroethane, 1,2-dichloropropane, 1,3,5-trimethylbenzene, cyclohexane, ethyl-tert-butyl ether, hexane, methyl tert-butyl ether, naphthalene, propylbenzene, tert-amyl methyl ether, and tert-butyl alcohol.
(2) For probes with multiple sampling events, the median of the sum values is used.
(3) Note variable contour intervals.
(4) Supplemental soil gas investigation conducted June-2012.

0 150 300 600 FEET

Approximate Scale

FIGURE 1-9B

FUEL-RELATED VOC CONCENTRATIONS IN DEEP PROBES

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON INC.
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

S:\GIS\1252_Chevron_EMC-Avila\1252.010_Avila_2013_Support\ArcMapDocuments\021_1252.010_Fire_Extinguishing_Shallow.mxd 7/9/2013

Explanation

- Soil Gas Monitoring Probe
- Supplemental 5' Soil Gas Probe
- Nested Soil Gas Probe
- Nested Soil Gas Probe with Soil Sample Collection to 5'
- Nested Soil Gas Probe with Soil Sample Collection to 10'
- 1.237 — Concentration of Fire Extinguishing VOCs in ug/L, ND indicates Non-Detect
- 10 — Approximate Contour of Fire Extinguishing VOCs Concentration in ug/L
- Approximate Site Boundary
- Development Risk Evaluation Area
- Diesel / Gas / Crude Oil Pipeline
- Storage Tanks / Areas
- Initial Evaluation Area

NOTES:
1. Fire extinguishing VOCs reflects the sum of the following: bromodichloromethane, bromoform, carbon tetrachloride, chloroform, and dibromochloromethane.
2. For probes with multiple sampling events, the median of the sum values is used.
3. Note variable contour intervals.
4. "Shallow" refers to probes <10 feet deep. "Deep" refers to probes >10 feet deep.
5. Supplemental soil gas investigation conducted June-2012.

0 150 300 600 FEET

Approximate Scale

FIGURE 1-10A

FIRE EXTINGUISHING AGENT-RELATED VOC CONCENTRATIONS IN SHALLOW SOIL GAS PROBES

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON INC.
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

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Explanation

- Soil Gas Monitoring Probe
- Supplemental 15' Soil Gas Probe
- Nested Soil Gas Probe
- Nested Soil Gas Probe with Soil Sample Collection to 5'
- Nested Soil Gas Probe with Soil Sample Collection to 10'
- 120 — Concentration of Fire Extinguishing VOCs in ug/L, ND Indicates Non-Detect, NA Indicates Not Analyzed
- 10 — Approximate Contour of Fire Extinguishing VOCs Concentrations in ug/L
- Approximate Site Boundary
- Development Risk Evaluation Area
- Diesel / Gas / Crude Oil Pipeline
- Storage Tanks / Areas
- Initial Evaluation Area

NOTES:
1. Fire extinguishing VOCs reflects the sum of the following: bromodichloromethane, bromoform, carbon tetrachloride, chloroform, and dibromochloromethane.
2. For probes with multiple sampling events, the median of the sum values is used.
3. Note variable contour intervals.
4. "Shallow" refers to probes <10 feet deep. "Deep" refers to probes >10 feet deep.
5. Supplemental soil gas investigation conducted June-2012.

0 150 300 600 FEET

Approximate Scale

FIGURE 1-10B

FIRE EXTINGUISHING AGENT-RELATED VOC CONCENTRATIONS IN DEEP SOIL GAS PROBES

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON INC.
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

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Explanation

- Soil Gas Monitoring Probe
- Supplemental 5' Soil Gas Probe
- Nested Soil Gas Probe
- Nested Soil Gas Probe with Soil Sample Collection to 5'
- Nested Soil Gas Probe with Soil Sample Collection to 10'
- 3.6 — Concentration of Chlorinated Solvent VOCs in ug/L, ND indicates Non-Detect
- 1 — Approximate Contour of Chlorinated Solvent VOCs Concentration in ug/L
- Approximate Site Boundary
- Development Risk Evaluation Area
- Diesel / Gas / Crude Oil Pipeline
- Storage Tanks / Areas
- Initial Evaluation Area

NOTES:

1. Chlorinated solvent VOCs reflects the sum of the following: tetrachloroethene, trichloroethene, 1,1-dichloroethene, chlorobenzene, chloromethane, chloroethane, methylene chloride, 1,1,2,2,-tetrachloroethane and 1,1,1-trichloroethane.

2. For probes with multiple sampling events, the median of the sum values is used.

3. Note variable contour intervals.

4. "Shallow" refers to probes <10 feet deep. "Deep" refers to probes >10 feet deep.

5. Supplemental soil gas investigation conducted June-2012.

0 150 300 600 FEET

Approximate Scale

FIGURE 1-11A

CHLORINATED SOLVENT VOC CONCENTRATIONS IN SHALLOW SOIL GAS PROBES

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON INC.
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

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Explanation

- Soil Gas Monitoring Probe
- Supplemental 15' Soil Gas Probe
- Nested Soil Gas Probe
- Nested Soil Gas Probe with Soil Sample Collection to 5'
- Nested Soil Gas Probe with Soil Sample Collection to 10'
- 58 — Concentration of Chlorinated Solvent VOCs in ug/L, ND indicates Non-Detect
- 1 — Approximate Contour of Chlorinated Solvent VOCs Concentration in ug/L
- Approximate Site Boundary
- Development Risk Evaluation Area
- Diesel / Gas / Crude Oil Pipeline
- Storage Tanks / Areas
- Initial Evaluation Area

NOTES:

1. Chlorinated solvent VOCs reflects the sum of the following: tetrachloroethene, trichloroethene, 1,1-dichloroethene, chlorobenzene, chloromethane, chloroethane, methylene chloride, 1,1,2,2,-tetrachloroethane and 1,1,1-trichloroethane.

2. For probes with multiple sampling events, the median of the sum values is used.

3. Note variable contour intervals.

4. "Shallow" refers to probes ≤10 feet deep. "Deep" refers to probes >10 feet deep.

5. Supplemental soil gas investigation conducted June-2012.

0 150 300 600 FEET

Approximate Scale

FIGURE 1-11B

CHLORINATED SOLVENT VOC CONCENTRATIONS IN DEEP SOIL GAS PROBES

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON INC.
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

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N

Explanation

- Soil Gas Monitoring Probe
- Supplemental 5' Soil Gas Probe
- Nested Soil Gas Probe
- Nested Soil Gas Probe with Soil Sample Collection to 5'
- Nested Soil Gas Probe with Soil Sample Collection to 10'
- 9.5 — Concentration of Methane in Percent. < Indicates That Analyte Was Not Detected at The Indicated Value. NA Indicates Data Are Not Available.
- 10 — Approximate Contour of Methane Concentration in Percent. Dashed where Approximate.
- Approximate Site Boundary
- Development Risk Evaluation Area
- Diesel / Gas / Crude Oil Pipeline
- Storage Tanks / Areas
- Initial Evaluation Area

NOTES:
1. The Lower Explosive Limit (LEL) of Methane Is 5 Percent.
2. Isoconcentration Contour Interval Is Variable.
3. "Shallow" refers to probes <10 feet deep. "Deep" refers to probes >10 feet deep.
4. Supplemental soil gas investigation conducted June-2012.

0 150 300 600 FEET

Approximate Scale

FIGURE 1-12A

METHANE DISTRIBUTION IN SHALLOW SOIL GAS PROBES

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON INC.
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

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SV-85 <0.0010
SV-55 0.0005
SV-83 <0.0010
SV-65 <0.00025
SV-56 <0.00025
SV-84 <0.0010
SV-41 0.0003
SV-48 0.0011
SV-47 0.010
SV-64 <0.00024
SP-1
SV-51 <0.00023
SV-49 0.0035
SV-42 0.0029
SV-40 <0.00054
SV-57 <0.00026
SV-68 NA
SV-45 <0.0020
Refinery Area
SV-58 29
SP-4
SV-08 <0.00025
SV-07 <0.00049
SV-06 <0.00026
SV-52 0.0320
SV-52 0.0056
SV-50 0.0027
SV-46 0.0018
SV-59 0.0210
SV-43 10
SV-14 <0.00024
SV-67 NA
SV-44 0.0070
SV-60 1.7
SV-15 0.5800
SP-7
SV-12 <0.00026
SV-11 <0.00025
SV-13 0.0390
SV-53 0.0230
SV-54 0.0130
SV-61 14
SV-17 1.3
SV-10 0.5700
SV-09 0.0150
SV-20 0.0004
SV-38 0.0046
Truck Loading Rack
SV-16 4.7
SP-8
SV-18 0.0440
SV-19 0.0110
SV-63 29
Pump House
SV-62 0.640
SV-37 0.0034
SV-26 0.0740
SV-39 28
SV-36 0.52
SP-6 0.038
SV-28 0.0023
SV-25 0.0078
SV-22 0.0088
SP-9
SV-21 0.0120
SV-27 0.0560
SV-23 0.0012
SV-24 0.0074
SV-35 3.2
SV-29 <0.00026
SV-89 <0.0010
SV-88 0.0053
SV-90 0.0020
SV-91 <0.0010
SV-66 4.5
SV-87 <0.0010
SV-30 0.0007
SV-86 <0.0010
SV-34 <0.00026
SV-33 0.0016
SV-32 <0.00025
SV-31 <0.00026
SV-01 <0.00061
SV-70 NA
SV-82 <0.0010
SV-81 <0.0010
SV-02 NA
SV-69 NA
SV-05 <0.00025
SV-03 <0.0015
SV-80 <0.0010
SV-04 2.8000
A
B
C
D
E
G
J
K
L
M
N
O
Ia
Ib
1
2
4
5
6
7
8
9
10
20
2.5
5
10
15
20

Explanation

- Supplemental 15' Soil Gas Probe
- Nested Soil Gas Probe
- Nested Soil Gas Probe with Soil Sample Collection to 5'
- Nested Soil Gas Probe with Soil Sample Collection to 10'
- Soil Gas Monitoring Probe
- 9.5 — Concentration of Methane in Percent. < Indicates That Analyte Was Not Detected at The Indicated Value. NA Indicates That Data Are Not Available.
- 5 — Approximate Contour of Methane Concentration in Percent.
- Approximate Site Boundary
- Development Risk Evaluation Area
- Diesel / Gas / Crude Oil Pipeline
- Storage Tanks / Areas
- Initial Evaluation Area

NOTES:
1. The Lower Explosive Limit (LEL) of Methane Is 5 Percent.
2. Isoconcentration Contour Interval Is Variable.
3. "Shallow" refers to probes <10 feet deep. "Deep" refers to probes >10 feet deep.
4. Supplemental soil gas investigation conducted June-2012.

0 150 300 600 FEET

Approximate Scale

FIGURE 1-12B

METHANE DISTRIBUTION IN DEEP SOIL GAS PROBES

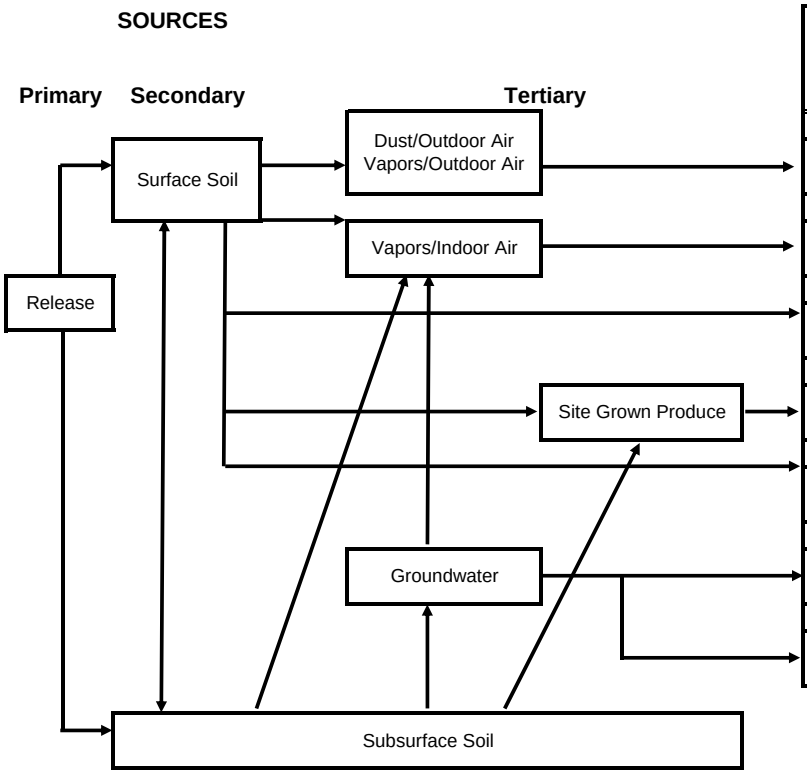
FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON INC.
SAN LUIS OBISPO, CALIFORNIA

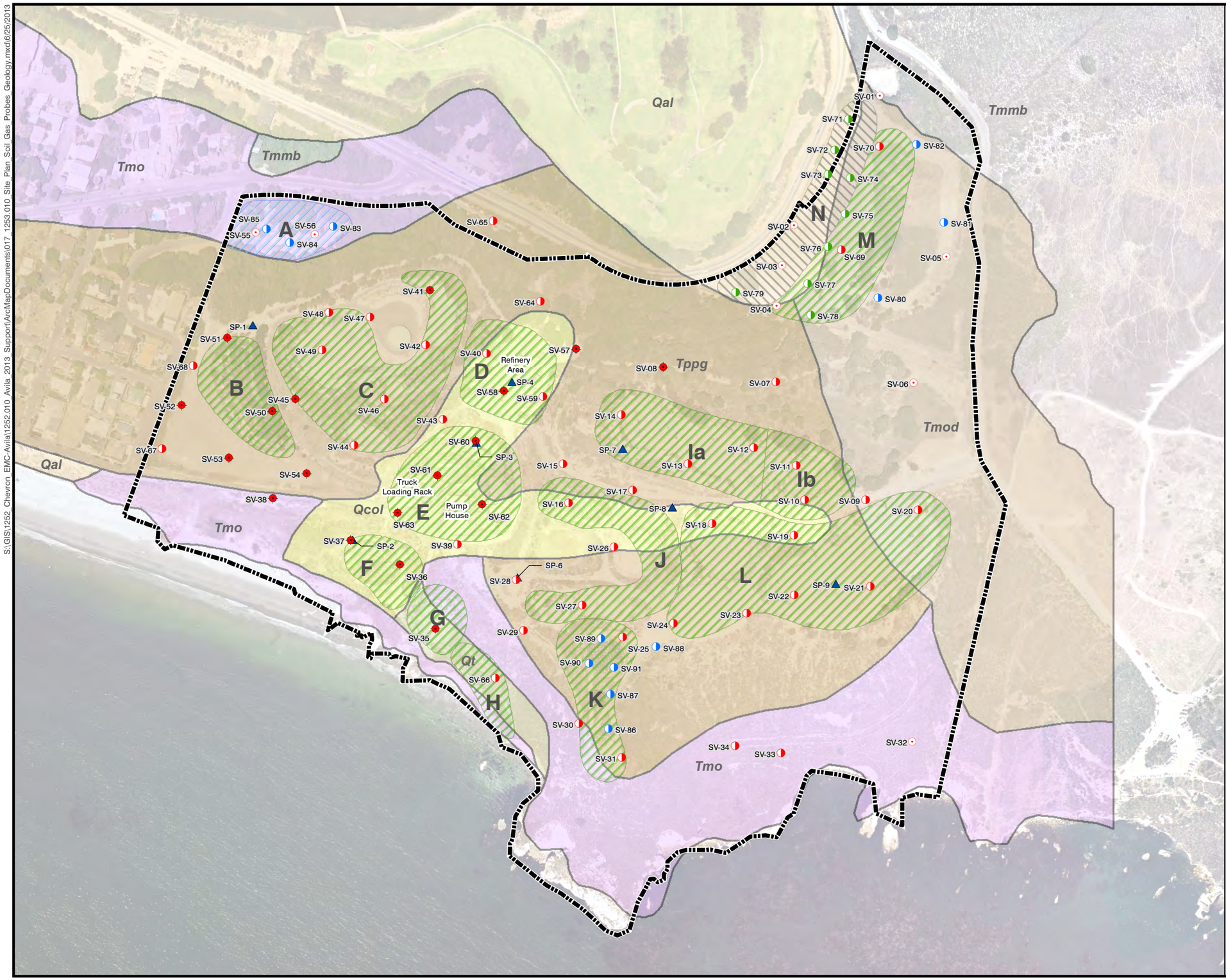
AVOCET ENVIRONMENTAL, INC.

Figure 4-1
Avila Tank Farm Conceptual Exposure Model



EXPOSURE ROUTES	RECEPTORS					
	Offsite Resident	Recreational User	Short-term Resident	Indoor Employee	Outdoor Employee	Intrusive Utility Worker
Inhalation	X	X	X	X	X	X
Inhalation			X*	X*		
Ingestion		X	X		X	X
Ingestion		X**	X**	X**	X**	X†
Dermal Contact		X	X		X	X
Dermal Contact						X
Ingestion						X

*Except for Open Space, Native Gardens, Drainage and Site-wide (no development) exposure areas where there is no indoor air exposure.
**Produce ingestion pathway may be complete for theses receptors; risk/hazard associated with this pathway for these receptors is discussed in uncertainty section (7.4.1.2).
†Ingestion of produce grown on the Site may be complete but considered insignificant for this short-term receptor.



Explanation

- Supplemental 5' Soil Gas Probe
- Supplemental 15' Soil Gas Probe
- Nested Soil Gas Probe
- Nested Soil Gas Probe with Soil Sample Collection to 5'
- Nested Soil Gas Probe with Soil Sample Collection to 10'
- Soil Gas Monitoring Probe
- Approximate Site Boundary

Development Evaluation Areas

- Residential
- Commercial Use with Potentially Occupied Structure
- Parking

Local Geology

- Qal - Alluvium
- Qcol - Colluvium
- Qt - Terrace Deposit
- Tppg - Gragg Member, Pismo Formation
- Tmo - Obispo Formation, Tuffaceous Sandstone
- Tmod - Obispo Formation, Diabase

N

0 150 300 600 FEET

Approximate Scale

FIGURE 5-1

SITE PLAN SHOWING SOIL GAS PROBE LOCATIONS AND LOCAL GEOLOGY

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON CORPORATION
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

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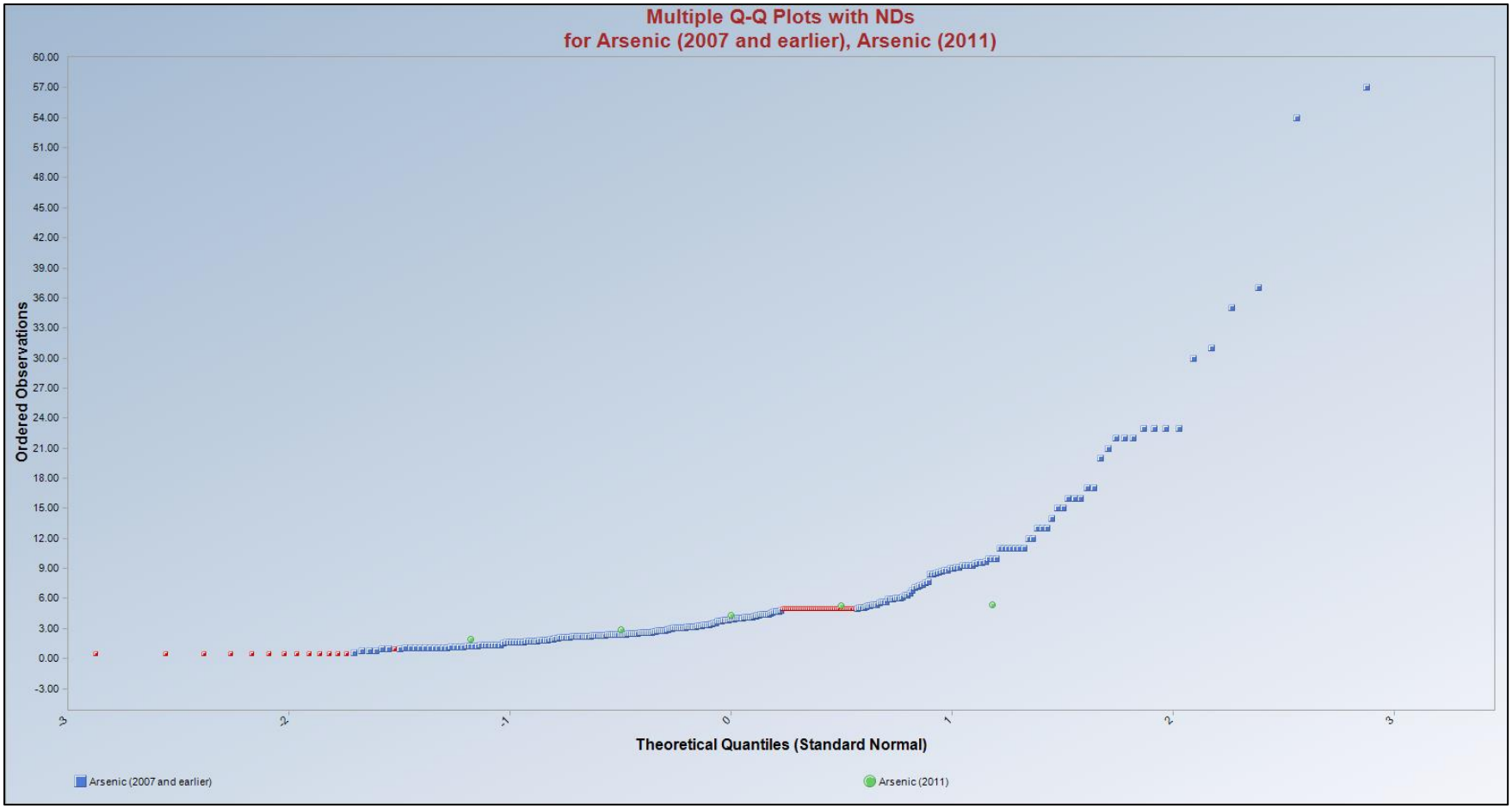
FIGURE 7-1. Distribution of Arsenic in Soil, 2011 Samples versus Historic Data



Arsenic Dataset	N	Detects	Mean	Std. Dev.
2007 and earlier	308	256	5.6	6.8
November 2011	5	5	4.0	1.5

TABLES

Table 2-1
Data Quality Assessment Summary

Receptor	ILCR[1]	Cancer DQA Summary[2,3]				HI[6]	Noncancer DQA Summary[2,3]				DQA Conclusions
		Cancer Risk Driver(s)[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size		Noncancer Hazard Drivers[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size	
Exposure Area A	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Default Bldg. Short-term Resident Adult	2E-07	BaP TEQ (21%), Soil	2.8	2	12	0.003	Cadmium (59%), Produce	416			Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes using USEPA default criteria are met for all risk drivers.
		1,3-butadiene (18%), 5 ft Soil Gas	0.18	2	5						
Default Bldg. Short-term Resident Child	NA					0.008	Cadmium (45%), Produce	175	2	12	
Default Bldg. Indoor Employee	8E-08	1,3-butadiene (38%), 5 ft Soil Gas	1.9			0.002	Vanadium (46%), Soil	16352			
		Benzene (25%), 5 ft Soil Gas	22	2	5						
Outdoor Employee	1E-07	BaP TEQ (51%), Soil	20			0.008	Vanadium (79%), Soil	2476	2	12	
Intrusive Utility Worker	2E-08	Chromium (70%), Soil	16813	2	12	0.007	Vanadium (77%), Soil	3109			
Lead Evaluation						<CHHSL		320	2	12	
Exposure Area C	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Bungalow Short-term Resident Adult	2E-06	Chloroform (63%), 5 ft Soil Gas	3.53	13	16	0.008	Cadmium (20%), Produce	416	2	18	Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes using USEPA default criteria are met for all risk drivers.
							1,2,4-Trimethylbenzene (30%), 5 ft Soil Gas	217			
Bungalow Short-term Resident Child	NA					0.02	TPH-mo (18%), Soil	388148			
							Vanadium (25%), Soil	5815			
Bungalow Indoor Employee	1E-06	Chloroform (67%), 5 ft Soil Gas	37			0.02	TPH-mo (19%), Soil	455361			
							1,2,4-Trimethylbenzene (34%), 5 ft Soil Gas	73	2	16	
Default Bldg. Short-term Resident Adult	7E-07	Chloroform (57%), 5 ft Soil Gas	8.3			0.006	Cadmium (27%), Produce	416			
							1,2,4-Trimethylbenzene (19%), 5 ft Soil Gas	480			
Default Bldg. Short-term Resident Child	NA					0.02	TPH-mo (20%), Soil	388148			
							Vanadium (27%), Soil	5815			
Default Bldg. Indoor Employee	6E-07	Chloroform (66%), 5 ft Soil Gas	88			0.01	TPH-mo (27%), Soil	455361			
							1,2,4-Trimethylbenzene (24%), 5 ft Soil Gas	161			
Outdoor Employee	1E-07	BaP TEQ (41%), Soil	20	2	14	0.04	TPH-mo (30%), Soil	149338			
		Chromium (35%), Soil	12331				Vanadium (37%), Soil	2476	2	18	
Intrusive Utility Worker	5E-08	Chromium (69%), Soil	12002	2	18	0.03	TPH-mo (34%), Soil	145691	2	34	
							Vanadium (32%), Soil	3108			
Lead Evaluation						<CHHSL		320	3	21	
Exposure Area D	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Bungalow Short-term Resident Adult	9E-07	Ethylbenzene (44%), 15 ft Soil Gas	128	8 (2-29)	4	0.02	Antimony (24%), Soil	7850			Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers, except lead. Soil Gas: Desired sample sizes using USEPA default criteria are not met for ethylbenzene at the 15 ft depth but are met for ethylbenzene at the 5 ft depth.
		Ethylbenzene (25%), 5 ft Soil Gas	36	2	4		1,2,4-Trimethylbenzene (24%), 15 ft Soil Gas	2784	2	4	
Bungalow Short-term Resident Child	NA					0.1	Antimony (38%), Soil	952			
							Vanadium (19%), Soil	5815	2	25	
Bungalow Indoor Employee	7E-07	Ethylbenzene (55%), 15 ft Soil Gas	1354			0.1	Antimony (47%), Soil	934			
Default Bldg. Short-term Resident Adult	5E-07	Ethylbenzene (37%), 15 ft Soil Gas	259			0.02	Antimony (28%), Soil	7850			
							Vanadium (17%), Soil	38963			
Default Bldg. Short-term Resident Child	NA					0.1	Antimony (39%), Soil	952			
							Vanadium (20%), Soil	5815			
Default Bldg. Indoor Employee	3E-07	Ethylbenzene (55%), 15 ft Soil Gas	2736			0.1	Antimony (52%), Soil	934			
Outdoor Employee	2E-07	BaP TEQ (30%), Soil	19.9	2	8	0.3	Antimony (44%), Soil	355			
		Chromium (33%), Soil	9637	2	25						
Intrusive Utility Worker	9E-08	Chromium (45%), Soil	14699			0.4	Antimony (33%), Soil	325	2	25	
							TPH-d (26%), Soil	98249	2	53	
Lead Evaluation						>CHHSL		320	178 (38 - 822)	25	

Table 2-1
Data Quality Assessment Summary

Receptor	ILCR[1]	Cancer DQA Summary[2,3]				HI[6]	Noncancer DQA Summary[2,3]				DQA Conclusions
		Cancer Risk Driver(s)[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size		Noncancer Hazard Drivers[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size	
Exposure Area E	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Bungalow Short-term Resident Adult	2E-04	Benzene (95%), 15 ft Soil Gas	9.4	>10000	8	0.2	Benzene (63%), 15 ft Soil Gas	16497			Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers, except lead which exceeds the commercial CHHSL . Soil Gas: Desired sample sizes using USEPA default criteria are not met for benzene at the 15 ft or 5 ft depth.
		Benzene (98%), 5 ft Soil Gas	2.6	>10000	7						
Bungalow Short-term Resident Child	NA					0.2	Benzene (48%), 15 ft Soil Gas	16497			
Bungalow Indoor Employee	2E-04	Benzene (96%), 15 ft Soil Gas	99			0.5	Benzene (63%), 15 ft Soil Gas	5543	4	8	
		Benzene (100%), 5 ft Soil Gas	28								
Default Bldg. Short-term Resident Adult	9E-05	Benzene (95%), 15 ft Soil Gas	19.1			0.08	Benzene (58%), 15 ft Soil Gas	33393			
		Benzene (97%), 5 ft Soil Gas	5.5								
Default Bldg. Short-term Resident Child	NA					0.1	Benzene (37%), 15 ft Soil Gas	33393			
Default Bldg. Indoor Employee	8E-05	Benzene (96%), 15 ft Soil Gas	201			0.2	Benzene (58%), 15 ft Soil Gas	11220			
		Benzene (99%), 5 ft Soil Gas	58								
Outdoor Employee	1E-06	BaP TEQ (15%), Soil	20.0	2	42	0.1	TPH-d (13%), Soil	100797			
		Benzene (56%), Soil	18.4	6	70		TPH-mo (32%), Soil	149338	2	86	
Intrusive Utility Worker	1E-06	Benzene (82%), Soil	186			0.8	1,2,4-Trimethylbenzene (32%), Soil	93	2	33	
							TPH-d (23%), Soil	98250	2	86	
Lead Evaluation						<CHHSL (except IUW)		320	20	43	
Exposure Area G	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Default Bldg. Indoor Employee	2E-07	Benzene (22%), 15 ft Soil Gas	201	2	2	0.02	TPH-d (46%), Soil	307368			Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes using USEPA default criteria are met for all risk drivers.
		Chloroform (46%), 15 ft Soil Gas	933	2	2						
		Tetrachloroethene (22%), 15 ft Soil Gas	1210	2	2						
Outdoor Employee	2E-07	BaP TEQ (26%), Soil	20	2	5	0.09	TPH-d (35%), Soil	100797			
		Chromium (30%), Soil	9637	2	5		Vanadium (41%), Soil	2476	2	5	
Intrusive Utility Worker	6E-08	Chromium (56%), Soil	17426			0.08	TPH-d (40%), Soil	98263	2	16	
							Vanadium (36%), Soil	3109			
Lead Evaluation						<CHHSL		320	2	8	
Exposure Area Ia	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Bungalow Short-term Resident Adult	6E-07	Benzene (19%), Soil	2.4	2	16	0.004	Cadmium (40%), Produce	416			Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers, except for lead. Soil Gas: Desired sample sizes using USEPA default criteria are not met for chloroform at the 15 ft depth but are met for chloroform at the 5 ft depth.
		Chloroform (46%), 15 ft Soil Gas	9.2	7 (2-24)	3						
		Chloroform (32%), 5 ft Soil Gas	3.5	3	3						
Bungalow Short-term Resident Child	NA					0.01	Cadmium (25%), Produce	175	2	7	
							Vanadium (25%), Soil	5815			
Bungalow Indoor Employee	4E-07	Chloroform (71%), 15 ft Soil Gas	97			0.008	TPH-mo (40%), Soil	455361			
		Chloroform (59%), 5 ft Soil Gas	37								
Default Bldg. Short-term Resident Adult	4E-07	Benzene (29%), Soil	2.4			0.004	Cadmium (44%), Produce	416			
		Chloroform (32%), 15 ft Soil Gas	19.7								
		Chloroform (19%), 5 ft Soil Gas	8.3								
Default Bldg. Short-term Resident Child	NA					0.01	Cadmium (26%), Produce	175			
							Vanadium (26%), Soil	5815			
Default Bldg. Indoor Employee	2E-07	Chloroform (69%), 15 ft Soil Gas	208			0.007	TPH-mo (45%), Soil	455361			
		Chloroform (54%), 5 ft Soil Gas	88								
Outdoor Employee	3E-07	Benzene (58%), Soil	18.4			0.02	TPH-mo (42%), Soil	149338			
							Vanadium (37%), Soil	2476	2	7	
Intrusive Utility Worker	5E-08	Benzene (44%), Soil	116			0.04	TPH-mo (42%), Soil	145691	2	16	
		Chromium (39%), Soil	14087	2	7		Vanadium (20%), Soil	3109			
Lead Evaluation						<CHHSL (except IUW)		320	94 (20 - 428)	22	

Table 2-1
Data Quality Assessment Summary

Receptor	ILCR[1]	Cancer DQA Summary[2,3]				HI[6]	Noncancer DQA Summary[2,3]				DQA Conclusions
		Cancer Risk Driver(s)[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size		Noncancer Hazard Drivers[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size	
Exposure Area Ib	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Bungalow Short-term Resident Adult	2E-04	Chloroform (75%), 15 ft Soil Gas	9.2	>10000	4	0.2	Chloroform (64%), 15 ft Soil Gas	14741			Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample size ranges using USEPA default criteria are not met for chloroform at the 15 ft depth or 5 ft depth, though the sample size for chloroform at the 5 ft depth falls equals the low end of the desired range.
		Chloroform (45%), 5 ft Soil Gas	3.5	17 (4-74)	4						
Bungalow Short-term Resident Child	NA					0.2	Chloroform (51%), 15 ft Soil Gas	14741			
Bungalow Indoor Employee	2E-04	Chloroform (75%), 15 ft Soil Gas	97			0.5	Chloroform (64%), 15 ft Soil Gas	4953	6 (2-21)	4	
		Chloroform (69%), 5 ft Soil Gas	37				Chloroform (4%), 5 ft Soil Gas	1900	2	4	
Default Bldg. Short-term Resident Adult	1E-04	Chloroform (75%), 15 ft Soil Gas	19.7			0.08	Chloroform (60%), 15 ft Soil Gas	31482			
		Chloroform (31%), 5 ft Soil Gas	8.3								
Default Bldg. Short-term Resident Child	NA					0.1	Chloroform (40%), 15 ft Soil Gas	31482			
Default Bldg. Indoor Employee	1E-04	Chloroform (75%), 15 ft Soil Gas	208			0.2	Chloroform (60%), 15 ft Soil Gas	10578			
		Chloroform (66%), 5 ft Soil Gas	88								
Outdoor Employee	7E-07	Naphthalene (48%), Soil	223	2	6	0.1	TPH-d (49%), Soil	100797			
Intrusive Utility Worker	1E-07	Benzene (35%), Soil	137	2	18	0.3	TPH-d (63%), Soil	98259	3	18	
		Naphthalene (36%), Soil	1422								
Lead Evaluation						<CHHSL		320	3	6	
Exposure Area J	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Bungalow Short-term Resident Adult	2E-04	Chloroform (68%), 15 ft Soil Gas	9.2	>10000	11	0.2	Chloroform (54%), 15 ft Soil Gas	14741			Soil: Desired samples using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes using USEPA default criteria are not met for chloroform at the 15 ft depth or 5 ft depth.
		Chloroform (49%), 5 ft Soil Gas	3.5	5629 (1209-26691)	10						
Bungalow Short-term Resident Child	NA					0.2	Chloroform (43%), 15 ft Soil Gas	14741			
Bungalow Indoor Employee	2E-04	Chloroform (68%), 15 ft Soil Gas	97			0.5	Chloroform (54%), 15 ft Soil Gas	4953	3	11	
		Chloroform (51%), 5 ft Soil Gas	37								
Default Bldg. Short-term Resident Adult	1E-04	Chloroform (68%), 15 ft Soil Gas	19.7			0.08	Chloroform (51%), 15 ft Soil Gas	31482			
		Chloroform (47%), 5 ft Soil Gas	8.3								
Default Bldg. Short-term Resident Child	NA					0.1	Chloroform (34%), 15 ft Soil Gas	31482			
Default Bldg. Indoor Employee	9E-05	Chloroform (68%), 15 ft Soil Gas	208			0.2	Chloroform (51%), 15 ft Soil Gas	10578			
		Chloroform (51%), 5 ft Soil Gas	88								
Outdoor Employee	1E-06	Ethylbenzene (66%), Soil	316	2	63	0.1	TPH-d (19%), Soil	100797			
							TPH-g (46%), Soil	117861	2	64	
Intrusive Utility Worker	9E-07	Ethylbenzene (74%), Soil	1824			0.7	TPH-d (35%), Soil	98236	2	64	
							Xylenes (Total) (32%), Soil	4246	2	63	
Lead Evaluation						<CHHSL (except IUW)		320	12	70	
Exposure Area K	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Default Bldg. Short-term Resident Adult	7E-06	Chloroform (88%), 15 ft Soil Gas	19.7	827 (169-3715)	9	0.009	Cadmium (19%), Produce	416	2	6	Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes using USEPA default criteria are not met for chloroform at the 15 ft depth but are met for chloroform at the 5 ft depth.
		Chloroform (42%), 5 ft Soil Gas	8.3	3	3		Chloroform (45%), 15 ft Soil Gas	31482			
Default Bldg. Short-term Resident Child	NA					0.02	Mercury (20%), Soil	79			
							TPH-mo (21%), Soil	388148			
Default Bldg. Indoor Employee	6E-06	Chloroform (90%), 15 ft Soil Gas	208			0.02	Chloroform (53%), 15 ft Soil Gas	10578	2	9	
		Chloroform (71%), 5 ft Soil Gas	87.8								
Outdoor Employee	2E-07	Dibenz(a,h)anthracene (57%), Soil	8.3	2	2	0.04	Mercury (29%), Soil	36	2	6	
							TPH-mo (35%), Soil	149338			
Intrusive Utility Worker	2E-08	Chromium (48%), Soil	15062	2	6	0.04	TPH-d (28%), Soil	98251	2	12	
							TPH-mo (39%), Soil	145691	2	12	
Lead Evaluation						<CHHSL		320	3	11	

Table 2-1
Data Quality Assessment Summary

Receptor	ILCR[1]	Cancer DQA Summary[2,3]				HI[6]	Noncancer DQA Summary[2,3]				DQA Conclusions
		Cancer Risk Driver(s)[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size		Noncancer Hazard Drivers[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size	
Exposure Area L	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Bungalow Short-term Resident Adult	4E-07	BaP TEQ (17%), Soil	2.8	2	11	0.01	Cadmium (15%), Produce	416	2	17	Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes using USEPA default criteria are met for all risk drivers.
		Naphthalene (15%), Soil	29	6	25		1,2,4-Trimethylbenzene (37%), Soil	1124			
		Chloroform (21%), 5 ft Soil Gas	3.5	2	9						
Bungalow Short-term Resident Child	NA					0.04	TPH-d (31%), Soil	261990			
							TPH-mo (19%), Soil	388148			
Bungalow Indoor Employee	2E-07	Benzene (24%), 5 ft Soil Gas	21	2	9	0.02	TPH-d (49%), Soil	307368			
		Chloroform (44%), 5 ft Soil Gas	37								
Default Bldg. Short-term Resident Adult	3E-07	BaP TEQ (23%), Soil	2.8			0.01	Cadmium (16%), Produce	416			
		Naphthalene (19%), Soil	29				1,2,4-Trimethylbenzene (37%), Soil	1124			
		Chloroform (12%), 5 ft Soil Gas	8.3								
Default Bldg. Short-term Resident Child	NA					0.04	TPH-d (31%), Soil	261990			
							TPH-mo (19%), Soil	388148			
Default Bldg. Indoor Employee	1E-07	Benzene (23%), 5 ft Soil Gas	44			0.02	TPH-d (50%), Soil	307368			
		Chloroform (37%), 5 ft Soil Gas	88								
Outdoor Employee	3E-07	BaP TEQ (37%), Soil	20			0.09	1,2,4-Trimethylbenzene (21%), Soil	244	2	13	
		Naphthalene (29%), Soil	223				TPH-d (34%), Soil	100797			
							TPH-mo (21%), Soil	149338	2	61	
Intrusive Utility Worker	8E-08	Chromium (49%), Soil	12044	2	17	0.5	TPH-d (60%), Soil	98229	2	61	
Lead Evaluation						<CHHSL (except IUW)		320	24	56	
Exposure Area M	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Default Bldg. Short-term Resident Adult	5E-07	Benzene (55%), 15 ft Soil Gas	5.6	NE	1	0.006	Cadmium (26%), Produce	416	2	9	Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes for benzene using USEPA default criteria are met for the 5 ft data. The maximum detect occurred in the 15 ft data which consists of only one sample.
		Benzene (28%), 5 ft Soil Gas	2.1	2	6		Vanadium (26%), Soil	38963			
Default Bldg. Short-term Resident Child	NA					0.03	TPH-d (30%), Soil	261990			
							Vanadium (36%), Soil	5815			
Default Bldg. Indoor Employee	3E-07	Benzene (92%), 15 ft Soil Gas	59			0.02	TPH-d (46%), Soil	307368			
		Benzene (81%), 5 ft Soil Gas	22								
Outdoor Employee	2E-07	BaP TEQ (29%), Soil	20	2	7	0.06	TPH-d (37%), Soil	100797			
		Naphthalene (37%), Soil	223	2	16		Vanadium (41%), Soil	2476	2	9	
Intrusive Utility Worker	5E-08	Naphthalene (37%), Soil	1101			0.1	TPH-d (53%), Soil	98261	2	14	
		Vanadium (29%), Soil	43665	2	9						
Lead Evaluation						<CHHSL		320	2	9	
Exposure Area N	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Default Bldg. Short-term Resident Adult	1E-07	BaP TEQ (19%), Soil	2.81	2	9	0.004	Cadmium (37%), Produce	416	2	11	Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes using USEPA default criteria are met for all risk drivers.
		Chromium (18%), Soil	1233	2	11		Vanadium (42%), Soil	38963			
		Vanadium (17%), Soil	3184	2	11						
Default Bldg. Short-term Resident Child	NA					0.02	Vanadium (60%), Soil	5815			
Default Bldg. Indoor Employee	3E-08	BaP TEQ (15%), Soil	148			0.006	Vanadium (69%), Soil	16352			
		Benzene (29%), 5 ft Soil Gas	16.61	2	8						
Outdoor Employee	9E-08	BaP TEQ (38%), Soil	19.86			0.04	Vanadium (79%), Soil	2476			
		Chromium (32%), Soil	9637								
Intrusive Utility Worker	5E-08	Chromium (55%), Soil	8150			0.04	Vanadium (80%), Soil	3109	2	11	
Lead Evaluation						<CHHSL		320	2	11	
Exposure Area O	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Default Bldg. Short-term Resident Adult	3E-07	Benzene (56%), 15 ft Soil Gas	5.6	3	8	0.006	Cadmium (25%), Produce	416	2	10	Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes using USEPA default criteria are met for all risk drivers.
		Benzene (53%), 5 ft Soil Gas	2.1	2	10		Vanadium (49%), Soil	38963			
Default Bldg. Short-term Resident Child	NA					0.03	Vanadium (73%), Soil	5815			
Default Bldg. Indoor Employee	2E-07	Benzene (94%), 15 ft Soil Gas	59			0.01	Vanadium (61%), Soil	16352			
		Benzene (98%), 5 ft Soil Gas	22				1,2,4-Trimethylbenzene (20%), 15 ft Soil Gas	543	2	8	
Outdoor Employee	1E-07	Chromium (53%), Soil	9637	2	10	0.05	Vanadium (90%), Soil	2476	2	10	
		Vanadium (46%), Soil	24880	2	10						
Intrusive Utility Worker	8E-08	Chromium (53%), Soil	12863			0.05	Vanadium (88%), Soil	3108			
		Vanadium (46%), Soil	33210								
Lead Evaluation						<CHHSL		320	2	10	

Table 2-1
Data Quality Assessment Summary

Receptor	ILCR[1]	Cancer DQA Summary[2,3]				HI[6]	Noncancer DQA Summary[2,3]				DQA Conclusions
		Cancer Risk Driver(s)[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size		Noncancer Hazard Drivers[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size	
Exposure Area Drainage	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Outdoor Employee	1E-06	Benzene (76%), Soil	18	2	8	0.06	TPH-mo (42%), Soil	149338			Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers
Intrusive Utility Worker	2E-07	Benzene (61%), Soil	119			0.2	TPH-mo (55%), Soil	145691	2	10	
Lead Evaluation						<CHHSL		80	3	8	
Exposure Area Native Gardens	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Outdoor Employee	7E-08	Chromium (37%), Soil	9637	2	8	0.01	Vanadium (61%), Soil	2476	2	8	Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers
		Dibenz(a,h)anthracene (39%), Soil	8.3	2	7						
Restaurant Visitor Adult	3E-08	BaP TEQ (40%), Produce	15	2	7	0.002	Cadmium (82%), Produce	416			
		Dibenz(a,h)anthracene (60%), Produce	12								
Restaurant Visitor Child	NA					0.005	Cadmium (82%), Produce	175	2	8	
Exposure Area Open Space	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Outdoor Employee	7E-07	Benzene (38%), Soil	19.0			0.1	1,2,4-Trimethylbenzene (41%), Soil	244			Soil: Desired sample sizes using USEPA default criteria are not met for benzene (0 to 10 ft) or dibenz(a,h)anthracene (0 to 2 ft) in soil, although sample sizes for both fall within the desired range. Soil Gas: Desired sample sizes using USEPA default criteria are met for all risk drivers.
		Naphthalene (41%), Soil	223				Mercury (14%), Soil	36			
Recreational Adult (0-10 ft bgs)	2E-06	Benzene (31%), Soil	1.1	221 (47 - 1021)	91	0.03	1,2,4-Trimethylbenzene (50%), Soil	669			
		Dibenz(a,h)anthracene (22%), Soil	0.81								
		Naphthalene (22%), Soil	20	3	105						
		BaP TEQ (17%), Soil	0.36	23	45						
Recreational Adult (0-2 ft bgs)	2E-06	Dibenz(a,h)anthracene (81%), Soil	0.15	51 (11 - 228)	23	0.01	Vanadium (24%), Soil	8923			
							TPH-mo (28%), Soil	325268			
Recreational Child (0-10 ft bgs)	NA					0.2	1,2,4-Trimethylbenzene (26%), Soil	211	2	66	
							Vanadium (23%), Soil	637			
Recreational Child (0-2 ft bgs)	NA					0.2	TPH-mo (25%), Soil	27564	3	64	
							Mercury (26%), Soil	11.8	3	45	
							Vanadium (26%), Soil	637			
Lead Evaluation						<CHHSL		80	52	108	
Exposure Area Site wide	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Recreational Adult (0-10 ft bgs)	1E-06	2,4-Dinitrotoluene (52%), Soil	0.93	34 (8 - 153)	5	0.08	Antimony (81%), Soil	693			Soil: Desired sample size using USEPA default criteria is not met for 2,4-dinitrotoluene in soil. Soil Gas: Desired sample sizes using USEPA default criteria are met for all risk drivers.
Recreational Adult (0-2 ft bgs)	8E-07	BaP TEQ (29%), Soil	0.36	15	82	0.01	TPH-d (28%), Soil	289402	2	159	
		Ethylbenzene (38%), Soil	14.7				TPH-mo (28%), Soil	325268			
Recreational Child (0-10 ft bgs)	NA					0.9	Antimony (82%), Soil	60	3	313	
Recreational Child (0-2 ft bgs)						0.2	TPH-mo (28%), Soil	27564	4	159	
							Vanadium (23%), Soil	699	2	120	
Offsite Resident Adult	2E-06	Ethylbenzene (65%), Soil	3.8	424	481	0.008	Xylenes (Total) (52%), Soil	6866			
Offsite Resident Child	NA						Xylenes (Total) (52%), Soil	6866	2	481	
Lead Evaluation						<CHHSL		80	359	433	

Notes:

[1]ILCR is the incremental probability of an individual developing cancer over a lifetime as a result of exposure to the potential carcinogen; cancer risk is age-weighted and assumes 6 years of exposure as a child and 24 years as an adult, therefore risk is reported for adult and not applicable (NA) to child receptors; 2E-07 = 0.0000002 = two in ten million.

[2]The shaded boxes in the DQA summary indicate that a more conservative receptor was evaluated in the DQA.

[3]Orange text indicates sample size does not meet USEPA acceptable performance criteria (alpha= 5%, beta= 20%, MDD=20%) for corresponding RBC .

[4]Risk and hazard drivers identified are the chemicals of potential concern (COPCs) accounting for the greatest percentage(s) of the total risk or hazard. For example, for residents in Exposure Area A, exposure to BaP TEQ in soil account for 21% of the total risk and 1,3-butadiene in soil gas (via inhalation of indoor air) accounts for 18% of the total risk. The chemical(s) accounting for at least 40% of the total risk or hazard are identified.

[5]Results for soil presented in mg/kg; for soil gas in ug/L

[6]HI is the noncancer hazard index.

CHHSL = California Human Health Screening Level. The HHRA compared area-specific exposure point concentrations to the residential or commercial CHHSL, as appropriate. As shown in Attachment 13 of the HHRA, the commercial CHHSL for lead in soil (320 mg/kg) is protective of short-term residents.

IUW = Intrusive utility worker

NE = Not evaluated; cannot calculate standard deviation for sample size of one.

Table 2-2
Summary of Metals COPC Selection Process

Metal (1/10th CHHSL)	Descriptive Statistics									Background Comparison Tests (p-value)					COPC?	COPC Selection Process Decision Point
	N	N Detect	Min ND	Max ND	Min Detect	Detect Median	Detect Mean	Max Detect	Detect SD	T-test	Gehan	Quantile (75%)	Slippage	Elevated above bkgd?		
Antimony (3 mg/kg)																
All Obispo															Yes - D, Site-wide	Low site-wide frequncy of detect; COPC when detected in exposure areas
Background	10	0	5	5	NA	NA	NA	NA	NA							
Site-Wide	113	4	5	100	0.34	0.52	0.72	1.5	0.54							
All Pismo																
Background	7	0	5	5	NA	NA	NA	NA	NA							
Site-Wide	187	2	5	25	0.28	23.1	23	**46**	32							
All Other																
Site-Wide	18	0	5	10	NA	NA	NA	NA	NA							
Arsenic (0.007 mg/kg)																
All Obispo															No	Passes all site-wide background comparison tests
Background†	24	20	1	5	1.2	7.7	22.6	220	52.1	-	-	-	-	No		
Site-Wide	113	103	0.5	5	0.8	3.2	7.97	**57**	10.7	0.2068	0.6267	0.5057	0.1798			
All Pismo																
Background	7	7	NA	NA	1.4	2.4	3.9	12	3.7	-	-	-	-	No		
Site-Wide	187	146	0.5	5	0.6	3.8	5.21	23	4.4	0.3278	0.2096	0.4352	0.6863			
All Other																
Site-Wide	18	17	5	5	1.1	1.6	3.98	9.3	3.16							
Barium (520 mg/kg)																
All Obispo															No	Passes all site-wide background comparison tests
Background	10	10	NA	NA	8.5	126	207	750	239	-	-	-	-	No		
Site-Wide	113	113	NA	NA	5.9	64	91.2	560	92.8	0.9206	0.9400	0.9839	1.0000			
All Pismo																
Background	7	7	NA	NA	11	94	73	110	38	-	-	-	-	No		
Site-Wide	187	187	NA	NA	1.3	53	63.5	**970**	77.3	0.7195	0.9321	0.9911	0.7700			
All Other																
Site-Wide	18	18	NA	NA	48	94	111.7	210	48.4							
Beryllium (15 mg/kg)																
Site-Wide	318	62	0.49	1	0.04	0.66	0.81	**2**	0.46						No	Site-wide max detect does not exceed 1/10th residential CHSSL
Cadmium (0.17 mg/kg)																
All Obispo															Yes- Exposure Areas A, C, D, E,G, Ia, J, L, M, N, O, Open Space, Site Wide	Low site-wide frequncy of detect; COPC detected in exposure areas
Background	10	4	1	1	1.3	1.6	1.75	2.6	0.59							
Site-Wide	113	21	0.5	10	1.16	0.81	1.13	3.5	0.86							
All Pismo																
Background	7	1	1	1	1.1	1.1	1.1	1.1	NA							
Site-Wide	187	19	0.49	1	0.14	1	1.36	**4.3**	1.02							
All Other																
Site-Wide	18	0	0.5	1	NA	NA	NA	NA	NA							

Table 2-2
Summary of Metals COPC Selection Process

Metal (1/10th CHHSL)	Descriptive Statistics									Background Comparison Tests (p-value)					COPC?	COPC Selection Process Decision Point
	N	N Detect	Min ND	Max ND	Min Detect	Detect Median	Detect Mean	Max Detect	Detect SD	T-test	Gehan	Quantile (75%)	Slippage	Elevated above bkgd?		
Chromium (NA)																
All Obispo															Yes	Fails site-wide Obispo background comparison tests
Background†	24	23	1	1	1	10	23.8	190	39.6	0.1276	0.0108	0.7689	1.0000	Yes		
Site-Wide	113	113	NA	NA	1.6	16	21.8	**140**	18.9	0.0334	0.0304	0.5671	0.2342			
All Pismo																
Background	7	7	NA	NA	3.9	24	26.4	69	21.9	-	-	-	-	No		
Site-Wide	187	186	1	1	3.5	18	19.5	61	8.43	0.7856	0.7439	0.8062	1.0000			
All Other																
Site-Wide	18	18	NA	NA	6.7	16.5	23.1	49	14.4							
Cobalt (66 mg/kg)																
Site-Wide	318	247	0.99	2	1	2.3	4.35	**46**	5.27						No	Site-wide max detect does not exceed 1/10th residential CHSSL
Copper (300 mg/kg)																
All Obispo															No	Passes all site-wide background comparison tests
Background	10	10	NA	NA	3.9	13	17.7	55	14.4	-	-	-	-	No		
Site-Wide	113	108	0.5	4	0.8	7.15	14.5	**500**	48.3	0.7228	0.9954	0.9839	0.8434			
All Pismo																
Background	7	6	0.5	0.5	1.9	8.3	8.8	22	7.2	-	-	-	-	No		
Site-Wide	187	185	0.5	0.5	0.5	5.7	8.9	120	13.8	0.3361	0.4645	0.9307	0.6602			
All Other																
Site-Wide	18	18	NA	NA	4.5	10.5	13.2	23	6.95							
Lead (15 mg/kg)																
All Obispo															Yes	Fails site-wide Obispo background comparison tests
Background	10	10	NA	NA	2	3.2	5.9	28	7.9	-	-	-	-	Yes		
Site-Wide	125	117	2	4	1.3	6.1	15.8	170	23.7	0.0052	0.0080	0.2460	0.2265			
All Pismo																
Background	7	6	1	1	3.4	12.6	35.5	160	61.5	-	-	-	-	Yes		
Site-Wide	287	283	1	2	1.2	8.5	43.8	**1600**	135.3	0.2997	0.3223	0.4385	0.7447			
All Other																
Site-Wide	18	18	NA	NA	2.7	6.3	7.13	24	4.97							
Mercury (1.8 mg/kg)																
All Obispo															Yes - all Exposure Areas except Ia	Low site-wide frequncy of detect; COPC detected in exposure areas
Background	10	0	0.1	0.1	NA	NA	NA	NA	NA							
Site-Wide	113	37	0.02	0.1	0.02	0.12	3.67	**72**	12.4							
All Pismo																
Background	7	1	0.1	0.1	0.2	0.2	0.2	0.2	NA							
Site-Wide	187	53	0.02	0.1	0.02	0.1	1.24	32	4.8							
All Other																
Site-Wide	18	12	0.02	0.1	0.02	0.31	0.40	1	0.39							
Molybdenum (38 mg/kg)																
Site-Wide	318	59	1	12	1	1.9	3.8	37	5.2						No	Site-wide max detect does not exceed 1/10th residential CHSSL

Table 2-2
Summary of Metals COPC Selection Process

Metal (1/10th CHHSL)	Descriptive Statistics									Background Comparison Tests (p-value)					COPC?	COPC Selection Process Decision Point
	N	N Detect	Min ND	Max ND	Min Detect	Detect Median	Detect Mean	Max Detect	Detect SD	T-test	Gehan	Quantile (75%)	Slippage	Elevated above bkgd?		
Nickel (160 mg/kg)																
All Obispo															No	Passes all site-wide background comparison tests
Background	10	10	NA	NA	1.8	31.5	49.3	130	48.7	-	-	-	-	No		
Site-Wide	113	109	2	4	2.1	11	26.4	**400**	55.3	0.9446	0.9590	0.9980	0.8315			
All Pismo																
Background	7	6	1	1	6.3	21	20.2	34	9.5	-	-	-	-	No		
Site-Wide	187	186	1	1	1.9	11	15.8	170	19.1	0.6415	0.8601	0.9880	0.6105			
All Other																
Site-Wide	18	18	NA	NA	7.5	14	35.5	130	37.3							
Selenium (38 mg/kg)																
Site-Wide	318	3	0.5	10	0.38	0.46	0.45	**0.5**	0.061						No	Site-wide max detect does not exceed 1/10th residential CHSSL
Silver (38 mg/kg)																
Site-Wide	318	2	0.5	10	0.069	0.13	0.13	**0.19**	0.086						No	Site-wide max detect does not exceed 1/10th residential CHSSL
Thallium (0.5 mg/kg)																
All Obispo															No	Not detected (see Note)
Background	10	0	5	5	NA	NA	NA	NA	NA							
Site-Wide	113	6	5	25	0.74	1.18	3.84	**16**	6.03							
All Pismo																
Background	7	0	5	5	NA	NA	NA	NA	NA							
Site-Wide	187	1	5	25	0.86	0.86	0.86	0.86	NA							
All Other																
Site-Wide	18	0	5	10	NA	NA	NA	NA	NA							
Vanadium (53 mg/kg)																
All Obispo															Yes	Fails site-wide Pismo background comparison tests
Background	10	10	NA	NA	4.1	32.5	37.0	94	31.3	-	-	-	-	No		
Site-Wide	113	113	NA	NA	1.1	18	33.3	130	31.4	0.7071	0.7377	0.5085	0.4680			
All Pismo																
Background	7	7	NA	NA	3.1	14	12.7	18	5.54	-	-	-	-	Yes		
Site-Wide	187	186	1	1	3.2	16	22.2	**270**	27.4	0.0020	0.0709	0.1384	0.0305			
All Other																
Site-Wide	18	18	NA	NA	14	37.5	37.1	57	12.02							
Zinc (2300 mg/kg)																
Site-Wide	318	309	1	5	4.2	22	39.6	**570**	56.2						No	Site-wide max detect does not exceed 1/10th residential CHSSL

*CalEPA, 2005. Use of CHHSLs in the Evaluation of Contaminated Properties. Note than since publication of the background analysis, the lead and beryllium CHHSLs have changed.
†Background data set includes onsite data at depth

Note: Since the *Metals Background Analysis* was conducted before the last update to the Site database in March 2010, the total number of samples and associated summary statistics in this table differ from those presented for the Site-wide Exposure Area. Changes to the Site database consisted of reclassification of 13 soil samples as asphalt/tar; generally, these samples had elevated metal concentrations, therefore the inclusion of these samples in the background comparisons is conservative.

Table 2-3
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area A

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Inorganics								
Antimony	soil	0 / 12	0 %	9.9 - 10.0	-	30	No	Low site-wide frequency of detect; never detected in exposure area
Arsenic	soil	11 / 12	92 %	0.50 - 0.50	1.1 - 54	0.07	No	Passes all site-wide background comparison tests
Barium	soil	12 / 12	100 %	-	5.9 - 270	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	0 / 12	0 %	0.50 - 0.50	-	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	1 / 12	8 %	0.50 - 0.50	0.53 - 0.53	1.7	Yes	Low site-wide frequency of detect; detected in exposure area
Chromium (total)	soil	12 / 12	100 %	-	1.6 - 25	NA	Yes	Fails site-wide Obispo background comparison tests
Cobalt	soil	4 / 12	33 %	1.0 - 1.0	1.3 - 6.8	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	9 / 12	75 %	2.0 - 2.0	2.1 - 9.1	3000	No	Passes all site-wide background comparison tests
Lead	soil	12 / 12	100 %	-	2.3 - 19	80	Yes	Fails site-wide Obispo background comparison tests
Tetraethyl Lead	soil	0 / 2	0 %	1.0 - 1.0	-	NA	No	Not detected
Mercury	soil	2 / 12	17 %	0.020 - 0.020	0.020 - 0.027	18	Yes	Low site-wide frequency of detect; detected in exposure area
Molybdenum	soil	3 / 12	25 %	2.00 - 2.0	2.9 - 5.7	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	10 / 12	83 %	2.0 - 2.0	2.4 - 21	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 12	0 %	2.0 - 2.0	-	380	No	Never detected
Silver	soil	0 / 12	0 %	1.0 - 1.0	-	380	No	Never detected
Thallium	soil	0 / 12	0 %	9.9 - 10.0	-	5.0	No	Low site-wide frequency of detect; never detected in exposure area
Vanadium	soil	12 / 12	100 %	-	1.1 - 17	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	8 / 12	67 %	5.0 - 5.0	6.2 - 24	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	0 / 15	0 %	0.0019 - 0.0050	-		No	Not detected
Ethylbenzene	soil	0 / 15	0 %	0.0019 - 0.0050	-		No	Not detected
Toluene	soil	0 / 15	0 %	0.0019 - 0.0050	-		No	Not detected
m&p-Xylenes	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected; captured as total xylenes
o-Xylene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected; captured as total xylenes
Xylenes (total)	soil	0 / 15	0 %	0.0037 - 0.0050	-		No	Not detected
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
Bromochloromethane	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
Bromodichloromethane	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
Bromoform	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
Bromomethane	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
tert-Butylalcohol	soil	0 / 12	0 %	0.093 - 0.11	-		No	Not detected
n-Butylbenzene	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
sec-Butylbenzene	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
tert-Butylbenzene	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
Carbon tetrachloride	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
Chlorobenzene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
Chloroethane	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
Chloroform	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
Chloromethane	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
2-Chlorotoluene	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
4-Chlorotoluene	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
Dibromochloromethane	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
1,2-Dibromo-3-chloropropane	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
1,2-Dibromoethane	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
Dibromomethane	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
1,2-Dichlorobenzene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
1,3-Dichlorobenzene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
1,4-Dichlorobenzene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
Dichlorodifluoromethane	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
1,1-Dichloroethane	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
1,2-Dichloroethane	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
1,1-Dichloroethene	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
cis-1,2-Dichloroethene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
trans-1,2-Dichloroethene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
1,2-Dichloropropane	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
1,3-Dichloropropane	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected

Table 2-3
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area A

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
2,2-Dichloropropane	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
1,1-Dichloropropene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
cis-1,3-Dichloropropene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
trans-1,3-Dichloropropene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
Ethyl tert butyl ether	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
Isopropyl ether	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
Isopropylbenzene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
p-Isopropyltoluene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
Methylene chloride	soil	0 / 12	0 %	0.019 - 0.022	-		No	Not detected
Methyl tert-butyl ether	soil	0 / 15	0 %	0.0046 - 0.0055	-		No	Not detected
n-Propylbenzene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
Styrene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
1,1,1,2-Tetrachloroethane	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
1,1,2,2-Tetrachloroethane	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
Tetrachloroethene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
Tert-amyl methyl ether	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
1,2,3-Trichlorobenzene	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
1,2,4-Trichlorobenzene	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
1,1,1-Trichloroethane	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
1,1,2-Trichloroethane	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
Trichloroethene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
Trichlorofluoromethane	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
1,2,3-Trichloropropane	soil	0 / 12	0 %	0.0093 - 0.011	-		No	Not detected
1,2,4-Trimethylbenzene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
1,3,5-Trimethylbenzene	soil	0 / 12	0 %	0.0019 - 0.0022	-		No	Not detected
Vinyl chloride	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	2 / 12	17 %	0.0038 - 0.0044	0.0038 - 0.10		Yes	
Acenaphthene	soil	0 / 12	0 %	0.0054 - 0.0063	-		No	Not detected
Acenaphthylene	soil	0 / 12	0 %	0.0054 - 0.0063	-		No	Not detected
Anthracene	soil	1 / 12	8 %	0.0054 - 0.0063	0.0092 - 0.0092		Yes	
Benz(a)anthracene	soil	1 / 12	8 %	0.0054 - 0.0063	0.024 - 0.024		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	1 / 12	8 %	0.0054 - 0.0063	0.059 - 0.059		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	1 / 12	8 %	0.0054 - 0.0063	0.012 - 0.012		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	1 / 12	8 %	0.0054 - 0.0063	0.046 - 0.046		Yes	
Benzo(a)pyrene	soil	1 / 12	8 %	0.0054 - 0.0063	0.087 - 0.087		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Chrysene	soil	2 / 12	17 %	0.0054 - 0.0063	0.0057 - 0.11		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	1 / 12	8 %	0.0054 - 0.0063	0.019 - 0.019		Yes	
Fluoranthene	soil	1 / 12	8 %	0.0054 - 0.0063	0.0270 - 0.027		Yes	
Fluorene	soil	0 / 12	0 %	0.0054 - 0.0063	-		No	Not detected
Indeno(1,2,3-cd)pyrene	soil	1 / 12	8 %	0.0054 - 0.0063	0.021 - 0.021		Yes	Carcinogenic PAHs evaluated as BaP TEQ
1-Methylnaphthalene	soil	1 / 12	8 %	0.0054 - 0.0063	0.0080 - 0.0080		Yes	
2-Methylnaphthalene	soil	1 / 12	8 %	0.0054 - 0.0063	0.016 - 0.016		Yes	
Naphthalene	soil	1 / 12	8 %	0.0046 - 0.0054	0.0082 - 0.0082		Yes	
Phenanthrene	soil	1 / 12	8 %	0.0054 - 0.0063	0.0071 - 0.0071		Yes	
Pyrene	soil	1 / 12	8 %	0.0054 - 0.0063	0.046 - 0.046		Yes	
Semivolatile Organic Compounds (SVOCs)								
Hexachlorobutadiene	soil	0 / 12	0 %	0.0046 - 0.0055	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	0 / 15	0 %	0.37 - 10	-		No	Not detected
TPH Diesel	soil	1 / 15	7 %	5 - 10	11 - 11		Yes	
TPH Motor Oil	soil	3 / 15	20 %	5 - 10	12 - 36		Yes	

Notes:
NA = Not applicable
Concentrations are mg/kg wet weight, with the exception of some PAH results and the 2011 data that are mg/kg dry weight.

Table 2-3
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area A

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
BTEX							
Benzene	soil gas	10 / 10	100 %	-	0.0019 - 0.046	Yes	
Ethylbenzene	soil gas	8 / 10	80 %	0.0054 - 0.0056	0.0052 - 0.20	Yes	
Toluene	soil gas	10 / 10	100 %	-	0.011 - 0.36	Yes	
m&p-Xylenes	soil gas	10 / 10	100 %	-	0.0082 - 0.29	Yes	
o-Xylene	soil gas	8 / 10	80 %	0.0054 - 0.0056	0.0043 - 0.13	Yes	
Volatile Organic Compounds (VOCs)							
Acetone	soil gas	10 / 10	100 %	-	0.030 - 0.11	No	Common laboratory contaminant
Allyl chloride	soil gas	0 / 4	0 %	0.015 - 0.016	-	No	Not detected
Benzyl chloride	soil gas	0 / 10	0 %	0.0064 - 0.010	-	No	Not detected
Bromobenzene	soil gas	0 / 6	0 %	0.0065 - 0.0065	-	No	Not detected
Bromodichloromethane	soil gas	1 / 10	10 %	0.0068 - 0.0086	0.010 - 0.010	Yes	
Bromoform	soil gas	0 / 10	0 %	0.010 - 0.013	-	No	Not detected
Bromomethane	soil gas	0 / 10	0 %	0.0048 - 0.016	-	No	Not detected
1,3-Butadiene	soil gas	1 / 10	10 %	0.0027 - 0.0045	0.0055 - 0.0055	Yes	
2-Butanone	soil gas	10 / 10	100 %	-	0.0076 - 0.20	Yes	
tert-Butylalcohol	soil gas	4 / 10	40 %	0.0061 - 0.016	0.0013 - 0.0023	Yes	
n-Butylbenzene	soil gas	0 / 6	0 %	0.0056 - 0.0056	-	No	Not detected
sec-Butylbenzene	soil gas	0 / 6	0 %	0.0056 - 0.0056	-	No	Not detected
tert-Butylbenzene	soil gas	3 / 6	50 %	0.0056 - 0.0056	0.0023 - 0.0024	Yes	
Carbon disulfide	soil gas	8 / 10	80 %	0.0063 - 0.0063	0.0027 - 0.034	Yes	
Carbon tetrachloride	soil gas	0 / 10	0 %	0.0064 - 0.0081	-	No	Not detected
Chlorobenzene	soil gas	0 / 10	0 %	0.0047 - 0.0059	-	No	Not detected
Chloroethane	soil gas	0 / 10	0 %	0.0032 - 0.0080	-	No	Not detected
Chloroform	soil gas	9 / 10	90 %	0.0060 - 0.0060	0.0024 - 0.030	Yes	
Chloromethane	soil gas	2 / 10	20 %	0.0021 - 0.011	0.00093 - 0.0015	Yes	
2-Chlorotoluene	soil gas	0 / 6	0 %	0.011 - 0.011	-	No	Not detected
4-Chlorotoluene	soil gas	0 / 6	0 %	0.011 - 0.011	-	No	Not detected
Cyclohexane	soil gas	4 / 10	40 %	0.017 - 0.017	0.0072 - 0.014	Yes	
Dibromochloromethane	soil gas	0 / 10	0 %	0.0086 - 0.011	-	No	Not detected
1,2-Dibromo-3-chloropropane	soil gas	0 / 6	0 %	0.0098 - 0.0098	-	No	Not detected
1,2-Dibromoethane	soil gas	0 / 10	0 %	0.0078 - 0.0099	-	No	Not detected
Dibromomethane	soil gas	0 / 6	0 %	0.0072 - 0.0072	-	No	Not detected
1,2-Dichlorobenzene	soil gas	0 / 10	0 %	0.0074 - 0.012	-	No	Not detected
1,3-Dichlorobenzene	soil gas	0 / 10	0 %	0.0074 - 0.012	-	No	Not detected
1,4-Dichlorobenzene	soil gas	0 / 10	0 %	0.0074 - 0.012	-	No	Not detected
Dichlorodifluoromethane	soil gas	6 / 10	60 %	0.0061 - 0.0064	0.0029 - 0.010	Yes	
1,1-Dichloroethane	soil gas	0 / 10	0 %	0.0041 - 0.0052	-	No	Not detected
1,2-Dichloroethane	soil gas	0 / 10	0 %	0.0041 - 0.0052	-	No	Not detected
1,1-Dichloroethene	soil gas	0 / 10	0 %	0.0040 - 0.0051	-	No	Not detected
cis-1,2-Dichloroethene	soil gas	0 / 10	0 %	0.0040 - 0.0051	-	No	Not detected
trans-1,2-Dichloroethene	soil gas	0 / 10	0 %	0.0049 - 0.0080	-	No	Not detected
1,2-Dichloropropane	soil gas	0 / 10	0 %	0.0057 - 0.0094	-	No	Not detected
1,3-Dichloropropane	soil gas	0 / 6	0 %	0.0047 - 0.0047	-	No	Not detected
2,2-Dichloropropane	soil gas	0 / 6	0 %	0.0047 - 0.0047	-	No	Not detected
1,1-Dichloropropene	soil gas	0 / 6	0 %	0.0046 - 0.0046	-	No	Not detected
cis-1,3-Dichloropropene	soil gas	0 / 10	0 %	0.0046 - 0.0058	-	No	Not detected
trans-1,3-Dichloropropene	soil gas	0 / 10	0 %	0.0046 - 0.0058	-	No	Not detected
1,2-Dichloro-1,1,2,2-tetraflouroethane	soil gas	0 / 10	0 %	0.0071 - 0.0090	-	No	Not detected

Table 2-3
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area A

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
1,1-Difluoroethane	soil gas	0 / 6	0 %	0.0027 - 0.0027	-	No	Not detected
Ethanol	soil gas	6 / 10	60 %	0.0093 - 0.0097	0.026 - 0.15	No	Common laboratory contaminant
4-Ethyltoluene	soil gas	7 / 10	70 %	0.0050 - 0.0063	0.0016 - 0.10	Yes	
Ethyl acetate	soil gas	4 / 6	67 %	0.018 - 0.018	0.0078 - 0.023	Yes	
Ethyl tert butyl ether	soil gas	0 / 10	0 %	0.0042 - 0.022	-	No	Not detected
n-Heptane	soil gas	8 / 10	80 %	0.0041 - 0.0041	0.0032 - 0.040	Yes	
Hexane	soil gas	6 / 10	60 %	0.0036 - 0.0045	0.0032 - 0.10	Yes	
2-Hexanone	soil gas	3 / 10	30 %	0.0083 - 0.021	0.0018 - 0.0024	Yes	
Isopropyl alcohol	soil gas	5 / 10	50 %	0.012 - 0.025	0.0023 - 0.0084	Yes	
Isopropyl ether	soil gas	0 / 10	0 %	0.0042 - 0.022	-	No	Not detected
Isopropylbenzene	soil gas	7 / 10	70 %	0.0061 - 0.0063	0.0026 - 0.032	Yes	
p-Isopropyltoluene	soil gas	1 / 6	17 %	0.0056 - 0.0056	0.0024 - 0.0024	Yes	
Methylene chloride	soil gas	5 / 10	50 %	0.0035 - 0.0045	0.0018 - 0.0069	Yes	
4-Methyl-2-pentanone	soil gas	4 / 10	40 %	0.0050 - 0.0083	0.027 - 0.044	Yes	
Methyl tert-butyl ether	soil gas	2 / 10	20 %	0.0036 - 0.0046	0.0064 - 0.011	Yes	
n-Propylbenzene	soil gas	4 / 10	40 %	0.0050 - 0.0063	0.0023 - 0.036	Yes	
Propylene	soil gas	6 / 6	100 %	-	0.0023 - 0.043	Yes	
Styrene	soil gas	2 / 10	20 %	0.0043 - 0.0055	0.0029 - 0.0038	Yes	
1,1,1,2-Tetrachloroethane	soil gas	2 / 10	20 %	0.0070 - 0.035	0.0050 - 0.0054	Yes	
1,1,2,2-Tetrachloroethane	soil gas	0 / 10	0 %	0.0070 - 0.0088	-	No	Not detected
Tetrachloroethene	soil gas	3 / 10	30 %	0.0069 - 0.0088	0.0051 - 0.0094	Yes	
Tetrahydrofuran	soil gas	5 / 10	50 %	0.0036 - 0.030	0.0044 - 0.10	Yes	
Tert-amyl methyl ether	soil gas	0 / 10	0 %	0.0042 - 0.022	-	No	Not detected
1,2,3-Trichlorobenzene	soil gas	0 / 6	0 %	0.0075 - 0.0075	-	No	Not detected
1,2,4-Trichlorobenzene	soil gas	0 / 10	0 %	0.0075 - 0.038	-	No	Not detected
1,1,1-Trichloroethane	soil gas	0 / 10	0 %	0.0055 - 0.0070	-	No	Not detected
1,1,2-Trichloroethane	soil gas	0 / 10	0 %	0.0055 - 0.0070	-	No	Not detected
Trichloroethene	soil gas	0 / 10	0 %	0.0055 - 0.0069	-	No	Not detected
Trichlorofluoromethane	soil gas	4 / 10	40 %	0.0056 - 0.0072	0.0024 - 0.046	Yes	
1,1,2-Trichlorotrifluoroethane	soil gas	0 / 10	0 %	0.0077 - 0.0099	-	No	Not detected
1,2,3-Trichloropropane	soil gas	0 / 10	0 %	0.0061 - 0.031	-	No	Not detected
1,2,4-Trimethylbenzene	soil gas	7 / 10	70 %	0.0050 - 0.0063	0.0045 - 0.096	Yes	
1,3,5-Trimethylbenzene	soil gas	7 / 10	70 %	0.0061 - 0.0063	0.0022 - 0.020	Yes	
2,2,4-Trimethylpentane	soil gas	6 / 10	60 %	0.0058 - 0.0060	0.0061 - 0.22	Yes	
Vinyl acetate	soil gas	0 / 10	0 %	NA - 0.0036	-	No	Only tentatively identified - no DL
Vinyl chloride	soil gas	0 / 10	0 %	0.0026 - 0.0033	-	No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)							
Naphthalene	soil gas	1 / 10	10 %	0.0053 - 0.027	0.0038 - 0.0038	Yes	
Semivolatile Organic Compounds (SVOCs)							
1,4-Dioxane	soil gas	0 / 10	0 %	0.0073 - 0.018	-	No	Not detected
Hexachlorobutadiene	soil gas	0 / 10	0 %	0.011 - 0.055	-	No	Not detected

Notes:
Concentrations are in µg/L.
Includes samples collected to 15 feet bgs.
NA = Not Applicable, vinyl acetate was qualified as a tentatiively identified compound in 2007 soil gas data and no detection limit was reported

Table 2-4
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area C

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Inorganics								
Antimony	soil	0 / 18	0 %	5.0 - 10.0	-	30	No	Low site-wide frequency of detect; never detected in exposure area
Arsenic	soil	18 / 18	100 %	-	2.3 - 21	0.07	No	Passes all site-wide background comparison tests
Barium	soil	18 / 18	100 %	-	31 - 81	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	2 / 18	11 %	0.50 - 0.50	0.84 - 1.2	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	1 / 18	6 %	0.50 - 1.0	2.8 - 2.8	1.7	Yes	Low site-wide frequency of detect; detected in exposure area
Chromium (total)	soil	18 / 18	100 %	-	8.1 - 39	NA	Yes	Fails site-wide Obispo background comparison tests
Cobalt	soil	11 / 18	61 %	1.0 - 1.0	1.5 - 3.8	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	18 / 18	100 %	-	1.0 - 18	3000	No	Passes all site-wide background comparison tests
Lead	soil	20 / 21	95 %	1.0 - 1.0	1.2 - 68	80	Yes	Fails site-wide Obispo background comparison tests
Mercury	soil	9 / 18	50 %	0.020 - 0.10	0.023 - 0.20	18	Yes	Low site-wide frequency of detect; detected in exposure area
Molybdenum	soil	2 / 18	11 %	1.0 - 2.0	1.7 - 2.5	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	18 / 18	100 %	-	4.6 - 21	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 18	0 %	2.0 - 5.0	-	380	No	Never detected
Silver	soil	0 / 18	0 %	0.99 - 1.0	-	380	No	Never detected
Thallium	soil	0 / 18	0 %	5.0 - 10.0	-	5.0	No	Low site-wide frequency of detect; never detected in exposure area
Vanadium	soil	18 / 18	100 %	-	6.3 - 34	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	18 / 18	100 %	-	13 - 140	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	0 / 34	0 %	0.0019 - 0.0050	-		No	Not detected
Ethylbenzene	soil	0 / 34	0 %	0.0019 - 0.0050	-		No	Not detected
Toluene	soil	0 / 34	0 %	0.0019 - 0.0050	-		No	Not detected
m&p-Xylenes	soil	0 / 8	0 %	0.0019 - 0.0021	-		No	Not detected; captured as total xylenes
o-Xylene	soil	0 / 8	0 %	0.0019 - 0.0021	-		No	Not detected; captured as total xylenes
Xylenes (total)	soil	0 / 34	0 %	0.0038 - 0.0050	-		No	Not detected
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
Bromochloromethane	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
Bromodichloromethane	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
Bromoform	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
Bromomethane	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
tert-Butylalcohol	soil	0 / 8	0 %	0.0960 - 0.10	-		No	Not detected
n-Butylbenzene	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
sec-Butylbenzene	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
tert-Butylbenzene	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
Carbon tetrachloride	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
Chlorobenzene	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
Chloroethane	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
2-Chloroethyl vinyl ether	soil	0 / 10	0 %	0.010 - 0.010	-		No	Not detected
Chloroform	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
Chloromethane	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
2-Chlorotoluene	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
4-Chlorotoluene	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
Dibromochloromethane	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
1,2-Dibromo-3-chloropropane	soil	0 / 18	0 %	0.0048 - 0.0100	-		No	Not detected
1,2-Dibromoethane	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
Dibromomethane	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
1,2-Dichlorobenzene	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
1,3-Dichlorobenzene	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
1,4-Dichlorobenzene	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
Dichlorodifluoromethane	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
1,1-Dichloroethane	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
1,2-Dichloroethane	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
1,1-Dichloroethene	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
cis-1,2-Dichloroethene	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
trans-1,2-Dichloroethene	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
1,2-Dichloropropane	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
1,3-Dichloropropane	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
2,2-Dichloropropane	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
1,1-Dichloropropene	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected

Table 2-4
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area C

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
cis-1,3-Dichloropropene	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
trans-1,3-Dichloropropene	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
Ethyl tert butyl ether	soil	0 / 8	0 %	0.0048 - 0.0052	-		No	Not detected
Isopropyl ether	soil	0 / 8	0 %	0.0048 - 0.0052	-		No	Not detected
Isopropylbenzene	soil	1 / 18	6 %	0.0019 - 0.0050	0.043 - 0.043		Yes	
p-Isopropyltoluene	soil	1 / 18	6 %	0.0019 - 0.0050	0.011 - 0.011		Yes	
Methylene chloride	soil	0 / 18	0 %	0.0050 - 0.021	-		No	Not detected
Methyl tert-butyl ether	soil	0 / 8	0 %	0.0048 - 0.0052	-		No	Not detected
n-Propylbenzene	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
Styrene	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
1,1,1,2-Tetrachloroethane	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
1,1,2,2-Tetrachloroethane	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
Tetrachloroethene	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
Tert-amyl methyl ether	soil	0 / 8	0 %	0.0048 - 0.0052	-		No	Not detected
1,2,3-Trichlorobenzene	soil	0 / 18	0 %	0.0048 - 0.010	-		No	Not detected
1,2,4-Trichlorobenzene	soil	0 / 18	0 %	0.0048 - 0.010	-		No	Not detected
1,1,1-Trichloroethane	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
1,1,2-Trichloroethane	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
Trichloroethene	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
Trichlorofluoromethane	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
1,2,3-Trichloropropane	soil	0 / 18	0 %	0.0050 - 0.010	-		No	Not detected
1,2,4-Trimethylbenzene	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
1,3,5-Trimethylbenzene	soil	0 / 18	0 %	0.0019 - 0.0050	-		No	Not detected
Vinyl chloride	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	11 / 14	79 %	0.0043 - 0.0048	0.0040 - 0.17		Yes	
Acenaphthene	soil	0 / 14	0 %	0.0050 - 0.040	-		No	Not detected
Acenaphthylene	soil	0 / 14	0 %	0.0050 - 0.040	-		No	Not detected
Anthracene	soil	1 / 14	7 %	0.0050 - 0.040	0.0062 - 0.0062		Yes	
Benz(a)anthracene	soil	7 / 14	50 %	0.0050 - 0.040	0.013 - 0.070		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	10 / 14	71 %	0.0061 - 0.0068	0.0056 - 0.078		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	3 / 14	21 %	0.0050 - 0.040	0.0080 - 0.050		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	8 / 14	57 %	0.0050 - 0.040	0.0093 - 0.058		Yes	
Benzo(a)pyrene	soil	6 / 14	43 %	0.0050 - 0.0068	0.014 - 0.15		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Chrysene	soil	8 / 14	57 %	0.0055 - 0.0068	0.013 - 0.26		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	2 / 14	14 %	0.0050 - 0.040	0.0062 - 0.011		Yes	
Fluoranthene	soil	5 / 14	36 %	0.0050 - 0.040	0.0060 - 0.095		Yes	
Fluorene	soil	0 / 14	0 %	0.0050 - 0.040	-		No	Not detected
Indeno(1,2,3-cd)pyrene	soil	4 / 14	29 %	0.0050 - 0.040	0.0089 - 0.030		Yes	Carcinogenic PAHs evaluated as BaP TEQ
1-Methylnaphthalene	soil	0 / 8	0 %	0.0055 - 0.0068	-		No	Not detected
2-Methylnaphthalene	soil	0 / 8	0 %	0.0055 - 0.0068	-		No	Not detected
Naphthalene	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
Phenanthrene	soil	2 / 14	14 %	0.0050 - 0.040	0.031 - 0.047		Yes	
Pyrene	soil	7 / 14	50 %	0.0050 - 0.040	0.0070 - 0.10		Yes	
Semivolatile Organic Compounds (SVOCs)								
Dichlorotrifluoroethane	soil	0 / 10	0 %	0.0050 0.0050	-		No	Not detected
Hexachlorobutadiene	soil	0 / 18	0 %	0.0048 - 0.0052	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	0 / 34	0 %	0.4 - 10	-		No	Not detected
TPH Diesel	soil	10 / 34	29 %	5 - 20	6.0 - 390		Yes	
TPH Motor Oil	soil	14 / 34	41 %	5 - 10	11.0 - 1700		Yes	

Notes:
NA = Not applicable
Concentrations are mg/kg wet weight, with the exception of some PAH results and the 2011 data that are mg/kg dry weight.

Table 2-4
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area C

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
BTEX							
Benzene	soil gas	19 / 32	59 %	0.0036 - 0.0041	0.0087 - 0.14	Yes	
Ethylbenzene	soil gas	11 / 32	34 %	0.0049 - 0.044	0.0070 - 0.11	Yes	
Toluene	soil gas	21 / 32	66 %	0.0042 - 0.0049	0.0045 - 0.086	Yes	
m&p-Xylenes	soil gas	17 / 32	53 %	0.0049 - 0.0058	0.0056 - 0.20	Yes	
o-Xylene	soil gas	11 / 32	34 %	0.0049 - 0.044	0.0052 - 0.076	Yes	
Volatile Organic Compounds (VOCs)							
Acetone	soil gas	27 / 32	84 %	0.011 - 0.012	0.012 - 12	No	Common laboratory contaminant
Allyl chloride	soil gas	0 / 32	0 %	0.014 - 0.13	-	No	Not detected
Benzyl chloride	soil gas	0 / 32	0 %	0.0058 - 0.052	-	No	Not detected
Bromodichloromethane	soil gas	5 / 32	16 %	0.0075 - 0.068	0.0088 - 0.10	Yes	
Bromoform	soil gas	1 / 32	3 %	0.012 - 0.10	0.077 - 0.077	Yes	
Bromomethane	soil gas	0 / 32	0 %	0.0043 - 0.039	-	No	Not detected
1,3-Butadiene	soil gas	1 / 32	3 %	0.0025 - 0.022	0.0058 - 0.0058	Yes	
2-Butanone	soil gas	20 / 32	63 %	0.0033 - 0.0038	0.0038 - 1.8	Yes	
tert-Butylalcohol	soil gas	2 / 32	6 %	0.014 - 0.016	1.3 - 2.5	Yes	
Carbon disulfide	soil gas	25 / 32	78 %	0.0035 - 0.031	0.0054 - 0.23	Yes	
Carbon tetrachloride	soil gas	3 / 32	9 %	0.0070 - 0.064	0.0081 - 0.068	Yes	
Chlorobenzene	soil gas	2 / 32	6 %	0.0052 - 0.0062	0.058 - 0.065	Yes	
Chloroethane	soil gas	2 / 32	6 %	0.0030 - 0.0035	0.016 - 0.040	Yes	
Chloroform	soil gas	22 / 32	69 %	0.0055 - 0.0063	0.0060 - 3.5	Yes	
Chloromethane	soil gas	1 / 32	3 %	0.0092 - 0.083	0.048 - 0.048	Yes	
Cyclohexane	soil gas	29 / 32	91 %	0.0044 - 0.0044	0.0050 - 0.41	Yes	
Dibromochloromethane	soil gas	1 / 32	3 %	0.0095 - 0.086	0.062 - 0.062	Yes	
1,2-Dibromoethane	soil gas	0 / 32	0 %	0.0086 - 0.078	-	No	Not detected
1,2-Dichlorobenzene	soil gas	0 / 32	0 %	0.0067 - 0.061	-	No	Not detected
1,3-Dichlorobenzene	soil gas	0 / 32	0 %	0.0067 - 0.061	-	No	Not detected
1,4-Dichlorobenzene	soil gas	0 / 32	0 %	0.0067 - 0.061	-	No	Not detected
Dichlorodifluoromethane	soil gas	0 / 32	0 %	0.0055 - 0.050	-	No	Not detected
1,1-Dichloroethane	soil gas	0 / 32	0 %	0.0045 - 0.041	-	No	Not detected
1,2-Dichloroethane	soil gas	0 / 32	0 %	0.0045 - 0.041	-	No	Not detected
1,1-Dichloroethene	soil gas	0 / 32	0 %	0.0044 - 0.040	-	No	Not detected
cis-1,2-Dichloroethene	soil gas	0 / 32	0 %	0.0044 - 0.040	-	No	Not detected
trans-1,2-Dichloroethene	soil gas	0 / 32	0 %	0.0044 - 0.040	-	No	Not detected
1,2-Dichloropropane	soil gas	0 / 32	0 %	0.0052 - 0.047	-	No	Not detected
cis-1,3-Dichloropropene	soil gas	0 / 32	0 %	0.0051 - 0.046	-	No	Not detected
trans-1,3-Dichloropropene	soil gas	0 / 32	0 %	0.0051 - 0.046	-	No	Not detected
Ethanol	soil gas	3 / 32	9 %	0.0084 - 0.010	0.024 - 0.34	No	Common laboratory contaminant
4-Ethyltoluene	soil gas	10 / 32	31 %	0.0055 - 0.050	0.0076 - 0.16	Yes	
Ethyl tert butyl ether	soil gas	0 / 32	0 %	0.019 - 0.17	-	No	Not detected
n-Heptane	soil gas	19 / 32	59 %	0.0046 - 0.0055	0.0052 - 0.092	Yes	
Hexane	soil gas	20 / 32	63 %	0.0039 - 0.0045	0.0052 - 0.21	Yes	
2-Hexanone	soil gas	1 / 32	3 %	0.018 - 0.16	0.11 - 0.11	Yes	
Isopropyl alcohol	soil gas	8 / 32	25 %	0.011 - 0.013	0.012 - 0.46	Yes	
Isopropyl ether	soil gas	0 / 32	0 %	0.019 - 0.17	-	No	Not detected

Table 2-4
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area C

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
Isopropylbenzene	soil gas	6 / 32	19 %	0.0055 - 0.050	0.0080 - 0.067	Yes	
Methylene chloride	soil gas	2 / 32	6 %	0.0039 - 0.035	0.016 - 0.12	Yes	
4-Methyl-2-pentanone	soil gas	0 / 32	0 %	0.0046 - 0.041	-	No	Not detected
Methyl tert-butyl ether	soil gas	0 / 32	0 %	0.0040 - 0.036	-	No	Not detected
n-Propylbenzene	soil gas	7 / 32	22 %	0.0055 - 0.050	0.0082 - 0.16	Yes	
Styrene	soil gas	0 / 32	0 %	0.0048 - 0.043	-	No	Not detected
1,1,1,2-Tetrachloroethane	soil gas	0 / 32	0 %	0.031 - 0.28	-	No	Not detected
1,1,2,2-Tetrachloroethane	soil gas	0 / 32	0 %	0.0077 - 0.069	-	No	Not detected
Tetrachloroethene	soil gas	3 / 32	9 %	0.0076 - 0.068	0.011 - 0.24	Yes	
Tetrahydrofuran	soil gas	3 / 32	9 %	0.0033 - 0.0040	0.0073 - 0.061	Yes	
Tert-amyl methyl ether	soil gas	0 / 32	0 %	0.019 - 0.17	-	No	Not detected
1,2,4-Trichlorobenzene	soil gas	0 / 32	0 %	0.033 - 0.30	-	No	Not detected
1,1,1-Trichloroethane	soil gas	0 / 32	0 %	0.0061 - 0.055	-	No	Not detected
1,1,2-Trichloroethane	soil gas	0 / 32	0 %	0.0061 - 0.055	-	No	Not detected
Trichloroethene	soil gas	1 / 32	3 %	0.0060 - 0.054	0.056 - 0.056	Yes	
Trichlorofluoromethane	soil gas	0 / 32	0 %	0.0063 - 0.057	-	No	Not detected
1,1,2-Trichlorotrifluoroethane	soil gas	0 / 32	0 %	0.0086 - 0.077	-	No	Not detected
1,2,3-Trichloropropane	soil gas	0 / 32	0 %	0.027 - 0.24	-	No	Not detected
1,2,4-Trimethylbenzene	soil gas	13 / 32	41 %	0.0055 - 0.050	0.0059 - 0.49	Yes	
1,3,5-Trimethylbenzene	soil gas	6 / 32	19 %	0.0055 - 0.050	0.013 - 0.15	Yes	
2,2,4-Trimethylpentane	soil gas	1 / 32	3 %	0.0052 - 0.047	0.015 - 0.015	Yes	
Vinyl chloride	soil gas	0 / 32	0 %	0.0029 - 0.026	-	No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)							
Naphthalene	soil gas	0 / 32	0 %	0.023 - 0.21	-	No	Not detected
Semivolatile Organic Compounds (SVOCs)							
1,4-Dioxane	soil gas	1 / 32	3 %	0.016 - 0.14	0.024 - 0.024	Yes	
Hexachlorobutadiene	soil gas	0 / 32	0 %	0.048 - 0.43	-	No	Not detected

Notes:
Concentrations are in µg/L.
Includes samples collected to 15 feet bgs.

Table 2-5
Chemical of Potenital Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area D

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Inorganics								
Antimony	soil	1 / 25	4 %	4.5 - 10	46 - 46	30	Yes	Low site-wide frequency of detect; detected in exposure area
Arsenic	soil	22 / 25	88 %	5.0 - 5.0	1.4 - 13	0.07	No	Passes all site-wide background comparison tests
Barium	soil	25 / 25	100 %	-	22 - 500	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	1 / 25	4 %	0.50 - 0.90	0.50 - 0.50	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	5 / 25	20 %	0.50 - 1.0	0.73 - 4.3	1.7	Yes	Low site-wide frequency of detect; detected in exposure area
Chromium (total)	soil	25 / 25	100 %	-	8.1 - 61	NA	Yes	Fails site-wide Obispo background comparison tests
Cobalt	soil	20 / 25	80 %	1.0 - 1.0	1.1 - 16	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	25 / 25	100 %	-	0.50 - 100	3000	No	Passes all site-wide background comparison tests
Lead	soil	24 / 25	96 %	1.0 - 1.0	2.0 - 1600	80	Yes	Fails site-wide Obispo background comparison tests
Tetraethyl Lead	soil	0 / 1	0 %	1.0 - 1.0	-	NA	No	Never detected
Mercury	soil	7 / 25	28 %	0.020 - 0.10	0.10 - 1.0	18	Yes	Low site-wide frequency of detect; detected in exposure area
Molybdenum	soil	9 / 25	36 %	0.90 - 2.0	1.1 - 7.8	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	25 / 25	100 %	-	2.8 - 140	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 25	0 %	1.0 - 5.0	-	380	No	Never detected
Silver	soil	0 / 25	0 %	0.90 - 1.0	-	380	No	Never detected
Thallium	soil	0 / 25	0 %	0.90 - 10	-	5.0	No	Low site-wide frequency of detect; never detected in exposure area
Vanadium	soil	25 / 25	100 %	-	7.1 - 180	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	25 / 25	100 %	-	4.7 - 570	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	1 / 36	3 %	0.0020 - 0.10	0.023 - 0.023		Yes	
Ethylbenzene	soil	1 / 36	3 %	0.0020 - 0.10	0.059 - 0.059		Yes	
Toluene	soil	1 / 36	3 %	0.0020 - 0.10	0.044 - 0.044		Yes	
m&p-Xylenes	soil	0 / 2	0 %	0.0020 - 0.0021	-		No	Not detected; captured as total xylenes
o-Xylene	soil	0 / 2	0 %	0.0020 - 0.0021	-		No	Not detected; captured as total xylenes
Xylenes (total)	soil	1 / 36	3 %	0.0040 - 0.10	0.19 - 0.19		Yes	
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 12	0 %	0.0049 - 0.0053	-		No	Not detected
Bromochloromethane	soil	0 / 12	0 %	0.0049 - 0.0053	-		No	Not detected
Bromodichloromethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Bromoform	soil	0 / 12	0 %	0.0049 - 0.0053	-		No	Not detected
Bromomethane	soil	0 / 12	0 %	0.0049 - 0.0053	-		No	Not detected
tert-Butylalcohol	soil	0 / 2	0 %	0.099 - 0.11	-		No	Not detected
n-Butylbenzene	soil	0 / 12	0 %	0.0049 - 0.0053	-		No	Not detected
sec-Butylbenzene	soil	0 / 12	0 %	0.0049 - 0.0053	-		No	Not detected
tert-Butylbenzene	soil	0 / 12	0 %	0.0049 - 0.0053	-		No	Not detected
Carbon tetrachloride	soil	0 / 12	0 %	0.0049 - 0.0053	-		No	Not detected
Chlorobenzene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Chloroethane	soil	0 / 12	0 %	0.0049 - 0.0053	-		No	Not detected
2-Chloroethyl vinyl ether	soil	0 / 9	0 %	0.010 - 0.010	-		No	Not detected
Chloroform	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Chloromethane	soil	0 / 12	0 %	0.0049 - 0.0053	-		No	Not detected
2-Chlorotoluene	soil	0 / 12	0 %	0.0049 - 0.0053	-		No	Not detected
4-Chlorotoluene	soil	0 / 12	0 %	0.0049 - 0.0053	-		No	Not detected
Dibromochloromethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,2-Dibromo-3-chloropropane	soil	0 / 12	0 %	0.0049 - 0.010	-		No	Not detected
1,2-Dibromoethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Dibromomethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,2-Dichlorobenzene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,3-Dichlorobenzene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected

Table 2-5
Chemical of Potenital Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area D

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
1,4-Dichlorobenzene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Dichlorodifluoromethane	soil	0 / 12	0 %	0.0049 - 0.0053	-		No	Not detected
1,1-Dichloroethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,2-Dichloroethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,1-Dichloroethene	soil	0 / 12	0 %	0.0049 - 0.0053	-		No	Not detected
cis-1,2-Dichloroethene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
trans-1,2-Dichloroethene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,2-Dichloropropane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,3-Dichloropropane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
2,2-Dichloropropane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,1-Dichloropropene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
cis-1,3-Dichloropropene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
trans-1,3-Dichloropropene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Ethyl tert butyl ether	soil	0 / 2	0 %	0.0050 - 0.0053	-		No	Not detected
Isopropyl ether	soil	0 / 2	0 %	0.0050 - 0.0053	-		No	Not detected
Isopropylbenzene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
p-Isopropyltoluene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Methylene chloride	soil	1 / 12	8 %	0.0050 - 0.021	0.00078 - 0.00078		Yes	
Methyl tert-butyl ether	soil	0 / 4	0 %	0.0049 - 0.0053	-		No	Not detected
n-Propylbenzene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Styrene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,1,1,2-Tetrachloroethane	soil	0 / 12	0 %	0.0049 - 0.0053	-		No	Not detected
1,1,2,2-Tetrachloroethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Tetrachloroethene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Tert-amyl methyl ether	soil	0 / 2	0 %	0.0050 - 0.0053	-		No	Not detected
1,2,3-Trichlorobenzene	soil	0 / 12	0 %	0.0049 - 0.010	-		No	Not detected
1,2,4-Trichlorobenzene	soil	0 / 12	0 %	0.0049 - 0.010	-		No	Not detected
1,1,1-Trichloroethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,1,2-Trichloroethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Trichloroethene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Trichlorofluoromethane	soil	0 / 12	0 %	0.0049 - 0.0053	-		No	Not detected
1,2,3-Trichloropropane	soil	0 / 12	0 %	0.0049 - 0.011	-		No	Not detected
1,2,4-Trimethylbenzene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,3,5-Trimethylbenzene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Vinyl chloride	soil	0 / 12	0 %	0.0049 - 0.0053	-		No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	4 / 10	40 %	0.0035 - 14	0.0056 - 0.12		Yes	
Acenaphthene	soil	0 / 10	0 %	0.0050 - 20	-		No	Not detected
Acenaphthylene	soil	2 / 10	20 %	0.0050 - 20	0.0060 - 0.013		Yes	
Anthracene	soil	0 / 10	0 %	0.0050 - 20	-		No	Not detected
Benz(a)anthracene	soil	4 / 10	40 %	0.0050 - 20	0.0069 - 0.082		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	3 / 10	30 %	0.0050 - 20	0.029 - 0.10		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	3 / 10	30 %	0.0050 - 20	0.012 - 0.078		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	4 / 10	40 %	0.0050 - 20	0.022 - 0.075		Yes	
Benzo(a)pyrene	soil	3 / 10	30 %	0.0050 - 20	0.026 - 0.084		Yes	Carcinogenic PAHs evaluated as BaP TEQ
2-Chloronaphthalene	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Chrysene	soil	4 / 10	40 %	0.0050 - 20	0.013 - 0.12		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	0 / 10	0 %	0.0050 - 20	-		No	Not detected
Dibenzofuran	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Fluoranthene	soil	4 / 10	40 %	0.0050 - 20	0.0130 - 0.18		Yes	

Table 2-5
Chemical of Potenital Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area D

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Fluorene	soil	2 / 10	20 %	0.0050 - 20	0.0033 - 0.019		Yes	
Indeno(1,2,3-cd)pyrene	soil	3 / 10	30 %	0.0050 - 20	0.0078 - 0.042		Yes	Carcinogenic PAHs evaluated as BaP TEQ
1-Methylnaphthalene	soil	1 / 2	50 %	0.0058 - 0.0058	0.0068 - 0.0068		Yes	
2-Methylnaphthalene	soil	0 / 3	0 %	0.0058 - 0.099	-		No	Not detected
Naphthalene	soil	1 / 14	7 %	0.0050 - 20	0.0071 - 0.0071		Yes	
Phenanthrene	soil	5 / 10	50 %	0.0050 - 20	0.012 - 0.072		Yes	
Pyrene	soil	4 / 10	40 %	0.0050 - 20	0.018 - 0.19		Yes	
Semivolatile Organic Compounds (SVOCs)								
Aniline	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Azobenzene	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Benzoic acid	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Benzyl alcohol	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Bis(2-chloroethoxy)methane	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Bis(2-chloroethyl)ether	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Bis(2-chloroisopropyl)ether	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Bis(2-ethylhexyl)phthalate	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
4-Bromophenyl phenyl ether	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Butylbenzylphthalate	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Carbazole	soil	0 1	0 %	0.099 0.099			No	Not detected
4-Chloroaniline	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
4-Chloro-3-methylphenol	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
2-Chloronaphthalene	soil	0 / 1	0 %	0.099 0.099			No	Not detected
2-Chlorophenol	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
4-Chlorophenyl phenyl ether	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Di-n-butylphthalate	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
3,3-Dichlorobenzidine	soil	0 / 1	0 %	0.50 - 0.50	-		No	Not detected
2,4-Dichlorophenol	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Dichlorotrifluoroethane	soil	0 / 9	0 %	0.0050 0.0050	-		No	Not detected
Diethyl phthalate	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Dimethyl phthalate	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
2,4-Dimethylphenol	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
4,6-Dinitro-2-methylphenol	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
2,4-Dinitrophenol	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
2,4-Dinitrotoluene	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
2,6-Dinitrotoluene	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Di-n-octylphthalate	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Hexachlorobenzene	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Hexachlorobutadiene	soil	0 / 12	0 %	0.0049 - 0.005	-		No	Not detected
Hexachlorocyclopentadiene	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Hexachloroethane	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Isophorone	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
2-Methylphenol	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
3/4-Methylphenol	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
2-Nitroaniline	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
3-Nitroaniline	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
4-Nitroaniline	soil	0 / 1	0 %	0.25 - 0.25	-		No	Not detected
Nitrobenzene	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
2-Nitrophenol	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
4-Nitrophenol	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
N-Nitrosodimethylamine	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected

Table 2-5
Chemical of Potenital Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area D

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
N-Nitrosodiphenylamine	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
N-Nitroso-di-n-propylamine	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Pentachlorophenol	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Phenol	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Pyridine	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
2,4,5-Trichlorophenol	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
2,4,6-Trichlorophenol	soil	0 / 1	0 %	0.099 - 0.099	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	1 / 53	2 %	0.41 - 10	77 - 77		Yes	
TPH Diesel	soil	27 / 53	51 %	10 - 10	9.6 - 11000		Yes	
TPH Motor Oil	soil	29 / 53	55 %	10 - 50	16 - 13000		Yes	
Polychlorinated Biphenyls (PCBs)								
Aroclor 1016	soil	0 / 10	0 %	0.020 - 0.030	-		No	Not detected
Aroclor 1221	soil	0 / 10	0 %	0.020 - 0.030	-		No	Not detected
Aroclor 1232	soil	0 / 10	0 %	0.020 - 0.030	-		No	Not detected
Aroclor 1242	soil	0 / 10	0 %	0.020 - 0.030	-		No	Not detected
Aroclor 1248	soil	0 / 10	0 %	0.020 - 0.030	-		No	Not detected
Aroclor 1254	soil	0 / 10	0 %	0.020 - 0.030	-		No	Not detected
Aroclor 1260	soil	0 / 10	0 %	0.020 - 0.030	-		No	Not detected
Pesticides								
Aldrin	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
alpha-BHC	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
beta-BHC	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
delta-BHC	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
gamma-BHC	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
alpha-Chlordane	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
gamma-Chlordane	soil	0 / 1	0 %	0.0030 - 0.003	-		No	Not detected
4,4'-DDD	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
4,4'-DDE	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
4,4'-DDT	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
Dieldrin	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
Endosulfan I	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
Endosulfan II	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
Endosulfan sulfate	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
Endrin	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
Endrin aldehyde	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
Endrin ketone	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
Heptachlor	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
Heptachlor epoxide	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
Methoxychlor	soil	0 / 1	0 %	0.0030 - 0.0030	-		No	Not detected
Toxaphene	soil	0 / 1	0 %	0.020 - 0.020	-		No	Not detected

Notes:
NA = Not applicable
Concentrations are mg/kg wet weight, with the exception of some PAH results and the 2011 data that are mg/kg dry weight.

Table 2-5
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area D

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
BTEX							
Benzene	soil gas	4 / 8	50 %	0.0042 - 2.0	0.0063 - 2.2	Yes	
Ethylbenzene	soil gas	5 / 8	63 %	0.0056 - 0.0060	0.0066 - 49	Yes	
Toluene	soil gas	2 / 8	25 %	0.0049 - 2.4	0.010 - 0.017	Yes	
m&p-Xylenes	soil gas	6 / 8	75 %	0.0056 - 0.0057	0.0061 - 25	Yes	
o-Xylene	soil gas	3 / 8	38 %	0.0056 - 2.8	0.0083 - 0.18	Yes	
Volatile Organic Compounds (VOCs)							
Acetone	soil gas	6 / 8	75 %	0.31 - 6.1	0.030 - 15	No	Common laboratory contaminant
Allyl chloride	soil gas	0 / 8	0 %	0.016 - 8.0	-	No	Not detected
Benzyl chloride	soil gas	0 / 8	0 %	0.0067 - 3.3	-	No	Not detected
Bromodichloromethane	soil gas	1 / 8	13 %	0.0086 - 4.3	0.0093 - 0.0093	Yes	
Bromoform	soil gas	0 / 8	0 %	0.013 - 6.6	-	No	Not detected
Bromomethane	soil gas	0 / 8	0 %	0.0050 - 2.5	-	No	Not detected
1,3-Butadiene	soil gas	1 / 8	13 %	0.0028 - 1.4	0.036 - 0.036	Yes	
2-Butanone	soil gas	5 / 8	63 %	0.095 - 1.9	0.013 - 0.044	Yes	
tert-Butylalcohol	soil gas	2 / 8	25 %	0.016 - 7.8	0.027 - 17	Yes	
Carbon disulfide	soil gas	6 / 8	75 %	0.10 - 1.3	0.0042 - 7.2	Yes	
Carbon tetrachloride	soil gas	0 / 8	0 %	0.0081 - 4.0	-	No	Not detected
Chlorobenzene	soil gas	0 / 8	0 %	0.0059 - 2.9	-	No	Not detected
Chloroethane	soil gas	0 / 8	0 %	0.0034 - 1.7	-	No	Not detected
Chloroform	soil gas	3 / 8	38 %	0.0063 - 3.1	0.0081 - 0.066	Yes	
Chloromethane	soil gas	0 / 8	0 %	0.011 - 5.3	-	No	Not detected
Cyclohexane	soil gas	8 / 8	100 %	-	0.0083 - 510	Yes	
Dibromochloromethane	soil gas	0 / 8	0 %	0.011 - 5.4	-	No	Not detected
1,2-Dibromoethane	soil gas	0 / 8	0 %	0.010 - 4.9	-	No	Not detected
1,2-Dichlorobenzene	soil gas	0 / 8	0 %	0.0078 - 3.8	-	No	Not detected
1,3-Dichlorobenzene	soil gas	0 / 8	0 %	0.0078 - 3.8	-	No	Not detected
1,4-Dichlorobenzene	soil gas	0 / 8	0 %	0.0078 - 3.8	-	No	Not detected
Dichlorodifluoromethane	soil gas	0 / 8	0 %	0.0064 - 3.2	-	No	Not detected
1,1-Dichloroethane	soil gas	0 / 8	0 %	0.0052 - 2.6	-	No	Not detected
1,2-Dichloroethane	soil gas	0 / 8	0 %	0.0052 - 2.6	-	No	Not detected
1,1-Dichloroethene	soil gas	0 / 8	0 %	0.0051 - 2.5	-	No	Not detected
cis-1,2-Dichloroethene	soil gas	0 / 8	0 %	0.0051 - 2.5	-	No	Not detected
trans-1,2-Dichloroethene	soil gas	0 / 8	0 %	0.0051 - 2.5	-	No	Not detected
1,2-Dichloropropane	soil gas	0 / 8	0 %	0.0060 - 3.0	-	No	Not detected
cis-1,3-Dichloropropene	soil gas	0 / 8	0 %	0.0058 - 2.9	-	No	Not detected
trans-1,3-Dichloropropene	soil gas	0 / 8	0 %	0.0058 - 2.9	-	No	Not detected
1,2-Dichloro-1,1,2,2-tetraflouroethane	soil gas	0 / 8	0 %	0.0090 - 4.5	-	No	Not detected
Ethanol	soil gas	1 / 8	13 %	0.0097 - 4.8	0.015 - 0.015	No	Common laboratory contaminant
4-Ethyltoluene	soil gas	6 / 8	75 %	0.0063 - 0.0065	0.0076 - 11	Yes	
Ethyl tert butyl ether	soil gas	0 / 8	0 %	0.022 - 11	-	No	Not detected

Table 2-5
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area D

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
n-Heptane	soil gas	4 / 8	50 %	0.0053 - 2.6	0.014 - 110	Yes	
Hexane	soil gas	4 / 8	50 %	0.0045 - 2.2	0.046 - 61	Yes	
2-Hexanone	soil gas	0 / 8	0 %	0.021 - 10.0	-	No	Not detected
Isopropyl alcohol	soil gas	0 / 8	0 %	0.013 - 6.3	-	No	Not detected
Isopropyl ether	soil gas	0 / 8	0 %	0.022 - 11	-	No	Not detected
Isopropylbenzene	soil gas	4 / 8	50 %	0.0063 - 0.0068	0.028 - 32	Yes	
Methylene chloride	soil gas	1 / 8	13 %	0.0045 - 2.2	0.0068 - 0.0068	Yes	
4-Methyl-2-pentanone	soil gas	0 / 8	0 %	0.0053 - 2.6	-	No	Not detected
Methyl tert-butyl ether	soil gas	0 / 8	0 %	0.0046 - 2.3	-	No	Not detected
n-Propylbenzene	soil gas	5 / 8	63 %	0.0063 - 0.0066	0.0099 - 30	Yes	
Styrene	soil gas	0 / 8	0 %	0.0055 - 2.7	-	No	Not detected
1,1,1,2-Tetrachloroethane	soil gas	0 / 8	0 %	0.035 - 18	-	No	Not detected
1,1,2,2-Tetrachloroethane	soil gas	0 / 8	0 %	0.0088 - 4.4	-	No	Not detected
Tetrachloroethene	soil gas	0 / 8	0 %	0.0088 - 4.3	-	No	Not detected
Tetrahydrofuran	soil gas	2 / 8	25 %	0.0039 - 1.9	0.0052 - 0.0070	Yes	
Tert-amyl methyl ether	soil gas	0 / 8	0 %	0.022 - 11	-	No	Not detected
1,2,4-Trichlorobenzene	soil gas	0 / 8	0 %	0.038 - 19	-	No	Not detected
1,1,1-Trichloroethane	soil gas	0 / 8	0 %	0.0070 - 3.5	-	No	Not detected
1,1,2-Trichloroethane	soil gas	0 / 8	0 %	0.0070 - 3.5	-	No	Not detected
Trichloroethene	soil gas	0 / 8	0 %	0.0069 - 3.4	-	No	Not detected
Trichlorofluoromethane	soil gas	0 / 8	0 %	0.0072 - 3.6	-	No	Not detected
1,1,2-Trichlorotrifluoroethane	soil gas	0 / 8	0 %	0.0099 - 4.9	-	No	Not detected
1,2,3-Trichloropropane	soil gas	0 / 8	0 %	0.031 - 15	-	No	Not detected
1,2,4-Trimethylbenzene	soil gas	4 / 8	50 %	0.0063 - 0.0068	0.13 - 14	Yes	
1,3,5-Trimethylbenzene	soil gas	4 / 8	50 %	0.0063 - 0.0068	0.040 - 9.6	Yes	
2,2,4-Trimethylpentane	soil gas	0 / 8	0 %	0.0060 - 3.0	-	No	Not detected
Vinyl chloride	soil gas	0 / 8	0 %	0.0033 - 1.6	-	No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)							
Naphthalene	soil gas	0 / 8	0 %	0.027 - 13	-	No	Not detected
Semivolatile Organic Compounds (SVOCs)							
1,4-Dioxane	soil gas	0 / 8	0 %	0.018 - 9.2	-	No	Not detected
Hexachlorobutadiene	soil gas	0 / 8	0 %	0.055 - 27	-	No	Not detected

Notes:
Concentrations are in µg/L.
Includes samples collected to 15 feet bgs.

Table 2-6
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area E

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Inorganics								
Antimony	soil	0 / 40	0 %	4.4 - 10.0	-	30	No	Low site-wide frequency of detect; never detected in exposure area
Arsenic	soil	26 / 40	65 %	1.0 - 5.0	1.2 - 23	0.07	No	Passes all site-wide background comparison tests
Barium	soil	40 / 40	100 %	-	35 - 93	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	5 / 40	13 %	0.49 - 0.94	0.50 - 0.70	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	4 / 40	10 %	0.49 - 1.0	0.32 - 1.7	1.7	Yes	Low site-wide frequency of detect; detected in exposure area
Chromium (total)	soil	40 / 40	100 %	-	8.5 - 38	NA	Yes	Fails site-wide Obispo background comparison tests
Cobalt	soil	34 / 40	85 %	0.99 - 1.0	1.0 - 5.3	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	40 / 40	100 %	-	2.9 - 34	3000	No	Passes all site-wide background comparison tests
Lead	soil	41 / 41	100 %	-	1.4 - 490	80	Yes	Fails site-wide Obispo background comparison tests
Tetraethyl Lead	soil	0 / 3	0 %	1.0 - 1.0	-	NA	No	Never detected
Mercury	soil	9 / 40	23 %	0.020 - 0.10	0.030 - 0.70	18	Yes	Low site-wide frequency of detect; detected in exposure area
Molybdenum	soil	8 / 40	20 %	0.88 - 2.0	1.1 - 6.0	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	40 / 40	100 %	-	3.9 - 67	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 40	0 %	1.0 - 5.0	-	380	No	Never detected
Silver	soil	0 / 40	0 %	0.99 - 1.9	-	380	No	Never detected
Thallium	soil	0 / 40	0 %	0.88 - 10.0	-	5.0	No	Low site-wide frequency of detect; never detected in exposure area
Vanadium	soil	40 / 40	100 %	-	9.6 - 57	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	39 / 40	98 %	1.0 - 1.0	6.8 - 330	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	18 / 70	26 %	0.0020 - 0.20	0.0064 - 19		Yes	
Ethylbenzene	soil	20 / 70	29 %	0.0020 - 0.20	0.0032 - 32		Yes	
Toluene	soil	9 / 70	13 %	0.0020 - 1.0	0.0026 - 34		Yes	
m&p-Xylenes	soil	4 / 8	50 %	0.0020 - 0.20	0.013 - 6.8		No	Captured as total xylenes
o-Xylene	soil	4 / 8	50 %	0.0020 - 0.20	0.0041 - 8.7		No	Captured as total xylenes
Xylenes (total)	soil	30 / 70	43 %	0.0041 - 0.40	0.0060 - 170		Yes	
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 33	0 %	0.0048 - 2.5	-		No	Not detected
Bromochloromethane	soil	0 / 33	0 %	0.0048 - 2.5	-		No	Not detected
Bromodichloromethane	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected
Bromoform	soil	0 / 33	0 %	0.0048 - 2.5	-		No	Not detected
Bromomethane	soil	0 / 33	0 %	0.0048 - 2.5	-		No	Not detected
tert-Butylalcohol	soil	0 / 8	0 %	0.098 - 50	-		No	Not detected
n-Butylbenzene	soil	14 / 33	42 %	0.0048 - 0.10	0.043 - 4.3		Yes	
sec-Butylbenzene	soil	13 / 33	39 %	0.0050 - 0.10	0.0025 - 2.8		Yes	
tert-Butylbenzene	soil	1 / 33	3 %	0.0048 - 2.5	0.24 - 0.24		Yes	Other butylbenzenes are detected at >5%; carried through
Carbon tetrachloride	soil	0 / 33	0 %	0.0048 - 2.5	-		No	Not detected
Chlorobenzene	soil	1 / 33	3 %	0.0020 - 1.0	0.0059 - 0.0059		No	Detected in less than 5% of samples; non-TPH related constituent
Chloroethane	soil	0 / 33	0 %	0.0048 - 2.5	-		No	Not detected
2-Chloroethyl vinyl ether	soil	0 / 23	0 %	0.010 - 0.20	-		No	Not detected
Chloroform	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected
Chloromethane	soil	0 / 33	0 %	0.0048 - 2.5	-		No	Not detected
2-Chlorotoluene	soil	0 / 33	0 %	0.0048 - 2.5	-		No	Not detected
4-Chlorotoluene	soil	0 / 33	0 %	0.0048 - 2.5	-		No	Not detected
Dibromochloromethane	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected
1,2-Dibromo-3-chloropropane	soil	0 / 33	0 %	0.0048 - 2.5	-		No	Not detected
1,2-Dibromoethane	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected
Dibromomethane	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected
1,2-Dichlorobenzene	soil	2 / 33	6 %	0.0020 - 1.0	0.016 - 0.27		Yes	
1,3-Dichlorobenzene	soil	1 / 33	3 %	0.0020 - 1.0	0.017 - 0.017		Yes	Other dichlorobenzenes are detected at >5%; carried through
1,4-Dichlorobenzene	soil	2 / 33	6 %	0.0020 - 1.0	0.0062 - 0.096		Yes	
Dichlorodifluoromethane	soil	0 / 33	0 %	0.0048 - 2.0	-		No	Not detected
1,1-Dichloroethane	soil	1 / 33	3 %	0.0020 - 1.0	0.029 - 0.029		No	Detected in less than 5% of samples; non-TPH related constituent
1,2-Dichloroethane	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected
1,1-Dichloroethene	soil	0 / 33	0 %	0.0048 - 2.5	-		No	Not detected
cis-1,2-Dichloroethene	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected
trans-1,2-Dichloroethene	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected
1,2-Dichloropropane	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected

Table 2-6
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area E

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
1,3-Dichloropropane	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected
2,2-Dichloropropane	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected
1,1-Dichloropropene	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected
cis-1,3-Dichloropropene	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected
trans-1,3-Dichloropropene	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected
Ethyl tert butyl ether	soil	0 / 8	0 %	0.0051 - 2.5	-		No	Not detected
Isopropyl ether	soil	0 / 8	0 %	0.0051 - 2.5	-		No	Not detected
Isopropylbenzene	soil	22 / 33	67 %	0.0021 - 0.10	0.0033 - 4.4		Yes	
p-Isopropyltoluene	soil	14 / 33	42 %	0.0020 - 0.10	0.0044 - 3.3		Yes	
Methylene chloride	soil	1 / 33	3 %	0.0048 - 10.0	0.0060 - 0.0060		No	Detected in less than 5% of samples; non-TPH related constituent
Methyl tert-butyl ether	soil	0 / 26	0 %	0.0048 - 2.5	-		No	Not detected
n-Propylbenzene	soil	15 / 33	45 %	0.0021 - 0.10	0.0060 - 6.3		Yes	
Styrene	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected
1,1,1,2-Tetrachloroethane	soil	0 / 33	0 %	0.0048 - 2.5	-		No	Not detected
1,1,2,2-Tetrachloroethane	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected
Tetrachloroethene	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected
Tert-amyl methyl ether	soil	0 / 8	0 %	0.0051 - 2.5	-		No	Not detected
1,2,3-Trichlorobenzene	soil	0 / 33	0 %	0.0048 - 2.5	-		No	Not detected
1,2,4-Trichlorobenzene	soil	0 / 33	0 %	0.0048 - 2.5	-		No	Not detected
1,1,1-Trichloroethane	soil	1 / 33	3 %	0.0020 - 1.0	0.0070 - 0.0070		No	Detected in less than 5% of samples; non-TPH related constituent
1,1,2-Trichloroethane	soil	0 / 33	0 %	0.0020 - 1.0	-		No	Not detected
Trichloroethene	soil	1 / 33	3 %	0.0020 - 1.0	0.036 - 0.036		No	Detected in less than 5% of samples; non-TPH related constituent
Trichlorofluoromethane	soil	0 / 33	0 %	0.0048 - 2.5	-		No	Not detected
1,2,3-Trichloropropane	soil	0 / 33	0 %	0.0048 - 5.0	-		No	Not detected
1,2,4-Trimethylbenzene	soil	16 / 33	48 %	0.0020 - 0.20	0.0048 - 25		Yes	
1,3,5-Trimethylbenzene	soil	15 / 33	45 %	0.0020 - 0.20	0.0020 - 8.3		Yes	
Vinyl chloride	soil	0 / 33	0 %	0.0048 - 2.5	-		No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	22 / 42	52 %	0.0039 - 2.8	0.0036 - 0.55		Yes	
Acenaphthene	soil	25 / 42	60 %	0.0055 - 4.0	0.010 - 3.2		Yes	
Acenaphthylene	soil	19 / 42	45 %	0.0050 - 4.0	0.015 - 0.42		Yes	
Anthracene	soil	10 / 42	24 %	0.0050 - 4.0	0.0077 - 3.5		Yes	
Benz(a)anthracene	soil	13 / 42	31 %	0.0050 - 4.0	0.0070 - 0.85		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	14 / 42	33 %	0.0050 - 4.0	0.0073 - 0.76		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	9 / 42	21 %	0.0050 - 4.0	0.0058 - 0.40		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	13 / 42	31 %	0.0050 - 4.0	0.0065 - 0.65		Yes	
Benzo(a)pyrene	soil	13 / 42	31 %	0.0050 - 4.0	0.019 - 0.40		Yes	Carcinogenic PAHs evaluated as BaP TEQ
2-Chloronaphthalene	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Chrysene	soil	18 / 42	43 %	0.0055 - 4.0	0.0090 - 2.3		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	4 / 42	10 %	0.0050 - 4.0	0.010 - 0.049		Yes	
Dibenzofuran	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Fluoranthene	soil	12 / 42	29 %	0.0055 - 4.0	0.0060 - 1.1		Yes	
Fluorene	soil	29 / 42	69 %	0.0055 - 4.0	0.028 - 7.1		Yes	
Indeno(1,2,3-cd)pyrene	soil	9 / 42	21 %	0.0050 - 4.0	0.0066 - 0.30		Yes	Carcinogenic PAHs evaluated as BaP TEQ
1-Methylnaphthalene	soil	4 / 8	50 %	0.0055 - 0.062	0.33 - 5.5		Yes	
2-Methylnaphthalene	soil	6 / 10	60 %	0.0055 - 1.0	0.0074 - 15		Yes	
Naphthalene	soil	29 / 48	60 %	0.0050 - 4.0	0.0079 - 11		Yes	
Phenanthrene	soil	34 / 42	81 %	0.0055 - 4.0	0.011 - 5.7		Yes	
Pyrene	soil	21 / 42	50 %	0.0055 - 4.0	0.0060 - 1.0		Yes	
Semivolatile Organic Compounds (SVOCs)								
Aniline	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Azobenzene	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Benzoic acid	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Benzyl alcohol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Bis(2-chloroethoxy)methane	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Bis(2-chloroethyl)ether	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Bis(2-chloroisopropyl)ether	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Bis(2-ethylhexyl)phthalate	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected

Table 2-6
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area E

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
4-Bromophenyl phenyl ether	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Butylbenzylphthalate	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Carbazole	soil	0 2	0 %	1.0 1.0			No	Not detected
4-Chloroaniline	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
4-Chloro-3-methylphenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2-Chloronaphthalene	soil	0 / 2	0 %	1.0 1.0			No	Not detected
2-Chlorophenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
4-Chlorophenyl phenyl ether	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Di-n-butylphthalate	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
3,3-Dichlorobenzidine	soil	0 / 2	0 %	5.0 - 5.0	-		No	Not detected
2,4-Dichlorophenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Dichlorotrifluoroethane	soil	0 / 23	0 %	0.0050 0.10	-		No	Not detected
Diethyl phthalate	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Dimethyl phthalate	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2,4-Dimethylphenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
4,6-Dinitro-2-methylphenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2,4-Dinitrophenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2,4-Dinitrotoluene	soil	1 / 2	50 %	1.0 - 1.0	0.64 - 0.64		Yes	
2,6-Dinitrotoluene	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Di-n-octylphthalate	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Hexachlorobenzene	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Hexachlorobutadiene	soil	0 / 33	0 %	0.0048 - 2.5	-		No	Not detected
Hexachlorocyclopentadiene	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Hexachloroethane	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Isophorone	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2-Methylphenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
3/4-Methylphenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2-Nitroaniline	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
3-Nitroaniline	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
4-Nitroaniline	soil	0 / 2	0 %	2.5 - 2.5	-		No	Not detected
Nitrobenzene	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2-Nitrophenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
4-Nitrophenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
N-Nitrosodimethylamine	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
N-Nitrosodiphenylamine	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
N-Nitroso-di-n-propylamine	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Pentachlorophenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Phenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Pyridine	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2,4,5-Trichlorophenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2,4,6-Trichlorophenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	57 / 86	66 %	0.38 - 390	0.74 - 3100		Yes	
TPH Diesel	soil	77 / 86	90 %	10 - 10	6 - 19000		Yes	
TPH Motor Oil	soil	75 / 86	87 %	10 - 10	10 - 12000		Yes	
Polychlorinated Biphenyls (PCBs)								
Aroclor 1016	soil	0 / 19	0 %	0.030 - 0.60	-		No	Not detected
Aroclor 1221	soil	0 / 19	0 %	0.030 - 0.60	-		No	Not detected
Aroclor 1232	soil	0 / 19	0 %	0.030 - 0.60	-		No	Not detected
Aroclor 1242	soil	0 / 19	0 %	0.030 - 0.60	-		No	Not detected
Aroclor 1248	soil	0 / 19	0 %	0.030 - 0.60	-		No	Not detected
Aroclor 1254	soil	0 / 19	0 %	0.030 - 0.60	-		No	Not detected
Aroclor 1260	soil	0 / 19	0 %	0.030 - 0.60	-		No	Not detected
Pesticides								
Aldrin	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected
alpha-BHC	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected
beta-BHC	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected
delta-BHC	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected

Table 2-6
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area E

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
gamma-BHC	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected
Chlordane (mixture)	soil	0 / 2	0 %	0.10 - 0.40	-		No	Not detected
alpha-Chlordane	soil	0 / 2	0 %	0.015 - 0.015	-		No	Not detected
gamma-Chlordane	soil	0 / 2	0 %	0.015 - 0.02	-		No	Not detected
4,4'-DDD	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected
4,4'-DDE	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected
4,4'-DDT	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected
Dieldrin	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected
Endosulfan I	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected
Endosulfan II	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected
Endosulfan sulfate	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected
Endrin	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected
Endrin aldehyde	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected
Endrin ketone	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected
Heptachlor	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected
Heptachlor epoxide	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected
Methoxychlor	soil	0 / 4	0 %	0.0020 - 0.015	-		No	Not detected
Toxaphene	soil	0 / 4	0 %	0.1000 - 0.400	-		No	Not detected
2,4,5-T	soil	0 / 2	0 %	0.0050 - 0.005	-		No	Not detected
2,4-D	soil	0 / 2	0 %	0.0500 - 0.050	-		No	Not detected
2,4-DB	soil	0 / 2	0 %	0.50 - 0.50	-		No	Not detected
Dalapon	soil	0 / 2	0 %	0.10 - 0.10	-		No	Not detected
Dicamba	soil	0 / 2	0 %	0.010 - 0.010	-		No	Not detected
Dichloprop	soil	0 / 2	0 %	0.050 - 0.050	-		No	Not detected
Dinoseb	soil	0 / 2	0 %	0.010 - 0.010	-		No	Not detected
MCPA	soil	0 / 2	0 %	5.0 - 5.0	-		No	Not detected
MCPP	soil	0 / 2	0 %	5.0 - 5.0	-		No	Not detected
Silvex	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected

Notes:
NA = Not applicable
Concentrations are mg/kg wet weight, with the exception of some PAH results and the 2011 data that are mg/kg dry weight.

Table 2-6
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area E

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
BTEX							
Benzene	soil gas	12 / 16	75 %	0.0041 - 15	0.011 - 1600	Yes	
Ethylbenzene	soil gas	5 / 16	31 %	0.0056 - 100	0.61 - 110	Yes	
Toluene	soil gas	7 / 16	44 %	0.065 - 90	0.0053 - 160	Yes	
m&p-Xylenes	soil gas	10 / 16	63 %	1.2 - 95	0.0063 - 100	Yes	
o-Xylene	soil gas	5 / 16	31 %	0.0056 - 100	0.024 - 11	Yes	
Volatile Organic Compounds (VOCs)							
Acetone	soil gas	8 / 16	50 %	0.16 - 230	0.035 - 1300	No	Common laboratory contaminant
Allyl chloride	soil gas	0 / 16	0 %	0.016 - 300	-	No	Not detected
Benzyl chloride	soil gas	0 / 16	0 %	0.0067 - 120	-	No	Not detected
Bromodichloromethane	soil gas	0 / 16	0 %	0.0086 - 160	-	No	Not detected
Bromoform	soil gas	0 / 16	0 %	0.013 - 250	-	No	Not detected
Bromomethane	soil gas	0 / 16	0 %	0.0050 - 92	-	No	Not detected
1,3-Butadiene	soil gas	0 / 16	0 %	0.0028 - 53	-	No	Not detected
2-Butanone	soil gas	6 / 16	38 %	0.051 - 70	0.0046 - 66	Yes	
tert-Butylalcohol	soil gas	4 / 14	29 %	0.016 - 290	37 - 840	Yes	
Carbon disulfide	soil gas	1 / 16	6 %	0.0040 - 74	0.14 - 0.14	Yes	
Carbon tetrachloride	soil gas	0 / 16	0 %	0.0081 - 150	-	No	Not detected
Chlorobenzene	soil gas	0 / 16	0 %	0.0059 - 110	-	No	Not detected
Chloroethane	soil gas	0 / 16	0 %	0.0034 - 63	-	No	Not detected
Chloroform	soil gas	1 / 16	6 %	0.0063 - 120	120 - 120	Yes	
Chloromethane	soil gas	0 / 16	0 %	0.011 - 200	-	No	Not detected
Cyclohexane	soil gas	16 / 16	100 %	-	0.0074 - 2200	Yes	
Dibromochloromethane	soil gas	0 / 16	0 %	0.011 - 200	-	No	Not detected
1,2-Dibromoethane	soil gas	0 / 16	0 %	0.0099 - 180	-	No	Not detected
1,2-Dichlorobenzene	soil gas	1 / 16	6 %	0.0083 - 140	0.0098 - 0.0098	Yes	
1,3-Dichlorobenzene	soil gas	0 / 16	0 %	0.0078 - 140	-	No	Not detected
1,4-Dichlorobenzene	soil gas	0 / 16	0 %	0.0078 - 140	-	No	Not detected
Dichlorodifluoromethane	soil gas	0 / 16	0 %	0.0064 - 120	-	No	Not detected
1,1-Dichloroethane	soil gas	0 / 16	0 %	0.0052 - 96	-	No	Not detected
1,2-Dichloroethane	soil gas	1 / 16	6 %	0.0052 - 96	0.44 - 0.44	Yes	
1,1-Dichloroethene	soil gas	0 / 16	0 %	0.0051 - 94	-	No	Not detected
cis-1,2-Dichloroethene	soil gas	0 / 16	0 %	0.0051 - 94	-	No	Not detected
trans-1,2-Dichloroethene	soil gas	0 / 16	0 %	0.0051 - 94	-	No	Not detected
1,2-Dichloropropane	soil gas	0 / 16	0 %	0.0060 - 110	-	No	Not detected
cis-1,3-Dichloropropene	soil gas	0 / 16	0 %	0.0058 - 110	-	No	Not detected
trans-1,3-Dichloropropene	soil gas	0 / 16	0 %	0.0058 - 110	-	No	Not detected
1,2-Dichloro-1,1,2,2-tetraflouroethane	soil gas	0 / 16	0 %	0.0090 - 170	-	No	Not detected
Ethanol	soil gas	1 / 16	6 %	0.0097 - 180	0.25 - 0.25	No	Common laboratory contaminant
4-Ethyltoluene	soil gas	5 / 16	31 %	0.0063 - 120	0.28 - 27	Yes	
Ethyl tert butyl ether	soil gas	0 / 14	0 %	0.022 - 400	-	No	Not detected
n-Heptane	soil gas	14 / 16	88 %	0.0053 - 2.1	0.016 - 1200	Yes	
Hexane	soil gas	15 / 16	94 %	0.0045 - 0.0045	0.018 - 6100	Yes	
2-Hexanone	soil gas	0 / 16	0 %	0.021 - 390	-	No	Not detected
Isopropyl alcohol	soil gas	0 / 16	0 %	0.013 - 230	-	No	Not detected
Isopropyl ether	soil gas	0 / 14	0 %	0.022 - 400	-	No	Not detected
Isopropylbenzene	soil gas	6 / 16	38 %	0.0063 - 120	0.28 - 33	Yes	
Methylene chloride	soil gas	1 / 16	6 %	0.0045 - 83	3.5 - 3.5	Yes	

Table 2-6
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area E

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
4-Methyl-2-pentanone	soil gas	0 / 16	0 %	0.0053 - 97	-	No	Not detected
Methyl tert-butyl ether	soil gas	1 / 16	6 %	0.0046 - 86	1.1 - 1.1	Yes	
n-Propylbenzene	soil gas	6 / 16	38 %	0.0063 - 120	0.34 - 39	Yes	
Styrene	soil gas	0 / 16	0 %	0.0055 - 100	-	No	Not detected
1,1,1,2-Tetrachloroethane	soil gas	0 / 14	0 %	0.035 - 650	-	No	Not detected
1,1,2,2-Tetrachloroethane	soil gas	2 / 16	13 %	0.0088 - 160	6.8 - 20	Yes	
Tetrachloroethene	soil gas	0 / 16	0 %	0.0088 - 160	-	No	Not detected
Tetrahydrofuran	soil gas	2 / 16	13 %	0.0038 - 70	0.055 - 0.12	Yes	
Tert-amyl methyl ether	soil gas	0 / 14	0 %	0.022 - 400	-	No	Not detected
1,2,4-Trichlorobenzene	soil gas	0 / 16	0 %	0.038 - 710	-	No	Not detected
1,1,1-Trichloroethane	soil gas	0 / 16	0 %	0.0070 - 130	-	No	Not detected
1,1,2-Trichloroethane	soil gas	0 / 16	0 %	0.0070 - 130	-	No	Not detected
Trichloroethene	soil gas	0 / 16	0 %	0.0069 - 130	-	No	Not detected
Trichlorofluoromethane	soil gas	0 / 16	0 %	0.0072 - 130	-	No	Not detected
1,1,2-Trichlorotrifluoroethane	soil gas	0 / 16	0 %	0.0099 - 180	-	No	Not detected
1,2,3-Trichloropropane	soil gas	0 / 14	0 %	0.031 - 570	-	No	Not detected
1,2,4-Trimethylbenzene	soil gas	7 / 16	44 %	0.0063 - 120	0.048 - 48	Yes	
1,3,5-Trimethylbenzene	soil gas	6 / 16	38 %	0.0063 - 120	0.014 - 22	Yes	
2,2,4-Trimethylpentane	soil gas	6 / 16	38 %	0.0060 - 100	62 - 480	Yes	
Vinyl chloride	soil gas	0 / 16	0 %	0.0033 - 61	-	No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)							
Naphthalene	soil gas	0 / 16	0 %	0.027 - 500	-	No	Not detected
Semivolatile Organic Compounds (SVOCs)							
1,4-Dioxane	soil gas	0 / 16	0 %	0.018 - 340	-	No	Not detected
Hexachlorobutadiene	soil gas	0 / 16	0 %	0.055 - 1000	-	No	Not detected

Notes:
Concentrations are in µg/L.
Includes samples collected to 15 feet bgs.

Table 2-6
Chemical of Potential Concern Selection Summary - Groundwater
Former Avila Tank Farm Exposure Area E

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Tap Water RSL	COPC?	Rationale
Inorganics								
Antimony	groundwater	0 / 4	0 %	0.010 - 0.025	-		No	Not detected
Arsenic	groundwater	4 / 4	100 %	-	0.017 - 0.11	0.010	No	Although exceeds 10% of the tap water RSL, there is a Site-wide geogenic source (see Section 2.2.1).
Barium	groundwater	0 / 4	0 %	0.0020 - 0.010	-		No	Not detected
Beryllium	groundwater	0 / 4	0 %	0.0020 - 0.0050	-		No	Not detected
Cadmium	groundwater	0 / 4	0 %	0.0020 - 0.010	-		No	Not detected
Chromium (total)	groundwater	1 / 4	25 %	0.0040 - 0.010	0.0056 - 0.0056	0.10	No	Detect does not exceed 10% of tap water RSL (see Section 2.2)
Cobalt	groundwater	0 / 4	0 %	0.0020 - 0.0050	-		No	Not detected
Copper	groundwater	0 / 4	0 %	0.0020 - 0.0050	-		No	Not detected
Lead	groundwater	0 / 4	0 %	0.0020 - 0.010	-		No	Not detected
Mercury	groundwater	1 / 4	25 %	0.00020 - 0.00020	0.00012 - 0.00012	0.0020	No	Detect does not exceed 10% of tap water RSL (see Section 2.2)
Molybdenum	groundwater	2 / 4	50 %	0.010 - 0.010	0.032 - 0.035	0.078	Yes	Detect exceeds 10% of tap water RSL (see Section 2.2)
Nickel	groundwater	2 / 4	50 %	0.0020 - 0.0050	0.0011 - 0.0029	0.30	No	Detect does not exceed 10% of tap water RSL (see Section 2.2)
Selenium	groundwater	0 / 4	0 %	0.0040 - 0.010	-		No	Not detected
Silver	groundwater	0 / 4	0 %	0.0020 - 0.010	-	0.071	No	Not detected
Thallium	groundwater	0 / 4	0 %	0.0020 - 0.0050	-	0.0020	No	Not detected
Vanadium	groundwater	0 / 4	0 %	0.010 - 0.050	-	0.078	No	Not detected
Zinc	groundwater	0 / 4	0 %	0.010 - 0.025	-	4.7	No	Not detected
BTEX								
Benzene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Ethylbenzene	groundwater	1 / 4	25 %	0.00050 - 0.00050	0.00028 - 0.00028		Yes	
Toluene	groundwater	2 / 4	50 %	0.00050 - 0.00050	0.00032 - 0.00049		Yes	
Xylenes (total)	groundwater	2 / 4	50 %	0.00050 - 0.00050	0.00038 - 0.00045		Yes	
Volatile Organic Compounds (VOCs)								
Bromobenzene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Bromochloromethane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Bromodichloromethane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Bromoform	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Bromomethane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
tert-Butylalcohol	groundwater	2 / 4	50 %	0.010 - 0.010	0.0079 - 0.011		Yes	
n-Butylbenzene	groundwater	2 / 4	50 %	0.00050 - 0.00050	0.00094 - 0.0020		Yes	
sec-Butylbenzene	groundwater	2 / 4	50 %	0.00050 - 0.00050	0.0035 - 0.0046		Yes	
tert-Butylbenzene	groundwater	2 / 4	50 %	0.00050 - 0.00050	0.00064 - 0.0010		Yes	
Carbon tetrachloride	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Chlorobenzene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Chloroethane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Chloroform	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Chloromethane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
2-Chlorotoluene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
4-Chlorotoluene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Dibromochloromethane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
1,2-Dibromo-3-chloropropane	groundwater	0 / 4	0 %	0.00100 - 0.00100	-		No	Not detected
1,2-Dibromoethane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Dibromomethane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
1,2-Dichlorobenzene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
1,3-Dichlorobenzene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
1,4-Dichlorobenzene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Dichlorodifluoromethane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
1,1-Dichloroethane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
1,2-Dichloroethane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
1,1-Dichloroethene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
cis-1,2-Dichloroethene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
trans-1,2-Dichloroethene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
1,2-Dichloropropane	groundwater	1 / 4	25 %	0.00050 - 0.00050	0.00037 - 0.00037		Yes	
1,3-Dichloropropane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
2,2-Dichloropropane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
1,1-Dichloropropene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
cis-1,3-Dichloropropene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
trans-1,3-Dichloropropene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected

Table 2-6
Chemical of Potential Concern Selection Summary - Groundwater
Former Avila Tank Farm Exposure Area E

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Tap Water RSL	COPC?	Rationale
Ethanol	groundwater	0 / 4	0 %	0.50 - 0.50	-		No	Not detected
Ethyl tert butyl ether	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Isopropyl ether	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Isopropylbenzene	groundwater	2 / 4	50 %	0.00050 - 0.00050	0.013 - 0.019		Yes	
p-Isopropyltoluene	groundwater	1 / 4	25 %	0.00050 - 0.00050	0.00044 - 0.00044		Yes	
Methylene chloride	groundwater	0 / 4	0 %	0.00100 - 0.00100	-		No	Not detected
Methyl tert-butyl ether	groundwater	2 / 4	50 %	0.00050 - 0.00050	0.0014 - 0.0025		Yes	
n-Propylbenzene	groundwater	2 / 4	50 %	0.00050 - 0.00050	0.008 - 0.012		Yes	
Styrene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
1,1,1,2-Tetrachloroethane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
1,1,2,2-Tetrachloroethane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Tetrachloroethene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Tert-amyl methyl ether	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
1,2,3-Trichlorobenzene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
1,2,4-Trichlorobenzene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
1,1,1-Trichloroethane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
1,1,2-Trichloroethane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Trichloroethene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Trichlorofluoromethane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
1,2,3-Trichloropropane	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
1,2,4-Trimethylbenzene	groundwater	1 / 4	25 %	0.00050 - 0.00050	0.00031 - 0.00031		Yes	
1,3,5-Trimethylbenzene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Vinyl chloride	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	groundwater	2 / 4	50 %	0.00010 - 0.00010	0.00034 - 0.00067		Yes	
Acenaphthylene	groundwater	2 / 4	50 %	0.00010 - 0.00010	0.000071 - 0.00016		Yes	
Anthracene	groundwater	1 / 4	25 %	0.00010 - 0.00010	0.000071 - 0.000071		Yes	
Benz(a)anthracene	groundwater	0 / 4	0 %	0.00010 - 0.00010	-		No	Not detected
Benzo(b)fluoranthene	groundwater	0 / 4	0 %	0.00010 - 0.00010	-		No	Not detected
Benzo(k)fluoranthene	groundwater	0 / 4	0 %	0.00010 - 0.00010	-		No	Not detected
Benzo(g,h,i)perylene	groundwater	0 / 4	0 %	0.00010 - 0.00010	-		No	Not detected
Benzo(a)pyrene	groundwater	0 / 4	0 %	0.00010 - 0.00010	-		No	Not detected
Chrysene	groundwater	0 / 4	0 %	0.00010 - 0.00010	-		No	Not detected
Dibenz(a,h)anthracene	groundwater	0 / 4	0 %	0.00010 - 0.00010	-		No	Not detected
Fluoranthene	groundwater	0 / 4	0 %	0.00010 - 0.00010	-		No	Not detected
Fluorene	groundwater	2 / 4	50 %	0.00010 - 0.00010	0.00050 - 0.00090		Yes	
Indeno(1,2,3-cd)pyrene	groundwater	0 / 4	0 %	0.00010 - 0.00010	-		No	Not detected
Naphthalene	groundwater	2 / 4	50 %	0.00010 - 0.00050	0.00034 - 0.0019		Yes	
Phenanthrene	groundwater	2 / 4	50 %	0.00010 - 0.00010	0.000061 - 0.00014		Yes	
Pyrene	groundwater	0 / 4	0 %	0.00010 - 0.00010	-		No	Not detected
Semivolatile Organic Compounds (SVOCs)								
Hexachlorobutadiene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	groundwater	3 / 4	75 %	0.050 - 0.050	0.033 - 0.88		Yes	
TPH Diesel	groundwater	4 / 4	100 %	-	0.38 - 0.60		Yes	
TPH Motor Oil	groundwater	3 / 4	75 %	0.51 - 0.51	0.36 - 1.2		Yes	

Notes:
NA = Not applicable
Concentrations are mg/L.

Table 2-7
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area G

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Inorganics								
Antimony	soil	0 / 5	0 %	5.0 - 10.0	-	30	No	Low site-wide frequency of detect; never detected in exposure area
Arsenic	soil	5 / 5	100 %	-	2.3 - 31	0.07	No	Passes all site-wide background comparison tests
Barium	soil	5 / 5	100 %	-	42 - 110	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	1 / 5	20 %	0.50 - 0.50	0.60 - 0.60	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	1 / 5	20 %	0.50 - 1.0	1.9 - 1.9	1.7	Yes	Low site-wide frequency of detect; detected in exposure area
Chromium (total)	soil	5 / 5	100 %	-	21 - 58	NA	Yes	Fails site-wide Obispo background comparison tests
Cobalt	soil	4 / 5	80 %	1.0 - 1.0	1.3 - 3.4	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	5 / 5	100 %	-	4.7 - 21	3000	No	Passes all site-wide background comparison tests
Lead	soil	8 / 8	100 %	-	3.8 - 9.4	80	Yes	Fails site-wide Obispo background comparison tests
Mercury	soil	2 / 5	40 %	0.020 - 0.10	0.30 - 0.40	18	Yes	Low site-wide frequency of detect; detected in exposure area
Molybdenum	soil	1 / 5	20 %	1.0 - 2.0	3.7 - 3.7	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	5 / 5	100 %	-	7.5 - 39	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 5	0 %	2.0 - 5.0	-	380	No	Never detected
Silver	soil	0 / 5	0 %	0.99 - 1.0	-	380	No	Never detected
Thallium	soil	0 / 5	0 %	5.0 - 10.0	-	5.0	No	Low site-wide frequency of detect; never detected in exposure area
Vanadium	soil	5 / 5	100 %	-	16 - 95	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	5 / 5	100 %	-	13 - 69	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	1 / 16	6 %	0.0020 - 0.0050	0.041 - 0.041		Yes	
Ethylbenzene	soil	0 / 16	0 %	0.0020 - 0.0050	-		No	Not detected
Toluene	soil	0 / 16	0 %	0.0020 - 0.0050	-		No	Not detected
m&p-Xylenes	soil	0 / 2	0 %	0.0020 - 0.0020	-		No	Not detected
o-Xylene	soil	0 / 2	0 %	0.0020 - 0.0020	-		No	Not detected
Xylenes (total)	soil	0 / 16	0 %	0.0040 - 0.0050	-		No	Not detected
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
Bromochloromethane	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
Bromodichloromethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Bromoform	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
Bromomethane	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
tert-Butylalcohol	soil	0 / 10	0 %	0.025 - 0.10	-		No	Not detected
n-Butylbenzene	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
sec-Butylbenzene	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
tert-Butylbenzene	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
Carbon tetrachloride	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
Chlorobenzene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Chloroethane	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
2-Chloroethyl vinyl ether	soil	0 / 2	0 %	0.010 - 0.010	-		No	Not detected
Chloroform	soil	1 / 12	8 %	0.0020 - 0.0050	0.0073 - 0.0073		Yes	
Chloromethane	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
2-Chlorotoluene	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
4-Chlorotoluene	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
Dibromochloromethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,2-Dibromo-3-chloropropane	soil	0 / 12	0 %	0.0049 - 0.010	-		No	Not detected
1,2-Dibromoethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Dibromomethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,2-Dichlorobenzene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,3-Dichlorobenzene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,4-Dichlorobenzene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Dichlorodifluoromethane	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
1,1-Dichloroethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,2-Dichloroethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,1-Dichloroethene	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
cis-1,2-Dichloroethene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
trans-1,2-Dichloroethene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,2-Dichloropropane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,3-Dichloropropane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
2,2-Dichloropropane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,1-Dichloropropene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected

Table 2-7
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area G

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
cis-1,3-Dichloropropene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
trans-1,3-Dichloropropene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Ethanol	soil	0 / 8	0 %	4.9 - 5.0	-		No	Not detected
Ethyl tert butyl ether	soil	0 / 10	0 %	0.0049 - 0.0050	-		No	Not detected
Isopropyl ether	soil	0 / 10	0 %	0.0049 - 0.0050	-		No	Not detected
Isopropylbenzene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
p-Isopropyltoluene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Methylene chloride	soil	0 / 12	0 %	0.0049 - 0.020	-		No	Not detected
Methyl tert-butyl ether	soil	0 / 11	0 %	0.0049 - 0.0050	-		No	Not detected
n-Propylbenzene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Styrene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,1,1,2-Tetrachloroethane	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
1,1,2,2-Tetrachloroethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Tetrachloroethene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Tert-amyl methyl ether	soil	0 / 10	0 %	0.0049 - 0.0050	-		No	Not detected
1,2,3-Trichlorobenzene	soil	0 / 12	0 %	0.0049 - 0.010	-		No	Not detected
1,2,4-Trichlorobenzene	soil	0 / 12	0 %	0.0049 - 0.010	-		No	Not detected
1,1,1-Trichloroethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,1,2-Trichloroethane	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Trichloroethene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
Trichlorofluoromethane	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
1,2,3-Trichloropropane	soil	0 / 12	0 %	0.0049 - 0.010	-		No	Not detected
1,2,4-Trimethylbenzene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Not detected
1,3,5-Trimethylbenzene	soil	1 / 12	8 %	0.0020 - 0.0050	0.013 - 0.013		Yes	
Vinyl chloride	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	3 / 5	60 %	0.0035 - 0.0041	0.024 - 0.11		Yes	
Acenaphthene	soil	0 / 5	0 %	0.0050 - 0.050	-		No	Not detected
Acenaphthylene	soil	1 / 5	20 %	0.0050 - 0.050	0.012 - 0.012		Yes	
Anthracene	soil	1 / 5	20 %	0.0050 - 0.050	0.16 - 0.16		Yes	
Benz(a)anthracene	soil	1 / 5	20 %	0.0050 - 0.050	0.013 - 0.013		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	3 / 5	60 %	0.0050 - 0.0058	0.020 - 0.12		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	0 / 5	0 %	0.0050 - 0.050	-		No	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	3 / 5	60 %	0.0058 - 0.050	0.0090 - 0.080		Yes	
Benzo(a)pyrene	soil	3 / 5	60 %	0.0050 - 0.0058	0.019 - 0.089		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Chrysene	soil	3 / 5	60 %	0.0050 - 0.0058	0.014 - 0.16		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	1 / 5	20 %	0.0050 - 0.050	0.023 - 0.023		Yes	
Fluoranthene	soil	3 / 5	60 %	0.0050 - 0.0058	0.011 - 0.16		Yes	
Fluorene	soil	1 / 5	20 %	0.0050 - 0.050	0.67 - 0.67		Yes	
Indeno(1,2,3-cd)pyrene	soil	3 / 5	60 %	0.0050 - 0.0058	0.012 - 0.080		Yes	Carcinogenic PAHs evaluated as BaP TEQ
1-Methylnaphthalene	soil	0 / 2	0 %	0.0051 - 0.0058	-		No	Not detected
2-Methylnaphthalene	soil	0 / 2	0 %	0.0051 - 0.0058	-		No	Not detected
Naphthalene	soil	1 / 13	8 %	0.0049 - 0.050	0.024 - 0.024		Yes	
Phenanthrene	soil	2 / 5	40 %	0.0050 - 0.010	0.16 - 0.22		Yes	
Pyrene	soil	3 / 5	60 %	0.0050 - 0.0058	0.012 - 0.57		Yes	
Semivolatile Organic Compounds (SVOCs)								
Dichlorotrifluoroethane	soil	0 / 2	0 %	0.0050 0.0050	-		No	Not detected
Hexachlorobutadiene	soil	0 / 12	0 %	0.0049 - 0.0050	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	1 / 16	6 %	0.40 - 10	0.70 - 0.70		Yes	
TPH Diesel	soil	5 / 16	31 %	5.0 - 10	17 - 3300		Yes	
TPH Motor Oil	soil	5 / 16	31 %	5.0 - 50	36 - 1500		Yes	

Notes:
NA = Not applicable
Concentrations are mg/kg wet weight, with the exception of some PAH results and the 2011 data that are mg/kg dry weight.

Table 2-7
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area G

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
BTEX							
Benzene	soil gas	3 / 4	75 %	0.0034 - 0.0034	0.047 - 0.93	Yes	
Ethylbenzene	soil gas	3 / 4	75 %	0.0047 - 0.0047	0.070 - 0.78	Yes	
Toluene	soil gas	3 / 4	75 %	0.56 - 0.56	0.015 - 0.071	Yes	
m&p-Xylenes	soil gas	2 / 4	50 %	0.0047 - 0.65	0.14 - 0.41	Yes	
o-Xylene	soil gas	2 / 4	50 %	0.0047 - 0.65	0.075 - 0.34	Yes	
Volatile Organic Compounds (VOCs)							
Acetone	soil gas	2 / 4	50 %	0.11 - 1.4	0.038 - 0.050	No	Common laboratory contaminant
Allyl chloride	soil gas	0 / 4	0 %	0.014 - 1.9	-	No	Not detected
Benzyl chloride	soil gas	0 / 4	0 %	0.0056 - 0.77	-	No	Not detected
Bromodichloromethane	soil gas	0 / 4	0 %	0.0072 - 1.0	-	No	Not detected
Bromoform	soil gas	0 / 4	0 %	0.011 - 1.5	-	No	Not detected
Bromomethane	soil gas	0 / 4	0 %	0.0042 - 0.58	-	No	Not detected
1,3-Butadiene	soil gas	0 / 4	0 %	0.0024 - 0.33	-	No	Not detected
2-Butanone	soil gas	2 / 4	50 %	0.034 - 0.44	0.0094 - 0.011	Yes	
tert-Butylalcohol	soil gas	0 / 3	0 %	0.013 - 1.8	-	No	Not detected
Carbon disulfide	soil gas	1 / 4	25 %	0.0034 - 0.46	0.019 - 0.019	Yes	
Carbon tetrachloride	soil gas	0 / 4	0 %	0.0068 - 0.94	-	No	Not detected
Chlorobenzene	soil gas	0 / 4	0 %	0.0050 - 0.69	-	No	Not detected
Chloroethane	soil gas	0 / 4	0 %	0.0028 - 0.39	-	No	Not detected
Chloroform	soil gas	4 / 4	100 %	-	0.0080 - 9.0	Yes	
Chloromethane	soil gas	2 / 4	50 %	0.0089 - 0.096	0.16 - 4.0	Yes	
Cyclohexane	soil gas	4 / 4	100 %	-	0.0044 - 13	Yes	
Dibromochloromethane	soil gas	0 / 4	0 %	0.0092 - 1.3	-	No	Not detected
1,2-Dibromoethane	soil gas	0 / 4	0 %	0.0083 - 1.1	-	No	Not detected
1,2-Dichlorobenzene	soil gas	0 / 4	0 %	0.0065 - 0.90	-	No	Not detected
1,3-Dichlorobenzene	soil gas	0 / 4	0 %	0.0065 - 0.90	-	No	Not detected
1,4-Dichlorobenzene	soil gas	0 / 4	0 %	0.0065 - 0.90	-	No	Not detected
Dichlorodifluoromethane	soil gas	0 / 4	0 %	0.0053 - 0.74	-	No	Not detected
1,1-Dichloroethane	soil gas	0 / 4	0 %	0.0044 - 0.60	-	No	Not detected
1,2-Dichloroethane	soil gas	0 / 4	0 %	0.0044 - 0.60	-	No	Not detected
1,1-Dichloroethene	soil gas	0 / 4	0 %	0.0043 - 0.59	-	No	Not detected
cis-1,2-Dichloroethene	soil gas	0 / 4	0 %	0.0043 - 0.59	-	No	Not detected
trans-1,2-Dichloroethene	soil gas	0 / 4	0 %	0.0043 - 0.59	-	No	Not detected
1,2-Dichloropropane	soil gas	0 / 4	0 %	0.0050 - 0.69	-	No	Not detected
cis-1,3-Dichloropropene	soil gas	0 / 4	0 %	0.0049 - 0.68	-	No	Not detected
trans-1,3-Dichloropropene	soil gas	0 / 4	0 %	0.0049 - 0.68	-	No	Not detected
1,2-Dichloro-1,1,2,2-tetraflouroethane	soil gas	0 / 4	0 %	0.0076 - 1.00	-	No	Not detected
Ethanol	soil gas	1 / 4	25 %	0.0093 - 1.1	0.029 - 0.029	No	Common laboratory contaminant
4-Ethyltoluene	soil gas	1 / 4	25 %	0.0053 - 0.73	0.45 - 0.45	Yes	
Ethyl tert butyl ether	soil gas	0 / 3	0 %	0.018 - 2.5	-	No	Not detected
n-Heptane	soil gas	3 / 4	75 %	0.0044 - 0.0044	0.84 - 3.6	Yes	
Hexane	soil gas	4 / 4	100 %	-	0.0097 - 11	Yes	
2-Hexanone	soil gas	0 / 4	0 %	0.018 - 2.4	-	No	Not detected
Isopropyl alcohol	soil gas	1 / 4	25 %	0.012 - 1.5	0.013 - 0.013	Yes	

Table 2-7
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area G

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
Isopropyl ether	soil gas	0 / 3	0 %	0.018 - 2.5	-	No	Not detected
Isopropylbenzene	soil gas	2 / 4	50 %	0.0053 - 0.73	0.075 - 0.59	Yes	
Methylene chloride	soil gas	2 / 4	50 %	0.0038 - 0.52	0.0084 - 0.16	Yes	
4-Methyl-2-pentanone	soil gas	0 / 4	0 %	0.0044 - 0.61	-	No	Not detected
Methyl tert-butyl ether	soil gas	0 / 4	0 %	0.0039 - 0.54	-	No	Not detected
n-Propylbenzene	soil gas	2 / 4	50 %	0.0053 - 0.73	0.15 - 0.29	Yes	
Styrene	soil gas	0 / 4	0 %	0.0046 - 0.64	-	No	Not detected
1,1,1,2-Tetrachloroethane	soil gas	0 / 3	0 %	0.030 - 4.1	-	No	Not detected
1,1,2,2-Tetrachloroethane	soil gas	0 / 4	0 %	0.0074 - 1.0	-	No	Not detected
Tetrachloroethene	soil gas	4 / 4	100 %	-	0.0078 - 5.5	Yes	
Tetrahydrofuran	soil gas	1 / 4	25 %	0.0036 - 0.44	0.0034 - 0.0034	Yes	
Tert-amyl methyl ether	soil gas	0 / 3	0 %	0.018 - 2.5	-	No	Not detected
1,2,4-Trichlorobenzene	soil gas	0 / 4	0 %	0.032 - 4.4	-	No	Not detected
1,1,1-Trichloroethane	soil gas	0 / 4	0 %	0.0059 - 0.82	-	No	Not detected
1,1,2-Trichloroethane	soil gas	0 / 4	0 %	0.0059 - 0.82	-	No	Not detected
Trichloroethene	soil gas	2 / 4	50 %	0.0058 - 0.80	0.039 - 0.78	Yes	
Trichlorofluoromethane	soil gas	0 / 4	0 %	0.0061 - 0.84	-	No	Not detected
1,1,2-Trichlorotrifluoroethane	soil gas	0 / 4	0 %	0.0083 - 1.1	-	No	Not detected
1,2,3-Trichloropropane	soil gas	0 / 3	0 %	0.026 - 3.6	-	No	Not detected
1,2,4-Trimethylbenzene	soil gas	2 / 4	50 %	0.0053 - 0.73	0.100 - 0.23	Yes	
1,3,5-Trimethylbenzene	soil gas	1 / 4	25 %	0.0053 - 0.73	0.51 - 0.51	Yes	
2,2,4-Trimethylpentane	soil gas	1 / 4	25 %	0.0050 - 0.70	0.43 - 0.43	Yes	
Vinyl chloride	soil gas	0 / 4	0 %	0.0028 - 0.38	-	No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)							
Naphthalene	soil gas	1 / 4	25 %	0.023 - 3.1	0.027 - 0.027	Yes	
Semivolatile Organic Compounds (SVOCs)							
1,4-Dioxane	soil gas	0 / 4	0 %	0.016 - 2.2	-	No	Not detected
Hexachlorobutadiene	soil gas	0 / 4	0 %	0.046 - 6.4	-	No	Not detected

Notes:
Concentrations are in µg/L.
Includes samples collected to 15 feet bgs.

Table 2-8
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area Ia

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Inorganics								
Antimony	soil	0 / 7	0 %	5.0 - 5.0	-	30	No	Low site-wide frequency of detect; not detected in exposure area
Arsenic	soil	6 / 7	86 %	5.0 - 5.0	2.2 - 4.1	0.07	No	Passes all site-wide background comparison tests
Barium	soil	7 / 7	100 %	-	45 - 64	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	4 / 7	57 %	0.50 - 0.50	1.6 - 1.7	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	1 / 7	14 %	1.0 - 1.0	1.0 - 1.0	1.7	Yes	Low site-wide frequency of detect; detected in exposure area
Chromium (total)	soil	7 / 7	100 %	-	10 - 30	NA	Yes	Fails site-wide Obispo background comparison tests
Cobalt	soil	6 / 7	86 %	1.0 - 1.0	1.5 - 2.2	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	7 / 7	100 %	-	2.3 - 11	3000	No	Passes all site-wide background comparison tests
Lead	soil	22 / 22	100 %	-	1.8 - 1100	80	Yes	Fails site-wide Obispo background comparison tests
Mercury	soil	0 / 7	0 %	0.10 - 0.10	-	18	No	Low site-wide frequency of detect; not detected in exposure area
Molybdenum	soil	4 / 7	57 %	1.0 - 1.0	1.0 - 1.6	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	7 / 7	100 %	-	8.4 - 22	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 7	0 %	5.0 - 5.0	-	380	No	Never detected
Silver	soil	0 / 7	0 %	1.0 - 1.0	-	380	No	Never detected
Thallium	soil	0 / 7	0 %	5.0 - 5.0	-	5.0	No	Low site-wide frequency of detect; never detected in exposure area
Vanadium	soil	7 / 7	100 %	-	11 - 22	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	7 / 7	100 %	-	8.5 - 83	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	1 / 16	6 %	0.0050 - 0.0050	0.28 - 0.28		Yes	
Ethylbenzene	soil	1 / 16	6 %	0.0050 - 0.0050	0.078 - 0.078		Yes	
Toluene	soil	0 / 16	0 %	0.0050 - 0.0050	-		No	Not detected
Xylenes (total)	soil	2 / 16	13 %	0.0050 - 0.0050	0.013 - 0.11		Yes	
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Bromochloromethane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Bromodichloromethane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Bromoform	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Bromomethane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
n-Butylbenzene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
sec-Butylbenzene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
tert-Butylbenzene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Carbon tetrachloride	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Chlorobenzene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Chloroethane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
2-Chloroethyl vinyl ether	soil	0 / 6	0 %	0.010 - 0.010	-		No	Not detected
Chloroform	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Chloromethane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
2-Chlorotoluene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
4-Chlorotoluene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Dibromochloromethane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dibromo-3-chloropropane	soil	0 / 6	0 %	0.010 - 0.010	-		No	Not detected
1,2-Dibromoethane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Dibromomethane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dichlorobenzene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
1,3-Dichlorobenzene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
1,4-Dichlorobenzene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Dichlorodifluoromethane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
1,1-Dichloroethane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dichloroethane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
1,1-Dichloroethene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
cis-1,2-Dichloroethene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
trans-1,2-Dichloroethene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dichloropropane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
1,3-Dichloropropane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
2,2-Dichloropropane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
1,1-Dichloropropene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
cis-1,3-Dichloropropene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected

Table 2-8
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area Ia

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
trans-1,3-Dichloropropene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Isopropylbenzene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
p-Isopropyltoluene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Methylene chloride	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
n-Propylbenzene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Styrene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
1,1,1,2-Tetrachloroethane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
1,1,2,2-Tetrachloroethane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Tetrachloroethene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
1,2,3-Trichlorobenzene	soil	0 / 6	0 %	0.010 - 0.010	-		No	Not detected
1,2,4-Trichlorobenzene	soil	0 / 6	0 %	0.010 - 0.010	-		No	Not detected
1,1,1-Trichloroethane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
1,1,2-Trichloroethane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Trichloroethene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Trichlorofluoromethane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
1,2,3-Trichloropropane	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
1,2,4-Trimethylbenzene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
1,3,5-Trimethylbenzene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Vinyl chloride	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	7 / 7	100 %	-	0.016 - 0.11		Yes	
Acenaphthene	soil	0 / 7	0 %	0.0050 - 0.040	-		No	Not detected
Acenaphthylene	soil	1 / 7	14 %	0.0050 - 0.040	0.010 - 0.010		Yes	
Anthracene	soil	0 / 7	0 %	0.0050 - 0.040	-		No	Not detected
Benz(a)anthracene	soil	1 / 7	14 %	0.0050 - 0.040	0.018 - 0.018		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	4 / 7	57 %	0.0050 - 0.030	0.027 - 0.098		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	1 / 7	14 %	0.0050 - 0.040	0.034 - 0.034		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	6 / 7	86 %	0.030 - 0.030	0.0070 - 0.091		Yes	
Benzo(a)pyrene	soil	5 / 7	71 %	0.030 - 0.030	0.015 - 0.084		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Chrysene	soil	6 / 7	86 %	0.0050 - 0.0050	0.018 - 0.26		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	1 / 7	14 %	0.0050 - 0.040	0.013 - 0.013		Yes	
Fluoranthene	soil	2 / 7	29 %	0.0050 - 0.030	0.050 - 0.066		Yes	
Fluorene	soil	0 / 7	0 %	0.0050 - 0.040	-		No	Not detected
Indeno(1,2,3-cd)pyrene	soil	1 / 7	14 %	0.0050 - 0.040	0.059 - 0.059		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Naphthalene	soil	0 / 7	0 %	0.0050 - 0.040	-		No	Not detected
Phenanthrene	soil	2 / 7	29 %	0.0050 - 0.030	0.016 - 0.090		Yes	
Pyrene	soil	4 / 7	57 %	0.015 - 0.030	0.0050 - 0.076		Yes	
Semivolatile Organic Compounds (SVOCs)								
Dichlorotrifluoroethane	soil	0 / 6	0 %	0.0050 0.0050	-		No	Not detected
Hexachlorobutadiene	soil	0 / 6	0 %	0.0050 - 0.0050	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	1 / 16	6 %	10.00 - 10.00	11 - 11		Yes	
TPH Diesel	soil	10 / 16	63 %	10.00 - 10.00	13 - 1100		Yes	
TPH Motor Oil	soil	10 / 16	63 %	10.00 - 10.00	17 - 2200		Yes	
Polychlorinated Biphenyls (PCBs)								
Aroclor 1016	soil	0 / 2	0 %	0.030 - 0.030	-		No	Not detected
Aroclor 1221	soil	0 / 2	0 %	0.030 - 0.030	-		No	Not detected
Aroclor 1232	soil	0 / 2	0 %	0.030 - 0.030	-		No	Not detected
Aroclor 1242	soil	0 / 2	0 %	0.030 - 0.030	-		No	Not detected
Aroclor 1248	soil	0 / 2	0 %	0.030 - 0.030	-		No	Not detected
Aroclor 1254	soil	0 / 2	0 %	0.030 - 0.030	-		No	Not detected
Aroclor 1260	soil	0 / 2	0 %	0.030 - 0.030	-		No	Not detected

Notes:
NA = Not applicable
Concentrations are mg/kg wet weight, with the exception of some PAH results and the 2011 data that are mg/kg dry weight.

Table 2-8
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area Ia

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
BTEX							
Benzene	soil gas	5 / 6	83 %	0.0076 - 0.0076	0.0066 - 0.042	Yes	
Ethylbenzene	soil gas	3 / 6	50 %	0.0052 - 0.010	0.0058 - 0.32	Yes	
Toluene	soil gas	6 / 6	100 %	-	0.016 - 0.046	Yes	
m&p-Xylenes	soil gas	5 / 6	83 %	0.010 - 0.010	0.0071 - 0.032	Yes	
o-Xylene	soil gas	1 / 6	17 %	0.0050 - 0.021	0.0072 - 0.0072	Yes	
Volatile Organic Compounds (VOCs)							
Acetone	soil gas	6 / 6	100 %	-	0.019 - 0.069	No	Common laboratory contaminant
Allyl chloride	soil gas	0 / 6	0 %	0.014 - 0.060	-	No	Not detected
Benzyl chloride	soil gas	0 / 6	0 %	0.0060 - 0.025	-	No	Not detected
Bromodichloromethane	soil gas	3 / 6	50 %	0.0086 - 0.032	0.010 - 0.015	Yes	
Bromoform	soil gas	0 / 6	0 %	0.012 - 0.050	-	No	Not detected
Bromomethane	soil gas	0 / 6	0 %	0.0045 - 0.019	-	No	Not detected
1,3-Butadiene	soil gas	0 / 6	0 %	0.0026 - 0.011	-	No	Not detected
2-Butanone	soil gas	6 / 6	100 %	-	0.0060 - 0.019	Yes	
tert-Butylalcohol	soil gas	1 / 6	17 %	0.014 - 0.059	0.015 - 0.015	Yes	
Carbon disulfide	soil gas	6 / 6	100 %	-	0.014 - 0.11	Yes	
Carbon tetrachloride	soil gas	1 / 6	17 %	0.0073 - 0.030	0.034 - 0.034	Yes	
Chlorobenzene	soil gas	0 / 6	0 %	0.0054 - 0.022	-	No	Not detected
Chloroethane	soil gas	0 / 6	0 %	0.0031 - 0.013	-	No	Not detected
Chloroform	soil gas	5 / 6	83 %	0.024 - 0.024	0.041 - 2.6	Yes	
Chloromethane	soil gas	0 / 6	0 %	0.0096 - 0.040	-	No	Not detected
Cyclohexane	soil gas	4 / 6	67 %	0.0040 - 0.0082	0.010 - 0.057	Yes	
Dibromochloromethane	soil gas	0 / 6	0 %	0.0099 - 0.041	-	No	Not detected
1,2-Dibromoethane	soil gas	0 / 6	0 %	0.0090 - 0.037	-	No	Not detected
1,2-Dichlorobenzene	soil gas	0 / 6	0 %	0.0070 - 0.029	-	No	Not detected
1,3-Dichlorobenzene	soil gas	0 / 6	0 %	0.0070 - 0.029	-	No	Not detected
1,4-Dichlorobenzene	soil gas	0 / 6	0 %	0.0070 - 0.029	-	No	Not detected
Dichlorodifluoromethane	soil gas	0 / 6	0 %	0.0058 - 0.024	-	No	Not detected
1,1-Dichloroethane	soil gas	0 / 6	0 %	0.0047 - 0.020	-	No	Not detected
1,2-Dichloroethane	soil gas	0 / 6	0 %	0.0047 - 0.020	-	No	Not detected
1,1-Dichloroethene	soil gas	0 / 6	0 %	0.0046 - 0.019	-	No	Not detected
cis-1,2-Dichloroethene	soil gas	0 / 6	0 %	0.0046 - 0.019	-	No	Not detected
trans-1,2-Dichloroethene	soil gas	0 / 6	0 %	0.0046 - 0.019	-	No	Not detected
1,2-Dichloropropane	soil gas	0 / 6	0 %	0.0054 - 0.022	-	No	Not detected
cis-1,3-Dichloropropene	soil gas	0 / 6	0 %	0.0053 - 0.022	-	No	Not detected
trans-1,3-Dichloropropene	soil gas	0 / 6	0 %	0.0053 - 0.022	-	No	Not detected
1,2-Dichloro-1,1,2,2-tetraflouroethane	soil gas	0 / 6	0 %	0.0081 - 0.034	-	No	Not detected
Ethanol	soil gas	0 / 6	0 %	0.0088 - 0.036	-	No	Not detected
4-Ethyltoluene	soil gas	1 / 6	17 %	0.0058 - 0.024	0.0066 - 0.0066	Yes	
Ethyl tert butyl ether	soil gas	0 / 6	0 %	0.019 - 0.081	-	No	Not detected
n-Heptane	soil gas	4 / 6	67 %	0.0053 - 0.0053	0.0065 - 0.070	Yes	
Hexane	soil gas	5 / 6	83 %	0.0045 - 0.0045	0.0053 - 0.099	Yes	
2-Hexanone	soil gas	0 / 6	0 %	0.019 - 0.079	-	No	Not detected
Isopropyl alcohol	soil gas	1 / 6	17 %	0.011 - 0.048	0.013 - 0.013	Yes	

Table 2-8
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area Ia

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
Isopropyl ether	soil gas	0 / 6	0 %	0.019 - 0.081	-	No	Not detected
Isopropylbenzene	soil gas	1 / 6	17 %	0.0057 - 0.012	0.48 - 0.48	Yes	
Methylene chloride	soil gas	0 / 6	0 %	0.0040 - 0.017	-	No	Not detected
4-Methyl-2-pentanone	soil gas	0 / 6	0 %	0.0048 - 0.020	-	No	Not detected
Methyl tert-butyl ether	soil gas	0 / 6	0 %	0.0042 - 0.017	-	No	Not detected
n-Propylbenzene	soil gas	1 / 6	17 %	0.0057 - 0.012	0.65 - 0.65	Yes	
Styrene	soil gas	0 / 6	0 %	0.0050 - 0.021	-	No	Not detected
1,1,1,2-Tetrachloroethane	soil gas	0 / 6	0 %	0.032 - 0.13	-	No	Not detected
1,1,2,2-Tetrachloroethane	soil gas	0 / 6	0 %	0.0080 - 0.033	-	No	Not detected
Tetrachloroethene	soil gas	2 / 6	33 %	0.0079 - 0.033	0.0093 - 0.014	Yes	
Tetrahydrofuran	soil gas	0 / 6	0 %	0.0034 - 0.014	-	No	Not detected
Tert-amyl methyl ether	soil gas	0 / 6	0 %	0.019 - 0.081	-	No	Not detected
1,2,4-Trichlorobenzene	soil gas	0 / 6	0 %	0.034 - 0.14	-	No	Not detected
1,1,1-Trichloroethane	soil gas	0 / 6	0 %	0.0064 - 0.026	-	No	Not detected
1,1,2-Trichloroethane	soil gas	0 / 6	0 %	0.0064 - 0.026	-	No	Not detected
Trichloroethene	soil gas	0 / 6	0 %	0.0063 - 0.026	-	No	Not detected
Trichlorofluoromethane	soil gas	0 / 6	0 %	0.0065 - 0.027	-	No	Not detected
1,1,2-Trichlorotrifluoroethane	soil gas	0 / 6	0 %	0.0089 - 0.037	-	No	Not detected
1,2,3-Trichloropropane	soil gas	0 / 6	0 %	0.028 - 0.12	-	No	Not detected
1,2,4-Trimethylbenzene	soil gas	3 / 6	50 %	0.0058 - 0.012	0.0077 - 0.13	Yes	
1,3,5-Trimethylbenzene	soil gas	1 / 6	17 %	0.0057 - 0.012	0.47 - 0.47	Yes	
2,2,4-Trimethylpentane	soil gas	0 / 6	0 %	0.0054 - 0.023	-	No	Not detected
Vinyl chloride	soil gas	0 / 6	0 %	0.0030 - 0.012	-	No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)							
Naphthalene	soil gas	0 / 6	0 %	0.024 - 0.100	-	No	Not detected
Semivolatile Organic Compounds (SVOCs)							
1,4-Dioxane	soil gas	0 / 6	0 %	0.017 - 0.070	-	No	Not detected
Hexachlorobutadiene	soil gas	0 / 6	0 %	0.050 - 0.21	-	No	Not detected

Notes:
Concentrations are in µg/L.
Includes samples collected to 15 feet bgs.

Table 2-9
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area Ib

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Inorganics								
Antimony	soil	0 / 6	0 %	5.0 - 5.0	-	30	No	Low site-wide frequency of detect; never detected in exposure area
Arsenic	soil	2 / 6	33 %	5.0 - 5.0	2.4 - 2.5	0.07	No	Passes all site-wide background comparison tests
Barium	soil	6 / 6	100 %	-	33 - 59	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	0 / 6	0 %	0.50 - 0.50	-	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	0 / 6	0 %	1.0 - 1.0	-	1.7	No	Low site-wide frequency of detect; never detected in exposure area
Chromium (total)	soil	6 / 6	100 %	-	13 - 18	NA	Yes	Fails site-wide Obispo background comparison tests
Cobalt	soil	6 / 6	100 %	-	2 - 4	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	6 / 6	100 %	-	5 - 13	3000	No	Passes all site-wide background comparison tests
Lead	soil	6 / 6	100 %	-	3.3 - 44.0	80	Yes	Fails site-wide Obispo background comparison tests
Mercury	soil	1 / 6	17 %	0.10 - 0.10	0.70 - 0.70	18	Yes	Low site-wide frequency of detect; detected in exposure area
Molybdenum	soil	0 / 6	0 %	1.0 - 1.0	-	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	6 / 6	100 %	-	10 - 24	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 6	0 %	5.0 - 5.0	-	380	No	Never detected
Silver	soil	0 / 6	0 %	1.0 - 1.0	-	380	No	Never detected
Thallium	soil	0 / 6	0 %	5.0 - 5.0	-	5.0	No	Low site-wide frequency of detect; never detected in exposure area
Vanadium	soil	6 / 6	100 %	-	13 - 23	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	6 / 6	100 %	-	11 - 61	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	4 / 18	22 %	0.0050 - 0.10	0.01 - 0.70		Yes	
Ethylbenzene	soil	7 / 18	39 %	0.0050 - 0.10	0.01 - 4.70		Yes	
Toluene	soil	3 / 18	17 %	0.0050 - 0.10	0.025 - 8.0000		Yes	
Xylenes (total)	soil	7 / 18	39 %	0.0050 - 0.10	0.01 - 20.00		Yes	
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Bromochloromethane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Bromodichloromethane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Bromoform	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Bromomethane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
n-Butylbenzene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
sec-Butylbenzene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
tert-Butylbenzene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Carbon tetrachloride	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Chlorobenzene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Chloroethane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
2-Chloroethyl vinyl ether	soil	0 / 2	0 %	0.010 - 0.010	-		No	Not detected
Chloroform	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Chloromethane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
2-Chlorotoluene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
4-Chlorotoluene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Dibromochloromethane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dibromo-3-chloropropane	soil	0 / 2	0 %	0.010 - 0.010	-		No	Not detected
1,2-Dibromoethane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Dibromomethane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dichlorobenzene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
1,3-Dichlorobenzene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
1,4-Dichlorobenzene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Dichlorodifluoromethane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
1,1-Dichloroethane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dichloroethane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
1,1-Dichloroethene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
cis-1,2-Dichloroethene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
trans-1,2-Dichloroethene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dichloropropane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
1,3-Dichloropropane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
2,2-Dichloropropane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
1,1-Dichloropropene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
cis-1,3-Dichloropropene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
trans-1,3-Dichloropropene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Isopropylbenzene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected

Table 2-9
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area Ib

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
p-Isopropyltoluene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Methylene chloride	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
n-Propylbenzene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Styrene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
1,1,1,2-Tetrachloroethane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
1,1,2,2-Tetrachloroethane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Tetrachloroethene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
1,2,3-Trichlorobenzene	soil	0 / 2	0 %	0.010 - 0.010	-		No	Not detected
1,2,4-Trichlorobenzene	soil	0 / 2	0 %	0.010 - 0.010	-		No	Not detected
1,1,1-Trichloroethane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
1,1,2-Trichloroethane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Trichloroethene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Trichlorofluoromethane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
1,2,3-Trichloropropane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
1,2,4-Trimethylbenzene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
1,3,5-Trimethylbenzene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Vinyl chloride	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	2 / 6	33 %	0.0035 - 3.5	0.012 - 0.36		Yes	
Acenaphthene	soil	3 / 6	50 %	0.0050 - 5.0	0.070 - 1.0		Yes	
Acenaphthylene	soil	3 / 6	50 %	0.0050 - 5.0	0.050 - 0.60		Yes	
Anthracene	soil	0 / 6	0 %	0.0050 - 5.0	-		No	Not detected
Benz(a)anthracene	soil	0 / 6	0 %	0.0050 - 5.0	-		No	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	1 / 6	17 %	0.0050 - 5.0	0.0070 - 0.0070		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	0 / 6	0 %	0.0050 - 5.0	-		No	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	2 / 6	33 %	0.0500 - 5.0	0.0050 - 0.0080		Yes	
Benzo(a)pyrene	soil	1 / 6	17 %	0.0050 - 5.0	0.010 - 0.010		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Chrysene	soil	2 / 6	33 %	0.0050 - 5.0	0.014 - 0.50		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	0 / 6	0 %	0.0050 - 5.0	-		No	Not detected
Fluoranthene	soil	0 / 6	0 %	0.0050 - 5.0	-		No	Not detected
Fluorene	soil	3 / 6	50 %	0.0050 - 5.0	0.16 - 2.5		Yes	
Indeno(1,2,3-cd)pyrene	soil	0 / 6	0 %	0.0050 - 5.0	-		No	Carcinogenic PAHs evaluated as BaP TEQ
Naphthalene	soil	3 / 6	50 %	0.0050 - 5.0	0.44 - 7.4		Yes	
Phenanthrene	soil	3 / 6	50 %	0.0050 - 5.0	0.42 - 5.7		Yes	
Pyrene	soil	1 / 6	17 %	0.0050 - 5.0	0.0090 - 0.0090		Yes	
Semivolatile Organic Compounds (SVOCs)								
Dichlorotrifluoroethane	soil	0 / 2	0 %	0.0050 0.0050	-		No	Not detected
Hexachlorobutadiene	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	8 / 18	44 %	10 - 10	10 - 1200		Yes	
TPH Diesel	soil	13 / 18	72 %	10 - 10	70 - 20000		Yes	
TPH Motor Oil	soil	14 / 18	78 %	10 - 10	15 - 9100		Yes	
Polychlorinated Biphenyls (PCBs)								
Aroclor 1016	soil	0 / 2	0 %	0.30 - 3.0	-		No	Not detected
Aroclor 1221	soil	0 / 2	0 %	0.30 - 3.0	-		No	Not detected
Aroclor 1232	soil	0 / 2	0 %	0.30 - 3.0	-		No	Not detected
Aroclor 1242	soil	0 / 2	0 %	0.30 - 3.0	-		No	Not detected
Aroclor 1248	soil	0 / 2	0 %	0.30 - 3.0	-		No	Not detected
Aroclor 1254	soil	0 / 2	0 %	0.30 - 3.0	-		No	Not detected
Aroclor 1260	soil	0 / 2	0 %	0.30 - 3.0	-		No	Not detected

Notes:
NA = Not applicable
Concentrations are mg/kg wet weight, with the exception of some PAH results and the 2011 data that are mg/kg dry weight.

Table 2-9
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area Ib

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
BTEX							
Benzene	soil gas	4 / 8	50 %	0.0039 - 2.4	0.022 - 2.1	Yes	
Ethylbenzene	soil gas	2 / 8	25 %	0.0052 - 3.3	0.013 - 0.025	Yes	
Toluene	soil gas	3 / 8	38 %	0.0046 - 0.95	0.017 - 110	Yes	
m&p-Xylenes	soil gas	3 / 8	38 %	0.0052 - 1.1	0.044 - 4.6	Yes	
o-Xylene	soil gas	2 / 8	25 %	0.0052 - 3.3	0.014 - 0.029	Yes	
Volatile Organic Compounds (VOCs)							
Acetone	soil gas	4 / 8	50 %	0.087 - 2.4	0.015 - 140	No	Common laboratory contaminant
Allyl chloride	soil gas	0 / 8	0 %	0.015 - 9.6	-	No	Not detected
Benzyl chloride	soil gas	0 / 8	0 %	0.0063 - 4.0	-	No	Not detected
Bromodichloromethane	soil gas	2 / 8	25 %	0.0081 - 1.7	9.4 - 17	Yes	
Bromoform	soil gas	1 / 8	13 %	0.012 - 7.9	1.7 - 1.7	Yes	
Bromomethane	soil gas	0 / 8	0 %	0.0047 - 3.0	-	No	Not detected
1,3-Butadiene	soil gas	0 / 8	0 %	0.0027 - 1.7	-	No	Not detected
2-Butanone	soil gas	3 / 8	38 %	0.0036 - 0.75	0.013 - 14	Yes	
tert-Butylalcohol	soil gas	2 / 8	25 %	0.015 - 3.1	27 - 53	Yes	
Carbon disulfide	soil gas	3 / 8	38 %	0.0038 - 0.79	0.038 - 5.5	Yes	
Carbon tetrachloride	soil gas	4 / 8	50 %	0.031 - 1.6	0.0088 - 69	Yes	
Chlorobenzene	soil gas	0 / 8	0 %	0.0056 - 3.5	-	No	Not detected
Chloroethane	soil gas	0 / 8	0 %	0.0032 - 2.0	-	No	Not detected
Chloroform	soil gas	6 / 8	75 %	0.058 - 1.2	0.59 - 1500	Yes	
Chloromethane	soil gas	0 / 8	0 %	0.010 - 6.3	-	No	Not detected
Cyclohexane	soil gas	7 / 8	88 %	0.031 - 0.031	0.0089 - 60	Yes	
Dibromochloromethane	soil gas	1 / 8	13 %	0.010 - 6.5	3.8 - 3.8	Yes	
1,2-Dibromoethane	soil gas	0 / 8	0 %	0.0093 - 5.9	-	No	Not detected
1,2-Dichlorobenzene	soil gas	0 / 8	0 %	0.0073 - 4.6	-	No	Not detected
1,3-Dichlorobenzene	soil gas	0 / 8	0 %	0.0073 - 4.6	-	No	Not detected
1,4-Dichlorobenzene	soil gas	0 / 8	0 %	0.0073 - 4.6	-	No	Not detected
Dichlorodifluoromethane	soil gas	0 / 8	0 %	0.0060 - 3.8	-	No	Not detected
1,1-Dichloroethane	soil gas	0 / 8	0 %	0.0049 - 3.1	-	No	Not detected
1,2-Dichloroethane	soil gas	0 / 8	0 %	0.0049 - 3.1	-	No	Not detected
1,1-Dichloroethene	soil gas	1 / 8	13 %	0.0048 - 3.0	0.85 - 0.85	Yes	
cis-1,2-Dichloroethene	soil gas	0 / 8	0 %	0.0048 - 3.0	-	No	Not detected
trans-1,2-Dichloroethene	soil gas	0 / 8	0 %	0.0048 - 3.0	-	No	Not detected
1,2-Dichloropropane	soil gas	0 / 8	0 %	0.0056 - 3.5	-	No	Not detected
cis-1,3-Dichloropropene	soil gas	0 / 8	0 %	0.0055 - 3.5	-	No	Not detected
trans-1,3-Dichloropropene	soil gas	0 / 8	0 %	0.0055 - 3.5	-	No	Not detected
1,2-Dichloro-1,1,2,2-tetraflouroethane	soil gas	0 / 8	0 %	0.0084 - 5.3	-	No	Not detected
Ethanol	soil gas	1 / 8	13 %	0.0091 - 1.9	13 - 13	No	Common laboratory contaminant
4-Ethyltoluene	soil gas	1 / 8	13 %	0.0059 - 3.8	0.048 - 0.048	Yes	
Ethyl tert butyl ether	soil gas	0 / 8	0 %	0.020 - 16	-	No	Not detected
n-Heptane	soil gas	5 / 8	63 %	0.0050 - 0.037	0.034 - 7.7	Yes	
Hexane	soil gas	6 / 8	75 %	0.0043 - 0.032	0.031 - 30	Yes	
2-Hexanone	soil gas	0 / 8	0 %	0.020 - 12	-	No	Not detected
Isopropyl alcohol	soil gas	0 / 8	0 %	0.012 - 7.5	-	No	Not detected

Table 2-9
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area Ib

Chemical	Matrix	Frequency	Percent	NonDetects	Detects	COPC?	Rationale
		Detects / Total	Detects	Min – Max	Min – Max		
Isopropyl ether	soil gas	0 / 8	0 %	0.020 - 16	-	No	Not detected
Isopropylbenzene	soil gas	1 / 8	13 %	0.0059 - 3.8	0.028 - 0.028	Yes	
Methylene chloride	soil gas	3 / 8	38 %	0.0042 - 0.88	0.023 - 6.8	Yes	
4-Methyl-2-pentanone	soil gas	0 / 8	0 %	0.0050 - 3.1	-	No	Not detected
Methyl tert-butyl ether	soil gas	0 / 8	0 %	0.0044 - 2.8	-	No	Not detected
n-Propylbenzene	soil gas	1 / 8	13 %	0.0059 - 3.8	0.0380 - 0.038	Yes	
Styrene	soil gas	1 / 8	13 %	0.0052 - 1.1	3.3 - 3.3	Yes	
1,1,1,2-Tetrachloroethane	soil gas	0 / 8	0 %	0.033 - 27	-	No	Not detected
1,1,2,2-Tetrachloroethane	soil gas	0 / 8	0 %	0.0083 - 5.2	-	No	Not detected
Tetrachloroethene	soil gas	6 / 8	75 %	0.081 - 1.7	0.018 - 25	Yes	
Tetrahydrofuran	soil gas	0 / 8	0 %	0.0036 - 2.2	-	No	Not detected
Tert-amyl methyl ether	soil gas	0 / 8	0 %	0.020 - 16	-	No	Not detected
1,2,4-Trichlorobenzene	soil gas	0 / 8	0 %	0.036 - 23	-	No	Not detected
1,1,1-Trichloroethane	soil gas	0 / 8	0 %	0.0066 - 4.2	-	No	Not detected
1,1,2-Trichloroethane	soil gas	0 / 8	0 %	0.0066 - 4.2	-	No	Not detected
Trichloroethene	soil gas	2 / 8	25 %	0.0065 - 1.4	5.0 - 13	Yes	
Trichlorofluoromethane	soil gas	0 / 8	0 %	0.0068 - 4.3	-	No	Not detected
1,1,2-Trichlorotrifluoroethane	soil gas	0 / 8	0 %	0.0093 - 5.9	-	No	Not detected
1,2,3-Trichloropropane	soil gas	0 / 8	0 %	0.029 - 23	-	No	Not detected
1,2,4-Trimethylbenzene	soil gas	1 / 8	13 %	0.0059 - 3.8	0.16 - 0.16	Yes	
1,3,5-Trimethylbenzene	soil gas	1 / 8	13 %	0.0059 - 3.8	0.079 - 0.079	Yes	
2,2,4-Trimethylpentane	soil gas	0 / 8	0 %	0.0056 - 3.6	-	No	Not detected
Vinyl chloride	soil gas	0 / 8	0 %	0.0031 - 2.0	-	No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)							
Naphthalene	soil gas	0 / 8	0 %	0.025 - 16	-	No	Not detected
Semivolatile Organic Compounds (SVOCs)							
1,4-Dioxane	soil gas	0 / 8	0 %	0.017 - 11	-	No	Not detected
Hexachlorobutadiene	soil gas	0 / 8	0 %	0.052 - 33	-	No	Not detected

Notes:
Concentrations are in µg/L.
Includes samples collected to 15 feet bgs.

Table 2-10
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area J

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Inorganics								
Antimony	soil	0 / 23	0 %	5.0 - 5.0	-	30	No	Low site-wide frequency of detect; never detected in exposure area
Arsenic	soil	15 / 23	65 %	0.5 - 5.0	0.60 - 16	0.07	No	Passes all site-wide background comparison tests
Barium	soil	23 / 23	100 %	-	22 - 96	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	2 / 23	9 %	0.50 - 0.50	1.0 - 1.0	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	1 / 23	4 %	1.0 - 1.0	1.2 - 1.2	1.7	Yes	Low site-wide frequency of detect; detected in exposure area
Chromium (total)	soil	23 / 23	100 %	-	6.3 - 55	NA	Yes	Fails site-wide Obispo background comparison tests
Cobalt	soil	12 / 23	52 %	1.0 - 1.0	1.1 - 6.9	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	22 / 23	96 %	0.50 - 0.50	1.2 - 12	3000	No	Passes all site-wide background comparison tests
Lead	soil	69 / 69	100 %	-	1.2 - 350	80	Yes	Fails site-wide Obispo background comparison tests
Tetraethyl Lead	soil	0 / 10	0 %	0.50 - 1.0	-	NA	No	Never detected
Mercury	soil	6 / 23	26 %	0.10 - 0.10	0.10 - 0.50	18	Yes	Low site-wide frequency of detect; detected in exposure area
Molybdenum	soil	4 / 23	17 %	1.0 - 1.0	1.2 - 3.1	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	23 / 23	100 %	-	2.9 - 42	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 23	0 %	5.0 - 5.0	-	380	No	Never detected
Silver	soil	0 / 23	0 %	1.0 - 1.0	-	380	No	Never detected
Thallium	soil	0 / 23	0 %	5.0 - 5.0	-	5.0	No	Low site-wide frequency of detect; never detected in exposure area
Vanadium	soil	23 / 23	100 %	-	6.4 - 27	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	23 / 23	100 %	-	7.5 - 120	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	8 / 63	13 %	0.0050 - 0.10	0.0060 - 0.80		Yes	
Ethylbenzene	soil	18 / 63	29 %	0.0050 - 0.10	0.0070 - 120		Yes	
Toluene	soil	11 / 63	17 %	0.0050 - 0.10	0.0060 - 38		Yes	
Xylenes (total)	soil	19 / 63	30 %	0.0050 - 0.10	0.029 - 940		Yes	
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Bromochloromethane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Bromodichloromethane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Bromoform	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Bromomethane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
n-Butylbenzene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
sec-Butylbenzene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
tert-Butylbenzene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Carbon tetrachloride	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Chlorobenzene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Chloroethane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
2-Chloroethyl vinyl ether	soil	0 / 14	0 %	0.010 - 0.010	-		No	Not detected
Chloroform	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Chloromethane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
2-Chlorotoluene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
4-Chlorotoluene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Dibromochloromethane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dibromo-3-chloropropane	soil	0 / 14	0 %	0.010 - 0.010	-		No	Not detected
1,2-Dibromoethane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Dibromomethane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dichlorobenzene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
1,3-Dichlorobenzene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
1,4-Dichlorobenzene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Dichlorodifluoromethane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
1,1-Dichloroethane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dichloroethane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
1,1-Dichloroethene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
cis-1,2-Dichloroethene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
trans-1,2-Dichloroethene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dichloropropane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
1,3-Dichloropropane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
2,2-Dichloropropane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
1,1-Dichloropropene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
cis-1,3-Dichloropropene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
trans-1,3-Dichloropropene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected

Table 2-10
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area J

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Isopropylbenzene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
p-Isopropyltoluene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Methylene chloride	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Methyl tert-butyl ether	soil	0 / 20	0 %	0.0050 - 0.1000	-		No	Not detected
n-Propylbenzene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Styrene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
1,1,1,2-Tetrachloroethane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
1,1,2,2-Tetrachloroethane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Tetrachloroethene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
1,2,3-Trichlorobenzene	soil	0 / 14	0 %	0.010 - 0.010	-		No	Not detected
1,2,4-Trichlorobenzene	soil	0 / 14	0 %	0.010 - 0.010	-		No	Not detected
1,1,1-Trichloroethane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
1,1,2-Trichloroethane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Trichloroethene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Trichlorofluoromethane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
1,2,3-Trichloropropane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
1,2,4-Trimethylbenzene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
1,3,5-Trimethylbenzene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Vinyl chloride	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	13 / 23	57 %	0.0035 - 7.1	0.004 - 0.31		Yes	
Acenaphthene	soil	7 / 23	30 %	0.0050 - 10.0	0.054 - 0.80		Yes	
Acenaphthylene	soil	6 / 23	26 %	0.0050 - 10.0	0.018 - 0.50		Yes	
Anthracene	soil	0 / 23	0 %	0.0050 - 10.0	-		No	Not detected
Benz(a)anthracene	soil	2 / 23	9 %	0.0050 - 10.0	0.0090 - 0.2		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	8 / 23	35 %	0.0050 - 10.0	0.0050 - 0.2		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	1 / 23	4 %	0.0050 - 10.0	0.0740 - 0.1		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	8 / 23	35 %	0.0050 - 10.0	0.0050 - 0.1		Yes	
Benzo(a)pyrene	soil	10 / 23	43 %	0.0050 - 10.0	0.0060 - 0.3		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Chrysene	soil	12 / 23	52 %	0.0050 - 10.0	0.007 - 0.6		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	1 / 23	4 %	0.0050 - 10.0	0.006 - 0.01		Yes	
Fluoranthene	soil	5 / 23	22 %	0.0050 - 10.0	0.0100 - 0.3		Yes	
Fluorene	soil	6 / 23	26 %	0.0050 - 10.0	0.1600 - 3.2		Yes	
Indeno(1,2,3-cd)pyrene	soil	1 / 23	4 %	0.0050 - 10.0	0.0510 - 0.1		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Naphthalene	soil	6 / 25	24 %	0.0050 - 10.0	0.0640 - 11		Yes	
Phenanthrene	soil	10 / 23	43 %	0.0050 - 2.0	0.011 - 11		Yes	
Pyrene	soil	8 / 23	35 %	0.0050 - 10.0	0.0070 - 0.4		Yes	
Semivolatile Organic Compounds (SVOCs)								
Dichlorotrifluoroethane	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Hexachlorobutadiene	soil	0 / 14	0 %	0.0050 - 0.0050	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	11 / 64		10 - 10	11 - 6600		Yes	
TPH Diesel	soil	34 / 64	53 %	10 - 10	10 - 24000		Yes	
TPH Motor Oil	soil	34 / 64	53 %	10 - 100	14 - 13000		Yes	
Polychlorinated Biphenyls (PCBs)								
Aroclor 1016	soil	0 / 5	0 %	0.030 - 3.0	-		No	Not detected
Aroclor 1221	soil	0 / 5	0 %	0.030 - 3.0	-		No	Not detected
Aroclor 1232	soil	0 / 5	0 %	0.030 - 3.0	-		No	Not detected
Aroclor 1242	soil	0 / 5	0 %	0.030 - 3.0	-		No	Not detected
Aroclor 1248	soil	0 / 5	0 %	0.030 - 3.0	-		No	Not detected
Aroclor 1254	soil	0 / 5	0 %	0.030 - 3.0	-		No	Not detected
Aroclor 1260	soil	0 / 5	0 %	0.030 - 3.0	-		No	Not detected

Notes:
NA = Not applicable
Concentrations are mg/kg wet weight, with the exception of some PAH results and the 2011 data that are mg/kg dry weight.

Table 2-10
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area J

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
BTEX							
Benzene	soil gas	11 / 23	48 %	0.0039 - 1.1	0.10 - 110	Yes	
Ethylbenzene	soil gas	12 / 23	52 %	0.0055 - 0.76	0.012 - 29	Yes	
Toluene	soil gas	10 / 23	43 %	0.0046 - 1.3	0.022 - 38	Yes	
m&p-Xylenes	soil gas	10 / 23	43 %	0.0054 - 1.4	0.17 - 51	Yes	
o-Xylene	soil gas	8 / 23	35 %	0.0054 - 1.4	0.079 - 17	Yes	
Volatile Organic Compounds (VOCs)							
Acetone	soil gas	12 / 23	52 %	0.096 - 3.2	0.015 - 450	No	Common laboratory contaminant
Allyl chloride	soil gas	0 / 23	0 %	0.015 - 18	-	No	Not detected
Benzyl chloride	soil gas	0 / 23	0 %	0.0063 - 7.5	-	No	Not detected
Bromodichloromethane	soil gas	2 / 23	9 %	0.0081 - 9.7	0.27 - 1.5	Yes	
Bromoform	soil gas	0 / 23	0 %	0.012 - 15	-	No	Not detected
Bromomethane	soil gas	0 / 23	0 %	0.0047 - 5.6	-	No	Not detected
1,3-Butadiene	soil gas	4 / 23	17 %	0.0027 - 3.2	0.022 - 0.59	Yes	
2-Butanone	soil gas	9 / 23	39 %	0.0036 - 0.99	0.0054 - 27	Yes	
tert-Butylalcohol	soil gas	2 / 19	11 %	0.015 - 2.1	0.015 - 280	Yes	
Carbon disulfide	soil gas	12 / 23	52 %	0.0040 - 1.0	0.0054 - 7.3	Yes	
Carbon tetrachloride	soil gas	4 / 23	17 %	0.0076 - 9.1	0.59 - 4.2	Yes	
Chlorobenzene	soil gas	0 / 23	0 %	0.0056 - 6.6	-	No	Not detected
Chloroethane	soil gas	0 / 23	0 %	0.0032 - 3.8	-	No	Not detected
Chloroform	soil gas	13 / 23	57 %	0.0060 - 7.0	0.012 - 1300	Yes	
Chloromethane	soil gas	0 / 23	0 %	0.010 - 12	-	No	Not detected
Cyclohexane	soil gas	19 / 23	83 %	0.0093 - 0.28	0.0086 - 1100	Yes	
Dibromochloromethane	soil gas	0 / 23	0 %	0.010 - 12	-	No	Not detected
1,2-Dibromoethane	soil gas	0 / 23	0 %	0.0093 - 11	-	No	Not detected
1,2-Dichlorobenzene	soil gas	0 / 23	0 %	0.0073 - 8.7	-	No	Not detected
1,3-Dichlorobenzene	soil gas	0 / 23	0 %	0.0073 - 8.7	-	No	Not detected
1,4-Dichlorobenzene	soil gas	0 / 23	0 %	0.0073 - 8.7	-	No	Not detected
Dichlorodifluoromethane	soil gas	0 / 23	0 %	0.0060 - 7.1	-	No	Not detected
1,1-Dichloroethane	soil gas	1 / 23	4 %	0.0049 - 5.8	1.4 - 1.4	Yes	
1,2-Dichloroethane	soil gas	0 / 23	0 %	0.0049 - 5.8	-	No	Not detected
1,1-Dichloroethene	soil gas	0 / 23	0 %	0.0048 - 5.7	-	No	Not detected
cis-1,2-Dichloroethene	soil gas	1 / 23	4 %	0.0048 - 5.7	1.00 - 1.00	Yes	
trans-1,2-Dichloroethene	soil gas	1 / 23	4 %	0.0048 - 5.7	0.012 - 0.012	Yes	
1,2-Dichloropropane	soil gas	0 / 23	0 %	0.0056 - 6.7	-	No	Not detected
cis-1,3-Dichloropropene	soil gas	0 / 23	0 %	0.0055 - 6.6	-	No	Not detected
trans-1,3-Dichloropropene	soil gas	0 / 23	0 %	0.0055 - 6.6	-	No	Not detected
1,2-Dichloro-1,1,2,2-tetraflouroethane	soil gas	0 / 23	0 %	0.0084 - 10.0	-	No	Not detected
Ethanol	soil gas	2 / 23	9 %	0.0091 - 2.5	0.099 - 18	No	Common laboratory contaminant
4-Ethyltoluene	soil gas	8 / 23	35 %	0.0062 - 7.1	0.012 - 4.7	Yes	
Ethyl tert butyl ether	soil gas	0 / 19	0 %	0.020 - 24	-	No	Not detected
n-Heptane	soil gas	14 / 23	61 %	0.0051 - 0.72	0.024 - 360	Yes	
Hexane	soil gas	16 / 23	70 %	0.0044 - 1.2	0.022 - 1100	Yes	

Table 2-10
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area J

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
2-Hexanone	soil gas	0 / 23	0 %	0.020 - 24	-	No	Not detected
Isopropyl alcohol	soil gas	0 / 23	0 %	0.012 - 14	-	No	Not detected
Isopropyl ether	soil gas	0 / 19	0 %	0.020 - 24	-	No	Not detected
Isopropylbenzene	soil gas	13 / 23	57 %	0.0062 - 7.1	0.013 - 9.1	Yes	
Methylene chloride	soil gas	5 / 23	22 %	0.0042 - 1.2	0.025 - 23	Yes	
4-Methyl-2-pentanone	soil gas	0 / 23	0 %	0.0050 - 5.9	-	No	Not detected
Methyl tert-butyl ether	soil gas	0 / 23	0 %	0.0044 - 5.2	-	No	Not detected
n-Propylbenzene	soil gas	13 / 23	57 %	0.0062 - 7.1	0.014 - 4.8	Yes	
Styrene	soil gas	0 / 23	0 %	0.0052 - 6.2	-	No	Not detected
1,1,1,2-Tetrachloroethane	soil gas	0 / 19	0 %	0.033 - 40	-	No	Not detected
1,1,2,2-Tetrachloroethane	soil gas	0 / 23	0 %	0.0083 - 9.9	-	No	Not detected
Tetrachloroethene	soil gas	2 / 23	9 %	0.0082 - 9.8	0.044 - 0.49	Yes	
Tetrahydrofuran	soil gas	1 / 23	4 %	0.0036 - 4.3	0.0040 - 0.0040	Yes	
Tert-amyl methyl ether	soil gas	0 / 19	0 %	0.020 - 24	-	No	Not detected
1,2,4-Trichlorobenzene	soil gas	0 / 23	0 %	0.036 - 43	-	No	Not detected
1,1,1-Trichloroethane	soil gas	0 / 23	0 %	0.0066 - 7.9	-	No	Not detected
1,1,2-Trichloroethane	soil gas	0 / 23	0 %	0.0066 - 7.9	-	No	Not detected
Trichloroethene	soil gas	4 / 23	17 %	0.0065 - 7.8	0.019 - 8.6	Yes	
Trichlorofluoromethane	soil gas	0 / 23	0 %	0.0068 - 8.1	-	No	Not detected
1,1,2-Trichlorotrifluoroethane	soil gas	0 / 23	0 %	0.0093 - 11	-	No	Not detected
1,2,3-Trichloropropane	soil gas	0 / 19	0 %	0.029 - 35	-	No	Not detected
1,2,4-Trimethylbenzene	soil gas	12 / 23	52 %	0.0062 - 7.1	0.080 - 4.8	Yes	
1,3,5-Trimethylbenzene	soil gas	7 / 23	30 %	0.0062 - 7.1	0.022 - 2.5	Yes	
2,2,4-Trimethylpentane	soil gas	6 / 23	26 %	0.0058 - 6.8	0.081 - 5.0	Yes	
Vinyl chloride	soil gas	1 / 23	4 %	0.0031 - 3.7	0.045 - 0.045	Yes	
Polycyclic Aromatic Hydrocarbons (PAHs)							
Naphthalene	soil gas	0 / 23	0 %	0.025 - 30	-	No	Not detected
Semivolatile Organic Compounds (SVOCs)							
1,4-Dioxane	soil gas	1 / 23	4 %	0.017 - 21	0.051 - 0.051	Yes	
Hexachlorobutadiene	soil gas	0 / 23	0 %	0.052 - 62	-	No	Not detected

Notes:
Concentrations are in µg/L.
Includes samples collected to 15 feet bgs.

Table 2-11
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area K

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Inorganics								
Antimony	soil	0 / 6	0 %	5.0 - 5.0	-	30	No	Low site-wide frequency of detect; never detected in exposure area
Arsenic	soil	5 / 6	83 %	5.0 - 5.0	4.2 - 13.0	0.07	No	Passes all site-wide background comparison tests
Barium	soil	6 / 6	100 %	-	28 - 120	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	0 / 6	0 %	0.50 - 0.50	-	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	0 / 6	0 %	1.0 - 1.0	-	1.7	No	Low site-wide frequency of detect; not detected in exposure area
Chromium (total)	soil	6 / 6	100 %	-	3.5 - 12	NA	Yes	Fails site-wide Obispo background comparison tests
Cobalt	soil	1 / 6	17 %	1.0 - 1.0	1.3 - 1.3	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	6 / 6	100 %	-	1.0 - 13	3000	No	Passes all site-wide background comparison tests
Lead	soil	10 / 10	100 %	-	2.7 - 56	80	Yes	Fails site-wide Obispo background comparison tests
Mercury	soil	1 / 6	17 %	0.10 - 0.10	0.40 - 0.40	18	Yes	Low site-wide frequency of detect; detected in exposure area
Molybdenum	soil	0 / 6	0 %	1.0 - 1.0	-	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	6 / 6	100 %	-	1.9 - 11	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 6	0 %	-	-	380	No	Never detected
Silver	soil	0 / 6	0 %	1.0 - 1.0	-	380	No	Never detected
Thallium	soil	0 / 6	0 %	5.0 - 5.0	-	5.0	No	Low site-wide frequency of detect; never detected in exposure area
Vanadium	soil	6 / 6	100 %	-	3.2 - 13	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	6 / 6	100 %	-	6.7 - 44	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	0 / 12	0 %	0.0050 - 0.0050	-		No	Not detected
Ethylbenzene	soil	0 / 12	0 %	0.0050 - 0.0050	-		No	Not detected
Toluene	soil	0 / 12	0 %	0.0050 - 0.0050	-		No	Not detected
Xylenes (total)	soil	0 / 12	0 %	0.0050 - 0.0050	-		No	Not detected
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Bromochloromethane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Bromodichloromethane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Bromoform	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Bromomethane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
n-Butylbenzene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
sec-Butylbenzene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
tert-Butylbenzene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Carbon tetrachloride	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Chlorobenzene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Chloroethane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
2-Chloroethyl vinyl ether	soil	0 / 4	0 %	0.010 - 0.010	-		No	Not detected
Chloroform	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Chloromethane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
2-Chlorotoluene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
4-Chlorotoluene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Dibromochloromethane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dibromo-3-chloropropane	soil	0 / 4	0 %	0.010 - 0.010	-		No	Not detected
1,2-Dibromoethane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Dibromomethane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dichlorobenzene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
1,3-Dichlorobenzene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
1,4-Dichlorobenzene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Dichlorodifluoromethane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
1,1-Dichloroethane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dichloroethane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
1,1-Dichloroethene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
cis-1,2-Dichloroethene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
trans-1,2-Dichloroethene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dichloropropane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
1,3-Dichloropropane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
2,2-Dichloropropane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
1,1-Dichloropropene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
cis-1,3-Dichloropropene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected

Table 2-11
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area K

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
trans-1,3-Dichloropropene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Isopropylbenzene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
p-Isopropyltoluene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Methylene chloride	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
n-Propylbenzene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Styrene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
1,1,1,2-Tetrachloroethane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
1,1,2,2-Tetrachloroethane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Tetrachloroethene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
1,2,3-Trichlorobenzene	soil	0 / 4	0 %	0.010 - 0.010	-		No	Not detected
1,2,4-Trichlorobenzene	soil	0 / 4	0 %	0.010 - 0.010	-		No	Not detected
1,1,1-Trichloroethane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
1,1,2-Trichloroethane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Trichloroethene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Trichlorofluoromethane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
1,2,3-Trichloropropane	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
1,2,4-Trimethylbenzene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
1,3,5-Trimethylbenzene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Vinyl chloride	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	2 / 2	100 %	-	0.081 - 0.13		Yes	
Acenaphthene	soil	0 / 2	0 %	0.020 - 0.040	-		No	Not detected
Acenaphthylene	soil	0 / 2	0 %	0.020 - 0.040	-		No	Not detected
Anthracene	soil	0 / 2	0 %	0.020 - 0.040	-		No	Not detected
Benz(a)anthracene	soil	1 / 2	50 %	0.020 - 0.020	0.040 - 0.040		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	1 / 2	50 %	0.020 - 0.020	0.160 - 0.160		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	1 / 2	50 %	0.020 - 0.020	0.049 - 0.049		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	2 / 2	100 %	-	0.028 - 0.14		Yes	
Benzo(a)pyrene	soil	2 / 2	100 %	-	0.077 - 0.092		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Chrysene	soil	2 / 2	100 %	-	0.027 - 0.28		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	1 / 2	50 %	0.020 - 0.020	0.089 - 0.089		Yes	
Fluoranthene	soil	1 / 2	50 %	0.020 - 0.020	0.066 - 0.066		Yes	
Fluorene	soil	0 / 2	0 %	0.020 - 0.040	-		No	Not detected
Indeno(1,2,3-cd)pyrene	soil	1 / 2	50 %	0.020 - 0.020	0.079 - 0.079		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Naphthalene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Phenanthrene	soil	0 / 2	0 %	0.020 - 0.040	-		No	Not detected
Pyrene	soil	1 / 2	50 %	0.020 - 0.020	0.095 - 0.095		Yes	
Semivolatile Organic Compounds (SVOCs)								
Dichlorotrifluoroethane	soil	0 / 4	0 %	0.0050 0.0050	-		No	Not detected
Hexachlorobutadiene	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	0 / 12	0 %	10 - 10	-		No	Not detected
TPH Diesel	soil	5 / 12	42 %	10 - 100	110 - 980		Yes	
TPH Motor Oil	soil	8 / 12	67 %	10 - 100	10 - 2000		Yes	
Polychlorinated Biphenyls (PCBs)								
Aroclor 1016	soil	0 / 1	0 %	0.30 - 0.30	-		No	Not detected
Aroclor 1221	soil	0 / 1	0 %	0.30 - 0.30	-		No	Not detected
Aroclor 1232	soil	0 / 1	0 %	0.30 - 0.30	-		No	Not detected
Aroclor 1242	soil	0 / 1	0 %	0.30 - 0.30	-		No	Not detected
Aroclor 1248	soil	0 / 1	0 %	0.30 - 0.30	-		No	Not detected
Aroclor 1254	soil	0 / 1	0 %	0.30 - 0.30	-		No	Not detected
Aroclor 1260	soil	0 / 1	0 %	0.30 - 0.30	-		No	Not detected
Pesticides								
Aldrin	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
alpha-BHC	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
beta-BHC	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
delta-BHC	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
gamma-BHC	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected

Table 2-11
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area K

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Chlordane (mixture)	soil	0 / 1	0 %	0.50 - 0.50	-		No	Not detected
4,4'-DDD	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
4,4'-DDE	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
4,4'-DDT	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
Dieldrin	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
Endosulfan I	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
Endosulfan II	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
Endosulfan sulfate	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
Endrin	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
Endrin aldehyde	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
Endrin ketone	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
Heptachlor	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
Heptachlor epoxide	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
Methoxychlor	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
Toxaphene	soil	0 / 1	0 %	0.50 - 0.50	-		No	Not detected
2,4,5-T	soil	0 / 1	0 %	0.005 - 0.005	-		No	Not detected
2,4-D	soil	0 / 1	0 %	0.050 - 0.050	-		No	Not detected
2,4-DB	soil	0 / 1	0 %	0.5 - 0.500	-		No	Not detected
Dalapon	soil	0 / 1	0 %	0.10 - 0.10	-		No	Not detected
Dicamba	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
Dichloprop	soil	0 / 1	0 %	0.050 - 0.050	-		No	Not detected
Dinoseb	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
MCPA	soil	0 / 1	0 %	5.0 - 5.0	-		No	Not detected
MCPP	soil	0 / 1	0 %	5.0 - 5.0	-		No	Not detected
Silvex	soil	0 / 1	0 %	0.0050 - 0.0050	-		No	Not detected

Notes:
NA = Not applicable
Concentrations are mg/kg wet weight, with the exception of some PAH results and the 2011 data that are mg/kg dry weight.

Table 2-11
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area K

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
BTEX							
Benzene	soil gas	8 / 12	67 %	0.0044 - 0.32	0.0046 - 0.047	Yes	
Ethylbenzene	soil gas	7 / 12	58 %	0.0060 - 0.44	0.0053 - 0.070	Yes	
Toluene	soil gas	8 / 12	67 %	0.0052 - 0.38	0.012 - 0.062	Yes	
m&p-Xylenes	soil gas	8 / 12	67 %	0.0064 - 0.88	0.012 - 0.036	Yes	
o-Xylene	soil gas	7 / 12	58 %	0.0060 - 0.44	0.0046 - 0.0089	Yes	
Volatile Organic Compounds (VOCs)							
Acetone	soil gas	9 / 12	75 %	0.78 - 2.4	0.041 - 0.10	No	Common laboratory contaminant
Allyl chloride	soil gas	0 / 6	0 %	0.014 - 1.0	-	No	Not detected
Benzyl chloride	soil gas	0 / 12	0 %	0.0059 - 1.0	-	No	Not detected
Bromobenzene	soil gas	0 / 6	0 %	0.0065 - 0.65	-	No	Not detected
Bromodichloromethane	soil gas	5 / 12	42 %	0.0068 - 0.68	0.012 - 1.3	Yes	
Bromoform	soil gas	0 / 12	0 %	0.010 - 1.0	-	No	Not detected
Bromomethane	soil gas	0 / 12	0 %	0.0044 - 1.6	-	No	Not detected
1,3-Butadiene	soil gas	0 / 12	0 %	0.0025 - 0.45	-	No	Not detected
2-Butanone	soil gas	9 / 12	75 %	0.24 - 3.0	0.0084 - 0.11	Yes	
tert-Butylalcohol	soil gas	1 / 12	8 %	0.0061 - 1.0	0.0020 - 0.0020	Yes	
n-Butylbenzene	soil gas	1 / 6	17 %	0.0056 - 0.56	0.0089 - 0.0089	Yes	
sec-Butylbenzene	soil gas	1 / 6	17 %	0.0056 - 0.56	0.0038 - 0.0038	Yes	
tert-Butylbenzene	soil gas	0 / 6	0 %	0.0056 - 0.56	-	No	Not detected
Carbon disulfide	soil gas	11 / 12	92 %	0.26 - 0.26	0.0026 - 1.0	Yes	
Carbon tetrachloride	soil gas	2 / 12	17 %	0.0064 - 0.64	0.011 - 1.5	Yes	
Chlorobenzene	soil gas	0 / 12	0 %	0.0047 - 0.47	-	No	Not detected
Chloroethane	soil gas	0 / 12	0 %	0.0030 - 0.80	-	No	Not detected
Chloroform	soil gas	10 / 12	83 %	0.0049 - 0.0049	0.0073 - 120	Yes	
Chloromethane	soil gas	1 / 12	8 %	0.0021 - 0.68	0.082 - 0.082	Yes	
2-Chlorotoluene	soil gas	0 / 6	0 %	0.011 - 1.1	-	No	Not detected
4-Chlorotoluene	soil gas	0 / 6	0 %	0.011 - 1.1	-	No	Not detected
Cyclohexane	soil gas	5 / 12	42 %	0.017 - 1.7	0.0073 - 0.093	Yes	
Dibromochloromethane	soil gas	0 / 12	0 %	0.0086 - 0.86	-	No	Not detected
1,2-Dibromo-3-chloropropane	soil gas	0 / 6	0 %	0.0098 - 0.98	-	No	Not detected
1,2-Dibromoethane	soil gas	0 / 12	0 %	0.0078 - 0.78	-	No	Not detected
Dibromomethane	soil gas	0 / 6	0 %	0.0072 - 0.72	-	No	Not detected
1,2-Dichlorobenzene	soil gas	0 / 12	0 %	0.0069 - 1.2	-	No	Not detected
1,3-Dichlorobenzene	soil gas	0 / 12	0 %	0.0069 - 1.2	-	No	Not detected
1,4-Dichlorobenzene	soil gas	0 / 12	0 %	0.0069 - 1.2	-	No	Not detected
Dichlorodifluoromethane	soil gas	4 / 12	33 %	0.0057 - 0.50	0.0023 - 0.0032	Yes	
1,1-Dichloroethane	soil gas	1 / 12	8 %	0.0041 - 0.41	0.0025 - 0.0025	Yes	
1,2-Dichloroethane	soil gas	0 / 12	0 %	0.0041 - 0.41	-	No	Not detected
1,1-Dichloroethene	soil gas	1 / 12	8 %	0.0040 - 0.40	0.0064 - 0.0064	Yes	
cis-1,2-Dichloroethene	soil gas	1 / 12	8 %	0.0040 - 0.40	0.040 - 0.040	Yes	
trans-1,2-Dichloroethene	soil gas	0 / 12	0 %	0.0045 - 0.80	-	No	Not detected
1,2-Dichloropropane	soil gas	0 / 12	0 %	0.0053 - 0.94	-	No	Not detected
1,3-Dichloropropane	soil gas	0 / 6	0 %	0.0047 - 0.47	-	No	Not detected
2,2-Dichloropropane	soil gas	0 / 6	0 %	0.0047 - 0.47	-	No	Not detected
1,1-Dichloropropene	soil gas	0 / 6	0 %	0.0046 - 0.46	-	No	Not detected
cis-1,3-Dichloropropene	soil gas	0 / 12	0 %	0.0046 - 0.46	-	No	Not detected
trans-1,3-Dichloropropene	soil gas	0 / 12	0 %	0.0046 - 0.46	-	No	Not detected
1,2-Dichloro-1,1,2,2-tetraflouroethane	soil gas	0 / 12	0 %	0.0071 - 0.71	-	No	Not detected
1,1-Difluoroethane	soil gas	0 / 6	0 %	0.0027 - 0.0027	-	No	Not detected

Table 2-11
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area K

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
Ethanol	soil gas	4 / 12	33 %	0.0086 - 1.9	0.032 - 0.086	No	Common laboratory contaminant
4-Ethyltoluene	soil gas	4 / 12	33 %	0.0050 - 0.50	0.0018 - 0.0073	Yes	
Ethyl acetate	soil gas	3 / 6	50 %	0.018 - 1.8	0.015 - 0.021	Yes	
Ethyl tert butyl ether	soil gas	0 / 12	0 %	0.0042 - 1.4	-	No	Not detected
n-Heptane	soil gas	4 / 12	33 %	0.0041 - 0.41	0.0013 - 0.047	Yes	
Hexane	soil gas	6 / 12	50 %	0.0036 - 0.36	0.0021 - 0.096	Yes	
2-Hexanone	soil gas	2 / 12	17 %	0.0083 - 1.4	0.0019 - 0.0022	Yes	
Isopropyl alcohol	soil gas	5 / 12	42 %	0.011 - 2.5	0.0077 - 1.0	Yes	
Isopropyl ether	soil gas	0 / 12	0 %	0.0042 - 1.4	-	No	Not detected
Isopropylbenzene	soil gas	4 / 12	33 %	0.0056 - 0.50	0.025 - 0.047	Yes	
p-Isopropyltoluene	soil gas	0 / 6	0 %	0.0056 - 0.56	-	No	Not detected
Methylene chloride	soil gas	4 / 12	33 %	0.0035 - 0.35	0.0019 - 0.0049	Yes	
4-Methyl-2-pentanone	soil gas	4 / 12	33 %	0.0047 - 0.83	0.030 - 0.051	Yes	
Methyl tert-butyl ether	soil gas	0 / 12	0 %	0.0036 - 0.36	-	No	Not detected
n-Propylbenzene	soil gas	2 / 12	17 %	0.0050 - 0.50	0.0012 - 0.014	Yes	
Propylene	soil gas	5 / 6	83 %	0.0087 - 0.0087	0.0021 - 2.3	Yes	
Styrene	soil gas	4 / 12	33 %	0.0049 - 0.43	0.0021 - 0.0029	Yes	
1,1,1,2-Tetrachloroethane	soil gas	1 / 12	8 %	0.0070 - 2.3	0.0066 - 0.0066	Yes	
1,1,2,2-Tetrachloroethane	soil gas	1 / 12	8 %	0.0070 - 0.70	0.0029 - 0.0029	Yes	
Tetrachloroethene	soil gas	6 / 12	50 %	0.0069 - 0.010	0.0075 - 1.2	Yes	
Tetrahydrofuran	soil gas	4 / 12	33 %	0.0034 - 3.0	0.014 - 0.026	Yes	
Tert-amyl methyl ether	soil gas	0 / 12	0 %	0.0042 - 1.4	-	No	Not detected
1,2,3-Trichlorobenzene	soil gas	0 / 6	0 %	0.0075 - 0.75	-	No	Not detected
1,2,4-Trichlorobenzene	soil gas	0 / 12	0 %	0.0075 - 2.4	-	No	Not detected
1,1,1-Trichloroethane	soil gas	1 / 12	8 %	0.0055 - 0.55	0.016 - 0.016	Yes	
1,1,2-Trichloroethane	soil gas	0 / 12	0 %	0.0055 - 0.55	-	No	Not detected
Trichloroethene	soil gas	1 / 12	8 %	0.0055 - 0.55	0.089 - 0.089	Yes	
Trichlorofluoromethane	soil gas	1 / 12	8 %	0.0056 - 0.56	0.0023 - 0.0023	Yes	
1,1,2-Trichlorotrifluoroethane	soil gas	0 / 12	0 %	0.0077 - 0.77	-	No	Not detected
1,2,3-Trichloropropane	soil gas	1 / 12	8 %	0.0061 - 2.0	0.0018 - 0.0018	Yes	
1,2,4-Trimethylbenzene	soil gas	7 / 12	58 %	0.0063 - 0.50	0.0053 - 0.014	Yes	
1,3,5-Trimethylbenzene	soil gas	2 / 12	17 %	0.0050 - 0.50	0.0024 - 0.0027	Yes	
2,2,4-Trimethylpentane	soil gas	3 / 12	25 %	0.0047 - 0.47	0.0078 - 0.012	Yes	
Vinyl acetate	soil gas	0 / 12	0 %	NA - 0.36	-	No	Not detected
Vinyl chloride	soil gas	0 / 12	0 %	0.0026 - 0.26	-	No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)							
Naphthalene	soil gas	2 / 12	17 %	0.0053 - 1.7	0.0040 - 0.018	Yes	
Semivolatile Organic Compounds (SVOCs)							
1,4-Dioxane	soil gas	1 / 12	8 %	0.0073 - 1.2	0.0034 - 0.0034	Yes	
Hexachlorobutadiene	soil gas	0 / 12	0 %	0.011 - 3.5	-	No	Not detected

Notes:
Concentrations are in µg/L.
Includes samples collected to 15 feet bgs.
NA = Not Applicable, vinyl acetate was qualified as a tentatiively identified compound in 2007 soil gas data and no detection limit was reported

Table 2-12
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area L

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Inorganics								
Antimony	soil	0 / 17	0 %	4.5 - 5.0	-	30	No	Low site-wide frequency of detect; never detected in exposure area
Arsenic	soil	12 / 17	71 %	0.50 - 5.0	1.4 - 23	0.07	No	Passes all site-wide background comparison tests
Barium	soil	17 / 17	100 %	-	1.3 - 180	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	4 / 17	24 %	0.50 - 0.99	0.70 - 1.6	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	2 / 17	12 %	1.0 - 1.0	0.6 - 0.9	1.7	Yes	Low site-wide frequency of detect; detected in exposure area
Chromium (total)	soil	16 / 17	94 %	1.0 - 1.0	9.9 - 47	NA	Yes	Fails site-wide Obispo background comparison tests
Cobalt	soil	10 / 17	59 %	1.0 - 1.0	1.4 - 5.0	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	16 / 17	94 %	0.50 - 0.50	3.2 - 10	3000	No	Passes all site-wide background comparison tests
Lead	soil	56 / 56	100 %	-	1.7 - 690	80	Yes	Fails site-wide Obispo background comparison tests
Mercury	soil	3 / 17	18 %	0.10 - 0.10	0.012 - 0.20	18	Yes	Low site-wide frequency of detect; detected in exposure area
Molybdenum	soil	1 / 17	6 %	0.90 - 1.0	1.7 - 1.7	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	16 / 17	94 %	1.0 - 1.0	5.2 - 26	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 17	0 %	1.0 - 5.0	-	380	No	Never detected
Silver	soil	0 / 17	0 %	1.0 - 2.0	-	380	No	Never detected
Thallium	soil	0 / 17	0 %	0.90 - 5.0	-	5.0	No	Low site-wide frequency of detect; never detected in exposure area
Vanadium	soil	16 / 17	94 %	1.0 - 1.0	8.2 - 28	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	14 / 17	82 %	1.0 - 1.0	8.4 - 200	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	6 / 45	13 %	0.0050 - 0.10	0.0064 - 0.015		Yes	
Ethylbenzene	soil	7 / 45	16 %	0.0050 - 0.10	0.042 - 0.36		Yes	
Toluene	soil	5 / 45	11 %	0.0050 - 0.10	0.0084 - 0.20		Yes	
Xylenes (total)	soil	9 / 45	20 %	0.0050 - 0.10	0.018 - 1.6		Yes	
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
Bromochloromethane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
Bromodichloromethane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
Bromoform	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
Bromomethane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
n-Butylbenzene	soil	3 / 13	23 %	0.0050 - 0.0050	0.11 - 1.5		Yes	
sec-Butylbenzene	soil	3 / 13	23 %	0.0050 - 0.0050	0.073 - 1.3		Yes	
tert-Butylbenzene	soil	1 / 13	8 %	0.0050 - 0.025	0.10 - 0.10		Yes	
Carbon tetrachloride	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
Chlorobenzene	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
Chloroethane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
2-Chloroethyl vinyl ether	soil	0 / 11	0 %	0.010 - 0.20	-		No	Not detected
Chloroform	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
Chloromethane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
2-Chlorotoluene	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
4-Chlorotoluene	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
Dibromochloromethane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
1,2-Dibromo-3-chloropropane	soil	0 / 13	0 %	0.010 - 0.20	-		No	Not detected
1,2-Dibromoethane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
Dibromomethane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
1,2-Dichlorobenzene	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
1,3-Dichlorobenzene	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
1,4-Dichlorobenzene	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
Dichlorodifluoromethane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
1,1-Dichloroethane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
1,2-Dichloroethane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
1,1-Dichloroethene	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
cis-1,2-Dichloroethene	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
trans-1,2-Dichloroethene	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
1,2-Dichloropropane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
1,3-Dichloropropane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected

Table 2-12
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area L

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
2,2-Dichloropropane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
1,1-Dichloropropene	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
cis-1,3-Dichloropropene	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
trans-1,3-Dichloropropene	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
Isopropylbenzene	soil	3 / 13	23 %	0.0050 - 0.0050	0.13 - 1.4		Yes	
p-Isopropyltoluene	soil	3 / 13	23 %	0.0050 - 0.0050	0.10 - 0.60		Yes	
Methylene chloride	soil	2 / 13	15 %	0.0050 - 0.10	0.0040 - 0.0048		Yes	
Methyl tert-butyl ether	soil	1 / 2	50 %	0.023 - 0.023	0.0050 - 0.0050		Yes	
n-Propylbenzene	soil	3 / 13	23 %	0.0050 - 0.0050	0.14 - 2.1		Yes	
Styrene	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
1,1,1,2-Tetrachloroethane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
1,1,2,2-Tetrachloroethane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
Tetrachloroethene	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
1,2,3-Trichlorobenzene	soil	0 / 13	0 %	0.010 - 0.20	-		No	Not detected
1,2,4-Trichlorobenzene	soil	0 / 13	0 %	0.010 - 0.20	-		No	Not detected
1,1,1-Trichloroethane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
1,1,2-Trichloroethane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
Trichloroethene	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
Trichlorofluoromethane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
1,2,3-Trichloropropane	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
1,2,4-Trimethylbenzene	soil	2 / 13	15 %	0.0050 - 0.10	0.99 - 4.3		Yes	
1,3,5-Trimethylbenzene	soil	2 / 13	15 %	0.0050 - 0.10	0.28 - 0.38		Yes	
Vinyl chloride	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	8 / 12	67 %	0.0035 - 14	0.016 - 0.20		Yes	
Acenaphthene	soil	2 / 12	17 %	0.0050 - 20	0.096 - 0.17		Yes	
Acenaphthylene	soil	2 / 12	17 %	0.0050 - 20	0.060 - 0.087		Yes	
Anthracene	soil	0 / 12	0 %	0.0050 - 20	-		No	Not detected
Benz(a)anthracene	soil	3 / 12	25 %	0.0050 - 20	0.0090 - 0.080		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	5 / 12	42 %	0.0050 - 20	0.013 - 0.074		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	1 / 12	8 %	0.0050 - 20	0.021 - 0.021		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	3 / 12	25 %	0.0050 - 20	0.0050 - 0.093		Yes	
Benzo(a)pyrene	soil	5 / 12	42 %	0.0050 - 20	0.013 - 0.19		Yes	Carcinogenic PAHs evaluated as BaP TEQ
2-Chloronaphthalene	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Chrysene	soil	7 / 12	58 %	0.0050 - 20	0.024 - 0.099		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	1 / 12	8 %	0.0050 - 20	0.037 - 0.037		Yes	
Dibenzofuran	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Fluoranthene	soil	3 / 12	25 %	0.0050 - 20	0.016 - 0.033		Yes	
Fluorene	soil	3 / 12	25 %	0.0050 - 20	0.24 - 0.73		Yes	
Indeno(1,2,3-cd)pyrene	soil	1 / 12	8 %	0.0050 - 20	0.021 - 0.021		Yes	Carcinogenic PAHs evaluated as BaP TEQ
2-Methylnaphthalene	soil	2 / 2	100 %	-	3.5 - 8.4		Yes	
Naphthalene	soil	4 / 17	24 %	0.0050 - 0.10	0.060 - 2.4		Yes	
Phenanthrene	soil	6 / 12	50 %	0.0050 - 20	0.013 - 1.2		Yes	
Pyrene	soil	7 / 12	58 %	0.0050 - 20	0.019 - 0.11		Yes	
Semivolatile Organic Compounds (SVOCs)								
Aniline	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Azobenzene	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Benzoic acid	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Benzyl alcohol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Bis(2-chloroethoxy)methane	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Bis(2-chloroethyl)ether	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Bis(2-chloroisopropyl)ether	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Bis(2-ethylhexyl)phthalate	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
4-Bromophenyl phenyl ether	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Butylbenzylphthalate	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected

Table 2-12
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area L

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Carbazole	soil	0 / 2	0 %	1.0 - 1.0			No	Not detected
4-Chloroaniline	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
4-Chloro-3-methylphenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2-Chloronaphthalene	soil	0 / 2	0 %	1.0 - 1.0			No	Not detected
2-Chlorophenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
4-Chlorophenyl phenyl ether	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Di-n-butylphthalate	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
3,3-Dichlorobenzidine	soil	0 / 2	0 %	5.0 - 5.0	-		No	Not detected
2,4-Dichlorophenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Dichlorotrifluoroethane	soil	0 / 11	0 %	0.0050 - 0.10	-		No	Not detected
Diethyl phthalate	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Dimethyl phthalate	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2,4-Dimethylphenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
4,6-Dinitro-2-methylphenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2,4-Dinitrophenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2,4-Dinitrotoluene	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2,6-Dinitrotoluene	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Di-n-octylphthalate	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Hexachlorobenzene	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Hexachlorobutadiene	soil	0 / 13	0 %	0.0050 - 0.10	-		No	Not detected
Hexachlorocyclopentadiene	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Hexachloroethane	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Isophorone	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2-Methylphenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
3/4-Methylphenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2-Nitroaniline	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
3-Nitroaniline	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
4-Nitroaniline	soil	0 / 2	0 %	2.5 - 2.5	-		No	Not detected
Nitrobenzene	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2-Nitrophenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
4-Nitrophenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
N-Nitrosodimethylamine	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
N-Nitrosodiphenylamine	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
N-Nitroso-di-n-propylamine	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Pentachlorophenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Phenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Pyridine	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2,4,5-Trichlorophenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
2,4,6-Trichlorophenol	soil	0 / 2	0 %	1.0 - 1.0	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	16 / 61	26 %	0.48 - 10	1.8 - 1000		Yes	
TPH Diesel	soil	37 / 61	61 %	10 - 10	12 - 31000		Yes	
TPH Motor Oil	soil	40 / 61	66 %	10 - 10	10 - 12000		Yes	
Polychlorinated Biphenyls (PCBs)								
Aroclor 1016	soil	0 / 6	0 %	0.020 - 0.20	-		No	Not detected
Aroclor 1221	soil	0 / 6	0 %	0.020 - 0.20	-		No	Not detected
Aroclor 1232	soil	0 / 6	0 %	0.020 - 0.20	-		No	Not detected
Aroclor 1242	soil	0 / 6	0 %	0.020 - 0.20	-		No	Not detected
Aroclor 1248	soil	0 / 6	0 %	0.020 - 0.20	-		No	Not detected
Aroclor 1254	soil	0 / 6	0 %	0.020 - 0.20	-		No	Not detected
Aroclor 1260	soil	0 / 6	0 %	0.020 - 0.20	-		No	Not detected
Pesticides								
Aldrin	soil	0 / 3	0 %	0.0020 - 0.0030	-		No	Not detected
alpha-BHC	soil	0 / 3	0 %	0.0020 - 0.0030	-		No	Not detected
beta-BHC	soil	0 / 3	0 %	0.0020 - 0.0030	-		No	Not detected

Table 2-12
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area L

Chemical	Matrix	Frequency	Percent	NonDetects	Detects	Inorganic Res	COPC?	Rationale
		Detects / Total	Detects	Min – Max	Min – Max	CHHSL		
delta-BHC	soil	0 / 3	0 %	0.0020 - 0.0030	-		No	Not detected
gamma-BHC	soil	0 / 3	0 %	0.0020 - 0.0030	-		No	Not detected
Chlordane (mixture)	soil	0 / 1	0 %	0.10 - 0.10	-		No	Not detected
alpha-Chlordane	soil	0 / 2	0 %	0.0030 - 0.0030	-		No	Not detected
gamma-Chlordane	soil	0 / 2	0 %	0.0030 - 0.003	-		No	Not detected
4,4'-DDD	soil	0 / 3	0 %	0.0020 - 0.0030	-		No	Not detected
4,4'-DDE	soil	0 / 3	0 %	0.0020 - 0.0030	-		No	Not detected
4,4'-DDT	soil	0 / 3	0 %	0.0020 - 0.0030	-		No	Not detected
Dieldrin	soil	0 / 3	0 %	0.0020 - 0.0030	-		No	Not detected
Endosulfan I	soil	0 / 3	0 %	0.0020 - 0.0030	-		No	Not detected
Endosulfan II	soil	0 / 3	0 %	0.0020 - 0.0030	-		No	Not detected
Endosulfan sulfate	soil	0 / 3	0 %	0.0020 - 0.0030	-		No	Not detected
Endrin	soil	0 / 3	0 %	0.0020 - 0.0030	-		No	Not detected
Endrin aldehyde	soil	1 / 3	33 %	0.0020 - 0.0030	0.0023 - 0.0023		Yes	
Endrin ketone	soil	0 / 3	0 %	0.0020 - 0.0030	-		No	Not detected
Heptachlor	soil	0 / 3	0 %	0.0020 - 0.0030	-		No	Not detected
Heptachlor epoxide	soil	0 / 3	0 %	0.0020 - 0.0030	-		No	Not detected
Methoxychlor	soil	0 / 3	0 %	0.0020 - 0.0030	-		No	Not detected
Toxaphene	soil	0 / 3	0 %	0.0200 - 0.1000	-		No	Not detected
2,4,5-T	soil	0 / 1	0 %	0.0050 - 0.0050	-		No	Not detected
2,4-D	soil	0 / 1	0 %	0.050 - 0.050	-		No	Not detected
2,4-DB	soil	0 / 1	0 %	0.50 - 0.50	-		No	Not detected
Dalapon	soil	0 / 1	0 %	0.10 - 0.10	-		No	Not detected
Dicamba	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
Dichloprop	soil	0 / 1	0 %	0.050 - 0.050	-		No	Not detected
Dinoseb	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
MCPA	soil	0 / 1	0 %	5.0 - 5.0	-		No	Not detected
MCPP	soil	0 / 1	0 %	5.0 - 5.0	-		No	Not detected
Silvex	soil	0 / 1	0 %	0.0050 - 0.0050	-		No	Not detected

Notes:
NA = Not applicable
Concentrations are mg/kg wet weight, with the exception of some PAH results and the 2011 data that are mg/kg dry weight.

Table 2-12
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area L

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
BTEX							
Benzene	soil gas	13 / 18	72 %	0.0039 - 0.0082	0.0048 - 0.10	Yes	
Ethylbenzene	soil gas	10 / 18	56 %	0.0054 - 0.011	0.0074 - 0.024	Yes	
Toluene	soil gas	15 / 18	83 %	0.0046 - 0.0051	0.0064 - 0.081	Yes	
m&p-Xylenes	soil gas	15 / 18	83 %	0.0055 - 0.011	0.0083 - 0.074	Yes	
o-Xylene	soil gas	8 / 18	44 %	0.0054 - 0.011	0.0058 - 0.020	Yes	
Volatile Organic Compounds (VOCs)							
Acetone	soil gas	18 / 18	100 %	-	0.014 - 0.22	No	Common laboratory contaminant
Allyl chloride	soil gas	0 / 18	0 %	0.015 - 0.032	-	No	Not detected
Benzyl chloride	soil gas	0 / 18	0 %	0.0064 - 0.013	-	No	Not detected
Bromodichloromethane	soil gas	6 / 18	33 %	0.0083 - 0.017	0.019 - 0.060	Yes	
Bromoform	soil gas	0 / 18	0 %	0.013 - 0.027	-	No	Not detected
Bromomethane	soil gas	0 / 18	0 %	0.0048 - 0.010	-	No	Not detected
1,3-Butadiene	soil gas	0 / 18	0 %	0.0027 - 0.0057	-	No	Not detected
2-Butanone	soil gas	18 / 18	100 %	-	0.0053 - 0.11	Yes	
tert-Butylalcohol	soil gas	0 / 18	0 %	0.015 - 0.031	-	No	Not detected
Carbon disulfide	soil gas	17 / 18	94 %	0.0038 - 0.0038	0.0042 - 0.18	Yes	
Carbon tetrachloride	soil gas	0 / 18	0 %	0.0078 - 0.016	-	No	Not detected
Chlorobenzene	soil gas	0 / 18	0 %	0.0057 - 0.012	-	No	Not detected
Chloroethane	soil gas	0 / 18	0 %	0.0032 - 0.0068	-	No	Not detected
Chloroform	soil gas	16 / 18	89 %	0.0060 - 0.0070	0.0068 - 0.40	Yes	
Chloromethane	soil gas	0 / 18	0 %	0.010 - 0.021	-	No	Not detected
Cyclohexane	soil gas	16 / 18	89 %	0.0045 - 0.0081	0.0044 - 0.073	Yes	
Dibromochloromethane	soil gas	3 / 18	17 %	0.010 - 0.022	0.012 - 0.016	Yes	
1,2-Dibromoethane	soil gas	0 / 18	0 %	0.0095 - 0.020	-	No	Not detected
1,2-Dichlorobenzene	soil gas	0 / 18	0 %	0.0074 - 0.016	-	No	Not detected
1,3-Dichlorobenzene	soil gas	0 / 18	0 %	0.0074 - 0.016	-	No	Not detected
1,4-Dichlorobenzene	soil gas	0 / 18	0 %	0.0074 - 0.016	-	No	Not detected
Dichlorodifluoromethane	soil gas	0 / 18	0 %	0.0061 - 0.013	-	No	Not detected
1,1-Dichloroethane	soil gas	0 / 18	0 %	0.0050 - 0.010	-	No	Not detected
1,2-Dichloroethane	soil gas	0 / 18	0 %	0.0050 - 0.010	-	No	Not detected
1,1-Dichloroethene	soil gas	0 / 18	0 %	0.0049 - 0.010	-	No	Not detected
cis-1,2-Dichloroethene	soil gas	0 / 18	0 %	0.0049 - 0.010	-	No	Not detected
trans-1,2-Dichloroethene	soil gas	0 / 18	0 %	0.0049 - 0.010	-	No	Not detected
1,2-Dichloropropane	soil gas	0 / 18	0 %	0.0057 - 0.012	-	No	Not detected
cis-1,3-Dichloropropene	soil gas	0 / 18	0 %	0.0056 - 0.012	-	No	Not detected
trans-1,3-Dichloropropene	soil gas	0 / 18	0 %	0.0056 - 0.012	-	No	Not detected
1,2-Dichloro-1,1,2,2-tetraflouroethane	soil gas	0 / 18	0 %	0.0086 - 0.018	-	No	Not detected
Ethanol	soil gas	3 / 18	17 %	0.0093 - 0.019	0.015 - 0.042	No	Common laboratory contaminant
4-Ethyltoluene	soil gas	5 / 18	28 %	0.0061 - 0.013	0.0061 - 0.015	Yes	
Ethyl tert butyl ether	soil gas	0 / 18	0 %	0.021 - 0.043	-	No	Not detected
n-Heptane	soil gas	10 / 18	56 %	0.0051 - 0.010	0.0056 - 0.084	Yes	
Hexane	soil gas	11 / 18	61 %	0.0044 - 0.0047	0.0062 - 0.31	Yes	

Table 2-12
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area L

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
2-Hexanone	soil gas	0 / 18	0 %	0.020 - 0.042	-	No	Not detected
Isopropyl alcohol	soil gas	0 / 18	0 %	0.012 - 0.025	-	No	Not detected
Isopropyl ether	soil gas	0 / 18	0 %	0.021 - 0.043	-	No	Not detected
Isopropylbenzene	soil gas	2 / 18	11 %	0.0061 - 0.013	0.023 - 0.055	Yes	
Methylene chloride	soil gas	4 / 18	22 %	0.0043 - 0.0090	0.0050 - 0.0056	Yes	
4-Methyl-2-pentanone	soil gas	0 / 18	0 %	0.0050 - 0.010	-	No	Not detected
Methyl tert-butyl ether	soil gas	0 / 18	0 %	0.0044 - 0.0093	-	No	Not detected
n-Propylbenzene	soil gas	3 / 18	17 %	0.0061 - 0.013	0.0065 - 0.028	Yes	
Styrene	soil gas	0 / 18	0 %	0.0053 - 0.011	-	No	Not detected
1,1,1,2-Tetrachloroethane	soil gas	0 / 18	0 %	0.034 - 0.071	-	No	Not detected
1,1,2,2-Tetrachloroethane	soil gas	0 / 18	0 %	0.0085 - 0.018	-	No	Not detected
Tetrachloroethene	soil gas	0 / 18	0 %	0.0084 - 0.018	-	No	Not detected
Tetrahydrofuran	soil gas	3 / 18	17 %	0.0036 - 0.0076	0.0043 - 0.0096	Yes	
Tert-amyl methyl ether	soil gas	0 / 18	0 %	0.021 - 0.043	-	No	Not detected
1,2,4-Trichlorobenzene	soil gas	0 / 18	0 %	0.037 - 0.076	-	No	Not detected
1,1,1-Trichloroethane	soil gas	0 / 18	0 %	0.0067 - 0.014	-	No	Not detected
1,1,2-Trichloroethane	soil gas	0 / 18	0 %	0.0067 - 0.014	-	No	Not detected
Trichloroethene	soil gas	0 / 18	0 %	0.0066 - 0.014	-	No	Not detected
Trichlorofluoromethane	soil gas	0 / 18	0 %	0.0069 - 0.014	-	No	Not detected
1,1,2-Trichlorotrifluoroethane	soil gas	0 / 18	0 %	0.0095 - 0.020	-	No	Not detected
1,2,3-Trichloropropane	soil gas	0 / 18	0 %	0.030 - 0.062	-	No	Not detected
1,2,4-Trimethylbenzene	soil gas	4 / 18	22 %	0.0061 - 0.013	0.0083 - 0.033	Yes	
1,3,5-Trimethylbenzene	soil gas	2 / 18	11 %	0.0061 - 0.013	0.0065 - 0.0068	Yes	
2,2,4-Trimethylpentane	soil gas	3 / 18	17 %	0.0058 - 0.012	0.0093 - 0.048	Yes	
Vinyl chloride	soil gas	0 / 18	0 %	0.0032 - 0.0066	-	No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)							
Naphthalene	soil gas	0 / 18	0 %	0.026 - 0.054	-	No	Not detected
Semivolatile Organic Compounds (SVOCs)							
1,4-Dioxane	soil gas	0 / 18	0 %	0.018 - 0.037	-	No	Not detected
Hexachlorobutadiene	soil gas	0 / 18	0 %	0.053 - 0.11	-	No	Not detected

Notes:
Concentrations are in µg/L.
Includes samples collected to 15 feet bgs.

Table 2-13
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area M

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Inorganics								
Antimony	soil	0 / 9	0 %	5.0 - 10.0	-	30	No	Low site-wide frequency of detect; never detected in exposure area
Arsenic	soil	8 / 9	89 %	5.0 - 5.0	1.1 - 3.4	0.07	No	Passes all site-wide background comparison tests
Barium	soil	9 / 9	100 %	-	64 - 170	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	4 / 9	44 %	0.50 - 0.50	0.57 - 2.0	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	1 / 9	11 %	0.50 - 1.0	1.2 - 1.2	1.7	Yes	Low site-wide frequency of detect; detected in exposure area
Chromium (total)	soil	9 / 9	100 %	-	6.7 - 22	NA	Yes	Fails site-wide Obispo background comparison tests
Cobalt	soil	9 / 9	100 %	-	2.3 - 13	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	9 / 9	100 %	-	5.4 - 16	3000	No	Passes all site-wide background comparison tests
Lead	soil	9 / 9	100 %	-	2.7 - 11	80	Yes	Fails site-wide Obispo background comparison tests
Mercury	soil	3 / 9	33 %	0.020 - 0.10	0.032 - 0.035	18	Yes	Low site-wide frequency of detect; detected in exposure area
Molybdenum	soil	0 / 9	0 %	1.0 - 2.0	-	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	9 / 9	100 %	-	7.5 - 27	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 9	0 %	2.0 - 5.0	-	380	No	Never detected
Silver	soil	0 / 9	0 %	0.99 - 1.0	-	380	No	Never detected
Thallium	soil	0 / 9	0 %	5.0 - 10.0	-	5.0	No	Low site-wide frequency of detect; never detected in exposure area
Vanadium	soil	9 / 9	100 %	-	19 - 62	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	9 / 9	100 %	-	13 - 71	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	0 / 14	0 %	0.0020 - 0.0050	-		No	Not detected
Ethylbenzene	soil	1 / 14	7 %	0.0020 - 0.0050	0.0090 - 0.0090		Yes	
Toluene	soil	1 / 14	7 %	0.0020 - 0.0050	0.0027 - 0.0027		Yes	
m&p-Xylenes	soil	0 / 6	0 %	0.0020 - 0.0022	-		No	Not detected
o-Xylene	soil	0 / 6	0 %	0.0020 - 0.0022	-		No	Not detected
Xylenes (total)	soil	1 / 14	7 %	0.0040 - 0.0050	0.026 - 0.026		Yes	
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
Bromochloromethane	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
Bromodichloromethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
Bromoform	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
Bromomethane	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
tert-Butylalcohol	soil	0 / 6	0 %	0.099 - 0.11	-		No	Not detected
n-Butylbenzene	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
sec-Butylbenzene	soil	1 / 9	11 %	0.0050 - 0.0056	0.11 - 0.11		Yes	
tert-Butylbenzene	soil	1 / 9	11 %	0.0050 - 0.0056	0.011 - 0.011		Yes	
Carbon tetrachloride	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
Chlorobenzene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
Chloroethane	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
2-Chloroethyl vinyl ether	soil	0 / 3	0 %	0.010 - 0.010	-		No	Not detected
Chloroform	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
Chloromethane	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
2-Chlorotoluene	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
4-Chlorotoluene	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
Dibromochloromethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
1,2-Dibromo-3-chloropropane	soil	0 / 9	0 %	0.0050 - 0.010	-		No	Not detected
1,2-Dibromoethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
Dibromomethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
1,2-Dichlorobenzene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
1,3-Dichlorobenzene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
1,4-Dichlorobenzene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
Dichlorodifluoromethane	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
1,1-Dichloroethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected

Table 2-13
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area M

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
1,2-Dichloroethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
1,1-Dichloroethene	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
cis-1,2-Dichloroethene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
trans-1,2-Dichloroethene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
1,2-Dichloropropane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
1,3-Dichloropropane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
2,2-Dichloropropane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
1,1-Dichloropropene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
cis-1,3-Dichloropropene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
trans-1,3-Dichloropropene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
Ethyl tert butyl ether	soil	0 / 6	0 %	0.0050 - 0.0056	-		No	Not detected
Isopropyl ether	soil	0 / 6	0 %	0.0050 - 0.0056	-		No	Not detected
Isopropylbenzene	soil	1 / 9	11 %	0.0020 - 0.0050	0.29 - 0.29		Yes	
p-Isopropyltoluene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
Methylene chloride	soil	0 / 9	0 %	0.0050 - 0.022	-		No	Not detected
Methyl tert-butyl ether	soil	0 / 6	0 %	0.0050 - 0.0056	-		No	Not detected
n-Propylbenzene	soil	2 / 9	22 %	0.0020 - 0.0050	0.0060 - 0.21		Yes	
Styrene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
1,1,1,2-Tetrachloroethane	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
1,1,2,2-Tetrachloroethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
Tetrachloroethene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
Tert-amyl methyl ether	soil	0 / 6	0 %	0.0050 - 0.0056	-		No	Not detected
1,2,3-Trichlorobenzene	soil	0 / 9	0 %	0.0050 - 0.010	-		No	Not detected
1,2,4-Trichlorobenzene	soil	0 / 9	0 %	0.0050 - 0.010	-		No	Not detected
1,1,1-Trichloroethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
1,1,2-Trichloroethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
Trichloroethene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Not detected
Trichlorofluoromethane	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
1,2,3-Trichloropropane	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Not detected
1,2,4-Trimethylbenzene	soil	1 / 9	11 %	0.0020 - 0.0050	0.039 - 0.039		Yes	
1,3,5-Trimethylbenzene	soil	1 / 9	11 %	0.0020 - 0.0050	0.020 - 0.020		Yes	
Vinyl chloride	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	5 / 7	71 %	0.0049 - 0.0050	0.011 - 0.14		Yes	
Acenaphthene	soil	1 / 7	14 %	0.0055 - 0.20	0.20 - 0.20		Yes	
Acenaphthylene	soil	1 / 7	14 %	0.0055 - 0.20	0.0059 - 0.0059		Yes	
Anthracene	soil	1 / 7	14 %	0.0055 - 0.20	0.15 - 0.15		Yes	
Benz(a)anthracene	soil	1 / 7	14 %	0.0055 - 0.20	0.019 - 0.019		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	3 / 7	43 %	0.0065 - 0.20	0.038 - 0.055		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	1 / 7	14 %	0.0055 - 0.20	0.014 - 0.014		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	4 / 7	57 %	0.0069 - 0.20	0.0098 - 0.099		Yes	
Benzo(a)pyrene	soil	4 / 7	57 %	0.0069 - 0.20	0.0095 - 0.035		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Chrysene	soil	3 / 7	43 %	0.0055 - 0.0071	0.020 - 0.40		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	1 / 7	14 %	0.0055 - 0.20	0.012 - 0.012		Yes	
Fluoranthene	soil	2 / 7	29 %	0.0062 - 0.20	0.016 - 0.025		Yes	
Fluorene	soil	2 / 7	29 %	0.0059 - 0.20	0.079 - 1.2		Yes	
Indeno(1,2,3-cd)pyrene	soil	1 / 7	14 %	0.0055 - 0.20	0.032 - 0.032		Yes	Carcinogenic PAHs evaluated as BaP TEQ
1-Methylnaphthalene	soil	2 / 6	33 %	0.0059 - 0.0071	0.37 - 2.9		Yes	
2-Methylnaphthalene	soil	2 / 6	33 %	0.0059 - 0.0071	0.40 - 2.5		Yes	
Naphthalene	soil	4 / 9	44 %	0.0050 - 0.0056	0.0064 - 2.0		Yes	
Phenanthrene	soil	3 / 7	43 %	0.0065 - 0.20	0.0059 - 0.52		Yes	
Pyrene	soil	3 / 7	43 %	0.0065 - 0.20	0.018 - 0.32		Yes	

Table 2-13
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area M

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Semivolatile Organic Compounds (SVOCs)								
Dichlorotrifluoroethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Hexachlorobutadiene	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	1 / 14	7 %	0.37 - 10.00	13 - 13		Yes	
TPH Diesel	soil	6 / 14	43 %	5.00 - 100.00	12 - 7600		Yes	
TPH Motor Oil	soil	7 / 14	50 %	5.00 - 100.00	10 - 5200		Yes	
Pesticides								
Aldrin	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
alpha-BHC	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
beta-BHC	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
delta-BHC	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
gamma-BHC	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
Chlordane (mixture)	soil	0 / 1	0 %	0.10 - 0.10	-		No	Not detected
4,4'-DDD	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
4,4'-DDE	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
4,4'-DDT	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
Dieldrin	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
Endosulfan I	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
Endosulfan II	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
Endosulfan sulfate	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
Endrin	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
Endrin aldehyde	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
Endrin ketone	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
Heptachlor	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
Heptachlor epoxide	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
Methoxychlor	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Not detected
Toxaphene	soil	0 / 1	0 %	0.1000 - 0.1000	-		No	Not detected
2,4,5-T	soil	0 / 1	0 %	0.0050 - 0.0050	-		No	Not detected
2,4-D	soil	0 / 1	0 %	0.050 - 0.050	-		No	Not detected
2,4-DB	soil	0 / 1	0 %	0.50 - 0.50	-		No	Not detected
Dalapon	soil	0 / 1	0 %	0.10 - 0.10	-		No	Not detected
Dicamba	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
Dichloprop	soil	0 / 1	0 %	0.050 - 0.050	-		No	Not detected
Dinoseb	soil	0 / 1	0 %	0.010 - 0.010	-		No	Not detected
MCPA	soil	0 / 1	0 %	5.0 - 5.0	-		No	Not detected
MCPP	soil	0 / 1	0 %	5.0 - 5.0	-		No	Not detected
Silvex	soil	0 / 1	0 %	0.0050 - 0.0050	-		No	Not detected

Notes:
NA = Not applicable
Concentrations are mg/kg wet weight, with the exception of some PAH results and the 2011 data that are mg/kg dry weight.

Table 2-13
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area M

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
BTEX							
Benzene	soil gas	6 / 8	75 %	0.0044 - 0.26	0.0026 - 1.5	Yes	
Ethylbenzene	soil gas	6 / 8	75 %	0.0060 - 0.36	0.0044 - 0.22	Yes	
Toluene	soil gas	6 / 8	75 %	0.0052 - 0.31	0.0084 - 0.11	Yes	
m&p-Xylenes	soil gas	6 / 8	75 %	0.0060 - 0.36	0.012 - 0.47	Yes	
o-Xylene	soil gas	6 / 8	75 %	0.0060 - 0.36	0.0040 - 0.40	Yes	
Volatile Organic Compounds (VOCs)							
Acetone	soil gas	7 / 8	88 %	0.78 - 0.78	0.024 - 0.73	No	Common laboratory contaminant
Allyl chloride	soil gas	0 / 5	0 %	0.016 - 1.0	-	No	Not detected
Benzyl chloride	soil gas	0 / 8	0 %	0.0065 - 0.43	-	No	Not detected
Bromobenzene	soil gas	0 / 3	0 %	0.0065 - 0.0065	-	No	Not detected
Bromodichloromethane	soil gas	0 / 8	0 %	0.0068 - 0.55	-	No	Not detected
Bromoform	soil gas	0 / 8	0 %	0.010 - 0.85	-	No	Not detected
Bromomethane	soil gas	0 / 8	0 %	0.0049 - 0.32	-	No	Not detected
1,3-Butadiene	soil gas	0 / 8	0 %	0.0028 - 0.18	-	No	Not detected
2-Butanone	soil gas	6 / 8	75 %	0.0041 - 0.24	0.0082 - 0.40	Yes	
tert-Butylalcohol	soil gas	3 / 8	38 %	0.0061 - 1.0	0.0013 - 0.14	Yes	
n-Butylbenzene	soil gas	0 / 3	0 %	0.0056 - 0.0056	-	No	Not detected
sec-Butylbenzene	soil gas	0 / 3	0 %	0.0056 - 0.0056	-	No	Not detected
tert-Butylbenzene	soil gas	0 / 3	0 %	0.0056 - 0.0056	-	No	Not detected
Carbon disulfide	soil gas	4 / 8	50 %	0.0039 - 0.0063	0.0033 - 1.2	Yes	
Carbon tetrachloride	soil gas	0 / 8	0 %	0.0064 - 0.52	-	No	Not detected
Chlorobenzene	soil gas	0 / 8	0 %	0.0047 - 0.38	-	No	Not detected
Chloroethane	soil gas	0 / 8	0 %	0.0033 - 0.22	-	No	Not detected
Chloroform	soil gas	3 / 8	38 %	0.0062 - 0.40	0.0021 - 0.005	Yes	
Chloromethane	soil gas	1 / 8	13 %	0.0021 - 0.68	0.16 - 0.16	Yes	
2-Chlorotoluene	soil gas	0 / 3	0 %	0.011 - 0.011	-	No	Not detected
4-Chlorotoluene	soil gas	0 / 3	0 %	0.011 - 0.011	-	No	Not detected
Cyclohexane	soil gas	5 / 8	63 %	0.017 - 0.017	0.0094 - 1.4	Yes	
Dibromochloromethane	soil gas	0 / 8	0 %	0.0086 - 0.70	-	No	Not detected
1,2-Dibromo-3-chloropropane	soil gas	0 / 3	0 %	0.0098 - 0.0098	-	No	Not detected
1,2-Dibromoethane	soil gas	0 / 8	0 %	0.0078 - 0.63	-	No	Not detected
Dibromomethane	soil gas	0 / 3	0 %	0.0072 - 0.0072	-	No	Not detected
1,2-Dichlorobenzene	soil gas	0 / 8	0 %	0.0076 - 0.50	-	No	Not detected
1,3-Dichlorobenzene	soil gas	0 / 8	0 %	0.0076 - 0.50	-	No	Not detected
1,4-Dichlorobenzene	soil gas	0 / 8	0 %	0.0076 - 0.50	-	No	Not detected
Dichlorodifluoromethane	soil gas	3 / 8	38 %	0.0062 - 0.41	0.0029 - 0.0037	Yes	
1,1-Dichloroethane	soil gas	0 / 8	0 %	0.0041 - 0.33	-	No	Not detected
1,2-Dichloroethane	soil gas	0 / 8	0 %	0.0041 - 0.33	-	No	Not detected
1,1-Dichloroethene	soil gas	0 / 8	0 %	0.0040 - 0.33	-	No	Not detected
cis-1,2-Dichloroethene	soil gas	0 / 8	0 %	0.0040 - 0.33	-	No	Not detected
trans-1,2-Dichloroethene	soil gas	0 / 8	0 %	0.0050 - 0.33	-	No	Not detected
1,2-Dichloropropane	soil gas	0 / 8	0 %	0.0058 - 0.38	-	No	Not detected
1,3-Dichloropropane	soil gas	0 / 3	0 %	0.0047 - 0.0047	-	No	Not detected
2,2-Dichloropropane	soil gas	0 / 3	0 %	0.0047 - 0.0047	-	No	Not detected
1,1-Dichloropropene	soil gas	0 / 3	0 %	0.0046 - 0.0046	-	No	Not detected
cis-1,3-Dichloropropene	soil gas	0 / 8	0 %	0.0046 - 0.37	-	No	Not detected
trans-1,3-Dichloropropene	soil gas	0 / 8	0 %	0.0046 - 0.37	-	No	Not detected
1,2-Dichloro-1,1,2,2-tetraflouroethane	soil gas	0 / 8	0 %	0.0071 - 0.58	-	No	Not detected
1,1-Difluoroethane	soil gas	0 / 3	0 %	0.0027 - 0.0027	-	No	Not detected

Table 2-13
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area M

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
Ethanol	soil gas	4 / 8	50 %	0.0095 - 0.62	0.029 - 0.10	No	Common laboratory contaminant
4-Ethyltoluene	soil gas	5 / 8	63 %	0.0050 - 0.40	0.0021 - 0.25	Yes	
Ethyl acetate	soil gas	3 / 3	100 %	-	0.013 - 0.018	Yes	
Ethyl tert butyl ether	soil gas	0 / 8	0 %	0.0042 - 1.4	-	No	Not detected
n-Heptane	soil gas	4 / 8	50 %	0.0041 - 0.34	0.0018 - 1.0	Yes	
Hexane	soil gas	5 / 8	63 %	0.0036 - 0.29	0.0021 - 0.99	Yes	
2-Hexanone	soil gas	3 / 8	38 %	0.021 - 1.4	0.0019 - 0.0024	Yes	
Isopropyl alcohol	soil gas	3 / 8	38 %	0.012 - 0.81	0.0084 - 0.010	Yes	
Isopropyl ether	soil gas	0 / 8	0 %	0.0042 - 1.4	-	No	Not detected
Isopropylbenzene	soil gas	7 / 8	88 %	0.0068 - 0.0068	0.0065 - 2.6	Yes	
p-Isopropyltoluene	soil gas	0 / 3	0 %	0.0056 - 0.0056	-	No	Not detected
Methylene chloride	soil gas	3 / 8	38 %	0.0044 - 0.29	0.0021 - 0.0031	Yes	
4-Methyl-2-pentanone	soil gas	3 / 8	38 %	0.0052 - 0.34	0.036 - 0.054	Yes	
Methyl tert-butyl ether	soil gas	0 / 8	0 %	0.0036 - 0.30	-	No	Not detected
n-Propylbenzene	soil gas	4 / 8	50 %	0.0050 - 0.0068	0.011 - 0.81	Yes	
Propylene	soil gas	3 / 3	100 %	-	0.0021 - 0.0042	Yes	
Styrene	soil gas	3 / 8	38 %	0.0054 - 0.35	0.0024 - 0.0035	Yes	
1,1,1,2-Tetrachloroethane	soil gas	1 / 8	13 %	0.0070 - 2.3	0.0029 - 0.0029	Yes	
1,1,2,2-Tetrachloroethane	soil gas	0 / 8	0 %	0.0070 - 0.57	-	No	Not detected
Tetrachloroethene	soil gas	1 / 8	13 %	0.0069 - 0.56	0.0048 - 0.0048	Yes	
Tetrahydrofuran	soil gas	4 / 8	50 %	0.0037 - 0.24	0.019 - 0.025	Yes	
Tert-amyl methyl ether	soil gas	0 / 8	0 %	0.0042 - 1.4	-	No	Not detected
1,2,3-Trichlorobenzene	soil gas	0 / 3	0 %	0.0075 - 0.0075	-	No	Not detected
1,2,4-Trichlorobenzene	soil gas	0 / 8	0 %	0.0075 - 2.4	-	No	Not detected
1,1,1-Trichloroethane	soil gas	0 / 8	0 %	0.0055 - 0.45	-	No	Not detected
1,1,2-Trichloroethane	soil gas	0 / 8	0 %	0.0055 - 0.45	-	No	Not detected
Trichloroethene	soil gas	0 / 8	0 %	0.0055 - 0.44	-	No	Not detected
Trichlorofluoromethane	soil gas	2 / 8	25 %	0.0056 - 0.46	0.0024 - 0.0027	Yes	
1,1,2-Trichlorotrifluoroethane	soil gas	0 / 8	0 %	0.0077 - 0.63	-	No	Not detected
1,2,3-Trichloropropane	soil gas	0 / 8	0 %	0.0061 - 2.0	-	No	Not detected
1,2,4-Trimethylbenzene	soil gas	6 / 8	75 %	0.0068 - 0.40	0.0054 - 0.30	Yes	
1,3,5-Trimethylbenzene	soil gas	6 / 8	75 %	0.0068 - 0.40	0.0020 - 0.12	Yes	
2,2,4-Trimethylpentane	soil gas	4 / 8	50 %	0.0059 - 0.38	0.0037 - 0.014	Yes	
Vinyl acetate	soil gas	0 / 8	0 %	NA - 0.0036	-	No	Not detected
Vinyl chloride	soil gas	0 / 8	0 %	0.0026 - 0.21	-	No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)							
Naphthalene	soil gas	0 / 8	0 %	0.0053 - 1.7	-	No	Not detected
Semivolatile Organic Compounds (SVOCs)							
1,4-Dioxane	soil gas	0 / 8	0 %	0.0073 - 1.2	-	No	Not detected
Hexachlorobutadiene	soil gas	0 / 8	0 %	0.011 - 3.5	-	No	Not detected

Notes:
Concentrations are in µg/L.
Includes samples collected to 15 feet bgs.
NA = Not Applicable, vinyl acetate was qualified as a tentatiively identified compound in 2007 soil gas data and no detection limit was reported

Table 2-13
Chemical of Potential Concern Selection Summary - Groundwater
Former Avila Tank Farm Exposure Area M

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Tap Water RSL	COPC?	Rationale
BTEX								
Benzene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Ethylbenzene	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Toluene	groundwater	2 / 4	50 %	0.00050 - 0.00050	0.00025 - 0.00026		Yes	
Xylenes (total)	groundwater	0 / 4	0 %	0.00050 - 0.00050	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	groundwater	0 / 4	0 %	0.050 - 0.050	-		No	Not detected
TPH Diesel	groundwater	0 / 4	0 %	0.052 - 0.054	-		No	Not detected
TPH Motor Oil	groundwater	0 / 4	0 %	0.52 - 0.54	-		No	Not detected

Notes:
NA = Not applicable
Concentrations are mg/L.

Table 2-14
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area N

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Inorganics								
Antimony	soil	0 / 11	0 %	5.0 - 20	-	30	No	Low site-wide frequency of detect; never detected in exposure area
Arsenic	soil	9 / 11	82 %	0.50 - 0.50	0.94 - 2.4	0.07	No	Passes all site-wide background comparison tests
Barium	soil	11 / 11	100 %	-	39 - 160	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	4 / 11	36 %	0.50 - 1.0	0.50 - 0.62	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	4 / 11	36 %	0.50 - 1.0	1.0 - 1.8	1.7	Yes	Low site-wide frequency of detect; detected in exposure area
Chromium (total)	soil	11 / 11	100 %	-	7.8 - 46	NA	Yes	Fails site-wide Obispo background comparison tests
Cobalt	soil	11 / 11	100 %	-	1.5 - 14	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	11 / 11	100 %	-	9.7 - 20	3000	No	Passes all site-wide background comparison tests
Lead	soil	10 / 11	91 %	4.0 - 4.0	2.2 - 13	80	Yes	Fails site-wide Obispo background comparison tests
Mercury	soil	3 / 11	27 %	0.020 - 0.10	0.021 - 0.12	18	Yes	Low site-wide frequency of detect; detected in exposure area
Molybdenum	soil	3 / 11	27 %	1.0 - 4.0	4.3 - 10.0	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	9 / 11	82 %	2.0 - 4.0	5.1 - 47	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 11	0 %	2.0 - 5.0	-	380	No	Never detected
Silver	soil	0 / 11	0 %	1.0 - 2.0	-	380	No	Never detected
Thallium	soil	0 / 11	0 %	5.0 - 20	-	5.0	No	Low site-wide frequency of detect; never detected in exposure area
Vanadium	soil	11 / 11	100 %	-	45 - 91	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	11 / 11	100 %	-	14 - 60	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	0 / 13	0 %	0.0020 - 0.0050	-		No	Not detected
Ethylbenzene	soil	0 / 13	0 %	0.0020 - 0.0050	-		No	Not detected
Toluene	soil	0 / 13	0 %	0.0020 - 0.0050	-		No	Not detected
m&p-Xylenes	soil	0 / 9	0 %	0.0020 - 0.0022	-		No	Not detected
o-Xylene	soil	0 / 9	0 %	0.0020 - 0.0022	-		No	Not detected
Xylenes (total)	soil	0 / 13	0 %	0.0040 - 0.0050	-		No	Not detected
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
Bromochloromethane	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
Bromodichloromethane	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
Bromoform	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
Bromomethane	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
tert-Butylalcohol	soil	0 / 9	0 %	0.099 - 0.11	-		No	Not detected
n-Butylbenzene	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
sec-Butylbenzene	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
tert-Butylbenzene	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
Carbon tetrachloride	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
Chlorobenzene	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
Chloroethane	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
2-Chloroethyl vinyl ether	soil	0 / 2	0 %	0.010 - 0.010	-		No	Not detected
Chloroform	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
Chloromethane	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
2-Chlorotoluene	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
4-Chlorotoluene	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
Dibromochloromethane	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
1,2-Dibromo-3-chloropropane	soil	0 / 11	0 %	0.0050 - 0.010	-		No	Not detected
1,2-Dibromoethane	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
Dibromomethane	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
1,2-Dichlorobenzene	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
1,3-Dichlorobenzene	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
1,4-Dichlorobenzene	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
Dichlorodifluoromethane	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
1,1-Dichloroethane	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
1,2-Dichloroethane	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
1,1-Dichloroethene	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
cis-1,2-Dichloroethene	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
trans-1,2-Dichloroethene	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
1,2-Dichloropropane	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
1,3-Dichloropropane	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
2,2-Dichloropropane	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
1,1-Dichloropropene	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected

Table 2-14
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area N

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
cis-1,3-Dichloropropene	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
trans-1,3-Dichloropropene	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
Ethyl tert butyl ether	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
Isopropyl ether	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
Isopropylbenzene	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
p-Isopropyltoluene	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
Methylene chloride	soil	0 / 11	0 %	0.0050 - 0.0220	-		No	Not detected
Methyl tert-butyl ether	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
n-Propylbenzene	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
Styrene	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
1,1,1,2-Tetrachloroethane	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
1,1,2,2-Tetrachloroethane	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
Tetrachloroethene	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
Tert-amyl methyl ether	soil	0 / 9	0 %	0.0050 - 0.0056	-		No	Not detected
1,2,3-Trichlorobenzene	soil	0 / 11	0 %	0.0050 - 0.010	-		No	Not detected
1,2,4-Trichlorobenzene	soil	0 / 11	0 %	0.0050 - 0.010	-		No	Not detected
1,1,1-Trichloroethane	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
1,1,2-Trichloroethane	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
Trichloroethene	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
Trichlorofluoromethane	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
1,2,3-Trichloropropane	soil	0 / 11	0 %	0.0050 - 0.011	-		No	Not detected
1,2,4-Trimethylbenzene	soil	1 / 11	9 %	0.0020 - 0.0050	0.0026 - 0.0026		Yes	
1,3,5-Trimethylbenzene	soil	0 / 11	0 %	0.0020 - 0.0050	-		No	Not detected
Vinyl chloride	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	3 / 9	33 %	0.0043 - 0.0056	0.0048 - 0.069		Yes	
Acenaphthene	soil	0 / 9	0 %	0.0061 - 0.0079	-		No	Not detected
Acenaphthylene	soil	0 / 9	0 %	0.0061 - 0.0079	-		No	Not detected
Anthracene	soil	1 / 9	11 %	0.0061 - 0.0079	0.017 - 0.017		Yes	
Benz(a)anthracene	soil	2 / 9	22 %	0.0061 - 0.0079	0.0086 - 0.014		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	2 / 9	22 %	0.0061 - 0.0079	0.024 - 0.038		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	1 / 9	11 %	0.0061 - 0.0079	0.0078 - 0.0078		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	2 / 9	22 %	0.0061 - 0.0079	0.014 - 0.13		Yes	
Benzo(a)pyrene	soil	1 / 9	11 %	0.0061 - 0.0079	0.064 - 0.064		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Chrysene	soil	2 / 9	22 %	0.0061 - 0.0079	0.0081 - 0.0090		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	0 / 9	0 %	0.0061 - 0.0079	-		No	Not detected
Fluoranthene	soil	2 / 9	22 %	0.0061 - 0.0079	0.021 - 0.032		Yes	
Fluorene	soil	0 / 9	0 %	0.0061 - 0.0079	-		No	Not detected
Indeno(1,2,3-cd)pyrene	soil	1 / 9	11 %	0.0061 - 0.0079	0.011 - 0.011		Yes	Carcinogenic PAHs evaluated as BaP TEQ
1-Methylnaphthalene	soil	0 / 9	0 %	0.0061 - 0.0079	-		No	Not detected
2-Methylnaphthalene	soil	1 / 9	11 %	0.0061 - 0.0079	0.0073 - 0.0073		Yes	
Naphthalene	soil	1 / 11	9 %	0.0050 - 0.0056	0.0079 - 0.0079		Yes	
Phenanthrene	soil	1 / 9	11 %	0.0061 - 0.0079	0.0077 - 0.0077		Yes	
Pyrene	soil	2 / 9	22 %	0.0061 - 0.0079	0.021 - 0.026		Yes	
Semivolatile Organic Compounds (SVOCs)								
Dichlorotrifluoroethane	soil	0 / 2	0 %	0.0050 - 0.0050	-		No	Not detected
Hexachlorobutadiene	soil	0 / 11	0 %	0.0050 - 0.0056	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	0 / 13	0 %	0.37 - 10.00	-		No	Not detected
TPH Diesel	soil	1 / 13	8 %	5.00 - 10.00	160 - 160		Yes	
TPH Motor Oil	soil	1 / 13	8 %	5.00 - 10.00	150 - 150		Yes	

Notes:
NA = Not applicable
Concentrations are mg/kg wet weight, with the exception of some PAH results and the 2011 data that are mg/kg dry weight.

Table 2-14
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area N

Chemical	Matrix	Frequency	Percent	NonDetects	Detects	COPC?	Rationale
		Detects / Total	Detects	Min – Max	Min – Max		
BTEX							
Benzene	soil gas	6 / 10	60 %	0.0040 - 0.0041	0.0018 - 0.015	Yes	
Ethylbenzene	soil gas	7 / 10	70 %	0.0056 - 0.0056	0.0049 - 0.031	Yes	
Toluene	soil gas	7 / 10	70 %	0.0049 - 0.0049	0.020 - 0.043	Yes	
m&p-Xylenes	soil gas	8 / 9	89 %	0.0056 - 0.0056	0.0078 - 0.047	Yes	
o-Xylene	soil gas	7 / 10	70 %	0.0056 - 0.0056	0.0042 - 0.025	Yes	
Volatile Organic Compounds (VOCs)							
Acetone	soil gas	8 / 9	89 %	0.012 - 0.012	0.042 - 0.25	No	Common laboratory contaminant
Allyl chloride	soil gas	0 / 4	0 %	0.016 - 0.016	-	No	Not detected
Benzyl chloride	soil gas	0 / 10	0 %	0.0065 - 0.010	-	No	Not detected
Bromobenzene	soil gas	0 / 6	0 %	0.0065 - 0.0065	-	No	Not detected
Bromodichloromethane	soil gas	0 / 10	0 %	0.0068 - 0.0086	-	No	Not detected
Bromoform	soil gas	0 / 10	0 %	0.010 - 0.013	-	No	Not detected
Bromomethane	soil gas	0 / 10	0 %	0.0049 - 0.016	-	No	Not detected
1,3-Butadiene	soil gas	0 / 10	0 %	0.0028 - 0.0045	-	No	Not detected
2-Butanone	soil gas	9 / 10	90 %	0.0038 - 0.0038	0.0070 - 0.18	Yes	
tert-Butylalcohol	soil gas	4 / 10	40 %	0.0061 - 0.016	0.0013 - 0.0018	Yes	
n-Butylbenzene	soil gas	1 / 6	17 %	0.0056 - 0.0056	0.0051 - 0.0051	Yes	
sec-Butylbenzene	soil gas	1 / 6	17 %	0.0056 - 0.0056	0.0034 - 0.0034	Yes	
tert-Butylbenzene	soil gas	2 / 6	33 %	0.0056 - 0.0056	0.0023 - 0.0023	Yes	
Carbon disulfide	soil gas	5 / 10	50 %	0.0040 - 0.0063	0.0021 - 0.022	Yes	
Carbon tetrachloride	soil gas	0 / 10	0 %	0.0064 - 0.0081	-	No	Not detected
Chlorobenzene	soil gas	0 / 10	0 %	0.0047 - 0.0059	-	No	Not detected
Chloroethane	soil gas	0 / 10	0 %	0.0033 - 0.0080	-	No	Not detected
Chloroform	soil gas	5 / 10	50 %	0.0049 - 0.0063	0.0024 - 0.0095	Yes	
Chloromethane	soil gas	1 / 10	10 %	0.0021 - 0.011	0.0034 - 0.0034	Yes	
2-Chlorotoluene	soil gas	0 / 6	0 %	0.011 - 0.011	-	No	Not detected
4-Chlorotoluene	soil gas	0 / 6	0 %	0.011 - 0.011	-	No	Not detected
Cyclohexane	soil gas	1 / 10	10 %	0.0044 - 0.017	0.029 - 0.029	Yes	
Dibromochloromethane	soil gas	0 / 10	0 %	0.0086 - 0.011	-	No	Not detected
1,2-Dibromo-3-chloropropane	soil gas	0 / 6	0 %	0.0098 - 0.0098	-	No	Not detected
1,2-Dibromoethane	soil gas	0 / 10	0 %	0.0078 - 0.0099	-	No	Not detected
Dibromomethane	soil gas	0 / 6	0 %	0.0072 - 0.0072	-	No	Not detected
1,2-Dichlorobenzene	soil gas	0 / 10	0 %	0.0076 - 0.012	-	No	Not detected
1,3-Dichlorobenzene	soil gas	0 / 10	0 %	0.0076 - 0.012	-	No	Not detected
1,4-Dichlorobenzene	soil gas	0 / 10	0 %	0.0076 - 0.012	-	No	Not detected
Dichlorodifluoromethane	soil gas	6 / 10	60 %	0.0062 - 0.0064	0.0035 - 0.0040	Yes	
1,1-Dichloroethane	soil gas	0 / 10	0 %	0.0041 - 0.0052	-	No	Not detected
1,2-Dichloroethane	soil gas	0 / 10	0 %	0.0041 - 0.0052	-	No	Not detected
1,1-Dichloroethene	soil gas	1 / 9	11 %	0.0040 - 0.0051	0.0078 - 0.0078	Yes	
cis-1,2-Dichloroethene	soil gas	1 / 9	11 %	0.0040 - 0.0051	0.013 - 0.013	Yes	
trans-1,2-Dichloroethene	soil gas	0 / 10	0 %	0.0050 - 0.0080	-	No	Not detected
1,2-Dichloropropane	soil gas	0 / 10	0 %	0.0058 - 0.0094	-	No	Not detected
1,3-Dichloropropane	soil gas	0 / 6	0 %	0.0047 - 0.0047	-	No	Not detected
2,2-Dichloropropane	soil gas	0 / 6	0 %	0.0047 - 0.0047	-	No	Not detected
1,1-Dichloropropene	soil gas	0 / 6	0 %	0.0046 - 0.0046	-	No	Not detected
cis-1,3-Dichloropropene	soil gas	0 / 10	0 %	0.0046 - 0.0058	-	No	Not detected
trans-1,3-Dichloropropene	soil gas	0 / 10	0 %	0.0046 - 0.0058	-	No	Not detected
1,2-Dichloro-1,1,2,2-tetraflouroethane	soil gas	0 / 10	0 %	0.0071 - 0.0090	-	No	Not detected
1,1-Difluoroethane	soil gas	0 / 6	0 %	0.0027 - 0.0027	-	No	Not detected

Table 2-14
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area N

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	COPC?	Rationale
Ethanol	soil gas	6 / 10	60 %	0.0095 - 0.0097	0.025 - 0.053	No	Common laboratory contaminant
4-Ethyltoluene	soil gas	6 / 10	60 %	0.0050 - 0.0063	0.0021 - 0.026	Yes	
Ethyl acetate	soil gas	6 / 6	100 %	-	0.012 - 0.033	Yes	
Ethyl tert butyl ether	soil gas	0 / 10	0 %	0.0042 - 0.022	-	No	Not detected
n-Heptane	soil gas	7 / 10	70 %	0.0053 - 0.0053	0.0019 - 0.044	Yes	
Hexane	soil gas	6 / 10	60 %	0.0036 - 0.0045	0.0028 - 0.036	Yes	
2-Hexanone	soil gas	4 / 10	40 %	0.0083 - 0.021	0.0020 - 0.0033	Yes	
Isopropyl alcohol	soil gas	7 / 10	70 %	0.013 - 0.013	0.0078 - 0.11	Yes	
Isopropyl ether	soil gas	0 / 10	0 %	0.0042 - 0.022	-	No	Not detected
Isopropylbenzene	soil gas	7 / 10	70 %	0.0063 - 0.0063	0.018 - 0.053	Yes	
p-Isopropyltoluene	soil gas	0 / 6	0 %	0.0056 - 0.0056	-	No	Not detected
Methylene chloride	soil gas	6 / 10	60 %	0.0044 - 0.0045	0.0022 - 0.0042	Yes	
4-Methyl-2-pentanone	soil gas	6 / 10	60 %	0.0052 - 0.0053	0.040 - 0.10	Yes	
Methyl tert-butyl ether	soil gas	0 / 10	0 %	0.0036 - 0.0046	-	No	Not detected
n-Propylbenzene	soil gas	4 / 10	40 %	0.0050 - 0.0063	0.0020 - 0.013	Yes	
Propylene	soil gas	6 / 6	100 %	-	0.0012 - 0.013	Yes	
Styrene	soil gas	6 / 10	60 %	0.0054 - 0.0055	0.0028 - 0.0043	Yes	
1,1,1,2-Tetrachloroethane	soil gas	1 / 10	10 %	0.0070 - 0.035	0.0045 - 0.0045	Yes	
1,1,2,2-Tetrachloroethane	soil gas	0 / 10	0 %	0.0070 - 0.0088	-	No	Not detected
Tetrachloroethene	soil gas	5 / 10	50 %	0.0069 - 0.0088	0.0030 - 0.0090	Yes	
Tetrahydrofuran	soil gas	6 / 10	60 %	0.0037 - 0.0038	0.022 - 0.058	Yes	
Tert-amyl methyl ether	soil gas	0 / 10	0 %	0.0042 - 0.022	-	No	Not detected
1,2,3-Trichlorobenzene	soil gas	0 / 6	0 %	0.0075 - 0.0075	-	No	Not detected
1,2,4-Trichlorobenzene	soil gas	0 / 10	0 %	0.0075 - 0.038	-	No	Not detected
1,1,1-Trichloroethane	soil gas	1 / 9	11 %	0.0055 - 0.0070	0.036 - 0.036	Yes	
1,1,2-Trichloroethane	soil gas	0 / 10	0 %	0.0055 - 0.0070	-	No	Not detected
Trichloroethene	soil gas	1 / 9	11 %	0.0055 - 0.0069	0.015 - 0.015	Yes	
Trichlorofluoromethane	soil gas	6 / 10	60 %	0.0071 - 0.0072	0.0023 - 0.0032	Yes	
1,1,2-Trichlorotrifluoroethane	soil gas	1 / 10	10 %	0.0077 - 0.0099	0.0036 - 0.0036	Yes	
1,2,3-Trichloropropane	soil gas	0 / 10	0 %	0.0061 - 0.031	-	No	Not detected
1,2,4-Trimethylbenzene	soil gas	9 / 9	100 %	-	0.0044 - 0.018	Yes	
1,3,5-Trimethylbenzene	soil gas	7 / 10	70 %	0.0063 - 0.0063	0.0020 - 0.018	Yes	
2,2,4-Trimethylpentane	soil gas	7 / 10	70 %	0.0060 - 0.0060	0.0092 - 0.034	Yes	
Vinyl acetate	soil gas	0 / 10	0 %	NA - 0.0036	-	No	Not detected
Vinyl chloride	soil gas	1 / 10	10 %	0.0026 - 0.0033	0.0015 - 0.0015	Yes	
Polycyclic Aromatic Hydrocarbons (PAHs)							
Naphthalene	soil gas	3 / 10	30 %	0.0053 - 0.027	0.0046 - 0.0067	Yes	
Semivolatile Organic Compounds (SVOCs)							
1,4-Dioxane	soil gas	1 / 10	10 %	0.0073 - 0.018	0.017 - 0.017	Yes	
Hexachlorobutadiene	soil gas	0 / 10	0 %	0.011 - 0.055	-	No	Not detected

Notes:
Concentrations are in µg/L.
Includes samples collected to 15 feet bgs.
NA = Not Applicable, vinyl acetate was qualified as a tentatiively identified compound in 2007 soil gas data and no detection limit was reported

Table 2-14
Chemical of Potential Concern Selection Summary - Groundwater
Former Avila Tank Farm Exposure Area N

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Tap Water RSL	COPC?	Rationale
BTEX								
Benzene	groundwater	0 / 2	0 %	0.00050 - 0.00050	-		No	Not detected
Ethylbenzene	groundwater	0 / 2	0 %	0.00050 - 0.00050	-		No	Not detected
Toluene	groundwater	1 / 2	50 %	0.00050 - 0.00050	0.00030 - 0.00030		Yes	
Xylenes (total)	groundwater	0 / 2	0 %	0.00050 - 0.00050	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	groundwater	0 / 2	0 %	0.050 - 0.050	-		No	Not detected
TPH Diesel	groundwater	0 / 2	0 %	0.050 - 0.053	-		No	Not detected
TPH Motor Oil	groundwater	0 / 2	0 %	0.50 - 0.53	-		No	Not detected

Notes:
NA = Not applicable
Concentrations are mg/L.

Table 2-15
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area O

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Inorganics								
Antimony	soil	0 / 10	0 %	5.0 - 20	-	30	No	Low site-wide frequency of detect; not detected in exposure area
Arsenic	soil	7 / 10	70 %	0.50 - 0.50	1.1 - 6.1	0.07	No	Passes all site-wide background comparison tests
Barium	soil	10 / 10	100 %	-	21 - 140	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	3 / 10	30 %	0.50 - 0.50	0.70 - 1.40	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	4 / 10	40 %	0.50 - 1.0	1.4 - 3.5	1.7	Yes	Low site-wide frequency of detect; detected in exposure area
Chromium (total)	soil	10 / 10	100 %	-	8.6 - 58	NA	Yes	Fails site-wide Obispo background comparison tests
Cobalt	soil	9 / 10	90 %	1.0 - 1.0	1.8 - 46	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	10 / 10	100 %	-	10.0 - 27	3000	No	Passes all site-wide background comparison tests
Lead	soil	7 / 10	70 %	2.0 - 4.0	2.2 - 6.3	80	Yes	Fails site-wide Obispo background comparison tests
Mercury	soil	2 / 10	20 %	0.020 - 0.10	0.054 - 0.059	18	Yes	Low site-wide frequency of detect; detected in exposure area
Molybdenum	soil	3 / 10	30 %	1.0 - 4.0	8.6 - 15	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	10 / 10	100 %	-	9.1 - 72	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 10	0 %	2.0 - 5.0	-	380	No	Never detected
Silver	soil	0 / 10	0 %	1.0 - 2.0	-	380	No	Never detected
Thallium	soil	0 / 10	0 %	5.0 - 20	-	5.0	No	Low site-wide frequency of detect; not detected in exposure area
Vanadium	soil	10 / 10	100 %	-	52 - 130	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	10 / 10	100 %	-	31 - 86	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
Ethylbenzene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
Toluene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
m&p-Xylenes	soil	0 / 6	0 %	0.0019 - 0.0022	-		No	Not detected
o-Xylene	soil	0 / 6	0 %	0.0019 - 0.0022	-		No	Not detected
Xylenes (total)	soil	0 / 10	0 %	0.0039 - 0.0050	-		No	Not detected
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected
Bromochloromethane	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected
Bromodichloromethane	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
Bromoform	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected
Bromomethane	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected
tert-Butylalcohol	soil	0 / 6	0 %	0.097 - 0.11	-		No	Not detected
n-Butylbenzene	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected
sec-Butylbenzene	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected
tert-Butylbenzene	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected
Carbon tetrachloride	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected
Chlorobenzene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
Chloroethane	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected
2-Chloroethyl vinyl ether	soil	0 / 4	0 %	0.010 - 0.010	-		No	Not detected
Chloroform	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
Chloromethane	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected
2-Chlorotoluene	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected
4-Chlorotoluene	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected
Dibromochloromethane	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
1,2-Dibromo-3-chloropropane	soil	0 / 10	0 %	0.0049 - 0.010	-		No	Not detected
1,2-Dibromoethane	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
Dibromomethane	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
1,2-Dichlorobenzene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
1,3-Dichlorobenzene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
1,4-Dichlorobenzene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
Dichlorodifluoromethane	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected

Table 2-15
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area O

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
1,1-Dichloroethane	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
1,2-Dichloroethane	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
1,1-Dichloroethene	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected
cis-1,2-Dichloroethene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
trans-1,2-Dichloroethene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
1,2-Dichloropropane	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
1,3-Dichloropropane	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
2,2-Dichloropropane	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
1,1-Dichloropropene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
cis-1,3-Dichloropropene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
trans-1,3-Dichloropropene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
Ethyl tert butyl ether	soil	0 / 6	0 %	0.0049 - 0.0054	-		No	Not detected
Isopropyl ether	soil	0 / 6	0 %	0.0049 - 0.0054	-		No	Not detected
Isopropylbenzene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
p-Isopropyltoluene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
Methylene chloride	soil	0 / 10	0 %	0.0050 - 0.022	-		No	Not detected
Methyl tert-butyl ether	soil	0 / 6	0 %	0.0049 - 0.0054	-		No	Not detected
n-Propylbenzene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
Styrene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
1,1,1,2-Tetrachloroethane	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected
1,1,2,2-Tetrachloroethane	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
Tetrachloroethene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
Tert-amyl methyl ether	soil	0 / 6	0 %	0.0049 - 0.0054	-		No	Not detected
1,2,3-Trichlorobenzene	soil	0 / 10	0 %	0.0049 - 0.010	-		No	Not detected
1,2,4-Trichlorobenzene	soil	0 / 10	0 %	0.0049 - 0.010	-		No	Not detected
1,1,1-Trichloroethane	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
1,1,2-Trichloroethane	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
Trichloroethene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
Trichlorofluoromethane	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected
1,2,3-Trichloropropane	soil	0 / 10	0 %	0.0050 - 0.011	-		No	Not detected
1,2,4-Trimethylbenzene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
1,3,5-Trimethylbenzene	soil	0 / 10	0 %	0.0019 - 0.0050	-		No	Not detected
Vinyl chloride	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	0 / 6	0 %	0.0038 - 0.0052	-		No	Not detected
Acenaphthene	soil	0 / 6	0 %	0.0054 - 0.0074	-		No	Not detected
Acenaphthylene	soil	0 / 6	0 %	0.0054 - 0.0074	-		No	Not detected
Anthracene	soil	0 / 6	0 %	0.0054 - 0.0074	-		No	Not detected
Benz(a)anthracene	soil	0 / 6	0 %	0.0054 - 0.0074	-		No	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	0 / 6	0 %	0.0054 - 0.0074	-		No	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	0 / 6	0 %	0.0054 - 0.0074	-		No	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	0 / 6	0 %	0.0054 - 0.0074	-		No	Not detected
Benzo(a)pyrene	soil	0 / 6	0 %	0.0054 - 0.0074	-		No	Carcinogenic PAHs evaluated as BaP TEQ
Chrysene	soil	0 / 6	0 %	0.0054 - 0.0074	-		No	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	0 / 6	0 %	0.0054 - 0.0074	-		No	Not detected
Fluoranthene	soil	0 / 6	0 %	0.0054 - 0.0074	-		No	Not detected
Fluorene	soil	0 / 6	0 %	0.0054 - 0.0074	-		No	Not detected
Indeno(1,2,3-cd)pyrene	soil	0 / 6	0 %	0.0054 - 0.0074	-		No	Carcinogenic PAHs evaluated as BaP TEQ
1-Methylnaphthalene	soil	0 / 6	0 %	0.0054 - 0.0074	-		No	Not detected
2-Methylnaphthalene	soil	0 / 6	0 %	0.0054 - 0.0074	-		No	Not detected
Naphthalene	soil	0 / 11	0 %	0.0049 - 0.0054	-		No	Not detected

Table 2-15
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Exposure Area O

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Phenanthrene	soil	0 / 6	0 %	0.0054 - 0.0074	-		No	Not detected
Pyrene	soil	0 / 6	0 %	0.0054 - 0.0074	-		No	Not detected
Semivolatile Organic Compounds (SVOCs)								
Dichlorotrifluoroethane	soil	0 / 4	0 %	0.0050 0.0050	-		No	Not detected
Hexachlorobutadiene	soil	0 / 10	0 %	0.0049 - 0.0054	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	0 / 10	0 %	0.38 - 10	-		No	Not detected
TPH Diesel	soil	0 / 10	0 %	5 - 10	-		No	Not detected
TPH Motor Oil	soil	1 / 10	10 %	5 - 10	15 - 15		Yes	

Notes:
NA = Not applicable
Concentrations are mg/kg wet weight, with the exception of some PAH results and the 2011 data that are mg/kg dry weight.

Table 2-15
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area O

Chemical	Matrix	Frequency	Percent	NonDetects	Detects	COPC?	Rationale
		Detects / Total	Detects	Min – Max	Min – Max		
BTEX							
Benzene	soil gas	10 / 18	56 %	0.0035 - 0.0041	0.0024 - 0.87	Yes	
Ethylbenzene	soil gas	12 / 18	67 %	0.0048 - 0.0054	0.0040 - 0.23	Yes	
Toluene	soil gas	13 / 18	72 %	0.0041 - 0.0046	0.0072 - 0.045	Yes	
m&p-Xylenes	soil gas	12 / 18	67 %	0.0048 - 0.0054	0.011 - 0.20	Yes	
o-Xylene	soil gas	11 / 18	61 %	0.0048 - 0.035	0.0038 - 0.085	Yes	
Volatile Organic Compounds (VOCs)							
Acetone	soil gas	15 / 18	83 %	0.010 - 0.011	0.023 - 0.80	No	Common laboratory contaminant
Allyl chloride	soil gas	0 / 13	0 %	0.014 - 0.10	-	No	Not detected
Benzyl chloride	soil gas	0 / 18	0 %	0.0057 - 0.042	-	No	Not detected
Bromobenzene	soil gas	0 / 6	0 %	0.0065 - 0.0065	-	No	Not detected
Bromodichloromethane	soil gas	0 / 18	0 %	0.0068 - 0.055	-	No	Not detected
Bromoform	soil gas	0 / 18	0 %	0.010 - 0.084	-	No	Not detected
Bromomethane	soil gas	0 / 18	0 %	0.0043 - 0.032	-	No	Not detected
1,3-Butadiene	soil gas	0 / 18	0 %	0.0024 - 0.018	-	No	Not detected
2-Butanone	soil gas	12 / 18	67 %	0.0032 - 0.0036	0.013 - 0.28	Yes	
tert-Butylalcohol	soil gas	4 / 18	22 %	0.0061 - 0.099	0.0013 - 0.0019	Yes	
n-Butylbenzene	soil gas	1 / 6	17 %	0.0056 - 0.0056	0.0031 - 0.0031	Yes	
sec-Butylbenzene	soil gas	0 / 6	0 %	0.0056 - 0.0056	-	No	Not detected
tert-Butylbenzene	soil gas	1 / 6	17 %	0.0056 - 0.0056	0.0031 - 0.0031	Yes	
Carbon disulfide	soil gas	8 / 18	44 %	0.0034 - 0.0063	0.0026 - 0.12	Yes	
Carbon tetrachloride	soil gas	0 / 18	0 %	0.0064 - 0.051	-	No	Not detected
Chlorobenzene	soil gas	0 / 18	0 %	0.0047 - 0.038	-	No	Not detected
Chloroethane	soil gas	0 / 18	0 %	0.0029 - 0.022	-	No	Not detected
Chloroform	soil gas	4 / 18	22 %	0.0049 - 0.040	0.0022 - 0.0077	Yes	
Chloromethane	soil gas	3 / 19	16 %	0.0021 - 0.012	0.0012 - 0.094	Yes	
2-Chlorotoluene	soil gas	0 / 6	0 %	0.011 - 0.011	-	No	Not detected
4-Chlorotoluene	soil gas	0 / 6	0 %	0.011 - 0.011	-	No	Not detected
Cyclohexane	soil gas	11 / 18	61 %	0.0044 - 0.017	0.0057 - 3.2	Yes	
Dibromochloromethane	soil gas	0 / 19	0 %	0.0086 - 0.069	-	No	Not detected
1,2-Dibromo-3-chloropropane	soil gas	0 / 6	0 %	0.0098 - 0.0098	-	No	Not detected
1,2-Dibromoethane	soil gas	0 / 18	0 %	0.0078 - 0.063	-	No	Not detected
Dibromomethane	soil gas	0 / 6	0 %	0.0072 - 0.0072	-	No	Not detected
1,2-Dichlorobenzene	soil gas	0 / 18	0 %	0.0066 - 0.049	-	No	Not detected
1,3-Dichlorobenzene	soil gas	0 / 18	0 %	0.0066 - 0.049	-	No	Not detected
1,4-Dichlorobenzene	soil gas	0 / 18	0 %	0.0066 - 0.049	-	No	Not detected
Dichlorodifluoromethane	soil gas	6 / 18	33 %	0.0054 - 0.040	0.0035 - 0.0038	Yes	
1,1-Dichloroethane	soil gas	0 / 18	0 %	0.0041 - 0.033	-	No	Not detected
1,2-Dichloroethane	soil gas	0 / 18	0 %	0.0041 - 0.033	-	No	Not detected
1,1-Dichloroethene	soil gas	0 / 18	0 %	0.0040 - 0.032	-	No	Not detected
cis-1,2-Dichloroethene	soil gas	1 / 18	6 %	0.0040 - 0.032	0.0060 - 0.0060	Yes	
trans-1,2-Dichloroethene	soil gas	0 / 18	0 %	0.0044 - 0.032	-	No	Not detected
1,2-Dichloropropane	soil gas	0 / 18	0 %	0.0051 - 0.038	-	No	Not detected
1,3-Dichloropropane	soil gas	0 / 6	0 %	0.0047 - 0.0047	-	No	Not detected
2,2-Dichloropropane	soil gas	0 / 6	0 %	0.0047 - 0.0047	-	No	Not detected
1,1-Dichloropropene	soil gas	0 / 6	0 %	0.0046 - 0.0046	-	No	Not detected
cis-1,3-Dichloropropene	soil gas	0 / 18	0 %	0.0046 - 0.037	-	No	Not detected
trans-1,3-Dichloropropene	soil gas	0 / 18	0 %	0.0046 - 0.037	-	No	Not detected
1,2-Dichloro-1,1,2,2-tetraflouroethane	soil gas	0 / 18	0 %	0.0071 - 0.057	-	No	Not detected
1,1-Difluoroethane	soil gas	0 / 6	0 %	0.0027 - 0.0027	-	No	Not detected

Table 2-15
Chemical of Potential Concern Selection Summary - Soil Gas
Former Avila Tank Farm Exposure Area O

Chemical	Matrix	Frequency	Percent Detects	NonDetects	Detects	COPC?	Rationale
		Detects / Total		Min – Max	Min – Max		
Ethanol	soil gas	6 / 18	33 %	0.0083 - 0.061	0.030 - 0.048	No	Common laboratory contaminant
4-Ethyltoluene	soil gas	10 / 18	56 %	0.0050 - 0.0061	0.0020 - 0.37	Yes	
Ethyl acetate	soil gas	6 / 6	100 %	-	0.012 - 0.019	Yes	
Ethyl tert butyl ether	soil gas	0 / 18	0 %	0.0042 - 0.14	-	No	Not detected
n-Heptane	soil gas	8 / 18	44 %	0.0041 - 0.0053	0.0018 - 7.0	Yes	
Hexane	soil gas	11 / 18	61 %	0.0039 - 0.0045	0.0016 - 4.2	Yes	
2-Hexanone	soil gas	6 / 18	33 %	0.018 - 0.13	0.0018 - 0.0026	Yes	
Isopropyl alcohol	soil gas	10 / 19	53 %	0.011 - 0.080	0.0065 - 0.033	Yes	
Isopropyl ether	soil gas	0 / 18	0 %	0.0042 - 0.14	-	No	Not detected
Isopropylbenzene	soil gas	11 / 18	61 %	0.0054 - 0.0063	0.010 - 0.21	Yes	
p-Isopropyltoluene	soil gas	0 / 6	0 %	0.0056 - 0.0056	-	No	Not detected
Methylene chloride	soil gas	7 / 18	39 %	0.0038 - 0.0050	0.0018 - 0.033	Yes	
4-Methyl-2-pentanone	soil gas	6 / 18	33 %	0.0045 - 0.033	0.030 - 0.043	Yes	
Methyl tert-butyl ether	soil gas	2 / 18	11 %	0.0036 - 0.029	0.0059 - 0.0071	Yes	
n-Propylbenzene	soil gas	6 / 18	33 %	0.0050 - 0.0063	0.0024 - 0.36	Yes	
Propylene	soil gas	6 / 6	100 %	-	0.0012 - 0.0030	Yes	
Styrene	soil gas	6 / 18	33 %	0.0047 - 0.035	0.0021 - 0.0029	Yes	
1,1,1,2-Tetrachloroethane	soil gas	0 / 18	0 %	0.0070 - 0.22	-	No	Not detected
1,1,2,2-Tetrachloroethane	soil gas	0 / 18	0 %	0.0070 - 0.056	-	No	Not detected
Tetrachloroethene	soil gas	2 / 18	11 %	0.0069 - 0.055	0.0044 - 0.021	Yes	
Tetrahydrofuran	soil gas	6 / 18	33 %	0.0032 - 0.024	0.014 - 0.024	Yes	
Tert-amyl methyl ether	soil gas	0 / 18	0 %	0.0042 - 0.14	-	No	Not detected
1,2,3-Trichlorobenzene	soil gas	0 / 6	0 %	0.0075 - 0.0075	-	No	Not detected
1,2,4-Trichlorobenzene	soil gas	0 / 18	0 %	0.0075 - 0.24	-	No	Not detected
1,1,1-Trichloroethane	soil gas	0 / 18	0 %	0.0055 - 0.044	-	No	Not detected
1,1,2-Trichloroethane	soil gas	0 / 18	0 %	0.0055 - 0.044	-	No	Not detected
Trichloroethene	soil gas	1 / 18	6 %	0.0055 - 0.044	0.033 - 0.033	Yes	
Trichlorofluoromethane	soil gas	3 / 18	17 %	0.0056 - 0.046	0.0023 - 0.0025	Yes	
1,1,2-Trichlorotrifluoroethane	soil gas	0 / 18	0 %	0.0077 - 0.062	-	No	Not detected
1,2,3-Trichloropropane	soil gas	0 / 18	0 %	0.0061 - 0.20	-	No	Not detected
1,2,4-Trimethylbenzene	soil gas	10 / 18	56 %	0.0050 - 0.040	0.0047 - 1.30	Yes	
1,3,5-Trimethylbenzene	soil gas	12 / 18	67 %	0.0054 - 0.0061	0.0020 - 0.37	Yes	
2,2,4-Trimethylpentane	soil gas	9 / 18	50 %	0.0051 - 0.0068	0.0033 - 2.2	Yes	
Vinyl acetate	soil gas	0 / 20	0 %	NA - 0.0036	-	No	Not detected
Vinyl chloride	soil gas	0 / 18	0 %	0.0026 - 0.021	-	No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)							
Naphthalene	soil gas	2 / 18	11 %	0.0053 - 0.17	0.0041 - 0.0053	Yes	
Semivolatile Organic Compounds (SVOCs)							
1,4-Dioxane	soil gas	0 / 18	0 %	0.0073 - 0.12	-	No	Not detected
Hexachlorobutadiene	soil gas	0 / 18	0 %	0.011 - 0.35	-	No	Not detected

Notes:
Concentrations are in µg/L.
Includes samples collected to 15 feet bgs.
NA = Not Applicable, vinyl acetate was qualified as a tentatiively identified compound in 2007 soil gas data and no detection limit was reported

Table 2-16
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Open Space Exposure Area

Chemical	Matrix	Frequency	Percent	NonDetects	Detects	Inorganic Res	COPC?	Rationale
		Detects / Total	Detects	Min – Max	Min – Max	CHHSL		
Inorganics								
Antimony	soil	0 / 103	0 %	5.0 - 20	-	30	No	Never detected
Arsenic	soil	96 / 103	93 %	0.50 - 5.0	0.80 - 37	0.07	No	Passes all site-wide background comparison tests
Barium	soil	103 / 103	100 %	-	18 - 540	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	19 / 103	18 %	0.50 - 1.0	0.50 - 1.8	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	6 / 103	6 %	0.50 - 1.0	0.64 - 1.4	1.7	Yes	Low site-wide frequency of detect; detected in exposure area
Chromium (total)	soil	103 / 103	100 %	-	2.6 - 63	NA	Yes	Fails site-wide Obispo background comparison tests
Chromium VI	soil	0 / 4	0 %	0.50 - 0.50	-	17	No	Never detected
Cobalt	soil	85 / 103	83 %	1.0 - 2.0	1.0 - 29	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	101 / 103	98 %	0.50 - 4.0	0.80 - 120	3000	No	Passes all site-wide background comparison tests
Lead	soil	103 / 108	95 %	1.0 - 4.0	1.3 - 400	80	Yes	Fails site-wide Obispo background comparison tests
Tetraethyl Lead	soil	0 / 1	0 %	1.0 - 1.0	-	NA	No	Never detected
Mercury	soil	34 / 103	33 %	0.020 - 0.10	0.021 - 5.1	18	Yes	Low site-wide frequency of detect; detected in exposure area
Molybdenum	soil	9 / 103	9 %	1.0 - 4.0	1.1 - 3.7	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	103 / 103	100 %	-	2.1 - 130	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 103	0 %	2.00 - 5.0	-	380	No	Never detected
Silver	soil	0 / 103	0 %	0.99 - 2.0	-	380	No	Never detected
Thallium	soil	0 / 103	0 %	5.0 - 20	-	5.0	No	Never detected
Vanadium	soil	103 / 103	100 %	-	4.1 - 120	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	102 / 103	99 %	1.0 - 1.0	4.2 - 430	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	7 / 91	8 %	0.0019 - 0.10	0.031 - 11		Yes	
Ethylbenzene	soil	7 / 91	8 %	0.0019 - 0.10	0.072 - 15		Yes	
Toluene	soil	5 / 91	5 %	0.0019 - 0.10	0.20 - 62		Yes	
m&p-Xylenes	soil	0 / 26	0 %	0.0019 - 0.0042	-		No	Not detected
o-Xylene	soil	0 / 26	0 %	0.0019 - 0.0042	-		No	Not detected
Xylenes (total)	soil	9 / 91	10 %	0.0037 - 0.0085	0.0056 - 150		Yes	
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected
Bromochloromethane	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected
Bromodichloromethane	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
Bromoform	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected
Bromomethane	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected
tert-Butylalcohol	soil	0 / 34	0 %	0.024 - 2.5	-		No	Not detected
n-Butylbenzene	soil	3 / 66	5 %	0.0046 - 0.10	0.069 - 2.1		Yes	
sec-Butylbenzene	soil	4 / 66	6 %	0.0046 - 0.011	0.049 - 0.93		Yes	
tert-Butylbenzene	soil	2 / 66	3 %	0.0046 - 0.10	0.12 - 0.14		Yes	
Carbon tetrachloride	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected
Chlorobenzene	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
Chloroethane	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected
2-Chloroethyl vinyl ether	soil	0 / 32	0 %	0.010 - 0.20	-		No	Not detected
Chloroform	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
Chloromethane	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected
2-Chlorotoluene	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected
4-Chlorotoluene	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected
Dibromochloromethane	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
1,2-Dibromo-3-chloropropane	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected
1,2-Dibromoethane	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
Dibromomethane	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
1,2-Dichlorobenzene	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
1,3-Dichlorobenzene	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
1,4-Dichlorobenzene	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
Dichlorodifluoromethane	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected
1,1-Dichloroethane	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
1,2-Dichloroethane	soil	1 / 66	2 %	0.0019 - 0.50	0.0057 - 0.0057		No	Detected less than 5% of samples and not petroleum-related

Table 2-16
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Open Space Exposure Area

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
1,1-Dichloroethene	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected
cis-1,2-Dichloroethene	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
trans-1,2-Dichloroethene	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
1,2-Dichloropropane	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
1,3-Dichloropropane	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
2,2-Dichloropropane	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
1,1-Dichloropropene	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
cis-1,3-Dichloropropene	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
trans-1,3-Dichloropropene	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
Ethanol	soil	0 / 8	0 %	4.8 - 500	-		No	Not detected
Ethyl tert butyl ether	soil	0 / 34	0 %	0.0046 - 0.50	-		No	Not detected
Isopropyl ether	soil	0 / 34	0 %	0.0046 - 0.50	-		No	Not detected
Isopropylbenzene	soil	5 / 66	8 %	0.0019 - 0.0050	0.0023 - 4.1		Yes	
p-Isopropyltoluene	soil	2 / 66	3 %	0.0019 - 0.10	1.2 - 1.7		Yes	
Methylene chloride	soil	0 / 66	0 %	0.0048 - 0.50	-		No	Not detected
Methyl tert-butyl ether	soil	0 / 41	0 %	0.0046 - 0.50	-		No	Not detected
n-Propylbenzene	soil	3 / 66	5 %	0.0019 - 0.10	0.097 - 4.3		Yes	
Styrene	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
1,1,1,2-Tetrachloroethane	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected
1,1,2,2-Tetrachloroethane	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
Tetrachloroethene	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
Tert-amyl methyl ether	soil	0 / 34	0 %	0.0046 - 0.50	-		No	Not detected
1,2,3-Trichlorobenzene	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected
1,2,4-Trichlorobenzene	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected
1,1,1-Trichloroethane	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
1,1,2-Trichloroethane	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
Trichloroethene	soil	0 / 66	0 %	0.0019 - 0.50	-		No	Not detected
Trichlorofluoromethane	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected
1,2,3-Trichloropropane	soil	0 / 66	0 %	0.0048 - 0.50	-		No	Not detected
1,2,4-Trimethylbenzene	soil	6 / 66	9 %	0.0019 - 0.0050	0.00096 - 54		Yes	
1,3,5-Trimethylbenzene	soil	5 / 66	8 %	0.0019 - 0.0050	0.0071 - 8.7		Yes	
Vinyl chloride	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	20 / 45	44 %	0.0035 - 0.071	0.0036 - 0.5		Yes	
Acenaphthene	soil	1 / 45	2 %	0.0049 - 0.2	0.20 - 0.20		Yes	
Acenaphthylene	soil	4 / 45	9 %	0.0049 - 0.2	0.020 - 0.10		Yes	
Anthracene	soil	3 / 45	7 %	0.0049 - 0.2	0.0060 - 0.024		Yes	
Benz(a)anthracene	soil	8 / 45	18 %	0.0049 - 0.2	0.0050 - 0.91		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	15 / 45	33 %	0.0049 - 0.2	0.0056 - 0.89		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	7 / 45	16 %	0.0049 - 0.2	0.0060 - 0.21		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	18 / 45	40 %	0.0049 - 0.2	0.0054 - 0.60		Yes	
Benzo(a)pyrene	soil	17 / 45	38 %	0.0049 - 0.10	0.0070 - 0.5		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Chrysene	soil	18 / 45	40 %	0.0049 - 0.1	0.0056 - 3.6		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	5 / 45	11 %	0.0049 - 0.2	0.0060 - 0.28		Yes	
Fluoranthene	soil	10 / 45	22 %	0.0049 - 6.0	0.0062 - 0.58		Yes	
Fluorene	soil	5 / 45	11 %	0.0049 - 6.0	0.013 - 2.1		Yes	
Indeno(1,2,3-cd)pyrene	soil	7 / 45	16 %	0.0049 - 0.2	0.012 - 0.30		Yes	Carcinogenic PAHs evaluated as BaP TEQ
1-Methylnaphthalene	soil	2 / 26	8 %	0.0049 - 0.0070	0.0053 - 0.53		Yes	
2-Methylnaphthalene	soil	2 / 26	8 %	0.0049 - 0.0070	0.0063 - 0.48		Yes	
Naphthalene	soil	5 / 72	7 %	0.0047 - 6.0	0.0079 - 9.8		Yes	
Phenanthrene	soil	9 / 45	20 %	0.0049 - 0.2	0.0055 - 1.4		Yes	
Pyrene	soil	15 / 45	33 %	0.0049 - 0.2	0.0074 - 3.2		Yes	
Semivolatile Organic Compounds (SVOCs)								
Dichlorotrifluoroethane	soil	0 / 32	0 %	0.0050 0.10	-		No	Not detected
Hexachlorobutadiene	soil	0 / 66	0 %	0.0046 - 0.50	-		No	Not detected

Table 2-16
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Open Space Exposure Area

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	7 / 112	6 %	0.37 - 10	37 - 3800		Yes	
TPH Diesel	soil	70 / 155	45 %	1 - 11	0.57 - 8400		Yes	
TPH Motor Oil	soil	83 / 155	54 %	1.0 - 50	0.5 - 11000		Yes	
Polychlorinated Biphenyls (PCBs)								
Aroclor 1016	soil	0 / 4	0 %	0.030 - 0.30	-		No	Not detected
Aroclor 1221	soil	0 / 4	0 %	0.030 - 0.30	-		No	Not detected
Aroclor 1232	soil	0 / 4	0 %	0.030 - 0.30	-		No	Not detected
Aroclor 1242	soil	0 / 4	0 %	0.030 - 0.30	-		No	Not detected
Aroclor 1248	soil	0 / 4	0 %	0.030 - 0.30	-		No	Not detected
Aroclor 1254	soil	0 / 4	0 %	0.030 - 0.30	-		No	Not detected
Aroclor 1260	soil	0 / 4	0 %	0.030 - 0.30	-		No	Not detected
Pesticides								
Aldrin	soil	0 / 4	0 %	0.0020 - 0.0040	-		No	Not detected
alpha-BHC	soil	0 / 4	0 %	0.0020 - 0.0040	-		No	Not detected
beta-BHC	soil	0 / 4	0 %	0.0020 - 0.0040	-		No	Not detected
delta-BHC	soil	0 / 4	0 %	0.0020 - 0.0040	-		No	Not detected
gamma-BHC	soil	0 / 4	0 %	0.0020 - 0.0040	-		No	Not detected
Chlordane (mixture)	soil	0 / 4	0 %	0.10 - 0.20	-		No	Not detected
4,4'-DDD	soil	0 / 4	0 %	-	-		No	Not detected
4,4'-DDE	soil	0 / 4	0 %	-	-		No	Not detected
4,4'-DDT	soil	0 / 4	0 %	-	-		No	Not detected
Dieldrin	soil	0 / 4	0 %	0.0020 - 0.0040	-		No	Not detected
Endosulfan I	soil	0 / 4	0 %	0.0020 - 0.0040	-		No	Not detected
Endosulfan II	soil	0 / 4	0 %	0.0020 - 0.0040	-		No	Not detected
Endosulfan sulfate	soil	0 / 4	0 %	0.0020 - 0.0040	-		No	Not detected
Endrin	soil	0 / 4	0 %	0.0020 - 0.0040	-		No	Not detected
Endrin aldehyde	soil	0 / 4	0 %	0.0020 - 0.0040	-		No	Not detected
Endrin ketone	soil	0 / 4	0 %	0.0020 - 0.0040	-		No	Not detected
Heptachlor	soil	0 / 4	0 %	0.0020 - 0.0040	-		No	Not detected
Heptachlor epoxide	soil	0 / 4	0 %	0.0020 - 0.0040	-		No	Not detected
Methoxychlor	soil	0 / 4	0 %	0.0020 - 0.0040	-		No	Not detected
Toxaphene	soil	0 / 4	0 %	0.1000 - 0.2000	-		No	Not detected
2,4,5-T	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected
2,4-D	soil	0 / 4	0 %	0.050 - 0.050	-		No	Not detected
2,4-DB	soil	0 / 4	0 %	0.50 - 0.50	-		No	Not detected
Dalapon	soil	0 / 4	0 %	0.10 - 0.10	-		No	Not detected
Dicamba	soil	0 / 4	0 %	0.010 - 0.010	-		No	Not detected
Dichloprop	soil	0 / 4	0 %	0.050 - 0.050	-		No	Not detected
Dinoseb	soil	0 / 4	0 %	0.010 - 0.010	-		No	Not detected
MCPA	soil	0 / 4	0 %	5.0 - 5.0	-		No	Not detected
MCPP	soil	0 / 4	0 %	5.0 - 5.0	-		No	Not detected
Silvex	soil	0 / 4	0 %	0.0050 - 0.0050	-		No	Not detected

Notes:
NA = Not applicable
Concentrations are mg/kg wet weight, with the exception of some PAH results and the 2011 data that are mg/kg dry weight.

Table 2-17
Chemical of Potential Concern Selection Summary - Soil for Produce (0-5 feet)
Former Avila Tank Farm Native Gardens

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Inorganics								
Antimony	soil	0 / 8	0 %	5.0 - 10	-	30	No	Low site-wide frequency of detect; never detected in exposure area
Arsenic	soil	8 / 8	100 %	-	1.1 - 7.6	0.070	No	Passes all site-wide background comparison tests
Barium	soil	8 / 8	100 %	-	30 - 99	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	2 / 8	25 %	0.50 - 0.50	0.50 - 1.1	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	1 / 8	13 %	0.50 - 1.0	0.66 - 0.66	1.7	Yes	Low site-wide frequency of detect; detected in exposure area
Chromium (total)	soil	8 / 8	100 %	-	15 - 24	NA	Yes	Fails site-wide Obispo background comparison tests
Cobalt	soil	6 / 8	75 %	1.0 - 1.0	1.0 - 3.0	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	8 / 8	100 %	-	2.2 - 5.8	3000	No	Passes all site-wide background comparison tests
Lead	soil	7 / 8	88 %	1.0 - 1.0	3.2 - 7.8	150	Yes	Fails site-wide Obispo background comparison tests
Mercury	soil	4 / 8	50 %	0.020 - 0.10	0.032 - 0.10	18	Yes	Low site-wide frequency of detect; detected in exposure area
Molybdenum	soil	0 / 8	0 %	1.0 - 2.0	-	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	8 / 8	100 %	-	7.1 - 14	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 8	0 %	2.0 - 5.0	-	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Silver	soil	0 / 8	0 %	1.0 - 1.0	-	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Thallium	soil	0 / 8	0 %	5.0 - 10	-	5.0	No	Low site-wide frequency of detect; never detected in exposure area
Vanadium	soil	8 / 8	100 %	-	11 - 18	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	8 / 8	100 %	1.0 - 1.0	6.0 - 18	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Never detected
Ethylbenzene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Never detected
Toluene	soil	0 / 12	0 %	0.0020 - 0.0050	-		No	Never detected
m&p-Xylenes	soil	0 / 6	0 %	0.0020 - 0.0042	-		No	Never detected; captured as total xylenes
o-Xylene	soil	0 / 6	0 %	0.0020 - 0.0042	-		No	Never detected; captured as total xylenes
Xylenes (total)	soil	0 / 12	0 %	0.0040 - 0.0085	-		No	Never detected
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
Bromochloromethane	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
Bromodichloromethane	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
Bromoform	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
Bromomethane	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
tert-Butylalcohol	soil	0 / 6	0 %	0.099 - 0.11	-		No	Never detected
n-Butylbenzene	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
sec-Butylbenzene	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
tert-Butylbenzene	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
Carbon tetrachloride	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
Chlorobenzene	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
Chloroethane	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
2-Chloroethyl vinyl ether	soil	0 / 2	0 %	0.010 - 0.010	-		No	Never detected
Chloroform	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
Chloromethane	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
2-Chlorotoluene	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
4-Chlorotoluene	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
Dibromochloromethane	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
1,2-Dibromo-3-chloropropane	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
1,2-Dibromoethane	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
Dibromomethane	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
1,2-Dichlorobenzene	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
1,3-Dichlorobenzene	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
1,4-Dichlorobenzene	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
Dichlorodifluoromethane	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
1,1-Dichloroethane	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
1,2-Dichloroethane	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
1,1-Dichloroethene	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
cis-1,2-Dichloroethene	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
trans-1,2-Dichloroethene	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
1,2-Dichloropropane	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
1,3-Dichloropropane	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
2,2-Dichloropropane	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
1,1-Dichloropropene	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
cis-1,3-Dichloropropene	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected

Table 2-17
Chemical of Potential Concern Selection Summary - Soil for Produce (0-5 feet)
Former Avila Tank Farm Native Gardens

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
trans-1,3-Dichloropropene	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
Ethyl tert butyl ether	soil	0 / 6	0 %	0.0050 - 0.011	-		No	Never detected
Isopropyl ether	soil	0 / 6	0 %	0.0050 - 0.011	-		No	Never detected
Isopropylbenzene	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
p-Isopropyltoluene	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
Methylene chloride	soil	0 / 8	0 %	0.0050 - 0.020	-		No	Never detected
Methyl tert-butyl ether	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
n-Propylbenzene	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
Styrene	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
1,1,1,2-Tetrachloroethane	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
1,1,2,2-Tetrachloroethane	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
Tetrachloroethene	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
Tert-amyl methyl ether	soil	0 / 6	0 %	0.0050 - 0.011	-		No	Never detected
1,2,3-Trichlorobenzene	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
1,2,4-Trichlorobenzene	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
1,1,1-Trichloroethane	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
1,1,2-Trichloroethane	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
Trichloroethene	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
Trichlorofluoromethane	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
1,2,3-Trichloropropane	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
1,2,4-Trimethylbenzene	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
1,3,5-Trimethylbenzene	soil	0 / 8	0 %	0.0020 - 0.0050	-		No	Never detected
Vinyl chloride	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	2 / 7	29 %	0.0037 - 0.0046	0.0097 - 0.018		Yes	
Acenaphthene	soil	0 / 7	0 %	0.0053 - 0.010	-		No	Never detected
Acenaphthylene	soil	0 / 7	0 %	0.0053 - 0.010	-		No	Never detected
Anthracene	soil	0 / 7	0 %	0.0053 - 0.010	-		No	Never detected
Benz(a)anthracene	soil	1 / 7	14 %	0.0053 - 0.010	0.029 - 0.029		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	2 / 7	29 %	0.0053 - 0.0065	0.0067 - 0.012		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	0 / 7	0 %	0.0053 - 0.010	-		No	Never detected; Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	2 / 7	29 %	0.0053 - 0.0065	0.0060 - 0.023		Yes	
Benzo(a)pyrene	soil	1 / 7	14 %	0.0053 - 0.010	0.014 - 0.014		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Chrysene	soil	1 / 7	14 %	0.0053 - 0.0065	0.0058 - 0.0058		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	1 / 7	14 %	0.0053 - 0.0065	0.022 - 0.022		Yes	
Fluoranthene	soil	0 / 7	0 %	0.0053 - 0.010	-		No	Never detected
Fluorene	soil	0 / 7	0 %	0.0053 - 0.010	-		No	Never detected
Indeno(1,2,3-cd)pyrene	soil	1 / 7	14 %	0.0053 - 0.0065	0.019 - 0.019		Yes	Carcinogenic PAHs evaluated as BaP TEQ
1-Methylnaphthalene	soil	0 / 6	0 %	0.0053 - 0.0065	-		No	Never detected
2-Methylnaphthalene	soil	0 / 6	0 %	0.0053 - 0.0065	-		No	Never detected
Naphthalene	soil	0 / 8	0 %	0.0050 - 0.0061	-		No	Never detected
Phenanthrene	soil	0 / 7	0 %	0.0053 - 0.0065	-		No	Never detected
Pyrene	soil	2 / 7	29 %	0.0053 - 0.0065	0.018 - 0.020		Yes	
Semivolatile Organic Compounds (SVOCs)								
Dichlorotrifluoroethane	soil	0 / 2	0 %	0.0050 0.0050	-		No	Never detected
Hexachlorobutadiene	soil	0 / 8	0 %	0.0050 - 0.011	-		No	Never detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	0 / 12	0 %	0.40 - 10	-		No	Never detected
TPH Diesel	soil	2 / 12	17 %	5.0 - 10	9.3 - 68		Yes	
TPH Motor Oil	soil	4 / 12	33 %	5.0 - 10	11 - 260		Yes	
Pesticides								
Aldrin	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
alpha-BHC	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
beta-BHC	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
delta-BHC	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
gamma-BHC	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Chlordane (mixture)	soil	0 / 1	0 %	0.10 - 0.10	-		No	Never detected
4,4'-DDD	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
4,4'-DDE	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
4,4'-DDT	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected

Table 2-17
Chemical of Potential Concern Selection Summary - Soil for Produce (0-5 feet)
Former Avila Tank Farm Native Gardens

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Dieldrin	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Endosulfan I	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Endosulfan II	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Endosulfan sulfate	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Endrin	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Endrin aldehyde	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Endrin ketone	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Heptachlor	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Heptachlor epoxide	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Methoxychlor	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Toxaphene	soil	0 / 1	0 %	0.10 - 0.10	-		No	Never detected
2,4,5-T	soil	0 / 1	0 %	0.0050 - 0.0050	-		No	Never detected
2,4-D	soil	0 / 1	0 %	0.050 - 0.050	-		No	Never detected
2,4-DB	soil	0 / 1	0 %	0.50 - 0.50	-		No	Never detected
Dalapon	soil	0 / 1	0 %	0.10 - 0.10	-		No	Never detected
Dicamba	soil	0 / 1	0 %	0.010 - 0.010	-		No	Never detected
Dichloprop	soil	0 / 1	0 %	0.050 - 0.050	-		No	Never detected
Dinoseb	soil	0 / 1	0 %	0.010 - 0.010	-		No	Never detected
MCPA	soil	0 / 1	0 %	5.0 - 5.0	-		No	Never detected
MCPP	soil	0 / 1	0 %	5.0 - 5.0	-		No	Never detected
Silvex	soil	0 / 1	0 %	0.0050 - 0.0050	-		No	Never detected

Notes:
NA = Not Applicable
Concentrations are in mg/kg wet weight, with the exception of some PAH results that are mg/kg dry weight.

Table 2-17
Chemical of Potential Concern Selection Summary - Soil (0-10 feet)
Former Avila Tank Farm Native Gardens

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Inorganics								
Antimony	soil	0 / 8	0 %	5.0 - 10	-	30	No	Low site-wide frequency of detect; never detected in exposure area
Arsenic	soil	8 / 8	100 %	-	1.1 - 7.6	0.070	No	Passes all site-wide background comparison tests
Barium	soil	8 / 8	100 %	-	30 - 99	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	2 / 8	25 %	0.50 - 0.50	0.50 - 1.1	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	1 / 8	13 %	0.50 - 1.0	0.66 - 0.66	1.7	Yes	Low site-wide frequency of detect; detected in exposure area
Chromium (total)	soil	8 / 8	100 %	-	15 - 24	NA	Yes	Fails site-wide Obispo background comparison tests
Cobalt	soil	6 / 8	75 %	1.0 - 1.0	1.0 - 3.0	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	8 / 8	100 %	-	2.2 - 5.8	3000	No	Passes all site-wide background comparison tests
Lead	soil	7 / 8	88 %	1.0 - 1.0	3.2 - 7.8	150	Yes	Fails site-wide Obispo background comparison tests
Mercury	soil	4 / 8	50 %	0.020 - 0.10	0.032 - 0.10	18	Yes	Low site-wide frequency of detect; detected in exposure area
Molybdenum	soil	0 / 8	0 %	1.0 - 2.0	-	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	8 / 8	100 %	-	7.1 - 14	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 8	0 %	2.0 - 5.0	-	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Silver	soil	0 / 8	0 %	1.0 - 1.0	-	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Thallium	soil	0 / 8	0 %	5.0 - 10	-	5.0	No	Low site-wide frequency of detect; never detected in exposure area
Vanadium	soil	8 / 8	100 %	-	11 - 18	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	8 / 8	100 %	1.0 - 1.0	6.0 - 18	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	0 / 16	0 %	0.0020 - 0.0050	-		No	Never detected
Ethylbenzene	soil	0 / 16	0 %	0.0020 - 0.0050	-		No	Never detected
Toluene	soil	0 / 16	0 %	0.0020 - 0.0050	-		No	Never detected
m&p-Xylenes	soil	0 / 6	0 %	0.0020 - 0.0042	-		No	Never detected
o-Xylene	soil	0 / 6	0 %	0.0020 - 0.0042	-		No	Never detected
Xylenes (total)	soil	0 / 16	0 %	0.0040 - 0.0085	-		No	Never detected
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
Bromochloromethane	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
Bromodichloromethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
Bromoform	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
Bromomethane	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
tert-Butylalcohol	soil	0 / 6	0 %	0.099 - 0.11	-		No	Never detected
n-Butylbenzene	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
sec-Butylbenzene	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
tert-Butylbenzene	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
Carbon tetrachloride	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
Chlorobenzene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
Chloroethane	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
2-Chloroethyl vinyl ether	soil	0 / 3	0 %	0.010 - 0.010	-		No	Never detected
Chloroform	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
Chloromethane	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
2-Chlorotoluene	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
4-Chlorotoluene	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
Dibromochloromethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
1,2-Dibromo-3-chloropropane	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
1,2-Dibromoethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
Dibromomethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
1,2-Dichlorobenzene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
1,3-Dichlorobenzene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
1,4-Dichlorobenzene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
Dichlorodifluoromethane	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
1,1-Dichloroethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
1,2-Dichloroethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
1,1-Dichloroethene	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
cis-1,2-Dichloroethene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
trans-1,2-Dichloroethene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
1,2-Dichloropropane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
1,3-Dichloropropane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
2,2-Dichloropropane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
1,1-Dichloropropene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
cis-1,3-Dichloropropene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected

Table 2-17
Chemical of Potential Concern Selection Summary - Soil (0-10 feet)
Former Avila Tank Farm Native Gardens

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
trans-1,3-Dichloropropene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
Ethyl tert butyl ether	soil	0 / 6	0 %	0.0050 - 0.011	-		No	Never detected
Isopropyl ether	soil	0 / 6	0 %	0.0050 - 0.011	-		No	Never detected
Isopropylbenzene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
p-Isopropyltoluene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
Methylene chloride	soil	0 / 9	0 %	0.0050 - 0.0200	-		No	Never detected
Methyl tert-butyl ether	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
n-Propylbenzene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
Styrene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
1,1,1,2-Tetrachloroethane	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
1,1,2,2-Tetrachloroethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
Tetrachloroethene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
Tert-amyl methyl ether	soil	0 / 6	0 %	0.0050 - 0.011	-		No	Never detected
1,2,3-Trichlorobenzene	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
1,2,4-Trichlorobenzene	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
1,1,1-Trichloroethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
1,1,2-Trichloroethane	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
Trichloroethene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
Trichlorofluoromethane	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
1,2,3-Trichloropropane	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
1,2,4-Trimethylbenzene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
1,3,5-Trimethylbenzene	soil	0 / 9	0 %	0.0020 - 0.0050	-		No	Never detected
Vinyl chloride	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	2 / 7	29 %	0.0037 - 0.0046	0.0097 - 0.01817		Yes	
Acenaphthene	soil	0 / 7	0 %	0.0053 - 0.010	-		No	Never detected
Acenaphthylene	soil	0 / 7	0 %	0.0053 - 0.010	-		No	Never detected
Anthracene	soil	0 / 7	0 %	0.0053 - 0.010	-		No	Never detected
Benz(a)anthracene	soil	1 / 7	14 %	0.0053 - 0.010	0.029 - 0.029		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	2 / 7	29 %	0.0053 - 0.0065	0.0067 - 0.012		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	0 / 7	0 %	0.0053 - 0.010	-		No	Never detected; Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	2 / 7	29 %	0.0053 - 0.0065	0.0060 - 0.023		Yes	
Benzo(a)pyrene	soil	1 / 7	14 %	0.0053 - 0.010	0.014 - 0.014		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Chrysene	soil	1 / 7	14 %	0.0053 - 0.0065	0.0058 - 0.0058		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	1 / 7	14 %	0.0053 - 0.0065	0.022 - 0.022		Yes	
Fluoranthene	soil	0 / 7	0 %	0.0053 - 0.010	-		No	Never detected
Fluorene	soil	0 / 7	0 %	0.0053 - 0.010	-		No	Never detected
Indeno(1,2,3-cd)pyrene	soil	1 / 7	14 %	0.0053 - 0.0065	0.019 - 0.019		Yes	Carcinogenic PAHs evaluated as BaP TEQ
1-Methylnaphthalene	soil	0 / 6	0 %	0.0053 - 0.0065	-		No	Never detected
2-Methylnaphthalene	soil	0 / 6	0 %	0.0053 - 0.0065	-		No	Never detected
Naphthalene	soil	0 / 9	0 %	0.0050 - 0.0061	-		No	Never detected
Phenanthrene	soil	0 / 7	0 %	0.0053 - 0.0065	-		No	Never detected
Pyrene	soil	2 / 7	29 %	0.0053 - 0.0065	0.018 - 0.020		Yes	
Semivolatile Organic Compounds (SVOCs)								
Dichlorotrifluoroethane	soil	0 / 3	0 %	0.0050 0.0050	-		No	Never detected
Hexachlorobutadiene	soil	0 / 9	0 %	0.0050 - 0.011	-		No	Never detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	0 / 16	0 %	0.40 - 10	-		No	Never detected
TPH Diesel	soil	2 / 16	13 %	5.0 - 10	9.3 - 68		Yes	
TPH Motor Oil	soil	4 / 16	25 %	5.0 - 10	11 - 260		Yes	
Pesticides								
Aldrin	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
alpha-BHC	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
beta-BHC	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
delta-BHC	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
gamma-BHC	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Chlordane (mixture)	soil	0 / 1	0 %	0.10 - 0.10	-		No	Never detected
4,4'-DDD	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
4,4'-DDE	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
4,4'-DDT	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected

Table 2-17
Chemical of Potential Concern Selection Summary - Soil (0-10 feet)
Former Avila Tank Farm Native Gardens

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Dieldrin	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Endosulfan I	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Endosulfan II	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Endosulfan sulfate	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Endrin	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Endrin aldehyde	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Endrin ketone	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Heptachlor	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Heptachlor epoxide	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Methoxychlor	soil	0 / 1	0 %	0.0020 - 0.0020	-		No	Never detected
Toxaphene	soil	0 / 1	0 %	0.10 - 0.10	-		No	Never detected
2,4,5-T	soil	0 / 1	0 %	0.0050 - 0.0050	-		No	Never detected
2,4-D	soil	0 / 1	0 %	0.050 - 0.050	-		No	Never detected
2,4-DB	soil	0 / 1	0 %	0.50 - 0.50	-		No	Never detected
Dalapon	soil	0 / 1	0 %	0.10 - 0.10	-		No	Never detected
Dicamba	soil	0 / 1	0 %	0.010 - 0.010	-		No	Never detected
Dichloprop	soil	0 / 1	0 %	0.050 - 0.050	-		No	Never detected
Dinoseb	soil	0 / 1	0 %	0.010 - 0.010	-		No	Never detected
MCPA	soil	0 / 1	0 %	5.0 - 5.0	-		No	Never detected
MCPP	soil	0 / 1	0 %	5.0 - 5.0	-		No	Never detected
Silvex	soil	0 / 1	0 %	0.0050 - 0.0050	-		No	Never detected

Notes:
NA = Not Applicable
Concentrations are in mg/kg wet weight, with the exception of some PAH results that are mg/kg dry weight.

Table 2-18
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Drainage Exposure Area

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Inorganics								
Antimony	soil	0 / 8	0 %	5.0 - 5.0	-	30	No	Low site-wide frequency of detect; never detected in exposure area
Arsenic	soil	7 / 8	88 %	5.0 - 5.0	3.1 - 57	0.07	No	Passes all site-wide background comparison tests
Barium	soil	8 / 8	100 %	-	38 - 67	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	0 / 8	0 %	0.50 - 0.50	-	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	0 / 8	0 %	1.0 - 1.0	-	1.7	No	Low site-wide frequency of detect; never detected in exposure area
Chromium (total)	soil	8 / 8	100 %	-	15 - 97	NA	Yes	Fails site-wide Obispo background comparison tests
Chromium VI	soil	0 / 4	0 %	0.50 - 0.50	-	17	No	Never detected
Cobalt	soil	7 / 8	88 %	1.0 - 1.0	1.1 - 21	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	8 / 8	100 %	-	2.2 - 21	3000	No	Passes all site-wide background comparison tests
Lead	soil	8 / 8	100 %	-	3.6 - 22	80	Yes	Fails site-wide Obispo background comparison tests
Mercury	soil	1 / 8	13 %	0.10 - 0.10	0.10 - 0.10	18	Yes	Low site-wide frequency of detect; detected in exposure area
Molybdenum	soil	1 / 8	13 %	1.0 - 1.0	1.4 - 1.4	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	8 / 8	100 %	-	6.5 - 400	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 8	0 %	1.0 - 5.0	-	380	No	Never detected
Silver	soil	0 / 8	0 %	1.0 - 1.0	-	380	No	Never detected
Thallium	soil	0 / 8	0 %	5.0 - 5.0	-	5.0	No	Low site-wide frequency of detect; never detected in exposure area
Vanadium	soil	8 / 8	100 %	-	12 - 34	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	8 / 8	100 %	-	9.4 - 41	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	1 / 8	13 %	0.0050 - 0.0050	1.4 - 1.4		Yes	
Ethylbenzene	soil	1 / 8	13 %	0.0050 - 0.0050	1.7 - 1.7		Yes	
Toluene	soil	0 / 8	0 %	0.0050 - 0.10	-		No	Not detected
Xylenes (total)	soil	1 / 8	13 %	0.0050 - 0.0050	0.90 - 0.90		Yes	
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Bromochloromethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Bromodichloromethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Bromoform	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Bromomethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
n-Butylbenzene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
sec-Butylbenzene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
tert-Butylbenzene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Carbon tetrachloride	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Chlorobenzene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Chloroethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
2-Chloroethyl vinyl ether	soil	0 / 3	0 %	0.010 - 0.010	-		No	Not detected
Chloroform	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Chloromethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
2-Chlorotoluene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
4-Chlorotoluene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Dibromochloromethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dibromo-3-chloropropane	soil	0 / 3	0 %	0.010 - 0.010	-		No	Not detected
1,2-Dibromoethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Dibromomethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dichlorobenzene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
1,3-Dichlorobenzene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
1,4-Dichlorobenzene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Dichlorodifluoromethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
1,1-Dichloroethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dichloroethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
1,1-Dichloroethene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
cis-1,2-Dichloroethene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
trans-1,2-Dichloroethene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
1,2-Dichloropropane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
1,3-Dichloropropane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
2,2-Dichloropropane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
1,1-Dichloropropene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
cis-1,3-Dichloropropene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
trans-1,3-Dichloropropene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected

Table 2-18
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Drainage Exposure Area

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Isopropylbenzene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
p-Isopropyltoluene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Methylene chloride	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Methyl tert-butyl ether	soil	0 / 5	0 %	0.0050 - 0.10	-		No	Not detected
n-Propylbenzene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Styrene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
1,1,1,2-Tetrachloroethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
1,1,2,2-Tetrachloroethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Tetrachloroethene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
1,2,3-Trichlorobenzene	soil	0 / 3	0 %	0.010 - 0.010	-		No	Not detected
1,2,4-Trichlorobenzene	soil	0 / 3	0 %	0.010 - 0.010	-		No	Not detected
1,1,1-Trichloroethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
1,1,2-Trichloroethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Trichloroethene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Trichlorofluoromethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
1,2,3-Trichloropropane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
1,2,4-Trimethylbenzene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
1,3,5-Trimethylbenzene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Vinyl chloride	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	2 / 4	50 %	0.035 - 0.71	0.0076 - 0.069		Yes	
Acenaphthene	soil	1 / 4	25 %	0.010 - 1.0	0.050 - 0.050		Yes	
Acenaphthylene	soil	0 / 4	0 %	0.010 - 1.0	-		No	Not detected
Anthracene	soil	0 / 4	0 %	0.010 - 1.0	-		No	Not detected
Benz(a)anthracene	soil	0 / 4	0 %	0.010 - 1.0	-		No	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	1 / 4	25 %	0.010 - 1.0	0.020 - 0.020		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	0 / 4	0 %	0.010 - 1.0	-		No	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	2 / 4	50 %	0.050 - 1.0	0.021 - 0.027		Yes	
Benzo(a)pyrene	soil	1 / 4	25 %	0.010 - 1.0	0.065 - 0.065		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Chrysene	soil	1 / 4	25 %	0.010 - 1.0	0.022 - 0.022		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	2 / 4	50 %	0.050 - 1.0	0.010 - 0.012		Yes	
Fluoranthene	soil	1 / 4	25 %	0.010 - 1.0	0.011 - 0.011		Yes	
Fluorene	soil	1 / 4	25 %	0.010 - 1.0	0.21 - 0.21		Yes	
Indeno(1,2,3-cd)pyrene	soil	1 / 4	25 %	0.010 - 1.0	0.010 - 0.010		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Naphthalene	soil	1 / 4	25 %	0.0050 - 0.0050	0.26 - 0.26		Yes	
Phenanthrene	soil	1 / 4	25 %	0.010 - 1.0	0.48 - 0.48		Yes	
Pyrene	soil	1 / 4	25 %	0.010 - 1.0	0.013 - 0.013		Yes	
Semivolatile Organic Compounds (SVOCs)								
Dichlorotrifluoroethane	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Hexachlorobutadiene	soil	0 / 3	0 %	0.0050 - 0.0050	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	1 / 10	10 %	10 - 10	510 - 510		Yes	
TPH Diesel	soil	7 / 10	70 %	10 - 10	25 - 4300		Yes	
TPH Motor Oil	soil	7 / 10	70 %	10 - 10	110 - 12000		Yes	

Notes:
NA = Not applicable
Concentrations are mg/kg wet weight, with the exception of some PAH results and the 2011 data that are mg/kg dry weight.

Table 2-19
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Site-Wide Exposure Area

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Inorganics								
Antimony	soil	1 / 313	0 %	4.4 - 20	46.00 - 46	30	Yes	Low site-wide frequency of detect; detected in exposure area
Arsenic	soil	261 / 313	83 %	0.50 - 5.0	0.60 - 57	0.07	No	Passes all site-wide background comparison tests
Barium	soil	313 / 313	100 %	-	1.3 - 540	5200	No	Passes all site-wide background comparison tests
Beryllium	soil	49 / 313	16 %	0.49 - 1.0	0.50 - 2.0	150	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Cadmium	soil	34 / 313	11 %	0.49 - 1.0	0.32 - 4.3	1.7	Yes	Low site-wide frequency of detect; detected in exposure area
Chromium (total)	soil	312 / 313	100 %	1.0 - 1.0	1.6 - 97	NA	Yes	Fails site-wide Obispo background comparison tests
Chromium VI	soil	0 / 8	0 %	0.50 - 0.50	-	17		Never detected
Cobalt	soil	242 / 313	77 %	0.99 - 2.0	1.0 - 46	660	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Copper	soil	306 / 313	98 %	0.50 - 4.0	0.50 - 120	3000	No	Passes all site-wide background comparison tests
Lead	soil	417 / 429	97 %	1.0 - 4.0	1.2 - 1600	80	Yes	Fails site-wide Obispo background comparison tests
Tetraethyl Lead	soil	0 / 17	0 %	0.50 - 1.0	-	NA	No	Never detected
Mercury	soil	92 / 313	29 %	0.020 - 0.10	0.012 - 5.1	18	Yes	Low site-wide frequency of detect; detected in exposure area
Molybdenum	soil	51 / 313	16 %	0.88 - 4.0	1.0 - 15	380	No	Site-wide max detect does not exceed 1/10 residential CHSSL
Nickel	soil	308 / 313	98 %	1.0 - 4.0	1.9 - 400	1600	No	Passes all site-wide background comparison tests
Selenium	soil	0 / 313	0 %	0.50 - 5.0	-	380	No	Never detected
Silver	soil	0 / 313	0 %	0.50 - 2.0	-	380	No	Never detected
Thallium	soil	0 / 313	0 %	0.88 - 20	-	5.0	No	Low site-wide frequency of detect; detected in exposure area
Vanadium	soil	312 / 313	100 %	1.0 - 1.0	1.1 - 270	530	Yes	Fails site-wide Pismo background comparison tests
Zinc	soil	304 / 313	97 %	1.0 - 5.0	4.2 - 570	23000	No	Site-wide max detect does not exceed 1/10 residential CHSSL
BTEX								
Benzene	soil	47 / 481	10 %	0.0019 - 0.20	0.0060 - 19		Yes	
Ethylbenzene	soil	63 / 481	13 %	0.0019 - 0.20	0.0032 - 120		Yes	
Toluene	soil	35 / 481	7 %	0.0019 - 1.0	0.0026 - 62		Yes	
m&p-Xylenes	soil	4 / 89	4 %	0.0019 - 0.20	0.013 - 6.8		No	Captured as total xylenes
o-Xylene	soil	4 / 89	4 %	0.0019 - 0.20	0.0041 - 8.7		No	Captured as total xylenes
Xylenes (total)	soil	79 / 481	16 %	0.0037 - 0.40	0.0056 - 940		Yes	
Volatile Organic Compounds (VOCs)								
Bromobenzene	soil	0 / 235	0 %	0.0046 - 2.5	-		No	Not detected
Bromochloromethane	soil	0 / 235	0 %	0.0046 - 2.5	-		No	Not detected
Bromodichloromethane	soil	0 / 235	0 %	0.0019 - 1.0	-		No	Not detected
Bromoform	soil	0 / 235	0 %	0.0046 - 2.5	-		No	Not detected
Bromomethane	soil	0 / 235	0 %	0.0046 - 2.5	-		No	Not detected
tert-Butylalcohol	soil	0 / 105	0 %	0.024 - 50	-		No	Not detected
n-Butylbenzene	soil	20 / 235	9 %	0.0046 - 0.10	0.043 - 4.3		Yes	
sec-Butylbenzene	soil	21 / 235	9 %	0.0046 - 0.10	0.0025 - 2.8		Yes	
tert-Butylbenzene	soil	5 / 235	2 %	0.0046 - 2.5	0.011 - 0.24		Yes	
Carbon tetrachloride	soil	0 / 235	0 %	0.0046 - 2.5	-		No	Not detected
Chlorobenzene	soil	1 / 235	0 %	0.0019 - 1.0	0.0059 - 0.0059		Yes	
Chloroethane	soil	0 / 235	0 %	0.0046 - 2.5	-		No	Not detected
2-Chloroethyl vinyl ether	soil	0 / 125	0 %	0.010 - 0.20	-		No	Not detected
Chloroform	soil	3 / 235	1 %	0.0019 - 1.0	0.0027 - 0.0073		Yes	
Chloromethane	soil	0 / 235	0 %	0.0046 - 2.5	-		No	Not detected
2-Chlorotoluene	soil	0 / 235	0 %	0.0046 - 2.5	-		No	Not detected
4-Chlorotoluene	soil	0 / 235	0 %	0.0046 - 2.5	-		No	Not detected
Dibromochloromethane	soil	0 / 235	0 %	0.0019 - 1.0	-		No	Not detected
1,2-Dibromo-3-chloropropane	soil	0 / 235	0 %	0.0046 - 2.5	-		No	Not detected
1,2-Dibromoethane	soil	0 / 235	0 %	0.0019 - 1.0	-		No	Not detected
Dibromomethane	soil	0 / 235	0 %	0.0019 - 1.0	-		No	Not detected
1,2-Dichlorobenzene	soil	2 / 235	1 %	0.0019 - 1.0	0.016 - 0.27		Yes	
1,3-Dichlorobenzene	soil	1 / 235	0 %	0.0019 - 1.0	0.017 - 0.017		Yes	
1,4-Dichlorobenzene	soil	2 / 235	1 %	0.0019 - 1.0	0.0062 - 0.096		Yes	
Dichlorodifluoromethane	soil	0 / 235	0 %	0.0046 - 2.0	-		No	Not detected
1,1-Dichloroethane	soil	1 / 235	0 %	0.0019 - 1.0	0.029 - 0.029		Yes	
1,2-Dichloroethane	soil	1 / 235	0 %	0.0019 - 1.0	0.0057 - 0.0057		Yes	
1,1-Dichloroethene	soil	0 / 235	0 %	0.0046 - 2.5	-		No	Not detected

Table 2-19
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Site-Wide Exposure Area

Chemical	Matrix	Frequency	Percent	NonDetects	Detects	Inorganic Res	COPC?	Rationale
		Detects / Total	Detects	Min – Max	Min – Max	CHHSL		
cis-1,2-Dichloroethene	soil	0 / 235	0 %	0.0019 - 1.0	-		No	Not detected
trans-1,2-Dichloroethene	soil	0 / 235	0 %	0.0019 - 1.0	-		No	Not detected
1,2-Dichloropropane	soil	0 / 235	0 %	0.0019 - 1.0	-		No	Not detected
1,3-Dichloropropane	soil	0 / 235	0 %	0.0019 - 1.0	-		No	Not detected
2,2-Dichloropropane	soil	0 / 235	0 %	0.0019 - 1.0	-		No	Not detected
1,1-Dichloropropene	soil	0 / 235	0 %	0.0019 - 1.0	-		No	Not detected
cis-1,3-Dichloropropene	soil	0 / 235	0 %	0.0019 - 1.0	-		No	Not detected
trans-1,3-Dichloropropene	soil	0 / 235	0 %	0.0019 - 1.0	-		No	Not detected
Ethanol	soil	0 / 16	0 %	4.8 - 500	-		No	Not detected
Ethyl tert butyl ether	soil	0 / 105	0 %	0.0046 - 2.5	-		No	Not detected
Isopropyl ether	soil	0 / 105	0 %	0.0046 - 2.5	-		No	Not detected
Isopropylbenzene	soil	32 / 235	14 %	0.0019 - 0.10	0.0023 - 4.4		Yes	
p-Isopropyltoluene	soil	20 / 235	9 %	0.0019 - 0.10	0.0044 - 3.3		Yes	
Methylene chloride	soil	4 / 235	2 %	0.0048 - 10.0	0.00078 - 0.0060		Yes	
Methyl tert-butyl ether	soil	1 / 166	1 %	0.0046 - 2.5	0.0050 - 0.0050		Yes	
n-Propylbenzene	soil	23 / 235	10 %	0.0019 - 0.10	0.0060 - 6.3		Yes	
Styrene	soil	0 / 235	0 %	0.0019 - 1.0	-		No	Not detected
1,1,1,2-Tetrachloroethane	soil	0 / 235	0 %	0.0046 - 2.5	-		No	Not detected
1,1,2,2-Tetrachloroethane	soil	0 / 235	0 %	0.0019 - 1.0	-		No	Not detected
Tetrachloroethene	soil	0 / 235	0 %	0.0019 - 1.0	-		No	Not detected
Tert-amyl methyl ether	soil	0 / 105	0 %	0.0046 - 2.5	-		No	Not detected
1,2,3-Trichlorobenzene	soil	0 / 235	0 %	0.0046 - 2.5	-		No	Not detected
1,2,4-Trichlorobenzene	soil	0 / 235	0 %	0.0046 - 2.5	-		No	Not detected
1,1,1-Trichloroethane	soil	1 / 235	0 %	0.0019 - 1.0	0.0070 - 0.0070		Yes	
1,1,2-Trichloroethane	soil	0 / 235	0 %	0.0019 - 1.0	-		No	Not detected
Trichloroethene	soil	1 / 235	0 %	0.0019 - 1.0	0.036 - 0.036		Yes	
Trichlorofluoromethane	soil	0 / 235	0 %	0.0046 - 2.5	-		No	Not detected
1,2,3-Trichloropropane	soil	0 / 235	0 %	0.0048 - 5.0	-		No	Not detected
1,2,4-Trimethylbenzene	soil	26 / 235	11 %	0.0019 - 0.20	0.0010 - 54		Yes	
1,3,5-Trimethylbenzene	soil	24 / 235	10 %	0.0019 - 0.20	0.0020 - 8.7		Yes	
Vinyl chloride	soil	0 / 235	0 %	0.0046 - 2.5	-		No	Not detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
BaP TEQ	soil	109 / 214	51 %	0.0035 - 14	0.0036 - 0.5		Yes	
Acenaphthene	soil	40 / 214	19 %	0.0049 - 20	0.010 - 3.2		Yes	
Acenaphthylene	soil	41 / 214	19 %	0.0049 - 20	0.0055 - 0.60		Yes	
Anthracene	soil	19 / 214	9 %	0.0049 - 20	0.0060 - 3.5		Yes	
Benz(a)anthracene	soil	47 / 214	22 %	0.0049 - 20	0.0050 - 0.91		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(b)fluoranthene	soil	77 / 214	36 %	0.0049 - 20	0.0050 - 0.89		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(k)fluoranthene	soil	33 / 214	15 %	0.0049 - 20	0.0058 - 0.40		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Benzo(g,h,i)perylene	soil	83 / 214	39 %	0.0049 - 20	0.0050 - 0.65		Yes	
Benzo(a)pyrene	soil	77 / 214	36 %	0.0049 - 20	0.0060 - 0.5		Yes	Carcinogenic PAHs evaluated as BaP TEQ
2-Chloronaphthalene	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Chrysene	soil	94 / 214	44 %	0.0049 - 20	0.0056 - 3.6		Yes	Carcinogenic PAHs evaluated as BaP TEQ
Dibenz(a,h)anthracene	soil	22 / 214	10 %	0.0049 - 20	0.0060 - 0.28		Yes	
Dibenzofuran	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Fluoranthene	soil	55 / 214	26 %	0.0049 - 20	0.0060 - 1.1		Yes	
Fluorene	soil	52 / 214	24 %	0.0049 - 20	0.0033 - 7.1		Yes	
Indeno(1,2,3-cd)pyrene	soil	39 / 214	18 %	0.0049 - 20	0.0066 - 0.30		Yes	Carcinogenic PAHs evaluated as BaP TEQ
1-Methylnaphthalene	soil	10 / 89	11 %	0.0049 - 0.062	0.0053 - 5.5		Yes	
2-Methylnaphthalene	soil	15 / 94	16 %	0.0049 - 1.0	0.0063 - 15		Yes	
Naphthalene	soil	57 / 279	20 %	0.0046 - 20	0.0064 - 11		Yes	
Phenanthrene	soil	83 / 214	39 %	0.0049 - 20	0.0055 - 11		Yes	
Pyrene	soil	85 / 214	40 %	0.0049 - 20	0.0050 - 3.2		Yes	
Semivolatile Organic Compounds (SVOCs)								
Aniline	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Azobenzene	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected

Table 2-19
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Site-Wide Exposure Area

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Benzoic acid	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Benzyl alcohol	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Bis(2-chloroethoxy)methane	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Bis(2-chloroethyl)ether	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Bis(2-chloroisopropyl)ether	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Bis(2-ethylhexyl)phthalate	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
4-Bromophenyl phenyl ether	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Butylbenzylphthalate	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Carbazole	soil	0 5	0 %	0.099 1.0			No	Not detected
4-Chloroaniline	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
4-Chloro-3-methylphenol	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
2-Chloronaphthalene	soil	0 / 5	0 %	0.099 1.0			No	Not detected
2-Chlorophenol	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
4-Chlorophenyl phenyl ether	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Di-n-butylphthalate	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
3,3-Dichlorobenzidine	soil	0 / 5	0 %	0.50 - 5.0	-		No	Not detected
2,4-Dichlorophenol	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Dichlorotrifluoroethane	soil	0 / 125	0 %	0.0050 0.10	-		No	Not detected
Diethyl phthalate	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Dimethyl phthalate	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
2,4-Dimethylphenol	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
4,6-Dinitro-2-methylphenol	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
2,4-Dinitrophenol	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
2,4-Dinitrotoluene	soil	1 / 5	20 %	0.099 - 1.0	0.64 - 0.64		Yes	
2,6-Dinitrotoluene	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Di-n-octylphthalate	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Hexachlorobenzene	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Hexachlorobutadiene	soil	0 / 235	0 %	0.0046 - 2.5	-		No	Not detected
Hexachlorocyclopentadiene	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Hexachloroethane	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Isophorone	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
2-Methylphenol	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
3/4-Methylphenol	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
2-Nitroaniline	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
3-Nitroaniline	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
4-Nitroaniline	soil	0 / 5	0 %	0.25 - 2.5	-		No	Not detected
Nitrobenzene	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
2-Nitrophenol	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
4-Nitrophenol	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
N-Nitrosodimethylamine	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
N-Nitrosodiphenylamine	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
N-Nitroso-di-n-propylamine	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Pentachlorophenol	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Phenol	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Pyridine	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
2,4,5-Trichlorophenol	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
2,4,6-Trichlorophenol	soil	0 / 5	0 %	0.099 - 1.0	-		No	Not detected
Total Petroleum Hydrocarbons (TPH)								
TPH Gasoline	soil	104 / 554	19 %	0.37 - 390	0.70 - 6600		Yes	
TPH Diesel	soil	311 / 597	52 %	1.0 - 100	0.57 - 31000		Yes	
TPH Motor Oil	soil	341 / 597	57 %	1.0 - 100	0.50 - 13000		Yes	
Polychlorinated Biphenyls (PCBs)								
Aroclor 1016	soil	0 / 51	0 %	0.020 - 3.0	-		No	Not detected
Aroclor 1221	soil	0 / 51	0 %	0.020 - 3.0	-		No	Not detected
Aroclor 1232	soil	0 / 51	0 %	0.020 - 3.0	-		No	Not detected
Aroclor 1242	soil	0 / 51	0 %	0.020 - 3.0	-		No	Not detected

Table 2-19
Chemical of Potential Concern Selection Summary - Soil (0-10 ft)
Former Avila Tank Farm Site-Wide Exposure Area

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Inorganic Res CHHSL	COPC?	Rationale
Aroclor 1248	soil	0 / 51	0 %	0.020 - 3.0	-		No	Not detected
Aroclor 1254	soil	0 / 51	0 %	0.020 - 3.0	-		No	Not detected
Aroclor 1260	soil	0 / 51	0 %	0.020 - 3.0	-		No	Not detected
Pesticides								
Aldrin	soil	0 / 14	0 %	0.0020 - 0.015	-		No	Not detected
alpha-BHC	soil	0 / 14	0 %	0.0020 - 0.015	-		No	Not detected
beta-BHC	soil	0 / 14	0 %	0.0020 - 0.015	-		No	Not detected
delta-BHC	soil	0 / 14	0 %	0.0020 - 0.015	-		No	Not detected
gamma-BHC	soil	0 / 14	0 %	0.0020 - 0.015	-		No	Not detected
Chlordane (mixture)	soil	0 / 9	0 %	0.10 - 0.50	-		No	Not detected
alpha-Chlordane	soil	0 / 5	0 %	0.0030 - 0.015	-		No	Not detected
gamma-Chlordane	soil	0 / 5	0 %	0.0030 - 0.02	-		No	Not detected
4,4'-DDD	soil	0 / 14	0 %	-	-		No	Not detected
4,4'-DDE	soil	0 / 14	0 %	-	-		No	Not detected
4,4'-DDT	soil	0 / 14	0 %	-	-		No	Not detected
Dieldrin	soil	0 / 14	0 %	0.0020 - 0.015	-		No	Not detected
Endosulfan I	soil	0 / 14	0 %	0.0020 - 0.015	-		No	Not detected
Endosulfan II	soil	0 / 14	0 %	0.0020 - 0.015	-		No	Not detected
Endosulfan sulfate	soil	0 / 14	0 %	0.0020 - 0.015	-		No	Not detected
Endrin	soil	0 / 14	0 %	0.0020 - 0.015	-		No	Not detected
Endrin aldehyde	soil	1 / 14	7 %	0.0020 - 0.015	0.0023 - 0.0023		Yes	
Endrin ketone	soil	0 / 14	0 %	0.0020 - 0.015	-		No	Not detected
Heptachlor	soil	0 / 14	0 %	0.0020 - 0.015	-		No	Not detected
Heptachlor epoxide	soil	0 / 14	0 %	0.0020 - 0.015	-		No	Not detected
Methoxychlor	soil	0 / 14	0 %	0.0020 - 0.015	-		No	Not detected
Toxaphene	soil	0 / 14	0 %	0.0200 - 0.500	-		No	Not detected
2,4,5-T	soil	0 / 9	0 %	0.0050 - 0.005	-		No	Not detected
2,4-D	soil	0 / 9	0 %	0.050 - 0.050	-		No	Not detected
2,4-DB	soil	0 / 9	0 %	0.50 - 0.50	-		No	Not detected
Dalapon	soil	0 / 9	0 %	0.10 - 0.10	-		No	Not detected
Dicamba	soil	0 / 9	0 %	0.010 - 0.010	-		No	Not detected
Dichloprop	soil	0 / 9	0 %	0.050 - 0.050	-		No	Not detected
Dinoseb	soil	0 / 9	0 %	0.010 - 0.010	-		No	Not detected
MCPA	soil	0 / 9	0 %	5.0 - 5.0	-		No	Not detected
MCPP	soil	0 / 9	0 %	5.0 - 5.0	-		No	Not detected
Silvex	soil	0 / 9	0 %	0.0050 - 0.0050	-		No	Not detected

Notes:
NA = Not applicable
Concentrations are mg/kg wet weight, with the exception of some PAH results and the 2011 data that are mg/kg dry weight.

Table 2-20
Chemicals of Potential Concern - Soil
Former Avila Tank Farm, Avila Beach, CA

	Soil COPC (Yes/No)															
	Exposure Area A		Exposure Area C		Exposure Area D		Drainage		Exposure Area E		Exposure Area G		Exposure Area Ia		Exposure Area Ib	
Chemical	0-10 ft bgs	0-2 ft bgs	0-10 ft bgs	0-2 ft bgs	0-10 ft bgs	0-2 ft bgs	0-10 ft bgs	0-2 ft bgs	0-10 ft bgs	0-2 ft bgs	0-10 ft bgs	0-2 ft bgs	0-10 ft bgs	0-2 ft bgs	0-10 ft bgs	0-2 ft bgs
Inorganics																
Antimony	N	N	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N
Cadmium	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	Y	Y	N	N
Chromium (total)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lead	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mercury	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y
Vanadium	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
BTEX																
Benzene	N	N	N	N	Y	N	Y	N	Y	Y	Y	N	Y	N	Y	N
Ethylbenzene	N	N	N	N	Y	N	Y	N	Y	Y	N	N	Y	N	Y	N
Toluene	N	N	N	N	Y	N	N	N	Y	Y	N	N	N	N	Y	N
Xylenes (total)	N	N	N	N	Y	N	Y	N	Y	Y	N	N	Y	N	Y	N
VOCs																
n-Butylbenzene	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N
sec-Butylbenzene	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N
tert-Butylbenzene	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N
Chlorobenzene	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N
Chloroform	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N
1,2-Dichlorobenzene	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N
1,3-Dichlorobenzene	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N
1,4-Dichlorobenzene	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N
1,1-Dichloroethane	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
1,2-Dichloroethane	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Isopropylbenzene	N	N	Y	Y	N	N	N	N	Y	Y	N	N	N	N	N	N
p-Isopropyltoluene	N	N	Y	Y	N	N	N	N	Y	Y	N	N	N	N	N	N
Methylene chloride	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N
Methyl tert-butyl ether	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
n-Propylbenzene	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N
1,1,1-Trichloroethane	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Trichloroethene	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
1,2,4-Trimethylbenzene	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N
1,3,5-Trimethylbenzene	N	N	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N
PAHs																
BaP TEQ	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Acenaphthene	N	N	N	N	N	N	Y	N	Y	Y	N	N	N	N	Y	N
Acenaphthylene	N	N	N	N	Y	Y	N	N	Y	Y	Y	N	Y	Y	Y	N
Anthracene	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	N	N	N	N
Benz(a)anthracene	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	Y	Y	N	N
Benzo(b)fluoranthene	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Benzo(k)fluoranthene	Y	Y	Y	Y	Y	Y	N	N	Y	Y	N	N	Y	Y	N	N
Benzo(g,h,i)perylene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Benzo(a)pyrene	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Chrysene	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Dibenz(a,h)anthracene	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N
Fluoranthene	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	N
Fluorene	N	N	N	N	Y	Y	Y	N	Y	Y	Y	Y	N	N	Y	N
Indeno(1,2,3-cd)pyrene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
1-Methylnaphthalene	Y	Y	N	N	Y	Y	N	N	Y	Y	N	N	N	N	N	N
2-Methylnaphthalene	Y	Y	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N
Naphthalene	Y	Y	N	N	Y	N	Y	N	Y	Y	Y	Y	N	N	Y	N
Phenanthrene	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N
Pyrene	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
SVOCs																
2,4-Dinitrotoluene	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N
TPH																
TPH Gasoline	N	N	N	N	Y	N	Y	N	Y	Y	Y	Y	Y	N	Y	N
TPH Diesel	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
TPH Motor Oil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pesticides																
Endrin aldehyde	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

NA = Not applicable or not analyzed

Table 2-20
Chemicals of Potential Concern - Soil
Former Avila Tank Farm, Avila Beach, CA

	Soil COPC (Yes/No)															
	Exposure Area J		Exposure Area K		Exposure Area L		Exposure Area M		Exposure Area N		Exposure Area O		Open Space		Site Wide	
Chemical	**0-10 ft bgs**	**0-2 ft bgs**	**0-10 ft bgs**	**0-2 ft bgs**	**0-10 ft bgs**	**0-2 ft bgs**	**0-10 ft bgs**	**0-2 ft bgs**	**0-10 ft bgs**	**0-2 ft bgs**	**0-10 ft bgs**	**0-2 ft bgs**	**0-10 ft bgs**	**0-2 ft bgs**	**0-10 ft bgs**	**0-2 ft bgs**
Inorganics																
Antimony	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N
Cadmium	Y	Y	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Chromium (total)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lead	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mercury	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Vanadium	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
BTEX																
Benzene	Y	N	N	N	Y	N	N	N	N	N	N	N	Y	N	Y	Y
Ethylbenzene	Y	Y	N	N	Y	N	Y	N	N	N	N	N	Y	N	Y	Y
Toluene	Y	Y	N	N	Y	N	Y	N	N	N	N	N	Y	N	Y	Y
Xylenes (total)	Y	Y	N	N	Y	N	Y	N	N	N	N	N	Y	N	Y	Y
VOCs																
n-Butylbenzene	N	N	N	N	Y	N	N	N	N	N	N	N	Y	N	Y	N
sec-Butylbenzene	N	N	N	N	Y	N	Y	N	N	N	N	N	Y	N	Y	Y
tert-Butylbenzene	N	N	N	N	Y	N	Y	N	N	N	N	N	Y	N	Y	N
Chlorobenzene	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y
Chloroform	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y
1,2-Dichlorobenzene	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y
1,3-Dichlorobenzene	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N
1,4-Dichlorobenzene	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y
1,1-Dichloroethane	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N
1,2-Dichloroethane	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N
Isopropylbenzene	N	N	N	N	Y	N	Y	N	N	N	N	N	Y	N	Y	Y
p-Isopropyltoluene	N	N	N	N	Y	N	N	N	N	N	N	N	Y	N	Y	Y
Methylene chloride	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	Y	N
Methyl tert-butyl ether	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	Y	N
n-Propylbenzene	N	N	N	N	Y	N	Y	N	N	N	N	N	Y	N	Y	Y
1,1,1-Trichloroethane	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N
Trichloroethene	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N
1,2,4-Trimethylbenzene	N	N	N	N	Y	N	Y	N	Y	Y	N	N	Y	Y	Y	Y
1,3,5-Trimethylbenzene	N	N	N	N	Y	N	Y	N	N	N	N	N	Y	Y	Y	Y
PAHs																
BaP TEQ	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Acenaphthene	Y	N	N	N	Y	N	Y	N	N	N	N	N	Y	N	Y	Y
Acenaphthylene	Y	N	N	N	Y	N	Y	Y	N	N	N	N	Y	Y	Y	Y
Anthracene	N	N	N	N	N	N	Y	N	Y	Y	N	N	Y	Y	Y	Y
Benz(a)anthracene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Benzo(b)fluoranthene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Benzo(k)fluoranthene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Benzo(g,h,i)perylene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Benzo(a)pyrene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Chrysene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Dibenz(a,h)anthracene	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y
Fluoranthene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Fluorene	Y	N	N	N	Y	N	Y	N	N	N	N	N	Y	Y	Y	Y
Indeno(1,2,3-cd)pyrene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
1-Methylnaphthalene	N	N	N	N	N	N	Y	N	N	N	N	N	Y	Y	Y	Y
2-Methylnaphthalene	N	N	N	N	Y	N	Y	N	Y	Y	N	N	Y	Y	Y	Y
Naphthalene	Y	N	N	N	Y	N	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Phenanthrene	Y	Y	N	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Pyrene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
SVOCs																
2,4-Dinitrotoluene	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N
TPH																
TPH Gasoline	Y	Y	N	N	Y	N	Y	N	N	N	N	N	Y	N	Y	Y
TPH Diesel	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
TPH Motor Oil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pesticides																
Endrin aldehyde	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	Y	N

NA = Not applicable or not ana

Table 2-20
Chemicals of Potential Concern
Former Avila Tank Farm Native Gardens

Chemical	COPC (Yes/No) Soil (0-5 feet)	Soil (0-10 feet)
Inorganics		
Cadmium	Y	Y
Chromium (total)	Y	Y
Lead	Y	Y
Mercury	Y	Y
Vanadium	Y	Y
PAHs		
BaP TEQ	Y	Y
Benz(a)anthracene	Y	Y
Benzo(b)fluoranthene	Y	Y
Benzo(g,h,i)perylene	Y	Y
Benzo(a)pyrene	Y	Y
Chrysene	Y	Y
Dibenz(a,h)anthracene	Y	Y
Indeno(1,2,3-cd)pyrene	Y	Y
Pyrene	Y	Y
TPH		
TPH Diesel	Y	Y
TPH Motor Oil	Y	Y

Table 2-21
Chemicals of Potential Concern - Soil Gas
Former Avila Tank Farm

Chemical	COPC (Yes/No) Soil Gas																									
	Exposure Area A		Exposure Area C		Exposure Area D		Exposure Area E		Exposure Area G		Exposure Area Ia		Exposure Area Ib		Exposure Area J		Exposure Area K		Exposure Area L		Exposure Area M		Exposure Area N		Exposure Area O	
	15 ft	5 ft	15 ft	5 ft	15 ft	5 ft	15 ft	5 ft	15 ft	5 ft	15 ft	5 ft	15 ft	5 ft	15 ft	5 ft	15 ft	5 ft	15 ft	5 ft	15 ft	5 ft	15 ft	5 ft	15 ft	5 ft
BTEX																										
Benzene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ethylbenzene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Toluene	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
m&p-Xylenes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
o-Xylene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VOCs																										
Bromodichloromethane	Y	Y	Y	Y	Y	N	N	N	N	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N
Bromoform	N	N	Y	Y	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N
1,3-Butadiene	Y	N	Y	N	Y	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N
2-Butanone	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
tert-Butylalcohol	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y
n-Butylbenzene	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	Y	Y	Y
sec-Butylbenzene	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	Y	N	N
tert-Butylbenzene	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Carbon disulfide	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Carbon tetrachloride	N	N	Y	Y	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N
Chlorobenzene	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Chloroethane	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Chloroform	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Chloromethane	Y	Y	Y	N	N	N	N	N	Y	Y	N	N	N	N	N	N	Y	N	N	N	Y	N	Y	Y	Y	Y
Cyclohexane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dibromochloromethane	N	N	Y	Y	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	Y	N	N	N	N	N	N
1,2-Dichlorobenzene	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Dichlorodifluoromethane	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	Y	Y	Y	Y	Y
1,1-Dichloroethane	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N
1,2-Dichloroethane	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
1,1-Dichloroethene	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	N	N	N	N	N	Y	N	N	N
cis-1,2-Dichloroethene	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	N	N	N	Y	N	Y	N
trans-1,2-Dichloroethene	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N
4-Ethyltoluene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ethyl acetate	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	Y	Y	Y	Y	Y
n-Heptane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Hexane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2-Hexanone	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	Y	Y	Y	Y	Y
Isopropyl alcohol	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y	N	N	N	Y	Y	Y	Y	Y	Y
Isopropylbenzene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	N	Y	N	Y	Y	Y	Y	Y	Y
p-Isopropyltoluene	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Methylene chloride	Y	Y	Y	Y	Y	N	Y	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4-Methyl-2-pentanone	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	Y	Y	Y	Y	Y
Methyl tert-butyl ether	Y	Y	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y
n-Propylbenzene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Propylene	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	Y	Y	Y	Y	Y
Styrene	Y	Y	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	N	N	N	Y	Y	Y	Y	Y	Y
1,1,1,2-Tetrachloroethane	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	Y	Y	Y	N	N
1,1,2,2-Tetrachloroethane	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N
Tetrachloroethene	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y
Tetrahydrofuran	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	N	Y	N	Y	Y	Y	Y	Y	Y
1,1,1-Trichloroethane	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	N	N	N
Trichloroethene	N	N	Y	Y	N	N	N	N	Y	Y	N	N	Y	N	Y	Y	Y	N	N	N	N	N	Y	N	Y	N
Trichlorofluoromethane	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	Y	Y	Y	Y	Y
1,1,2-Trichlorotrifluoroethane	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N
1,2,3-Trichloropropane	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N
1,2,4-Trimethylbenzene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1,3,5-Trimethylbenzene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
2,2,4-Trimethylpentane	Y	Y	Y	N	N	N	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Vinyl chloride	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	Y	Y	N	N
PAHs																										
Naphthalene	Y	Y	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	Y	N	N	N	N	N	Y	Y	Y	Y
SVOCs																										
1,4-Dioxane	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	N	N	N	Y	Y	N	N

Table 2-22
Chemicals of Potential Concern - Groundwater
Former Avila Tank Farm

Chemical	Groundwater COPC (Yes/No)		
	Exposure Area E	Exposure Area M	Exposure Area N
Inorganics			
Molybdenum	**Y**	N	N
BTEX			
Ethylbenzene	**Y**	N	N
Toluene	**Y**	**Y**	**Y**
Xylenes (total)	**Y**	N	N
VOCs			
tert-Butylalcohol	**Y**	N	N
n-Butylbenzene	**Y**	N	N
sec-Butylbenzene	**Y**	N	N
tert-Butylbenzene	**Y**	N	N
1,2-Dichloropropane	**Y**	N	N
Isopropylbenzene	**Y**	N	N
p-Isopropyltoluene	**Y**	N	N
Methyl tert-butyl ether	**Y**	N	N
n-Propylbenzene	**Y**	N	N
1,2,4-Trimethylbenzene	**Y**	N	N
PAHs			
Acenaphthene	**Y**	N	N
Acenaphthylene	**Y**	N	N
Anthracene	**Y**	N	N
Fluorene	**Y**	N	N
Naphthalene	**Y**	N	N
Phenanthrene	**Y**	N	N
TPH			
TPH Gasoline	**Y**	N	N
TPH Diesel	**Y**	N	N
TPH Motor Oil	**Y**	N	N

Table 3-1
Dose Response Values for Chemicals of Potential Concern

	Cancer Slope and Unit Risk Factors (CSF, URF)						Noncancer Reference Doses and Concentrations (RfDs, RfCs)					
CHEMICAL	Oral CSF (mg/kg-day)$^{-1}$	Source	Dermal CSF (mg/kg-day)$^{-1}$	GIABS	URF (µg/m^3)$^{-1}$	Source	Oral RfD (mg/kg-day)	Source	Dermal RfD (mg/kg-day)	GIABS	Inhalation RfC (mg/m^3)	Source
Inorganics												
Antimony	NC	IRIS	NC	0.2	NC	IRIS	4.00E-04	OEHHA (IRIS)	6.00E-05	0.2	NC	IRIS
Cadmium	NC	Cal/EPA	NC	0.0	4.20E-03	Cal/EPA	1.00E-03	OEHHA (IRIS, water)	2.50E-05	0.025	2.00E-05	Cal/EPA REL Table & OEHHA
Chromium (total)	NC		NC	0.013	2.14E-02	Cal/EPA (assuming 1:6 ratio CrVI:CrIII)	1.29E+00	OEHHA (IRIS; assuming 1:6 ratio CrVI:CrIII)	1.67E-02	0.013	4.50E+00	Cal/EPA (assuming 1:6 ratio CrVI:CrIII)
Mercury	NC	IRIS (mercuric chloride)	NC	0.1	NC	IRIS (mercuric chloride)	3.00E-04	OEHHA (IRIS)	2.10E-05	0.070	3.00E-05	Cal/EPA REL Table
Molybdenum	NC		NC	1.0	NC		5.00E-03	OEHHA (IRIS)	5.00E-03	1.0	NC	
Vanadium	NC		NC	0.026	8.30E-03	Vanadium pentoxide (PPRTV)	7.00E-03	OEHHA (HEAST)	1.82E-04	0.026	2.45E-02	r (converted; OEHHA, HEAST)
BTEX												
Benzene	1.00E-01	Cal/EPA	1.00E-01	1.0	2.90E-05	Cal/EPA	4.00E-03	OEHHA* (IRIS)	4.00E-03	1.0	6.00E-02	Cal/EPA
Ethylbenzene	1.10E-02	Cal/EPA	1.10E-02	1.0	2.50E-06	Cal/EPA	1.00E-01	OEHHA (IRIS)	1.00E-01	1.0	2.00E+00	Cal/EPA
Toluene	NC	IRIS	NC	1.0	NC	IRIS	8.00E-02	IRIS	8.00E-02	1.0	3.00E-01	Cal/EPA
m&p-Xylenes	*NC*	*Xylenes (total) (IRIS)*	NC	1.0	*NC*	*Xylenes (total) (IRIS)*	*2.00E-01*	*Xylenes (total) (IRIS)*	*2.00E-01*	*1.0*	*7.00E-01*	*Cal/EPA (m,o,p-isomers)*
o-Xylene	*NC*	*Xylenes (total) (IRIS)*	NC	1.0	*NC*	*Xylenes (total) (IRIS)*	*2.00E-01*	*Xylenes (total) (IRIS)*	*2.00E-01*	*1.0*	*7.00E-01*	*Cal/EPA (m,o,p-isomers)*
Xylenes (total)	NC	IRIS	NC	1.0	NC	IRIS	2.00E-01	IRIS	2.00E-01	1.0	*7.00E-01*	*Cal/EPA (m,o,p-isomers)*
VOCs												
Bromodichloromethane	1.30E-01	Cal/EPA	1.30E-01	1.0	3.70E-05	Cal/EPA	2.00E-02	IRIS	2.00E-02	1.0	7.00E-02	r (converted, IRIS)
Bromoform	1.10E-02	Cal/EPA	1.10E-02	1.0	1.10E-06	IRIS	2.00E-02	IRIS	2.00E-02	1.0	7.00E-02	r (converted, IRIS)
1,3-Butadiene	3.40E+00	Cal/EPA	3.40E+00	1.0	1.70E-04	Cal/EPA	5.71E-03	r (converted; Cal/EPA REL Table)	5.71E-03	1.0	2.00E-02	Cal/EPA REL Table
2-Butanone	NC	IRIS	NC	1.0	NC	IRIS	6.00E-01	IRIS	6.00E-01	1.0	5.00E+00	IRIS
tert-Butylalcohol	NC		NC	1.0	NC		*3.00E-01*	*MTBE (r, OEHHA)*	*3.00E-01*	1.0	8.00E+00	*MTBE (Cal/EPA REL Table & OEHHA)*
n-Butylbenzene	NC		NC	1.0	NC		5.00E-02	USEPA RSL (PPRTV)	5.00E-02	1.0	1.75E-01	r (converted, USEPA RSL (PPRTV) per HHRA Note 3)
sec-Butylbenzene	NC		NC	1.0	NC		*5.00E-02*	*n-Butylbenzene (USEPA RSL, PPRTV)*	*5.00E-02*	*1.0*	*1.75E-01*	*r (n-Butylbenzene, USEPA RSL (PPRTV) per HHRA Note 3)*
tert-Butylbenzene	NC		NC	1.0	NC		*5.00E-02*	*n-Butylbenzene (USEPA RSL, PPRTV)*	*5.00E-02*	*1.0*	*1.75E-01*	*r (n-Butylbenzene, USEPA RSL (PPRTV) per HHRA Note 3)*
Carbon disulfide	NC	IRIS	NC	1.0	NC	IRIS	1.00E-01	IRIS	1.00E-01	1.0	8.00E-01	Cal/EPA
Carbon tetrachloride	1.50E-01	Cal/EPA	1.50E-01	1.0	4.20E-05	Cal/EPA	4.00E-03	IRIS	4.00E-03	1.0	4.00E-02	Cal/EPA
Chlorobenzene	NC	IRIS	NC	1.0	NC	IRIS	2.00E-02	IRIS	2.00E-02	1.0	1.00E+00	Cal/EPA
Chloroethane	2.90E-03	USEPA Region IX (NCEA) per HHRA Note 3	2.90E-03	1.0	NC	r (USEPA Region IX (NCEA), per HHRA Note 3)	4.00E-01	USEPA Region IX (NCEA)	4.00E-01	1.0	3.00E+01	Cal/EPA
Chloroform	3.10E-02	Cal/EPA	3.10E-02	1.0	5.30E-06	Cal/EPA	1.00E-02	IRIS	1.00E-02	1.0	3.00E-01	Cal/EPA
Chloromethane	NC	IRIS	NC	1.0	NC	IRIS	2.57E-02	r (converted; IRIS)	2.57E-02	1.0	9.00E-02	IRIS
Cyclohexane	NC	IRIS	NC	1.0	NC	IRIS	1.71E+00	r (converted; IRIS)	1.71E+00	1.0	6.00E+00	IRIS
Dibromochloromethane	9.40E-02	Cal/EPA	9.40E-02	1.0	2.70E-05	Cal/EPA	2.00E-02	IRIS	2.00E-02	1.0	7.00E-02	r (converted, IRIS)
1,2-Dichlorobenzene	NC	IRIS	NC	1.0	NC	IRIS	9.00E-02	IRIS	9.00E-02	1.0	2.00E-01	UESPA RSL (HEAST)
1,3-Dichlorobenzene	NC	IRIS	NC	1.0	NC	IRIS	3.00E-02	USEPA Region IX (NCEA) per HHRA Note 3	3.00E-02	1.0	1.05E-01	r (converted; USEPA Region IX (NCEA) per HHRA Note 3)
1,4-Dichlorobenzene	5.40E-03	Cal/EPA	5.40E-03	1.0	1.10E-05	Cal/EPA	7.00E-02	USEPA RSL (ATSDR)	7.00E-02	1.0	8.00E-01	Cal/EPA
Dichlorodifluoromethane	NC	IRIS	NC	1.0	NC	IRIS	2.00E-01	IRIS	2.00E-01	1.0	1.00E-01	USEPA RSL (PPRTV)
1,1-Dichloroethane	5.70E-03	Cal/EPA	5.70E-03	1.0	1.60E-06	Cal/EPA	2.00E-01	USEPA RSL (PPRTV)	2.00E-01	1.0	7.00E-01	r (converted; USEPA RSL, PPRTV per HHRA Note 3)
1,2-Dichloroethane	4.70E-02	Cal/EPA	4.70E-02	1.0	2.10E-05	Cal/EPA	3.00E-02	OEHHA (IRIS; NC in IRIS)	3.00E-02	1.0	7.00E-03	USEPA RSL (PPRTV)
1,1-Dichloroethene	NC	IRIS	NC	1.0	NC	IRIS	5.00E-02	IRIS	5.00E-02	1.0	7.00E-02	Cal/EPA REL Table
cis-1,2-Dichloroethene	NC	IRIS	NC	1.0	NC	IRIS	2.00E-03	IRIS	2.00E-03	1.0	7.00E-03	r (converted; IRIS per HHRA Note 3)
trans-1,2-Dichloroethene	NC	IRIS	NC	1.0	NC	IRIS	2.00E-02	OEHHA (IRIS)	2.00E-02	1.0	6.00E-02	USEPA RSL (PPRTV)
1,2-Dichloropropane	3.60E-02	Cal/EPA	3.60E-02	1.0	1.00E-05	Cal/EPA	1.14E-03	r	1.14E-03	1.0	4.00E-03	IRIS
4-Ethyltoluene	NC		NC	1.0	NC		*2.00E-01*	*Xylenes (total) (IRIS)*	*2.00E-01*	*1.0*	*7.00E-01*	*m,o,p-Xylenes (Cal/EPA)*
Ethyl acetate	NC		NC	1.0	NC		9.00E-01	IRIS	9.00E-01	*1.0*	NC	IRIS
n-Heptane	NC	IRIS	NC	1.0	NC	IRIS	*6.00E-02*	*Hexane (USEPA RSL, HEAST)*	*6.00E-02*	*1.0*	*7.00E+00*	*Heaxane (Cal/EPA)*
Hexane	NC	IRIS	NC	1.0	NC	IRIS	6.00E-02	USEPA RSL (HEAST)	6.00E-02	1.0	7.00E+00	Cal/EPA
2-Hexanone	NC	IRIS	NC	1.0	NC	IRIS	5.00E-03	IRIS	5.00E-03	1.0	3.00E-02	IRIS
Isopropyl alcohol	NC		NC	1.0	NC		2.00E+00	r (converted, Cal/EPA REL Table)	2.00E+00	1.0	7.00E+00	Cal/EPA REL Table
Isopropylbenzene	NC	IRIS	NC	1.0	NC	IRIS	1.00E-01	IRIS	1.00E-01	1.0	4.00E-01	IRIS
p-Isopropyltoluene	NC		NC	1.0	NC		1.00E-01	*Isopropylbenzene (IRIS)*	1.00E-01	1.0	4.00E-01	*Isopropylbenzene (IRIS)*
Methylene chloride	1.40E-02	Cal/EPA	1.40E-02	1.0	1.00E-06	Cal/EPA	6.00E-03	IRIS	6.00E-03	1.0	4.00E-01	Cal/EPA
4-Methyl-2-pentanone	NC	IRIS	NC	1.0	NC	IRIS	8.00E-02	USEPA RSL (HEAST)	8.00E-02	1.0	3.00E+00	IRIS
Methyl tert-butyl ether	1.80E-03	Cal/EPA	1.80E-03	1.0	2.60E-07	Cal/EPA	3.00E-01	TERA (RIVM)	3.00E-01	1.0	8.00E+00	Cal/EPA REL Table & OEHHA
Propylene	NC		NC		NC		8.57E-01	r (Cal/EPA, REL converted)	*8.57E-01*		3.00E+00	Cal/EPA
n-Propylbenzene	NC		NC	1.0	NC		1.00E-01	USEPA RSL (PPRTV App)	1.00E-01	1.0	1.00E+00	USEPA RSL (PPRTV App)
Styrene	NC	IRIS	NC	1.0	NC	IRIS	2.00E-01	IRIS	2.00E-01	1.0	9.00E-01	Cal/EPA
1,1,1,2-Tetrachloroethane	2.60E-02	IRIS	2.60E-02	1.0	7.40E-06	IRIS	3.00E-02	IRIS	3.00E-02	1.0	1.05E-01	r (converted, IRIS per HHRA Note 3)
1,1,2,2-Tetrachloroethane	2.70E-01	Cal/EPA	2.70E-01	1.0	5.80E-05	Cal/EPA	2.00E-02	IRIS	2.00E-02	1.0	7.00E-02	r (converted, IRIS)
Tetrachloroethene	5.40E-01	Cal/EPA	5.40E-01	1.0	5.90E-06	Cal/EPA	6.00E-03	OEHHA (IRIS)	6.00E-03	1.0	3.50E-02	Cal/EPA REL Table
Tetrahydrofuran	7.60E-03	PRG per HHRA Note 3	7.60E-03	1.0	1.94E-06	PRG per HHRA note 3	2.10E-01	PRG per HHRA Note 3	2.10E-01	1.0	3.01E-01	PRG per HHRA Note 3
1,1,1-Trichloroethane	NC	IRIS	NC	1.0	NC	IRIS	2.00E+00	IRIS	2.00E+00	1.0	1.00E+00	Ca/EPA
Trichloroethene	5.90E-03	Cal/EPA	5.90E-03	1.0	2.00E-06	Cal/EPA	5.00E-04	IRIS	5.00E-04	1.0	6.00E-01	Cal/EPA
Trichlorofluoromethane	NC	IRIS	NC	1.0	NC	IRIS	3.00E-01	IRIS	3.00E-01	1.0	7.00E-01	UESPA RSL (HEAST)
1,1,2-Trichlorotrifluoroethane	NC	IRIS	NC	1.0	NC	IRIS	3.00E+01	IRIS	3.00E+01	1.0	3.00E+01	UESPA RSL (HEAST)

Table 3-1
Dose Response Values for Chemicals of Potential Concern

	Cancer Slope and Unit Risk Factors (CSF, URF)						Noncancer Reference Doses and Concentrations (RfDs, RfCs)					
CHEMICAL	Oral CSF $(mg/kg\text{-}day)^{-1}$	Source	Dermal CSF $(mg/kg\text{-}day)^{-1}$	GIABS	URF $(\mu g/m^3)^{-1}$	Source	Oral RfD (mg/kg-day)	Source	Dermal RfD (mg/kg-day)	GIABS	Inhalation RfC (mg/m^3)	Source
1,2,3-Trichloropropane	3.00E+01	IRIS	3.00E+01	1.0	NC		4.00E-03	IRIS	4.00E-03	1.0	3.00E-04	IRIS
1,2,4-Trimethylbenzene	NC		NC	1.0	NC		2.00E-03	r (converted; USEPA RSL, PPRTV)	2.00E-03	1.0	7.00E-03	USEPA RSL (PPRTV)
1,3,5-Trimethylbenzene	NC		NC	1.0	NC		1.00E-02	USEPA RSL (PPRTV App)	1.00E-02	1.0	3.50E-02	r (converted; USEPA RSL, PPRTV App per HHRA Note 3)
2,2,4-Trimethylpentane	NC		NC	1.0	NC		*6.00E-02*	*Hexane (USEPA RSL, Heast)*	*6.00E-02*	*1.0*	7.00E+00	*Heaxane (Cal/EPA)*
Vinyl chloride	2.70E-01	Cal/EPA	2.70E-01	1.0	7.80E-05	Cal/EPA	3.00E-03	OEHHA (IRIS)	3.00E-03	1.0	1.00E-01	IRIS
PAHs												
BaP TEQ	1.70E+00	Cal/EPA PHG	1.70E+00	1.0	1.10E-03	Cal/EPA	NA		NA	1.0	NA	
Acenaphthene	NC	IRIS	NC	1.0	NC	IRIS	6.00E-02	IRIS	6.00E-02	1.0	2.10E-01	r (converted, IRIS per HHRA Note 3)
Acenaphthylene	NC	IRIS	NC	1.0	NC	IRIS	*6.00E-02*	*Ace (IRIS)*	*6.00E-02*	*1.0*	*2.10E-01*	*r (converted, Ace - IRIS per HHRA Note 3)*
Anthracene	NC	IRIS	NC	1.0	NC	IRIS	3.00E-01	IRIS	3.00E-01	1.0	1.05E+00	r (converted, IRIS per HHRA Note 3)
Benz(a)anthracene	NA	Evaluated as BaP TEQ	NA	1.0	NA	Evaluated as BaP TEQ	*3.00E-01*	*Anth (IRIS)*	3.00E-01	1.0	*1.05E+00*	*r (converted, Anth - IRIS per HHRA Note 3)*
Benzo(b)fluoranthene	NA	Evaluated as BaP TEQ	NA	1.0	NA	Evaluated as BaP TEQ	*4.00E-02*	*Fluoranth (IRIS)*	*4.00E-02*	*1.0*	*1.40E-01*	*r (converted, Fluoranth - IRIS per HHRA Note 3)*
Benzo(k)fluoranthene	NA	Evaluated as BaP TEQ	NA	1.0	NA	Evaluated as BaP TEQ	*4.00E-02*	*Fluoranth (IRIS)*	4.00E-02	1.0	*1.40E-01*	*r (converted, Fluoranth - IRIS per HHRA Note 3)*
Benzo(g,h,i)perylene	NC	IRIS	NC	1.0	NC	IRIS	*3.00E-02*	*Pyrene (IRIS)*	3.00E-02	1.0	*1.05E-01*	*r (converted, Pyrene - IRIS per HHRA Note 3)*
Benzo(a)pyrene	NA	Evaluated as BaP TEQ	NA	1.0	NA	Evaluated as BaP TEQ	*3.00E-02*	*Pyrene (IRIS)*	*3.00E-02*	*1.0*	*1.05E-01*	*r (converted, Pyrene - IRIS per HHRA Note 3)*
Chrysene	NA	Evaluated as BaP TEQ	NA	1.0	NA	Evaluated as BaP TEQ	*3.00E-02*	*Pyrene (IRIS)*	*3.00E-02*	*1.0*	*1.05E-01*	*r (converted, Pyrene - IRIS per HHRA Note 3)*
Dibenz(a,h)anthracene	4.10E+00	Cal/EPA	4.10E+00	1.0	1.20E-03	Cal/EPA	*3.00E-01*	*Anth (IRIS)*	3.00E-01	1.0	*1.05E+00*	*r (converted, Anth - IRIS per HHRA Note 3)*
Fluoranthene	NC	IRIS	NC	1.0	NC	IRIS	4.00E-02	IRIS	4.00E-02	1.0	1.40E-01	r (converted, IRIS per HHRA Note 3)
Fluorene	NC	IRIS	NC	1.0	NC	IRIS	4.00E-02	IRIS	4.00E-02	1.0	1.40E-01	r (converted, IRIS per HHRA Note 3)
Indeno(1,2,3-cd)pyrene	NA	Evaluated as BaP TEQ	NA	1.0	NA	Evaluated as BaP TEQ	*3.00E-02*	*Pyrene (IRIS)*	3.00E-02	1.0	*1.05E-01*	*r (converted, Pyrene - IRIS per HHRA Note 3)*
1-Methylnaphthalene	2.90E-02	USEPA RSL (PPRTV)	2.90E-02	1.0	NC		7.00E-02	*USEPA RSL (ATSDR)*	7.00E-02	1.0	*2.45E-01*	*r (converted, USEPA RSL (ASTDR) per HHRA Note 3)*
2-Methylnaphthalene	NC	IRIS	NC	1.0	NC	IRIS	4.00E-03	IRIS	4.00E-03	1.0	1.40E-02	r (converted, IRIS per HHRA Note 3)
Naphthalene	NC	Cal/EPA	NC	1.0	3.40E-05	Cal/EPA	2.00E-02	OEHHA (IRIS)	2.00E-02	1.0	*9.00E-03*	Cal/EPA REL Table
Phenanthrene	NC	IRIS	NC	1.0	NC	IRIS	*3.00E-01*	*Anth (IRIS)*	*3.00E-01*	*1.0*	*1.05E+00*	*r (converted, Anth - IRIS per HHRA Note 3)*
Pyrene	NC	IRIS	NC	1.0	NC	IRIS	3.00E-02	IRIS	3.00E-02	1.0	1.05E-01	r (converted, IRIS per HHRA Note 3)
SVOCs												
2,4-Dinitrotoluene	3.10E-01	Cal/EPA	3.10E-01	1.0	8.90E-05	Cal/EPA	2.00E-03	IRIS	2.00E-03	1.0	7.00E-03	r (converted; IRIS per HHRA Note 3)
1,4-Dioxane	2.70E-02	Cal/EPA	2.70E-02	1.0	7.70E-06	Cal/EPA				1.0	3.00E+00	
Total Petroleum Hydrocarbons												
TPH Gasoline - aliphatic	NC	DTSC	NC	1.0	NC	DTSC	4.00E-02	DTSC	4.00E-02	1.0	7.00E-01	DTSC
TPH Gasoline - aromatic	NC	DTSC	NC	1.0	NC	DTSC	NA	DTSC - evaluate COPCs	NA	1.0	NA	DTSC - evaluate COPCs
TPH Diesel - aliphatic	NC	DTSC	NC	1.0	NC	DTSC	1.00E-01	DTSC	1.00E-01	1.0	3.00E-01	DTSC
TPH Diesel - aromatic	NC	DTSC	NC	1.0	NC	DTSC	3.00E-02	individually	3.00E-02	1.0	5.00E-02	DTSC
TPH Motor Oil - aliphatic	NC	DTSC	NC	1.0	NC	DTSC	2.00E+00	DTSC	2.00E+00	1.0	NA	DTSC
TPH Motor Oil - aromatic	NC	DTSC	NC	1.0	NC	DTSC	3.00E-02	DTSC	3.00E-02	1.0	NA	DTSC
Pesticides												
Endrin aldehyde	NC		NC	1.0	NC		3.00E-04	*Endrin (IRIS)*	3.00E-04	1.0	1.05E-03	r (Endrin converted; IRIS per HHRA Note 3)

Shading = Not Applicable
NC = No Criteria
Not Avail = Not Available
*OEHHA (Cal/EPA 20013a) cites IRIS as the source of benzene oral reference dose - but reports 3E-03 instead of 4E-03
**OEHHA (Cal/EPA 2005b) cites IRIS as the source of cobalt reference doses but the values are from Region IX PRG table that sites PPRTV (Cal/EPA 2004b), not IRIS. The OEHHA value is the basis for the current Cal/EPA CHHSL. The new RSL table (USEPA 2010b) reports an oral RfD of 3E-04 and
†Reported in DTSC/HERD model

Sources:
Cal/EPA = California Office of Environmental Health Hazard Assessment (OEHHA) Toxicity Criteria Database (Cal/EPA 2013a)
REL Table = Chronic REL in OEHHA's table of Reference Exposure Levels (Cal/EPA 2008)
PHG - Public Health Goal
OEHHA = Human-Exposure-Based Screening Numbers Developed to Aid Estimation of Cleanup Costs for Contaminated Soil (Cal/EPA 2005c)
DTSC = Evaluating Human Health Risks from Total Petroleum Hydrocarbons, Interim Guidance (Cal/EPA 2009c)
IRIS = USEPA's Integrated Risk Information System (USEPA 2013a)
USEPA RSLs = USEPA Regions 3, 6, and 9 Regional Screening Levels (USEPA 2013b)
ATSDR = Agency for Toxic Substances and Disease Registry
Heast = Health effects summary tables as cited by USEPA
PPRTV = Provisional Peer Reviewed Toxicity Value as cited by USEPA
PPRTV App = Appendix to the Provisional Peer Reviewed Toxicity Value as cited by USEPA
HEAST = 1997 Health effects summary tables
r = route extrapolation
HHRA Note 3 = DTSC Interim Human Health Risk Assessment Note Number 3 (Cal/EPA 2013b)
USEPA Region IX (NCEA) per HHRA Note 3 =DTSC Interim Human Health Risk Assessment Note Number 3 (Cal/EPA 2009b)
RAIS = Risk Assessment Information System (http://rais.ornl.gov/)
Italics indicate criteria for surrogate compound applied.

Table 5-2

Summary of BaP TEQs

PAH Potency Equivalency

	0.1 Benz(a)anthracen	1.0 Benzo(a)pyren	0.1 Benzo(b)fluoranthene	0.1 Benzo(k)fluoranthen	0.01 Chrysen	0.1 Indeno(1,2,3-cd)pyren	BaP TEQ	Detect
Factor								
A								
SV-56-05	0.00315	0.00315	0.00315	0.00315	0.00315	0.00315	0.0044415	0
S-49-10	0.003	0.003	0.003	0.003	0.003	0.003	0.00423	0
S-49-05	0.0029	0.0029	0.0029	0.0029	0.0029	0.0029	0.004089	0
S-49-01	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.003807	0
S-48-10	0.00285	0.00285	0.00285	0.00285	0.00285	0.00285	0.0040185	0
S-48-05	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.003807	0
S-48-01	0.00295	0.00295	0.00295	0.00295	0.00295	0.00295	0.0041595	0
SV-55-01	0.0029	0.0029	0.0029	0.0029	0.0029	0.0029	0.004089	0
SV-55-05	0.0027	0.0027	0.0027	0.0027	0.0057	0.0027	0.003837	1
SV-56-01	0.024	0.087	0.059	0.012	0.11	0.021	0.0997	1
SV-56-10	0.003	0.003	0.003	0.003	0.003	0.003	0.00423	0
SV-55-10	0.00305	0.00305	0.00305	0.00305	0.00305	0.00305	0.0043005	0
C								
S-6-0.5	0.023	0.017	0.06	0.0075	0.15	0.0075	0.0283	1
SV-45-05	0.00335	0.00335	0.00335	0.00335	0.00335	0.00335	0.0047235	0
S-13-0.5	0.07	0.059	0.07	0.05	0.12	0.03	0.0822	1
S-4-0.5	0.02	0.078	0.078	0.02	0.13	0.02	0.0931	1
S-3-2.5	0.0025	0.0025	0.006	0.0025	0.013	0.0025	0.00398	1
SV-45-01	0.013	0.00335	0.00335	0.00335	0.00335	0.00335	0.0056885	1
SV-51-01	0.038	0.03	0.026	0.013	0.045	0.011	0.03925	1
S-2-0.5	0.0025	0.0025	0.007	0.0025	0.019	0.0025	0.00414	1
SV-41-01	0.00285	0.00285	0.0068	0.00285	0.014	0.011	0.00534	1
S-6-2.5	0.041	0.15	0.055	0.015	0.26	0.015	0.1652	1
SV-41-05	0.00305	0.00305	0.00305	0.00305	0.00305	0.00305	0.0043005	0
SV-50-05	0.031	0.014	0.011	0.0031	0.0031	0.0089	0.019431	1
SV-50-01	0.014	0.00275	0.0056	0.008	0.00275	0.00275	0.0058125	1
SV-51-05	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.004794	0
D								
S-17-0.5	0.021	0.026	0.029	0.012	0.037	0.0025	0.03282	1
S-8-0.5	0.082	0.084	0.1	0.078	0.12	0.042	0.1154	1
B-158-1	10	10	10	10	10	10	14.1	0
SV-58-02	0.0069	0.00335	0.00335	0.00335	0.013	0.0078	0.00562	1
SV-58-05	0.0029	0.0029	0.0029	0.0029	0.0029	0.0029	0.004089	0
B-142-5	0.025	0.025	0.025	0.025	0.025	0.025	0.03525	0
B-163-5	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.003525	0
T1B-6	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.003525	0
S-7-0.5	0.015	0.032	0.037	0.023	0.035	0.015	0.04135	1
B-158-4.5	2	2	2	2	2	2	2.82	0
Drainage								
B-30-10	0.025	0.025	0.025	0.025	0.025	0.025	0.03525	0

All results in mg/kg

PAH Potency Equivalency Factor

	0.1 Benz(a)anthracen	1.0 Benzo(a)pyren	0.1 Benzo(b)fluoranthene	0.1 Benzo(k)fluoranthen	0.01 Chrysen	0.1 Indeno(1,2,3-cd)pyren	BaP TEQ	Detect
S-11-0.5	0.005	0.005	0.005	0.005	0.005	0.01	0.00755	1
B-191-10	0.5	0.5	0.5	0.5	0.5	0.5	0.705	0
S-11-2.5	0.005	0.065	0.02	0.005	0.022	0.005	0.06872	1
E								
S-12-0.5	0.021	0.071	0.06	0.016	0.054	0.013	0.08254	1
B-80-10	0.025	0.025	0.025	0.025	0.025	0.025	0.03525	0
B-81-5	0.05	0.05	0.05	0.05	0.2	0.05	0.072	1
B-220-10	0.01	0.01	0.01	0.01	0.01	0.01	0.0141	0
B-219-8	0.24	0.1	0.1	0.1	0.95	0.1	0.1635	1
B-219-5	0.26	0.1	0.16	0.1	0.67	0.1	0.1687	1
B-35-45R-5	1	1	1	1	1	1	1.41	0
S-19-0.5	0.0075	0.056	0.05	0.017	0.054	0.022	0.06619	1
B-56-10	0.05	0.05	0.05	0.05	0.1	0.05	0.071	1
B-53-5	0.025	0.025	0.025	0.025	0.025	0.025	0.03525	0
B-50-10	0.4	0.4	0.5	0.2	0.6	0.3	0.546	1
B-49-5	0.025	0.025	0.025	0.025	0.025	0.025	0.03525	0
B-47-5	0.05	0.05	0.05	0.05	0.1	0.05	0.071	1
B-220-5	0.1	0.1	0.1	0.1	0.1	0.1	0.141	0
B-35-5	0.05	0.05	0.05	0.05	0.05	0.05	0.0705	0
B-220-8	0.025	0.025	0.025	0.025	0.025	0.025	0.03525	0
B-34-5	0.05	0.05	0.05	0.05	0.05	0.05	0.0705	0
S-16-2.5	0.0075	0.067	0.024	0.094	0.0075	0.0075	0.080375	1
S-16-0.5	0.032	0.17	0.15	0.074	0.097	0.032	0.19977	1
B-219-10	0.057	0.025	0.025	0.025	0.14	0.025	0.0396	1
S-15-2.5	0.01	0.01	0.01	0.01	0.01	0.01	0.0141	0
S-15-0.5	0.017	0.043	0.041	0.022	0.037	0.03	0.05437	1
B-46-10	0.1	0.1	0.1	0.1	0.1	0.1	0.141	0
SV-63-01	0.4	0.085	0.12	0.12	2.3	0.03	0.175	1
B-199-10	0.05	0.05	0.05	0.05	0.05	0.05	0.0705	0
SV-60-05	0.038	0.019	0.024	0.0058	0.078	0.0066	0.02722	1
SV-61-01	0.00275	0.00275	0.00275	0.00275	0.00275	0.00275	0.0038775	0
B-214-5	0.5	0.5	0.5	0.5	0.5	0.5	0.705	0
B-218-7	0.025	0.025	0.025	0.025	0.025	0.025	0.03525	0
B-187-5	2	2	2	2	2	2	2.82	0
B-15-10	0.025	0.025	0.025	0.025	0.025	0.025	0.03525	0
B-17-10	0.05	0.05	0.05	0.05	0.05	0.05	0.0705	0
SV-60-01	0.00285	0.00285	0.00285	0.00285	0.00285	0.015	0.0052335	1
SV-62-05	0.11	0.26	0.094	0.031	0.61	0.031	0.2927	1
SV-61-05	0.058	0.14	0.067	0.00325	0.27	0.00325	0.15585	1
SV-63-05	0.007	0.0029	0.0073	0.0029	0.0029	0.0029	0.004939	1
T3A-2	0.025	0.08	0.04	0.025	0.083	0.025	0.09233	1
T3B-6	0.025	0.063	0.025	0.025	0.27	0.025	0.0757	1
B-12-10	0.025	0.025	0.025	0.025	0.025	0.025	0.03525	0

All results in mg/kg

PAH Potency Equivalency Factor

	0.1 Benz(a)anthracen	1.0 Benzo(a)pyren	0.1 Benzo(b)fluoranthene	0.1 Benzo(k)fluoranthen	0.01 Chrysen	0.1 Indeno(1,2,3-cd)pyren	BaP TEQ	Detect
B-186-10	0.5	0.5	0.5	0.5	0.5	0.5	0.705	0
B-218-2.5	0.0025	0.0025	0.0025	0.0025	0.009	0.0025	0.00359	1
SV-62-01	0.85	0.11	0.76	0.4	0.027	0.28	0.33927	1
G								
SV-35-01	0.00255	0.089	0.12	0.00255	0.16	0.03	0.10611	1
SV-35-05	0.0029	0.0029	0.0029	0.0029	0.0029	0.0029	0.004089	0
S-14-2.5	0.013	0.019	0.02	0.005	0.014	0.012	0.02414	1
B-37-5	0.025	0.07	0.11	0.025	0.11	0.08	0.0951	1
S-14-0.5	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.003525	0
Ia								
S-35-0.5	0.01	0.061	0.027	0.01	0.03	0.01	0.067	1
S-36-2.5	0.0025	0.015	0.0025	0.0025	0.0025	0.0025	0.016025	1
S-18-2.5	0.015	0.015	0.015	0.015	0.1	0.015	0.022	1
S-18-0.5	0.015	0.015	0.059	0.015	0.26	0.015	0.028	1
B-94-5	0.02	0.07	0.09	0.02	0.05	0.02	0.0855	1
S-36-0.5	0.018	0.084	0.098	0.034	0.033	0.059	0.10523	1
S-35-2.5	0.0075	0.032	0.0075	0.0075	0.018	0.0075	0.03518	1
Ib								
B-116-5	0.25	0.25	0.25	0.25	0.5	0.25	0.355	1
B-213-5	2.5	2.5	2.5	2.5	2.5	2.5	3.525	0
B-117-5	0.025	0.025	0.025	0.025	0.025	0.025	0.03525	0
B-122-5	0.25	0.25	0.25	0.25	0.25	0.25	0.3525	0
WL-6-1	0.0025	0.01	0.007	0.0025	0.014	0.0025	0.01159	1
WL-6-2	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.003525	0
J								
B-95-5	0.25	0.25	0.25	0.25	0.25	0.25	0.3525	0
S-32-0.5	0.0025	0.011	0.012	0.0025	0.039	0.0025	0.01334	1
S-21-2.5	0.0025	0.0025	0.0025	0.0025	0.009	0.0025	0.00359	1
B-87-10	0.025	0.025	0.025	0.025	0.025	0.025	0.03525	0
S-20-2.5	0.02	0.13	0.02	0.02	0.02	0.02	0.1382	1
S-20-0.5	0.02	0.16	0.087	0.02	0.11	0.02	0.1758	1
B-65-10	0.1	0.1	0.1	0.1	0.1	0.1	0.141	0
B-89-10	0.025	0.025	0.025	0.025	0.025	0.025	0.03525	0
B-67-5	0.025	0.025	0.025	0.025	0.025	0.025	0.03525	0
B-83-10	0.0025	0.0025	0.0025	0.0025	0.013	0.0025	0.00363	1
S-32-2.5	0.0025	0.012	0.012	0.0025	0.032	0.0025	0.01427	1
B-84-5	0.025	0.025	0.025	0.025	0.025	0.025	0.03525	0
S-22-0.5	0.18	0.13	0.16	0.074	0.58	0.051	0.1823	1
WL-3-1	0.005	0.015	0.011	0.005	0.016	0.005	0.01776	1
WL-3-2	0.0025	0.006	0.005	0.0025	0.007	0.0025	0.00732	1
WL-4-1	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.003525	0
WL-4-2	0.005	0.014	0.011	0.005	0.021	0.005	0.01681	1
B-66-5	0.009	0.011	0.015	0.0025	0.031	0.0025	0.01421	1

All results in mg/kg

PAH Potency Equivalency Factor

	0.1 Benz(a)anthracen	1.0 Benzo(a)pyren	0.1 Benzo(b)fluoranthene	0.1 Benzo(k)fluoranthen	0.01 Chrysen	0.1 Indeno(1,2,3-cd)pyren	BaP TEQ	Detect
SP-8-5	1	1	1	1	1	1	1.41	0
B-203-6	5	5	5	5	5	5	7.05	0
B-86-5	0.025	0.025	0.025	0.025	0.06	0.025	0.0356	1
S-46-0.5	0.005	0.005	0.005	0.005	0.005	0.005	0.00705	0
S-21-0.5	0.02	0.3	0.02	0.02	0.044	0.02	0.30844	1
K								
S-23-2.5	0.01	0.077	0.01	0.01	0.027	0.01	0.08127	1
S-23-0.5	0.04	0.092	0.16	0.049	0.28	0.079	0.1276	1
L								
B-103-10	0.08	0.025	0.025	0.025	0.025	0.025	0.04075	1
T2C-6	0.025	0.025	0.025	0.025	0.03	0.025	0.0353	1
T2C-4	0.025	0.03	0.025	0.025	0.083	0.025	0.04083	1
B-134-5	0.02	0.01	0.04	0.01	0.05	0.01	0.0185	1
S-33-0.5	0.01	0.19	0.074	0.021	0.099	0.021	0.20359	1
B-104-5	0.1	0.1	0.1	0.1	0.1	0.1	0.141	0
B-196-5	10	10	10	10	10	10	14.1	0
WL-5-1	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.003525	0
WL-5-2	0.009	0.013	0.013	0.0025	0.043	0.0025	0.01613	1
S-31-0.5	0.0075	0.057	0.035	0.0075	0.079	0.0075	0.06354	1
B-96-5	0.025	0.025	0.025	0.025	0.025	0.025	0.03525	0
S-34-2.5	0.005	0.041	0.018	0.005	0.024	0.005	0.04454	1
M								
SV-03-10	0.00355	0.00355	0.00355	0.00355	0.00355	0.00355	0.0050055	0
SV-04-10	0.0031	0.034	0.055	0.0031	0.22	0.0031	0.04263	1
B-146-5	0.1	0.1	0.1	0.1	0.4	0.1	0.144	1
SV-03-05	0.00345	0.00345	0.00345	0.00345	0.00345	0.00345	0.0048645	0
SV-03-01	0.00325	0.0095	0.00325	0.00325	0.00325	0.00325	0.0108325	1
SV-04-05	0.00275	0.03	0.041	0.00275	0.00275	0.00275	0.0349525	1
SV-04-01	0.019	0.035	0.038	0.014	0.02	0.032	0.0455	1
N								
S-50-05	0.00305	0.00305	0.00305	0.00305	0.00305	0.00305	0.0043005	0
S-50-01	0.014	0.00305	0.024	0.0078	0.00305	0.011	0.0087605	1
S-47-10	0.00375	0.00375	0.00375	0.00375	0.00375	0.00375	0.0052875	0
S-47-05	0.00355	0.00355	0.00355	0.00355	0.00355	0.00355	0.0050055	0
S-47-01	0.00335	0.00335	0.00335	0.00335	0.009	0.00335	0.00478	1
SV-02-01	0.0086	0.064	0.038	0.0033	0.0081	0.0033	0.069401	1
SV-02-05	0.00395	0.00395	0.00395	0.00395	0.00395	0.00395	0.0055695	0
SV-02-10	0.00365	0.00365	0.00365	0.00365	0.00365	0.00365	0.0051465	0
S-50-10	0.0032	0.0032	0.0032	0.0032	0.0032	0.0032	0.004512	0
O								
SV-05-05	0.00355	0.00355	0.00355	0.00355	0.00355	0.00355	0.0050055	0
SV-05-01	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.004794	0
SV-01-01	0.00285	0.00285	0.00285	0.00285	0.00285	0.00285	0.0040185	0

All results in mg/kg

PAH Potency Equivalency Factor

	0.1 Benz(a)anthracen	1.0 Benzo(a)pyren	0.1 Benzo(b)fluoranthene	0.1 Benzo(k)fluoranthen	0.01 Chrysen	0.1 Indeno(1,2,3-cd)pyren	BaP TEQ	Detect
SV-01-10	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.004653	0
SV-05-10	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.005217	0
SV-01-05	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.003807	0
Open Space								
B-27-5	0.05	0.05	0.05	0.05	0.05	0.05	0.0705	0
B-29-10	0.05	0.05	0.05	0.05	0.05	0.05	0.0705	0
S-39-0.5	0.05	0.5	0.2	0.05	0.6	0.05	0.541	1
B-167-5	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.003525	0
SV-52-01	0.00265	0.00265	0.00265	0.00265	0.00265	0.00265	0.0037365	0
GS-1-2.5	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.003525	0
SV-06-05	0.0032	0.0032	0.0032	0.0032	0.0032	0.0032	0.004512	0
S-38B-01	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.003807	0
SV-32-01	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.003948	0
SV-32-05	0.00325	0.00325	0.00325	0.00325	0.00325	0.00325	0.0045825	0
SV-32-10	0.00285	0.00285	0.00285	0.00285	0.00285	0.00285	0.0040185	0
SV-36-01	0.91	0.089	0.89	0.0265	3.6	0.3	0.33765	1
SV-36-05	0.0028	0.0094	0.026	0.035	0.14	0.0028	0.01746	1
S-9-0.5	0.076	0.13	0.14	0.087	0.1	0.042	0.1655	1
SV-37-05	0.00295	0.00295	0.00295	0.00295	0.00295	0.00295	0.0041595	0
SV-06-01	0.0032	0.0032	0.0032	0.0032	0.0032	0.0032	0.004512	0
SV-52-05	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.003948	0
SV-53-01	0.029	0.014	0.0067	0.00285	0.00285	0.00285	0.0181685	1
SV-53-05	0.00325	0.00325	0.00325	0.00325	0.00325	0.00325	0.0045825	0
SV-54-02	0.00305	0.00305	0.00305	0.00305	0.00305	0.00305	0.0043005	0
SV-54-05	0.003	0.003	0.003	0.003	0.003	0.003	0.00423	0
WL-1-1	0.008	0.018	0.018	0.015	0.013	0.012	0.02343	1
WL-1-2	0.005	0.012	0.012	0.005	0.02	0.005	0.0149	1
WL-2-1	0.005	0.007	0.006	0.006	0.01	0.0025	0.00905	1
WL-2-2	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.003525	0
SV-37-01	0.00265	0.00265	0.00265	0.00265	0.00265	0.00265	0.0037365	0
S-38A-03	0.0032	0.0032	0.0032	0.0032	0.0032	0.0032	0.004512	0
S-1B-04	0.00275	0.00275	0.0056	0.00275	0.0061	0.00275	0.004196	1
S-1C-01	0.012	0.013	0.019	0.0097	0.019	0.012	0.01846	1
S-1C-04	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.003525	0
S-24-0.5	0.11	0.1	0.074	0.065	0.16	0.057	0.1322	1
SV-06-10	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.004935	0
S-1A-03	0.00255	0.00255	0.00255	0.00255	0.0056	0.00255	0.003626	1
S-5-0.5	0.005	0.099	0.058	0.005	0.069	0.005	0.10699	1
S-27-0.5	0.1	0.2	0.1	0.1	0.4	0.1	0.244	1
S-1B-01	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.003807	0
S-38A-01	0.003	0.003	0.003	0.003	0.003	0.003	0.00423	0
S-24-2.5	0.27	0.38	0.25	0.21	0.44	0.093	0.4667	1
S-38B-03	0.00315	0.00315	0.00315	0.00315	0.00315	0.00315	0.0044415	0

All results in mg/kg

PAH Potency Equivalency Factor

	0.1 Benz(a)anthracen	1.0 Benzo(a)pyren	0.1 Benzo(b)fluoranthene	0.1 Benzo(k)fluoranthen	0.01 Chrysen	0.1 Indeno(1,2,3-cd)pyren	BaP TEQ	Detect
S-39-2.5	0.0025	0.007	0.0025	0.0025	0.0025	0.0025	0.008025	1
S-1A-01	0.00245	0.00245	0.00245	0.00245	0.00245	0.00245	0.0034545	0
S-10-0.5	0.005	0.005	0.012	0.005	0.058	0.019	0.00968	1
GS-5-2.5	0.0025	0.074	0.0025	0.0025	0.014	0.0025	0.07514	1
GS-1-4	0.0025	0.008	0.017	0.0025	0.012	0.0025	0.01057	1
S-38-0.5	0.1	0.2	0.1	0.1	0.3	0.1	0.243	1
Roads								
SV-57-01	0.011	0.02	0.018	0.0076	0.019	0.018	0.02565	1
SV-57-05	0.019	0.033	0.028	0.017	0.036	0.025	0.04226	1
SV-38-01	0.028	0.028	0.028	0.081	0.13	0.028	0.0458	1
SV-08-05	0.00285	0.00285	0.00285	0.00285	0.00285	0.00285	0.0040185	0
SV-08-01	0.0028	0.0064	0.0075	0.0028	0.013	0.0088	0.00872	1
S-40A-01	0.0275	0.08	0.17	0.0275	0.63	0.065	0.1153	1
S-40A-03	0.00265	0.00265	0.0062	0.00265	0.00265	0.00265	0.0040915	1
S-40B-01	0.022	0.039	0.067	0.041	0.12	0.055	0.0587	1
S-40B-03	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.004653	0
SV-38-05	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.003948	0

All results in mg/kg

Table 5-3
Soil Chemicals of Potential Concern Summary Statistics (0-2 ft)
Exposure Area A

Chemical	Matrix	Frequency	NonDetects	Detects	Arithmetic	Standard	ProUCL Recommended UCL	UCL Calculation Method Used in	95% UCL	Units
		Detects / Total	Min – Max	Min – Max	Mean	Deviation	Calculation Method	HHRA		
Inorganics										
Cadmium	Soil	1 / 4	0.50 - 0.50	0.53 - 0.53	NA	NA	NA	NA	NA	mg/kg
Chromium (total)	Soil	4 / 4	-	3.6 - 17	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	4 / 4	-	3.9 - 19	NA	NA	NA	NA	NA	mg/kg
Mercury	Soil	2 / 4	0.020 - 0.020	0.020 - 0.027	NA	NA	NA	NA	NA	mg/kg
Vanadium	Soil	4 / 4	-	3.0 - 16	NA	NA	NA	NA	NA	mg/kg
PAHs										
BaP TEQ	Soil	1 / 4	0.0038 - 0.0042	0.10 - 0.10	NA	NA	NA	NA	NA	mg/kg
Anthracene	Soil	1 / 4	0.0054 - 0.0059	0.0092 - 0.0092	NA	NA	NA	NA	NA	mg/kg
Benz(a)anthracene	Soil	1 / 4	0.0054 - 0.0059	0.024 - 0.024	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	1 / 4	0.0054 - 0.0059	0.059 - 0.059	NA	NA	NA	NA	NA	mg/kg
Benzo(k)fluoranthene	Soil	1 / 4	0.0054 - 0.0059	0.012 - 0.012	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	1 / 4	0.0054 - 0.0059	0.046 - 0.046	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	1 / 4	0.0054 - 0.0059	0.087 - 0.087	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	1 / 4	0.0054 - 0.0059	0.11 - 0.11	NA	NA	NA	NA	NA	mg/kg
Dibenz(a,h)anthracene	Soil	1 / 4	0.0054 - 0.0059	0.019 - 0.019	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	1 / 4	0.0054 - 0.0059	0.027 - 0.027	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	1 / 4	0.0054 - 0.0059	0.021 - 0.021	NA	NA	NA	NA	NA	mg/kg
1-Methylnaphthalene	Soil	1 / 4	0.0054 - 0.0059	0.0080 - 0.0080	NA	NA	NA	NA	NA	mg/kg
2-Methylnaphthalene	Soil	1 / 4	0.0054 - 0.0059	0.016 - 0.016	NA	NA	NA	NA	NA	mg/kg
Naphthalene	Soil	1 / 4	0.0050 - 0.0050	0.0082 - 0.0082	NA	NA	NA	NA	NA	mg/kg
Phenanthrene	Soil	1 / 4	0.0054 - 0.0059	0.0071 - 0.0071	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	1 / 4	0.0054 - 0.0059	0.046 - 0.046	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Diesel	Soil	1 / 4	5 - 10	11 - 11	NA	NA	NA	NA	NA	mg/kg
TPH Motor Oil	Soil	2 / 4	5 - 5	12 - 36	NA	NA	NA	NA	NA	mg/kg

Notes:
NA = Not applicable

Table 5-3
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Exposure Area A

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	1 / 12	0.50 - 0.50	0.53 - 0.53	0.53	NA	N/R	N/R	N/R	mg/kg
Chromium (total)	Soil	12 / 12	-	1.6 - 25	8.4	7.2	95% Approximate Gamma UCL	95% Student's-t UCL	12	mg/kg
Lead	Soil	12 / 12	-	2.3 - 19	7.3	5.3	95% Approximate Gamma UCL	95% Student's-t UCL	10	mg/kg
Mercury	Soil	2 / 12	0.020 - 0.020	0.020 - 0.027	0.024	0.0049	N/R	N/R	N/R	mg/kg
Vanadium	Soil	12 / 12	-	1.1 - 17	6.7	5.8	95% Approximate Gamma UCL	95% Student's-t UCL	9.7	mg/kg
PAHs										
BaP TEQ	Soil	2 / 12	0.0038 - 0.0044	0.0038 - 0.10	0.052	0.068	N/R	N/R	N/R	mg/kg
Anthracene	Soil	1 / 12	0.0054 - 0.0063	0.0092 - 0.0092	0.0092	NA	N/R	N/R	N/R	mg/kg
Benz(a)anthracene	Soil	1 / 12	0.0054 - 0.0063	0.024 - 0.024	0.024	NA	N/R	N/R	N/R	mg/kg
Benzo(b)fluoranthene	Soil	1 / 12	0.0054 - 0.0063	0.059 - 0.059	0.059	NA	N/R	N/R	N/R	mg/kg
Benzo(k)fluoranthene	Soil	1 / 12	0.0054 - 0.0063	0.012 - 0.012	0.012	NA	N/R	N/R	N/R	mg/kg
Benzo(g,h,i)perylene	Soil	1 / 12	0.0054 - 0.0063	0.046 - 0.046	0.046	NA	N/R	N/R	N/R	mg/kg
Benzo(a)pyrene	Soil	1 / 12	0.0054 - 0.0063	0.087 - 0.087	0.087	NA	N/R	N/R	N/R	mg/kg
Chrysene	Soil	2 / 12	0.0054 - 0.0063	0.0057 - 0.11	0.058	0.074	N/R	N/R	N/R	mg/kg
Dibenz(a,h)anthracene	Soil	1 / 12	0.0054 - 0.0063	0.019 - 0.019	0.019	NA	N/R	N/R	N/R	mg/kg
Fluoranthene	Soil	1 / 12	0.0054 - 0.0063	0.027 - 0.027	0.027	NA	N/R	N/R	N/R	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	1 / 12	0.0054 - 0.0063	0.021 - 0.021	0.021	NA	N/R	N/R	N/R	mg/kg
1-Methylnaphthalene	Soil	1 / 12	0.0054 - 0.0063	0.0080 - 0.0080	0.0080	NA	N/R	N/R	N/R	mg/kg
2-Methylnaphthalene	Soil	1 / 12	0.0054 - 0.0063	0.016 - 0.016	0.016	NA	N/R	N/R	N/R	mg/kg
Naphthalene	Soil	1 / 12	0.0046 - 0.0054	0.0082 - 0.0082	0.0082	NA	N/R	N/R	N/R	mg/kg
Phenanthrene	Soil	1 / 12	0.0054 - 0.0063	0.0071 - 0.0071	0.0071	NA	N/R	N/R	N/R	mg/kg
Pyrene	Soil	1 / 12	0.0054 - 0.0063	0.046 - 0.046	0.046	NA	N/R	N/R	N/R	mg/kg
Total Petroleum Hydrocarbons										
TPH Diesel	Soil	1 / 15	5 - 10	11 - 11	11	NA	N/R	N/R	N/R	mg/kg
TPH Motor Oil	Soil	3 / 15	5 - 10	12 - 36	22	12	N/R	N/R	N/R	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-4
Exposure Point Concentrations
Exposure Area A

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Inorganics							
Cadmium	**5.30E-01**	**5.30E-01**	3.90E-10	1.45E-08	NA	NA	NA
Chromium (total)	**1.70E+01**	**2.50E+01**	1.25E-08	6.84E-07	NA	NA	NA
Lead	**1.90E+01**	**1.90E+01**	1.40E-08	5.20E-07	NA	NA	NA
Mercury	**2.70E-02**	**2.70E-02**	1.99E-11	7.39E-10	NA	NA	NA
Vanadium	**1.60E+01**	**1.70E+01**	1.18E-08	4.65E-07	NA	NA	NA
BTEX							
Benzene	NA	NA	NA	NA	4.60E-02	8.81E-03	NA
Ethylbenzene	NA	NA	NA	NA	2.00E-01	3.76E-02	NA
Toluene	NA	NA	NA	NA	3.60E-01	7.66E-02	NA
m&p-Xylenes	NA	NA	NA	NA	2.90E-01	5.57E-02	NA
o-Xylene	NA	NA	NA	NA	1.30E-01	2.77E-02	NA
VOCs							
Bromodichloromethane	NA	NA	NA	NA	1.00E-02	8.28E-04	NA
1,3-Butadiene	NA	NA	NA	NA	5.50E-03	2.33E-03	NA
2-Butanone	NA	NA	NA	NA	2.00E-01	3.76E-02	NA
tert-Butylalcohol	NA	NA	NA	NA	2.30E-03	9.05E-04	NA
tert-Butylbenzene	NA	NA	NA	NA	2.40E-03	5.82E-04	NA
Carbon disulfide	NA	NA	NA	NA	3.40E-02	9.13E-03	NA
Chloroform	NA	NA	NA	NA	3.00E-02	7.39E-03	NA
Chloromethane	NA	NA	NA	NA	1.50E-03	4.19E-04	NA
Cyclohexane	NA	NA	NA	NA	1.40E-02	2.78E-03	NA
Dichlorodifluoromethane	NA	NA	NA	NA	1.00E-02	2.07E-03	NA
4-Ethyltoluene	NA	NA	NA	NA	1.00E-01	1.92E-02	NA
Ethyl acetate	NA	NA	NA	NA	2.30E-02	5.63E-03	NA
n-Heptane	NA	NA	NA	NA	4.00E-02	8.72E-03	NA
Hexane	NA	NA	NA	NA	1.00E-01	1.69E-02	NA
2-Hexanone	NA	NA	NA	NA	2.40E-03	7.52E-04	NA
Isopropyl alcohol	NA	NA	NA	NA	8.40E-03	3.70E-03	NA
Isopropylbenzene	NA	NA	NA	NA	3.20E-02	8.75E-03	NA
p-Isopropyltoluene	NA	NA	NA	NA	2.40E-03	6.77E-04	NA
Methylene chloride	NA	NA	NA	NA	6.90E-03	2.69E-03	NA
4-Methyl-2-pentanone	NA	NA	NA	NA	4.40E-02	1.27E-02	NA
Methyl tert-butyl ether	NA	NA	NA	NA	1.10E-02	2.52E-03	NA
n-Propylbenzene	NA	NA	NA	NA	3.60E-02	5.59E-03	NA
Propylene	NA	NA	NA	NA	4.30E-02	9.86E-03	NA
Styrene	NA	NA	NA	NA	3.80E-03	8.76E-04	NA
1,1,1,2-Tetrachloroethane	NA	NA	NA	NA	5.40E-03	1.63E-03	NA

Table 5-4
Exposure Point Concentrations
Exposure Area A

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Tetrachloroethene	NA	NA	NA	NA	9.40E-03	2.14E-03	NA
Tetrahydrofuran	NA	NA	NA	NA	1.00E-01	2.12E-02	NA
Trichlorofluoromethane	NA	NA	NA	NA	4.60E-02	8.70E-03	NA
1,2,4-Trimethylbenzene	NA	NA	NA	NA	9.60E-02	1.50E-02	NA
1,3,5-Trimethylbenzene	NA	NA	NA	NA	2.00E-02	3.11E-03	NA
2,2,4-Trimethylpentane	NA	NA	NA	NA	2.20E-01	7.99E-02	NA
PAHs							
BaP TEQ	**9.97E-02**	**9.97E-02**	7.33E-11	2.73E-09	NA	NA	NA
Anthracene	**9.20E-03**	**9.20E-03**	1.63E-08	2.27E-07	NA	NA	NA
Benz(a)anthracene	**2.40E-02**	**2.40E-02**	1.76E-11	6.57E-10	NA	NA	NA
Benzo(b)fluoranthene	**5.90E-02**	**5.90E-02**	4.34E-11	1.61E-09	NA	NA	NA
Benzo(k)fluoranthene	**1.20E-02**	**1.20E-02**	8.82E-12	3.28E-10	NA	NA	NA
Benzo(g,h,i)perylene	**4.60E-02**	**4.60E-02**	3.38E-11	1.26E-09	NA	NA	NA
Benzo(a)pyrene	**8.70E-02**	**8.70E-02**	6.40E-11	2.38E-09	NA	NA	NA
Chrysene	**1.10E-01**	**1.10E-01**	8.09E-11	3.01E-09	NA	NA	NA
Dibenz(a,h)anthracene	**1.90E-02**	**1.90E-02**	1.40E-11	5.20E-10	NA	NA	NA
Fluoranthene	**2.70E-02**	**2.70E-02**	1.99E-11	7.39E-10	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**2.10E-02**	**2.10E-02**	1.54E-11	5.75E-10	NA	NA	NA
1-Methylnaphthalene	**8.00E-03**	**8.00E-03**	1.27E-07	2.12E-06	NA	NA	NA
2-Methylnaphthalene	**1.60E-02**	**1.60E-02**	2.56E-07	4.25E-06	NA	NA	NA
Naphthalene	**8.20E-03**	**8.20E-03**	1.64E-07	2.18E-06	3.80E-03	9.99E-04	NA
Phenanthrene	**7.10E-03**	**7.10E-03**	1.02E-08	1.75E-07	NA	NA	NA
Pyrene	**4.60E-02**	**4.60E-02**	1.80E-08	2.88E-07	NA	NA	NA
Total Petroleum Hydrocarbons							
TPH Diesel	**1.10E+01**	**1.10E+01**	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	**2.86E+00**	**2.86E+00**	2.10E-09	7.83E-08	NA	NA	NA
TPH Diesel - aromatic	**1.65E+00**	**1.65E+00**	1.21E-09	4.52E-08	NA	NA	NA
TPH Motor Oil	**3.60E+01**	**3.60E+01**	NA	NA	NA	NA	NA
TPH Motor Oil - aliphatic	**9.36E+00**	**9.36E+00**	6.88E-09	2.56E-07	NA	NA	NA
TPH Motor Oil - aromatic	**5.40E+00**	**5.40E+00**	3.97E-09	1.48E-07	NA	NA	NA

NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 or 0-2 depth horizon) used as soil EPC.

Table 5-5
Soil Chemicals of Potential Concern Summary Statistics (0-2 ft)
Exposure Area C

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	1 / 9	0.50 - 1.0	2.8 - 2.8	NA	NA	NA	NA	NA	mg/kg
Chromium (total)	Soil	9 / 9	-	8.1 - 34	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	11 / 12	1.0 - 1.0	2.8 - 68	23	22	95% KM (Chebyshev) UCL	95% KM (t) UCL	33	mg/kg
Mercury	Soil	5 / 9	0.10 - 0.10	0.029 - 0.20	NA	NA	NA	NA	NA	mg/kg
Vanadium	Soil	9 / 9	-	8.2 - 31	NA	NA	NA	NA	NA	mg/kg
VOCs										
Isopropylbenzene	Soil	1 / 9	0.0020 - 0.0050	0.043 - 0.043	NA	NA	NA	NA	NA	mg/kg
p-Isopropyltoluene	Soil	1 / 9	0.0020 - 0.0050	0.011 - 0.011	NA	NA	NA	NA	NA	mg/kg
PAHs										
BaP TEQ	Soil	8 / 8	-	0.0041 - 0.093	NA	NA	NA	NA	NA	mg/kg
Anthracene	Soil	1 / 8	0.0050 - 0.040	0.0062 - 0.0062	NA	NA	NA	NA	NA	mg/kg
Benz(a)anthracene	Soil	5 / 8	0.0050 - 0.040	0.013 - 0.070	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	7 / 8	0.0067 - 0.0067	0.0056 - 0.078	NA	NA	NA	NA	NA	mg/kg
Benzo(k)fluoranthene	Soil	3 / 8	0.0050 - 0.040	0.0080 - 0.050	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	6 / 8	0.0050 - 0.040	0.0093 - 0.043	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	4 / 8	0.0050 - 0.0067	0.017 - 0.078	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	6 / 8	0.0055 - 0.0067	0.014 - 0.15	NA	NA	NA	NA	NA	mg/kg
Dibenz(a,h)anthracene	Soil	1 / 8	0.0050 - 0.040	0.011 - 0.011	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	4 / 8	0.0055 - 0.040	0.0060 - 0.095	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	3 / 8	0.0050 - 0.040	0.011 - 0.030	NA	NA	NA	NA	NA	mg/kg
Phenanthrene	Soil	2 / 8	0.0050 - 0.040	0.031 - 0.047	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	5 / 8	0.0055 - 0.040	0.0070 - 0.10	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Diesel	Soil	6 / 9	5 - 20	6 - 390	NA	NA	NA	NA	NA	mg/kg
TPH Motor Oil	Soil	8 / 9	5 - 5	11 - 1700	NA	NA	NA	NA	NA	mg/kg

Notes:
NA = Not applicable

Table 5-5
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Exposure Area C

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	1 / 18	0.50 - 1.0	2.8 - 2.8	2.8	NA	N/R	N/R	N/R	mg/kg
Chromium (total)	Soil	18 / 18	-	8.1 - 39	22	9.0	95% Student's-t UCL	95% Student's-t UCL	26	mg/kg
Lead	Soil	20 / 21	1.0 - 1.0	1.2 - 68	17	20	95% KM (Chebyshev) UCL	95% KM (t) UCL	24	mg/kg
Mercury	Soil	9 / 18	0.020 - 0.10	0.023 - 0.20	0.069	0.074	95% KM (t) UCL	95% KM (t) UCL	0.073	mg/kg
Vanadium	Soil	18 / 18	-	6.3 - 34	18	8.2	95% Student's-t UCL	95% Student's-t UCL	21	mg/kg
VOCs										
Isopropylbenzene	Soil	1 / 18	0.0019 - 0.0050	0.043 - 0.043	0.043	NA	N/R	N/R	N/R	mg/kg
p-Isopropyltoluene	Soil	1 / 18	0.0019 - 0.0050	0.011 - 0.011	0.011	NA	N/R	N/R	N/R	mg/kg
PAHs										
BaP TEQ	Soil	11 / 14	0.0043 - 0.0048	0.0040 - 0.17	0.041	0.052	95% KM (Chebyshev) UCL	95% KM (t)	0.056	mg/kg
Anthracene	Soil	1 / 14	0.0050 - 0.040	0.0062 - 0.0062	0.0062	NA	N/R	N/R	N/R	mg/kg
Benz(a)anthracene	Soil	7 / 14	0.0050 - 0.040	0.013 - 0.070	0.033	0.020	95% KM (t) UCL	95% KM (t) UCL	0.032	mg/kg
Benzo(b)fluoranthene	Soil	10 / 14	0.0061 - 0.0068	0.0056 - 0.078	0.033	0.030	95% KM (Chebyshev) UCL	95% KM (t) UCL	0.038	mg/kg
Benzo(k)fluoranthene	Soil	3 / 14	0.0050 - 0.040	0.0080 - 0.050	0.024	0.023	95% KM (t) UCL	N/R	N/R	mg/kg
Benzo(g,h,i)perylene	Soil	8 / 14	0.0050 - 0.040	0.0093 - 0.058	0.027	0.017	95% KM (t) UCL	95% KM (t) UCL	0.028	mg/kg
Benzo(a)pyrene	Soil	6 / 14	0.0050 - 0.0068	0.014 - 0.15	0.058	0.052	95% KM (t) UCL	95% KM (t) UCL	0.052	mg/kg
Chrysene	Soil	8 / 14	0.0055 - 0.0068	0.013 - 0.26	0.094	0.088	95% KM (t) UCL	95% KM (t) UCL	0.097	mg/kg
Dibenz(a,h)anthracene	Soil	2 / 14	0.0050 - 0.040	0.0062 - 0.011	0.0086	0.0034	N/R	N/R	N/R	mg/kg
Fluoranthene	Soil	5 / 14	0.0050 - 0.040	0.0060 - 0.095	0.045	0.036	95% KM (t) UCL	95% KM (BCA) UCL	0.069	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	4 / 14	0.0050 - 0.040	0.0089 - 0.030	0.015	0.010	95% KM (t) UCL	N/R	N/R	mg/kg
Phenanthrene	Soil	2 / 14	0.0050 - 0.040	0.031 - 0.047	0.039	0.011	N/R	N/R	N/R	mg/kg
Pyrene	Soil	7 / 14	0.0050 - 0.040	0.0070 - 0.10	0.049	0.042	95% KM (t) UCL	95% KM (t) UCL	0.046	mg/kg
Total Petroleum Hydrocarbons										
TPH Diesel	Soil	10 / 34	5 - 20	6 - 390	124	144	95% KM (t) UCL	95% KM (t) UCL	69	mg/kg
TPH Motor Oil	Soil	14 / 34	5 - 10	11 - 1700	1700	565	95% KM (t) UCL	95% KM (t) UCL	290	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-6
Exposure Point Concentrations
Exposure Area C

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Hotel Bungalow Indoor Vapor $µg/m^3$	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Inorganics								
Cadmium	**2.80E+00**	**2.80E+00**	2.06E-09	1.03E-07	NA	NA	NA	NA
Chromium (total)	**3.40E+01**	**3.90E+01**	2.50E-08	1.44E-06	NA	NA	NA	NA
Lead	3.31E+01	**6.80E+01**	2.43E-08	2.51E-06	NA	NA	NA	NA
Mercury	**2.00E-01**	**2.00E-01**	1.47E-10	7.38E-09	NA	NA	NA	NA
Vanadium	**3.10E+01**	**3.40E+01**	2.28E-08	1.25E-06	NA	NA	NA	NA
BTEX								
Benzene	NA	NA	NA	NA	1.40E-01	5.95E-02	2.58E-02	NA
Ethylbenzene	NA	NA	NA	NA	1.10E-01	5.65E-02	2.50E-02	NA
Toluene	NA	NA	NA	NA	8.60E-02	3.00E-02	1.30E-02	NA
m&p-Xylenes	NA	NA	NA	NA	2.00E-01	1.05E-01	4.63E-02	NA
o-Xylene	NA	NA	NA	NA	7.60E-02	4.47E-02	1.94E-02	NA
VOCs								
Bromodichloromethane	NA	NA	NA	NA	1.00E-01	2.15E-02	1.02E-02	NA
Bromoform	NA	NA	NA	NA	7.70E-02	8.71E-03	4.23E-03	NA
1,3-Butadiene	NA	NA	NA	NA	5.80E-03	3.49E-03	1.52E-03	NA
2-Butanone	NA	NA	NA	NA	1.80E+00	6.42E-01	2.79E-01	NA
tert-Butylalcohol	NA	NA	NA	NA	2.50E+00	8.90E-01	3.79E-01	NA
Carbon disulfide	NA	NA	NA	NA	2.30E-01	1.59E-01	6.75E-02	NA
Carbon tetrachloride	NA	NA	NA	NA	6.80E-02	3.62E-02	1.59E-02	NA
Chlorobenzene	NA	NA	NA	NA	6.50E-02	2.91E-02	1.29E-02	NA
Chloroethane	NA	NA	NA	NA	4.00E-02	2.60E-02	1.12E-02	NA
Chloroform	NA	NA	NA	NA	3.50E+00	2.42E+00	1.03E+00	NA
Chloromethane	NA	NA	NA	NA	4.80E-02	1.53E-02	7.07E-03	NA
Cyclohexane	NA	NA	NA	NA	4.10E-01	2.23E-01	9.80E-02	NA
Dibromochloromethane	NA	NA	NA	NA	6.20E-02	8.99E-03	4.33E-03	NA
4-Ethyltoluene	NA	NA	NA	NA	1.60E-01	8.41E-02	3.71E-02	NA
n-Heptane	NA	NA	NA	NA	9.20E-02	9.58E-01	3.67E-02	NA
Hexane	NA	NA	NA	NA	2.10E-01	7.03E-01	4.59E-02	NA
2-Hexanone	NA	NA	NA	NA	1.10E-01	6.42E-02	2.79E-02	NA
Isopropyl alcohol	NA	NA	NA	NA	4.60E-01	2.04E-01	8.26E-02	NA
Isopropylbenzene	**4.30E-02**	**4.30E-02**	6.44E-06	8.54E-05	6.70E-02	3.01E-02	1.35E-02	NA
p-Isopropyltoluene	**1.10E-02**	**1.10E-02**	1.65E-06	2.29E-05	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	1.20E-01	8.09E-02	3.45E-02	NA
n-Propylbenzene	NA	NA	NA	NA	1.60E-01	6.69E-02	3.02E-02	NA
Tetrachloroethene	NA	NA	NA	NA	2.40E-01	1.19E-01	5.27E-02	NA

Table 5-6
Exposure Point Concentrations
Exposure Area C

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Hotel Bungalow Indoor Vapor $µg/m^3$	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Tetrahydrofuran	NA	NA	NA	NA	6.10E-02	2.12E-02	9.01E-03	NA
Trichloroethene	NA	NA	NA	NA	5.60E-02	3.02E-02	1.33E-02	NA
1,2,4-Trimethylbenzene	NA	NA	NA	NA	4.90E-01	2.06E-01	9.32E-02	NA
1,3,5-Trimethylbenzene	NA	NA	NA	NA	1.50E-01	6.28E-02	2.84E-02	NA
2,2,4-Trimethylpentane	NA	NA	NA	NA	1.50E-02	7.38E-03	3.28E-03	NA
PAHs								
BaP TEQ	**9.31E-02**	**1.65E-01**	6.85E-11	6.10E-09	NA	NA	NA	NA
Anthracene	**6.20E-03**	**6.20E-03**	1.10E-08	1.55E-07	NA	NA	NA	NA
Benz(a)anthracene	**7.00E-02**	**7.00E-02**	5.15E-11	2.58E-09	NA	NA	NA	NA
Benzo(b)fluoranthene	**7.80E-02**	**7.80E-02**	5.74E-11	2.88E-09	NA	NA	NA	NA
Benzo(k)fluoranthene	**5.00E-02**	**5.00E-02**	3.68E-11	1.84E-09	NA	NA	NA	NA
Benzo(g,h,i)perylene	**4.30E-02**	**5.80E-02**	3.16E-11	2.14E-09	NA	NA	NA	NA
Benzo(a)pyrene	**7.80E-02**	**1.50E-01**	5.74E-11	5.53E-09	NA	NA	NA	NA
Chrysene	**1.50E-01**	**2.60E-01**	1.10E-10	9.59E-09	NA	NA	NA	NA
Dibenz(a,h)anthracene	**1.10E-02**	**1.10E-02**	8.09E-12	4.06E-10	NA	NA	NA	NA
Fluoranthene	**9.50E-02**	**9.50E-02**	6.99E-11	3.51E-09	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**3.00E-02**	**3.00E-02**	2.21E-11	1.11E-09	NA	NA	NA	NA
Phenanthrene	**4.70E-02**	**4.70E-02**	6.73E-08	1.17E-06	NA	NA	NA	NA
Pyrene	**1.00E-01**	**1.00E-01**	3.91E-08	6.23E-07	NA	NA	NA	NA
SVOCs								
1,4-Dioxane	NA	NA	NA	NA	2.40E-02	2.40E-02	9.54E-03	NA
Total Petroleum Hydrocarbons								
TPH Diesel	**3.90E+02**	**3.90E+02**	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	**1.01E+02**	**1.01E+02**	7.46E-08	3.74E-06	NA	NA	NA	NA
TPH Diesel - aromatic	**5.85E+01**	**5.85E+01**	4.30E-08	2.16E-06	NA	NA	NA	NA
TPH Motor Oil	**1.70E+03**	**1.70E+03**	NA	NA	NA	NA	NA	NA
TPH Motor Oil - aliphatic	**4.42E+02**	**4.42E+02**	3.25E-07	1.63E-05	NA	NA	NA	NA
TPH Motor Oil - aromatic	**2.55E+02**	**2.55E+02**	1.88E-07	9.41E-06	NA	NA	NA	NA

NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 or 0-2 depth horizon) used as soil EPC.

Table 5-7
Soil Chemicals of Potential Concern Summary Statistics (0-2 ft)
Exposure Area D

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Antimony	Soil	1 / 6	5.0 - 9.9	46 - 46	NA	NA	NA	NA	NA	mg/kg
Cadmium	Soil	3 / 6	0.50 - 1.0	1.0 - 2.7	NA	NA	NA	NA	NA	mg/kg
Chromium (total)	Soil	6 / 6	-	12 - 61	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	6 / 6	-	9.7 - 1600	NA	NA	NA	NA	NA	mg/kg
Mercury	Soil	4 / 6	0.10 - 0.10	0.13 - 1.0	NA	NA	NA	NA	NA	mg/kg
Vanadium	Soil	6 / 6	-	9.5 - 140	NA	NA	NA	NA	NA	mg/kg
BTEX										
Benzene	Soil	0 / 5	0.0020 - 0.005	-	NA	NA	NA	NA	NA	mg/kg
Ethylbenzene	Soil	0 / 5	0.0020 - 0.005	-	NA	NA	NA	NA	NA	mg/kg
Toluene	Soil	0 / 5	0.0020 - 0.005	-	NA	NA	NA	NA	NA	mg/kg
Xylenes (total)	Soil	0 / 5	0.0040 - 0.005	-	NA	NA	NA	NA	NA	mg/kg
VOCs										
Methylene chloride	Soil	0 / 4	0.0050 - 0.020	-	NA	NA	NA	NA	NA	mg/kg
PAHs										
BaP TEQ	Soil	4 / 5	14.1000 - 14.100	0.0056 - 0.12	NA	NA	NA	NA	NA	mg/kg
Acenaphthylene	Soil	2 / 5	0.0067 - 20	0.0060 - 0.013	NA	NA	NA	NA	NA	mg/kg
Benz(a)anthracene	Soil	4 / 5	20 - 20	0.0069 - 0.082	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	3 / 5	0.0067 - 20	0.029 - 0.10	NA	NA	NA	NA	NA	mg/kg
Benzo(k)fluoranthene	Soil	3 / 5	0.0067 - 20	0.012 - 0.078	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	4 / 5	20 - 20	0.022 - 0.075	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	3 / 5	0.0067 - 20	0.026 - 0.084	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	4 / 5	20 - 20	0.0130 - 0.12	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	4 / 5	20 - 20	0.0130 - 0.18	NA	NA	NA	NA	NA	mg/kg
Fluorene	Soil	1 / 5	0.0050 - 20	0.019 - 0.019	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	3 / 5	0.0050 - 20	0.0078 - 0.042	NA	NA	NA	NA	NA	mg/kg
1-Methylnaphthalene	Soil	1 / 1	-	0.0068 - 0.0068	NA	NA	NA	NA	NA	mg/kg
Naphthalene	Soil	0 / 5	0.0050 - 20	-	NA	NA	NA	NA	NA	mg/kg
Phenanthrene	Soil	4 / 5	20 - 20	0.012 - 0.072	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	4 / 5	20 - 20	0.018 - 0.19	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	0 / 11	0.4 - 10	-	NA	NA	NA	NA	NA	mg/kg
TPH Diesel	Soil	11 / 11	-	11 - 11000	1067	3295	99% Chebyshev(Mean, Sd) UCL	95% BCA Bootstrap UCL	4029	mg/kg
TPH Motor Oil	Soil	11 / 11	-	38 - 13000	1605	3817	99% Chebyshev(Mean, Sd) UCL	95% BCA Bootstrap UCL	5078	mg/kg

Notes:
NA = Not applicable

Table 5-7
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Exposure Area D

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Antimony	Soil	1 / 25	4.5 - 10.0	46 - 46	46	NA	N/R	N/R	N/R	mg/kg
Cadmium	Soil	5 / 25	0.50 - 1.0	0.73 - 4.3	2.2	1.4	95% KM (t) UCL	95% KM (BCA) UCL	3.0	mg/kg
Chromium (total)	Soil	25 / 25	-	8.1 - 61	23	13	95% Approximate Gamma UCL	95% Student's-t UCL	27	mg/kg
Lead	Soil	24 / 25	1.0 - 1.0	2.0 - 1600	86	324	99% KM (Chebyshev) UCL	95% KM (BCA) UCL	210	mg/kg
Mercury	Soil	7 / 25	0.020 - 0.10	0.10 - 1.0	0.36	0.31	95% KM (t) UCL	95% KM (BCA) UCL	0.34	mg/kg
Vanadium	Soil	25 / 25	-	7.1 - 180	36	42	95% H-UCL	95% Student's-t UCL	50	mg/kg
BTEX										
Benzene	Soil	1 / 36	0.0020 - 0.10	0.023 - 0.023	0.023	NA	N/R	N/R	N/R	mg/kg
Ethylbenzene	Soil	1 / 36	0.0020 - 0.10	0.059 - 0.059	0.059	NA	N/R	N/R	N/R	mg/kg
Toluene	Soil	1 / 36	0.0020 - 0.10	0.044 - 0.044	0.044	NA	N/R	N/R	N/R	mg/kg
Xylenes (total)	Soil	1 / 36	0.0040 - 0.10	0.19 - 0.19	0.19	NA	N/R	N/R	N/R	mg/kg
VOCs										
Methylene chloride	Soil	1 / 12	0.0050 - 0.021	0.00078 - 0.00078	0.00078	NA	N/R	N/R	N/R	mg/kg
PAHs										
BaP TEQ	Soil	4 / 10	0.0035 - 14	0.0056 - 0.12	0.049	0.05	95% KM (t)	95% KM (t)	0.055	mg/kg
Acenaphthylene	Soil	2 / 10	0.0050 - 20	0.0060 - 0.013	0.010	0.0049	N/R	N/R	N/R	mg/kg
Benz(a)anthracene	Soil	4 / 10	0.0050 - 20	0.0069 - 0.082	0.031	0.034	95% KM (t) UCL	95% KM (t) UCL	0.038	mg/kg
Benzo(b)fluoranthene	Soil	3 / 10	0.0050 - 20	0.029 - 0.10	0.055	0.039	N/R	N/R	N/R	mg/kg
Benzo(k)fluoranthene	Soil	3 / 10	0.0050 - 20	0.012 - 0.078	0.038	0.035	95% KM (t) UCL	N/R	N/R	mg/kg
Benzo(g,h,i)perylene	Soil	4 / 10	0.0050 - 20	0.022 - 0.075	0.037	0.025	95% KM (t) UCL	95% KM (t) UCL	0.043	mg/kg
Benzo(a)pyrene	Soil	3 / 10	0.0050 - 20	0.026 - 0.084	0.047	0.032	95% KM (t) UCL	N/R	N/R	mg/kg
Chrysene	Soil	4 / 10	0.0050 - 20	0.013 - 0.12	0.051	0.047	95% KM (t) UCL	95% KM (t) UCL	0.059	mg/kg
Fluoranthene	Soil	4 / 10	0.0050 - 20	0.013 - 0.18	0.063	0.079	95% KM (t) UCL	95% KM (t) UCL	0.079	mg/kg
Fluorene	Soil	2 / 10	0.0050 - 20	0.0033 - 0.019	0.011	0.011	N/R	N/R	N/R	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	3 / 10	0.0050 - 20	0.0078 - 0.042	0.022	0.018	95% KM (t) UCL	N/R	N/R	mg/kg
1-Methylnaphthalene	Soil	1 / 2	0.0058 - 0.0058	0.0068 - 0.0068	NA	NA	NA	NA	NA	mg/kg
Naphthalene	Soil	1 / 14	0.0050 - 20	0.0071 - 0.0071	0.0071	NA	N/R	N/R	N/R	mg/kg
Phenanthrene	Soil	5 / 10	0.0050 - 20	0.012 - 0.072	0.027	0.026	95% KM (t) UCL	95% KM (t) UCL	0.036	mg/kg
Pyrene	Soil	4 / 10	0.0050 - 20	0.018 - 0.19	0.068	0.081	95% KM (t) UCL	95% KM (t) UCL	0.085	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	1 / 53	0.41 - 10	77 - 77	77	NA	N/R	N/R	N/R	mg/kg
TPH Diesel	Soil	27 / 53	10 - 10	10 - 11000	602	2112	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	727	mg/kg
TPH Motor Oil	Soil	29 / 53	10 - 50	16 - 13000	826	2410	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	926	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-8
Exposure Point Concentrations
Exposure Area D

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Hotel Bungalow Indoor Vapor $µg/m^3$	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Inorganics								
Antimony	**4.60E+01**	**4.60E+01**	3.38E-08	1.39E-06	NA	NA	NA	NA
Cadmium	3.02E+00	**4.30E+00**	2.22E-09	1.30E-07	NA	NA	NA	NA
Chromium (total)	**6.10E+01**	**6.10E+01**	4.49E-08	1.84E-06	NA	NA	NA	NA
Lead	**1.60E+03**	**1.60E+03**	1.18E-06	4.82E-05	NA	NA	NA	NA
Mercury	**1.00E+00**	**1.00E+00**	7.35E-10	3.01E-08	NA	NA	NA	NA
Vanadium	**1.40E+02**	**1.80E+02**	1.03E-07	5.42E-06	NA	NA	NA	NA
BTEX								
Benzene	**2.30E-02**	**2.30E-02**	6.04E-06	3.58E-05	2.20E+00	1.04E-01	5.15E-02	NA
Ethylbenzene	**5.90E-02**	**5.90E-02**	9.67E-06	6.40E-05	4.90E+01	1.98E+00	9.79E-01	NA
Toluene	**4.40E-02**	**4.40E-02**	9.54E-06	5.97E-05	1.70E-02	8.57E-04	4.24E-04	NA
m&p-Xylenes	NA	NA	NA	NA	2.50E+01	1.04E+00	5.12E-01	NA
o-Xylene	NA	NA	NA	NA	1.80E-01	3.02E-02	1.45E-02	NA
Xylenes (total)	**1.90E-01**	**1.90E-01**	3.03E-05	1.99E-04	NA	NA	NA	NA
VOCs								
Bromodichloromethane	NA	NA	NA	NA	9.30E-03	1.74E-04	8.65E-05	NA
1,3-Butadiene	NA	NA	NA	NA	3.60E-02	5.10E-03	2.47E-03	NA
2-Butanone	NA	NA	NA	NA	4.40E-02	5.40E-03	2.53E-03	NA
tert-Butylalcohol	NA	NA	NA	NA	1.70E+01	9.82E-01	4.84E-01	NA
Carbon disulfide	NA	NA	NA	NA	7.20E+00	4.00E-01	1.97E-01	NA
Chloroform	NA	NA	NA	NA	6.60E-02	3.99E-03	1.97E-03	NA
Cyclohexane	NA	NA	NA	NA	5.10E+02	2.18E+01	1.08E+01	NA
4-Ethyltoluene	NA	NA	NA	NA	1.10E+01	4.55E-01	2.25E-01	NA
n-Heptane	NA	NA	NA	NA	1.10E+02	1.17E+01	5.68E+00	NA
Hexane	NA	NA	NA	NA	6.10E+01	6.47E+00	3.15E+00	NA
Isopropylbenzene	NA	NA	NA	NA	3.20E+01	1.11E+00	5.54E-01	NA
Methylene chloride	**7.80E-04**	**7.80E-04**	3.31E-07	1.42E-06	6.80E-03	4.03E-04	1.99E-04	NA
n-Propylbenzene	NA	NA	NA	NA	3.00E+01	9.72E-01	4.82E-01	NA
Tetrahydrofuran	NA	NA	NA	NA	7.00E-03	1.44E-03	6.70E-04	NA
1,2,4-Trimethylbenzene	NA	NA	NA	NA	1.40E+01	4.59E-01	2.28E-01	NA
1,3,5-Trimethylbenzene	NA	NA	NA	NA	9.60E+00	3.13E-01	1.55E-01	NA
PAHs								
BaP TEQ	**1.15E-01**	**1.15E-01**	8.49E-11	3.48E-09	NA	NA	NA	NA
Acenaphthylene	**1.30E-02**	**1.30E-02**	8.61E-08	6.73E-07	NA	NA	NA	NA
Benz(a)anthracene	**8.20E-02**	**8.20E-02**	6.03E-11	2.47E-09	NA	NA	NA	NA

Table 5-8
Exposure Point Concentrations
Exposure Area D

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Hotel Bungalow Indoor Vapor $µg/m^3$	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Benzo(b)fluoranthene	**1.00E-01**	**1.00E-01**	7.35E-11	3.01E-09	NA	NA	NA	NA
Benzo(k)fluoranthene	**7.80E-02**	**7.80E-02**	5.74E-11	2.35E-09	NA	NA	NA	NA
Benzo(g,h,i)perylene	**7.50E-02**	**7.50E-02**	5.51E-11	2.26E-09	NA	NA	NA	NA
Benzo(a)pyrene	**8.40E-02**	**8.40E-02**	6.18E-11	2.53E-09	NA	NA	NA	NA
Chrysene	**1.20E-01**	**1.20E-01**	8.82E-11	3.62E-09	NA	NA	NA	NA
Fluoranthene	**1.80E-01**	**1.80E-01**	1.32E-10	5.42E-09	NA	NA	NA	NA
Fluorene	**1.90E-02**	**1.90E-02**	6.27E-08	5.40E-07	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**4.20E-02**	**4.20E-02**	3.09E-11	1.27E-09	NA	NA	NA	NA
1-Methylnaphthalene	**6.80E-03**	**6.80E-03**	1.08E-07	9.87E-07	NA	NA	NA	NA
Naphthalene	**7.10E-03**	**7.10E-03**	1.42E-07	1.03E-06	NA	NA	NA	NA
Phenanthrene	**7.20E-02**	**7.20E-02**	1.03E-07	1.25E-06	NA	NA	NA	NA
Pyrene	**1.90E-01**	**1.90E-01**	7.42E-08	1.32E-06	NA	NA	NA	NA
Total Petroleum Hydrocarbons								
TPH Gasoline	**7.70E+01**	**7.70E+01**	NA	NA	NA	NA	NA	NA
TPH Gasoline - aliphatic	**2.00E+01**	**2.00E+01**	1.47E-08	6.03E-07	NA	NA	NA	NA
TPH Gasoline - aromatic	**1.16E+01**	**1.16E+01**	8.49E-09	3.48E-07	NA	NA	NA	NA
TPH Diesel	4.03E+03	**1.10E+04**	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	1.05E+03	**2.86E+03**	7.70E-07	8.62E-05	NA	NA	NA	NA
TPH Diesel - aromatic	6.04E+02	**1.65E+03**	4.44E-07	4.97E-05	NA	NA	NA	NA
TPH Motor Oil	5.08E+03	**1.30E+04**	NA	NA	NA	NA	NA	NA
TPH Motor Oil - aliphatic	1.32E+03	**3.38E+03**	9.71E-07	1.02E-04	NA	NA	NA	NA
TPH Motor Oil - aromatic	7.62E+02	**1.95E+03**	5.60E-07	5.88E-05	NA	NA	NA	NA

NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 or 0-2 depth horizon) used as soil EPC.

Table 5-9
Soil Chemicals of Potential Concern Summary Statistics (0-2 ft)
Exposure Area E

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	3 / 11	0.49 - 1.0	0.78 - 1.7	1.2	0.49	95% KM (t) UCL	N/R	N/R	mg/kg
Chromium (total)	Soil	11 / 11	-	12 - 33	19	6.6	95% Student's-t UCL	95% Student's-t UCL	23	mg/kg
Lead	Soil	12 / 12	-	3.0 - 490	63	136	95% Chebyshev (Mean, Sd) UCL	95% Student's-t UCL	134	mg/kg
Mercury	Soil	7 / 11	0.020 - 0.10	0.030 - 0.70	0.19	0.23	95% KM (BCA) UCL	95% KM (t) UCL	0.24	mg/kg
Vanadium	Soil	11 / 11	-	13 - 57	24	13	95% Approximate Gamma UCL	95% Student's-t UCL	31	mg/kg
BTEX										
Benzene	Soil	2 / 9	0.0020 - 0.0050	0.0064 - 0.018	NA	NA	NA	NA	NA	mg/kg
Ethylbenzene	Soil	2 / 9	0.0020 - 0.0050	0.0032 - 0.042	NA	NA	NA	NA	NA	mg/kg
Toluene	Soil	2 / 9	0.0020 - 0.0050	0.0026 - 0.0057	NA	NA	NA	NA	NA	mg/kg
Xylenes (total)	Soil	2 / 9	0.0041 - 0.0050	0.015 - 0.066	NA	NA	NA	NA	NA	mg/kg
VOCs										
n-Butylbenzene	Soil	0 / 9	0.0048 - 0.012	-	NA	NA	NA	NA	NA	mg/kg
sec-Butylbenzene	Soil	2 / 9	0.0050 - 0.0053	0.0025 - 0.031	NA	NA	NA	NA	NA	mg/kg
tert-Butylbenzene	Soil	0 / 9	0.0048 - 0.012	-	NA	NA	NA	NA	NA	mg/kg
1,2-Dichlorobenzene	Soil	1 / 9	0.0020 - 0.0050	0.016 - 0.016	NA	NA	NA	NA	NA	mg/kg
1,3-Dichlorobenzene	Soil	0 / 9	0.0 - 0.005	-	NA	NA	NA	NA	NA	mg/kg
1,4-Dichlorobenzene	Soil	1 / 9	0.0020 - 0.0050	0.0062 - 0.0062	NA	NA	NA	NA	NA	mg/kg
Isopropylbenzene	Soil	3 / 9	0.0021 - 0.0050	0.0033 - 0.18	NA	NA	NA	NA	NA	mg/kg
p-Isopropyltoluene	Soil	2 / 9	0.0020 - 0.0050	0.0044 - 0.019	NA	NA	NA	NA	NA	mg/kg
n-Propylbenzene	Soil	3 / 9	0.0021 - 0.0050	0.0060 - 0.29	NA	NA	NA	NA	NA	mg/kg
1,2,4-Trimethylbenzene	Soil	2 / 9	0.0020 - 0.0050	0.0048 - 0.14	NA	NA	NA	NA	NA	mg/kg
1,3,5-Trimethylbenzene	Soil	2 / 9	0.0020 - 0.0050	0.0020 - 0.047	NA	NA	NA	NA	NA	mg/kg
PAHs										
BaP TEQ	Soil	8 / 9	0.0039 - 0.004	0.0052 - 0.34	NA	NA	NA	NA	NA	mg/kg
Acenaphthene	Soil	1 / 9	0.0055 - 0.1	0.26 - 0.26	NA	NA	NA	NA	NA	mg/kg
Acenaphthylene	Soil	5 / 9	0.0055 - 0.1	0.015 - 0.052	NA	NA	NA	NA	NA	mg/kg
Anthracene	Soil	3 / 9	0.0055 - 0.1	0.0077 - 3.5	NA	NA	NA	NA	NA	mg/kg
Benz(a)anthracene	Soil	5 / 9	0.0055 - 0.1	0.017 - 0.85	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	7 / 9	0.0055 - 0.0	0.040 - 0.76	NA	NA	NA	NA	NA	mg/kg
Benzo(k)fluoranthene	Soil	6 / 9	0.0055 - 0.1	0.016 - 0.40	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	8 / 9	0.0055 - 0.0	0.026 - 0.65	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	7 / 9	0.0055 - 0.0	0.043 - 0.17	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	6 / 9	0.0055 - 0.1	0.037 - 2.3	NA	NA	NA	NA	NA	mg/kg
Dibenz(a,h)anthracene	Soil	3 / 9	0.0055 - 0.1	0.010 - 0.049	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	7 / 9	0.0055 - 0.1	0.014 - 0.39	NA	NA	NA	NA	NA	mg/kg
Fluorene	Soil	3 / 9	0.0055 - 0.0	0.030 - 7.1	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	7 / 9	0.0055 - 0.1	0.013 - 0.28	NA	NA	NA	NA	NA	mg/kg
1-Methylnaphthalene	Soil	1 / 4	0.0055 - 0.054	1.6 - 1.6	NA	NA	NA	NA	NA	mg/kg
2-Methylnaphthalene	Soil	2 / 5	0.0055 - 1.0	0.0074 - 2.9	NA	NA	NA	NA	NA	mg/kg
Naphthalene	Soil	3 / 9	0.0050 - 0.0052	0.0079 - 1.0	NA	NA	NA	NA	NA	mg/kg
Phenanthrene	Soil	7 / 9	0.0055 - 0.1	0.011 - 3.3	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	7 / 9	0.0055 - 0.0	0.038 - 0.37	NA	NA	NA	NA	NA	mg/kg
SVOCs										
2,4-Dinitrotoluene	Soil	0 / 1	1.0 - 1	-	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	7 / 14	0.38 - 10	0.87 - 46	10	16	95% KM (t) UCL	95% KM (t) UCL	12	mg/kg
TPH Diesel	Soil	14 / 14	-	6.3 - 10000	3637	4336	95% BCA Bootstrap UCL	95% Student's-t UCL	5689	mg/kg
TPH Motor Oil	Soil	14 / 14	-	13 - 12000	4697	4821	Approximate Gamma UCL (Use when n	95% BCA Bootstrap UCL	7002	mg/kg

Notes:
NA = Not applicable

Table 5-9
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Exposure Area E

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	4 / 40	0.49 - 1.0	0.32 - 1.7	0.94	0.57	95% KM (t) UCL	N/R	N/R	mg/kg
Chromium (total)	Soil	40 / 40	-	8.5 - 38	20	7.1	95% Student's-t UCL	95% Student's-t UCL	22	mg/kg
Lead	Soil	41 / 41	-	1.4 - 490	23	76	95% Chebyshev (Mead, Sd) UCL	95% Student's-t UCL	43	mg/kg
Mercury	Soil	9 / 40	0.020 - 0.10	0.030 - 0.70	0.20	0.22	95% KM (t) UCL	95% KM (BCA) UCL	0.15	mg/kg
Vanadium	Soil	40 / 40	-	9.6 - 57	20	8.7	95% Approxiamate Gamma UCL	95% Student's-t UCL	22	mg/kg
BTEX										
Benzene	Soil	18 / 70	0.0020 - 0.20	0.0064 - 19	2.3	5.1	95% KM (t) UCL	95% KM (BCA) UCL	1.2	mg/kg
Ethylbenzene	Soil	20 / 70	0.0020 - 0.20	0.0032 - 32	3.2	7.5	95% KM (t) UCL	95% KM (BCA) UCL	1.9	mg/kg
Toluene	Soil	9 / 70	0.0020 - 1.0	0.0026 - 34	4.0	11	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	1.5	mg/kg
Xylenes (total)	Soil	30 / 70	0.0041 - 0.40	0.0060 - 170	8.4	31	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	8.6	mg/kg
VOCs										
n-Butylbenzene	Soil	14 / 33	0.0048 - 0.10	0.043 - 4.3	0.65	1.1	95% KM (t) UCL	95% KM (t) UCL	0.53	mg/kg
sec-Butylbenzene	Soil	13 / 33	0.0050 - 0.10	0.0025 - 2.8	0.64	0.78	95% KM (t) UCL	95% KM (BCA) UCL	0.49	mg/kg
tert-Butylbenzene	Soil	1 / 33	0.0048 - 2.5	0.24 - 0.24	0.24	NA	N/R	N/R	N/R	mg/kg
1,2-Dichlorobenzene	Soil	2 / 33	0.0020 - 1.0	0.016 - 0.27	0.14	0.18	N/R	N/R	N/R	mg/kg
1,3-Dichlorobenzene	Soil	1 / 33	0.0020 - 1.0	0.017 - 0.017	0.017	NA	N/R	N/R	N/R	mg/kg
1,4-Dichlorobenzene	Soil	2 / 33	0.0020 - 1.0	0.0062 - 0.096	0.051	0.063	N/R	N/R	N/R	mg/kg
Isopropylbenzene	Soil	22 / 33	0.0021 - 0.10	0.0033 - 4.4	0.72	1.1	95% KM (BCA) UCL	95% KM (BCA) UCL	0.80	mg/kg
p-Isopropyltoluene	Soil	14 / 33	0.0020 - 0.10	0.0044 - 3.3	0.55	0.88	95% KM (t) UCL	95% KM (t) UCL	0.46	mg/kg
n-Propylbenzene	Soil	15 / 33	0.0021 - 0.10	0.0060 - 6.3	1.3	1.7	95% KM (t) UCL	95% KM (BCA) UCL	1.1	mg/kg
1,2,4-Trimethylbenzene	Soil	16 / 33	0.0020 - 0.20	0.0048 - 25	2.9	6.1	95% KM (t) UCL	95% KM (BCA) UCL	3.0	mg/kg
1,3,5-Trimethylbenzene	Soil	15 / 33	0.0020 - 0.20	0.0020 - 8.3	1.3	2.3	95% KM (t) UCL	95% KM (BCA) UCL	1.2	mg/kg
PAHs										
BaP TEQ	Soil	22 / 42	0.0039 - 2.8	0.0036 - 0.55	0.127	0.129	95% KM (BCA)	95% KM (BCA)	0.110	mg/kg
Acenaphthene	Soil	25 / 42	0.0055 - 4.0	0.010 - 3.2	0.39	0.64	95% KM (BCA) UCL	95% KM (t) UCL	0.40	mg/kg
Acenaphthylene	Soil	19 / 42	0.0050 - 4.0	0.015 - 0.42	0.12	0.11	95% KM (t) UCL	95% KM (t) UCL	0.099	mg/kg
Anthracene	Soil	10 / 42	0.0050 - 4.0	0.0077 - 3.5	0.57	1.1	95% KM (t) UCL	95% KM (BCA) UCL	0.38	mg/kg
Benz(a)anthracene	Soil	13 / 42	0.0050 - 4.0	0.0070 - 0.85	0.19	0.24	95% KM (t) UCL	95% KM (BCA) UCL	0.13	mg/kg
Benzo(b)fluoranthene	Soil	14 / 42	0.0050 - 4.0	0.0073 - 0.76	0.15	0.21	95% KM (t) UCL	95% KM (BCA) UCL	0.12	mg/kg
Benzo(k)fluoranthene	Soil	9 / 42	0.0050 - 4.0	0.0058 - 0.40	0.11	0.13	95% KM (t) UCL	95% KM (BCA) UCL	0.067	mg/kg
Benzo(g,h,i)perylene	Soil	13 / 42	0.0050 - 4.0	0.0065 - 0.65	0.11	0.18	95% KM (BCA) UCL	95% KM (BCA) UCL	0.093	mg/kg
Benzo(a)pyrene	Soil	13 / 42	0.0050 - 4.0	0.019 - 0.40	0.12	0.11	95% KM (t) UCL	95% KM (BCA) UCL	0.100	mg/kg
Chrysene	Soil	18 / 42	0.0055 - 4.0	0.0090 - 2.3	0.37	0.55	95% KM (t) UCL	95% KM (t) UCL	0.29	mg/kg
Dibenz(a,h)anthracene	Soil	4 / 42	0.0050 - 4.0	0.010 - 0.049	0.025	0.019	95% KM (t) UCL	95% KM ()Percentile Bootstrap) UCL	0.036	mg/kg
Fluoranthene	Soil	12 / 42	0.0055 - 4.0	0.0060 - 1.1	0.19	0.31	95% KM (t) UCL	95% (BCA) UCL	0.15	mg/kg
Fluorene	Soil	29 / 42	0.0055 - 4.0	0.028 - 7.1	1.2	1.6	95% (BCA) UCL	95% KM (t) UCL	1.2	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	9 / 42	0.0050 - 4.0	0.0066 - 0.30	0.081	0.12	95% KM (BCA) UCL	95% KM (BCA) UCL	0.055	mg/kg
1-Methylnaphthalene	Soil	4 / 8	0.0055 - 0.062	0.33 - 5.5	NA	NA	NA	NA	NA	mg/kg
2-Methylnaphthalene	Soil	6 / 10	0.0055 - 1.0	0.0074 - 15	4.3	5.5	95% KM (BCA) UCL	95% KM (BCA) UCL	6.0	mg/kg
Naphthalene	Soil	29 / 48	0.0050 - 4.0	0.0079 - 11	1.3	2.1	95% KM (BCA) UCL	95% KM (BCA) UCL	1.3	mg/kg
Phenanthrene	Soil	34 / 42	0.0055 - 4.0	0.011 - 5.7	1.2	1.4	95% KM (Chebyshev) UCL	95% KM (BCA) UCL	1.3	mg/kg
Pyrene	Soil	21 / 42	0.0055 - 4.0	0.0060 - 1.0	0.25	0.26	95% KM (t) UCL	95% KM (t) UCL	0.21	mg/kg
SVOCs										
2,4-Dinitrotoluene	Soil	1 / 2	1.0 - 1.0	0.64 - 0.64	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	57 / 86	0.38 - 390	0.74 - 3100	418	631	95% KM (BCA) UCL	95% KM (BCA) UCL	392	mg/kg
TPH Diesel	Soil	77 / 86	10 - 10	6.3 - 19000	3175	4228	95% KM (Chebyshev) UCL	95% KM (BCA) UCL	3606	mg/kg
TPH Motor Oil	Soil	75 / 86	10 - 10	10 - 12000	1982	2961	95% KM (Chebyshev) UCL	95% KM (Percentile Bootstrap) UCL	2263	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-10
Exposure Point Concentrations
Exposure Area E

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Hotel Bungalow Indoor Vapor $µg/m^3$	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Inorganics								
Cadmium	**1.70E+00**	**1.70E+00**	1.25E-09	5.57E-08	NA	NA	NA	NA
Chromium (total)	2.31E+01	**3.80E+01**	1.70E-08	1.24E-06	NA	NA	NA	NA
Lead	1.34E+02	**4.90E+02**	9.86E-08	1.60E-05	NA	NA	NA	NA
Mercury	2.44E-01	**7.00E-01**	1.79E-10	2.29E-08	NA	NA	NA	NA
Molybdenum	NA	NA	NA	NA	NA	NA	NA	3.50E-02
Vanadium	3.08E+01	**5.70E+01**	2.27E-08	1.87E-06	NA	NA	NA	NA
BTEX								
Benzene	1.20E+00	**1.90E+01**	3.16E-04	3.22E-02	1.60E+03	7.59E+01	3.75E+01	NA
Ethylbenzene	1.94E+00	**3.20E+01**	3.19E-04	3.78E-02	1.10E+02	4.44E+00	2.20E+00	2.80E-04
Toluene	1.50E+00	**3.40E+01**	3.26E-04	5.02E-02	1.60E+02	7.49E+00	3.70E+00	4.90E-04
m&p-Xylenes	NA	NA	NA	NA	1.00E+02	4.14E+00	2.05E+00	NA
o-Xylene	NA	NA	NA	NA	1.10E+01	5.16E-01	2.55E-01	NA
Xylenes (total)	8.60E+00	**1.70E+02**	1.37E-03	1.94E-01	NA	NA	NA	4.50E-04
VOCs								
2-Butanone	NA	NA	NA	NA	6.60E+01	1.39E+01	6.51E+00	NA
tert-Butylalcohol	NA	NA	NA	NA	8.40E+02	5.94E+01	2.82E+01	1.10E-02
n-Butylbenzene	5.31E-01	**4.30E+00**	6.05E-05	3.71E-03	NA	NA	NA	2.00E-03
sec-Butylbenzene	4.88E-01	**2.80E+00**	5.56E-05	2.63E-03	NA	NA	NA	4.60E-03
tert-Butylbenzene	2.40E-01	**2.40E-01**	2.38E-05	1.85E-04	NA	NA	NA	1.00E-03
Carbon disulfide	NA	NA	NA	NA	1.40E-01	7.79E-03	3.84E-03	NA
Chloroform	NA	NA	NA	NA	1.20E+02	6.73E+00	3.32E+00	NA
Cyclohexane	NA	NA	NA	NA	2.20E+03	2.61E+02	1.25E+02	NA
1,2-Dichlorobenzene	2.70E-01	2.70E-01	2.14E-05	1.54E-04	9.80E-03	1.33E-03	6.43E-04	NA
1,3-Dichlorobenzene	**1.70E-02**	1.70E-02	1.35E-06	8.77E-06	NA	NA	NA	NA
1,4-Dichlorobenzene	**9.60E-02**	9.60E-02	8.57E-06	6.12E-05	NA	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA	NA	4.40E-01	7.16E-02	3.44E-02	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA	NA	NA	3.70E-04
4-Ethyltoluene	NA	NA	NA	NA	2.70E+01	1.12E+00	5.53E-01	NA
n-Heptane	NA	NA	NA	NA	1.20E+03	1.27E+02	6.20E+01	NA
Hexane	NA	NA	NA	NA	6.10E+03	1.19E+03	5.42E+02	NA
Isopropylbenzene	7.97E-01	**4.40E+00**	1.19E-04	4.86E-03	3.30E+01	1.15E+00	5.72E-01	1.90E-02
p-Isopropyltoluene	4.62E-01	**3.30E+00**	6.92E-05	3.76E-03	NA	NA	NA	4.40E-04
Methylene chloride	NA	NA	NA	NA	3.50E+00	1.92E-01	9.48E-02	NA
Methyl tert-butyl ether	NA	NA	NA	NA	1.10E+00	1.80E-01	8.62E-02	2.50E-03
n-Propylbenzene	1.05E+00	**6.30E+00**	1.40E-04	5.44E-03	3.90E+01	1.26E+00	6.26E-01	1.20E-02
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	2.00E+01	8.58E-01	4.24E-01	NA
Tetrahydrofuran	NA	NA	NA	NA	1.20E-01	1.52E-02	7.09E-03	NA
1,2,4-Trimethylbenzene	2.98E+00	**2.50E+01**	3.50E-04	2.16E-02	4.80E+01	1.57E+00	7.80E-01	3.10E-04
1,3,5-Trimethylbenzene	1.15E+00	**8.30E+00**	1.62E-04	8.55E-03	2.20E+01	7.17E-01	3.56E-01	NA
2,2,4-Trimethylpentane	NA	NA	NA	NA	4.80E+02	5.48E+01	2.66E+01	NA

Table 5-10
Exposure Point Concentrations
Exposure Area E

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Hotel Bungalow Indoor Vapor $µg/m^3$	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
PAHs								
BaP TEQ	**3.39E-01**	**5.46E-01**	2.49E-10	1.79E-08	NA	NA	NA	NA
Acenaphthene	3.98E-01	**3.20E+00**	2.64E-06	1.80E-04	NA	NA	NA	6.70E-04
Acenaphthylene	9.85E-02	**4.20E-01**	6.52E-07	2.37E-05	NA	NA	NA	1.60E-04
Anthracene	**3.50E+00**	**3.50E+00**	6.22E-06	6.64E-05	NA	NA	NA	7.10E-05
Benz(a)anthracene	**8.50E-01**	**8.50E-01**	6.25E-10	2.78E-08	NA	NA	NA	NA
Benzo(b)fluoranthene	**7.60E-01**	**7.60E-01**	5.59E-10	2.49E-08	NA	NA	NA	NA
Benzo(k)fluoranthene	**4.00E-01**	**4.00E-01**	2.94E-10	1.31E-08	NA	NA	NA	NA
Benzo(g,h,i)perylene	**6.50E-01**	**6.50E-01**	4.78E-10	2.13E-08	NA	NA	NA	NA
Benzo(a)pyrene	**1.70E-01**	**4.00E-01**	1.25E-10	1.31E-08	NA	NA	NA	NA
Chrysene	**2.30E+00**	**2.30E+00**	1.69E-09	7.53E-08	NA	NA	NA	NA
Dibenz(a,h)anthracene	**4.90E-02**	**4.90E-02**	3.60E-11	1.60E-09	NA	NA	NA	NA
Fluoranthene	**3.90E-01**	**1.10E+00**	2.87E-10	3.60E-08	NA	NA	NA	NA
Fluorene	**7.10E+00**	**7.10E+00**	2.34E-05	2.20E-04	NA	NA	NA	9.00E-04
Indeno(1,2,3-cd)pyrene	**2.80E-01**	**3.00E-01**	2.06E-10	9.82E-09	NA	NA	NA	NA
1-Methylnaphthalene	**5.50E+00**	**5.50E+00**	8.72E-05	8.69E-04	NA	NA	NA	NA
2-Methylnaphthalene	6.00E+00	**1.50E+01**	9.62E-05	2.37E-03	NA	NA	NA	NA
Naphthalene	1.29E+00	**1.10E+01**	2.59E-05	1.74E-03	NA	NA	NA	1.90E-03
Phenanthrene	**3.30E+00**	**5.70E+00**	4.73E-06	1.08E-04	NA	NA	NA	1.40E-04
Pyrene	**3.70E-01**	**1.00E+00**	1.45E-07	7.54E-06	NA	NA	NA	NA
SVOCs								
2,4-Dinitrotoluene	**6.40E-01**	**6.40E-01**	4.71E-10	2.10E-08	NA	NA	NA	NA
Total Petroleum Hydrocarbons								
TPH Gasoline	3.92E+02	**3.10E+03**	NA	NA	NA	NA	NA	8.80E-01
TPH Gasoline - aliphatic	1.02E+02	**8.06E+02**	7.50E-08	2.64E-05	NA	NA	NA	0.00E+00
TPH Gasoline - aromatic	5.89E+01	**4.65E+02**	4.33E-08	1.52E-05	NA	NA	NA	8.80E-01
TPH Diesel	5.69E+03	**1.90E+04**	NA	NA	NA	NA	NA	6.00E-01
TPH Diesel - aliphatic	1.48E+03	**4.94E+03**	1.09E-06	1.62E-04	NA	NA	NA	0.00E+00
TPH Diesel - aromatic	8.53E+02	**2.85E+03**	6.27E-07	9.33E-05	NA	NA	NA	6.00E-01
TPH Motor Oil	7.00E+03	**1.20E+04**	NA	NA	NA	NA	NA	1.20E+00
TPH Motor Oil - aliphatic	1.82E+03	**3.12E+03**	1.34E-06	1.02E-04	NA	NA	NA	0.00E+00
TPH Motor Oil - aromatic	1.05E+03	**1.80E+03**	7.72E-07	5.89E-05	NA	NA	NA	1.20E+00

NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 or 0-2 depth horizon) used as soil EPC.

Table 5-11
Soil Chemicals of Potential Concern Summary Statistics (0-2 ft)
Exposure Area G

Chemical	Matrix	Frequency	NonDetects	Detects	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
		Detects / Total	Min – Max	Min – Max						
Inorganics										
Cadmium	Soil	0 / 2	0.50 - 1.0	-	NA	NA	NA	NA	NA	mg/kg
Chromium (total)	Soil	2 / 2	-	23 - 24	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	5 / 5	-	4.0 - 7.4	NA	NA	NA	NA	NA	mg/kg
Mercury	Soil	1 / 2	0.020 - 0.020	0.30 - 0.30	NA	NA	NA	NA	NA	mg/kg
Vanadium	Soil	2 / 2	-	18 - 20	NA	NA	NA	NA	NA	mg/kg
BTEX										
Benzene	Soil	0 / 2	0.0020 - 0.005	-	NA	NA	NA	NA	NA	mg/kg
VOCs										
Chloroform	Soil	0 / 2	0.0020 - 0.0050	-	NA	NA	NA	NA	NA	mg/kg
1,3,5-Trimethylbenzene	Soil	1 / 2	0.0050 - 0.0050	0.013 - 0.013	NA	NA	NA	NA	NA	mg/kg
PAHs										
BaP TEQ	Soil	1 / 2	0.0035 - 0.004	0.1061 - 0.1	NA	NA	NA	NA	NA	mg/kg
Acenaphthylene	Soil	0 / 2	0.0050 - 0.0051	-	NA	NA	NA	NA	NA	mg/kg
Anthracene	Soil	1 / 2	0.0050 - 0.0050	0.16 - 0.16	NA	NA	NA	NA	NA	mg/kg
Benz(a)anthracene	Soil	0 / 2	0.0050 - 0.0051	-	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	1 / 2	0.0050 - 0.0050	0.12 - 0.12	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	2 / 2	-	0.0090 - 0.080	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	1 / 2	0.0050 - 0.0050	0.089 - 0.089	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	1 / 2	0.0050 - 0.0050	0.16 - 0.16	NA	NA	NA	NA	NA	mg/kg
Dibenz(a,h)anthracene	Soil	1 / 2	0.0050 - 0.0050	0.023 - 0.023	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	1 / 2	0.0050 - 0.0050	0.096 - 0.096	NA	NA	NA	NA	NA	mg/kg
Fluorene	Soil	1 / 2	0.0050 - 0.0050	0.67 - 0.67	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	1 / 2	0.0050 - 0.0050	0.030 - 0.030	NA	NA	NA	NA	NA	mg/kg
Naphthalene	Soil	1 / 2	0.0050 - 0.0050	0.024 - 0.024	NA	NA	NA	NA	NA	mg/kg
Phenanthrene	Soil	1 / 2	0.0050 - 0.0050	0.16 - 0.16	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	1 / 2	0.0050 - 0.0050	0.57 - 0.57	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	1 / 2	10 - 10	0.70 - 0.70	NA	NA	NA	NA	NA	mg/kg
TPH Diesel	Soil	2 / 2	-	21 - 3300	NA	NA	NA	NA	NA	mg/kg
TPH Motor Oil	Soil	2 / 2	-	110 - 1500	NA	NA	NA	NA	NA	mg/kg

Notes:
NA = Not applicable

Table 5-11
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Exposure Area G

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	1 / 5	0.50 - 1.0	1.9 - 1.9	NA	NA	NA	NA	NA	mg/kg
Chromium (total)	Soil	5 / 5	-	21 - 58	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	8 / 8	-	3.8 - 9.4	NA	NA	NA	NA	NA	mg/kg
Mercury	Soil	2 / 5	0.020 - 0.10	0.30 - 0.40	NA	NA	NA	NA	NA	mg/kg
Vanadium	Soil	5 / 5	-	16 - 95	NA	NA	NA	NA	NA	mg/kg
BTEX										
Benzene	Soil	1 / 16	0.0020 - 0.0050	0.041 - 0.041	0.041	NA	N/R	N/R	N/R	mg/kg
VOCs										
Chloroform	Soil	1 / 12	0.0020 - 0.0050	0.0073 - 0.0073	0.0073	NA	N/R	N/R	N/R	mg/kg
1,3,5-Trimethylbenzene	Soil	1 / 12	0.0020 - 0.0050	0.013 - 0.013	0.013	NA	N/R	N/R	N/R	mg/kg
PAHs										
BaP TEQ	Soil	3 / 5	0.0035 - 0.0041	0.024 - 0.11	NA	NA	NA	NA	NA	mg/kg
Acenaphthylene	Soil	1 / 5	0.0050 - 0.050	0.012 - 0.012	NA	NA	NA	NA	NA	mg/kg
Anthracene	Soil	1 / 5	0.0050 - 0.050	0.16 - 0.16	NA	NA	NA	NA	NA	mg/kg
Benz(a)anthracene	Soil	1 / 5	0.0050 - 0.050	0.013 - 0.013	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	3 / 5	0.0050 - 0.0058	0.020 - 0.12	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	3 / 5	0.0058 - 0.050	0.0090 - 0.080	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	3 / 5	0.0050 - 0.0058	0.019 - 0.089	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	3 / 5	0.0050 - 0.0058	0.014 - 0.16	NA	NA	NA	NA	NA	mg/kg
Dibenz(a,h)anthracene	Soil	1 / 5	0.0050 - 0.050	0.023 - 0.023	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	3 / 5	0.0050 - 0.0058	0.011 - 0.16	NA	NA	NA	NA	NA	mg/kg
Fluorene	Soil	1 / 5	0.0050 - 0.050	0.67 - 0.67	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	3 / 5	0.0050 - 0.0058	0.012 - 0.080	NA	NA	NA	NA	NA	mg/kg
Naphthalene	Soil	1 / 13	0.0049 - 0.050	0.024 - 0.024	0.024	NA	N/R	N/R	N/R	mg/kg
Phenanthrene	Soil	2 / 5	0.0050 - 0.010	0.16 - 0.22	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	3 / 5	0.0050 - 0.0058	0.012 - 0.57	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	1 / 16	0.400 - 10	0.70 - 0.70	0.70	NA	N/R	N/R	N/R	mg/kg
TPH Diesel	Soil	5 / 16	5.0 - 10	17 - 3300	1026	1434	95% KM (t) UCL	95% KM (t) UCL	752	mg/kg
TPH Motor Oil	Soil	5 / 16	5 - 50	36 - 1500	659	727	95% KM (t) UCL	95% KM (t) UCL	458	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-12
Exposure Point Concentrations
Exposure Area G

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Inorganics							
Cadmium	**1.90E+00**	**1.90E+00**	1.40E-09	4.83E-08	NA	NA	NA
Chromium (total)	**5.80E+01**	**5.80E+01**	4.26E-08	1.47E-06	NA	NA	NA
Lead	**9.40E+00**	**9.40E+00**	6.91E-09	2.39E-07	NA	NA	NA
Mercury	**4.00E-01**	**4.00E-01**	2.94E-10	1.02E-08	NA	NA	NA
Vanadium	**9.50E+01**	**9.50E+01**	6.99E-08	2.41E-06	NA	NA	NA
BTEX							
Benzene	**4.10E-02**	**4.10E-02**	1.08E-05	5.34E-05	9.30E-01	2.18E-02	NA
Ethylbenzene	NA	NA	NA	NA	7.80E-01	1.56E-02	NA
Toluene	NA	NA	NA	NA	7.10E-02	3.93E-03	NA
m&p-Xylenes	NA	NA	NA	NA	4.10E-01	2.93E-02	NA
o-Xylene	NA	NA	NA	NA	3.40E-01	2.73E-02	NA
VOCs							
2-Butanone	NA	NA	NA	NA	1.10E-02	1.33E-03	NA
Carbon disulfide	NA	NA	NA	NA	1.90E-02	1.79E-03	NA
Chloroform	**7.30E-03**	**7.30E-03**	2.58E-06	9.91E-06	9.00E+00	2.49E-01	NA
Chloromethane	NA	NA	NA	NA	4.00E+00	1.32E-01	NA
Cyclohexane	NA	NA	NA	NA	1.30E+01	2.75E-01	NA
4-Ethyltoluene	NA	NA	NA	NA	4.50E-01	3.22E-02	NA
n-Heptane	NA	NA	NA	NA	3.60E+00	1.86E-01	NA
Hexane	NA	NA	NA	NA	1.10E+01	5.68E-01	NA
Isopropyl alcohol	NA	NA	NA	NA	1.30E-02	4.53E-03	NA
Isopropylbenzene	NA	NA	NA	NA	5.90E-01	1.02E-02	NA
Methylene chloride	NA	NA	NA	NA	1.60E-01	4.33E-03	NA
n-Propylbenzene	NA	NA	NA	NA	2.90E-01	8.48E-03	NA
Tetrachloroethene	NA	NA	NA	NA	5.50E+00	1.05E-01	NA
Tetrahydrofuran	NA	NA	NA	NA	3.40E-03	4.38E-04	NA
Trichloroethene	NA	NA	NA	NA	7.80E-01	1.64E-02	NA
1,2,4-Trimethylbenzene	NA	NA	NA	NA	2.30E-01	1.31E-02	NA
1,3,5-Trimethylbenzene	**1.30E-02**	**1.30E-02**	1.83E-06	1.03E-05	5.10E-01	2.90E-02	NA
2,2,4-Trimethylpentane	NA	NA	NA	NA	4.30E-01	7.29E-02	NA
PAHs							
BaP TEQ	**1.06E-01**	**1.06E-01**	7.80E-11	2.70E-09	NA	NA	NA
Acenaphthylene	**1.20E-02**	**1.20E-02**	7.95E-08	5.21E-07	NA	NA	NA

Table 5-12
Exposure Point Concentrations
Exposure Area G

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Anthracene	**1.60E-01**	**1.60E-01**	2.84E-07	2.34E-06	NA	NA	NA
Benz(a)anthracene	**1.30E-02**	**1.30E-02**	9.56E-12	3.30E-10	NA	NA	NA
Benzo(b)fluoranthene	**1.20E-01**	**1.20E-01**	8.82E-11	3.05E-09	NA	NA	NA
Benzo(g,h,i)perylene	**8.00E-02**	**8.00E-02**	5.88E-11	2.03E-09	NA	NA	NA
Benzo(a)pyrene	**8.90E-02**	**8.90E-02**	6.54E-11	2.26E-09	NA	NA	NA
Chrysene	**1.60E-01**	**1.60E-01**	1.18E-10	4.07E-09	NA	NA	NA
Dibenz(a,h)anthracene	**2.30E-02**	**2.30E-02**	1.69E-11	5.85E-10	NA	NA	NA
Fluoranthene	**1.60E-01**	**1.60E-01**	1.18E-10	4.07E-09	NA	NA	NA
Fluorene	**6.70E-01**	**6.70E-01**	2.21E-06	1.60E-05	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**8.00E-02**	**8.00E-02**	5.88E-11	2.03E-09	NA	NA	NA
Naphthalene	**2.40E-02**	**2.40E-02**	4.81E-07	2.92E-06	2.70E-02	1.65E-03	NA
Phenanthrene	**2.20E-01**	**2.20E-01**	3.15E-07	3.21E-06	NA	NA	NA
Pyrene	**5.70E-01**	**5.70E-01**	2.23E-07	3.31E-06	NA	NA	NA
Total Petroleum Hydrocarbons							
TPH Gasoline	**7.00E-01**	**7.00E-01**	NA	NA	NA	NA	NA
TPH Gasoline - aliphatic	**1.82E-01**	**1.82E-01**	1.34E-10	4.63E-09	NA	NA	NA
TPH Gasoline - aromatic	**1.05E-01**	**1.05E-01**	7.72E-11	2.67E-09	NA	NA	NA
TPH Diesel	**3.30E+03**	**3.30E+03**	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	**8.58E+02**	**8.58E+02**	6.31E-07	2.18E-05	NA	NA	NA
TPH Diesel - aromatic	**4.95E+02**	**4.95E+02**	3.64E-07	1.26E-05	NA	NA	NA
TPH Motor Oil	**1.50E+03**	**1.50E+03**	NA	NA	NA	NA	NA
TPH Motor Oil - aliphatic	**3.90E+02**	**3.90E+02**	2.87E-07	9.91E-06	NA	NA	NA
TPH Motor Oil - aromatic	**2.25E+02**	**2.25E+02**	1.65E-07	5.72E-06	NA	NA	NA

NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 or 0-2 depth horizon) used as soil EPC.

Table 5-13
Soil Chemicals of Potential Concern Summary Statistics (0-2 ft)
Exposure Area Ia

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	1 / 3	1.0 - 1.0	1.0 - 1.0	NA	NA	NA	NA	NA	mg/kg
Chromium (total)	Soil	3 / 3	-	10.0 - 30	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	18 / 18	-	1.8 - 1100	116	250	95% Approximate Gamma UCL	95% BCA Bootstrap UCL	295	mg/kg
Vanadium	Soil	3 / 3	-	11 - 22	NA	NA	NA	NA	NA	mg/kg
BTEX										
Benzene	Soil	0 / 3	0.0050 - 0.005	-	NA	NA	NA	NA	NA	mg/kg
Ethylbenzene	Soil	0 / 3	0.0050 - 0.005	-	NA	NA	NA	NA	NA	mg/kg
Xylenes (total)	Soil	0 / 3	0.0050 - 0.005	-	NA	NA	NA	NA	NA	mg/kg
PAHs										
BaP TEQ	Soil	3 / 3	-	0.0280 - 0.11	NA	NA	NA	NA	NA	mg/kg
Acenaphthylene	Soil	1 / 3	0.020 - 0.030	0.010 - 0.010	NA	NA	NA	NA	NA	mg/kg
Benz(a)anthracene	Soil	1 / 3	0.020 - 0.030	0.018 - 0.018	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	3 / 3	-	0.027 - 0.10	NA	NA	NA	NA	NA	mg/kg
Benzo(k)fluoranthene	Soil	1 / 3	0.020 - 0.030	0.034 - 0.034	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	3 / 3	-	0.024 - 0.091	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	2 / 3	0.030 - 0.030	0.061 - 0.084	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	3 / 3	-	0.030 - 0.26	NA	NA	NA	NA	NA	mg/kg
Dibenz(a,h)anthracene	Soil	1 / 3	0.020 - 0.030	0.013 - 0.013	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	1 / 3	0.020 - 0.030	0.066 - 0.066	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	1 / 3	0.020 - 0.030	0.059 - 0.059	NA	NA	NA	NA	NA	mg/kg
Phenanthrene	Soil	1 / 3	0.020 - 0.030	0.016 - 0.016	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	2 / 3	0.030 - 0.030	0.024 - 0.076	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	0 / 3	10.0 - 10	-	NA	NA	NA	NA	NA	mg/kg
TPH Diesel	Soil	3 / 3	-	42 - 370	NA	NA	NA	NA	NA	mg/kg
TPH Motor Oil	Soil	3 / 3	-	200 - 1500	NA	NA	NA	NA	NA	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-13
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Exposure Area Ia

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	1 / 7	1.0 - 1.0	1.0 - 1.0	NA	NA	NA	NA	NA	mg/kg
Chromium (total)	Soil	7 / 7	-	10.0 - 30	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	22 / 22	-	1.8 - 1100	98	229	95% Approxiamate Gamma UCL	95% BCA Bootstrap UCL	251	mg/kg
Vanadium	Soil	7 / 7	-	11 - 22	NA	NA	NA	NA	NA	mg/kg
BTEX										
Benzene	Soil	1 / 16	0.0050 - 0.0050	0.28 - 0.28	0.28	NA	N/R	N/R	N/R	mg/kg
Ethylbenzene	Soil	1 / 16	0.0050 - 0.0050	0.078 - 0.078	0.078	NA	N/R	N/R	N/R	mg/kg
Xylenes (total)	Soil	2 / 16	0.0050 - 0.0050	0.013 - 0.11	0.062	0.069	N/R	N/R	N/R	mg/kg
PAHs										
BaP TEQ	Soil	7 / 7	0.0000 - 0.000	0.0160 - 0.1	NA	NA	NA	NA	NA	mg/kg
Acenaphthylene	Soil	1 / 7	0.0050 - 0.040	0.010 - 0.010	NA	NA	NA	NA	NA	mg/kg
Benz(a)anthracene	Soil	1 / 7	0.0050 - 0.040	0.018 - 0.018	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	4 / 7	0.0050 - 0.030	0.027 - 0.098	NA	NA	NA	NA	NA	mg/kg
Benzo(k)fluoranthene	Soil	1 / 7	0.0050 - 0.040	0.034 - 0.034	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	6 / 7	0.0300 - 0.030	0.0070 - 0.091	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	5 / 7	0.0300 - 0.030	0.015 - 0.084	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	6 / 7	0.0050 - 0.005	0.018 - 0.26	NA	NA	NA	NA	NA	mg/kg
Dibenz(a,h)anthracene	Soil	1 / 7	0.0050 - 0.040	0.013 - 0.013	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	2 / 7	0.0050 - 0.030	0.050 - 0.066	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	1 / 7	0.0050 - 0.040	0.059 - 0.059	NA	NA	NA	NA	NA	mg/kg
Phenanthrene	Soil	2 / 7	0.0050 - 0.030	0.016 - 0.090	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	4 / 7	0.0150 - 0.030	0.0050 - 0.076	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	1 / 16	10 - 10	11 - 11	11	NA	N/R	N/R	N/R	mg/kg
TPH Diesel	Soil	10 / 16	10 - 10	13 - 1100	235	327	95% KM (BCA) UCL	95% KM (BCA) UCL	289	mg/kg
TPH Motor Oil	Soil	10 / 16	10 - 10	17 - 2200	755	753	95% KM (t) UCL	95% KM (t) UCL	787	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-14
Exposure Point Concentrations
Exposure Area Ia

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Hotel Bungalow Indoor Vapor $µg/m^3$	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Inorganics								
Cadmium	**1.00E+00**	**1.00E+00**	7.35E-10	3.14E-08	NA	NA	NA	NA
Chromium (total)	**3.00E+01**	**3.00E+01**	2.21E-08	9.43E-07	NA	NA	NA	NA
Lead	2.95E+02	**1.10E+03**	2.17E-07	3.46E-05	NA	NA	NA	NA
Vanadium	**2.20E+01**	**2.20E+01**	1.62E-08	6.92E-07	NA	NA	NA	NA
BTEX								
Benzene	**2.80E-01**	**2.80E-01**	7.35E-05	7.71E-04	4.20E-02	9.49E-03	4.48E-03	NA
Ethylbenzene	**7.80E-02**	**7.80E-02**	1.28E-05	1.43E-04	3.20E-01	6.19E-02	2.95E-02	NA
Toluene	NA	NA	NA	NA	4.60E-02	2.71E-02	1.18E-02	NA
m&p-Xylenes	NA	NA	NA	NA	3.20E-02	1.58E-02	6.95E-03	NA
o-Xylene	NA	NA	NA	NA	7.20E-03	4.24E-03	1.84E-03	NA
Xylenes (total)	**1.10E-01**	**1.10E-01**	1.75E-05	1.95E-04	NA	NA	NA	NA
VOCs								
Bromodichloromethane	NA	NA	NA	NA	1.50E-02	3.23E-03	1.53E-03	NA
2-Butanone	NA	NA	NA	NA	1.90E-02	5.60E-03	2.44E-03	NA
tert-Butylalcohol	NA	NA	NA	NA	1.50E-02	1.03E-02	4.37E-03	NA
Carbon disulfide	NA	NA	NA	NA	1.10E-01	7.60E-02	3.23E-02	NA
Carbon tetrachloride	NA	NA	NA	NA	3.40E-02	1.81E-02	7.96E-03	NA
Chloroform	NA	NA	NA	NA	2.60E+00	6.90E-01	3.23E-01	NA
Cyclohexane	NA	NA	NA	NA	5.70E-02	1.17E-02	5.57E-03	NA
4-Ethyltoluene	NA	NA	NA	NA	6.60E-03	3.47E-03	1.53E-03	NA
n-Heptane	NA	NA	NA	NA	7.00E-02	3.44E-02	1.53E-02	NA
Hexane	NA	NA	NA	NA	9.90E-02	4.87E-02	2.17E-02	NA
Isopropyl alcohol	NA	NA	NA	NA	1.30E-02	1.21E-02	4.88E-03	NA
Isopropylbenzene	NA	NA	NA	NA	4.80E-01	8.08E-02	3.87E-02	NA
n-Propylbenzene	NA	NA	NA	NA	6.50E-01	1.01E-01	4.87E-02	NA
Tetrachloroethene	NA	NA	NA	NA	1.40E-02	4.60E-03	2.04E-03	NA
1,2,4-Trimethylbenzene	NA	NA	NA	NA	1.30E-01	2.04E-02	9.82E-03	NA
1,3,5-Trimethylbenzene	NA	NA	NA	NA	4.70E-01	7.34E-02	3.53E-02	NA
PAHs								
BaP TEQ	**1.05E-01**	**1.05E-01**	7.74E-11	3.31E-09	NA	NA	NA	NA
Acenaphthylene	**1.00E-02**	**1.00E-02**	6.62E-08	7.72E-07	NA	NA	NA	NA
Benz(a)anthracene	**1.80E-02**	**1.80E-02**	1.32E-11	5.66E-10	NA	NA	NA	NA
Benzo(b)fluoranthene	**9.80E-02**	**9.80E-02**	7.21E-11	3.08E-09	NA	NA	NA	NA
Benzo(k)fluoranthene	**3.40E-02**	**3.40E-02**	2.50E-11	1.07E-09	NA	NA	NA	NA

Table 5-14
Exposure Point Concentrations
Exposure Area Ia

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Hotel Bungalow Indoor Vapor $µg/m^3$	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Benzo(g,h,i)perylene	**9.10E-02**	**9.10E-02**	6.69E-11	2.86E-09	NA	NA	NA	NA
Benzo(a)pyrene	**8.40E-02**	**8.40E-02**	6.18E-11	2.64E-09	NA	NA	NA	NA
Chrysene	**2.60E-01**	**2.60E-01**	1.91E-10	8.17E-09	NA	NA	NA	NA
Dibenz(a,h)anthracene	**1.30E-02**	**1.30E-02**	9.56E-12	4.09E-10	NA	NA	NA	NA
Fluoranthene	**6.60E-02**	**6.60E-02**	4.85E-11	2.07E-09	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**5.90E-02**	**5.90E-02**	4.34E-11	1.85E-09	NA	NA	NA	NA
Phenanthrene	**9.00E-02**	**9.00E-02**	1.29E-07	1.91E-06	NA	NA	NA	NA
Pyrene	**7.60E-02**	**7.60E-02**	2.97E-08	4.03E-07	NA	NA	NA	NA
Total Petroleum Hydrocarbons								
TPH Gasoline	**1.10E+01**	**1.10E+01**	NA	NA	NA	NA	NA	NA
TPH Gasoline - aliphatic	**2.86E+00**	**2.86E+00**	2.10E-09	8.99E-08	NA	NA	NA	NA
TPH Gasoline - aromatic	**1.65E+00**	**1.65E+00**	1.21E-09	5.19E-08	NA	NA	NA	NA
TPH Diesel	3.70E+02	**1.10E+03**	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	9.62E+01	**2.86E+02**	7.07E-08	8.99E-06	NA	NA	NA	NA
TPH Diesel - aromatic	5.55E+01	**1.65E+02**	4.08E-08	5.19E-06	NA	NA	NA	NA
TPH Motor Oil	1.50E+03	**2.20E+03**	NA	NA	NA	NA	NA	NA
TPH Motor Oil - aliphatic	3.90E+02	**5.72E+02**	2.87E-07	1.80E-05	NA	NA	NA	NA
TPH Motor Oil - aromatic	2.25E+02	**3.30E+02**	1.65E-07	1.04E-05	NA	NA	NA	NA

NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 or 0-2 depth horizon) used as soil EPC.

Table 5-15
Soil Chemicals of Potential Concern Summary Statistics (0-2 ft)
Exposure Area Ib

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Chromium (total)	Soil	2 / 2	-	15 - 18	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	2 / 2	-	33 - 44	NA	NA	NA	NA	NA	mg/kg
Mercury	Soil	1 / 2	0.10 - 0.10	0.70 - 0.70	NA	NA	NA	NA	NA	mg/kg
Vanadium	Soil	2 / 2	-	13 - 15	NA	NA	NA	NA	NA	mg/kg
BTEX										
Benzene	Soil	0 / 2	0.0050 - 0.005	-	NA	NA	NA	NA	NA	mg/kg
Ethylbenzene	Soil	0 / 2	0.0050 - 0.005	-	NA	NA	NA	NA	NA	mg/kg
Toluene	Soil	0 / 2	0.0050 - 0.005	-	NA	NA	NA	NA	NA	mg/kg
Xylenes (total)	Soil	0 / 2	0.0050 - 0.005	-	NA	NA	NA	NA	NA	mg/kg
PAHs										
BaP TEQ	Soil	1 / 2	0.0035 - 0.004	0.012 - 0.012	NA	NA	NA	NA	NA	mg/kg
Acenaphthene	Soil	0 / 2	0.0050 - 0.0050	-	NA	NA	NA	NA	NA	mg/kg
Acenaphthylene	Soil	0 / 2	0.0050 - 0.0050	-	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	1 / 2	0.0050 - 0.0050	0.0070 - 0.0070	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	2 / 2	-	0.0050 - 0.0080	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	1 / 2	0.0050 - 0.0050	0.010 - 0.010	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	1 / 2	0.0050 - 0.0050	0.014 - 0.014	NA	NA	NA	NA	NA	mg/kg
Fluorene	Soil	0 / 2	0.0050 - 0.0050	-	NA	NA	NA	NA	NA	mg/kg
Naphthalene	Soil	0 / 2	0.0050 - 0.0050	-	NA	NA	NA	NA	NA	mg/kg
Phenanthrene	Soil	0 / 2	0.0050 - 0.0050	-	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	1 / 2	0.0050 - 0.0050	0.0090 - 0.0090	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	0 / 2	10.0 - 10	-	NA	NA	NA	NA	NA	mg/kg
TPH Diesel	Soil	2 / 2	-	70 - 110	NA	NA	NA	NA	NA	mg/kg
TPH Motor Oil	Soil	2 / 2	-	240 - 240	NA	NA	NA	NA	NA	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-15
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Exposure Area Ib

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Chromium (total)	Soil	6 / 6	-	13 - 18	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	6 / 6	-	3.3 - 44	NA	NA	NA	NA	NA	mg/kg
Mercury	Soil	1 / 6	0.10 - 0.10	0.70 - 0.70	NA	NA	NA	NA	NA	mg/kg
Vanadium	Soil	6 / 6	-	13 - 23	NA	NA	NA	NA	NA	mg/kg
BTEX										
Benzene	Soil	4 / 18	0.0050 - 0.10	0.0070 - 0.70	0.21	0.33	95% KM (t) UCL	95% KM (Percentile Bootstrap) UCL	0.20	mg/kg
Ethylbenzene	Soil	7 / 18	0.0050 - 0.10	0.011 - 4.7	1.6	1.9	95% KM (t) UCL	95% KM (BCA) UCL	1.4	mg/kg
Toluene	Soil	3 / 18	0.0050 - 0.10	0.025 - 8.0	2.8	4.5	95% KM (t) UCL	N/R	N/R	mg/kg
Xylenes (total)	Soil	7 / 18	0.0050 - 0.10	0.0090 - 20	5.9	8.0	95% KM (t) UCL	95% KM (BCA) UCL	5.9	mg/kg
PAHs										
BaP TEQ	Soil	2 / 6	0.0035 - 3.5	0.012 - 0.36	NA	NA	NA	NA	NA	mg/kg
Acenaphthene	Soil	3 / 6	0.0050 - 5.0	0.070 - 1.0	NA	NA	NA	NA	NA	mg/kg
Acenaphthylene	Soil	3 / 6	0.0050 - 5.0	0.050 - 0.60	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	1 / 6	0.0050 - 5.0	0.0070 - 0.0070	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	2 / 6	0.050 - 5.0	0.0050 - 0.0080	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	1 / 6	0.0050 - 5.0	0.010 - 0.010	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	2 / 6	0.0050 - 5.0	0.014 - 0.50	NA	NA	NA	NA	NA	mg/kg
Fluorene	Soil	3 / 6	0.0050 - 5.0	0.16 - 2.5	NA	NA	NA	NA	NA	mg/kg
Naphthalene	Soil	3 / 6	0.0050 - 5.0	0.44 - 7.4	NA	NA	NA	NA	NA	mg/kg
Phenanthrene	Soil	3 / 6	0.0050 - 5.0	0.42 - 5.7	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	1 / 6	0.0050 - 5.0	0.0090 - 0.0090	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	8 / 18	10 - 10	10 - 1200	440	483.3	95% KM (t) UCL	95% KM (t) UCL	363.1	mg/kg
TPH Diesel	Soil	13 / 18	10 - 10	70 - 20000	4196	6709	95% KM (Chebyshev) UCL	95% KM (BCA) UCL	5583	mg/kg
TPH Motor Oil	Soil	14 / 18	10 - 10	15 - 9100	2073	3035	95% KM (Chebyshev) UCL	95% KM (BCA) UCL	2821	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-16
Exposure Point Concentrations
Exposure Area Ib

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Hotel Bungalow Indoor Vapor $µg/m^3$	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Inorganics								
Chromium (total)	**1.80E+01**	**1.80E+01**	1.32E-08	4.83E-07	NA	NA	NA	NA
Lead	**4.40E+01**	**4.40E+01**	3.24E-08	1.18E-06	NA	NA	NA	NA
Mercury	**7.00E-01**	**7.00E-01**	5.15E-10	1.88E-08	NA	NA	NA	NA
Vanadium	**2.30E+01**	**2.30E+01**	1.69E-08	6.17E-07	NA	NA	NA	NA
BTEX								
Benzene	2.00E-01	**7.00E-01**	5.25E-05	1.64E-03	2.10E+00	4.74E-01	2.24E-01	NA
Ethylbenzene	1.45E+00	**4.70E+00**	2.37E-04	7.30E-03	2.50E-02	6.67E-03	2.95E-03	NA
Toluene	**8.00E+00**	**8.00E+00**	1.74E-03	1.59E-02	1.10E+02	2.46E+01	1.16E+01	NA
m&p-Xylenes	NA	NA	NA	NA	4.60E+00	9.12E-01	4.34E-01	NA
o-Xylene	NA	NA	NA	NA	2.90E-02	8.24E-03	3.58E-03	NA
Xylenes (total)	5.85E+00	**2.00E+01**	9.34E-04	3.01E-02	NA	NA	NA	NA
VOCs								
Bromodichloromethane	NA	NA	NA	NA	1.70E+01	1.34E+00	6.56E-01	NA
Bromoform	NA	NA	NA	NA	1.70E+00	6.95E-02	3.44E-02	NA
2-Butanone	NA	NA	NA	NA	1.40E+01	3.09E+00	1.46E+00	NA
tert-Butylalcohol	NA	NA	NA	NA	5.30E+01	1.39E+01	6.52E+00	NA
Carbon disulfide	NA	NA	NA	NA	5.50E+00	1.46E+00	6.83E-01	NA
Carbon tetrachloride	NA	NA	NA	NA	6.90E+01	1.39E+01	6.59E+00	NA
Chloroform	NA	NA	NA	NA	1.50E+03	3.98E+02	1.86E+02	NA
Cyclohexane	NA	NA	NA	NA	6.00E+01	3.27E+01	1.43E+01	NA
Dibromochloromethane	NA	NA	NA	NA	3.80E+00	2.00E-01	9.86E-02	NA
1,1-Dichloroethene	NA	NA	NA	NA	8.50E-01	1.96E-01	9.26E-02	NA
4-Ethyltoluene	NA	NA	NA	NA	4.80E-02	9.51E-03	4.53E-03	NA
n-Heptane	NA	NA	NA	NA	7.70E+00	9.33E+00	3.58E+00	NA
Hexane	NA	NA	NA	NA	3.00E+01	3.64E+01	1.39E+01	NA
Isopropylbenzene	NA	NA	NA	NA	2.80E-02	4.71E-03	2.26E-03	NA
Methylene chloride	NA	NA	NA	NA	6.80E+00	1.76E+00	8.23E-01	NA
n-Propylbenzene	NA	NA	NA	NA	3.80E-02	5.92E-03	2.85E-03	NA
Styrene	NA	NA	NA	NA	3.30E+00	6.06E-01	2.89E-01	NA
Tetrachloroethene	NA	NA	NA	NA	2.50E+01	4.65E+00	2.22E+00	NA
Trichloroethene	NA	NA	NA	NA	1.30E+01	2.64E+00	1.26E+00	NA
1,2,4-Trimethylbenzene	NA	NA	NA	NA	1.60E-01	2.52E-02	1.21E-02	NA
1,3,5-Trimethylbenzene	NA	NA	NA	NA	7.90E-02	1.23E-02	5.93E-03	NA
PAHs								
BaP TEQ	**3.55E-01**	**3.55E-01**	2.61E-10	9.52E-09	NA	NA	NA	NA

Table 5-16
Exposure Point Concentrations
Exposure Area Ib

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Hotel Bungalow Indoor Vapor $µg/m^3$	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Acenaphthene	**1.00E+00**	**1.00E+00**	6.62E-06	6.56E-05	NA	NA	NA	NA
Acenaphthylene	**6.00E-01**	**6.00E-01**	3.97E-06	3.93E-05	NA	NA	NA	NA
Benzo(b)fluoranthene	**7.00E-03**	**7.00E-03**	5.15E-12	1.88E-10	NA	NA	NA	NA
Benzo(g,h,i)perylene	2.50E-02	**8.00E-03**	1.84E-11	2.14E-10	NA	NA	NA	NA
Benzo(a)pyrene	**1.00E-02**	**1.00E-02**	7.35E-12	2.68E-10	NA	NA	NA	NA
Chrysene	**5.00E-01**	**5.00E-01**	3.68E-10	1.34E-08	NA	NA	NA	NA
Fluorene	**2.50E+00**	**2.50E+00**	8.25E-06	8.28E-05	NA	NA	NA	NA
Naphthalene	**7.40E+00**	**7.40E+00**	1.48E-04	1.45E-03	NA	NA	NA	NA
Phenanthrene	**5.70E+00**	**5.70E+00**	8.16E-06	1.03E-04	NA	NA	NA	NA
Pyrene	**9.00E-03**	**9.00E-03**	3.52E-09	4.06E-08	NA	NA	NA	NA
Total Petroleum Hydrocarbons								
TPH Gasoline	3.63E+02	**1.20E+03**	NA	NA	NA	NA	NA	NA
TPH Gasoline - aliphatic	9.44E+01	**3.12E+02**	6.94E-08	8.36E-06	NA	NA	NA	NA
TPH Gasoline - aromatic	5.45E+01	**1.80E+02**	4.00E-08	4.83E-06	NA	NA	NA	NA
TPH Diesel	5.58E+03	**2.00E+04**	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	1.45E+03	**5.20E+03**	1.07E-06	1.39E-04	NA	NA	NA	NA
TPH Diesel - aromatic	8.37E+02	**3.00E+03**	6.16E-07	8.04E-05	NA	NA	NA	NA
TPH Motor Oil	2.82E+03	**9.10E+03**	NA	NA	NA	NA	NA	NA
TPH Motor Oil - aliphatic	7.33E+02	**2.37E+03**	5.39E-07	6.34E-05	NA	NA	NA	NA
TPH Motor Oil - aromatic	4.23E+02	**1.37E+03**	3.11E-07	3.66E-05	NA	NA	NA	NA

NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 or 0-2 depth horizon) used as soil EPC.

Table 5-17
Soil Chemicals of Potential Concern Summary Statistics (0-2 ft)
Exposure Area J

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	1 / 10	1.0 - 1.0	1.2 - 1.2	1.2	NA	N/R	N/R	N/R	mg/kg
Chromium (total)	Soil	10 / 10	-	6.3 - 55	24	13	95% Student's-t UCL	95% Student's-t UCL	32	mg/kg
Lead	Soil	56 / 56	-	1.5 - 350	51	80	95% H-UCL	95% Student's-t UCL	69	mg/kg
Mercury	Soil	4 / 10	0.10 - 0.10	0.10 - 0.50	0.20	0.20	95% KM (t) UCL	N/R	N/R	mg/kg
Vanadium	Soil	10 / 10	-	7.2 - 24	17	5.3	95% Student's-t UCL	95% Student's-t UCL	20	mg/kg
BTEX										
Benzene	Soil	0 / 18	0.0050 - 0.005	-	0	0	N/R	N/R	N/R	mg/kg
Ethylbenzene	Soil	8 / 18	0.0050 - 0.0050	0.0070 - 120	15	42	99% KM (Chebyshev) UCL	95% KM (BCA) UCL	20	mg/kg
Toluene	Soil	9 / 18	0.0050 - 0.0050	0.0060 - 38	4.3	13	99% KM (Chebyshev) UCL	95% KM (BCA) UCL	6.4	mg/kg
Xylenes (total)	Soil	9 / 18	0.0050 - 0.0050	0.029 - 940	105	313	99% KM (Chebyshev) UCL	95% KM (BCA) UCL	157	mg/kg
PAHs										
BaP TEQ	Soil	7 / 9	0.0035 - 0.007	0.0073 - 0.31	NA	NA	NA	NA	NA	mg/kg
Acenaphthene	Soil	0 / 9	0.0050 - 0.040	-	NA	NA	NA	NA	NA	mg/kg
Acenaphthylene	Soil	0 / 9	0.0050 - 0.040	-	NA	NA	NA	NA	NA	mg/kg
Benz(a)anthracene	Soil	1 / 9	0.0050 - 0.040	0.18 - 0.18	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	6 / 9	0.0050 - 0.040	0.0050 - 0.16	NA	NA	NA	NA	NA	mg/kg
Benzo(k)fluoranthene	Soil	1 / 9	0.0050 - 0.040	0.074 - 0.074	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	6 / 9	0.0050 - 0.040	0.0050 - 0.069	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	7 / 9	0.0050 - 0.010	0.0060 - 0.30	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	7 / 9	0.0050 - 0.010	0.0070 - 0.58	NA	NA	NA	NA	NA	mg/kg
Dibenz(a,h)anthracene	Soil	1 / 9	0.0050 - 0.040	0.0060 - 0.0060	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	4 / 9	0.0050 - 0.040	0.010 - 0.25	NA	NA	NA	NA	NA	mg/kg
Fluorene	Soil	0 / 9	0.0050 - 0.040	-	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	1 / 9	0.0050 - 0.040	0.051 - 0.051	NA	NA	NA	NA	NA	mg/kg
Naphthalene	Soil	0 / 9	0.0050 - 0.0050	-	NA	NA	NA	NA	NA	mg/kg
Phenanthrene	Soil	3 / 9	0.0050 - 0.040	0.011 - 0.26	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	5 / 9	0.0050 - 0.040	0.0070 - 0.35	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	1 / 18	10 - 10	6600 - 6600	6600	NA	N/R	N/R	N/R	mg/kg
TPH Diesel	Soil	14 / 18	10 - 10	13 - 750	188	226	95% KM (Chebyshev) UCL	95% KM (BCA) UCL	246	mg/kg
TPH Motor Oil	Soil	16 / 18	10 - 10	14 - 2700	524	739	95% KM (Chebyshev) UCL	95% KM (BCA) UCL	792	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-17
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Exposure Area J

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	1 / 23	1.0 - 1.0	1.2 - 1.2	1.2	NA	N/R	N/R	N/R	mg/kg
Chromium (total)	Soil	23 / 23	-	6.3 - 55	21	10.1	95% Approximate Gamma UCL	95% Student's-t UCL	25	mg/kg
Lead	Soil	69 / 69	-	1.2 - 350	44	75	95% H-UCL	95% Student's-t UCL	59	mg/kg
Mercury	Soil	6 / 23	0.10 - 0.10	0.10 - 0.50	0.2	0.2	95% KM (t) UCL	N/R	N/R	mg/kg
Vanadium	Soil	23 / 23	-	6.4 - 27	16	5.5	95% Student's-t UCL	95% Student's-t UCL	18	mg/kg
BTEX										
Benzene	Soil	8 / 63	0.0050 - 0.10	0.0060 - 0.80	0.24	0.35	95% KM (t) UCL	95% KM (BCA) UCL	0.089	mg/kg
Ethylbenzene	Soil	18 / 63	0.0050 - 0.10	0.0070 - 120	7.2	28	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	6.0	mg/kg
Toluene	Soil	11 / 63	0.0050 - 0.10	0.0060 - 38	3.5	11	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	2.4	mg/kg
Xylenes (total)	Soil	19 / 63	0.0050 - 0.10	0.029 - 940	51	215	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	45	mg/kg
PAHs										
BaP TEQ	Soil	13 / 23	0.0035 - 7.050	0.0036 - 0.31	0.072	0.10	99% KM (Chebyshev)	95% KM (BCA)	0.086	mg/kg
Acenaphthene	Soil	7 / 23	0.0050 - 10.0	0.054 - 0.80	0.22	0.27	95% KM (t) UCL	95% KM (BCA) UCL	0.21	mg/kg
Acenaphthylene	Soil	6 / 23	0.0050 - 10.0	0.018 - 0.50	0.20	0.20	95% KM (t) UCL	95% KM (BCA) UCL	0.19	mg/kg
Benz(a)anthracene	Soil	2 / 23	0.0050 - 10.0	0.0090 - 0.18	0.095	0.12	N/R	N/R	N/R	mg/kg
Benzo(b)fluoranthene	Soil	8 / 23	0.0050 - 10.0	0.0050 - 0.16	0.039	0.056	95% KM (BCA) UCL	95% KM (BCA) UCL	0.041	mg/kg
Benzo(k)fluoranthene	Soil	1 / 23	0.0050 - 10.0	0.074 - 0.074	0.074	NA	N/R	N/R	N/R	mg/kg
Benzo(g,h,i)perylene	Soil	8 / 23	0.0050 - 10.0	0.0050 - 0.069	0.031	0.025	95% KM (BCA) UCL	95% KM (t) UCL	0.032	mg/kg
Benzo(a)pyrene	Soil	10 / 23	0.0050 - 10.0	0.0060 - 0.30	0.079	0.099	95% KM (BCA) UCL	95% KM (t) UCL	0.076	mg/kg
Chrysene	Soil	12 / 23	0.0050 - 10.0	0.0070 - 0.58	0.080	0.16	97.5% KM (Chebyshev) UCL	95% KM (t) UCL	0.10	mg/kg
Dibenz(a,h)anthracene	Soil	1 / 23	0.0050 - 10.0	0.0060 - 0.0060	0.0060	NA	N/R	N/R	N/R	mg/kg
Fluoranthene	Soil	5 / 23	0.0050 - 10.0	0.010 - 0.25	0.065	0.10	95% KM (t) UCL	95% KM (BCA) UCL	0.054	mg/kg
Fluorene	Soil	6 / 23	0.0050 - 10.0	0.16 - 3.2	0.83	1.2	95% KM (t) UCL	95% KM (BCA) UCL	0.78	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	1 / 23	0.0050 - 10.0	0.051 - 0.051	0.051	NA	N/R	N/R	N/R	mg/kg
Naphthalene	Soil	6 / 25	0.0050 - 10.0	0.064 - 11	2.2	4.3	95% KM (t) UCL	95% KM (BCA) UCL	1.8	mg/kg
Phenanthrene	Soil	10 / 23	0.0050 - 2.0	0.011 - 11	2.0	3.5	95% KM (t) UCL	95% KM (BCA) UCL	1.9	mg/kg
Pyrene	Soil	8 / 23	0.0050 - 10.0	0.0070 - 0.35	0.069	0.12	95% KM (t) UCL	95% KM (BCA) UCL	0.074	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	11 / 64	10 - 10	11 - 6600	847	1,941	95% KM (t) UCL	95% KM (t) UCL	336.3	mg/kg
TPH Diesel	Soil	34 / 64	10 - 10	10 - 24000	2547	6012	97.5% KM (Chebyshev) UCL	95% KM (Percentile Bootstrap) UCL	2359	mg/kg
TPH Motor Oil	Soil	34 / 64	10 - 100	14 - 13000	1110	2369	95% KM (BCA) UCL	95% KM (BCA) UCL	1070	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-18
Exposure Point Concentrations
Exposure Area J

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Hotel Bungalow Indoor Vapor $µg/m^3$	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Inorganics								
Cadmium	**1.20E+00**	**1.20E+00**	8.82E-10	4.14E-08	NA	NA	NA	NA
Chromium (total)	3.19E+01	**5.50E+01**	2.35E-08	1.90E-06	NA	NA	NA	NA
Lead	6.93E+01	**3.50E+02**	5.09E-08	1.21E-05	NA	NA	NA	NA
Mercury	**5.00E-01**	**5.00E-01**	3.68E-10	1.73E-08	NA	NA	NA	NA
Vanadium	1.96E+01	**2.70E+01**	1.44E-08	9.32E-07	NA	NA	NA	NA
BTEX								
Benzene	8.92E-02	**8.00E-01**	2.34E-05	2.42E-03	1.10E+02	2.48E+01	1.17E+01	NA
Ethylbenzene	2.00E+01	**1.20E+02**	3.28E-03	2.41E-01	2.90E+01	5.61E+00	2.67E+00	NA
Toluene	6.36E+00	**3.80E+01**	1.38E-03	9.80E-02	3.80E+01	8.49E+00	4.01E+00	NA
m&p-Xylenes	NA	NA	NA	NA	5.10E+01	1.01E+01	4.81E+00	NA
o-Xylene	NA	NA	NA	NA	1.70E+01	3.80E+00	1.80E+00	NA
Xylenes (total)	1.57E+02	**9.40E+02**	2.50E-02	1.83E+00	NA	NA	NA	NA
VOCs								
Bromodichloromethane	NA	NA	NA	NA	1.50E+00	1.18E-01	5.79E-02	NA
1,3-Butadiene	NA	NA	NA	NA	5.90E-01	3.55E-01	1.55E-01	NA
2-Butanone	NA	NA	NA	NA	2.70E+01	5.96E+00	2.82E+00	NA
tert-Butylalcohol	NA	NA	NA	NA	2.80E+02	7.35E+01	3.44E+01	NA
Carbon disulfide	NA	NA	NA	NA	7.30E+00	1.94E+00	9.06E-01	NA
Carbon tetrachloride	NA	NA	NA	NA	4.20E+00	8.44E-01	3.92E-01	NA
Chloroform	NA	NA	NA	NA	1.30E+03	3.45E+02	1.61E+02	NA
Cyclohexane	NA	NA	NA	NA	1.10E+03	2.26E+02	1.08E+02	NA
1,1-Dichloroethane	NA	NA	NA	NA	1.40E+00	2.68E-01	1.28E-01	NA
cis-1,2-Dichloroethene	NA	NA	NA	NA	1.00E+00	1.46E-01	6.34E-02	NA
trans-1,2-Dichloroethene	NA	NA	NA	NA	1.20E-02	5.83E-03	2.59E-03	NA
4-Ethyltoluene	NA	NA	NA	NA	4.70E+00	9.31E-01	4.43E-01	NA
n-Heptane	NA	NA	NA	NA	3.60E+02	1.77E+02	7.87E+01	NA
Hexane	NA	NA	NA	NA	1.10E+03	5.41E+02	2.41E+02	NA
Isopropylbenzene	NA	NA	NA	NA	9.10E+00	1.53E+00	7.34E-01	NA
Methylene chloride	NA	NA	NA	NA	2.30E+01	5.94E+00	2.78E+00	NA
n-Propylbenzene	NA	NA	NA	NA	4.80E+00	7.48E-01	3.60E-01	NA
Tetrachloroethene	NA	NA	NA	NA	4.90E-01	2.42E-01	1.08E-01	NA
Tetrahydrofuran	NA	NA	NA	NA	4.00E-03	3.26E-03	1.35E-03	NA
Trichloroethene	NA	NA	NA	NA	8.60E+00	1.75E+00	8.31E-01	NA
1,2,4-Trimethylbenzene	NA	NA	NA	NA	4.80E+00	7.55E-01	3.63E-01	NA
1,3,5-Trimethylbenzene	NA	NA	NA	NA	2.50E+00	3.91E-01	1.88E-01	NA
2,2,4-Trimethylpentane	NA	NA	NA	NA	5.00E+00	4.69E+00	1.73E+00	NA
Vinyl chloride	NA	NA	NA	NA	4.50E-02	3.16E-02	1.34E-02	NA

Table 5-18
Exposure Point Concentrations
Exposure Area J

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Hotel Bungalow Indoor Vapor $µg/m^3$	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
PAHs								
BaP TEQ	**3.08E-01**	**3.08E-01**	2.27E-10	1.06E-08	NA	NA	NA	NA
Acenaphthene	2.12E-01	**8.00E-01**	1.40E-06	6.78E-05	NA	NA	NA	NA
Acenaphthylene	1.89E-01	**5.00E-01**	1.25E-06	4.24E-05	NA	NA	NA	NA
Benz(a)anthracene	**1.80E-01**	**1.80E-01**	1.32E-10	6.21E-09	NA	NA	NA	NA
Benzo(b)fluoranthene	**1.60E-01**	**1.60E-01**	1.18E-10	5.52E-09	NA	NA	NA	NA
Benzo(k)fluoranthene	**7.40E-02**	**7.40E-02**	5.44E-11	2.55E-09	NA	NA	NA	NA
Benzo(g,h,i)perylene	**6.90E-02**	**6.90E-02**	5.07E-11	2.38E-09	NA	NA	NA	NA
Benzo(a)pyrene	**3.00E-01**	**3.00E-01**	2.21E-10	1.04E-08	NA	NA	NA	NA
Chrysene	**5.80E-01**	**5.80E-01**	4.26E-10	2.00E-08	NA	NA	NA	NA
Dibenz(a,h)anthracene	**6.00E-03**	**6.00E-03**	4.41E-12	2.07E-10	NA	NA	NA	NA
Fluoranthene	**2.50E-01**	**2.50E-01**	1.84E-10	8.63E-09	NA	NA	NA	NA
Fluorene	7.83E-01	**3.20E+00**	2.58E-06	1.37E-04	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**5.10E-02**	**5.10E-02**	3.75E-11	1.76E-09	NA	NA	NA	NA
Naphthalene	1.78E+00	**1.10E+01**	3.58E-05	2.80E-03	NA	NA	NA	NA
Phenanthrene	1.92E+00	**1.10E+01**	2.75E-06	2.57E-04	NA	NA	NA	NA
Pyrene	**3.50E-01**	**3.50E-01**	1.37E-07	2.04E-06	NA	NA	NA	NA
SVOCs								
1,4-Dioxane	NA	NA	NA	NA	5.10E-02	5.09E-02	2.03E-02	NA
Total Petroleum Hydrocarbons								
TPH Gasoline	**6.60E+03**	**6.60E+03**	NA	NA	NA	NA	NA	NA
TPH Gasoline - aliphatic	**1.72E+03**	**1.72E+03**	1.26E-06	5.92E-05	NA	NA	NA	NA
TPH Gasoline - aromatic	**9.90E+02**	**9.90E+02**	7.28E-07	3.42E-05	NA	NA	NA	NA
TPH Diesel	2.36E+03	**2.40E+04**	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	6.13E+02	**6.24E+03**	4.51E-07	2.15E-04	NA	NA	NA	NA
TPH Diesel - aromatic	3.54E+02	**3.60E+03**	2.60E-07	1.24E-04	NA	NA	NA	NA
TPH Motor Oil	1.07E+03	**1.30E+04**	NA	NA	NA	NA	NA	NA
TPH Motor Oil - aliphatic	2.78E+02	**3.38E+03**	2.05E-07	1.17E-04	NA	NA	NA	NA
TPH Motor Oil - aromatic	1.61E+02	**1.95E+03**	1.18E-07	6.73E-05	NA	NA	NA	NA

NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 or 0-2 depth horizon) used as soil EPC.

Table 5-19
Soil Chemicals of Potential Concern Summary Statistics (0-2 ft)
Exposure Area K

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Chromium (total)	Soil	3 / 3	-	3.5 - 12	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	7 / 7	-	2.7 - 56	NA	NA	NA	NA	NA	mg/kg
Mercury	Soil	1 / 3	0.10 - 0.10	0.40 - 0.40	NA	NA	NA	NA	NA	mg/kg
Vanadium	Soil	3 / 3	-	3.2 - 13	NA	NA	NA	NA	NA	mg/kg
PAHs										
BaP TEQ	Soil	1 / 1	-	0.1276 - 0.13	NA	NA	NA	NA	NA	mg/kg
Benz(a)anthracene	Soil	1 / 1	-	0.040 - 0.040	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	1 / 1	-	0.16 - 0.16	NA	NA	NA	NA	NA	mg/kg
Benzo(k)fluoranthene	Soil	1 / 1	-	0.049 - 0.049	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	1 / 1	-	0.14 - 0.14	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	1 / 1	-	0.092 - 0.092	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	1 / 1	-	0.28 - 0.28	NA	NA	NA	NA	NA	mg/kg
Dibenz(a,h)anthracene	Soil	1 / 1	-	0.089 - 0.089	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	1 / 1	-	0.066 - 0.066	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	1 / 1	-	0.079 - 0.079	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	1 / 1	-	0.095 - 0.095	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Diesel	Soil	1 / 2	10 - 10	870 - 870	NA	NA	NA	NA	NA	mg/kg
TPH Motor Oil	Soil	2 / 2	-	54 - 2000	NA	NA	NA	NA	NA	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-19
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Exposure Area K

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Chromium (total)	Soil	6 / 6	-	3.5 - 12	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	10 / 10	-	2.7 - 56	13	16	95% Approximate Gamma UCL	95% Student's-t UCL	22	mg/kg
Mercury	Soil	1 / 6	0.10 - 0.10	0.40 - 0.40	NA	NA	NA	NA	NA	mg/kg
Vanadium	Soil	6 / 6	-	3.2 - 13	NA	NA	NA	NA	NA	mg/kg
PAHs										
BaP TEQ	Soil	2 / 2	-	0.0813 - 0.13	NA	NA	NA	NA	NA	mg/kg
Benz(a)anthracene	Soil	1 / 2	0.020 - 0.020	0.040 - 0.040	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	1 / 2	0.020 - 0.020	0.16 - 0.16	NA	NA	NA	NA	NA	mg/kg
Benzo(k)fluoranthene	Soil	1 / 2	0.020 - 0.020	0.049 - 0.049	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	2 / 2	-	0.028 - 0.14	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	2 / 2	-	0.077 - 0.092	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	2 / 2	-	0.027 - 0.28	NA	NA	NA	NA	NA	mg/kg
Dibenz(a,h)anthracene	Soil	1 / 2	0.020 - 0.020	0.089 - 0.089	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	1 / 2	0.020 - 0.020	0.066 - 0.066	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	1 / 2	0.020 - 0.020	0.0790 - 0.079	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	1 / 2	0.020 - 0.020	0.095 - 0.095	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Diesel	Soil	5 / 12	10 - 100	110 - 980	486	406	95% KM (t) UCL	95% KM (t) UCL	440	mg/kg
TPH Motor Oil	Soil	8 / 12	10 - 100	10 - 2000	424	665	95% KM (BCA) UCL	95% KM (BCA) UCL	593	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-20
Exposure Point Concentrations
Exposure Area K

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Inorganics							
Chromium (total)	**1.20E+01**	**1.20E+01**	8.82E-09	3.53E-07	NA	NA	NA
Lead	**5.60E+01**	**5.60E+01**	4.12E-08	1.65E-06	NA	NA	NA
Mercury	**4.00E-01**	**4.00E-01**	2.94E-10	1.18E-08	NA	NA	NA
Vanadium	**1.30E+01**	**1.30E+01**	9.56E-09	3.82E-07	NA	NA	NA
BTEX							
Benzene	NA	NA	NA	NA	4.70E-02	8.26E-03	NA
Ethylbenzene	NA	NA	NA	NA	7.00E-02	3.03E-03	NA
Toluene	NA	NA	NA	NA	6.20E-02	1.59E-02	NA
m&p-Xylenes	NA	NA	NA	NA	3.60E-02	8.34E-03	NA
o-Xylene	NA	NA	NA	NA	8.90E-03	2.28E-03	NA
VOCs							
Bromodichloromethane	NA	NA	NA	NA	1.30E+00	5.02E-02	NA
2-Butanone	NA	NA	NA	NA	1.10E-01	6.60E-03	NA
tert-Butylalcohol	NA	NA	NA	NA	2.00E-03	1.19E-04	NA
n-Butylbenzene	NA	NA	NA	NA	8.90E-03	2.95E-04	NA
sec-Butylbenzene	NA	NA	NA	NA	3.80E-03	1.29E-04	NA
Carbon disulfide	NA	NA	NA	NA	1.00E+00	5.92E-02	NA
Carbon tetrachloride	NA	NA	NA	NA	1.50E+00	1.43E-01	NA
Chloroform	NA	NA	NA	NA	1.20E+02	1.49E+01	NA
Chloromethane	NA	NA	NA	NA	8.20E-02	1.21E-02	NA
Cyclohexane	NA	NA	NA	NA	9.30E-02	9.09E-03	NA
Dichlorodifluoromethane	NA	NA	NA	NA	3.20E-03	1.23E-04	NA
1,1-Dichloroethane	NA	NA	NA	NA	2.50E-03	1.07E-04	NA
1,1-Dichloroethene	NA	NA	NA	NA	6.40E-03	3.30E-04	NA
cis-1,2-Dichloroethene	NA	NA	NA	NA	4.00E-02	1.71E-03	NA
4-Ethyltoluene	NA	NA	NA	NA	7.30E-03	1.62E-03	NA
Ethyl acetate	NA	NA	NA	NA	2.10E-02	9.81E-04	NA
n-Heptane	NA	NA	NA	NA	4.70E-02	1.03E-02	NA
Hexane	NA	NA	NA	NA	9.60E-02	2.10E-02	NA
2-Hexanone	NA	NA	NA	NA	2.20E-03	1.26E-04	NA
Isopropyl alcohol	NA	NA	NA	NA	1.00E+00	1.66E-01	NA
Isopropylbenzene	NA	NA	NA	NA	4.70E-02	1.77E-03	NA
Methylene chloride	NA	NA	NA	NA	4.90E-03	1.41E-03	NA
4-Methyl-2-pentanone	NA	NA	NA	NA	5.10E-02	2.40E-03	NA
n-Propylbenzene	NA	NA	NA	NA	1.40E-02	4.89E-04	NA
Propylene	NA	NA	NA	NA	2.30E+00	1.43E-01	NA
Styrene	NA	NA	NA	NA	2.90E-03	1.20E-04	NA
1,1,1,2-Tetrachloroethane	NA	NA	NA	NA	6.60E-03	2.72E-04	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	2.90E-03	1.23E-04	NA

Table 5-20
Exposure Point Concentrations
Exposure Area K

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Tetrachloroethene	NA	NA	NA	NA	1.20E+00	5.06E-02	NA
Tetrahydrofuran	NA	NA	NA	NA	2.60E-02	1.70E-03	NA
1,1,1-Trichloroethane	NA	NA	NA	NA	1.60E-02	7.19E-04	NA
Trichloroethene	NA	NA	NA	NA	8.90E-02	4.05E-03	NA
Trichlorofluoromethane	NA	NA	NA	NA	2.30E-03	1.15E-04	NA
1,2,3-Trichloropropane	NA	NA	NA	NA	1.80E-03	7.62E-05	NA
1,2,4-Trimethylbenzene	NA	NA	NA	NA	1.40E-02	2.47E-03	NA
1,3,5-Trimethylbenzene	NA	NA	NA	NA	2.70E-03	9.47E-05	NA
2,2,4-Trimethylpentane	NA	NA	NA	NA	1.20E-02	1.31E-03	NA
PAHs							
BaP TEQ	**1.28E-01**	**1.28E-01**	9.38E-11	3.75E-09	NA	NA	NA
Benz(a)anthracene	**4.00E-02**	**4.00E-02**	2.94E-11	1.18E-09	NA	NA	NA
Benzo(b)fluoranthene	**1.60E-01**	**1.60E-01**	1.18E-10	4.70E-09	NA	NA	NA
Benzo(k)fluoranthene	**4.90E-02**	**4.90E-02**	3.60E-11	1.44E-09	NA	NA	NA
Benzo(g,h,i)perylene	**1.40E-01**	**1.40E-01**	1.03E-10	4.12E-09	NA	NA	NA
Benzo(a)pyrene	**9.20E-02**	**9.20E-02**	6.76E-11	2.71E-09	NA	NA	NA
Chrysene	**2.80E-01**	**2.80E-01**	2.06E-10	8.23E-09	NA	NA	NA
Dibenz(a,h)anthracene	**8.90E-02**	**8.90E-02**	6.54E-11	2.62E-09	NA	NA	NA
Fluoranthene	**6.60E-02**	**6.60E-02**	4.85E-11	1.94E-09	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**7.90E-02**	**7.90E-02**	5.81E-11	2.32E-09	NA	NA	NA
Naphthalene	NA	NA	NA	NA	1.80E-02	6.38E-04	NA
Pyrene	**9.50E-02**	**9.50E-02**	3.71E-08	4.71E-07	NA	NA	NA
SVOCs							
1,4-Dioxane	NA	NA	NA	NA	3.40E-03	5.83E-04	NA
Total Petroleum Hydrocarbons							
TPH Diesel	**8.70E+02**	**9.80E+02**	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	**2.26E+02**	**2.55E+02**	1.66E-07	7.49E-06	NA	NA	NA
TPH Diesel - aromatic	**1.31E+02**	**1.47E+02**	9.60E-08	4.32E-06	NA	NA	NA
TPH Motor Oil	**2.00E+03**	**2.00E+03**	NA	NA	NA	NA	NA
TPH Motor Oil - aliphatic	**5.20E+02**	**5.20E+02**	3.82E-07	1.53E-05	NA	NA	NA
TPH Motor Oil - aromatic	**3.00E+02**	**3.00E+02**	2.21E-07	8.82E-06	NA	NA	NA

NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 or 0-2 depth horizon) used as soil EPC.

Table 5-21
Soil Chemicals of Potential Concern Summary Statistics (0-2 ft)
Exposure Area L

		Frequency	NonDetects	Detects	Mean	Deviation	Calculation Method	HHRA		
Inorganics										
Cadmium	Soil	0 / 6	1.00 - 1.0	-	NA	NA	NA	NA	NA	mg/kg
Chromium (total)	Soil	6 / 6	-	12 - 30	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	45 / 45	-	1.9 - 690	61	123	95% H-UCL	Student's-t UCL	92	mg/kg
Mercury	Soil	1 / 6	0.10 - 0.10	0.20 - 0.20	NA	NA	NA	NA	NA	mg/kg
Vanadium	Soil	6 / 6	-	11 - 21	NA	NA	NA	NA	NA	mg/kg
PAHs										
BaP TEQ	Soil	3 / 4	0.0035 - 0.004	0.0161 - 0.20	NA	NA	NA	NA	NA	mg/kg
Acenaphthene	Soil	0 / 4	0.0050 - 0.020	-	NA	NA	NA	NA	NA	mg/kg
Acenaphthylene	Soil	0 / 4	0.0050 - 0.020	-	NA	NA	NA	NA	NA	mg/kg
Benz(a)anthracene	Soil	1 / 4	0.0050 - 0.020	0.0090 - 0.0090	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	3 / 4	0.0050 - 0.0050	0.013 - 0.074	NA	NA	NA	NA	NA	mg/kg
Benzo(k)fluoranthene	Soil	1 / 4	0.0050 - 0.015	0.021 - 0.021	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	2 / 4	0.0050 - 0.015	0.0050 - 0.093	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	3 / 4	0.0050 - 0.0050	0.013 - 0.19	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	3 / 4	0.0050 - 0.0050	0.043 - 0.099	NA	NA	NA	NA	NA	mg/kg
Dibenz(a,h)anthracene	Soil	1 / 4	0.0050 - 0.015	0.037 - 0.037	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	1 / 4	0.0050 - 0.015	0.033 - 0.033	NA	NA	NA	NA	NA	mg/kg
Fluorene	Soil	0 / 4	0.0050 - 0.020	-	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	1 / 4	0.0050 - 0.015	0.021 - 0.021	NA	NA	NA	NA	NA	mg/kg
2-Methylnaphthalene	Soil	0 / 0	-	-	NA	NA	NA	NA	NA	mg/kg
Naphthalene	Soil	0 / 6	0.0050 - 0.0050	-	NA	NA	NA	NA	NA	mg/kg
Phenanthrene	Soil	1 / 4	0.0050 - 0.020	0.013 - 0.013	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	3 / 4	0.0050 - 0.0050	0.019 - 0.067	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	0 / 12	0.5 - 10	-	NA	NA	NA	NA	NA	mg/kg
TPH Diesel	Soil	10 / 12	10 - 10	13 - 1500	415	439	95% KM (Chebyshev) UCL	95% KM (Percentile Bootstrap) UCL	579	mg/kg
TPH Motor Oil	Soil	11 / 12	10 - 10	36 - 7400	1698	2105	95% KM (Chebyshev) UCL	95% KM (t) UCL	2633	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-21
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Exposure Area L

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	2 / 17	1.0 - 1.0	0.63 - 0.86	0.75	0.16	N/R	N/R	N/R	mg/kg
Chromium (total)	Soil	16 / 17	1.0 - 1.0	10 - 47	22	11	95% KM (Chebyshev) UCL	95% KM (t) UCL	26	mg/kg
Lead	Soil	56 / 56	-	1.7 - 690	50	112	95% H-UCL	95% Student's-t UCL	75	mg/kg
Mercury	Soil	3 / 17	0.10 - 0.10	0.012 - 0.20	0.075	0.11	N/R	N/R	N/R	mg/kg
Vanadium	Soil	16 / 17	1.0 - 1.0	8.2 - 28	17	6.5	95% KM (t) UCL	95% KM (t) UCL	19	mg/kg
BTEX										
Benzene	Soil	6 / 45	0.0050 - 0.10	0.0064 - 0.015	0.010	0.0032	95% KM (t) UCL	95% KM (BCA) UCL	0.010	mg/kg
Ethylbenzene	Soil	7 / 45	0.0050 - 0.10	0.042 - 0.36	0.17	0.12	95% KM (t) UCL	95% KM (BCA) UCL	0.20	mg/kg
Toluene	Soil	5 / 45	0.0050 - 0.10	0.0084 - 0.20	0.063	0.080	95% KM (t) UCL	95% KM (BCA) UCL	0.20	mg/kg
Xylenes (total)	Soil	9 / 45	0.0050 - 0.10	0.018 - 1.6	0.75	0.54	95% KM (t) UCL	95% KM (BCA) UCL	0.85	mg/kg
VOCs										
n-Butylbenzene	Soil	3 / 13	0.0050 - 0.0050	0.11 - 1.5	0.59	0.79	N/R	N/R	N/R	mg/kg
sec-Butylbenzene	Soil	3 / 13	0.0050 - 0.0050	0.073 - 1.3	0.49	0.70	95% KM (t) UCL	95% KM (BCA) UCL	1.3	mg/kg
tert-Butylbenzene	Soil	1 / 13	0.0050 - 0.025	0.10 - 0.10	0.10	NA	N/R	N/R	N/R	mg/kg
Isopropylbenzene	Soil	3 / 13	0.0050 - 0.0050	0.13 - 1.4	0.58	0.71	N/R	N/R	N/R	mg/kg
p-Isopropyltoluene	Soil	3 / 13	0.0050 - 0.0050	0.10 - 0.60	0.28	0.28	N/R	N/R	N/R	mg/kg
Methylene chloride	Soil	2 / 13	0.0050 - 0.10	0.0040 - 0.0048	0.0044	0.00057	N/R	N/R	N/R	mg/kg
Methyl tert-butyl ether	Soil	1 / 2	0.023 - 0.023	0.0050 - 0.0050	NA	NA	NA	NA	NA	mg/kg
n-Propylbenzene	Soil	3 / 13	0.0050 - 0.0050	0.14 - 2.1	0.82	1.1	N/R	N/R	N/R	mg/kg
1,2,4-Trimethylbenzene	Soil	2 / 13	0.0050 - 0.10	0.99 - 4.3	2.6	2.3	N/R	N/R	N/R	mg/kg
1,3,5-Trimethylbenzene	Soil	2 / 13	0.0050 - 0.10	0.28 - 0.38	0.33	0.071	N/R	N/R	N/R	mg/kg
PAHs										
BaP TEQ	Soil	8 / 12	0.0035 - 14.100	0.0161 - 0.20	0.058	0.06	95% KM (Percentile Bootstrap)	95% KM (Percentile Bootstrap)	0.078	mg/kg
Acenaphthene	Soil	2 / 12	0.0050 - 20	0.096 - 0.17	0.13	0.052	N/R	N/R	N/R	mg/kg
Acenaphthylene	Soil	2 / 12	0.0050 - 20	0.060 - 0.087	0.074	0.019	N/R	N/R	N/R	mg/kg
Benz(a)anthracene	Soil	3 / 12	0.0050 - 20	0.0090 - 0.080	0.036	0.038	95% KM (t) UCL	N/R	N/R	mg/kg
Benzo(b)fluoranthene	Soil	5 / 12	0.0050 - 20	0.013 - 0.074	0.036	0.024	95% KM (t) UCL	95% KM (t) UCL	0.042	mg/kg
Benzo(k)fluoranthene	Soil	1 / 12	0.0050 - 20	0.021 - 0.021	0.021	NA	N/R	N/R	N/R	mg/kg
Benzo(g,h,i)perylene	Soil	3 / 12	0.0050 - 20	0.0050 - 0.093	0.037	0.049	95% KM (t) UCL	95% KM (BCA) UCL	0.093	mg/kg
Benzo(a)pyrene	Soil	5 / 12	0.0050 - 20	0.013 - 0.19	0.066	0.071	95% KM (t) UCL	95% KM (t) UCL	0.075	mg/kg
Chrysene	Soil	7 / 12	0.0050 - 20	0.024 - 0.099	0.058	0.029	95% KM (t) UCL	95% KM (t) UCL	0.066	mg/kg
Dibenz(a,h)anthracene	Soil	1 / 12	0.0050 - 20	0.037 - 0.037	0.037	0	N/R	N/R	N/R	mg/kg
Fluoranthene	Soil	3 / 12	0.0050 - 20	0.016 - 0.033	0.027	0.0098	N/R	N/R	N/R	mg/kg
Fluorene	Soil	3 / 12	0.0050 - 20	0.24 - 0.73	0.46	0.25	N/R	N/R	N/R	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	1 / 12	0.0050 - 20	0.021 - 0.021	0.021	0	N/R	N/R	N/R	mg/kg
2-Methylnaphthalene	Soil	2 / 2	-	3.5 - 8.4	NA	NA	NA	NA	NA	mg/kg
Naphthalene	Soil	4 / 17	0.0050 - 0.10	0.060 - 2.4	1.0	0.99	95% KM (t) UCL	95% KM (BCA) UCL	1.8	mg/kg
Phenanthrene	Soil	6 / 12	0.0050 - 20	0.013 - 1.2	0.43	0.49	95% KM (t) UCL	95% KM (BCA) UCL	0.53	mg/kg
Pyrene	Soil	7 / 12	0.0050 - 20	0.019 - 0.11	0.045	0.033	95% KM (t) UCL	95% KM (t) UCL	0.056	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	16 / 61	0.5 - 10	1.8 - 1000	159	252.4	95% KM (t) UCL	95% KM (t) UCL	74.79	mg/kg
TPH Diesel	Soil	37 / 61	10.0 - 10	12 - 31000	2892	5850	97.5% KM (Chebyshev) UCL	95% KM (Percentile Bootstrap) UCL	2888	mg/kg
TPH Motor Oil	Soil	40 / 61	10 - 10	10 - 12000	2083	2973	95% KM (BCA) UCL	95% KM (BCA) UCL	1981	mg/kg
Pesticides										
Endrin aldehyde	Soil	1 / 3	0.0020 - 0.0030	0.0023 - 0.0023	NA	NA	NA	NA	NA	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-22
Exposure Point Concentrations
Exposure Area L

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Hotel Bungalow Indoor Vapor $µg/m^3$	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Inorganics								
Cadmium	**8.60E-01**	**8.60E-01**	6.32E-10	3.16E-08	NA	NA	NA	NA
Chromium (total)	**3.00E+01**	**4.70E+01**	2.21E-08	1.73E-06	NA	NA	NA	NA
Lead	9.20E+01	**6.90E+02**	6.76E-08	2.54E-05	NA	NA	NA	NA
Mercury	**2.00E-01**	**2.00E-01**	1.47E-10	7.35E-09	NA	NA	NA	NA
Vanadium	**2.10E+01**	**2.80E+01**	1.54E-08	1.03E-06	NA	NA	NA	NA
BTEX								
Benzene	1.00E-02	**1.50E-02**	2.62E-06	4.84E-05	1.00E-01	2.26E-02	1.07E-02	NA
Ethylbenzene	1.99E-01	**3.60E-01**	3.26E-05	7.71E-04	2.40E-02	1.23E-02	5.45E-03	NA
Toluene	2.00E-01	**2.00E-01**	4.34E-05	5.50E-04	8.10E-02	3.41E-02	1.48E-02	NA
m&p-Xylenes	NA	NA	NA	NA	7.40E-02	3.89E-02	1.71E-02	NA
o-Xylene	NA	NA	NA	NA	2.00E-02	1.18E-02	5.11E-03	NA
Xylenes (total)	8.45E-01	**1.60E+00**	1.35E-04	3.32E-03	NA	NA	NA	NA
VOCs								
Bromodichloromethane	NA	NA	NA	NA	6.00E-02	1.29E-02	6.12E-03	NA
2-Butanone	NA	NA	NA	NA	1.10E-01	2.43E-02	1.15E-02	NA
n-Butylbenzene	**1.50E+00**	**1.50E+00**	1.71E-04	2.29E-03	NA	NA	NA	NA
sec-Butylbenzene	**1.30E+00**	**1.30E+00**	1.48E-04	2.15E-03	NA	NA	NA	NA
tert-Butylbenzene	**1.00E-01**	**1.00E-01**	9.90E-06	1.36E-04	NA	NA	NA	NA
Carbon disulfide	NA	NA	NA	NA	1.80E-01	8.29E-02	3.52E-02	NA
Chloroform	NA	NA	NA	NA	4.00E-01	2.21E-01	9.40E-02	NA
Cyclohexane	NA	NA	NA	NA	7.30E-02	3.98E-02	1.74E-02	NA
Dibromochloromethane	NA	NA	NA	NA	1.60E-02	2.32E-03	1.12E-03	NA
4-Ethyltoluene	NA	NA	NA	NA	1.50E-02	7.88E-03	3.47E-03	NA
n-Heptane	NA	NA	NA	NA	8.40E-02	4.13E-02	1.84E-02	NA
Hexane	NA	NA	NA	NA	3.10E-01	1.52E-01	6.78E-02	NA
Isopropylbenzene	**1.40E+00**	**1.40E+00**	2.10E-04	2.77E-03	5.50E-02	9.25E-03	4.44E-03	NA
p-Isopropyltoluene	**6.00E-01**	**6.00E-01**	8.98E-05	1.25E-03	NA	NA	NA	NA
Methylene chloride	**4.80E-03**	**4.80E-03**	2.03E-06	2.03E-05	5.60E-03	3.57E-03	1.52E-03	NA
Methyl tert-butyl ether	1.15E-02	**5.00E-03**	2.18E-06	8.72E-06	NA	NA	NA	NA
n-Propylbenzene	**2.10E+00**	**2.10E+00**	2.79E-04	3.21E-03	2.80E-02	4.37E-03	2.10E-03	NA
Tetrahydrofuran	NA	NA	NA	NA	9.60E-03	2.51E-03	1.18E-03	NA
1,2,4-Trimethylbenzene	**4.30E+00**	**4.30E+00**	5.05E-04	6.67E-03	3.30E-02	5.48E-03	2.49E-03	NA
1,3,5-Trimethylbenzene	**3.80E-01**	**3.80E-01**	5.34E-05	7.04E-04	6.80E-03	2.72E-03	1.23E-03	NA
2,2,4-Trimethylpentane	NA	NA	NA	NA	4.80E-02	2.36E-02	1.05E-02	NA
PAHs								
BaP TEQ	**2.04E-01**	**2.04E-01**	1.50E-10	7.50E-09	NA	NA	NA	NA

Table 5-22
Exposure Point Concentrations
Exposure Area L

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Hotel Bungalow Indoor Vapor $µg/m^3$	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Acenaphthene	**1.70E-01**	**1.70E-01**	1.13E-06	1.54E-05	NA	NA	NA	NA
Acenaphthylene	**8.70E-02**	**8.70E-02**	5.76E-07	7.86E-06	NA	NA	NA	NA
Benz(a)anthracene	**8.00E-02**	**8.00E-02**	5.88E-11	2.94E-09	NA	NA	NA	NA
Benzo(b)fluoranthene	**7.40E-02**	**7.40E-02**	5.44E-11	2.72E-09	NA	NA	NA	NA
Benzo(k)fluoranthene	**2.10E-02**	**2.10E-02**	1.54E-11	7.72E-10	NA	NA	NA	NA
Benzo(g,h,i)perylene	**9.30E-02**	**9.30E-02**	6.84E-11	3.42E-09	NA	NA	NA	NA
Benzo(a)pyrene	**1.90E-01**	**1.90E-01**	1.40E-10	6.99E-09	NA	NA	NA	NA
Chrysene	**9.90E-02**	**9.90E-02**	7.28E-11	3.64E-09	NA	NA	NA	NA
Dibenz(a,h)anthracene	**3.70E-02**	**3.70E-02**	2.72E-11	1.36E-09	NA	NA	NA	NA
Fluoranthene	**3.30E-02**	**3.30E-02**	2.43E-11	1.21E-09	NA	NA	NA	NA
Fluorene	**7.30E-01**	**7.30E-01**	2.41E-06	3.33E-05	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**2.10E-02**	**2.10E-02**	1.54E-11	7.72E-10	NA	NA	NA	NA
2-Methylnaphthalene	**8.40E+00**	**8.40E+00**	1.35E-04	2.28E-03	NA	NA	NA	NA
Naphthalene	1.78E+00	**2.40E+00**	3.56E-05	6.50E-04	NA	NA	NA	NA
Phenanthrene	5.27E-01	**1.20E+00**	7.55E-07	2.99E-05	NA	NA	NA	NA
Pyrene	**6.70E-02**	**1.10E-01**	2.62E-08	6.83E-07	NA	NA	NA	NA
Total Petroleum Hydrocarbons								
TPH Gasoline	7.48E+01	**1.00E+03**	NA	NA	NA	NA	NA	NA
TPH Gasoline - aliphatic	1.94E+01	**2.60E+02**	1.43E-08	9.56E-06	NA	NA	NA	NA
TPH Gasoline - aromatic	1.12E+01	**1.50E+02**	8.25E-09	5.52E-06	NA	NA	NA	NA
TPH Diesel	2.89E+03	**3.10E+04**	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	7.51E+02	**8.06E+03**	5.52E-07	2.96E-04	NA	NA	NA	NA
TPH Diesel - aromatic	4.33E+02	**4.65E+03**	3.19E-07	1.71E-04	NA	NA	NA	NA
TPH Motor Oil	2.63E+03	**1.20E+04**	NA	NA	NA	NA	NA	NA
TPH Motor Oil - aliphatic	6.85E+02	**3.12E+03**	5.03E-07	1.15E-04	NA	NA	NA	NA
TPH Motor Oil - aromatic	3.95E+02	**1.80E+03**	2.90E-07	6.62E-05	NA	NA	NA	NA
Pesticides								
Endrin aldehyde	**2.30E-03**	**2.30E-03**	1.69E-12	8.46E-11	NA	NA	NA	NA

NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 or 0-2 depth horizon) used as soil EPC.

Table 5-23
Soil Chemicals of Potential Concern Summary Statistics (0-2 ft)
Exposure Area M

		Frequency	NonDetects	Detects	Mean	Deviation	Calculation Method	HHRA		
Inorganics										
Cadmium	Soil	1 / 3	0.50 - 0.50	1.2 - 1.2	NA	NA	NA	NA	NA	mg/kg
Chromium (total)	Soil	3 / 3	-	13 - 22	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	3 / 3	-	5.7 - 11	NA	NA	NA	NA	NA	mg/kg
Mercury	Soil	2 / 3	0.10 - 0.10	0.032 - 0.033	NA	NA	NA	NA	NA	mg/kg
Vanadium	Soil	3 / 3	-	29 - 62	NA	NA	NA	NA	NA	mg/kg
PAHs										
BaP TEQ	Soil	2 / 2	-	0.0108 - 0.05	NA	NA	NA	NA	NA	mg/kg
Acenaphthene	Soil	0 / 2	0.0059 - 0.0065	-	NA	NA	NA	NA	NA	mg/kg
Acenaphthylene	Soil	1 / 2	0.0065 - 0.0065	0.0059 - 0.0059	NA	NA	NA	NA	NA	mg/kg
Anthracene	Soil	0 / 2	0.0059 - 0.0065	-	NA	NA	NA	NA	NA	mg/kg
Benz(a)anthracene	Soil	1 / 2	0.0065 - 0.0065	0.019 - 0.019	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	1 / 2	0.0065 - 0.0065	0.038 - 0.038	NA	NA	NA	NA	NA	mg/kg
Benzo(k)fluoranthene	Soil	1 / 2	0.0065 - 0.0065	0.014 - 0.014	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	2 / 2	-	0.010 - 0.057	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	2 / 2	-	0.0095 - 0.035	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	1 / 2	0.0065 - 0.0065	0.020 - 0.020	NA	NA	NA	NA	NA	mg/kg
Dibenz(a,h)anthracene	Soil	1 / 2	0.0065 - 0.0065	0.012 - 0.012	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	1 / 2	0.0065 - 0.0065	0.016 - 0.016	NA	NA	NA	NA	NA	mg/kg
Fluorene	Soil	0 / 2	0.0059 - 0.0065	-	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	1 / 2	0.0065 - 0.0065	0.032 - 0.032	NA	NA	NA	NA	NA	mg/kg
1-Methylnaphthalene	Soil	0 / 2	0.0059 - 0.0065	-	NA	NA	NA	NA	NA	mg/kg
2-Methylnaphthalene	Soil	0 / 2	0.0059 - 0.0065	-	NA	NA	NA	NA	NA	mg/kg
Naphthalene	Soil	1 / 3	0.0050 - 0.0055	0.0064 - 0.0064	NA	NA	NA	NA	NA	mg/kg
Phenanthrene	Soil	1 / 2	0.0065 - 0.0065	0.0059 - 0.0059	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	1 / 2	0.0065 - 0.0065	0.018 - 0.018	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	0 / 3	0.4 - 10	-	NA	NA	NA	NA	NA	mg/kg
TPH Diesel	Soil	2 / 3	10 - 10	12 - 58	NA	NA	NA	NA	NA	mg/kg
TPH Motor Oil	Soil	2 / 3	10 - 10	63 - 110	NA	NA	NA	NA	NA	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-23
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Exposure Area M

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	1 / 9	0.50 - 1.0	1.2 - 1.2	NA	NA	NA	NA	NA	mg/kg
Chromium (total)	Soil	9 / 9	-	6.7 - 22	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	9 / 9	-	2.7 - 11	NA	NA	NA	NA	NA	mg/kg
Mercury	Soil	3 / 9	0.020 - 0.10	0.032 - 0.035	NA	NA	NA	NA	NA	mg/kg
Vanadium	Soil	9 / 9	-	19 - 62	NA	NA	NA	NA	NA	mg/kg
BTEX										
Ethylbenzene	Soil	1 / 14	0.0020 - 0.0050	0.0090 - 0.0090	0.0090	NA	N/R	N/R	N/R	mg/kg
Toluene	Soil	1 / 14	0.0020 - 0.0050	0.0027 - 0.0027	0.0027	NA	N/R	N/R	N/R	mg/kg
Xylenes (total)	Soil	1 / 14	0.0040 - 0.0050	0.026 - 0.026	0.026	NA	N/R	N/R	N/R	mg/kg
VOCs										
sec-Butylbenzene	Soil	1 / 9	0.0050 - 0.0056	0.11 - 0.11	NA	NA	NA	NA	NA	mg/kg
tert-Butylbenzene	Soil	1 / 9	0.0050 - 0.0056	0.011 - 0.011	NA	NA	NA	NA	NA	mg/kg
Isopropylbenzene	Soil	1 / 9	0.0020 - 0.0050	0.29 - 0.29	NA	NA	NA	NA	NA	mg/kg
n-Propylbenzene	Soil	2 / 9	0.0020 - 0.0050	0.0060 - 0.21	NA	NA	NA	NA	NA	mg/kg
1,2,4-Trimethylbenzene	Soil	1 / 9	0.0020 - 0.0050	0.039 - 0.039	NA	NA	NA	NA	NA	mg/kg
1,3,5-Trimethylbenzene	Soil	1 / 9	0.0020 - 0.0050	0.020 - 0.020	NA	NA	NA	NA	NA	mg/kg
PAHs										
BaP TEQ	Soil	5 / 7	0.0049 - 0.0050	0.011 - 0.14	NA	NA	NA	NA	NA	mg/kg
Acenaphthene	Soil	1 / 7	0.0055 - 0.20	0.20 - 0.20	NA	NA	NA	NA	NA	mg/kg
Acenaphthylene	Soil	1 / 7	0.0055 - 0.20	0.0059 - 0.0059	NA	NA	NA	NA	NA	mg/kg
Anthracene	Soil	1 / 7	0.0055 - 0.20	0.15 - 0.15	NA	NA	NA	NA	NA	mg/kg
Benz(a)anthracene	Soil	1 / 7	0.0055 - 0.20	0.019 - 0.019	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	3 / 7	0.0065 - 0.20	0.038 - 0.055	NA	NA	NA	NA	NA	mg/kg
Benzo(k)fluoranthene	Soil	1 / 7	0.0055 - 0.20	0.014 - 0.014	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	4 / 7	0.0069 - 0.20	0.010 - 0.10	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	4 / 7	0.0069 - 0.20	0.0095 - 0.035	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	3 / 7	0.0055 - 0.0071	0.020 - 0.40	NA	NA	NA	NA	NA	mg/kg
Dibenz(a,h)anthracene	Soil	1 / 7	0.0055 - 0.20	0.012 - 0.012	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	2 / 7	0.0062 - 0.20	0.016 - 0.025	NA	NA	NA	NA	NA	mg/kg
Fluorene	Soil	2 / 7	0.0059 - 0.20	0.079 - 1.2	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	1 / 7	0.0055 - 0.20	0.032 - 0.032	NA	NA	NA	NA	NA	mg/kg
1-Methylnaphthalene	Soil	2 / 6	0.0059 - 0.0071	0.37 - 2.9	NA	NA	NA	NA	NA	mg/kg
2-Methylnaphthalene	Soil	2 / 6	0.0059 - 0.0071	0.40 - 2.5	NA	NA	NA	NA	NA	mg/kg
Naphthalene	Soil	4 / 9	0.0050 - 0.0056	0.0064 - 2.0	NA	NA	NA	NA	NA	mg/kg
Phenanthrene	Soil	3 / 7	0.0065 - 0.20	0.0059 - 0.52	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	3 / 7	0.0065 - 0.20	0.018 - 0.32	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	1 / 14	0.37 - 10	13 - 13	13	NA	N/R	N/R	N/R	mg/kg
TPH Diesel	Soil	6 / 14	5.0 - 100	12 - 7600	2432	3468	95% KM (t) UCL	95% KM (t) UCL	2291	mg/kg
TPH Motor Oil	Soil	7 / 14	5.0 - 100	10 - 5200	1227	1968	95% KM (t) UCL	95% KM (t) UCL	1348	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-24
Exposure Point Concentrations
Exposure Area M

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Inorganics							
Cadmium	**1.20E+00**	**1.20E+00**	8.82E-10	3.14E-08	NA	NA	NA
Chromium (total)	**2.20E+01**	**2.20E+01**	1.62E-08	5.76E-07	NA	NA	NA
Lead	**1.10E+01**	**1.10E+01**	8.09E-09	2.88E-07	NA	NA	NA
Mercury	**3.50E-02**	**3.50E-02**	2.57E-11	9.16E-10	NA	NA	NA
Vanadium	**6.20E+01**	**6.20E+01**	4.56E-08	1.62E-06	NA	NA	NA
BTEX							
Benzene	NA	NA	NA	NA	1.50E+00	1.21E-01	NA
Ethylbenzene	**9.00E-03**	**9.00E-03**	1.48E-06	1.76E-05	2.20E-01	1.52E-02	NA
Toluene	**2.70E-03**	**2.70E-03**	5.86E-07	6.61E-06	1.10E-01	1.06E-02	2.60E-04
m&p-Xylenes	NA	NA	NA	NA	4.70E-01	3.33E-02	NA
o-Xylene	NA	NA	NA	NA	4.00E-01	3.18E-02	NA
Xylenes (total)	**2.60E-02**	**2.60E-02**	4.15E-06	4.91E-05	NA	NA	NA
VOCs							
2-Butanone	NA	NA	NA	NA	4.00E-01	3.15E-02	NA
tert-Butylalcohol	NA	NA	NA	NA	1.40E-01	1.30E-02	NA
sec-Butylbenzene	**1.10E-01**	**1.10E-01**	1.25E-05	1.70E-04	NA	NA	NA
tert-Butylbenzene	**1.10E-02**	**1.10E-02**	1.09E-06	1.40E-05	NA	NA	NA
Carbon disulfide	NA	NA	NA	NA	1.20E+00	1.13E-01	NA
Chloroform	NA	NA	NA	NA	5.00E-03	1.99E-03	NA
Chloromethane	NA	NA	NA	NA	1.60E-01	1.79E-02	NA
Cyclohexane	NA	NA	NA	NA	1.40E+00	1.03E-01	NA
Dichlorodifluoromethane	NA	NA	NA	NA	3.70E-03	1.06E-03	NA
4-Ethyltoluene	NA	NA	NA	NA	2.50E-01	1.77E-02	NA
Ethyl acetate	NA	NA	NA	NA	1.80E-02	5.63E-03	NA
n-Heptane	NA	NA	NA	NA	1.00E+00	1.69E-01	NA
Hexane	NA	NA	NA	NA	9.90E-01	1.67E-01	NA
2-Hexanone	NA	NA	NA	NA	2.40E-03	8.20E-04	NA
Isopropyl alcohol	NA	NA	NA	NA	1.00E-02	4.40E-03	NA
Isopropylbenzene	**2.90E-01**	**2.90E-01**	4.34E-05	5.28E-04	2.60E+00	1.57E-01	NA
Methylene chloride	NA	NA	NA	NA	3.10E-03	1.21E-03	NA
4-Methyl-2-pentanone	NA	NA	NA	NA	5.40E-02	1.72E-02	NA
n-Propylbenzene	**2.10E-01**	**2.10E-01**	2.79E-05	2.99E-04	8.10E-01	4.54E-02	NA
Propylene	NA	NA	NA	NA	4.20E-03	1.73E-03	NA
Styrene	NA	NA	NA	NA	3.50E-03	1.06E-03	NA
1,1,1,2-Tetrachloroethane	NA	NA	NA	NA	2.90E-03	8.76E-04	NA
Tetrachloroethene	NA	NA	NA	NA	4.80E-03	1.46E-03	NA
Tetrahydrofuran	NA	NA	NA	NA	2.50E-02	9.33E-03	NA
Trichlorofluoromethane	NA	NA	NA	NA	2.70E-03	9.46E-04	NA
1,2,4-Trimethylbenzene	**3.90E-02**	**3.90E-02**	4.58E-06	5.57E-05	3.00E-01	1.70E-02	NA

Table 5-24
Exposure Point Concentrations
Exposure Area M

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
1,3,5-Trimethylbenzene	**2.00E-02**	**2.00E-02**	2.81E-06	3.40E-05	1.20E-01	6.74E-03	NA
2,2,4-Trimethylpentane	NA	NA	NA	NA	1.40E-02	5.91E-03	NA
PAHs							
BaP TEQ	**1.44E-01**	**1.44E-01**	1.06E-10	3.77E-09	NA	NA	NA
Acenaphthene	**2.00E-01**	**2.00E-01**	1.32E-06	1.70E-05	NA	NA	NA
Acenaphthylene	**5.90E-03**	**5.90E-03**	3.91E-08	5.02E-07	NA	NA	NA
Anthracene	**1.50E-01**	**1.50E-01**	2.66E-07	3.54E-06	NA	NA	NA
Benz(a)anthracene	**1.90E-02**	**1.90E-02**	1.40E-11	4.98E-10	NA	NA	NA
Benzo(b)fluoranthene	**5.50E-02**	**5.50E-02**	4.04E-11	1.44E-09	NA	NA	NA
Benzo(k)fluoranthene	**1.40E-02**	**1.40E-02**	1.03E-11	3.67E-10	NA	NA	NA
Benzo(g,h,i)perylene	**9.90E-02**	**9.90E-02**	7.28E-11	2.59E-09	NA	NA	NA
Benzo(a)pyrene	**3.50E-02**	**3.50E-02**	2.57E-11	9.16E-10	NA	NA	NA
Chrysene	**4.00E-01**	**4.00E-01**	2.94E-10	1.05E-08	NA	NA	NA
Dibenz(a,h)anthracene	**1.20E-02**	**1.20E-02**	8.82E-12	3.14E-10	NA	NA	NA
Fluoranthene	**2.50E-02**	**2.50E-02**	1.84E-11	6.55E-10	NA	NA	NA
Fluorene	**1.20E+00**	**1.20E+00**	3.96E-06	5.17E-05	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**3.20E-02**	**3.20E-02**	2.35E-11	8.38E-10	NA	NA	NA
1-Methylnaphthalene	**2.90E+00**	**2.90E+00**	4.60E-05	7.35E-04	NA	NA	NA
2-Methylnaphthalene	**2.50E+00**	**2.50E+00**	4.01E-05	6.34E-04	NA	NA	NA
Naphthalene	**2.00E+00**	**2.00E+00**	4.01E-05	5.07E-04	NA	NA	NA
Phenanthrene	**5.20E-01**	**5.20E-01**	7.45E-07	1.23E-05	NA	NA	NA
Pyrene	**3.20E-01**	**3.20E-01**	1.25E-07	1.91E-06	NA	NA	NA
Total Petroleum Hydrocarbons							
TPH Gasoline	**1.30E+01**	**1.30E+01**	NA	NA	NA	NA	NA
TPH Gasoline - aliphatic	**3.38E+00**	**3.38E+00**	2.49E-09	8.85E-08	NA	NA	NA
TPH Gasoline - aromatic	**1.95E+00**	**1.95E+00**	1.43E-09	5.11E-08	NA	NA	NA
TPH Diesel	2.29E+03	**7.60E+03**	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	5.96E+02	**1.98E+03**	4.38E-07	5.17E-05	NA	NA	NA
TPH Diesel - aromatic	3.44E+02	**1.14E+03**	2.53E-07	2.99E-05	NA	NA	NA
TPH Motor Oil	1.35E+03	**5.20E+03**	NA	NA	NA	NA	NA
TPH Motor Oil - aliphatic	3.50E+02	**1.35E+03**	2.58E-07	3.54E-05	NA	NA	NA
TPH Motor Oil - aromatic	2.02E+02	**7.80E+02**	1.49E-07	2.04E-05	NA	NA	NA

NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 or 0-2 depth horizon) used as soil EPC.

Table 5-25
Soil Chemicals of Potential Concern Summary Statistics (0-2 ft)
Exposure Area N

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	2 / 4	0.50 - 0.50	1.0 - 1.3	NA	NA	NA	NA	NA	mg/kg
Chromium (total)	Soil	4 / 4	-	7.8 - 28	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	4 / 4	-	5.8 - 13	NA	NA	NA	NA	NA	mg/kg
Mercury	Soil	1 / 4	0.020 - 0.10	0.12 - 0.12	NA	NA	NA	NA	NA	mg/kg
Vanadium	Soil	4 / 4	-	57 - 59	NA	NA	NA	NA	NA	mg/kg
VOCs										
1,2,4-Trimethylbenzene	Soil	1 / 4	0.0020 - 0.0050	0.0026 - 0.0026	NA	NA	NA	NA	NA	mg/kg
PAHs										
BaP TEQ	Soil	3 / 3	-	0.0048 - 0.07	NA	NA	NA	NA	NA	mg/kg
Anthracene	Soil	1 / 3	0.0061 - 0.0067	0.017 - 0.017	NA	NA	NA	NA	NA	mg/kg
Benz(a)anthracene	Soil	2 / 3	0.0067 - 0.0067	0.0086 - 0.014	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	2 / 3	0.0067 - 0.0067	0.024 - 0.038	NA	NA	NA	NA	NA	mg/kg
Benzo(k)fluoranthene	Soil	1 / 3	0.0066 - 0.0067	0.0078 - 0.0078	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	2 / 3	0.0067 - 0.0067	0.014 - 0.13	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	1 / 3	0.0061 - 0.0067	0.064 - 0.064	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	2 / 3	0.0061 - 0.0061	0.0081 - 0.0090	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	2 / 3	0.0067 - 0.0067	0.021 - 0.032	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	1 / 3	0.0066 - 0.0067	0.011 - 0.011	NA	NA	NA	NA	NA	mg/kg
2-Methylnaphthalene	Soil	1 / 3	0.0061 - 0.0067	0.0073 - 0.0073	NA	NA	NA	NA	NA	mg/kg
Naphthalene	Soil	1 / 4	0.0050 - 0.0050	0.0079 - 0.0079	NA	NA	NA	NA	NA	mg/kg
Phenanthrene	Soil	1 / 3	0.0066 - 0.0067	0.0077 - 0.0077	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	2 / 3	0.0067 - 0.0067	0.021 - 0.026	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Diesel	Soil	1 / 4	5 - 10	160 - 160	NA	NA	NA	NA	NA	mg/kg
TPH Motor Oil	Soil	1 / 4	5 - 10	150 - 150	NA	NA	NA	NA	NA	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-25
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Exposure Area N

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	4 / 11	0.50 - 1.0	1.0 - 1.8	1.4	0.33	95% KM (t) UCL	95% KM (BCA) UCL	1.4	mg/kg
Chromium (total)	Soil	11 / 11	-	7.8 - 46	18	13	95% Approximate Gamma UCL	95% Student's-t UCL	25	mg/kg
Lead	Soil	10 / 11	4.0 - 4.0	2.2 - 13	5.5	3.7	95% KM (BCA) UCL	95% KM (t) UCL	7.3	mg/kg
Mercury	Soil	3 / 11	0.020 - 0.10	0.021 - 0.12	0.055	0.057	N/R	N/R	N/R	mg/kg
Vanadium	Soil	11 / 11	-	45 - 91	61	15	95% Student's-t UCL	95% Student's-t UCL	69	mg/kg
VOCs										
1,2,4-Trimethylbenzene	Soil	1 / 11	0.0020 - 0.0050	0.0026 - 0.0026	0.0026	NA	N/R	N/R	N/R	mg/kg
PAHs										
BaP TEQ	Soil	3 / 9	0.0043 - 0.006	0.0048 - 0.07	NA	NA	NA	NA	NA	mg/kg
Anthracene	Soil	1 / 9	0.0061 - 0.0079	0.017 - 0.017	NA	NA	NA	NA	NA	mg/kg
Benz(a)anthracene	Soil	2 / 9	0.0061 - 0.0079	0.0086 - 0.014	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	2 / 9	0.0061 - 0.0079	0.024 - 0.038	NA	NA	NA	NA	NA	mg/kg
Benzo(k)fluoranthene	Soil	1 / 9	0.0061 - 0.0079	0.0078 - 0.0078	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	2 / 9	0.0061 - 0.0079	0.014 - 0.13	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	1 / 9	0.0061 - 0.0079	0.064 - 0.064	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	2 / 9	0.0061 - 0.0079	0.0081 - 0.0090	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	2 / 9	0.0061 - 0.0079	0.021 - 0.032	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	1 / 9	0.0061 - 0.0079	0.011 - 0.011	NA	NA	NA	NA	NA	mg/kg
2-Methylnaphthalene	Soil	1 / 9	0.0061 - 0.0079	0.0073 - 0.0073	NA	NA	NA	NA	NA	mg/kg
Naphthalene	Soil	1 / 11	0.0050 - 0.0056	0.0079 - 0.0079	0.0079	NA	N/R	N/R	N/R	mg/kg
Phenanthrene	Soil	1 / 9	0.0061 - 0.0079	0.0077 - 0.0077	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	2 / 9	0.0061 - 0.0079	0.021 - 0.026	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Diesel	Soil	1 / 13	5 - 10	160 - 160	160	NA	N/R	N/R	N/R	mg/kg
TPH Motor Oil	Soil	1 / 13	5 - 10	150 - 150	150	NA	N/R	N/R	N/R	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-26
Exposure Point Concentrations
Exposure Area N

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Inorganics							
Cadmium	1.44E+00	**1.80E+00**	1.06E-09	5.21E-08	NA	NA	NA
Chromium (total)	2.80E+01	**4.60E+01**	2.06E-08	1.33E-06	NA	NA	NA
Lead	**1.30E+01**	**1.30E+01**	9.56E-09	3.76E-07	NA	NA	NA
Mercury	**1.20E-01**	**1.20E-01**	8.82E-11	3.47E-09	NA	NA	NA
Vanadium	6.90E+01	**9.10E+01**	5.07E-08	2.63E-06	NA	NA	NA
BTEX							
Benzene	NA	NA	NA	NA	1.50E-02	4.25E-03	NA
Ethylbenzene	NA	NA	NA	NA	3.10E-02	7.76E-03	NA
Toluene	NA	NA	NA	NA	4.30E-02	1.21E-02	3.00E-04
m&p-Xylenes	NA	NA	NA	NA	4.70E-02	8.17E-03	NA
o-Xylene	NA	NA	NA	NA	2.50E-02	2.25E-03	NA
VOCs							
2-Butanone	NA	NA	NA	NA	1.80E-01	5.01E-02	NA
tert-Butylalcohol	NA	NA	NA	NA	1.80E-03	5.74E-04	NA
n-Butylbenzene	NA	NA	NA	NA	5.10E-03	1.02E-03	NA
sec-Butylbenzene	NA	NA	NA	NA	3.40E-03	6.84E-04	NA
tert-Butylbenzene	NA	NA	NA	NA	2.30E-03	4.56E-04	NA
Carbon disulfide	NA	NA	NA	NA	2.20E-02	2.25E-03	NA
Chloroform	NA	NA	NA	NA	9.50E-03	3.06E-03	NA
Chloromethane	NA	NA	NA	NA	3.40E-03	1.26E-03	NA
Cyclohexane	NA	NA	NA	NA	2.90E-02	2.14E-03	NA
Dichlorodifluoromethane	NA	NA	NA	NA	4.00E-03	9.08E-04	NA
1,1-Dichloroethene	NA	NA	NA	NA	7.80E-03	9.96E-04	NA
cis-1,2-Dichloroethene	NA	NA	NA	NA	1.30E-02	1.39E-03	NA
4-Ethyltoluene	NA	NA	NA	NA	2.60E-02	1.86E-03	NA
Ethyl acetate	NA	NA	NA	NA	3.30E-02	8.27E-03	NA
n-Heptane	NA	NA	NA	NA	4.40E-02	2.20E-02	NA
Hexane	NA	NA	NA	NA	3.60E-02	1.80E-02	NA
2-Hexanone	NA	NA	NA	NA	3.30E-03	9.18E-04	NA
Isopropyl alcohol	NA	NA	NA	NA	1.10E-01	3.52E-02	NA
Isopropylbenzene	NA	NA	NA	NA	5.30E-02	1.18E-02	NA
Methylene chloride	NA	NA	NA	NA	4.20E-03	1.32E-03	NA
4-Methyl-2-pentanone	NA	NA	NA	NA	1.00E-01	2.55E-02	NA
n-Propylbenzene	NA	NA	NA	NA	1.30E-02	1.78E-03	NA
Propylene	NA	NA	NA	NA	1.30E-02	4.35E-03	NA
Styrene	NA	NA	NA	NA	4.30E-03	1.03E-03	NA
1,1,1,2-Tetrachloroethane	NA	NA	NA	NA	4.50E-03	1.08E-03	NA
Tetrachloroethene	NA	NA	NA	NA	9.00E-03	2.18E-03	NA
Tetrahydrofuran	NA	NA	NA	NA	5.80E-02	1.84E-02	NA

Table 5-26
Exposure Point Concentrations
Exposure Area N

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
1,1,1-Trichloroethane	NA	NA	NA	NA	3.60E-02	4.04E-03	NA
Trichloroethene	NA	NA	NA	NA	1.50E-02	1.70E-03	NA
Trichlorofluoromethane	NA	NA	NA	NA	3.20E-03	8.99E-04	NA
1,1,2-Trichlorotrifluoroethane	NA	NA	NA	NA	3.60E-03	9.29E-04	NA
1,2,4-Trimethylbenzene	**2.60E-03**	**2.60E-03**	3.05E-07	1.98E-06	1.80E-02	1.75E-03	NA
1,3,5-Trimethylbenzene	NA	NA	NA	NA	1.80E-02	1.02E-03	NA
2,2,4-Trimethylpentane	NA	NA	NA	NA	3.40E-02	1.70E-02	NA
Vinyl chloride	NA	NA	NA	NA	1.50E-03	4.89E-04	NA
PAHs							
BaP TEQ	**6.94E-02**	**6.94E-02**	5.10E-11	2.01E-09	NA	NA	NA
Anthracene	**1.70E-02**	**1.70E-02**	3.02E-08	2.84E-07	NA	NA	NA
Benz(a)anthracene	**1.40E-02**	**1.40E-02**	1.03E-11	4.05E-10	NA	NA	NA
Benzo(b)fluoranthene	**3.80E-02**	**3.80E-02**	2.79E-11	1.10E-09	NA	NA	NA
Benzo(k)fluoranthene	**7.80E-03**	**7.80E-03**	5.74E-12	2.26E-10	NA	NA	NA
Benzo(g,h,i)perylene	**1.30E-01**	**1.30E-01**	9.56E-11	3.76E-09	NA	NA	NA
Benzo(a)pyrene	**6.40E-02**	**6.40E-02**	4.71E-11	1.85E-09	NA	NA	NA
Chrysene	**9.00E-03**	**9.00E-03**	6.62E-12	2.60E-10	NA	NA	NA
Fluoranthene	**3.20E-02**	**3.20E-02**	2.35E-11	9.26E-10	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**1.10E-02**	**1.10E-02**	8.09E-12	3.18E-10	NA	NA	NA
2-Methylnaphthalene	**7.30E-03**	**7.30E-03**	1.17E-07	1.02E-06	NA	NA	NA
Naphthalene	**7.90E-03**	**7.90E-03**	1.58E-07	1.10E-06	6.70E-03	1.39E-03	NA
Phenanthrene	**7.70E-03**	**7.70E-03**	1.10E-08	1.29E-07	NA	NA	NA
Pyrene	**2.60E-02**	**2.60E-02**	1.02E-08	1.73E-07	NA	NA	NA
SVOCs							
1,4-Dioxane	NA	NA	NA	NA	1.70E-02	7.13E-03	NA
Total Petroleum Hydrocarbons							
TPH Diesel	**1.60E+02**	**1.60E+02**	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	**4.16E+01**	**4.16E+01**	3.06E-08	1.20E-06	NA	NA	NA
TPH Diesel - aromatic	**2.40E+01**	**2.40E+01**	1.76E-08	6.95E-07	NA	NA	NA
TPH Motor Oil	**1.50E+02**	**1.50E+02**	NA	NA	NA	NA	NA
TPH Motor Oil - aliphatic	**3.90E+01**	**3.90E+01**	2.87E-08	1.13E-06	NA	NA	NA
TPH Motor Oil - aromatic	**2.25E+01**	**2.25E+01**	1.65E-08	6.51E-07	NA	NA	NA

NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 or 0-2 depth horizon) used as soil EPC.

Table 5-27
Soil Chemicals of Potential Concern Summary Statistics (0-2 ft)
Exposure Area O

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	2 / 4	0.50 - 1.0	1.4 - 3.5	NA	NA	NA	NA	NA	mg/kg
Chromium (total)	Soil	4 / 4	-	11 - 54	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	4 / 4	-	2.9 - 6.3	NA	NA	NA	NA	NA	mg/kg
Mercury	Soil	1 / 4	0.020 - 0.10	0.054 - 0.054	NA	NA	NA	NA	NA	mg/kg
Vanadium	Soil	4 / 4	-	52 - 120	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Motor Oil	Soil	1 / 4	5 - 10	15 - 15	NA	NA	NA	NA	NA	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-27
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Exposure Area O

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	4 / 10	0.50 - 1.0	1.4 - 3.5	2.5	0.87	95% KM (t) UCL	95% KM (t) UCL	2.3	mg/kg
Chromium (total)	Soil	10 / 10	-	8.6 - 58	25	18	95% Approximate Gamma UCL	95% Student's-t UCL	36	mg/kg
Lead	Soil	7 / 10	2.0 - 4.0	2.2 - 6.3	4.0	1.4	95% KM (t) UCL	95% KM (t) UCL	4.4	mg/kg
Mercury	Soil	2 / 10	0.020 - 0.10	0.054 - 0.059	0.057	0.0035	N/R	N/R	N/R	mg/kg
Vanadium	Soil	10 / 10	-	52 - 130	87	28	95% Student's-t UCL	95% Student's-t UCL	103	mg/kg
Total Petroleum Hydrocarbons										
TPH Motor Oil	Soil	1 / 10	5 - 10	15 - 15	15	NA	N/R	N/R	N/R	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-28
Exposure Point Concentrations
Exposure Area O

CHEMICAL	Onsite Resident Soil mg/kg	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Hotel Bungalow Indoor Vapor $µg/m^3$	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
Inorganics									
Cadmium	**3.50E+00**	**3.50E+00**	**3.50E+00**	2.57E-09	1.21E-07	NA	NA	NA	NA
Chromium (total)	**5.40E+01**	**5.40E+01**	**5.80E+01**	3.97E-08	2.00E-06	NA	NA	NA	NA
Lead	**6.30E+00**	**6.30E+00**	**6.30E+00**	4.63E-09	2.17E-07	NA	NA	NA	NA
Mercury	**5.40E-02**	**5.90E-02**	**5.90E-02**	4.34E-11	2.03E-09	NA	NA	NA	NA
Vanadium	**1.20E+02**	**1.20E+02**	**1.30E+02**	8.82E-08	4.48E-06	NA	NA	NA	NA
BTEX									
Benzene	NA	NA	NA	NA	NA	8.70E-01	3.32E-01	6.99E-02	NA
Ethylbenzene	NA	NA	NA	NA	NA	2.30E-01	7.66E-02	1.59E-02	NA
Toluene	NA	NA	NA	NA	NA	4.50E-02	1.96E-02	5.27E-03	NA
m&p-Xylenes	NA	NA	NA	NA	NA	2.00E-01	6.81E-02	1.82E-02	NA
o-Xylene	NA	NA	NA	NA	NA	8.50E-02	5.93E-02	1.79E-02	NA
VOCs									
2-Butanone	NA	NA	NA	NA	NA	2.80E-01	1.01E-01	2.67E-02	NA
tert-Butylalcohol	NA	NA	NA	NA	NA	1.90E-03	1.50E-03	1.69E-04	NA
n-Butylbenzene	NA	NA	NA	NA	NA	3.10E-03	1.58E-03	1.42E-04	NA
tert-Butylbenzene	NA	NA	NA	NA	NA	3.10E-03	1.57E-03	1.41E-04	NA
Carbon disulfide	NA	NA	NA	NA	NA	1.20E-01	5.27E-02	1.13E-02	NA
Chloroform	NA	NA	NA	NA	NA	7.70E-03	4.92E-03	2.46E-03	NA
Chloromethane	NA	NA	NA	NA	NA	9.40E-02	4.82E-02	1.05E-02	NA
Cyclohexane	NA	NA	NA	NA	NA	3.20E+00	1.13E+00	2.35E-01	NA
Dichlorodifluoromethane	NA	NA	NA	NA	NA	3.80E-03	2.18E-03	2.00E-04	NA
cis-1,2-Dichloroethene	NA	NA	NA	NA	NA	6.00E-03	1.97E-03	4.08E-04	NA
4-Ethyltoluene	NA	NA	NA	NA	NA	3.70E-01	1.26E-01	2.62E-02	NA
Ethyl acetate	NA	NA	NA	NA	NA	1.90E-02	1.13E-02	5.63E-03	NA
n-Heptane	NA	NA	NA	NA	NA	7.00E+00	5.09E+00	1.18E+00	NA
Hexane	NA	NA	NA	NA	NA	4.20E+00	3.05E+00	7.09E-01	NA
2-Hexanone	NA	NA	NA	NA	NA	2.60E-03	1.78E-03	4.02E-04	NA
Isopropyl alcohol	NA	NA	NA	NA	NA	3.30E-02	2.89E-02	1.03E-02	NA
Isopropylbenzene	NA	NA	NA	NA	NA	2.10E-01	6.17E-02	1.27E-02	NA
Methylene chloride	NA	NA	NA	NA	NA	3.30E-02	1.41E-02	3.02E-03	NA
4-Methyl-2-pentanone	NA	NA	NA	NA	NA	4.30E-02	2.73E-02	4.07E-03	NA
Methyl tert-butyl ether	NA	NA	NA	NA	NA	7.10E-03	5.56E-03	1.72E-03	NA
n-Propylbenzene	NA	NA	NA	NA	NA	3.60E-01	9.88E-02	2.02E-02	NA
Propylene	NA	NA	NA	NA	NA	3.00E-03	1.73E-03	8.64E-04	NA
Styrene	NA	NA	NA	NA	NA	2.90E-03	1.51E-03	7.55E-04	NA
Tetrachloroethene	NA	NA	NA	NA	NA	2.10E-02	1.28E-02	1.20E-03	NA
Tetrahydrofuran	NA	NA	NA	NA	NA	2.40E-02	1.71E-02	8.55E-03	NA
Trichloroethene	NA	NA	NA	NA	NA	3.30E-02	1.15E-02	2.40E-03	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA	2.50E-03	1.75E-03	1.70E-04	NA

Table 5-28
Exposure Point Concentrations
Exposure Area O

CHEMICAL	Onsite Resident Soil mg/kg	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Soil Vapor µg/L	Hotel Bungalow Indoor Vapor $µg/m^3$	Default Commercial Indoor Vapor $µg/m^3$	Groundwater mg/L
1,2,4-Trimethylbenzene	NA	NA	NA	NA	NA	1.30E+00	3.59E-01	7.35E-02	NA
1,3,5-Trimethylbenzene	NA	NA	NA	NA	NA	3.70E-01	1.02E-01	2.08E-02	NA
2,2,4-Trimethylpentane	NA	NA	NA	NA	NA	2.20E+00	1.60E+00	3.71E-01	NA
PAHs									
Naphthalene	NA	NA	NA	NA	NA	5.30E-03	2.16E-03	1.08E-03	NA
Total Petroleum Hydrocarbons									
TPH Motor Oil	**1.50E+01**	**1.50E+01**	**1.50E+01**	NA	NA	NA	NA	NA	NA
TPH Motor Oil - aliphatic	**3.90E+00**	**3.90E+00**	**3.90E+00**	2.87E-09	1.34E-07	NA	NA	NA	NA
TPH Motor Oil - aromatic	**2.25E+00**	**2.25E+00**	**2.25E+00**	1.65E-09	7.75E-08	NA	NA	NA	NA

NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 or 0-2 depth horizon) used as soil EPC.

Table 5-29
Soil Chemicals of Potential Concern Summary Statistics (0-2 ft)
Open Space Exposure Area

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	5 / 45	0.50 - 1.0	0.64 - 1.4	0.92	0.32	95% KM (t) UCL	95% KM (t) UCL	0.73	mg/kg
Chromium (total)	Soil	45 / 45	-	2.6 - 49	18	10.1	95% H-UCL	95% Student's-t UCL	20	mg/kg
Lead	Soil	45 / 45	-	2.6 - 400	27	63	95% Chebyshev (Mean, Sd) UCL	95% Student's-t UCL	42	mg/kg
Mercury	Soil	22 / 45	0.020 - 0.10	0.028 - 5.1	0.54	1.1	95% KM (BCA) UCL	95% KM (t) UCL	0.49	mg/kg
Vanadium	Soil	45 / 45	-	4.2 - 63	22	15	95% Approximate Gamma UCL	95% Student's-t UCL	25	mg/kg
BTEX										
Benzene	Soil	0 / 29	0.0019 - 0.005	-			NA	NA	NA	mg/kg
Ethylbenzene	Soil	0 / 29	0.0019 - 0.005	-			NA	NA	NA	mg/kg
Toluene	Soil	0 / 29	0.0019 - 0.005	-			NA	NA	NA	mg/kg
Xylenes (total)	Soil	0 / 29	0.0037 - 0.009	-			NA	NA	NA	mg/kg
VOCs										
n-Butylbenzene	Soil	0 / 29	0.0046 - 0.011	-			NA	NA	NA	mg/kg
sec-Butylbenzene	Soil	0 / 29	0.0046 - 0.011	-			NA	NA	NA	mg/kg
tert-Butylbenzene	Soil	0 / 29	0.0046 - 0.011	-			NA	NA	NA	mg/kg
Isopropylbenzene	Soil	0 / 29	0.0019 - 0.005	-			NA	NA	NA	mg/kg
p-Isopropyltoluene	Soil	0 / 29	0.0019 - 0.005	-			NA	NA	NA	mg/kg
n-Propylbenzene	Soil	0 / 29	0.0019 - 0.005	-			NA	NA	NA	mg/kg
1,2,4-Trimethylbenzene	Soil	1 / 29	0.0019 - 0.0050	0.015 - 0.015	0.015	NA	N/R	N/R	N/R	mg/kg
1,3,5-Trimethylbenzene	Soil	1 / 29	0.0019 - 0.0050	0.0071 - 0.0071	0.0071	NA	N/R	N/R	N/R	mg/kg
PAHs										
BaP TEQ	Soil	13 / 23	0.0035 - 0.005	0.0091 - 0.54	0.143	0.16	95% KM (BCA)	95% KM (BCA)	0.14	mg/kg
Acenaphthene	Soil	0 / 23	0.0049 - 0.2	-	0.000	0.000	NA	NA	NA	mg/kg
Acenaphthylene	Soil	2 / 23	0.0049 - 0.2	0.020 - 0.026	0.023	0.0042	N/R	N/R	N/R	mg/kg
Anthracene	Soil	2 / 23	0.0049 - 0.2	0.0060 - 0.011	0.0085	0.0035	N/R	N/R	N/R	mg/kg
Benz(a)anthracene	Soil	7 / 23	0.0049 - 0.2	0.0050 - 0.91	0.16	0.33	95% KM (t) UCL	95% KM (BCA) UCL	0.15	mg/kg
Benzo(b)fluoranthene	Soil	11 / 23	0.0049 - 0.2	0.0060 - 0.89	0.13	0.26	95% KM (t) UCL	95% KM (BCA) UCL	0.16	mg/kg
Benzo(k)fluoranthene	Soil	5 / 23	0.0049 - 0.2	0.0060 - 0.087	0.037	0.037	95% KM (t) UCL	95% KM (BCA) UCL	0.068	mg/kg
Benzo(g,h,i)perylene	Soil	13 / 23	0.0049 - 0.2	0.0060 - 0.60	0.10	0.17	97.5% KM (Chebyshev) UCL	95% KM (t) UCL	0.11	mg/kg
Benzo(a)pyrene	Soil	12 / 23	0.0049 - 0.010	0.0070 - 0.5	0.12	0.14	95% KM (BCA) UCL	95% KM (BCA) UCL	0.21	mg/kg
Chrysene	Soil	12 / 23	0.0049 - 0.0	0.010 - 3.6	0.45	1.0	95% KM (BCA) UCL	95% KM (BCA) UCL	0.56	mg/kg
Dibenz(a,h)anthracene	Soil	3 / 23	0.0049 - 0.2	0.016 - 0.28	0.11	0.15	N/R	N/R	N/R	mg/kg
Fluoranthene	Soil	7 / 23	0.0049 - 0.2	0.0070 - 0.58	0.12	0.21	95% KM (t) UCL	95% KM (BCA) UCL	0.10	mg/kg
Fluorene	Soil	2 / 23	0.0049 - 0.2	0.013 - 2.1	1.1	1.5	N/R	N/R	N/R	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	6 / 23	0.0049 - 0.2	0.012 - 0.30	0.074	0.11	95% KM (t) UCL	95% KM (BCA) UCL	0.065	mg/kg
1-Methylnaphthalene	Soil	2 / 12	0.0049 - 0.0064	0.0053 - 0.53	0.27	0.37	N/R	N/R	N/R	mg/kg
2-Methylnaphthalene	Soil	2 / 12	0.0049 - 0.0064	0.0063 - 0.48	0.24	0.33	N/R	N/R	N/R	mg/kg
Naphthalene	Soil	1 / 30	0.0049 - 6.0	0.0079 - 0.0079	0.0079	NA	N/R	N/R	N/R	mg/kg
Phenanthrene	Soil	5 / 23	0.0049 - 0.2	0.013 - 1.4	0.33	0.60	95% KM (t) UCL	95% KM Percentile bootstrap UCL	0.22	mg/kg
Pyrene	Soil	10 / 23	0.0049 - 0.2	0.010 - 3.2	0.39	0.99	97.5% KM (Chebyshev) UCL	95% KM (t) UCL	0.42	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	0 / 37	0.4 - 10	-			NA	NA	NA	mg/kg
TPH Diesel	Soil	36 / 64	1.0 - 10	0.57 - 8400	453	1518	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	561	mg/kg
TPH Motor Oil	Soil	43 / 64	1.0 - 10	0.50 - 11000	849	2477	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	1068	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-29
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Open Space Exposure Area

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	Soil	6 / 103	0.50 - 1.0	0.64 - 1.4	0.89	0.30	95% KM (t) UCL	95% KM (BCA) UCL	1.1	mg/kg
Chromium (total)	Soil	103 / 103	-	2.6 - 63	19	10.8	95% Chebyshev (Mean, Sd) UCL	95% Bootstrap BCA UCL	21	mg/kg
Lead	Soil	103 / 108	1.0 - 4.0	1.3 - 400	16	43	95% KM (BCA) UCL	95% KM (BCA) UCL	24	mg/kg
Mercury	Soil	34 / 103	0.020 - 0.10	0.021 - 5.1	0.44	0.91	95% KM (BCA) UCL	95% KM (BCA) UCL	0.28	mg/kg
Vanadium	Soil	103 / 103	-	4.1 - 120	22	21	95% Chebyshev(Mean, Sd) UCL	95% BCA bootstrap	26	mg/kg
BTEX										
Benzene	Soil	7 / 91	0.0019 - 0.10	0.031 - 11	2.5	4.0	95% KM (t) UCL	95% KM (BCA) UCL	0.54	mg/kg
Ethylbenzene	Soil	7 / 91	0.0019 - 0.10	0.072 - 15	4.1	6.0	95% KM (t) UCL	95% KM (BCA) UCL	0.95	mg/kg
Toluene	Soil	5 / 91	0.0019 - 0.10	0.20 - 62	14	27	95% KM (t) UCL	95% KM (BCA) UCL	8.6	mg/kg
Xylenes (total)	Soil	9 / 91	0.0037 - 0.0085	0.0056 - 150	24	50	95% KM (t) UCL	95% KM (BCA) UCL	5.7	mg/kg
VOCs										
n-Butylbenzene	Soil	3 / 66	0.0046 - 0.10	0.069 - 2.1	1.2	1.0	N/R	N/R	N/R	mg/kg
sec-Butylbenzene	Soil	4 / 66	0.0046 - 0.011	0.049 - 0.93	0.60	0.39	95% KM (t) UCL	95% KM (BCA) UCL	0.93	mg/kg
tert-Butylbenzene	Soil	2 / 66	0.0046 - 0.10	0.12 - 0.14	0.13	0.014	N/R	N/R	N/R	mg/kg
Isopropylbenzene	Soil	5 / 66	0.0019 - 0.0050	0.0023 - 4.1	1.6	1.7	95% KM (t) UCL	95% KM (BCA) UCL	4.1	mg/kg
p-Isopropyltoluene	Soil	2 / 66	0.0019 - 0.10	1.2 - 1.7	1.5	0.35	N/R	N/R	N/R	mg/kg
n-Propylbenzene	Soil	3 / 66	0.0019 - 0.10	0.097 - 4.3	2.2	2.1	N/R	N/R	N/R	mg/kg
1,2,4-Trimethylbenzene	Soil	6 / 66	0.0019 - 0.0050	0.0010 - 54	14	21	95% KM (t) UCL	95% KM (BCA) UCL	9.5	mg/kg
1,3,5-Trimethylbenzene	Soil	5 / 66	0.0019 - 0.0050	0.0071 - 8.7	3.3	3.7	95% KM (t) UCL	95% KM (BCA) UCL	8.7	mg/kg
PAHs										
BaP TEQ	Soil	20 / 45	0.0035 - 0.071	0.0036 - 0.5	0.12	0.16	95% KM (Chebyshev) UCL	95% KM (BCA)	0.092	mg/kg
Acenaphthene	Soil	1 / 45	0.0049 - 0.2	0.20 - 0.20	0.20	NA	N/R	N/R	N/R	mg/kg
Acenaphthylene	Soil	4 / 45	0.0049 - 0.2	0.020 - 0.10	0.055	0.039	95% KM (t) UCL	95% KM (Percentile Bootstrap) UCL	0.08	mg/kg
Anthracene	Soil	3 / 45	0.0049 - 0.2	0.0060 - 0.024	0.014	0.0093	95% KM (t) UCL	95% KM (Percentile Bootstrap) UCL	0.024	mg/kg
Benz(a)anthracene	Soil	8 / 45	0.0049 - 0.2	0.0050 - 0.91	0.18	0.31	95% KM (t) UCL	95% KM (BCA) UCL	0.096	mg/kg
Benzo(b)fluoranthene	Soil	15 / 45	0.0049 - 0.2	0.0056 - 0.89	0.12	0.23	95% KM (Chebyshev) UCL	95% KM (BCA) UCL	0.090	mg/kg
Benzo(k)fluoranthene	Soil	7 / 45	0.0049 - 0.2	0.0060 - 0.21	0.061	0.072	95% KM (t) UCL	95% KM (BCA) UCL	0.066	mg/kg
Benzo(g,h,i)perylene	Soil	18 / 45	0.0049 - 0.2	0.0054 - 0.60	0.079	0.15	95% KM (BCA) UCL	95% KM (BCA) UCL	0.064	mg/kg
Benzo(a)pyrene	Soil	17 / 45	0.0049 - 0.10	0.0070 - 0.5	0.11	0.14	95% KM (t) UCL	95% KM (BCA) UCL	0.07	mg/kg
Chrysene	Soil	18 / 45	0.0049 - 0.1	0.0056 - 3.6	0.33	0.83	95% KM (t) UCL	95% KM (BCA) UCL	0.31	mg/kg
Dibenz(a,h)anthracene	Soil	5 / 45	0.0049 - 0.2	0.0060 - 0.28	0.073	0.12	95% KM (t) UCL	95% KM (BCA) UCL	0.051	mg/kg
Fluoranthene	Soil	10 / 45	0.0049 - 6.0	0.0062 - 0.58	0.12	0.19	95% KM (t) UCL	95% KM (BCA) UCL	0.063	mg/kg
Fluorene	Soil	5 / 45	0.0049 - 6.0	0.013 - 2.1	0.56	0.88	95% KM (t) UCL	95% KM (BCA) UCL	0.57	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	7 / 45	0.0049 - 0.2	0.012 - 0.30	0.076	0.10	95% KM (t) UCL	95% KM (BCA) UCL	0.058	mg/kg
1-Methylnaphthalene	Soil	2 / 26	0.0049 - 0.0070	0.0053 - 0.53	0.27	0.37	N/R	N/R	N/R	mg/kg
2-Methylnaphthalene	Soil	2 / 26	0.0049 - 0.0070	0.0063 - 0.48	0.24	0.33	N/R	N/R	N/R	mg/kg
Naphthalene	Soil	5 / 72	0.0047 - 6.0	0.0079 - 9.8	3.8	4.3	95% KM (t) UCL	95% KM (BCA) UCL	6.8	mg/kg
Phenanthrene	Soil	9 / 45	0.0049 - 0.2	0.0055 - 1.4	0.31	0.48	95% KM (t) UCL	95% KM (BCA) UCL	0.16	mg/kg
Pyrene	Soil	15 / 45	0.0049 - 0.2	0.0074 - 3.2	0.30	0.81	95% KM (Chebyshev) UCL	95% KM (BCA) UCL	0.26	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	7 / 112	0.37 - 10	37 - 3800	1266	1,585	95% KM (Chebyshev) UCL	95% KM (BCA) UCL	276.20	mg/kg
TPH Diesel	Soil	70 / 155	1.0 - 11	0.57 - 8400	329	1137	95% KM (Chebyshev) UCL	95% KM (BCA) UCL	262.70	mg/kg
TPH Motor Oil	Soil	83 / 155	1.0 - 50	0.5 - 11000	517	1819	95% KM (Chebyshev) UCL	95% KM (BCA) UCL	463.10	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-30
Exposure Point Concentrations
Open Space

CHEMICAL	Recreator (0-2 ft bgs) Soil mg/kg	Recreator (0-10 ft bgs) Soil mg/kg	Other Receptor Soil mg/kg	Recreator (0-2 ft bgs) Outdoor Air (dust & volatiles) mg/m^3	Recreator (0-10 ft bgs) Outdoor Air (dust & volatiles) mg/m^3	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Groundwater mg/L
Inorganics							
Cadmium	7.25E-01	1.10E+00	1.10E+00	5.33E-10	8.09E-10	8.09E-10	NA
Chromium (total)	2.01E+01	2.06E+01	2.06E+01	1.48E-08	1.51E-08	1.51E-08	NA
Lead	4.21E+01	2.37E+01	4.21E+01	3.09E-08	1.74E-08	3.09E-08	NA
Mercury	4.88E-01	2.80E-01	4.88E-01	3.59E-10	2.06E-10	3.59E-10	NA
Vanadium	2.54E+01	2.58E+01	2.58E+01	1.87E-08	1.90E-08	1.90E-08	NA
BTEX							
Benzene	NA	5.40E-01	5.40E-01	NA	1.42E-04	1.42E-04	NA
Ethylbenzene	NA	9.52E-01	9.52E-01	NA	1.56E-04	1.56E-04	NA
Toluene	NA	8.60E+00	8.60E+00	NA	1.87E-03	1.87E-03	NA
Xylenes (total)	NA	5.68E+00	5.68E+00	NA	9.05E-04	9.05E-04	NA
VOCs							
n-Butylbenzene	NA	**2.10E+00**	**2.10E+00**	NA	2.39E-04	2.39E-04	NA
sec-Butylbenzene	NA	**9.30E-01**	**9.30E-01**	NA	1.06E-04	1.06E-04	NA
tert-Butylbenzene	NA	**1.40E-01**	**1.40E-01**	NA	1.39E-05	1.39E-05	NA
Isopropylbenzene	NA	**4.10E+00**	**4.10E+00**	NA	6.14E-04	6.14E-04	NA
p-Isopropyltoluene	NA	**1.70E+00**	**1.70E+00**	NA	2.54E-04	2.54E-04	NA
n-Propylbenzene	NA	**4.30E+00**	**4.30E+00**	NA	5.71E-04	5.71E-04	NA
1,2,4-Trimethylbenzene	**1.50E-02**	9.49E+00	9.49E+00	1.76E-06	1.11E-03	1.11E-03	NA
1,3,5-Trimethylbenzene	**7.10E-03**	**8.70E+00**	**8.70E+00**	9.97E-07	1.22E-03	1.22E-03	NA
PAHs							
BaP TEQ	1.43E-01	9.22E-02	1.43E-01	1.05E-10	6.78E-11	1.05E-10	NA
Acenaphthene	NA	**2.00E-01**	**2.00E-01**	NA	1.32E-06	1.32E-06	NA
Acenaphthylene	**2.60E-02**	7.52E-02	7.52E-02	1.72E-07	4.98E-07	4.98E-07	NA
Anthracene	**1.10E-02**	**2.40E-02**	**2.40E-02**	1.95E-08	4.26E-08	4.26E-08	NA
Benz(a)anthracene	1.45E-01	9.61E-02	1.45E-01	1.07E-10	7.07E-11	1.07E-10	NA
Benzo(b)fluoranthene	1.55E-01	8.97E-02	1.55E-01	1.14E-10	6.60E-11	1.14E-10	NA
Benzo(k)fluoranthene	6.80E-02	6.60E-02	6.80E-02	5.00E-11	4.85E-11	5.00E-11	NA
Benzo(g,h,i)perylene	1.07E-01	6.37E-02	1.07E-01	7.87E-11	4.68E-11	7.87E-11	NA
Benzo(a)pyrene	2.09E-01	7.29E-02	2.09E-01	1.54E-10	5.36E-11	1.54E-10	NA
Chrysene	5.58E-01	3.06E-01	5.58E-01	4.10E-10	2.25E-10	4.10E-10	NA
Dibenz(a,h)anthracene	**2.80E-01**	5.07E-02	**2.80E-01**	2.06E-10	3.73E-11	2.06E-10	NA
Fluoranthene	1.02E-01	6.26E-02	1.02E-01	7.50E-11	4.60E-11	7.50E-11	NA
Fluorene	**2.10E+00**	5.71E-01	**2.10E+00**	6.93E-06	1.88E-06	6.93E-06	NA

Table 5-30
Exposure Point Concentrations
Open Space

CHEMICAL	Recreator (0-2 ft bgs) Soil mg/kg	Recreator (0-10 ft bgs) Soil mg/kg	Other Receptor Soil mg/kg	Recreator (0-2 ft bgs) Outdoor Air (dust & volatiles) mg/m^3	Recreator (0-10 ft bgs) Outdoor Air (dust & volatiles) mg/m^3	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Groundwater mg/L
Indeno(1,2,3-cd)pyrene	6.52E-02	5.77E-02	6.52E-02	4.79E-11	4.24E-11	4.79E-11	NA
1-Methylnaphthalene	**5.30E-01**	**5.30E-01**	**5.30E-01**	8.40E-06	8.40E-06	8.40E-06	NA
2-Methylnaphthalene	**4.80E-01**	**4.80E-01**	**4.80E-01**	7.69E-06	7.69E-06	7.69E-06	NA
Naphthalene	**7.90E-03**	6.79E+00	6.79E+00	1.58E-07	1.36E-04	1.36E-04	NA
Phenanthrene	2.15E-01	1.56E-01	2.15E-01	3.08E-07	2.23E-07	3.08E-07	NA
Pyrene	4.22E-01	2.60E-01	4.22E-01	1.65E-07	1.02E-07	1.65E-07	NA
Total Petroleum Hydrocarbons							
TPH Gasoline	NA	2.76E+02	2.76E+02	NA	NA	NA	NA
TPH Gasoline - aliphatic	NA	7.18E+01	7.18E+01	NA	5.28E-08	5.28E-08	NA
TPH Gasoline - aromatic	NA	4.14E+01	4.14E+01	NA	3.05E-08	3.05E-08	NA
TPH Diesel	5.61E+02	2.63E+02	5.61E+02	NA	NA	NA	NA
TPH Diesel - aliphatic	1.46E+02	6.83E+01	1.46E+02	1.07E-07	5.02E-08	1.07E-07	NA
TPH Diesel - aromatic	8.42E+01	3.94E+01	8.42E+01	6.19E-08	2.90E-08	6.19E-08	NA
TPH Motor Oil	1.07E+03	4.63E+02	1.07E+03	NA	NA	NA	NA
TPH Motor Oil - aliphatic	2.78E+02	1.20E+02	2.78E+02	2.04E-07	8.85E-08	2.04E-07	NA
TPH Motor Oil - aromatic	1.60E+02	6.95E+01	1.60E+02	1.18E-07	5.11E-08	1.18E-07	NA

NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 or 0-2 depth horizon) used as soil EPC.

Table 5-31
Soil Chemicals of Potential Concern Summary Statistics (0-5 ft)
Native Gardens Exposure Area

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	soil	1 / 8	0.50 - 1.0	0.66 - 0.66	NA	NA	NA	NA	NA	mg/kg wet
Chromium (total)	soil	8 / 8	-	15 - 24	NA	NA	NA	NA	NA	mg/kg wet
Lead	soil	7 / 8	1.0 - 1.0	3.2 - 7.8	NA	NA	NA	NA	NA	mg/kg wet
Mercury	soil	4 / 8	0.020 - 0.10	0.032 - 0.10	NA	NA	NA	NA	NA	mg/kg wet
Vanadium	soil	8 / 8	-	11 - 18	NA	NA	NA	NA	NA	mg/kg wet
PAHs										
BaP TEQ	soil	2 / 7	0.0037 - 0.0046	0.0097 - 0.018	NA	NA	NA	NA	NA	mg/kg wet
Benz(a)anthracene	soil	1 / 7	0.0053 - 0.010	0.029 - 0.029	NA	NA	NA	NA	NA	mg/kg wet
Benzo(b)fluoranthene	soil	2 / 7	0.0053 - 0.0065	0.0067 - 0.012	NA	NA	NA	NA	NA	mg/kg wet
Benzo(g,h,i)perylene	soil	2 / 7	0.0053 - 0.0065	0.0060 - 0.023	NA	NA	NA	NA	NA	mg/kg wet
Benzo(a)pyrene	soil	1 / 7	0.0053 - 0.010	0.014 - 0.014	NA	NA	NA	NA	NA	mg/kg wet
Chrysene	soil	1 / 7	0.0053 - 0.0065	0.0058 - 0.0058	NA	NA	NA	NA	NA	mg/kg wet
Dibenz(a,h)anthracene	soil	1 / 7	0.0053 - 0.0065	0.022 - 0.022	NA	NA	NA	NA	NA	mg/kg wet
Indeno(1,2,3-cd)pyrene	soil	1 / 7	0.0053 - 0.0065	0.019 - 0.019	NA	NA	NA	NA	NA	mg/kg wet
Pyrene	soil	2 / 7	0.0053 - 0.0065	0.018 - 0.020	NA	NA	NA	NA	NA	mg/kg wet
Total Petroleum Hydrocarbons										
TPH Diesel	soil	2 / 12	5.0 - 10	9.3 - 68	38.65	42	N/R	N/R	N/R	mg/kg wet
TPH Motor Oil	soil	4 / 12	5.0 - 10	11.0 - 260	89	115	95% KM (t) UCL	95% KM (t) UCL	78	mg/kg wet

Notes:
NA = Not Applicable
N/R = Sample size is greater than nine, however there are not enough distinct observation to calculate a 95% UCL value.

Table 5-31
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Native Gardens Exposure Area

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommened UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Cadmium	soil	1 / 8	0.50 - 1.0	0.66 - 0.66	NA	NA	NA	NA	NA	mg/kg wet
Chromium (total)	soil	8 / 8	-	15 - 24	NA	NA	NA	NA	NA	mg/kg wet
Lead	soil	7 / 8	1.0 - 1.0	3.2 - 7.8	NA	NA	NA	NA	NA	mg/kg wet
Mercury	soil	4 / 8	0.020 - 0.10	0.032 - 0.10	NA	NA	NA	NA	NA	mg/kg wet
Vanadium	soil	8 / 8	-	11 - 18	NA	NA	NA	NA	NA	mg/kg wet
PAHs										
BaP TEQ	soil	2 / 7	0.0037 - 0.0046	0.0097 - 0.018	NA	NA	NA	NA	NA	mg/kg wet
Benz(a)anthracene	soil	1 / 7	0.0053 - 0.010	0.029 - 0.029	NA	NA	NA	NA	NA	mg/kg wet
Benzo(b)fluoranthene	soil	2 / 7	0.0053 - 0.0065	0.0067 - 0.012	NA	NA	NA	NA	NA	mg/kg wet
Benzo(g,h,i)perylene	soil	2 / 7	0.0053 - 0.0065	0.0060 - 0.023	NA	NA	NA	NA	NA	mg/kg wet
Benzo(a)pyrene	soil	1 / 7	0.0053 - 0.010	0.014 - 0.014	NA	NA	NA	NA	NA	mg/kg wet
Chrysene	soil	1 / 7	0.0053 - 0.0065	0.0058 - 0.0058	NA	NA	NA	NA	NA	mg/kg wet
Dibenz(a,h)anthracene	soil	1 / 7	0.0053 - 0.0065	0.022 - 0.022	NA	NA	NA	NA	NA	mg/kg wet
Indeno(1,2,3-cd)pyrene	soil	1 / 7	0.0053 - 0.0065	0.019 - 0.019	NA	NA	NA	NA	NA	mg/kg wet
Pyrene	soil	2 / 7	0.0053 - 0.0065	0.018 - 0.020	NA	NA	NA	NA	NA	mg/kg wet
Total Petroleum Hydrocarbons										
TPH Diesel	soil	2 / 16	5.0 - 10	9.3 - 68	38.65	42	N/R	N/R	N/R	mg/kg wet
TPH Motor Oil	soil	4 / 16	5.0 - 10	11 - 260	89	115	95% KM (t) UCL	95% KM (t) UCL	61	mg/kg wet

Notes:
NA = Not Applicable
N/R = Sample size is greater than nine, however there are not enough distinct observation to calculate a 95% UCL value.

Table 5-32
Exposure Point Concentrations
Native Gardens

CHEMICAL	Produce Soil (0-5 ft bgs) mg/kg	Outdoor Employee Soil (0-10 ft bgs) mg/kg	Outdoor Employee Outdoor Air (dust & volatiles) mg/m^3	Aboveground Produce mg/kg DW	Belowground Produce mg/kg DW
Inorganics					
Cadmium	**6.60E-01**	**6.60E-01**	4.85E-10	8.25E-02	4.22E-02
Chromium (total)	**2.40E+01**	**2.40E+01**	1.76E-08	1.17E-01	1.08E-01
Lead	**7.80E+00**	**7.80E+00**	5.74E-09	1.06E-01	7.02E-02
Mercury	**1.00E-01**	**1.00E-01**	7.35E-11	8.00E-04	1.40E-03
Vanadium	**1.80E+01**	**1.80E+01**	1.32E-08	9.90E-02	9.90E-02
PAHs					
BaP TEQ	**1.82E-02**	**1.82E-02**	1.34E-11	2.40E-04	1.10E-05
Benz(a)anthracene	**2.90E-02**	**2.90E-02**	2.13E-11	5.71E-04	2.75E-05
Benzo(b)fluoranthene	**1.20E-02**	**1.20E-02**	8.82E-12	1.34E-04	1.38E-04
Benzo(g,h,i)perylene	**2.30E-02**	**2.30E-02**	1.69E-11	1.31E-03	3.34E-05
Benzo(a)pyrene	**1.40E-02**	**1.40E-02**	1.03E-11	1.85E-04	8.47E-06
Chrysene	**5.80E-03**	**5.80E-03**	4.26E-12	1.14E-04	5.50E-06
Dibenz(a,h)anthracene	**2.20E-02**	**2.20E-02**	1.62E-11	1.49E-04	8.91E-06
Indeno(1,2,3-cd)pyrene	**1.90E-02**	**1.90E-02**	1.40E-11	1.13E-04	1.01E-05
Pyrene	**2.00E-02**	**2.00E-02**	7.81E-09	1.14E-03	2.90E-05
Total Petroleum Hydrocarbons					
TPH Diesel	**6.80E+01**	**6.80E+01**	NA	NA	NA
TPH Diesel - aliphatic	**1.77E+01**	**1.77E+01**	1.30E-08	NA	NA
TPH Diesel - aromatic	**1.02E+01**	**1.02E+01**	7.50E-09	NA	NA
TPH Motor Oil	7.79E+01	6.10E+01	NA	NA	NA
TPH Motor Oil - aliphatic	2.02E+01	1.58E+01	1.17E-08	NA	NA
TPH Motor Oil - aromatic	1.17E+01	1.17E+01	8.59E-09	NA	NA

NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 or 0-2 depth horizon) used as soil EPC.

Table 5-33
Soil Chemicals of Potential Concern Summary Statistics (0-2 ft)
Drainage Exposure Area

Chemical	Matrix	Frequency	NonDetects	Detects	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
		Detects / Total	Min – Max	Min – Max						
Inorganics										
Chromium (total)	Soil	3 / 3	-	15 - 97	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	3 / 3	-	7.9 - 22	NA	NA	NA	NA	NA	mg/kg
Mercury	Soil	1 / 3	0.10 - 0.10	0.10 - 0.10	NA	NA	NA	NA	NA	mg/kg
Vanadium	Soil	3 / 3	-	13 - 34	NA	NA	NA	NA	NA	mg/kg
BTEX										
Benzene	Soil	0 / 1	0.0050 - 0.005	-	NA	NA	NA	NA	NA	mg/kg
Ethylbenzene	Soil	0 / 1	0.0050 - 0.0	-	NA	NA	NA	NA	NA	mg/kg
Xylenes (total)	Soil	0 / 1	0.0050 - 0.0	-	NA	NA	NA	NA	NA	mg/kg
PAHs										
BaP TEQ	Soil	1 / 1	-	0.0076 - 0.0076	NA	NA	NA	NA	NA	mg/kg
Acenaphthene	Soil	0 / 1	0.010 - 0.010	-	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	0 / 1	0.010 - 0.010	-	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	1 / 1	-	0.021 - 0.021	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	0 / 1	0.010 - 0.010	-	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	0 / 1	0.010 - 0.010	-	NA	NA	NA	NA	NA	mg/kg
Dibenz(a,h)anthracene	Soil	1 / 1	-	0.010 - 0.010	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	0 / 1	0.010 - 0.010	-	NA	NA	NA	NA	NA	mg/kg
Fluorene	Soil	0 / 1	0.010 - 0.010	-	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	1 / 1	-	0.010 - 0.010	NA	NA	NA	NA	NA	mg/kg
Naphthalene	Soil	0 / 1	0.0050 - 0.0050	-	NA	NA	NA	NA	NA	mg/kg
Phenanthrene	Soil	0 / 1	0.010 - 0.010	-	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	0 / 1	0.010 - 0.010	-	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	0 / 2	10.000 - 10	-	NA	NA	NA	NA	NA	mg/kg
TPH Diesel	Soil	2 / 2	-	25 - 130	NA	NA	NA	NA	NA	mg/kg
TPH Motor Oil	Soil	2 / 2	-	200 - 580	NA	NA	NA	NA	NA	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-33
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Drainage Exposure Area

Chemical	Matrix	Frequency	NonDetects	Detects	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
		Detects / Total	Min – Max	Min – Max						
Inorganics										
Chromium (total)	Soil	8 / 8	-	15 - 97	NA	NA	NA	NA	NA	mg/kg
Lead	Soil	8 / 8	-	3.6 - 22	NA	NA	NA	NA	NA	mg/kg
Mercury	Soil	1 / 8	0.10 - 0.10	0.10 - 0.10	NA	NA	NA	NA	NA	mg/kg
Vanadium	Soil	8 / 8	-	12 - 34	NA	NA	NA	NA	NA	mg/kg
BTEX										
Benzene	Soil	1 / 8	0.0050 - 0.0050	1.4 - 1.4	NA	NA	NA	NA	NA	mg/kg
Ethylbenzene	Soil	1 / 8	0.0050 - 0.0050	1.7 - 1.7	NA	NA	NA	NA	NA	mg/kg
Xylenes (total)	Soil	1 / 8	0.0050 - 0.0050	0.90 - 0.90	NA	NA	NA	NA	NA	mg/kg
PAHs										
BaP TEQ	Soil	2 / 4	0.0353 - 0.705	0.0076 - 0.069	NA	NA	NA	NA	NA	mg/kg
Acenaphthene	Soil	1 / 4	0.010 - 1.0	0.050 - 0.050	NA	NA	NA	NA	NA	mg/kg
Benzo(b)fluoranthene	Soil	1 / 4	0.010 - 1.0	0.020 - 0.020	NA	NA	NA	NA	NA	mg/kg
Benzo(g,h,i)perylene	Soil	2 / 4	0.050 - 1.0	0.021 - 0.027	NA	NA	NA	NA	NA	mg/kg
Benzo(a)pyrene	Soil	1 / 4	0.010 - 1.0	0.065 - 0.065	NA	NA	NA	NA	NA	mg/kg
Chrysene	Soil	1 / 4	0.010 - 1.0	0.022 - 0.022	NA	NA	NA	NA	NA	mg/kg
Dibenz(a,h)anthracene	Soil	2 / 4	0.050 - 1.0	0.010 - 0.012	NA	NA	NA	NA	NA	mg/kg
Fluoranthene	Soil	1 / 4	0.010 - 1.0	0.011 - 0.011	NA	NA	NA	NA	NA	mg/kg
Fluorene	Soil	1 / 4	0.010 - 1.0	0.21 - 0.21	NA	NA	NA	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	1 / 4	0.010 - 1.0	0.010 - 0.010	NA	NA	NA	NA	NA	mg/kg
Naphthalene	Soil	1 / 4	0.0050 - 0.0050	0.26 - 0.26	NA	NA	NA	NA	NA	mg/kg
Phenanthrene	Soil	1 / 4	0.010 - 1.0	0.48 - 0.48	NA	NA	NA	NA	NA	mg/kg
Pyrene	Soil	1 / 4	0.010 - 1.0	0.013 - 0.013	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	1 / 10	10 - 10	510 - 510	510	NA	N/R	N/R	N/R	mg/kg
TPH Diesel	Soil	7 / 10	10 - 10	25 - 4300	945	1533	95% KM (BCA) UCL	95% KM (BCA) UCL	1457	mg/kg
TPH Motor Oil	Soil	7 / 10	10 - 10	110 - 12000	2117	4369	99% KM (Chebyshev) UCL	95% KM (BCA) UCL	4009	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-34
Exposure Point Concentrations
Drainage Area

CHEMICAL	Other Receptor Soil mg/kg	Intrusive Utility Worker Soil mg/kg	Other Receptor Outdoor Air (dust & volatiles) mg/m^3	Intrusive Utility Worker Outdoor Air (dust & volatiles) mg/m^3	Groundwater mg/L
Inorganics					
Chromium (total)	**9.70E+01**	**9.70E+01**	7.13E-08	2.43E-06	NA
Lead	**2.20E+01**	**2.20E+01**	1.62E-08	5.51E-07	NA
Mercury	**1.00E-01**	**1.00E-01**	7.35E-11	2.50E-09	NA
Vanadium	**3.40E+01**	**3.40E+01**	2.50E-08	8.51E-07	NA
BTEX					
Benzene	**1.40E+00**	**1.40E+00**	3.67E-04	3.76E-03	NA
Ethylbenzene	**1.70E+00**	**1.70E+00**	2.79E-04	3.16E-03	NA
Xylenes (total)	**9.00E-01**	**9.00E-01**	1.44E-04	1.62E-03	NA
PAHs					
BaP TEQ	**6.87E-02**	**6.87E-02**	5.05E-11	1.72E-09	NA
Acenaphthene	**5.00E-02**	**5.00E-02**	3.31E-07	4.05E-06	NA
Benzo(b)fluoranthene	**2.00E-02**	**2.00E-02**	1.47E-11	5.01E-10	NA
Benzo(g,h,i)perylene	**2.70E-02**	**2.70E-02**	1.99E-11	6.76E-10	NA
Benzo(a)pyrene	**6.50E-02**	**6.50E-02**	4.78E-11	1.63E-09	NA
Chrysene	**2.20E-02**	**2.20E-02**	1.62E-11	5.51E-10	NA
Dibenz(a,h)anthracene	**2.50E-02**	**1.20E-02**	1.84E-11	3.00E-10	NA
Fluoranthene	**1.10E-02**	**1.10E-02**	8.09E-12	2.75E-10	NA
Fluorene	**2.10E-01**	**2.10E-01**	6.93E-07	8.63E-06	NA
Indeno(1,2,3-cd)pyrene	**1.00E-02**	**1.00E-02**	7.35E-12	2.50E-10	NA
Naphthalene	**2.60E-01**	**2.60E-01**	5.21E-06	6.28E-05	NA
Phenanthrene	**4.80E-01**	**4.80E-01**	6.87E-07	1.08E-05	NA
Pyrene	**1.30E-02**	**1.30E-02**	5.08E-09	7.39E-08	NA
Total Petroleum Hydrocarbons					
TPH Gasoline	**5.10E+02**	**5.10E+02**	NA	NA	NA
TPH Gasoline - aliphatic	**1.33E+02**	**1.33E+02**	9.75E-08	3.32E-06	NA
TPH Gasoline - aromatic	**7.65E+01**	**7.65E+01**	5.63E-08	1.92E-06	NA
TPH Diesel	1.46E+03	**4.30E+03**	NA	NA	NA
TPH Diesel - aliphatic	3.79E+02	**1.12E+03**	2.79E-07	2.80E-05	NA
TPH Diesel - aromatic	2.19E+02	**6.45E+02**	1.61E-07	1.61E-05	NA
TPH Motor Oil	4.01E+03	**1.20E+04**	NA	NA	NA
TPH Motor Oil - aliphatic	1.04E+03	**3.12E+03**	7.66E-07	7.81E-05	NA
TPH Motor Oil - aromatic	6.01E+02	**1.80E+03**	4.42E-07	4.51E-05	NA

NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 or 0-2 depth horizon) used as soil EPC.

Table 5-35
Soil Chemicals of Potential Concern Summary Statistics (0-2 ft)
Site-Wide Exposure Area

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Antimony	Soil	1 / 120	4.4 - 10	46.0 - 46	46	0	N/R	N/R	N/R	mg/kg
Cadmium	Soil	22 / 120	0.49 - 1.0	0.25 - 3.5	1.3	0.80	95% KM (t) UCL	95% KM (BCA) UCL	0.87	mg/kg
Chromium (total)	Soil	120 / 120	-	2.6 - 97	20	13	95% Chebyshev (Mean, Sd) UCL	95% Student's-t UCL	22	mg/kg
Lead	Soil	230 / 231	1.0 - 1.0	1.5 - 1600	53	149	95% KM (Chebyshev) UCL	95% KM (t) UCL	72	mg/kg
Mercury	Soil	57 / 120	0.020 - 0.10	0.020 - 5.1	0.36	0.73	95% KM (BCA) UCL	95% KM (t) UCL	0.27	mg/kg
Vanadium	Soil	120 / 120	-	3.0 - 140	25	21	95% H-UCL	95% Student's-t UCL	26	mg/kg
BTEX										
Benzene	Soil	2 / 106	0.0019 - 0.0050	0.0064 - 0.018	0.012	0.0082	95% KM (t) UCL	95% KM (BCA) UCL	0.018	mg/kg
Ethylbenzene	Soil	10 / 106	0.0019 - 0.0050	0.0032 - 120	12	38	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	4.5	mg/kg
Toluene	Soil	11 / 106	0.0019 - 0.0050	0.0026 - 38	3.5	11	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	1.4	mg/kg
Xylenes (total)	Soil	11 / 106	0.0037 - 0.0085	0.015 - 940	86	283	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	27	mg/kg
VOCs										
n-Butylbenzene	Soil	0 / 96	0.0046 - 0.012	-			NA	NA	NA	mg/kg
sec-Butylbenzene	Soil	2 / 96	0.0046 - 0.011	0.0025 - 0.031	0.017	0.020	95% KM (Chebyshev) UCL	95% KM (BCA) UCL	0.031	mg/kg
tert-Butylbenzene	Soil	0 / 96	0.0046 - 0.012	-			NA	NA	NA	mg/kg
Chlorobenzene	Soil	1 / 96	0.0019 - 0.0050	0.0059 - 0.0059	0.0059	NA	N/R	N/R	N/R	mg/kg
Chloroform	Soil	1 / 96	0.0019 - 0.0050	0.0027 - 0.0027	0.0027	NA	N/R	N/R	N/R	mg/kg
1,2-Dichlorobenzene	Soil	1 / 96	0.0019 - 0.0050	0.016 - 0.016	0.016	NA	N/R	N/R	N/R	mg/kg
1,3-Dichlorobenzene	Soil	0 / 96	0.0019 - 0.0050	-			NA	NA	NA	mg/kg
1,4-Dichlorobenzene	Soil	1 / 96	0.0019 - 0.0050	0.0062 - 0.0062	0.0062	NA	N/R	N/R	N/R	mg/kg
1,1-Dichloroethane	Soil	0 / 96	0.0019 - 0.0050	-			NA	NA	NA	mg/kg
1,2-Dichloroethane	Soil	0 / 96	0.0019 - 0.0050	-			NA	NA	NA	mg/kg
Isopropylbenzene	Soil	4 / 96	0.0019 - 0.0050	0.0033 - 0.18	0.061	0.081	N/R	N/R	N/R	mg/kg
p-Isopropyltoluene	Soil	3 / 96	0.0019 - 0.0050	0.0044 - 0.019	0.011	0.0073	95% KM (t) UCL	95% KM (BCA) UCL	0.019	mg/kg
Methylene chloride	Soil	0 / 96	0.0048 - 0.049	-			NA	NA	NA	mg/kg
Methyl tert-butyl ether	Soil	0 / 39	0.0046 - 0.012	-			NA	NA	NA	mg/kg
n-Propylbenzene	Soil	3 / 96	0.0019 - 0.0050	0.0060 - 0.29	0.10	0.16	N/R	N/R	N/R	mg/kg
1,1,1-Trichloroethane	Soil	0 / 96	0.0019 - 0.0050	-			NA	NA	NA	mg/kg
Trichloroethene	Soil	0 / 96	0.0019 - 0.0050	-			NA	NA	NA	mg/kg
1,2,4-Trimethylbenzene	Soil	4 / 96	0.0019 - 0.0050	0.0026 - 0.14	0.041	0.066	95% KM (t) UCL	95% KM (BCA) UCL	0.14	mg/kg
1,3,5-Trimethylbenzene	Soil	4 / 96	0.0019 - 0.0050	0.0020 - 0.047	0.017	0.020	95% KM (t) UCL	95% KM (BCA) UCL	0.047	mg/kg
PAHs										
BaP TEQ	Soil	61 / 83	0.0035 - 14	0.0041 - 0.54	0.087	0.10	95% KM (Chebyshev) UCL	95% KM (BCA)	0.084	mg/kg
Acenaphthene	Soil	1 / 83	0.0049 - 20	0.26 - 0.26	0.26	NA	N/R	N/R	N/R	mg/kg
Acenaphthylene	Soil	12 / 83	0.0049 - 20	0.0059 - 0.052	0.019	0.013	95% KM (t) UCL	95% KM (BCA) UCL	0.015	mg/kg
Anthracene	Soil	10 / 83	0.0049 - 20	0.0060 - 3.5	0.38	1.1	95% KM (Chebyshev) UCL	95% KM (BCA) UCL	0.14	mg/kg
Benz(a)anthracene	Soil	30 / 83	0.0049 - 20	0.0050 - 0.91	0.10	0.22	95% KM (BCA) UCL	95% KM (BCA) UCL	0.072	mg/kg
Benzo(b)fluoranthene	Soil	51 / 83	0.0049 - 20	0.0050 - 0.89	0.086	0.16	95% KM (BCA) UCL	95% KM (BCA) UCL	0.084	mg/kg
Benzo(k)fluoranthene	Soil	27 / 83	0.0049 - 20	0.0060 - 0.40	0.050	0.077	95% KM (BCA) UCL	95% KM (BCA) UCL	0.033	mg/kg
Benzo(g,h,i)perylene	Soil	58 / 83	0.0049 - 20	0.0050 - 0.65	0.068	0.12	95% KM (Chebyshev) UCL	95% KM (t) UCL	0.069	mg/kg
Benzo(a)pyrene	Soil	49 / 83	0.0049 - 20	0.0060 - 0.5	0.08	0.09	95% KM (t) UCL	95% KM (t) UCL	0.064	mg/kg
Chrysene	Soil	53 / 83	0.0049 - 20	0.0070 - 3.6	0.22	0.58	95% KM (Chebyshev) UCL	95% KM (t) UCL	0.23	mg/kg
Dibenz(a,h)anthracene	Soil	16 / 83	0.0049 - 20	0.0060 - 0.28	0.040	0.067	95% KM (t) UCL	95% KM (BCA) UCL	0.024	mg/kg
Fluoranthene	Soil	37 / 83	0.0049 - 20	0.0060 - 0.58	0.074	0.11	95% KM (BCA) UCL	95% KM (BCA) UCL	0.055	mg/kg
Fluorene	Soil	7 / 83	0.0049 - 20	0.013 - 7.1	1.7	2.5	95% KM (t) UCL	95% KM (BCA) UCL	0.84	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	32 / 83	0.0049 - 20	0.0078 - 0.30	0.045	0.067	95% KM (t) UCL	95% KM (BCA) UCL	0.032	mg/kg
1-Methylnaphthalene	Soil	5 / 38	0.0049 - 0.056	0.0053 - 1.6	0.43	0.69	95% KM (t) UCL	95% KM (BCA) UCL	0.56	mg/kg
2-Methylnaphthalene	Soil	7 / 39	0.0049 - 1.0	0.0063 - 2.9	0.49	1.1	99% KM (Chebyshev) UCL	95% KM (BCA) UCL	0.27	mg/kg
Naphthalene	Soil	9 / 97	0.0049 - 20	0.0064 - 1.0	0.14	0.33	95% KM (Chebyshev) UCL	95% KM (BCA) UCL	0.492	mg/kg
Phenanthrene	Soil	30 / 83	0.0049 - 20	0.0059 - 3.3	0.20	0.64	95% KM (BCA) UCL	95% KM (BCA) UCL	0.16	mg/kg
Pyrene	Soil	48 / 83	0.0049 - 20	0.0070 - 3.2	0.15	0.46	95% KM (Chebyshev) UCL	95% KM (BCA) UCL	0.17	mg/kg
SVOCs										
2,4-Dinitrotoluene	Soil	0 / 1	1.0 - 1.0	-	NA	NA	NA	NA	NA	mg/kg

Table 5-35
Soil Chemicals of Potential Concern Summary Statistics (0-2 ft)
Site-Wide Exposure Area

Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	9 / 132	0.38 - 10	0.7 - 6600.0	740.9	2.6	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	153.3	mg/kg
TPH Diesel	Soil	111 / 160	1.0 - 20	1 - 11000	839	58	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	880	mg/kg
TPH Motor Oil	Soil	126 / 160	1.0 - 10	1 - 13000	1277	185	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	1339	mg/kg
Pesticides										
Endrin aldehyde	Soil	0 / 9	0.0020 - 0.015	-	NA	NA	NA	NA	NA	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-35
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Site-Wide Exposure Area

Chemical	Matrix	Frequency Detects / Total	NonDetects Min – Max	Detects Min – Max	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
Inorganics										
Antimony	Soil	1 / 313	4.4 - 20	46.00 - 46	46	0	N/R	N/R	N/R	mg/kg
Cadmium	Soil	34 / 313	0.49 - 1.0	0.32 - 4.3	1.4	0.92	95% KM (t) UCL	95% KM (BCA) UCL	0.7	mg/kg
Chromium (total)	Soil	312 / 313	1.0 - 1.0	1.6 - 97	20	11.6	95% KM (BCA) UCL	95% KM (t) UCL	21	mg/kg
Lead	Soil	417 / 429	1.0 - 4.0	1.2 - 1600	33	113	95% KM (Chebyshev) UCL	95% KM (t) UCL	40	mg/kg
Mercury	Soil	92 / 313	0.020 - 0.10	0.012 - 5.1	0.30	0.60	95% KM (BCA) UCL	95% KM (BCA) UCL	0.15	mg/kg
Vanadium	Soil	312 / 313	1.0 - 1.0	1.1 - 270	26	28	95% KM (BCA) UCL	95% KM (t) UCL	28	mg/kg
BTEX										
Benzene	Soil	47 / 481	0.0019 - 0.20	0.0060 - 19	1.3	3.6	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	0.24	mg/kg
Ethylbenzene	Soil	63 / 481	0.0019 - 0.20	0.0032 - 120	3.8	16	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	1.1	mg/kg
Toluene	Soil	35 / 481	0.0019 - 1.0	0.0026 - 62	4.4	13	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	0.64	mg/kg
Xylenes (total)	Soil	79 / 481	0.0037 - 0.40	0.0056 - 940	19	108	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	7.4	mg/kg
VOCs										
n-Butylbenzene	Soil	20 / 235	0.0046 - 0.10	0.043 - 4.3	0.73	1.0	95% KM (t) UCL	95% KM (BCA) UCL	0.20	mg/kg
sec-Butylbenzene	Soil	21 / 235	0.0046 - 0.10	0.0025 - 2.8	0.59	0.67	95% KM (t) UCL	95% KM (BCA) UCL	0.12	mg/kg
tert-Butylbenzene	Soil	5 / 235	0.0046 - 2.50	0.011 - 0.24	0.12	0.082	95% KM (t) UCL	95% KM (BCA) UCL	0.14	mg/kg
Chlorobenzene	Soil	1 / 235	0.0019 - 1.0	0.0059 - 0.0059	0.0059	NA	N/R	N/R	N/R	mg/kg
Chloroform	Soil	3 / 235	0.0019 - 1.0	0.0027 - 0.0073	0.0048	0.0023	N/R	N/R	N/R	mg/kg
1,2-Dichlorobenzene	Soil	2 / 235	0.0019 - 1.0	0.016 - 0.27	0.14	0.18	N/R	N/R	N/R	mg/kg
1,3-Dichlorobenzene	Soil	1 / 235	0.0019 - 1.0	0.017 - 0.017	0.017	NA	N/R	N/R	N/R	mg/kg
1,4-Dichlorobenzene	Soil	2 / 235	0.0019 - 1.0	0.0062 - 0.096	0.051	0.063	N/R	N/R	N/R	mg/kg
1,1-Dichloroethane	Soil	1 / 235	0.0019 - 1.0	0.029 - 0.029	0.029	NA	N/R	N/R	N/R	mg/kg
1,2-Dichloroethane	Soil	1 / 235	0.0019 - 1.0	0.0057 - 0.0057	0.0057	NA	N/R	N/R	N/R	mg/kg
Isopropylbenzene	Soil	32 / 235	0.0019 - 0.10	0.0023 - 4.4	0.81	1.1	95% KM (t) UCL	95% KM (BCA) UCL	0.17	mg/kg
p-Isopropyltoluene	Soil	20 / 235	0.0019 - 0.10	0.0044 - 3.3	0.58	0.81	95% KM (t) UCL	95% KM (BCA) UCL	0.10	mg/kg
Methylene chloride	Soil	4 / 235	0.0048 - 10.0	0.00078 - 0.0060	0.0039	0.0022	N/R	N/R	N/R	mg/kg
Methyl tert-butyl ether	Soil	1 / 166	0.0046 - 2.5	0.0050 - 0.0050	0.0050	NA	N/R	N/R	N/R	mg/kg
n-Propylbenzene	Soil	23 / 235	0.0019 - 0.10	0.0060 - 6.3	1.2	1.6	95% KM (t) UCL	95% KM (BCA) UCL	0.22	mg/kg
1,1,1-Trichloroethane	Soil	1 / 235	0.0019 - 1.0	0.0070 - 0.0070	0.0070	NA	N/R	N/R	N/R	mg/kg
Trichloroethene	Soil	1 / 235	0.0019 - 1.0	0.036 - 0.036	0.036	NA	N/R	N/R	N/R	mg/kg
1,2,4-Trimethylbenzene	Soil	26 / 235	0.0019 - 0.20	0.0010 - 54	5.1	12	95% KM (T) UCL	95% KM (BCA) UCL	1.1	mg/kg
1,3,5-Trimethylbenzene	Soil	24 / 235	0.0019 - 0.20	0.0020 - 8.7	1.5	2.6	95% KM (t) UCL	95% KM (BCA) UCL	0.28	mg/kg
PAHs										
BaP TEQ	Soil	109 / 214	0.0035 - 14.100	0.0036 - 0.55	0.084	0.11	95% KM (BCA) UCL	95% KM (BCA) UCL	0.059	mg/kg
Acenaphthene	Soil	40 / 214	0.0049 - 20	0.010 - 3.2	0.35	0.54	95% KM (BCA) UCL	95% KM (BCA) UCL	0.12	mg/kg
Acenaphthylene	Soil	41 / 214	0.0049 - 20	0.0055 - 0.60	0.13	0.16	95% KM (t) UCL	95% KM (BCA) UCL	0.043	mg/kg
Anthracene	Soil	19 / 214	0.0049 - 20	0.0060 - 3.5	0.32	0.82	95% KM (Chebyshev) UCL	95% KM (BCA) UCL	0.072	mg/kg
Benz(a)anthracene	Soil	47 / 214	0.0049 - 20	0.0050 - 0.91	0.10	0.19	95% KM (BCA) UCL	95% KM (BCA) UCL	0.045	mg/kg
Benzo(b)fluoranthene	Soil	77 / 214	0.0049 - 20	0.0050 - 0.89	0.079	0.14	95% KM (BCA) UCL	95% KM (BCA) UCL	0.049	mg/kg
Benzo(k)fluoranthene	Soil	33 / 214	0.0049 - 20	0.0058 - 0.40	0.058	0.080	95% KM (BCA) UCL	95% KM (BCA) UCL	0.022	mg/kg
Benzo(g,h,i)perylene	Soil	83 / 214	0.0049 - 20	0.0050 - 0.65	0.060	0.10	95% KM (BCA) UCL	95% KM (BCA) UCL	0.040	mg/kg
Benzo(a)pyrene	Soil	77 / 214	0.0049 - 20	0.0060 - 0.5	0.080	0.09	95% KM (t) UCL	95% KM (BCA) UCL	0.045	mg/kg
Chrysene	Soil	94 / 214	0.0049 - 20	0.0056 - 3.6	0.19	0.46	95% KM (BCA) UCL	95% KM (BCA) UCL	0.13	mg/kg
Dibenz(a,h)anthracene	Soil	22 / 214	0.0049 - 20	0.0060 - 0.28	0.033	0.058	95% KM (t) UCL	95% KM (BCA) UCL	0.013	mg/kg
Fluoranthene	Soil	55 / 214	0.0049 - 20	0.0060 - 1.1	0.093	0.18	95% KM (BCA) UCL	95% KM (BCA) UCL	0.045	mg/kg
Fluorene	Soil	52 / 214	0.0049 - 20	0.0033 - 7.1	0.96	1.3	95% KM (t) UCL	95% KM (BCA) UCL	0.37	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	39 / 214	0.0049 - 20	0.0066 - 0.30	0.050	0.074	95% KM (t) UCL	95% KM (BCA) UCL	0.023	mg/kg
1-Methylnaphthalene	Soil	10 / 89	0.0049 - 0.062	0.0053 - 5.5	1.4	1.8	95% KM (t) UCL	95% KM (BCA) UCL	0.45	mg/kg
2-Methylnaphthalene	Soil	15 / 94	0.0049 - 1.0	0.0063 - 15	2.7	4.1	95% KM (t) UCL	95% KM (BCA) UCL	0.77	mg/kg
Naphthalene	Soil	57 / 279	0.0046 - 20	0.0064 - 11	1.5	2.6	95% KM (t) UCL	95% KM (BCA) UCL	0.47	mg/kg
Phenanthrene	Soil	83 / 214	0.0049 - 20	0.0055 - 11	0.92	1.7	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	0.52	mg/kg
Pyrene	Soil	85 / 214	0.0049 - 20	0.0050 - 3.2	0.16	0.38	95% KM (BCA) UCL	95% KM (BCA) UCL	0.10	mg/kg

Table 5-35
Soil Chemicals of Potential Concern Summary Statistics (0-10 ft)
Site-Wide Exposure Area

Chemical	Matrix	Frequency	NonDetects	Detects	Arithmetic Mean	Standard Deviation	ProUCL Recommended UCL Calculation Method	UCL Calculation Method Used in HHRA	95% UCL	Units
		Detects / Total	Min – Max	Min – Max						
SVOCs										
2,4-Dinitrotoluene	Soil	1 / 5	0.10 - 1.0	0.64 - 0.64	NA	NA	NA	NA	NA	mg/kg
Total Petroleum Hydrocarbons										
TPH Gasoline	Soil	104 / 554	0.4 - 390	0.7 - 6600.0	425	883.8	95% KM (t) UCL	95% KM (t) UCL	119.3	mg/kg
TPH Diesel	Soil	311 / 597	1.0 - 100	0.6 - 31000	1817	4091	97.5% KM (Chebyshev) UCL	95% KM (Percentile Bootstrap) UCL	1160	mg/kg
TPH Motor Oil	Soil	341 / 597	1.0 - 100	0.5 - 13000	1203	2459	97.5% KM (Chebyshev) UCL	95% KM (BCA) UCL	820	mg/kg
Pesticides										
Endrin aldehyde	Soil	1 / 14	0.0020 - 0.015	0.0023 - 0.0023	0.0023	NA	N/R	N/R	N/R	mg/kg

Notes:
NA = Not applicable
N/R = Sample size is greater than nine, however there are not enough distinct observations to calculate a 95% UCL value

Table 5-36
Exposure Point Concentrations
Site-Wide

CHEMICAL	0-2 ft bgs Soil mg/kg	0-10 ft bgs Soil mg/kg	0-2 ft bgs Outdoor Air (dust & volatiles) mg/m^3	0-10 ft bgs Outdoor Air (dust & volatiles) mg/m^3	Groundwater mg/L
Inorganics					
Antimony	NA	**4.60E+01**	NA	3.38E-08	NA
Cadmium	8.73E-01	7.42E-01	6.42E-10	5.46E-10	NA
Chromium (total)	2.20E+01	2.10E+01	1.62E-08	1.54E-08	NA
Lead	7.19E+01	4.01E+01	5.29E-08	2.95E-08	NA
Mercury	2.70E-01	1.45E-01	1.99E-10	1.07E-10	NA
Vanadium	2.56E+01	2.80E+01	1.88E-08	2.06E-08	NA
BTEX					
Benzene	**1.80E-02**	2.38E-01	4.72E-06	6.25E-05	NA
Ethylbenzene	4.54E+00	1.09E+00	7.43E-04	1.78E-04	NA
Toluene	1.44E+00	6.44E-01	3.12E-04	1.40E-04	NA
Xylenes (total)	2.67E+01	7.44E+00	4.26E-03	1.19E-03	NA
VOCs					
n-Butylbenzene	NA	2.02E-01	NA	2.30E-05	NA
sec-Butylbenzene	**3.10E-02**	1.23E-01	3.53E-06	1.40E-05	NA
tert-Butylbenzene	NA	1.41E-01	NA	1.40E-05	NA
Chlorobenzene	**5.90E-03**	**5.90E-03**	8.50E-07	8.50E-07	NA
Chloroform	**2.70E-03**	**7.30E-03**	9.54E-07	2.58E-06	NA
1,2-Dichlorobenzene	**1.60E-02**	**2.70E-01**	1.27E-06	2.14E-05	NA
1,3-Dichlorobenzene	NA	**1.70E-02**	NA	1.35E-06	NA
1,4-Dichlorobenzene	**6.20E-03**	**9.60E-02**	5.54E-07	8.57E-06	NA
1,1-Dichloroethane	NA	**2.90E-02**	NA	1.29E-05	NA
1,2-Dichloroethane	NA	**5.70E-03**	NA	1.16E-06	NA
Isopropylbenzene	**1.80E-01**	1.74E-01	2.69E-05	2.60E-05	NA
p-Isopropyltoluene	**1.90E-02**	1.04E-01	2.84E-06	1.56E-05	NA
Methylene chloride	NA	**6.00E-03**	NA	2.54E-06	NA
Methyl tert-butyl ether	NA	**5.00E-03**	NA	9.47E-07	NA
n-Propylbenzene	**2.90E-01**	2.15E-01	3.85E-05	2.86E-05	NA
1,1,1-Trichloroethane	NA	**7.00E-03**	NA	3.95E-06	NA
Trichloroethene	NA	**3.60E-02**	NA	1.51E-05	NA
1,2,4-Trimethylbenzene	**1.40E-01**	1.10E+00	1.64E-05	1.29E-04	NA
1,3,5-Trimethylbenzene	**4.70E-02**	2.84E-01	6.60E-06	3.99E-05	NA
PAHs					
BaP TEQ	8.42E-02	5.94E-02	6.19E-11	4.37E-11	NA
Acenaphthene	**2.60E-01**	1.21E-01	1.72E-06	8.01E-07	NA
Acenaphthylene	1.53E-02	4.28E-02	1.01E-07	2.83E-07	NA
Anthracene	1.38E-01	7.23E-02	2.45E-07	1.28E-07	NA

Table 5-36
Exposure Point Concentrations
Site-Wide

CHEMICAL	0-2 ft bgs Soil mg/kg	0-10 ft bgs Soil mg/kg	0-2 ft bgs Outdoor Air (dust & volatiles) mg/m^3	0-10 ft bgs Outdoor Air (dust & volatiles) mg/m^3	Groundwater mg/L
Benz(a)anthracene	7.18E-02	4.46E-02	5.28E-11	3.28E-11	NA
Benzo(b)fluoranthene	8.44E-02	4.85E-02	6.21E-11	3.57E-11	NA
Benzo(k)fluoranthene	3.30E-02	2.16E-02	2.43E-11	1.59E-11	NA
Benzo(g,h,i)perylene	6.89E-02	3.99E-02	5.07E-11	2.93E-11	NA
Benzo(a)pyrene	6.42E-02	4.52E-02	4.72E-11	3.32E-11	NA
Chrysene	2.31E-01	1.33E-01	1.70E-10	9.78E-11	NA
Dibenz(a,h)anthracene	2.36E-02	1.27E-02	1.74E-11	9.34E-12	NA
Fluoranthene	5.49E-02	4.49E-02	4.04E-11	3.30E-11	NA
Fluorene	8.44E-01	3.65E-01	2.79E-06	1.20E-06	NA
Indeno(1,2,3-cd)pyrene	3.20E-02	2.27E-02	2.35E-11	1.67E-11	NA
1-Methylnaphthalene	5.58E-01	4.50E-01	8.84E-06	7.13E-06	NA
2-Methylnaphthalene	2.66E-01	7.74E-01	4.26E-06	1.24E-05	NA
Naphthalene	4.92E-01	4.67E-01	9.86E-06	9.36E-06	NA
Phenanthrene	1.61E-01	5.15E-01	2.31E-07	7.37E-07	NA
Pyrene	1.68E-01	1.02E-01	6.56E-08	3.98E-08	NA
SVOCs					
2,4-Dinitrotoluene	NA	**6.40E-01**	NA	4.71E-10	NA
Total Petroleum Hydrocarbons					
TPH Gasoline	1.53E+02	1.19E+02	NA	NA	NA
TPH Gasoline - aliphatic	3.99E+01	3.10E+01	2.93E-08	2.28E-08	NA
TPH Gasoline - aromatic	2.30E+01	1.79E+01	1.69E-08	1.32E-08	NA
TPH Diesel	8.80E+02	1.16E+03	NA	NA	NA
TPH Diesel - aliphatic	2.29E+02	3.02E+02	1.68E-07	2.22E-07	NA
TPH Diesel - aromatic	1.32E+02	1.74E+02	9.71E-08	1.28E-07	NA
TPH Motor Oil	1.34E+03	8.20E+02	NA	NA	NA
TPH Motor Oil - aliphatic	3.48E+02	2.13E+02	2.56E-07	1.57E-07	NA
TPH Motor Oil - aromatic	2.01E+02	1.23E+02	1.48E-07	9.05E-08	NA
Pesticides					
Endrin aldehyde	NA	**2.30E-03**	NA	1.69E-12	NA

NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 or 0-2 depth horizon) used as soil EPC.

Table 5-38
Chemical Specific Exposure Parameters

CHEMICAL	Chemical Specific Exposure Parameters											
	Volatilization Factor	Source	Ingestion Bioavailability Factor	Source	Dermal Absorbtion Coefficient	Source	Dermal Permeability Constant	Source	Aboveground Produce Bioconc Factor	Belowground Produce Bioconc Factor	Belowground Produce Correction Factor	Source
Inorganics												
Antimony	NA		1	default	0.01	OEHHA						
Cadmium	NA		1	default	0.001	OEHHA			0.125	0.064	1.0	USEPA 2005
Chromium (total)	NA		1	default	*0.01*	*Cr III & VI (OEHHA)*			0.00488	0.0045	1.0	USEPA 2005
Mercury	NA	USEPA RSL	1	default	0.1	OEHHA			0.008	0.014	1.0	USEPA 1998
Molybdenum	NA		1	default	0.01	OEHHA	0.001	USEPA RAGS Part E (all other inorganics)				
Thallium	NA		1	default	0.01	OEHHA						
Vanadium	NA		1	default	0.01	OEHHA			0.0055	0.0055	1.0	ORNL 2009
BTEX												
Benzene	3810	USEPA RSL	1	default	0.1	OEHHA			NA	NA	NA	
Ethylbenzene	6100	USEPA RSL	1	default	0.1	OEHHA	0.0493	USEPA RSL (EPI)	NA	NA	NA	
Toluene	4610	USEPA RSL	1	default	0.1	OEHHA	0.0311	USEPA RSL (EPI)	NA	NA	NA	
m&p-Xylenes	*6010*	*p-Xylene (USEPA RSL)*	1	default	*0.1*	*Xylenes (OEHHA)*			NA	NA	NA	
o-Xylene	*6950*	*USEPA RSL*	1	default	*0.1*	*Xylenes (OEHHA)*			NA	NA	NA	
Xylenes (total)	6270	USEPA RSL	1	default	0.1	OEHHA	*0.0471*	*o-xylene (USEPA RSL, EPI)*	NA	NA	NA	
VOCs												
Bromodichloromethane	4270	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
Bromoform	NA		1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
1,3-Butadiene	932	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
2-Butanone	13100	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
tert-Butylalcohol	5280	MTBE (USEPA RSL)	1	default	*0.1*	*Other VOCs (OEHHA)*	0.00153	sec-Butylalcohol (USEPA RSL, EPI)	NA	NA	NA	
n-Butylbenzene	8770	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*	0.225	USEPA RSL (EPI)	NA	NA	NA	
sec-Butylbenzene	8770	n-Butylbenzene (USEPA RSL)	1	default	*0.1*	*Other VOCs (OEHHA)*	0.225	n-Butylbenzene (USEPA RSL, EPI)	NA	NA	NA	
tert-Butylbenzene	10100	USEPA Region IX	1	default	*0.1*	*Other VOCs (OEHHA)*	0.225	n-Butylbenzene (USEPA RSL, EPI)	NA	NA	NA	
Carbon disulfide	1260	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
Carbon tetrachloride	1610	USEPA RSL	1	default	0.1	OEHHA			NA	NA	NA	
Chlorobenzene	6940	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
Chloroethane	1390	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
Chloroform	2830	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
Chloromethane	1270	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
Cyclohexane	1120	USEPA RSL	1	default	0.1	Other VOCs (OEHHA)			NA	NA	NA	
Dibromochloromethane	8550	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
1,2-Dichlorobenzene	12600	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
1,3-Dichlorobenzene	12600	1,2 Dichlorobenzene (USEPA RSL)	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
1,4-Dichlorobenzene	11200	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
Dichlorodifluoromethane	905	USEPA RSL	1	default	0.1	Other VOCs (OEHHA)			NA	NA	NA	
1,1-Dichloroethene	1240	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
1,2-Dichloropropane	4080	USEPA RSL	1	default	0.1	Other VOCs (OEHHA)	0.00753	n-Butylbenzene (USEPA RSL, EPI)	NA	NA	NA	
4-Ethyltoluene	6010	p-Xylene (USEPA RSL)	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
Ethyl acetate	9280	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
n-Heptane	893	Hexane (USEPA RSL)	1	default	0.1	Other VOCs (OEHHA)			NA	NA	NA	
Hexane	893	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
2-Hexanone	14300	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
Isopropyl alcohol	NA		1	default	0.1	Other VOCs (OEHHA)			NA	NA	NA	
Isopropylbenzene	6680	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*	0.0897	USEPA RSL (EPI)	NA	NA	NA	
p-Isopropyltoluene	6680	*Isopropylbenzene (USEPA RSL)*	1	default	*0.1*	*Other VOCs (OEHHA)*	0.0897	Isopropylbenzene (USEPA RSL, EPI)	NA	NA	NA	
Methylene chloride	2360	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
4-Methyl-2-pentanone	11400	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
Methyl tert-butyl ether	5280	USEPA RSL	1	default	0.1	OEHHA	0.00211	USEPA RSL (EPI)	NA	NA	NA	
n-Propylbenzene	7530	*USEPA RSL*	1	default	*0.1*	*Other VOCs (OEHHA)*	0.0939	USEPA RSL (EPI)	NA	NA	NA	
Propylene	NA		NA		*NA*				NA	NA	NA	
Styrene	10100	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
1,1,1,2-Tetrachloroethane	6110	USEPA RSL	1	default	0.1	Other VOCs (OEHHA)			NA	NA	NA	
1,1,2,2-Tetrachloroethane	16300	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
Tetrachloroethene	2530	USEPA RSL	1	default	*0.1*	*OEHHA*			NA	NA	NA	
Tetrahydrofuran	13100	USEPA RSL	1	default	0.1	Other VOCs (OEHHA)			NA	NA	NA	
1,1,1-Trichloroethane	1770	USEPA RSL	1	default	0.1	OEHHA			NA	NA	NA	
Trichloroethene	2380	USEPA RSL	1	default	0.1	OEHHA			NA	NA	NA	
Trichlorofluoromethane	1110	USEPA RSL	1	default	0.1	Other VOCs (OEHHA)			NA	NA	NA	
1,2,4-Trimethylbenzene	8520	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*	0.0857	USEPA RSL (EPI)	NA	NA	NA	
1,3,5-Trimethylbenzene	7120	USEPA RSL	1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
2,2,4-Trimethylpentane	NA		1	default	*0.1*	*Other VOCs (OEHHA)*			NA	NA	NA	
PAHs												

Table 5-38
Chemical Specific Exposure Parameters

CHEMICAL	Chemical Specific Exposure Parameters											
	Volatilzation Factor	Source	Ingestion Bioavailability Factor	Source	Dermal Absorbtion Coefficient	Source	Dermal Permeability Constant	Source	Aboveground Produce Bioconc Factor	Belowground Produce Bioconc Factor	Belowground Produce Correction Factor	Source
BaP TEQ	NA		0.29	Magee et al. 1996	*0.13*	*OEHHA*			0.013	0.100	0.010	BaP (USEPA 2005)
Acenaphthene	151000	*USEPA RSL*	0.29	Magee et al. 1996	*0.13*	*BaP (OEHHA)*	0.09	Calculated				
Acenaphthylene	151000	*Ace (USEPA RSL)*	0.29	Magee et al. 1996	*0.13*	*BaP (OEHHA)*	0.11	Calculated				
Anthracene	563000	USEPA RSL	0.29	Magee et al. 1996	*0.13*	*BaP (OEHHA)*	0.16	Calculated				
Benz(a)anthracene	NA		0.29	Magee et al. 1996	*0.13*	*BaP (OEHHA)*			0.020	0.095	0.010	USEPA 2005
Benzo(b)fluoranthene	NA		0.29	Magee et al. 1996	*0.13*	*BaP (OEHHA)*			0.011	1.2	0.010	USEPA 2005
Benzo(k)fluoranthene	NA		0.29	Magee et al. 1996	*0.13*	*BaP (OEHHA)*						
Benzo(g,h,i)perylene	NA		0.29	Magee et al. 1996	*0.13*	*BaP (OEHHA)*			*0.057*	*0.15*	0.010	*Pyrene* (USEPA 2005)
Benzo(a)pyrene	NA		0.29	Magee et al. 1996	0.13	OEHHA			0.013	0.061	0.010	USEPA 2005
Chrysene	NA		0.29	Magee et al. 1996	*0.13*	*BaP (OEHHA)*			0.020	0.095	0.010	USEPA 2005
Dibenz(a,h)anthracene	NA		0.29	Magee et al. 1996	*0.13*	*BaP (OEHHA)*			0.0068	0.041	0.010	USEPA 2005
Fluoranthene	NA		0.29	Magee et al. 1996	*0.13*	*BaP (OEHHA)*						
Fluorene	303000	USEPA RSL	0.29	Magee et al. 1996	*0.13*	*BaP (OEHHA)*	0.11	Calculated				
Indeno(1,2,3-cd)pyrene	NA		0.29	Magee et al. 1996	*0.13*	*BaP (OEHHA)*			0.0059	0.053	0.010	USEPA 2005
1-Methylnaphthalene	63100	*USEPA RSL*	0.29	Magee et al. 1996	*0.1*	*Naphth (OEHHA)*						
2-Methylnaphthalene	62400	*USEPA RSL*	0.29	Magee et al. 1996	*0.1*	*Naphth (OEHHA)*						
Naphthalene	49900	USEPA RSL	0.29	Magee et al. 1996	0.1	OEHHA	0.047	USEPA RAGS Part E				
Phenanthrene	698373	*Anth (USEPA RSL)*	0.29	Magee et al. 1996	*0.13*	*BaP (OEHHA)*	0.14	USEPA RAGS Part E				
Pyrene	2560000	USEPA RSL	0.29	Magee et al. 1996	0.13	BaP (OEHHA)			0.057	0.15	0.010	USEPA 2005
Total Petroleum Hydrocarbons												
TPH Gasoline - aliphatic	NA		1	default	*0.1*	*Other VOCs (OEHHA)*	0.55	Calculated	NA	NA	NA	
TPH Gasoline - aromatic	NA		1	default	*0.1*	*Other VOCs (OEHHA)*	0.062	Calculated	NA	NA	NA	
TPH Diesel - aliphatic	NA		1	default	*0.1*	*SVOCs (USEPA RAGS Part E)*	19	Calculated	NA	NA	NA	
TPH Diesel - aromatic	NA		1	default	*0.1*	*SVOCs (USEPA RAGS Part E)*	0.42	Calculated	NA	NA	NA	
TPH Motor Oil - aliphatic	NA		1	default	*0.1*	*SVOCs (USEPA RAGS Part E)*	24	Calculated	NA	NA	NA	
TPH Motor Oil - aromatic	NA		1	default	*0.1*	*SVOCs (USEPA RAGS Part E)*	0.21	Calculated	NA	NA	NA	
Pesticides												
gamma-BHC	NA		1	default	0.05	OEHHA						

NA = Not Applicable
NV = No Value
Sources:
USEPA RAGS Part E = Risk Assessment Guidance for Superfund (RAGS), Vol. I, Part E (Supplemental Guidance for Dermal Risk Assessment; USEPA 2004a)
Magee et al. 1996 = Absorption adjustment factor (AAF) distributions for polycyclic aromatic hydrocarbons (PAHs)
OEHHA = Human-Exposure-Based Screening Numbers Developed to Aid Estimation of Cleanup Costs for Contaminated Soil (Cal/EPA 2005c)
USEPA Region IX = Region IX PRGs (USEPA 2004b)
USEPA RSLs = USEPA Regional Screening Levels (USEPA 2013b)
EPI = Estimation Program Interface Suite
USEPA 1998/2005 = HHRA Protocol for Hazardous Waste Combustion Facilities

Table 5-42.
Historic Geotechnical Parameter Data
(England & Associates 1998)

Geologic Unit	Sample Locations (number of samples)	Average Moisture Content (% weight)	Average Dry Bulk Density (g/cm^3)	Average Total Porosity (cm^3/cm^3)
Pismo Fm.	B-150, B-153, B-163 (5)	27.7	1.28	0.485
Obispo Fm.	B-44 (1)	32.5	1.26	0.461
Unconsolidated Soils	B-147, B-163 (5)	37.8	1.40	0.438

Table 5-43
Soil Gas and Associated Modeled Indoor Air Concentrations
Exposure Area A

Chemical	2012 - All Depths Maximum			2012 - 5 ft bgs Maximum		2007 - All Depths			2007 - 5 ft bgs Maximum		5 foot soil gas maximum		2007/2012 Maximum	Additional Comments
	Soil Gas Max Concentration µg/L	Default Commercial Indoor Vapor µg/m^3	Depth (feet)	5 ft bgs Soil Gas Maximum Concentration µg/L	Default Commercial Indoor Vapor µg/m^3	Soil Gas Maximum Concentration µg/L	Default Commercial Indoor Vapor µg/m^3	Depth (feet)	5 ft bgs Soil Gas Maximum Concentration µg/L	Default Commercial Indoor Vapor µg/m^3	5 ft bgs Soil Gas Maximum Concentratio µg/L	Default Commercial Indoor Vapor µg/m^3	Default Commercial Indoor Vapor µg/m^3	
BTEX														
Benzene	4.60E-02	8.78E-03	15	9.10E-03	3.22E-03	4.10E-02	8.81E-03	5			4.10E-02	8.81E-03	8.81E-03	
Ethylbenzene	2.00E-01	3.33E-02	15	1.10E-02	3.46E-03	2.00E-01	3.76E-02	5			2.00E-01	3.76E-02	3.76E-02	
Toluene	5.70E-02	1.08E-02	15	4.60E-02	1.61E-02	3.60E-01	7.66E-02	5			3.60E-01	7.66E-02	7.66E-02	
m&p-Xylenes	3.80E-02	1.22E-02	5			2.90E-01	5.57E-02	5			2.90E-01	5.57E-02	5.57E-02	
o-Xylene	1.20E-02	2.27E-03	15	1.20E-02	4.21E-03	1.30E-01	2.77E-02	5			1.30E-01	2.77E-02	2.77E-02	
VOCs														
Bromodichloromethane						1.00E-02	8.28E-04	5			1.00E-02	8.28E-04	8.28E-04	
1,3-Butadiene	5.50E-03	2.33E-03	5										2.33E-03	
2-Butanone	2.00E-01	3.61E-02	15	1.10E-01	3.76E-02	3.00E-02	6.37E-03	5			1.10E-01	3.76E-02	3.76E-02	
tert-Butylalcohol	2.30E-03	9.05E-04	5										9.05E-04	
tert-Butylbenzene	2.40E-03	*3.12E-04*	15	2.30E-03	5.82E-04						2.30E-03	5.82E-04	5.82E-04	
Carbon disulfide	2.80E-02	6.14E-03	15	2.30E-02	9.13E-03	3.40E-02	3.19E-03	15	1.40E-02	3.44E-03			9.13E-03	
Chloroform	1.50E-02	3.29E-03	15	1.50E-02	5.96E-03	3.00E-02	7.39E-03	5			3.00E-02	7.39E-03	7.39E-03	
Chloromethane	1.50E-03	3.84E-04	15	9.30E-04	4.19E-04						9.30E-04	4.19E-04	4.19E-04	
Cyclohexane						1.40E-02	2.78E-03	5			1.40E-02	2.78E-03	2.78E-03	
Dichlorodifluoromethane	1.00E-02	*1.50E-03*	15	2.40E-03	2.07E-03						2.40E-03	2.07E-03	2.07E-03	
Ethyl acetate	2.30E-02	*3.78E-03*	15	1.80E-02	5.63E-03						1.80E-02	5.63E-03	5.63E-03	
4-Ethyltoluene	*2.90E-01*	*1.09E-03*	*5*	*2.90E-01*	*1.09E-03*	*1.00E-01*	*1.92E-02*	*5*			2.90E-01	1.92E-02	*1.92E-02*	
n-Heptane	*2.40E-02*	*8.72E-03*	*15*	*4.10E-03*	*2.42E-03*	*4.00E-02*	*6.75E-03*	*15*	*6.60E-03*	*2.64E-03*	*6.60E-03*	*2.64E-03*	*8.72E-03*	
Hexane	2.20E-02	7.99E-03	15	5.30E-03	3.13E-03	1.00E-01	1.69E-02	15			5.30E-03	3.13E-03	1.69E-02	No 2007 5-foot detect
2-Hexanone	2.40E-03	*4.34E-04*	15	2.20E-03	7.52E-04						2.20E-03	7.52E-04	7.52E-04	
Isopropyl alcohol	8.40E-03	3.70E-03	5	8.40E-03	3.70E-03						8.40E-03	3.70E-03	3.70E-03	
Isopropylbenzene	3.20E-02	4.70E-03	15	3.10E-02	8.75E-03	1.60E-02	2.66E-03	5			3.10E-02	8.75E-03	8.75E-03	
p-Isopropyltoluene	2.40E-03	6.77E-04	5										6.77E-04	
4-Methyl-2-pentanone	4.40E-02	*7.38E-03*	15	4.00E-02	1.27E-02						4.00E-02	1.27E-02	1.27E-02	
Methyl tert-butyl ether	1.10E-02	2.39E-03	15	6.40E-03	2.52E-03						6.40E-03	2.52E-03	2.52E-03	
Methylene chloride	6.90E-03	2.69E-03	5										2.69E-03	
Naphthalene	3.80E-03	9.99E-04	5										9.99E-04	
n-Propylbenzene	5.10E-03	7.00E-04	15	2.30E-03	6.11E-04	3.60E-02	5.59E-03	5			3.60E-02	5.59E-03	5.59E-03	
Propylene	4.30E-02	*9.86E-03*	15	5.40E-03	2.22E-03						5.40E-03	2.22E-03	9.86E-03	
Styrene	3.80E-03	6.04E-04	15	2.90E-03	8.76E-04						2.90E-03	8.76E-04	8.76E-04	
Tetrachloroethene	9.40E-03	1.51E-03	15	7.00E-03	2.14E-03						7.00E-03	2.14E-03	2.14E-03	
1,1,1,2-Tetrachloroethane	5.40E-03	1.63E-03	5										1.63E-03	
Tetrahydrofuran	1.00E-01	2.12E-02	15	5.00E-02	1.94E-02	4.40E-03	1.08E-03	5			5.00E-02	1.94E-02	2.12E-02	
Trichlorofluoromethane	4.60E-02	*8.70E-03*	15	2.30E-02	8.06E-03						2.30E-02	8.06E-03	8.70E-03	
1,2,4-Trimethylbenzene	1.80E-02	2.49E-03	15	1.20E-02	3.21E-03	9.60E-02	1.50E-02	5			9.60E-02	1.50E-02	1.50E-02	
1,3,5-Trimethylbenzene	4.40E-03	6.04E-04	15	3.70E-03	9.84E-04	2.00E-02	3.11E-03	5			2.00E-02	3.11E-03	3.11E-03	
2,2,4-Trimethylpentane	*2.20E-01*	*7.99E-02*	*15*	*3.40E-02*	*2.01E-02*						*3.40E-02*	*2.01E-02*	*7.99E-02*	

Shading indicates that chemical is not a COPC in this exposure area or was not detected for specific sampling event.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol; p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Table 5-44
Soil Gas and Associated Modeled Indoor Air Concentrations
Exposure Area C

Chemical	2007 - All Depths				2007 - 5 ft bgs Maximum			2007/2012 Maximum		Additional Comments
	Soil Gas Maximum Concentration µg/L	Hotel Bungalow Indoor Vapor µg/m^3	Default Commercial Indoor Vapor µg/m^3	Depth (feet)	5 ft bgs Soil Gas Maximum Concentration µg/L	Hotel Bungalow Indoor Vapor µg/m^3	Default Commercial Indoor Vapor µg/m^3	Hotel Bungalow Indoor Vapor µg/m^3	Default Commercial Indoor Vapor µg/m^3	
BTEX										
Benzene	1.40E-01	3.16E-02	1.49E-02	15	1.00E-01	5.95E-02	2.58E-02	5.95E-02	2.58E-02	
Ethylbenzene	1.10E-01	5.65E-02	2.50E-02	5				5.65E-02	2.50E-02	
Toluene	8.60E-02	1.92E-02	9.08E-03	15	5.10E-02	3.00E-02	1.30E-02	3.00E-02	1.30E-02	
m&p-Xylenes	2.00E-01	1.05E-01	4.63E-02	5				1.05E-01	4.63E-02	
o-Xylene	7.60E-02	4.47E-02	1.94E-02	5				4.47E-02	1.94E-02	
VOCs										
Bromodichloromethane	1.00E-01	2.15E-02	1.02E-02	5				2.15E-02	1.02E-02	
Bromoform	7.70E-02	8.71E-03	4.23E-03	5				8.71E-03	4.23E-03	
1,3-Butadiene	5.80E-03	3.49E-03	1.52E-03	15				3.49E-03	1.52E-03	No 2007 5-foot detect
2-Butanone	1.80E+00	3.97E-01	1.88E-01	15	1.10E+00	6.42E-01	2.79E-01	6.42E-01	2.79E-01	
tert-Butylalcohol	2.50E+00	6.56E-01	3.07E-01	15	1.30E+00	8.90E-01	3.79E-01	8.90E-01	3.79E-01	
Carbon disulfide	2.30E-01	1.59E-01	6.75E-02	5				1.59E-01	6.75E-02	
Carbon tetrachloride	6.80E-02	3.62E-02	1.59E-02	5				3.62E-02	1.59E-02	
Chlorobenzene	6.50E-02	1.23E-02	5.84E-03	15	5.80E-02	2.91E-02	1.29E-02	2.91E-02	1.29E-02	
Chloroethane	4.00E-02	2.60E-02	1.12E-02	15	1.60E-02	2.47E-02	8.98E-03	2.60E-02	1.12E-02	
Chloroform	3.50E+00	2.42E+00	1.03E+00	5				2.42E+00	1.03E+00	
Chloromethane	4.80E-02	1.53E-02	7.07E-03	15				1.53E-02	7.07E-03	No 2007 5-foot detect
Cyclohexane	4.10E-01	2.23E-01	9.80E-02	5				2.23E-01	9.80E-02	
Dibromochloromethane	6.20E-02	8.99E-03	4.33E-03	5				8.99E-03	4.33E-03	
4-Ethyltoluene	*1.60E-01*	*8.41E-02*	*3.71E-02*	*5*				*8.41E-02*	*3.71E-02*	
n-Heptane	*9.20E-02*	*4.52E-02*	*2.01E-02*	*15*	*7.90E-02*	*9.58E-01*	*3.67E-02*	*9.58E-01*	*3.67E-02*	
Hexane	2.10E-01	1.03E-01	4.59E-02	15	5.80E-02	7.03E-01	2.69E-02	7.03E-01	4.59E-02	
2-Hexanone	*1.10E-01*	*6.42E-02*	*2.79E-02*	5				*6.42E-02*	2.79E-02	
Isopropyl alcohol	4.60E-01	1.66E-01	7.62E-02	15	2.20E-01	2.04E-01	8.26E-02	2.04E-01	8.26E-02	
Isopropylbenzene	6.70E-02	3.01E-02	1.35E-02	5				3.01E-02	1.35E-02	
Methylene chloride	1.20E-01	8.09E-02	3.45E-02	5				8.09E-02	3.45E-02	
n-Propylbenzene	1.60E-01	6.69E-02	3.02E-02	5				6.69E-02	3.02E-02	
Tetrachloroethene	2.40E-01	1.19E-01	5.27E-02	5				1.19E-01	5.27E-02	
Tetrahydrofuran	6.10E-02	1.59E-02	7.47E-03	15	3.10E-02	2.12E-02	9.01E-03	2.12E-02	9.01E-03	
Trichloroethene	5.60E-02	3.02E-02	1.33E-02	5				3.02E-02	1.33E-02	
1,2,4-Trimethylbenzene	4.90E-01	2.06E-01	9.32E-02	5				2.06E-01	9.32E-02	
1,3,5-Trimethylbenzene	1.50E-01	6.28E-02	2.84E-02	5				6.28E-02	2.84E-02	
2,2,4-Trimethylpentane	*1.50E-02*	*7.38E-03*	*3.28E-03*	*15*				*7.38E-03*	*3.28E-03*	No 2007 5-foot detect
SVOCs										
1,4-Dioxane	2.40E-02	2.40E-02	9.54E-03	5				2.40E-02	9.54E-03	

Shading indicates that chemical is not a COPC in this exposure area or was not detected for specific sampling event.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol; p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Table 5-45
Soil Gas and Associated Modeled Indoor Air Concentrations
Exposure Area D

Chemical	2007 - All Depths: Soil Gas Maximum Concentration µg/L	2007 - All Depths: Hotel Bungalow Indoor Vapor µg/m^3	2007 - All Depths: Default Commercial Indoor Vapor µg/m^3	2007 - All Depths: Depth (feet)	2007 - 5 ft bgs Maximum: 5 ft bgs Soil Gas Maximum Concentration µg/L	2007 - 5 ft bgs Maximum: Hotel Bungalow Indoor Vapor µg/m^3	2007 - 5 ft bgs Maximum: Default Commercial Indoor Vapor µg/m^3	2007/2012 Maximum: Hotel Bungalow Indoor Vapor µg/m^3	2007/2012 Maximum: Default Commercial Indoor Vapor µg/m^3	Additional Comments
BTEX										
Benzene	2.20E+00	1.04E-01	5.15E-02	15	6.30E-03	1.07E-03	5.11E-04	1.04E-01	5.15E-02	
Ethylbenzene	4.90E+01	1.98E+00	9.79E-01	15	2.10E+00	3.04E-01	1.46E-01	1.98E+00	9.79E-01	
Toluene	1.70E-02	8.57E-04	4.24E-04	14				8.57E-04	4.24E-04	No 2007 5-foot detect
m&p-Xylenes	2.50E+01	1.04E+00	5.12E-01	15	1.30E+00	1.93E-01	9.29E-02	1.04E+00	5.12E-01	
o-Xylene	1.80E-01	3.02E-02	1.45E-02	5				3.02E-02	1.45E-02	No 2007 5-foot detect
VOCs										
Bromodichloromethane	9.30E-03	1.74E-04	8.65E-05	14				1.74E-04	8.65E-05	No 2007 5-foot detect
1,3-Butadiene	3.60E-02	5.10E-03	2.47E-03	14				5.10E-03	2.47E-03	No 2007 5-foot detect
2-Butanone	4.40E-02	3.35E-03	1.64E-03	15	2.10E-02	5.40E-03	2.53E-03	5.40E-03	2.53E-03	
tert-Butylalcohol	1.70E+01	9.82E-01	4.84E-01	15	2.70E-02	5.53E-03	2.63E-03	9.82E-01	4.84E-01	
Carbon disulfide	7.20E+00	4.00E-01	1.97E-01	15	2.40E-02	4.76E-03	2.26E-03	4.00E-01	1.97E-01	
Chloroform	6.60E-02	3.99E-03	1.97E-03	14	8.10E-03	1.62E-03	7.69E-04	3.99E-03	1.97E-03	
Cyclohexane	5.10E+02	2.18E+01	1.08E+01	15	2.20E+01	3.37E+00	1.62E+00	2.18E+01	1.08E+01	
4-Ethyltoluene	*1.10E+01*	*4.55E-01*	*2.25E-01*	*15*	*1.30E+00*	*1.93E-01*	*9.29E-02*	*4.55E-01*	*2.25E-01*	
n-Heptane	*1.10E+02*	*1.17E+01*	*5.68E+00*	*15*	*4.90E+00*	*1.82E+00*	*8.30E-01*	*1.17E+01*	*5.68E+00*	
Hexane	6.10E+01	6.47E+00	3.15E+00	15	2.80E+00	1.04E+00	4.74E-01	6.47E+00	3.15E+00	
Isopropylbenzene	3.20E+01	1.11E+00	5.54E-01	15	1.00E+00	1.25E-01	6.08E-02	1.11E+00	5.54E-01	
Methylene chloride	6.80E-03	4.03E-04	1.99E-04	14				4.03E-04	1.99E-04	No 2007 5-foot detect
n-Propylbenzene	3.00E+01	9.72E-01	4.82E-01	15	1.40E+00	1.63E-01	7.91E-02	9.72E-01	4.82E-01	
Tetrahydrofuran	7.00E-03	6.10E-04	2.99E-04	14	5.20E-03	1.44E-03	6.70E-04	1.44E-03	6.70E-04	
1,2,4-Trimethylbenzene	1.40E+01	4.59E-01	2.28E-01	15	2.10E+00	2.47E-01	1.20E-01	4.59E-01	2.28E-01	
1,3,5-Trimethylbenzene	9.60E+00	3.13E-01	1.55E-01	15	1.10E+00	1.29E-01	6.26E-02	3.13E-01	1.55E-01	

Shading indicates that chemical is not a COPC in this exposure area or was not detected for specific sampling event.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol; p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Table 5-46
Soil Gas and Associated Modeled Indoor Air Concentrations
Exposure Area E

Chemical	2007 - All Depths				2007 - 5 ft bgs Maximum			2007/2012 Maximum		Additional Comments
	Soil Gas Maximum Concentration µg/L	Hotel Bungalow Indoor Vapor µg/m^3	Default Commercial Indoor Vapor µg/m^3	Depth (feet)	5 ft bgs Soil Gas Maximum Concentration µg/L	Hotel Bungalow Indoor Vapor µg/m^3	Default Commercial Indoor Vapor µg/m^3	Hotel Bungalow Indoor Vapor µg/m^3	Default Commercial Indoor Vapor µg/m^3	
BTEX										
Benzene	1.60E+03	7.59E+01	3.75E+01	15	1.60E+02	2.71E+01	1.30E+01	7.59E+01	3.75E+01	
Ethylbenzene	1.10E+02	4.44E+00	2.20E+00	15	1.10E+00	1.59E-01	7.67E-02	4.44E+00	2.20E+00	
Toluene	1.60E+02	7.49E+00	3.70E+00	15	1.00E-02	1.67E-03	8.02E-04	7.49E+00	3.70E+00	
m&p-Xylenes	1.00E+02	4.14E+00	2.05E+00	15	9.60E-01	1.42E-01	6.86E-02	4.14E+00	2.05E+00	
o-Xylene	1.10E+01	5.16E-01	2.55E-01	15	6.80E-01	1.14E-01	5.47E-02	5.16E-01	2.55E-01	
VOCs										
2-Butanone	6.60E+01	5.03E+00	2.47E+00	15	5.40E+01	1.39E+01	6.51E+00	1.39E+01	6.51E+00	
tert-Butylalcohol	8.40E+02	4.85E+01	2.39E+01	15	2.90E+02	5.94E+01	2.82E+01	5.94E+01	2.82E+01	
Carbon disulfide	1.40E-01	7.79E-03	3.84E-03	15				7.79E-03	3.84E-03	No 2007 5-foot detect
Chloroform	1.20E+02	6.73E+00	3.32E+00	15				6.73E+00	3.32E+00	No 2007 5-foot detect
Cyclohexane	2.20E+03	9.42E+01	4.66E+01	15	1.70E+03	2.61E+02	1.25E+02	2.61E+02	1.25E+02	
1,2-Dichlorobenzene	9.80E-03	1.33E-03	6.43E-04	5				1.33E-03	6.43E-04	
1,2-Dichloroethane	4.40E-01	7.16E-02	3.44E-02	6				7.16E-02	3.44E-02	No 2007 5-foot detect
4-Ethyltoluene	*2.70E+01*	*1.12E+00*	*5.53E-01*	*15*	*2.80E-01*	*4.15E-02*	*2.00E-02*	*1.12E+00*	*5.53E-01*	
n-Heptane	*1.20E+03*	*1.27E+02*	*6.20E+01*	*15*	*3.40E+02*	*1.26E+02*	*5.76E+01*	*1.27E+02*	*6.20E+01*	
Hexane	6.10E+03	6.47E+02	3.15E+02	15	3.20E+03	1.19E+03	5.42E+02	1.19E+03	5.42E+02	
Isopropylbenzene	3.30E+01	1.15E+00	5.72E-01	15	2.80E-01	3.50E-02	1.70E-02	1.15E+00	5.72E-01	
Methyl tert-butyl ether	1.10E+00	1.80E-01	8.62E-02	6				1.80E-01	8.62E-02	No 2007 5-foot detect
Methylene chloride	3.50E+00	1.92E-01	9.48E-02	15				1.92E-01	9.48E-02	No 2007 5-foot detect
n-Propylbenzene	3.90E+01	1.26E+00	6.26E-01	15	1.60E+00	1.86E-01	9.04E-02	1.26E+00	6.26E-01	
1,1,2,2-Tetrachloroethane	2.00E+01	8.58E-01	4.24E-01	15				8.58E-01	4.24E-01	No 2007 5-foot detect
Tetrahydrofuran	1.20E-01	9.72E-03	4.76E-03	15	5.50E-02	1.52E-02	7.09E-03	1.52E-02	7.09E-03	
1,2,4-Trimethylbenzene	4.80E+01	1.57E+00	7.80E-01	15	7.00E-01	8.24E-02	4.00E-02	1.57E+00	7.80E-01	
1,3,5-Trimethylbenzene	2.20E+01	7.17E-01	3.56E-01	15	3.20E-01	3.75E-02	1.82E-02	7.17E-01	3.56E-01	
2,2,4-Trimethylpentane	*4.80E+02*	*5.48E+01*	*2.66E+01*	*14*	*9.40E+01*	*3.48E+01*	*1.59E+01*	*5.48E+01*	*2.66E+01*	

Shading indicates that chemical is not a COPC in this exposure area or was not detected for specific sampling event.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol; p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Table 5-47
Soil Gas and Associated Modeled Indoor Air Concentrations
Exposure Area G

Chemical	2007 - All Depths Soil Gas Maximum Concentration µg/L	2007 - All Depths Default Commercial Indoor Vapor µg/m^3	Depth (feet)	2007 - 5 ft bgs Maximum 5 ft bgs Soil Gas Maximum Concentration µg/L	2007 - 5 ft bgs Maximum Default Commercial Indoor Vapor µg/m^3	2007/2012 Default Commercial Indoor Vapor µg/m^3	Additional Comments
BTEX							
Benzene	9.30E-01	2.18E-02	15	4.70E-02	3.82E-03	2.18E-02	
Ethylbenzene	7.80E-01	1.56E-02	15	7.00E-02	4.88E-03	1.56E-02	
Toluene	7.10E-02	1.64E-03	15	4.90E-02	3.93E-03	3.93E-03	
m&p-Xylenes	4.10E-01	2.93E-02	5			2.93E-02	
o-Xylene	3.40E-01	2.73E-02	5			2.73E-02	
VOCs							
2-Butanone	1.10E-02	1.33E-03	5			1.33E-03	
Carbon disulfide	1.90E-02	1.79E-03	5			1.79E-03	
Chloroform	9.00E+00	2.49E-01	15	1.40E-01	1.33E-02	2.49E-01	
Chloromethane	4.00E+00	1.32E-01	15	1.60E-01	1.80E-02	1.32E-01	
Cyclohexane	1.30E+01	2.75E-01	15	1.20E+00	8.86E-02	2.75E-01	
4-Ethyltoluene	*4.50E-01*	*3.22E-02*	*5*			*3.22E-02*	
n-Heptane	*3.60E+00*	*1.86E-01*	*15*	*8.40E-01*	*1.42E-01*	*1.86E-01*	
Hexane	1.10E+01	5.68E-01	15	4.80E-01	8.13E-02	5.68E-01	
Isopropyl alcohol	1.30E-02	4.53E-03	5			4.53E-03	
Isopropylbenzene	5.90E-01	1.02E-02	15	7.50E-02	4.56E-03	1.02E-02	
Methylene chloride	1.60E-01	4.33E-03	15	8.40E-03	7.82E-04	4.33E-03	
Naphthalene	2.70E-02	1.65E-03	5			1.65E-03	
n-Propylbenzene	2.90E-01	4.66E-03	15	1.50E-01	8.48E-03	8.48E-03	
Tetrachloroethene	5.50E+00	1.05E-01	15	4.50E-02	3.01E-03	1.05E-01	
Tetrahydrofuran	3.40E-03	4.38E-04	5			4.38E-04	
Trichloroethene	7.80E-01	1.64E-02	15	3.90E-02	2.85E-03	1.64E-02	
1,2,4-Trimethylbenzene	2.30E-01	1.31E-02	5			1.31E-02	
1,3,5-Trimethylbenzene	5.10E-01	2.90E-02	5			2.90E-02	
2,2,4-Trimethylpentane	*4.30E-01*	*7.29E-02*	*5*			*7.29E-02*	

Shading indicates that chemical is not a COPC in this exposure area or was not detected for specific sampling event.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol; p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Table 5-48
Soil Gas and Associated Modeled Indoor Air Concentrations
Exposure Area Ia

Chemical	2007 - All Depths				2007 - 5 ft bgs Maximum			2007/2012 Maximum		Additional Comments
	Soil Gas Maximum Concentration µg/L	Hotel Bungalow Indoor Vapor µg/m^3	Default Commercial Indoor Vapor µg/m^3	Depth (feet)	5 ft bgs Soil Gas Maximum Concentration µg/L	Hotel Bungalow Indoor Vapor µg/m^3	Default Commercial Indoor Vapor µg/m^3	Hotel Bungalow Indoor Vapor µg/m^3	Default Commercial Indoor Vapor µg/m^3	
BTEX										
Benzene	4.20E-02	9.49E-03	4.48E-03	15	1.40E-02	8.32E-03	3.61E-03	9.49E-03	4.48E-03	
Ethylbenzene	3.20E-01	6.19E-02	2.95E-02	15	9.00E-03	4.62E-03	2.04E-03	6.19E-02	2.95E-02	
Toluene	4.60E-02	2.71E-02	1.18E-02	5				2.71E-02	1.18E-02	
m&p-Xylenes	3.20E-02	6.34E-03	3.02E-03	15	3.00E-02	1.58E-02	6.95E-03	1.58E-02	6.95E-03	
o-Xylene	7.20E-03	4.24E-03	1.84E-03	5				4.24E-03	1.84E-03	
VOCs										
Bromodichloromethane	1.50E-02	3.23E-03	1.53E-03	5				3.23E-03	1.53E-03	
2-Butanone	1.90E-02	4.20E-03	1.99E-03	15	9.60E-03	5.60E-03	2.44E-03	5.60E-03	2.44E-03	
tert-Butylalcohol	1.50E-02	1.03E-02	4.37E-03	5				1.03E-02	4.37E-03	
Carbon disulfide	4.20E-02	1.11E-02	5.21E-03	15	1.10E-01	7.60E-02	3.23E-02	7.60E-02	3.23E-02	
Carbon tetrachloride	3.40E-02	1.81E-02	7.96E-03	5				1.81E-02	7.96E-03	
Chloroform	2.60E+00	6.90E-01	3.23E-01	15	5.30E-01	3.66E-01	1.56E-01	6.90E-01	3.23E-01	
Cyclohexane	5.70E-02	1.17E-02	5.57E-03	15	1.40E-02	7.62E-03	3.35E-03	1.17E-02	5.57E-03	
4-Ethyltoluene	*6.60E-03*	*3.47E-03*	*1.53E-03*	*5*				*3.47E-03*	*1.53E-03*	
n-Heptane	*7.00E-02*	*3.44E-02*	*1.53E-02*	*15*	*2.70E-02*	*3.27E-02*	*1.25E-02*	*3.44E-02*	*1.53E-02*	
Hexane	9.90E-02	4.87E-02	2.17E-02	15	2.60E-02	3.15E-02	1.21E-02	4.87E-02	2.17E-02	
Isopropyl alcohol	1.30E-02	1.21E-02	4.88E-03	5				1.21E-02	4.88E-03	
Isopropylbenzene	4.80E-01	8.08E-02	3.87E-02	15				8.08E-02	3.87E-02	No 5-foot detects
n-Propylbenzene	6.50E-01	1.01E-01	4.87E-02	15				1.01E-01	4.87E-02	No 5-foot detects
Tetrachloroethene	1.40E-02	2.60E-03	1.24E-03	15	9.30E-03	4.60E-03	2.04E-03	4.60E-03	2.04E-03	
1,2,4-Trimethylbenzene	1.30E-01	2.04E-02	9.82E-03	15	1.50E-02	6.32E-03	2.85E-03	2.04E-02	9.82E-03	
1,3,5-Trimethylbenzene	4.70E-01	7.34E-02	3.53E-02	15				7.34E-02	3.53E-02	No 5-foot detects

Shading indicates that chemical is not a COPC in this exposure area or was not detected for specific sampling event.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol; p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Table 5-49
Soil Gas and Associated Modeled Indoor Air Concentrations
Exposure Area Ib

Chemical	2007 - All Depths: Soil Gas Maximum Concentration µg/L	2007 - All Depths: Hotel Bungalow Indoor Vapor µg/m³	2007 - All Depths: Default Commercial Indoor Vapor µg/m³	2007 - All Depths: Depth (feet)	2007 - 5 ft bgs Maximum: 5 ft bgs Soil Gas Maximum Concentration µg/L	2007 - 5 ft bgs Maximum: Hotel Bungalow Indoor Vapor µg/m³	2007 - 5 ft bgs Maximum: Default Commercial Indoor Vapor µg/m³	2007/2012 Maximum: Hotel Bungalow Indoor Vapor µg/m³	2007/2012 Maximum: Default Commercial Indoor Vapor µg/m³	Additional Comments
BTEX										
Benzene	2.10E+00	4.74E-01	2.24E-01	15	1.80E-01	1.07E-01	4.64E-02	4.74E-01	2.24E-01	
Ethylbenzene	2.50E-02	4.84E-03	2.30E-03	15	1.30E-02	6.67E-03	2.95E-03	6.67E-03	2.95E-03	
Toluene	1.10E+02	2.46E+01	1.16E+01	15	1.70E-02	1.00E-02	4.35E-03	2.46E+01	1.16E+01	
m&p-Xylenes	4.60E+00	9.12E-01	4.34E-01	15				9.12E-01	4.34E-01	No 5-foot detects
o-Xylene	2.90E-02	6.48E-03	3.06E-03	15	1.40E-02	8.24E-03	3.58E-03	8.24E-03	3.58E-03	
VOCs										
Bromodichloromethane	1.70E+01	1.34E+00	6.56E-01	15				1.34E+00	6.56E-01	No 5-foot detects
Bromoform	1.70E+00	6.95E-02	3.44E-02	15				6.95E-02	3.44E-02	No 5-foot detects
2-Butanone	1.40E+01	3.09E+00	1.46E+00	15	1.30E-02	7.58E-03	3.30E-03	3.09E+00	1.46E+00	
tert-Butylalcohol	5.30E+01	1.39E+01	6.52E+00	15				1.39E+01	6.52E+00	No 5-foot detects
Carbon disulfide	5.50E+00	1.46E+00	6.83E-01	15	3.80E-02	2.63E-02	1.12E-02	1.46E+00	6.83E-01	
Carbon tetrachloride	6.90E+01	1.39E+01	6.59E+00	15	2.50E-02	1.33E-02	5.85E-03	1.39E+01	6.59E+00	
Chloroform	1.50E+03	3.98E+02	1.86E+02	15	2.50E+00	1.73E+00	7.34E-01	3.98E+02	1.86E+02	
Cyclohexane	6.00E+01	3.27E+01	1.43E+01	5				3.27E+01	1.43E+01	
Dibromochloromethane	3.80E+00	2.00E-01	9.86E-02	15				2.00E-01	9.86E-02	No 5-foot detects
1,1-Dichloroethene	8.50E-01	1.96E-01	9.26E-02	15				1.96E-01	9.26E-02	No 5-foot detects
4-Ethyltoluene	*4.80E-02*	*9.51E-03*	*4.53E-03*	*15*				*9.51E-03*	*4.53E-03*	*No 5-foot detects*
n-Heptane	*7.70E+00*	*9.33E+00*	*3.58E+00*	*5*				*9.33E+00*	*3.58E+00*	
Hexane	3.00E+01	3.64E+01	1.39E+01	5				3.64E+01	1.39E+01	
Isopropylbenzene	2.80E-02	4.71E-03	2.26E-03	15				4.71E-03	2.26E-03	No 5-foot detects
Methylene chloride	6.80E+00	1.76E+00	8.23E-01	15	2.30E-02	1.55E-02	6.61E-03	1.76E+00	8.23E-01	
n-Propylbenzene	3.80E-02	5.92E-03	2.85E-03	15				5.92E-03	2.85E-03	No 5-foot detects
Styrene	3.30E+00	6.06E-01	2.89E-01	15				6.06E-01	2.89E-01	No 5-foot detects
Tetrachloroethene	2.50E+01	4.65E+00	2.22E+00	15	3.20E-02	1.58E-02	7.02E-03	4.65E+00	2.22E+00	
Trichloroethene	1.30E+01	2.64E+00	1.26E+00	15				2.64E+00	1.26E+00	No 5-foot detects
1,2,4-Trimethylbenzene	1.60E-01	2.52E-02	1.21E-02	15				2.52E-02	1.21E-02	No 5-foot detects
1,3,5-Trimethylbenzene	7.90E-02	1.23E-02	5.93E-03	15				1.23E-02	5.93E-03	No 5-foot detects

Shading indicates that chemical is not a COPC in this exposure area or was not detected for specific sampling event.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol; p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Table 5-50
Soil Gas and Associated Modeled Indoor Air Concentrations
Exposure Area J

Chemical	2007 - All Depths: Soil Gas Maximum Concentration µg/L	2007 - All Depths: Hotel Bungalow Indoor Vapor µg/m³	2007 - All Depths: Default Commercial Indoor Vapor µg/m³	Depth (feet)	2007 - 5 ft bgs Maximum: 5 ft bgs Soil Gas Maximum Concentration µg/L	2007 - 5 ft bgs Maximum: Hotel Bungalow Indoor Vapor µg/m³	2007 - 5 ft bgs Maximum: Default Commercial Indoor Vapor µg/m³	2007/2012 Maximum: Hotel Bungalow Indoor Vapor µg/m³	2007/2012 Maximum: Default Commercial Indoor Vapor µg/m³	Additional Comments
BTEX										
Benzene	1.10E+02	2.48E+01	1.17E+01	15	3.60E+00	2.56E+00	1.08E+00	2.48E+01	1.17E+01	
Ethylbenzene	2.90E+01	5.61E+00	2.67E+00	15	5.10E-01	3.14E-01	1.36E-01	5.61E+00	2.67E+00	
Toluene	3.80E+01	8.49E+00	4.01E+00	15	1.40E+00	8.24E-01	3.58E-01	8.49E+00	4.01E+00	
m&p-Xylenes	5.10E+01	1.01E+01	4.81E+00	15	1.60E+00	8.41E-01	3.71E-01	1.01E+01	4.81E+00	
o-Xylene	1.70E+01	3.80E+00	1.80E+00	15	3.90E-01	2.29E-01	9.97E-02	3.80E+00	1.80E+00	
VOCs										
Bromodichloromethane	1.50E+00	1.18E-01	5.79E-02	15	2.70E-01	5.81E-02	2.76E-02	1.18E-01	5.79E-02	
1,3-Butadiene	5.90E-01	3.55E-01	1.55E-01	15	1.20E-01	1.73E-01	6.39E-02	3.55E-01	1.55E-01	
2-Butanone	2.70E+01	5.96E+00	2.82E+00	15	1.30E-01	7.58E-02	3.30E-02	5.96E+00	2.82E+00	
tert-Butylalcohol	2.80E+02	7.35E+01	3.44E+01	15	1.50E-02	1.03E-02	4.37E-03	7.35E+01	3.44E+01	
Carbon disulfide	7.30E+00	1.94E+00	9.06E-01	15	4.00E-02	2.76E-02	1.17E-02	1.94E+00	9.06E-01	
Carbon tetrachloride	4.20E+00	8.44E-01	3.92E-01	15	6.90E-01	3.67E-01	1.62E-01	8.44E-01	3.92E-01	
Chloroform	1.30E+03	3.45E+02	1.61E+02	15	3.60E+01	2.49E+01	1.06E+01	3.45E+02	1.61E+02	
Cyclohexane	1.10E+03	2.26E+02	1.08E+02	15	3.50E+01	1.91E+01	8.37E+00	2.26E+02	1.08E+02	
1,1-Dichloroethane	*1.40E+00*	*2.68E-01*	*1.28E-01*	15				*2.68E-01*	1.28E-01	
cis-1,2-Dichloroethene	2.50E-01	1.46E-01	6.34E-02	4				1.46E-01	6.34E-02	
trans-1,2-Dichloroethene	1.20E-02	5.83E-03	2.59E-03	5				5.83E-03	2.59E-03	
4-Ethyltoluene	*4.70E+00*	*9.31E-01*	*4.43E-01*	*15*	*6.80E-01*	*3.57E-01*	*1.57E-01*	*9.31E-01*	*4.43E-01*	
n-Heptane	*3.60E+02*	*1.77E+02*	*7.87E+01*	*15*	*3.80E+00*	*5.40E+00*	*1.99E+00*	*1.77E+02*	*7.87E+01*	
Hexane	1.10E+03	5.41E+02	2.41E+02	15	6.60E+00	8.00E+00	3.06E+00	5.41E+02	2.41E+02	
Isopropylbenzene	9.10E+00	1.53E+00	7.34E-01	15	9.40E-02	4.23E-02	1.89E-02	1.53E+00	7.34E-01	
Methylene chloride	2.30E+01	5.94E+00	2.78E+00	15	2.50E-02	2.36E-02	7.19E-03	5.94E+00	2.78E+00	
n-Propylbenzene	4.80E+00	7.48E-01	3.60E-01	15	2.00E-01	8.36E-02	3.78E-02	7.48E-01	3.60E-01	
Tetrachloroethene	4.90E-01	2.42E-01	1.08E-01	5				2.42E-01	1.08E-01	
Tetrahydrofuran	4.00E-03	3.26E-03	1.35E-03	4				3.26E-03	1.35E-03	
Trichloroethene	8.60E+00	1.75E+00	8.31E-01	15	1.20E-01	6.46E-02	2.84E-02	1.75E+00	8.31E-01	
1,2,4-Trimethylbenzene	4.80E+00	7.55E-01	3.63E-01	15	8.80E-01	3.71E-01	1.67E-01	7.55E-01	3.63E-01	
1,3,5-Trimethylbenzene	2.50E+00	3.91E-01	1.88E-01	15	2.70E-01	1.13E-01	5.11E-02	3.91E-01	1.88E-01	
2,2,4-Trimethylpentane	*5.00E+00*	*2.46E+00*	*1.09E+00*	*15*	*3.30E+00*	*4.69E+00*	*1.73E+00*	*4.69E+00*	*1.73E+00*	
Vinyl Chloride	4.50E-02	3.16E-02	1.34E-02	5				3.16E-02	1.34E-02	
SVOCs										
1,4-Dioxane	5.10E-02	5.09E-02	2.03E-02	5				5.09E-02	2.03E-02	

Shading indicates that chemical is not a COPC in this exposure area or was not detected for specific sampling event.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol; p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Table 5-51
Soil Gas and Associated Modeled Indoor Air Concentrations
Exposure Area K

Chemical	2012 - All Depths Maximum			2007 - All Depths			2007 - 5 ft bgs Maximum		2007/2012	Additional Comments
	Soil Gas Max Concentration µg/L	Default Commercial Indoor Vapor µg/m^3	Depth (feet)	Soil Gas Maximum Concentration µg/L	Default Commercial Indoor Vapor µg/m^3	Depth (feet)	5 ft bgs Soil Gas Maximum Concentration µg/L	Default Commercial Indoor Vapor µg/m^3	Default Commercial Indoor Vapor µg/m^3	
BTEX										
Benzene	2.00E-02	1.01E-03	15	4.70E-02	5.02E-03	15	3.20E-02	8.26E-03	8.26E-03	
Ethylbenzene	7.00E-02	3.03E-03	15	8.70E-03	1.97E-03	5			3.03E-03	
Toluene	2.90E-02	1.45E-03	15	6.20E-02	1.59E-02	5			1.59E-02	
m&p-Xylenes	2.30E-02	1.02E-03	15	3.60E-02	8.34E-03	5			8.34E-03	
o-Xylene	6.40E-03	3.20E-04	15	8.90E-03	2.28E-03	5			2.28E-03	
VOCs										
Bromodichloromethane	8.10E-01	1.46E-02	15	1.30E+00	5.02E-02	15	2.60E-02	2.65E-03	5.02E-02	
2-Butanone	1.10E-01	6.31E-03	15	3.20E-02	3.34E-03	15	2.60E-02	6.60E-03	6.60E-03	
tert-Butylalcohol	2.00E-03	1.19E-04	15						1.19E-04	
sec-Butylbenzene	3.80E-03	1.29E-04	15						1.29E-04	
n-Butylbenzene	8.90E-03	2.95E-04	15						2.95E-04	
Carbon disulfide	1.00E+00	5.92E-02	15	5.50E-02	1.61E-02	5			5.92E-02	
Carbon tetrachloride				1.50E+00	1.43E-01	15	1.10E-02	2.58E-03	1.43E-01	
Chloroform	6.20E+01	3.68E+00	15	1.20E+02	1.49E+01	15	1.20E+00	3.53E-01	1.49E+01	
Chloromethane				8.20E-02	1.21E-02	15			1.21E-02	
Cyclohexane				9.30E-02	9.09E-03	15	2.40E-02	5.74E-03	9.09E-03	
Dichlorodifluoromethane	3.20E-03	*1.23E-04*	15						1.23E-04	
1,1-Dichloroethane	2.50E-03	*1.07E-04*	15						1.07E-04	
1,1-Dichloroethene	6.40E-03	3.30E-04	15						3.30E-04	
cis-1,2-Dichloroethene	4.00E-02	1.71E-03	15						1.71E-03	
Ethyl acetate	2.10E-02	*9.81E-04*	15						9.81E-04	
4-Ethyltoluene	*3.50E-03*	*1.55E-04*	*15*	*7.30E-03*	*6.88E-04*	*15*	*7.00E-03*	*1.62E-03*	*1.62E-03*	
n-Heptane	*4.10E-03*	*4.47E-04*	*15*	*4.70E-02*	*1.03E-02*	*15*			*1.03E-02*	*No 2007 5-foot detect*
Hexane	3.90E-03	4.25E-04	15	9.60E-02	2.10E-02	15	1.80E-02	8.36E-03	2.10E-02	
2-Hexanone	2.20E-03	*1.26E-04*	15						1.26E-04	
Isopropyl alcohol	1.10E-02	1.51E-03	15	1.00E+00	1.66E-01	15			1.66E-01	No 2007 5-foot detect
Isopropylbenzene	4.70E-02	1.77E-03	15						1.77E-03	
4-Methyl-2-pentanone	5.10E-02	*2.40E-03*	15						2.40E-03	
Methylene chloride	2.40E-03	1.39E-04	15	4.90E-03	1.41E-03	5			1.41E-03	
Naphthalene	1.80E-02	6.38E-04	15						6.38E-04	
n-Propylbenzene	1.40E-02	4.89E-04	15						4.89E-04	
Propylene	2.30E+00	*1.43E-01*	15						1.43E-01	
Styrene	2.90E-03	1.20E-04	15						1.20E-04	
Tetrachloroethene	1.20E+00	4.99E-02	15	5.70E-01	5.06E-02	15			5.06E-02	No 2007 5-foot detect
1,1,1,2-Tetrachloroethane	6.60E-03	2.72E-04	15						2.72E-04	
1,1,2,2-Tetrachloroethane	2.90E-03	1.23E-04	15						1.23E-04	
Tetrahydrofuran	2.60E-02	1.70E-03	15						1.70E-03	
1,1,1-Trichloroethane	1.60E-02	7.19E-04	15						7.19E-04	
Trichloroethene	8.90E-02	4.05E-03	15						4.05E-03	
Trichlorofluoromethane	2.30E-03	*1.15E-04*	15						1.15E-04	
1,2,3-Trichloropropane	1.80E-03	*7.62E-05*	15						7.62E-05	
1,2,4-Trimethylbenzene	1.40E-02	4.94E-04	15	1.30E-02	2.47E-03	5			2.47E-03	
1,3,5-Trimethylbenzene	2.70E-03	9.47E-05	15						9.47E-05	
2,2,4-Trimethylpentane	*1.20E-02*	*1.31E-03*	*15*						*1.31E-03*	
SVOCs										
1,4-Dioxane	3.40E-03	5.83E-04	15						5.83E-04	

Shading indicates that chemical is not a COPC in this exposure area or was not detected for specific sampling event.

Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol; p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Table 5-52
Soil Gas and Associated Modeled Indoor Air Concentrations
Exposure Area L

Chemical	2007 - All Depths: Soil Gas Maximum Concentration µg/L	2007 - All Depths: Hotel Bungalow Indoor Vapor µg/m^3	2007 - All Depths: Default Commercial Indoor Vapor µg/m^3	2007 - All Depths: Depth (feet)	2007 - 5 ft bgs Maximum: 5 ft bgs Soil Gas Maximum Concentration µg/L	2007 - 5 ft bgs Maximum: Hotel Bungalow Indoor Vapor µg/m^3	2007 - 5 ft bgs Maximum: Default Commercial Indoor Vapor µg/m^3	2007/2012 Maximum: Hotel Bungalow Indoor Vapor µg/m^3	2007/2012 Maximum: Default Commercial Indoor Vapor µg/m^3	Additional Comments
BTEX										
Benzene	1.00E-01	2.26E-02	1.07E-02	15	3.40E-02	2.02E-02	8.77E-03	2.26E-02	1.07E-02	
Ethylbenzene	2.40E-02	1.23E-02	5.45E-03	5				1.23E-02	5.45E-03	
Toluene	8.10E-02	1.81E-02	8.56E-03	15	5.80E-02	3.41E-02	1.48E-02	3.41E-02	1.48E-02	
m&p-Xylenes	7.40E-02	3.89E-02	1.71E-02	5				3.89E-02	1.71E-02	
o-Xylene	2.00E-02	1.18E-02	5.11E-03	5				1.18E-02	5.11E-03	
VOCs										
Bromodichloromethane	6.00E-02	1.29E-02	6.12E-03	5				1.29E-02	6.12E-03	
2-Butanone	1.10E-01	2.43E-02	1.15E-02	15	3.00E-02	1.75E-02	7.61E-03	2.43E-02	1.15E-02	
Carbon disulfide	1.80E-01	4.77E-02	2.23E-02	15	1.20E-01	8.29E-02	3.52E-02	8.29E-02	3.52E-02	
Chloroform	4.00E-01	1.06E-01	4.97E-02	15	3.20E-01	2.21E-01	9.40E-02	2.21E-01	9.40E-02	
Cyclohexane	7.30E-02	3.98E-02	1.74E-02	5				3.98E-02	1.74E-02	
Dibromochloromethane	1.60E-02	2.32E-03	1.12E-03	5				2.32E-03	1.12E-03	
4-Ethyltoluene	*1.50E-02*	*7.88E-03*	*3.47E-03*	*5*				*7.88E-03*	*3.47E-03*	
n-Heptane	*8.40E-02*	*4.13E-02*	*1.84E-02*	*15*	*7.90E-03*	*9.58E-03*	*3.64E-03*	*4.13E-02*	*1.84E-02*	
Hexane	3.10E-01	1.52E-01	6.78E-02	15	4.20E-02	5.09E-02	1.95E-02	1.52E-01	6.78E-02	
Isopropylbenzene	5.50E-02	9.25E-03	4.44E-03	15				9.25E-03	4.44E-03	No 2007 5-foot detect
Methylene chloride	5.60E-03	1.45E-03	6.78E-04	15	5.30E-03	3.57E-03	1.52E-03	3.57E-03	1.52E-03	
n-Propylbenzene	2.80E-02	4.37E-03	2.10E-03	15	6.50E-03	2.72E-03	1.23E-03	4.37E-03	2.10E-03	
Tetrahydrofuran	9.60E-03	2.51E-03	1.18E-03	15				2.51E-03	1.18E-03	No 2007 5-foot detect
1,2,4-Trimethylbenzene	3.30E-02	5.19E-03	2.49E-03	15	1.30E-02	5.48E-03	2.47E-03	5.48E-03	2.49E-03	
1,3,5-Trimethylbenzene	6.80E-03	1.06E-03	5.11E-04	15	6.50E-03	2.72E-03	1.23E-03	2.72E-03	1.23E-03	
2,2,4-Trimethylpentane	*4.80E-02*	*2.36E-02*	*1.05E-02*	*15*	*1.20E-02*	*1.45E-02*	*5.57E-03*	*2.36E-02*	*1.05E-02*	

Shading indicates that chemical is not a COPC in this exposure area or was not detected for specific sampling event.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol; p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Table 5-53
Soil Gas and Associated Modeled Indoor Air Concentrations
Exposure Area M

Chemical	2012 - All Depths Maximum Soil Gas Max Concentration µg/L	2012 - All Depths Maximum Default Commercial Indoor Vapor µg/m^3	2012 - All Depths Maximum Depth (feet)	2007 - All Depths Soil Gas Maximum Concentration µg/L	2007 - All Depths Default Commercial Indoor Vapor µg/m^3	2007 - All Depths Depth (feet)	2007 - 5 ft bgs Maximum 5 ft bgs Soil Gas Maximum Concentration µg/L	2007 - 5 ft bgs Maximum Default Commercial Indoor Vapor µg/m^3	2007/2012 Default Commercial Indoor Vapor µg/m^3	Additional Comments
BTEX										
Benzene	5.80E-03	2.05E-03	5	1.50E+00	1.21E-01	15	1.80E-01	3.87E-02	1.21E-01	
Ethylbenzene	5.60E-03	1.76E-03	5	2.20E-01	1.52E-02	15	3.00E-02	5.64E-03	1.52E-02	
Toluene	2.30E-02	8.06E-03	5	1.10E-01	8.75E-03	15	5.00E-02	1.06E-02	1.06E-02	
m&p-Xylenes	1.60E-02	5.13E-03	5	4.70E-01	3.33E-02	15	1.00E-01	1.92E-02	3.33E-02	
o-Xylene	5.40E-03	1.89E-03	5	4.00E-01	3.18E-02	15	5.90E-02	1.26E-02	3.18E-02	
VOCs										
2-Butanone	7.70E-02	2.63E-02	5	4.00E-01	3.15E-02	15	8.60E-03	1.82E-05	3.15E-02	
tert-Butylalcohol	1.40E-03	5.51E-04	5	1.40E-01	1.30E-02	15			1.30E-02	No 2007 5-foot detect
Carbon disulfide	3.30E-03	1.31E-03	5	1.20E+00	1.13E-01	15	8.30E-03	2.04E-03	1.13E-01	
Chloroform	5.00E-03	1.99E-03	5						1.99E-03	
Chloromethane				1.60E-01	1.79E-02	15			1.79E-02	No 2007 5-foot detect
Cyclohexane				1.40E+00	1.03E-01	15	1.30E-01	2.58E-02	1.03E-01	
Dichlorodifluoromethane	3.70E-03	1.06E-03	5						1.06E-03	
Ethyl acetate	1.80E-02	5.63E-03	5						5.63E-03	
4-Ethyltoluene	*2.10E-03*	*6.73E-04*	*5*	*2.50E-01*	*1.77E-02*	*15*	*4.80E-02*	*9.22E-03*	*1.77E-02*	
n-Heptane	*1.80E-03*	*1.06E-03*	*5*	*1.00E+00*	*1.69E-01*	*15*	*1.30E-01*	*5.21E-02*	*1.69E-01*	
Hexane	2.40E-03	1.42E-03	5	9.90E-01	1.67E-01	15	1.20E-01	4.81E-02	1.67E-01	
2-Hexanone	*2.40E-03*	*8.20E-04*	5						8.20E-04	
Isopropyl alcohol	1.00E-02	4.40E-03	5						4.40E-03	
Isopropylbenzene	4.70E-02	1.33E-02	5	2.60E+00	1.57E-01	15	3.00E-02	4.99E-03	1.57E-01	
4-Methyl-2-pentanone	5.40E-02	1.72E-02	5						1.72E-02	
Methylene chloride	3.10E-03	1.21E-03	5						1.21E-03	
n-Propylbenzene				8.10E-01	4.54E-02	15	2.20E-02	3.42E-03	4.54E-02	
Propylene	4.20E-03	1.73E-03	5						1.73E-03	
Styrene	3.50E-03	1.06E-03	5						1.06E-03	
Tetrachloroethene	4.80E-03	1.46E-03	5						1.46E-03	
1,1,1,2-Tetrachloroethane	2.90E-03	8.76E-04	5						8.76E-04	
Tetrahydrofuran	2.40E-02	9.33E-03	5	2.50E-02	2.32E-03	15			9.33E-03	No 2007 5-foot detect
Trichlorofluoromethane	2.70E-03	9.46E-04	5						9.46E-04	
1,2,4-Trimethylbenzene	5.80E-03	1.55E-03	5	3.00E-01	1.70E-02	15	5.10E-02	7.98E-03	1.70E-02	
1,3,5-Trimethylbenzene	2.30E-03	6.12E-04	5	1.20E-01	6.74E-03	15	2.70E-02	4.20E-03	6.74E-03	
2,2,4-Trimethylpentane	*1.00E-02*	*5.91E-03*	*5*	*1.40E-02*	*5.61E-03*	*5*			*5.91E-03*	

Shading indicates that chemical is not a COPC in this exposure area or was not detected for specific sampling event.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol; p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Table 5-54
Soil Gas and Associated Modeled Indoor Air Concentrations
Exposure Area N

Chemical	2012 - All Depths Maximum Soil Gas Max Concentration µg/L	2012 - All Depths Maximum Default Commercial Indoor Vapor µg/m^3	2012 - All Depths Maximum Depth (feet)	2007 - All Depths Soil Gas Maximum Concentration µg/L	2007 - All Depths Default Commercial Indoor Vapor µg/m^3	2007 - All Depths Depth (feet)	2007 - 5 ft bgs Maximum 5 ft bgs Soil Gas Maximum Concentration µg/L	2007 - 5 ft bgs Maximum Default Commercial Indoor Vapor µg/m^3	2007/2012 Default Commercial Indoor Vapor µg/m^3	Additional Comments
BTEX										
Benzene	1.50E-02	4.25E-03	5						4.25E-03	No 2007 benzene detects
Ethylbenzene	3.10E-02	7.76E-03	5	1.20E-02	8.37E-04	5			7.76E-03	
Toluene	4.30E-02	1.21E-02	5	2.60E-02	2.08E-03	5			1.21E-02	
m&p-Xylenes	3.20E-02	8.17E-03	5	7.80E-03	8.64E-04	15	4.70E-02	3.36E-03	8.17E-03	
o-Xylene	8.00E-03	2.25E-03	5	2.50E-02	2.01E-03	5			2.25E-03	
VOCs										
2-Butanone	1.80E-01	5.01E-02	5	7.00E-03	8.55E-04	15	8.00E-03	9.29E-04	5.01E-02	
tert-Butylalcohol	1.80E-03	5.74E-04	5						5.74E-04	
sec-Butylbenzene	3.40E-03	6.84E-04	5						6.84E-04	
n-Butylbenzene	5.10E-03	1.02E-03	5						1.02E-03	
tert-Butylbenzene	2.30E-03	*4.56E-04*	5						4.56E-04	
Carbon disulfide	7.00E-03	2.25E-03	5	2.20E-02	2.07E-03	5			2.25E-03	
Chloroform	9.50E-03	3.06E-03	5	8.70E-03	8.26E-04	5			3.06E-03	
Chloromethane	3.40E-03	1.26E-03	5						1.26E-03	
Cyclohexane				2.90E-02	2.14E-03	5			2.14E-03	
Dichlorodifluoromethane	4.00E-03	9.08E-04	5						9.08E-04	
1,1-Dichloroethene				7.80E-03	9.96E-04	15			9.96E-04	No 2007 5-ft detects
cis-1,2-Dichloroethene				1.30E-02	1.39E-03	15			1.39E-03	No 2007 5-ft detects
Ethyl acetate	3.30E-02	8.27E-03	5						8.27E-03	
4-Ethyltoluene	*4.50E-03*	*1.15E-03*	*5*	*2.60E-02*	*1.86E-03*	*5*			1.86E-03	
n-Heptane	*4.40E-02*	*2.20E-02*	*5*	*3.10E-02*	*5.25E-03*	*5*			2.20E-02	
Hexane	3.60E-02	1.80E-02	5	9.10E-03	1.54E-03	5			1.80E-02	
2-Hexanone	*3.30E-03*	*9.18E-04*	5						9.18E-04	
Isopropyl alcohol	2.10E-02	8.32E-03	5	1.10E-01	3.52E-02	5			3.52E-02	
Isopropylbenzene	5.30E-02	1.18E-02	5	1.80E-02	1.09E-03	5			1.18E-02	
4-Methyl-2-pentanone	1.00E-01	2.55E-02	5						2.55E-02	
Methylene chloride	4.20E-03	1.32E-03	5						1.32E-03	
Naphthalene	6.70E-03	1.39E-03	5						1.39E-03	
n-Propylbenzene	8.50E-03	1.78E-03	5	1.30E-02	7.34E-04	5			1.78E-03	
Propylene	1.30E-02	4.35E-03	5						4.35E-03	
Styrene	4.30E-03	1.03E-03	5						1.03E-03	
Tetrachloroethene	9.00E-03	2.18E-03	5						2.18E-03	
1,1,1,2-Tetrachloroethane	4.50E-03	1.08E-03	5						1.08E-03	
Tetrahydrofuran	5.80E-02	1.84E-02	5						1.84E-02	
1,1,1-Trichloroethane				3.60E-02	4.04E-03	15			4.04E-03	No 2007 5-ft detects
1,1,2-Trichlorotrifluoroethane	3.60E-03	9.29E-04	5						9.29E-04	
Trichloroethene				1.50E-02	1.70E-03	15			1.70E-03	No 2007 5-ft detects
Trichlorofluoromethane	3.20E-03	8.99E-04	5						8.99E-04	
1,2,4-Trimethylbenzene	8.30E-03	1.75E-03	5	6.40E-03	5.70E-04	15	1.80E-02	1.03E-03	1.75E-03	
1,3,5-Trimethylbenzene	3.70E-03	7.74E-04	5	1.80E-02	1.02E-03	5			1.02E-03	
2,2,4-Trimethylpentane	*3.40E-02*	*1.70E-02*	*5*	*9.20E-03*	*1.56E-03*	*5*			1.70E-02	
Vinyl Chloride	1.50E-03	4.89E-04	5						4.89E-04	
SVOCs										
1,4-Dioxane	1.70E-02	7.13E-03	5						7.13E-03	

Shading indicates that chemical is not a COPC in this exposure area or was not detected for specific sampling event.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol; p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Table 5-55
Soil Gas and Associated Modeled Indoor Air Concentrations
Exposure Area O

Chemical	2012 - All Depths Maximum				2012 - 5 ft bgs Maximum			2007 - All Depths				2007 - 5 ft bgs Maximum			2007/2012 Maximum		Additional Comments
	Soil Gas Max Concentration µg/L	Hotel Bungalow Indoor Vapor µg/m³	Default Commercial Indoor Vapor µg/m³	Depth (feet)	5 ft bgs Soil Gas Maximum Concentration µg/L	Hotel Bungalow Indoor Vapor µg/m³	Default Commercial Indoor Vapor µg/m³	Soil Gas Maximum Concentration µg/L	Hotel Bungalow Indoor Vapor µg/m³	Default Commercial Indoor Vapor µg/m³	Depth (feet)	5 ft bgs Soil Gas Maximum Concentration µg/L	Hotel Bungalow Indoor Vapor µg/m³	Default Commercial Indoor Vapor µg/m³	Hotel Bungalow Indoor Vapor µg/m³	Default Commercial Indoor Vapor µg/m³	
BTEX																	
Benzene	4.50E-03	3.18E-03	3.14E-04	5				8.70E-01	3.32E-01	6.99E-02	15	2.70E-01	1.90E-01	5.74E-02	3.32E-01	6.99E-02	
Ethylbenzene	8.60E-03	5.41E-03	5.13E-04	5				2.30E-01	7.66E-02	1.59E-02	15	4.30E-02	2.69E-02	8.00E-03	7.66E-02	1.59E-02	
Toluene	2.80E-02	1.96E-02	1.92E-03	5				4.50E-02	1.70E-02	3.58E-03	15	2.50E-02	1.74E-02	5.27E-03	1.96E-02	5.27E-03	
m&p-Xylenes	2.90E-02	1.86E-02	1.77E-03	5				2.00E-01	6.81E-02	1.42E-02	15	9.60E-02	6.12E-02	1.82E-02	6.81E-02	1.82E-02	
o-Xylene	9.50E-03	6.66E-03	6.57E-04	5				8.50E-02	5.93E-02	1.79E-02	5				5.93E-02	1.79E-02	
VOCs																	
2-Butanone	1.00E-01	3.61E-02	5.13E-03	15	7.80E-02	5.33E-02	2.67E-02	2.80E-01	1.01E-01	2.21E-02	15	1.60E-02	1.09E-02	3.34E-03	1.01E-01	2.67E-02	
tert-Butylalcohol	1.90E-03	1.50E-03	1.69E-04	5											1.50E-03	1.69E-04	
n-Butylbenzene	3.10E-03	1.58E-03	1.42E-04	5											1.58E-03	1.42E-04	
tert-Butylbenzene	3.10E-03	*1.57E-03*	*1.41E-04*	5											*1.57E-03*	1.41E-04	
Carbon disulfide	3.50E-03	2.78E-03	2.82E-04	5				1.20E-01	5.27E-02	1.13E-02	15	1.80E-02	1.42E-02	4.39E-03	5.27E-02	1.13E-02	
Chloroform	7.70E-03	3.38E-03	1.80E-04	15	6.20E-03	4.92E-03	2.46E-03								4.92E-03	2.46E-03	
Chloromethane	1.30E-03	1.17E-03	1.25E-04	5				9.40E-02	4.82E-02	1.05E-02	15				4.82E-02	1.05E-02	No 2007 5-foot detect
Cyclohexane								3.20E+00	1.13E+00	2.35E-01	15	2.00E-01	1.31E-01	3.93E-02	1.13E+00	2.35E-01	
Dichlorodifluoromethane	3.80E-03	2.18E-03	2.00E-04	5											*2.18E-03*	2.00E-04	
cis-1,2-Dichloroethene								6.00E-03	1.97E-03	4.08E-04	15				1.97E-03	4.08E-04	No 2007 5-foot detect
Ethyl acetate	1.90E-02	6.25E-03	5.74E-04	15	1.80E-02	1.13E-02	5.63E-03								*1.13E-02*	5.63E-03	
4-Ethyltoluene	*3.30E-03*	*2.12E-03*	*1.77E-03*	*5*				*3.70E-01*	*1.26E-01*	*2.62E-02*	*15*	*8.00E-02*	*5.10E-02*	*1.82E-02*	*1.26E-01*	*2.62E-02*	
n-Heptane	*2.40E-03*	*2.84E-03*	*3.79E-04*	*5*				*7.00E+00*	*5.09E+00*	*1.18E+00*	*15*	*1.80E-01*	*2.12E-01*	*7.95E-02*	*5.09E+00*	*1.18E+00*	
Hexane	2.60E-03	3.07E-03	3.79E-04	5				4.20E+00	3.05E+00	7.09E-01	15	2.00E-01	2.35E-01	7.95E-02	3.05E+00	7.09E-01	
2-Hexanone	*2.60E-03*	*1.78E-03*	*4.02E-04*	5											*1.78E-03*	4.02E-04	
Isopropyl alcohol	9.80E-03	4.49E-03	2.20E-03	15	8.90E-03	7.84E-03	3.92E-03	3.30E-02	2.89E-02	1.03E-02	5				2.89E-02	1.03E-02	
Isopropylbenzene	3.70E-02	2.09E-02	1.90E-03	5				2.10E-01	6.17E-02	1.27E-02	15	1.10E-02	6.17E-03	1.81E-03	6.17E-02	1.27E-02	
4-Methyl-2-pentanone	4.30E-02	*2.73E-02*	4.07E-03	5											*2.73E-02*	4.07E-03	
Methyl tert-butyl ether								7.10E-03	5.56E-03	1.72E-03	5				5.56E-03	1.72E-03	
Methylene chloride	2.60E-03	2.02E-03	2.11E-04	5				3.30E-02	1.41E-02	3.02E-03	15				1.41E-02	3.02E-03	No 2007 5-foot detect
Naphthalene	5.30E-03	1.43E-03	8.87E-05	15	4.10E-03	2.16E-03	1.08E-03								2.16E-03	1.08E-03	
n-Propylbenzene	2.40E-03	1.27E-03	1.16E-04	5				3.60E-01	9.88E-02	2.02E-02	15	2.00E-02	1.06E-02	3.07E-03	9.88E-02	2.02E-02	
Propylene	3.00E-03	*1.38E-03*	7.22E-05	15	2.10E-03	1.73E-03	8.64E-04								*1.73E-03*	8.64E-04	
Styrene	2.90E-03	9.21E-04	4.73E-05	15	2.50E-03	1.51E-03	7.55E-04								1.51E-03	7.55E-04	
Tetrachloroethene	2.10E-02	1.28E-02	1.20E-03	5											1.28E-02	1.20E-03	
Tetrahydrofuran	2.40E-02	1.02E-02	1.22E-03	15	2.20E-02	1.71E-02	8.55E-03								1.71E-02	8.55E-03	
Trichloroethene								3.30E-02	1.15E-02	2.40E-03	15				1.15E-02	2.40E-03	No 2007 5-foot detect
Trichlorofluoromethane	2.50E-03	*1.75E-03*	1.70E-04	5											*1.75E-03*	1.70E-04	
1,2,4-Trimethylbenzene	1.40E-02	7.49E-03	6.86E-04	5				1.30E+00	3.59E-01	7.35E-02	15	7.20E-02	3.83E-02	1.12E-02	3.59E-01	7.35E-02	
1,3,5-Trimethylbenzene	4.10E-03	2.18E-03	2.00E-04	5				3.70E-01	1.02E-01	2.08E-02	15	5.60E-02	2.96E-02	8.62E-03	1.02E-01	2.08E-02	
2,2,4-Trimethylpentane	*6.20E-03*	*7.32E-03*	*3.79E-04*	*5*				*2.20E+00*	*1.60E+00*	*3.71E-01*	*15*	*3.20E+01*	*3.77E-02*	*1.27E-02*	*1.60E+00*	*3.71E-01*	

Shading indicates that chemical is not a COPC in this exposure area or was not detected for specific sampling event.

Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol; p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Table 5-56
Summary of Receptor Exposure Parameters

Parameter	Acronym	Units	Population											Source
			Short-term Resident		Offsite Resident		Recreational User		Indoor Commercial Worker	Outdoor Commercial Worker	Intrusive Utility Worker	Restaurant Visitor	Restaurant Visitor	
			Adult	Child	Adult	Child	Adult	Child				Adult	Child	
Soil Ingestion														
Soil Ingestion rate	IngR-soil	mg/day	100	200	NA	NA	100	200	50	100	330	NA	NA	USEPA 2002a and 2011a
Fraction Soil Contaminated	FI	unitless	0.25	0.25	NA	NA	1	1	1	1	1	NA	NA	Short-term resident: Site-specific assumption (developed with SLO County EHS). Remaining receptors: health protective assumption
Exposure Frequency Outdoors	EF	days/year	28	28	NA	NA	156	156	250	225	90	NA	NA	USEPA 2002a
Particulate Inhalation[a]														
Exposure Time	ET	hr/day	16		16		4		NA	8	8	NA	NA	Site specific
Exposure Frequency Outdoors	EF	days/year	28		350		156		NA	225	90	NA	NA	USEPA 2002a and best professional judgment
Particulate Emission Factor	PEF	unitless	1.36E+09		1.36E+09		1.36E+09		NA	1.36E+09	EA specific	NA	NA	USEPA 2012b
Exposure Duration	ED - Inh	years	30		30		30		25	25	1			USEPA 2009a
Dermal Soil Contact														
Surface Area - soil	SA-soil	cm^2	6030	2410	NA	NA	6030	2410	NA	3470	3470	NA	NA	USEPA 2004a and 2011a (see note b)
Adherence Factor	AF	mg/cm^2	0.07	0.2	NA	NA	0.07	0.2	NA	0.2	0.3	NA	NA	USEPA 2004a and 2011a (see note c)
Exposure Frequency Outdoors	EF	days	28	28	NA	NA	45	156	NA	225	90	NA	NA	USEPA 2002a and best professional judgment
Inhalation of Indoor Intrusion Vapor														
Indoor hours	ET	hours	24		NA		NA		8	NA	NA	NA	NA	Short-term resident: health protective assumption. Other receptors: site-specific/USEPA 2009a
Exposure Frequency Indoors	EF	days	28		NA		NA		250	NA	NA	NA	NA	USEPA 2002a
Ground/Tapwater Ingestion														
Groundwater Ingestion rate	IngR-gw	L/day	NA	NA	NA	NA	NA	NA	NA	NA	0.0125	NA	NA	Site-specific
Contact days per year	EF	days	NA	NA	NA	NA	NA	NA	NA	NA	90	NA	NA	Site-specific
Ground/Tapwater Dermal Contact														
Body Surface Area	SA-full	cm^2	NA	NA	NA	NA	NA	NA	NA	NA	6490	NA	NA	USEPA 2004a (see footnote d)
Hours per day	ET	hrs/day	NA	NA	NA	NA	NA	NA	NA	NA	0.25	NA	NA	Site specific
Contact days per year	EF	days	NA	NA	NA	NA	NA	NA	NA	NA	90	NA	NA	Site specific
Ingestion of Site-grown Produce														
Ingestion Rate - aboveground produce	IngR_ag	kg DW/day	7.44E-02	3.41E-02	NA	NA	NA	NA	NA	NA	NA	7.44E-02	3.41E-02	USEPA 2005; Includes protected and exposed aboveground produce
Ingestion Rate - belowground produce	IngR_bg	kg DW/day	1.12E-02	3.45E-03	NA	NA	NA	NA	NA	NA	NA	1.12E-02	3.45E-03	USEPA 2005
Fraction Homegrown Produce	HG	unitless	0.25	0.25	NA	NA	NA	NA	NA	NA	NA	0.25	0.25	USEPA 2005
Exposure Frequency	EF	days	28	28	NA	NA	NA	NA	NA	NA	NA	28	28	USEPA 2005
Common Parameters														
Exposure Duration	ED	years	24	6	24	6	24	6	25	25	1	24	6	USEPA 2002a
Body Weight	BW	kg	80	15	80	15	80	15	80	80	80	80	15	USEPA 2002a
Averaging Time, Carcinogen	$AT_{carcinogens}$	days	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	USEPA 2011a (78 years)
Averaging Time, Noncarcinogen	$AT_{noncarcinogens}$	days	8760	2190	8760	2190	8760	2190	9125	9125	365	8760	2190	Based on Exposure Duration
Conversion Factors														
Conversion Factor-1	CF	L/cm^3	0.001	0.001	0.001	0.001	0.001	0.001	NA	NA	0.001	0.001	0.001	
Conversion Factor	CF	kg/mg	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	

Notes:
NA = Not Applicable
[a]Risk from inhaled chemicals evaluated according to RAGS Part F (USEPA 2009a), which is consistent with agency's inhalation dosiometry methodology, and recommends using the concentration of the chemical in air as the exposure metrice (e.g., mg/m^3) rather than the chemical inhalation intake based
[b]Per USEPA guidance (2004a), "soil" exposed surface areas for short-term residents/recreators assume head, hands, forearms (45% of arms), lower legs (40% of legs), and feet (children only); outdoor and intrusive utility worker values head, hands, and forearms.
[c]Some soil adherence factors recommended in USEPA dermal guidance (2004a) not specifically updated in 2011 Exposure Factors Handbook and/or 2011 Exposure Factors Handbook did not include data necessary to recalculate values based on 95th percentile (as opposed to 50th percentile) values (e.g., child short-term resident/recreator and intrisuve worker).
[d]Intrusive utility worker "groundwater" exposed surface area assumes face (33% of head), hands, forearms (45% of arms), lower legs (40% of legs), and feet.

Sources:
USEPA 2002a - Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites
USEPA 2004a - RAGS Volume 1 Part E
USEPA 2005 - HHRA Protocol for Hazardous Waste Combustion Facilities
USEPA 2009a - RAGS Part F
USEPA 2011a - Exposure Factors Handbook
USEPA 2012b - Regional Screening Levels

Table 5-57
Intake Factors for Dermal Exposure to Soil

Dermal Soil Intake Factor (IFdermal):

Noncarcinogens

$$IF_{dermal} = \frac{SA \times AF \times ABS \times CF \times EF \times ED}{BW \times AT}$$

Carcinogens

$$IF_{dermal} = \frac{ABS \times CF \times EF \times IF\text{-}ASF_{adj}}{AT}$$

where:

$$IF\text{-}ASF_{adj} = \frac{ED_{0\text{-}2} \times AF_c \times SA_c \times 10}{BW_c} + \frac{ED_{2\text{-}6} \times AF_c \times SA_c \times 3}{BW_c} + \frac{ED_{6\text{-}16} \times AF_a \times SA_a \times 3}{BW_a} + \frac{ED_{16\text{-}30} \times AF_a \times SA_a \times 1}{BW_a}$$

IF_{dermal} = Dermal Intake Factor, kg soil/kg body weight-day
SA = Surface Area, cm^2/day
AF = Skin Adherence Factor, mg/cm^2
ABS = Absorption Factor, unitless (not included in calculation because chemical-specific)
CF = Conversion Factor, kg to mg
EF = Exposure Frequency, days/year
ED = Exposure Duration, years
BW = Body Weight, kg
AT = Averaging Time, days

	Population																				
	Short-term Resident						Offsite Resident						Recreational User						Commercial Workers		
		Child	Carcinogenic Age Sensitivity Adjustment					Child	Carcinogenic Age Sensitivity Adjustment					Child	Carcinogenic Age Sensitivity Adjustment						
Exposure Variable	Adult	(0-6 years)	0 to 2 yrs	2 to 6 yrs	6 to 16 yrs	16 to 30 yrs	Adult	(0-6 years)	0 to 2 yrs	2 to 6 yrs	6 to 16 yrs	16 to 30 yrs	Adult	(0-6 years)	0 to 2 yrs	2 to 6 yrs	6 to 16 yrs	16 to 30 yrs	Indoor Employee	Outdoor Employee	Intrusive Utility Worker
SA	6030	2410	2410	2410	6030	6030	NA	NA	NA	NA	NA	NA	6030	2410	2410	2410	6030	6030	NA	3470	3470
AF	0.07	0.2	0.2	0.2	0.07	0.07	NA	NA	NA	NA	NA	NA	0.07	0.2	0.2	0.2	0.07	0.07	NA	0.2	0.3
CF	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001
EF	28	28	28	28	28	28	NA	NA	NA	NA	NA	NA	45	156	156	156	45	45	NA	225	90
ED	24	6	2.25	4	10	14	24	6	2.25	4	10	14	24	6	2.25	4	10	14	25	25	1
BW	80	15	15	15	80	80	80	15	15	15	80	80	80	15	15	15	80	80	80	80	80
$AT_{carcinogens}$	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470
$AT_{noncarcinogens}$	8760	2190	2190	2190	8760	8760	8760	2190	2190	2190	8760	8760	8760	2190	2190	2190	8760	8760	9125	9125	365

PATHWAY-SPECIFIC INTAKE FACTORS:
Chemical-Specific Intake Factors via Dermal Soil Contact (IF_{dermal}), kg soil/kg body weight-day

Carcinogens x ABS	1.32E-06		7.11E-07	3.79E-07	1.56E-07	7.26E-08	NA		NA	NA	NA	NA	6.44E-06		3.96E-06	2.11E-06	2.50E-07	1.17E-07	NA	1.71E-06	4.11E-08
Noncarcinogens x ABS	4.05E-07	2.47E-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.50E-07	1.37E-05	NA	NA	NA	NA	NA	5.35E-06	3.21E-06

NA = Not Applicable

Table 5-58
Intake Factors for Exposure Via Ingestion of Soil

Oral Soil Intake Factor (IForal):

Noncarcinogens

$$IF_{oral} = \frac{IngR \times BF \times CF \times FI \times EF \times ED}{BW \times AT}$$

Carcinogens

$$IF_{oral} = \frac{BF \times CF \times FI \times EF \times IF\text{-}ASF_{adj}}{AT}$$

where:

$$IF\text{-}ASF_{adj} = \frac{ED_{0\text{-}2} \times IngR_c \times 10}{BW_c} + \frac{ED_{2\text{-}6} \times IngR_c \times 3}{BW_c} + \frac{ED_{6\text{-}16} \times IngR_a \times 3}{BW_a} + \frac{ED_{16\text{-}30} \times IngR_a \times 1}{BW_a}$$

IF_{oral} = Oral Intake Factor, kg soil/kg body weight-day
IngR = Ingestion Rate, mg/day
BF = Bioavailability Factor, unitless (chemical-specific)
CF = Conversion Factor, kg to mg
FI = Fraction Ingested from Contaminated Source, unitless
EF = Exposure Frequency, days/year
ED = Exposure Duration, years
BW = Body Weight, kg
AT = Averaging Time, days

	Population																			
	Short-term Resident					Offsite Resident						Recreational User						Commercial Workers		
Exposure Variable	Adult	Child (0-6 years)	Carcinogenic Age Sensitivity Adjustment 2 to 6 yrs	6 to 16 yrs	16 to 30 yrs	Adult	Child (0-6 years)	Carcinogenic Age Sensitivity Adjustment 0 to 2 yrs	2 to 6 yrs	6 to 16 yrs	16 to 30 yrs	Adult	Child (0-6 years)	Carcinogenic Age Sensitivity Adjustment 0 to 2 yrs	2 to 6 yrs	6 to 16 yrs	16 to 30 yrs	Indoor Employee	Outdoor Employee	Intrusive Utility Worker
IngR	100	200	200	100	100	NA	NA	NA	NA	NA	NA	100	200	200	200	100	100	50	100	330
CF	1.E-06	1.E-06	1.E-06	1.E-06	1.E-06	1.E-06	1.E-06	1.E-06	1.E-06	1.E-06	1.E-06	1.E-06	1.E-06	1.E-06	1.E-06	1.E-06	1.E-06	1.E-06	1.E-06	1.E-06
FI	0.25	0.25	0.25	0.25	0.25	NA	NA	NA	NA	NA	NA	1	1	1	1	1	1	1	1	1
EF	28	28	28	28	28	NA	NA	NA	NA	NA	NA	156	156	156	156	156	156	250	225	90
ED	24	6	4	10	14	24	6	2.25	4	10	14	24	6	2.25	4	10	14	25	25	1
BW	80	15	15	80	80	80	15	15	15	80	80	80	15	15	15	80	80	80	80	80
$AT_{carcinogens}$	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470
$AT_{noncarcinogens}$	8760	2190	2190	8760	8760	8760	2190	2190	2190	8760	8760	8760	2190	2190	2190	8760	8760	9125	9125	365

PATHWAY-SPECIFIC INTAKE FACTORS:

Chemical-Specific Intake Factors via Soil Ingestion (IF_{oral}), kg soil/kg body weight-day

Carcinogens x BF	1.27E-07		3.93E-08	9.22E-09	4.30E-09	NA		NA	NA	NA	NA	2.82E-06		1.64E-06	8.77E-07	2.05E-07	9.59E-08	1.37E-07	2.47E-07	1.30E-08
Noncarcinogens x BF	2.40E-08	2.56E-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.34E-07	5.70E-06	NA	NA	NA	NA	4.28E-07	7.71E-07	1.02E-06

NA = Not Applicable

Table 5-59
Intake Factors for Dermal Exposure to Groundwater

Dermal Groundwater Intake Factor (IFdermal):

$$IF_{dermal} = \frac{SA \times PC \times CF \times ET \times EF \times ED}{BW \times AT}$$

$$IF_{dermal/adj} = \frac{SA_{child} \times PC \times CF \times ET_{child} \times EF_{child} \times ED_{child}}{BW_{child} \times AT} + \frac{SA_{adult} \times PC \times CF \times ET_{adult} \times EF_{adult} \times ED_{adult}}{BW_{adult} \times AT}$$

IF_{dermal} = Dermal Intake Factor, L water/kg body weight-day
SA = Surface Area, cm^2/day
PC = Dermal Permeability Constant, cm/hour (not included in IF calculation because chemical-specific)
CF = Conversion Factor, L/cm3
ET = Exposure Time, hours/day
EF = Exposure Frequency, days/year
ED = Exposure Duration, years
BW = Body Weight, kg
AT = Averaging Time, days

	Population								
	Short-term Resident		Offsite Resident		Recreational User		Commercial Workers		
Exposure Variable	Adult	Child (0-6 years)	Adult	Child (0-6 years)	Adult	Child (0-6 years)	Indoor Employee	Outdoor Employee	Intrusive Utility Worker
SA	NA	NA	NA	NA	NA	NA	NA	NA	6490
CF	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
ET	NA	NA	NA	NA	NA	NA	NA	NA	0.25
EF	NA	NA	NA	NA	NA	NA	NA	NA	90
ED	24	6	24	6	24	6	25	25	1
BW	80	15	80	15	80	15	80	80	80
$AT_{carcinogens}$	28470	28470	28470	28470	28470	28470	28470	28470	28470
$AT_{nonarcinogens}$	8760	2190	8760	2190	8760	2190	9125	9125	365

PATHWAY-SPECIFIC INTAKE FACTORS:

Chemical-Specific Intake Factors via Dermal Water Contact (IF_{dermal}), L water/kg body weight-day

Carcinogens x PC	NA	NA	NA	NA	NA	NA	NA	NA	6.41E-05
Noncarcinogens x PC	NA	NA	NA	NA	NA	NA	NA	NA	5.00E-03

NA = Not Applicable

Table 5-60
Intake Factors for Exposure Via Ingestion of Groundwater

Oral Groundwater Intake Factor (IForal):

$$IF_{oral} = \frac{IngR \times EF \times ED}{BW \times AT}$$

$$IF_{oral/adj} = \frac{IngR_{child} \times BF \times EF_{child} \times ED_{child}}{BW_{child} \times AT} + \frac{IngR_{adult} \times BF \times EF_{adult} \times ED_{adult}}{BW_{adult} \times AT}$$

IF_{oral} = Oral Intake Factor, L water/kg body weight-day
IngR = Ingestion Rate, L/day
EF = Exposure Frequency, days/year
ED = Exposure Duration, years
BW = Body Weight, kg
AT = Averaging Time, days

	Population								
	Short-term Resident		Offsite Resident		Recreational User		Commercial Workers		
Exposure Variable	Adult	Child (0-6 years)	Adult	Child (0-6 years)	Adult	Child (0-6 years)	Indoor Employee	Outdoor Employee	Intrusive Utility Worker
IngR	NA	NA	NA	NA	NA	NA	NA	NA	0.0125
EF	NA	NA	NA	NA	NA	NA	NA	NA	90
ED	24	6	24	6	24	6	25	25	1
BW	80	15	80	15	80	15	80	80	80
$AT_{carcinogens}$	28470	28470	28470	28470	28470	28470	28470	28470	28470
$AT_{nonarcinogens}$	8760	2190	8760	2190	8760	2190	9125	9125	365

PATHWAY-SPECIFIC INTAKE FACTORS:

Intake Factors via Water Ingestion (IF_{oral}), L water/kg body weight-day

Carcinogens	NA	NA	NA	NA	NA	NA	NA	NA	4.94E-07
Noncarcinogens	NA	NA	NA	NA	NA	NA	NA	NA	3.85E-05

NA = Not Applicable

Table 5-61
Intake Factors for Exposure Via Ingestion of Site-grown Produce

Produce Intake Factors (IFproduce):

$$IF_{poduce} = \frac{IngR \times HG \times EF \times ED}{BW \times AT}$$

$$IF_{produce/adj} = \frac{IngR_{child} \times HG_{child} \times EF_{child} \times ED_{child}}{BW_{child} \times AT} + \frac{IngR_{adult} \times HG_{adult} \times EF_{adult} \times ED_{adult}}{BW_{adult} \times AT}$$

$IF_{produce}$ = Produce Intake Factor, kg DW produce/kg body weight-day
IngR = Consumption Rate, kg DW produce/day (ab = aboveground; bg = belowground)
HG = Fraction Ingested Contaminated Produce, unitless
EF = Exposure Frequency, days/year
ED = Exposure Duration, years
BW = Body Weight, kg
AT = Averaging Time, days

Exposure Variable	Population: Short-term Resident/Restaurant Visitor					
	Adult	Child (0-6 years)	Carcinogenic Age Sensitivity Adjustment: 0 to 2 yrs	2 to 6 yrs	6 to 16 yrs	16 to 30 yrs
IngR produce_ag	7.44E-02	3.41E-02	3.41E-02	3.41E-02	7.44E-02	7.44E-02
IngR produce_bg	1.12E-02	3.45E-03	3.45E-03	3.45E-03	1.12E-02	1.12E-02
HG	0.25	0.25	0.25	0.25	0.25	0.25
EF	28	28	28	28	28	28
ED	24	6	2.25	4	10	14
BW	80	15	15	15	80	80
$AT_{carcinogens}$	28470	28470	28470	28470	28470	28470
$AT_{nonarcinogens}$	8760	2190	2190	2190	8760	8760

PATHWAY-SPECIFIC INTAKE FACTORS:

Chemical-Specific Intake Factors via Ingestion of Aboveground Produce (IFproduce_ag), kg DW produce/kg body weight-day

Carcinogens	2.93E-05		1.26E-05	6.70E-06	6.86E-06	3.20E-06
Noncarcinogen	1.78E-05	4.35E-05	NA	NA	NA	NA

Chemical-Specific Intake Factors via Ingestion of Belowground Produce (IFproduce_bg), kg DW produce/kg body weight-day

Carcinogens	3.47E-06		1.27E-06	6.79E-07	1.03E-06	4.82E-07
Noncarcinogen	2.68E-06	4.41E-06	NA	NA	NA	NA

NA = Not applicable

Table 6-4
Risk Summary
Exposure Area A

Receptor	Soil Risk	Indoor Vapor Risk	Groundwater	Site-grown Produce	Total Risk	Soil Hazard	Indoor Vapor Hazard	Groundwater	Site-grown Produce	Total Hazard
Default Commercial Building Short-term Resident										
Adult	7.1.E-08	7.1.E-08	NA	3.0.E-08	**2E-07**	0.00051	0.00026	NA	0.0019	**0.003**
Child						0.0035		NA	0.0046	**0.008**
Commercial Users										
Default Comm Bldg Indoor Employee	9.9.E-09	6.7.E-08	NA	NA*	**8E-08**	0.0014	0.00077	NA	NA*	**0.002**
Outdoor Employee	9.7.E-08	NA	NA	NA*	**1E-07**	0.0082	NA	NA	NA*	**0.008**
Intrusive Utility Worker	2.2.E-08	NA	NA	NA	**2E-08**	0.0071	NA	NA	NA	**0.007**

NA = Not Applicable

*Potential risk/hazard from ingestion of produce grown on the Site by these receptors discussed in uncertainty section (7.4.1.2).

Table 6-5
Cancer Risk - Soil
Exposure Area A

CHEMICAL	Short-term Resident Adult + Child Ing	InhP	Dermal	Direct Total
Inorganics				
Cadmium	NC	8.42E-11	NC	8.42E-11
Chromium (total)	NC	1.38E-08	NC	1.38E-08
Mercury	NC	NC	NC	NC
Vanadium	NC	5.03E-09	NC	5.03E-09
PAHs				
BaP TEQ	6.22E-09	4.15E-12	2.91E-08	3.53E-08
Anthracene	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA
Dibenz(a,h)anthracene	2.86E-09	8.63E-13	1.34E-08	1.62E-08
Fluoranthene	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA
1-Methylnaphthalene	8.52E-12	NC	3.06E-11	3.91E-11
2-Methylnaphthalene	NC	NC	NC	NC
Naphthalene	NC	2.88E-10	NC	2.88E-10
Phenanthrene	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC
Total Petroleum Hydrocarbons				
TPH Diesel - aliphatic	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NC	NC	NC
TOTAL:	9.09E-09	1.92E-08	4.24E-08	**7.07E-08**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-5
Cancer Risk - Soil
Exposure Area A

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	NC	NA	NA	NC	NC	1.08E-10	NC	1.08E-10	NC	6.42E-11	NC	6.42E-11
Chromium (total)	NC	NA	NA	NC	NC	1.76E-08	NC	1.76E-08	NC	1.54E-08	NC	1.54E-08
Mercury	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Vanadium	NC	NA	NA	NC	NC	6.43E-09	NC	6.43E-09	NC	4.07E-09	NC	4.07E-09
PAHs												
BaP TEQ	6.74E-09	NA	NA	6.74E-09	1.21E-08	5.31E-12	3.78E-08	4.99E-08	6.41E-10	3.16E-12	9.06E-10	1.55E-09
Anthracene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	3.10E-09	NA	NA	3.10E-09	5.58E-09	1.10E-12	1.74E-08	2.29E-08	2.95E-10	6.57E-13	4.17E-10	7.12E-10
Fluoranthene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1-Methylnaphthalene	9.23E-12	NA	NA	9.23E-12	1.66E-11	NC	3.98E-11	5.64E-11	8.77E-13	NC	9.54E-13	1.83E-12
2-Methylnaphthalene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Naphthalene	NC	NA	NA	NC	NC	3.68E-10	NC	3.68E-10	NC	7.80E-11	NC	7.80E-11
Phenanthrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbon												
TPH Diesel - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TOTAL:	9.85E-09	NA	NA	**9.85E-09**	1.77E-08	2.46E-08	5.52E-08	**9.75E-08**	9.36E-10	1.97E-08	1.32E-09	**2.19E-08**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-6
Cancer Risk - Soil Gas
Exposure Area A

CHEMICAL	Default Comm Bldg Short-term Resident	Commercial Users		
		Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX				
Benzene	1.97E-08	1.87E-08	NA	NA
Ethylbenzene	7.26E-09	6.88E-09	NA	NA
Toluene	NC	NC	NA	NA
m&p-Xylenes	NC	NC	NA	NA
o-Xylene	NC	NC	NA	NA
VOCs				
Bromodichloromethane	2.37E-09	2.24E-09	NA	NA
1,3-Butadiene	3.06E-08	2.90E-08	NA	NA
2-Butanone	NC	NC	NA	NA
tert-Butylalcohol	NC	NC	NA	NA
tert-Butylbenzene	NC	NC	NA	NA
Carbon disulfide	NC	NC	NA	NA
Chloroform	3.02E-09	2.87E-09	NA	NA
Chloromethane	NC	NC	NA	NA
Cyclohexane	NC	NC	NA	NA
Dichlorodifluoromethane	NC	NC	NA	NA
4-Ethyltoluene	NC	NC	NA	NA
Ethyl acetate	NC	NC	NA	NA
n-Heptane	NC	NC	NA	NA
Hexane	NC	NC	NA	NA
2-Hexanone	NC	NC	NA	NA
Isopropyl alcohol	NC	NC	NA	NA
Isopropylbenzene	NC	NC	NA	NA
p-Isopropyltoluene	NC	NC	NA	NA
Methylene chloride	2.07E-10	1.97E-10	NA	NA
4-Methyl-2-pentanone	NC	NC	NA	NA
Methyl tert-butyl ether	5.06E-11	4.79E-11	NA	NA
n-Propylbenzene	NC	NC	NA	NA
Propylene	NC	NC	NA	NA
Styrene	NC	NC	NA	NA
1,1,1,2-Tetrachloroethane	9.32E-10	8.83E-10	NA	NA
Tetrachloroethene	9.73E-10	9.22E-10	NA	NA
Tetrahydrofuran	3.17E-09	3.01E-09	NA	NA
Trichlorofluoromethane	NC	NC	NA	NA
1,2,4-Trimethylbenzene	NC	NC	NA	NA
1,3,5-Trimethylbenzene	NC	NC	NA	NA
2,2,4-Trimethylpentane	NC	NC	NA	NA
PAHs				
Naphthalene	2.62E-09	2.49E-09	NA	NA
TOTAL:	**7.10E-08**	**6.72E-08**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-7
Noncancer Hazard - Soil
Exposure Area A

CHEMICAL	Short-term Resident							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Cadmium	1.27E-05	9.97E-07	8.58E-06	2.23E-05	1.36E-04	9.97E-07	5.23E-05	1.89E-04
Chromium (total)	3.17E-07	1.42E-10	4.12E-06	4.43E-06	3.38E-06	1.42E-10	2.51E-05	2.84E-05
Mercury	2.16E-06	3.38E-08	5.20E-05	5.42E-05	2.30E-05	3.38E-08	3.17E-04	3.40E-04
Vanadium	5.48E-05	2.46E-08	3.56E-04	4.11E-04	5.84E-04	2.46E-08	2.17E-03	2.75E-03
PAHs								
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	2.13E-10	7.96E-10	1.61E-09	2.62E-09	2.27E-09	7.96E-10	9.83E-09	1.29E-08
Benz(a)anthracene	5.56E-10	8.60E-13	4.21E-09	4.77E-09	5.93E-09	8.60E-13	2.56E-08	3.16E-08
Benzo(b)fluoranthene	1.03E-08	1.58E-11	7.76E-08	8.79E-08	1.09E-07	1.58E-11	4.73E-07	5.82E-07
Benzo(k)fluoranthene	2.09E-09	3.22E-12	1.58E-08	1.79E-08	2.22E-08	3.22E-12	9.61E-08	1.18E-07
Benzo(g,h,i)perylene	1.07E-08	1.65E-11	8.07E-08	9.14E-08	1.14E-07	1.65E-11	4.91E-07	6.05E-07
Benzo(a)pyrene	2.02E-08	3.12E-11	1.53E-07	1.73E-07	2.15E-07	3.12E-11	9.29E-07	1.14E-06
Chrysene	2.55E-08	3.94E-11	1.93E-07	2.18E-07	2.72E-07	3.94E-11	1.17E-06	1.45E-06
Dibenz(a,h)anthracene	4.40E-10	6.80E-13	3.33E-09	3.77E-09	4.70E-09	6.80E-13	2.03E-08	2.50E-08
Fluoranthene	4.69E-09	7.25E-12	3.55E-08	4.02E-08	5.01E-08	7.25E-12	2.16E-07	2.66E-07
Indeno(1,2,3-cd)pyrene	4.87E-09	7.52E-12	3.68E-08	4.17E-08	5.19E-08	7.52E-12	2.24E-07	2.76E-07
1-Methylnaphthalene	7.95E-10	2.65E-08	4.63E-09	3.19E-08	8.47E-09	2.65E-08	2.82E-08	6.31E-08
2-Methylnaphthalene	2.78E-08	9.37E-07	1.62E-07	1.13E-06	2.97E-07	9.37E-07	9.86E-07	2.22E-06
Naphthalene	2.85E-09	9.34E-07	1.66E-08	9.53E-07	3.04E-08	9.34E-07	1.01E-07	1.07E-06
Phenanthrene	1.65E-10	4.95E-10	1.25E-09	1.90E-09	1.76E-09	4.95E-10	7.58E-09	9.83E-09
Pyrene	1.07E-08	8.75E-09	8.07E-08	1.00E-07	1.14E-07	8.75E-09	4.91E-07	6.14E-07
Total Petroleum Hydrocarbons								
TPH Diesel - aliphatic	6.86E-07	3.58E-10	1.16E-06	1.84E-06	7.31E-06	3.58E-10	7.05E-06	1.44E-05
TPH Diesel - aromatic	1.32E-06	1.24E-09	2.23E-06	3.55E-06	1.41E-05	1.24E-09	1.36E-05	2.76E-05
TPH Motor Oil - aliphatic	1.12E-07	NA	1.89E-07	3.02E-07	1.20E-06	NA	1.15E-06	2.35E-06
TPH Motor Oil - aromatic	4.32E-06	NA	7.29E-06	1.16E-05	4.60E-05	NA	4.44E-05	9.04E-05
TOTAL:	7.65E-05	2.96E-06	4.32E-04	**5.12E-04**	8.16E-04	2.96E-06	2.63E-03	**3.45E-03**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-7
Noncancer Hazard - Soil
Exposure Area A

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	2.27E-04	NA	NA	2.27E-04	4.08E-04	4.00E-06	1.13E-04	5.26E-04	5.39E-04	5.96E-05	6.80E-05	6.67E-04
Chromium (total)	5.66E-06	NA	NA	5.66E-06	1.02E-05	5.71E-10	5.44E-05	6.46E-05	1.98E-05	1.25E-08	4.80E-05	6.78E-05
Mercury	3.85E-05	NA	NA	3.85E-05	6.93E-05	1.36E-07	6.88E-04	7.57E-04	9.15E-05	2.02E-06	4.13E-04	5.06E-04
Vanadium	9.78E-04	NA	NA	9.78E-04	1.76E-03	9.87E-08	4.70E-03	6.46E-03	2.47E-03	1.56E-06	3.00E-03	5.47E-03
PAHs												
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	3.81E-09	NA	NA	3.81E-09	6.85E-09	3.20E-09	2.13E-08	3.14E-08	9.05E-09	1.78E-08	1.28E-08	3.96E-08
Benz(a)anthracene	9.93E-09	NA	NA	9.93E-09	1.79E-08	3.45E-12	5.56E-08	7.35E-08	2.36E-08	5.14E-11	3.34E-08	5.70E-08
Benzo(b)fluoranthene	1.83E-07	NA	NA	1.83E-07	3.30E-07	6.37E-11	1.03E-06	1.36E-06	4.35E-07	9.48E-10	6.15E-07	1.05E-06
Benzo(k)fluoranthene	3.72E-08	NA	NA	3.72E-08	6.70E-08	1.30E-11	2.09E-07	2.76E-07	8.85E-08	1.93E-10	1.25E-07	2.14E-07
Benzo(g,h,i)perylene	1.90E-07	NA	NA	1.90E-07	3.43E-07	6.62E-11	1.07E-06	1.41E-06	4.52E-07	9.85E-10	6.40E-07	1.09E-06
Benzo(a)pyrene	3.60E-07	NA	NA	3.60E-07	6.48E-07	1.25E-10	2.02E-06	2.66E-06	8.55E-07	1.86E-09	1.21E-06	2.07E-06
Chrysene	4.55E-07	NA	NA	4.55E-07	8.19E-07	1.58E-10	2.55E-06	3.37E-06	1.08E-06	2.36E-09	1.53E-06	2.61E-06
Dibenz(a,h)anthracene	7.86E-09	NA	NA	7.86E-09	1.42E-08	2.73E-12	4.40E-08	5.82E-08	1.87E-08	4.07E-11	2.64E-08	4.51E-08
Fluoranthene	8.38E-08	NA	NA	8.38E-08	1.51E-07	2.91E-11	4.69E-07	6.20E-07	1.99E-07	4.34E-10	2.82E-07	4.81E-07
Indeno(1,2,3-cd)pyrene	8.69E-08	NA	NA	8.69E-08	1.56E-07	3.02E-11	4.87E-07	6.43E-07	2.06E-07	4.50E-10	2.92E-07	4.99E-07
1-Methylnaphthalene	1.42E-08	NA	NA	1.42E-08	2.55E-08	1.06E-07	6.11E-08	1.93E-07	3.37E-08	7.13E-07	3.67E-08	7.83E-07
2-Methylnaphthalene	4.97E-07	NA	NA	4.97E-07	8.94E-07	3.76E-06	2.14E-06	6.80E-06	1.18E-06	2.49E-05	1.28E-06	2.74E-05
Naphthalene	5.09E-08	NA	NA	5.09E-08	9.16E-08	3.75E-06	2.19E-07	4.06E-06	1.21E-07	1.99E-05	1.32E-07	2.01E-05
Phenanthrene	2.94E-09	NA	NA	2.94E-09	5.29E-09	1.99E-09	1.65E-08	2.37E-08	6.98E-09	1.37E-08	9.87E-09	3.06E-08
Pyrene	1.90E-07	NA	NA	1.90E-07	3.43E-07	3.52E-08	1.07E-06	1.44E-06	4.52E-07	2.25E-07	6.40E-07	1.32E-06
Total Petroleum Hydrocarbon												
TPH Diesel - aliphatic	1.22E-05	NA	NA	1.22E-05	2.20E-05	1.44E-09	1.53E-05	3.73E-05	2.91E-05	2.14E-08	9.18E-06	3.83E-05
TPH Diesel - aromatic	2.35E-05	NA	NA	2.35E-05	4.24E-05	4.99E-09	2.94E-05	7.18E-05	5.59E-05	7.42E-08	1.76E-05	7.37E-05
TPH Motor Oil - aliphatic	2.00E-06	NA	NA	2.00E-06	3.61E-06	NA	2.50E-06	6.11E-06	4.76E-06	NA	1.50E-06	6.26E-06
TPH Motor Oil - aromatic	7.71E-05	NA	NA	7.71E-05	1.39E-04	NA	9.63E-05	2.35E-04	1.83E-04	NA	5.78E-05	2.41E-04
TOTAL:	1.37E-03	NA	NA	**1.37E-03**	2.46E-03	1.19E-05	5.71E-03	**8.18E-03**	3.40E-03	1.09E-04	3.62E-03	**7.13E-03**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-8
Noncancer Hazard - Soil Gas
Exposure Area A

CHEMICAL	Default Comm Bldg Short-term Resident	Commercial Users		
		Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX				
Benzene	1.13E-05	3.35E-05	NA	NA
Ethylbenzene	1.44E-06	4.29E-06	NA	NA
Toluene	1.96E-05	5.83E-05	NA	NA
m&p-Xylenes	6.10E-06	1.82E-05	NA	NA
o-Xylene	3.03E-06	9.03E-06	NA	NA
VOCs				
Bromodichloromethane	9.07E-07	2.70E-06	NA	NA
1,3-Butadiene	8.95E-06	2.66E-05	NA	NA
2-Butanone	5.77E-07	1.72E-06	NA	NA
tert-Butylalcohol	8.68E-09	2.58E-08	NA	NA
tert-Butylbenzene	2.55E-07	7.59E-07	NA	NA
Carbon disulfide	8.75E-07	2.61E-06	NA	NA
Chloroform	1.89E-06	5.62E-06	NA	NA
Chloromethane	3.57E-07	1.06E-06	NA	NA
Cyclohexane	3.55E-08	1.06E-07	NA	NA
Dichlorodifluoromethane	1.59E-06	4.72E-06	NA	NA
4-Ethyltoluene	2.10E-06	6.26E-06	NA	NA
Ethyl acetate	NC	NC	NA	NA
n-Heptane	9.56E-08	2.84E-07	NA	NA
Hexane	1.85E-07	5.51E-07	NA	NA
2-Hexanone	1.92E-06	5.72E-06	NA	NA
Isopropyl alcohol	4.05E-08	1.21E-07	NA	NA
Isopropylbenzene	1.68E-06	4.99E-06	NA	NA
p-Isopropyltoluene	1.30E-07	3.87E-07	NA	NA
Methylene chloride	5.15E-07	1.53E-06	NA	NA
4-Methyl-2-pentanone	3.25E-07	9.68E-07	NA	NA
Methyl tert-butyl ether	2.42E-08	7.19E-08	NA	NA
n-Propylbenzene	4.29E-07	1.28E-06	NA	NA
Propylene	2.52E-07	7.50E-07	NA	NA
Styrene	7.47E-08	2.22E-07	NA	NA
1,1,1,2-Tetrachloroethane	1.19E-06	3.55E-06	NA	NA
Tetrachloroethene	4.68E-06	1.39E-05	NA	NA
Tetrahydrofuran	5.39E-06	1.60E-05	NA	NA
Trichlorofluoromethane	9.53E-07	2.84E-06	NA	NA
1,2,4-Trimethylbenzene	1.64E-04	4.89E-04	NA	NA
1,3,5-Trimethylbenzene	6.82E-06	2.03E-05	NA	NA
2,2,4-Trimethylpentane	8.76E-07	2.61E-06	NA	NA
PAHs				
Naphthalene	8.51E-06	2.53E-05	NA	NA
TOTAL:	**2.57E-04**	**7.66E-04**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-9
Risk Summary
Exposure Area C

Receptor	Soil Risk	Indoor Vapor Risk	Groundwater	Site-grown Produce	Total Risk	Soil Hazard	Indoor Vapor Hazard	Groundwater	Site-grown Produce	Total Hazard
Hotel Bungalow Short-term Resident										
Adult	8.0.E-08	1.5.E-06	NA	3.0.E-08	**2E-06**	0.0021	0.0038	NA	0.0019	**0.008**
Child						0.015		NA	0.0046	**0.02**
Default Commercial Building Short-term Resident										
Adult	8.0.E-08	6.3.E-07	NA	3.0.E-08	**7E-07**	0.0021	0.0017	NA	0.0019	**0.006**
Child						0.015		NA	0.0046	**0.02**
Commercial Users										
Hotel Bungalow Indoor Employee	8.1.E-09	1.4.E-06	NA	NA*	**1E-06**	0.0084	0.011	NA	NA*	**0.02**
Default Comm Bldg Indoor Employee	8.1.E-09	6.0.E-07	NA	NA*	**6E-07**	0.0084	0.0050	NA	NA*	**0.01**
Outdoor Employee	1.1.E-07	NA	NA	NA*	**1E-07**	0.036	NA	NA	NA*	**0.04**
Intrusive Utility Worker	4.7.E-08	NA	NA	NA	**5E-08**	0.034	NA	NA	NA	**0.03**

NA = Not Applicable

*Potential risk/hazard from ingestion of produce grown on the Site by these receptors discussed in uncertainty section (7.4.1.2).

Table 6-10
Cancer Risk - Soil
Exposure Area C

CHEMICAL	Short-term Resident Adult + Child			
	Ing	InhP	Dermal	Direct Total
Inorganics				
Cadmium	NC	4.45E-10	NC	4.45E-10
Chromium (total)	NC	2.76E-08	NC	2.76E-08
Mercury	NC	NC	NC	NC
Vanadium	NC	9.74E-09	NC	9.74E-09
VOCs				
Isopropylbenzene	NC	NC	NC	NC
p-Isopropyltoluene	NC	NC	NC	NC
PAHs				
BaP TEQ	5.81E-09	3.88E-12	2.71E-08	3.29E-08
Anthracene	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA
Dibenz(a,h)anthracene	1.66E-09	5.00E-13	7.73E-09	9.39E-09
Fluoranthene	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA
Phenanthrene	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC
Total Petroleum Hydrocarbons				
TPH Diesel - aliphatic	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NC	NC	NC
TOTAL:	7.47E-09	3.78E-08	3.49E-08	**8.01E-08**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-10
Cancer Risk - Soil
Exposure Area C

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	NC	NA	NA	NC	NC	5.69E-10	NC	5.69E-10	NC	4.57E-10	NC	4.57E-10
Chromium (total)	NC	NA	NA	NC	NC	3.53E-08	NC	3.53E-08	NC	3.25E-08	NC	3.25E-08
Mercury	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Vanadium	NC	NA	NA	NC	NC	1.25E-08	NC	1.25E-08	NC	1.10E-08	NC	1.10E-08
VOCs												
Isopropylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
p-Isopropyltoluene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
PAHs												
BaP TEQ	6.30E-09	NA	NA	6.30E-09	1.13E-08	4.96E-12	3.53E-08	4.66E-08	1.06E-09	7.07E-12	1.50E-09	2.57E-09
Anthracene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	1.79E-09	NA	NA	1.79E-09	3.23E-09	6.39E-13	1.00E-08	1.33E-08	1.71E-10	5.13E-13	2.41E-10	4.12E-10
Fluoranthene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbon												
TPH Diesel - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TOTAL:	8.09E-09	NA	NA	**8.09E-09**	1.46E-08	4.83E-08	4.53E-08	**1.08E-07**	1.23E-09	4.39E-08	1.74E-09	**4.69E-08**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-11
Cancer Risk - Soil Gas
Exposure Area C

CHEMICAL	Hotel Bungalow Short-term Resident	Default Comm Bldg Short-term Resident	Commercial Users			
			Hotel Bungalow Indoor Employee	Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX						
Benzene	1.33E-07	5.78E-08	1.26E-07	5.48E-08	NA	NA
Ethylbenzene	1.09E-08	4.82E-09	1.03E-08	4.57E-09	NA	NA
Toluene	NC	NC	NC	NC	NA	NA
m&p-Xylenes	NC	NC	NC	NC	NA	NA
o-Xylene	NC	NC	NC	NC	NA	NA
VOCs						
Bromodichloromethane	6.15E-08	2.92E-08	5.83E-08	2.76E-08	NA	NA
Bromoform	7.39E-10	3.59E-10	7.01E-10	3.41E-10	NA	NA
1,3-Butadiene	4.58E-08	1.99E-08	4.34E-08	1.89E-08	NA	NA
2-Butanone	NC	NC	NC	NC	NA	NA
tert-Butylalcohol	NC	NC	NC	NC	NA	NA
Carbon disulfide	NC	NC	NC	NC	NA	NA
Carbon tetrachloride	1.17E-07	5.16E-08	1.11E-07	4.89E-08	NA	NA
Chlorobenzene	NC	NC	NC	NC	NA	NA
Chloroethane	NC	NC	NC	NC	NA	NA
Chloroform	9.90E-07	4.21E-07	9.39E-07	3.99E-07	NA	NA
Chloromethane	NC	NC	NC	NC	NA	NA
Cyclohexane	NC	NC	NC	NC	NA	NA
Dibromochloromethane	1.87E-08	9.03E-09	1.78E-08	8.56E-09	NA	NA
4-Ethyltoluene	NC	NC	NC	NC	NA	NA
n-Heptane	NC	NC	NC	NC	NA	NA
Hexane	NC	NC	NC	NC	NA	NA
2-Hexanone	NC	NC	NC	NC	NA	NA
Isopropyl alcohol	NC	NC	NC	NC	NA	NA
Isopropylbenzene	NC	NC	NC	NC	NA	NA
Methylene chloride	6.24E-09	2.66E-09	5.92E-09	2.52E-09	NA	NA
n-Propylbenzene	NC	NC	NC	NC	NA	NA
Tetrachloroethene	5.40E-08	2.40E-08	5.12E-08	2.27E-08	NA	NA
Tetrahydrofuran	3.18E-09	1.35E-09	3.01E-09	1.28E-09	NA	NA
Trichloroethene	4.66E-09	2.05E-09	4.41E-09	1.94E-09	NA	NA
1,2,4-Trimethylbenzene	NC	NC	NC	NC	NA	NA
1,3,5-Trimethylbenzene	NC	NC	NC	NC	NA	NA
2,2,4-Trimethylpentane	NC	NC	NC	NC	NA	NA
SVOCs						
1,4-Dioxane	1.42E-08	5.67E-09	1.35E-08	5.38E-09	NA	NA
TOTAL:	**1.46E-06**	**6.29E-07**	**1.38E-06**	**5.96E-07**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-12
Noncancer Hazard - Soil
Exposure Area C

CHEMICAL	Short-term Resident							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Cadmium	6.71E-05	5.26E-06	4.53E-05	1.18E-04	7.16E-04	5.26E-06	2.76E-04	9.97E-04
Chromium (total)	6.34E-07	2.84E-10	8.23E-06	8.86E-06	6.76E-06	2.84E-10	5.01E-05	5.69E-05
Mercury	1.60E-05	2.51E-07	3.85E-04	4.02E-04	1.70E-04	2.51E-07	2.35E-03	2.52E-03
Vanadium	1.06E-04	4.76E-08	6.89E-04	7.96E-04	1.13E-03	4.76E-08	4.20E-03	5.33E-03
VOCs								
Isopropylbenzene	1.03E-08	8.23E-07	1.74E-08	8.51E-07	1.10E-07	8.23E-07	1.06E-07	1.04E-06
p-Isopropyltoluene	2.64E-09	2.11E-07	4.45E-09	2.18E-07	2.81E-08	2.11E-07	2.71E-08	2.66E-07
PAHs								
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	1.44E-10	5.36E-10	1.09E-09	1.77E-09	1.53E-09	5.36E-10	6.62E-09	8.69E-09
Benz(a)anthracene	1.62E-09	2.51E-12	1.23E-08	1.39E-08	1.73E-08	2.51E-12	7.48E-08	9.21E-08
Benzo(b)fluoranthene	1.36E-08	2.10E-11	1.03E-07	1.16E-07	1.45E-07	2.10E-11	6.25E-07	7.70E-07
Benzo(k)fluoranthene	8.69E-09	1.34E-11	6.58E-08	7.45E-08	9.27E-08	1.34E-11	4.01E-07	4.93E-07
Benzo(g,h,i)perylene	9.96E-09	1.54E-11	7.54E-08	8.54E-08	1.06E-07	1.54E-11	4.59E-07	5.66E-07
Benzo(a)pyrene	1.81E-08	2.79E-11	1.37E-07	1.55E-07	1.93E-07	2.79E-11	8.33E-07	1.03E-06
Chrysene	3.48E-08	5.37E-11	2.63E-07	2.98E-07	3.71E-07	5.37E-11	1.60E-06	1.97E-06
Dibenz(a,h)anthracene	2.55E-10	3.94E-13	1.93E-09	2.18E-09	2.72E-09	3.94E-13	1.17E-08	1.45E-08
Fluoranthene	1.65E-08	2.55E-11	1.25E-07	1.42E-07	1.76E-07	2.55E-11	7.61E-07	9.37E-07
Indeno(1,2,3-cd)pyrene	6.95E-09	1.07E-11	5.26E-08	5.96E-08	7.42E-08	1.07E-11	3.20E-07	3.95E-07
Phenanthrene	1.09E-09	3.28E-09	8.24E-09	1.26E-08	1.16E-08	3.28E-09	5.02E-08	6.51E-08
Pyrene	2.32E-08	1.90E-08	1.75E-07	2.18E-07	2.47E-07	1.90E-08	1.07E-06	1.33E-06
Total Petroleum Hydrocarbons								
TPH Diesel - aliphatic	2.43E-05	1.27E-08	4.10E-05	6.54E-05	2.59E-04	1.27E-08	2.50E-04	5.09E-04
TPH Diesel - aromatic	4.67E-05	4.40E-08	7.89E-05	1.26E-04	4.99E-04	4.40E-08	4.81E-04	9.79E-04
TPH Motor Oil - aliphatic	5.30E-06	NA	8.95E-06	1.42E-05	5.65E-05	NA	5.45E-05	1.11E-04
TPH Motor Oil - aromatic	2.04E-04	NA	3.44E-04	5.48E-04	2.17E-03	NA	2.10E-03	4.27E-03
TOTAL:	4.70E-04	6.68E-06	1.60E-03	**2.08E-03**	5.02E-03	6.68E-06	9.76E-03	**1.48E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-12
Noncancer Hazard - Soil
Exposure Area C

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	1.20E-03	NA	NA	1.20E-03	2.16E-03	2.12E-05	5.99E-04	2.78E-03	2.85E-03	4.25E-04	3.59E-04	3.63E-03
Chromium (total)	1.13E-05	NA	NA	1.13E-05	2.04E-05	1.14E-09	1.09E-04	1.29E-04	3.08E-05	2.63E-08	7.48E-05	1.06E-04
Mercury	2.85E-04	NA	NA	2.85E-04	5.14E-04	1.01E-06	5.09E-03	5.61E-03	6.78E-04	2.02E-05	3.06E-03	3.75E-03
Vanadium	1.90E-03	NA	NA	1.90E-03	3.41E-03	1.91E-07	9.11E-03	1.25E-02	4.94E-03	4.21E-06	5.99E-03	1.09E-02
VOCs												
Isopropylbenzene	1.84E-07	NA	NA	1.84E-07	3.31E-07	3.31E-06	2.30E-07	3.87E-06	4.37E-07	1.76E-05	1.38E-07	1.81E-05
p-Isopropyltoluene	4.71E-08	NA	NA	4.71E-08	8.48E-08	8.46E-07	5.88E-08	9.89E-07	1.12E-07	4.71E-06	3.53E-08	4.86E-06
PAHs												
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	2.57E-09	NA	NA	2.57E-09	4.62E-09	2.16E-09	1.44E-08	2.11E-08	6.10E-09	1.21E-08	8.62E-09	2.68E-08
Benz(a)anthracene	2.90E-08	NA	NA	2.90E-08	5.21E-08	1.01E-11	1.62E-07	2.14E-07	6.88E-08	2.02E-10	9.73E-08	1.66E-07
Benzo(b)fluoranthene	2.42E-07	NA	NA	2.42E-07	4.36E-07	8.42E-11	1.36E-06	1.79E-06	5.75E-07	1.69E-09	8.13E-07	1.39E-06
Benzo(k)fluoranthene	1.55E-07	NA	NA	1.55E-07	2.79E-07	5.40E-11	8.69E-07	1.15E-06	3.69E-07	1.08E-09	5.21E-07	8.91E-07
Benzo(g,h,i)perylene	1.78E-07	NA	NA	1.78E-07	3.20E-07	6.19E-11	9.96E-07	1.32E-06	5.70E-07	1.68E-09	8.06E-07	1.38E-06
Benzo(a)pyrene	3.23E-07	NA	NA	3.23E-07	5.81E-07	1.12E-10	1.81E-06	2.39E-06	1.47E-06	4.33E-09	2.09E-06	3.56E-06
Chrysene	6.21E-07	NA	NA	6.21E-07	1.12E-06	2.16E-10	3.48E-06	4.59E-06	2.56E-06	7.51E-09	3.61E-06	6.18E-06
Dibenz(a,h)anthracene	4.55E-09	NA	NA	4.55E-09	8.19E-09	1.58E-12	2.55E-08	3.37E-08	1.08E-08	3.18E-11	1.53E-08	2.61E-08
Fluoranthene	2.95E-07	NA	NA	2.95E-07	5.31E-07	1.03E-10	1.65E-06	2.18E-06	7.01E-07	2.06E-09	9.91E-07	1.69E-06
Indeno(1,2,3-cd)pyrene	1.24E-07	NA	NA	1.24E-07	2.23E-07	4.32E-11	6.95E-07	9.19E-07	2.95E-07	8.67E-10	4.17E-07	7.13E-07
Phenanthrene	1.94E-08	NA	NA	1.94E-08	3.50E-08	1.32E-08	1.09E-07	1.57E-07	4.62E-08	9.20E-08	6.53E-08	2.04E-07
Pyrene	4.14E-07	NA	NA	4.14E-07	7.45E-07	7.64E-08	2.32E-06	3.14E-06	9.83E-07	4.88E-07	1.39E-06	2.86E-06
Total Petroleum Hydrocarbon												
TPH Diesel - aliphatic	4.34E-04	NA	NA	4.34E-04	7.81E-04	5.11E-08	5.42E-04	1.32E-03	1.03E-03	1.03E-06	3.25E-04	1.36E-03
TPH Diesel - aromatic	8.35E-04	NA	NA	8.35E-04	1.50E-03	1.77E-07	1.04E-03	2.55E-03	1.98E-03	3.55E-06	6.26E-04	2.61E-03
TPH Motor Oil - aliphatic	9.46E-05	NA	NA	9.46E-05	1.70E-04	NA	1.18E-04	2.88E-04	2.25E-04	NA	7.09E-05	2.96E-04
TPH Motor Oil - aromatic	3.64E-03	NA	NA	3.64E-03	6.55E-03	NA	4.55E-03	1.11E-02	8.65E-03	NA	2.73E-03	1.14E-02
TOTAL:	8.40E-03	NA	NA	**8.40E-03**	1.51E-02	2.68E-05	2.12E-02	**3.63E-02**	2.04E-02	4.77E-04	1.32E-02	**3.41E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-13
Noncancer Hazard - Soil Gas
Exposure Area C

CHEMICAL	Hotel Bungalow Short-term Resident	Default Comm Bldg Short-term Resident	Commercial Users			
			Hotel Bungalow Indoor Employee	Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX						
Benzene	7.60E-05	3.30E-05	2.26E-04	9.82E-05	NA	NA
Ethylbenzene	2.17E-06	9.57E-07	6.45E-06	2.85E-06	NA	NA
Toluene	7.67E-06	3.33E-06	2.28E-05	9.92E-06	NA	NA
m&p-Xylenes	1.15E-05	5.08E-06	3.42E-05	1.51E-05	NA	NA
o-Xylene	4.90E-06	2.13E-06	1.46E-05	6.34E-06	NA	NA
VOCs						
Bromodichloromethane	2.36E-05	1.12E-05	7.02E-05	3.33E-05	NA	NA
Bromoform	9.54E-06	4.64E-06	2.84E-05	1.38E-05	NA	NA
1,3-Butadiene	1.34E-05	5.83E-06	3.98E-05	1.73E-05	NA	NA
2-Butanone	9.84E-06	4.28E-06	2.93E-05	1.27E-05	NA	NA
tert-Butylalcohol	8.53E-06	3.63E-06	2.54E-05	1.08E-05	NA	NA
Carbon disulfide	1.52E-05	6.48E-06	4.54E-05	1.93E-05	NA	NA
Carbon tetrachloride	6.94E-05	3.05E-05	2.07E-04	9.09E-05	NA	NA
Chlorobenzene	2.23E-06	9.88E-07	6.64E-06	2.94E-06	NA	NA
Chloroethane	6.64E-08	2.87E-08	1.98E-07	8.54E-08	NA	NA
Chloroform	6.19E-04	2.63E-04	1.84E-03	7.83E-04	NA	NA
Chloromethane	1.30E-05	6.03E-06	3.88E-05	1.79E-05	NA	NA
Cyclohexane	2.86E-06	1.25E-06	8.50E-06	3.73E-06	NA	NA
Dibromochloromethane	9.85E-06	4.75E-06	2.93E-05	1.41E-05	NA	NA
4-Ethyltoluene	9.21E-06	4.06E-06	2.74E-05	1.21E-05	NA	NA
n-Heptane	1.05E-05	4.02E-07	3.12E-05	1.20E-06	NA	NA
Hexane	7.71E-06	5.03E-07	2.29E-05	1.50E-06	NA	NA
2-Hexanone	1.64E-04	7.14E-05	4.88E-04	2.12E-04	NA	NA
Isopropyl alcohol	2.24E-06	9.05E-07	6.67E-06	2.69E-06	NA	NA
Isopropylbenzene	5.78E-06	2.59E-06	1.72E-05	7.71E-06	NA	NA
Methylene chloride	1.55E-05	6.62E-06	4.62E-05	1.97E-05	NA	NA
n-Propylbenzene	5.13E-06	2.32E-06	1.53E-05	6.89E-06	NA	NA
Tetrachloroethene	2.60E-04	1.15E-04	7.74E-04	3.44E-04	NA	NA
Tetrahydrofuran	5.40E-06	2.30E-06	1.61E-05	6.84E-06	NA	NA
Trichloroethene	3.86E-06	1.69E-06	1.15E-05	5.04E-06	NA	NA
1,2,4-Trimethylbenzene	2.26E-03	1.02E-03	6.73E-03	3.04E-03	NA	NA
1,3,5-Trimethylbenzene	1.38E-04	6.22E-05	4.10E-04	1.85E-04	NA	NA
2,2,4-Trimethylpentane	8.08E-08	3.60E-08	2.41E-07	1.07E-07	NA	NA
SVOCs						
1,4-Dioxane	6.13E-07	2.44E-07	1.82E-06	7.26E-07	NA	NA
TOTAL:	**3.79E-03**	**1.68E-03**	**1.13E-02**	**5.00E-03**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-14
Risk Summary
Exposure Area D

Receptor	Soil Risk	Indoor Vapor Risk	Groundwater	Site-grown Produce	Total Risk	Soil Hazard	Indoor Vapor Hazard	Groundwater	Site-grown Produce	Total Hazard
Hotel Bungalow Short-term Resident										
Adult	1.5.E-07	6.8.E-07	NA	3.0.E-08	**9E-07**	0.015	0.0069	NA	0.0019	**0.02**
Child						0.11		NA	0.0046	**0.1**
Default Commercial Building Short-term Resident										
Adult	1.5.E-07	3.4.E-07	NA	3.0.E-08	**5E-07**	0.015	0.0034	NA	0.0019	**0.02**
Child						0.11		NA	0.0046	**0.1**
Commercial Users										
Hotel Bungalow Indoor Employee	8.2.E-09	6.5.E-07	NA	NA*	**7E-07**	0.085	0.021	NA	NA*	**0.1**
Default Comm Bldg Indoor Employee	8.2.E-09	3.2.E-07	NA	NA*	**3E-07**	0.085	0.010	NA	NA*	**0.1**
Outdoor Employee	1.9.E-07	NA	NA	NA*	**2E-07**	0.29	NA	NA	NA*	**0.3**
Intrusive Utility Worker	9.3.E-08	NA	NA	NA	**9E-08**	0.43	NA	NA	NA	**0.4**

NA = Not Applicable

*Potential risk/hazard from ingestion of produce grown on the Site by these receptors discussed in uncertainty section (7.4.1.2).

Table 6-15
Cancer Risk - Soil
Exposure Area D

CHEMICAL	Short-term Resident Adult + Child Ing	InhP	Dermal	Direct Total
Inorganics				
Antimony	NC	NC	NC	NC
Cadmium	NC	4.80E-10	NC	4.80E-10
Chromium (total)	NC	4.95E-08	NC	4.95E-08
Mercury	NC	NC	NC	NC
Vanadium	NC	4.40E-08	NC	4.40E-08
BTEX				
Benzene	2.91E-10	9.01E-09	3.03E-10	9.61E-09
Ethylbenzene	8.22E-11	1.24E-09	8.56E-11	1.41E-09
Toluene	NC	NC	NC	NC
Xylenes (total)	NC	NC	NC	NC
VOCs				
Methylene chloride	1.38E-12	1.70E-11	1.44E-12	1.98E-11
PAHs				
BaP TEQ	7.20E-09	4.80E-12	3.36E-08	4.08E-08
Acenaphthylene	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA
Fluoranthene	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA
1-Methylnaphthalene	7.24E-12	NC	2.60E-11	3.32E-11
Naphthalene	NC	2.49E-10	NC	2.49E-10
Phenanthrene	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC
Total Petroleum Hydrocarbons				
TPH Gasoline - aliphatic	NC	NC	NC	NC
TPH Gasoline - aromatic	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NC	NC	NC
TOTAL:	7.59E-09	1.04E-07	3.40E-08	**1.46E-07**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-15
Cancer Risk - Soil
Exposure Area D

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Antimony	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Cadmium	NC	NA	NA	NC	NC	6.14E-10	NC	6.14E-10	NC	5.73E-10	NC	5.73E-10
Chromium (total)	NC	NA	NA	NC	NC	6.33E-08	NC	6.33E-08	NC	4.15E-08	NC	4.15E-08
Mercury	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Vanadium	NC	NA	NA	NC	NC	5.63E-08	NC	5.63E-08	NC	4.74E-08	NC	4.74E-08
BTEX												
Benzene	3.16E-10	NA	NA	3.16E-10	5.68E-10	1.15E-08	3.94E-10	1.25E-08	3.00E-11	1.09E-09	9.46E-12	1.13E-09
Ethylbenzene	8.90E-11	NA	NA	8.90E-11	1.60E-10	1.59E-09	1.11E-10	1.86E-09	8.46E-12	1.69E-10	2.67E-12	1.80E-10
Toluene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Xylenes (total)	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
VOCs												
Methylene chloride	1.50E-12	NA	NA	1.50E-12	2.70E-12	2.18E-11	1.87E-12	2.63E-11	1.42E-13	1.49E-12	4.49E-14	1.68E-12
PAHs												
BaP TEQ	7.81E-09	NA	NA	7.81E-09	1.41E-08	6.15E-12	4.37E-08	5.78E-08	7.42E-10	4.03E-12	1.05E-09	1.79E-09
Acenaphthylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1-Methylnaphthalene	7.85E-12	NA	NA	7.85E-12	1.41E-11	NC	3.38E-11	4.79E-11	7.46E-13	NC	8.11E-13	1.56E-12
Naphthalene	NC	NA	NA	NC	NC	3.19E-10	NC	3.19E-10	NC	3.69E-11	NC	3.69E-11
Phenanthrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbon												
TPH Gasoline - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Gasoline - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TOTAL:	8.22E-09	NA	NA	**8.22E-09**	1.48E-08	1.34E-07	4.43E-08	**1.93E-07**	7.81E-10	9.08E-08	1.06E-09	**9.27E-08**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-16
Cancer Risk - Soil Gas
Exposure Area D

CHEMICAL	Hotel Bungalow Short-term Resident	Default Comm Bldg Short-term Resident	Commercial Users			
			Hotel Bungalow Indoor Employee	Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX						
Benzene	2.34E-07	1.15E-07	2.21E-07	1.09E-07	NA	NA
Ethylbenzene	3.82E-07	1.89E-07	3.62E-07	1.79E-07	NA	NA
Toluene	NC	NC	NC	NC	NA	NA
m&p-Xylenes	NC	NC	NC	NC	NA	NA
o-Xylene	NC	NC	NC	NC	NA	NA
VOCs						
Bromodichloromethane	4.96E-10	2.47E-10	4.70E-10	2.34E-10	NA	NA
1,3-Butadiene	6.69E-08	3.24E-08	6.34E-08	3.07E-08	NA	NA
2-Butanone	NC	NC	NC	NC	NA	NA
tert-Butylalcohol	NC	NC	NC	NC	NA	NA
Carbon disulfide	NC	NC	NC	NC	NA	NA
Chloroform	1.63E-09	8.05E-10	1.55E-09	7.63E-10	NA	NA
Cyclohexane	NC	NC	NC	NC	NA	NA
4-Ethyltoluene	NC	NC	NC	NC	NA	NA
n-Heptane	NC	NC	NC	NC	NA	NA
Hexane	NC	NC	NC	NC	NA	NA
Isopropylbenzene	NC	NC	NC	NC	NA	NA
Methylene chloride	3.11E-11	1.53E-11	2.95E-11	1.45E-11	NA	NA
n-Propylbenzene	NC	NC	NC	NC	NA	NA
Tetrahydrofuran	2.15E-10	1.01E-10	2.04E-10	9.53E-11	NA	NA
1,2,4-Trimethylbenzene	NC	NC	NC	NC	NA	NA
1,3,5-Trimethylbenzene	NC	NC	NC	NC	NA	NA
TOTAL:	**6.85E-07**	**3.38E-07**	**6.49E-07**	**3.20E-07**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-17
Noncancer Hazard - Soil
Exposure Area D

CHEMICAL	Short-term Resident							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Antimony	2.76E-03	NC	3.10E-03	5.86E-03	2.94E-02	NC	1.89E-02	4.83E-02
Cadmium	7.24E-05	5.68E-06	4.89E-05	1.27E-04	7.72E-04	5.68E-06	2.98E-04	1.08E-03
Chromium (total)	1.14E-06	5.10E-10	1.48E-05	1.59E-05	1.21E-05	5.10E-10	8.99E-05	1.02E-04
Mercury	7.99E-05	1.25E-06	1.93E-03	2.01E-03	8.52E-04	1.25E-06	1.17E-02	1.26E-02
Vanadium	4.79E-04	2.15E-07	3.11E-03	3.59E-03	5.11E-03	2.15E-07	1.90E-02	2.41E-02
BTEX								
Benzene	1.38E-07	5.15E-06	2.33E-07	5.52E-06	1.47E-06	5.15E-06	1.42E-06	8.03E-06
Ethylbenzene	1.41E-08	2.47E-07	2.39E-08	2.85E-07	1.51E-07	2.47E-07	1.45E-07	5.44E-07
Toluene	1.32E-08	1.63E-06	2.23E-08	1.66E-06	1.41E-07	1.63E-06	1.36E-07	1.90E-06
Xylenes (total)	2.28E-08	2.21E-06	3.85E-08	2.28E-06	2.43E-07	2.21E-06	2.34E-07	2.69E-06
VOCs								
Methylene chloride	3.12E-09	4.23E-08	5.26E-09	5.06E-08	3.32E-08	4.23E-08	3.20E-08	1.08E-07
PAHs								
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	1.51E-09	2.10E-08	1.14E-08	3.39E-08	1.61E-08	2.10E-08	6.94E-08	1.06E-07
Benz(a)anthracene	1.90E-09	2.94E-12	1.44E-08	1.63E-08	2.03E-08	2.94E-12	8.76E-08	1.08E-07
Benzo(b)fluoranthene	1.74E-08	2.69E-11	1.32E-07	1.49E-07	1.85E-07	2.69E-11	8.01E-07	9.87E-07
Benzo(k)fluoranthene	1.36E-08	2.10E-11	1.03E-07	1.16E-07	1.45E-07	2.10E-11	6.25E-07	7.70E-07
Benzo(g,h,i)perylene	1.74E-08	2.69E-11	1.32E-07	1.49E-07	1.85E-07	2.69E-11	8.01E-07	9.87E-07
Benzo(a)pyrene	1.95E-08	3.01E-11	1.47E-07	1.67E-07	2.08E-07	3.01E-11	8.97E-07	1.10E-06
Chrysene	2.78E-08	4.30E-11	2.10E-07	2.38E-07	2.97E-07	4.30E-11	1.28E-06	1.58E-06
Fluoranthene	3.13E-08	4.83E-11	2.37E-07	2.68E-07	3.34E-07	4.83E-11	1.44E-06	1.78E-06
Fluorene	3.30E-09	2.29E-08	2.50E-08	5.12E-08	3.52E-08	2.29E-08	1.52E-07	2.10E-07
Indeno(1,2,3-cd)pyrene	9.73E-09	1.50E-11	7.37E-08	8.34E-08	1.04E-07	1.50E-11	4.49E-07	5.52E-07
1-Methylnaphthalene	6.75E-10	2.25E-08	3.93E-09	2.71E-08	7.20E-09	2.25E-08	2.39E-08	5.36E-08
Naphthalene	2.47E-09	8.09E-07	1.44E-08	8.25E-07	2.63E-08	8.09E-07	8.75E-08	9.22E-07
Phenanthrene	1.67E-09	5.02E-09	1.26E-08	1.93E-08	1.78E-08	5.02E-09	7.69E-08	9.97E-08
Pyrene	4.40E-08	3.61E-08	3.33E-07	4.13E-07	4.70E-07	3.61E-08	2.03E-06	2.54E-06
Total Petroleum Hydrocarbons								
TPH Gasoline - aliphatic	1.20E-05	1.08E-09	2.03E-05	3.23E-05	1.28E-04	1.08E-09	1.23E-04	2.51E-04
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	2.51E-04	1.31E-07	4.24E-04	6.75E-04	2.68E-03	1.31E-07	2.58E-03	5.26E-03
TPH Diesel - aromatic	4.83E-04	4.55E-07	8.15E-04	1.30E-03	5.15E-03	4.55E-07	4.97E-03	1.01E-02
TPH Motor Oil - aliphatic	1.58E-05	NA	2.67E-05	4.25E-05	1.69E-04	NA	1.63E-04	3.32E-04
TPH Motor Oil - aromatic	6.09E-04	NA	1.03E-03	1.64E-03	6.49E-03	NA	6.26E-03	1.28E-02
TOTAL:	4.76E-03	1.79E-05	1.05E-02	**1.53E-02**	5.08E-02	1.79E-05	6.41E-02	**1.15E-01**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-17
Noncancer Hazard - Soil
Exposure Area D

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Antimony	4.92E-02	NA	NA	4.92E-02	8.86E-02	NC	4.10E-02	1.30E-01	1.17E-01	NC	2.46E-02	1.42E-01
Cadmium	1.29E-03	NA	NA	1.29E-03	2.33E-03	2.28E-05	6.46E-04	3.00E-03	4.37E-03	5.32E-04	5.52E-04	5.46E-03
Chromium (total)	2.03E-05	NA	NA	2.03E-05	3.65E-05	2.05E-09	1.95E-04	2.32E-04	4.82E-05	3.36E-08	1.17E-04	1.65E-04
Mercury	1.43E-03	NA	NA	1.43E-03	2.57E-03	5.04E-06	2.55E-02	2.80E-02	3.39E-03	8.25E-05	1.53E-02	1.88E-02
Vanadium	8.56E-03	NA	NA	8.56E-03	1.54E-02	8.63E-07	4.11E-02	5.65E-02	2.62E-02	1.82E-05	3.17E-02	5.79E-02
BTEX												
Benzene	2.46E-06	NA	NA	2.46E-06	4.43E-06	2.07E-05	3.07E-06	2.82E-05	5.85E-06	4.90E-05	1.84E-06	5.67E-05
Ethylbenzene	2.53E-07	NA	NA	2.53E-07	4.55E-07	9.94E-07	3.16E-07	1.76E-06	6.00E-07	2.63E-06	1.89E-07	3.42E-06
Toluene	2.35E-07	NA	NA	2.35E-07	4.24E-07	6.54E-06	2.94E-07	7.26E-06	5.59E-07	1.64E-05	1.76E-07	1.71E-05
Xylenes (total)	4.07E-07	NA	NA	4.07E-07	7.32E-07	8.90E-06	5.08E-07	1.01E-05	9.66E-07	2.33E-05	3.05E-07	2.46E-05
VOCs												
Methylene chloride	5.57E-08	NA	NA	5.57E-08	1.00E-07	1.70E-07	6.95E-08	3.39E-07	1.32E-07	2.91E-07	4.17E-08	4.65E-07
PAHs												
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	2.69E-08	NA	NA	2.69E-08	4.84E-08	8.42E-08	1.51E-07	2.83E-07	6.39E-08	2.63E-07	9.04E-08	4.18E-07
Benz(a)anthracene	3.39E-08	NA	NA	3.39E-08	6.11E-08	1.18E-11	1.90E-07	2.51E-07	8.06E-08	1.93E-10	1.14E-07	1.95E-07
Benzo(b)fluoranthene	3.10E-07	NA	NA	3.10E-07	5.59E-07	1.08E-10	1.74E-06	2.30E-06	7.37E-07	1.77E-09	1.04E-06	1.78E-06
Benzo(k)fluoranthene	2.42E-07	NA	NA	2.42E-07	4.36E-07	8.42E-11	1.36E-06	1.79E-06	5.75E-07	1.38E-09	8.13E-07	1.39E-06
Benzo(g,h,i)perylene	3.10E-07	NA	NA	3.10E-07	5.59E-07	1.08E-10	1.74E-06	2.30E-06	7.37E-07	1.77E-09	1.04E-06	1.78E-06
Benzo(a)pyrene	3.48E-07	NA	NA	3.48E-07	6.26E-07	1.21E-10	1.95E-06	2.57E-06	8.26E-07	1.98E-09	1.17E-06	2.00E-06
Chrysene	4.97E-07	NA	NA	4.97E-07	8.94E-07	1.73E-10	2.78E-06	3.67E-06	1.18E-06	2.83E-09	1.67E-06	2.85E-06
Fluoranthene	5.59E-07	NA	NA	5.59E-07	1.01E-06	1.94E-10	3.13E-06	4.13E-06	1.33E-06	3.18E-09	1.88E-06	3.21E-06
Fluorene	5.90E-08	NA	NA	5.90E-08	1.06E-07	9.20E-08	3.30E-07	5.28E-07	1.40E-07	3.17E-07	1.98E-07	6.55E-07
Indeno(1,2,3-cd)pyrene	1.74E-07	NA	NA	1.74E-07	3.13E-07	6.04E-11	9.73E-07	1.29E-06	4.13E-07	9.91E-10	5.84E-07	9.98E-07
1-Methylnaphthalene	1.21E-08	NA	NA	1.21E-08	2.17E-08	9.04E-08	5.19E-08	1.64E-07	2.87E-08	3.31E-07	3.12E-08	3.91E-07
Naphthalene	4.41E-08	NA	NA	4.41E-08	7.93E-08	3.25E-06	1.90E-07	3.52E-06	1.05E-07	9.41E-06	1.14E-07	9.63E-06
Phenanthrene	2.98E-08	NA	NA	2.98E-08	5.36E-08	2.02E-08	1.67E-07	2.41E-07	7.08E-08	9.82E-08	1.00E-07	2.69E-07
Pyrene	7.86E-07	NA	NA	7.86E-07	1.42E-06	1.45E-07	4.40E-06	5.96E-06	1.87E-06	1.03E-06	2.64E-06	5.54E-06
Total Petroleum Hydrocarbon												
TPH Gasoline - aliphatic	2.14E-04	NA	NA	2.14E-04	3.86E-04	4.32E-09	2.68E-04	6.53E-04	5.09E-04	7.08E-08	1.61E-04	6.70E-04
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	4.48E-03	NA	NA	4.48E-03	8.07E-03	5.28E-07	5.60E-03	1.37E-02	2.91E-02	2.36E-05	9.18E-03	3.83E-02
TPH Diesel - aromatic	8.62E-03	NA	NA	8.62E-03	1.55E-02	1.83E-06	1.08E-02	2.63E-02	5.59E-02	8.17E-05	1.76E-02	7.37E-02
TPH Motor Oil - aliphatic	2.83E-04	NA	NA	2.83E-04	5.09E-04	NA	3.53E-04	8.62E-04	1.72E-03	NA	5.42E-04	2.26E-03
TPH Motor Oil - aromatic	1.09E-02	NA	NA	1.09E-02	1.96E-02	NA	1.36E-02	3.31E-02	6.61E-02	NA	2.09E-02	8.70E-02
TOTAL:	8.50E-02	NA	NA	**8.50E-02**	1.53E-01	7.20E-05	1.39E-01	**2.92E-01**	3.04E-01	8.42E-04	1.21E-01	**4.26E-01**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-18
Noncancer Hazard - Soil Gas
Exposure Area D

CHEMICAL	Hotel Bungalow Short-term Resident	Default Comm Bldg Short-term Resident	Commercial Users			
			Hotel Bungalow Indoor Employee	Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX						
Benzene	1.33E-04	6.59E-05	3.97E-04	1.96E-04	NA	NA
Ethylbenzene	7.59E-05	3.76E-05	2.26E-04	1.12E-04	NA	NA
Toluene	2.19E-07	1.08E-07	6.53E-07	3.23E-07	NA	NA
m&p-Xylenes	1.13E-04	5.61E-05	3.38E-04	1.67E-04	NA	NA
o-Xylene	3.31E-06	1.59E-06	9.85E-06	4.72E-06	NA	NA
VOCs						
Bromodichloromethane	1.90E-07	9.48E-08	5.66E-07	2.82E-07	NA	NA
1,3-Butadiene	1.96E-05	9.46E-06	5.82E-05	2.82E-05	NA	NA
2-Butanone	8.28E-08	3.89E-08	2.46E-07	1.16E-07	NA	NA
tert-Butylalcohol	9.42E-06	4.64E-06	2.80E-05	1.38E-05	NA	NA
Carbon disulfide	3.84E-05	1.89E-05	1.14E-04	5.63E-05	NA	NA
Chloroform	1.02E-06	5.03E-07	3.03E-06	1.50E-06	NA	NA
Cyclohexane	2.79E-04	1.38E-04	8.31E-04	4.11E-04	NA	NA
4-Ethyltoluene	4.99E-05	2.47E-05	1.49E-04	7.35E-05	NA	NA
n-Heptane	1.28E-04	6.22E-05	3.80E-04	1.85E-04	NA	NA
Hexane	7.09E-05	3.45E-05	2.11E-04	1.03E-04	NA	NA
Isopropylbenzene	2.14E-04	1.06E-04	6.36E-04	3.16E-04	NA	NA
Methylene chloride	7.72E-08	3.81E-08	2.30E-07	1.13E-07	NA	NA
n-Propylbenzene	7.45E-05	3.70E-05	2.22E-04	1.10E-04	NA	NA
Tetrahydrofuran	3.66E-07	1.71E-07	1.09E-06	5.08E-07	NA	NA
1,2,4-Trimethylbenzene	5.03E-03	2.49E-03	1.50E-02	7.42E-03	NA	NA
1,3,5-Trimethylbenzene	6.86E-04	3.40E-04	2.04E-03	1.01E-03	NA	NA
TOTAL:	**6.93E-03**	**3.43E-03**	**2.06E-02**	**1.02E-02**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-19
Risk Summary
Exposure Area E

Receptor	Soil Risk	Indoor Vapor Risk	Groundwater	Site-grown Produce	Total Risk	Soil Hazard	Indoor Vapor Hazard	Groundwater	Site-grown Produce	Total Hazard
Hotel Bungalow Short-term Resident										
Adult	8.7.E-07	1.8.E-04	NA	3.0.E-08	**2E-04**	0.011	0.14	NA	0.0019	**0.2**
Child						0.056		NA	0.0046	**0.2**
Default Commercial Building Short-term Resident										
Adult	8.7.E-07	8.8.E-05	NA	3.0.E-08	**9E-05**	0.011	0.069	NA	0.0019	**0.08**
Child						0.056		NA	0.0046	**0.1**
Commercial Users										
Hotel Bungalow Indoor Employee	8.4.E-08	1.7.E-04	NA	NA*	**2E-04**	0.039	0.42	NA	NA*	**0.5**
Default Comm Bldg Indoor Employee	8.4.E-08	8.3.E-05	NA	NA*	**8E-05**	0.039	0.21	NA	NA*	**0.2**
Outdoor Employee	1.2.E-06	NA	NA	NA*	**1E-06**	0.15	NA	NA	NA*	**0.1**
Intrusive Utility Worker	1.2.E-06	NA	2.7.E-11	NA	**1E-06**	0.76	NA	0.087	NA	**0.8**

NA = Not Applicable

*Potential risk/hazard from ingestion of produce grown on the Site by these receptors discussed in uncertainty section (7.4.1.2).

Table 6-20
Cancer Risk - Soil
Exposure Area E

CHEMICAL	Short-term Resident Adult + Child Ing	InhP	Dermal	Direct Total
Inorganics				
Cadmium	NC	2.70E-10	NC	2.70E-10
Chromium (total)	NC	1.87E-08	NC	1.87E-08
Mercury	NC	NC	NC	NC
Vanadium	NC	9.68E-09	NC	9.68E-09
BTEX				
Benzene	1.52E-08	4.71E-07	1.59E-08	5.02E-07
Ethylbenzene	2.71E-09	4.10E-08	2.82E-09	4.65E-08
Toluene	NC	NC	NC	NC
Xylenes (total)	NC	NC	NC	NC
VOCs				
n-Butylbenzene	NC	NC	NC	NC
sec-Butylbenzene	NC	NC	NC	NC
tert-Butylbenzene	NC	NC	NC	NC
1,2-Dichlorobenzene	NC	NC	NC	NC
1,3-Dichlorobenzene	NC	NC	NC	NC
1,4-Dichlorobenzene	6.56E-11	4.85E-09	6.84E-11	4.99E-09
Isopropylbenzene	NC	NC	NC	NC
p-Isopropyltoluene	NC	NC	NC	NC
n-Propylbenzene	NC	NC	NC	NC
1,2,4-Trimethylbenzene	NC	NC	NC	NC
1,3,5-Trimethylbenzene	NC	NC	NC	NC
PAHs				
BaP TEQ	2.12E-08	1.41E-11	9.89E-08	1.20E-07
Acenaphthene	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA
Dibenz(a,h)anthracene	7.38E-09	2.23E-12	3.44E-08	4.18E-08
Fluoranthene	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA
1-Methylnaphthalene	5.86E-09	NC	2.10E-08	2.69E-08
2-Methylnaphthalene	NC	NC	NC	NC
Naphthalene	NC	4.52E-08	NC	4.52E-08
Phenanthrene	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC
SVOCs				
2,4-Dinitrotoluene	2.51E-08	2.16E-12	2.62E-08	5.13E-08
Total Petroleum Hydrocarbons				
TPH Gasoline - aliphatic	NC	NC	NC	NC
TPH Gasoline - aromatic	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NC	NC	NC
TOTAL:	7.75E-08	5.91E-07	1.99E-07	**8.68E-07**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-20
Cancer Risk - Soil
Exposure Area E

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	NC	NA	NA	NC	NC	3.46E-10	NC	3.46E-10	NC	2.46E-10	NC	2.46E-10
Chromium (total)	NC	NA	NA	NC	NC	2.39E-08	NC	2.39E-08	NC	2.81E-08	NC	2.81E-08
Mercury	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Vanadium	NC	NA	NA	NC	NC	1.24E-08	NC	1.24E-08	NC	1.63E-08	NC	1.63E-08
BTEX												
Benzene	1.65E-08	NA	NA	1.65E-08	2.97E-08	6.03E-07	2.06E-08	6.53E-07	2.48E-08	9.83E-07	7.82E-09	1.02E-06
Ethylbenzene	2.93E-09	NA	NA	2.93E-09	5.28E-09	5.24E-08	3.66E-09	6.14E-08	4.59E-09	9.95E-08	1.45E-09	1.06E-07
Toluene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Xylenes (total)	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
VOCs												
n-Butylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
sec-Butylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
tert-Butylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
1,2-Dichlorobenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
1,3-Dichlorobenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
1,4-Dichlorobenzene	7.11E-11	NA	NA	7.11E-11	1.28E-10	6.21E-09	8.89E-11	6.43E-09	6.76E-12	7.09E-10	2.13E-12	7.18E-10
Isopropylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
p-Isopropyltoluene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
n-Propylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
1,2,4-Trimethylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
1,3,5-Trimethylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
PAHs												
BaP TEQ	2.29E-08	NA	NA	2.29E-08	4.13E-08	1.81E-11	1.29E-07	1.70E-07	3.51E-09	2.07E-11	4.96E-09	8.49E-09
Acenaphthene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	7.99E-09	NA	NA	7.99E-09	1.44E-08	2.85E-12	4.48E-08	5.92E-08	7.60E-10	2.03E-12	1.07E-09	1.84E-09
Fluoranthene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1-Methylnaphthalene	6.35E-09	NA	NA	6.35E-09	1.14E-08	NC	2.73E-08	3.88E-08	6.03E-10	NC	6.56E-10	1.26E-09
2-Methylnaphthalene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Naphthalene	NC	NA	NA	NC	NC	5.79E-08	NC	5.79E-08	NC	6.23E-08	NC	6.23E-08
Phenanthrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
SVOCs												
2,4-Dinitrotoluene	2.72E-08	NA	NA	2.72E-08	4.90E-08	2.76E-12	3.40E-08	8.30E-08	2.59E-09	1.97E-12	8.16E-10	3.41E-09
Total Petroleum Hydrocarbon												
TPH Gasoline - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Gasoline - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TOTAL:	8.40E-08	NA	NA	**8.40E-08**	1.51E-07	7.56E-07	2.59E-07	**1.17E-06**	3.68E-08	1.19E-06	1.68E-08	**1.24E-06**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-21
Cancer Risk - Soil Gas
Exposure Area E

CHEMICAL	Hotel Bungalow Short-term Resident	Default Comm Bldg Short-term Resident	Commercial Users			
			Hotel Bungalow Indoor Employee	Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX						
Benzene	1.70E-04	8.39E-05	1.61E-04	7.95E-05	NA	NA
Ethylbenzene	8.57E-07	4.24E-07	8.12E-07	4.02E-07	NA	NA
Toluene	NC	NC	NC	NC	NA	NA
m&p-Xylenes	NC	NC	NC	NC	NA	NA
o-Xylene	NC	NC	NC	NC	NA	NA
VOCs						
2-Butanone	NC	NC	NC	NC	NA	NA
tert-Butylalcohol	NC	NC	NC	NC	NA	NA
Carbon disulfide	NC	NC	NC	NC	NA	NA
Chloroform	2.75E-06	1.36E-06	2.61E-06	1.29E-06	NA	NA
Cyclohexane	NC	NC	NC	NC	NA	NA
1,2-Dichlorobenzene	NC	NC	NC	NC	NA	NA
1,2-Dichloroethane	1.16E-07	5.57E-08	1.10E-07	5.28E-08	NA	NA
4-Ethyltoluene	NC	NC	NC	NC	NA	NA
n-Heptane	NC	NC	NC	NC	NA	NA
Hexane	NC	NC	NC	NC	NA	NA
Isopropylbenzene	NC	NC	NC	NC	NA	NA
Methylene chloride	1.48E-08	7.32E-09	1.41E-08	6.94E-09	NA	NA
Methyl tert-butyl ether	3.61E-09	1.73E-09	3.42E-09	1.64E-09	NA	NA
n-Propylbenzene	NC	NC	NC	NC	NA	NA
1,1,2,2-Tetrachloroethane	3.84E-06	1.90E-06	3.64E-06	1.80E-06	NA	NA
Tetrahydrofuran	2.28E-09	1.06E-09	2.16E-09	1.01E-09	NA	NA
1,2,4-Trimethylbenzene	NC	NC	NC	NC	NA	NA
1,3,5-Trimethylbenzene	NC	NC	NC	NC	NA	NA
2,2,4-Trimethylpentane	NC	NC	NC	NC	NA	NA
TOTAL:	**1.77E-04**	**8.77E-05**	**1.68E-04**	**8.31E-05**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-22
Cancer Risk - Groundwater
Exposure Area E

CHEMICAL	Commercial Users		
	Intrusive Utility Worker		
	Ing	Dermal	Direct Total
Inorganics			
Molybdenum	NC	NC	NC
BTEX			
Ethylbenzene	1.521E-12	9.735E-12	1.126E-11
Toluene	NC	NC	NC
Xylenes (total)	NC	NC	NC
VOCs			
tert-Butylalcohol	NC	NC	NC
n-Butylbenzene	NC	NC	NC
sec-Butylbenzene	NC	NC	NC
tert-Butylbenzene	NC	NC	NC
1,2-Dichloropropane	6.579E-12	6.431E-12	1.301E-11
Isopropylbenzene	NC	NC	NC
p-Isopropyltoluene	NC	NC	NC
Methyl tert-butyl ether	2.223E-12	6.088E-13	2.831E-12
n-Propylbenzene	NC	NC	NC
1,2,4-Trimethylbenzene	NC	NC	NC
PAHs			
Acenaphthene	NC	NC	NC
Acenaphthylene	NC	NC	NC
Anthracene	NC	NC	NC
Fluorene	NC	NC	NC
Naphthalene	NC	NC	NC
Phenanthrene	NC	NC	NC
Total Petroleum Hydrocarbons			
TPH Gasoline - aliphatic	NC	NC	NC
TPH Gasoline - aromatic	NC	NC	NC
TPH Diesel - aliphatic	NC	NC	NC
TPH Diesel - aromatic	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NC	NC
TPH Motor Oil - aromatic	NC	NC	NC
TOTAL:	1.03E-11	1.68E-11	**2.71E-11**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-23
Noncancer Hazard - Soil
Exposure Area E

CHEMICAL	Short-term Resident							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Cadmium	4.08E-05	3.20E-06	2.75E-05	7.15E-05	4.35E-04	3.20E-06	1.68E-04	6.06E-04
Chromium (total)	4.30E-07	1.93E-10	5.58E-06	6.01E-06	4.59E-06	1.93E-10	3.40E-05	3.86E-05
Mercury	1.95E-05	3.06E-07	4.70E-04	4.90E-04	2.08E-04	3.06E-07	2.86E-03	3.07E-03
Vanadium	1.06E-04	4.73E-08	6.85E-04	7.91E-04	1.13E-03	4.73E-08	4.17E-03	5.30E-03
BTEX								
Benzene	7.21E-06	2.69E-04	1.22E-05	2.89E-04	7.69E-05	2.69E-04	7.41E-05	4.20E-04
Ethylbenzene	4.66E-07	8.14E-06	7.86E-07	9.40E-06	4.97E-06	8.14E-06	4.79E-06	1.79E-05
Toluene	4.50E-07	5.56E-05	7.60E-07	5.68E-05	4.80E-06	5.56E-05	4.63E-06	6.50E-05
Xylenes (total)	1.03E-06	1.00E-04	1.74E-06	1.03E-04	1.10E-05	1.00E-04	1.06E-05	1.22E-04
VOCs								
n-Butylbenzene	2.55E-07	1.77E-05	4.30E-07	1.84E-05	2.72E-06	1.77E-05	2.62E-06	2.30E-05
sec-Butylbenzene	2.34E-07	1.63E-05	3.95E-07	1.69E-05	2.50E-06	1.63E-05	2.41E-06	2.12E-05
tert-Butylbenzene	1.15E-07	6.94E-06	1.94E-07	7.25E-06	1.23E-06	6.94E-06	1.18E-06	9.35E-06
1,2-Dichlorobenzene	7.19E-08	5.48E-06	1.21E-07	5.67E-06	7.67E-07	5.48E-06	7.40E-07	6.99E-06
1,3-Dichlorobenzene	1.36E-08	6.57E-07	2.29E-08	6.94E-07	1.45E-07	6.57E-07	1.40E-07	9.42E-07
1,4-Dichlorobenzene	3.29E-08	5.48E-07	5.55E-08	6.36E-07	3.51E-07	5.48E-07	3.38E-07	1.24E-06
Isopropylbenzene	1.91E-07	1.53E-05	3.23E-07	1.58E-05	2.04E-06	1.53E-05	1.96E-06	1.93E-05
p-Isopropyltoluene	1.11E-07	8.84E-06	1.87E-07	9.14E-06	1.18E-06	8.84E-06	1.14E-06	1.12E-05
n-Propylbenzene	2.52E-07	7.14E-06	4.26E-07	7.82E-06	2.69E-06	7.14E-06	2.59E-06	1.24E-05
1,2,4-Trimethylbenzene	3.58E-05	2.56E-03	6.04E-05	2.65E-03	3.82E-04	2.56E-03	3.68E-04	3.31E-03
1,3,5-Trimethylbenzene	2.76E-06	2.36E-04	4.66E-06	2.44E-04	2.94E-05	2.36E-04	2.84E-05	2.94E-04
PAHs								
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	4.61E-08	6.42E-07	3.49E-07	1.04E-06	4.92E-07	6.42E-07	2.13E-06	3.26E-06
Acenaphthylene	1.14E-08	1.59E-07	8.64E-08	2.57E-07	1.22E-07	1.59E-07	5.26E-07	8.07E-07
Anthracene	8.11E-08	3.03E-07	6.14E-07	9.98E-07	8.65E-07	3.03E-07	3.74E-06	4.91E-06
Benz(a)anthracene	1.97E-08	3.04E-11	1.49E-07	1.69E-07	2.10E-07	3.04E-11	9.08E-07	1.12E-06
Benzo(b)fluoranthene	1.32E-07	2.04E-10	1.00E-06	1.13E-06	1.41E-06	2.04E-10	6.09E-06	7.50E-06
Benzo(k)fluoranthene	6.95E-08	1.07E-10	5.26E-07	5.96E-07	7.42E-07	1.07E-10	3.20E-06	3.95E-06
Benzo(g,h,i)perylene	1.51E-07	2.33E-10	1.14E-06	1.29E-06	1.61E-06	2.33E-10	6.94E-06	8.55E-06
Benzo(a)pyrene	3.94E-08	6.09E-11	2.98E-07	3.38E-07	4.20E-07	6.09E-11	1.82E-06	2.24E-06
Chrysene	5.33E-07	8.24E-10	4.03E-06	4.57E-06	5.69E-06	8.24E-10	2.46E-05	3.03E-05
Dibenz(a,h)anthracene	1.14E-09	1.75E-12	8.59E-09	9.73E-09	1.21E-08	1.75E-12	5.23E-08	6.45E-08
Fluoranthene	6.78E-08	1.05E-10	5.13E-07	5.81E-07	7.23E-07	1.05E-10	3.12E-06	3.85E-06
Fluorene	1.23E-06	8.56E-06	9.34E-06	1.91E-05	1.32E-05	8.56E-06	5.69E-05	7.86E-05
Indeno(1,2,3-cd)pyrene	6.49E-08	1.00E-10	4.91E-07	5.56E-07	6.92E-07	1.00E-10	2.99E-06	3.68E-06
1-Methylnaphthalene	5.46E-07	1.82E-05	3.18E-06	2.19E-05	5.83E-06	1.82E-05	1.94E-05	4.34E-05
2-Methylnaphthalene	1.04E-05	3.51E-04	6.08E-05	4.23E-04	1.11E-04	3.51E-04	3.70E-04	8.33E-04
Naphthalene	4.48E-07	1.47E-04	2.61E-06	1.50E-04	4.78E-06	1.47E-04	1.59E-05	1.68E-04
Phenanthrene	7.65E-08	2.30E-07	5.79E-07	8.85E-07	8.16E-07	2.30E-07	3.52E-06	4.57E-06
Pyrene	8.57E-08	7.04E-08	6.49E-07	8.05E-07	9.15E-07	7.04E-08	3.95E-06	4.94E-06
SVOCs								
2,4-Dinitrotoluene	7.67E-06	3.44E-09	1.30E-05	2.06E-05	8.18E-05	3.44E-09	7.89E-05	1.61E-04
Total Petroleum Hydrocarbons								
TPH Gasoline - aliphatic	6.11E-05	5.48E-09	1.03E-04	1.64E-04	6.52E-04	5.48E-09	6.29E-04	1.28E-03
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	3.55E-04	1.85E-07	5.99E-04	9.53E-04	3.78E-03	1.85E-07	3.65E-03	7.43E-03
TPH Diesel - aromatic	6.82E-04	6.42E-07	1.15E-03	1.83E-03	7.27E-03	6.42E-07	7.01E-03	1.43E-02
TPH Motor Oil - aliphatic	2.18E-05	NA	3.68E-05	5.87E-05	2.33E-04	NA	2.24E-04	4.57E-04
TPH Motor Oil - aromatic	8.39E-04	NA	1.42E-03	2.26E-03	8.95E-03	NA	8.63E-03	1.76E-02
TOTAL:	2.20E-03	3.84E-03	4.68E-03	**1.07E-02**	2.34E-02	3.84E-03	2.85E-02	**5.57E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-23
Noncancer Hazard - Soil
Exposure Area E

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	7.28E-04	NA	NA	7.28E-04	1.31E-03	1.28E-05	3.64E-04	1.69E-03	1.73E-03	2.29E-04	2.18E-04	2.18E-03
Chromium (total)	7.68E-06	NA	NA	7.68E-06	1.38E-05	7.75E-10	7.38E-05	8.76E-05	3.01E-05	2.27E-08	7.29E-05	1.03E-04
Mercury	3.48E-04	NA	NA	3.48E-04	6.27E-04	1.23E-06	6.21E-03	6.84E-03	2.37E-03	6.28E-05	1.07E-02	1.31E-02
Vanadium	1.88E-03	NA	NA	1.88E-03	3.39E-03	1.90E-07	9.05E-03	1.24E-02	8.28E-03	6.26E-06	1.00E-02	1.83E-02
BTEX												
Benzene	1.29E-04	NA	NA	1.29E-04	2.32E-04	1.08E-03	1.61E-04	1.47E-03	4.83E-03	4.41E-02	1.52E-03	5.04E-02
Ethylbenzene	8.32E-06	NA	NA	8.32E-06	1.50E-05	3.27E-05	1.04E-05	5.81E-05	3.25E-04	1.55E-03	1.03E-04	1.98E-03
Toluene	8.04E-06	NA	NA	8.04E-06	1.45E-05	2.23E-04	1.00E-05	2.48E-04	4.32E-04	1.38E-02	1.36E-04	1.43E-02
Xylenes (total)	1.84E-05	NA	NA	1.84E-05	3.31E-05	4.02E-04	2.30E-05	4.59E-04	8.65E-04	2.27E-02	2.73E-04	2.39E-02
VOCs												
n-Butylbenzene	4.55E-06	NA	NA	4.55E-06	8.18E-06	7.11E-05	5.68E-06	8.50E-05	8.75E-05	1.74E-03	2.76E-05	1.86E-03
sec-Butylbenzene	4.18E-06	NA	NA	4.18E-06	7.52E-06	6.53E-05	5.22E-06	7.81E-05	5.70E-05	1.23E-03	1.80E-05	1.31E-03
tert-Butylbenzene	2.05E-06	NA	NA	2.05E-06	3.70E-06	2.79E-05	2.57E-06	3.42E-05	4.88E-06	8.70E-05	1.54E-06	9.34E-05
1,2-Dichlorobenzene	1.28E-06	NA	NA	1.28E-06	2.31E-06	2.20E-05	1.60E-06	2.59E-05	3.05E-06	6.35E-05	9.63E-07	6.75E-05
1,3-Dichlorobenzene	2.43E-07	NA	NA	2.43E-07	4.37E-07	2.64E-06	3.03E-07	3.38E-06	5.76E-07	6.87E-06	1.82E-07	7.63E-06
1,4-Dichlorobenzene	5.87E-07	NA	NA	5.87E-07	1.06E-06	2.20E-06	7.33E-07	3.99E-06	1.39E-06	6.29E-06	4.40E-07	8.12E-06
Isopropylbenzene	3.41E-06	NA	NA	3.41E-06	6.14E-06	6.13E-05	4.26E-06	7.17E-05	4.48E-05	9.98E-04	1.41E-05	1.06E-03
p-Isopropyltoluene	1.98E-06	NA	NA	1.98E-06	3.56E-06	3.55E-05	2.47E-06	4.16E-05	3.36E-05	7.72E-04	1.06E-05	8.16E-04
n-Propylbenzene	4.50E-06	NA	NA	4.50E-06	8.11E-06	2.87E-05	5.63E-06	4.24E-05	6.41E-05	4.47E-04	2.02E-05	5.31E-04
1,2,4-Trimethylbenzene	6.39E-04	NA	NA	6.39E-04	1.15E-03	1.03E-02	7.98E-04	1.22E-02	1.27E-02	2.53E-01	4.01E-03	2.70E-01
1,3,5-Trimethylbenzene	4.93E-05	NA	NA	4.93E-05	8.87E-05	9.49E-04	6.16E-05	1.10E-03	8.44E-04	2.01E-02	2.66E-04	2.12E-02
PAHs												
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	8.23E-07	NA	NA	8.23E-07	1.48E-06	2.58E-06	4.61E-06	8.67E-06	1.57E-05	7.06E-05	2.22E-05	1.09E-04
Acenaphthylene	2.04E-07	NA	NA	2.04E-07	3.67E-07	6.38E-07	1.14E-06	2.15E-06	2.06E-06	9.26E-06	2.92E-06	1.42E-05
Anthracene	1.45E-06	NA	NA	1.45E-06	2.61E-06	1.22E-06	8.11E-06	1.19E-05	3.44E-06	5.20E-06	4.87E-06	1.35E-05
Benz(a)anthracene	3.52E-07	NA	NA	3.52E-07	6.33E-07	1.22E-10	1.97E-06	2.60E-06	8.36E-07	2.18E-09	1.18E-06	2.02E-06
Benzo(b)fluoranthene	2.36E-06	NA	NA	2.36E-06	4.25E-06	8.20E-10	1.32E-05	1.75E-05	5.60E-06	1.46E-08	7.93E-06	1.35E-05
Benzo(k)fluoranthene	1.24E-06	NA	NA	1.24E-06	2.23E-06	4.32E-10	6.95E-06	9.19E-06	2.95E-06	7.69E-09	4.17E-06	7.13E-06
Benzo(g,h,i)perylene	2.69E-06	NA	NA	2.69E-06	4.84E-06	9.35E-10	1.51E-05	1.99E-05	6.39E-06	1.67E-08	9.04E-06	1.54E-05
Benzo(a)pyrene	7.03E-07	NA	NA	7.03E-07	1.27E-06	2.45E-10	3.94E-06	5.21E-06	3.93E-06	1.03E-08	5.56E-06	9.50E-06
Chrysene	9.52E-06	NA	NA	9.52E-06	1.71E-05	3.31E-09	5.33E-05	7.04E-05	2.26E-05	5.90E-08	3.20E-05	5.47E-05
Dibenz(a,h)anthracene	2.03E-08	NA	NA	2.03E-08	3.65E-08	7.05E-12	1.14E-07	1.50E-07	4.82E-08	1.26E-10	6.81E-08	1.16E-07
Fluoranthene	1.21E-06	NA	NA	1.21E-06	2.18E-06	4.21E-10	6.78E-06	8.96E-06	8.11E-06	2.11E-08	1.15E-05	1.96E-05
Fluorene	2.20E-05	NA	NA	2.20E-05	3.97E-05	3.44E-05	1.23E-04	1.97E-04	5.24E-05	1.29E-04	7.40E-05	2.55E-04
Indeno(1,2,3-cd)pyrene	1.16E-06	NA	NA	1.16E-06	2.09E-06	4.03E-10	6.49E-06	8.57E-06	2.95E-06	7.69E-09	4.17E-06	7.13E-06
1-Methylnaphthalene	9.75E-06	NA	NA	9.75E-06	1.76E-05	7.31E-05	4.20E-05	1.33E-04	2.32E-05	2.92E-04	2.52E-05	3.40E-04
2-Methylnaphthalene	1.86E-04	NA	NA	1.86E-04	3.35E-04	1.41E-03	8.03E-04	2.55E-03	1.11E-03	1.39E-02	1.20E-03	1.62E-02
Naphthalene	8.01E-06	NA	NA	8.01E-06	1.44E-05	5.90E-04	3.45E-05	6.39E-04	1.62E-04	1.59E-02	1.76E-04	1.62E-02
Phenanthrene	1.37E-06	NA	NA	1.37E-06	2.46E-06	9.25E-07	7.65E-06	1.10E-05	5.60E-06	8.46E-06	7.93E-06	2.20E-05
Pyrene	1.53E-06	NA	NA	1.53E-06	2.76E-06	2.83E-07	8.57E-06	1.16E-05	9.83E-06	5.90E-06	1.39E-05	2.96E-05
SVOCs												
2,4-Dinitrotoluene	1.37E-04	NA	NA	1.37E-04	2.47E-04	1.38E-08	1.71E-04	4.18E-04	3.25E-04	2.46E-07	1.03E-04	4.28E-04
Total Petroleum Hydrocarbon												
TPH Gasoline - aliphatic	1.09E-03	NA	NA	1.09E-03	1.97E-03	2.20E-08	1.36E-03	3.33E-03	2.05E-02	3.10E-06	6.47E-03	2.70E-02
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	6.33E-03	NA	NA	6.33E-03	1.14E-02	7.45E-07	7.91E-03	1.93E-02	5.02E-02	4.43E-05	1.59E-02	6.61E-02
TPH Diesel - aromatic	1.22E-02	NA	NA	1.22E-02	2.19E-02	2.58E-06	1.52E-02	3.71E-02	9.66E-02	1.53E-04	3.05E-02	1.27E-01
TPH Motor Oil - aliphatic	3.90E-04	NA	NA	3.90E-04	7.01E-04	NA	4.87E-04	1.19E-03	1.59E-03	NA	5.01E-04	2.09E-03
TPH Motor Oil - aromatic	1.50E-02	NA	NA	1.50E-02	2.70E-02	NA	1.87E-02	4.57E-02	6.10E-02	NA	1.93E-02	8.03E-02
TOTAL:	3.92E-02	NA	NA	**3.92E-02**	7.06E-02	1.54E-02	6.18E-02	**1.48E-01**	2.64E-01	3.92E-01	1.02E-01	**7.58E-01**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-24
Noncancer Hazard - Soil Gas
Exposure Area E

CHEMICAL	Hotel Bungalow Short-term Resident	Default Comm Bldg Short-term Resident	Commercial Users			
			Hotel Bungalow Indoor Employee	Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX						
Benzene	9.70E-02	4.79E-02	2.89E-01	1.43E-01	NA	NA
Ethylbenzene	1.70E-04	8.43E-05	5.07E-04	2.51E-04	NA	NA
Toluene	1.91E-03	9.46E-04	5.70E-03	2.82E-03	NA	NA
m&p-Xylenes	4.54E-04	2.25E-04	1.35E-03	6.68E-04	NA	NA
o-Xylene	5.66E-05	2.80E-05	1.68E-04	8.32E-05	NA	NA
VOCs						
2-Butanone	2.13E-04	9.99E-05	6.34E-04	2.97E-04	NA	NA
tert-Butylalcohol	5.70E-04	2.71E-04	1.70E-03	8.06E-04	NA	NA
Carbon disulfide	7.47E-07	3.68E-07	2.22E-06	1.10E-06	NA	NA
Chloroform	1.72E-03	8.48E-04	5.12E-03	2.52E-03	NA	NA
Cyclohexane	3.33E-03	1.60E-03	9.92E-03	4.77E-03	NA	NA
1,2-Dichlorobenzene	5.10E-07	2.47E-07	1.52E-06	7.34E-07	NA	NA
1,2-Dichloroethane	7.85E-04	3.77E-04	2.34E-03	1.12E-03	NA	NA
4-Ethyltoluene	1.23E-04	6.06E-05	3.65E-04	1.80E-04	NA	NA
n-Heptane	1.39E-03	6.79E-04	4.15E-03	2.02E-03	NA	NA
Hexane	1.30E-02	5.94E-03	3.87E-02	1.77E-02	NA	NA
Isopropylbenzene	2.20E-04	1.10E-04	6.56E-04	3.26E-04	NA	NA
Methylene chloride	3.69E-05	1.82E-05	1.10E-04	5.41E-05	NA	NA
Methyl tert-butyl ether	1.72E-06	8.27E-07	5.13E-06	2.46E-06	NA	NA
n-Propylbenzene	9.69E-05	4.80E-05	2.88E-04	1.43E-04	NA	NA
1,1,2,2-Tetrachloroethane	9.40E-04	4.65E-04	2.80E-03	1.38E-03	NA	NA
Tetrahydrofuran	3.87E-06	1.81E-06	1.15E-05	5.38E-06	NA	NA
1,2,4-Trimethylbenzene	1.72E-02	8.55E-03	5.13E-02	2.54E-02	NA	NA
1,3,5-Trimethylbenzene	1.57E-03	7.80E-04	4.68E-03	2.32E-03	NA	NA
2,2,4-Trimethylpentane	6.01E-04	2.92E-04	1.79E-03	8.69E-04	NA	NA
TOTAL:	**1.41E-01**	**6.93E-02**	**4.21E-01**	**2.06E-01**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-25
Noncancer Hazard - Groundwater
Exposure Area E

CHEMICAL	Commercial Users		
	Intrusive Utility Worker		
	Ing	Dermal	Direct Total
Inorganics			
Molybdenum	2.697E-04	3.501E-05	3.047E-04
BTEX			
Ethylbenzene	1.079E-07	6.903E-07	7.982E-07
Toluene	2.360E-07	9.526E-07	1.189E-06
Xylenes (total)	8.669E-08	5.300E-07	6.167E-07
VOCs			
tert-Butylalcohol	1.413E-06	2.805E-07	1.693E-06
n-Butylbenzene	1.541E-06	4.501E-05	4.655E-05
sec-Butylbenzene	3.545E-06	1.035E-04	1.071E-04
tert-Butylbenzene	7.705E-07	2.250E-05	2.327E-05
1,2-Dichloropropane	1.247E-05	1.219E-05	2.466E-05
Isopropylbenzene	7.320E-06	8.523E-05	9.255E-05
p-Isopropyltoluene	1.695E-07	1.974E-06	2.143E-06
Methyl tert-butyl ether	3.211E-07	8.793E-08	4.090E-07
n-Propylbenzene	4.623E-06	5.635E-05	6.097E-05
1,2,4-Trimethylbenzene	5.972E-06	6.643E-05	7.240E-05
PAHs			
Acenaphthene	4.302E-07	5.131E-06	5.561E-06
Acenaphthylene	1.027E-07	1.442E-06	1.545E-06
Anthracene	9.118E-09	1.868E-07	1.960E-07
Fluorene	8.669E-07	1.200E-05	1.287E-05
Naphthalene	3.660E-06	2.233E-05	2.599E-05
Phenanthrene	1.798E-08	3.267E-07	3.447E-07
Total Petroleum Hydrocarbons			
TPH Gasoline - aliphatic	0.000E+00	0.000E+00	0.000E+00
TPH Gasoline - aromatic	NA	NA	NA
TPH Diesel - aliphatic	0.000E+00	0.000E+00	0.000E+00
TPH Diesel - aromatic	7.705E-04	4.240E-02	4.317E-02
TPH Motor Oil - aliphatic	0.000E+00	0.000E+00	0.000E+00
TPH Motor Oil - aromatic	1.541E-03	4.119E-02	4.273E-02
TOTAL:	2.63E-03	8.41E-02	**8.67E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-26
Risk Summary
Exposure Area G

Receptor	Soil Risk	Indoor Vapor Risk	Groundwater	Site-grown Produce	Total Risk	Soil Hazard	Indoor Vapor Hazard	Groundwater	Site-grown Produce	Total Hazard
Commercial Users										
Default Comm Bldg Indoor Employee	1.2.E-08	2.0.E-07	NA	NA*	**2E-07**	0.021	0.00	NA	NA*	**0.02**
Outdoor Employee	2.0.E-07	NA	NA	NA*	**2E-07**	0.09	NA	NA	NA*	**0.09**
Intrusive Utility Worker	5.9.E-08	NA	NA	NA	**6E-08**	0.08	NA	NA	NA	**0.08**

NA = Not Applicable

*Potential risk/hazard from ingestion of produce grown on the Site by these receptors discussed in uncertainty section (7.4.1.2).

Table 6-27
Cancer Risk - Soil
Exposure Area G

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	NC	NA	NA	NC	NC	3.86E-10	NC	3.86E-10	NC	2.14E-10	NC	2.14E-10
Chromium (total)	NC	NA	NA	NC	NC	6.02E-08	NC	6.02E-08	NC	3.33E-08	NC	3.33E-08
Mercury	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Vanadium	NC	NA	NA	NC	NC	3.82E-08	NC	3.82E-08	NC	2.11E-08	NC	2.11E-08
BTEX												
Benzene	5.63E-10	NA	NA	5.63E-10	1.01E-09	2.06E-08	7.03E-10	2.23E-08	5.35E-11	1.63E-09	1.69E-11	1.70E-09
VOCs												
Chloroform	3.10E-11	NA	NA	3.10E-11	5.59E-11	9.00E-10	3.88E-11	9.95E-10	2.95E-12	5.54E-11	9.31E-13	5.92E-11
1,3,5-Trimethylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
PAHs												
BaP TEQ	7.18E-09	NA	NA	7.18E-09	1.29E-08	5.65E-12	4.02E-08	5.31E-08	6.82E-10	3.13E-12	9.65E-10	1.65E-09
Acenaphthylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	3.75E-09	NA	NA	3.75E-09	6.75E-09	1.34E-12	2.10E-08	2.78E-08	3.57E-10	7.39E-13	5.04E-10	8.62E-10
Fluoranthene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NC	NA	NA	NC	NC	1.08E-09	NC	1.08E-09	NC	1.05E-10	NC	1.05E-10
Phenanthrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbons												
TPH Gasoline - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Gasoline - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TOTAL:	1.15E-08	NA	NA	**1.15E-08**	2.07E-08	1.21E-07	6.19E-08	**2.04E-07**	1.10E-09	5.64E-08	1.49E-09	**5.90E-08**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-28
Cancer Risk - Soil Gas
Exposure Area G

CHEMICAL	Commercial Users		
	Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX			
Benzene	4.62E-08	NA	NA
Ethylbenzene	2.85E-09	NA	NA
Toluene	NC	NA	NA
m&p-Xylenes	NC	NA	NA
o-Xylene	NC	NA	NA
VOCs			
2-Butanone	NC	NA	NA
Carbon disulfide	NC	NA	NA
Chloroform	9.65E-08	NA	NA
Chloromethane	NC	NA	NA
Cyclohexane	NC	NA	NA
4-Ethyltoluene	NC	NA	NA
n-Heptane	NC	NA	NA
Hexane	NC	NA	NA
Isopropyl alcohol	NC	NA	NA
Isopropylbenzene	NC	NA	NA
Methylene chloride	3.17E-10	NA	NA
n-Propylbenzene	NC	NA	NA
Tetrachloroethene	4.54E-08	NA	NA
Tetrahydrofuran	6.23E-11	NA	NA
Trichloroethene	2.40E-09	NA	NA
1,2,4-Trimethylbenzene	NC	NA	NA
1,3,5-Trimethylbenzene	NC	NA	NA
2,2,4-Trimethylpentane	NC	NA	NA
PAHs			
Naphthalene	4.10E-09	NA	NA
TOTAL:	**1.98E-07**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-29
Noncancer Hazard - Soil
Exposure Area G

	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
CHEMICAL	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	8.13E-04	NA	NA	8.13E-04	1.46E-03	1.44E-05	4.06E-04	1.88E-03	1.93E-03	1.98E-04	2.44E-04	2.37E-03
Chromium (total)	1.93E-05	NA	NA	1.93E-05	3.47E-05	1.95E-09	1.86E-04	2.20E-04	4.59E-05	2.69E-08	1.11E-04	1.57E-04
Mercury	5.71E-04	NA	NA	5.71E-04	1.03E-03	2.01E-06	1.02E-02	1.12E-02	1.36E-03	2.79E-05	6.11E-03	7.50E-03
Vanadium	5.81E-03	NA	NA	5.81E-03	1.05E-02	5.86E-07	2.79E-02	3.84E-02	1.38E-02	8.10E-06	1.67E-02	3.06E-02
BTEX												
Benzene	4.39E-06	NA	NA	4.39E-06	7.90E-06	3.69E-05	5.48E-06	5.02E-05	1.04E-05	7.32E-05	3.29E-06	8.69E-05
VOCs												
Chloroform	3.13E-07	NA	NA	3.13E-07	5.63E-07	1.77E-06	3.90E-07	2.72E-06	7.43E-07	2.72E-06	2.34E-07	3.69E-06
1,3,5-Trimethylbenzene	5.57E-07	NA	NA	5.57E-07	1.00E-06	1.07E-05	6.95E-07	1.24E-05	1.32E-06	2.42E-05	4.17E-07	2.60E-05
PAHs												
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	2.48E-08	NA	NA	2.48E-08	4.47E-08	7.78E-08	1.39E-07	2.61E-07	5.90E-08	2.04E-07	8.34E-08	3.46E-07
Anthracene	6.62E-08	NA	NA	6.62E-08	1.19E-07	5.56E-08	3.71E-07	5.46E-07	1.57E-07	1.83E-07	2.22E-07	5.63E-07
Benz(a)anthracene	5.38E-09	NA	NA	5.38E-09	9.68E-09	1.87E-12	3.01E-08	3.98E-08	1.28E-08	2.59E-11	1.81E-08	3.09E-08
Benzo(b)fluoranthene	3.72E-07	NA	NA	3.72E-07	6.70E-07	1.30E-10	2.09E-06	2.76E-06	8.85E-07	1.79E-09	1.25E-06	2.14E-06
Benzo(g,h,i)perylene	3.31E-07	NA	NA	3.31E-07	5.96E-07	1.15E-10	1.85E-06	2.45E-06	7.87E-07	1.59E-09	1.11E-06	1.90E-06
Benzo(a)pyrene	3.68E-07	NA	NA	3.68E-07	6.63E-07	1.28E-10	2.06E-06	2.73E-06	8.75E-07	1.77E-09	1.24E-06	2.11E-06
Chrysene	6.62E-07	NA	NA	6.62E-07	1.19E-06	2.30E-10	3.71E-06	4.90E-06	1.57E-06	3.18E-09	2.22E-06	3.80E-06
Dibenz(a,h)anthracene	9.52E-09	NA	NA	9.52E-09	1.71E-08	3.31E-12	5.33E-08	7.04E-08	2.26E-08	4.58E-11	3.20E-08	5.46E-08
Fluoranthene	4.97E-07	NA	NA	4.97E-07	8.94E-07	1.73E-10	2.78E-06	3.67E-06	1.18E-06	2.39E-09	1.67E-06	2.85E-06
Fluorene	2.08E-06	NA	NA	2.08E-06	3.74E-06	3.25E-06	1.16E-05	1.86E-05	4.94E-06	9.37E-06	6.99E-06	2.13E-05
Indeno(1,2,3-cd)pyrene	3.31E-07	NA	NA	3.31E-07	5.96E-07	1.15E-10	1.85E-06	2.45E-06	7.87E-07	1.59E-09	1.11E-06	1.90E-06
Naphthalene	1.49E-07	NA	NA	1.49E-07	2.68E-07	1.10E-05	6.42E-07	1.19E-05	3.54E-07	2.67E-05	3.85E-07	2.74E-05
Phenanthrene	9.10E-08	NA	NA	9.10E-08	1.64E-07	6.16E-08	5.10E-07	7.35E-07	2.16E-07	2.52E-07	3.06E-07	7.74E-07
Pyrene	2.36E-06	NA	NA	2.36E-06	4.25E-06	4.36E-07	1.32E-05	1.79E-05	5.60E-06	2.59E-06	7.93E-06	1.61E-05
Total Petroleum Hydrocarbons												
TPH Gasoline - aliphatic	1.95E-06	NA	NA	1.95E-06	3.51E-06	3.93E-11	2.43E-06	5.94E-06	4.63E-06	5.43E-10	1.46E-06	6.09E-06
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	3.67E-03	NA	NA	3.67E-03	6.61E-03	4.32E-07	4.59E-03	1.12E-02	8.73E-03	5.97E-06	2.75E-03	1.15E-02
TPH Diesel - aromatic	7.06E-03	NA	NA	7.06E-03	1.27E-02	1.50E-06	8.82E-03	2.15E-02	1.68E-02	2.07E-05	5.29E-03	2.21E-02
TPH Motor Oil - aliphatic	8.35E-05	NA	NA	8.35E-05	1.50E-04	NA	1.04E-04	2.55E-04	1.98E-04	NA	6.26E-05	2.61E-04
TPH Motor Oil - aromatic	3.21E-03	NA	NA	3.21E-03	5.78E-03	NA	4.01E-03	9.79E-03	7.63E-03	NA	2.41E-03	1.00E-02
TOTAL:	2.13E-02	NA	NA	**2.13E-02**	3.83E-02	8.31E-05	5.63E-02	**9.46E-02**	5.05E-02	4.00E-04	3.38E-02	**8.47E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-30
Noncancer Hazard - Soil Gas
Exposure Area G

CHEMICAL	Commercial Users		
	Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX			
Benzene	8.29E-05	NA	NA
Ethylbenzene	1.78E-06	NA	NA
Toluene	2.99E-06	NA	NA
m&p-Xylenes	9.55E-06	NA	NA
o-Xylene	8.92E-06	NA	NA
VOCs			
2-Butanone	6.06E-08	NA	NA
Carbon disulfide	5.11E-07	NA	NA
Chloroform	1.89E-04	NA	NA
Chloromethane	3.36E-04	NA	NA
Cyclohexane	1.05E-05	NA	NA
4-Ethyltoluene	1.05E-05	NA	NA
n-Heptane	6.06E-06	NA	NA
Hexane	1.85E-05	NA	NA
Isopropyl alcohol	1.48E-07	NA	NA
Isopropylbenzene	5.83E-06	NA	NA
Methylene chloride	2.47E-06	NA	NA
n-Propylbenzene	1.94E-06	NA	NA
Tetrachloroethene	6.87E-04	NA	NA
Tetrahydrofuran	3.32E-07	NA	NA
Trichloroethene	6.23E-06	NA	NA
1,2,4-Trimethylbenzene	4.29E-04	NA	NA
1,3,5-Trimethylbenzene	1.89E-04	NA	NA
2,2,4-Trimethylpentane	2.38E-06	NA	NA
PAHs			
Naphthalene	4.18E-05	NA	NA
TOTAL:	**2.04E-03**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-31
Risk Summary
Exposure Area Ia

Receptor	Soil Risk	Indoor Vapor Risk	Groundwater	Site-grown Produce	Total Risk	Soil Hazard	Indoor Vapor Hazard	Groundwater	Site-grown Produce	Total Hazard
Hotel Bungalow Short-term Resident										
Adult	2.0.E-07	3.9.E-07	NA	3.0.E-08	**6E-07**	0.0014	0.00067	NA	0.0019	**0.004**
Child						0.0096		NA	0.0046	**0.01**
Default Commercial Building Short-term Resident										
Adult	2.0.E-07	1.8.E-07	NA	3.0.E-08	**4E-07**	0.0014	0.00031	NA	0.0019	**0.004**
Child						0.0096		NA	0.0046	**0.01**
Commercial Users										
Hotel Bungalow Indoor Employee	1.3.E-08	3.7.E-07	NA	NA*	**4E-07**	0.0063	0.0020	NA	NA*	**0.008**
Default Comm Bldg Indoor Employee	1.3.E-08	1.7.E-07	NA	NA*	**2E-07**	0.0063	0.00094	NA	NA*	**0.007**
Outdoor Employee	2.6.E-07	NA	NA	NA*	**3E-07**	0.024	NA	NA	NA*	**0.02**
Intrusive Utility Worker	5.4.E-08	NA	NA	NA	**5E-08**	0.036	NA	NA	NA	**0.04**

NA = Not Applicable

*Potential risk/hazard from ingestion of produce grown on the Site by these receptors discussed in uncertainty section (7.4.1.2).

Table 6-32
Cancer Risk - Soil
Exposure Area Ia

CHEMICAL	Short-term Resident Adult + Child Ing	InhP	Dermal	Direct Total
Inorganics				
Cadmium	NC	1.59E-10	NC	1.59E-10
Chromium (total)	NC	2.43E-08	NC	2.43E-08
Vanadium	NC	6.91E-09	NC	6.91E-09
BTEX				
Benzene	3.55E-09	1.10E-07	3.69E-09	1.17E-07
Ethylbenzene	1.09E-10	1.65E-09	1.13E-10	1.87E-09
Xylenes (total)	NC	NC	NC	NC
PAHs				
BaP TEQ	6.57E-09	4.38E-12	3.07E-08	3.72E-08
Acenaphthylene	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA
Dibenz(a,h)anthracene	1.96E-09	5.90E-13	9.14E-09	1.11E-08
Fluoranthene	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA
Phenanthrene	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC
Total Petroleum Hydrocarbons				
TPH Gasoline - aliphatic	NC	NC	NC	NC
TPH Gasoline - aromatic	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NC	NC	NC
TOTAL:	1.22E-08	1.43E-07	4.36E-08	**1.99E-07**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-32
Cancer Risk - Soil
Exposure Area Ia

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	NC	NA	NA	NC	NC	2.03E-10	NC	2.03E-10	NC	1.39E-10	NC	1.39E-10
Chromium (total)	NC	NA	NA	NC	NC	3.11E-08	NC	3.11E-08	NC	2.13E-08	NC	2.13E-08
Vanadium	NC	NA	NA	NC	NC	8.84E-09	NC	8.84E-09	NC	6.05E-09	NC	6.05E-09
BTEX												
Benzene	3.84E-09	NA	NA	3.84E-09	6.92E-09	1.40E-07	4.80E-09	1.52E-07	3.65E-10	2.36E-08	1.15E-10	2.40E-08
Ethylbenzene	1.18E-10	NA	NA	1.18E-10	2.12E-10	2.11E-09	1.47E-10	2.46E-09	1.12E-11	3.76E-10	3.53E-12	3.91E-10
Xylenes (total)	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
PAHs												
BaP TEQ	7.12E-09	NA	NA	7.12E-09	1.28E-08	5.61E-12	3.99E-08	5.27E-08	6.76E-10	3.83E-12	9.57E-10	1.64E-09
Acenaphthylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	2.12E-09	NA	NA	2.12E-09	3.82E-09	7.55E-13	1.19E-08	1.57E-08	2.02E-10	5.17E-13	2.85E-10	4.87E-10
Fluoranthene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbon												
TPH Gasoline - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Gasoline - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TOTAL:	1.32E-08	NA	NA	**1.32E-08**	2.38E-08	1.83E-07	5.67E-08	**2.63E-07**	1.25E-09	5.14E-08	1.36E-09	**5.40E-08**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-33
Cancer Risk - Soil Gas
Exposure Area Ia

CHEMICAL	Hotel Bungalow Short-term Resident	Default Comm Bldg Short-term Resident	Commercial Users			
			Hotel Bungalow Indoor Employee	Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX						
Benzene	2.12E-08	1.00E-08	2.01E-08	9.51E-09	NA	NA
Ethylbenzene	1.19E-08	5.69E-09	1.13E-08	5.40E-09	NA	NA
Toluene	NC	NC	NC	NC	NA	NA
m&p-Xylenes	NC	NC	NC	NC	NA	NA
o-Xylene	NC	NC	NC	NC	NA	NA
VOCs						
Bromodichloromethane	9.23E-09	4.37E-09	8.75E-09	4.14E-09	NA	NA
2-Butanone	NC	NC	NC	NC	NA	NA
tert-Butylalcohol	NC	NC	NC	NC	NA	NA
Carbon disulfide	NC	NC	NC	NC	NA	NA
Carbon tetrachloride	5.87E-08	2.58E-08	5.56E-08	2.45E-08	NA	NA
Chloroform	2.82E-07	1.32E-07	2.68E-07	1.25E-07	NA	NA
Cyclohexane	NC	NC	NC	NC	NA	NA
4-Ethyltoluene	NC	NC	NC	NC	NA	NA
n-Heptane	NC	NC	NC	NC	NA	NA
Hexane	NC	NC	NC	NC	NA	NA
Isopropyl alcohol	NC	NC	NC	NC	NA	NA
Isopropylbenzene	NC	NC	NC	NC	NA	NA
n-Propylbenzene	NC	NC	NC	NC	NA	NA
Tetrachloroethene	2.09E-09	9.29E-10	1.98E-09	8.81E-10	NA	NA
1,2,4-Trimethylbenzene	NC	NC	NC	NC	NA	NA
1,3,5-Trimethylbenzene	NC	NC	NC	NC	NA	NA
TOTAL:	**3.85E-07**	**1.79E-07**	**3.65E-07**	**1.70E-07**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-34
Noncancer Hazard - Soil
Exposure Area Ia

CHEMICAL	Short-term Resident							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Cadmium	2.40E-05	1.88E-06	1.62E-05	4.20E-05	2.56E-04	1.88E-06	9.86E-05	3.56E-04
Chromium (total)	5.59E-07	2.51E-10	7.26E-06	7.82E-06	5.96E-06	2.51E-10	4.42E-05	5.02E-05
Vanadium	7.53E-05	3.38E-08	4.89E-04	5.65E-04	8.04E-04	3.38E-08	2.98E-03	3.78E-03
BTEX								
Benzene	1.68E-06	6.26E-05	2.83E-06	6.72E-05	1.79E-05	6.26E-05	1.73E-05	9.78E-05
Ethylbenzene	1.87E-08	3.27E-07	3.16E-08	3.77E-07	1.99E-07	3.27E-07	1.92E-07	7.19E-07
Xylenes (total)	1.32E-08	1.28E-06	2.23E-08	1.32E-06	1.41E-07	1.28E-06	1.36E-07	1.56E-06
PAHs								
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	1.16E-09	1.61E-08	8.77E-09	2.61E-08	1.24E-08	1.61E-08	5.34E-08	8.19E-08
Benz(a)anthracene	4.17E-10	6.45E-13	3.16E-09	3.57E-09	4.45E-09	6.45E-13	1.92E-08	2.37E-08
Benzo(b)fluoranthene	1.70E-08	2.63E-11	1.29E-07	1.46E-07	1.82E-07	2.63E-11	7.85E-07	9.67E-07
Benzo(k)fluoranthene	5.91E-09	9.13E-12	4.47E-08	5.06E-08	6.30E-08	9.13E-12	2.72E-07	3.35E-07
Benzo(g,h,i)perylene	2.11E-08	3.26E-11	1.60E-07	1.81E-07	2.25E-07	3.26E-11	9.72E-07	1.20E-06
Benzo(a)pyrene	1.95E-08	3.01E-11	1.47E-07	1.67E-07	2.08E-07	3.01E-11	8.97E-07	1.10E-06
Chrysene	6.03E-08	9.31E-11	4.56E-07	5.16E-07	6.43E-07	9.31E-11	2.78E-06	3.42E-06
Dibenz(a,h)anthracene	3.01E-10	4.66E-13	2.28E-09	2.58E-09	3.21E-09	4.66E-13	1.39E-08	1.71E-08
Fluoranthene	1.15E-08	1.77E-11	8.68E-08	9.83E-08	1.22E-07	1.77E-11	5.29E-07	6.51E-07
Indeno(1,2,3-cd)pyrene	1.37E-08	2.11E-11	1.03E-07	1.17E-07	1.46E-07	2.11E-11	6.30E-07	7.76E-07
Phenanthrene	2.09E-09	6.28E-09	1.58E-08	2.41E-08	2.22E-08	6.28E-09	9.61E-08	1.25E-07
Pyrene	1.76E-08	1.45E-08	1.33E-07	1.65E-07	1.88E-07	1.45E-08	8.12E-07	1.01E-06
Total Petroleum Hydrocarbons								
TPH Gasoline - aliphatic	1.71E-06	1.54E-10	2.89E-06	4.61E-06	1.83E-05	1.54E-10	1.76E-05	3.59E-05
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	2.31E-05	1.21E-08	3.89E-05	6.20E-05	2.46E-04	1.21E-08	2.37E-04	4.83E-04
TPH Diesel - aromatic	4.43E-05	4.17E-08	7.49E-05	1.19E-04	4.73E-04	4.17E-08	4.56E-04	9.29E-04
TPH Motor Oil - aliphatic	4.67E-06	NA	7.89E-06	1.26E-05	4.99E-05	NA	4.81E-05	9.79E-05
TPH Motor Oil - aromatic	1.80E-04	NA	3.04E-04	4.83E-04	1.92E-03	NA	1.85E-03	3.77E-03
TOTAL:	3.55E-04	6.63E-05	9.45E-04	**1.37E-03**	3.79E-03	6.63E-05	5.76E-03	**9.61E-03**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-34
Noncancer Hazard - Soil
Exposure Area Ia

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	4.28E-04	NA	NA	4.28E-04	7.71E-04	7.55E-06	2.14E-04	9.92E-04	1.02E-03	1.29E-04	1.28E-04	1.27E-03
Chromium (total)	9.99E-06	NA	NA	9.99E-06	1.80E-05	1.01E-09	9.60E-05	1.14E-04	2.37E-05	1.72E-08	5.76E-05	8.13E-05
Vanadium	1.35E-03	NA	NA	1.35E-03	2.42E-03	1.36E-07	6.46E-03	8.89E-03	3.20E-03	2.32E-06	3.88E-03	7.08E-03
BTEX												
Benzene	3.00E-05	NA	NA	3.00E-05	5.39E-05	2.52E-04	3.74E-05	3.43E-04	7.12E-05	1.06E-03	2.25E-05	1.15E-03
Ethylbenzene	3.34E-07	NA	NA	3.34E-07	6.01E-07	1.31E-06	4.17E-07	2.33E-06	7.93E-07	5.86E-06	2.50E-07	6.91E-06
Xylenes (total)	2.35E-07	NA	NA	2.35E-07	4.24E-07	5.15E-06	2.94E-07	5.87E-06	5.59E-07	2.29E-05	1.76E-07	2.36E-05
PAHs												
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	2.07E-08	NA	NA	2.07E-08	3.72E-08	6.48E-08	1.16E-07	2.18E-07	4.92E-08	3.02E-07	6.95E-08	4.21E-07
Benz(a)anthracene	7.45E-09	NA	NA	7.45E-09	1.34E-08	2.59E-12	4.17E-08	5.51E-08	1.77E-08	4.43E-11	2.50E-08	4.28E-08
Benzo(b)fluoranthene	3.04E-07	NA	NA	3.04E-07	5.47E-07	1.06E-10	1.70E-06	2.25E-06	7.23E-07	1.81E-09	1.02E-06	1.75E-06
Benzo(k)fluoranthene	1.06E-07	NA	NA	1.06E-07	1.90E-07	3.67E-11	5.91E-07	7.81E-07	2.51E-07	6.28E-10	3.55E-07	6.06E-07
Benzo(g,h,i)perylene	3.77E-07	NA	NA	3.77E-07	6.78E-07	1.31E-10	2.11E-06	2.79E-06	8.95E-07	2.24E-09	1.27E-06	2.16E-06
Benzo(a)pyrene	3.48E-07	NA	NA	3.48E-07	6.26E-07	1.21E-10	1.95E-06	2.57E-06	8.26E-07	2.07E-09	1.17E-06	2.00E-06
Chrysene	1.08E-06	NA	NA	1.08E-06	1.94E-06	3.74E-10	6.02E-06	7.96E-06	2.56E-06	6.40E-09	3.61E-06	6.18E-06
Dibenz(a,h)anthracene	5.38E-09	NA	NA	5.38E-09	9.68E-09	1.87E-12	3.01E-08	3.98E-08	1.28E-08	3.20E-11	1.81E-08	3.09E-08
Fluoranthene	2.05E-07	NA	NA	2.05E-07	3.69E-07	7.12E-11	1.15E-06	1.52E-06	4.87E-07	1.22E-09	6.88E-07	1.18E-06
Indeno(1,2,3-cd)pyrene	2.44E-07	NA	NA	2.44E-07	4.39E-07	8.49E-11	1.37E-06	1.81E-06	5.80E-07	1.45E-09	8.20E-07	1.40E-06
Phenanthrene	3.72E-08	NA	NA	3.72E-08	6.70E-08	2.52E-08	2.09E-07	3.01E-07	8.85E-08	1.50E-07	1.25E-07	3.63E-07
Pyrene	3.14E-07	NA	NA	3.14E-07	5.66E-07	5.81E-08	1.76E-06	2.39E-06	7.47E-07	3.15E-07	1.06E-06	2.12E-06
Total Petroleum Hydrocarbons												
TPH Gasoline - aliphatic	3.06E-05	NA	NA	3.06E-05	5.51E-05	6.17E-10	3.82E-05	9.33E-05	7.27E-05	1.06E-08	2.29E-05	9.57E-05
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	4.12E-04	NA	NA	4.12E-04	7.41E-04	4.84E-08	5.14E-04	1.26E-03	2.91E-03	2.46E-06	9.18E-04	3.83E-03
TPH Diesel - aromatic	7.92E-04	NA	NA	7.92E-04	1.43E-03	1.68E-07	9.89E-04	2.41E-03	5.59E-03	8.53E-06	1.76E-03	7.37E-03
TPH Motor Oil - aliphatic	8.35E-05	NA	NA	8.35E-05	1.50E-04	NA	1.04E-04	2.55E-04	2.91E-04	NA	9.18E-05	3.83E-04
TPH Motor Oil - aromatic	3.21E-03	NA	NA	3.21E-03	5.78E-03	NA	4.01E-03	9.79E-03	1.12E-02	NA	3.53E-03	1.47E-02
TOTAL:	6.35E-03	NA	NA	**6.35E-03**	1.14E-02	2.66E-04	1.25E-02	**2.42E-02**	2.44E-02	1.23E-03	1.04E-02	**3.60E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-35
Noncancer Hazard - Soil Gas
Exposure Area Ia

CHEMICAL	Hotel Bungalow Short-term Resident	Default Comm Bldg Short-term Resident	Commercial Users			
			Hotel Bungalow Indoor Employee	Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX						
Benzene	1.21E-05	5.73E-06	3.61E-05	1.70E-05	NA	NA
Ethylbenzene	2.37E-06	1.13E-06	7.07E-06	3.37E-06	NA	NA
Toluene	6.93E-06	3.02E-06	2.06E-05	8.98E-06	NA	NA
m&p-Xylenes	1.73E-06	7.62E-07	5.15E-06	2.27E-06	NA	NA
o-Xylene	4.65E-07	2.02E-07	1.38E-06	6.00E-07	NA	NA
VOCs						
Bromodichloromethane	3.54E-06	1.68E-06	1.05E-05	4.99E-06	NA	NA
2-Butanone	8.59E-08	3.74E-08	2.56E-07	1.11E-07	NA	NA
tert-Butylalcohol	9.88E-08	4.19E-08	2.94E-07	1.25E-07	NA	NA
Carbon disulfide	7.29E-06	3.10E-06	2.17E-05	9.22E-06	NA	NA
Carbon tetrachloride	3.47E-05	1.53E-05	1.03E-04	4.54E-05	NA	NA
Chloroform	1.76E-04	8.26E-05	5.25E-04	2.46E-04	NA	NA
Cyclohexane	1.50E-07	7.12E-08	4.46E-07	2.12E-07	NA	NA
4-Ethyltoluene	3.80E-07	1.68E-07	1.13E-06	4.99E-07	NA	NA
n-Heptane	3.77E-07	1.68E-07	1.12E-06	4.99E-07	NA	NA
Hexane	5.34E-07	2.38E-07	1.59E-06	7.08E-07	NA	NA
Isopropyl alcohol	1.33E-07	5.35E-08	3.95E-07	1.59E-07	NA	NA
Isopropylbenzene	1.55E-05	7.42E-06	4.61E-05	2.21E-05	NA	NA
n-Propylbenzene	7.75E-06	3.74E-06	2.31E-05	1.11E-05	NA	NA
Tetrachloroethene	1.01E-05	4.47E-06	3.00E-05	1.33E-05	NA	NA
1,2,4-Trimethylbenzene	2.24E-04	1.08E-04	6.65E-04	3.20E-04	NA	NA
1,3,5-Trimethylbenzene	1.61E-04	7.74E-05	4.79E-04	2.30E-04	NA	NA
TOTAL:	**6.65E-04**	**3.15E-04**	**1.98E-03**	**9.37E-04**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-36
Risk Summary
Exposure Area Ib

Receptor	Soil Risk	Indoor Vapor Risk	Groundwater	Site-grown Produce	Total Risk	Soil Hazard	Indoor Vapor Hazard	Groundwater	Site-grown Produce	Total Hazard
Hotel Bungalow Short-term Resident										
Adult	5.3.E-07	2.2.E-04	NA	3.0.E-08	**2E-04**	0.0071	0.15	NA	0.0019	**0.2**
Child						0.044		NA	0.0046	**0.2**
Default Commercial Building Short-term Resident										
Adult	5.3.E-07	1.0.E-04	NA	3.0.E-08	**1E-04**	0.0071	0.070	NA	0.0019	**0.08**
Child						0.044		NA	0.0046	**0.1**
Commercial Users										
Hotel Bungalow Indoor Employee	2.9.E-08	2.0.E-04	NA	NA*	**2E-04**	0.028	0.45	NA	NA*	**0.5**
Default Comm Bldg Indoor Employee	2.9.E-08	9.6.E-05	NA	NA*	**1E-04**	0.028	0.21	NA	NA*	**0.2**
Outdoor Employee	6.9.E-07	NA	NA	NA*	**7E-07**	0.11	NA	NA	NA*	**0.1**
Intrusive Utility Worker	1.5.E-07	NA	NA	NA	**1E-07**	0.32	NA	NA	NA	**0.3**

NA = Not Applicable

*Potential risk/hazard from ingestion of produce grown on the Site by these receptors discussed in uncertainty section (7.4.1.2).

Table 6-37
Cancer Risk - Soil
Exposure Area Ib

CHEMICAL	Short-term Resident Adult + Child			
	Ing	InhP	Dermal	Direct Total
Inorganics				
Chromium (total)	NC	1.46E-08	NC	1.46E-08
Mercury	NC	NC	NC	NC
Vanadium	NC	7.22E-09	NC	7.22E-09
BTEX				
Benzene	2.53E-09	7.84E-08	2.64E-09	8.35E-08
Ethylbenzene	2.01E-09	3.05E-08	2.10E-09	3.46E-08
Toluene	NC	NC	NC	NC
Xylenes (total)	NC	NC	NC	NC
PAHs				
BaP TEQ	2.22E-08	1.48E-11	1.03E-07	1.26E-07
Acenaphthene	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC
Benzo(b)fluoranthene	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA
Fluorene	NC	NC	NC	NC
Naphthalene	NC	2.60E-07	NC	2.60E-07
Phenanthrene	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC
Total Petroleum Hydrocarbons				
TPH Gasoline - aliphatic	NC	NC	NC	NC
TPH Gasoline - aromatic	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NC	NC	NC
TOTAL:	2.67E-08	3.90E-07	1.08E-07	**5.25E-07**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-37
Cancer Risk - Soil
Exposure Area Ib

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Chromium (total)	NC	NA	NA	NC	NC	1.87E-08	NC	1.87E-08	NC	1.09E-08	NC	1.09E-08
Mercury	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Vanadium	NC	NA	NA	NC	NC	9.24E-09	NC	9.24E-09	NC	5.39E-09	NC	5.39E-09
BTEX												
Benzene	2.74E-09	NA	NA	2.74E-09	4.94E-09	1.00E-07	3.43E-09	1.09E-07	9.13E-10	5.01E-08	2.88E-10	5.13E-08
Ethylbenzene	2.18E-09	NA	NA	2.18E-09	3.93E-09	3.90E-08	2.73E-09	4.57E-08	6.74E-10	1.92E-08	2.13E-10	2.01E-08
Toluene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Xylenes (total)	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
PAHs												
BaP TEQ	2.40E-08	NA	NA	2.40E-08	4.32E-08	1.89E-11	1.34E-07	1.78E-07	2.28E-09	1.10E-11	3.23E-09	5.52E-09
Acenaphthene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Naphthalene	NC	NA	NA	NC	NC	3.32E-07	NC	3.32E-07	NC	5.21E-08	NC	5.21E-08
Phenanthrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbon												
TPH Gasoline - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Gasoline - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TOTAL:	2.89E-08	NA	NA	**2.89E-08**	5.21E-08	4.99E-07	1.41E-07	**6.92E-07**	3.87E-09	1.38E-07	3.73E-09	**1.45E-07**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-38
Cancer Risk - Soil Gas
Exposure Area Ib

CHEMICAL	Hotel Bungalow Short-term Resident	Default Comm Bldg Short-term Resident	Commercial Users			
			Hotel Bungalow Indoor Employee	Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX						
Benzene	1.06E-06	5.02E-07	1.01E-06	4.76E-07	NA	NA
Ethylbenzene	1.29E-09	5.69E-10	1.22E-09	5.40E-10	NA	NA
Toluene	NC	NC	NC	NC	NA	NA
m&p-Xylenes	NC	NC	NC	NC	NA	NA
o-Xylene	NC	NC	NC	NC	NA	NA
VOCs						
Bromodichloromethane	3.82E-06	1.87E-06	3.62E-06	1.78E-06	NA	NA
Bromoform	5.90E-09	2.92E-09	5.59E-09	2.77E-09	NA	NA
2-Butanone	NC	NC	NC	NC	NA	NA
tert-Butylalcohol	NC	NC	NC	NC	NA	NA
Carbon disulfide	NC	NC	NC	NC	NA	NA
Carbon tetrachloride	4.49E-05	2.14E-05	4.26E-05	2.03E-05	NA	NA
Chloroform	1.63E-04	7.62E-05	1.54E-04	7.23E-05	NA	NA
Cyclohexane	NC	NC	NC	NC	NA	NA
Dibromochloromethane	4.17E-07	2.06E-07	3.95E-07	1.95E-07	NA	NA
1,1-Dichloroethene	NC	NC	NC	NC	NA	NA
4-Ethyltoluene	NC	NC	NC	NC	NA	NA
n-Heptane	NC	NC	NC	NC	NA	NA
Hexane	NC	NC	NC	NC	NA	NA
Isopropylbenzene	NC	NC	NC	NC	NA	NA
Methylene chloride	1.36E-07	6.36E-08	1.28E-07	6.02E-08	NA	NA
n-Propylbenzene	NC	NC	NC	NC	NA	NA
Styrene	NC	NC	NC	NC	NA	NA
Tetrachloroethene	2.12E-06	1.01E-06	2.01E-06	9.57E-07	NA	NA
Trichloroethene	4.08E-07	1.94E-07	3.87E-07	1.84E-07	NA	NA
1,2,4-Trimethylbenzene	NC	NC	NC	NC	NA	NA
1,3,5-Trimethylbenzene	NC	NC	NC	NC	NA	NA
TOTAL:	**2.16E-04**	**1.01E-04**	**2.04E-04**	**9.62E-05**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-39
Noncancer Hazard - Soil
Exposure Area Ib

CHEMICAL	Short-term Resident							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Chromium (total)	3.36E-07	1.50E-10	4.36E-06	4.69E-06	3.58E-06	1.50E-10	2.65E-05	3.01E-05
Mercury	5.59E-05	8.77E-07	1.35E-03	1.41E-03	5.97E-04	8.77E-07	8.22E-03	8.81E-03
Vanadium	7.88E-05	3.53E-08	5.12E-04	5.90E-04	8.40E-04	3.53E-08	3.12E-03	3.96E-03
BTEX								
Benzene	1.20E-06	4.47E-05	2.02E-06	4.80E-05	1.28E-05	4.47E-05	1.23E-05	6.99E-05
Ethylbenzene	3.47E-07	6.06E-06	5.85E-07	6.99E-06	3.70E-06	6.06E-06	3.56E-06	1.33E-05
Toluene	2.40E-06	2.96E-04	4.05E-06	3.02E-04	2.56E-05	2.96E-04	2.47E-05	3.46E-04
Xylenes (total)	7.02E-07	6.82E-05	1.18E-06	7.01E-05	7.48E-06	6.82E-05	7.22E-06	8.29E-05
PAHs								
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	1.16E-07	1.61E-06	8.77E-07	2.61E-06	1.24E-06	1.61E-06	5.34E-06	8.19E-06
Acenaphthylene	6.95E-08	9.68E-07	5.26E-07	1.56E-06	7.42E-07	9.68E-07	3.20E-06	4.91E-06
Benzo(b)fluoranthene	1.22E-09	1.88E-12	9.21E-09	1.04E-08	1.30E-08	1.88E-12	5.61E-08	6.91E-08
Benzo(g,h,i)perylene	5.79E-09	8.95E-12	4.38E-08	4.97E-08	6.18E-08	8.95E-12	2.67E-07	3.29E-07
Benzo(a)pyrene	2.32E-09	3.58E-12	1.75E-08	1.99E-08	2.47E-08	3.58E-12	1.07E-07	1.32E-07
Chrysene	1.16E-07	1.79E-10	8.77E-07	9.93E-07	1.24E-06	1.79E-10	5.34E-06	6.58E-06
Fluorene	4.35E-07	3.01E-06	3.29E-06	6.74E-06	4.63E-06	3.01E-06	2.00E-05	2.77E-05
Naphthalene	2.57E-06	8.43E-04	1.50E-05	8.60E-04	2.74E-05	8.43E-04	9.12E-05	9.61E-04
Phenanthrene	1.32E-07	3.98E-07	1.00E-06	1.53E-06	1.41E-06	3.98E-07	6.09E-06	7.90E-06
Pyrene	2.09E-09	1.71E-09	1.58E-08	1.96E-08	2.22E-08	1.71E-09	9.61E-08	1.20E-07
Total Petroleum Hydrocarbons								
TPH Gasoline - aliphatic	5.66E-05	5.07E-09	9.55E-05	1.52E-04	6.04E-04	5.07E-09	5.82E-04	1.19E-03
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	3.48E-04	1.82E-07	5.88E-04	9.36E-04	3.71E-03	1.82E-07	3.58E-03	7.29E-03
TPH Diesel - aromatic	6.69E-04	6.30E-07	1.13E-03	1.80E-03	7.14E-03	6.30E-07	6.88E-03	1.40E-02
TPH Motor Oil - aliphatic	8.79E-06	NA	1.48E-05	2.36E-05	9.38E-05	NA	9.04E-05	1.84E-04
TPH Motor Oil - aromatic	3.38E-04	NA	5.71E-04	9.09E-04	3.61E-03	NA	3.48E-03	7.08E-03
TOTAL:	1.56E-03	1.27E-03	4.29E-03	**7.12E-03**	1.67E-02	1.27E-03	2.61E-02	**4.41E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-39
Noncancer Hazard - Soil
Exposure Area Ib

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Chromium (total)	5.99E-06	NA	NA	5.99E-06	1.08E-05	6.04E-10	5.76E-05	6.84E-05	1.42E-05	8.81E-09	3.45E-05	4.88E-05
Mercury	9.99E-04	NA	NA	9.99E-04	1.80E-03	3.53E-06	1.78E-02	1.96E-02	2.37E-03	5.14E-05	1.07E-02	1.31E-02
Vanadium	1.41E-03	NA	NA	1.41E-03	2.53E-03	1.42E-07	6.76E-03	9.29E-03	3.34E-03	2.07E-06	4.05E-03	7.40E-03
BTEX												
Benzene	2.14E-05	NA	NA	2.14E-05	3.85E-05	1.80E-04	2.67E-05	2.45E-04	1.78E-04	2.24E-03	5.61E-05	2.48E-03
Ethylbenzene	6.19E-06	NA	NA	6.19E-06	1.11E-05	2.44E-05	7.73E-06	4.32E-05	4.78E-05	3.00E-04	1.51E-05	3.63E-04
Toluene	4.28E-05	NA	NA	4.28E-05	7.71E-05	1.19E-03	5.35E-05	1.32E-03	1.02E-04	4.37E-03	3.21E-05	4.50E-03
Xylenes (total)	1.25E-05	NA	NA	1.25E-05	2.26E-05	2.74E-04	1.57E-05	3.12E-04	1.02E-04	3.54E-03	3.21E-05	3.67E-03
PAHs												
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	2.07E-06	NA	NA	2.07E-06	3.72E-06	6.48E-06	1.16E-05	2.18E-05	4.92E-06	2.57E-05	6.95E-06	3.75E-05
Acenaphthylene	1.24E-06	NA	NA	1.24E-06	2.23E-06	3.89E-06	6.95E-06	1.31E-05	2.95E-06	1.54E-05	4.17E-06	2.25E-05
Benzo(b)fluoranthene	2.17E-08	NA	NA	2.17E-08	3.91E-08	7.55E-12	1.22E-07	1.61E-07	5.16E-08	1.10E-10	7.30E-08	1.25E-07
Benzo(g,h,i)perylene	1.03E-07	NA	NA	1.03E-07	1.86E-07	3.60E-11	5.79E-07	7.66E-07	7.87E-08	1.68E-10	1.11E-07	1.90E-07
Benzo(a)pyrene	4.14E-08	NA	NA	4.14E-08	7.45E-08	1.44E-11	2.32E-07	3.06E-07	9.83E-08	2.10E-10	1.39E-07	2.38E-07
Chrysene	2.07E-06	NA	NA	2.07E-06	3.72E-06	7.19E-10	1.16E-05	1.53E-05	4.92E-06	1.05E-08	6.95E-06	1.19E-05
Fluorene	7.76E-06	NA	NA	7.76E-06	1.40E-05	1.21E-05	4.34E-05	6.95E-05	1.84E-05	4.86E-05	2.61E-05	9.31E-05
Naphthalene	4.59E-05	NA	NA	4.59E-05	8.27E-05	3.39E-03	1.98E-04	3.67E-03	1.09E-04	1.33E-02	1.19E-04	1.35E-02
Phenanthrene	2.36E-06	NA	NA	2.36E-06	4.25E-06	1.60E-06	1.32E-05	1.91E-05	5.60E-06	8.06E-06	7.93E-06	2.16E-05
Pyrene	3.72E-08	NA	NA	3.72E-08	6.70E-08	6.88E-09	2.09E-07	2.82E-07	8.85E-08	3.17E-08	1.25E-07	2.45E-07
Total Petroleum Hydrocarbon												
TPH Gasoline - aliphatic	1.01E-03	NA	NA	1.01E-03	1.82E-03	2.04E-08	1.26E-03	3.08E-03	7.93E-03	9.82E-07	2.50E-03	1.04E-02
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	6.21E-03	NA	NA	6.21E-03	1.12E-02	7.31E-07	7.76E-03	1.89E-02	5.29E-02	3.82E-05	1.67E-02	6.96E-02
TPH Diesel - aromatic	1.19E-02	NA	NA	1.19E-02	2.15E-02	2.53E-06	1.49E-02	3.64E-02	1.02E-01	1.32E-04	3.21E-02	1.34E-01
TPH Motor Oil - aliphatic	1.57E-04	NA	NA	1.57E-04	2.83E-04	NA	1.96E-04	4.79E-04	1.20E-03	NA	3.80E-04	1.58E-03
TPH Motor Oil - aromatic	6.04E-03	NA	NA	6.04E-03	1.09E-02	NA	7.54E-03	1.84E-02	4.63E-02	NA	1.46E-02	6.09E-02
TOTAL:	2.79E-02	NA	NA	**2.79E-02**	5.03E-02	5.08E-03	5.67E-02	**1.12E-01**	2.16E-01	2.41E-02	8.13E-02	**3.22E-01**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-40
Noncancer Hazard - Soil Gas
Exposure Area Ib

CHEMICAL	Hotel Bungalow Short-term Resident	Default Comm Bldg Short-term Resident	Commercial Users			
			Hotel Bungalow Indoor Employee	Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX						
Benzene	6.06E-04	2.87E-04	1.80E-03	8.53E-04	NA	NA
Ethylbenzene	2.56E-07	1.13E-07	7.62E-07	3.37E-07	NA	NA
Toluene	6.28E-03	2.97E-03	1.87E-02	8.84E-03	NA	NA
m&p-Xylenes	9.99E-05	4.75E-05	2.97E-04	1.41E-04	NA	NA
o-Xylene	9.03E-07	3.92E-07	2.69E-06	1.17E-06	NA	NA
VOCs						
Bromodichloromethane	1.47E-03	7.19E-04	4.36E-03	2.14E-03	NA	NA
Bromoform	7.61E-05	3.77E-05	2.27E-04	1.12E-04	NA	NA
2-Butanone	4.74E-05	2.24E-05	1.41E-04	6.68E-05	NA	NA
tert-Butylalcohol	1.33E-04	6.25E-05	3.97E-04	1.86E-04	NA	NA
Carbon disulfide	1.40E-04	6.55E-05	4.16E-04	1.95E-04	NA	NA
Carbon tetrachloride	2.66E-02	1.26E-02	7.91E-02	3.76E-02	NA	NA
Chloroform	1.02E-01	4.76E-02	3.03E-01	1.42E-01	NA	NA
Cyclohexane	4.18E-04	1.83E-04	1.24E-03	5.46E-04	NA	NA
Dibromochloromethane	2.19E-04	1.08E-04	6.52E-04	3.22E-04	NA	NA
1,1-Dichloroethene	2.15E-04	1.01E-04	6.40E-04	3.02E-04	NA	NA
4-Ethyltoluene	1.04E-06	4.96E-07	3.10E-06	1.48E-06	NA	NA
n-Heptane	1.02E-04	3.92E-05	3.04E-04	1.17E-04	NA	NA
Hexane	3.99E-04	1.53E-04	1.19E-03	4.54E-04	NA	NA
Isopropylbenzene	9.04E-07	4.33E-07	2.69E-06	1.29E-06	NA	NA
Methylene chloride	3.37E-04	1.58E-04	1.00E-03	4.70E-04	NA	NA
n-Propylbenzene	4.54E-07	2.19E-07	1.35E-06	6.50E-07	NA	NA
Styrene	5.16E-05	2.47E-05	1.54E-04	7.34E-05	NA	NA
Tetrachloroethene	1.02E-02	4.86E-03	3.03E-02	1.45E-02	NA	NA
Trichloroethene	3.38E-04	1.61E-04	1.01E-03	4.78E-04	NA	NA
1,2,4-Trimethylbenzene	2.76E-04	1.32E-04	8.20E-04	3.94E-04	NA	NA
1,3,5-Trimethylbenzene	2.70E-05	1.30E-05	8.05E-05	3.87E-05	NA	NA
TOTAL:	**1.50E-01**	**7.04E-02**	**4.46E-01**	**2.10E-01**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-41
Risk Summary
Exposure Area J

Receptor	Soil Risk	Indoor Vapor Risk	Groundwater	Site-grown Produce	Total Risk	Soil Hazard	Indoor Vapor Hazard	Groundwater	Site-grown Produce	Total Hazard
Hotel Bungalow Short-term Resident										
Adult	7.3.E-07	2.1.E-04	NA	3.0.E-08	**2E-04**	0.0083	0.15	NA	0.0019	**0.2**
Child						0.046		NA	0.0046	**0.2**
Default Commercial Building Short-term Resident										
Adult	7.3.E-07	9.7.E-05	NA	3.0.E-08	**1E-04**	0.0083	0.071	NA	0.0019	**0.08**
Child						0.046		NA	0.0046	**0.1**
Commercial Users										
Hotel Bungalow Indoor Employee	5.3.E-08	2.0.E-04	NA	NA*	**2E-04**	0.031	0.45	NA	NA*	**0.5**
Default Comm Bldg Indoor Employee	5.3.E-08	9.2.E-05	NA	NA*	**9E-05**	0.031	0.21	NA	NA*	**0.2**
Outdoor Employee	9.6.E-07	NA	NA	NA*	**1E-06**	0.12	NA	NA	NA*	**0.1**
Intrusive Utility Worker	8.9.E-07	NA	NA	NA	**9E-07**	0.70	NA	NA	NA	**0.7**

NA = Not Applicable

*Potential risk/hazard from ingestion of produce grown on the Site by these receptors discussed in uncertainty section (7.4.1.2).

Table 6-42
Cancer Risk - Soil
Exposure Area J

CHEMICAL	Short-term Resident Adult + Child Ing	InhP	Dermal	Direct Total
Inorganics				
Cadmium	NC	1.91E-10	NC	1.91E-10
Chromium (total)	NC	2.59E-08	NC	2.59E-08
Mercury	NC	NC	NC	NC
Vanadium	NC	6.17E-09	NC	6.17E-09
BTEX				
Benzene	1.13E-09	3.49E-08	1.18E-09	3.73E-08
Ethylbenzene	2.79E-08	4.22E-07	2.90E-08	4.79E-07
Toluene	NC	NC	NC	NC
Xylenes (total)	NC	NC	NC	NC
PAHs				
BaP TEQ	1.93E-08	1.28E-11	8.99E-08	1.09E-07
Acenaphthene	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA
Dibenz(a,h)anthracene	9.03E-10	2.72E-13	4.22E-09	5.12E-09
Fluoranthene	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA
Naphthalene	NC	6.26E-08	NC	6.26E-08
Phenanthrene	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC
Total Petroleum Hydrocarbons				
TPH Gasoline - aliphatic	NC	NC	NC	NC
TPH Gasoline - aromatic	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NC	NC	NC
TOTAL:	4.92E-08	5.52E-07	1.24E-07	**7.25E-07**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-42
Cancer Risk - Soil
Exposure Area J

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	NC	NA	NA	NC	NC	2.44E-10	NC	2.44E-10	NC	1.83E-10	NC	1.83E-10
Chromium (total)	NC	NA	NA	NC	NC	3.31E-08	NC	3.31E-08	NC	4.29E-08	NC	4.29E-08
Mercury	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Vanadium	NC	NA	NA	NC	NC	7.89E-09	NC	7.89E-09	NC	8.15E-09	NC	8.15E-09
BTEX												
Benzene	1.22E-09	NA	NA	1.22E-09	2.20E-09	4.47E-08	1.53E-09	4.84E-08	1.04E-09	7.40E-08	3.29E-10	7.54E-08
Ethylbenzene	3.02E-08	NA	NA	3.02E-08	5.44E-08	5.40E-07	3.77E-08	6.32E-07	1.72E-08	6.35E-07	5.43E-09	6.58E-07
Toluene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Xylenes (total)	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
PAHs												
BaP TEQ	2.09E-08	NA	NA	2.09E-08	3.76E-08	1.64E-11	1.17E-07	1.54E-07	1.98E-09	1.23E-11	2.80E-09	4.80E-09
Acenaphthene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	9.79E-10	NA	NA	9.79E-10	1.76E-09	3.49E-13	5.48E-09	7.24E-09	9.30E-11	2.62E-13	1.32E-10	2.25E-10
Fluoranthene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NC	NA	NA	NC	NC	8.01E-08	NC	8.01E-08	NC	1.00E-07	NC	1.00E-07
Phenanthrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbon												
TPH Gasoline - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Gasoline - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TOTAL:	5.33E-08	NA	NA	**5.33E-08**	9.59E-08	7.06E-07	1.62E-07	**9.64E-07**	2.03E-08	8.61E-07	8.69E-09	**8.90E-07**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-43
Cancer Risk - Soil Gas
Exposure Area J

CHEMICAL	Hotel Bungalow Short-term Resident	Default Comm Bldg Short-term Resident	Commercial Users			
			Hotel Bungalow Indoor Employee	Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX						
Benzene	5.56E-05	2.63E-05	5.27E-05	2.49E-05	NA	NA
Ethylbenzene	1.08E-06	5.16E-07	1.03E-06	4.89E-07	NA	NA
Toluene	NC	NC	NC	NC	NA	NA
m&p-Xylenes	NC	NC	NC	NC	NA	NA
o-Xylene	NC	NC	NC	NC	NA	NA
VOCs						
Bromodichloromethane	3.37E-07	1.65E-07	3.20E-07	1.57E-07	NA	NA
1,3-Butadiene	4.66E-06	2.03E-06	4.41E-06	1.92E-06	NA	NA
2-Butanone	NC	NC	NC	NC	NA	NA
tert-Butylalcohol	NC	NC	NC	NC	NA	NA
Carbon disulfide	NC	NC	NC	NC	NA	NA
Carbon tetrachloride	2.74E-06	1.27E-06	2.59E-06	1.20E-06	NA	NA
Chloroform	1.41E-04	6.61E-05	1.34E-04	6.26E-05	NA	NA
Cyclohexane	NC	NC	NC	NC	NA	NA
1,1-Dichloroethane	3.31E-08	1.58E-08	3.14E-08	1.50E-08	NA	NA
cis-1,2-Dichloroethene	NC	NC	NC	NC	NA	NA
trans-1,2-Dichloroethene	NV	NV	NV	NV	NA	NA
4-Ethyltoluene	NC	NC	NC	NC	NA	NA
n-Heptane	NC	NC	NC	NC	NA	NA
Hexane	NC	NC	NC	NC	NA	NA
Isopropylbenzene	NC	NC	NC	NC	NA	NA
Methylene chloride	4.58E-07	2.15E-07	4.34E-07	2.04E-07	NA	NA
n-Propylbenzene	NC	NC	NC	NC	NA	NA
Tetrachloroethene	1.10E-07	4.90E-08	1.05E-07	4.64E-08	NA	NA
Tetrahydrofuran	4.89E-10	2.02E-10	4.63E-10	1.92E-10	NA	NA
Trichloroethene	2.70E-07	1.28E-07	2.56E-07	1.22E-07	NA	NA
1,2,4-Trimethylbenzene	NC	NC	NC	NC	NA	NA
1,3,5-Trimethylbenzene	NC	NC	NC	NC	NA	NA
2,2,4-Trimethylpentane	NC	NC	NC	NC	NA	NA
Vinyl chloride	1.90E-07	8.07E-08	1.81E-07	7.65E-08	NA	NA
SVOCs						
1,4-Dioxane	3.03E-08	1.21E-08	2.87E-08	1.14E-08	NA	NA
TOTAL:	**2.07E-04**	**9.68E-05**	**1.96E-04**	**9.18E-05**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-44
Noncancer Hazard - Soil
Exposure Area J

CHEMICAL	Short-term Resident							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Cadmium	2.88E-05	2.26E-06	1.94E-05	5.05E-05	3.07E-04	2.26E-06	1.18E-04	4.27E-04
Chromium (total)	5.95E-07	2.67E-10	7.73E-06	8.33E-06	6.35E-06	2.67E-10	4.71E-05	5.34E-05
Mercury	4.00E-05	6.27E-07	9.64E-04	1.00E-03	4.26E-04	6.27E-07	5.87E-03	6.30E-03
Vanadium	6.73E-05	3.01E-08	4.37E-04	5.04E-04	7.17E-04	3.01E-08	2.66E-03	3.38E-03
BTEX								
Benzene	5.35E-07	2.00E-05	9.03E-07	2.14E-05	5.70E-06	2.00E-05	5.50E-06	3.12E-05
Ethylbenzene	4.80E-06	8.39E-05	8.10E-06	9.68E-05	5.12E-05	8.39E-05	4.93E-05	1.84E-04
Toluene	1.91E-06	2.35E-04	3.22E-06	2.40E-04	2.03E-05	2.35E-04	1.96E-05	2.75E-04
Xylenes (total)	1.88E-05	1.83E-03	3.17E-05	1.88E-03	2.00E-04	1.83E-03	1.93E-04	2.22E-03
PAHs								
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	2.46E-08	3.42E-07	1.86E-07	5.52E-07	2.62E-07	3.42E-07	1.13E-06	1.74E-06
Acenaphthylene	2.19E-08	3.05E-07	1.66E-07	4.92E-07	2.34E-07	3.05E-07	1.01E-06	1.55E-06
Benz(a)anthracene	4.17E-09	6.45E-12	3.16E-08	3.57E-08	4.45E-08	6.45E-12	1.92E-07	2.37E-07
Benzo(b)fluoranthene	2.78E-08	4.30E-11	2.10E-07	2.38E-07	2.97E-07	4.30E-11	1.28E-06	1.58E-06
Benzo(k)fluoranthene	1.29E-08	1.99E-11	9.73E-08	1.10E-07	1.37E-07	1.99E-11	5.93E-07	7.30E-07
Benzo(g,h,i)perylene	1.60E-08	2.47E-11	1.21E-07	1.37E-07	1.71E-07	2.47E-11	7.37E-07	9.08E-07
Benzo(a)pyrene	6.95E-08	1.07E-10	5.26E-07	5.96E-07	7.42E-07	1.07E-10	3.20E-06	3.95E-06
Chrysene	1.34E-07	2.08E-10	1.02E-06	1.15E-06	1.43E-06	2.08E-10	6.20E-06	7.63E-06
Dibenz(a,h)anthracene	1.39E-10	2.15E-13	1.05E-09	1.19E-09	1.48E-09	2.15E-13	6.41E-09	7.89E-09
Fluoranthene	4.35E-08	6.72E-11	3.29E-07	3.72E-07	4.63E-07	6.72E-11	2.00E-06	2.47E-06
Fluorene	1.36E-07	9.44E-07	1.03E-06	2.11E-06	1.45E-06	9.44E-07	6.27E-06	8.67E-06
Indeno(1,2,3-cd)pyrene	1.18E-08	1.83E-11	8.95E-08	1.01E-07	1.26E-07	1.83E-11	5.45E-07	6.71E-07
Naphthalene	6.20E-07	2.03E-04	3.61E-06	2.07E-04	6.61E-06	2.03E-04	2.20E-05	2.32E-04
Phenanthrene	4.45E-08	1.34E-07	3.37E-07	5.16E-07	4.75E-07	1.34E-07	2.05E-06	2.66E-06
Pyrene	8.11E-08	6.66E-08	6.14E-07	7.62E-07	8.65E-07	6.66E-08	3.74E-06	4.67E-06
Total Petroleum Hydrocarbons								
TPH Gasoline - aliphatic	1.03E-03	9.22E-08	1.74E-03	2.76E-03	1.10E-02	9.22E-08	1.06E-02	2.15E-02
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	1.47E-04	7.69E-08	2.48E-04	3.95E-04	1.57E-03	7.69E-08	1.51E-03	3.08E-03
TPH Diesel - aromatic	2.83E-04	2.66E-07	4.77E-04	7.60E-04	3.02E-03	2.66E-07	2.91E-03	5.92E-03
TPH Motor Oil - aliphatic	3.33E-06	NA	5.63E-06	8.96E-06	3.56E-05	NA	3.43E-05	6.99E-05
TPH Motor Oil - aromatic	1.28E-04	NA	2.17E-04	3.45E-04	1.37E-03	NA	1.32E-03	2.69E-03
TOTAL:	1.75E-03	2.37E-03	4.16E-03	**8.29E-03**	1.87E-02	2.37E-03	2.54E-02	**4.64E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-44
Noncancer Hazard - Soil
Exposure Area J

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	5.14E-04	NA	NA	5.14E-04	9.25E-04	9.07E-06	2.57E-04	1.19E-03	1.22E-03	1.70E-04	1.54E-04	1.54E-03
Chromium (total)	1.06E-05	NA	NA	1.06E-05	1.91E-05	1.07E-09	1.02E-04	1.21E-04	4.35E-05	3.47E-08	1.06E-04	1.49E-04
Mercury	7.13E-04	NA	NA	7.13E-04	1.28E-03	2.52E-06	1.27E-02	1.40E-02	1.70E-03	4.73E-05	7.64E-03	9.38E-03
Vanadium	1.20E-03	NA	NA	1.20E-03	2.16E-03	1.21E-07	5.77E-03	7.93E-03	3.92E-03	3.13E-06	4.76E-03	8.69E-03
BTEX												
Benzene	9.55E-06	NA	NA	9.55E-06	1.72E-05	8.02E-05	1.19E-05	1.09E-04	2.03E-04	3.32E-03	6.42E-05	3.59E-03
Ethylbenzene	8.57E-05	NA	NA	8.57E-05	1.54E-04	3.37E-04	1.07E-04	5.98E-04	1.22E-03	9.91E-03	3.85E-04	1.15E-02
Toluene	3.40E-05	NA	NA	3.40E-05	6.13E-05	9.45E-04	4.25E-05	1.05E-03	4.83E-04	2.68E-02	1.52E-04	2.75E-02
Xylenes (total)	3.36E-04	NA	NA	3.36E-04	6.04E-04	7.34E-03	4.19E-04	8.36E-03	4.78E-03	2.15E-01	1.51E-03	2.21E-01
PAHs												
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	4.39E-07	NA	NA	4.39E-07	7.90E-07	1.37E-06	2.46E-06	4.62E-06	3.93E-06	2.65E-05	5.56E-06	3.60E-05
Acenaphthylene	3.91E-07	NA	NA	3.91E-07	7.04E-07	1.22E-06	2.19E-06	4.12E-06	2.46E-06	1.66E-05	3.48E-06	2.25E-05
Benz(a)anthracene	7.45E-08	NA	NA	7.45E-08	1.34E-07	2.59E-11	4.17E-07	5.51E-07	1.77E-07	4.86E-10	2.50E-07	4.28E-07
Benzo(b)fluoranthene	4.97E-07	NA	NA	4.97E-07	8.94E-07	1.73E-10	2.78E-06	3.67E-06	1.18E-06	3.24E-09	1.67E-06	2.85E-06
Benzo(k)fluoranthene	2.30E-07	NA	NA	2.30E-07	4.13E-07	7.99E-11	1.29E-06	1.70E-06	5.46E-07	1.50E-09	7.72E-07	1.32E-06
Benzo(g,h,i)perylene	2.86E-07	NA	NA	2.86E-07	5.14E-07	9.93E-11	1.60E-06	2.11E-06	6.78E-07	1.86E-09	9.59E-07	1.64E-06
Benzo(a)pyrene	1.24E-06	NA	NA	1.24E-06	2.23E-06	4.32E-10	6.95E-06	9.19E-06	2.95E-06	8.11E-09	4.17E-06	7.13E-06
Chrysene	2.40E-06	NA	NA	2.40E-06	4.32E-06	8.35E-10	1.34E-05	1.78E-05	5.70E-06	1.57E-08	8.06E-06	1.38E-05
Dibenz(a,h)anthracene	2.48E-09	NA	NA	2.48E-09	4.47E-09	8.63E-13	1.39E-08	1.84E-08	5.90E-09	1.62E-11	8.34E-09	1.43E-08
Fluoranthene	7.76E-07	NA	NA	7.76E-07	1.40E-06	2.70E-10	4.34E-06	5.74E-06	1.84E-06	5.07E-09	2.61E-06	4.46E-06
Fluorene	2.43E-06	NA	NA	2.43E-06	4.37E-06	3.79E-06	1.36E-05	2.18E-05	2.36E-05	8.05E-05	3.34E-05	1.37E-04
Indeno(1,2,3-cd)pyrene	2.11E-07	NA	NA	2.11E-07	3.80E-07	7.34E-11	1.18E-06	1.56E-06	5.01E-07	1.38E-09	7.09E-07	1.21E-06
Naphthalene	1.11E-05	NA	NA	1.11E-05	1.99E-05	8.16E-04	4.77E-05	8.84E-04	1.62E-04	2.55E-02	1.76E-04	2.59E-02
Phenanthrene	7.95E-07	NA	NA	7.95E-07	1.43E-06	5.39E-07	4.45E-06	6.42E-06	1.08E-05	2.01E-05	1.53E-05	4.62E-05
Pyrene	1.45E-06	NA	NA	1.45E-06	2.61E-06	2.68E-07	8.11E-06	1.10E-05	3.44E-06	1.60E-06	4.87E-06	9.90E-06
Total Petroleum Hydrocarbon												
TPH Gasoline - aliphatic	1.84E-02	NA	NA	1.84E-02	3.31E-02	3.70E-07	2.29E-02	5.60E-02	4.36E-02	6.95E-06	1.38E-02	5.74E-02
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	2.63E-03	NA	NA	2.63E-03	4.73E-03	3.09E-07	3.28E-03	8.01E-03	6.35E-02	5.90E-05	2.00E-02	8.35E-02
TPH Diesel - aromatic	5.05E-03	NA	NA	5.05E-03	9.09E-03	1.07E-06	6.31E-03	1.54E-02	1.22E-01	2.04E-04	3.85E-02	1.61E-01
TPH Motor Oil - aliphatic	5.95E-05	NA	NA	5.95E-05	1.07E-04	NA	7.44E-05	1.82E-04	1.72E-03	NA	5.42E-04	2.26E-03
TPH Motor Oil - aromatic	2.29E-03	NA	NA	2.29E-03	4.12E-03	NA	2.86E-03	6.98E-03	6.61E-02	NA	2.09E-02	8.70E-02
TOTAL:	3.13E-02	NA	NA	**3.13E-02**	5.64E-02	9.54E-03	5.50E-02	**1.21E-01**	3.11E-01	2.81E-01	1.09E-01	**7.01E-01**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-45
Noncancer Hazard - Soil Gas
Exposure Area J

CHEMICAL	Hotel Bungalow Short-term Resident	Default Comm Bldg Short-term Resident	Commercial Users			
			Hotel Bungalow Indoor Employee	Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX						
Benzene	3.18E-02	1.50E-02	9.45E-02	4.47E-02	NA	NA
Ethylbenzene	2.15E-04	1.03E-04	6.40E-04	3.05E-04	NA	NA
Toluene	2.17E-03	1.03E-03	6.46E-03	3.05E-03	NA	NA
m&p-Xylenes	1.11E-03	5.27E-04	3.30E-03	1.57E-03	NA	NA
o-Xylene	4.16E-04	1.97E-04	1.24E-03	5.86E-04	NA	NA
VOCs						
Bromodichloromethane	1.29E-04	6.34E-05	3.85E-04	1.89E-04	NA	NA
1,3-Butadiene	1.36E-03	5.93E-04	4.05E-03	1.76E-03	NA	NA
2-Butanone	9.15E-05	4.33E-05	2.72E-04	1.29E-04	NA	NA
tert-Butylalcohol	7.04E-04	3.30E-04	2.10E-03	9.82E-04	NA	NA
Carbon disulfide	1.86E-04	8.69E-05	5.52E-04	2.59E-04	NA	NA
Carbon tetrachloride	1.62E-03	7.51E-04	4.82E-03	2.24E-03	NA	NA
Chloroform	8.82E-02	4.13E-02	2.62E-01	1.23E-01	NA	NA
Cyclohexane	2.89E-03	1.37E-03	8.62E-03	4.09E-03	NA	NA
1,1-Dichloroethane	2.94E-05	1.40E-05	8.74E-05	4.17E-05	NA	NA
cis-1,2-Dichloroethene	1.60E-03	6.95E-04	4.75E-03	2.07E-03	NA	NA
trans-1,2-Dichloroethene	7.46E-06	3.32E-06	2.22E-05	9.87E-06	NA	NA
4-Ethyltoluene	1.02E-04	4.86E-05	3.04E-04	1.45E-04	NA	NA
n-Heptane	1.94E-03	8.63E-04	5.77E-03	2.57E-03	NA	NA
Hexane	5.93E-03	2.64E-03	1.76E-02	7.85E-03	NA	NA
Isopropylbenzene	2.94E-04	1.41E-04	8.74E-04	4.19E-04	NA	NA
Methylene chloride	1.14E-03	5.34E-04	3.39E-03	1.59E-03	NA	NA
n-Propylbenzene	5.74E-05	2.76E-05	1.71E-04	8.21E-05	NA	NA
Tetrachloroethene	5.31E-04	2.36E-04	1.58E-03	7.01E-04	NA	NA
Tetrahydrofuran	8.30E-07	3.44E-07	2.47E-06	1.02E-06	NA	NA
Trichloroethene	2.24E-04	1.06E-04	6.66E-04	3.16E-04	NA	NA
1,2,4-Trimethylbenzene	8.27E-03	3.97E-03	2.46E-02	1.18E-02	NA	NA
1,3,5-Trimethylbenzene	8.56E-04	4.12E-04	2.55E-03	1.22E-03	NA	NA
2,2,4-Trimethylpentane	5.14E-05	1.89E-05	1.53E-04	5.63E-05	NA	NA
Vinyl chloride	2.43E-05	1.03E-05	7.22E-05	3.06E-05	NA	NA
SVOCs						
1,4-Dioxane	1.30E-06	5.19E-07	3.87E-06	1.54E-06	NA	NA
TOTAL:	**1.52E-01**	**7.11E-02**	**4.52E-01**	**2.12E-01**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-46
Risk Summary
Exposure Area K

Receptor	Soil Risk	Indoor Vapor Risk	Groundwater	Site-grown Produce	Total Risk	Soil Hazard	Indoor Vapor Hazard	Groundwater	Site-grown Produce	Total Hazard
Default Commercial Building Short-term Resident										
Adult	1.3.E-07	6.8.E-06	NA	3.0.E-08	**7E-06**	0.0022	0.0044	NA	0.0019	**0.009**
Child						0.016		NA	0.0046	**0.02**
Commercial Users										
Default Comm Bldg Indoor Employee	2.3.E-08	6.4.E-06	NA	NA*	**6E-06**	0.0086	0.013	NA	NA*	**0.02**
Outdoor Employee	1.9.E-07	NA	NA	NA*	**2E-07**	0.039	NA	NA	NA*	**0.04**
Intrusive Utility Worker	1.7.E-08	NA	NA	NA	**2E-08**	0.035	NA	NA	NA	**0.04**

NA = Not Applicable

*Potential risk/hazard from ingestion of produce grown on the Site by these receptors discussed in uncertainty section (7.4.1.2).

Table 6-47
Cancer Risk - Soil
Exposure Area K

CHEMICAL	Short-term Resident Adult + Child			
	Ing	InhP	Dermal	Direct Total
Inorganics				
Chromium (total)	NC	9.73E-09	NC	9.73E-09
Mercury	NC	NC	NC	NC
Vanadium	NC	4.08E-09	NC	4.08E-09
PAHs				
BaP TEQ	7.97E-09	5.31E-12	3.72E-08	4.52E-08
Benz(a)anthracene	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA
Dibenz(a,h)anthracene	1.34E-08	4.04E-12	6.26E-08	7.60E-08
Fluoranthene	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA
Pyrene	NC	NC	NC	NC
Total Petroleum Hydrocarbons				
TPH Diesel - aliphatic	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NC	NC	NC
TOTAL:	2.14E-08	1.38E-08	9.97E-08	**1.35E-07**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-47
Cancer Risk - Soil
Exposure Area K

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Chromium (total)	NC	NA	NA	NC	NC	1.25E-08	NC	1.25E-08	NC	7.97E-09	NC	7.97E-09
Mercury	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Vanadium	NC	NA	NA	NC	NC	5.23E-09	NC	5.23E-09	NC	3.34E-09	NC	3.34E-09
PAHs												
BaP TEQ	8.63E-09	NA	NA	8.63E-09	1.55E-08	6.80E-12	4.83E-08	6.39E-08	8.20E-10	4.35E-12	1.16E-09	1.98E-09
Benz(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	1.45E-08	NA	NA	1.45E-08	2.61E-08	5.17E-12	8.13E-08	1.07E-07	1.38E-09	3.31E-12	1.95E-09	3.33E-09
Fluoranthene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbon												
TPH Diesel - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TOTAL:	2.32E-08	NA	NA	**2.32E-08**	4.17E-08	1.77E-08	1.30E-07	**1.89E-07**	2.20E-09	1.13E-08	3.11E-09	**1.66E-08**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-48
Cancer Risk - Soil Gas
Exposure Area K

CHEMICAL	Default Comm Bldg Short-term Resident	Commercial Users		
		Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX				
Benzene	1.85E-08	1.75E-08	NA	NA
Ethylbenzene	5.85E-10	5.55E-10	NA	NA
Toluene	NC	NC	NA	NA
m&p-Xylenes	NC	NC	NA	NA
o-Xylene	NC	NC	NA	NA
VOCs				
Bromodichloromethane	1.43E-07	1.36E-07	NA	NA
2-Butanone	NC	NC	NA	NA
tert-Butylalcohol	NC	NC	NA	NA
n-Butylbenzene	NC	NC	NA	NA
sec-Butylbenzene	NC	NC	NA	NA
Carbon disulfide	NC	NC	NA	NA
Carbon tetrachloride	4.65E-07	4.40E-07	NA	NA
Chloroform	6.10E-06	5.78E-06	NA	NA
Chloromethane	NC	NC	NA	NA
Cyclohexane	NC	NC	NA	NA
Dichlorodifluoromethane	NC	NC	NA	NA
1,1-Dichloroethane	1.33E-11	1.26E-11	NA	NA
1,1-Dichloroethene	NC	NC	NA	NA
cis-1,2-Dichloroethene	NC	NC	NA	NA
4-Ethyltoluene	NC	NC	NA	NA
Ethyl acetate	NC	NC	NA	NA
n-Heptane	NC	NC	NA	NA
Hexane	NC	NC	NA	NA
2-Hexanone	NC	NC	NA	NA
Isopropyl alcohol	NC	NC	NA	NA
Isopropylbenzene	NC	NC	NA	NA
Methylene chloride	1.09E-10	1.03E-10	NA	NA
4-Methyl-2-pentanone	NC	NC	NA	NA
n-Propylbenzene	NC	NC	NA	NA
Propylene	NC	NC	NA	NA
Styrene	NC	NC	NA	NA
1,1,1,2-Tetrachloroethane	1.56E-10	1.47E-10	NA	NA
1,1,2,2-Tetrachloroethane	5.53E-10	5.24E-10	NA	NA
Tetrachloroethene	2.30E-08	2.18E-08	NA	NA
Tetrahydrofuran	2.55E-10	2.41E-10	NA	NA
1,1,1-Trichloroethane	NC	NC	NA	NA
Trichloroethene	6.26E-10	5.93E-10	NA	NA
Trichlorofluoromethane	NC	NC	NA	NA
1,2,3-Trichloropropane	NC	NC	NA	NA
1,2,4-Trimethylbenzene	NC	NC	NA	NA
1,3,5-Trimethylbenzene	NC	NC	NA	NA
2,2,4-Trimethylpentane	NC	NC	NA	NA
PAHs				
Naphthalene	1.67E-09	1.59E-09	NA	NA
SVOCs				
1,4-Dioxane	3.47E-10	3.29E-10	NA	NA
TOTAL:	**6.75E-06**	**6.40E-06**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-49
Noncancer Hazard - Soil
Exposure Area K

CHEMICAL	Short-term Resident							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Chromium (total)	2.24E-07	1.00E-10	2.90E-06	3.13E-06	2.39E-06	1.00E-10	1.77E-05	2.01E-05
Mercury	3.20E-05	5.01E-07	7.71E-04	8.03E-04	3.41E-04	5.01E-07	4.70E-03	5.04E-03
Vanadium	4.45E-05	2.00E-08	2.89E-04	3.34E-04	4.75E-04	2.00E-08	1.76E-03	2.24E-03
PAHs								
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA
Benz(a)anthracene	9.27E-10	1.43E-12	7.02E-09	7.94E-09	9.89E-09	1.43E-12	4.27E-08	5.26E-08
Benzo(b)fluoranthene	2.78E-08	4.30E-11	2.10E-07	2.38E-07	2.97E-07	4.30E-11	1.28E-06	1.58E-06
Benzo(k)fluoranthene	8.52E-09	1.32E-11	6.45E-08	7.30E-08	9.08E-08	1.32E-11	3.93E-07	4.83E-07
Benzo(g,h,i)perylene	3.24E-08	5.01E-11	2.46E-07	2.78E-07	3.46E-07	5.01E-11	1.50E-06	1.84E-06
Benzo(a)pyrene	2.13E-08	3.29E-11	1.61E-07	1.83E-07	2.27E-07	3.29E-11	9.83E-07	1.21E-06
Chrysene	6.49E-08	1.00E-10	4.91E-07	5.56E-07	6.92E-07	1.00E-10	2.99E-06	3.68E-06
Dibenz(a,h)anthracene	2.06E-09	3.19E-12	1.56E-08	1.77E-08	2.20E-08	3.19E-12	9.51E-08	1.17E-07
Fluoranthene	1.15E-08	1.77E-11	8.68E-08	9.83E-08	1.22E-07	1.77E-11	5.29E-07	6.51E-07
Indeno(1,2,3-cd)pyrene	1.83E-08	2.83E-11	1.39E-07	1.57E-07	1.95E-07	2.83E-11	8.44E-07	1.04E-06
Pyrene	2.20E-08	1.81E-08	1.67E-07	2.07E-07	2.35E-07	1.81E-08	1.01E-06	1.27E-06
Total Petroleum Hydrocarbons								
TPH Diesel - aliphatic	5.42E-05	2.84E-08	9.16E-05	1.46E-04	5.78E-04	2.84E-08	5.58E-04	1.14E-03
TPH Diesel - aromatic	1.04E-04	9.81E-08	1.76E-04	2.80E-04	1.11E-03	9.81E-08	1.07E-03	2.18E-03
TPH Motor Oil - aliphatic	6.23E-06	NA	1.05E-05	1.68E-05	6.65E-05	NA	6.41E-05	1.31E-04
TPH Motor Oil - aromatic	2.40E-04	NA	4.05E-04	6.44E-04	2.56E-03	NA	2.47E-03	5.02E-03
TOTAL:	4.81E-04	6.66E-07	1.75E-03	**2.23E-03**	5.13E-03	6.66E-07	1.06E-02	**1.58E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-49
Noncancer Hazard - Soil
Exposure Area K

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Chromium (total)	3.99E-06	NA	NA	3.99E-06	7.19E-06	4.03E-10	3.84E-05	4.56E-05	9.49E-06	6.44E-09	2.30E-05	3.25E-05
Mercury	5.71E-04	NA	NA	5.71E-04	1.03E-03	2.01E-06	1.02E-02	1.12E-02	1.36E-03	3.22E-05	6.11E-03	7.50E-03
Vanadium	7.95E-04	NA	NA	7.95E-04	1.43E-03	8.02E-08	3.82E-03	5.25E-03	1.89E-03	1.28E-06	2.29E-03	4.18E-03
PAHs												
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benz(a)anthracene	1.66E-08	NA	NA	1.66E-08	2.98E-08	5.76E-12	9.27E-08	1.22E-07	3.93E-08	9.21E-11	5.56E-08	9.50E-08
Benzo(b)fluoranthene	4.97E-07	NA	NA	4.97E-07	8.94E-07	1.73E-10	2.78E-06	3.67E-06	1.18E-06	2.76E-09	1.67E-06	2.85E-06
Benzo(k)fluoranthene	1.52E-07	NA	NA	1.52E-07	2.74E-07	5.29E-11	8.52E-07	1.13E-06	3.61E-07	8.46E-10	5.11E-07	8.73E-07
Benzo(g,h,i)perylene	5.79E-07	NA	NA	5.79E-07	1.04E-06	2.01E-10	3.24E-06	4.29E-06	1.38E-06	3.22E-09	1.95E-06	3.33E-06
Benzo(a)pyrene	3.81E-07	NA	NA	3.81E-07	6.85E-07	1.32E-10	2.13E-06	2.82E-06	9.05E-07	2.12E-09	1.28E-06	2.19E-06
Chrysene	1.16E-06	NA	NA	1.16E-06	2.09E-06	4.03E-10	6.49E-06	8.57E-06	2.75E-06	6.44E-09	3.89E-06	6.65E-06
Dibenz(a,h)anthracene	3.68E-08	NA	NA	3.68E-08	6.63E-08	1.28E-11	2.06E-07	2.73E-07	8.75E-08	2.05E-10	1.24E-07	2.11E-07
Fluoranthene	2.05E-07	NA	NA	2.05E-07	3.69E-07	7.12E-11	1.15E-06	1.52E-06	4.87E-07	1.14E-09	6.88E-07	1.18E-06
Indeno(1,2,3-cd)pyrene	3.27E-07	NA	NA	3.27E-07	5.88E-07	1.14E-10	1.83E-06	2.42E-06	7.77E-07	1.82E-09	1.10E-06	1.88E-06
Pyrene	3.93E-07	NA	NA	3.93E-07	7.08E-07	7.26E-08	2.20E-06	2.98E-06	9.34E-07	3.68E-07	1.32E-06	2.62E-06
Total Petroleum Hydrocarbon												
TPH Diesel - aliphatic	9.68E-04	NA	NA	9.68E-04	1.74E-03	1.14E-07	1.21E-03	2.95E-03	2.59E-03	2.05E-06	8.18E-04	3.41E-03
TPH Diesel - aromatic	1.86E-03	NA	NA	1.86E-03	3.35E-03	3.94E-07	2.33E-03	5.68E-03	4.98E-03	7.10E-06	1.57E-03	6.56E-03
TPH Motor Oil - aliphatic	1.11E-04	NA	NA	1.11E-04	2.00E-04	NA	1.39E-04	3.39E-04	2.64E-04	NA	8.34E-05	3.48E-04
TPH Motor Oil - aromatic	4.28E-03	NA	NA	4.28E-03	7.71E-03	NA	5.35E-03	1.31E-02	1.02E-02	NA	3.21E-03	1.34E-02
TOTAL:	8.60E-03	NA	NA	**8.60E-03**	1.55E-02	2.68E-06	2.31E-02	**3.86E-02**	2.13E-02	4.31E-05	1.41E-02	**3.54E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-50
Noncancer Hazard - Soil Gas
Exposure Area K

CHEMICAL	Default Comm Bldg Short-term Resident	Commercial Users		
		Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX				
Benzene	1.06E-05	3.14E-05	NA	NA
Ethylbenzene	1.16E-07	3.46E-07	NA	NA
Toluene	4.05E-06	1.21E-05	NA	NA
m&p-Xylenes	9.14E-07	2.72E-06	NA	NA
o-Xylene	2.49E-07	7.42E-07	NA	NA
VOCs				
Bromodichloromethane	5.50E-05	1.64E-04	NA	NA
2-Butanone	1.01E-07	3.01E-07	NA	NA
tert-Butylalcohol	1.14E-09	3.38E-09	NA	NA
n-Butylbenzene	1.29E-07	3.85E-07	NA	NA
sec-Butylbenzene	5.67E-08	1.69E-07	NA	NA
Carbon disulfide	5.67E-06	1.69E-05	NA	NA
Carbon tetrachloride	2.75E-04	8.18E-04	NA	NA
Chloroform	3.81E-03	1.13E-02	NA	NA
Chloromethane	1.03E-05	3.06E-05	NA	NA
Cyclohexane	1.16E-07	3.46E-07	NA	NA
Dichlorodifluoromethane	9.45E-08	2.81E-07	NA	NA
1,1-Dichloroethane	1.18E-08	3.50E-08	NA	NA
1,1-Dichloroethene	3.62E-07	1.08E-06	NA	NA
cis-1,2-Dichloroethene	1.87E-05	5.56E-05	NA	NA
4-Ethyltoluene	1.78E-07	5.29E-07	NA	NA
Ethyl acetate	NC	NC	NA	NA
n-Heptane	1.13E-07	3.35E-07	NA	NA
Hexane	2.30E-07	6.85E-07	NA	NA
2-Hexanone	3.23E-07	9.60E-07	NA	NA
Isopropyl alcohol	1.81E-06	5.40E-06	NA	NA
Isopropylbenzene	3.39E-07	1.01E-06	NA	NA
Methylene chloride	2.70E-07	8.04E-07	NA	NA
4-Methyl-2-pentanone	6.13E-08	1.82E-07	NA	NA
n-Propylbenzene	3.75E-08	1.12E-07	NA	NA
Propylene	3.66E-06	1.09E-05	NA	NA
Styrene	1.02E-08	3.03E-08	NA	NA
1,1,1,2-Tetrachloroethane	1.99E-07	5.92E-07	NA	NA
1,1,2,2-Tetrachloroethane	1.35E-07	4.03E-07	NA	NA
Tetrachloroethene	1.11E-04	3.30E-04	NA	NA
Tetrahydrofuran	4.33E-07	1.29E-06	NA	NA
1,1,1-Trichloroethane	5.52E-08	1.64E-07	NA	NA
Trichloroethene	5.18E-07	1.54E-06	NA	NA
Trichlorofluoromethane	1.26E-08	3.74E-08	NA	NA
1,2,3-Trichloropropane	1.95E-05	5.80E-05	NA	NA
1,2,4-Trimethylbenzene	2.71E-05	8.06E-05	NA	NA
1,3,5-Trimethylbenzene	2.07E-07	6.17E-07	NA	NA
2,2,4-Trimethylpentane	1.43E-08	4.27E-08	NA	NA
PAHs				
Naphthalene	5.44E-06	1.62E-05	NA	NA
SVOCs				
1,4-Dioxane	1.49E-08	4.44E-08	NA	NA
TOTAL:	**4.36E-03**	**1.30E-02**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-51
Risk Summary
Exposure Area L

Receptor	Soil Risk	Indoor Vapor Risk	Groundwater	Site-grown Produce	Total Risk	Soil Hazard	Indoor Vapor Hazard	Groundwater	Site-grown Produce	Total Hazard
Hotel Bungalow Short-term Resident										
Adult	2.1.E-07	1.9.E-07	NA	3.0.E-08	**4E-07**	0.0082	0.00020	NA	0.0019	**0.01**
Child						0.031		NA	0.0046	**0.04**
Default Commercial Building Short-term Resident										
Adult	2.1.E-07	8.4.E-08	NA	3.0.E-08	**3E-07**	0.0082	0.000089	NA	0.0019	**0.010**
Child						0.031		NA	0.0046	**0.04**
Commercial Users										
Hotel Bungalow Indoor Employee	2.0.E-08	1.8.E-07	NA	NA*	**2E-07**	0.019	0.00059	NA	NA*	**0.02**
Default Comm Bldg Indoor Employee	2.0.E-08	7.9.E-08	NA	NA*	**1E-07**	0.019	0.00026	NA	NA*	**0.02**
Outdoor Employee	2.8.E-07	NA	NA	NA*	**3E-07**	0.085	NA	NA	NA*	**0.09**
Intrusive Utility Worker	8.0.E-08	NA	NA	NA	**8E-08**	0.53	NA	NA	NA	**0.5**

NA = Not Applicable

*Potential risk/hazard from ingestion of produce grown on the Site by these receptors discussed in uncertainty section (7.4.1.2).

Table 6-52
Cancer Risk - Soil
Exposure Area L

CHEMICAL	Short-term Resident Adult + Child			
	Ing	InhP	Dermal	Direct Total
Inorganics				
Cadmium	NC	1.37E-10	NC	1.37E-10
Chromium (total)	NC	2.43E-08	NC	2.43E-08
Mercury	NC	NC	NC	NC
Vanadium	NC	6.60E-09	NC	6.60E-09
BTEX				
Benzene	1.27E-10	3.92E-09	1.32E-10	4.18E-09
Ethylbenzene	2.77E-10	4.20E-09	2.89E-10	4.76E-09
Toluene	NC	NC	NC	NC
Xylenes (total)	NC	NC	NC	NC
VOCs				
n-Butylbenzene	NC	NC	NC	NC
sec-Butylbenzene	NC	NC	NC	NC
tert-Butylbenzene	NC	NC	NC	NC
Isopropylbenzene	NC	NC	NC	NC
p-Isopropyltoluene	NC	NC	NC	NC
Methylene chloride	8.51E-12	1.05E-10	8.86E-12	1.22E-10
Methyl tert-butyl ether	2.62E-12	2.91E-11	2.73E-12	3.45E-11
n-Propylbenzene	NC	NC	NC	NC
1,2,4-Trimethylbenzene	NC	NC	NC	NC
1,3,5-Trimethylbenzene	NC	NC	NC	NC
PAHs				
BaP TEQ	1.27E-08	8.48E-12	5.93E-08	7.20E-08
Acenaphthene	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA
Dibenz(a,h)anthracene	5.57E-09	1.68E-12	2.60E-08	3.16E-08
Fluoranthene	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA
2-Methylnaphthalene	NC	NC	NC	NC
Naphthalene	NC	6.24E-08	NC	6.24E-08
Phenanthrene	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC
Total Petroleum Hydrocarbons				
TPH Gasoline - aliphatic	NC	NC	NC	NC
TPH Gasoline - aromatic	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NC	NC	NC
Pesticides				
Endrin aldehyde	NC	NC	NC	NC
TOTAL:	1.87E-08	1.02E-07	8.58E-08	**2.06E-07**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-52
Cancer Risk - Soil
Exposure Area L

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	NC	NA	NA	NC	NC	1.75E-10	NC	1.75E-10	NC	1.40E-10	NC	1.40E-10
Chromium (total)	NC	NA	NA	NC	NC	3.11E-08	NC	3.11E-08	NC	3.90E-08	NC	3.90E-08
Mercury	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Vanadium	NC	NA	NA	NC	NC	8.44E-09	NC	8.44E-09	NC	9.00E-09	NC	9.00E-09
BTEX												
Benzene	1.37E-10	NA	NA	1.37E-10	2.47E-10	5.01E-09	1.71E-10	5.43E-09	1.96E-11	1.48E-09	6.17E-12	1.50E-09
Ethylbenzene	3.00E-10	NA	NA	3.00E-10	5.41E-10	5.37E-09	3.75E-10	6.29E-09	5.16E-11	2.03E-09	1.63E-11	2.10E-09
Toluene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Xylenes (total)	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
VOCs												
n-Butylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
sec-Butylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
tert-Butylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Isopropylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
p-Isopropyltoluene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Methylene chloride	9.22E-12	NA	NA	9.22E-12	1.66E-11	1.34E-10	1.15E-11	1.62E-10	8.76E-13	2.14E-11	2.76E-13	2.25E-11
Methyl tert-butyl ether	2.84E-12	NA	NA	2.84E-12	5.11E-12	3.73E-11	3.55E-12	4.60E-11	1.17E-13	2.39E-12	3.70E-14	2.54E-12
n-Propylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
1,2,4-Trimethylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
1,3,5-Trimethylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
PAHs												
BaP TEQ	1.38E-08	NA	NA	1.38E-08	2.48E-08	1.08E-11	7.71E-08	1.02E-07	1.31E-09	8.69E-12	1.85E-09	3.17E-09
Acenaphthene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	6.04E-09	NA	NA	6.04E-09	1.09E-08	2.15E-12	3.38E-08	4.47E-08	5.74E-10	1.72E-12	8.11E-10	1.39E-09
Fluoranthene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Naphthalene	NC	NA	NA	NC	NC	7.98E-08	NC	7.98E-08	NC	2.33E-08	NC	2.33E-08
Phenanthrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbon												
TPH Gasoline - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Gasoline - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pesticides												
Endrin aldehyde	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TOTAL:	2.03E-08	NA	NA	**2.03E-08**	3.65E-08	1.30E-07	1.11E-07	**2.78E-07**	1.96E-09	7.50E-08	2.69E-09	**7.97E-08**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-53
Cancer Risk - Soil Gas
Exposure Area L

CHEMICAL	Hotel Bungalow Short-term Resident	Default Comm Bldg Short-term Resident	Commercial Users			
			Hotel Bungalow Indoor Employee	Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX						
Benzene	5.06E-08	2.39E-08	4.79E-08	2.27E-08	NA	NA
Ethylbenzene	2.38E-09	1.05E-09	2.25E-09	9.96E-10	NA	NA
Toluene	NC	NC	NC	NC	NA	NA
m&p-Xylenes	NC	NC	NC	NC	NA	NA
o-Xylene	NC	NC	NC	NC	NA	NA
VOCs						
Bromodichloromethane	3.69E-08	1.75E-08	3.50E-08	1.66E-08	NA	NA
2-Butanone	NC	NC	NC	NC	NA	NA
Carbon disulfide	NC	NC	NC	NC	NA	NA
Chloroform	9.05E-08	3.85E-08	8.58E-08	3.65E-08	NA	NA
Cyclohexane	NC	NC	NC	NC	NA	NA
Dibromochloromethane	4.84E-09	2.33E-09	4.58E-09	2.21E-09	NA	NA
4-Ethyltoluene	NC	NC	NC	NC	NA	NA
n-Heptane	NC	NC	NC	NC	NA	NA
Hexane	NC	NC	NC	NC	NA	NA
Isopropylbenzene	NC	NC	NC	NC	NA	NA
Methylene chloride	2.76E-10	1.18E-10	2.61E-10	1.11E-10	NA	NA
n-Propylbenzene	NC	NC	NC	NC	NA	NA
Tetrahydrofuran	3.76E-10	1.76E-10	3.57E-10	1.67E-10	NA	NA
1,2,4-Trimethylbenzene	NC	NC	NC	NC	NA	NA
1,3,5-Trimethylbenzene	NC	NC	NC	NC	NA	NA
2,2,4-Trimethylpentane	NC	NC	NC	NC	NA	NA
TOTAL:	**1.86E-07**	**8.35E-08**	**1.76E-07**	**7.92E-08**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-54
Noncancer Hazard - Soil
Exposure Area L

CHEMICAL	Short-term Resident							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Cadmium	2.06E-05	1.62E-06	1.39E-05	3.62E-05	2.20E-04	1.62E-06	8.48E-05	3.06E-04
Chromium (total)	5.59E-07	2.51E-10	7.26E-06	7.82E-06	5.96E-06	2.51E-10	4.42E-05	5.02E-05
Mercury	1.60E-05	2.51E-07	3.85E-04	4.02E-04	1.70E-04	2.51E-07	2.35E-03	2.52E-03
Vanadium	7.19E-05	3.22E-08	4.67E-04	5.39E-04	7.67E-04	3.22E-08	2.84E-03	3.61E-03
BTEX								
Benzene	5.99E-08	2.24E-06	1.01E-07	2.40E-06	6.39E-07	2.24E-06	6.16E-07	3.49E-06
Ethylbenzene	4.77E-08	8.34E-07	8.05E-08	9.62E-07	5.09E-07	8.34E-07	4.91E-07	1.83E-06
Toluene	5.99E-08	7.40E-06	1.01E-07	7.56E-06	6.39E-07	7.40E-06	6.16E-07	8.65E-06
Xylenes (total)	1.01E-07	9.85E-06	1.71E-07	1.01E-05	1.08E-06	9.85E-06	1.04E-06	1.20E-05
VOCs								
n-Butylbenzene	7.19E-07	5.00E-05	1.21E-06	5.19E-05	7.67E-06	5.00E-05	7.40E-06	6.50E-05
sec-Butylbenzene	6.23E-07	4.33E-05	1.05E-06	4.50E-05	6.65E-06	4.33E-05	6.41E-06	5.64E-05
tert-Butylbenzene	4.79E-08	2.89E-06	8.10E-08	3.02E-06	5.11E-07	2.89E-06	4.93E-07	3.90E-06
Isopropylbenzene	3.36E-07	2.68E-05	5.67E-07	2.77E-05	3.58E-06	2.68E-05	3.45E-06	3.38E-05
p-Isopropyltoluene	1.44E-07	1.15E-05	2.43E-07	1.19E-05	1.53E-06	1.15E-05	1.48E-06	1.45E-05
Methylene chloride	1.92E-08	2.60E-07	3.24E-08	3.12E-07	2.05E-07	2.60E-07	1.97E-07	6.62E-07
Methyl tert-butyl ether	9.19E-10	1.39E-08	1.55E-09	1.64E-08	9.80E-09	1.39E-08	9.45E-09	3.32E-08
n-Propylbenzene	5.03E-07	1.43E-05	8.50E-07	1.56E-05	5.37E-06	1.43E-05	5.18E-06	2.48E-05
1,2,4-Trimethylbenzene	5.15E-05	3.69E-03	8.70E-05	3.83E-03	5.50E-04	3.69E-03	5.30E-04	4.77E-03
1,3,5-Trimethylbenzene	9.11E-07	7.80E-05	1.54E-06	8.04E-05	9.72E-06	7.80E-05	9.37E-06	9.71E-05
PAHs								
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	1.97E-08	2.74E-07	1.49E-07	4.43E-07	2.10E-07	2.74E-07	9.08E-07	1.39E-06
Acenaphthylene	1.01E-08	1.40E-07	7.63E-08	2.27E-07	1.08E-07	1.40E-07	4.65E-07	7.12E-07
Benz(a)anthracene	1.85E-09	2.87E-12	1.40E-08	1.59E-08	1.98E-08	2.87E-12	8.55E-08	1.05E-07
Benzo(b)fluoranthene	1.29E-08	1.99E-11	9.73E-08	1.10E-07	1.37E-07	1.99E-11	5.93E-07	7.30E-07
Benzo(k)fluoranthene	3.65E-09	5.64E-12	2.76E-08	3.13E-08	3.89E-08	5.64E-12	1.68E-07	2.07E-07
Benzo(g,h,i)perylene	2.16E-08	3.33E-11	1.63E-07	1.85E-07	2.30E-07	3.33E-11	9.93E-07	1.22E-06
Benzo(a)pyrene	4.40E-08	6.80E-11	3.33E-07	3.77E-07	4.70E-07	6.80E-11	2.03E-06	2.50E-06
Chrysene	2.29E-08	3.55E-11	1.74E-07	1.97E-07	2.45E-07	3.55E-11	1.06E-06	1.30E-06
Dibenz(a,h)anthracene	8.57E-10	1.33E-12	6.49E-09	7.35E-09	9.15E-09	1.33E-12	3.95E-08	4.87E-08
Fluoranthene	5.74E-09	8.86E-12	4.34E-08	4.92E-08	6.12E-08	8.86E-12	2.64E-07	3.26E-07
Fluorene	1.27E-07	8.80E-07	9.60E-07	1.97E-06	1.35E-06	8.80E-07	5.85E-06	8.08E-06
Indeno(1,2,3-cd)pyrene	4.87E-09	7.52E-12	3.68E-08	4.17E-08	5.19E-08	7.52E-12	2.24E-07	2.76E-07
2-Methylnaphthalene	1.46E-05	4.92E-04	8.50E-05	5.91E-04	1.56E-04	4.92E-04	5.18E-04	1.17E-03
Naphthalene	6.18E-07	2.02E-04	3.60E-06	2.07E-04	6.59E-06	2.02E-04	2.19E-05	2.31E-04
Phenanthrene	1.22E-08	3.68E-08	9.24E-08	1.41E-07	1.30E-07	3.68E-08	5.63E-07	7.30E-07
Pyrene	1.55E-08	1.27E-08	1.18E-07	1.46E-07	1.66E-07	1.27E-08	7.16E-07	8.94E-07
Total Petroleum Hydrocarbons								
TPH Gasoline - aliphatic	1.17E-05	1.04E-09	1.97E-05	3.13E-05	1.24E-04	1.04E-09	1.20E-04	2.44E-04
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	1.80E-04	9.41E-08	3.04E-04	4.84E-04	1.92E-03	9.41E-08	1.85E-03	3.77E-03
TPH Diesel - aromatic	3.46E-04	3.26E-07	5.84E-04	9.31E-04	3.69E-03	3.26E-07	3.56E-03	7.25E-03
TPH Motor Oil - aliphatic	8.21E-06	NA	1.39E-05	2.21E-05	8.75E-05	NA	8.44E-05	1.72E-04
TPH Motor Oil - aromatic	3.16E-04	NA	5.33E-04	8.48E-04	3.37E-03	NA	3.25E-03	6.61E-03
Pesticides								
Endrin aldehyde	1.84E-07	8.24E-11	1.55E-07	3.39E-07	1.96E-06	8.24E-11	9.45E-07	2.91E-06
TOTAL:	1.04E-03	4.63E-03	2.51E-03	**8.19E-03**	1.11E-02	4.63E-03	1.53E-02	**3.10E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-54
Noncancer Hazard - Soil
Exposure Area L

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	3.68E-04	NA	NA	3.68E-04	6.63E-04	6.50E-06	1.84E-04	8.53E-04	8.75E-04	1.30E-04	1.10E-04	1.12E-03
Chromium (total)	9.99E-06	NA	NA	9.99E-06	1.80E-05	1.01E-09	9.60E-05	1.14E-04	3.72E-05	3.16E-08	9.02E-05	1.27E-04
Mercury	2.85E-04	NA	NA	2.85E-04	5.14E-04	1.01E-06	5.09E-03	5.61E-03	6.78E-04	2.01E-05	3.06E-03	3.75E-03
Vanadium	1.28E-03	NA	NA	1.28E-03	2.31E-03	1.30E-07	6.17E-03	8.48E-03	4.07E-03	3.45E-06	4.94E-03	9.01E-03
BTEX												
Benzene	1.07E-06	NA	NA	1.07E-06	1.93E-06	8.99E-06	1.34E-06	1.23E-05	3.81E-06	6.63E-05	1.20E-06	7.13E-05
Ethylbenzene	8.52E-07	NA	NA	8.52E-07	1.53E-06	3.35E-06	1.06E-06	5.95E-06	3.66E-06	3.17E-05	1.16E-06	3.65E-05
Toluene	1.07E-06	NA	NA	1.07E-06	1.93E-06	2.97E-05	1.34E-06	3.30E-05	2.54E-06	1.51E-04	8.02E-07	1.54E-04
Xylenes (total)	1.81E-06	NA	NA	1.81E-06	3.26E-06	3.96E-05	2.26E-06	4.51E-05	8.14E-06	3.90E-04	2.57E-06	4.01E-04
VOCs												
n-Butylbenzene	1.28E-05	NA	NA	1.28E-05	2.31E-05	2.01E-04	1.60E-05	2.40E-04	3.05E-05	1.08E-03	9.63E-06	1.12E-03
sec-Butylbenzene	1.11E-05	NA	NA	1.11E-05	2.00E-05	1.74E-04	1.39E-05	2.08E-04	2.64E-05	1.01E-03	8.34E-06	1.05E-03
tert-Butylbenzene	8.56E-07	NA	NA	8.56E-07	1.54E-06	1.16E-05	1.07E-06	1.42E-05	2.03E-06	6.40E-05	6.42E-07	6.67E-05
Isopropylbenzene	5.99E-06	NA	NA	5.99E-06	1.08E-05	1.08E-04	7.49E-06	1.26E-04	1.42E-05	5.69E-04	4.49E-06	5.88E-04
p-Isopropyltoluene	2.57E-06	NA	NA	2.57E-06	4.62E-06	4.61E-05	3.21E-06	5.40E-05	6.10E-06	2.56E-04	1.93E-06	2.64E-04
Methylene chloride	3.42E-07	NA	NA	3.42E-07	6.16E-07	1.04E-06	4.28E-07	2.09E-06	8.14E-07	4.16E-06	2.57E-07	5.24E-06
Methyl tert-butyl ether	1.64E-08	NA	NA	1.64E-08	2.95E-08	5.59E-08	2.05E-08	1.06E-07	1.70E-08	8.96E-08	5.35E-09	1.12E-07
n-Propylbenzene	8.99E-06	NA	NA	8.99E-06	1.62E-05	5.73E-05	1.12E-05	8.47E-05	2.14E-05	2.64E-04	6.74E-06	2.92E-04
1,2,4-Trimethylbenzene	9.20E-04	NA	NA	9.20E-04	1.66E-03	1.48E-02	1.15E-03	1.76E-02	2.19E-03	7.84E-02	6.90E-04	8.12E-02
1,3,5-Trimethylbenzene	1.63E-05	NA	NA	1.63E-05	2.93E-05	3.13E-04	2.03E-05	3.63E-04	3.87E-05	1.65E-03	1.22E-05	1.71E-03
PAHs												
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	3.52E-07	NA	NA	3.52E-07	6.33E-07	1.10E-06	1.97E-06	3.70E-06	8.36E-07	6.01E-06	1.18E-06	8.03E-06
Acenaphthylene	1.80E-07	NA	NA	1.80E-07	3.24E-07	5.64E-07	1.01E-06	1.90E-06	4.28E-07	3.08E-06	6.05E-07	4.11E-06
Benz(a)anthracene	3.31E-08	NA	NA	3.31E-08	5.96E-08	1.15E-11	1.85E-07	2.45E-07	7.87E-08	2.30E-10	1.11E-07	1.90E-07
Benzo(b)fluoranthene	2.30E-07	NA	NA	2.30E-07	4.13E-07	7.99E-11	1.29E-06	1.70E-06	5.46E-07	1.60E-09	7.72E-07	1.32E-06
Benzo(k)fluoranthene	6.52E-08	NA	NA	6.52E-08	1.17E-07	2.27E-11	3.65E-07	4.82E-07	1.55E-07	4.53E-10	2.19E-07	3.74E-07
Benzo(g,h,i)perylene	3.85E-07	NA	NA	3.85E-07	6.93E-07	1.34E-10	2.16E-06	2.85E-06	9.14E-07	2.68E-09	1.29E-06	2.21E-06
Benzo(a)pyrene	7.86E-07	NA	NA	7.86E-07	1.42E-06	2.73E-10	4.40E-06	5.82E-06	1.87E-06	5.47E-09	2.64E-06	4.52E-06
Chrysene	4.10E-07	NA	NA	4.10E-07	7.37E-07	1.42E-10	2.29E-06	3.03E-06	9.73E-07	2.85E-09	1.38E-06	2.35E-06
Dibenz(a,h)anthracene	1.53E-08	NA	NA	1.53E-08	2.76E-08	5.32E-12	8.57E-08	1.13E-07	3.64E-08	1.06E-10	5.14E-08	8.79E-08
Fluoranthene	1.02E-07	NA	NA	1.02E-07	1.84E-07	3.56E-11	5.74E-07	7.58E-07	2.43E-07	7.12E-10	3.44E-07	5.88E-07
Fluorene	2.27E-06	NA	NA	2.27E-06	4.08E-06	3.54E-06	1.27E-05	2.03E-05	5.38E-06	1.96E-05	7.61E-06	3.26E-05
Indeno(1,2,3-cd)pyrene	8.69E-08	NA	NA	8.69E-08	1.56E-07	3.02E-11	4.87E-07	6.43E-07	2.06E-07	6.04E-10	2.92E-07	4.99E-07
2-Methylnaphthalene	2.61E-04	NA	NA	2.61E-04	4.69E-04	1.98E-03	1.12E-03	3.57E-03	6.19E-04	1.34E-02	6.74E-04	1.47E-02
Naphthalene	1.10E-05	NA	NA	1.10E-05	1.99E-05	8.13E-04	4.75E-05	8.81E-04	3.54E-05	5.94E-03	3.85E-05	6.01E-03
Phenanthrene	2.18E-07	NA	NA	2.18E-07	3.93E-07	1.48E-07	1.22E-06	1.76E-06	1.18E-06	2.34E-06	1.67E-06	5.19E-06
Pyrene	2.77E-07	NA	NA	2.77E-07	4.99E-07	5.12E-08	1.55E-06	2.10E-06	1.08E-06	5.35E-07	1.53E-06	3.15E-06
Total Petroleum Hydrocarbons												
TPH Gasoline - aliphatic	2.08E-04	NA	NA	2.08E-04	3.75E-04	4.20E-09	2.60E-04	6.35E-04	6.61E-03	1.12E-06	2.09E-03	8.70E-03
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	3.21E-03	NA	NA	3.21E-03	5.79E-03	3.78E-07	4.02E-03	9.80E-03	8.20E-02	8.12E-05	2.59E-02	1.08E-01
TPH Diesel - aromatic	6.18E-03	NA	NA	6.18E-03	1.11E-02	1.31E-06	7.72E-03	1.88E-02	1.58E-01	2.81E-04	4.97E-02	2.08E-01
TPH Motor Oil - aliphatic	1.47E-04	NA	NA	1.47E-04	2.64E-04	NA	1.83E-04	4.47E-04	1.59E-03	NA	5.01E-04	2.09E-03
TPH Motor Oil - aromatic	5.64E-03	NA	NA	5.64E-03	1.01E-02	NA	7.04E-03	1.72E-02	6.10E-02	NA	1.93E-02	8.03E-02
Pesticides												
Endrin aldehyde	3.28E-06	NA	NA	3.28E-06	5.91E-06	3.31E-10	2.05E-06	7.96E-06	7.80E-06	6.62E-09	1.23E-06	9.03E-06
TOTAL:	1.86E-02	NA	NA	**1.86E-02**	3.35E-02	1.86E-02	3.32E-02	**8.53E-02**	3.18E-01	1.04E-01	1.07E-01	**5.28E-01**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-55
Noncancer Hazard - Soil Gas
Exposure Area L

CHEMICAL	Hotel Bungalow Short-term Resident	Default Comm Bldg Short-term Resident	Commercial Users			
			Hotel Bungalow Indoor Employee	Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX						
Benzene	2.89E-05	1.36E-05	8.59E-05	4.06E-05	NA	NA
Ethylbenzene	4.73E-07	2.09E-07	1.41E-06	6.22E-07	NA	NA
Toluene	8.73E-06	3.79E-06	2.60E-05	1.13E-05	NA	NA
m&p-Xylenes	4.26E-06	1.88E-06	1.27E-05	5.59E-06	NA	NA
o-Xylene	1.29E-06	5.61E-07	3.84E-06	1.67E-06	NA	NA
VOCs						
Bromodichloromethane	1.42E-05	6.71E-06	4.21E-05	2.00E-05	NA	NA
2-Butanone	3.73E-07	1.76E-07	1.11E-06	5.25E-07	NA	NA
Carbon disulfide	7.95E-06	3.38E-06	2.37E-05	1.01E-05	NA	NA
Chloroform	5.66E-05	2.40E-05	1.68E-04	7.15E-05	NA	NA
Cyclohexane	5.08E-07	2.23E-07	1.51E-06	6.64E-07	NA	NA
Dibromochloromethane	2.54E-06	1.23E-06	7.57E-06	3.65E-06	NA	NA
4-Ethyltoluene	8.64E-07	3.81E-07	2.57E-06	1.13E-06	NA	NA
n-Heptane	4.53E-07	2.01E-07	1.35E-06	5.99E-07	NA	NA
Hexane	1.67E-06	7.43E-07	4.97E-06	2.21E-06	NA	NA
Isopropylbenzene	1.77E-06	8.51E-07	5.28E-06	2.53E-06	NA	NA
Methylene chloride	6.85E-07	2.92E-07	2.04E-06	8.70E-07	NA	NA
n-Propylbenzene	3.35E-07	1.61E-07	9.97E-07	4.79E-07	NA	NA
Tetrahydrofuran	6.40E-07	3.00E-07	1.90E-06	8.92E-07	NA	NA
1,2,4-Trimethylbenzene	6.00E-05	2.73E-05	1.79E-04	8.13E-05	NA	NA
1,3,5-Trimethylbenzene	5.96E-06	2.69E-06	1.78E-05	8.02E-06	NA	NA
2,2,4-Trimethylpentane	2.59E-07	1.15E-07	7.70E-07	3.42E-07	NA	NA
TOTAL:	**1.98E-04**	**8.89E-05**	**5.90E-04**	**2.65E-04**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-56
Risk Summary
Exposure Area M

Receptor	Soil Risk	Indoor Vapor Risk	Groundwater	Site-grown Produce	Total Risk	Soil Hazard	Indoor Vapor Hazard	Groundwater	Site-grown Produce	Total Hazard
Default Commercial Building Short-term Resident										
Adult	1.8.E-07	2.8.E-07	NA	3.0.E-08	**5E-07**	0.0038	0.00044	NA	0.0019	**0.006**
Child						0.025		NA	0.0046	**0.03**
Commercial Users										
Default Comm Bldg Indoor Employee	1.5.E-08	2.6.E-07	NA	NA*	**3E-07**	0.015	0.0013	NA	NA*	**0.02**
Outdoor Employee	2.5.E-07	NA	NA	NA*	**2E-07**	0.062	NA	NA	NA*	**0.06**
Intrusive Utility Worker	4.9.E-08	NA	0.0.E+00	NA	**5E-08**	0.15	NA	0.00000063	NA	**0.1**

NA = Not Applicable

*Potential risk/hazard from ingestion of produce grown on the Site by these receptors discussed in uncertainty section (7.4.1.2).

Table 6-57
Cancer Risk - Soil
Exposure Area M

CHEMICAL	Short-term Resident Adult + Child			
	Ing	InhP	Dermal	Direct Total
Inorganics				
Cadmium	NC	1.91E-10	NC	1.91E-10
Chromium (total)	NC	1.78E-08	NC	1.78E-08
Mercury	NC	NC	NC	NC
Vanadium	NC	1.95E-08	NC	1.95E-08
BTEX				
Ethylbenzene	1.25E-11	1.90E-10	1.31E-11	2.15E-10
Toluene	NC	NC	NC	NC
Xylenes (total)	NC	NC	NC	NC
VOCs				
sec-Butylbenzene	NC	NC	NC	NC
tert-Butylbenzene	NC	NC	NC	NC
Isopropylbenzene	NC	NC	NC	NC
n-Propylbenzene	NC	NC	NC	NC
1,2,4-Trimethylbenzene	NC	NC	NC	NC
1,3,5-Trimethylbenzene	NC	NC	NC	NC
PAHs				
BaP TEQ	8.99E-09	5.99E-12	4.20E-08	5.10E-08
Acenaphthene	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA
Dibenz(a,h)anthracene	1.81E-09	5.45E-13	8.43E-09	1.02E-08
Fluoranthene	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA
1-Methylnaphthalene	3.09E-09	NC	1.11E-08	1.42E-08
2-Methylnaphthalene	NC	NC	NC	NC
Naphthalene	NC	7.01E-08	NC	7.01E-08
Phenanthrene	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC
Total Petroleum Hydrocarbons				
TPH Gasoline - aliphatic	NC	NC	NC	NC
TPH Gasoline - aromatic	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NC	NC	NC
TOTAL:	1.39E-08	1.08E-07	6.15E-08	**1.83E-07**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-57
Cancer Risk - Soil
Exposure Area M

	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
CHEMICAL	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	NC	NA	NA	NC	NC	2.44E-10	NC	2.44E-10	NC	1.39E-10	NC	1.39E-10
Chromium (total)	NC	NA	NA	NC	NC	2.28E-08	NC	2.28E-08	NC	1.30E-08	NC	1.30E-08
Mercury	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Vanadium	NC	NA	NA	NC	NC	2.49E-08	NC	2.49E-08	NC	1.42E-08	NC	1.42E-08
BTEX												
Ethylbenzene	1.36E-11	NA	NA	1.36E-11	2.45E-11	2.43E-10	1.70E-11	2.84E-10	1.29E-12	4.63E-11	4.07E-13	4.80E-11
Toluene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Xylenes (total)	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
VOCs												
sec-Butylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
tert-Butylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Isopropylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
n-Propylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
1,2,4-Trimethylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
1,3,5-Trimethylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
PAHs												
BaP TEQ	9.74E-09	NA	NA	9.74E-09	1.75E-08	7.67E-12	5.45E-08	7.21E-08	9.26E-10	4.37E-12	1.31E-09	2.24E-09
Acenaphthene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	1.96E-09	NA	NA	1.96E-09	3.52E-09	6.97E-13	1.10E-08	1.45E-08	1.86E-10	3.97E-13	2.63E-10	4.50E-10
Fluoranthene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1-Methylnaphthalene	3.35E-09	NA	NA	3.35E-09	6.02E-09	NC	1.44E-08	2.04E-08	3.18E-10	NC	3.46E-10	6.64E-10
2-Methylnaphthalene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Naphthalene	NC	NA	NA	NC	NC	8.97E-08	NC	8.97E-08	NC	1.82E-08	NC	1.82E-08
Phenanthrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbon												
TPH Gasoline - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Gasoline - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TOTAL:	1.51E-08	NA	NA	**1.51E-08**	2.71E-08	1.38E-07	7.99E-08	**2.45E-07**	1.43E-09	4.56E-08	1.92E-09	**4.89E-08**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-58
Cancer Risk - Soil Gas
Exposure Area M

CHEMICAL	Default Comm Bldg Short-term Resident	Commercial Users		
		Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX				
Benzene	2.70E-07	2.56E-07	NA	NA
Ethylbenzene	2.94E-09	2.78E-09	NA	NA
Toluene	NC	NC	NA	NA
m&p-Xylenes	NC	NC	NA	NA
o-Xylene	NC	NC	NA	NA
VOCs				
2-Butanone	NC	NC	NA	NA
tert-Butylalcohol	NC	NC	NA	NA
Carbon disulfide	NC	NC	NA	NA
Chloroform	8.12E-10	7.70E-10	NA	NA
Chloromethane	NC	NC	NA	NA
Cyclohexane	NC	NC	NA	NA
Dichlorodifluoromethane	NC	NC	NA	NA
4-Ethyltoluene	NC	NC	NA	NA
Ethyl acetate	NC	NC	NA	NA
n-Heptane	NC	NC	NA	NA
Hexane	NC	NC	NA	NA
2-Hexanone	NC	NC	NA	NA
Isopropyl alcohol	NC	NC	NA	NA
Isopropylbenzene	NC	NC	NA	NA
Methylene chloride	9.32E-11	8.83E-11	NA	NA
4-Methyl-2-pentanone	NC	NC	NA	NA
n-Propylbenzene	NC	NC	NA	NA
Propylene	NC	NC	NA	NA
Styrene	NC	NC	NA	NA
1,1,1,2-Tetrachloroethane	5.00E-10	4.74E-10	NA	NA
Tetrachloroethene	6.67E-10	6.32E-10	NA	NA
Tetrahydrofuran	1.40E-09	1.33E-09	NA	NA
Trichlorofluoromethane	NC	NC	NA	NA
1,2,4-Trimethylbenzene	NC	NC	NA	NA
1,3,5-Trimethylbenzene	NC	NC	NA	NA
2,2,4-Trimethylpentane	NC	NC	NA	NA
TOTAL:	**2.76E-07**	**2.62E-07**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-59
Cancer Risk - Groundwater
Exposure Area M

CHEMICAL	Commercial Users		
	Intrusive Utility Worker		
	Ing	Dermal	Direct Total
BTEX			
Toluene	NC	NC	NC
TOTAL:	0.00E+00	0.00E+00	**0.00E+00**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-60
Noncancer Hazard - Soil
Exposure Area M

CHEMICAL	Short-term Resident							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Cadmium	2.88E-05	2.26E-06	1.94E-05	5.05E-05	3.07E-04	2.26E-06	1.18E-04	4.27E-04
Chromium (total)	4.10E-07	1.84E-10	5.33E-06	5.74E-06	4.37E-06	1.84E-10	3.24E-05	3.68E-05
Mercury	2.80E-06	4.39E-08	6.75E-05	7.03E-05	2.98E-05	4.39E-08	4.11E-04	4.41E-04
Vanadium	2.12E-04	9.52E-08	1.38E-03	1.59E-03	2.26E-03	9.52E-08	8.40E-03	1.07E-02
BTEX								
Ethylbenzene	2.16E-09	3.77E-08	3.64E-09	4.35E-08	2.30E-08	3.77E-08	2.22E-08	8.29E-08
Toluene	8.09E-10	9.98E-08	1.37E-09	1.02E-07	8.63E-09	9.98E-08	8.32E-09	1.17E-07
Xylenes (total)	3.12E-09	3.03E-07	5.26E-09	3.11E-07	3.32E-08	3.03E-07	3.20E-08	3.68E-07
VOCs								
sec-Butylbenzene	5.27E-08	3.67E-06	8.90E-08	3.81E-06	5.63E-07	3.67E-06	5.42E-07	4.77E-06
tert-Butylbenzene	5.27E-09	3.18E-07	8.90E-09	3.32E-07	5.63E-08	3.18E-07	5.42E-08	4.29E-07
Isopropylbenzene	6.95E-08	5.55E-06	1.17E-07	5.74E-06	7.42E-07	5.55E-06	7.15E-07	7.01E-06
n-Propylbenzene	5.03E-08	1.43E-06	8.50E-08	1.56E-06	5.37E-07	1.43E-06	5.18E-07	2.48E-06
1,2,4-Trimethylbenzene	4.67E-07	3.34E-05	7.89E-07	3.47E-05	4.99E-06	3.34E-05	4.81E-06	4.32E-05
1,3,5-Trimethylbenzene	4.79E-08	4.10E-06	8.10E-08	4.23E-06	5.11E-07	4.10E-06	4.93E-07	5.11E-06
PAHs								
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	2.32E-08	3.23E-07	1.75E-07	5.21E-07	2.47E-07	3.23E-07	1.07E-06	1.64E-06
Acenaphthylene	6.84E-10	9.52E-09	5.17E-09	1.54E-08	7.29E-09	9.52E-09	3.15E-08	4.83E-08
Anthracene	3.48E-09	1.30E-08	2.63E-08	4.28E-08	3.71E-08	1.30E-08	1.60E-07	2.10E-07
Benz(a)anthracene	4.40E-10	6.80E-13	3.33E-09	3.77E-09	4.70E-09	6.80E-13	2.03E-08	2.50E-08
Benzo(b)fluoranthene	9.56E-09	1.48E-11	7.23E-08	8.19E-08	1.02E-07	1.48E-11	4.41E-07	5.43E-07
Benzo(k)fluoranthene	2.43E-09	3.76E-12	1.84E-08	2.09E-08	2.60E-08	3.76E-12	1.12E-07	1.38E-07
Benzo(g,h,i)perylene	2.29E-08	3.55E-11	1.74E-07	1.97E-07	2.45E-07	3.55E-11	1.06E-06	1.30E-06
Benzo(a)pyrene	8.11E-09	1.25E-11	6.14E-08	6.95E-08	8.65E-08	1.25E-11	3.74E-07	4.60E-07
Chrysene	9.27E-08	1.43E-10	7.02E-07	7.94E-07	9.89E-07	1.43E-10	4.27E-06	5.26E-06
Dibenz(a,h)anthracene	2.78E-10	4.30E-13	2.10E-09	2.38E-09	2.97E-09	4.30E-13	1.28E-08	1.58E-08
Fluoranthene	4.35E-09	6.72E-12	3.29E-08	3.72E-08	4.63E-08	6.72E-12	2.00E-07	2.47E-07
Fluorene	2.09E-07	1.45E-06	1.58E-06	3.23E-06	2.22E-06	1.45E-06	9.61E-06	1.33E-05
Indeno(1,2,3-cd)pyrene	7.42E-09	1.15E-11	5.61E-08	6.36E-08	7.91E-08	1.15E-11	3.42E-07	4.21E-07
1-Methylnaphthalene	2.88E-07	9.59E-06	1.68E-06	1.16E-05	3.07E-06	9.59E-06	1.02E-05	2.29E-05
2-Methylnaphthalene	4.35E-06	1.46E-04	2.53E-05	1.76E-04	4.63E-05	1.46E-04	1.54E-04	3.47E-04
Naphthalene	6.95E-07	2.28E-04	4.05E-06	2.32E-04	7.42E-06	2.28E-04	2.47E-05	2.60E-04
Phenanthrene	1.21E-08	3.63E-08	9.12E-08	1.40E-07	1.29E-07	3.63E-08	5.55E-07	7.20E-07
Pyrene	7.42E-08	6.09E-08	5.61E-07	6.96E-07	7.91E-07	6.09E-08	3.42E-06	4.27E-06
Total Petroleum Hydrocarbons								
TPH Gasoline - aliphatic	2.03E-06	1.82E-10	3.42E-06	5.45E-06	2.16E-05	1.82E-10	2.08E-05	4.24E-05
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	1.43E-04	7.47E-08	2.41E-04	3.84E-04	1.52E-03	7.47E-08	1.47E-03	2.99E-03
TPH Diesel - aromatic	2.75E-04	2.58E-07	4.64E-04	7.39E-04	2.93E-03	2.58E-07	2.82E-03	5.75E-03
TPH Motor Oil - aliphatic	4.20E-06	NA	7.09E-06	1.13E-05	4.48E-05	NA	4.32E-05	8.80E-05
TPH Motor Oil - aromatic	1.62E-04	NA	2.73E-04	4.34E-04	1.72E-03	NA	1.66E-03	3.38E-03
TOTAL:	8.36E-04	4.37E-04	2.49E-03	**3.77E-03**	8.92E-03	4.37E-04	1.52E-02	**2.45E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-60
Noncancer Hazard - Soil
Exposure Area M

	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
CHEMICAL	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	5.14E-04	NA	NA	5.14E-04	9.25E-04	9.07E-06	2.57E-04	1.19E-03	1.22E-03	1.29E-04	1.54E-04	1.50E-03
Chromium (total)	7.32E-06	NA	NA	7.32E-06	1.32E-05	7.39E-10	7.04E-05	8.35E-05	1.74E-05	1.05E-08	4.22E-05	5.96E-05
Mercury	4.99E-05	NA	NA	4.99E-05	8.99E-05	1.76E-07	8.91E-04	9.81E-04	1.19E-04	2.51E-06	5.35E-04	6.56E-04
Vanadium	3.79E-03	NA	NA	3.79E-03	6.82E-03	3.82E-07	1.82E-02	2.50E-02	9.01E-03	5.45E-06	1.09E-02	1.99E-02
BTEX												
Ethylbenzene	3.85E-08	NA	NA	3.85E-08	6.93E-08	1.52E-07	4.81E-08	2.69E-07	9.15E-08	7.22E-07	2.89E-08	8.42E-07
Toluene	1.44E-08	NA	NA	1.44E-08	2.60E-08	4.01E-07	1.80E-08	4.45E-07	3.43E-08	1.81E-06	1.08E-08	1.86E-06
Xylenes (total)	5.57E-08	NA	NA	5.57E-08	1.00E-07	1.22E-06	6.95E-08	1.39E-06	1.32E-07	5.76E-06	4.17E-08	5.94E-06
VOCs												
sec-Butylbenzene	9.42E-07	NA	NA	9.42E-07	1.70E-06	1.47E-05	1.18E-06	1.76E-05	2.24E-06	7.99E-05	7.06E-07	8.28E-05
tert-Butylbenzene	9.42E-08	NA	NA	9.42E-08	1.70E-07	1.28E-06	1.18E-07	1.57E-06	2.24E-07	6.58E-06	7.06E-08	6.88E-06
Isopropylbenzene	1.24E-06	NA	NA	1.24E-06	2.23E-06	2.23E-05	1.55E-06	2.61E-05	2.95E-06	1.08E-04	9.30E-07	1.12E-04
n-Propylbenzene	8.99E-07	NA	NA	8.99E-07	1.62E-06	5.73E-06	1.12E-06	8.47E-06	2.14E-06	2.46E-05	6.74E-07	2.74E-05
1,2,4-Trimethylbenzene	8.35E-06	NA	NA	8.35E-06	1.50E-05	1.34E-04	1.04E-05	1.60E-04	1.98E-05	6.54E-04	6.26E-06	6.80E-04
1,3,5-Trimethylbenzene	8.56E-07	NA	NA	8.56E-07	1.54E-06	1.65E-05	1.07E-06	1.91E-05	2.03E-06	7.99E-05	6.42E-07	8.26E-05
PAHs												
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	4.14E-07	NA	NA	4.14E-07	7.45E-07	1.30E-06	2.32E-06	4.36E-06	9.83E-07	6.66E-06	1.39E-06	9.04E-06
Acenaphthylene	1.22E-08	NA	NA	1.22E-08	2.20E-08	3.82E-08	6.84E-08	1.29E-07	2.90E-08	1.97E-07	4.10E-08	2.67E-07
Anthracene	6.21E-08	NA	NA	6.21E-08	1.12E-07	5.21E-08	3.48E-07	5.11E-07	1.47E-07	2.77E-07	2.09E-07	6.33E-07
Benz(a)anthracene	7.86E-09	NA	NA	7.86E-09	1.42E-08	2.73E-12	4.40E-08	5.82E-08	1.87E-08	3.89E-11	2.64E-08	4.51E-08
Benzo(b)fluoranthene	1.71E-07	NA	NA	1.71E-07	3.07E-07	5.94E-11	9.56E-07	1.26E-06	4.06E-07	8.46E-10	5.74E-07	9.80E-07
Benzo(k)fluoranthene	4.35E-08	NA	NA	4.35E-08	7.82E-08	1.51E-11	2.43E-07	3.22E-07	1.03E-07	2.15E-10	1.46E-07	2.49E-07
Benzo(g,h,i)perylene	4.10E-07	NA	NA	4.10E-07	7.37E-07	1.42E-10	2.29E-06	3.03E-06	9.73E-07	2.03E-09	1.38E-06	2.35E-06
Benzo(a)pyrene	1.45E-07	NA	NA	1.45E-07	2.61E-07	5.04E-11	8.11E-07	1.07E-06	3.44E-07	7.17E-10	4.87E-07	8.31E-07
Chrysene	1.66E-06	NA	NA	1.66E-06	2.98E-06	5.76E-10	9.27E-06	1.22E-05	3.93E-06	8.20E-09	5.56E-06	9.50E-06
Dibenz(a,h)anthracene	4.97E-09	NA	NA	4.97E-09	8.94E-09	1.73E-12	2.78E-08	3.67E-08	1.18E-08	2.46E-11	1.67E-08	2.85E-08
Fluoranthene	7.76E-08	NA	NA	7.76E-08	1.40E-07	2.70E-11	4.34E-07	5.74E-07	1.84E-07	3.84E-10	2.61E-07	4.45E-07
Fluorene	3.72E-06	NA	NA	3.72E-06	6.70E-06	5.81E-06	2.09E-05	3.34E-05	8.85E-06	3.04E-05	1.25E-05	5.17E-05
Indeno(1,2,3-cd)pyrene	1.32E-07	NA	NA	1.32E-07	2.38E-07	4.60E-11	7.42E-07	9.80E-07	3.15E-07	6.56E-10	4.45E-07	7.60E-07
1-Methylnaphthalene	5.14E-06	NA	NA	5.14E-06	9.26E-06	3.85E-05	2.22E-05	7.00E-05	1.22E-05	2.47E-04	1.33E-05	2.72E-04
2-Methylnaphthalene	7.76E-05	NA	NA	7.76E-05	1.40E-04	5.88E-04	3.34E-04	1.06E-03	1.84E-04	3.72E-03	2.01E-04	4.10E-03
Naphthalene	1.24E-05	NA	NA	1.24E-05	2.23E-05	9.15E-04	5.35E-05	9.91E-04	2.95E-05	4.63E-03	3.21E-05	4.69E-03
Phenanthrene	2.15E-07	NA	NA	2.15E-07	3.87E-07	1.46E-07	1.20E-06	1.74E-06	5.11E-07	9.60E-07	7.23E-07	2.19E-06
Pyrene	1.32E-06	NA	NA	1.32E-06	2.38E-06	2.45E-07	7.42E-06	1.00E-05	3.15E-06	1.49E-06	4.45E-06	9.09E-06
Total Petroleum Hydrocarbon												
TPH Gasoline - aliphatic	3.62E-05	NA	NA	3.62E-05	6.51E-05	7.30E-10	4.52E-05	1.10E-04	8.59E-05	1.04E-08	2.71E-05	1.13E-04
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	2.55E-03	NA	NA	2.55E-03	4.59E-03	3.00E-07	3.19E-03	7.78E-03	2.01E-02	1.42E-05	6.34E-03	2.65E-02
TPH Diesel - aromatic	4.90E-03	NA	NA	4.90E-03	8.83E-03	1.04E-06	6.13E-03	1.50E-02	3.87E-02	4.91E-05	1.22E-02	5.09E-02
TPH Motor Oil - aliphatic	7.50E-05	NA	NA	7.50E-05	1.35E-04	NA	9.37E-05	2.29E-04	6.88E-04	NA	2.17E-04	9.04E-04
TPH Motor Oil - aromatic	2.89E-03	NA	NA	2.89E-03	5.19E-03	NA	3.60E-03	8.80E-03	2.64E-02	NA	8.34E-03	3.48E-02
TOTAL:	1.49E-02	NA	NA	**1.49E-02**	2.69E-02	1.76E-03	3.30E-02	**6.16E-02**	9.66E-02	9.80E-03	3.91E-02	**1.45E-01**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-61
Noncancer Hazard - Soil Gas
Exposure Area M

CHEMICAL	Default Comm Bldg Short-term Resident	Commercial Users		
		Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX				
Benzene	1.54E-04	4.59E-04	NA	NA
Ethylbenzene	5.84E-07	1.74E-06	NA	NA
Toluene	2.72E-06	8.10E-06	NA	NA
m&p-Xylenes	3.65E-06	1.09E-05	NA	NA
o-Xylene	3.49E-06	1.04E-05	NA	NA
VOCs				
2-Butanone	4.84E-07	1.44E-06	NA	NA
tert-Butylalcohol	1.25E-07	3.71E-07	NA	NA
Carbon disulfide	1.08E-05	3.21E-05	NA	NA
Chloroform	5.08E-07	1.51E-06	NA	NA
Chloromethane	1.53E-05	4.54E-05	NA	NA
Cyclohexane	1.32E-06	3.91E-06	NA	NA
Dichlorodifluoromethane	8.15E-07	2.43E-06	NA	NA
4-Ethyltoluene	1.94E-06	5.77E-06	NA	NA
Ethyl acetate	NC	NC	NA	NA
n-Heptane	1.85E-06	5.51E-06	NA	NA
Hexane	1.83E-06	5.45E-06	NA	NA
2-Hexanone	2.10E-06	6.24E-06	NA	NA
Isopropyl alcohol	4.83E-08	1.44E-07	NA	NA
Isopropylbenzene	3.01E-05	8.96E-05	NA	NA
Methylene chloride	2.31E-07	6.89E-07	NA	NA
4-Methyl-2-pentanone	4.39E-07	1.31E-06	NA	NA
n-Propylbenzene	3.48E-06	1.04E-05	NA	NA
Propylene	4.42E-08	1.31E-07	NA	NA
Styrene	9.01E-08	2.68E-07	NA	NA
1,1,1,2-Tetrachloroethane	6.40E-07	1.90E-06	NA	NA
Tetrachloroethene	3.21E-06	9.55E-06	NA	NA
Tetrahydrofuran	2.38E-06	7.07E-06	NA	NA
Trichlorofluoromethane	1.04E-07	3.09E-07	NA	NA
1,2,4-Trimethylbenzene	1.86E-04	5.53E-04	NA	NA
1,3,5-Trimethylbenzene	1.48E-05	4.40E-05	NA	NA
2,2,4-Trimethylpentane	6.47E-08	1.93E-07	NA	NA
TOTAL:	**4.43E-04**	**1.32E-03**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-62
Noncancer Hazard - Groundwater
Exposure Area M

CHEMICAL	Commercial Users		
	Intrusive Utility Worker		
	Ing	Dermal	Direct Total
BTEX			
Toluene	1.252E-07	5.055E-07	6.307E-07
TOTAL:	1.25E-07	5.05E-07	**6.31E-07**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-63
Risk Summary
Exposure Area N

Receptor	Soil Risk	Indoor Vapor Risk	Groundwater	Site-grown Produce	Total Risk	Soil Hazard	Indoor Vapor Hazard	Groundwater	Site-grown Produce	Total Hazard
Default Commercial Building Short-term Resident										
Adult	6.9.E-08	2.8.E-08	NA	3.0.E-08	**1E-07**	0.0022	0.000082	NA	0.0019	**0.004**
Child						0.015		NA	0.0046	**0.02**
Commercial Users										
Default Comm Bldg Indoor Employee	4.7.E-09	2.6.E-08	NA	NA*	**3E-08**	0.0059	0.00025	NA	NA*	**0.006**
Outdoor Employee	9.2.E-08	NA	NA	NA*	**9E-08**	0.035	NA	NA	NA*	**0.04**
Intrusive Utility Worker	5.4.E-08	NA	0.0.E+00	NA	**5E-08**	0.037	NA	0.00000073	NA	**0.04**

NA = Not Applicable

*Potential risk/hazard from ingestion of produce grown on the Site by these receptors discussed in uncertainty section (7.4.1.2).

Table 6-64
Cancer Risk - Soil
Exposure Area N

CHEMICAL	Short-term Resident Adult + Child Ing	InhP	Dermal	Direct Total
Inorganics				
Cadmium	NC	2.28E-10	NC	2.28E-10
Chromium (total)	NC	2.27E-08	NC	2.27E-08
Mercury	NC	NC	NC	NC
Vanadium	NC	2.17E-08	NC	2.17E-08
VOCs				
1,2,4-Trimethylbenzene	NC	NC	NC	NC
PAHs				
BaP TEQ	4.33E-09	2.89E-12	2.02E-08	2.46E-08
Anthracene	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA
Fluoranthene	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA
2-Methylnaphthalene	NC	NC	NC	NC
Naphthalene	NC	2.77E-10	NC	2.77E-10
Phenanthrene	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC
Total Petroleum Hydrocarbons				
TPH Diesel - aliphatic	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NC	NC	NC
TOTAL:	4.33E-09	4.49E-08	2.02E-08	**6.94E-08**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-64
Cancer Risk - Soil
Exposure Area N

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	NC	NA	NA	NC	NC	2.92E-10	NC	2.92E-10	NC	2.31E-10	NC	2.31E-10
Chromium (total)	NC	NA	NA	NC	NC	2.91E-08	NC	2.91E-08	NC	3.01E-08	NC	3.01E-08
Mercury	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Vanadium	NC	NA	NA	NC	NC	2.77E-08	NC	2.77E-08	NC	2.30E-08	NC	2.30E-08
VOCs												
1,2,4-Trimethylbenzene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
PAHs												
BaP TEQ	4.69E-09	NA	NA	4.69E-09	8.45E-09	3.70E-12	2.63E-08	3.47E-08	4.46E-10	2.33E-12	6.31E-10	1.08E-09
Anthracene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Naphthalene	NC	NA	NA	NC	NC	3.55E-10	NC	3.55E-10	NC	3.94E-11	NC	3.94E-11
Phenanthrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbon												
TPH Diesel - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TOTAL:	4.69E-09	NA	NA	**4.69E-09**	8.45E-09	5.74E-08	2.63E-08	**9.22E-08**	4.46E-10	5.34E-08	6.31E-10	**5.44E-08**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-65
Cancer Risk - Soil Gas
Exposure Area N

CHEMICAL	Default Comm Bldg Short-term Resident	Commercial Users		
		Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX				
Benzene	9.53E-09	9.03E-09	NA	NA
Ethylbenzene	1.50E-09	1.42E-09	NA	NA
Toluene	NC	NC	NA	NA
m&p-Xylenes	NC	NC	NA	NA
o-Xylene	NC	NC	NA	NA
VOCs				
2-Butanone	NC	NC	NA	NA
tert-Butylalcohol	NC	NC	NA	NA
n-Butylbenzene	NC	NC	NA	NA
sec-Butylbenzene	NC	NC	NA	NA
tert-Butylbenzene	NC	NC	NA	NA
Carbon disulfide	NC	NC	NA	NA
Chloroform	1.25E-09	1.19E-09	NA	NA
Chloromethane	NC	NC	NA	NA
Cyclohexane	NC	NC	NA	NA
Dichlorodifluoromethane	NC	NC	NA	NA
1,1-Dichloroethene	NC	NC	NA	NA
cis-1,2-Dichloroethene	NC	NC	NA	NA
4-Ethyltoluene	NC	NC	NA	NA
Ethyl acetate	NC	NC	NA	NA
n-Heptane	NC	NC	NA	NA
Hexane	NC	NC	NA	NA
2-Hexanone	NC	NC	NA	NA
Isopropyl alcohol	NC	NC	NA	NA
Isopropylbenzene	NC	NC	NA	NA
Methylene chloride	1.02E-10	9.68E-11	NA	NA
4-Methyl-2-pentanone	NC	NC	NA	NA
n-Propylbenzene	NC	NC	NA	NA
Propylene	NC	NC	NA	NA
Styrene	NC	NC	NA	NA
1,1,1,2-Tetrachloroethane	6.16E-10	5.84E-10	NA	NA
Tetrachloroethene	9.93E-10	9.41E-10	NA	NA
Tetrahydrofuran	2.77E-09	2.62E-09	NA	NA
1,1,1-Trichloroethane	NC	NC	NA	NA
Trichloroethene	2.63E-10	2.49E-10	NA	NA
Trichlorofluoromethane	NC	NC	NA	NA
1,1,2-Trichlorotrifluoroethane	NC	NC	NA	NA
1,2,4-Trimethylbenzene	NC	NC	NA	NA
1,3,5-Trimethylbenzene	NC	NC	NA	NA
2,2,4-Trimethylpentane	NC	NC	NA	NA
Vinyl chloride	2.95E-09	2.79E-09	NA	NA
PAHs				
Naphthalene	3.64E-09	3.45E-09	NA	NA
SVOCs				
1,4-Dioxane	4.24E-09	4.02E-09	NA	NA
TOTAL:	**2.78E-08**	**2.64E-08**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-66
Cancer Risk - Groundwater
Exposure Area N

CHEMICAL	Commercial Users		
	Intrusive Utility Worker		
	Ing	Dermal	Direct Total
BTEX			
Toluene	NC	NC	NC
TOTAL:	0.00E+00	0.00E+00	**0.00E+00**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-67
Noncancer Hazard - Soil
Exposure Area N

CHEMICAL	Short-term Resident							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Cadmium	3.44E-05	2.70E-06	2.32E-05	6.04E-05	3.67E-04	2.70E-06	1.42E-04	5.11E-04
Chromium (total)	5.22E-07	2.34E-10	6.78E-06	7.30E-06	5.57E-06	2.34E-10	4.13E-05	4.68E-05
Mercury	9.59E-06	1.50E-07	2.31E-04	2.41E-04	1.02E-04	1.50E-07	1.41E-03	1.51E-03
Vanadium	2.36E-04	1.06E-07	1.53E-03	1.77E-03	2.52E-03	1.06E-07	9.34E-03	1.19E-02
VOCs								
1,2,4-Trimethylbenzene	3.12E-08	2.23E-06	5.26E-08	2.31E-06	3.32E-07	2.23E-06	3.20E-07	2.88E-06
PAHs								
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	3.94E-10	1.47E-09	2.98E-09	4.85E-09	4.20E-09	1.47E-09	1.82E-08	2.38E-08
Benz(a)anthracene	3.24E-10	5.01E-13	2.46E-09	2.78E-09	3.46E-09	5.01E-13	1.50E-08	1.84E-08
Benzo(b)fluoranthene	6.60E-09	1.02E-11	5.00E-08	5.66E-08	7.04E-08	1.02E-11	3.04E-07	3.75E-07
Benzo(k)fluoranthene	1.36E-09	2.10E-12	1.03E-08	1.16E-08	1.45E-08	2.10E-12	6.25E-08	7.70E-08
Benzo(g,h,i)perylene	3.01E-08	4.66E-11	2.28E-07	2.58E-07	3.21E-07	4.66E-11	1.39E-06	1.71E-06
Benzo(a)pyrene	1.48E-08	2.29E-11	1.12E-07	1.27E-07	1.58E-07	2.29E-11	6.84E-07	8.42E-07
Chrysene	2.09E-09	3.22E-12	1.58E-08	1.79E-08	2.22E-08	3.22E-12	9.61E-08	1.18E-07
Fluoranthene	5.56E-09	8.60E-12	4.21E-08	4.77E-08	5.93E-08	8.60E-12	2.56E-07	3.16E-07
Indeno(1,2,3-cd)pyrene	2.55E-09	3.94E-12	1.93E-08	2.18E-08	2.72E-08	3.94E-12	1.17E-07	1.45E-07
2-Methylnaphthalene	1.27E-08	4.27E-07	7.39E-08	5.14E-07	1.35E-07	4.27E-07	4.50E-07	1.01E-06
Naphthalene	2.75E-09	9.00E-07	1.60E-08	9.18E-07	2.93E-08	9.00E-07	9.74E-08	1.03E-06
Phenanthrene	1.78E-10	5.37E-10	1.35E-09	2.07E-09	1.90E-09	5.37E-10	8.22E-09	1.07E-08
Pyrene	6.03E-09	4.95E-09	4.56E-08	5.66E-08	6.43E-08	4.95E-09	2.78E-07	3.47E-07
Total Petroleum Hydrocarbons								
TPH Diesel - aliphatic	9.97E-06	5.21E-09	1.68E-05	2.68E-05	1.06E-04	5.21E-09	1.03E-04	2.09E-04
TPH Diesel - aromatic	1.92E-05	1.80E-08	3.24E-05	5.16E-05	2.05E-04	1.80E-08	1.97E-04	4.02E-04
TPH Motor Oil - aliphatic	4.67E-07	NA	7.89E-07	1.26E-06	4.99E-06	NA	4.81E-06	9.79E-06
TPH Motor Oil - aromatic	1.80E-05	NA	3.04E-05	4.83E-05	1.92E-04	NA	1.85E-04	3.77E-04
TOTAL:	3.28E-04	6.54E-06	1.88E-03	**2.21E-03**	3.50E-03	6.54E-06	1.14E-02	**1.49E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-67
Noncancer Hazard - Soil
Exposure Area N

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	6.15E-04	NA	NA	6.15E-04	1.11E-03	1.08E-05	3.07E-04	1.42E-03	1.83E-03	2.14E-04	2.31E-04	2.28E-03
Chromium (total)	9.32E-06	NA	NA	9.32E-06	1.68E-05	9.40E-10	8.96E-05	1.06E-04	3.64E-05	2.43E-08	8.83E-05	1.25E-04
Mercury	1.71E-04	NA	NA	1.71E-04	3.08E-04	6.04E-07	3.06E-03	3.36E-03	4.07E-04	9.52E-06	1.83E-03	2.25E-03
Vanadium	4.22E-03	NA	NA	4.22E-03	7.59E-03	4.25E-07	2.03E-02	2.79E-02	1.32E-02	8.84E-06	1.60E-02	2.93E-02
VOCs												
1,2,4-Trimethylbenzene	5.57E-07	NA	NA	5.57E-07	1.00E-06	8.96E-06	6.95E-07	1.07E-05	1.32E-06	2.32E-05	4.17E-07	2.50E-05
PAHs												
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	7.03E-09	NA	NA	7.03E-09	1.27E-08	5.91E-09	3.94E-08	5.80E-08	1.67E-08	2.23E-08	2.36E-08	6.26E-08
Benz(a)anthracene	5.79E-09	NA	NA	5.79E-09	1.04E-08	2.01E-12	3.24E-08	4.29E-08	1.38E-08	3.17E-11	1.95E-08	3.33E-08
Benzo(b)fluoranthene	1.18E-07	NA	NA	1.18E-07	2.12E-07	4.10E-11	6.60E-07	8.73E-07	2.80E-07	6.46E-10	3.96E-07	6.77E-07
Benzo(k)fluoranthene	2.42E-08	NA	NA	2.42E-08	4.36E-08	8.42E-12	1.36E-07	1.79E-07	5.75E-08	1.33E-10	8.13E-08	1.39E-07
Benzo(g,h,i)perylene	5.38E-07	NA	NA	5.38E-07	9.68E-07	1.87E-10	3.01E-06	3.98E-06	1.28E-06	2.95E-09	1.81E-06	3.09E-06
Benzo(a)pyrene	2.65E-07	NA	NA	2.65E-07	4.77E-07	9.21E-11	1.48E-06	1.96E-06	6.29E-07	1.45E-09	8.90E-07	1.52E-06
Chrysene	3.72E-08	NA	NA	3.72E-08	6.70E-08	1.30E-11	2.09E-07	2.76E-07	8.85E-08	2.04E-10	1.25E-07	2.14E-07
Fluoranthene	9.93E-08	NA	NA	9.93E-08	1.79E-07	3.45E-11	5.56E-07	7.35E-07	2.36E-07	5.44E-10	3.34E-07	5.70E-07
Indeno(1,2,3-cd)pyrene	4.55E-08	NA	NA	4.55E-08	8.19E-08	1.58E-11	2.55E-07	3.37E-07	1.08E-07	2.49E-10	1.53E-07	2.61E-07
2-Methylnaphthalene	2.27E-07	NA	NA	2.27E-07	4.08E-07	1.72E-06	9.76E-07	3.10E-06	5.38E-07	5.97E-06	5.86E-07	7.09E-06
Naphthalene	4.90E-08	NA	NA	4.90E-08	8.83E-08	3.61E-06	2.11E-07	3.91E-06	1.17E-07	1.00E-05	1.27E-07	1.03E-05
Phenanthrene	3.19E-09	NA	NA	3.19E-09	5.74E-09	2.16E-09	1.78E-08	2.57E-08	7.57E-09	1.01E-08	1.07E-08	2.84E-08
Pyrene	1.08E-07	NA	NA	1.08E-07	1.94E-07	1.99E-08	6.02E-07	8.16E-07	2.56E-07	1.35E-07	3.61E-07	7.52E-07
Total Petroleum Hydrocarbon												
TPH Diesel - aliphatic	1.78E-04	NA	NA	1.78E-04	3.21E-04	2.10E-08	2.22E-04	5.43E-04	4.23E-04	3.30E-07	1.33E-04	5.57E-04
TPH Diesel - aromatic	3.42E-04	NA	NA	3.42E-04	6.16E-04	7.25E-08	4.28E-04	1.04E-03	8.14E-04	1.14E-06	2.57E-04	1.07E-03
TPH Motor Oil - aliphatic	8.35E-06	NA	NA	8.35E-06	1.50E-05	NA	1.04E-05	2.55E-05	1.98E-05	NA	6.26E-06	2.61E-05
TPH Motor Oil - aromatic	3.21E-04	NA	NA	3.21E-04	5.78E-04	NA	4.01E-04	9.79E-04	7.63E-04	NA	2.41E-04	1.00E-03
TOTAL:	5.86E-03	NA	NA	**5.86E-03**	1.06E-02	2.63E-05	2.48E-02	**3.54E-02**	1.75E-02	2.73E-04	1.88E-02	**3.66E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-68
Noncancer Hazard - Soil Gas
Exposure Area N

CHEMICAL	Default Comm Bldg Short-term Resident	Commercial Users		
		Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX				
Benzene	5.44E-06	1.62E-05	NA	NA
Ethylbenzene	2.98E-07	8.85E-07	NA	NA
Toluene	3.09E-06	9.20E-06	NA	NA
m&p-Xylenes	8.95E-07	2.66E-06	NA	NA
o-Xylene	2.46E-07	7.34E-07	NA	NA
VOCs				
2-Butanone	7.68E-07	2.29E-06	NA	NA
tert-Butylalcohol	5.51E-09	1.64E-08	NA	NA
n-Butylbenzene	4.47E-07	1.33E-06	NA	NA
sec-Butylbenzene	3.00E-07	8.92E-07	NA	NA
tert-Butylbenzene	2.00E-07	5.95E-07	NA	NA
Carbon disulfide	2.16E-07	6.42E-07	NA	NA
Chloroform	7.82E-07	2.33E-06	NA	NA
Chloromethane	1.07E-06	3.18E-06	NA	NA
Cyclohexane	2.74E-08	8.14E-08	NA	NA
Dichlorodifluoromethane	6.97E-07	2.07E-06	NA	NA
1,1-Dichloroethene	1.09E-06	3.25E-06	NA	NA
cis-1,2-Dichloroethene	1.52E-05	4.52E-05	NA	NA
4-Ethyltoluene	2.04E-07	6.07E-07	NA	NA
Ethyl acetate	NC	NC	NA	NA
n-Heptane	2.41E-07	7.18E-07	NA	NA
Hexane	1.97E-07	5.87E-07	NA	NA
2-Hexanone	2.35E-06	6.98E-06	NA	NA
Isopropyl alcohol	3.86E-07	1.15E-06	NA	NA
Isopropylbenzene	2.26E-06	6.74E-06	NA	NA
Methylene chloride	2.54E-07	7.55E-07	NA	NA
4-Methyl-2-pentanone	6.51E-07	1.94E-06	NA	NA
n-Propylbenzene	1.36E-07	4.06E-07	NA	NA
Propylene	1.11E-07	3.31E-07	NA	NA
Styrene	8.78E-08	2.61E-07	NA	NA
1,1,1,2-Tetrachloroethane	7.88E-07	2.35E-06	NA	NA
Tetrachloroethene	4.78E-06	1.42E-05	NA	NA
Tetrahydrofuran	4.70E-06	1.40E-05	NA	NA
1,1,1-Trichloroethane	3.10E-07	9.23E-07	NA	NA
Trichloroethene	2.18E-07	6.48E-07	NA	NA
Trichlorofluoromethane	9.85E-08	2.93E-07	NA	NA
1,1,2-Trichlorotrifluoroethane	2.38E-09	7.07E-09	NA	NA
1,2,4-Trimethylbenzene	1.91E-05	5.70E-05	NA	NA
1,3,5-Trimethylbenzene	2.24E-06	6.67E-06	NA	NA
2,2,4-Trimethylpentane	1.86E-07	5.55E-07	NA	NA
Vinyl chloride	3.75E-07	1.12E-06	NA	NA
PAHs				
Naphthalene	1.18E-05	3.52E-05	NA	NA
SVOCs				
1,4-Dioxane	1.82E-07	5.43E-07	NA	NA
TOTAL:	**8.25E-05**	**2.45E-04**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-69
Noncancer Hazard - Groundwater
Exposure Area N

CHEMICAL	Commercial Users		
	Intrusive Utility Worker		
	Ing	Dermal	Direct Total
BTEX			
Toluene	1.445E-07	5.832E-07	7.277E-07
TOTAL:	1.44E-07	5.83E-07	**7.28E-07**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-70
Risk Summary
Exposure Area O

Receptor	Soil Risk	Indoor Vapor Risk	Groundwater	Site-grown Produce	Total Risk	Soil Hazard	Indoor Vapor Hazard	Groundwater	Site-grown Produce	Total Hazard
Default Commercial Building Short-term Resident										
Adult	8.2.E-08	1.7.E-07	NA	3.0.E-08	**3E-07**	0.0034	0.0010	NA	0.0019	**0.006**
Child						0.023		NA	0.0046	**0.03**
Commercial Users										
Default Comm Bldg Indoor Employee	0.0.E+00	1.6.E-07	NA	NA*	**2E-07**	0.0090	0.0030	NA	NA*	**0.01**
Outdoor Employee	1.0.E-07	NA	NA	NA*	**1E-07**	0.054	NA	NA	NA*	**0.05**
Intrusive Utility Worker	8.5.E-08	NA	NA	NA	**8E-08**	0.048	NA	NA	NA	**0.05**

NA = Not Applicable

*Potential risk/hazard from ingestion of produce grown on the Site by these receptors discussed in uncertainty section (7.4.1.2).

Table 6-71
Cancer Risk - Soil
Exposure Area O

CHEMICAL	Short-term Resident Adult + Child Ing	InhP	Dermal	Direct Total
Inorganics				
Cadmium	NC	5.56E-10	NC	5.56E-10
Chromium (total)	NC	4.38E-08	NC	4.38E-08
Mercury	NC	NC	NC	NC
Vanadium	NC	3.77E-08	NC	3.77E-08
Total Petroleum Hydrocarbons				
TPH Motor Oil - aliphatic	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NC	NC	NC
TOTAL:	0.00E+00	8.20E-08	0.00E+00	**8.20E-08**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-71
Cancer Risk - Soil
Exposure Area O

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	NC	NA	NA	NC	NC	7.12E-10	NC	7.12E-10	NC	5.33E-10	NC	5.33E-10
Chromium (total)	NC	NA	NA	NC	NC	5.60E-08	NC	5.60E-08	NC	4.51E-08	NC	4.51E-08
Mercury	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
Vanadium	NC	NA	NA	NC	NC	4.82E-08	NC	4.82E-08	NC	3.91E-08	NC	3.91E-08
Total Petroleum Hydrocarbon												
TPH Motor Oil - aliphatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
TOTAL:	0.00E+00	NA	NA	**0.00E+00**	0.00E+00	1.05E-07	0.00E+00	**1.05E-07**	0.00E+00	8.48E-08	0.00E+00	**8.48E-08**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-72
Cancer Risk - Soil Gas
Exposure Area O

CHEMICAL	Default Comm Bldg Short-term Resident	Commercial Users		
		Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX				
Benzene	1.57E-07	1.48E-07	NA	NA
Ethylbenzene	3.07E-09	2.91E-09	NA	NA
Toluene	NC	NC	NA	NA
m&p-Xylenes	NC	NC	NA	NA
o-Xylene	NC	NC	NA	NA
VOCs				
2-Butanone	NC	NC	NA	NA
tert-Butylalcohol	NC	NC	NA	NA
n-Butylbenzene	NC	NC	NA	NA
tert-Butylbenzene	NC	NC	NA	NA
Carbon disulfide	NC	NC	NA	NA
Chloroform	1.01E-09	9.55E-10	NA	NA
Chloromethane	NC	NC	NA	NA
Cyclohexane	NC	NC	NA	NA
Dichlorodifluoromethane	NC	NC	NA	NA
cis-1,2-Dichloroethene	NC	NC	NA	NA
4-Ethyltoluene	NC	NC	NA	NA
Ethyl acetate	NC	NC	NA	NA
n-Heptane	NC	NC	NA	NA
Hexane	NC	NC	NA	NA
2-Hexanone	NC	NC	NA	NA
Isopropyl alcohol	NC	NC	NA	NA
Isopropylbenzene	NC	NC	NA	NA
Methylene chloride	2.33E-10	2.21E-10	NA	NA
4-Methyl-2-pentanone	NC	NC	NA	NA
Methyl tert-butyl ether	3.44E-11	3.26E-11	NA	NA
n-Propylbenzene	NC	NC	NA	NA
Propylene	NC	NC	NA	NA
Styrene	NC	NC	NA	NA
Tetrachloroethene	5.45E-10	5.17E-10	NA	NA
Tetrahydrofuran	1.28E-09	1.22E-09	NA	NA
Trichloroethene	3.70E-10	3.51E-10	NA	NA
Trichlorofluoromethane	NC	NC	NA	NA
1,2,4-Trimethylbenzene	NC	NC	NA	NA
1,3,5-Trimethylbenzene	NC	NC	NA	NA
2,2,4-Trimethylpentane	NC	NC	NA	NA
PAHs				
Naphthalene	2.83E-09	2.68E-09	NA	NA
TOTAL:	**1.66E-07**	**1.57E-07**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-73
Noncancer Hazard - Soil
Exposure Area O

CHEMICAL	Short-term Resident							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Cadmium	8.39E-05	6.58E-06	5.67E-05	1.47E-04	8.95E-04	6.58E-06	3.45E-04	1.25E-03
Chromium (total)	1.01E-06	4.51E-10	1.31E-05	1.41E-05	1.07E-05	4.51E-10	7.96E-05	9.03E-05
Mercury	4.71E-06	7.40E-08	1.14E-04	1.19E-04	5.03E-05	7.40E-08	6.93E-04	7.43E-04
Vanadium	4.11E-04	1.84E-07	2.67E-03	3.08E-03	4.38E-03	1.84E-07	1.63E-02	2.06E-02
Total Petroleum Hydrocarbons								
TPH Motor Oil - aliphatic	4.67E-08	NA	7.89E-08	1.26E-07	4.99E-07	NA	4.81E-07	9.79E-07
TPH Motor Oil - aromatic	1.80E-06	NA	3.04E-06	4.83E-06	1.92E-05	NA	1.85E-05	3.77E-05
TOTAL:	5.02E-04	6.84E-06	2.86E-03	**3.36E-03**	5.36E-03	6.84E-06	1.74E-02	**2.28E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-73
Noncancer Hazard - Soil
Exposure Area O

CHEMICAL	Commercial Users											
	Indoor Employee				Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	1.50E-03	NA	NA	1.50E-03	2.70E-03	2.64E-05	7.49E-04	3.47E-03	3.56E-03	4.95E-04	4.49E-04	4.50E-03
Chromium (total)	1.80E-05	NA	NA	1.80E-05	3.24E-05	1.81E-09	1.73E-04	2.05E-04	4.59E-05	3.65E-08	1.11E-04	1.57E-04
Mercury	8.42E-05	NA	NA	8.42E-05	1.52E-04	2.97E-07	1.50E-03	1.65E-03	2.00E-04	5.57E-06	9.01E-04	1.11E-03
Vanadium	7.34E-03	NA	NA	7.34E-03	1.32E-02	7.40E-07	3.53E-02	4.85E-02	1.89E-02	1.50E-05	2.29E-02	4.18E-02
Total Petroleum Hydrocarbon												
TPH Motor Oil - aliphatic	8.35E-07	NA	NA	8.35E-07	1.50E-06	NA	1.04E-06	2.55E-06	1.98E-06	NA	6.26E-07	2.61E-06
TPH Motor Oil - aromatic	3.21E-05	NA	NA	3.21E-05	5.78E-05	NA	4.01E-05	9.79E-05	7.63E-05	NA	2.41E-05	1.00E-04
TOTAL:	8.97E-03	NA	NA	**8.97E-03**	1.61E-02	2.75E-05	3.77E-02	**5.39E-02**	2.28E-02	5.16E-04	2.44E-02	**4.77E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-74
Noncancer Hazard - Soil Gas
Exposure Area O

CHEMICAL	Default Comm Bldg Short-term Resident	Commercial Users		
		Default Comm Bldg Indoor Employee	Outdoor Employee	Intrusive Utility Worker
BTEX				
Benzene	8.94E-05	2.66E-04	NA	NA
Ethylbenzene	6.10E-07	1.82E-06	NA	NA
Toluene	1.35E-06	4.01E-06	NA	NA
m&p-Xylenes	2.00E-06	5.95E-06	NA	NA
o-Xylene	1.96E-06	5.84E-06	NA	NA
VOCs				
2-Butanone	4.09E-07	1.22E-06	NA	NA
tert-Butylalcohol	1.63E-09	4.84E-09	NA	NA
n-Butylbenzene	6.22E-08	1.85E-07	NA	NA
tert-Butylbenzene	6.17E-08	1.84E-07	NA	NA
Carbon disulfide	1.08E-06	3.21E-06	NA	NA
Chloroform	6.29E-07	1.87E-06	NA	NA
Chloromethane	8.97E-06	2.67E-05	NA	NA
Cyclohexane	3.01E-06	8.95E-06	NA	NA
Dichlorodifluoromethane	1.53E-07	4.56E-07	NA	NA
cis-1,2-Dichloroethene	4.47E-06	1.33E-05	NA	NA
4-Ethyltoluene	2.87E-06	8.55E-06	NA	NA
Ethyl acetate	NC	NC	NA	NA
n-Heptane	1.29E-05	3.85E-05	NA	NA
Hexane	7.77E-06	2.31E-05	NA	NA
2-Hexanone	1.03E-06	3.06E-06	NA	NA
Isopropyl alcohol	1.13E-07	3.35E-07	NA	NA
Isopropylbenzene	2.43E-06	7.24E-06	NA	NA
Methylene chloride	5.79E-07	1.72E-06	NA	NA
4-Methyl-2-pentanone	1.04E-07	3.10E-07	NA	NA
Methyl tert-butyl ether	1.64E-08	4.90E-08	NA	NA
n-Propylbenzene	1.55E-06	4.61E-06	NA	NA
Propylene	2.21E-08	6.57E-08	NA	NA
Styrene	6.44E-08	1.92E-07	NA	NA
Tetrachloroethene	2.62E-06	7.81E-06	NA	NA
Tetrahydrofuran	2.18E-06	6.48E-06	NA	NA
Trichloroethene	3.06E-07	9.12E-07	NA	NA
Trichlorofluoromethane	1.86E-08	5.54E-08	NA	NA
1,2,4-Trimethylbenzene	8.05E-04	2.40E-03	NA	NA
1,3,5-Trimethylbenzene	4.55E-05	1.36E-04	NA	NA
2,2,4-Trimethylpentane	4.07E-06	1.21E-05	NA	NA
PAHs				
Naphthalene	9.19E-06	2.73E-05	NA	NA
TOTAL:	**1.01E-03**	**3.01E-03**	**NA**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-75
Risk Summary
Open Space

Receptor	Soil Risk	Indoor Vapor Risk	Groundwater	Site-grown Produce	Total Risk	Soil Hazard	Indoor Vapor Hazard	Groundwater	Site-grown Produce	Total Hazard
Recreational User (0-2 ft bgs)										
Adult	2.4.E-06	NA	NA	NA	**2E-06**	0.012	NA	NA	NA	**0.01**
Child						0.16		NA	NA	**0.2**
Recreational User (0-10 ft bgs)										
Adult	1.5.E-06	NA	NA	NA*	**2E-06**	0.028	NA	NA	NA*	**0.03**
Child						0.18		NA	NA*	**0.2**
Commercial Users										
Outdoor Employee	7.5.E-07	NA	NA	NA*	**7E-07**	0.095	NA	NA	NA*	**0.1**

NA = Not Applicable

*Potential risk/hazard from ingestion of produce grown on the Site by these receptors discussed in uncertainty section (7.4.1.2).

Table 6-76
Cancer Risk - Soil
Open Space

CHEMICAL	Recreational User (0-2 ft bgs) Adult + Child				Recreational User (0-10 ft bgs) Adult + Child				Commercial Users Outdoor Employee			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Cadmium	NC	1.61E-10	NC	1.61E-10	NC	2.44E-10	NC	2.44E-10	NC	2.24E-10	NC	2.24E-10
Chromium (total)	NC	2.27E-08	NC	2.27E-08	NC	2.32E-08	NC	2.32E-08	NC	2.14E-08	NC	2.14E-08
Mercury	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Vanadium	NC	1.11E-08	NC	1.11E-08	NC	1.13E-08	NC	1.13E-08	NC	1.04E-08	NC	1.04E-08
BTEX												
Benzene	ND	ND	ND	ND	1.52E-07	2.95E-07	3.48E-08	4.82E-07	1.33E-08	2.71E-07	2.43E-12	2.84E-07
Ethylbenzene	ND	ND	ND	ND	2.96E-08	2.80E-08	6.75E-09	6.43E-08	2.59E-09	2.57E-08	2.94E-13	2.83E-08
Toluene	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC
Xylenes (total)	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC
VOCs												
n-Butylbenzene	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC
sec-Butylbenzene	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC
tert-Butylbenzene	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC
Isopropylbenzene	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC
p-Isopropyltoluene	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC
n-Propylbenzene	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC
1,2,4-Trimethylbenzene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
1,3,5-Trimethylbenzene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
PAHs												
BaP TEQ	1.99E-07	8.29E-12	2.04E-07	4.03E-07	1.28E-07	5.35E-12	1.31E-07	2.60E-07	1.74E-08	7.62E-12	3.98E-17	1.74E-08
Acenaphthene	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	9.39E-07	1.77E-11	9.61E-07	1.90E-06	1.70E-07	3.21E-12	1.74E-07	3.44E-07	8.22E-08	1.63E-11	1.88E-16	8.22E-08
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1-Methylnaphthalene	1.26E-08	NC	9.90E-09	2.25E-08	1.26E-08	NC	9.90E-09	2.25E-08	1.10E-09	NC	4.17E-14	1.10E-09
2-Methylnaphthalene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Naphthalene	NC	3.86E-10	NC	3.86E-10	NC	3.32E-07	NC	3.32E-07	NC	3.05E-07	NC	3.05E-07
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbons												
TPH Gasoline - aliphatic	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC
TPH Gasoline - aromatic	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TOTAL:	1.15E-06	3.43E-08	1.17E-06	**2.36E-06**	4.93E-07	6.89E-07	3.57E-07	**1.54E-06**	1.17E-07	6.33E-07	2.77E-12	**7.50E-07**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-77
Noncancer Hazard - Soil
Open Space

	Recreational User (0-2 ft bgs)								Recreational User (0-10 ft bg				
	Adult				Child (0-6 years)				Adult				
CHEMICAL	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing
Inorganics													
Cadmium	3.87E-04	1.90E-06	1.89E-05	4.08E-04	4.13E-03	1.90E-06	3.98E-04	4.53E-03	5.88E-04	2.88E-06	2.86E-05	6.19E-04	6.27E-03
Chromium (total)	8.34E-06	2.34E-10	7.81E-06	1.61E-05	8.89E-05	2.34E-10	1.65E-04	2.54E-04	8.55E-06	2.40E-10	8.01E-06	1.66E-05	9.12E-05
Mercury	8.69E-04	8.52E-07	1.51E-03	2.38E-03	9.27E-03	8.52E-07	3.19E-02	4.12E-02	4.99E-04	4.89E-07	8.67E-04	1.37E-03	5.32E-03
Vanadium	1.94E-03	5.42E-08	9.07E-04	2.84E-03	2.07E-02	5.42E-08	1.91E-02	3.98E-02	1.97E-03	5.51E-08	9.21E-04	2.89E-03	2.10E-02
BTEX													
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	7.21E-05	1.68E-04	8.78E-06	2.49E-04	7.69E-04
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	5.09E-06	5.56E-06	6.19E-07	1.13E-05	5.43E-05
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	5.74E-05	4.43E-04	6.99E-06	5.07E-04	6.13E-04
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	1.52E-05	9.21E-05	1.85E-06	1.09E-04	1.62E-04
VOCs													
n-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	2.24E-05	9.75E-05	2.73E-06	1.23E-04	2.39E-04
sec-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	9.94E-06	4.32E-05	1.21E-06	5.43E-05	1.06E-04
tert-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	1.50E-06	5.64E-06	1.82E-07	7.32E-06	1.60E-05
Isopropylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	2.19E-05	1.09E-04	2.67E-06	1.34E-04	2.34E-04
p-Isopropyltoluene	ND	ND	ND	ND	ND	ND	ND	ND	9.08E-06	4.53E-05	1.11E-06	5.55E-05	9.69E-05
n-Propylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	2.30E-05	4.07E-05	2.80E-06	6.64E-05	2.45E-04
1,2,4-Trimethylbenzene	4.01E-06	1.79E-05	4.88E-07	2.24E-05	4.27E-05	1.79E-05	1.03E-05	7.10E-05	2.54E-03	1.13E-02	3.09E-04	1.42E-02	2.70E-02
1,3,5-Trimethylbenzene	3.79E-07	2.03E-06	4.62E-08	2.46E-06	4.05E-06	2.03E-06	9.75E-07	7.05E-06	4.65E-04	2.49E-03	5.66E-05	3.01E-03	4.96E-03
PAHs													
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	5.16E-07	4.49E-07	2.82E-07	1.25E-06	5.51E-06
Acenaphthylene	6.71E-08	5.84E-08	3.66E-08	1.62E-07	7.16E-07	5.84E-08	7.74E-07	1.55E-06	1.94E-07	1.69E-07	1.06E-07	4.69E-07	2.07E-06
Anthracene	5.68E-09	1.33E-09	3.10E-09	1.01E-08	6.06E-08	1.33E-09	6.55E-08	1.27E-07	1.24E-08	2.89E-09	6.77E-09	2.21E-08	1.32E-07
Benz(a)anthracene	7.49E-08	7.23E-12	4.09E-08	1.16E-07	7.99E-07	7.23E-12	8.63E-07	1.66E-06	4.96E-08	4.79E-12	2.71E-08	7.67E-08	5.29E-07
Benzo(b)fluoranthene	6.00E-07	5.80E-11	3.28E-07	9.28E-07	6.40E-06	5.80E-11	6.92E-06	1.33E-05	3.47E-07	3.36E-11	1.90E-07	5.37E-07	3.71E-06
Benzo(k)fluoranthene	2.63E-07	2.54E-11	1.44E-07	4.07E-07	2.81E-06	2.54E-11	3.04E-06	5.84E-06	2.56E-07	2.47E-11	1.40E-07	3.95E-07	2.73E-06
Benzo(g,h,i)perylene	5.53E-07	5.34E-11	3.02E-07	8.54E-07	5.89E-06	5.34E-11	6.37E-06	1.23E-05	3.29E-07	3.18E-11	1.80E-07	5.09E-07	3.51E-06
Benzo(a)pyrene	1.08E-06	1.04E-10	5.89E-07	1.67E-06	1.15E-05	1.04E-10	1.24E-05	2.40E-05	3.76E-07	3.64E-11	2.05E-07	5.82E-07	4.02E-06
Chrysene	2.88E-06	2.78E-10	1.57E-06	4.45E-06	3.07E-05	2.78E-10	3.32E-05	6.39E-05	1.58E-06	1.53E-10	8.63E-07	2.44E-06	1.69E-05
Dibenz(a,h)anthracene	1.45E-07	1.40E-11	7.89E-08	2.24E-07	1.54E-06	1.40E-11	1.67E-06	3.21E-06	2.62E-08	2.53E-12	1.43E-08	4.05E-08	2.79E-07
Fluoranthene	3.95E-07	3.82E-11	2.16E-07	6.11E-07	4.21E-06	3.82E-11	4.55E-06	8.77E-06	2.42E-07	2.34E-11	1.32E-07	3.75E-07	2.59E-06
Fluorene	8.13E-06	3.53E-06	4.44E-06	1.61E-05	8.68E-05	3.53E-06	9.37E-05	1.84E-04	2.21E-06	9.59E-07	1.21E-06	4.38E-06	2.36E-05
Indeno(1,2,3-cd)pyrene	3.37E-07	3.25E-11	1.84E-07	5.21E-07	3.59E-06	3.25E-11	3.88E-06	7.47E-06	2.98E-07	2.88E-11	1.63E-07	4.61E-07	3.18E-06
1-Methylnaphthalene	1.17E-06	2.44E-06	4.93E-07	4.11E-06	1.25E-05	2.44E-06	1.04E-05	2.54E-05	1.17E-06	2.44E-06	4.93E-07	4.11E-06	1.25E-05
2-Methylnaphthalene	1.86E-05	3.91E-05	7.81E-06	6.55E-05	1.98E-04	3.91E-05	1.65E-04	4.02E-04	1.86E-05	3.91E-05	7.81E-06	6.55E-05	1.98E-04
Naphthalene	6.12E-08	1.25E-06	2.57E-08	1.34E-06	6.53E-07	1.25E-06	5.42E-07	2.45E-06	5.26E-05	1.08E-03	2.21E-05	1.15E-03	5.61E-04
Phenanthrene	1.11E-07	2.09E-08	6.06E-08	1.93E-07	1.18E-06	2.09E-08	1.28E-06	2.48E-06	8.06E-08	1.52E-08	4.40E-08	1.40E-07	8.59E-07
Pyrene	2.18E-06	1.12E-07	1.19E-06	3.48E-06	2.32E-05	1.12E-07	2.51E-05	4.85E-05	1.34E-06	6.89E-08	7.33E-07	2.14E-06	1.43E-05
Total Petroleum Hydrocarbons													
TPH Gasoline - aliphatic	ND	ND	ND	ND	ND	ND	ND	ND	9.59E-04	5.37E-09	1.17E-04	1.08E-03	1.02E-02
TPH Gasoline - aromatic	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	7.80E-04	2.55E-08	9.49E-05	8.75E-04	8.32E-03	2.55E-08	2.00E-03	1.03E-02	3.65E-04	1.19E-08	4.44E-05	4.09E-04	3.89E-03
TPH Diesel - aromatic	1.50E-03	8.82E-08	1.83E-04	1.68E-03	1.60E-02	8.82E-08	3.85E-03	1.98E-02	7.02E-04	4.13E-08	8.54E-05	7.87E-04	7.49E-03
TPH Motor Oil - aliphatic	7.42E-05	NA	9.03E-06	8.32E-05	7.91E-04	NA	1.91E-04	9.82E-04	3.22E-05	NA	3.92E-06	3.61E-05	3.43E-04
TPH Motor Oil - aromatic	2.85E-03	NA	3.47E-04	3.20E-03	3.04E-02	NA	7.33E-03	3.78E-02	1.24E-03	NA	1.51E-04	1.39E-03	1.32E-02
TOTAL:	8.45E-03	6.94E-05	3.10E-03	**1.16E-02**	9.01E-02	6.94E-05	6.54E-02	**1.56E-01**	9.68E-03	1.60E-02	2.66E-03	**2.83E-02**	1.03E-01

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-77
Noncancer Hazard - Soil
Open Space

CHEMICAL	gs) Child (0-6 years) InhP	Dermal	Direct Total	Commercial Employees Outdoor Employee Ing	InhP	Dermal	Direct Total
Inorganics							
Cadmium	2.88E-06	6.04E-04	6.88E-03	8.48E-04	8.31E-06	2.35E-04	1.09E-03
Chromium (total)	2.40E-10	1.69E-04	2.60E-04	1.23E-05	6.91E-10	6.58E-05	7.82E-05
Mercury	4.89E-07	1.83E-02	2.36E-02	1.25E-03	2.46E-06	1.24E-02	1.37E-02
Vanadium	5.51E-08	1.95E-02	4.04E-02	2.84E-03	1.59E-07	7.57E-03	1.04E-02
BTEX							
Benzene	1.68E-04	1.85E-04	1.12E-03	1.04E-04	4.85E-04	7.22E-05	6.62E-04
Ethylbenzene	5.56E-06	1.31E-05	7.29E-05	7.34E-06	1.60E-05	5.09E-06	2.85E-05
Toluene	4.43E-04	1.48E-04	1.20E-03	8.28E-05	1.28E-03	5.75E-05	1.42E-03
Xylenes (total)	9.21E-05	3.90E-05	2.93E-04	2.19E-05	2.66E-04	1.52E-05	3.03E-04
VOCs							
n-Butylbenzene	9.75E-05	5.77E-05	3.94E-04	3.24E-05	2.81E-04	2.25E-05	3.36E-04
sec-Butylbenzene	4.32E-05	2.55E-05	1.75E-04	1.43E-05	1.25E-04	9.95E-06	1.49E-04
tert-Butylbenzene	5.64E-06	3.85E-06	2.54E-05	2.16E-06	1.63E-05	1.50E-06	1.99E-05
Isopropylbenzene	1.09E-04	5.63E-05	3.99E-04	3.16E-05	3.15E-04	2.19E-05	3.69E-04
p-Isopropyltoluene	4.53E-05	2.33E-05	1.66E-04	1.31E-05	1.31E-04	9.09E-06	1.53E-04
n-Propylbenzene	4.07E-05	5.91E-05	3.45E-04	3.31E-05	1.17E-04	2.30E-05	1.73E-04
1,2,4-Trimethylbenzene	1.13E-02	6.52E-03	4.49E-02	3.66E-03	3.27E-02	2.54E-03	3.89E-02
1,3,5-Trimethylbenzene	2.49E-03	1.19E-03	8.64E-03	6.70E-04	7.17E-03	4.65E-04	8.31E-03
PAHs							
BaP TEQ	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	4.49E-07	5.95E-06	1.19E-05	7.45E-07	1.30E-06	2.32E-06	4.36E-06
Acenaphthylene	1.69E-07	2.24E-06	4.48E-06	2.80E-07	4.87E-07	8.71E-07	1.64E-06
Anthracene	2.89E-09	1.43E-07	2.78E-07	1.79E-08	8.34E-09	5.56E-08	8.18E-08
Benz(a)anthracene	4.79E-12	5.72E-07	1.10E-06	1.08E-07	2.09E-11	3.36E-07	4.44E-07
Benzo(b)fluoranthene	3.36E-11	4.00E-06	7.71E-06	8.66E-07	1.67E-10	2.69E-06	3.56E-06
Benzo(k)fluoranthene	2.47E-11	2.95E-06	5.67E-06	3.80E-07	7.34E-11	1.18E-06	1.56E-06
Benzo(g,h,i)perylene	3.18E-11	3.79E-06	7.30E-06	7.97E-07	1.54E-10	2.48E-06	3.28E-06
Benzo(a)pyrene	3.64E-11	4.34E-06	8.35E-06	1.56E-06	3.01E-10	4.84E-06	6.40E-06
Chrysene	1.53E-10	1.82E-05	3.51E-05	4.16E-06	8.03E-10	1.29E-05	1.71E-05
Dibenz(a,h)anthracene	2.53E-12	3.02E-07	5.81E-07	2.09E-07	4.03E-11	6.49E-07	8.57E-07
Fluoranthene	2.34E-11	2.79E-06	5.38E-06	5.70E-07	1.10E-10	1.77E-06	2.34E-06
Fluorene	9.59E-07	2.55E-05	5.00E-05	1.17E-05	1.02E-05	3.65E-05	5.84E-05
Indeno(1,2,3-cd)pyrene	2.88E-11	3.43E-06	6.61E-06	4.86E-07	9.38E-11	1.51E-06	2.00E-06
1-Methylnaphthalene	2.44E-06	1.04E-05	2.54E-05	1.69E-06	7.04E-06	4.05E-06	1.28E-05
2-Methylnaphthalene	3.91E-05	1.65E-04	4.02E-04	2.68E-05	1.13E-04	6.42E-05	2.04E-04
Naphthalene	1.08E-03	4.66E-04	2.10E-03	7.58E-05	3.11E-03	1.81E-04	3.36E-03
Phenanthrene	1.52E-08	9.28E-07	1.80E-06	1.60E-07	6.02E-08	4.98E-07	7.19E-07
Pyrene	6.89E-08	1.55E-05	2.99E-05	3.14E-06	3.23E-07	9.78E-06	1.32E-05
Total Petroleum Hydrocarbon							
TPH Gasoline - aliphatic	5.37E-09	2.47E-03	1.27E-02	1.38E-03	1.55E-08	9.60E-04	2.34E-03
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	1.19E-08	9.38E-04	4.83E-03	1.12E-03	7.35E-08	7.80E-04	1.91E-03
TPH Diesel - aromatic	4.13E-08	1.80E-03	9.29E-03	2.16E-03	2.54E-07	1.50E-03	3.66E-03
TPH Motor Oil - aliphatic	NA	8.27E-05	4.26E-04	1.07E-04	NA	7.42E-05	1.81E-04
TPH Motor Oil - aromatic	NA	3.18E-03	1.64E-02	4.11E-03	NA	2.86E-03	6.97E-03
TOTAL:	1.60E-02	5.61E-02	**1.75E-01**	1.86E-02	4.62E-02	3.00E-02	**9.48E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-78
Risk Summary
Native Gardens

Receptor	Soil Risk	Indoor Vapor Risk	Groundwater	Site-grown Produce	Total Risk	Soil Hazard	Indoor Vapor Hazard	Groundwater	Site-grown Produce	Total Hazard
Commercial Users										
Outdoor Employee	6.8.E-08	NA	NA	NA*	**7E-08**	0.012	NA	NA	NA*	**0.01**
Other Users										
Restaurant Visitor Adult	NA	NA	NA	3.0.E-08	**3E-08**	NA	NA	NA	0.0019	**0.002**
Restaurant Visitor Child						NA		NA	0.0046	**0.005**

NA = Not Applicable

*Potential risk/hazard from ingestion of produce grown on the Site by these receptors discussed in uncertainty section (7.4.1.2).

Table 6-79
Cancer Risk - Soil
Native Gardens (Outdoor Employee)

CHEMICAL	Outdoor Employee			
	Ing	InhP	Dermal	Direct Total
Inorganics				
Cadmium	NC	1.34E-10	NC	1.34E-10
Chromium (total)	NC	2.49E-08	NC	2.49E-08
Mercury	NC	NC	NC	NC
Vanadium	NC	7.23E-09	NC	7.23E-09
PAHs				
BaP TEQ	2.21E-09	9.68E-13	6.88E-09	9.10E-09
Benz(a)anthracene	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA
Dibenz(a,h)anthracene	6.46E-09	1.28E-12	2.01E-08	2.66E-08
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA
Pyrene	NC	NC	NC	NC
Total Petroleum Hydrocarbons				
TPH Diesel - aliphatic	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NC	NC	NC
TOTAL:	8.67E-09	3.23E-08	2.70E-08	**6.79E-08**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-80
Noncancer Hazard - Soil
Native Gardens (Outdoor Employee)

CHEMICAL	Commercial Workers Outdoor Employee Ing	InhP	Dermal	Direct Total
Inorganics				
Cadmium	5.09E-04	4.99E-06	1.41E-04	6.55E-04
Chromium (total)	1.44E-05	8.06E-10	7.68E-05	9.11E-05
Mercury	2.57E-04	5.04E-07	2.55E-03	2.80E-03
Vanadium	1.98E-03	1.11E-07	5.29E-03	7.27E-03
PAHs				
BaP TEQ	NA	NA	NA	NA
Benz(a)anthracene	2.16E-08	4.17E-12	6.72E-08	8.88E-08
Benzo(b)fluoranthene	6.70E-08	1.30E-11	2.09E-07	2.76E-07
Benzo(g,h,i)perylene	1.71E-07	3.31E-11	5.33E-07	7.04E-07
Benzo(a)pyrene	1.04E-07	2.01E-11	3.24E-07	4.29E-07
Chrysene	4.32E-08	8.35E-12	1.34E-07	1.78E-07
Dibenz(a,h)anthracene	1.64E-08	3.17E-12	5.10E-08	6.74E-08
Indeno(1,2,3-cd)pyrene	1.42E-07	2.73E-11	4.40E-07	5.82E-07
Pyrene	1.49E-07	1.53E-08	4.63E-07	6.28E-07
Total Petroleum Hydrocarbons				
TPH Diesel - aliphatic	1.36E-04	8.90E-09	9.45E-05	2.31E-04
TPH Diesel - aromatic	2.62E-04	3.08E-08	1.82E-04	4.44E-04
TPH Motor Oil - aliphatic	6.11E-06	NA	4.24E-06	1.03E-05
TPH Motor Oil - aromatic	3.00E-04	NA	2.08E-04	5.08E-04
TOTAL:	3.47E-03	5.66E-06	8.54E-03	**1.20E-02**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-81
Cancer Risk - Site-grown Produce
Native Gardens

CHEMICAL	Restaurant Visitor Adult + Child
Inorganics	
Cadmium	NC
Chromium (total)	NC
Mercury	NC
Vanadium	NC
PAHs	
BaP TEQ	1.204E-08
Benz(a)anthracene	NA
Benzo(b)fluoranthene	NA
Benzo(g,h,i)perylene	NC
Benzo(a)pyrene	NA
Chrysene	NA
Dibenz(a,h)anthracene	1.806E-08
Indeno(1,2,3-cd)pyrene	NA
Pyrene	NC
Total Petroleum Hydrocarbons	
TPH Diesel - aliphatic	NA
TPH Diesel - aromatic	NA
TPH Motor Oil - aliphatic	NA
TPH Motor Oil - aromatic	NA
TOTAL:	**3.01E-08**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-82
Noncancer Hazard - Site-grown Produce
Native Gardens

CHEMICAL	Restaurant Visitor	
	Adult	Child
Inorganics		
Cadmium	1.58E-03	3.78E-03
Chromium (total)	1.85E-06	4.33E-06
Mercury	6.01E-05	1.37E-04
Vanadium	2.90E-04	6.78E-04
PAHs		
BaP TEQ	NA	NA
Benz(a)anthracene	3.42E-08	8.33E-08
Benzo(b)fluoranthene	6.92E-08	1.61E-07
Benzo(g,h,i)perylene	7.82E-07	1.91E-06
Benzo(a)pyrene	1.11E-07	2.70E-07
Chrysene	6.84E-08	1.67E-07
Dibenz(a,h)anthracene	8.95E-09	2.18E-08
Indeno(1,2,3-cd)pyrene	6.79E-08	1.65E-07
Pyrene	6.80E-07	1.66E-06
Total Petroleum Hydrocarbons		
TPH Diesel - aliphatic	NA	NA
TPH Diesel - aromatic	NA	NA
TPH Motor Oil - aliphatic	NA	NA
TPH Motor Oil - aromatic	NA	NA
TOTAL:	**1.94E-03**	**4.60E-03**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-83
Risk Summary
Drainage

Receptor	Soil Risk	Indoor Vapor Risk	Groundwater	Site-grown Produce	Total Risk	Soil Hazard	Indoor Vapor Hazard	Groundwater	Site-grown Produce	Total Hazard
Commercial Users										
Outdoor Employee	1.0.E-06	NA	NA	NA*	**1E-06**	0.064	NA	NA	NA*	**0.06**
Intrusive Utility Worker	1.9.E-07	NA	NA	NA	**2E-07**	0.150	NA	NA	NA	**0.2**

NA = Not Applicable

*Potential risk/hazard from ingestion of produce grown on the Site by these receptors discussed in uncertainty section (7.4.1.2).

Table 6-84
Cancer Risk - Soil
Drainage

CHEMICAL	Commercial Users							
	Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Chromium (total)	NC	1.01E-07	NC	1.01E-07	NC	5.48E-08	NC	5.48E-08
Mercury	NC	NC	NC	NC	NC	NC	NC	NC
Vanadium	NC	1.37E-08	NC	1.37E-08	NC	7.44E-09	NC	7.44E-09
BTEX								
Benzene	3.46E-08	7.02E-07	2.40E-08	7.60E-07	1.83E-09	1.15E-07	5.76E-10	1.17E-07
Ethylbenzene	4.62E-09	4.59E-08	3.21E-09	5.37E-08	2.44E-10	8.33E-09	7.69E-11	8.65E-09
Xylenes (total)	NC	NC	NC	NC	NC	NC	NC	NC
PAHs								
BaP TEQ	8.37E-09	3.66E-12	2.60E-08	3.44E-08	4.42E-10	1.99E-12	6.25E-10	1.07E-09
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	7.34E-09	1.45E-12	2.28E-08	3.02E-08	1.86E-10	3.80E-13	2.63E-10	4.50E-10
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NC	1.17E-08	NC	1.17E-08	NC	2.25E-09	NC	2.25E-09
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbons								
TPH Gasoline - aliphatic	NC	NC	NC	NC	NC	NC	NC	NC
TPH Gasoline - aromatic	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NC	NC	NC	NC	NC	NC	NC
TOTAL:	5.49E-08	8.74E-07	7.61E-08	**1.00E-06**	2.70E-09	1.88E-07	1.54E-09	**1.92E-07**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-85
Noncancer Hazard - Soil
Drainage

CHEMICAL	Commercial Users							
	Outdoor Employee				Intrusive Utility Worker			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Chromium (total)	5.81E-05	3.26E-09	3.10E-04	3.68E-04	7.67E-05	4.44E-08	1.86E-04	2.63E-04
Mercury	2.57E-04	5.04E-07	2.55E-03	2.80E-03	3.39E-04	6.86E-06	1.53E-03	1.87E-03
Vanadium	3.74E-03	2.10E-07	9.99E-03	1.37E-02	4.94E-03	2.86E-06	5.99E-03	1.09E-02
BTEX								
Benzene	2.70E-04	1.26E-03	1.87E-04	1.72E-03	3.56E-04	5.15E-03	1.12E-04	5.62E-03
Ethylbenzene	1.31E-05	2.86E-05	9.09E-06	5.08E-05	1.73E-05	1.30E-04	5.45E-06	1.53E-04
Xylenes (total)	3.47E-06	4.21E-05	2.41E-06	4.80E-05	4.58E-06	1.90E-04	1.44E-06	1.96E-04
PAHs								
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	1.86E-07	3.24E-07	5.79E-07	1.09E-06	2.46E-07	1.59E-06	3.48E-07	2.18E-06
Benzo(b)fluoranthene	1.12E-07	2.16E-11	3.48E-07	4.59E-07	1.47E-07	2.94E-10	2.09E-07	3.56E-07
Benzo(g,h,i)perylene	2.01E-07	3.89E-11	6.26E-07	8.27E-07	2.65E-07	5.29E-10	3.75E-07	6.41E-07
Benzo(a)pyrene	4.84E-07	9.35E-11	1.51E-06	1.99E-06	6.39E-07	1.27E-09	9.04E-07	1.54E-06
Chrysene	1.64E-07	3.17E-11	5.10E-07	6.74E-07	2.16E-07	4.31E-10	3.06E-07	5.23E-07
Dibenz(a,h)anthracene	1.86E-08	3.60E-12	5.79E-08	7.66E-08	1.18E-08	2.35E-11	1.67E-08	2.85E-08
Fluoranthene	6.15E-08	1.19E-11	1.91E-07	2.53E-07	8.11E-08	1.62E-10	1.15E-07	1.96E-07
Fluorene	1.17E-06	1.02E-06	3.65E-06	5.84E-06	1.55E-06	5.06E-06	2.19E-06	8.80E-06
Indeno(1,2,3-cd)pyrene	7.45E-08	1.44E-11	2.32E-07	3.06E-07	9.83E-08	1.96E-10	1.39E-07	2.38E-07
Naphthalene	2.90E-06	1.19E-04	6.95E-06	1.29E-04	3.83E-06	5.73E-04	4.17E-06	5.81E-04
Phenanthrene	3.58E-07	1.35E-07	1.11E-06	1.60E-06	4.72E-07	8.44E-07	6.67E-07	1.98E-06
Pyrene	9.68E-08	9.94E-09	3.01E-07	4.08E-07	1.28E-07	5.79E-08	1.81E-07	3.66E-07
Total Petroleum Hydrocarbons								
TPH Gasoline - aliphatic	2.55E-03	2.86E-08	1.77E-03	4.33E-03	3.37E-03	3.90E-07	1.06E-03	4.44E-03
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	2.92E-03	1.91E-07	2.03E-03	4.94E-03	1.14E-02	7.67E-06	3.59E-03	1.50E-02
TPH Diesel - aromatic	5.61E-03	6.60E-07	3.90E-03	9.51E-03	2.19E-02	2.65E-05	6.90E-03	2.88E-02
TPH Motor Oil - aliphatic	4.02E-04	NA	2.79E-04	6.80E-04	1.59E-03	NA	5.01E-04	2.09E-03
TPH Motor Oil - aromatic	1.54E-02	NA	1.07E-02	2.62E-02	6.10E-02	NA	1.93E-02	8.03E-02
TOTAL:	3.13E-02	1.45E-03	3.18E-02	**6.45E-02**	1.05E-01	6.09E-03	3.91E-02	**1.50E-01**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-86
Risk Summary
Site-Wide

Receptor	Soil Risk	Indoor Vapor Risk	Groundwater	Site-grown Produce	Total Risk	Soil Hazard	Indoor Vapor Hazard	Groundwater	Site-grown Produce	Total Hazard
Offsite Resident										
Adult	1.8.E-06	NA	NA	NA	**2E-06**	0.0075	NA	NA	NA	**0.008**
Child						0.0075		NA	NA	**0.008**
Recreational User (0-2 ft bgs)										
Adult	8.0.E-07	NA	NA	NA	**8E-07**	0.014	NA	NA	NA	**0.01**
Child						0.17		NA	NA	**0.2**
Recreational User (0-10 ft bgs)										
Adult	1.3.E-06	NA	NA	NA*	**1E-06**	0.082	NA	NA	NA*	**0.08**
Child						0.93		NA	NA*	**0.9**

NA = Not Applicable

*Potential risk/hazard from ingestion of produce grown on the Site by these receptors discussed in uncertainty section (7.4.1.2).

Table 6-87
Cancer Risk - Soil
Site-Wide

CHEMICAL	Offsite Resident (0-2 ft bgs) Adult + Child				Recreational User (0-2 ft bgs) Adult + Child				Recreational User (0-10 ft bgs) Adult + Child			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics												
Antimony	ND	ND	ND	ND	ND	ND	ND	ND	NC	NC	NC	NC
Cadmium	NA	1.73E-09	NA	1.73E-09	NC	1.93E-10	NC	1.93E-10	NC	1.64E-10	NC	1.64E-10
Chromium (total)	NA	2.23E-07	NA	2.23E-07	NC	2.48E-08	NC	2.48E-08	NC	2.37E-08	NC	2.37E-08
Mercury	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
Vanadium	NA	1.00E-07	NA	1.00E-07	NC	1.12E-08	NC	1.12E-08	NC	1.23E-08	NC	1.23E-08
BTEX												
Benzene	NA	8.81E-08	NA	8.81E-08	5.08E-09	9.82E-09	1.16E-09	1.61E-08	6.72E-08	1.30E-07	1.53E-08	2.12E-07
Ethylbenzene	NA	1.20E-06	NA	1.20E-06	1.41E-07	1.33E-07	3.21E-08	3.06E-07	3.37E-08	3.19E-08	7.69E-09	7.33E-08
Toluene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
Xylenes (total)	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
VOCs												
n-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	NC	NC	NC	NC
sec-Butylbenzene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
tert-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	NC	NC	NC	NC
Chlorobenzene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
Chloroform	NA	3.25E-09	NA	3.25E-09	2.36E-10	3.63E-10	5.39E-11	6.53E-10	6.39E-10	9.80E-10	1.46E-10	1.76E-09
1,2-Dichlorobenzene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	NC	NC	NC	NC
1,4-Dichlorobenzene	NA	3.92E-09	NA	3.92E-09	9.45E-11	4.37E-10	2.16E-11	5.53E-10	1.46E-09	6.76E-09	3.34E-10	8.56E-09
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	4.66E-10	1.48E-09	1.06E-10	2.06E-09
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	7.56E-10	1.74E-09	1.73E-10	2.67E-09
Isopropylbenzene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
p-Isopropyltoluene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	2.37E-10	1.82E-10	5.41E-11	4.73E-10
Methyl tert-butyl ether	ND	ND	ND	ND	ND	ND	ND	ND	2.54E-11	1.77E-11	5.80E-12	4.88E-11
n-Propylbenzene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	NC	NC	NC	NC
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	5.99E-10	2.17E-09	1.37E-10	2.90E-09
1,2,4-Trimethylbenzene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
1,3,5-Trimethylbenzene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
PAHs												
BaP TEQ	NA	4.38E-11	NA	4.38E-11	1.17E-07	4.88E-12	1.20E-07	2.37E-07	8.26E-08	3.44E-12	8.46E-08	1.67E-07
Acenaphthene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	1.34E-11	NA	1.34E-11	7.92E-08	1.49E-12	8.10E-08	1.60E-07	4.26E-08	8.03E-13	4.36E-08	8.62E-08
Fluoranthene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1-Methylnaphthalene	NA	NC	NA	NA	1.32E-08	NC	1.04E-08	2.37E-08	1.07E-08	NC	8.41E-09	1.91E-08
2-Methylnaphthalene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
Naphthalene	NA	2.16E-07	NA	2.16E-07	NC	2.40E-08	NC	2.40E-08	NC	2.28E-08	NC	2.28E-08
Phenanthrene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
SVOCs												
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	5.60E-07	3.00E-12	1.28E-07	6.88E-07

Table 6-87
Cancer Risk - Soil
Site-Wide

CHEMICAL	Offsite Resident (0-2 ft bgs) Adult + Child				Recreational User (0-2 ft bgs) Adult + Child				Recreational User (0-10 ft bgs) Adult + Child			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Total Petroleum Hydrocarbons												
TPH Gasoline - aliphatic	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
TPH Gasoline - aromatic	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aliphatic	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
TPH Diesel - aromatic	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
TPH Motor Oil - aromatic	NA	NC	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
Pesticides												
Endrin aldehyde	ND	ND	ND	ND	ND	ND	ND	ND	NC	NC	NC	NC
TOTAL:	0.00E+00	1.83E-06	0.00E+00	**1.83E-06**	3.56E-07	2.04E-07	2.45E-07	**8.05E-07**	8.01E-07	2.34E-07	2.88E-07	**1.32E-06**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-87
Cancer Risk - Soil
Site-Wide

CHEMICAL	Commercial Users			
	Outdoor Employee			
	Ing	InhP	Dermal	Direct Total
Inorganics				
Antimony	NC	NC	NC	NC
Cadmium	NC	1.78E-10	NC	1.78E-10
Chromium (total)	NC	2.28E-08	NC	2.28E-08
Mercury	NC	NC	NC	NC
Vanadium	NC	1.13E-08	NC	1.13E-08
BTEX				
Benzene	5.88E-09	1.19E-07	1.07E-12	1.25E-07
Ethylbenzene	1.23E-08	1.22E-07	1.40E-12	1.35E-07
Toluene	NC	NC	NC	NC
Xylenes (total)	NC	NC	NC	NC
VOCs				
n-Butylbenzene	NC	NC	NC	NC
sec-Butylbenzene	NC	NC	NC	NC
tert-Butylbenzene	NC	NC	NC	NC
Chlorobenzene	NC	NC	NC	NC
Chloroform	5.59E-11	9.00E-10	1.37E-14	9.56E-10
1,2-Dichlorobenzene	NC	NC	NC	NC
1,3-Dichlorobenzene	NC	NC	NC	NC
1,4-Dichlorobenzene	1.28E-10	6.21E-09	7.93E-15	6.34E-09
1,1-Dichloroethane	4.08E-11	1.36E-09	1.26E-14	1.41E-09
1,2-Dichloroethane	6.62E-11	1.60E-09	9.33E-15	1.67E-09
Isopropylbenzene	NC	NC	NC	NC
p-Isopropyltoluene	NC	NC	NC	NC
Methylene chloride	2.07E-11	1.67E-10	6.10E-15	1.88E-10
Methyl tert-butyl ether	2.22E-12	1.62E-11	2.92E-16	1.84E-11
n-Propylbenzene	NC	NC	NC	NC
1,1,1-Trichloroethane	NC	NC	NC	NC
Trichloroethene	5.25E-11	1.99E-09	1.53E-14	2.04E-09
1,2,4-Trimethylbenzene	NC	NC	NC	NC
1,3,5-Trimethylbenzene	NC	NC	NC	NC
PAHs				
BaP TEQ	1.03E-08	4.49E-12	2.35E-17	1.03E-08
Acenaphthene	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC
Benz(a)anthracene	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA
Benzo(g,h,i)perylene	NC	NC	NC	NC
Benzo(a)pyrene	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA
Dibenz(a,h)anthracene	6.93E-09	1.37E-12	1.59E-17	6.93E-09
Fluoranthene	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA
1-Methylnaphthalene	1.16E-09	NC	4.40E-14	1.16E-09
2-Methylnaphthalene	NC	NC	NC	NC
Naphthalene	NC	2.21E-08	NC	2.21E-08
Phenanthrene	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC
SVOCs				
2,4-Dinitrotoluene	4.90E-08	2.76E-12	2.50E-17	4.90E-08

Table 6-87
Cancer Risk - Soil
Site-Wide

CHEMICAL	Commercial Users			
	Outdoor Employee			
	Ing	InhP	Dermal	Direct Total
Total Petroleum Hydrocarbons				
TPH Gasoline - aliphatic	NC	NC	NC	NC
TPH Gasoline - aromatic	NC	NC	NC	NC
TPH Diesel - aliphatic	NC	NC	NC	NC
TPH Diesel - aromatic	NC	NC	NC	NC
TPH Motor Oil - aliphatic	NC	NC	NC	NC
TPH Motor Oil - aromatic	NC	NC	NC	NC
Pesticides				
Endrin aldehyde	NC	NC	NC	NC
TOTAL:	8.59E-08	3.10E-07	2.58E-12	**3.96E-07**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-88
Noncancer Hazard - Soil
Site-Wide

CHEMICAL	Offsite Resident (0-2 ft bgs)							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Antimony	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	NA	2.05E-05	NA	2.05E-05	NA	2.05E-05	NA	2.05E-05
Chromium (total)	NA	2.29E-09	NA	2.29E-09	NA	2.29E-09	NA	2.29E-09
Mercury	NA	4.23E-06	NA	4.23E-06	NA	4.23E-06	NA	4.23E-06
Vanadium	NA	4.91E-07	NA	4.91E-07	NA	4.91E-07	NA	4.91E-07
BTEX								
Benzene	NA	5.03E-05	NA	5.03E-05	NA	5.03E-05	NA	5.03E-05
Ethylbenzene	NA	2.38E-04	NA	2.38E-04	NA	2.38E-04	NA	2.38E-04
Toluene	NA	6.65E-04	NA	6.65E-04	NA	6.65E-04	NA	6.65E-04
Xylenes (total)	NA	3.89E-03	NA	3.89E-03	NA	3.89E-03	NA	3.89E-03
VOCs								
n-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	NA	1.29E-05	NA	1.29E-05	NA	1.29E-05	NA	1.29E-05
tert-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NA	5.43E-07	NA	5.43E-07	NA	5.43E-07	NA	5.43E-07
Chloroform	NA	2.03E-06	NA	2.03E-06	NA	2.03E-06	NA	2.03E-06
1,2-Dichlorobenzene	NA	4.06E-06	NA	4.06E-06	NA	4.06E-06	NA	4.06E-06
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NA	4.42E-07	NA	4.42E-07	NA	4.42E-07	NA	4.42E-07
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	NA	4.31E-05	NA	4.31E-05	NA	4.31E-05	NA	4.31E-05
p-Isopropyltoluene	NA	4.55E-06	NA	4.55E-06	NA	4.55E-06	NA	4.55E-06
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	NA	2.46E-05	NA	2.46E-05	NA	2.46E-05	NA	2.46E-05
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NA	1.50E-03	NA	1.50E-03	NA	1.50E-03	NA	1.50E-03
1,3,5-Trimethylbenzene	NA	1.21E-04	NA	1.21E-04	NA	1.21E-04	NA	1.21E-04
PAHs								
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	5.24E-06	NA	5.24E-06	NA	5.24E-06	NA	5.24E-06
Acenaphthylene	NA	3.08E-07	NA	3.08E-07	NA	3.08E-07	NA	3.08E-07
Anthracene	NA	1.49E-07	NA	1.49E-07	NA	1.49E-07	NA	1.49E-07
Benz(a)anthracene	NA	3.21E-11	NA	3.21E-11	NA	3.21E-11	NA	3.21E-11
Benzo(b)fluoranthene	NA	2.83E-10	NA	2.83E-10	NA	2.83E-10	NA	2.83E-10
Benzo(k)fluoranthene	NA	1.11E-10	NA	1.11E-10	NA	1.11E-10	NA	1.11E-10
Benzo(g,h,i)perylene	NA	3.08E-10	NA	3.08E-10	NA	3.08E-10	NA	3.08E-10
Benzo(a)pyrene	NA	2.87E-10	NA	2.87E-10	NA	2.87E-10	NA	2.87E-10
Chrysene	NA	1.03E-09	NA	1.03E-09	NA	1.03E-09	NA	1.03E-09
Dibenz(a,h)anthracene	NA	1.06E-11	NA	1.06E-11	NA	1.06E-11	NA	1.06E-11
Fluoranthene	NA	1.84E-10	NA	1.84E-10	NA	1.84E-10	NA	1.84E-10
Fluorene	NA	1.27E-05	NA	1.27E-05	NA	1.27E-05	NA	1.27E-05
Indeno(1,2,3-cd)pyrene	NA	1.43E-10	NA	1.43E-10	NA	1.43E-10	NA	1.43E-10
1-Methylnaphthalene	NA	2.31E-05	NA	2.31E-05	NA	2.31E-05	NA	2.31E-05
2-Methylnaphthalene	NA	1.95E-04	NA	1.95E-04	NA	1.95E-04	NA	1.95E-04
Naphthalene	NA	7.00E-04	NA	7.00E-04	NA	7.00E-04	NA	7.00E-04
Phenanthrene	NA	1.40E-07	NA	1.40E-07	NA	1.40E-07	NA	1.40E-07
Pyrene	NA	4.00E-07	NA	4.00E-07	NA	4.00E-07	NA	4.00E-07
SVOCs								
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND

Table 6-88
Noncancer Hazard - Soil
Site-Wide

CHEMICAL	Offsite Resident (0-2 ft bgs)							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Total Petroleum Hydrocarbons								
TPH Gasoline - aliphatic	NA	2.68E-08	NA	2.68E-08	NA	2.68E-08	NA	2.68E-08
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	NA	3.58E-07	NA	3.58E-07	NA	3.58E-07	NA	3.58E-07
TPH Diesel - aromatic	NA	1.24E-06	NA	1.24E-06	NA	1.24E-06	NA	1.24E-06
TPH Motor Oil - aliphatic	NA	NA	NA	NA	NA	NA	NA	NA
TPH Motor Oil - aromatic	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides								
Endrin aldehyde	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL:	0.00E+00	7.52E-03	0.00E+00	**7.52E-03**	0.00E+00	7.52E-03	0.00E+00	**7.52E-03**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-88
Noncancer Hazard - Soil
Site-Wide

CHEMICAL	Recreational User (0-2 ft bgs)							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Antimony	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	4.66E-04	2.29E-06	2.27E-05	4.91E-04	4.97E-03	2.29E-06	4.80E-04	5.46E-03
Chromium (total)	9.13E-06	2.56E-10	8.55E-06	1.77E-05	9.73E-05	2.56E-10	1.80E-04	2.78E-04
Mercury	4.81E-04	4.71E-07	8.36E-04	1.32E-03	5.13E-03	4.71E-07	1.77E-02	2.28E-02
Vanadium	1.95E-03	5.47E-08	9.14E-04	2.87E-03	2.08E-02	5.47E-08	1.93E-02	4.01E-02
BTEX								
Benzene	2.40E-06	5.61E-06	2.93E-07	8.31E-06	2.56E-05	5.61E-06	6.18E-06	3.74E-05
Ethylbenzene	2.42E-05	2.65E-05	2.95E-06	5.37E-05	2.58E-04	2.65E-05	6.23E-05	3.47E-04
Toluene	9.61E-06	7.41E-05	1.17E-06	8.49E-05	1.03E-04	7.41E-05	2.47E-05	2.01E-04
Xylenes (total)	7.13E-05	4.33E-04	8.68E-06	5.13E-04	7.61E-04	4.33E-04	1.83E-04	1.38E-03
VOCs								
n-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	3.31E-07	1.44E-06	4.03E-08	1.81E-06	3.53E-06	1.44E-06	8.51E-07	5.82E-06
tert-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	1.58E-07	6.06E-08	1.92E-08	2.37E-07	1.68E-06	6.06E-08	4.05E-07	2.15E-06
Chloroform	1.44E-07	2.27E-07	1.76E-08	3.88E-07	1.54E-06	2.27E-07	3.71E-07	2.14E-06
1,2-Dichlorobenzene	9.50E-08	4.52E-07	1.16E-08	5.59E-07	1.01E-06	4.52E-07	2.44E-07	1.71E-06
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	4.73E-08	4.93E-08	5.76E-09	1.02E-07	5.05E-07	4.93E-08	1.22E-07	6.76E-07
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	9.62E-07	4.80E-06	1.17E-07	5.88E-06	1.03E-05	4.80E-06	2.47E-06	1.75E-05
p-Isopropyltoluene	1.02E-07	5.07E-07	1.24E-08	6.20E-07	1.08E-06	5.07E-07	2.61E-07	1.85E-06
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	1.55E-06	2.74E-06	1.89E-07	4.48E-06	1.65E-05	2.74E-06	3.98E-06	2.33E-05
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	3.74E-05	1.67E-04	4.55E-06	2.09E-04	3.99E-04	1.67E-04	9.61E-05	6.62E-04
1,3,5-Trimethylbenzene	2.51E-06	1.34E-05	3.06E-07	1.63E-05	2.68E-05	1.34E-05	6.45E-06	4.67E-05
PAHs								
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	6.71E-07	5.84E-07	3.66E-07	1.62E-06	7.16E-06	5.84E-07	7.74E-06	1.55E-05
Acenaphthylene	3.95E-08	3.44E-08	2.16E-08	9.54E-08	4.21E-07	3.44E-08	4.55E-07	9.11E-07
Anthracene	7.13E-08	1.66E-08	3.89E-08	1.27E-07	7.60E-07	1.66E-08	8.21E-07	1.60E-06
Benz(a)anthracene	3.71E-08	3.58E-12	2.02E-08	5.73E-08	3.96E-07	3.58E-12	4.27E-07	8.23E-07
Benzo(b)fluoranthene	3.27E-07	3.16E-11	1.78E-07	5.05E-07	3.49E-06	3.16E-11	3.77E-06	7.25E-06
Benzo(k)fluoranthene	1.28E-07	1.23E-11	6.98E-08	1.98E-07	1.36E-06	1.23E-11	1.47E-06	2.84E-06
Benzo(g,h,i)perylene	3.56E-07	3.44E-11	1.94E-07	5.50E-07	3.80E-06	3.44E-11	4.10E-06	7.90E-06
Benzo(a)pyrene	3.32E-07	3.20E-11	1.81E-07	5.13E-07	3.54E-06	3.20E-11	3.82E-06	7.36E-06
Chrysene	1.19E-06	1.15E-10	6.51E-07	1.84E-06	1.27E-05	1.15E-10	1.37E-05	2.65E-05
Dibenz(a,h)anthracene	1.22E-08	1.18E-12	6.65E-09	1.88E-08	1.30E-07	1.18E-12	1.40E-07	2.70E-07
Fluoranthene	2.13E-07	2.05E-11	1.16E-07	3.29E-07	2.27E-06	2.05E-11	2.45E-06	4.72E-06
Fluorene	3.27E-06	1.42E-06	1.78E-06	6.47E-06	3.49E-05	1.42E-06	3.77E-05	7.40E-05
Indeno(1,2,3-cd)pyrene	1.65E-07	1.60E-11	9.02E-08	2.55E-07	1.76E-06	1.60E-11	1.90E-06	3.67E-06
1-Methylnaphthalene	1.24E-06	2.57E-06	5.19E-07	4.32E-06	1.32E-05	2.57E-06	1.09E-05	2.67E-05
2-Methylnaphthalene	1.03E-05	2.17E-05	4.33E-06	3.63E-05	1.10E-04	2.17E-05	9.13E-05	2.23E-04
Naphthalene	3.81E-06	7.80E-05	1.60E-06	8.34E-05	4.07E-05	7.80E-05	3.38E-05	1.52E-04
Phenanthrene	8.31E-08	1.56E-08	4.54E-08	1.44E-07	8.87E-07	1.56E-08	9.58E-07	1.86E-06
Pyrene	8.68E-07	4.45E-08	4.74E-07	1.39E-06	9.25E-06	4.45E-08	1.00E-05	1.93E-05
SVOCs								
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND

Table 6-88
Noncancer Hazard - Soil
Site-Wide

CHEMICAL	Recreational User (0-2 ft bgs)							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Total Petroleum Hydrocarbons								
TPH Gasoline - aliphatic	5.32E-04	2.98E-09	6.48E-05	5.97E-04	5.68E-03	2.98E-09	1.37E-03	7.05E-03
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	1.22E-03	3.99E-08	1.49E-04	1.37E-03	1.30E-02	3.99E-08	3.14E-03	1.62E-02
TPH Diesel - aromatic	2.35E-03	1.38E-07	2.86E-04	2.64E-03	2.51E-02	1.38E-07	6.04E-03	3.11E-02
TPH Motor Oil - aliphatic	9.30E-05	NA	1.13E-05	1.04E-04	9.92E-04	NA	2.39E-04	1.23E-03
TPH Motor Oil - aromatic	3.58E-03	NA	4.36E-04	4.01E-03	3.82E-02	NA	9.19E-03	4.73E-02
Pesticides								
Endrin aldehyde	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL:	1.09E-02	8.38E-04	2.76E-03	**1.45E-02**	1.16E-01	8.38E-04	5.82E-02	**1.75E-01**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-88
Noncancer Hazard - Soil
Site-Wide

CHEMICAL	Recreational User (0-10 ft bgs)							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Antimony	6.14E-02	NC	4.99E-03	6.64E-02	6.55E-01	NC	1.05E-01	7.61E-01
Cadmium	3.96E-04	1.94E-06	1.93E-05	4.18E-04	4.23E-03	1.94E-06	4.08E-04	4.64E-03
Chromium (total)	8.73E-06	2.45E-10	8.17E-06	1.69E-05	9.31E-05	2.45E-10	1.73E-04	2.66E-04
Mercury	2.58E-04	2.53E-07	4.49E-04	7.08E-04	2.75E-03	2.53E-07	9.48E-03	1.22E-02
Vanadium	2.14E-03	5.99E-08	1.00E-03	3.14E-03	2.28E-02	5.99E-08	2.12E-02	4.40E-02
BTEX								
Benzene	3.18E-05	7.42E-05	3.87E-06	1.10E-04	3.39E-04	7.42E-05	8.17E-05	4.95E-04
Ethylbenzene	5.80E-06	6.34E-06	7.06E-07	1.28E-05	6.19E-05	6.34E-06	1.49E-05	8.31E-05
Toluene	4.30E-06	3.32E-05	5.24E-07	3.80E-05	4.59E-05	3.32E-05	1.11E-05	9.01E-05
Xylenes (total)	1.99E-05	1.21E-04	2.42E-06	1.43E-04	2.12E-04	1.21E-04	5.11E-05	3.84E-04
VOCs								
n-Butylbenzene	2.16E-06	9.38E-06	2.63E-07	1.18E-05	2.30E-05	9.38E-06	5.55E-06	3.79E-05
sec-Butylbenzene	1.31E-06	5.71E-06	1.60E-07	7.18E-06	1.40E-05	5.71E-06	3.38E-06	2.31E-05
tert-Butylbenzene	1.51E-06	5.68E-06	1.83E-07	7.37E-06	1.61E-05	5.68E-06	3.87E-06	2.56E-05
Chlorobenzene	1.58E-07	6.06E-08	1.92E-08	2.37E-07	1.68E-06	6.06E-08	4.05E-07	2.15E-06
Chloroform	3.90E-07	6.12E-07	4.75E-08	1.05E-06	4.16E-06	6.12E-07	1.00E-06	5.78E-06
1,2-Dichlorobenzene	1.60E-06	7.63E-06	1.95E-07	9.43E-06	1.71E-05	7.63E-06	4.12E-06	2.88E-05
1,3-Dichlorobenzene	3.03E-07	9.15E-07	3.69E-08	1.25E-06	3.23E-06	9.15E-07	7.78E-07	4.92E-06
1,4-Dichlorobenzene	7.33E-07	7.63E-07	8.92E-08	1.59E-06	7.82E-06	7.63E-07	1.88E-06	1.05E-05
1,1-Dichloroethane	7.75E-08	1.32E-06	9.43E-09	1.40E-06	8.26E-07	1.32E-06	1.99E-07	2.34E-06
1,2-Dichloroethane	1.02E-07	1.18E-05	1.24E-08	1.19E-05	1.08E-06	1.18E-05	2.61E-07	1.31E-05
Isopropylbenzene	9.30E-07	4.64E-06	1.13E-07	5.68E-06	9.92E-06	4.64E-06	2.39E-06	1.69E-05
p-Isopropyltoluene	5.56E-07	2.77E-06	6.77E-08	3.40E-06	5.93E-06	2.77E-06	1.43E-06	1.01E-05
Methylene chloride	5.34E-07	4.53E-07	6.50E-08	1.05E-06	5.70E-06	4.53E-07	1.37E-06	7.52E-06
Methyl tert-butyl ether	8.90E-09	8.43E-09	1.08E-09	1.84E-08	9.50E-08	8.43E-09	2.29E-08	1.26E-07
n-Propylbenzene	1.15E-06	2.03E-06	1.40E-07	3.32E-06	1.23E-05	2.03E-06	2.95E-06	1.72E-05
1,1,1-Trichloroethane	1.87E-09	2.82E-07	2.28E-10	2.84E-07	1.99E-08	2.82E-07	4.81E-09	3.06E-07
Trichloroethene	3.85E-05	1.80E-06	4.68E-06	4.49E-05	4.10E-04	1.80E-06	9.89E-05	5.11E-04
1,2,4-Trimethylbenzene	2.94E-04	1.31E-03	3.57E-05	1.64E-03	3.13E-03	1.31E-03	7.55E-04	5.20E-03
1,3,5-Trimethylbenzene	1.52E-05	8.12E-05	1.85E-06	9.82E-05	1.62E-04	8.12E-05	3.90E-05	2.82E-04
PAHs								
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	3.12E-07	2.72E-07	1.71E-07	7.55E-07	3.33E-06	2.72E-07	3.60E-06	7.21E-06
Acenaphthylene	1.11E-07	9.61E-08	6.03E-08	2.67E-07	1.18E-06	9.61E-08	1.27E-06	2.55E-06
Anthracene	3.73E-08	8.71E-09	2.04E-08	6.64E-08	3.98E-07	8.71E-09	4.30E-07	8.37E-07
Benz(a)anthracene	2.30E-08	2.22E-12	1.26E-08	3.56E-08	2.46E-07	2.22E-12	2.65E-07	5.11E-07
Benzo(b)fluoranthene	1.88E-07	1.81E-11	1.03E-07	2.90E-07	2.00E-06	1.81E-11	2.16E-06	4.17E-06
Benzo(k)fluoranthene	8.37E-08	8.08E-12	4.57E-08	1.29E-07	8.92E-07	8.08E-12	9.64E-07	1.86E-06
Benzo(g,h,i)perylene	2.06E-07	1.99E-11	1.12E-07	3.19E-07	2.20E-06	1.99E-11	2.37E-06	4.57E-06
Benzo(a)pyrene	2.33E-07	2.25E-11	1.27E-07	3.61E-07	2.49E-06	2.25E-11	2.69E-06	5.18E-06
Chrysene	6.87E-07	6.63E-11	3.75E-07	1.06E-06	7.33E-06	6.63E-11	7.92E-06	1.52E-05
Dibenz(a,h)anthracene	6.56E-09	6.34E-13	3.58E-09	1.01E-08	7.00E-08	6.34E-13	7.56E-08	1.46E-07
Fluoranthene	1.74E-07	1.68E-11	9.49E-08	2.69E-07	1.86E-06	1.68E-11	2.00E-06	3.86E-06
Fluorene	1.41E-06	6.13E-07	7.72E-07	2.80E-06	1.51E-05	6.13E-07	1.63E-05	3.20E-05
Indeno(1,2,3-cd)pyrene	1.17E-07	1.13E-11	6.40E-08	1.81E-07	1.25E-06	1.13E-11	1.35E-06	2.60E-06
1-Methylnaphthalene	9.96E-07	2.07E-06	4.18E-07	3.49E-06	1.06E-05	2.07E-06	8.83E-06	2.15E-05
2-Methylnaphthalene	3.00E-05	6.31E-05	1.26E-05	1.06E-04	3.20E-04	6.31E-05	2.66E-04	6.49E-04
Naphthalene	3.62E-06	7.41E-05	1.52E-06	7.92E-05	3.86E-05	7.41E-05	3.21E-05	1.45E-04
Phenanthrene	2.66E-07	5.00E-08	1.45E-07	4.61E-07	2.84E-06	5.00E-08	3.06E-06	5.95E-06
Pyrene	5.27E-07	2.70E-08	2.88E-07	8.41E-07	5.62E-06	2.70E-08	6.07E-06	1.17E-05
SVOCs								
2,4-Dinitrotoluene	1.71E-04	4.79E-09	2.08E-05	1.92E-04	1.82E-03	4.79E-09	4.39E-04	2.26E-03

Table 6-88
Noncancer Hazard - Soil
Site-Wide

CHEMICAL	Recreational User (0-10 ft bgs)							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Total Petroleum Hydrocarbons								
TPH Gasoline - aliphatic	4.14E-04	2.32E-09	5.04E-05	4.65E-04	4.42E-03	2.32E-09	1.06E-03	5.48E-03
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	1.61E-03	5.27E-08	1.96E-04	1.81E-03	1.72E-02	5.27E-08	4.14E-03	2.13E-02
TPH Diesel - aromatic	3.10E-03	1.82E-07	3.77E-04	3.48E-03	3.31E-02	1.82E-07	7.97E-03	4.10E-02
TPH Motor Oil - aliphatic	5.70E-05	NA	6.94E-06	6.39E-05	6.08E-04	NA	1.46E-04	7.54E-04
TPH Motor Oil - aromatic	2.19E-03	NA	2.67E-04	2.46E-03	2.34E-02	NA	5.63E-03	2.90E-02
Pesticides								
Endrin aldehyde	4.10E-06	1.15E-10	2.49E-07	4.35E-06	4.37E-05	1.15E-10	5.26E-06	4.90E-05
TOTAL:	7.22E-02	1.83E-03	7.45E-03	**8.15E-02**	7.71E-01	1.83E-03	1.57E-01	**9.30E-01**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 6-88
Noncancer Hazard - Soil
Site-Wide

CHEMICAL	Commercial Employees			
	Outdoor Employee			
	Ing	InhP	Dermal	Direct Total
Inorganics				
Antimony	8.86E-02	NC	4.10E-02	1.30E-01
Cadmium	6.73E-04	6.59E-06	1.87E-04	8.66E-04
Chromium (total)	1.32E-05	7.38E-10	7.03E-05	8.34E-05
Mercury	6.93E-04	1.36E-06	6.88E-03	7.57E-03
Vanadium	3.09E-03	1.73E-07	8.24E-03	1.13E-02
BTEX				
Benzene	4.58E-05	2.14E-04	3.18E-05	2.92E-04
Ethylbenzene	3.49E-05	7.64E-05	2.43E-05	1.36E-04
Toluene	1.39E-05	2.14E-04	9.62E-06	2.37E-04
Xylenes (total)	1.03E-04	1.25E-03	7.14E-05	1.42E-03
VOCs				
n-Butylbenzene	3.11E-06	2.70E-05	2.16E-06	3.23E-05
sec-Butylbenzene	1.90E-06	1.65E-05	1.32E-06	1.97E-05
tert-Butylbenzene	2.17E-06	1.64E-05	1.51E-06	2.01E-05
Chlorobenzene	2.27E-07	1.75E-07	1.58E-07	5.60E-07
Chloroform	5.63E-07	1.77E-06	3.90E-07	2.72E-06
1,2-Dichlorobenzene	2.31E-06	2.20E-05	1.60E-06	2.59E-05
1,3-Dichlorobenzene	4.37E-07	2.64E-06	3.03E-07	3.38E-06
1,4-Dichlorobenzene	1.06E-06	2.20E-06	7.33E-07	3.99E-06
1,1-Dichloroethane	1.12E-07	3.80E-06	7.75E-08	3.99E-06
1,2-Dichloroethane	1.46E-07	3.40E-05	1.02E-07	3.43E-05
Isopropylbenzene	1.39E-06	1.38E-05	9.63E-07	1.62E-05
p-Isopropyltoluene	8.01E-07	8.00E-06	5.56E-07	9.36E-06
Methylene chloride	7.71E-07	1.31E-06	5.35E-07	2.61E-06
Methyl tert-butyl ether	1.28E-08	2.43E-08	8.91E-09	4.61E-08
n-Propylbenzene	2.23E-06	7.91E-06	1.55E-06	1.17E-05
1,1,1-Trichloroethane	2.70E-09	8.13E-07	1.87E-09	8.17E-07
Trichloroethene	5.55E-05	5.18E-06	3.85E-05	9.92E-05
1,2,4-Trimethylbenzene	4.23E-04	3.79E-03	2.94E-04	4.50E-03
1,3,5-Trimethylbenzene	2.19E-05	2.34E-04	1.52E-05	2.71E-04
PAHs				
BaP TEQ	NA	NA	NA	NA
Acenaphthene	9.68E-07	1.68E-06	3.01E-06	5.67E-06
Acenaphthylene	1.59E-07	2.77E-07	4.96E-07	9.33E-07
Anthracene	1.03E-07	4.80E-08	3.20E-07	4.71E-07
Benz(a)anthracene	5.35E-08	1.03E-11	1.66E-07	2.20E-07
Benzo(b)fluoranthene	4.71E-07	9.11E-11	1.47E-06	1.94E-06
Benzo(k)fluoranthene	1.84E-07	3.56E-11	5.74E-07	7.58E-07
Benzo(g,h,i)perylene	5.13E-07	9.91E-11	1.60E-06	2.11E-06
Benzo(a)pyrene	4.78E-07	9.24E-11	1.49E-06	1.97E-06
Chrysene	1.72E-06	3.32E-10	5.35E-06	7.07E-06
Dibenz(a,h)anthracene	1.76E-08	3.40E-12	5.47E-08	7.23E-08
Fluoranthene	3.07E-07	5.92E-11	9.54E-07	1.26E-06
Fluorene	4.71E-06	4.09E-06	1.47E-05	2.35E-05
Indeno(1,2,3-cd)pyrene	2.38E-07	4.60E-11	7.42E-07	9.80E-07
1-Methylnaphthalene	1.78E-06	7.42E-06	4.26E-06	1.35E-05
2-Methylnaphthalene	4.32E-05	1.82E-04	1.03E-04	3.29E-04
Naphthalene	5.50E-06	2.25E-04	1.32E-05	2.44E-04
Phenanthrene	3.84E-07	1.44E-07	1.19E-06	1.72E-06
Pyrene	1.25E-06	1.28E-07	3.89E-06	5.27E-06
SVOCs				
2,4-Dinitrotoluene	2.47E-04	1.38E-08	1.71E-04	4.18E-04

Table 6-88
Noncancer Hazard - Soil
Site-Wide

CHEMICAL	Commercial Employees			
	Outdoor Employee			
	Ing	InhP	Dermal	Direct Total
Total Petroleum Hydrocarbons				
TPH Gasoline - aliphatic	7.68E-04	8.60E-09	5.33E-04	1.30E-03
TPH Gasoline - aromatic	NA	NA	NA	NA
TPH Diesel - aliphatic	2.32E-03	1.52E-07	1.61E-03	3.94E-03
TPH Diesel - aromatic	4.47E-03	5.26E-07	3.10E-03	7.57E-03
TPH Motor Oil - aliphatic	1.34E-04	NA	9.31E-05	2.27E-04
TPH Motor Oil - aromatic	5.16E-03	NA	3.58E-03	8.74E-03
Pesticides				
Endrin aldehyde	5.91E-06	3.31E-10	2.05E-06	7.96E-06
TOTAL:	1.07E-01	6.37E-03	6.61E-02	**1.79E-01**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value

Table 7-5
Downwind Resident Exposure Point Concentrations - Hypothetical Remediation Scenario
Exposure Area E

CHEMICAL	Downwind Resident Soil mg/kg	Downwind Resident Outdoor Air (dust & volatiles) mg/m^3
Inorganics		
Cadmium	**1.70E+00**	3.86E-09
Chromium (total)	**3.80E+01**	8.64E-08
Lead	**4.90E+02**	1.11E-06
Mercury	**7.00E-01**	1.59E-09
Vanadium	**5.70E+01**	1.30E-07
BTEX		
Benzene	**1.90E+01**	4.99E-03
Ethylbenzene	**3.20E+01**	5.25E-03
Toluene	**3.40E+01**	7.38E-03
Xylenes (total)	**1.70E+02**	2.71E-02
VOCs		
n-Butylbenzene	**4.30E+00**	4.90E-04
sec-Butylbenzene	**2.80E+00**	3.19E-04
tert-Butylbenzene	**2.40E-01**	2.38E-05
1,2-Dichlorobenzene	2.70E-01	2.14E-05
1,3-Dichlorobenzene	1.70E-02	1.35E-06
1,4-Dichlorobenzene	9.60E-02	8.57E-06
Isopropylbenzene	**4.40E+00**	6.59E-04
p-Isopropyltoluene	**3.30E+00**	4.94E-04
n-Propylbenzene	**6.30E+00**	8.37E-04
1,2,4-Trimethylbenzene	**2.50E+01**	2.93E-03
1,3,5-Trimethylbenzene	**8.30E+00**	1.17E-03
PAHs		
BaP TEQ	**5.46E-01**	1.24E-09
Acenaphthene	**3.20E+00**	2.12E-05
Acenaphthylene	**4.20E-01**	2.78E-06
Anthracene	**3.50E+00**	6.22E-06
Benz(a)anthracene	**8.50E-01**	1.93E-09
Benzo(b)fluoranthene	**7.60E-01**	1.73E-09
Benzo(k)fluoranthene	**4.00E-01**	9.09E-10
Benzo(g,h,i)perylene	**6.50E-01**	1.48E-09
Benzo(a)pyrene	**4.00E-01**	9.09E-10
Chrysene	**2.30E+00**	5.23E-09
Dibenz(a,h)anthracene	**4.90E-02**	1.11E-10
Fluoranthene	**1.10E+00**	2.50E-09
Fluorene	**7.10E+00**	2.34E-05
Indeno(1,2,3-cd)pyrene	**3.00E-01**	6.82E-10
1-Methylnaphthalene	**5.50E+00**	8.72E-05
2-Methylnaphthalene	**1.50E+01**	2.40E-04
Naphthalene	**1.10E+01**	2.20E-04
Phenanthrene	**5.70E+00**	8.16E-06
Pyrene	**1.00E+00**	3.91E-07
SVOCs		
2,4-Dinitrotoluene	**6.40E-01**	1.45E-09
Total Petroleum Hydrocarbons		
TPH Gasoline	**3.10E+03**	NA
TPH Gasoline - aliphatic	**8.06E+02**	1.83E-06
TPH Gasoline - aromatic	**4.65E+02**	1.06E-06
TPH Diesel	**1.90E+04**	NA
TPH Diesel - aliphatic	**4.94E+03**	1.12E-05
TPH Diesel - aromatic	**2.85E+03**	6.48E-06
TPH Motor Oil	**1.20E+04**	NA
TPH Motor Oil - aliphatic	**3.12E+03**	7.09E-06
TPH Motor Oil - aromatic	**1.80E+03**	4.09E-06

NA = Not applicable

Bold text indicates a maximum value (from 0-10 or 0-2 depth horiz

Table 7-6
Cancer Risk - Soil, Hypothetical Remediation Scenario
Exposure Area E

CHEMICAL	Offsite Resident Adult + Child Ing	InhP	Dermal	Direct Total
Inorganics				
Cadmium	NA	1.04E-08	NA	1.04E-08
Chromium (total)	NA	1.19E-06	NA	1.19E-06
Mercury	NA	NC	NA	NA
Vanadium	NA	6.92E-07	NA	6.92E-07
BTEX				
Benzene	NA	9.30E-05	NA	9.30E-05
Ethylbenzene	NA	8.44E-06	NA	8.44E-06
Toluene	NA	NC	NA	NA
Xylenes (total)	NA	NC	NA	NA
VOCs				
n-Butylbenzene	NA	NC	NA	NA
sec-Butylbenzene	NA	NC	NA	NA
tert-Butylbenzene	NA	NC	NA	NA
1,2-Dichlorobenzene	NA	NC	NA	NA
1,3-Dichlorobenzene	NA	NC	NA	NA
1,4-Dichlorobenzene	NA	6.07E-08	NA	6.07E-08
Isopropylbenzene	NA	NC	NA	NA
p-Isopropyltoluene	NA	NC	NA	NA
n-Propylbenzene	NA	NC	NA	NA
1,2,4-Trimethylbenzene	NA	NC	NA	NA
1,3,5-Trimethylbenzene	NA	NC	NA	NA
PAHs				
BaP TEQ	NA	8.78E-10	NA	8.78E-10
Acenaphthene	NA	NC	NA	NA
Acenaphthylene	NA	NC	NA	NA
Anthracene	NA	NC	NA	NA
Benz(a)anthracene	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NC	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	8.60E-11	NA	8.60E-11
Fluoranthene	NA	NC	NA	NA
Fluorene	NA	NC	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA
1-Methylnaphthalene	NA	NC	NA	NA
2-Methylnaphthalene	NA	NC	NA	NA
Naphthalene	NA	4.82E-06	NA	4.82E-06
Phenanthrene	NA	NC	NA	NA
Pyrene	NA	NC	NA	NA
SVOCs				
2,4-Dinitrotoluene	NA	8.33E-11	NA	8.33E-11
Total Petroleum Hydrocarbons				
TPH Gasoline - aliphatic	NA	NC	NA	NA
TPH Gasoline - aromatic	NA	NC	NA	NA
TPH Diesel - aliphatic	NA	NC	NA	NA
TPH Diesel - aromatic	NA	NC	NA	NA
TPH Motor Oil - aliphatic	NA	NC	NA	NA
TPH Motor Oil - aromatic	NA	NC	NA	NA
TOTAL:	0.00E+00	1.08E-04	0.00E+00	**1.08E-04**

Notes:
NA = Not Applicable
NC = No Criteria

Table 7-7
Noncancer Hazard - Soil, Hypothetical Remediation Scenario
Exposure Area E

CHEMICAL	Offsite Resident							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Cadmium	NA	1.23E-04	NA	1.23E-04	NA	1.23E-04	NA	1.23E-04
Chromium (total)	NA	1.23E-08	NA	1.23E-08	NA	1.23E-08	NA	1.23E-08
Mercury	NA	3.39E-05	NA	3.39E-05	NA	3.39E-05	NA	3.39E-05
Vanadium	NA	3.38E-06	NA	3.38E-06	NA	3.38E-06	NA	3.38E-06
BTEX								
Benzene	NA	5.31E-02	NA	5.31E-02	NA	5.31E-02	NA	5.31E-02
Ethylbenzene	NA	1.68E-03	NA	1.68E-03	NA	1.68E-03	NA	1.68E-03
Toluene	NA	1.57E-02	NA	1.57E-02	NA	1.57E-02	NA	1.57E-02
Xylenes (total)	NA	2.48E-02	NA	2.48E-02	NA	2.48E-02	NA	2.48E-02
VOCs								
n-Butylbenzene	NA	1.79E-03	NA	1.79E-03	NA	1.79E-03	NA	1.79E-03
sec-Butylbenzene	NA	1.17E-03	NA	1.17E-03	NA	1.17E-03	NA	1.17E-03
tert-Butylbenzene	NA	8.68E-05	NA	8.68E-05	NA	8.68E-05	NA	8.68E-05
1,2-Dichlorobenzene	NA	6.85E-05	NA	6.85E-05	NA	6.85E-05	NA	6.85E-05
1,3-Dichlorobenzene	NA	8.21E-06	NA	8.21E-06	NA	8.21E-06	NA	8.21E-06
1,4-Dichlorobenzene	NA	6.85E-06	NA	6.85E-06	NA	6.85E-06	NA	6.85E-06
Isopropylbenzene	NA	1.05E-03	NA	1.05E-03	NA	1.05E-03	NA	1.05E-03
p-Isopropyltoluene	NA	7.90E-04	NA	7.90E-04	NA	7.90E-04	NA	7.90E-04
n-Propylbenzene	NA	5.35E-04	NA	5.35E-04	NA	5.35E-04	NA	5.35E-04
1,2,4-Trimethylbenzene	NA	2.68E-01	NA	2.68E-01	NA	2.68E-01	NA	2.68E-01
1,3,5-Trimethylbenzene	NA	2.13E-02	NA	2.13E-02	NA	2.13E-02	NA	2.13E-02
PAHs								
BaP TEQ	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	6.45E-05	NA	6.45E-05	NA	6.45E-05	NA	6.45E-05
Acenaphthylene	NA	8.47E-06	NA	8.47E-06	NA	8.47E-06	NA	8.47E-06
Anthracene	NA	3.78E-06	NA	3.78E-06	NA	3.78E-06	NA	3.78E-06
Benz(a)anthracene	NA	1.18E-09	NA	1.18E-09	NA	1.18E-09	NA	1.18E-09
Benzo(b)fluoranthene	NA	7.89E-09	NA	7.89E-09	NA	7.89E-09	NA	7.89E-09
Benzo(k)fluoranthene	NA	4.15E-09	NA	4.15E-09	NA	4.15E-09	NA	4.15E-09
Benzo(g,h,i)perylene	NA	8.99E-09	NA	8.99E-09	NA	8.99E-09	NA	8.99E-09
Benzo(a)pyrene	NA	5.53E-09	NA	5.53E-09	NA	5.53E-09	NA	5.53E-09
Chrysene	NA	3.18E-08	NA	3.18E-08	NA	3.18E-08	NA	3.18E-08
Dibenz(a,h)anthracene	NA	6.78E-11	NA	6.78E-11	NA	6.78E-11	NA	6.78E-11
Fluoranthene	NA	1.14E-08	NA	1.14E-08	NA	1.14E-08	NA	1.14E-08
Fluorene	NA	1.07E-04	NA	1.07E-04	NA	1.07E-04	NA	1.07E-04
Indeno(1,2,3-cd)pyrene	NA	4.15E-09	NA	4.15E-09	NA	4.15E-09	NA	4.15E-09
1-Methylnaphthalene	NA	2.27E-04	NA	2.27E-04	NA	2.27E-04	NA	2.27E-04
2-Methylnaphthalene	NA	1.10E-02	NA	1.10E-02	NA	1.10E-02	NA	1.10E-02
Naphthalene	NA	1.57E-02	NA	1.57E-02	NA	1.57E-02	NA	1.57E-02
Phenanthrene	NA	4.97E-06	NA	4.97E-06	NA	4.97E-06	NA	4.97E-06
Pyrene	NA	2.38E-06	NA	2.38E-06	NA	2.38E-06	NA	2.38E-06
SVOCs								
2,4-Dinitrotoluene	NA	1.33E-07	NA	1.33E-07	NA	1.33E-07	NA	1.33E-07
Total Petroleum Hydrocarbons								
TPH Gasoline - aliphatic	NA	1.67E-06	NA	1.67E-06	NA	1.67E-06	NA	1.67E-06
TPH Gasoline - aromatic	NA	NA	NA	NA	NA	NA	NA	NA
TPH Diesel - aliphatic	NA	2.39E-05	NA	2.39E-05	NA	2.39E-05	NA	2.39E-05
TPH Diesel - aromatic	NA	8.28E-05	NA	8.28E-05	NA	8.28E-05	NA	8.28E-05
TPH Motor Oil - aliphatic	NA	NA	NA	NA	NA	NA	NA	NA
TPH Motor Oil - aromatic	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL:	0.00E+00	4.17E-01	0.00E+00	**4.17E-01**	0.00E+00	4.17E-01	0.00E+00	**4.17E-01**

Notes:
NA = Not Applicable

ATTACHMENTS

ATTACHMENT 1

Avila Tank Farm Collaborative Assessment Team
(ATCAT) Participants

Avila Tank Farm Collaborative Assessment Team
Participant List – January 2012

ER WG	HHR WG	Name	Organization	Mailing Address	Phone/Fax	Email
☑	☑	Bill Almas	Chevron	276 Tank Farm Road San Luis Obispo, CA 93406	(805) 784-0494 (805) 784-0493	walmas@chevron.com
☑	☑	Chuck Anders	Strategic Initiatives	1886 Deer Canyon Road Arroyo Grande, CA 93420	(805) 474-8105 (805) 474-8101	canders@strategicinit.com
☐	☑	Paul Black	Neptune	8550 West 14th Avenue, Suite 100 Lakewood, CO 80215	(720) 746-1803 (720) 746-1605	pblack@neptuneinc.org
☑	☐	Melissa Boggs	DFG, OSPR	3196 South Higuera Street, Suite A San Luis Obispo, CA 93401	(805) 558-1005 (805) 474-6563	mboggs@ospr.dfg.ca.gov
☐	☑	Katie Butler	McDaniel Lambert	1608 Pacific Avenue, Suite 201 Venice, CA 90291	(310) 392-6462 (310) 392-6693	kbutler@mclam.com
☐	☐	Louis Cappel	Padre Associates	369 Pacific Street San Luis Obispo, CA 93401	(805) 786-2650 (805) 786-2651	lcappel@padreinc.com
☐	☐	Dan Carl	California Coastal Commission	725 Front Street, Suite 300 Santa Cruz, CA 95060	(831) 427-4863 (831) 427-4877	dcarl@coastal.ca.gov
☐	☑	Teri Copeland	Consulting Toxicologist	5737 Kanan Rd. #182 Agoura Hills, CA 91301	(818) 991-8240 (818) 991-8140	TeriLCopeland@yahoo.com
☐	☑	Becky Countway	McDaniel Lambert	1608 Pacific Avenue, Suite 201 Venice, CA 90291	(310) 392-6462 (310) 392-6693	rcountway@mclam.com
☑	☐	Regina Donohoe	OSPR, CDFG	20 Lower Ragsdale Dr., Suite 100 Monterey, CA 93940	(831) 649-7150 (831) 649-7189	rdonohoe@ospr.dfg.ca.gov
☑	☑	Jennifer Holder	ERM	1180 Eugenia Place, Suite 204 Carpinteria, CA 93013	(805) 684-2801 (805) 684-1978	Jennifer.Holder@erm.com
☐	☐	Ryan Hostetter	SLO County Planning and Building	County Government Center San Luis Obispo, CA 92408	(805) 788-2351	rhostetter@co.slo.ca.us

ERWG – Eco Risk Working Group Member
HHRWG – Human Health Risk Working Group Member

ER WG	HHR WG	Name	Organization	Mailing Address	Phone/Fax	Email
☑	☑	Chuck Lambert	McDaniel Lambert	1608 Pacific Avenue, Suite 201 Venice, CA 90291	(310) 392-6462 (310) 392-6693	celambert@mclam.com
☐	☐	Steve McMasters	SLO County Planning and Building	County Government Center San Luis Obispo, CA 93408-2040	(805) 781-5096 (805) 788-2413	smcmasters@co.slo.ca.us
☐	☑	Andrew Mutziger	APCD	3433 Roberto Court San Luis Obispo, CA 93401	(805) 781-5912 (805) 781-1002	amutziger@co.slo.ca.us
☑	☑	Dan Niles	RWQCB	895 Aerovista Place, Suite 100 San Luis Obispo, CA 93401	(805) 549-3355 (805) 543-0397	dniles@waterboards.ca.gov
☐	☑	Aaron LaBarre	County Department of Health	P.O. Box 1489 San Luis Obispo, CA 93406	(805) 781-5555 (805) 781-4211	alabarre@co.slo.ca.us
☑	☑	Mike Rendina	Avocet Environmental	16 Technology, Suite 154 Irvine, California 92618	(949) 296-0977 (949) 296-0978	mrendina@avocetenv.com
☐	☐	Daniel Robinson	California Coastal Commission	725 Front Street, Suite 300 Santa Cruz, CA 95060	(831) 427-4863 (831) 427-4877	drobinson@coastal.ca.gov
☐	☐	Debbie Rudd	RRM Design Group	1735 S. Higuera San Luis Obispo, CA 92401	(805) 543-1794 (805) 543-4609	dlrudd@rrmdesign.com
☐	☐	Kim Tulledge	Chevron	276 Tank Farm Road San Luis Obispo, CA 93401	(805) 343-6072 (805) 546-6900	Kim.Tulledge@Chevron.com
☑	☑	Robert Van Hyning	Avocet Environmental	16 Technology, Suite 154 Irvine, California 92618	(949) 296-0977 (949) 296-0978	rvanhyning@avocetenv.com
☑	☑	George Weber	ERM	1180 Eugenia Place, Suite 204 Carpinteria, CA 93013	(805) 684-0241 (805) 684-1978	GWeber@Geosyntec.com
☐	☐	Rik Williams	Chevron	276 Tank Farm Road - San Luis Obispo CA 93401	(805) 546-6906 (805) 546-6900	RikWilliams@chevron.com
☐	☐					

ERWG – Eco Risk Working Group Member
HHRWG – Human Health Risk Working Group Member

ATTACHMENT 2

Avila Tank Farm Collaborative Assessment Team
Correspondence and Meeting and Conference Call Summaries

Drafted by Strategic Initiatives based on the March 26, 2007 meeting of the ATCAT. Reviewed, revised and ratified by the ATCAT during the 4/23/07 conference call.

Avila Tank Farm Collaborative Assessment Team ATCAT

Meeting Summary

Date: March 26, 2007

Time: 9:30 AM – 3:45 PM

Location: Chevron Offices, San Luis Obispo

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Chuck Lambert	McDaniel Lambert
Chuck Anders	Strategic Initiatives	Steve McMasters	SLO County Planning & Bldg.
Melissa Boggs-Blalack	CDFG	Andrew Mutziger	APCD
Teri Copeland	SLO County Health Dept.	Jeff Oliveria	SLO County Planning & Bldg.
Josh Fridell	Chevron	Mike Rendina	Avocet Environmental
Regina Donohoe	CDFG	Rick Stout	URS
Jennifer Holder	ARCADIS BBL	Robert Van Hyning	Avocet Environmental
Aaron LaBarre	SLO County Health Dept.	David Wolff	David Wolff Environmental

Welcome and Introductions

Chuck Anders welcomed the ATCAT participants. Each participant introduced themselves briefly and discussed their role.

Safety Moment

Bill Almas reviewed the safety precautions regarding the conference room and facilities. He also presented information regarding the hazards of using cellular telephones and other distractions while driving.

Overview of Collaborative Process

Bill Almas indicated that Chevron has entered into a business relationship with a Rob Rossi to explore development of the site. Supervisor Jerry Lenthall is sponsoring a series of four meetings with selected community representatives to discuss possible uses for the site. The second meeting of this group will be held on April 5, 2007.

Chevron currently has no specific project in mind; therefore, the ATCAT will have to make some broad assumptions in order to move forward with the Plan for Managing Risk (PMR). He expects that Chevron will have a better idea for possible site uses in July. Chevron would like to file the development plan and EIR at the same time. Bill anticipates that the development of a PMR will take around six months and resolve 80% of the issues. He emphasized that Chevron will retain liability and be responsible for remediation at the site.

Site History and Environmental Data

Mike Rendina reviewed the site history and environmental data that has been collected from the site. Unocal acquired the site in 1906. They subsequently constructed a pump station, small refinery, storage tanks and associated piping. All improvements were either removed or decommissioned by the late 1990s. Extensive environmental sampling has and continues to be conducted at the site. Sampling includes groundwater, surface water, cliff seeps, soil sampling and soil gas.

Overview of Human Health Risk Assessment

Chuck Lambert reviewed that Human Health Risk Assessment (HHRA) that was conducted in 2004/2005. He discussed the following elements:

- HHRA Objectives
- COPC selection process
- Potential future site users
- Potential exposure pathways that were evaluated
- Exposure scenarios evaluated
- Exposure point concentrations
- Cancer risks and drivers
- Risk conclusions
- Uncertainty issues
- Conclusions

Chuck observed that additional soil gas sampling would be necessary to resolve the uncertainties. Andy Mutziger expressed APCD's concern that there is another risk group to consider: Previous residents of community of Avila who move to a future development site at the Avila Tank Farm. The human health risk for such an individual would need to include the Avila Tank Farm site risk and the cumulative risk of the prior exposure of community residents to diesel particulates during remediation of the town site.

Overview of Preliminary Ecological Risk Assessment

Jennifer Holder discussed the predictive Ecological Risk Assessment (pERA) that was conducted in 2004. She discussed the following pERA elements:

- COPEC selection
- Conceptual site model
- Exposure assessment
- Effects assessment
- Tier 1 and tier 2 risk characterization
- Uncertainties
- Conclusions

David Wolff reviewed the baseline biological surveys that were conducted on site, including the fairy shrimp, aquatic vertebrate, and jurisdictional wetland survey completed and included in the December 2005 Ecological Evaluation Supplement II (EE II). The EE II was not circulated to the ATCAT. The wetlands determination has not been submitted to the U.S. Army Corps for verification of jurisdiction. He indicated that the U. S. Army Corps of Engineers will issue additional guidance based on the 2006 Supreme Court Rapanos decision for determination of isolated wetlands, which could effect the designation at the site. A draft Wetland Addendum to the pERA has been prepared and will be submitted to the ATCAT for review.

Regina Donohoe asked if there was any additional information regarding the source of mercury at the site. Mike Rendina indicated that no specific sources have been identified.

Risk Management Plan Process

Jennifer Holder discussed the process to develop a PMR for the site. She reviewed the risk management plan for the San Luis Obispo Tank Farm and suggested that it would be a good model to follow. She said that breaking up the site into geographic areas would make the evaluation process easier.

Bill Almas indicated that the PMR would provide necessary information for the preparation of the site Feasibility Study (FS). Jeff Oliveira agreed that a PMR would be very useful. Regina Donohoe emphasized the importance of identifying the geographic areas before doing any further assessment. The ATCAT participants agreed that breaking the site into "Initial Evaluation Areas" (IEA) would be a good approach to the PMR process and identified the following factors to consider when defining the IEAs:

- Land use
- Contamination types
- Remediation necessity
- Type of habitat
- Engineering considerations
- Health/ecological risk
- Variance of data

Mike Rendina and Robert Van Hyning presented the attached map that identified eight areas based on the following factors:

- Steep slopes (>30%)
- Large trees
- Wetlands
- Archeological sites
- TPH in soils
- LNAPL

The participants discussed different strategies for identification of the IEAs and the necessity to wait for soil gas data prior to doing any risk analysis. The ATCAT agreed on ten IEAs based on the map presented by Mike and Robert. It was also agreed that it was not necessary to delay the evaluation process until soil gas data were collected. It was observed that LNAPL removal could also impact future soil gas levels.

The ATCAT agreed to organize the information in a matrix, which identifies potential risk for specific land uses within each of the IEAs as illustrated in the following example table:

IEA	Land Use						
	A	B	C	D	E	F	G
1			X				
2	X						
3				X	X		
4							
5						X	
6							
7		X					
8							
9							
10							X

Chuck Lambert questioned whether the collection of additional heavy metal samples should be delayed until the evaluation matrix was complete. It was agreed that it was not necessary to complete the matrix prior to sampling for heavy metals

The ATCAT agreed that it would be very useful for the California Coastal Commission staff to participate in the preparation of the PMR. Steve McMasters will contact the Coastal Commission staff to discuss their participation. He suggested a site tour be arranged when they meet in San Luis Obispo.

Action Items and Schedule

The ATCAT participants agreed on the following action items and schedule:

Number	***Activity***	***Responsibility***	***Date Due***
1	Prepare/distribute GIS map layer displaying IEAs and environmental data for each IEA	Mike Rendina	3/30/07
~~2~~	~~Prepare risk characterizations for individual or combinations of IEAs~~	~~Chuck Lambert~~	~~3/30/07~~
3	Prepare draft human health risk evaluation matrix		
3a	Prepare/distribute draft human health risk evaluation matrix	Chuck Lambert	5/4/07
3b	Review draft human health risk evaluation matrix	Human Health Risk Working Group	5/14/07
3c	Conference call to discuss draft human health risk evaluation matrix	Human Health Risk Working Group	5/14/07
4	Prepare draft eco risk evaluation matrix		
4a	Prepare/distribute draft eco risk evaluation matrix	Jennifer Holder	5/4/07
4b	Review draft eco risk evaluation matrix	Eco Risk Working Group	5/10/07
4c	Conference call to discuss draft eco risk evaluation matrix	Eco Risk Working Group	5/10/07
5	Collect soil gas data		
5a	Prepare draft workplan for collection of soil gas data.	Mike Rendina	4/16/07
5b	Review Draft soil gas workplan	ATCAT	4/23/07
5c	Conference call to discuss/approve soil gas workplan	ATCAT	4/23/07
5d	Conduct soil gas survey and prepare draft report	Mike Rendina	6/25/07
6	Complete Wetland Addendum to the pERA		
6a	Distribute CD with version 1 of Wetland Addendum, wetland survey, and supplemental surface water and sediment data. A copy of the EE II will be included on the CD.	Jennifer Holder	4/16/07
6b	Review/Ratify Wetland Addendum at 5/10/07 conference call	ATCAT	5/10/07
7	Prepare/distribute draft of one-page public information document		
7a	Prepare draft of one-page public information document	Chuck Lambert	3/30/07

7b	Review/comment on draft public information document (include Supervisor Lenthall)	ATCAT	4/3/07
7c	Revise and distribute final public information document for use at 4/5/07 public meeting	Chuck Lambert	4/5/07
8	Initiate dialogue with Coastal Commission regarding risk management process and determination if on-site wetland habitats meet the Coastal Act wetlands definition for consideration in the site planning process. Set up site visit when Coastal Commission holds meeting in SLO	Steve McMasters	3/30/07

Upcoming Meeting Dates and Agenda Items

ATCAT Conference call to review draft soil gas workplan – April 23rd (2:00 - 4:00 PM)

1. Review / approve soil gas workplan

ERWG Conference call – May 10th (2:00 - 4:00 PM)

1. Review draft ecological risk evaluation matrix.
2. Review comments to the Draft Wetland Addendum

HHRWG Conference call to discuss draft evaluation matrix – May 14th (2:00 - 4:00 PM)

1. Review draft human health risk evaluation matrix.

ATCAT Meeting – July 23rd (9:30 AM – 3:00 PM)

1. Review / ratify previous meeting/conference call summaries
2. Review results of soil gas investigation
3. Next Steps

Avila Tank Farm Collaborative Assessment Team ATCAT

Draft Conference Call Summary

Date: April 23, 2007

Time: 2:20 PM – 3:15 PM

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Chuck Lambert	McDaniel Lambert
Chuck Anders	Strategic Initiatives	Andrew Mutziger	APCD
Melissa Boggs-Blalack	CDFG	Dan Niles	RWQCB
Teri Copeland	SLO County Health Dept.	Jeff Oliveria	SLO County Planning & Bldg.
Regina Donohoe	CDFG	Mike Rendina	Avocet Environmental
Josh Fridell	Chevron	Robert Van Hyning	Avocet Environmental
Jennifer Holder	ARCADIS BBL	Satya Varadhi	Parsons

Welcome and Introductions

Chuck Anders welcomed the ATCAT participants and identified who was participating in the conference call. Chuck explained that the participants who logged onto the conference web site could view the presentations and documents that were being discussed.

Review/Ratify Previous Meeting Summary

The conference call participants reviewed version 3 of the meeting summary from the March 26, 2007 ATCAT meeting. Chuck Anders reviewed revised language from Andrew Mutziger, which was not included in version 3 of the draft of the meeting summary. The participants unanimously approved the draft meeting summary with the inclusion of the revised language from Andrew.

Soil Gas Sampling Plan

Mike Rendina provided an overview of the Soil Gas Sampling Plan distributed on April 20, 2007. He explained that the purpose for collecting and analyzing additional soil gas samples was to collect data regarding the nature and extent of VOCs in soil gas and the vapor transport properties of the soil/bedrock to aid in evaluating the human health risk due to vapor intrusion. The participants discussed the proposed sampling plan and the following specific topics:

- Jeff Oliveria asked how the sampling locations were determined. Mike Rendina indicated that the sampling grid was designed to achieve spatial distribution and sampling of known areas of contamination.
- Bill Almas questioned how the number of samples was determined. Mike Rendina indicated that the number of samples to be collected was based on professional judgment, site knowledge and experience at similar sites. The goal was to collect an adequate number of samples to identify areas where further investigation may be necessary. The topographic relief on the site complicates the sampling design. Terri

Copeland observed that the grid covers the ½ acre default area for worker exposure assessments.

- Jennifer Holder asked if previous soil gas data collected at the site would be used in the risk analysis. Mike Rendina indicated that six locations were previously sampled for soil gas at the site. Chuck Lambert indicated that he would have to talk with the County about using the previous data in the human health risk assessment. He would prefer to use all new data. Mike Rendina indicated that he had attempted to duplicate the locations where higher levers of VOCs were previously observed.
- Regina Donohoe questioned whether the soil gas sampling plan should focus on the area where chloroform was previously observed. Mike indicated that he believes that it is premature to focus on chloroform until it is determined if there are other areas where chloroform is observed.
- Chuck Lambert and Teri Copeland suggested that the sampling intervals to determine the physical characteristics of the soil be changed form 5 and 10 feet to 5 and 15 feet to be consistent with human health risk assessment modeling protocols. The participants agreed to use 5 and 15 feet.
- Andrew Mutziger asked whether moisture content would be determined in the soil samples. Mike Rendina indicated that moisture content would be one of the sampling parameters.
- Satya Varadhi observed that the analytical testing protocols looked fine. He indicated that it would be useful to know the specific land uses prior to preparing a soil gas sampling plan. Chuck Lambert explained that the soil gas sampling is being done to assist in determining the appropriate land uses and that additional sampling might be necessary once a more detailed land use plan is completed. Josh Fridell suggested that this be discussed in more detail in the Background and Purpose section of the sampling plan. Mike Rendina will talk further with Satya after the conference call to discuss the sampling strategy.
- Regina Donohoe suggested adding the proposed sampling locations to Figure 2 in order to better observe how the soil gas sampling locations relate to the other sampling locations.
- Teri Copeland requested that all reporting units be consistent.

After the discussion, the conference call participants approved the draft soil gas sampling plan with the following revisions provided there are no significant changes resulting from the discussions between Mike Rendina and Satya Varadhi:

- Physical characteristics of the soil will be collected at 5 ft. and 15 ft. intervals.
- Soil gas sampling locations will be added to Figure 2.
- A more detailed discussion of the use of the sampling results to determine potential land uses and the potential for additional soil gas sampling will be included in the Background and Purpose sections of the sampling plan.
- All reporting units will be made consistent with the laboratory reporting units.

Mike Rendina indicated that the soil gas sampling report would be available within 8-9 weeks of authorization to proceed. He will distribute the final sampling plan by the end of the week (April 27, 2007).

Status of ATCAT Action Items

Chuck Anders reviewed the status of the following actions items with the ATCAT participants. All actions items are currently on schedule.

Number	Activity	Responsibility	Date Due
1	Prepare/distribute GIS map layer displaying IEAs and environmental data for each IEA	Mike Rendina	3/30/07
~~2~~	~~Prepare risk characterizations for individual or combinations of IEAs~~	~~Chuck Lambert~~	~~3/30/07~~
3	Prepare draft human health risk evaluation matrix		
3a	Prepare/distribute draft human health risk evaluation matrix	Chuck Lambert	5/4/07
3b	Review draft human health risk evaluation matrix	Human Health Risk Working Group	5/14/07
3c	Conference call to discuss draft human health risk evaluation matrix	Human Health Risk Working Group	5/14/07
4	Prepare draft eco risk evaluation matrix		
4a	Prepare/distribute draft eco risk evaluation matrix	Jennifer Holder	5/4/07
4b	Review draft eco risk evaluation matrix	Eco Risk Working Group	5/10/07
4c	Conference call to discuss draft eco risk evaluation matrix	Eco Risk Working Group	5/10/07
5	Collect soil gas data		
5a	Prepare draft workplan for collection of soil gas data.	Mike Rendina	4/16/07
5b	Review Draft soil gas workplan	ATCAT	4/23/07
5c	Conference call to discuss/approve soil gas workplan	ATCAT	4/23/07
5d	Conduct soil gas survey and prepare draft report	Mike Rendina	6/25/07
6	Complete Wetland Addendum to the pERA		
6a	Distribute CD with version 1 of Wetland Addendum, wetland survey, and supplemental surface water and sediment data. A copy of the EE II will be included on the CD.	Jennifer Holder	4/16/07
6b	Review/Ratify Wetland Addendum at 5/10/07 conference call	ATCAT	5/10/07
7	Prepare/distribute draft of one-page public information document		
7a	Prepare draft of one-page public information document	Chuck Lambert	3/30/07
7b	Review/comment on draft public information document (include Supervisor Lenthall)	ATCAT	4/3/07
7c	Revise and distribute final public information document for use at 4/5/07 public meeting	Chuck Lambert	4/5/07
8	Initiate dialogue with Coastal Commission regarding risk management process and determination if on-site wetland habitats meet the Coastal Act wetlands definition for consideration in the site planning process. Set up site visit when Coastal Commission holds meeting in SLO	Steve McMasters	3/30/07

Upcoming Meeting Dates and Agenda Items

ERWG "Tentative" Conference call – May 10th (2:00 - 4:00 PM)

1. Review draft ecological risk evaluation matrix.
2. Review comments to the Draft Wetland Addendum

HHRWG Conference call to discuss draft evaluation matrix – May 14th (2:00 - 4:00 PM)

1. Review draft human health risk evaluation matrix.

ATCAT Meeting – July 23rd (9:30 AM – 3:00 PM)

1. Review / ratify previous meeting/conference call summaries
2. Review results of soil gas investigation
3. Next Steps

Drafted by Strategic Initiatives based on the May 10, 2007 ERWG conference call. Reviewed, revised, and ratified during the May 31, 2007 ERWG/HHRWG conference call.

Avila Tank Farm Collaborative Assessment Team
Eco Risk Working Group (ERWG)

Conference Call Summary

Date: May 10, 2007
Time: 2:00 PM – 3:35 PM

Participants:

Name	Organization	Name	Organization
Chuck Anders	Strategic Initiatives	Dan Niles	RWQCB
Melissa Boggs-Blalack	CDFG	Mike Rendina	Avocet Environmental
Regina Donohoe	CDFG	Rick Stout	URS
Jennifer Holder	ARCADIS BBL	George Weber	ARCADIS BBL

Welcome and Introductions

Chuck Anders welcomed the ATCAT participants and identified who was participating in the conference call. Participants who logged onto the conference web site could view the presentations and documents that were being discussed.

Draft Wetlands pERA Addendum

Jennifer Holder indicated that she had received written comments from Regina Donohoe. Regina's comments were not distributed to the full ERWG. Chuck Anders will forward Regina's comments to the full ERWG for their information. Melissa Boggs-Blalack indicated that she concurred with Regina's comments and had no additional comments. Jennifer reviewed Regina's comments and indicated that she would revise the draft Wetland pERA Addendum to address Regina's comments. The following points were discussed:

- It was agreed to make the discussion of surface water more transparent to clarify that surface water data was screened against water quality criteria and there were no significant concerns.
- Dan Niles express concern that the presence of TPH in the cliff seeps was not addressed. Jennifer explained that the wetland addendum focused on the tank bottoms where populations of species might be established. Dan questioned if birds might drink from the cliff seeps where concentrations of TPH up to 1,400 ppb have been observed.

  Jennifer indicated that the wetlands were included in the original draft of the pERA until we realized that we could not draw conclusions on wetland areas without additional data. She will review earlier drafts to see if the seeps were discussed. Dan indicated that he had looked at other constituents and that TPH was the only concern at this time. Regina indicated that it was difficult to evaluate ecological risks for TPH and suggested a qualitative discussion of the cliff seeps in the addendum. The ERWG agreed that the seeps should be discussed in the wetland addendum.
- Jennifer Holder will prepare a revised red-lined draft wetland addendum incorporating Regina's comments and a qualitative discussion of the cliff seeps by June 15, 2007. The revised draft will be ratified by email or conference call depending on the extent of comments on the revised draft. A tentative conference call was scheduled for 9:30 AM – 10:30 AM on June 25, 2007.

Draft Eco Risk Evaluation Matrix

Jennifer Holder reviewed the draft Eco Risk Evaluation Matrix which had been previously distributed to the ERWG. She explained that they examined each of the individual evaluation areas (IEAs) and estimated the coverage of the subsurface plume and the sprayed asphalt. They also estimated the coverage of various habitat types. They then evaluated the number of samples in each area and determined the compounds that posed a potential risk to invertebrates, birds and mammals. They also identified the potential risk drivers for potential wetlands habitat. After Jennifer's overview, the ERWG discussed the following points:

- Regina Donohoe observed that lead, mercury and TPH were consistently observed. She feels that there are adequate data to draw conclusions with regard to lead. She questioned whether additional samples should be collected to better understand the presence of mercury.

  Mike Rendina indicated that there is relatively good coverage for mercury and that it might be useful to correlate the occurrences of mercury with a visual inspection of the site.

  Regina suggested that additional sampling might be useful in the areas where there is only one elevated sample (S-1, S-38 & S-40) to assess whether the sample is anomalous or if the sample is characteristic of the area. She also observed it may not be a high priority to address data gaps in areas where the probability of development is high.

  The participants questioned whether the Human Health Risk Working Group (HHRWG) had the same concerns. It was agreed to check with the HHRWG regarding these issues.

- Regina Donohoe indicated that she would like to have a better delineation of the refinery glass. She also believes that better depth profiles of the TPH in soils are necessary to determine acceptability for open space. She indicated that if contamination was observed at depths of 2 ft. – 3 ft., she would have concerns about using areas as open space without remediation.

  Mike Rendina indicated that, except for the pump house area, there was not much TPH in soils above 5 feet since most leaks were from pipelines. He can prepare some vertical profiles based on existing sampling data. He will prepare a letter discussing the preparation of vertical TPH profiles based on the aggregation of existing TPH data by May 24, 2007. This concept will be reviewed with the HHRWG to determine if they have similar needs.

- Jennifer Holder asked if the matrix was a useful tool to identify additional data needs and prepare a risk management plan. Regina Donohoe believes that it is useful. Melissa Boggs-Blalack indicated that she needs more time to review the matrix. She questioned whether the cliff seeps should be a separate evaluation area. Mike Rendina believes that the cliff seeps should not be a separate risk evaluation area; however, it could be a separate operable unit for remediation purposes. It was agreed to separate Area 10 into two sub-areas (Area 10 North and Area 10 South) and include the seeps in Area 10 South.

- Written comments on the Draft Eco Risk Evaluation Matrix are due by May 24, 2007. Jennifer Holder and Chuck Anders will determine if additional discussion is necessary before preparing a revised draft.

ERWG Action Items

Following are the current ERWG action items. The action items resulting from the ERWG conference call are shown in blue.

Number	Activity	Responsibility	Date Due
4	***Prepare draft eco risk evaluation matrix***		
4a	Prepare/distribute draft eco risk evaluation matrix	Jennifer Holder	5/4/07
4b	Review draft eco risk evaluation matrix	Eco Risk Working Group	5/10/07
4c	Conference call to discuss draft eco risk evaluation matrix	Eco Risk Working Group	5/10/07
4d	Discuss the need to collect additional samples for mercury and the need for vertical TPH profiles with the HHRWG	Chuck Anders, Regina Donohoe, Melissa Boggs-Blalack	5/14/07
4e	Prepare letter discussing the preparation of vertical TPH profiles based on the aggregation of existing TPH data	Mike Rendina	5/24/07
4f	Submit written comments on the draft eco risk evaluation matrix	ERWG	5/25/07
6	***Complete Wetland Addendum to the pERA***		
6a	Distribute CD with version 1 of Wetland Addendum, wetland survey, and supplemental surface water and sediment data. A copy of the EE II will be included on the CD.	Jennifer Holder	4/16/07
6b	Review/Ratify Wetland Addendum at 5/10/07 conference call	ATCAT	5/10/07
6c	Distribute Regina Donohoe's written comments to the full ERWG	Chuck Anders	5/11/07
6d	Distribute the revised wetland addendum for review	Jennifer Holder	6/15/07
6e	Tentative conference call to review/ratify the revised wetland addendum	ERWG	6/25/07
6f	Ratify the revised wetland addendum	ERWG	6/30/07

Upcoming Meeting Dates and Agenda Items

ERWG "Tentative" Conference Call – June 25th (9:30 - 10:30 AM)

1. Review comments to the Draft Wetland Addendum
2. Ratify Wetland Addendum, if possible

HHRWG Conference Call to discuss draft evaluation matrix – May 14th (2:00 - 4:00 PM)

1. Review draft human health risk evaluation matrix.

ATCAT Meeting – July 23rd (9:30 AM – 3:00 PM)

1. Review / ratify previous meeting/conference call summaries
2. Review results of soil gas investigation
3. Next Steps

Drafted by Strategic Initiatives based on the May 14, 2007 HHRWG conference call. Reviewed and ratified, as written, during the May 31, 2007 ATCAT/HHRWG conference call.

Avila Tank Farm Collaborative Assessment Team Human Health Risk Working Group (HHRWG)

Conference Call Summary

Date: May 14, 2007

Time: 2:00 PM – 3:25 PM

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Chuck Lambert	McDaniel Lambert
Chuck Anders	Strategic Initiatives	Andrew Mutziger	APCD
Teri Copeland	SLO County Health Dept.	Mike Rendina	Avocet Environmental
Becky Countway	McDaniel Lambert	Rick Stout	URS
Regina Donohoe	CDFG	Robert Van Hyning	Avocet Environmental
Josh Fridell	Chevron	George Weber	ARCADIS BBL

Welcome and Introductions

Chuck Anders welcomed the Human Health Risk Working Group (HHRWG) participants and identified who was participating in the conference call. Participants who logged onto the conference web site could view the presentations and documents that were being discussed.

Draft Human Health Area Screening Evaluation

Chuck Lambert reviewed the Draft Human Health Area Screening Evaluation that was distributed via email on May 6, 2007. He reminded the participants that the overall purpose of the evaluation was to break out risk by individual evaluation area (IEA). Chuck reviewed Table 15, which presents the summary of results and potential data gaps. The following topic areas were discussed:

- Teri Copeland expressed concern about having adequate data in IEAs where a potential land use is possible. She suggested showing the sampling locations on a site map to identify the spatial distribution of sample locations in each IEA. She observed that a more rigorous statistical evaluation might be necessary to determine the number of samples that are necessary in each area. She also noted that it might be useful to revise the area boundary of the IEAs based on data distribution patterns.
- Regina Donohoe reviewed the following Eco Risk Working Group's (ERWG) concerns and conclusions from their 5/10/07 conference call.
    - The cliff seeps will be added to the pERA evaluation. Chuck Anders noted that Dan Niles had a mandatory training conflict and could not participate in the conference call. He explained Dan's concern that the cliff seeps be addressed in both the pERA and HHRA.
    - Elevated levels of mercury were observed in three locations where there were no additional samples nearby. The ERWG would like to collect additional samples to determine whether these samples were representative of the area or anomalous.
    - The ERWG would like to have depth profiles between 0 and 5 ft. where elevated levels of TPH are observed. Mike Rendina will prepare a concept memo on the

preparation of vertical TPH profiles based on the aggregation of existing TPH data.

- It would be useful to identify which elevated surface samples are associated with sprayed asphalt.

- Bill Almas observed that additional sampling may be appropriate for areas that are not likely to be remediated and used for open space; however, he questioned the need for additional sampling at this time for those areas that are likely to be developed. Regina agreed that it would be helpful to narrow down the land use to refine the sampling needs. Mike Rendina noted that the levels of concern for eco are much lower than human health. Teri Copeland concurred that it would be a more efficient approach to sample after the areas have been remediated.

  Chuck Lambert noted that IEAs 2, 3, 5 and 9 have quite a lot of data associated with them. Becky Countway explained that the HHRA evaluated depth profiles for TPH and that this information may be useful in the eco evaluation.

- The potential for collecting additional soil samples in conjunction with the upcoming soil gas investigation was discussed. Mike Rendina noted that soil samples could easily be collected since soil borings are necessary to conduct the soil gas survey. The major expense would be additional analytical costs. He anticipates that they could be in the field to collect soil gas samples within two weeks. Josh Fridell indicated that it would not be a big issue to adjust the soil gas workplan to collect additional soil samples.

  Chuck Lambert observed that it would be possible to do some additional evaluation based on existing spatial and analytical sampling data; however, a more rigorous statistical analysis would take longer. The HHRWG agreed to conduct a visual assessment of existing sample locations by plotting existing sample locations on a site map to determine if additional sample locations are necessary. The assessment should include a table that identifies additional sample locations based on spatial vs. analytical requirements. Mike Rendina will distribute the document for review by May 29th. A conference call was scheduled for May 31st from 9:00 AM – 11:00 AM to discuss the assessment.

- The participants discussed the most effective method to address the cliff seeps. It was agreed that Chuck Lambert would prepare a technical memorandum by July 13th that would assess the human health risks associated with the cliff seeps. The technical memorandum will be discussed and potentially ratified at the July 23rd ATCAT meeting. Regina Donohoe noted that the ERWG chose to separate IEA 10 into two sub-areas (10 North and 10 South) and include the cliff seeps in 10 South.

Drafted by Strategic Initiatives based on the May 14, 2007 HHRWG conference call. Reviewed and ratified, as written, during the May 31, 2007 ATCAT/HHRWG conference call.

Status of ATCAT Action Items

Following are the current HHRWG action items. The action items resulting from the HHRWG conference call are shown in blue.

Number	Activity	Responsibility	Date Due
3	***Prepare draft human health risk evaluation matrix***		
3a	Prepare/distribute draft human health risk evaluation matrix	Chuck Lambert	5/4/07
3b	Review draft human health risk evaluation matrix	Human Health Risk Working Group	5/14/07
3c	Conference call to discuss draft human health risk evaluation matrix	Human Health Risk Working Group	5/14/07
3d	Evaluate the adequacy of existing TPH soil sampling locations and identify additional locations that could be sampled during the upcoming soil gas survey	Mike Rendina	5/29/07
3e	Conference call to discuss and ratify additional TPH sample locations, if any, to be collected during the soil gas survey.	HHRWG	5/31/07
3f	Prepare Tech Memo addressing the human health risks associated with the cliff seeps	Chuck Lambert	7/13/07
5	***Collect soil gas data***		
5a	Prepare draft workplan for collection of soil gas data	Mike Rendina	4/16/07
5b	Review Draft soil gas workplan	ATCAT	4/23/07
5c	Conference call to discuss/approve soil gas workplan	ATCAT	4/23/07
5d	Conduct soil gas survey and prepare draft report	Mike Rendina	6/25/07
5e	Collect additional TPH soil samples, if appropriate	Mike Rendina	6/25/07

Upcoming Meeting Dates and Agenda Items

HHRWG Conference Call – May 31st (9:00 - 11:00 AM)

1. Review draft human health risk evaluation matrix.

ERWG "Tentative" Conference Call – June 25th (9:30 - 10:30 AM)

1. Review comments to the Draft Wetlands Addendum
2. Ratify Wetland Addendum, if possible.

ATCAT Meeting – July 23rd (9:30 AM – 3:00 PM)

1. Review / ratify previous meeting/conference call summaries
2. Review results of soil gas investigation
3. Review Tech Memo addressing the human health risks of the cliff seeps
4. Next Steps

Drafted by Strategic Initiatives based on the May 31, 2007 HHRWG/ERWG conference call. Reviewed, revised, and ratified during the June 6, 2007 HHRWG/ERWG conference call.

Avila Tank Farm Collaborative Assessment Team Combined Human Health Risk Working Group (HHRWG) and Eco Risk Working Group (ERWG)

Conference Call Summary

Date: May 31, 2007

Time: 9:00 AM – 10:20 AM

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Jennifer Holder	ARCADIS BBL
Chuck Anders	Strategic Initiatives	Chuck Lambert	McDaniel Lambert
Melissa Boggs-Blalack	CDFG	Andrew Mutziger	APCD
Teri Copeland	SLO County Health Dept.	Mike Rendina	Avocet Environmental
Becky Countway	McDaniel Lambert	Rick Stout	URS
Regina Donohoe	CDFG	Robert Van Hyning	Avocet Environmental

Welcome and Introductions

Chuck Anders welcomed the Human Health Risk Working Group (HHRWG) and Eco Risk Working Group participants and identified who was participating in the conference call. Participants who logged onto the conference web site could view the presentations and documents that were being discussed.

Ratify Previous Meeting Summaries

The ERWG participants ratified the Revised Draft May 10, 2007 ERWG Conference Call Summary – ver 2 as written, contingent on concurrence from Dan Niles. *(Chuck Anders subsequently spoke with Dan who approved the meeting summary.)*

The HHRWG participants plus Regina Donohoe ratified the Draft May 14, 2007 HHRWG Conference Call Summary – ver1 as written.

Additional Evaluation of TPH Profiles in Shallow Soils

Mike Rendina reviewed the draft technical memorandum that was distributed to the ERWG members on May 29th. The conference call participants discussed the following points:

- Regina Donohoe asked Mike if he was going to test or record the geophysical observations from borings during the upcoming soil gas survey. She explained that the current workplan calls for sampling at 1, 5 and 10 ft. intervals and that she would like to see samples collected at 1-5 or 6 ft. since this is a critical exposure depth for most burrowing animals and plants. Mike said that he could collect continuous core samples and do a visual and olfactory assessment for the presence of TPH. Regina added that it would be useful to present all the TPH information on one map. Chuck Lambert suggested using a PID in addition to physical observations.

- Bill Almas questioned where the 70% ratio of C_4-C_{25}:C_{25}-C_{40} to categorize asphalt and petroleum was derived. Mike indicated that this criterion was developed by Bob Haddad based on an evaluation of samples from the Avila Tank Farm site during the preparation of the Human Health Risk Assessment. Regina Donohoe indicated that she was comfortable with the criteria and observed that it was on the conservative side and a good starting point.
- Bill Almas asked whether differentiating between asphalt and TPH was an Eco or Human Health issue. Regina explained that it is important to understand the vertical profile of TPH in the soil if the area is to be used as open space since the target zone for burrowing animals is 0-6 ft. Chuck Lambert indicated that it would also be useful to the human health risk assessment.
- Bill Almas was asked if there was any determination on possible land uses, which might be useful in identifying areas that are likely to remain open space or be developed. Bill indicated that we can not assume that any area will be developed at this point in time.

After the discussion, the conference call participants ratified the proposed approach for evaluating TPH profile in shallow soil prepared by Mike Rendina contingent on approval by Dan Niles.

Soil Sample Collection during the Upcoming Soil Gas Investigation

Becky Countway noted that the purpose for the discussion of the recommendations for soil sampling during the upcoming soil gas investigation was to familiarize the participants with the document and figures and provide the opportunity to ask clarifying questions. There was no expectation that the recommendations would be approved since there was not adequate time for review.

Becky then reviewed the basic methodology used to develop the recommendations. She also summarized the recommendations for each individual evaluation area (IEA). She noted that their recommendations focused on areas 1, 7 and 8 since there was limited contamination in these areas, and therefore, relatively little historic sampling data. The participants discussed the following points:

- Teri Copeland suggested testing for PCBs in areas where there were no PCB data to verify that PCBs were not present. Teri, Chuck Lambert and Becky Countway will discuss this issue further. *(Chuck Lambert subsequently reported that no PCBs were detected on site and that sampling was conducted in the industrialized areas where PCBs would most likely be found.)*
- Teri Copland raised the concern about adequacy of soil data for the evaluation of leaching to groundwater. It was noted that there is currently LNAPL on the surface of the groundwater in many of the areas where there are higher concentrations of TPH in soils. Mike Rendina observed that the RTP extensively reviewed the groundwater situation and concluded that there was a very low likelihood that the TPH contamination in groundwater would migrate off-site. The RWQCB is responsible for addressing the need for assessment of the leaching pathway and how the groundwater contamination will be addressed. Chuck Anders noted that Dan Niles has discussed the possibility of removal of the LNAPL in some areas with Chevron. The participants will look to Dan Niles for direction in this area.

Mike Rendina indicated that the earliest that they could begin field work would be June 18th. He indicated that he could accommodate the additional sampling as long as he had the approved procedures and sampling locations by June 28th. The participants indicated that they could complete their review of the recommendations by the end of the week. Chuck Anders will coordinate a time the week of June 4th for another conference call of the HHRWG and ERWG to further discuss and potentially approve the sampling recommendations. Becky Countway will email the revised figures as soon as possible.

Andrew Mutziger indicated that he would be away from the office the week of June 4th and will defer to Teri Copeland regarding approval of the sampling recommendations.

Drafted by Strategic Initiatives based on the May 31, 2007 HHRWG/ERWG conference call. Reviewed, revised, and ratified during the June 6, 2007 HHRWG/ERWG conference call.

Upcoming Meeting Dates and Agenda Items

HHRWG/ERWG Conference Call – Week of June 4th (To be determined)

1. Review and approve recommendations for soil sample collection during upcoming soil gas investigation.

ERWG "Tentative" Conference Call – June 25th (9:30 - 10:30 AM)

1. Review comments to the Draft Wetlands Addendum
2. Ratify Wetland Addendum, if possible.

ATCAT Meeting – July 23rd (9:30 AM – 3:00 PM)

1. Review / ratify previous meeting/conference call summaries
2. Review results of soil gas investigation
3. Review Tech Memo addressing the human health risks of the cliff seeps
4. Next Steps

Drafted by Strategic Initiatives based on the June 6, 2007 HHRWG/ERWG conference call. Reviewed, revised, and ratified at the 9/24/07 ATCAT meeting.

Avila Tank Farm Collaborative Assessment Team Combined Human Health Risk Working Group (HHRWG) and Eco Risk Working Group (ERWG)

Conference Call Summary

Date: June 6, 2007

Time: 8:30 AM – 10:30 AM

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Chuck Lambert	McDaniel Lambert
Chuck Anders	Strategic Initiatives	Dan Niles	RWQCB
Melissa Boggs-Blalack	CDFG	Jeff Poel	SLO County Health Dept.
Teri Copeland	SLO County Health Dept.	Mike Rendina	Avocet Environmental
Regina Donohoe	CDFG	Rick Stout	URS
Jennifer Holder	ARCADIS BBL		

Welcome and Introductions

Chuck Anders welcomed the Human Health Risk Working Group (HHRWG) and Eco Risk Working Group participants and identified who was participating in the conference call. Participants who logged onto the conference web site could view the presentations and documents that were being discussed.

Ratify Previous Meeting Summary

The HHRWG and the ERWG participants ratified the Draft 5-31-07 HHRWG-ERWG Conference Call Summary ver1 with the following revisions:

- Teri Copeland clarified her comment regarding the adequacy of soil data for evaluation of leaching to groundwater.
- Regina Donohoe noted that she said she would like to see geophysical observations collected at 1-5 or 6 ft. rather than 1-2 ft.
- Chuck Lambert clarified that no PCBs were detected on site and that sampling was conducted in the more industrialized areas where PCBs would most likely be found.

Teri Copeland noted that non-detect for 46 PCB samples would be a good argument that PCB have been adequately characterized on the site. Regina Donohoe suggested that Chuck Lambert check into the laboratory detection limits for PCBs. Chuck will prepare a technical paper documenting the sampling procedure and detection limits so there is a historical record.

Soil Sample Collection during the Upcoming Soil Gas Investigation

Chuck Lambert and Mike Rendina reviewed the proposed locations where additional sampling would be conducted during the upcoming soil gas investigation for each of the individual evaluation areas (IEA):

Area 1 – Teri Copeland and Jeff Poel recommended that the sample locations be closer to the pipeline, which is the primary source of contamination in Area 1. It was agreed to move three soil gas sample locations closer to the pipeline and the other two samples would be located spatially in the remaining area.

Area 2 – Chuck and Mike will check to make sure samples are located in areas of highest concentrations consistent with discussion in Area 1. Mike noted that the objective of the soil gas survey is to define the spatial distribution of soil gas and further characterization of near sources areas where possible. He emphasized that additional sampling will most likely be necessary in the future and that the site is going to change significantly in areas where grading is conducted.

Area 3 – No changes.

Area 4 – Move two of the sample locations nearer to source areas.

Area 5 – No changes.

Area 6 – Move one soil gas sample location closer to B-95.

Area 7 – Move one soil gas sample location closer to B-153. Bill Almas emphasized the need to check the archeological maps to avoid disturbing any archeological sites during sampling.

Area 8 – No changes.

Area 9 – No changes.

Area 10 – Be sure to include confirmation samples in the area of the spill/cleanup in the northwest portion of the IEA. Chuck Lambert will include a paragraph in the discussion of this area.

The conference call participants approved the supplemental soil gas sampling plan with the changes that were discussed. Mike Rendina will prepare a revised sampling plan and distribute it to the participants. The revised soil gas sampling plan will also include the procedures and sampling locations for further characterization of TPH in shallow soils. Mike will also update the memorandum discussing characterization of TPH in shallow soils based on the discussion and revisions to the soil gas workplan. Melissa Boggs-Blalack requested that the name and type of PID used to screen the samples be included in the revised plan.

Discussion of TPH Leaching from Source Areas in Soils

There were questions raised during the May 31, 2007 conference call regarding how the potential for TPH in soils to leach to groundwater will be addressed. Dan Niles noted that his primary focus at this time is the removal of LNAPL from the surface of groundwater as an interim measure. He would also like to evaluate the leaching potential of the soils and questioned if leachability studies were cost effective and which type of test should be used. He emphasized the need to better understand what would drive the soil element (eco, human health or threat to groundwater). He observed that ecological concerns typically would be the primary driver from 1 – 10 ft. below ground surface.

Mike Rendina questioned the value of leachability tests since the RTP concluded that there is no potential for contaminants to move off-site except at the cliff seeps and the groundwater is very poor quality. Dan noted that source control using best available control technology along with long-term monitoring and deed restrictions could be an acceptable strategy as long as the contamination is stable. He emphasized the need to continue to evaluate the risks in light of the possible land uses to better understand how to address leaching in soils.

Upcoming Meeting Dates and Agenda Items

ERWG "Tentative" Conference Call – June 25th (9:30 - 10:30 AM)

1. Review comments to the Draft Wetlands Addendum
2. Ratify Wetland Addendum, if possible.

ATCAT Meeting – July 23rd (9:30 AM – 3:00 PM)

1. Review / ratify previous meeting/conference call summaries
2. Review results of soil gas investigation
3. Review Tech Memo addressing the human health risks of the cliff seeps
4. Next Steps

Drafted by Strategic Initiatives based on the September 24, 2007 ATCAT Meeting. Reviewed, revised, and ratified at the 12/3/07 ATCAT meeting.

Avila Tank Farm Collaborative Assessment Team

Meeting Summary

Date: September 24, 2007

Time: 9:30 AM – 2:15 PM

Location: Chevron Offices, 276 Tank Farm Road, San Luis Obispo

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Jennifer Holder	ARCADIS BBL
Chuck Anders	Strategic Initiatives	Chuck Lambert	McDaniel Lambert
Melissa Boggs-Blalack	CDFG	Andrew Mutziger	APCD
Teri Copeland	SLO County Health Dept.	Jeff Oliveria	SLO County Building & Planning
Becky Countway	McDaniel Lambert	Mike Rendina	Avocet Environmental
Regina Donohoe	CDFG	Rick Stout	URS
Josh Fridell	Chevron	George Weber	ARCADIS BBL

Welcome and Introductions

Chuck Anders welcomed the ATCAT participants. It was announced that Jeff Poel moved to Humboldt County and would no longer be participating in the ATCAT meetings.

Ratify Previous Meeting Summary

The ATCAT participants ratified the Draft 6-6-07 HHRWG-ERWG Conference Call Summary ver1 (contingent on Dan Niles' concurrence) with the following revisions:

- Correct "none-detect" in the last paragraph on the first page to "non-detect".
- Change "laboratory detections" in the last paragraph on the first page to "laboratory detection".

Safety Moment

Josh Fridell observed the importance of staying focused on-task for even the simplest activities. He related an incident where a field technician cut his hand when a sample jar broke while sealing the container.

Goals of ATCAT Process

Bill Almas discussed the overall goals of the ATCAT process, which included the following:

- Fill data gaps identified in the Preliminary Ecological Risk Assessment and the Human Health Risk Assessment in order to provide sufficient risk data to complete a feasibility study.
- Complete the wetland pERA addendum.
- Develop sufficient human health risk data to assure that development plans are doable.

Status of Site Development Plans

Bill Almas reviewed the previous activities to obtain community input into the development planning process, including four meetings hosted by Supervisor Jerry Lenthall and a separate community meeting sponsored by the Avila Valley Advisory Committee (AVAC). The report from the AVAC, which includes results from a questionnaire, is currently being compiled.

Bill reminded the ATCAT that Chevron has a business relationship with Rob Rossi who is putting the development plans together. He anticipates more information to be available by mid-October and will provide that information to the ATCAT by October 15th. Bill noted that the results of the four public meetings sponsored by Supervisor Lenthall are available on the internet at http://www.avilafossilpoint.com.

Revised Wetland pERA

Jennifer Holder briefly discussed the review process and most recent revisions to the revised wetland pERA, which addressed comments by Regina Donohoe and Melissa Boggs-Blalack. The ATCAT participants then ratified the revised wetland pERA contingent on approval by Dan Niles. It was agreed that Jennifer would provide a hard copy of the document to Josh Fridell who would then transmit it to Dan with a cover letter requesting approval by the RWQCB. After Dan's approval, Jennifer will distribute hard copies of the revised wetland pERA to members of the ATCAT.

Soil Sampling and Soil-Gas Survey Results

Mike Rendina presented the results of the soil-gas survey. A total of 138 soil gas samples were collected and analyzed for VOCs. A total of 89 soil samples were collected and analyzed for TPH, PAHs, VOCs, and metals. Eight samples were submitted and analyzed for physical parameters. The analytical results were reviewed for each of the 10 individual evaluation areas (IEAs).

Mike observed that there were some anomalous results that prompted them to collect 20 additional soil-gas samples on September 12th. Generally, the initial benzene detections were not confirmed at the same levels as the initial soil-gas survey in these locations. Mike could not offer an explanation as to why the difference occurred. The participants questioned whether results might be impacted by atmospheric pumping due to changes in barometric pressure since the fractured rock is quite permeable. It was agreed that a third round of samples would be collected. The participants suggested that additional sample locations closer to the fence line be installed to assess whether higher levels of benzene are observed immediately after installation. Teri Copeland also suggested utilization of a surface flux chamber to actually measure the levels of benzene emitted to the surface. Mike Rendina will draft a re-sampling plan by October 1st and distribute it the ATCAT for review. Comments should be provided back to Mike within one week. The third round of sampling will be conducted late the week of October 8th or the week of October 15th.

Mike also reviewed the soil sampling results. He noted that methane and chlorinated hydrocarbons were detected. Carbon tetrachloride was detected for the first time and vinyl chloride was detected in one sample. Soil samples tended to confirm mercury in similar concentrations as previous samples. No other metals stood out or were inconsistent with prior results. Mike will distribute the analytical results of the soil sampling to Regina Donohoe, Melissa Boggs-Blalack, Teri Copeland and Andy Mutziger by September 25th.

Depth to Petroleum Results

Mike Rendina presented the results of the depth to petroleum assessment. He explained that they evaluated all available on-site data to compile a composite map that presented the presence of petroleum at levels of 100 ppm or greater at 2-foot intervals from ground surface to 10 feet. It was generally agreed that the mapping identified the locations of TPH and effectively differentiated between the presence of weathered asphalt materials used for weed control throughout many portions of the site and the presence of petroleum. Samples in which 70% or more of total TPH occurs in the C_{25}-C_{40} range were classified as asphalt and samples with less than 70% of total TPH in the C_{25}-C_{40} range were classified as petroleum.

Mike Rendina will prepare a separate report documenting the results of the depth to petroleum assessment by October 12th.

Eco Risk Evaluation Matrix

Jennifer Holder provided a brief overview of the eco risk evaluation matrix. She observed that the soil sampling results confirmed previous levels of constituents and that there were no surprises. She indicated that the depth to petroleum map will help refine the locations of petroleum in shallow soils. She noted that ecological concerns will focus more on the areas that will not be developed or disturbed.

Jeff Oliveria questioned at what point the US Army Corps of Engineers should become involved. Bill Almas anticipates on-site mitigation since the total area of wetlands is less than one acre. Bill also noted that the California Coastal Commission will have an interest in how the wetlands are addressed. It was agreed to begin discussion with the US Army Corps of Engineers and the California Coastal Commission after the initial development plans are available.

Human Health Risk Evaluation Matrix

Chuck Lambert presented a brief overview of the human health risk evaluation matrix. He will revise the matrix to incorporate the new data after the development plans become available. He suggested a conference call of the Human Health Risk Working Group (HHRWG) to discuss the revised matrix and define any remaining data gaps.

Andy Mutziger expressed concern that the cumulative effects of exposure be considered since the residents of Avila Beach were previously exposed to air pollutants during remediation of the town site. It was agreed that this issue should be dealt with in the remediation feasibility study.

PCB Memorandum

Chuck Lambert presented a brief overview of the PCB Memorandum that was previously distributed for review. He noted that 50 samples were collected and that no detections of PCBs were observed. The participants discussed the relationship of the California Human Health Screening Levels (CHHSL) and the PCB analytical detection limits. It was agreed that the memorandum adequately documents the lack of PCBs observed on-site. The participants suggested adding a section that discusses the past use of transformers on-site and the relationship between the CHHSIs and analytical detection limits.

The ATCAT members provisionally ratified the PCB memo subject to review of the additions and approval by Dan Niles. Chuck Lambert will distribute the revised memo by September 27th. The ATCAT participants will provide their comments, if any, back to Chuck Lambert by October 5th.

Cliff Springs Human Health Risk Assessment Memorandum

Becky Countway presented an overview of the human health risk assessment for the cliff springs. They concluded that there was little health risk for beach goers below the former tank farm. The ATCAT participants discussed the results and suggested adding a paragraph on data quality objectives and including the laboratory results as an appendix.

The participants provisionally ratified the memorandum subject to review of the additions and approval by Dan Niles. Chuck Lambert will distribute the revised memo by October 3rd. Josh Fridell will submit the revised draft to Dan Niles requesting RWQCB approval on October 5th.

Next Steps

It was agreed that the development plans were necessary in order to determine the adequacy of the risk evaluation matrices and effectively assess whether there were any remaining data gaps. Therefore, the ERWG and HHRWG will convene via conference call to review their respective risk evaluation matrix and discuss whether there are any remaining data gaps after the data plans are available.

- ERWG Conference Call – Monday October 29 – 9:30 AM – 11:00 AM
- HHRWG Conference Call – Wednesday November 7th - 9:30 AM – 11:00 AM

Action Items

Following is a list of action items resulting from the meeting:

1. Bill Almas will provide the initial site development plans to the ATCAT by 10/15/07.
2. Jennifer Holder will send a hard copy of the revised wetland pERA to Josh Fridell by 9/28/07. Josh will transmit the document to Dan Niles with a cover letter requesting RWQCB approval by 9/28/07. Jennifer Holder will distribute hard copies to the ATCAT members after final approval.
3. Mike Rendina will distribute the soil-gas re-sampling plan to the ATCAT for review by 10/1/07. ATCAT members will provide comments back to Mike by 10/8/07. Mike will begin field work late the week of 10/8/07 or the week of 10/15/07.
4. Mike Rendina will prepare and distribute a separate report documenting the results of the depth to petroleum assessment by 10/12/07.
5. Mike Rendina will provide soil sampling data to Teri Copeland, Regina Donohoe, Melissa Boggs-Blalack and Andrew Mutziger by 9/25/07.
6. Chuck Lambert will distribute the revised PCB memo to the ATCAT members by 9/27/07. ATCAT members will respond with comments, if any, by October 5th.
7. Chuck Lambert will distribute the revised cliff springs memo by 10/3/07. Josh Fridell will submit the revised draft to Dan Niles requesting RWQCB approval on 10/5/07.

Upcoming Meeting Dates and Agenda Items

ERWG Conference Call – Monday, October 29 (9:30 AM – 11:00 AM)

1. Review adequacy of risk evaluation matrix
2. Identify any additional data gaps

HHRWG Conference Call – Wednesday, November 7th (9:30 AM – 11:00 AM)

1. Review adequacy of risk evaluation matrix
2. Identify any additional data gaps

Drafted by Strategic Initiatives based on the December 3, 2007 ATCAT Meeting. Reviewed and ratified at the 3/11/08 ATCAT meeting.

Avila Tank Farm Collaborative Assessment Team

Meeting Summary

Date: December 3, 2007

Time: 9:30 AM – 2:45 PM

Location: Pelican Point Restaurant, Pismo Beach, CA

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Andrew Mutziger	APCD
Chuck Anders	Strategic Initiatives	Dan Niles	RWQCB
Melissa Boggs-Blalack	CDFG	Jeff Oliveria	SLO County Planning
Teri Copeland	SLO County Health Dept.	Mike Rendina	Avocet Environmental
Becky Countway	McDaniel Lambert	Rob Rossi	Fossil Point LLC
Ryan Hostetter	SLO County Planning	Debbie Rudd	RRM Design
Regina Donohoe	CDFG	Rick Stout	URS
Josh Fridell	Chevron	Robert Van Hyning	Avocet Environmental
Jennifer Holder	ARCADIS BBL	George Weber	ARCADIS BBL
Chuck Lambert	McDaniel Lambert		

Ratify Previous Meeting Summary

The ATCAT participants ratified the Draft 9-24-07 ATCAT meeting summary ver2.

Safety Moment

Josh Fridell noted the importance of staying focused during the holidays. He observed that people are often distracted during the holidays and accidents and injuries can often happen with things a simple as playing a video game.

Cliff Springs Human Health Risk Assessment Memorandum

At the 9/24/07 ATCAT meeting, the participants provisionally ratified the memorandum subject to review of additions and approval by Dan Niles. Becky Countway briefly reviewed the suggested clarifications provided by Dan Niles. The ATCAT then unanimously ratified the revised Cliff Springs Human Health Risk Assessment Memorandum.

Review of Site Development Plans

Bill Almas reviewed history of the site planning activities. He noted that four public meetings, hosted by Supervisor Jerry Lenthall, were held in the spring to obtain public input regarding community concerns and potential site uses. Subsequently, the Avila Valley Advisory Committee (AVAC) hosted additional public forums and prepared a questionnaire to identify public preferences regarding potential site uses. The preferred options leaned towards open space, a regional park and a Chumash healing center. He noted that the AVAC recommendations were transmitted to Dave O'Riley within Chevron who will prepare a formal response to the AVAC.

Various other community groups have independently prepared separate proposals that were generally consistent with the AVAC results. A group of community residents, including Fred Collins, an Elder with the Northern Chumash Tribal Council prepared a preliminary concept plan for the site based on the healing theme. Rob Rossi of Fossil Point was asked to give advice to the group as well. The proposal will be presented at a community meeting in Avila Beach tonight at 5:00 PM. Students from a senior level Cal Poly architectural class have been working with Fred Collins to prepare concept plans and actual scale models of a Chumash cultural center, which will also be displayed at the community meeting in Avila Beach.

Bill indicated that Chevron and Fossil Point LLC would like to use the proposed site plan as a basis to move forward and conduct the risk assessment. He recognized that the risk analysis was 4-5 months behind where he had hoped it would be; however, there was substantial diversity of opinion within the community and he felt it was best to allow the community to develop proposals that were acceptable to the community. He envisions preparing the risk management plan in the next two months based on the data already collected. The risk management plan will be a precursor to the remedial action plan (RAP). The feasibility study will be integrated into the RAP which he hopes will be completed around April 2008. The ATCAT would continue its activities through completion of the RAP at which time the document would be formally submitted to the appropriate agencies for approval. Bill will be coordinating the risk assessment aspect of the project with the ATCAT while Rob Rossi will be coordinating the design aspects of the project with the community and architectural design firms.

Rob Rossi reviewed the draft site plan that was drafted by SDG. The site plan is a collection of proposed concepts developed throughout the public outreach process. Rob noted that approximately 43 acres of the 95 acre site has been disturbed from prior development. The proposed site plan uses about 19-20 acres of the 43 acres that have been previously altered. Access would be provided on existing roads and no undisturbed areas would be impacted. Existing wetland areas would not be impacted and could even be enhanced with gardens, etc. No significant grading is anticipated.

The design concept includes a full range of accessibility from youth/senior hostels to a small boutique hotel. The concept is for a “visitor-serving” site with no permanent residential development except for workforce housing in the northeast portion of the property. Rob envisions the lodge and point of entry in the draw area with parking provided in areas where removal of pipes and underground features would be required. Rob has been investigating utilization of solar roofs, which would generate enough energy to support the site plus approximately 1 MW additional power. Rob anticipates providing beach access through a stair system. Aaron Hostetter questioned whether the California Coastal Commission (CCC) currently allowed stair access to beaches. It was agreed that Bill Almas and Debbie Rudd would brief the CCC on the wetland issues and proposed site development plans.

Jeff Oliveria observed that the proposed project would require an amendment to the Avila Specific Plan. He questioned whether the proposed project would include a remediation plan. Bill Almas indicated that he anticipates proposing a project that integrates remediation into the design. Jeff also observed that a new law required consultation with tribal communities for a general plan amendment and was please to see the design team working with the Chumash community.

Bill Almas noted that in order to submit a draft RAP for agency review in April, the risk management plan would have to be completed within the next few months. This would require a more refined design plan to be completed within 2-3 months. Rob will review additional input in December and then circle back with more refined information in February.

Supplemental Soil-Gas Survey

Mike Rendina indicated that the supplemental soil-gas survey has been completed. Avocet installed four new soil-gas probes and sampled 20 existing locations for a total of 52 soil gas samples. They have received only limited data back from the laboratory and will distribute the new data as soon as they are available.

It was noted that the report documenting the TPH-at-depth results had not been distributed. Mike will complete the report and distribute it to the ATCAT by 12/21/07.

Eco Risk Evaluation Matrix

Jennifer Holder presented a figure that identified development "bubbles" that were derived from the draft site development plan drafted by SDG. The figure also shows the individual evaluation areas (IEAs) that were used to structure the evaluation in both the eco risk evaluation matrix and the human health risk evaluation matrix. It was observed that the bubbles fit within the IEAs with only slight overlap in a couple of areas.

Jennifer reviewed the utility of using the matrix to evaluate risks and the participants agreed to continue to use the matrices and IEAs. Mike Rendina will adjust the boundaries of the IEAs so that all development bubbles are completely contained with a single IEA. It was agreed that the eco risk analysis will focus on those areas within each IEA that are outside of the development bubbles (negative areas). Jennifer pointed out that it will be necessary to better understand how wetlands are going to be handled since some wetland areas are currently shown within development bubbles.

It was agreed that the pERA would be updated with the new figures and supplemental soil gas data. Jennifer Holder will work with Chuck Lambert to develop a naming scheme for the IEAs and development bubbles.

Human Health Risk Evaluation Matrix

Chuck Lambert reviewed potential new risk receptors based on the proposed site development plan, including campers, amphitheater users, parking lot users and construction workers. He had questions regarding how community gardens would be used and Bill Almas agreed to follow-up with the community to flesh out what was intended.

It was agreed that a stand-alone addendum to the current 2005 baseline human health risk assessment would be prepared based on the current site development concepts and would include the supplemental soil, ambient air and soil gas data. Bill Almas will work with the community and Rob Rossi to identify the design concept plan that will be used as the basis for the risk analysis by mid-December. It was agreed not to include remediation exposures until the extent of remediation was better delineated; however, cumulative exposure to town-site residents will be analyzed when the remediation exposure is assessed.

It was agreed to have Neptune prepare a data usability analysis for the new soil-gas data. Mike Rendina and Chuck Lambert will coordinate with Teri Copeland to contact Neptune.

Chuck Lambert will conduct a preliminary evaluation of the current development bubbles diagram to identify any suggested revisions. He will use existing data for the preliminary assessment and will not wait for the formal data usability analyses for the preliminary evaluation. Chuck will coordinate with Debbie Rudd to identify potential issues and possible design modifications.

Dan Niles raised the issue of developing a threshold level of the cliff springs discharge. Chuck Lambert and Becky Countway will prepare a flow chart type decision tree for review by the ATCAT.

Risk Management Plan

The objective of the risk management plan is to identify where remediation is required in order to support the desired land use. It was agreed that the risk management plan would be based on the final proposed site design, which should be available in February/March 2008.

Next Steps

The ATCAT scheduled a conference call for January 22, 2008 after Chuck Lambert, Becky Countway and Debbie Rudd have an opportunity to complete the preliminary human health risk evaluation and identify potential design changes. Meeting agenda items would include:

1. Finalization of development bubbles to be used in the eco and human health risk evaluation matrix analysis
2. Agreement on data usability
3. Agreement on the form of the risk management plan
4. Schedule for completion of the risk management plan

Action Items

Following is a list of action items resulting from the meeting:

1. Mike Rendina will distribute supplemental soil-gas analytical results by 12/10/07.
2. Jennifer Holder will update the pERA and associated figures to reflect the new sampling data by 12/21/07.
3. Jennifer Holder and Chuck Lambert will develop a naming scheme for the development bubbles and IEAs.
4. Bill Almas will flesh out what is envisioned by the term “community gardens” by mid-December.
5. Bill Almas will work with the community and Rob Rossi to identify the design concept plan that will be used as the basis for the risk analysis by mid-December.
6. Mike Rendina will prepare a TPH-at-depth memo by 12/21/07.
7. Jennifer Holder and Becky Countway will prepare a threshold memo for the cliff springs by 12/21/07.
8. Bill Almas and Debbie Rudd will update the CCC on the status of the proposed project, including wetland issues, during January 2008.
9. Mike Rendina and Chuck Lambert will coordinate with Teri Copeland to contact Neptune to conduct the data usability analysis.
10. Chuck Lambert and Becky Countway will complete a preliminary human health risk evaluation and work with Debbie Rudd to identify and evaluate potential design changes that will reduce human health risks by mid-January.

Upcoming Meeting Dates and Agenda Items

ATCAT Conference Call – Tuesday, January 22, 2008 (10:00 AM – 12:00 PM)

1. Finalization of development bubbles to be used in the eco and human health risk evaluation matrix analysis
2. Agreement on data usability
3. Agreement on the form of the risk management plan
4. Schedule for completion of the risk management plan

Drafted by Strategic Initiatives based on the May 20, 2008 ATCAT Meeting. Reviewed and ratified at the August 12, 2008 ATCAT meeting.

Avila Tank Farm Collaborative Assessment Team

Meeting Summary

Date: May 20, 2008

Time: 9:30 AM – 3:20 PM

Location: RWQCB Offices, San Luis Obispo, CA

Participants:

Name	Organization	Name	Organization
Chuck Anders	Strategic Initiatives	Andrew Mutziger	APCD
Melissa Boggs-Blalack	CDFG	Dan Niles	RWQCB
Alexander Bugrov	APCD	Mike Rendina	Avocet Environmental
Louis Cappel	Padre Associates	Rob Rossi	Fossil Point LLC
Teri Copeland	SLO County Health Dept.	Debbie Rudd	RRM Design
Becky Countway	McDaniel Lambert	Eric Snelling	Padre Associates
Regina Donohoe	CDFG	Rick Stout	URS
Josh Friddell	Chevron	Robert Van Hyning	Avocet Environmental
Jennifer Holder	ARCADIS BBL	George Weber	ARCADIS BBL
Chuck Lambert	McDaniel Lambert		

Ratify Previous Meeting Summary

The ATCAT participants ratified the Draft March 11, 2008 ATCAT meeting summary ver2 as written.

Safety Moment

Josh Fridell indicated that Chevron stresses preparing a journey management plan for business and personal trips. Preparation of travel plans help assure that all prior arrangements are made and anticipate possible contingencies.

Cliff Springs "Action Level" Memorandum

ATCAT participants formally ratified the Final "Action Levels" for Cliffs Springs Seeps dated April 4, 2008.

Site Development Plan Update

Rob Rossi informed the group that they were working on refinements to the site development plan with an expanded community group. He noted that the refinements are consistent with the current concept plan that the ATCAT is using to prepare the risk assessments. He hopes to have a revised site development plan by the end of May.

Rob indicated that they needed to consider the implications of grading requirements to address environmental concerns. No significant grading is required for current site development plan purposes. He noted that they are anticipating using the existing tank berms for visual screening.

Groundwater Quality

Mike Rendina provided an overview of the previous groundwater quality studies at the site. He noted that groundwater investigations began in 1997 and that there were over 300 borings, 87 monitoring wells and 37 separate sampling events conducted. He reviewed the site geology and hydrology noting that fractures in the rock strata underlying the site are the primary means for groundwater movement and that there is no significant communication between the shallow groundwater and deeper groundwater. The natural groundwater quality is generally poor frequently exceeding drinking water quality standards with very low yields.

Onsite springs and seeps flow several weeks during years of average or above average rainfall. Sixty-nine samples have been collected from the cliff springs since 1998 and tested for TPH, VOCs and PAHs. No VOCs have been detected and the 2007 human health risk assessment concluded that there was no significant risk to human health from exposure to the cliff springs.

Groundwater monitoring is currently ongoing at 75 on-site wells and 3 off-site wells. LNAPL with chemical characteristics very similar to crude oil has been observed in 31 wells with 17 well casings containing measurable amounts greater than 0.01 feet. Baildown tests indicate that the LNAPL is capable of moving at up to 0.3 ft. /day; however, empirical data suggest that the fractures do not exhibit this speed and that the LNAPL is actually moving very slowly. The level of LNAPL observed in well casings will vary depending on groundwater elevations due to the variability of the rock fractures.

Mike explained that the hydrologic data was reviewed by a panel of three university experts known as the Remediation Technology Panel (RTP) and that the RTP published a report, which included the following findings and conclusions:

- Groundwater movement is governed by a fractured rock system which is very discontinuous.
- It is very unlikely that LNAPL or other contaminants will move offsite to the north, east, southeast or west. Continued monitoring is recommended for the cliff springs on the southwestern edge of the site.
- Evidence demonstrates that natural attenuation of petroleum is occurring at the site.

It was noted that State Water Quality Control Board (SWQCB) resolution 92-49 requires clean-up to background levels or to do what is reasonable to get to background levels. It was agreed that this requirement would be addressed in the feasibility study.

Regina Donahoe questioned to what extent the LNAPL impacted soil gas. Mike said that the primary source of soil gas at the site was concentrations of contaminants in the soil. He noted that the impacts from LNAPL could play a larger role if the soil were remediated.

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Ecological Risk Evaluation for Risk Management Plan

Jennifer Holder provided an overview of the draft ecological risk evaluation that the Ecological Risk Working Group was developing. She noted the addition of an additional spatial designation, which she called Petroleum Affected Zones (PAZs), to delineate the areas of elevated non-asphaltic TPH concentrations in surface soils. PAZs are designated with a roman numeral, while the Individual Evaluation Areas (IEAs) are designated by numbers and the development bubbles or Human Health Evaluation Areas (HHEAs) are designated by letters.

Jennifer noted that the apparent source of mercury in the soil at the site is from degrading asphalt material sprayed on the soil surface to retard plant growth. Leaching from this type of material is limited and; therefore, they have concluded that the mercury hotspots present an acceptable level of risk to site ecological receptors.

Jennifer explained that the eco risk evaluation is being prepared for two scenarios. One scenario assumes that no development takes place on the site and the whole site is available as habitat and a second scenario assumes that the areas within the development bubbles are disturbed and not available for habitat. She reviewed the draft evaluation and recommends for two areas to demonstrate how the matrix was used.

The participants agreed that it was critical that the terms used in the risk management plan (RMP), eco risk evaluation (ERE) and the human health evaluation (HHRE) be consistent with the terms used in the community process. For example, "open-space" in the HHRE is the same as recreation while "open-space" in the ERE is the same as habitat. It is important to have consistency and a glossary of terms.

Human Health Risk Evaluation for Risk Management Plan

Chuck Lambert provided an overview of the draft human health risk evaluation that the HHRWG has been working on. He reviewed Neptune's findings regarding data validation and usability. He also reviewed the COPC selection and noted that the 2007 data suggested a re-evaluation of molybdenum and thallium. Chuck and Becky Countway then summarized the findings for each exposure area.

Alex Bugroy questioned if the findings would change if the soil was reconfigured due to grading. Chuck noted that the HHRE was for undisturbed site conditions. Teri Copeland emphasized the importance to clarify that the HHRE assumes existing site conditions. It was agreed that the implications of grading will be addressed in the FS/RAP.

The participants discussed the building parameters that were assumed in the draft HHRE. Debbie Rudd will prepare a memo defining the building design parameters for commercial buildings to be used as a default value in the HHRE.

Chuck Lambert reviewed the steps necessary to complete the draft HHRE:

- address any concerns with the risk calculations,
- agree on recommendations for each development area,
- incorporate any additional comments into the draft HHRE, and
- ratify the revised draft document.

Teri Copeland noted that the public agencies reviewing the draft HHRE intend to meet to discuss and coordinate comments.

Risk Management Plan

Jennifer Holder reviewed the objectives and organization of the risk management plan (RMP). She envisions that the RMP will include the ERE and HHRE among other documents as appendices and that the ERE and HHRE will be ratified as part of the RMP. She plans to send out the draft RMP tables, text and figures in hard copy and provide the appendices in a CD.

The RMP will provide recommendations for 1) the proposed development scenario and 2) the no-development scenario. Recommendations will be organized by applicable IEA, HHEA or PAZ. The recommendations will be organized by the following action types for those areas that fail the risk screening:

1. Additional sampling recommended
2. Removal action
3. Revise development plan

Jennifer briefly reviewed the preliminary recommendations for the two scenarios. A section discussing groundwater quality will be included in the RMP. A discussion on health-based protective levels and ecological action levels will also be included. It was agreed that recommendations should reflect "what" should be achieved not "how" to achieve it. (i.e. reduce soil gas concentrations not install barrier.)

Jennifer suggested the following sequence of activities to finalize the RMP:

1. Distribute the RMP for review.

2. Revise and finalize the appendices, which includes the ERE and HHRE.
3. Revise and finalize the RMP.
4. Ratify the RMP and appendices.

Feasibility Study

Robert Van Hyning indicated that the feasibility study (FS) would be based on the proposed development plan and would not include a full range of alternative site uses. The FS will rely on more traditional remedial strategies such as removal, separation, soil vapor extraction, etc. More exotic and unproven technologies will not be considered. He noted that Chevron will require that all buildings have a vapor barrier whether required by the RMP or not.

Robert suggested consolidating the IEAs, HHEAs and PAZs into fewer operable units (OUs) for purposes of the FS. He would prefer to work with four OUs for soil/surface water and one OU for groundwater.

Robert will prepare and distribute a preliminary outline for the FS within two weeks. He will include draft remedial action objectives in the outline.

Next Steps/Action Items

The ATCAT participants agreed to the following schedule of activities:

No.	Activity	Date Due	Responsibility
1	Prepare and distribute the background metals addendum.	May 27	Chuck Lambert
2	Prepare a memo defining the building design parameters for commercial buildings on the site.	June 3	Debbie Rudd
3	Review and provide comments on the draft soil gas report.	June 3	ALL
4	Review and provide comments on the draft TPH in shallow soils report.	June 3	ALL
5	Prepare and distribute the draft ERE.	June 3	Jennifer Holder
6	Prepare and distribute a draft outline of the FS.	June 3	Robert Van Hyning
7	Review and provide comments on the draft HHRE.	June 9	ALL
8	Review and provide comments on the background metals addendum.	June 10	ALL
9	Review and provide comments on the draft ERE.	June 20	ALL
10	Prepare and distribute the draft RMP.	June 20	Jennifer Holder
11	Review and provide comments on draft RMP	July 11	ALL

The ATCAT participants recognized the potential that reviewing the draft RMP, ERE and HHRE at the same time could result in changes to one document that would impact the other documents.

Upcoming Meeting Dates and Agenda Items

Agency Participants – Tuesday, June 3, 2008 (9:30 AM – 12:30 PM)

1. Coordinate comments on the draft HHRE.

ATCAT Meeting in SLO – Tentative Dates - Tuesday, July 22, 2008 or August 12, 2008 (9:30 AM – 3:00 PM)

1. Review (and possibly ratify) draft RMP.
2. Review preliminary draft of FS.

From: Paul Black [mailto:pblack@neptuneinc.org]
Sent: Wednesday, July 09, 2008 4:32 PM
To: Katie Butler
Cc: 'Paul Duffy'; TeriLCopeland@aol.com; 'Chuck Lambert'
Subject: Re: UCL Calculations

Katie,

Backing up a little - we ran a lot of simulations with many different UCL methods using many different loss functions (ones that make sense - the simulations that ProUCL did don't make sense, but we will explain that in our paper), and we find the following:

1. The overall best method for UCL estimation is a simple *t* (based on assumptions that the mean is normal - note that this is NOT the same as saying the data are normal - if the data are normal then the mean is normal - if the data are not normal then the mean is still normal enough if you have enough data, and it doesn't take much data to get there).

2. If the *t* is not doing well then there is no method that will do well anyway.

One of our issues from a risk assessment perspective is that UCLs are high (conservative) estimates of the mean. Using ProUCL or other conservative UCL estimation techniques results in adding conservatism to conservatism. However, the BCA bootstrap method provides some extra conservatism without going overboard. So, we offer two choices:

1. Use the *t* unless the data are horribly skewed then use the BCA if you want to protect against the skew, or multimodal (but even when they are multimodal the *t* seems to work best), .
2. Use the BCA all the time to be somewhat conservative.
3. Use the highest of the 3 methods that we would recommend (*t*, BCA and percentile (or simple) bootstrap - te percentile bootstrap gives almost the same answers as the *t* most of the time) - the highest will nearly always be the BCA anyway, so this ends up being like the 2nd option.

On the file that you sent to us, if you would like us to comment on that we can (otherwise I guess we will be commenting on it later) - it would be helpful to have the 9 relevant sets of data to do so, so we can also see what the possible UCLs are. We note also that some of your statistical language, in the document you sent, about testing and power can be improved. We are not sure how you arrive at your power numbers given power is really an *a priori* concept - you must have made some Type I error, variance and distributional assumptions to get there, and these should be documented (Type II appears to be documented). Once the data are collected the *a priori* power might or might not

have been achieved, but power is really a planning construct (some statisticians will talk about observed power, but not many). And, many of your conclusions are based on the shape of the data as opposed to the shape of the mean which is what really matters - the lack of attention to the shape of the mean is one of several problems with ProUCL.

Bottom line for us is that we would use the *t* most of the time in the form of the straight *t* or the percentile bootstrap, which is also acceptable and it will give almost the same answer most of the time, since it has some hidden normality assumptions. The data have to be very unusual for us not do use the *t* or percentile (simple) bootstrap, but for audiences that are uncomfortable with the *t* or the simple bootstrap, we might defer to the BCA bootstrap, which adds some additional conservatism when the data are skewed. We have also in the past recommended using the highest of the 3 methods to simplify the choice that needs to be made, and we would accept that as well. At the end of the day, a UCL is a conservative estimate of the mean, environmental data never satisfy the strict requirements of UCL estimation, in which case we do the best we can. If the UCL looks reasonable given the data (mean, std. deviation) then it probably is reasonable. The 3 methods we focus on tend to give what seem to be reasonable UCLs based on this simple test. Other methods do not despite their inclusion in programs like ProUCL.

Cheers

Paul

Paul K. Black, Ph.D.
Neptune and Company, Inc. phone: (720) 746-1803
8550 West 14th Avenue, Suite 100 fax: (720) 746-1605
Lakewood, CO 80215 e-mail: pblack@neptuneinc.org

visit our website - http://www.neptuneandco.com

Katie Butler wrote:
Hi Paul,

Is there a UCL method in the Neptune statistics toolbox online that you would recommend instead of the Bootstrap-t re-sampling procedure (which the EPA suggests as a nonparametric method)? Perhaps the Nonparametric Bootstrap UCL method?

To move forward with revisions to the HHRA, let me know which of the UCL methods available in the Neptune statistics toolbox would be most defensible based on the descriptive statistics I sent you last Thursday.

Thanks,

Katie

~-~

Katie Butler, M.P.H.
McDaniel Lambert Inc.
1608 Pacific Ave., Suite 201
Venice, CA 90291

tel. 310.392.6462
fax 310.392.6693
www.mclam.com

No virus found in this incoming message.
Checked by AVG - www.avg.com
Version: 8.5.409 / Virus Database: 270.13.89/2360 - Release Date: 09/10/09 11:29:00

Drafted by Strategic Initiatives based on the August 12, 2008 ATCAT Meeting. To be reviewed, revised, and ratified at the next ATCAT meeting.

Avila Tank Farm Collaborative Assessment Team

Draft Meeting Summary

Date: August 12, 2008

Time: 9:30 AM – 1:20 PM

Location: RWQCB Offices, San Luis Obispo, CA

Participants:

Name	Organization	Name	Organization
Chuck Anders	Strategic Initiatives	Chuck Lambert	McDaniel Lambert
Melissa Boggs-Blalack	CDFG	Andrew Mutziger	APCD
Katie Butler	McDaniel Lambert	Dan Niles	RWQCB
Louis Cappel	Padre Associates	Mike Rendina	Avocet Environmental
Teri Copeland	SLO County Health Dept.	Rick Stout	URS
Regina Donohoe	CDFG	Robert Van Hyning	Avocet Environmental
Josh Friddell	Chevron	George Weber	ARCADIS BBL
Jennifer Holder	ARCADIS BBL		

Ratify Previous Meeting Summary

The ATCAT participants ratified the Draft May 20, 2008 ATCAT meeting summary ver1 as written.

Safety Moment

Josh Fridell discussed a recent fatal accident in Santa Maria where a water truck, operated by one of Chevron's contractors, rolled over and the driver died. He noted that driving a water truck was not a typically dangerous activity. He emphasized the need to keep focused on the task at hand no mater how routine it may seem.

Site Development Plan Update

Bill Almas indicated that the conceptual site plan (including the development bubbles) used as the basis for the Risk Management Plan (RMP) remains valid. Rob Rossi and Chevron continue to talk with individuals in the Avila community to develop more detail in preparation for the permit application. These refinements, such as clarification of building sizes, are included in the most recent draft of the human health risk evaluation.

Human Health Risk Evaluation for Risk Management Plan

Chuck Lambert provided an overview of the comments provided by the County Health Department and the Air Pollution Control District. He noted that the following changes were made in response to their comments:

- A new background metals assessment was conducted.
- The Avila resident was added as an additional receptor.
- The EPCs were recalculated using a different method.
- Exposure assessments and J&E assumptions were standardized.

- A discussion of the 0 – 2-foot soil profile was added.
- A risk evaluation for methane in open space was included.
- Risk management conclusions are qualified as "suggestions for the RMP."

Katie Butler reviewed the revised metals background evaluation. She noted that McDaniel Lambert conducted an analysis using a revised statistical methodology recommended by Neptune and Associates for each exposure area. The original assessment looked at the full site as one area. As a result, antimony, arsenic, lead, mercury, thallium and vanadium failed in at least one area.

Chuck Lambert indicated that arsenic would drive the risk conclusions in Area H. He noted that there were no residential or permanent structures planned for Area H. Mike Rendina reviewed the geology in Area H and concluded that the source of the arsenic is geologic rather than anthropogenic based on the following observations:

- The three highest arsenic concentrations occurred between depths of 15 – 25 ft., and
- Arsenic is typically associated with pyroclastic rock similar to the Obispo formation located throughout the site and outcropping in Area H.

It was agreed to carry arsenic through the risk assessment and discuss geology as a likely source as part of the analysis. Chuck will draft a discussion of arsenic and send it to Teri Copeland for review by the end of the week.

It was also agreed to include a discussion in the RMP about why the statistical methods to establish background levels for metals was different for the human health risk assessment and the ecological risk assessment. This was due to the fact that wildlife moves throughout the site, which requires a site wide perspective.

Chuck Lambert concluded by reviewing the uses and receptors to be used for each evaluation area. He will proceed with updating the risk calculations and distribute a draft human health risk evaluation by the end of August.

Andy Mutziger questioned whether the implications of an earthquake should be discussed in the human health risk evaluation. Chuck Lambert noted that natural disasters were typically addressed in the risk management phase of the analysis. Jennifer Holder recalled that the draft RMP states that the observations and conclusions are based on current conditions. Regina Donohoe noted that an ongoing monitoring strategy would be required for remediation elements.

Risk Management Plan / Ecological Risk Evaluation

Jennifer Holder noted that the primary objective of the risk management plan was to provide risk recommendations to responsible agencies and Chevron. She noted that the RMP assumes that the future site use will include a significant visitor-serving component and the RMP, therefore, does not focus on the "No Development" scenario.

The RMP evaluates the following types of areas:

- Initial Evaluation Areas (IEAs)
- Human Health Exposure Areas (HHEAs), and
- Soils Management Areas (SMAs - areas with non-asphaltic petroleum >1,000 mg/kg below 6 ft. bgs)

The guiding assumptions include:

- The site will be redeveloped into mixed use activities. Areas outside the development bubbles (HHEAs) are considered viable ecological habitat.
- Chevron will assure that at least 6-ft. of separation exists between receptors and non-asphaltic petroleum with concentrations greater than 1,000 mg/kg.

- The RMP recommendations are based on the proposed development plan. Risks for the "No Development" scenario are included in the appendix.

Jennifer noted that the RMP includes Recommendations for:

- Soil and sediment impacted by inorganic compounds
- Petroleum-impacted soil, and
- Soil vapor (indoor air impacted by VOCs)

Other issues that were addressed include:

- Groundwater (remedial action driven by regulatory requirements that are not risk related)
- Cliff erosion
- Asphalt
- Soil Management

Risk management tools include:

- TPH human health based protective concentrations
- Action levels (Cliff springs and potential soil vapor concentrations)

Regina Donohoe observed that there appears to be a disconnect because the 1,000 mg/kg soil separation level is not tied to a risk number. Bill Almas stated that the 1,000 mg/kg level is generally accepted as a screening level for petroleum impacted soils and that Chevron is requiring a 6-ft. separation as a voluntary added protection against future liability to insure that no one conducting typical site activities would come in contact with soils above 1,000 mg/kg. He noted that if development does not go forward, they would re-evaluate the ecological requirements. It was suggested that the technical memorandum discussing petroleum profiles in soils be revised to include the 1,000 mg/kg threshold level. Mike will revised and distribute the technical memorandum by August 18th.

Feasibility Study / Remedial Action Plan

Robert Van Hyning reviewed the elements to be addressed in the feasibility study / remedial action plan (FS/RAP). The FS/RAP will focus on remediation strategies to support the proposed site development. It will include a discussion of alternative remediation strategies; however, it will not discuss alternative site uses. The FS/RAP will include removal of on-site buildings and pipelines, which may not be directly related to reducing risk. Potential LNAPL recovery activities will be discussed and formalized. Storm water management will also be addressed in consultation with the California Coastal Commission. The FS/RAP will also include a cliff erosion monitoring strategy and an evaluation of soil vapor extraction strategies based on the soil vapor pilot test.

Robert anticipates providing a draft FS/RAP for ATCAT review and comment in mid to late September. After receiving comments from the ATCAT he will distribute a revised draft in mid to late October. The final draft will be submitted to the appropriate agencies for formal approval; therefore, a formal ratification will be necessary by the ATCAT.

Next Steps/Action Items

The ATCAT participants agreed to the activities and schedule in the attached flow chart. Specific action items are shown in the following table.

No.	Activity	Date Due	Responsibility
1	Prepare a discussion of arsenic and send it to Teri Copeland for review.	August 15	Chuck Lambert
2	Distribute a revised petroleum in soils technical memo that includes the 1,000 mg/kg SMA.	August 18	Mike Rendina

3	Distribute a final draft human health risk evaluation by the end of August.	August 29	Chuck Lambert
4	Submit written comments on the draft RMP	September 5	ATCAT
5	Distribute the draft FS/RAP to the ATCAT for review	Mid / Late September	Robert Van Hyning

Upcoming Meeting Dates and Agenda Items

Eco Risk Working Group Conference Call – Monday, September 15, 2008 (10:00 AM – 12:00 PM)

1. Discuss comments on the eco risk evaluation appendix of the RMP.

ATCAT Meeting in SLO – Thursday, October 9, 2008 (9:30 AM – 3:00 PM)

1. Agree on final human health risk evaluation to be included in the RMP.
2. Review and discuss draft RMP comments.
3. Review and discuss the draft FS/RAP.

Drafted by Strategic Initiatives based on the May 11, 2009 EHS/APCD meeting.

Avila Tank Farm Collaborative Assessment Team

Draft EHS/APCD Meeting Summary

Date: May 11, 2009

Time: 1:00 PM – 4:00 PM

Location: SLO County EHS Offices, San Luis Obispo, CA

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Aaron LaBarre	SLO County EHS
Chuck Anders	Strategic Initiatives	Chuck Lambert	McDaniel Lambert
Paul Black	Neptune	Andrew Mutzinger	APCD
Katie Butler	McDaniel Lambert	Kyle Ruthaford	Chevron
Becky Countway	McDaniel Lambert	Robert Van Hyning	Avocet Environmental
Teri Copeland	Neptune		

Purpose of Meeting

The purpose of the meeting was to review and discuss the EHS and APCD comments on the final draft of the Supplemental Human Health Risk Assessment for the Avila Tank Farm Property. Chuck Lambert summarized the written comments from EHS and APCD in PowerPoint slides and used the slides to focus discussion on the topics of concern. Chuck edited the PowerPoint slides during the discussion to clarify issues, document conclusions and identify future action items. An outline of the PowerPoint slides is presented in this meeting summary to document the discussion. Items show in red are conclusions or action items.

APCD Comments

1.How to address additive risk to Avila Beach residents?

–Cumulative risk traditionally evaluated in the EIR

–Qualitative assessment in the uncertainty section and place holder for EIR and Feasibility Study

–Send language to APCD and EH for quick review

2.Involve SLO County Fire Department with respect to elevated subsurface methane concentrations?

–Methane >LEL of concern for enclosed buildings; not a current concern. Potential risks from methane to be addressed in Risk Management Plan. Suggest SLO County Fire Department review RMP.

–Fire Department contact is Rick Swan 805-543-4244

3.How future events such as earthquakes could/should be addressed in the HHRA?

–HHRA evaluates current conditions; catastrophic events outside the scope.

–Clearly state that document is applicable to current conditions and if there are significant site changes due to natural events or development changes the risks may need to be reassessed.

Brief review of proposed actions to address remaining SLO APCD comments

•Take any risk management language out except for target ranges identified by EPA and Prop 65

•Footnote on soil gas depth in summary of health risk table

•Send APCD DRAFT meeting summary of all comments

County EHS Comments

1.Inclusion of remediation/construction worker?

–Remediation and construction activities to follow OSHA and include dust monitoring

–Discuss why construction scenario was not assessed

–Discuss OSHA compliance of all remediation/construction personnel

–Community exposure during actual remediation will still need to be assessed by APCD/EH before remedial action, most likely in the EIR

RTC and redline strikeout for Tech Memo comments

Questions on the sHHRA – Call AL/EHS first to set up conference call – Email summary for the record

2.For receptors other than intrusive workers, what depth horizon does the county want to be used in the risk assessment?

–0-2 feet, or the greater of 0-2 and 0-10 foot depth horizons

–Consistent with 0-10 foot scenario currently used for resident (use of maximum EPC)

–For utility worker use 0-10 foot soil horizon

–For outdoor worker use 0-2 foot soil horizon

–For indoor worker (dust component) use 0-2 foot soil horizon

–Remove current uncertainty section discussion regarding 0-2 ft vs. 0-10 ft

–May need to add an offsite residential receptor with exposure to dust generated from the 0-2 foot soil horizon. The offsite resident was assessed in the 2005 baseline HHRA, but as requested by OEHHA only the 0-10 foot horizon was used for offsite dust exposure. There is also significant particulate monitoring data for the Tank Farm that shows very good air quality. May just need to boost up current discussion in Section 1 (reference 2005 document) of offsite recpetor….TC/Neptune will review 2005 baseline HHRA and monitoring data and get back to group on this ***issue.***

3.What is the approach for "additional evaluation" of arsenic where concentrations exceed maximum background of 15 mg/kg?

–Known geologic source of arsenic: Obispo formation (concentrations up to 310 mg/kg; B-76)

–If health risks associated with background arsenic levels are to be evaluated, most appropriately addressed in Uncertainty Section

–Rewrite current background assessment in HHRA

–Rewrite history to emphasize lack of sources etc

–Complete an intensity and bubble plot for arsenic/Overlay on geology

–Complete a correlation between arsenic and other metals (i.e. Fe and/or Cu)

–Review onsite background concentration including any depth profile

–Identify onsite areas that are not impacted

–Completed section sent to Neptune/EH for review

Exposure (Open Space Exposure Area)

–Uncertainty section on arsenic and BaP – BaP map/discussion of slope and BaP hotspot

–Explanation of Area A maximum

– Sample does not represent a sample point concentrations because/depth profile etc.

–Geology….

–Nonstandard backyard scenario

–Bioavailabilty …..

–Explanation of Open Space (mobility…..)

–Get draft copy to EH/TC along with rewrite of background assessment section

4.Need to subdivide Open Space into smaller exposure areas?

–Version 1.1 of HHRA includes cumulative distribution plots for two Open Space COPCs (lead and TPH); highest concentrations in 10 South, which has limited access, suggesting that potential risks in Open Space are overestimated

–County requested spatial plots of arsenic and BaP TEQs

•Arsenic results: No clustering of

•15 mg/kg exceedances

•BaP results: only "cluster" of exceedances in among samples is on steep slopes in 10 South

–No need to subdivide

–Provide rationale using open space BaP spatial map/slope

–Slope are not buildable – no exposure (see Item 3)

5.Clarification of the "full risk characterization" request for workers potentially also living on the Site?

–The Uncertainty Section of version 1.1 of HHRA includes cumulative risks for residents potentially living in Area M, the residential EA with highest cancer risks and noncancer hazards

–Current analysis is for worst-case (Area M)

–HHRA will require analysis for both Area A and M

–Identical Tables for each Area

6.Clarification regarding risk evaluations using reporting limits [for soil gas nondetects] in the Uncertainty Section

–A new request, not included in previous County EHS comments on the HHRA

–HHRA version 1.1 Uncertainty Section notes that:

•Neptune & Company data usability identified several soil gas samples with elevated reporting limits, but did not consider this to be a significant issue

•Risk calculations using reporting limits would be highly uncertain and are unlikely to change the overall risk profile

–TC/Neptune will review existing discussion in the Uncertainty Section and get back to the group

Brief review of proposed actions to address remaining County EHS comments

Thallium – separate correspondence

Naphthalene – no oral slope factor

CSM – Note utility worker not exposed to onsite produce

Justification for Student-t

ACTION ITEMS

McDaniel Lambert

1) RTC and redline strikeout for Tech Memo comments

Questions – Call AL/EHS first – Email for the record

•Table with consolidated comments/Matrix of three memo's

•In conjunction with HHRA redline-strikeout

•(Due: July mid/late)

2) Metals Background Assessment and Uncertainty Section Discussion

•Send out as soon as updated

•(Due: June 1st)

3) Uncertainty Section Open Space Discussion

- Send out as soon as updated
- (Due June 1st)

4) Thallium Memo (Due: May 18th)

5) APCD RTC (Due: May 18th)

Teri Copeland / Neptune

1. Use of existing monitoring data and baseline HHRA for offsite residential receptor or does EH require a new assessment of offsite residential baseline based on 0-2 foot soil horizon – Is this best left to the EIR and a construction scenario?
   – (May 15th)
2. Review Avocet geologic analysis again
   – Katie will send to Paul (May 12th)
3. Review existing elevated reporting limits uncertainty section (especially Area D) (Let us know when)
4. Clarify Jim Vandewater's comment on J&E model (May 15th)

From: Teri L Copeland [terilcopeland@yahoo.com]
Sent: Thursday, May 14, 2009 3:51 PM
To: 'Chuck Lambert'; 'Katie Butler'; rcountway@mclam.com
Cc: alabarre@co.slo.ca.us; 'Joanne Otani Fehling'; 'Paul Black Ph. D.'
Subject: elevated RLS for soil gas resolved

Hello All,

As I just discussed with Katie, I took a look at the elevated RLs for soil gas (we could not figure out whose comment that was originally) and have resolved that there are no data gaps for soil gas as follows:

There were a handful of data points where the RLs were well over risk-based concentrations, however, all but two were at depth with good RLs in the shallow (5 ft) samples above.

The two shallow samples that had RLs well over risk-based concentrations are SP-3 (6') and SV-63 (5'). Both of these samples are located in Area E, where commercial buildings will be constructed. However, the indoor worker risk for Area E is 8 E-05 (due to high benzene), so mitigation will be necessary anyway.

Thus, there is no impact on the HRA of these shallow soil gas samples with high RLs.

As Katie and I discussed, the above can be memorialized in the Response to Comments that you submit with the redline/strikeout revised HRA. You might want to also include it in the uncertainty analysis.

Thanks,
Teri

PLEASE NOTE NEW EMAIL ADDRESS:
TeriLCopeland@yahoo.com

Teri L. Copeland, DABT
(818) 991-8240
(818) 991-8140 fax

Rebecca E. Countway

From: Teri L Copeland [terilcopeland@yahoo.com]
Sent: Wednesday, June 03, 2009 10:41 AM
To: 'Rebecca E. Countway'
Cc: 'Chuck Lambert'; alabarre@co.slo.ca.us
Subject: FW: Action Items from 5_11_09 meeting

Becky,

Somehow I did not get the email earlier from Jim, but here is his response (below). Thanks for your patience – he had a really packed week last week.

Also, Aaron will be providing feedback re the offsite receptor during construction.

Other than the supplemental background arsenic package you folks are working in , I think we have dealt with the outstanding items?

Thanks,

Teri

From: Jim Van de Water [mailto:jimvdw@cox.net]
Sent: Tuesday, June 02, 2009 11:37 AM
To: Teri L Copeland
Subject: Re: Action Items from 5_11_09 meeting

Hi Teri: Sorry for the hold-up on this. Comments are as follows:

Table 5-33
1. "Layer A SCS soil type (for soil vapor permeability)" should be changed to simply read "Layer A SCS soil type" as the "Layer A soil type to estimate soil vapor permeability" is a sandy loam as noted earlier in the table.
2. Becky's approach for the current residence is consistent with Cal/EPA 2005d; however, site-specific layer and slab thickness data should be used for current residences if available. Specifically, if engineered fill is present beneath the current residences, it should be included in the model and not eliminated based on model results as the second paragraph of her email suggests.
3. For Current Residential, don't specify an "Average vapor flow rate into building (L/min)". Leave this cell blank in the 'DATAENTER' sheet and use the default "delta P" specified in Table 3 of Cal/EPA (2005b).

Table 5-34
1. Provide justification that the three samples selected to establish the dry bulk density, total porosity, and water-filled porosity are representative of site conditions for the 'West Area'. A statement from a professional geologist (PG) who was involved in the soil logging would be ideal.
2. Similarly, provide justification for the single sample used to establish these parameter values for the 'East Area'.

Give a call/email with any questions. I'm in the field tomorrow AM and all day Thursday. I'll be back in the office all day Friday.

Best,
Jim

----- Original Message -----
From: terilcopeland@yahoo.com
To: Jim Van de Water
Sent: Wednesday, May 20, 2009 5:10 PM
Subject: Re: Action Items from 5_11_09 meeting

I think it can wait as I just got an email from Becky that she is flying East this evening. Her mom has a hip replacement tomorrow.

So let' target next week

Thanks

T

Sent from my Verizon Wireless BlackBerry

From: "Jim Van de Water"
Date: Wed, 20 May 2009 13:56:01 -0700
To: <terilcopeland@yahoo.com>
Subject: Re: Action Items from 5_11_09 meeting
Got it Teri. Any chance this can wait until next week? I'm heading out tomorrow to Yosemite and am running around getting stuff together today.

Best,
Jim

----- Original Message -----

From: terilcopeland@yahoo.com
To: jimvdw@cox.net
Sent: Wednesday, May 20, 2009 12:18 PM
Subject: Fw: Action Items from 5_11_09 meeting

Sent from my Verizon Wireless BlackBerry

From: "Rebecca E. Countway"
Date: Wed, 20 May 2009 11:47:30 -0700
To: 'Teri L Copeland'<terilcopeland@yahoo.com>
Subject: RE: Action Items from 5_11_09 meeting
Hi Teri,
I wanted to follow-up on the vapor intrusion issue you noted below. Per the subsequent message from Chuck, we have not received the letter from the developer (sHHRA version 1.1 Attachment 5) which would memorialize site specific construction assumptions. In order to provide Chevron with the greatest amount of flexibility moving forward, we are considering adding a default commercial structure to the next version of the risk assessment. The last version of the sHHRA included default residential construction for areas A and M. Per guidance (DTSC vapor intrusion guidance, 2005d), the default commercial structure is the same as the default residential structure, but with an air exchange rate of 1.0 per hour (instead of 0.5).

Before we move forward with this modeling effort (which would be significant), I want to make sure we are all on the same page with respect to the default modeling parameters, and whether or not to include the engineered fill layer. The current residential default building is modeled as slab on grade, but does not include engineered fill (see table below with residential parameters as they appear in Table 5-33 of the risk assessment). As I discussed previously with Jim, Layer A is 19cm of sand and represents 9 cm slab and 10 cm of gravel, which is consistent with OEHHA Guidance (the CHHSL 2005 development document as shown on pages B-10 and B-24). However, because the site-specific soils

are less porous than engineered fill, the indoor air concentrations are lower when modeled without the 30 cm of fill than when this layer is included (see soil property comparisons in revised Table 5-34 below). Therefore, to be as conservative (but realistic) as possible, we propose revising the residential building modeling to include the engineered fill layer, and to use the same modeling assumptions for a default commercial building, but with an air exchange of 1.0.

Please let me know via email if the modeling assumptions are appropriate or if there are discrepancies between what is proposed below and default residential and commercial structures the County would approve for evaluation. We would like to get started on the revised modeling effort as soon as possible, so please feel free to call my cell for any clarifications (310-408-7595). As well, feel free to forward my number to Jim, as I will be traveling to the east coast for the next couple of days.

Thanks,
Becky

From Table 5-33. Johnson-Ettinger Vapor Intrusion Modeling – Building Parameters

Parameter (units)	Building Type			Source(s)
	Current Residential	Proposed	Proposed	
Depth below grade to bottom of enclosed space floor (cm)	9	9	9	Cal/EPA (2005d)
Depth below grade to top of contamination (cm)	Chemical-	Chemical-	Chemical-	Maximum
Average soil temperature (°C) [1]	17	17	17	Average 2007 soil
Layer A soil type to estimate soil vapor permeability	sandy loam	sandy loam	sandy loam	Avocet (2008b)
Layer A thickness (cm)[2]	19	19	19	Cal/EPA (2005d)
Layer A SCS soil type (for soil vapor permeability)[2]	sand	sand	sand	Cal/EPA (2005d)
Layer A soil dry bulk density (g/cm^3)	1.66	1.66	1.66	Sand default
Layer A soil total porosity, unitless	0.375	0.375	0.375	Sand default
Layer A soil water-filled porosity, (cm^3/cm^3)	0.054	0.054	0.054	Sand default
Layer B thickness (cm)	Sample depth	30	30	Sample depth
Layer B soil type	Site-specific	Engineered Fill	Engineered Fill	Avocet (2008b)
Layer B soil dry bulk density (g/cm^3)	Site-specific	1.8	1.8	See Table 5-34
Layer B soil total porosity, unitless	Site-specific	0.3	0.3	See Table 5-34
Layer B soil water-filled porosity, (cm^3/cm^3)	Site-specific	0.15	0.15	See Table 5-34
Layer C thickness (cm)		Sample depth –	Sample depth –	Sample depth
Layer C soil type		Site-specific	Site-specific	Avocet (2008b)
Layer C soil dry bulk density (g/cm^3)		Site-specific	Site-specific	See Table 5-34
Layer C soil total porosity, unitless		Site-specific	Site-specific	See Table 5-34
Layer C soil water-filled porosity, (cm^3/cm^3)		Site-specific	Site-specific	See Table 5-34
Enclosed floor space length (cm)	1000	1000	1000	Cal/EPA (2005d)
Enclosed floor space width (cm)	1000	1000	1000	Cal/EPA (2005d)
Total area (square feet)	1,076	1,076	1,076	Cal/EPA (2005d)
Enclosed space height (cm)	244 (8 feet)	244 (8 feet)	244 (8 feet)	Cal/EPA (2005d)
Crack-to-total area ratio (unitless)	0.005	0.005	0.005	Cal/EPA (2005b)
Indoor air exchange rate (1/hour)	0.5	0.5	1	Cal/EPA (2005d)

Average vapor flow rate into building (L/minute)	5	5	5	Cal/EPA (2005b)

[1]Data obtained from California Irrigation Management Information System (CIMIS) is a program in the Office of Water Use Efficiency (OWUE), California Department of Water Resources (DWR); on line at http://www.cimis.water.ca.gov/cimis/frontSampMonthlyReport.do

[2]Layer A consists of 9 cm slab underlain by 10 cm gravel, both modeled as sand (CAL/EPA 2005d).

Cal/EPA 2005b = DTSC Vapor Intrusion Guidance

Cal/EPA 2005d = OEHHA CHHSL development document

From Table 5-34. Site-specific Soil Parameters Used in Johnson-Ettinger Vapor Intrusion Modeling

ID	Depth	Moisture Content (% weight)	Dry Bulk Density g/cm^3	Porosity (all cm^3/cm^3) Total	Air Filled	Water Filled
SV-14-05	5	22.3	1.21	0.488	0.217	0.271
SV-14-15	15	16.8	1.24	0.5	0.292	0.208
SV-37-05	5	20.2	1.44	0.429	0.138	0.291
SV-37-15	15	16.4	1.47	0.421	0.18	0.241
SV-39-05	5	15.1	1.48	0.38	0.157	0.223
SV-39-15	15	14.3	1.41	0.405	0.204	0.202
SV-45-05	5	47.3	1.02	0.574	0.091	0.483
SV-58-15	15	23.5	1.49	0.419	0.069	0.35
West Average (SV-37, -39, and -58)		**17.9**	**1.458**	**0.4108**	**0.1496**	**0.2614**
East Average (SV-14)		**19.55**	**1.225**	**0.494**	**0.2545**	**0.2395**
Engineered Fill			***1.8***	***0.30***		***0.15***

From: Teri L Copeland [mailto:terilcopeland@yahoo.com]
Sent: Tuesday, May 12, 2009 2:45 PM
To: 'Chuck Lambert'; rcountway@mclam.com
Cc: alabarre@co.slo.ca.us; 'Joanne Otani Fehling'; Paul Black Ph. D.
Subject: Action Items from 5_11_09 meeting

Chuck,

Here is feedback on the four action items identified for our team yesterday:

(1) Use of PEF approach versus air monitoring data – EHS would like offsite risk to be evaluated using the PEF approach and the previous monitoring data can be used as supporting data.
(2) Attachment 13 comment re J & E: ("Provide residential home foundation [engineered fill later and slab depth] dimensions required in California for used in the residential model. This information was not provided in Attachment 5"). See Jim's response below:

From Jim:
I think the comment Becky is confused with is based on my 'Model Setup - Comment #2' and possibly 'Model Setup - Comment #3'. What I'm looking for is for Becky to memorialize the site-specific construction details in writing and highlight that (1) they're different than default California values but (2) this is the way they're going to be constructed. Any verbage regarding why they are being constructed in this manner would be helpful to the layperson (and me).

(3) How to handle/discuss the elevating reporting limits for some of the soil gas samples – we will look at the data and provide feedback by Friday or Monday.

(4) Avocet geologic analysis of on-site arsenic at B-76 – Neptune and Co. will review this as part of the overall background arsenic evaluation that will be submitted.

Thanks,
Teri

PLEASE NOTE NEW EMAIL ADDRESS:
TeriLCopeland@yahoo.com

Teri L. Copeland, DABT
(818) 991-8240
(818) 991-8140 fax

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Version: 8.5.339 / Virus Database: 270.12.51/2151 - Release Date: 06/03/09 05:53:00

Rebecca E. Countway

From: alabarre@co.slo.ca.us
Sent: Thursday, June 04, 2009 9:22 AM
To: 'Chuck Lambert'; Rebecca E. Countway
Cc: 'Teri L Copeland'
Subject: RE: Action Items from 5_11_09 meeting: Offsite resident risk during excavation/construction scenario

Chuck and Rebecca:

The following summarizes our direction on this question:

Potential receptors (ie: downwind resident) subject to potential excavation-type remediation or other potential short-term construction scenarios require evaluation in baseline HRAs according to guidance provided in USEPA 2002. This receptor associated with this scenario, may have an unacceptable risk during those activities.

Since the baseline Supplemental HHRA does not identify specific remedial actions, it is appropriate to: identify the existing exposure area with the highest non-VOC risk (i.e., an area with the greatest potential for excavation-type remedial action) and use that area (e.g. acres) along with the default offsite excavation/construction scenario residential Particulate Emission Factor (PEF, of 4.4 E+08 m3/kg provided at the bottom p. 5-15 of the USEPA 2002 guidance) and use the 0-10 foot soil depth interval (which is the default used for excavation/construction scenarios).
This will serve as an evaluation of a potential RME exposure for the offsite resident during soil disturbance-related activities. The 2005 (not the 2008) HHRA evaluated the offsite residential receptor during excavation/construction but used a 95th UCL on the mean concentrations (for all COPCs) for the entire site (which averaged high and low risk areas). However, the default offsite PEF is based on the assumption of a smaller area (0.5 acre). This is why we need you to run the generic offsite resident inhalation risk, during a default one-year short-term excavation/construction scenario, and using the COPC concentrations in the "highest risk" area (most likely to undergo excavation) as the source term.
If that area is 0.5 acres, then the excavation/construction PEF can be used directly. If it is different, then the PEF needs to be adjusted for area.

Thank you.

Aaron LaBarre
Supervising Environmental Health Specialist Hazardous Materials Program San Luis Obispo County Environmental Health Services
805-781-5595

"Rebecca E. Countway" <rcountway@mclam.com>		To
05/18/2009 12:00 PM	"'Teri L Copeland'" <terilcopeland@yahoo.com>	cc
	<alabarre@co.slo.ca.us>, "'Joanne Otani Fehling'" <jotanifehling@yahoo.com>, "'Paul Black Ph. D.'" <pblack@neptuneinc.org>, "'William	

Almas'" <WAlmas@chevron.com>,
<canders@strategicinit.com>,
"'Rutherford, Kyle'"
<krutherford@chevron.com>,
<kbutler@mclam.com>, "'Chuck
Lambert'" <celambert@mclam.com>
Subject
RE: Action Items from 5_11_09
meeting

Hi Teri,
Chuck and I have been discussing the flurry of emails from last week and wanted to touch base with you regarding the offsite resident receptor.
Were a little confused about the request for the offsite resident evaluation as you frame it below, which would seem to be most appropriately addressed in the EIR, because as you point out, it is a construction/remediation scenario. While the community development plan has guided the land use scenarios evaluated in the baseline sHHRA, areas requiring remediation will not be identified until the regulators weigh in on which areas pose unacceptable risk and the subsequent completion of the risk management plan. This is particularly true with respect to excavation since soil gas (which can be mitigated without excavation), and not direct soil contact, is the primary risk driver in most exposure areas.

I do need to clarify that version 1.1 of the sHHRA included a baseline evaluation of the offsite resident receptor. In that version, the offsite resident was evaluated based on site-wide exposure, with the COPCs and EPCs determined based on the 0-10 foot depth horizon. The air COPC concentrations were calculated using the default PEF (1.32 E +09 m3/kg), which seems appropriate for a baseline scenario. This calculation could be revised in the next sHHRA to look at only the 0-2 foot depth horizon, as we discussed at the May 11th meeting.

Other than the EIR, we are wondering where the most appropriate place for a construction scenario offsite resident evaluation would be? It would seem to depend on the specific risk management decisions you are anticipating this hypothetical evaluation would address. Given that risks at the Site are driven primarily by soil gas, it is difficult to identify, a priori, a specific half-acre area that is likely to be excavated. We could:

- Provide a worst case estimate based on site-wide maximum concentrations, but this would not be realistic since all COPCs would not be co-located; or
- Identify the area with the highest TPH concentrations in the upper 10 feet, as this is likely to result in the highest noncancer hazard, but may be completely unrelated to any future excavation activities (for example, if located in open space or potential risks are mitigated in some manner other than digging it up); or
- Evaluate some other exposure area identified by the County.

Since it is such a highly uncertain scenario and unrelated to the baseline offsite resident currently evaluated in the sHHRA, would it be appropriate to submit the construction scenario

evaluation to the County as a separate letter specifically addressing your concerns? If not, perhaps the uncertainty section of the sHHRA.

Please let us know your thoughts, any clarifications you may have, and how/where this information could best be conveyed.

Many thanks,
Becky

From: Teri L Copeland [mailto:terilcopeland@yahoo.com]
Sent: Wednesday, May 13, 2009 10:49 PM
To: 'Chuck Lambert'; rcountway@mclam.com
Cc: alabarre@co.slo.ca.us; 'Joanne Otani Fehling'; 'Paul Black Ph. D.'; 'William Almas'; canders@strategicinit.com; 'Rutherford, Kyle'; kbutler@mclam.com
Subject: RE: Action Items from 5_11_09 meeting

Chuck,

I have discussed the offsite PEF with Joanne and we note that the USEPA default offsite PEF of 4.4 E+08 m3/kg is based on a 0.5-acre area. Since it is for a construction scenario, you should use the 0-10 foot data for the 0.5-acre area with the highest risk (i.e., 0.5-acre area most likely to require remedial action).

I was going to look closer at the elevated RLs for the soil gas this evening, but could not find the soil gas report (with the lab reports). I have asked Joanne if she has it. Otherwise I will need to have Becky or Katie send it over.

Thanks!
Teri

From: Chuck Lambert [mailto:celambert@mclam.com]
Sent: Tuesday, May 12, 2009 3:43 PM
To: 'Teri L Copeland'; rcountway@mclam.com
Cc: alabarre@co.slo.ca.us; 'Joanne Otani Fehling'; 'Paul Black Ph. D.'; 'William Almas'; canders@strategicinit.com; 'Rutherford, Kyle'; kbutler@mclam.com
Subject: RE: Action Items from 5_11_09 meeting

Thanks Teri.

Just to clarify the first two points:
#1
At the request of SLO EHS we will be adding a new receptor to the sHHRA the offsite resident
This receptor was previously addressed in the 2005 Baseline HHRA using the 0-10 foot soil profile (for dust exposure) as requested by OEHHA
We will now assess this receptor using the 0-2 foot soil profile and the same PEF approach as used in the Baseline assessment
This will require evaluation of sitewide data (versus open space or the individual Areas) to identify inorganic and organic COPCs for this receptor
We will provide supporting air monitoring data from previous studies where appropriate as an additional line of evidence

#2
Thank you for the clarification on Jims comments
We have still not received anything from the developer to

officially document the site-specific construction parameters (Attachment 5).
We may therefore need to go back to California default parameters for the final version.

Cheers

Chuck Lambert
McDaniel Lambert Inc.
1608 Pacific Ave, Suite 201
Venice CA 90291
www.mclam.com
ph 310 392 6462
cell 323 717 0983

From: Teri L Copeland [mailto:terilcopeland@yahoo.com]
Sent: Tuesday, May 12, 2009 2:45 PM
To: 'Chuck Lambert'; rcountway@mclam.com
Cc: alabarre@co.slo.ca.us; 'Joanne Otani Fehling'; Paul Black Ph. D.
Subject: Action Items from 5_11_09 meeting

Chuck,

Here is feedback on the four action items identified for our team yesterday:

(1) Use of PEF approach versus air monitoring data EHS would like offsite risk to be evaluated using the PEF approach and the previous monitoring data can be used as supporting data.
(2) Attachment 13 comment re J & E: (Provide residential home foundation [engineered fill later and slab depth] dimensions required in California for used in the residential model. This information was not provided in Attachment 5). See Jims response below:

From Jim:
I think the comment Becky is confused with is based on my 'Model Setup - Comment #2' and possibly 'Model Setup - Comment #3'. What I'm looking for is for Becky to memorialize the site-specific construction details in writing and highlight that (1) they're different than default California values but (2) this is the way they're going to be constructed. Any verbage regarding why they are being constructed in this manner would be helpful to the layperson (and me).

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(4) Avocet geologic analysis of on-site arsenic at B-76 Neptune and Co. will review this as part of the overall background arsenic evaluation that will be submitted.

Thanks,
Teri

PLEASE NOTE NEW EMAIL ADDRESS:
TeriLCopeland@yahoo.com

Teri L. Copeland, DABT
(818) 991-8240

Rebecca E. Countway

From: alabarre@co.slo.ca.us
Sent: Monday, June 08, 2009 2:52 PM
To: Teri L Copeland
Cc: 'Chuck Lambert'; 'Rebecca E. Countway'
Subject: Re: FW: Avila Tank Farm sHHRA: Thallium Correspondence

All,

I concur with Teri's assessment of this issue from 5-29-09.

Aaron LaBarre
Supervising Environmental Health Specialist Hazardous Materials Program San Luis Obispo County Environmental Health Services
805-781-5595

"Teri L Copeland" <terilcopeland@yahoo.com>
05/29/2009 12:47 PM

To "'Rebecca E. Countway'" <rcountway@mclam.com>, "'Chuck Lambert'" <celambert@mclam.com>
cc <alabarre@co.slo.ca.us>
Subject FW: Avila Tank Farm sHHRA: Thallium Correspondence

Becky,

I did not hear back from Aaron yet, but I consider the thallium issue adequately documented.

Teri

From: Teri L Copeland [mailto:terilcopeland@yahoo.com]
Sent: Friday, May 15, 2009 2:06 PM
To: 'alabarre@co.slo.ca.us'
Cc: 'Joanne Otani Fehling'
Subject: RE: Avila Tank Farm sHHRA: Thallium Correspondence

Aaron,

I have read through this letter and it covers what needs to be documented regarding the thallium false positives. It clearly explains the sequence of events, provides the email correspondence and provides the corrected lab sheets for the 20 soil samples. I checked each of the 20 lab sheets and thallium is ND at < 5.0 mg/kg.

Regards,
Teri

From: Chuck Lambert [mailto:celambert@mclam.com]
Sent: Friday, May 15, 2009 11:46 AM
To: alabarre@co.slo.ca.us
Cc: 'Teri L Copeland'; 'William Almas'; 'Rutherford, Kyle'; canders@strategicinit.com; 'Paul Black Ph. D.'; rcountway@mclam.com; 'Katie Butler'; mrendina@avocetenv.com; 'Robert Van Hyning'
Subject: Avila Tank Farm sHHRA: Thallium Correspondence

Aaron

As per our agreement at Mondays Avila Tank Farm sHHRA Meeting, we have written a letter to you documenting the Thallium database issue.
Attached is a pdf of the letter with a hard copy to follow in the mail.
The letter also includes correspondence between the laboratory and Mike Rendina on this subject documenting how the error occurred.

With the issuance of this letter, and as per our agreement, the Thallium database issue will not be further discussed in the sHHRA.

Please let me know if you have any questions or concerns.

Cheers

Chuck Lambert
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ph 310 392 6462
cell 323 717 0983

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Version: 8.5.339 / Virus Database: 270.12.57/2163 - Release Date: 06/08/09 12:30:00

Rebecca E. Countway

From: Teri L Copeland [terilcopeland@yahoo.com]
Sent: Tuesday, June 09, 2009 9:23 AM
To: 'Rebecca E. Countway'
Subject: sHHRA Section 5.1.4.2
Attachments: Pages from Avila Draft HRA_jv comments (06092009).pdf

Becky,

I sent Jim the relevant pages from the sHHRA (a redline strikeout version was what I had handy on my computer, but it was the final text, as I checked it against the hard copy). He has one comment (in sticky note form) at the bottom of the third page of the electronic file attached. I hope his comment is clear. If not, call Jim directly on his cell, as I will be at the CalEPA Vapor Intrusion conference in LA this afternoon.

Thanks,
Teri

[From Jim via email:]
Teri: They're close but not quite there... Take a look at the attached pdf and my comment (it's a long one but I'm trying to be as clear as possible as to what we need). Becky (or Mike) can give me a call anytime on the cell (949 795-0855) if she needs clarification but I think it's pretty self-explanatory. I think she'll need Mike's help on this.

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Teri L. Copeland, DABT
(818) 991-8240
(818) 991-8140 fax

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ED = exposure duration (years)

Volatilization factors for the construction worker were estimated based on USEPA's supplemental soil screening guidance (USEPA 2002a, Equations 5-14 and 5-15) as follows:

$$VF = [(3.14*D_A*T)^{1/2}/2*rho_b*D_A)]*10^{-4}m^2/cm^2*Q/C_{SA}*1/F_D \quad (5\text{-}7)$$

where

VF = subchronic volatilization factor for the construction worker scenario (m^3/kg)
D_A = apparent diffusivity (cm^2/s)
T = total time over which construction occurs (sec)
rho_b = dry soil bulk density (g/cm^3)
Q/C_{SA}= dispersion factor for volatile contaminant emissions construction scenario (g/m^2-s per kg/m^3); see Equation 5-3
F_D = dispersion correction factor (unitless); see Equation 5-4

Where:

$$D_A = [(\theta_a^{10/3}*D_i*H'+\theta_w^{10/3}*D_w)/n^2]/rho_b*K_d+\theta_w+\theta_a*H' \quad (5\text{-}8)$$

where

D_A = apparent diffusivity (cm^2/s)
θ_a = air-filled soil porosity (L_{air}/L_{soil})
D_i = diffusivity in air (cm^2/s)
H' = dimensionless Henry's Law Constant
θ_w = water-filled soil porosity (L_{water}/L_{soil})
D_w = diffusivity in water (cm^2/s)
n = total soil porosity (L_{pore}/L_{soil})
rho_b = dry soil bulk density (g/cm^3)
K_d = soil-water partition coefficient (cm^3/g)

Details regarding the calculation of construction worker scenario PEFs and VFs are included in Attachment 12~~10~~9. The resulting exposure point concentrations for ~~construction~~ intrusive utility workers exposure to chemicals in outdoor air (dust & volatiles) are presented in Tables 5-2, 5-3, 5-5, 5-7, 5-9, 5-11, 5-12, 5-13, 5-15, 5-17, 5-19, 5-21, 5-23, 5-25, and 5-31~~, and 5-29~~.

5.1.4.2 Indoor Air Vapor Exposure Point Concentrations

Volatile COPCs may migrate from the subsurface to indoor air. Because the Site currently does not include residential or commercial buildings, making direct measurement of indoor air concentrations impossible, modeling was used to estimate possible future indoor air vapor concentrations. Because soil gas (as opposed to soil or groundwater) provides the most direct

measure of subsurface vapor concentrations at the Site, concentrations of soil gas were used to estimate indoor air vapor concentrations. In this HHRA, the Advanced Soil Gas Version (SG-ADV) of the Johnson-Ettinger model (USEPA 2003) for vapor intrusion into indoor air was used to calculate potential indoor air vapor concentrations.[18,19] The model predicts the theoretical steady-state indoor air concentrations of COPCs based on the diffusion and advection of chemicals through soil and the building floor (e.g. concrete slab) and indoor air mixing processes. The model is based on the assumption of an infinite or non-diminishing COPC source in the subsurface. This means that although the mass of COPCs may be too low to support migration for the estimated 25 to 30 years of exposure (depending on the receptor), the model assumes that the COPC concentration is not depleted.

Future buildings at the Site fall into two categories – residential and commercial. Sizes of commercial structures likely will range from the small overnight visitor accommodations to larger commercial buildings more typical of hotels/conference centers. ~~Therefore, depending on the exposure area, indoor air concentrations are estimated for up to two building types: residential/small commercial buildings and large commercial buildings.~~ As shown in Tables 5-31 and 5-32, both site-specific and default parameters recommended by USEPA (2003) and/or Cal/EPA (2005b,d) were used to estimate indoor air concentrations. Default residential parameters for building length, width, ceiling height, indoor air exchange rate, and crack ratio recommended by Cal/EPA (2005b,d) were used for residential ~~and small commercial~~ buildings. ~~The use of residential parameters for small commercial buildings is health-protective and deemed appropriate since these are small units designated for over night use.[20]~~ Site-specific parameters, as identified by the ~~community development plan~~developer (see Attachment 5), were used for all four types of commercial buildings: small commercial, large commercial, hotel bungalow, and the parking lot support building. Small commercial buildings are estimated to be 2,000 square feet with 12-foot ceilings heights. Large commercial buildings are ~~conservatively~~

[18]Advanced Soil Gas Model (USEPA 2003) as modified by the DTSC; available online at http://www.oehha.ca.gov/risk/jefiles/jande.html

[19]The model's results are designed to provide incremental risk calculations. In this risk assessment, the model was used to calculate conversion factors for soil gas to indoor air, based on the "infinite source building concentration" in the "intercalcs" worksheet.

~~[20]Cal/EPA specifies that the residential parameters are protective of "typical small building businesses, e.g., small stores, gas-stations, etc." (Cal/EPA 2005d, specifically Table B-7 and Section 6.7)~~

assumed to ~~be slightly larger, occupying~~occupy ~~2,500~~ 20,000 square feet, and to have 12-foot ceiling heights. Hotel bungalows are expected to be 400 square feet, and to have 10-foot ceiling heights. The parking lot support building in Area N is also proposed to be 400 square feet, but to have 12-foot ceiling heights. The indoor air pathway is not evaluated for the yurts proposed for Area H, because these are tent-like accommodations that are open to outdoor air. The ~~D~~default ~~values for the model's most sensitive parameter,~~ commercial indoor air exchange rate (1), ~~are~~ is applied ~~in both all~~for all commercial building scenarios (Cal/EPA 2005d).

Residential structures, hotel bungalows, and small commercial buildings are assumed to be ~~slab-on-grade~~9cm slabs underlain by ~~overlying~~ 10cm of gravel (Layer A). For large commercial buildings, the first two soil layers (A and B) are modeled as sand and engineered fill, respectively, following Cal/EPA guidance (2005d). Site-specific soil parameters are used for Layer B (residential and small commercial) and Layer C (larger commercial). Soil physical parameter data were collected according to DTSC guidance suggesting that these data be collected at a minimum of three locations associated with a soil gas investigation; therefore ~~However, p~~physical soil properties ~~were~~ are available for only a subset of the soil gas sampling locations (Avocet 2008b). As part of the 2007 soil gas sampling investigation, soil parameter data were collected from five locations ~~: (~~(SV-14-05 and -15, SV-37-05 and -15, SV-39-05 and -15, SV-45-05, and SV-58-15 ~~(see Avocet 2008b))~~ covering the three stratigraphic units known to be present at the Site – unconsolidated soil (alluvium/colluvium), and bedrock of the Pismo and Obispo formations (Avocet 2008b). The results for input parameters for the Johnson-Ettinger model are presented in Table 5-33 below. As reported by Avocet (2008b), with the exception of SV-45-05, parameters generally fall within the practical range of values recommended as input parameters for vapor intrusion modeling. Sample SV-45 was collected from the Gragg member of the Pismo Formation, which Avocet (2008b) identified as locally diatomaceous and commonly containing elevated moisture contents and reduced densities.

Soil parameter data differ for the "west" (SV-37, -39, -45 and -58) and "east" (SV-14) sides of the Site, with western samples including more clay, non-plastic silty sand in the eastern

sample (Avocet 2008b).[21] As indicated above, moisture content of SV-45 is higher than the practical range reported by the USEPA (2003), and was excluded from consideration in the Site-specific values because its use could result estimated indoor air concentrations that are biased low. Because the results are similar for SV-37, -39 and -58, their average is used to estimate indoor air concentrations for Exposure Area located on the western portion of the Site (A, B, C, D, E, F, and G). The average of the results for SV-14 is used to estimate indoor air concentrations for Exposure Areas in the eastern portion of the Site (I, J, K, L, M, and N). The results of these "east" and "west" groupings are representative of the range of geologic materials that underlie the Site, and are generally consistent with available historical measurements of the pneumatic properties at the Site, which found moisture contents ranging from 18% to 58.9%, bulk densities of 1.03 to 1.47 g/cm^3, and total porosities of 0.365 to 0.571 cm^3/cm^3 (England & Associates, 1998).[22] The average soil temperature is that reported for two monitoring stations in San Luis Obispo County, CA.

[21]SV-37, -39, -45 and -58 are located on the western portion of the property in Exposure Areas F, G, C, and D, respectively; SV-14 is located in Exposure Area I on the eastern side of the Site.

[22]Historic measurements include 11 samples collected from six locations, but only one sample is within 15 feet bgs.

From: Katie Butler [kbutler@mclam.com]
Sent: Thursday, July 09, 2009 9:16 AM
To: 'Paul Black'
Subject: FW: Background Comparisons for Arsenic - Avila Tank Farm
Attachments: Arsenic Data Summary and Analysis_070909.docx

Hi Paul,

Hope you had a nice 4th of July weekend. Since our conference call last week, I've been running the analyses you suggested and thinking how to expand the background dataset, especially for Obispo-related samples.

Attached are some additional summary tables, EDA plots and comparison test results. I'm hoping we can discuss these results before the end of this week.

In summary, the attachment shows:

1. Characterization of arsenic in ALL geologies onsite – there are 9 distinct categories, but Pismo- and Obispo-related samples account for 94% of the onsite samples. The artificial fill is the only non-Pismo/Obispo soil type that has arsenic greater than 2ppm. This fill is confined to a small area of the Site in Open Space to restore the slope, so it does not seem to be a concern from a conceptual exposure (max arsenic in the fill is 9 ppm).
2. Comparison of Obispo and Pismo subtypes – used ANOVA and Kruskal-Wallis test to compare all three sub-types: asphalt, rock and soil. You will see arsenic in Obispo samples with a asphaltic component are higher than rock and soil derived samples, but this same pattern is not seen in Pismo. So I don't think there is anything unique about the asphaltic samples that would affect arsenic concentration.
3. An expanded background dataset for Obispo with associated EDA plots and comparison tests– I added deep onsite samples (>10 ft bgs) to offsite background data, because TPH contamination at depth is not associated with arsenic. With this additional "background" data, the distributions seem more similar when outliers in the background data are removed. Also note concentrations for arsenic in Obispo appear to be very random across all depths.

I will give you a call to discuss.

Thanks,

Katie

~-~-~-

From: Paul Black [pblack@neptuneinc.org]
Sent: Thursday, July 09, 2009 2:21 PM
To: Katie Butler
Cc: Aaron LaBarre; Teri Copeland
Subject: Re: Follow-up on arsenic analyses

Katie,

This all looks reasonable to me. Statistically I think the arguments for arsenic as background are well supported here.

To support background comparisons using onsite background requires justification that the onsite locations/samples represent background conditions - along the lines of the locations (x,y,z locations) are not impacted by site activities because they are too deep and because we see no contamination from other chemicals (organics, lead, etc.). Also, it would help to include the depth profile analysis for As to demonstrate that we are not masking effects because concentrations increase (or decrease) with depth.

Then, this looks close to me.

Cheers

Paul

On Jul 9, 2009, at 2:00 PM, Katie Butler wrote:

Hi Paul,

Thanks for the quick response to my email this morning. Attached is the updated Word file with:

- Correct Pismo Soil results on page 2 – the plots look much better now!
- Comparison test results for soil types within the *original* background data – you were right, they passed!
- Background comparison test results for expanded background data before removing outliers (I'll present both with and without outliers for the report).

I'm glad you caught my copy-paste error with the Pismo Soil – this only affected the results on page 2 of the Word document. With the correct data for Pismo soil, the ANOVA passes but the Kruskal-Wallis doesn't. I didn't run any post-hoc tests, but looks like the arsenic median in Pismo-rock is slightly higher than in Pismo-soil. There's no geologic explanation for this difference, and I don't think it's a big enough difference to justify not grouping them together.

I'll proceed with a more formal analysis for depth profile, and then start writing this up.

Cheers,

Katie

~-~-~-

From: Chuck Lambert [celambert@mclam.com]
Sent: Friday, July 31, 2009 3:55 PM
To: alabarre@co.slo.ca.us
Cc: 'Teri L Copeland'; 'Paul Black Ph. D.'; 'Katie Butler'; rcountway@mclam.com; 'Wagner, Anne'; 'Rutherford, Kyle'
Subject: Final Outstanding Avila TF HHRA Issues

Aaron

Teri and I discussed this morning what we believe to be the last outstanding HHRA issues based on the extensive comment matrix that we put together.
Our agreements are summarized below:

1) EHS Comment #2C: Include all risk drivers for all receptors in Tables ES-1 and 8-1
   We agreed to limit to major drivers for cancer risk >10-6 or noncancer HI>1.
   Table 6-1 will still contain all the major drivers.
2) EHS Comment 3AIV: Discuss PARCC in terms of CEM (conceptual exposure model)
   Teri will follow-up with Neptune and Neptune will provide language and/or clarify
3) EHS Comment 3BII/3BIII: Arsenic as COPC
   Larger background data set supports conclusion that arsenic does not exceed background and Neptune agrees.
   In expanded background assessment other metals will follow same approach used for arsenic.
   The County will address arsenic in the risk management phase where necessary.
4) EHS Comment 3CII: Did not agree on soil horizon for recreators
   We agreed that 2' soil horizon is appropriate.
5) EHS Comment 3II: Justify use of 95% UCL for construction worker/utility worker
   We agreed that given short term exposure and likely exposure in different areas that 95% UCL is okay [for each exposure area – not entire site].
6) Neptune Comment #7: Use of wet weight versus dry weight
   Teri will discuss with Neptune to formulate uncertainty language since this is an issue that impacts many risk assessments and we do not have sufficient data on soil moisture content to adjust the wet weight data to dry weight concentrations.

We must complete the HHRA by the last week in August.
Teri is out the last week in August and first week in September.

Please call with any questions or concerns.

Cheers

Chuck Lambert
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Venice CA 90291
www.mclam.com
ph 310 392 6462
cell 323 717 0983

FW Avila background discussions

From: Chuck Lambert [celambert@mclam.com]
Sent: Tuesday, August 11, 2009 9:13 AM
To: 'Katie Butler'; 'Rebecca E. Countway'
Subject: FW: Avila background discussions

Chuck Lambert
McDaniel Lambert Inc.
1608 Pacific Ave, Suite 201
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-----Original Message-----
From: Teri L Copeland [mailto:terilcopeland@yahoo.com]
Sent: Tuesday, August 11, 2009 9:12 AM
To: 'Chuck Lambert'
Subject: FW: Avila background discussions

-----Original Message-----
From: Paul Black [mailto:pblack@neptuneinc.org]
Sent: Thursday, July 23, 2009 8:05 AM
To: Aaron LaBarre
Cc: Teri Copeland
Subject: Avila background discussions

Aaron, Teri,

Just thought I should let you know that I've had some more communication with Katie Butler in this past couple of weeks.

I also have another document to comment upon for arsenic background comparisons.

The upshot is that the new document has done what we needed it to do, and the arguments in favor of arsenic at background now seem sufficiently strong to me. Katie is now going to apply a similar approach to the other metals to confirm that they, also, are at background on the site.

So, I owe you comments on 2 documents now - I will try to get those done this weekend finally.

Cheers

Paul

Paul K. Black, Ph.D.
Neptune and Company, Inc. phone: (720) 746-1803
8550 West 14th Avenue, Suite 100 fax: (720) 746-1605
Lakewood, CO 80215 e-mail:
pblack@neptuneinc.org

visit our website - http://www.neptuneandco.com

Checked by AVG - www.avg.com

Rebecca E. Countway

From: Teri L Copeland [terilcopeland@yahoo.com]
Sent: Tuesday, August 11, 2009 2:27 PM
To: rcountway@mclam.com
Cc: 'Chuck Lambert'
Subject: Avila model parameters

Becky,

Jim is in next week and out the following week. He has a large deliverable this week and is in the field part of next week, but will try to review what you sent next week. If not, our colleague Ted Koelsch (works with Jim all the time) can review it. Here is Jim's feedback for now:

Thanks Teri. The comment they're responding to has to do with the concept of "are their soil physical data (moisture content, porosity, bulk density, etc.) representative of site conditions". The fact that have attached cross-sections and got a geologist involved gives me a good feeling that they have gone about this the correct way.

Teri

PLEASE NOTE NEW EMAIL ADDRESS:
TeriLCopeland@yahoo.com

Teri L. Copeland, DABT
(818) 991-8240
(818) 991-8140 fax

No virus found in this incoming message.
Checked by AVG - www.avg.com
Version: 8.5.392 / Virus Database: 270.13.50/2296 - Release Date: 08/11/09 06:10:00

Rebecca E. Countway

Sent: Wednesday, August 12, 2009 10:06 PM
To: Rebecca E. Countway
Subject: Fw: Avila model parameters

Becky: As you requested. See email below.

Best,
Jim
----- Original Message -----
From: Jim Van de Water
To: Teri L Copeland
Sent: Wednesday, August 12, 2009 3:11 PM
Subject: Re: Avila model parameters

Teri: Spoke to Mike and Becky. They're good to go. Becky and Mike agreed with my comments and they will add some clarifying text re: the rock being equivalent porous media (i.e., heavily weathered so it behaves like soil) and the fact that the overwhelming majority of contamination is in "soil" and not in the "rock". Becky will also not scale down the Qsoil value for the hotel bungalow to 1.9 L/min - she will use the minimum value of 5 L/min (conservative approach).

Best,
Jim

From: Chuck Lambert [celambert@mclam.com]
Sent: Tuesday, September 08, 2009 9:59 PM
To: Katie Butler; Rebecca E. Countway
Subject: Fwd: PARCC and CEM

Sent from my iPhone
Chuck Lambert
323 717 0983

Begin forwarded message:

> **From:** Paul Black <pblack@neptuneinc.org>
> **Date:** September 8, 2009 3:49:54 PM PDT
> **To:** "Chuck Lambert" <celambert@mclam.com>
> **Cc:** Teri Copeland <TeriLCopeland@yahoo.com>
> **Subject: Re: PARCC and CEM**
>
> Chuck,
>
> I think our conversation about wet vs dry weight was probably sufficient. Basically, acknowledge that the data are wet weight, that a translation cannot be done because of insufficient moisture content data, hence risks are under-estimated (for this reason - probably overestimated for other reasons). Recognize that CHHSLs (and really all risk thresholds that are published) assume dry weight data for comparison (otherwise we could simply flood a site before sampling to get the concentrations down). And, then note that verification samples will be analyzed as dry weight samples and moisture content data will be provided. The dry weight data will be used for post-remediation risk assessment where necessary, and the moisture content data will be used to calculate wet weight data for comparison with pre-remediation conditions.
>
> Thinking about the PARCC one. Our issue usually is that the data usability evaluation should do more than DV - that is, it should do more than show that data are usable analytically (largely that is a DV exercise). In particular, the DU (including the PARCC discussion) should reach out to the CSM/CEM - for example, the CSM/CEM might indicate certain chemicals of greater concern, or perhaps some media are of greater concern - we want to make sure that these chemicals or media have been looked at in the context of the overall decisions that will be made at the site - that is, that the data are usable for their intended purpose, and not just that they pass some standard tests (such as RPD). The EPA guidance does a reasonable job at laying this out, but in our opinion, it is worth looking at some of the more important data up front (exploratory data analysis), and do some focused evaluation (validation) if necessary until we are sure that the data will meet the needs of the risk-based decision. This goes both ways - you don't want to overestimate risk unnecessarily, and and we (regulators) don't want you to underestimate risk unnecessarily. So, the comment is along those lines.
>
> We can try to deal with these some more during the review process.
>
> Let me know if you need more now, but I realize you want to get this out tomorrow, so perhaps this will be sufficient for now. If you can take a quick look at the DU Evaluation for any CSM/CEM risk-based issues that might help, but I realize time is short to do that now. Our DU evaluation would not have focused on that particularly because, at that time, we did not know as much about the risk-based approach as we do now.
>
> Cheers
>
> Paul

On Sep 8, 2009, at 3:50 PM, Chuck Lambert wrote:

Hi Paul

Teri pulled it from Pg 59 of your Data Validation Report where you have some kind of language that you always address?
"PARCC parameters in terms of CSM/CEM: PARCC are discussed in terms of analytical data only."

Any thoughts on what we should do?

Cheers

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visit our website - http://www.neptuneandco.com

Drafted by Strategic Initiatives based on the October 20, 2009 EHS/APCD meeting.

Avila Tank Farm Collaborative Assessment Team

Draft EHS/APCD Meeting Summary

Date: October 20, 2009

Time: 9:30 AM – 1:35 PM

Location: Chevron Offices, San Luis Obispo, CA

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Kurt Fehling*	The Fehling Group
Chuck Anders	Strategic Initiatives	Aaron LaBarre	SLO County EHS
Paul Black*	Neptune	Chuck Lambert	McDaniel Lambert
Doug Bronson*	Neptune	Andrew Mutzinger	APCD
Katie Butler	McDaniel Lambert	Kyle Ruthaford	Chevron
Becky Countway	McDaniel Lambert	Robert Van Hyning	Avocet Environmental
Teri Copeland	SLO County EHS		

* via conference call

Safety Moment – Flu Vaccines

Chuck Lambert recommended getting both the seasonal flu shot vaccine and also the 2009 H1N1 flu vaccine. He noted that the reports circulating on the internet and news media indicating that flu vaccines might cause illness are not valid. There is no greater risk with this year's flu shots than in previous years. Aaron LaBarre noted that the San Luis Obispo County Health Officer was also recommending getting the flu shots this season. He indicated that free flue shots are available through the Health Department and he will circulate a notice to the meeting participants when the next round of vaccines are available.

Review of May 11, 2009 Meeting Summary

Chuck Anders will distribute the draft May 11, 2009 meeting summary for ratification via email.

Discussion of Supplemental Human Health Risk Assessment Revisions

The purpose of the meeting was to review and discuss revisions to the Supplemental Human Health Risk Assessment, version 1.2 (sHHRA) distributed by Chuck Lambert on September 14th and resolve outstanding issues, if any.

Chuck Lambert used the Response to Comments table (version 1.1) as a guide to review the changes in the revised sHHRA. All fifty-nine revisions noted on the table were discussed. The revisions were generally acceptable to the meeting participants with the following clarifications:

Item 13-#6 – Paul Black noted that the discussion in this section should justify that there are enough data to draw appropriate risk conclusions at the site through a Data Quality Assessment (DQA). If the DQA uses a qualitative approach it would be necessary to include language that anticipates the collection of additional data

after remediation, if necessary. Paul will work with Chuck Lambert to draft appropriate language later this week.

Item 16 – Paul Black indicated that the overall process for the COPC screening process for metals was fine. He will discuss some minor issues when he submits his final comments.

Items 26 - 29 – No longer applicable since screening methodology has changed.

Item 36 – Change reference from "maintenance worker" to "utility worker."

Item 38 – Kurt Fehling believes that 2- hexanone has it's own criteria; therefore, it's not necessary to use a surrogate. Kurt will provide criteria information to Chuck Lambert. Should not change the result.

Item 40 – No longer applicable.

Item 41 – No longer applicable.

Item 43 – Paul Black will provide clarifying language.

Item 46 – Andy Mutzinger questioned whether exposure due to construction, in addition to remediation, should be considered in section 7.5, which discusses the risks to downwind residents during remediation. Robert Van Hyning noted that it would be premature to include "vertical" construction information since the details of building type, size and construction are not known. Andy agreed that it was appropriate to address this issue in the EIR phase and requested that a discussion of the possible impacts of building construction be included in the uncertainty section of the RMP. It was noted that the impacts due to building construction would likely be relatively small as compared to site remediation and site-grading.

Item 52 – Reference the uncertainty section in a footnote.

It was agreed that issues identified in APCD's comment letter which are not addressed in the sHHRA will be discussed in the Risk Management Plan (RMP). McDaniel Lambert agreed to include a copy of APCD's comment letter and the Response to Comments table in Attachment 2 (ATCAT Correspondence) of the final sHHRA.

Off-Site Mitigation Alternatives

The concept of off-site mitigation was raised during the discussion of sHHRA revisions. Andy Mutzinger explained that off-site mitigation was an alternative in the event that activities at the site would exceed acceptable air quality levels to surrounding receptors. The current mitigation rate is $16,000 per ton of excess emissions. The APCD would then use the money to fund projects that would result in reduced emissions at other locations in the community.

Andy noted that the APCD is in the process of preparing revisions to the CEQA handbook that would have new thresholds for diesel emissions. He observed that there has been substantial progress in reducing particulate emissions from diesel engines for trucks; however, requirements on-site construction equipment lags behind. He was asked whether use of bio-diesel would result in reduced emissions. Andy said that he would research the question and inform the meeting participants of the results. Andy indicated that it is likely that the APCD would require some type of on-site mitigation during remediation, (such as, use of new, cleaner construction equipment or special filter) given the probable levels of emissions. These issues will be addressed in the EIS phase of the site development process and should be noted appropriately in the sHHRA and RMP.

Document Approval Process

Kyle Rutherford raised questions regarding the mechanism for approval of sHHRA, RMP, Feasibility Study (FS), Remedial Action Plan (RAP) and closure/post-closure plan. He observed that the Regional Water Quality Control Board (RWQCB) typically is the approving agency for clean-up documents like the FS and RAP. Aaron LaBarre noted that EHS was responsible for issuing permits for occupancy of public

projects. Aaron anticipates a multi-jurisdictional closure process that includes joint approval by EHS, APCD and RWQCB. Aaron will coordinate with these agencies to discuss how documents will be reviewed and approved and provide this information to Chevron within a week. It was agreed that the approval process should be clearly presented in the RMP.

Path Forward

Teri Copeland will discuss timing to complete their review of the Response to Comments with her team and provide a date for completion. Once final comments are received, Chuck Lambert will make necessary revisions and distribute a final redline only electronic text version of the sHHRA (including any tables that have changed) for final approval. EHS will then receive a hard copy of the final sHHRA and transmit an approval letter to Chevron.

Teri Copeland will also prepare a risk table that includes proposed area-specific acceptable risk levels to be included in the RMP. She will prepare for a few key areas and distribute to the County EHS for preliminary review. Aaron LaBarre will arrange a meeting with Curt Batson to discuss the use of area-specific acceptable risk levels versus a site-wide bright line threshold before too much work is done on this activity.

The meeting participants agreed to make their best efforts to finalize and approve the sHHRA before Thanksgiving. The draft RMP would be distributed around the end of the year and the full ATCAT would meet to discuss the draft RMP around the end of January.

SAN LUIS OBISPO COUNTY HEALTH AGENCY

PUBLIC HEALTH
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Jeff Hamm
Health Agency Director

Penny Borenstein, M.D., M.P.H.
Health Officer/Public Health Administrator

Curtis A. Batson, R.E.H.S.
Director of Environmental Health

December 23, 2008

Chevron
Attn: Bill Almas
PO Box 1069
San Luis Obispo, CA 93406

Review of Supplemental Human Health Risk Assessment (sHHRA) for Former Avila Tank Farm, Avila Beach, California

Dear Mr. Almas

We have reviewed the following document:

- Supplemental Human Health Risk Assessment (sHHRA) for the Avila Tank Farm Property in Support of the Community Development Plan, Final Draft Version 1.1 (McDaniel Lambert, Inc. prepared for Chevron Corporation, August 2008)

Refer to the attached Technical Memorandum for a detailed discussion on the following required response items.

The following revisions are required for the sHHRA:

1) Corrections required on June 12, 2008 directive not currently compliant:

A) Correct sections of the sHHRA, which use the incorrect definition for incremental lifetime cancer risk (ILCR) (excess cancers per million people exposed). Replace this definition with the correct definition as stated Section 6, The ICLR is defined as "risks are estimated as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to the potential carcinogen". (USEPA, 1989a).

B) Remove risk management recommendations from the sHHRA in accordance with USEPA guidance for risk characterization and risk management. The guidance states that "risk characterizations should be clearly presented, and separate from any risk management decisions." (USEPA, 1995, 2000b).

2) **Required General Amendments or Corrections.**

A) Submit a fully annotated Response to Comment (RTC) letter to the current comments concurrently with the next revision of the sHHRA. For each comment, identify how the comment was addressed and where in the document the revision was made. This will expedite the review process.

B) Replace "the SLO County Health risk assessment consultant' with "SLO County EHS".

C) Please identify risk drivers for all receptors, rather than just for selected risk results, as acceptable risks have not been determined at this time.

3) **Required Section amendments**

A) **Section 2.1.2: 2007 Neptune & Company Data Validation and Usability Evaluation**

I) Revise the Uncertainty Analysis to include discussion of Soil Sample accuracy for Soil samples SV-53-01, SV-61-05, SV-02-10, SV-08-01, SV-47-10 and S-1A-03 as the recoveries for various metals in matrix spikes were below the laboratory target range (75-125%).

II) Revise the Uncertainty Analysis to include additional discussion of problems identified with the Soil Matrix Data for:

- Volatile Fuel Hydrocarbons. Eleven samples had recoveries for 4-bromofluorobenzene below the laboratory target range.
- Volatile Organics with Oxygenates.
  - A number of samples had surrogate recoveries that were outside of the QC limits, which resulted in estimated values.
  - Analytes in five samples (SV-58-02, SV-36-05, SV-08-01, SV-04-05, SV-38-05) had low recoveries in the matrix spike.
- Polycyclic Aromatic Hydrocarbons (PAHs).
  - The analytes 2-Methylnaphthalene, 1-Methylnaphthalene, Indeno[1,2,3-cd]pyrene, and Dibenz(a,h)anthracene exceeded the relative percent difference (RPD) limits.
  - The matrix spike pair in sample SV-36-05 for Benzo[g,h,i]perylene had recoveries of 38% and 49% which are below the limits of 57-142%.

- The matrix spike pair in sample SV-35-01 for Chrysene, Benzo[a]anthracene and Fluorene had recoveries below the laboratory control limits.

- Hydrocarbon Distribution. The recoveries of the surrogate n-Octacosane in seventeen samples (9 samples from IQG1327, 6 samples from IQG1351, and 2 samples from IQG1730) were outside of the laboratory target range.

III) Revise the Uncertainty Analysis to include discussion of useable Air Toxics Data.

- Provide commentary in the Uncertainty Analysis that addresses the four laboratory control samples (LCS) (1,2-Dichloro-1,1,2,2-tetrafluroethane, 1,2,4-Trichlorobenzene, Hexachlorobutadiene and Naphthalene) which have low recoveries.

- Provide additional information to assess the magnitude of calibration range exceedances and impacts on uncertainty of the results for Cyclohexane in sample SV-38-15 and chloroform in sample SV-10-15.

- Provide commentary in the Uncertainty Analysis regarding the value of m,p-xylenes in one Equipment Blank.

IV) Revise the Uncertainty Analysis to include discussion of precision, accuracy, representativeness, comparability and completeness (PARCC) in terms of conceptual site model/conceptual exposure model (CSM /CEM).

B) **SECTION 2.2.1 Metals Background Evaluation**

I) Provide a discussion regarding the laboratory reporting issues associated with thallium and include the relevant documentation (i.e., laboratory correspondence and associated laboratory report[s]). This can be included in the data usability section of the sHHRA.

II) Provide spatial plots of arsenic concentrations for areas that have arsenic levels reported greater than the maximum background concentration of 15 mg/kg.

III) Further assess locations with arsenic levels reported greater than the maximum background concentration of 15 mg/kg (see attached comments under Section 2.2.1).

C) **SECTION 5.1.1 Soil Exposure Point Concentrations (EPCs)**:

I) Please add a table which summarizes all final soil exposure point concentrations (EPCs) based on upper confidence limit (UCL) calculations (i.e., all cases where n > 9 and UCL < maximum concentration).

II) Provide documentation that 0-2 foot EPCs are not higher than 0-10 foot EPCs.

D) **SECTION 5.1.1.15 Open Space Exposure Point Concentrations**

I) Provide rationale using the data distributions for risk drivers for not splitting the large "Open Space" exposure area into smaller exposure areas. Spatial plots of arsenic and benzo(a)pyrene (BaP) TEQ for Area A and Open Space shall be used as the basis for a Hot Spot Assessment.

E) **Section 5.2.1.5 Intrusive Construction Workers**

I) Clarify that applicable construction workers contacting hazardous materials and hazardous waste on site will be properly trained meeting HAZWOPER requirements.

II) Revise language in the document from "utility worker" to "construction worker". The exposure parameters for this short-term worker remain to be consistent with the USEPA generic construction worker receptor values (i.e., USEPA, 2002, Section 5). Revise terminology for this receptor to be consistent with the USEPA definition.

F) **Section 6.0 Risk Characterization.** Only provide risk characterization results and not risk management recommendations.

G) **Section 7.3.3 Chemicals Without Toxicity Factors.** List a toxicological surrogate for tert-butyl and 2-hexanone. Explain why 2,2,4-trimethylpentane is listed in the text.

H) **Section 7.4.1 Receptor Selection and Exposure Pathways**

I) Provide a full risk characterization for a worker who could potentially live onsite in Area A or Area M. Provide further discussion and risk calculations to assist the risk managers and remedial action planning. Although Area M is designated as "workforce housing", residents in either Area A or Area M could also work within any area at the site without specific restrictions.

II) There shall be a discussion that a resident living in Area A could also be a worker at the site. A worker that lives at the site, should be identified as a "residential receptor", not a "worker receptor"

I) **Section 7.4.3.2 Use of the 95 Percent Upper Confidence Limit (UCL)**

I) Justify the use of the 95% UCL as an EPC for construction worker exposure. This appears to underestimate construction worker exposure.

J) **Section 7.4.3.5 Soil Depth Horizon**

I) The 0-2 foot soil depth interval shall be used as the primary basis for direct contact exposure pathways (USEPA, 2002).

II) Identify the seven soil Chemicals of Potential Concern (COPCs) for which the 0-2 foot depth concentrations exceed the 0-10 foot depth concentrations.

III) Provide documentation that use of the 0-2 foot datasets for these instances would not result in a meaningfully higher risk.

K) **Section 7.5 Cumulative Risk Uncertainties.** Provide discussion about the onsite resident that also works at the site.

L) **Section 7.6 Conclusions Regarding Uncertainty.**

I) Provide an amended Uncertainty Analysis with the following:

- Use the value of the reporting limit in the risk calculation.
- Use the results of the data usability evaluation to support the Uncertainty Analysis.

M) **Section 8.0 Discussion and Conclusions**

I) Remove risk management recommendations throughout the document and specifically from the following:

- Table 8-1 Provide information regarding the risk drivers for key receptors within each area, regardless of risk characterization results.
- Page 145, fourth bullet. Specific areas are identified for which "no further action is necessary for the safe use..."

II) Make amendments to the following Tables:

- Table 1-2
  - Add "small commercial structure" to Area N (as per text, Section 1.6.13).
- Soil COPC Summary Tables
  - Correct the tables by placing the PAH concentrations in mg/kg.
- Table 3-1
  - Provide commentary explaining why cancer slope factor (CSF) values may not appear exactly as the values reported in the Cal/EPA toxicity database due to rounding (e.g., benzene, chloroform).
  - List the oral slope factor (SF) for naphthalene as it is currently listed in the OEHHA Toxicity Criteria Database. The Table lists the SF value and calculations for inhalation only.

- Address the comment "Benzene oral RfD on IRIS is 4E-03 (not 3E-03)."
- Add a definition for "*" to the table.

- Table 5-48. Reformat to 11 x 17. The 8 x 11 is too difficult to read.

III) Figure 4-1

- Provide discussion that site grown produce is potential exposure pathway for the construction worker.

IV) **Attachment 9 – Construction Worker particulate emission factor (PEF) and VF Calculations.**

- Provide the potential particulate mass emitted due to excavation activities (USEPA, 2002, Equation E-21) regarding potential exposure to the construction worker.
- Incorporate the equations associated with truck traffic for the particulate emission factor (PEF) (USEPA, 2002, Equation E-18).
- Add an excavation component to the PEF for a "soil disturbance" scenario.

V) **Attachment 13 – Indoor Air Vapor Concentration Model Output.**

- Provide residential home foundation (engineered fill layer and slab depth) dimensions required in California for use in the residential model. This information was not provided in Attachment 5.
- Provide confirmation of building foundation type all proposed buildings will be constructed with on site. This information was not provided in Attachment 5.
- Provide a table listing the chemical parameters for COPCs not listed in the default 'VLOOKUP' table (e.g., cyclohexane, tetrahydrofuran, isopropyl alcohol).
- Provide the VLOOKUP table. The VLOOKUP table was not in Attachment 13.
- Provide the attenuation factor and selected indoor air EPC for hexane in Area E.
- Provide the attenuation factor and selected indoor air EPC for o-Xylene in Area H.
- Provide the attenuation factor and selected indoor air EPC for 4-Ethyltoluene in Area I.

If you have questions concerning this letter, please call me at 805-781-5595.

Sincerely,

Aaron LaBarre, REHS
Supervising Environmental Health Specialist
Hazardous Materials Section

C: 1. Charles Anders, Strategic Initiatives
2. Andy Mutziger, APCD
3. Dan Niles, RWQCB
4. Teri Copeland

References Cited

CalEPA/DTSC, 1996. Supplemental Guidance for Human Health Multimedia Risk Assessment of Hazardous Waste Sites and Permitted Facilities. Department of Toxic Substances Control, October 7. Reprinted 1993, 1996. http://www.dtsc.ca.gov/ScienceTechnology/index.html

CalEPA, 2005. Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties, January.
http://www.calepa.ca.gov/Brownfields/documents/2005/CHHSLsGuide.pdf

Copeland, T. and J. Otani Fehling, 2008. Comments to the **Supplemental Human Health Risk Assessment for the Avila Tank Farm Property in Support of the Community Development Plan Final Draft Version 1.1**(McDaniel Lambert, Inc. prepared for Chevron Corporation, August 2008; Version 1.0), October 25, 2008

Copeland, T. and J. Otani Fehling, 2008. Comments to the **Draft Supplemental Human Health Risk Assessment for the Avila Tank Farm Property in Support of the Community Development Plan** (McDaniel Lambert, Inc. prepared for Chevron Corporation, April 2008; Version 1.0), June.

McDaniel Lambert, 2008a. Supplemental Human Health Risk Assessment for the Avila Tank Farm Property in Support of the Community Development Plan, Draft Version 1.0, April.

McDaniel Lambert, 2008b. Final Supplemental Human Health Risk Assessment for the Avila Tank Farm Property in Support of the Community Development Plan, Final Draft Version 1.1, August.

McDaniel Lambert, 2008c. **Response to SLO County Environmental Health and SLO APCD Comments on the Draft Avila Tank Farm Property Supplemental HHRA, June (submitted via e-mail).**

Neptune and Company, Inc, 2008. Avila Tank Farms Data Validation and Data Usability Report, April.
USEPA, 2002. Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. Office of Solid Waste and Emergency Response, December.
http://www.epa.gov/superfund/resources/soil/index.htm

Teri L. Copeland, M.S., DABT
Environmental Toxicologist

5737 Kanan Rd. #182, Agoura Hills, CA 91301 * (818) 991-8240 phone (818) 991-8140 fax

Technical Memorandum

To: Aaron LaBarre, R.E.H.S.
San Luis Obispo County Health Department, Environmental Health Services

From: Teri Copeland, DABT and Joanne Otani Fehling, R.N., M.S.N., P.H.N.

Date: October 25, 2008

Re: Comments to the **Supplemental Human Health Risk Assessment for the Avila Tank Farm Property in Support of the Community Development Plan, Final Draft Version 1.1** (McDaniel Lambert, Inc. prepared for Chevron Corporation, August 2008)

A review of the above referenced Final Draft Supplemental Human Health Risk Assessment (sHHRA Version 1.1) was conducted. We previously reviewed the Draft Supplemental Human Health Risk Assessment for the Avila Tank Farm Property in Support of the Community Development Plan (McDaniel Lambert, April, 2008a) and provided comments to you on June 8, 2008 (Copeland and Otani Fehling, 2008). Our comments on the sHHRA Version 1.1 are provided herein in two sections: (I) Previous comments that were not adequately addressed in the sHHRA Version 1.1 (previous comment is presented in italics and current comment follows) and (II) Additional comments. Please note that page numbers referenced in previous comments are based on page numbering from Version 1.0 of the sHHRA (McDaniel Lambert, 2008a). Comments that have been adequately addressed are not included in this technical memorandum. Comments from Neptune and Company are included as Attachment A. Please note that, although this technical memorandum is addressed to you, the comments are directed to the authors of the final draft sHHRA (McDaniel Lambert, 2008b).

I. PREVIOUS COMMENTS NOT ADEQUATELY ADDRESSED

A. GENERAL COMMENTS

General Comment 1- As stated in Section 6 of the sHHRA, the USEPA states that for carcinogens "risks are estimated as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to the potential carcinogen (USEPA, 1989a)." This section of the sHHRA defines the incremental lifetime cancer risk (ILCR) as follows: "The ILCR is an upper-bound estimate of the incremental cancer probability (i.e., the incremental probability above that of an individual getting cancer for reasons other than the chemical exposure) for individuals who may be exposed to sited-related, potentially carcinogenic, COPCs under the exposure scenarios...". These definitions are correct and consistent with USEPA guidance (USEPA, 1986, 1989a, 2000a).

In other sections of the sHHRA, the ILCR is defined as the number of excess cancers per million people exposed. This definition for ILCR is incorrect. Please edit these sections to be consistent with the definition in Section 6, which is the correct definition for ILCR.

This comment was not addressed in all instances. Several sections of the sHHRA have been modified; however, there are still definitions of ILCR in the text which refer to a risk "per million people exposed". Please search and replace all references to incremental lifetime cancer risk to read as in Section 6 (quoted above).

General Comment 2 - In accordance with USEPA guidance for risk characterization and risk management (USEPA, 1995, 2000b), "risk characterizations should be clearly presented, and separate from any risk management decisions." Accordingly, please remove risk management recommendations from the sHHRA or make clear that they do not represent decisions of the risk managers and are included by the risk assessors only for consideration in the draft Risk Management Plan.

Based on discussions with members of the ATCAT committee representing the regulatory agencies, we recommend removing the identification of acceptable risks for the site and related language which concludes certain areas are safe (and do not require remediation) or are not safe (and require remediation). It is our understanding that the risk managers will determine acceptable risk levels based on a thorough understanding of the uncertainties for each exposure area and the specific receptors. Accordingly, the risk characterization (and Executive Summary and Conclusions) should be limited to the presentation of the risk characterization results. If desired, language such as the following may be included in the sHHRA to place perspective on the risk characterization results:

> The CalEPA Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) no significant risk level (NSRL) is 10-in-one million. The USEPA acceptable risk range is 1-in-one million to 100-in-one million. The acceptable noncancer hazard index for CalEPA and USEPA is less than or equal to 1.

B. SPECIFIC COMMENTS

Section 2.0 Chemicals of Potential Concern

Section 2.1 Data Validation and Usability

Section 2.1.2 2007 Neptune & Company Data Validation and Usability Evaluation

The Neptune and Company data evaluation report (Neptune and Company, 2008) was very comprehensive and identified a number of potential data quality concerns. Please address each of the "most significant findings" from the Neptune and Company evaluation ***(as well as any other potential data impacts on the sHHRA)*** *in this section and, where relevant, in the uncertainty analysis.*

In their data evaluation report, Neptune and Company recommended discussion of a number of data usability issues in the uncertainty analysis that were not discussed in the revised sHHRA (Neptune and Company, 2008). Specific items not found in the uncertainty analysis, yet recommended for discussion by Neptune and Company, are included in Section II Additional Comments.

Section 2.2.1 Metals Background Evaluation

Page 38, footnote (and Table 2-1 footnote) – It is not clear what the implications are for the inadvertent reporting of thallium as not detected in the 2004 background evaluation.

The original footnote was deleted in the revised sHHRA. As discussed during the March 11, 2008 ATCAT meeting, a summary of the laboratory reporting issues for thallium should be included as well as the relevant documentation (i.e., laboratory correspondence and associated laboratory report[s]). This can be included in the data usability section of the sHHRA.

Section 5.0 Exposure Assessment

Section 5.1 Development of Exposure Point Concentrations

Section 5.1.1 Soil Exposure Point Concentrations

Please add a table which summarizes all final soil EPCs based on UCL calculations (i.e., all cases where n > 9 and UCL < maximum concentration).

This table was not found in the revised sHHRA. Although the information is provided in the individual EPC summary tables, it is very helpful to the risk managers to have the requested summary table included in the sHHRA.

Page 69 – For direct contact soil exposure pathways and particulate inhalation, please clarify that 0-2 foot exposure point concentrations (EPCs) are not higher than 0-10 foot EPCs.

The following statement was added to this section to support the use of the 0-10 foot soil depth interval as the basis for EPCs for all receptors evaluated, "Soil EPCs generally are based on data from 0-10 feet bgs, as recommended in Cal/EPA guidance (Cal/EPA 2005a)."

The CalEPA guidance cited is the *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties*[1]. The CHHSLs are risk-based soil concentrations that "are applicable to soils that are at the ground surface or could be brought to the ground surface at some time in the future, with subsequent potential exposure by human receptors" (CalEPA, 2005, p. 2-6). Therefore, when applying CHHSLs during data screening, all soil data in the 0-10 foot depth interval should be screened against CHHSLs. CalEPA makes this recommendation to accommodate both the surface soil exposure interval (i.e., 0-2 feet [USEPA, 2002]) as well as deeper soil that could be brought to surface (i.e., two exposure scenarios). It should be noted that the primary CalEPA guidance referenced in the CHHSL guidance document is the *Supplemental Guidance for Human Health Multimedia Risk Assessment of Hazardous Waste Sites and Permitted Facilities* (CalEPA/DTSC, 1996), which states "Surface samples, or depth-weighted average concentrations down to 10 feet below the surface, ***whichever is greater***, should be used in exposure calculations." (CalEPA/DTSC, 1996, p. 6).

Based on additional information provided in Table 7-3, we identify, for example, the following cases where the 0-2 foot EPC is greater than the 0-10 foot EPC for BaPTEQ, which may result in ILCR greater than 1 E-06:

- Area A: the 0-2 foot bgs BaP TEQ is 0.105 mg/kg
- Area E: the (outdoor worker) 0-2 foot bgs BaPTEQ EPC is 0.377 mg/kg
- Area I: the (outdoor worker) 0-2 foot bgs BaPTEQ EPC is 1.09 mg/kg.

The 0-2 foot bgs EPC concentration should be used when it is greater than the 0-10 foot bgs concentration, with the exception of the utility worker.

[1] www.calepa.ca.gov/Brownfields/documents/2005/CHHSLsGuide.pdf

Section 5.1.1.15 Open Space EPCs

Page 74 – Please provide rationale (i.e., using the data distributions for risk drivers) for not splitting this large exposure area into smaller exposure areas.

The previous comment was directed at the need for hot spot assessment. Spatial plots of key COPCs (e.g., arsenic and benzo(a)pyrene [BaP] TEQ for Area A and Open Space) should be used to document that hot spots do not exist within sub-areas of these exposure areas.

Section 5.2.1.5 Intrusive Construction Workers

Page 87 – Please confirm that most construction workers will be covered under OSHA, which involves some level of hazwoper training.

In their Response to Comments dated June 30, 2008, McDaniel Lambert provided the following response:

"The construction worker evaluated in the Supplemental HHRA is intended to represent a person involved in non-remediation activities such as digging up pipes and digging utility trenches; this will be clarified in the revised Supplemental HHRA. OSHA coverage and/or HAZWOPER training of such workers will be confirmed with the RP and developer, and documented in the text."

The reviewers did not find a discussion in the revised sHHRA as to why the terminology was changed from "construction worker" to "utility worker". It appears that the exposure parameters for this short-term worker remain to be consistent with the USEPA generic construction worker receptor values (i.e., USEPA, 2002, Section 5). Please provide an explanation as to why the USEPA terminology for this receptor was not retained.

Section 7.0 Uncertainties

Section 7.3.3 Chemicals Without Toxicity Factors

Page 123 – 124 – MTBE can be used as a toxicological surrogate for tert-butyl alcohol. Please consider using methyl ethyl ketone (CAS # 78-73-3) (probably the best) or methyl isobutyl ketone (CAS # 108-10-1) as a toxicological surrogate for 2-hexanone.

It is not clear why 2,2,4-trimethylpentane is listed in the added text.

Section 7.4 Uncertainties in Exposure Assessment

Section 7.4.1 Receptor Selection and Exposure Pathways

This section states that the assumptions that (1) an outdoor worker spends 8 hours outdoors and 2 hours indoors and (2) an indoor worker spends 8 hours indoor and 2 hours outdoors likely result in overestimation of risk. If acceptable risk is exceeded for these receptors in any specific area(s), further discussion (and perhaps risk calculations without the additional 2 hours) should be presented to assist the risk managers and remedial action planning.

The reviewers were unable to find a discussion of this in the uncertainty analysis.

Also, there is a need to consider receptors that work in specific commercial areas of the site and also live on-site. Although Area M is designated as "workforce housing", it seems that residents in either Area A or Area M

could also work within any area at the site without specific restrictions. Based on risk management needs, it is useful to understand the full risk characterization for the worker in any area who also could potentially live onsite in Area A or Area M.

Section 7.4.2 Exposure Parameters

Section 7.4.3.2 Use of the 95 Percent Upper Confidence Limit

This section states that the use of the 95% UCL as an EPC for construction worker exposure may underestimate construction worker exposure. Please document that there are no construction worker hotspots, particularly in the larger exposure areas.

The reviewers were unable to find any hot spot analyses.

Section 7.4.3.5 Soil Depth Horizon

The 0-2 foot soil depth interval should be used as the primary basis for direct contact exposure pathways (USEPA, 2002). Please identify the seven soil COPCs for which the 0-2 foot depth concentrations exceed the 0-10 foot depth concentrations and provide documentation that use of the 0-2 foot datasets for these instances would not result in a meaningfully higher risk.

Both CalEPA and USEPA guidance identify the primary soil exposure interval as surface or shallow soil for non-intrusive exposure scenarios (CalEPA/DTSC, 1996; USEPA, 2002). Upon examination of Table 7-3, it appears that the 0-2 foot EPC (for some risk drivers) is higher than the 0-10 foot EPC. For example, for Area A, the residential risk calculated associated with carcinogenic PAHs using the 0-2 foot EPC is on the order of 3E-06, whereas the residential risk calculated in the sHHRA using the 0-10 foot EPC is 1E-06. For residential receptors and chronic worker receptors (who are not generally involved in intrusive activities where exposure to soil at depth below 2 feet would occur), is important to the risk managers that risks have been characterized for the 0-2 foot EPC, particularly if these risks are greater than those based on the 0-10 foot EPC.

Section 8.0 Discussion and Conclusions

As stated under "General Comments", please remove risk management recommendations from Table 8-1 or make clear that they do not represent decisions of the risk managers and are included by the risk assessors for consideration in the draft Risk Management Plan.

Based on discussions among the regulatory agencies, the risk management recommendations should be deleted from the table (and throughout the document). Also, information regarding the risk drivers for key receptors within each area should, regardless of risk characterization results.

Page 145, fourth bullet – Please remove risk management recommendations from the sHHRA.

At the end of this section, specific areas are identified for which "no further action is necessary for the safe use...". As requested above, please delete risk management recommendations from the document.

Tables

Table 3-1

a) *Add footnote that inhalation CSF values may not appear exactly as the values reported in the Cal/EPA toxicity database due to rounding (e.g., benzene, chloroform).*

This comment was not addressed.

d) Naphthalene – the OEHHA 2005 document lists an oral SF value of 0.12 (the same as for inhalation). (Note: the sHHRA risks are calculated for inhalation only).

The oral SF for naphthalene is currently listed in the OEHHA Toxicity Criteria Database.

m) Benzene oral RfD on IRIS is 4E-03 (not 3E-03). Please add a definition for "" to the table.*

This comment was not addressed.

Table 5-48 – Please reformat to 11 x 17 as the 8 x 11 is very hard to read on the hardcopy that may ultimately reside in a public repository (note this comments is applicable to all tables and figures that may be hard to read as an 8 x 11.

This comment was not addressed and the table continues to be difficult to read as a hardcopy.

Figures

Figure 4-1 –

All site receptors that may ingest produce grown at the site should be identified in this figure.

Please provide notation that the site grown produce pathway may be complete for the construction worker, however it is expected that this pathway would be insignificant for this short-term receptor.

Attachment 9 – Construction Worker PEF and VF Calculations

The construction worker PEF only includes the component associated with particulate mass emitted due to wind (USEPA, 2002, Equation E-20) and does not include the particulate mass emitted due to excavation activities (USEPA, 2002, Equation E-21). If excavation activities will occur on site, then the latter excavation component should be added to the intrusive utility worker PEF. Also, if relevant to planned remediation and/or development activities, the construction PEF should also incorporate the equations associated with truck traffic (USEPA, 2002, Equation E-18).

In their Response to Comments dated June 30, 2008, McDaniel Lambert provided the following response:

"The construction worker evaluated in the Supplemental HHRA is intended to represent a person involved in non-remediation activities such as digging up pipes and digging utility trenches; this will be clarified in the revised Supplemental HHRA. Therefore, the PEF based on wind erosion is appropriate to estimate the particulate air concentrations to which these workers may be exposed. Workers engaged in any large remediation/construction efforts will be covered by OSHA, and these activities will include a significant HAZCOM component as well as monitoring and dust suppression efforts. A brief discussion of uncertainties associated with the omission of particulate exposure estimated associated with excavation and/or truck traffic during remediation development activities will be included n the uncertainty section of the revised Supplemental HHRA"

The reviewers consider "digging up pipes and digging utility trenches" to be a form of soil excavation. Additionally, the community has an interest in understanding the potential for dust to be emitted at the site. Accordingly it seems appropriate to add an excavation component to the PEF for a "soil disturbance" scenario. In the case of a utility worker, the area to be disturbed could be assumed to be much smaller than the area that would be excavated during a redevelopment scenario.

Attachment 13 – Indoor Air Vapor Concentration Model Output

Model Setup Comments

1. *Provide justification for the use of two layers (and the absence of an engineered fill layer) and a slab depth of 0 cm in the residential model.*

   The reviewers assume that this information is provided in Attachment 5; however we did not find Attachment 5 on the ftp site.

2. *Provide confirmation that all buildings will be constructed as slab-on-grade (i.e., buildings with basements will not be constructed).*

   The reviewers assume that this information is provided in Attachment 5; however we did not find Attachment 5 on the ftp site.

9. *Provide a referenced table listing the chemical parameters for those COPCs not listed in the default 'VLOOKUP' table (e.g., cyclohexane, tetrahydrofuran, isopropyl alcohol).*

   We were unable to verify the VLOOKUP table in Attachment 13.

Accuracy Comments

4. *For Area E, we were unable to confirm the attenuation factor and selected indoor air EPC for hexane.*

   We were not able to verify the information for Area E.

5. *For Area H, we were unable to confirm the attenuation factor and selected indoor air EPC for o-Xylene.*

   These should be removed since there are no structures for Area H.

6. *For Area I, we were unable to confirm the attenuation factor and selected indoor air EPC for 4-Ethyltoluene.*

   For Area I, hexane was used for 4-ethyltoluene; however, the surrogate table notes xylenes. Therefore, we were unable to verify results.

II. ADDITIONAL COMMENTS

A. GENERAL COMMENTS

It is acknowledged that McDaniel Lambert submitted a Response to Comment (RTC) letter sent via e-mail at the end of June 2008 (McDaniel Lambert, 2008c). However, since the revised sHHRA was still in progress, the responses to comments in most cases were generic. In the future, please submit a RTC to the current comments concurrently with the next revision of the sHHRA. For each comment, please identify how the comment was addressed and where in the document the revision was made. This will expedite the review process.

Please replace "the SLO County Health risk assessment consultant' with "SLO County EHS".

Please identify risk drivers for all receptors, rather than just for selected risk results, as acceptable risks have not been determined at this time.

B. SPECIFIC COMMENTS

Section 2.0 Chemicals of Potential Concern

Section 2.1 Data Validation and Usability

Section 2.1.2 2007 Neptune & Company Data Validation and Usability Evaluation

In their data evaluation report, Neptune and Company recommended discussion of a number of data usability issues that were not discussed (Neptune and Company, 2008) and the excerpts from the Neptune report are provided below.

Soil Matrix Data for Metals: Precision and accuracy of the metals analysis were assessed by analyzing matrix spikes, matrix spike duplicates, laboratory blanks, and laboratory control samples. With the exception of a limited number of matrix spike and matrix spike duplicates (MSDs) that had recoveries slightly below the QC limit, the quality control parameters were reported by the laboratory to be within acceptable laboratory limits. The exceptions indicate that the matrix may have caused a slight bias for the analytes referenced in the data validation report. QC results that did not meet the limits are discussed below. In general all metal data are considered useable for the HRA.

1. Accuracy for soil samples SV-53-01 and SV-61-05: Recoveries for eleven metals in matrix spikes were slightly below the laboratory target range (75-125%), resulting in estimated values potentially biased low or non-detected values reported with a slight potential for false negatives around the reporting limit (see the Data Validation Report, Section 4.1.3 for details). These data are regarded as usable for HRA, but should be discussed in the uncertainty analysis section of the HRA.

2. Accuracy for soil samples SV-02-10, SV-08-01, and SV-47-10: Recoveries for three metals in matrix spikes were slightly below the laboratory target range (75-125%), resulting in estimated values potentially biased low or non-detected values reported with a slight potential for false negatives around the reporting limit. One barium recovery and one mercury recovery for the duplicate were slightly above the laboratory target range, resulting in estimated values potentially biased high (see the Data Validation Report, Section 4.1.3 for details). These data are regarded as usable for HRA, but should be discussed in the uncertainty analysis section of the HRA.

3. Accuracy for soil sample S-1A-03: The recoveries for two metals in matrix spikes were slightly below the laboratory target range (75-125%), resulting in estimated values potentially biased low or non-detected values reported with a slight potential for false negatives around the reporting limit (see the Data Validation Report, Section 4.1.3 for details). These data are regarded as usable for HRA, but should be discussed in the uncertainty analysis section of the HRA.

Soil Matrix Data for Volatile Fuel Hydrocarbons: Precision and accuracy of the volatile fuel hydrocarbons and GRO (C4-C10) analyses were assessed by analyzing laboratory blanks, laboratory control samples, surrogates, and matrix spikes. All results met the quality control limits except those samples described below.

4. Accuracy for soil samples: The surrogate compound 4-Bromoflourobenzene had recoveries below the laboratory target range (65-140%) in eleven samples. Three samples had recoveries for 4-bromofluorobenzene above the laboratory target range (see the Data Validation Report in Appendix A, Section 6.1.1 for details). All of the sample results that were qualified based on surrogate recoveries were reported as not detected. These data are regarded as usable for HRA, but should be discussed in the uncertainty analysis section of the HRA.

Soil Matrix Data for Volatile Organics with Oxygenates: Precision and accuracy of the volatile organics with oxygenates was assessed by analyzing laboratory blanks, laboratory control samples, surrogates, and matrix spikes. With the exception of surrogate recoveries outside of laboratory target range and some low matrix spike recoveries (discussed below), the quality control parameters are within acceptable laboratory limits. Data are considered useable for the HRA.

5. Accuracy for soil samples: A number of samples had surrogate recoveries that were outside of the QC limits, which resulted in estimated values. All of these samples were qualified in the Data Validation Report. Most of these recoveries were just slightly below the lower range of the laboratory target range (see the Data Validation Report, Section 5.1.1 for specific recoveries and laboratory target ranges). These data are regarded as usable for HRA, but should be discussed in the uncertainty analysis section of the HRA.

6. A limited number of analytes in five samples (SV-58-02, SV-36-05, SV-08-01, SV-04-05, SV-38-05) had low recoveries in the matrix spike. None of these target analytes were detected in the unspiked samples (see the Data Validation Report, Section 5.1.4 for details). The low recovery of these spiked analytes does indicate the potential for false negatives at concentrations around the reporting limits. For reference, the spike level is approximately 50 ug/kg, with a reporting limit of 2-5 ug/kg. These data are considered usable for the HRA (i.e., soil ingestion route) as risks associated with VOCs are driven by the inhalation route, which will be assessed using soil vapor data. These results should be discussed in the uncertainty analysis section of the HRA.

Soil Matrix Data for PAHs: Precision and accuracy of the PAH analyses were assessed by analyzing laboratory blanks, laboratory control samples, surrogates, and matrix spikes. All quality checks met the requirements with the exceptions discussed below.

7. Precision for the LCS/LCSD pair in SDG IQG1327: The analytes 2-Methylnaphthalene, 1-Methylnaphthalene, Indeno[1,2,3-cd]pyrene, and Dibenz(a,h)anthracene exceeded the RPD limits indicating variability of greater than 30% for these analytes in this sample. Data are considered usable for HRA but these results should be discussed in the uncertainty analysis section of the HRA.

8. Accuracy for soil sample SV-36-05: The matrix spike pair in sample SV-36-05 for Benzo[g,h,i]perylene had recoveries of 38% and 49% which are below the limits of 57-142%. This indicates the concentration of this analyte in this sample is potentially biased low. This data point is regarded as usable for HRA, but should be discussed in the uncertainty analysis section of the HRA.

9. Accuracy for soil sample SV-36-01: The matrix spike pair in sample SV-35-01 for Chrysene had recoveries of 55% and 47% which are below the limits of 71-126%. This indicates the concentration of this analyte in this sample is potentially biased low. Fluorene also had low recoveries of 56%/ 48% below the limits of 68-128% in sample SV-35-01. Benzo[a]anthracene had low recoveries in this sample of 57%/ 57% (limits of 64-124%). Fluorene and Benzo[a]anthracene were not detected in the native sample. These data are regarded as usable for HRA, but should be discussed in the uncertainty analysis section of the HRA.

Soil Matrix Data for Hydrocarbon Distribution : Precision and accuracy of the Extractable Fuel Hydrocarbons (EFH) (C10-C40) were assessed by analyzing laboratory blanks, laboratory control samples, surrogates, and matrix spikes. With the exception of some surrogate recoveries outside of laboratory target range (discuss below), the quality control parameters are within acceptable laboratory limits. The surrogate recoveries are not considered an indication of significant bias; therefore the data are considered useable for HRA.

10. Accuracy for soil samples: The recoveries of the surrogate n-Octacosane in seventeen samples (9 samples from IQG1327, 6 samples from IQG1351, and 2 samples from IQG1730) were outside of the laboratory target range (40-125%). Most of these recoveries were above the upper range of the laboratory target range between 143% and 867% indicating a potential for high bias (see Data Validation Report, Section 7.1.1 for details). The results for the analytes associated with these surrogates and sample numbers are reported as estimated. The data are considered adequate based on use of TPH data in HRA (i.e., to identify the need for indicator chemical analysis) but should be discussed in the uncertainty analysis section of the HRA.

Air Toxics Data: Precision and accuracy of the air toxic compound analysis were assessed by analyzing surrogates, matrix spikes, matrix spike duplicates, blanks, and laboratory control samples. The quality control parameters for TO-15 Air Toxics data were reported by the laboratory to be within acceptable laboratory limits with the following exceptions:

11. Four laboratory control samples (LCS) had recoveries that were slightly below (60-69%) the lower limit (70%) for 1,2-Dichloro-1,1,2,2-tetrafluroethane, 1,2,4-Trichlorobenzene, Hexachlorobutadiene, and Naphthalene, detail are provided in Section 2.1.3 of Appendix A. These data are regarded as usable for HRA but should be discussed in the uncertainty analysis section of the HRA.

12. Cyclohexane was found in sample SV-38-15 and chloroform was found in sample SV-10-15 at a concentration that exceeded the calibration range for these analytes. The reported values are therefore uncertain and the direction of potential bias is unknown. Without additional information that can be

used to assess the magnitude of these calibration range exceedances it is difficult to determine the potential and direction of bias. These data are usable but should be considered highly uncertain.

13. M,p-Xylenes were detection in one Equipment Blank. All associated samples had concentrations of m,p-xylenes well above the value in the blank with the exception of sample SV-45-15. The value of m,p-xylenes in this sample is potentially associated with contamination. These data are regarded as usable for HRA but should be discussed in the uncertainty analysis section of the HRA.

PARCC parameters in terms of CSM/CEM:

PARCC parameters are discussed in terms of the analytical data only.

Section 2.2 Selection Criteria for Chemicals of Potential Concern

Section 2.2.1 Metals Background Evaluation

p. 71 – it is stated that "Arsenic detected on the Site was determined to be well within local background levels, after evaluating geogenic sources specific to individual exposure areas; therefore arsenic is excluded as a COPC". Based on the discussion provided by Neptune and Company regarding limitations in the background dataset (Attachment A), and concerns discussed by the regulatory agencies regarding risks that may be associated with the higher portion of the site arsenic concentrations (regardless of whether they are within background or not), it is of interest to understand the potential for risk associated with arsenic. For areas that have arsenic levels reported greater than the maximum background concentration of 15 mg/kg, spatial plots of arsenic concentrations should be presented and, if the plots indicate the potential for a hot spot to occur, risks should be characterized for those hot spots.

Section 5.0 Exposure Assessment

Section 5.1 Development of Exposure Point Concentrations

Please see relevant portions of Attachment A.

Section 6.0 Risk Characterization

As previously requested in Section I, please limit the risk characterization (and Executive Summary and Conclusions) to the presentation of the risk characterization results. If desired, language such as the following may be included in the sHHRA to place perspective on the risk characterization results:

> The CalEPA Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) no significant risk level (NSRL) is 10-in-one million. The USEPA acceptable risk range is 1-in-one million to 100-in-one million. The acceptable noncancer hazard index for CalEPA and USEPA is less than or equal to 1.

Section 7.0 Uncertainties

Section 7.4 Uncertainties in Exposure Assessment

Section 7.4.1 Receptor Selection and Exposure Pathways

Please explain why a resident living in Area A would not also have the potential to be a worker at the site. Please note that if a worker lives at the site, then this receptor should be identified as a "residential receptor", not a "worker receptor".

Section 7.5 Cumulative Risk Uncertainties

It seems appropriate to bring into this section some discussion of the onsite resident that also works at the site.

Section 7.6 Conclusions Regarding Uncertainty

In regard for the potential to underestimate risk the following statement was provided "Detection limits for some soil gas chemicals were elevated due to analytical interferences. This uncertainty associated with soil gas should be considered in any future risk management actions taken at the Site." Rather than to assume the risk is zero if a reporting limit is elevated, the value of the reporting limit should be used in the risk calculation (e.g., in the uncertainty analysis) to understand what an upperbound risk might be associated with the uncertain data point. This is usually done as a component of the data usability evaluation (e.g., Criterion IV, Analytical Methods and Detection Limits).

Section 8.0 Discussion and Conclusions

As requested for other sections, please limit the risk characterization to the presentation of the risk characterization results.

Tables

Table 1-2 – Add "small commercial structure" to Area N (as per text, Section 1.6.13).

The soil COPC selection summary tables have a footnote that states the units are in mg/kg "with the exception of some PAH results". However, it is not clear, when reading this table, which PAH results have other units and whether those would be ug/kg. Based on our comparison of the COPC tables and EPC/Risk calculation workbooks, the PAH concentrations are in mg/kg. The tables should be corrected to reflect that reporting.

III. REFERENCES CITED

CalEPA/DTSC, 1996. Supplemental Guidance for Human Health Multimedia Risk Assessment of Hazardous Waste Sites and Permitted Facilities. Department of Toxic Substances Control, October 7. Reprinted 1993, 1996. http://www.dtsc.ca.gov/ScienceTechnology/index.html

CalEPA, 2005. Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties, January. http://www.calepa.ca.gov/Brownfields/documents/2005/CHHSLsGuide.pdf

Copeland, T. and J. Otani Fehling, 2008. Comments to the **Draft Supplemental Human Health Risk Assessment for the Avila Tank Farm Property in Support of the Community Development Plan** (McDaniel Lambert, Inc. prepared for Chevron Corporation, April 2008; Version 1.0), June.

McDaniel Lambert, 2008a. Supplemental Human Health Risk Assessment for the Avila Tank Farm Property in Support of the Community Development Plan, Draft Version 1.0, April.

McDaniel Lambert, 2008b. Final Supplemental Human Health Risk Assessment for the Avila Tank Farm Property in Support of the Community Development Plan, Final Draft Version 1.1, August.

McDaniel Lambert, 2008c. **Response to SLO County Environmental Health and SLO APCD Comments on the Draft Avila Tank Farm Property Supplemental HHRA, June (submitted via e-mail).**

Neptune and Company, Inc, 2008. Avila Tank Farms Data Validation and Data Usability Report, April.

USEPA, 2002. Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. Office of Solid Waste and Emergency Response, December.
http://www.epa.gov/superfund/resources/soil/index.htm

IV. ATTACHMENT

Attachment A – Technical Memorandum from Neptune and Company (October 23, 2008).

NEPTUNE AND COMPANY, INC.
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MEMORANDUM

To: Teri Copeland

From: Paul Black and Andrew Schuh

Date: 23 October 2008

Subject: Review of the Background Metals Analysis and UCL calculations for the 'Supplemental HHRA for Avila'

Overview:

The human health risk assessment (HHRA) report covers a lot of material and appears to provide a comprehensive risk assessment. It is impossible to review in detail all components given time and resource limitations of this review. We have focused on background comparisons and UCL calculations, but have also considered these in the context of the remainder of the report. We have some other comments that are also important to the risk assessment. We have separated our comments into those that are general for particular components of the report, and specific comments regarding details in the report. Some of our specific comments are offered as examples, since they are repeated in the text.

General Comments:

1) The order in which decisions for metals have been made starts with comparison to CHHSLs within each evaluation area, continues with background comparisons within evaluation area, and finishes (for arsenic primarily) with background comparisons by geology. At each step along this path, metals are screened out. We note that the first path simplifies the risk assessment, but does not fully allow answers to questions about nature and extent of contamination. The second step is confounded by the same geologic differences that are investigated in the third step. Given how easy it is to perform these calculations with available software, it is not entirely clear why any shortcuts are necessary, although more analyses require more interpretation. The geologic differences are described in the report and the background report that is attached (Attachment 10). It is clear that some evaluation areas contain samples from both geologies (obispo – rock and derived soils, pismo – rock and derived soils), whereas other evaluation areas are dominated by one of these 2 geologies (see Attachment 4 to Attachment 10). In cases for

which an evaluation area is assumed to be associated with a single geology, yet more than one geology is present, the background comparisons performed will show differences when they do not exist, or will show background to be greater than site concentrations when that is not the case (and cannot be the case if the multiple geology background is properly characterized). When there are multiple geologies, background comparisons should be performed first by geology and then by evaluation area if necessary, or, they should be performed by the appropriate geology within each evaluation area (that is, pick the appropriate background subset of data for comparisons). This latter approach is difficult for evaluation areas that have both obispo and pismo samples (since the relative number of obispo and pismo samples should be adjusted for somehow). We note that, for many sites, geology-specific background analysis may not be so critical. However, it appears to be very important for this site.

Regarding geology/soil formations, a full comparison between rock and derived soils has not been performed, although we recognize the import of Figure 2-3 in Attachment 10, which shows clear differences between obispo and pismo concentrations for site and background data. This figure also suggests smaller differences between rock and derived sol concentrations. To complete the background comparisons properly, differences between geologic and soil formations should be accounted for. However, sample size issues then become apparent. There is a total of 17 background samples that cover these different soils/geologies. That is not many samples per soil/geology. In addition, most of the evaluation areas have around 10 samples. Our conclusion has been that more background samples would make the results of background comparisons much more clear, and more site samples for some evaluation areas would also reduce uncertainties. The latter depends on whether background comparisons are performed initially by geology across the entire site, or if the focus is to remain on the evaluation areas. In the first case further site samples might not be needed at all. In the second case, further site samples are probably needed for some evaluation areas. For example, if Site H is to be handled as an individual exposure area, more samples would significantly bolster confidence in removing arsenic as a COPC as a result of background comparisons.

Overall, there appears to be little evidence of systematic metals contamination, with the exception of lead in samples towards the center of the site, however, the background comparisons that have been performed do not clearly demonstrate this because geology has not been accounted for. We note that we have recommended previously that the geological differences be accounted for in the background comparisons. We provide a few examples below of suspected difficulties in the absence of such comparisons (see specific comments).

2) One way in which problems with the background comparison tests is manifested is in the p-values that are reported. The tests are all performed as 1-sided tests because it is not possible for site data to be less than background unless background is poorly characterized (other than by random chance). For the 1-sided tests as performed, if site data is sufficiently greater than background, then the p-value will be small. If site data are roughly the same as background then the p-value should be close to 0.5. However, if

the site data are sufficiently less than background, then the p-value will be close to 1. This last case means that background is not characterized properly for the specific test performed (or the result is a product of random chance). Many of the tests performed across the different metals and evaluation areas have p-values that are close to 1. This should be cause for concern, and should lead to a conclusion in this case (that is, given our prior knowledge about geologic differences) that the wrong (i.e, in terms of representativeness) background data sets are being used for comparison. Some examples are given in the Specific Comments below.

3) Background comparison tests (*t*-test, Gehan, quantile, slippage) have often been performed even when the large proportion of non-detects would suggest that the results are not useful. Some care should be taken when employing these tests. When there are many non-detects none of these tests for differences work very well, and the results should not be trusted. Detection limits can have unintended consequence for the results of these tests when there are many non-detects and when the non-detects for one data set are very different than the non-detects for the other data set. An option is to run a binomial proportions test in some of these cases to see if the frequency of detection is similar for the 2 datasets, but this test can only be used if the detection limits are similar for the two datasets. Sometimes the frequency of detection is so small that background comparisons are not useful and the metal should simply be carried forward into the risk assessment.

4) EPA's Quality System includes, among other things, the Data Quality Objectives (DQO) process (EPA G-5), which is used for planning for data collection, and the Data Quality Assessment process (DQA) (EPA G-9). The primary intent of the DQA process is to verify that DQOs were satisfied, although the guidance addresses many other issues associated with environmental data analysis. In effect, the DQA process is used to ensure that a sufficient number of samples were collected. An alternative to collecting more samples (background or site) is to perform a DQA on the data to determine if enough data have been collected already. This can be done for background comparisons or for the risk assessment. If this was done it could be viewed as a DQA to determine if enough data have been collected (although there are no DQOs for comparison, this can still be performed), a retrospective DQO effort, or a prospective DQO effort to determine if more data are needed.

5) The UCLs that are used in the risk assessment are *t*-distribution based UCLs obtained from running ProUCL. Since *t*-UCLs are used, the software program from which they are obtained is somewhat irrelevant. However, the complete ProUCL output is included in Attachment 11, which can only serve to confuse, since everything other than the *t*-UCLs are not used. We recommend removing the ProUCL output in future submittals.

Of greater concern, however, is that other UCLs have not been considered. In previous reviews we recommended the use of the *t*-UCLs for most chemicals, partly because reasonable appeals can often be made to the Central Limit Theorem (normality is often a

reasonable assumption for the mean), but also because we have run simulation studies that demonstrate that the *t*-UCLs are reasonable under a wide range of conditions. Although the distribution of the mean is far more important than the distribution of the data regarding choice of UCL method, nevertheless some attention must be paid to the distribution of the data – it is not reasonable to simply use normality as an underlying assumption without some exploration and subsequent justification. In cases of many non-detects, large skewness, or multi-modality, the *t*-UCL might not be best. In these cases we would consider using a bias corrected (BCa) bootstrap approach. We note that that the maximum has been used in lieu of the UCL in some cases, and we think that this is a good approach for these data, but we also believe that some understanding of the reasonableness of the *t*-UCLs should be provided, and if the *t*-UCL is not considered appropriate in some cases, then alternatives should be offered (such as the BCa bootstrap).

6) The Data Usability Evaluation presented in Attachment 9 does not appear to have been fully addressed. The main issues identified in the Executive Summary of the DU Evaluation have been addressed for the most part, but this does not apply to other specific issues raised in that report. For example, several references are made to the need to include aspects of the DU Evaluation in the uncertainty analysis of the HHRA as identified in the "batch-specific" comments. This DU Evaluation should be re-reviewed and all issues raised should be addressed in the uncertainty analysis of the HHRA, as previously recommended. Two of the most important issues identified are the value ofperforming DQA and the collection of key supplemental data.

7) It would be helpful if the CHHSLs used for comparison appeared in some of the more important tables.

8) It is not helpful to have Attachments to Attachments.

9) The term "T-test" as used in the report should be changed to "*t*-test" or "t-test".

10) The normality and lognormality tests presented in Attachment 10 are not particularly useful. A note is included for each metal to indicate if these tests pass or fail, but these results have no impact on the remainder of the background comparisons or risk assessment.

11) The Summary Statistics tables in Attachment 10 are not fully descriptive of the data. Some of the background comparisons account for non-detects. It would be more helpful to present the range of non-detects in the summary tables, so that the influence of the

non-detects on the tests can be explored. In addition, the plots should match the tables by using different symbols for the non-detects. Substitution is needed to support UCL calculations, but it is not useful in summary tables that support background comparisons.

12) Correlation analysis is often useful when performing background comparisons. Usually there are correlations between metals in background data. These correlations can be used to provide further evidence of deviations from background in the site data. Or, alternatively they can be used to show that high values are still part of a background distribution. This might be a useful approach to use for the high site arsenic data, if correlations between arsenic and another metal can be found in the background dataset.

Specific Comments (page numbers are taken from the footer of the redline/strikeout version):

1) Page 46, Section 2.2.1. **Comment:** Please expand upon what the 'concerns' of the SLO County Health Agency are, considering that site-wide Background comparisons would have had much greater statistical power then is possible with the partitioning of the data into exposure areas that has occurred. In addition, as described in General Comment 1, the geologic differences across the site have not been accounted for.

2) Page 46, Section 2.2.1. **Comment:** "An evaluation of geologic formations was considered if they differed from common background characteristics." This statement needs to be reworded considering the comparison of geologic formations was a post-hoc evaluation and this process was not considered for any other analytes, a priori. As described in the General Comments, this approach can lead to incorrect decisions for each evaluation area because the geologic differences have not been taken into account in the background comparisons.

3) Page 46, Section 2.2.1. **Comment:** 'Copper' should be listed as a metal that "did not differ from local background concentrations in any of the exposure areas".

4) Page 46, Section 2.2.1. **Comment:** Concerning "As previously determined by the metals background evaluation, there is a statistical difference between Area H and background data for arsenic and lead. However, the post-hoc evaluation of arsenic in the geologic context of the Site excludes it as a COPC." A statistical review of site-wide arsenic data has shown that Obispo-related site-wide arsenic appears to be within background for the site. However, there are several concerns regarding the analysis. First, the background data set is small to begin with at 17 samples and gets even smaller with 10 samples (7 for Pismo-related) available for geologically partitioned tests, and thus it is uncertain with what statistical power these tests are being run. To some extent this applies to many of the tests run in this analysis because of the very fine partitioning of the data but is generally more of a concern for arsenic given its potential as a risk driver. Furthermore, when extrapolating from this statement to particular sites such as Site H, the

test becomes more questionable. Two fairly small data sets are then being compared (10 for background and 9 for Site H) and again the question of statistical power arises.

It should also be determined if the samples characterized as Obispo-related soil can be pooled with Obispo-formation samples (similarly for Pismo). We then recommend that a data quality assessment be performed to determine if the number of background samples (likely 7 or 10 for Obispo depending upon whether soil-related samples can be used) is an adequate number of background samples to provide a reasonable degree of statistical power in concluding that the entire site can be considered background with respect to arsenic. Even given the apparently higher levels of Arsenic in Obispo, it would also be wise to repeat this for Pismo since once the samples are partitioned by geology, there are only 7 samples left for Pismo to test arsenic site concentrations with. A potential alternative would be to collect additional background and Site H samples, but a data quality assessment based on increasing background sample sizes is recommended as a first step.

5) Page 52, Section 2.2.7 . **Comment:** 'Vanadium' should be added to metals list in second sentence.

6) Page 56; Section 2.2.13, sentence two. **Comment:** List the metals after 'CHHSL', arsenic, chromium, and lead.

7) Page 67. "The 2005 Baseline HHRA was conducted using only wet weight soil concentrations. Analytical results for concentrations of PAHs in soil samples collected during 2007 were reported by the laboratory and incorporated into the Site database by Avocet in mg/kg *dry* weight. Dry weight concentrations are higher than wet weight concentrations, therefore the impact of using this data in the exposure point concentration (EPC) calculations and subsequent risk evaluations results in a high bias, and is therefore, conservative." **Comment:** This does not result in a high bias. The premise of the stated conclusion is that risk assessment is based on wet weight data. However, this is not the case. For example, CHHSLs are based on dry-weight data. Consequently, use of wet weight data in the risk assessments underestimates risk. Where soil data are used in exposure assessment, the units have to match those in the corresponding exposure parameters. For example, soil ingestion rate values suggested by EPA, external dose conversion factors published by EPA and ICRP, and the plant-soil ratios (several sources) used to model uptake from soil to plant tissue, and CHHSLs are all dimensioned by dry weight soil. Wet weight data are also prone to site conditions at the time of sampling, and can be skewed simply by collecting samples after a storm event – this would make little sense for risk assessments. If the moisture content data are still available, then the dry-weight data could still be recovered.

8) Page 168, Section 7.4.3.2. "The 95% UCL approximates the mean with 95% confidence, meaning that it is the value that, when calculated repeatedly for randomly drawn subsets of site data, equals or exceeds the true mean 95 percent of the time (USEPA 1992d). Use of a single upper-bound concentration estimate such as 95% UCL as the representative concentration assumes that a chemical is present at that

concentration throughout the exposure area, and therefore that receptors are exposed to this upper-bound estimate at all locations." **Comment:** This statement is patently incorrect. The first part of the first sentence should be reworded to something along the lines of recognizing that a 95% UCL of the mean is an upper bound estimate of the mean. For the second sentence, the implication is absolutely not that a chemical is present at that concentration throughout the exposure area. The implication should only be that with 95% confidence, the mean concentration across the exposure area is no greater than the 95% UCL.

9) Page 168. "However, if soil COPC concentrations vary significantly across an exposure area, and receptors do not utilize the entire exposure area, it is possible that the 95% UCL may could under- or overestimate actual risks in larger exposure areas such as Open Space." **Comment:** This sentence also does not make sense. At the very least, the word larger and reference to Open Space should be deleted, since the principle applied to all exposure areas. The 95% UCL is meant to yield an RME – that doesn't mean an individual could not be exposed to some greater risk (e.g., if they stand at the "unknown" location of the maximum concentration in the exposure area), but it is an RME, and it is the RME concept that is important. This entire section needs to be reconsidered and rewritten.

10) Page 170, Section 7.4.3.3. "Statistical power decreases with sample size. Therefore, inherent in small sample sizes is uncertainty in the statistical analyses of these data, and any resulting statistical values used as EPCs in this risk assessment.". **Comment:** This is somewhat awkward because power is associated with statistical hypothesis testing rather than estimation. Perhaps the first sentence should be deleted.

11) Section 7.4.3.5. **Comment:** This section is cumbersome and can probably be simplified. The point basically is that EPCs have been calculated for both the 0-2' and the 0-10' depth intervals, where, obviously, the larger depth interval also contains the data in the smaller depth interval. To be protective in the risk assessment, the maximum of these 2 EPCs should be used.

12) Table 2-1. **Comment:** It's not really clear why metals summary statistics are not provided for all metals for all evaluation areas. This would not be difficult to do, and would be more informative for justifying why some metals are not included in the evaluation area specific risk assessments.

13) Table 2-2. **Comment:** The conclusions for metals (and perhaps other chemicals) in Table 2-2 are not clearly defended. As described elsewhere in these comments, the background comparisons results are questionable because of geologic effects, and detection limits are not adequately accounted for. For example, the DLs for antimony are sometimes within 1/3 of the CHHSL.

14) Table 5-1 (for example). **Comment:** It is not clear that all these EPCs are reasonable. Of particular concern are EPCs that are associated with metals that have

many non-detects. The *t*-UCLs are probably not reasonable for some of these metals, and the actual maximum detection limit should be used.

15) Attachment 3. "Specifically, reporting limits vary from 0.03 to 3.0 mg/kg, with the majority at 0.3 mg/kg or below (see Tables 1-7 below); the California Human Health Screening Levels for PCBs in soil are 0.089 and 0.3 mg/kg for residential and commercial use, respectively. Therefore, we believe that no additional analyses of PCBs in soil are warranted." **Comment:** The PCB DLs seem high considering the CHHSLs – it is not clear that the additional analyses of PCBs are not warranted.

16) Attachment 4. "Benz(a)anthracene (BaA) was identified as detected in BC Laboratories samples 0604210-01 and -02; however, BaA was detected above the practical quantitation limit (PQL) in the method blank at the same levels as reported for the samples. Therefore, these two results were considered as non-detect (at the practical quantitation limit of 0.10 ug/L) in this screening assessment." **Comment:** It is not clear that this is reasonable. Blank contamination does not necessarily mean that the samples were not contaminated. The reason for the blank contamination should be investigated. And, if the sample results are still not retained, they should be removed from the dataset rather than changed to non-detects, since this change is not conservative and hence not protective.

17) Attachment 5 does not appear to be included in the electronic submittal.

18) Attachment 10. **Comment:** Various comments have been made in the General Comments and previous Specific Comments regarding the background comparisons that have been performed. A few more minor comments are noted here.

> A) "The Gehan test, which is a generalized Wilcoxon Rank Sum test, addresses the nondetects and multiple detection limits present in the dataset through a modified ranking procedure. If nondetects were not present in the dataset, the Wilcoxon Rank Sum (WRS) test was used to compare the central tendencies." **Comment:** We note that it would be better to recognize that the Gehan test defaults to the Wilcoxon Rank Sum test when there are no non-detects in the data. There is no need to run a different program to obtain WRS test results.
>
> B) "As recommended by Neptune and Company, each comparison test was run using an alpha level of 0.025 to provide a family□wise error rate of 0.05." **Comment:** The family-wise error rate should be described as approximate.
>
> C) In the General Comments above, concerns were raised about the usefulness of the background comparison test when there are many non-detects. Antimony presents a case in point. The % detects reported on Table 3 is 0%. The % detects for the site samples is not much greater. The background comparisons are not useful. All the tests have some underlying assumptions, even the non-parametric tests. These assumptions are severely violated for antimony. Options include evaluating the DLs for the non-detects, performing tests that compare frequency

of detection if the DLs are similar enough, or carrying antimony into the risk assessment. Similar problems exist for some of the other metals (e.g., mercury, cadmium, cobalt, selenium, silver, thallium).

D) "To resolve this issue Neptune and Company conducted geologic□specific comparison tests, comparing Obispo□related background samples with Obispo□related site samples (Attachment 4). These statistical analyses support the discussion of site geology above in that site arsenic concentrations are similar to background concentrations. Therefore arsenic is not included as a COPC." **Comment:** We note that Attachment 4 to Attachment 10 and e-mails that were transmitted with Attachment 4 indicate that there might not be enough background data to support this background decision for arsenic, and recommend that a DQA be performed, or that consideration be given to the collection of more data. Also note that similar recommendations are made in the Data Usability Evaluation (Attachment 9).

E) P-values were raised as an issue in General Comment 3. Barium provides one example. The p-values are all close to 1. The plots show that the center of the background distribution is greater than the center of the site distributions. For arsenic the same issue arises for several of the site datasets. In general, this problem persists because the wrong background dataset has been used for these comparisons.

F) Flowchart 1 does not adequately deal with non-detects. Cases for which non-detects are the highest values are not easily accommodated with this decision logic. Although it is difficult to tell for which metals non-detects are this much of a problem, because the summary statistics tables do not present the range of non-detects.

19) Attachment 11. **Comment:** There does not appear to be any ProUCL output for Areas G and H.

Response to Comments for version 1.1 of the Supplemental Human Health Risk Assessment for the Former Avila Tank Farm, Avila Beach, California (August 2008)

Item No.	EHS Comment #	Copeland Technical Memo Comment #	Neptune Technical Memo Comment #	Draft sHHRA v1.1 Section #	COMMENT (paraphrased)	RESPONSE	Change on sHHRA v1.2 redline document page(s) #
1.	1A	IA-1	---	Global	*Correct incremental lifetime cancer risk (ILCR) definition*	Text changed to definition provided in comment 1A	Global, especially Table ES-1, Table 1-1, Table 6-1, and Table 8-1
2.	1B	IA–2; IB–Section 8.0; IIB-Section 6.0; IIB-Section 8.0	---	Global, Tables ES-1 and 8-1	*Remove risk management recommendations from sHHRA in accordance with USEPA guidance for risk characterization and risk management (including from page 145, fourth bullet)*	Risk management recommendations removed from document, including Tables ES-1 and 8-1; perspective for risk results includes USPEA and Prop 65 language recommended by reviewers	Global, especially Table ES-1, Table 8-1, and Section 8
3.	2A	IIA, paragraph 1	---	NA	*Submit a fully annotated Response to Comment (RTC) letter to the current comments concurrently with the next revision of the sHHRA*	This document, along with the redline text version of revised sHHRA, serve as the annotated RTC	NA
4.	2B	IIA, paragraph 2	---	Global	*Replace "the SLO County Health risk assessment consultant" with "SLO County EHS"*	Text changed as requested	Global
5.	2C	IIA, paragraph 3	---	Executive Summary, Sections 6 and 8; Tables 6-1, ES-1 and 8-1	*Identify risk drivers for all receptors*	Table 6-1 in previous submittals of the sHHRA included risk drivers for all receptors, regardless of risk result. As agreed in a July 31, 2009 phone call between Chuck Lambert and Teri Copeland (see Attachment 2), this information has been integrated into Tables ES-1 and 8-1 for cancer risk results $>10^{-6}$ and noncancer HIs >1.	Table ES-1, *xxix-xxx*; Table 6-1, p.122-139; Table 8-1, p.176-189
6.	3AI	IB-Section 2.1.2; IIB-Section 2.1.2 Soil Matrix Data for Metals #1, #2 and #3	General Comment #6	Section 2.1.2	*Revise the Uncertainty Analysis to include discussion of Soil Sample accuracy for soil samples SV-53-01, SV-61-10, [SV-02-10], SV-08-01, SV-47-10, and S-1A-03 due to low metals matrix spike recoveries*	Discussion of the uncertainties associated with metal concentrations reported for six soil samples with low metals matrix spike recoveries has been added to Section 7.2.2.1.1 of the risk assessment	Section 7.2.2.1.1, p. 144-145

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7.	3AII – Volatile Fuel HCs	IB-Section 2.1.2; IIB-Section 2.1.2 Soil Matrix Data for Volatile Fuel HCs #4	General Comment #6	Section 2.1.2	*Revise the Uncertainty Analysis to include discussion of 11 soil samples with 4-bromofluorobenzene recoveries outside the laboratory target range; all samples reported as not detected*	Discussion of the uncertainties associated with soil samples with surrogate recoveries of 4-bromobenzene outside the target range has been added to Section 7.2.2.1.2 of the risk assessment	Section 7.2.2.1.2, p. 146
8.	3AII – Volatile Organics	IB-Section 2.1.2; IIB-Section 2.1.2 Soil Matrix Data for Volatile Organics #5 and #6	General Comment #6	Section 2.1.2	*Revise the Uncertainty Analysis to include discussion of soil samples with VOC surrogate recoveries outside the laboratory target range and five samples with low matrix spike recoveries*	Discussion of the uncertainties associated with VOC concentrations reported surrogate recoveries of 4-bromofluorobenzene, dibromofluoromethane, and toluene-d8 outside the target range, and low matrix spike duplicates for 5 samples, has been added to Section 7.2.2.1.3 of the risk assessment	Section 7.2.2.1.3, p.146-147
9.	3AII – PAHs	IB-Section 2.1.2; IIB-Section 2.1.2 Soil Matrix Data for PAHs #7, #8 and #9	General Comment #6	Section 2.1.2	*Revise the Uncertainty Analysis to include discussion of soil samples (report SDG IQG1327) with laboratory control spike/duplicates exceeding RPD limits for up to 4 PAHs; low matrix spike/duplicate for B(ghi)P in SV-36-05; and low matrix spike/duplicates for BaP and fluorene in SV-36-01*	Discussion of the uncertainties associated with PAH concentrations reported for soil samples in SDG IQG1327 with LCS/D exceeding RPD limits, and for low matrix spike duplicates for select PAHs in SV-36-05 and SV-36-01 has been added to Section 7.2.2.1.4 of the risk assessment	Section 7.2.2.1.4. p.147-148
10.	3AII – Hydrocarbon Distribution	IB-Section 2.1.2; IIB-Section 2.1.2 Soil Matrix Data for HC Distribution #10	General Comment #6	Section 2.1.2	*Revise the Uncertainty Analysis to include discussion of 17 soil samples with surrogate recoveries outside the laboratory target range*	Discussion of the uncertainties associated with TPH concentrations reported for 17 soil samples with surrogate recoveries outside the target range has been added to Section 7.2.2.1.5 of the risk assessment	Section 7.2.2.1.5, p.148
11.	3AIII	IB-Section 2.1.2; IIB-Section 2.1.2 Air Toxics Data #11, #12, and #13	General Comment #6	Section 2.1.2	*Revise the Uncertainty Analysis to include discussion of LCS with low recoveries, the impact of calibration range exceedances for cyclohexane in SV-38-15 and chloroform in SV-10-15, and the value of m,p-xylenes in one equipment blank*	Discussion of the uncertainties associated with VOC concentrations reported for soil gas samples with LCS recoveries slightly below the lower limit, cyclohexane in SV-38-15, chloroform in SV-10-15, and m,p-xylenes relative to the detection in one equipment blank has been added to Section 7.2.2.1.6 of the risk assessment	Section 7.2.2.1.6, p.148-149
12.	3AIV	IB-Section 2.1.2; IIB-Section 2.1.2 PARCC in terms of CSM/CEM	---	Section 2.1.2	*Revise the Uncertainty Analysis to include discussion of precision, accuracy, representativeness, comparability and completeness (PARCC) in terms of the site conceptual model, and not just the analytical data*	Per agreement in July 31, 2009 phone call, language from Neptune provided in an email on Sept. 8, 2009 (see Attachment 2) was used to modify the discussion on PARCC in terms of the site conceptual model. This discussion has been added as a footnote in Section 2.1.2.	Section 2.1.2, p.42, footnote #11

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13.	---	---	General Comments #4 and #6		*#4: EPA's Quality System includes the DQO process, which is used for planning data collection and the data quality assessment (DQA) process. The DQA process is used to ensure that a sufficient number of samples were collected. An alternative to collecting more samples (background or site) is to perform a DQA on the data to determine if enough data have been collected (although there are no DQOs for comparison).* *#6: "Two of the most important issues identified [in the DU Evaluation] are the value of performing DQA and the collection of key supplemental data."*	We do not believe that a retrospective DQO and DQA are necessary. Following completion of the 2005 Baseline HHRA and the ERA, the ATCAT collaboratively evaluated additional sampling needs at the Site. In addition to identifying soil gas sampling locations, the ATCAT also discussed at length the adequacy of soil data for the Site. Specifically, the potential sources, and the spatial and vertical distribution of soil samples and associated analyses and detection limits within the 10 evaluation areas, were assessed and additional soil sampling locations proposed to address identified data gaps (see May 31, 2007 and June 7, 2007 conference call summaries in Attachment 2 of the sHHRA). In addition, McDaniel Lambert and Teri Copeland discussed the potential exposure area-specific sampling limitations identified by Neptune in their "Spatial Representation" report (Attachment E of the sHHRA Attachment 9) and concluded the potential for insufficient data in the area of "greatest concern", Exposure Area M, could be addressed by including samples from the adjacent open space. Concerns regarding the adequacy of the background dataset are addressed in the responses to background specific comments (below).	NA

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14.	3BI	IB-Section 2.2.1	---	Section 2.2.1, Table 2-1	*Discuss laboratory reporting issues associated with thallium and include relevant documentation*	As agreed at the May 11, 2009 ATCAT EHS/APCD meeting, McDaniel Lambert summarized the "thallium issue" in a letter to SLO County EHS on May 15, 2009 and recommended that no reference to it be included in the sHHRA. The letter outlined that false positives for thallium in soil were inadvertently included in the Site database provided to McDaniel Lambert in 2007, and provided documentation from the laboratory that these 20 soil samples had non detectable thallium levels. SLO County EHS concurred that the "thallium issue adequately documented" (5/29/09 email from Aaron Labarre to Teri Copeland, Chuck Lambert, and Rebecca Countway; see Attachment 2).	NA
15.	3BII & 3BIII	IIB-Section 2.2.1		Section 2.2.1	*The risk assessment excludes arsenic as a COPC. Given limitations in background dataset, and concerns discussed by the regulatory agencies regarding what risk may be associated with the higher portion of the site arsenic concentrations (regardless of whether they are within background or not), it is of interest to understand the potential for risk associated with arsenic. For areas that have arsenic levels greater than the maximum background concentration of 15 mg/kg, (1) provide spatial plots and (2) if hot-spots are indicated further assess ("characterize risks") for these locations*	As agreed in a phone call and subsequent email between Chuck Lambert and Teri Copeland on July 31, 2009 (see Attachment 2), given that arsenic is excluded as a COPC based in the revised background evaluation (see Item #16), SLO County EHS will address arsenic in the risk management phase as necessary. Therefore, no changes have been made to the risk assessment with respect to this comment.	NA

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16.	---	---	General Comment #1; Specific Comments #1, #2, #4, and #18D	Section 2.2.1, Attachment 10	*"Overall, there appears to be little evidence of systematic metals contamination, with the exception of lead in samples towards the center of the site, however, the background that have been performed do not clearly demonstrate this because geology has not been accounted for."* *When there are multiple geologies, background comparisons should be performed first by geology and then by evaluation area if necessary, or, they should be performed by the appropriate geology within evaluation area. "…site-wide statistical Background comparisons would have much greater statistical power then [sic] is possible with the partitioning of the data into exposure areas that has occurred." The post-hoc evaluation of geology for arsenic included in Attachment 10 can lead to incorrect decisions. Attachment 10 notes that Neptune conducted geologic-specific comparisons test for arsenic, but indicated that there "might not be enough data to support this background decision for arsenic, and recommended that a DQA be performed or that consideration be given to the collection of more data."* *Full comparison of rock and derived soils has not been performed* *Sample adequacy (for background and individual exposure areas) is dependent on whether background comparisons are conducted initially by geology across the entire site or if the focus remains on individual exposure areas*	As discussed at the May 11, 2009 ATCAT EHS/APCD meeting, the metals COPC screening process has been re-evaluated and re-written to address Neptune's comments. The revised approach for all metals and specific analyses for arsenic detailed in a memo to Neptune on June 3, 2009. A conference call (on July 1, 2009) following this memo clarified additional statistical analyses to complete to further strengthen the statistical argument that arsenic is within background. These additional analyses for arsenic were summarized in a memo to Neptune on July 15, 2009. As of the July memo, Paul Black agreed the statistical arguments for arsenic as background are strongly supported (see Attachment 2). The main revisions to this process include: – Site-wide background evaluations, by geology, for metals with sitewide maximum concentrations that exceed 1/10th the residential CHHSL – Comparison of common geologic "rock," "soils" and "asphalt" Obispo and Pismo soil subtypes to justify combining these samples in the geologic comparisons – Expansion of the background dataset to include deep onsite samples, if necessary – Evaluation of spatial plots to identify potential areas with systematic contamination	Revised Att. 10, now Att. 9 and related summary in Section 2.2.1, p.46-48
17.	---	---	Specific Comment #12	Table 2-1	*It is not clear why metals summary statistics are not provided for all metals in all evaluation areas.*	In the revised metals COPC screening process, as discussed in Item #16, all metals are first evaluated on a site wide basis. Metals summary statistics are provided for all metals on a site-wide basis in Table 2-1 (regardless of whether they were screened out with 1/10th the CHHSL).	Table 2-1

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18.	---	---	General Comment #2; Specific Comment #18E	Section 2.2.1, Attachment 10	*Many of the tests performed across metals and evaluation areas have p-values close to 1, which suggests that the wrong (i.e., in terms of representativeness) background data sets are being used for comparison.* *Identifies barium as an example where p-values are close to 1, and that the plots show that the center of the background distribution is greater than the center of the site distributions. Same problem encountered for arsenic. "This problem persists because the wrong background dataset has been used for these comparisons."*	As discussed in Item #16, the metals COPC screening process has been revised significantly, with all background evaluations accounting for geology. Conducting geology-specific background tests helped address this issue. For some metals, p-values were still close to 1 and this was acknowledged in the text of Attachment 10, now Attachment 9.	Att. 10, now Att. 9
19.	---	---	Specific Comments #18A and B	Attachment 10	*Revise text to recognize that the Gehan test defaults to the Wilcoxon Rank Sum test when there are no non-detects* *The description of alpha level should describe the family-wise error rate as an approximate*	Text changed accordingly.	Att. 10, now Att. 9
20.	---	---	General Comment #3; Specific Comments #18C and F	Section 2.2.1, Attachment 10	*Background comparison tests have been performed when the large proportions of non-detects suggest that the results are not useful and "should not be trusted". Binomial proportion test scan be run to determine if frequencies of detect are similar in the datasets. "Sometimes the frequency of detection is so small that background comparisons are not useful and the metal should simply be carried forward in the risk assessment." Identifies antimony as specific example of frequency of non-detects as problematic, and indicates similar problems for mercury, cadmium, cobalt, selenium, silver, and thallium.* *Flow chart 1 does not adequately dealt with non-detects*	Metals with low frequencies of detection were simply carried through as COPCs, because it was unreasonable to conduct background comparisons. Flow chart 1 is no longer used to summarize the metals COPC selection process, but the Methods Section of Attachment 10, now Attachment 9, addresses the issue of non-detects as described above.	Att.10, now Att.9

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21.	---	---	General Comment #7	Section 2.2.1	*It would be helpful if the CHHSLs used for comparison appeared in some of the more important tables*	The residential CHHSLs were included in the COPC summary tables (Tables 2-2 through 2-31) of version 1.1 of the sHHRA. Table 2-1 includes 1/10th of the residential CHHSL used in the metals COPC screening process.	Tables 2-2 to 2-36, and Table 2-1
22.	---	---	General Comment #9	Sections 2.2.1 Attachment 10	*The term "T-test" as used in the report should be changed to "t-test" or "t-test"*	The term "t-test" is used throughout the revised document	Section 2.2.1, p. 47 bullet #2; Att. 10, now Att. 9
23.	---	---	General Comment #10	Attachment 10	*The normality and lognormality tests are not particularly useful because these results have no impact on the remainder of the background comparisons or risk assessment*	Normality and lognormality tests were conducted as part of the exploratory data analysis step. In order to streamline presentation of relevant results, these results are not included in the revised Attachment 10, now Attachment 9.	Identified text deleted
24.	---	---	General Comment #11	Attachment 10	*The summary statistics tables in Attachment 10 are not fully descriptive of the data, particularly with respect to the presentation of non-detects. The influence on non-detects needs to be evaluated, and they should be represented by different symbols on the plots. Substitution is needed to support UCL calculation, but it is not useful in summary tables that support background comparisons.*	As discussed with Neptune, summary statistics are presented separately for non-detects and detects. Non-detects are represented by different symbols/colors on the plots.	Table 2-1; Att. 9, now Att. 10

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25.	---	---	General Comment #12	Section 2.2.1, Attachment 10	*Correlation analysis is often useful when performing background comparisons; this might be a useful approach to use to evaluate whether the high site arsenic data are still part of a background distribution*	As agreed at the May 11, 2009 ATCAT EHS/APCD meeting, McDaniel Lambert evaluated correlations between arsenic and other metals, and found none. Because they are not part of the CAM 17 metals analysis, data for aluminum and iron, the metals most likely to be found in association with arsenic at the Site, are not available. The results of the correlation analysis were discussed with Neptune via phone following the May meeting, and in a subsequent email to Neptune and ATCAT members (June 3, 2009) that includes the memo summarizing the proposed revised metals COPC screening process.	NA
26.	---	---	Specific Comment #13	Table 2-2 through 2-35	*The conclusions for metals (and perhaps other chemicals) in Table 2-2 are not clearly defended: background comparisons do not account for geology and detection limits are not adequately accounted for*	As discussed in Item #16, the metals COPC screening process has been revised significantly and now accounts for geology. As discussed in Item #20, metals with a large number of non-detects were simply carried forward as COPCs.	Table 2-1, Section 2.2.1, p.46-48
27.	---	---	Specific Comment #3	Section 2.2.1	*Copper should be added to the list of metals that did not differ from local background concentrations in any of the exposure areas*	As discussed in Item #16, the metals COPC screening process has been revised, and the site-wide evaluation of copper is discussed in Section 2.2.1 as a metal that did not differ from local background concentrations.	Section 2.2.1, p.48
28.	---	---	Specific Comment #5	Section 2.2.7	*For Exposure Area F, vanadium should be added to the list of metals screened out based on comparisons to 1/10th residential CHHSLs.*	As discussed in Item #16, the metals COPC screening process has been revised, and only site-wide maximums are compared to 1/10th residential CHHSL. For Exposure Area F, vanadium is included as a COPC because it failed the site-wide Pismo-related background comparison.	NA
29.	---	---	Specific Comment #6	Section 2.2.13	*For Exposure Area L, list the metals screened out based on comparisons to 1/10th residential CHHSLs.*	As discussed in Item #16, the metals COPC screening process has been revised, and only site-wide maximums are compared to 1/10th residential CHHSL. The metals screened out based on comparisons to 1/10th residential CHHSL are listed in Section 2.2.1	NA

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30.	3CI	IB-Section 5.1.1, first italicized comment	---	Section 5.1.1	*Add a table summarizing all final soil EPCs based on UCLs*	Table 5-37, which summarizes all final soil EPCs based on 95% UCLs, has been added to the risk assessment	Table 5-37, pg. 85
31.	3CII	IB-Section 5.1.1, second italicized comment	Specific Comment #11	Section 5.1.1	*Provide documentation that 0-2 foot EPCs are not higher than the 0-10 foot EPCs*	At the May 11, 2009 ATCAT EHS/APCD meeting, it was agreed that receptors should be evaluated using following depth horizons: – Residential: maximum 0-10 feet – Utility worker: 0-10 foot soil horizon – Outdoor worker: 0-2 foot soil horizon – Indoor worker (dust component): 0-2 foot soil horizon – Remove current uncertainty section discussion regarding 0-2 ft vs. 0-10 ft As agreed in a phone call and subsequent email between Chuck Lambert and Teri Copeland on July 31, 2009 (see Attachment 2), the 0-2 foot depth horizon was identified as appropriate to evaluate baseline risks to recreational users and offsite residents. Coverage of samples in the 0-2 foot soil profile is limited in some exposure areas. Therefore, to be health protective, the sHHRA short-term resident and indoor and outdoor commercial employee soil representative concentrations are the greater of the EPCs (maximum or UCL, as appropriate) calculated for the 0-2 and 0-10 foot depth horizons. These clarifications/changes obviate the need for evaluation of differences between the 0-2 and 0-10 depth	Section 5.1.1, p.78-79

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32.	---	IIB-Section 5.1 – EPCs "See relevant portions of Attachment A"	General Comment #5; Specific Comment #14	Section 5.1.1, Table 5-1	*The risk assessment does not consider UCLs other than those based on t-distributions. "In previous reviews we recommended the use of t-UCLs for most chemicals…because we have run simulation studies that demonstrate that the t-UCLs are reasonable under a wide range of conditions." The assumption of normality cannot reasonably be used without some exploration and justification. For cases of many non-detects, large skewness, or multi-modality should consider using a bias corrected bootstrap (BCa).*	Section 5.1.1 includes further justification of appropriate UCL methods. COPC distributions were scrutinized further for deviations from normality; when data contained a large number of non-detects or were very right-skewed, the bias corrected bootstrap (BCa) was used to estimate the UCL.	Section 5.1.1, p.79
33.	---	IIB-Section 5.1 – EPCs "See relevant portions of Attachment A"	General Comment #5	Section 5.1.1	*Attachment 11, ProUCL output, is included even though only t-UCLs are utilized in the risk assessment. This could be confusing, and recommend removal on this output from future submittals.*	The Student's-t or BCa method is used for 95% UCL estimation, and ProUCL was used to generate these results. The SLO County EHS has previously requested inclusion of this information, therefore it remains as an attachment in version 1.2 of the sHHRA.	Section 5.1.1, p. 79; Att. 11, now Att. 10
34.	---	IIB-Section 5.1 – EPCs "See relevant portions of Attachment A"	Specific Comment #7	Section 5.1.1	*CHHSLs, EPA's recommended soil ingestion rates, and external dose factors published by EPA and ICRP are dimensioned by dry-weight. Therefore, the premise that the inclusion of some dry-weight PAH data result in a "high bias" is not correct. "If the moisture data are still available, then the dry-weight data could still be recovered."*	Per agreement in July 31, 2009 phone call (see Attachment 2), language provided by Neptune provided is included in the discussion of the uncertainties associated with wet-weight data in Section 7.4.~~3~~2.2.	Section 7.4.3.2, p. 162
35.	3DI	IB-Section 5.1.1.15	---	Section 5.1.1.15	*Using data distributions, provide rationale for not splitting the Open Space Exposure Area into smaller exposure areas; spatial plots of key COPCs (e.g., arsenic and BaP TEQ for Area A and Open Space) should be used to document that hot-spots do not exist within these sub-areas*	At the May 11, 2009 ATCAT EHS/APCD meeting spatial plots of arsenic and BaP were reviewed, and it was agreed that no subdivision of open space was necessary, particularly since the only potential "BaP hotspots" appear limited to unbuildable slopes where recreational access also is limited and overall mobility of recreators. Spatial plots of thallium, mercury and BaP, and their distributions in Open Space are discussed in Section 7.4.~~3~~2.3.	Section 7.4.3.3, p. 163; Figures 7-1 through 7-3.

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36.	3EI and 3EII	IB-Section 5.2.1.5 italicized comment	---	Section 5.2.1.5	*Clarify that applicable construction workers will be properly trained meeting HAZWOPER requirements* *Revise language in the document from "utility worker" to "construction worker"; exposure parameters are consistent with the USEPA generic construction worker receptor values*	As discussed at the May 11, 2009 ATCAT EHS/APCD meeting, the previously described construction worker is more appropriately referred to as a utility worker. The USEPA terminology for this receptor was not retained, because the intrusive utility worker receptor will not be involved in remediation activities (as would be a construction worker), which will be addressed in the EIR. As agreed at the meeting, the text includes discussion of why the construction worker was not evaluated, and notes that dust monitoring will be conducted and OSHA compliance will be required for all remediation/construction workers.	Section 5.2.1.5, p.104
37.	3F	IIB-Section 6.0	---	Section 6	*Provide only risk characterization results and not risk management recommendations*	As indicated in Item #2, all risk management recommendations have been removed from the text; text in Section 6.1 included to provide perspective to results has been changed as noted in Item #2. It is noted that results presented in Section 6 of all versions of the sHHRA have been limited to risk characterization.	Tables ES-1 and 8-1, Section 6 and Section 8
38.	3G	IB-Section 7.3.3	---	Sections and 7.3.3	*MTBE can be used as a toxicological surrogate for tert-butyl alcohol; methyl ethyl ketone (preferred) or methyl isobutyl ketone as a surrogate for 2-hexanone; why is 2,2,4-trimethylpentane listed in the text*	Previous submittal of sHHRA included the following noncancer toxicological surrogates: MTBE for tert-butyl alcohol, MEK for 2-hexanone, and hexane for n-heptane for 2,2,4-trimethylpentane (see sHHRA version 1.1 Sections 3.1, 7.3.3, and Tables 5-35 through 5-47). Two typos in sentence 2 of Section 7.3.3 have been corrected, which should clarify this misunderstanding.	Section 5.1.4.2 – p.99, 7.3.3-p.154
39.	3HI and 3HII	IB-Section 7.4.1; IIB-Section 7.4.1	---	Section 7.4.1	*Provide a full risk characterization for a worker who could potentially live onsite in Area A or Area M; a worker who lives at the Site should be identified as a "residential receptor" not a "worker receptor"*	As agreed at the May 11, 2009 ATCAT EHS/APCD meeting, this section has been expanded to include the identical evaluation for Exposure Area A residents as previously included for Exposure Area M residents; this potential receptor is referred to as "resident worker"	Section 7.4.1.1 – p.154-157

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40.	---	IB-Section 7.4.1 italicized comment	---	Section 7.4.1	*The reviewers were unable to find a discussion of risk exceedances for outdoor worker (8 hours outdoors and 2 hours indoors) and indoor worker (8 hours indoors and 2 hours outdoors) in the context of impact of the additional 2 hours in the Uncertainty Section*	As outlined in Sections 5.2.1.3 and 5.2.1.4, exposure parameters for the outdoor worker and indoor worker were revised in version 1.1 of the sHHRA to standard parameters (USEPA 2002; see pg. 123 and Table 5-48), making the requested discussion unnecessary	NA
41.	3II	IB-Section 7.4.3.2	---	Section 7.4.~~3~~2.2	*Justify the use of the 95% UCL for "construction" worker exposure by documenting that there are no hotspots, particularly in the larger exposure areas*	Version 1.2 of the sHHRA evaluates utility worker exposures based on the maximum detected values in the 0-10 foot depth horizon. This change in EPC calculations for the intrusive utility worker obviates the need to discuss uncertainties in risk estimates for this receptor resulting from the use of the 95% UCL, therefore this paragraph in Section 7.4.~~3~~2.2 has been deleted.	Text deleted from Section 7.4.~~3~~2.2 – p. 164
42.	---	---	Specific Comment #8	Section 7.4.~~3~~2.2	*The definition of the UCL should revised to include recognition that it is an upper bound estimate of the mean; the implication is not that the chemical is present at that concentration throughout the exposure area*	The first sentence defining the UCL has been revised as recommended, as well as to cite verbatim the USEPA reference (1992d). The second sentence did and does not imply that the UCL means that concentration is universal across an exposure area, rather that the **use** in the risk assessment of a single-bound upper-bound concentration estimate for an exposure area assumes that receptors are exposed to only that concentration in an exposure area	Section 7.4.~~3~~2.3 – bottom of p. 162
43.	---	---	Specific Comment #9	Section 7.4.~~3~~2.2	*The discussion of under- or overestimations of exposure based on 95% UCLs, particularly with respect to exposure area sizes, does not make sense and should be reconsidered.*	This section has been revised to discuss uncertainties in the use of the 95% UCL in the context of the reasonable maximum exposure (RME) approach.	Section 7.4.~~3~~2.3 – p. 163
44.	---	---	Specific Comment #10	Section 7.4.~~3~~2.3	*Power is associated with hypothesis testing, not estimation; delete sentence*	This sentence has been deleted	Deleted from p.164
45.	3JI, 3JII, and 3JIII	IB-Section 7.4.3.5	Specific Comment #11	Section 7.4.~~3~~2.5	*USEPA guidance specifies the use of the 0-2 foot soil depth horizon for direct exposure; document where the 0-2 foot concentrations exceed 0-10 and document that there use would not result in meaningful higher risks*	As indicated in Item #31, soil depth horizons for specific receptors were discussed and agreed upon at the May 11, 2009 ATCAT meeting and obviate the need for these comparisons; as agreed, discussion of uncertainties associated with the two depth horizons has been deleted from the document	Deleted from p. 165

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46.	3K	IIB-Section 7.5	---		*Include discussion of onsite resident who also works at the Site in cumulative risk uncertainties*	This discussion has been added	Section 7.4.1.1
47.	3L	IIB-Section 7.6	---	Section 7.6	*Uncertainty associated with elevated non-detects for soil gas in some exposure areas should be amended by using the value of the reporting limit (RL) in the risk calculations in the uncertainty section to understand what upperbound risks might be associated with the uncertain data point; this is usually done as a component of the data usability evaluation*	The evaluation of risks associated with elevated soil gas non-detects was discussed at the May 11, 2009 ATCAT EHS/APCD meeting. Upon further review of the data, Teri Copeland identified only a handful of samples with reporting limits well over risk-based concentrations, most at 15 feet bgs, and determined that the two shallow soil gas samples with high RLs are in a commercial exposure area where mitigation already is indicated and concluded that there is "no impact on the HRA of these shallow soil gas samples with high RLs" (email to SLO County EHS team and McDaniel Lambert, May 14, 2009). Associated text has been included in Sections 7.2.2.2 and 7.4.3.1, and the issue excluded as a major uncertainty in Section 7.7	Section 7.2.2.2 – p. 150 and Section 7.4.3.1 – p.162; Deleted summary bullet in Section 7.7 – p. 174
48.	3MI	IB–Section 8.0; IIB-Section 8.0	---	Section 8, Table 8-1	*Remove risk management recommendations from the document and provide risk driver information for key receptors in each area regardless of risk results*	As indicated in Items #2 and #5, risk management recommendation have been removed from the text and risk drivers included regardless of result	Section 8, Table 8-1

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49.	3MII	IB-Tables; IIB-Tables	---	Tables 1-2, 2-2 through 2-35, 3-1, and 5-48	*Table 1-2: add small commercial structure to Area N* *Soil COPC Summary Tables: Clarify PAH footnote* *Table 3-1: Add footnote regarding rounding of inhalation CSF values; Include oral slope factor for naphthalene from "OEHHA Toxicity Criteria Database" (TCDB); Benzene oral RfD on IRIS is 4E-03 (not 3E-03) - footnote for "*" to the table* *Table 5-48: Reformat to 11x17*	Table 1-2 has been revised The footnote on soil COPC summary tables has been revised to read "Concentrations are in mg/kg wet weight, with the exception of some PAH results **that are mg/kg dry weight**" Table 3-1: The CSF footnote has been added; as discussed at the May 11, 2009 ATCAT EHS/APCD meeting, the TCDB does not currently include an oral slope factor for naphthalene and this has been appropriate excluded from the sHHRA; the footnote explaining the discrepancy (OEHHA versus IRIS) in the benzene oral RfD has been added Table 5-48 has been reformatted	Table 1-2 Tables 2-3 through 2-37 Table 3-1 Table 5-48, now Table 5-57
50.	3MIII	IB-Figures	---	Figure 4-1	*Note that the produce pathway may be complete for the construction worker but is considered insignificant for this short-term receptor*	Figure 4-1 includes the notation that "Ingestion of produce grown on the Site may be complete but considered insignificant for this short-term receptor."	Figure 4-1, footnote
51.	3MIV	IB-Attachment 9	---	Section 5.1.4.1 and Attachment 9	*For construction worker, incorporate exposures to dust from (1) excavation and (2) truck traffic; the excavation PEF should be added to the utility worker PEF*	As discussed in Item #36, the construction worker is not evaluated in the sHHRA. A PEF for excavation during trenching activities, which assumes exposure to wind erosion and dumping of excavated soils, has been added to the utility worker exposure estimate	Section 5.1.4.1 – p.88-89, Eqns. 5-5 and 5-7; Details in Att.11
52.	May 11, 2009 ATCAT EHS/APCD meeting and June 4, 2009 email	---	---	Section 5.1.4.1	*Soil disturbance scenario – offsite resident: SLO County EHS requires evaluation of the downwind resident. Because the baseline sHHRA does not identify specific remedial actions, apply to scenario to are with highest non-VOC related risk ("i.e., an area with the greatest potential for excavation type-remedial action"), using 0-10 foot depth horizon and the offsite resident PEF, adjusted as necessary for area greater than 0.5 acres*	The requested analysis of the offsite resident has been included in Section 7.5. Exposure Area E was used for this analysis, because it was determined to pose the greatest inhalation-related health risks from soil. The 0-10 foot depth horizon was used, but the PEF was not adjusted for an area greater than 0.5 because the remediation area is unknown; use of the default PEF is conservative. Risks for this receptor are presented in the Uncertainty Section and Section 8 summary bullets.	Section 7.5, p.170-172

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53.	3MV	IB-Attachment 13, Model Setup Comments	Specific Comment #15	Attachment 13	*Attachment 5 (Rossi Letter) not included in the sHHRA, therefore some model setup and building parameter justifications are not available. Specific justifications requested (1) for the use of two layers (and no engineered fill layer) and a slab depth of 0 in the residential model and (2) that all buildings will be constructed as slab on grade*	At the time of submittal of sHHRA version 1.1 this letter had not been received; this attachment and references to it in the sHHRA have been removed. To provide additional flexibility for risk management at the Site, the revised sHHRA includes evaluation of default commercial structures in all Exposure Areas where commercial construction is proposed. To ensure conservatism (because Site soils are more "porous" than fill), all building models assume slab on grade with engineered fill. No buildings with basements were evaluated. All proposed building and soil parameters included in the risk assessment have been reviewed and accepted by the SLO County EHS (see Attachment 2).	Section 1.1 – bottom of p. 4 and Section 5.1.4.2, p.91-99
54.	3MV	IB-Attachment 13, Model Setup Comments	---	Attachment 13	*Provide the J&E Model VLOOKUP table, including chemicals not included in the default version*	The chemical properties "vlookup" table, including chemicals not included in the default version, is included as page 1 of Attachment 13, now Attachment 12. Any surrogate chemicals are described in Section 5.1.4.2	Att.13, now Att. 12, and p. 99 and 154
55.	3MV	IB-Attachment 13, Accuracy Comments	---	Attachment 13	*Attenuation factors (and the associated indoor air concentrations) for Area E-hexane and Area I-4-ethyltoluene could not be verified; no structures are planned for Area H and any associated J&E models should be removed*	Pages previously missing from Attachment 13 are included; enclosed structures are not planned for Exposure Area H therefore no J&E models are included	Att.13, now Att. 12
56.	---	---	General Comment #8	Attachments	*It is not helpful to have Attachments to Attachments*	The ATCAT agreed that information and reports important to the risk assessment should be included as attachments to the risk assessment, to ensure that these materials remain with the sHHRA itself. Some of these documents include attachments.	NA
57.	---	---	Specific Comment #15	Att. 3	*Attachment 3 (PCBs at the Tank Farm): Based on detection limits, it is not clear that additional analyses of PCBs in soil are warranted*	During the discussed in Item #13 above, this memorandum was prepared at the request of Teri Copeland. The document was ratified by the ATCAT, agreeing that additional analyses of PCBs were not warranted.	NA

Item No.	EHS Comment #	Copeland Technical Memo Comment #	Neptune Technical Memo Comment #	Draft sHHRA v1.1 Section #	COMMENT (paraphrased)	RESPONSE	Change on sHHRA v1.2 redline document page(s) #
58.	---	---	Specific Comment #15	Att. 4	*Attachment 4 (Screening HHRA for the Cliff Springs): Blank contamination with BaP should be investigated; if samples are not retained, should be eliminated for the dataset as opposed to be included at half the detection limit*	This memorandum was prepared at the request of Dan Niles of the RWQCB. The ATCAT ratified the document, agreeing with the approach and risk conclusions.	NA
59.	---	---	Specific Comment #19	Att. 11	*Attachment 11 (ProUCL Output): No output for Exposure Areas G and H included*	Sample sizes for all COPCs in these exposure areas were less than 10, therefore maximum values were carried forward as EPCs and no statistical analyses were necessary. Therefore these are not included in the ProUCL Output Attachment 11, now Attachment 10.	Att.11, now Att.10

October 7, 2008

Avila Tank Farm Health Risk Assessment Subcommittee
Attn: Charles Anders
Strategic Initiatives
1886 Deer Canyon Road
Arroyo Grande, CA 93420

Subject: Draft Final Supplemental Human Health Risk Assessment (Version 1.1) for the Avila Tank Farm Property

Dear Mr. Anders:

SLO APCD Review Notes & Comments: Draft Final Supplemental Human Health Risk Assessment (Version 1.1, August, 2008) for the Avila Tank Farm Property relative to Version 1.0 from April, 2008.

General Comments
On September 25, 2008, the Human Health Risk Assessment (HHRA) Working Group met Teri Copeland, the HHRA consultant that has been hired by the County of San Luis Obispo Planning and Building Department, Aaron LeBarre of SLO County Environmental Health Division, Dan Niles of the Regional Water Quality Control Board, and Andy Mutziger with APCD at the meeting. You attended the meeting as facilitator.

The goal of the meeting was to collectively discuss the Draft Final Supplemental HHRA Version 1.1 for the former Avila Tank Farm property relative to the April 2008 version. The HHRA evaluation is based on multi-pathway impacts based on extensive on-site sampling of soil, ground water, and soil gas. The Draft Final Supplemental HHRA evaluates the baseline risk should proposed on-site land uses be implemented without mitigation.

As background, on June 11, 2008, the APCD submitted a comment letter regarding the Draft Supplemental HHRA Version 1.0 dated April 2008. On June 30, 2008, the authors provided a letter that identified how they would address the comments provided by APCD and Ms. Copeland.

On August 29, 2008, the authors sent the HHRA Working Group Version 1.1 in the form of a red-line version that demonstrated changes relative to Version 1.0. **A quick review of Version 1.1 demonstrates that it did not adequately address the concerns that both APCD and SLO County identified throughout the entire document (e.g. Version 1.1 still contains conclusions that certain areas are "safe", the recommendations column**

in Table ES-1 should be removed, etc.).

The above described process is cumbersome for reviewers to determine if our comments were adequately addressed. In the June 30 memo, the authors outlined the proposed modifications; however these changes were not reflected in Version 1.1. Nor did they provide a good roadmap of how the changes were made and how our comments were incorporated. **In the future, the APCD proposes that responses to comments be in the form of a letter that outlines the actual changes that the authors made to address the specific comments from the agencies (i.e., citing exact page numbers/sections where the changes were made in the updated version, further clarified with the use of Track Changes).**

Comments regarding the Draft Final Supplemental HHRA

1. As stated in our June 11, 2008 letter, the Draft Final Supplemental HHRA is a document that should be restricted to HHRA results. Conclusions about risk and listings of appropriate mitigation measures that are needed are not appropriate for a HHRA and need to be completely removed from Version 1.1. The appropriate locations for these items are in the Risk Management Plan, Feasibility Study, Environmental Impact Report, and other appropriate documents.

2. During the September 25, 2008 HHRA Working Group meeting, the group concluded that in addition to the removal of inappropriate HHRA language identified in Item 1 above, the authors also need to remove all risk threshold references from the Draft Final Supplemental HHRA. These are appropriate for the Risk Management Plan, Feasibility Study, Environmental Impact Report, and other appropriate documents, but are not appropriate for the HHRA itself.

3. Following the guidance in Item 2, the bold numbering in Table ES-1 in the Executive Summary needs to be removed since it identifies exceedances of thresholds. It is appropriate in the HHRA to identify the risk, but not when risk exceeds a threshold. Further, the regulating agencies need to approve the thresholds that are used and at this point, thresholds have been discussed, but not formalized as discussed in September 25, 2008 HHRA Working Group meeting. The agencies will need to work together to define the appropriate thresholds used to define the significance of risk for the proposed project.

4. Table ES-1 should be modified to state the depth of sampling (i.e., 5' or 15' depth) that is presented for all the sample locations and why this depth was selected. The sample depth should be consistent for all sites and carried throughout the body of the Supplemental HHRA. This information could be presented in a footnote to the table to add clarity. This comment was in our June 11, 2008 letter, but was not addressed. In

addition, other tables in the HHRA that were used to create Table ES-1 should also be updated with depth driver information.

5. On-site residents (residing in the workforce housing units) and on-site in/outdoor employee risk are currently analyzed separately in the Supplemental HHRA. Another scenario that needs to be evaluated is an on-site resident who is also an employee of the proposed development. Depending on where such an individual works on-site, their combined daily exposure for the time spent at each of the two on-site locations could be higher than if the individual exposure evaluation is for only one site. Version 1.1 of the document briefly discusses this possibility in the uncertainty section, but does not define cumulative risk for such an individual.

   APCD recommends that this be removed from the uncertainty section and listed in the risk tables and related text as a plausible risk scenario with cumulative risk formally defined. Other combinations of risks that were identified by the other agencies also need to be listed in the risk table with cumulative risk identified.

   Two other receptors that APCD identified in our June 11, 2008 letter were:

   a. Restaurant workers that eat at the on-site restaurant that prepares food grown on-site; and
   b. Historic Avila Beach Residents that move to the on-site workforce housing, who live and work on-site, or who work on-site but continue to live off-site; these individuals were previously exposed to high levels of toxic diesel emissions. The Supplemental HHRA needs to address this potential receptor. It may be best to address the cumulative impact of this potential receptor qualitatively since the risk assessments where not conducted in a like for like manner.

   This Historic Avila Beach Resident needs to also be addressed in the future Risk Management Plan, Feasibility Study, and other associated environmental documents.

6. In our June 11, 2008 letter, the APCD requested that the SLO County Fire Department be contacted and notified of the 5% methane LEL exceedance(s) and asked to provide comments for the Supplemental HHRA. The relevant Cal Fire contact is Rick Swan at 805-543-4244.

   Further, the APCD requested that Cal Fire also review and provide comments on mitigation measures that are necessary to address methane LEL concerns during any future risk management steps for the site.

   Please inform APCD of how these requests were addressed.

7. The HHRA states that groundwater was not evaluated as a health risk due to poor water quality and the fact that "it is unlikely that it will be used in the future for drinking

water" (p. xix). In our June 11, 2008 letter, the APCD requested that a deed restriction be put in place to prohibit the ingestion of on-site groundwater. Please inform the APCD of how this will be addressed in the future documents of proposed site development.

8. As stated in our June 11, 2008 letter, the APCD emphasizes that the Supplemental HHRA is based on the contamination at the site remaining static. Should development at this site be implemented with the necessary engineering controls, it is imperative that a contingency plan be established to address any changes (e.g. seismic activity, etc.) to the baseline conditions that could negatively impact the health of the people associated with the development or surrounding areas. Such a change could necessitate a revised HHRA and additional risk reduction measures. Please inform the APCD of how this issue was address in the Version 1.1 of the HHRA, and if it was not address, inform us how changes will be made in the next version.

Sincerely,

Andy Mutziger
Air Quality Specialist

AJM/AAG/arr

H:\PLAN\CEQA\Project Review\3326-1\3326-1b.doc

MCDANIEL LAMBERT, INC

May 15, 2009

Mr. Andrew Mutziger
San Luis Obispo County
Air Pollution Control District
3433 Roberto Court
San Luis Obispo, California 93406

Response to SLO APCD Review Notes & Comments to Version 1.1 of the Supplemental Human Health Risk Assessment for the Avila Tank Farm Property

Dear Mr. Andrew Mutziger,
Thank you for taking the time to meet with us last week to discuss your comments on version 1.1 of the Supplemental Human Health Risk Assessment (sHHRA). We feel that the discussion and clarifications that occurred at the May 11th meeting will allow us to accurately address APCD's concerns in the next version of the sHHRA. To ensure this is the case, McDaniel Lambert is providing this "Response to Comments" for your review, as agreed. Please let us know immediately if you have any concerns with any of the actions outlined below.

APCD Comments regarding the Draft Final Supplemental HHRA

1. *As stated in our June 11, 2008 letter, the Draft Final Supplemental HHRA is a document that should be restricted to HHRA results. Conclusions about risk and listings of appropriate mitigation measures that are needed are not appropriate for a HHRA and need to be completely removed from Version 1.1. The appropriate locations for these items are in the Risk Management Plan, Feasibility Study, Environmental Impact Report and other appropriate documents.*

   As discussed at the May 11th meeting, all risk management recommendations will be removed from the risk assessment. Specifically, the following changes will be made to the next version of the sHHRA:

   - All risk management recommendation language will be removed.
   - The word "safe" inadvertently not removed from the text on pages xxvii, xxviii, 188, and 189 will be deleted from these pages (McDaniel Lambert 2008a).
   - The *Recommendations* column in Tables ES-1 and 8-1 will be revised to *Recommendations to Reduce Uncertainties* and will be limited to actions that would help reduce uncertainties in risk results (i.e. additional soil gas sampling).

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2. *During the September 25, 2008 HHRA Working Group meeting, the group concluded that in addition to the removal of inappropriate HHRA language identified in Item 1 above, the authors also need to remove all risk threshold references from the Draft Final Supplemental HHRA. These are appropriate for the Risk Management Plan, Feasibility Study, Environmental Impact Report and other appropriate documents, but are not appropriate for the HHRA itself.*

   As discussed at the May 11th meeting, any comparisons of Site risk results to a specific management level for the Site will be removed. However, in order to provide perspective for the risk characterization results, language identified in the 2008 December SLO County EHS Comments, will remain in the sHHRA:

   > "The CalEPA Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) no significant risk level (NSRL) is 10-in-one million. The USEPA acceptable risk range is 1-in-one million to 100-in-one million. The acceptable noncancer hazard index for CalEPA and USEPA is less than or equal to 1."

3. *Following the guidance in Item 2, the bold numbering in Table ES-1 in the Executive Summary needs to be removed since it identifies exceedances of thresholds. It is appropriate in the HHRA to identify the risk, but not when risk exceeds a threshold. Further, the regulating agencies need to approve the thresholds that are used and at this point, thresholds have been discussed, but not formalized as discussed in September 25, 2008 HHRA Working Group meeting. The agencies will need to work together to define the appropriate thresholds used to define the significance of risk for the proposed project.*

   According to current requests to remove all risk management recommendations bold formatting in Tables ES-1 and in the Executive Summary will be removed. In addition, risk drivers in each exposure area will be identified for cancer risks and noncancer hazards, regardless of risk results.

4. *Table ES-1 should be modified to state the depth of sampling (i.e. 5' or 15' depth) that is presented for all the sample locations and why this depth was selected. The sample depth should be consistent for all sites and carried throughout the body of the Supplemental HHRA. This information could be presented in a footnote to the table to add clarity. This comment was in our June 11, 2008 letter, but not addressed. In addition, other tables in the HHRA that were used to create ES-1 should also be updated with depth driver information.*

   The Table ES-1 column referred to in the above APCD comment is "Primary Risk Driver/Uncertainty". Soil gas sampling depths for exposure areas where risks are driven by vapor intrusion were included as a means of pointing out the potential uncertainty associated with these risk results. As discussed at the May 11th meeting, (and on page 119 of version 1.1 of the sHHRA), potential health risks from vapor intrusion are evaluated based on the soil gas sampling depth (5 or 15 feet) that resulted in the maximum modeled indoor air concentrations (see Tables 5-35 through 5-47). This approach is health protective, but as discussed in Section 7.4.3.6 of version 1.1 of the sHHRA (see especially pages 173-174), may overestimate the actual risks from vapor

intrusion because it ignores the substantial attenuation observed with depth in some exposure areas (i.e., much lower soil gas concentrations actually detected at 5 feet than 15 feet).

This conservative approach is consistently applied for all exposure areas, and this column of Table ES-1 simply identifies whether data from 5 feet or 15 feet are driving indoor air risks/hazards in a particular exposure area. As agreed at the May 11th meeting, a footnote will be added to Table ES-1 (and the associated Table 8-1) clarifying that "potential health risks from vapor intrusion were evaluated based on the soil gas sampling depth (5 or 15 feet) that resulted in the maximum modeled indoor air concentrations" and directing the reader to Section 5.1.4.2 for details regarding indoor air exposure point concentration calculations.

5. *On-site residents (residing in the workforce housing units) and on-site in/outdoor employee risk are currently analyzed separately in the Supplemental HHRA. Another scenario that needs to be evaluated is an on-site resident who is also an employee of the proposed development. Depending on where such an individual works on-site, their combined daily exposure for the time spent at each of two on-site locations should be higher than if the individual exposure evaluation is for only one site. Version 1.1 of the document briefly discusses this possibility in the uncertainty section, but does not define cumulative risk for such an individual.*

   APCD recommends that this be removed from the uncertainty section and listed in the risk tables and related text as a plausible risk scenario with cumulative risk formally defined. Other combinations of risks that were identified by other agencies also need to be listed in the risk table with cumulative risk identified.

   As discussed at May 11th meeting, the combined risks for workers potentially living in Exposure Area M and working in any area of the Site are provided in the Uncertainty Section of version 1.1 of the sHHRA (Table 7-1, page 164). As agreed, this section will be expanded to include the same evaluation of potential health risks for residents potentially living in Exposure Area A and working in any area of the Site. Specifically, a table similar to 7-1, and associated text, will be added to the revised sHHRA for a potential Exposure Area A live-work receptor, but that this discussion will remain in the Uncertainty Section.

   Two other receptors that APCD identified in our June 11, 2008 letter were:

   a. *Restaurant workers that eat at the on-site restaurant that prepares food grown onsite; and*

      In response to the June 11, 2008 letter, this additional route of exposure was added to version 1.1 of the sHHRA (see page 163). Specifically, a cancer risk estimate of 9×10^{-8} and a noncancer hazard of 0.0001 for exposure to chemicals in Site-grown produce were calculated for indoor employees eating one meal a day containing 25% Site-grown produce, on all of their 250 working days. Based on the proportion of risk that the produce pathway would contribute to the overall risk for restaurant workers in each exposure area, the uncertainty discussion in Section 7.4.1 demonstrates that this pathway does not meaningfully change the

risk estimates presented in Section 6.0. However, to make these results more transparent, a table will be added to the Uncertainty Section that presents the total risk estimates for restaurant workers in each exposure area who may eat produce grown on the Site. Risks associated with this produce exposure pathway also will be included in the cumulative risk estimates for indoor workers who may live on the Site.

b. Historic Avila Beach Residents that move to the on-site workforce housing, who live and work on-site, or who work on-site but continue to live off-site; these individuals were previously exposed to high levels of toxic diesel emissions. The Supplemental HHRA needs to address this potential receptor. It may be best to address the cumulative impact of this potential receptor qualitatively since the risk assessments were not conducted in a like for like manner. This Historic Avila Beach Resident needs to also be addressed in the future Risk Management Plan, Feasibility Study, and other associated environmental documents.

As discussed in the May 11th meeting, quantitative evaluation of cumulative impacts to the Avila Beach resident is beyond the scope of this baseline assessment and is best addressed in the CEQA process. Deferring this evaluation to the CEQA is appropriate, because redevelopment and construction activities will become clearer during that process, making potential impacts from these activities quantifiable with less uncertainty.

However, concerns regarding potential cumulative impacts to these residents will be noted in the Uncertainty Section of the revised sHHRA, and will include a recommendation that cumulative impacts be evaluated in the Environmental Impact Report (EIR) and Feasibility Study. This language will be sent to APCD and SLO County Environmental Health for approval prior to completion of the revised sHHRA.

6. In our June 11, 2008 letter, the APCD requested that the SLO County Fire Department be contacted and notified of the 5% methane LEL exceedance(s) and asked to provide comments for the Supplemental HHRA. The relevant Cal Fire contact is Rick Swan at 805-543-4244.

Potential risks from methane, as for other risks deemed unacceptable, will be addressed in the Risk Management Plan for the Site. As agreed at the May 11th meeting, it is recommended that SLO County Fire Department review the Risk Management Plan.

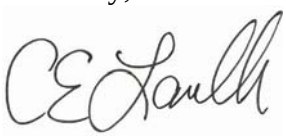
7. The HHRA states that groundwater was not evaluated as a health risk due to poor water quality and the fact that "it is unlikely that it will be used in the future for drinking water" (p. xix). In our June 11, 2008 letter, the APCD requested that a deed restriction be put in place to prohibit the ingestion of on-site groundwater. Please inform the APCD of how this will be addressed in the future documents of proposed site development.

This is an important risk management issue that we anticipate Chevron will address with a deed restriction regarding no domestic use of groundwater in areas of the Site where impacted groundwater is encountered.

8. *As stated in our June 11, 2008 letter, the APCD emphasizes that the Supplemental HHRA is based on the contamination at the site remaining static. Should development at this site be implemented with the necessary engineering controls, it is imperative that a contingency plan be established to address any changes (e.g. seismic activity, etc.) to the baseline conditions that could negatively impact the health of the people associated with the development or surrounding areas. Such a change could necessitate a revised HHRA and additional risk reduction measures. Please inform the APCD of how this issue was addressed in the Version 1.1 of the HHRA, and if it was not addressed, inform us how changes will be made in the next version.*

   As noted in the May 11th meeting, the sHHRA addresses risk associated with current conditions under the proposed development plan, and the evaluation of impacts from natural disasters is beyond the scope of the document. As agreed, the executive summary and conclusion sections of the revised sHHRA will include a summary bullet with language emphasizing that the analysis is based on current conditions and the proposed development plan, and changes to Site conditions resulting from catastrophic events, or significant revisions to the development plan, would require the re-evaluation of potential health risks.

Sincerely,



Chuck Lambert, Ph.D., DABT

cc: William Almas, Chevron
Chuck Anders, Strategic Initiatives
Aaron LaBarre, SLO County EHS
Kyle Rutherford, Chevron

References

Copeland T. and Fehling J.O., 2008. *Comments to the Supplemental Human Health Risk Assessment for the Avila Tank Farm Property in Support of the Community Development Plan Final Draft Version 1.1 (McDaniel Lambert Inc. prepared for Chevron Corporation, August 2008),* October.

McDaniel Lambert Inc., 2007. *Final Supplemental Human Health Risk Assessment for the Avila Tank Farm Property in Support of the Community Development Plan, Final Draft Version 1.1,* August.

Rebecca Countway

From: Teri L Copeland [terilcopeland@yahoo.com]
Sent: Tuesday, October 27, 2009 9:23 PM
To: rcountway@mclam.com; 'Chuck Lambert'
Cc: 'Aaron LaBarre/PH/COSLO'; 'Kurt Fehling'
Subject: Avila TF sHHRA tox criteria check
Attachments: Table 3-1 Toxicity QA-kf-tc.xlsx

Becky and Chuck,

Kurt completed a check of all tox criteria listed in the current Table 3.1 and found 10 COPCs for which at least one tox criterion changed. Of those three had one tox criterion become more stringent (all noncancer) and one had two tox criteria become more stringent (all noncancer). Those are highlighted in the attached table in red. The values highlighted in yellow either did not change much or the change relative to a minor contribution of the relevant pathway was deemed insignificant by us (those are highlighted in yellow). Since the ones in red changed quite a bit, there probably should be some discussion. We did not take it to the next step to do anything quantitative like a sensitivity analysis, but we hope this at least narrows down the list of chemicals that probably need some mention in the uncertainty analysis. That and the qualitative DQA language that Neptune will assist with should be the bulk of your next edits. Neptune still has the Response to Comments table.

Feel free to email or call with questions.

Teri

PLEASE NOTE NEW EMAIL ADDRESS:
TeriLCopeland@yahoo.com

Teri L. Copeland, DABT
(818) 991-8240
(818) 991-8140 fax

No virus found in this incoming message.
Checked by AVG - www.avg.com
Version: 8.5.423 / Virus Database: 270.14.34/2462 - Release Date: 10/27/09 15:50:00

Avila Tank Farm Table 3-1 Toxicity Criteria Updates

Chemical Name	Oral CSF $(mg/kg\text{-}day)^{-1}$	Source	Inhalation CSF $(mg/kg\text{-}day)^{-1}$	Source	Oral RfD (mg/kg-day)	Source	Inhalation RfD (mg/kg-day)	Source
Dibromochloromethane	0.094	OEHHA	0.094	OEHHA				
n-Heptane					6.00E-02	Region IX (Hexane)		
Hexane					6.00E-02	Region IX (Hexane)		
2-Hexanone					5.00E-03	IRIS	8.57E-03	IRIS
Mercury							8.57E-06	OEHHA
Methyl tert butyl ether			0.0018	OEHHA				
Thallium					6.50E-05			
1,1,1-Trichloroethane					2.00E+00	IRIS	1.43	IRIS
Trichloroethene	0.0059	OEHHA			Cannot confirm Table 3-1 Value			
2,2,4-Trimethylpentane					6.00E-02	Region IX (Hexane)		
Gamma-BHC	1.1	OEHHA	1.1	OEHHA				

OK

Updated criterion more stringent

From: alabarre@co.slo.ca.us [mailto:alabarre@co.slo.ca.us]
Sent: Sunday, November 29, 2009 8:08 PM
To: canders@strategicinit.com
Cc: celambert@mclam.com; terilcopeland@yahoo.com; pblack@neptuneinc.org
Subject: Re: ATCAT

Chuck,

The following commentary from Neptune address the issues Paul Black raised and review he committed to providing during the last ATCAT meeting. I will be placing the contents of these comments into an Agency letter.

Neptune's Review and commentary of Supplemental Human Health Risk Assessment for the Avila Tank Farm Property, Version 1.2, September 2009 is as follows:

"The primary components of Neptune's review include data validation, data usability, background comparisons, and UCL calculations. Our review focuses on the HHRA Report and on the Response to Comments document that is associated with the final report.

Neptune was integrally involved in data validation and data usability for this project. Our review confirms that these sections are appropriate and reasonable for the risk assessment performed. Neptune was also involved in the evolution of the background comparisons through review and comments provided on various versions of the associated background comparisons report. Our review confirms that the background comparisons have been performed appropriately and reasonably. In a previous review, Neptune also agreed to the approach taken for estimating UCLs. That is, ProUCL would be used for the calculations, but the decision logic in ProUCL would not be used. Our review confirms that the UCL calculations have been performed appropriately and reasonably.

However, we have a few comments on the HHRA report and on the response to comments. In a recent conference call meeting, Neptune agreed to provide suitable language regarding data quality assessment and on the definition of a UCL. These are provided below. Neptune also has a few other comments on the HHRA report and on the response to comments document. For the HHRA report, Neptune focused our review on the Executive Summary. We recognize that the document fully documents the risk assessment performed, but the complexity of the risk assessments leads to a HHRA report that is appropriately detailed and very large. Neptune's review has always focused on specific sections or aspects of the HHRA (see above), so we have not attempted to review the entire document. However, we did review the Executive Summary, and some sections or subsections of the main report. Our specific input comments are provided below.

Data Quality Assessment

In the absence of quantitatively specified data quality objectives (DQOs), once the risk assessment has been completed, including data validation, data usability, background comparisons, UCL calculations and risk calculations, then data quality assessment (DQA) should be performed to demonstrate that sufficient data have been collected to support the risk assessment. USEPA's Office of Information Quality Staff has developed guidance that will be used to support DQA for this risk assessment (USEPA,

2006a, 2006b). For this report, data quality assessment has been performed qualitatively by general agreement which has led to inclusion of sample data from adjacent areas in some of the exposure are specific risk assessments, and use of onsite data to supplement the offsite background data. The goal at this stage has been to determine which areas will require remediation and subsequent sample collection to verify that cleanup goals have been met. Once the verification data have been collected, then a quantitative DQA will be performed to demonstrate that the sample size is adequate for the site's risk-based decisions. This quantitative DQA will focus on the chemical risk drivers, and will demonstrate for each chemical that adequate data have been collected, and hence that uncertainties are low enough that the risk-based decisions are defensibly supported.

Upper Confidence Limits

Each 95 percent UCL calculated to support the human health risk assessment is a statistic that quantifies the uncertainty associated with the sample mean concentration. If randomly drawn subsets of site data are collected and the UCL is computed for each subset, the UCL will equal or exceed the true mean roughly 95 percent of the time.

RTC Comments

RTC #13 #6 – Neptune has provided input on how to present data quality assessment for this project. The intent is to qualitatively justify that enough samples have been collected to support this risk assessment, but that a quantitative risk assessment will be performed post-remediation. See Data Quality Assessment section above.

RTC #34 – References should be made to Section 7.4.2.2 rather than Section 7.4.3.2.

RTC #35 – References should be made to Section 7.4.2.3 rather than Section 7.4.3.3.

RTC #41 – References should be made to Section 7.4.2.2 rather than Section 7.4.3.2.

RTC #42 – References should be made to Section 7.4.2.2 rather than Section 7.4.3.2. In addition, Neptune has provided a different definition of a UCL. Although the HHRA report uses an USEPA definition, the USEPA definition is not sufficient. See Upper Confidence Limits section above.

RTC #43 – References should be made to Section 7.4.2.3 rather than Section 7.4.3.3.

RTC #44 – References should be made to Section 7.4.2.3 rather than Section 7.4.3.3.

RTC #45 – Reference should be made to Section 7.4.2.5 rather than Section 7.4.3.5.

Other Executive Summary and Main Text Comments

Page xxix, 1st sentence. Please change lead to led.

Page xxx, 7th bullet. The term CEQA has not been defined yet, expect in the Glossary.

Page 162, last sentence – “Use of a single upper-bound concentration estimate such as the 95% UCL as the EPC in the risk calculations assumes that a chemical is present at that concentration throughout the exposure area, and therefore that receptors are exposed to this upper-bound estimate at all locations”. We have commented on this sentence before, and although minor changes have been made, the sentence is still incorrect. The use of a UCL does not assume that the chemical is present at that concentration throughout the site. In fact, nothing could be further from the truth. The use of a UCL implies that the mean concentration at the site is probably no greater than the UCL. The UCL calculation inherently assumes variability across the site. The use of a UCL also does not imply that the receptors are exposed to this upper-bound estimate at all locations. Instead, the UCL implies that the receptors are exposed to a mean concentration that probably does not exceed the UCL.

Page 163, 1st new paragraph, 2nd sentence – “Based on the approach outlined in Section 5.1, the Open Space and Site-wide Exposure Areas have the most EPCs based on 95% UCLs (Table 5-37)”. This is an awkward statement. It is not clear what the relevance is of having the “most EPCs”. If a further statement is needed with respect to the 1st sentence, then it should be some recognition that the UCLs are estimate of mean concentrations, albeit high estimates. Because they are estimates of mean concentrations, then, depending on the data, these estimates could under- or over-estimate human health risks. Otherwise, suggest clarifying the intent of, or simply deleting, the sentence in question."

References

U.S. Environmental Protection Agency (USEPA). 2006. *Guidance on Systematic Planning Using the Data Quality Objectives Process*. EPA QA/G-4. Office of Environmental Information Washington, DC. EPA/240/B-06/001. February.

U.S. Environmental Protection Agency (USEPA). 2006. *Data Quality Assessment: statiatical Guide for Practitioners*. EPA QA/G-9S. Office of Environmental Information Washington, DC. EPA/240/B-06/003. February.

Aaron LaBarre
Supervising Environmental Health Specialist
Hazardous Materials Program
San Luis Obispo County Environmental Health Services
805-781-5595

-----Charles Anders <canders@strategicinit.com> wrote: -----

To: alabarre@co.slo.ca.us
From: Charles Anders <canders@strategicinit.com>
Date: 11/19/2009 09:47AM
Subject: Re: ATCAT

Great - thanks for following up so quickly.

On Nov 19, 2009, at 8:45 AM, alabarre@co.slo.ca.us wrote:

> Hi Chuck,
>
> We have met 2 times and are just about ready to meet with the Human Health
> ATCAT members again. I just received the response from Neptune. Once I
> review it I will provide the review content to you. I will contact you
> with some available dates in December to meet.
>
> Aaron LaBarre
> Supervising Environmental Health Specialist
> Hazardous Materials Program
> San Luis Obispo County Environmental Health Services
> 805-781-5595
>
>
>
> From: Charles Anders <canders@strategicinit.com>

>
> To: alabarre@co.slo.ca.us

>
> Date: 11/17/2009 09:20 AM

>
> Subject: Re: ATCAT

>
>
>
>
>
>
> Hi Aaron,
>
> I'm just checking in to find out how your Agency meetings are going
> and If you have any word from Neptune about when they will have their
> review complete. Any insight about remaining issues would be much
> appreciated.
>
> Thanks,
>
> Chuck
>
>
> On Nov 2, 2009, at 6:39 PM, alabarre@co.slo.ca.us wrote:
>
>> Chuck,
>>
>> I wanted to update you on the 2 items from the last meeting. We
>> (RWQCB,
>> EHS and APCD) met last week regarding risk evaluation as discussed.
>> We
>> were not able to answer all the questions, so we are going to meet
>> again,
>> then we want to meet with Chevron. I will be sending you some
>> proposed
>> meeting dates shortly, so the Agencies can meet with Chevron to

>> discuss
>> some issues. I will be sending you information from Paul from
>> Neptune as
>> soon as I receive it.
>>
>> Aaron LaBarre
>> Supervising Environmental Health Specialist
>> Hazardous Materials Program
>> San Luis Obispo County Environmental Health Services
>> 805-781-5595
>>
>
> Chuck Anders
> Strategic Initiatives
> 1886 Deer Canyon Road
> Arroyo Grande, CA 93420
>
> (805) 474-8105 (voice)
> (805) 481-1497 (fax)
> (805) 459-6215 (mobile)
> canders@strategicinit.com
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>

Chuck Anders
Strategic Initiatives
1886 Deer Canyon Road
Arroyo Grande, CA 93420

(805) 474-8105 (voice)
(805) 481-1497 (fax)
(805) 459-6215 (mobile)
canders@strategicinit.com

=

No virus found in this incoming message.
Checked by AVG - www.avg.com
Version: 8.5.437 / Virus Database: 271.1.1/2838 - Release Date: 04/27/10 06:27:00

From: Teri L Copeland [mailto:terilcopeland@yahoo.com]
Sent: Monday, January 04, 2010 10:23 AM
To: 'Chuck Lambert'
Cc: alabarre@co.slo.ca.us; amutziger_apcd@co.slo.ca.us
Subject: Avila sHHRA

Chuck,

I received your voice mail from this morning asking for confirmation on how the offsite residential inhalation risk should be caveated in the current version of the sHHRA. My previous suggestion to Aaron was as follows:

I suggested that they include a short discussion in the Uncertainty Analysis section of the sHHRA which explains how conservative the VF approach is and also presents the previous air monitoring data that were collected in Avila Beach. They could also provide a footnote in any risk summary table listing the 2 in one million risk which re-iterates the statements in the Uncertainty Analysis regarding the conservatism in the VF approach.

Aaron agreed with both the Uncertainty Analysis discussion and the footnote (footnote to be included in any table where the offsite resident risk is presented).

Also, I am copying from an email from Andy at APCD so you can consider his comments:

****

From Andy:

We comfortable with the 2 in a million risk identified for the off-site receptor as calculated by Lambert's group based on the soil gas data. Our comfort is due to the conservative (or practical as Lambert states) approach to the modeling. As Lambert suggested, we agree that footnotes would be appropriate. Based on my discussion with you today and with our staff, we suggest the following and are open to discussion:

- one that explains that off-site ambient air sampling during the soil sampling resulted in Non-Detection for the two risk drivers - ethylbenzene and benzene; an indication that the modeled risk overestimates true impacts from the baseline site
- one that explains key conservative assumptions in the model that drive the risk to the 2 in a million level
- one that identifies what evaluation will be conducted in the future to characterize the down wind receptor risk associated from post remedial action contaminant levels.

Two of these are in line with Teri's comments.

****

I tried to combine the original emails into one to you, but it got too complicated. I have yellow highlighted the components of the emails that you will probably want to incorporate into the next redline version of the sHHRA.

I will be out from about 11 to about 1 but after that please feel free to call me on the cell if you have any questions.

Teri

Katie Butler

From: Chuck Lambert [celambert@mclam.com]
Sent: Friday, January 29, 2010 7:56 AM
To: 'Rebecca E. Countway'; 'Katie Butler'
Subject: FW: : ATCAT - Final Comments on the sHHRA

Chuck Lambert
McDaniel Lambert Inc.
1608 Pacific Ave, Suite 201
Venice CA 90291
www.mclam.com
ph 310 392 6462
cell 323 717 0983

-----Original Message-----
From: alabarre@co.slo.ca.us [mailto:alabarre@co.slo.ca.us]
Sent: Friday, January 29, 2010 7:53 AM
To: Charles Anders
Cc: Chuck Lambert; TeriLCopeland@yahoo.com
Subject: : ATCAT - Final Comments on the sHHRA

Chuck,

The following are the remaining comments summarized at the 1-26-10 meeting:

Additional Comments to the January 2010 Final sHHRA (Redline/Strikeout)

Please note that the page numbers identified are from a printout of the redline/strikeout text.

1. Page xxx, 5th bullet and page 19, second full paragraph – please insert the appropriate reference for the report that contains the ambient air data cited.

2. Page 45, 4th line – Please add the USEPA 2006a and USEPA 2006b citations to the references section.

3. Page 59, 2nd paragraph – CalEPA, 2009d is not included in the references cited; please add this reference.

4. Page 121, Table 6-1 – Edits made to Tables ES-1 and 8-1 were not made to this table. Please revise.

5. Page 140, footnote – Please replace “Section X.X” with the actual section number.

6. Page 156, first full paragraph – Please delete the last sentence (which states that the use of the surrogates is conservative and may result in overestimation of risk) or provide additional rationale as to why risk would be overestimated and not necessarily underestimated.

7. Table 7-5 – We assume that the J & E model results were updated in

this table to reflect revised J & E modeling. Please confirm.

8. Attachment 5 and related text sections – It appears that no TO-15 VOCs were detected in any of the 3 ambient air samples. Please document that the reporting limits for the ambient air samples were at or below risk-based levels.

Addition of APCD Language Regarding the Offsite Receptor Risk

We note that, as per Andy Mutziger's January 14, 2010 email, additional language will be inserted in the Executive Summary and relevant text sections regarding uncertainties in the offsite receptor inhalation risk.

Aaron LaBarre
Supervising Environmental Health Specialist Hazardous Materials Program San Luis Obispo County Environmental Health Services
805-781-5595

From: Charles Anders <canders@strategicinit.com>

To: Aaron LaBarre <alabarre@co.slo.ca.us>

Cc: Chuck Lambert <celambert@mclam.com>

Date: 01/28/2010 05:24 PM

Subject: ATCAT - Teri's Comments on the sHHRA

Hi Aaron,

Could you send Teri's final comments on the sHHRA to Chuck Lambert (cc me) so that he can finalize and distribute the document.

Thanks much,

Chuck

Chuck Anders
Strategic Initiatives
1886 Deer Canyon Road
Arroyo Grande, CA 93420

(805) 474-8105 (voice)
(805) 481-1497 (fax)
(805) 459-6215 (mobile)
canders@strategicinit.com

-----Original Message-----
From: alabarre@co.slo.ca.us [mailto:alabarre@co.slo.ca.us]
Sent: Friday, January 29, 2010 7:53 AM
To: Charles Anders
Cc: Chuck Lambert; TeriLCopeland@yahoo.com
Subject: : ATCAT - Final Comments on the sHHRA

Chuck,

The following are the remaining comments summarized at the 1-26-10 meeting:

Additional Comments to the January 2010 Final sHHRA (Redline/Strikeout)

Please note that the page numbers identified are from a printout of the redline/strikeout text.

1. Page xxx, 5th bullet and page 19, second full paragraph – please insert the appropriate reference for the report that contains the ambient air data cited.

2. Page 45, 4th line – Please add the USEPA 2006a and USEPA 2006b citations to the references section.

3. Page 59, 2nd paragraph – CalEPA, 2009d is not included in the references cited; please add this reference.

4. Page 121, Table 6-1 – Edits made to Tables ES-1 and 8-1 were not made to this table. Please revise.

5. Page 140, footnote – Please replace “Section X.X” with the actual section number.

6. Page 156, first full paragraph – Please delete the last sentence (which states that the use of the surrogates is conservative and may result in overestimation of risk) or provide additional rationale as to why risk would be overestimated and not necessarily underestimated.

7. Table 7-5 – We assume that the J & E model results were updated in this table to reflect revised J & E modeling. Please confirm.

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Addition of APCD Language Regarding the Offsite Receptor Risk

We note that, as per Andy Mutziger’s January 14, 2010 email, additional language will be inserted in the Executive Summary and relevant text sections regarding uncertainties in the offsite receptor inhalation risk.

Aaron LaBarre
Supervising Environmental Health Specialist
Hazardous Materials Program
San Luis Obispo County Environmental Health Services
805-781-5595

From: Charles Anders <canders@strategicinit.com>

To: Aaron LaBarre <alabarre@co.slo.ca.us>

Cc: Chuck Lambert <celambert@mclam.com>

Date: 01/28/2010 05:24 PM

Subject: ATCAT - Teri's Comments on the sHHRA

Hi Aaron,

Could you send Teri's final comments on the sHHRA to Chuck Lambert (cc me) so that he can finalize and distribute the document.

Thanks much,

Chuck

Chuck Anders
Strategic Initiatives
1886 Deer Canyon Road
Arroyo Grande, CA 93420

(805) 474-8105 (voice)
(805) 481-1497 (fax)
(805) 459-6215 (mobile)
canders@strategicinit.com

From: Teri L Copeland [mailto:terilcopeland@yahoo.com]
Sent: Tuesday, March 16, 2010 7:20 PM
To: 'Teri L Copeland'
Cc: 'Chuck Lambert'
Subject: RE: Avila TF HRA

Aaron,

There were just a few word-smithing suggestions I shared with Chuck today and I believe he can integrate them without further question in a final document.

I am in all week if you need to call,

Teri

From: Teri L Copeland [mailto:terilcopeland@yahoo.com]
Sent: Tuesday, March 16, 2010 9:45 AM
To: 'alabarre@co.slo.ca.us'
Subject: Avila TF HRA

Aaron,

I reviewed what you sent and still have a few comments. I think we could be most efficient if we had a call with Chuck Lambert directly so that I could suggest a few edits that would reduce liability and make the final HRA more complete. Let me know if you have time today for a call. I will check with Chuck as well regarding time for a call. It should be short.

Thanks,
Teri

PLEASE NOTE NEW EMAIL ADDRESS:
TeriLCopeland@yahoo.com

Teri L. Copeland, DABT
(818) 991-8240
(818) 991-8140 fax

No virus found in this incoming message.
Checked by AVG - www.avg.com
Version: 8.5.437 / Virus Database: 271.1.1/2838 - Release Date: 04/27/10 06:27:00

From: alabarre@co.slo.ca.us [mailto:alabarre@co.slo.ca.us]
Sent: Tuesday, April 20, 2010 7:58 PM
To: Chuck Lambert
Cc: amutziger_apcd@co.slo.ca.us; TeriLCopeland@yahoo.com; 'Almas, William'; 'Rebecca Countway'; 'Charles Anders'
Subject: Re: Finalization of Avila sHHRA

Chuck,

This addresses the issues we raised. Thank you.
Aaron LaBarre
Supervising Environmental Health Specialist
Hazardous Materials Program
San Luis Obispo County Environmental Health Services
805-781-5595

-----"Chuck Lambert" <celambert@mclam.com> wrote: -----

To: <amutziger_apcd@co.slo.ca.us>, <alabarre@co.slo.ca.us>
From: "Chuck Lambert" <celambert@mclam.com>
Date: 04/19/2010 01:43PM
cc: <TeriLCopeland@yahoo.com>, "'Almas, William'" <WAlmas@chevron.com>, "'Rebecca Countway'" <rcountway@mclam.com>, "'Charles Anders'" <canders@strategicinit.com>
Subject: Finalization of Avila sHHRA

All

This is to memorialize two separate discussions I had last week with Teri Copeland and Andy Mutzinger regarding finalizing the Avila Tank Farm sHHRA:

1) Comments are to be sent from Andy regarding the final language for the offsite resident with regards to calculated risk and actual air monitoring results. The version Andy is reviewing includes language to address previous comments from Environmental Health.
2) This final offsite resident air language will be incorporated and the final version of the sHHRA produced.
3) There was also a discussion separately with both Andy and Teri regarding the fact that the offsite residential risk is based on the greater of the VOC EPC in the 0-2 ft and 0-10 ft depth horizon (e.g., the max of the 95%UCL of 0-2 and 0-10 profiles). Not unexpectedly, VOCs were detected with at lower frequencies, and generally at lower concentrations in the 0-2 foot horizon than the 0-10 foot horizon. If only the 0-2 ft soil data are considered in the risk calculations, the risk decreases to below 10-6. Arguments could be made that this is a more realistic exposure scenario for the present and immediate future. Both Andy and Teri agreed that this information should be included in the uncertainty section. We would also include a sentence in the summary table along with the current air sampling language.

4) It was agreed that a final review of this additional language was not required by the agencies before finalizing the document.

Please let me know if this is correct and acceptable.

Thank you.

~~~~~~

Chuck Lambert

McDaniel Lambert Inc.

1608 Pacific Ave, Suite 201

Venice, CA 90291

Ph. 310 392 6462

Fx. 310 392 6693

Cell. 323 717 0983

www.mclam.com
~~~~~~

From: Teri L Copeland [mailto:terilcopeland@yahoo.com]
Sent: Tuesday, April 20, 2010 12:56 PM
To: 'Chuck Lambert'; amutziger_apcd@co.slo.ca.us; alabarre@co.slo.ca.us
Cc: 'Almas, William'; 'Rebecca Countway'; 'Charles Anders'
Subject: RE: Finalization of Avila sHHRA

All,

Everything below looks good to me, with the exception of confirming that Aaron and Andy do not need to see another redline version (I don't).

Thanks,
Teri

From: Chuck Lambert [mailto:celambert@mclam.com]
Sent: Monday, April 19, 2010 1:43 PM
To: amutziger_apcd@co.slo.ca.us; alabarre@co.slo.ca.us
Cc: TeriLCopeland@yahoo.com; 'Almas, William'; 'Rebecca Countway'; 'Charles Anders'
Subject: Finalization of Avila sHHRA

All

This is to memorialize two separate discussions I had last week with Teri Copeland and Andy Mutzinger regarding finalizing the Avila Tank Farm sHHRA:

1) Comments are to be sent from Andy regarding the final language for the offsite resident with regards to calculated risk and actual air monitoring results. The version Andy is reviewing includes language to address previous comments from Environmental Health.
2) This final offsite resident air language will be incorporated and the final version of the sHHRA produced.
3) There was also a discussion separately with both Andy and Teri regarding the fact that the offsite residential risk is based on the greater of the VOC EPC in the 0-2 ft and 0-10 ft depth horizon (e.g., the max of the 95%UCL of 0-2 and 0-10 profiles). Not unexpectedly, VOCs were detected with at lower frequencies, and generally at lower concentrations in the 0-2 foot horizon than the 0-10 foot horizon. If only the 0-2 ft soil data are considered in the risk calculations, the risk decreases to below 10-6. Arguments could be made that this is a more realistic exposure scenario for the present and immediate future. Both Andy and Teri agreed that this information should be included in the uncertainty section. We would also include a sentence in the summary table along with the current air sampling language.
4) It was agreed that a final review of this additional language was not required by the agencies before finalizing the document.

Please let me know if this is correct and acceptable.

Thank you.

~~~~~~

Chuck Lambert
McDaniel Lambert Inc.
~~~~~~

1608 Pacific Ave, Suite 201
Venice, CA 90291

Ph. 310 392 6462
Fx. 310 392 6693
Cell. 323 717 0983
www.mclam.com

No virus found in this incoming message.
Checked by AVG - www.avg.com
Version: 8.5.437 / Virus Database: 271.1.1/2838 - Release Date: 04/27/10 06:27:00

-----Original Message-----
From: amutziger_apcd@co.slo.ca.us [mailto:amutziger_apcd@co.slo.ca.us]
Sent: Wednesday, April 21, 2010 11:38 AM
To: Chuck Lambert
Cc: aarlingenet_apcd@co.slo.ca.us; preitz_apcd@co.slo.ca.us;
alabarre@co.slo.ca.us; Charles Anders
Subject: Finalization of the SHHRA - Fw: Soil Based Offsite Air Modeling - Avila

Chuck,
Aaron reviewed my 16 April 2010 email to him where I summarized the final changes/issues that you and I discussed on the 16th.

He approved my summary, so please review and follow the summary in the finalization of the SHHRA.

Please give me a call if you have any questions.

Sincerely,

Andy Mutziger
Air Quality Specialist
San Luis Obispo County Air Pollution Control District
(805) 781-5956
fax: (805) 781-1002
www.slocleanair.org

----- Forwarded by Andrew Mutziger/APCD/COSLO on 04/21/2010 11:29 AM -----
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| From: |
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|Aaron LaBarre/PH/COSLO
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| To: |
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|Andrew Mutziger/APCD/COSLO@Wings
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|04/20/2010 07:40 PM
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| Subject: |
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|Re: Fw: Soil Based Offsite Air Modeling - Avila
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Andy,

That sounds good.
Aaron LaBarre
Supervising Environmental Health Specialist
Hazardous Materials Program
San Luis Obispo County Environmental Health Services
805-781-5595

-----Andrew Mutziger/APCD/COSLO wrote: -----

To: Aaron LaBarre/PH/COSLO@Wings
From: Andrew Mutziger/APCD/COSLO
Date: 04/16/2010 04:35PM
cc: Paul Reitz/APCD/COSLO@Wings, Aeron Arlin Genet/APCD/COSLO@Wings
Subject: Re: Fw: Soil Based Offsite Air Modeling - Avila

Hi Aaron,

I talked to Chuck about your proposed changes/confirmation and here is what I proposed to him:

- Make the changes that APCD asked for (removal of the word "clean" in reference to the coastal environment).
- Make the changes that Aaron called for in your 16 April 2010 email.
- Make the changes that Teri asked for in her telephone conversation with Lambert (for the off-site receptor area - put in the uncertainty section the results if the 0-2 foot data had been used and discuss that relative to the worst case that was used - the 15 foot sample that had the highest concentration of the limited data set). Teri told Lambert that said she didn't need to review these changes he makes. This can be added as reason 3 to my 9 April 2010 email for reasons that the modeled risk is conservative - items to guide the risk managers in their risk management decisions for the off-site receptor.

- As for Attachment 4 - no it has not been previously submitted with this work, however the reference is the Big Dig report that we saw with that phase of the project and therefore, was previously submitted to the agencies and will be included as Attachment 4 to the final document.
- Add the reference from Aaron in your 16 April 2010 email.

I told him that I would send him your email and these instructions and the email will state that if he make these changes, that will finalize the document.

Are you OK with this?

Thanks,

Andy Mutziger
Air Quality Specialist
San Luis Obispo County Air Pollution Control District
(805) 781-5956
fax: (805) 781-1002
www.slocleanair.org

Aaron LaBarre---04/16/2010 03:30:05 PM---Hi Andy, The following changes and confirmations should be made:

From: Aaron LaBarre/PH/COSLO

To: Andrew Mutziger/APCD/COSLO@Wings

Cc: TeriLCopeland@yahoo.com

Date: 04/16/2010 03:30 PM

Subject: Re: Fw: Soil Based Offsite Air Modeling - Avila

Hi Andy,

The following changes and confirmations should be made:

- Change cancer riskS to cancer risk and noncancer hazardS to noncancer hazard on P. xxx (Executive Summary) 5th bullet.

- Change “are driven” to “is driven”. This is not so much to correct a typo as to document there is only one offsite risk value and only one offsite hazard index value.

- Confirm that Attachment 4 was previously submitted.
  Add the following reference for the CARB, 2010 ADAM data for both benzene and ethylbenzene .
  http://www.arb.ca.gov/adam/toxics/statesubstance.html#voc

Thank you.

Aaron LaBarre
Supervising Environmental Health Specialist
Hazardous Materials Program
San Luis Obispo County Environmental Health Services
805-781-5595

Andrew Mutziger---04/09/2010 03:34:28 PM---Hi Aaron, Paul and I have worked with Chuck Lambert on the final language for the Off-site receptor

From: Andrew Mutziger/APCD/COSLO

To: Aaron LaBarre <alabarre@co.slo.ca.us>

Cc: Aeron Arlin Genet/APCD/COSLO@Wings, Paul Reitz/APCD/COSLO@Wings

Date: 04/09/2010 03:34 PM

Subjec Fw: Soil Based Offsite Air Modeling - Avila
t:

Hi Aaron,

Paul and I have worked with Chuck Lambert on the final language for the Off-site receptor (see attached PDF that Lambert sent me today).

Aeron, Paul and I agree with the updates with one exception; we will ask that he remove the word "clean" before the words "coastal environment"

throughout the document.

I would like your input prior giving Lambert our "OK" if they remove the word "clean."

Bottom line:
We asked Lambert to put the 2 in a million risk into context with the uncertainty discussion by adding the associated concentrations that drove the risk.

In the future, as the risk manager make risk management decisions based on the SHHRA, in the case of the off-site receptor, we believe that there is enough information within the language from Lambert for the risk managers to understand that the 2 in a million risk is conservative.

For the future reference of the risk managers, our feeling is that the conservative nature of this risk comes from:
1. The measured benzene and ethlybenzene concentrations in the soil were used to model vapor concentrations which drove the risk - this kind of modeling may have built in conservative assumptions, something that Terry would more understanding of than us, but that is our thought.
2. The measured soil concentrations of benzene and ethylbenzene used were peak values from a limited dataset of soil samples rather than average concentrations which, if average concentrations could have been used, the average values would have been lower as well as the resulting risk. Chevron chose not to collect more samples and instead define the risk from the peak concentration values.

Sincerely,

Andy Mutziger
Air Quality Specialist
San Luis Obispo County Air Pollution Control District
(805) 781-5956
fax: (805) 781-1002
www.slocleanair.org

----- Forwarded by Andrew Mutziger/APCD/COSLO on 04/09/2010 03:04 PM -----

From: "Chuck Lambert" <celambert@mclam.com>

To: <amutziger_apcd@co.slo.ca.us>, <preitz_apcd@co.slo.ca.us>

Date: 04/09/2010 10:41 AM

Subject: RE: Soil Based Offsite Air Modeling - Avila

Andy and Paul

See what you think of the attached language.

Cheers

~~~
~~~

|Chuck Lambert <celambert@mclam.com>
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|------------>
| To: |
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|"amutziger_apcd@co.slo.ca.us" <amutziger_apcd@co.slo.ca.us>
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|Re: Soil Based Offsite Air Modeling - Avila
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Hi Andy

Tuesday before noon works great.
Would it help if I set up a call in number?

Cheers

Sent from my iPhone
Chuck Lambert
323 717 0983

On Apr 1, 2010, at 2:40 PM, amutziger_apcd@co.slo.ca.us wrote:

> Hi Chuck,
> Paul Reitz and I would like to talk with you over the phone about
> this. We
> think that we can better articulate our thoughts with a discussion
> rather
> than an email.
>
> If you are available today, great, otherwise how does Tuesday before
> noon
> look for you?
>
> Thanks,
>
> Andy Mutziger
> Air Quality Specialist
> San Luis Obispo County Air Pollution Control District
> (805) 781-5956
> fax: (805) 781-1002
> www.slocleanair.org
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Drafted by Strategic Initiatives based on the July 26, 2010 ATCAT Meeting. To be reviewed, revised, and ratified at the next ATCAT meeting.

Avila Tank Farm Collaborative Assessment Team

Draft Meeting Summary

Date: July 26, 2010

Time: 9:30 AM – 2:15 PM

Location: Chevron Offices, San Luis Obispo, CA

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Steve McMasters	SLO County Planning & Bldg.
Chuck Anders	Strategic Initiatives	Andrew Mutziger	APCD
Melissa Boggs	CDFG	Dan Niles	RWQCB
Louis Cappel	Padre Associates	Aaron LaBarre	SLO County Dept. of Health
Teri Copeland	Consulting Toxicologist	Debbie Rudd	RRM Design Group
Regina Donohoe	CDFG	Kyle Rutherford	Chevron
Jennifer Holder	Geosyntec	Robert Van Hyning	Avocet Environmental
Chuck Lambert	McDaniel Lambert		

Safety Moment

Kyle Rutherford reviewed the location of the building exits and muster location in the south parking lot in the event of an emergency evacuation.

He noted that Chevron Environmental Management Company (EMC) has experienced only three OSHA reportable incidents in 2.5 million contractor hours and 4 OSHA reportable incidents in 450,000 person-hours for its own employees. The majority of the EMC employee incidents was due to repetitive stress syndrome (RSS). He emphasized the need to get treatment as soon a problem is notices and to avoid creating a chronic problem. Kyle then demonstrated the correct method to sit and write while working at a desk or table.

Ratify Previous Meeting Summaries

The ATCAT participants ratified the Draft August 12, 2008 ATCAT meeting summary ver1 as written.

ATCAT members who participated in the January 26, 2010 Chevron/EHS/APCD/RWQCB meeting discussed the draft meeting summary (version2) for this meeting. Andy Mutziger suggested clarifications to the Environmental Document Process Chart. (A revised meeting summary and flow chart will be distributed and ratified via email or at the next ATCAT meeting.

During the discussion, the process for achieving site closure was discussed. It was agreed that closure would be determined by documenting that (1) constituent concentrations (based on adequate sampling protocols) are at or below target risk-based concentrations identified in the final Risk Management Plan (RMP) and (2) post remediation cumulative risk and hazard index are at or below acceptable levels .

Site Development Plan Update

Bill Almas explained that Chevron has expanded its outreach activities with the Native American community by involving the YTT Chumash who have a direct linage with the site in Avila Beach. Chevron will also continue to work with the Northern Tribal Council. He noted that SB 18 requires tribal consultation for any General Plan modifications on private property. The Native American outreach will likely continue for 2-3 months and he anticipates presenting design concepts to the full Avila Beach community by the end of the year. Chevron has hired Hart Howerton, a San Francisco design firm, to refine the project. Rob Rossi is no longer involved in the project. Bill noted that the planning efforts are dependent on progress on the feasibility study (FS) and Remedial Action Plan.

Kyle Rutherford discussed the ongoing monitoring and compliance activities at the site. He noted that they are addressing a data gap near the cliff area and have proposed installation of additional monitoring wells. Chevron is waiting on a permit to construct a short road necessary to access the proposed monitoring well site. Chevron will also be removing free product from selected monitoring wells. The results of these activities will be used in preparation of the FS.

Kyle noted that the site is located within the California Coastal Commission (CCC) jurisdiction and any minor actions at the site are appealable.

Human Health Risk Assessment for Risk Management Plan

Chuck Lambert reviewed the changes in the Supplemental Human Health Risk Assessment (sHHRA) that have resulted from the Human Health Risk Working Groups efforts since the last full ATCAT meeting on August 12, 2008. The final sHHRA was distributed on April 30, 2010 and an errata sheet was distributed on May 26, 2010. Chuck noted that since the completion of the sHHRA the DTSC has rescinded its TPH guidance document due to concerns that the guidance was "over-protective." This action should have no impact on the conclusions in the sHHRA.

The members of the HHRWG who participate in revising the sHHRA unanimously ratified the final sHHRA recognizing that EHS, RWQCB and APCD will issue a joint approval letter in the near future.

Aaron LaBarre provided status of the sHHRA Acceptance letter he is working on with Dan and Andy.

Bill Almas and Kyle Rutherford asked what the Agencies definition of a post remediation HHRA is.

Dan Niles, Aaron LaBarre, Andy Mutziger and Teri Copeland described what they considered to be a compliant post remediation HHRA, including Data Usability evaluation, quantitative Data Quality Assessment (DQA), and documentation that cumulative risk and hazard are acceptable for all exposure areas.

Aaron LaBarre stated the post remediation HHRA should confirm that remediation objectives have been met and that cumulative risks to all relevant receptors are within acceptable limits.

Teri Copeland and Chuck Lambert agreed that risk-based remedial action objectives can be developed using pre-determined risk-based lookup tables and associated guidance (e.g., CHHSLs). This approach can guide remediation planning and can also be used as the basis of a post-remediation risk assessment that documents that risks to human health are acceptable following remediation.

Bill Almas asked what the process would be if small changes are proposed for currently defined exposure areas based on moderately different final development boundaries.

Aaron LaBarre, Teri Copeland and Chuck Lambert agreed the team would need to examine each proposal of modified exposure area boundaries, on a case by case basis. If such modifications meaningfully affect the risk characterization, it is likely that an addendum to the sHHRA would be required.

Bill Almas confirmed that he will schedule a meeting to discuss any proposed changes in exposure area boundaries, if that is foreseen.

Jennifer Holder stated she does not understand why the quantitative DQA needs to be conducted and that this issue should have been addressed already.

Teri Copeland discussed why a quantitative DQA needs to be done and that this HHRA step was previously agreed upon (as documented in the sHHRA).

Aaron LaBarre stated that the Human Health working group discussed the need to do the quantitative DQA last year to comply with EPA guidance and recommendations by Neptune and Company, The group discussed the logic of performing the quantitative DQA now for areas designated in the draft RMP as "No Further Action" (NFA).

Bill Almas stated he would like to confront the DQA issue now versus later but that Chevron would think about this and provide additional feedback shortly.

Risk Management Plan / Ecological Risk Evaluation

Jennifer Holder distributed the revised RMP version 1.1. She noted that the RMP is based on the site having a significant visitor serving component and will provide risk management recommendations that will form the basis of the FS for ecological risk, human health risk and other resource issues.

Jennifer reviewed the organization of the RMP and the site area designations. She then reviewed the recommendations for each site area referencing Tables 3.1 and 3.2. Andy Mutziger recommended that the risk management recommendations in Tables 3.1 and 3.2 be clarified to reference the FS.

Andy Mutziger questioned whether removal of the asphalt material (Unigrass) would cause additional sediment runoff. Robert Van Hyning indicated that the Unigrass was used primarily for vegetative control and that storm water runoff and sediment management would be addressed in the FS.

Bill Almas indicated that there may be minor changes to the configuration of the Individual Evaluation Areas (IEAs) and used IEA – 6 as an example. He explained that if the water tank is relocated, the boundaries of IEA - 6 would remain the same but the evaluation would then include the area under the water tank. It was agreed to handle evaluation of minor modifications in site configuration on a case-by-case basis through addenda to the RMP and associated documents.

The ATCAT agreed on the following schedule for review and ratification of the revised RMP:

September 3 - ATCAT members submit email comments on the revised RMP v1.1 to Jennifer. ((and need to verify v1.1 incorporated comments previously submitted on version 1; and copy opy all ATCAT members when submitting email comments.)

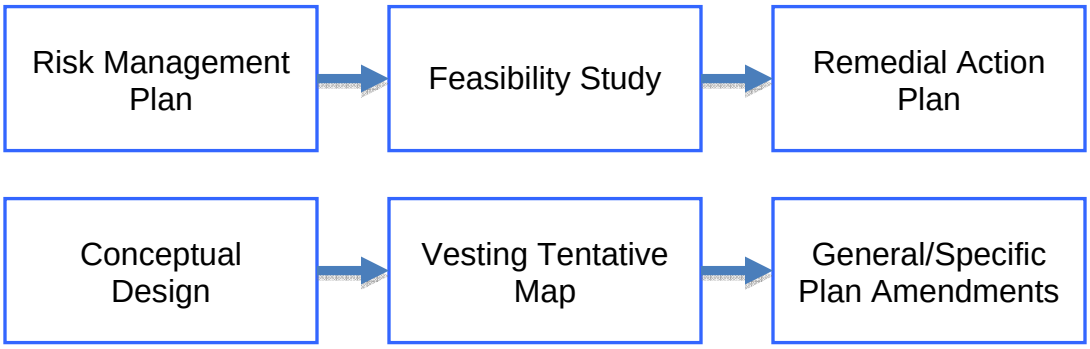
September 13 – (9:00 – 10:30 AM) Conference call to discuss RMP comments.

September 24 - Jennifer will integrate comments and distribute a revised red-line RMP v1.2.

October 25 - (9:30 AM – 3:00 PM) The full ATCAT will meet in San Luis Obispo to ratify the final RMP and begin addressing FS issues.

Next Steps – Feasibility Study

Robert Van Hyning briefly reviewed the following steps for completion of the environmental documents once the RMP is approved:



Upcoming Meeting Dates and Agenda Items

ATCAT Conference Call – Monday, September 13, 2010 (9:00 AM – 10:30 AM)

1. Discuss comments submitted on the Risk Management Plan.

ATCAT Meeting in SLO – Monday, October 25, 2010 (9:30 AM – 3:00 PM)

1. Ratify RMP.
2. Begin addressing FS issues.

Post-Meeting Conference

- Offsite cancer risk: After the full ATCAT meeting adjourned, Andy Mutziger, Teri Copeland and Chuck Lambert discussed the risk characterization for off-site residents. Andy was concerned about the 2×10^{-6} offsite cancer risk and if there is any way of definitively demonstrating that the former tank farm is not an ongoing source of benzene and ethylbenzene exposure to the offsite residents. Chuck Lambert suggested collecting one round of ambient air samples with Summa canisters on the site as well as offsite using adequately low reporting limits. This new data in combination with the large database collected between 1997 and 2000 for Project Avila should be sufficient to resolve this ongoing concern. It was agreed that Chuck would discuss this approach with Chevron and, if there is agreement on this approach and the need to collect additional data, a brief work plan would be produced for APCD and Environmental Health to review.
- Quantitative Data Quality Analysis (DQA). Dan Niles, Aaron LaBarre, Andy Mutziger, Teri Copeland, Chuck Lambert and Jennifer Holder discussed the following:
    - Generally what a DQA consists of and the existence of the EPA guidance published in 2006.

- Agencies led discussions on this last year and recommended that Chevron complete this as a component of the sHHRA or, if not, after remedial actions are completed.
- The logic in performing the DQA for all areas designated as NFA in the RMP now and complete the DQA for all other areas as a part of the RAP
- All agreed that Neptune should provide a DQA template to Chuck Lambert to review.

Teri L. Copeland, M.S., DABT
Environmental Toxicologist

5737 Kanan Rd. #182, Agoura Hills, CA 91301 * (818) 991-8240 phone (818) 991-8140 fax

Technical Memorandum

To: Aaron LaBarre, R.E.H.S.
San Luis Obispo County Health Department, Environmental Health Services

From: Teri Copeland, DABT

Date: October 11, 2010

Re: Summary of Discussions with Chuck Lambert Regarding New CalEPA Cancer Slope Factor for B[a]P

Cc: Chuck Lambert
Chuck Anders

This technical memorandum summarizes recent discussions with Chuck Lambert regard the new oral (cancer) slope factor (SF) for benzo[a]pyrene (B[a]P) developed by the CalEPA Office of Environmental Health Hazard Assessment (OEHHA). The SF basis is presented in the Public Health Goals for Chemicals in Drinking Water, Benzo(a)pyrene (CalEPA/OEHHA, 2010).

On October 6, 2010, Chuck sent me an email stating that OEHHA had recently issued the final public health goal for B[a]P in which the new oral SF was derived. Chuck called Dr. Jim Carlisle at OEHHA to determine if it was appropriate to begin to use the new SF in HRAs, even though it had not yet been entered in the OEHHA toxicity criteria database. Jim said he would accept a risk assessment or derived risk-based concentration using the new SF. He said it sometimes takes a while for toxicity factors to get into the database. For the Data Quality Assessment (DQA) currently in progress, Chuck is planning to use the new SF of 2.9 $(mg/kg\text{-}day)^{-1}$, which accounts for early-in-life exposures. Although this value is of lower potency compared with the previous OEHHA value (which continues to be listed in the toxicity criteria database), it is more scientifically defensible. Chuck and I agreed that it is fine for McDaniel Lambert to use the new number in the DQA task currently underway.

I received a second email from Chuck on October 9, 2010 in which he proposed to update the HHRA to employ the new B[a]P SF for B[a]P and to derive SFs for the other carcinogenic PAHs. This can be done for each of the other six carcinogenic PAHs by multiplying the B[a]P SF by the PAH-specific "Potency Equivalency Factor" (CalEPA/DTSC, 1994). I agreed with this approach.

References Cited

CalEPA/DTSC, 1994. Preliminary Endangerment Assessment Guidance Manual. Department of Toxic Substances Control, January (second printing: June, 1999).
http://www.dtsc.ca.gov/SiteCleanup/Brownfields/ (under Cleanup Guidance).

CalEPA/OEHHA, 2010. Public Health Goals for Chemicals in Drinking Water, Benzo(a)pyrene, September.
http://oehha.ca.gov/water/phg/pdf/091610Benzopyrene.pdf

Drafted by Strategic Initiatives based on the October 25, 2010 DQA Meeting. To be reviewed, revised, and ratified at the next ATCAT meeting.

Avila Tank Farm Collaborative Assessment Team

Draft Meeting Summary

Review of Draft Data Quality Assessment

Date: October 25, 2010

Time: 9:00 AM – 11:30 AM

Location: Chevron Offices, San Luis Obispo, CA

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Jennifer Holder	Geosyntec
Chuck Anders	Strategic Initiatives	Chuck Lambert	McDaniel Lambert
Melissa Boggs	CDFG	Andrew Mutziger	APCD
Katie Butler	McDaniel Lambert	Dan Niles	RWQCB
Louis Cappel	Padre Associates	Aaron LaBarre	SLO County Dept. of Health
Teri Copeland	Consulting Toxicologist	Robert Van Hyning	Avocet Environmental

Safety Moment

Louis Cappel shared an observation from recent fieldwork at an unrelated work site. He noted that the workers at this particular site were not familiar with the operation and testing of their personal safety monitoring equipment. He emphasized the importance that all field personnel have appropriate field monitoring equipment and be fully knowledgeable of its operation and testing.

Review of Data Quality Assessment Results

Chuck Lambert introduced Katie Butler who authored the Data Quality Assessment (DQA). Katie explained that they used the classical EPA methodology to assess whether enough samples had been collected to determine if the human health risk levels computed~~thresholds were met~~ in the supplemental Human Health Risk Assessment (sHHRA) can be statistically substantiated in terms of sample adequacy. A qualitative approach had been used in past versions of the document ~~assessments~~.

Katie noted that when the DQA calculations indicate that more samples are needed for risk significant chemicals (RSCs), it means either 1) more samples are needed, or 2) the exposure area is a candidate for remediation. She noted that the number of samples required is dependant on the risk levels being tested (the more stringent the risk level, the more samples are required). The DQA screens each chemical individually and does not assess cumulative risks of multiple chemicals. Paul Black emphasized that it was necessary to do one chemical at a time.

Katie noted that for soil gas many~~most~~ areas would require over 10,000 samples when the most stringent DQA criteria were applied. The large sample number in these cases was driven by variability between samples at 5 ft and 15 ft (the DQA combined the 5 ft and 15 ft datasets). Chuck Lambert noted that Area M was driven by isolated high benzene samples near the pipeline in the corner of the area and that the majority of Area M was clean.

Drafted by Strategic Initiatives based on the October 25, 2010 DQA Meeting. To be reviewed, revised, and ratified at the next ATCAT meeting.

Chuck Lambert concluded that there were no surprises resulting from the DQA. Paul Black added that the assessment will be very useful to validate the areas that pass the test. The areas fall into the following categories:

- DQA shows no additional sampling is necessary for proposed uses
  - The level of confidence in risk management decisions (no further action vs. action) is acceptable.~~No further action required~~
- DQA shows additional sampling is necessary for proposed uses
  - Additional data collection will be needed, or
  - Remedial action will be implemented~~required~~
- For areas where further action is planned
  - data adequacy will need to be addressed ~~in the remediation phase~~following~~with the~~ validation of the post remediation sampling data.

Melissa Boggs asked if the conclusions from DQA could be used in the ecological assessment. Jennifer Holder indicated that they were not applicable since the ecological assessment was based on individual sample results in areas outside of the development bubbles.

Paul Black noted that the agencies should be sure that they understand and are satisfied with the allowable Type I and Type II error rates (alpha and beta) used in the DQA. Because the DQA was conducted retrospectively, a range of ~~acceptable~~ error rates (5% - 15% for alpha and 15% - 25% for beta) was presented. Paul observed that the typical default values are 5% for alpha and 20% for beta. Paul will review the document and run some additional numbers to better understand the implications of the alpha and beta ranges and conclusions. Teri and Paul will meet with the agencies to make sure that they are comfortable with implications of the DQA. Aaron LaBarre will then provide comments to Chuck Lambert.

Because the number of samples required is dependent on the acceptable level of risk being evaluated (e.g., 10^{-5} or 10^{-6}), it is important that the agencies are comfortable with the target risk levels. Teri will work with the agencies to review the risk levels and document the decisions. She noted that typically the default level for commercial areas is 10^{-5} and the default level for residential areas is 10^{-6}. See discussion below on land use and risk levels.

Aaron asked Paul if the sections under performance and acceptance answered all his questions. Paul said that it's enough for him; however, some expanded discussion in Section 2.2.4 would be helpful for someone not expert in statistics.

Paul indicated that he would be available for the next two weeks and that he will be traveling after that. Aaron will coordinate the agency review schedule and send it to Chevron. After Chuck Lambert receives comments from the agencies on the draft DQA, they will prepare a final revised draft. Aaron indicated that a red-line strike-out edit would be useful for the next revision and that it would also be helpful to have a final tech memo for the completed document. Once the County is satisfied with the revised draft, they will issue a formal approval letter.

The question of risk levels for sensitive receptors (i.e., children) was discussed. It was agreed that EHS would clarify their comment on the RMP which stated that, for planning purposes, a~~about using~~ 10^{-6} risk level should be targeted~~s~~ for all land use areas where there would be sensitive receptors since this would include ~~occasional~~ recreational use ~~and commercial use~~ areas. Aaron stated he will provide ~~prepare~~ a~~n~~ memo to ~~addendum~~address the question and clarify what the Agency position. ~~to their original comments and send it out by Friday, October 29th~~.

Finalization of sHHRA

It was agreed that the DQA would be added to the sHHRA when finalized with short summary in section 2.0. Chemical toxicity values will be updated (especially BaP), and the updated database for soil will be used.

Chuck Lambert will distribute an updated sHHRA (red-lined version) with draft text referencing the DQA by November 19th or earlier. Agencies will provide comments to Chuck Lambert within two weeks. Chuck will distribute the final sHHRA before Christmas.

Risks to Offsite Residents

APCD's concern about risks to off-site residents was discussed. Chuck Lambert noted that the off-site risk from benzene and ethyl benzene in soil associated particulates is estimated in the sHHRA to be $2x10^{-6}$. This level is based solely on VOC inhalation and uses soil data in the 1-10 ft. depth horizon. He observed that there is little benzene or ethyl benzene in the 0-2 ft. depth horizon and that the offsite resident risk based on the 0-2 ft soil data in more realistic and well below 10^{-6}. Andy Mutziger agreed that using the 0-2 ft. depth horizon in the HHRA was more realistic. Teri Copeland concurred.

Chuck Lambert reviewed the SOMA report prepared as part of the 1999-2000 Project Avila remediation. The health risk was based on exposure to diesel emissions. No air target levels were exceeded during the remediation (monitoring usually within 200 ft of construction activity). The risk assessment calculated cancer risks of $9x10^{-6}$ for a child and $4x10^{-6}$ for an adult, which both assumed regular exposure for 14 months. Chuck noted that these historic risk estimates are not consistent with a recent OEHHA (Technical Support Document for Cancer Potency Factors, May 2009) document that identifies that ~~short term~~ human health cancer risks should not be computed unless the exposure is~~impacts are~~ longer than 2 years. He also noted that the last paragraph of the SOMA document identifies that the calculated cancer risk is biased to an overestimation. Chuck noted that i~~were improperly calculated since cancer risks are based on lifetime exposures and that i~~t would have been more appropriate for the SOMA report to have used the chronic noncancer REL, which demonstrated calculated~~results in~~ health hazard indices below 1 for both ~~risks well below the levels of concern for a~~ child and adult receptors.

He noted that based on pending OEHHA changes to their guidance on performing health risk assessments, it may not be appropriate to combine Avila Tank Farm cancer risks with the SOMA calculations.~~He noted that it would be inappropriate to combine Avila Tank Farm cancer risks with the SOMA calculations.~~

(APCD/EHS Post Meeting Clarification: The OEHHA Technical Support Document for Cancer Potency Factors (May 2009) that Chuck provided the APCD is not the final OEHHA guidance on this issue. Our staff recently attended meetings with OEHHA and asked when the final guidance was going to be issued. The OEHHA staff said that the guidance document is in review but did not specify a time when the document will be released.)

Bill Almas suggested that the APCD clarify this misperception with the residents of Avila Beach. Andy recommended that this issue be clarified during the construction phase of the remediation activities.

APCD/EHS Post Meeting Clarification: After further discussion on this item with APCD management, APCD proposes the following approach to handle this issue:

The SOMA report was the HHRA for the Avila Beach remediation activities in the late 90s. The County Public Health and SLO County APCD were co-lead agents on the Avila Beach Big Dig.

For the future site remediation that Chevron will propose, the County Planning Department will likely be the lead agency. As lead, County Planning will likely conditionally authorized the this remediation request after the request has undergone environmental review.

During that environmental review process, the APCD and County Environmental Health (a division of County Public Health) plan to submit comments to County Planning regarding project impacts and pertinent mitigation.

In addition, APCD & EH plan to provide commentary on the SOMA HHRA relative to the proposed remediation project and the pending OEHHA guidance on short term health risk assessments.

Note: In defining applicable mitigation, the APCD & EH reserve the right to apply more stringent mitigation of diesel impacts than typical protocol to minimize cumulative impacts to the community of Avila Beach.

As lead agency for the remediation, the County will be responsible for reviewing all comments received on the proposed remediation and specifying appropriate mitigation.

Comment [ajm1]: Post Meeting Clarification: The OEHHA Technical Support Document for Cancer Potency Factors (May 2009) that Chuck provided the APCD is not the final OEHHA guidance on this issue. Our staff recently attended meetings with OEHHA and asked when the final guidance was going to be issued. The OEHHA staff said that the guidance document is in review but did not specify a time when the document will be released.

Comment [ajm2]: Post Meeting Clarification: After further discussion on this item with APCD management, APCD proposes the following approach to handle this issue:

The SOMA report was the HHRA for the Avila Beach remediation activities in the late 90s. The County Public Health and SLO County APCD were co-lead agents on the Avila Beach Big Dig.

For the future site remediation that Chevron will propose, the County Planning Department will likely be the lead agency. As lead, County Planning will likely conditionally authorized the this remediation request after the request has undergone environmental review.

During that environmental review process, the APCD and County Environmental Health (a division of County Public Health) plan to submit comments to County Planning regarding project impacts and pertinent mitigation.

In addition, APCD & EH plan to provide commentary on the SOMA HHRA relative to the proposed remediation project and the pending OEHHA guidance on short term health risk assessments.

Note: In defining applicable mitigation, the APCD & EH reserve the right to apply more stringent mitigation of diesel impacts than typical protocol to minimize cumulative impacts to the community of Avila Beach.

As lead agency for the remediation, the County will be responsible for reviewing all comments received on the proposed remediation and specifying appropriate mitigation.

APCD and EH request discussion on this item the next meeting of the HHRA team.
AJM, 29 November 2010

Drafted by Strategic Initiatives based on the October 25, 2010 DQA Meeting. To be reviewed, revised, and ratified at the next ATCAT meeting.

APCD and EH request discussion on this item the next meeting of the HHRA team.

From: Charles Anders [mailto:canders@strategicinit.com]
Sent: Thursday, December 09, 2010 10:38 AM
To: amutziger_apcd@co.slo.ca.us; Aaron LaBarre
Cc: Chuck Lambert; Debbie L. Rudd; Dan Niles; George Weber; Jennifer Holder; Jeff Oliveria; Katie Butler; Kyle Rutherford; Louis Cappel; Melissa Boggs; Michael Rendina; Paul Black; Rebecca E. Countway; Regina Donohoe; Ryan Hostetter; Rick Stout; Robert Van Hyning; Steve McMasters; Teri L Copeland; Bill Almas; aarlingenet_apcd@co.slo.ca.us
Subject: ATCAT - DQA & sHHRA

Hi Aaron & Andy,

Thanks for clarifying your concerns regarding the review of the DQA and sHHRA. I only mentioned the December 6th due date in my last email to reference where we were relative the the schedule we developed at our 10/25 meeting. I apologize if it appeared that I ignored Andy's voicemail. That was not my intention.

Based on the discussion at the last meeting, It was Chuck Lambert's and my impression that the final DQA and sHHRA could be developed concurrently so McDaniel Lambert sent out the revised sHHRA for review. Clearly, this was not your understanding. So the first order of business is to finalize the DQA. I know that Chuck Lambert and Katie Butler have been working with you and your consultants to address your concerns in the previous draft of the DQA. They need your written comments on the draft DQA in order to be sure that they have addressed all of your concerns. Please let me know when you could get those comments to Chuck Lambert so that they can complete the DQA and move forward with the sHHRA. We can set up a quick conference call to discuss any outstanding issues if that would be helpful.

Please let me know if you have any other ideas or suggestions to expedite the review process.

Take care,

Chuck

On Dec 9, 2010, at 9:03 AM, amutziger_apcd@co.slo.ca.us wrote:

> Chuck,
>
> I am following up on the voice mail responses I left you regarding your 30
> Nov and your 7 Dec emails calling for sHHRA comments by 6 Dec. In those
> voice mails noted many of the same issues with the 6 Dec date that are
> in Aaron's assessment below.
>
> The Air Pollution Control District's preferred approach is to be able
> to provide one set of comments on the final draft sHHRA after it has
> incorporated the necessary components of the DQA and addressed Aaron's
> other concerns . We have worked with EH's consultants to identify our
> concerns with the DQA and they have told me that they will work
> directly with McDanial Lambert to ensure those concerns are addressed.

>
> So the rest of the group is aware, the following was APCD's concern
> with the DQA that ML will be addressing:
> The off-site receptor is not included in Table 4 of the DQA and further,
> since the new proposal is to use the 0 to 2 food depth samples instead
> of the 0 to 10 foot samples to calculate the off-site receptor risk, the
> adequacy of the 0 to 2 foot depth data needs to be assessed.
>
> Sincerely,
>
> Andy Mutziger
> Air Quality Specialist
> San Luis Obispo County Air Pollution Control District
> (805) 781-5956
> fax: (805) 781-1002
> www.slocleanair.org
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> | From: |
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> |Aaron LaBarre/PH/COSLO
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> | To: |
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> |Charles Anders <canders@strategicinit.com>
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> |Andy Mutziger <amutziger@co.slo.ca.us>, Charles Anders

<canders@strategicinit.com>, Chuck Lambert <celambert@mclam.com>, "Debbie L. Rudd" |
> |<DLRudd@rrmdesign.com>, Dan Niles <Dniles@waterboards.ca.gov>, > George
Weber <GWeber@Geosyntec.com>, Jennifer Holder <jholder@geosyntec.com>, Jeff |
> |Oliveria <joliveira@co.slo.ca.us>, Katie Butler <kbutler@mclam.com>, Kyle Rutherford <krutherford@chevron.com>, Louis Cappel |
> |<lcappel@padreinc.com>, Melissa Boggs <mboggs@ospr.dfg.ca.gov>, > Michael
Rendina <mrendina@avocetenv.com>, Paul Black <pblack@neptuneinc.org>, |
> |"Rebecca E. Countway" <rcountway@mclam.com>, Regina Donohoe <rdonohoe@OSPR.DFG.CA.GOV>, Ryan Hostetter <rhostetter@co.slo.ca.us>, Rick Stout |
> |<Richard_Stout@URSCorp.com>, Robert Van Hyning <rvanhyning@avocetenv.com>, Steve McMasters <smcmasters@co.slo.ca.us>, Teri L Copeland |
> |<TeriLCopeland@yahoo.com>, Bill Almas <walmas@chevron.com> |
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> |Re: ATCAT: 10-25-10 DQA Draft Mtg. Summary - Version 3 |
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> Chuck,
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> I was under the assumption the group knew the 12-6-10 comment request
> date for the sHHRA was not possible due to completion of the DQA at a minimum.
>
> Our Agency cannot provide complete commentary without the revised DQA,
> McDaniel Lambert is working on.
>
> In summary the following needs completion
> . Receipt of the final DQA. This will enable Paul to complete his
> review.
> . Review of the final DQA and the sHHRA together. The review of the
> risk results and uncertainty analysis occur simultaneously.
> . The sHRRA will need edits. We found some discrepancies between the
> last DQA document (which contains back calculations of the risks) and
> the latest sHHRA and we have some secondary edits.
> We need to complete our review of COPC selection and new toxicity
> criteria section. This is quite a bit of work and typically cannot
> be completed in less than the standard turn around time. We received
> the revised sHHRA less than 10 business days ago.
>
> Aaron LaBarre
> Supervising Environmental Health Specialist Hazardous Materials
> Program San Luis Obispo County Environmental Health Services
> 805-781-5595
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> |---------->
> | From: |
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> |Charles Anders <canders@strategicinit.com>
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> | To: |
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> |Regina Donohoe <rdonohoe@OSPR.DFG.CA.GOV>, Ryan Hostetter
<rhostetter@co.slo.ca.us>, George Weber <GWeber@Geosyntec.com>, Bill Almas

|
> |<walmas@chevron.com>, Michael Rendina <mrendina@avocetenv.com>,
> Chuck
Lambert <celambert@mclam.com>, Steve McMasters <smcmasters@co.slo.ca.us>,
|
> |"Debbie L. Rudd" <DLRudd@rrmdesign.com>, Aaron LaBarre
<alabarre@co.slo.ca.us>, Andy Mutzinger <amutziger@co.slo.ca.us>, Dan Niles
|
> |<Dniles@waterboards.ca.gov>, Rick Stout <Richard_Stout@URSCorp.com>,
Jennifer Holder <jholder@geosyntec.com>, Jeff Oliveria
|
> |<joliveira@co.slo.ca.us>, Kyle Rutherford <krutherford@chevron.com>,
"Rebecca E. Countway" <rcountway@mclam.com>, Robert Van Hyning
|
> |<rvanhyning@avocetenv.com>, Melissa Boggs <mboggs@ospr.dfg.ca.gov>,
> Teri
L Copeland <TeriLCopeland@yahoo.com>, Louis Cappel |
> |<lcappel@padreinc.com>, Katie Butler <kbutler@mclam.com>, Paul Black
<pblack@neptuneinc.org>, Charles Anders <canders@strategicinit.com>
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> |ATCAT: 10-25-10 DQA Draft Mtg. Summary - Version 3
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> Greetings ATCAT,
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> I've attached an additional revision (version 3) to the draft meeting
> summary for our 10/25/10 DQA meeting. This revision was submitted by
> Andy Mutziger (in conjunction with EHS) in order to clarify and frame
> future discussions regarding risks to offsite residents. While the
> comments were not spoken at the meeting, Andy would like to have the
> comments included
in
> the meeting summary for future reference.
>
> The first comment provides context as to why APCD believes Chuck
> Lambert's statement at the meeting regarding the 2 year minimum was
> somewhat premature until OEHHA formally issues guidance.
>
> The second comment was added to summarize past agency roles and sets
> the stage for more ATCAT discussions on the SOMA document and it's
> relevance
to
> future remediation. It also outlines the proposed agency action to
> address the issue.
>
> I would also like to remind everyone that comments on the Final Draft
Avila
> Tank Farm sHHRA Version 2.1 (distributed by Chuck Lambert on 11/24)
> were due by December 6th. Please make you're best effort to get your
> comments to Chuck Lambert as soon as possible. This is a critical
> deadline for McDaniel Lambert to finalize the document by the end of the year.
>
> Please let me know if you have any questions or comments.
>
> Take care,
>
> Chuck
>
>
>
>
> Chuck Anders
> Strategic Initiatives
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>
> [attachment "DRAFT 10-25-10 ATCAT-DQA Mtg Summary ver 3.doc" deleted
> by Aaron LaBarre/PH/COSLO]
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> [Scanned @co.slo.ca.us]
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AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN LUIS OBISPO

December 13, 2010

Katie Butler
McDaniel Lambert Inc.
1608 Pacific Ave., Suite 201
Venice, CA 90291

Subject: SLO County APCD's Comments Regarding the October 2010 Draft Data Quality Assessment that was Prepared in Support of the Supplemental Human Health Risk Assessment for the Avila Tank Farm Property

Dear Ms. Butler,

SLO County APCD reviewed the October 2010 Draft Data Quality Assessment (DQA) for the Avila Tank Farm Supplemental Human Health Risk Assessment (sHHRA). This quantitative DQA was accomplished to determine whether the sHHRA included sufficient soil and soil gas sampling for risk-significant chemicals to support risk based decisions regarding the proposed development plan subject to existing site conditions.

The risk managers (Aaron LaBarre from County Environmental Health Services (EHS), Dan Niles from the Regional Water Quality Control Board, and myself from SLO County APCD) and the health risk and statistical consultants (Teri Copeland an independent consultant and Paul Black from Neptune and Company, Inc. respectively) hired by EHS met via teleconferences during the end of October and second week of November to review and discuss the Draft DQA. In general, the document did a good job of evaluating the adequacy of much of the data used to determine baseline risks in the sHHRA.

However, several areas of concern were identified in the teleconferences. The consultants were tasked to work directly with McDaniel Lambert to help them address the concerns and have been doing so. On December 10, 2010 you asked that the risk managers identify our concerns in letters to you so that your company can make sure that you address all of the risk manager concerns.

The following summarizes the specific concerns that the APCD identified with the Draft DQA:

Table 4 of the DQA evaluates whether the number of samples for various risk-significant chemicals relative to proposed land use scenarios at various site locations (i.e. Exposure Areas) are statistically adequate to support risk-base decisions for the likely user types of these areas. The APCD notes that neighboring, off-site residential receptors are not included on the list of Exposure Areas in Table 4 and needs to be added.

During the ATCAT meeting on October 25, 2010, Chuck Lambert proposed using 0 to 2 foot depth sampling data instead of sampling data from 0 to 10 foot for the off-site receptor risk evaluation. The reason for this is because only surface sampling is appropriate for determining the risk for this receptor, which is limited to an inhalation exposure pathway. This approach is consistent with guidance in section 6.5.3 Estimate Exposure Concentrations in Soil from USEP's Risk Assessment Guidance for Superfund (RAGS) Part A. This document provides guidance on the human health evaluation activities that are conducted during baseline risk assessments like the Avila Tank Farm sHHRA. The APCD agrees with this approach. It should be noted that in the draft sHHRA, when 0 to 10 foot data were used to define the risk to the off-site receptor, the baseline risk was determined to be 2 in one million.

Since the proposal is to use the 0 to 2 food depth samples instead of the 0 to 10 foot samples to calculate the off-site receptor risk, the adequacy of the 0 to 2 foot depth data needs to be assessed in the DQA and in Table 4 and the reason behind using the 0 to 2 foot depth data to determine the risk to the off-site receptor needs to be cited. Further, the sHHRA should be modified to reflect this change in the off-site receptor risk evaluation with the RAGS guidance referenced.

The APCD supports the additional items of concern that Mr. LaBarre outlined in his December 9, 2010 e-mail to the Avila Tank Farm Collaborative Assessment Team, specifically the need to finalize the DQA and incorporate necessary edits in the sHHRA in order for it to be available for final review.

Sincerely,

Andy Mutziger
Air Quality Specialist

cc: Chuck Anders, Strategic Initiatives
Aaron LaBarre, SLO County EHS
Dan Niles, RWQQB
William Almas, Chevron

AJM/AAG/arr

H:\PLAN\CEQA\Project_Review\3000\3300\3326-1\3326-1c.doc

From: Charles Anders [mailto:canders@strategicinit.com]
Sent: Wednesday, December 15, 2010 4:40 PM
To: Aaron LaBarre; Dan Niles; amutziger_apcd@co.slo.ca.us; Katie Butler; Chuck Lambert; Paul Black; Teri L Copeland; Charles Anders
Cc: Rebecca E. Countway; Bill Almas; Kyle Rutherford; Jennifer Holder; George Weber; aarlingenet_apcd@co.slo.ca.us; Melissa Boggs; Robert Van Hyning; Rick Stout; Michael Rendina
Subject: ATCAT - DQA/sHHRA Conference Call Summary

Greetings,

Thanks for your time today. Following is a brief summary of the conference call this afternoon. Please let me know if you have any revisions or additions. (Please cc recipients of this email with your comments.)

Take care,

Chuck

Conference Call Summary

Date: Wednesday, December 15th
Time: 1:30 PM - 2:30 PM

Purpose of Meeting - Clarify where we are in the review process of both the draft DQA and sHHRA and also identify the specific steps/timelines to complete the review and finalize both documents.

Participants:

Chuck Anders,
Paul Black,
Katie Butler,
Teri Copeland,
Aaron LaBarre,
Chuck Lambert,
Andy Mutziger, Dan Niles

Status of County Review Process

1. 1 - Agencies have met three times to discuss the draft DQA and sHHRA since the last ATCAT meeting.

2. 2 - Teri Copland submitted a draft tech memo to Aaron LaBarre on 12/15. The tech memo address the sHHRA, except areas that could be impacted by revisions to the DQA.

3. 3 - Paul Black will complete review of the draft DQA no later than 12/29.

4. 4 - APCD has submitted written comments on the draft DQA and will provide a copy to Paul Black.

Outstanding Technical Issues or Deliverables?

1. 1 - Agencies must decide how they want to handle areas that fall within the "grey zone" where the number of samples is between the alpha and low beta error rate levels. Teri will review the data and prepare a decision tree to assist the Agencies in reviewing the data.

2 - There were no other outstanding technical issues related to the draft DQA or sHHRA.

Clarify Steps/Timelines for Review and Approval

1. 1 - Paul will coordinate with Teri and complete his review of the revised DQA no later than 12/29. They will prepare a tech memo for the Agencies outlining their conclusions/recommendations.

2. 2 - Teri will prepare a decision tree to assist the Agencies in reviewing the DQA data and determining the adequacy of sample sizes.

3. 3 - Agencies will discuss (via conference call on January 6th) the revised DQA and sHHRA . Aaron will prepare a joint Agency letter within two to four weeks. Conclusions of the meeting will be provided to McDaniel Lambert so that they can begin making revisions to the draft DQA and sHHRA, if necessary.

4. 4 - Upon issuance of the joint Agency approval letter, McDaniel Lambert will prepare and distribute a final version of the DQA and sHHRA.

Chuck Anders

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‘

Attachment 6

Data Quality Assessment in Support of the Supplemental Human Health Risk Assessment, Avila Tank Farm Property, Avila Beach, CA

October 2010

DRAFT

Prepared for:
Chevron, Inc.
276 Tank Farm Road, P.O. Box 1069
San Luis Obispo, CA 92406

Prepared by:
McDaniel Lambert, Inc.
1608 Pacific Avenue, Suite 201
Venice, CA 90291
310-392-6462

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Table 1	Risk-significant Chemicals and Associated Receptor-pathways
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Table 4	Sample Size Calculation Summary

ATTACHMENTS

Attachment 1	Risk-significant Chemical Concentrations and Standard Deviations
Attachment 2	Sample Size Calculation Results

1.0 INTRODUCTION

To respond to comments from San Luis Obispo County Environmental Health Services (SLO County EHS), a quantitative data quality assessment (DQA) was conducted for the former Avila Tank Farm (the Site) to determine if data used in the supplemental Human Health Risk Assessment (sHHRA) are adequate to support risk-based decisions with the desired confidence. The *Avila Tank Farm Data Validation and Data Usability Report* (DVDU, Neptune 2008) determined that the data collected during environmental site investigations were appropriate to use in a human health risk assessment, but did not address the adequacy of the data to support risk-based decisions. While Neptune's DVDU addressed data adequacy qualitatively through spatial representation of the data, this document focuses on evaluating data ~~adequacy~~ quantitatively through sample size calculations.

Comment [PKB1]: The reason for deleting the word adequacy here is that EPA defines data adequacy and data quality assessment as 2 very different things. I want to make sure the distinction is maintained. Data adequacy to EPA is part of Data Usability – DQA is its own process of determining if enough data were collected to support the decision to be made.

The DQA process used in this evaluation is based on USEPA guidance (USEPA 2006a and b), and was developed in general concurrence with Neptune & Company, Inc. The primary purpose of the DQA process is to verify that data quality objectives (DQOs) were satisfied. When human health risk assessment activities recommenced in 2007, qualitative DQOs were developed for soil and soil gas sampling based on visual inspection of sample coverage and professional judgment. This evaluation provides quantitative DQO statements and a DQA to verify that sufficient data have been collected to support future risk management decisions – that is, to decide on no further action, or on further action. The ~~data adequacy~~ conclusions summarized in this evaluation are based on the data used in the HHRA and exposure areas as defined in the proposed Development Plan (see main document).

2.0 DATA QUALITY ASSESSMENT PROCESS

2.1 Data Quality Objectives

The first step of the DQA process is to review the sampling objectives set forth in the DQOs. The DQOs developed during the planning phase of the 2007 site investigations were qualitative statements, and would allow for a qualitative DQA. As requested by SLO County EHS, this DQA is quantitative. Prior to performing sample size calculations in this DQA, it was necessary to develop quantitative DQO statements. Therefore, the seven steps of the DQO process for the sHHRA were revisited to specify risk-based concentrations (RBCs), and acceptable performance criteria.

1. *State the Problem*: Both petroleum and non-petroleum chemicals are present in various media on the Site. Although the Site is currently zoned industrial, potentially exposed populations include residents, short-term residents, indoor and outdoor commercial employees, intrusive utility workers, and recreational users.

2. *Identify the Goals of the Study:* Human health risk assessment results are to be used in the development of risk management recommendations in order to protect human health.
3. *Identify the Information Inputs:*
    - Site conceptual model showing potential sources of contamination and dominant exposure pathways.
    - Key chemical-pathway receptor combinations accounting for the majority of cancer risk and noncancer hazard in each exposure area (e.g. benzene soil gas exposure for residents in Area M).
    - Environmental data to determine sample variability.
    - Risk goals to be achieved (e.g. cancer risk no greater than 10^{-6} or 10^{-5}, and hazard quotient no greater than 1) and corresponding RBCs.
    - Risk assessment inputs to back-calculate soil and soil gas RBCs that will result in achievement of risk goals.
4. *Define the Study Boundaries of the Study:*
    - Risk goals will be applied to future exposure scenarios, as described in the current Development Plan.
    - Site soil gas data used must have been collected after the DTSC 2004 vapor intrusion guidance was published.
    - All site data used must have been determined valid according to the ATF DVDU (Neptune 2008).
5. *Develop the Analytical Approach:* For short-term resident or occupational receptors, if the 95 percent upper confidence limit (UCL) of the average concentration of any chemical of potential concern within the top 10 feet of soil is greater than its risk-based goal, then propose remedial action or institutional controls. If there are not enough data to support a 95 percent UCL calculation, then the maximum detected concentration will be compared to risk goals. For residential soil in Areas A and M and for soil gas across the Site, risk management decisions are based on the maximum concentration.
6. *Specify Performance or Acceptance Criteria:* Because this DQO is being conducted retrospectively, a range of acceptable limits on decision errors are presented in this assessment. To be health protective, the null hypothesis assumes that the mean concentrations are greater than the respective RBCs. Error rates for incorrectly accepting the null hypothesis (remediate a clean site) range from 15% to 25%, and for incorrectly rejecting the null (no further action taken at a contaminated site) range from 5% to 15%.
7. *Optimize the Design:* The final step typically develops the most efficient design to meet the acceptable limits on decision errors specified in Step 6. Because sampling has

Comment [PKB2]: This should also include spatial boundaries – e.g., the areas that have been defined (and reference those to the sHHRA perhaps (or another document)).

already occurred, the sample sizes used in the sHHRA will be compared to the range of statistically required sample sizes.

2.2 Data Quality Assessment Process

The USEPA's DQA process focuses on evaluating one chemical at a time. In the risk assessment context, the goal is to verify that enough data have been collected for each chemical that contributes significantly to the overall risk (referred to as the risk-significant chemical). This retrospective DQA is applied to a range of possible DQO inputs. As described in the previous section, these inputs include risk-significant chemicals, sHHRA data variability, risk-based goals and error rates.

2.2.1 Risk-Significant Chemicals

Risk-significant chemicals were identified for soil and soil vapor pathways by reviewing the sHHRA results (McDaniel Lambert 2010), and calculating the percentage of risk accounted for by a single chemical. Risk-significant chemicals were identified as any chemical accounting for approximately 50% or more of the total cancer risk or noncancer hazard. Because it was evaluated separately in the sHHRA, lead also was considered as a risk-significant chemical for every exposure area. For risk-significant chemicals other than lead, the chemical-pathway-receptor combinations are summarized in Table 1. For example, in Exposure Area A, benzo(a)pyrene exposure via direct contact with soil accounts for more than half of the total cancer risk for residential users.

2.2.2 sHHRA Data Variability

In a prospective DQO effort, the anticipated data variability typically is ~~estimated~~specified based on a combination of historical data and expert opinion. Since this is a retrospective DQO effort and the sHHRA dataset is available, the ~~*actual*~~ standard deviation was estimated ~~calculated~~from the site-specific data for each chemical identified as risk-significant. In the case of non-detects, the reporting limit was substituted as the chemical concentration. For each risk-significant chemical, the sHHRA soil and soil gas datasets were reviewed for elevated reporting limits (e.g. more than two orders of magnitude larger than other reporting limits), which were eliminated from the calcualtion to avoid skewing the standard deviation in such instances. The sHHRA data for each risk-significant chemical, and the corresponding standard deviation, are presented in Attachment 1.

Comment [PKB3]: What was here is not quite technically accurate – we have some data, in which case every parameter that we calculate from the data is an estimate. Prior to collecting data we often use a best guess at a standard deviation, which often is some combination of opinion and reference to historical data.

Comment [PKB4]: Does this mean that some NDs were eliminated from the standard deviation calculation? That's fine, just trying to clarify.

2.2.3 Risk-based Concentrations

Comment [PKB5]: My understanding is that some of these have been changed now. – including treatment of B(a)P.

For purposes of the DQA, the desired risk goals (e.g. 10^{-6} or 1.0) are translated into RBCs for each risk-significant chemical. The RBCs were back-calculated using equations, exposure

assumptions, and toxicity criteria presented in Sections 3 and 5 of the sHHRA (see main document). For potential cancer health effects of risk-significant chemicals in every exposure area, two RBCs were calculated using two thresholds within the USEPA risk management range – one equal to 10^{-6} and one equal to 10^{-5}. For potential noncancer health effects, the RBC corresponds to a chemical-specific hazard quotient of 1.0. If more than one chemical-pathway-receptor was identified for the same risk-significant chemical, then the most conservative RBC in each exposure area was carried forward in the DQA process. **The RBCs calculated in this assessment are intended for the sole purpose of guiding this DQA effort, and it should be emphasized that these RBCs are not cleanup standards.**

With the exception of benzo(a)pyrene, the toxicity information used as the basis for the RBCs is the same as that in the sHHRA. Since the last version of the sHHRA was submitted to SLO County EHS for review, the Cal/EPA finalized the benzo(a)pyrene Public Health Goal for drinking water with a revised cancer slope factor of 2.9 mg/kg-day^{-1} that accounts for early lifetime exposure (Cal/EPA 2010). The cancer RBCs (for 10^{-6} and 10^{-5} thresholds) and noncancer RBCs are presented in Tables 2 and 3, respectively.

2.2.4 Performance and Acceptance Criteria

Similar to the other inputs, tolerable limits on decision errors also are developed as part of quantitative DQOs during the sample design phase. Since this is a retrospective DQA effort, the decision errors have been defined as a range of possible inputs. This allows for various combinations of statistical assumptions that might have been used in the DQO process. The decision errors are framed in the context of the hypothesis being tested by considering the impacts of falsely rejecting or falsely accepting the null hypothesis.

For each risk-significant chemical in soil or soil gas, the null hypothesis is that the mean concentration is above the RBC. In other words, the hypothesis is a health protective assumption that remediation is necessary unless the collected data contain sufficient evidence to conclude otherwise. A false acceptance decision error (Type II) would occur if the data lead to the conclusion that the mean site concentration is above the RBC, when in fact they are below. A false rejection decision error (Type I) would occur if the data lead to the conclusion that the mean site concentration is ~~not~~ below the RBC, when in fact it is above. In this case, false rejection would be a more serious error in terms of protecting public health; therefore it is important to place more stringent criteria on the probability of this occurring (alpha value). For further action areas, the chance of making a false rejection error ranges from 5% to 15%, and the chance of making a false acceptance error ranges from 15% to 25%. The range of error rates determined for this DQA are inclusive of what EPA guidance generally recommends – as

low as 5% for the more severe error that would lead to compromising public health, and 20% for the chance of remediating when it is not necessary (USEPA 1994).

2.3 Sample Size Calculations

Using the DQA inputs identified above, the software package Visual Sample Plan (Version 6.0, Pacific Northwest National Laboratory, 2010) was used to calculate sample sizes. This software includes a module that calculates the sample size required to compare the mean site concentration with an RBC. The formula used in this calculation is based on a non-parametric test; therefore it provides an approach that is robust to datasets such as those in the sHHRA exposure areas that deviate from a normal distribution. The formula developed by Northwest National Laboratory and used in this exercise is as follows:

$$n = 1.16\left[\frac{s^2}{\Delta^2}\left(z_{1-\alpha} + z_{1-\beta(\mu)}\right)^2 + 0.5z_{1-\alpha}^2\right]$$

where,

n = number of samples
s = actual standard deviation of concentrations used in sHHRA
Δ = width of gray region (difference between the RBC and the point at which β is specified)
α = significance level or Type I error tolerance
β = Type II error tolerance; and
z = quantile from the standard normal distribution

Comment [PKB6]: Note that strictly speaking this formula applies t a 1-sided test (which is the intention here), which means that the sample size calculations are relevant when the mean is less than the threshold of concern. If it is greater than the threshold, this formula does not apply, and the site (area) simply fails the risk assessment.

3.0 RESULTS

The sample size results determined in this DQA process are presented for risk-significant chemicals and corresponding pathways and receptors for each exposure area. Because a range of inputs were used for acceptable decision error rates and the gray region, the required sample size is presented as a range. Depending on where the sHHRA sample size falls within the desired range of statistically calculated sample sizes, the level of confidence in possible risk management decisions varies. If the actual sample size is at the low end of the calculated range, there is a 15% probability that no further action will be taken at a contaminated site and a 25% probability that a clean site will be remediated. On the other hand if the actual sample size is at the high end of the calculated range, there is a 5% probability that no further action will be taken at a contaminated site and a 15% probability that a clean site will be remediated. Table 4 summarizes the DQA results, with color-coded rows indicating exposure areas where the actual sample size used in the sHHRA is below the range of desired sample sizes. Figures 1 and 2 illustrate the results by medium for the most conservative RBC evaluated in the DQA – Figure 1 shows risk-significant chemicals in soil where the HHRA sample size is below the range of desired sample sizes, and Figure 2 shows the same information for soil gas, which are summarized in Sections 3.1 and 3.2 below.

With the exception of three chemicals in soil and two chemicals in soil gas, the results of this DQA indicate that the soil and soil gas sampling designs accomplished the objective of collecting adequate data to support defensible risk management decisions. For the risk-significant chemicals in the specific exposure areas described below, either remedial action will be required, or further sampling will be necessary to justify no further action.

Comment [PKB7]: In general, results below need to be revised for the more recent calculations.

3.1 Risk-significant Chemicals in Soil

Benzene: Benzene in soil-associated particulates in outdoor air is a risk-significant chemical for the outdoor employee in Area E, and has an adequate sample size for the RBC at the 10^{-5} cancer risk goal, but not the 10^{-6} risk goal.

Lead: The sHHRA sample size for lead in Area D was below the range of desired sample sizes calculated in this evaluation. The large variability in lead concentrations in this area was due to an elevated concentration of 1,600 mg/kg, with the next highest concentration detected at 100 mg/kg.

Ethylbenzene: Ethylbenzene in soil-associated particulates in outdoor air is a risk-significant chemical for the outdoor employee in Area F, and has an adequate sample size for the RBC at the 10^{-5} cancer risk goal, but not the 10^{-6} risk goal.

3.2 Risk-significant Chemicals in Soil Gas

Data adequacy issues have been identified for two chemicals in soil gas – benzene and chloroform. The large sample sizes calculated for several exposure areas are likely a result of combining results for 5 and 15 feet below ground surface (ft bgs) into the same sHHRA dataset, because there appears to be a substantial rate of attenuation, with concentrations being an order of magnitude greater at depth (see Section 7.4.2.7 in main document).

Comment [PKB8]: My understanding is that this has been redone. In which case, this section needs to be rewritten.

Comment [PKB9]: Can the reason for attenuation be given? Why does benzene attenuate but chloroform does not? Perhaps because of the nature of the organic biodegradation? One sentence will suffice.

Benzene: The HHRA sample sizes are below the range of desired samples sizes for benzene in Areas E and F for the RBCs at both the 10^{-5} and 10^{-6} cancer risk goals. Benzene in soil gas is a risk-significant chemical for the resident in Area M, and has an adequate sample size for the RBC at the 10^{-5} cancer risk goal, but not the 10^{-6} risk goal.

Area E: Because this is historically the most industrialized portion of the Site, some of the most elevated benzene concentrations in soil gas have been detected in this area. There is a considerable difference between 5 ft and 15 ft benzene results; however the variation within the 5-foot samples is also too large to support a no further action decision.

Area F: The highest concentration of 280 ug/L benzene in this area was detected in the soil gas sample collected at depth (12 ft), where the corresponding sample at 5

ft detected a much lower concentration (0.15 ug/L). If risk-based decisions are based on the 5-foot samples alone, an adequate number of samples (n=2) have been collected in this area to support risk-based decisions for both the 10^{-6} and 10^{-5} risk goals.

Area M: Soil gas has been well characterized where the TPH-impacted area is located adjacent to the pipeline. The variation in benzene results is due to an elevated value detected at 5 ft bgs near the TPH-impacted area. Therefore additional sampling is not likely to change the results of the risk assessment, nor subsequent risk management decisions.

Chloroform: For both the 10^{-5} and 10^{-6} cancer risk goals, the HHRA sample sizes are below the range of desired samples sizes for chloroform in Areas Ib, J, and K. This data adequacy issue is also attributed to the large variation between 5 and 15 ft samples, as described in more detail for each area.

Comment [PKB10]: Same issue – needs to be redone.

Area Ib: The large variation in chloroform concentrations detected in Area Ib is due to an elevated value of 1,500 ug/L in soil gas at 15 ft bgs, where the corresponding 5-foot sample result in the same soil gas probe was considerably lower (0.77 ug/L). If risk-based decisions are based on the 5-foot samples alone, an adequate number of samples (n=4) have been collected in this area to support risk-based decisions for both the 10^{-6} and 10^{-5} risk goals.

Area J: The large variation in chloroform in Area J is also a function of combining results for 5 ft and 15 ft soil gas samples in the same sHHRA dataset. However, the standard deviation of the four 5-foot samples collected in Area J is too large to support a no further action decision.

Area K: Most of the soil gas impacts were detected on the border closest to J, and the higher chloroform detections were found at 15 ft bgs. If risk-based decisions are based on the 5-foot samples alone, an adequate number of samples (n=3) have been collected in this area to support risk-based decisions for both the 10^{-6} and 10^{-5} risk goals.

4.0 CONCLUSIONS

As requested by SLO County EHS, this quantitative DQA was focused on evaluating whether the data used in the sHHRA were ~~adequate~~ sufficient to make health protective risk-based decisions. The approach used USEPA DQO and DQA guidance to calculate the number of samples needed based on the current sHHRA data and the specified range of acceptable performance criteria. This quantitative DQA supplements the previous data quality evaluations that have been conducted for the Site, including the *Data Validation and Data Usability Report*

Comment [PKB11]: Again to distinguish data adequacy from DQA.

and the qualitative DQOs and DQA that were included with the most recent revision of the risk assessment. The results presented in this report are limited to the current proposed Development Plan. If exposure area boundaries or land uses are modified, the ~~data adequacy~~ DQA for that specific area will need to be reevaluated.

One of the main limitations of this evaluation is the disconnect between USEPA guidance for the classical statistics approach to DQA and that for human health risk assessment. This DQA evaluates whether or not the data are ~~adequate~~ sufficient to determine if the sample mean ~~is above or~~ below the specified risk-based goal, while health risks for some scenarios in the sHHRA (e.g. residential land use and soil gas) were calculated using the maximum detected concentration. Although the maximum concentration is a much less stable measurement than the mean, the use of the maximum to estimate risk in the sHHRA is common practice and health protective.

Comment [PKB12]: Really it only evaluates a mean below the threshold – if the mean is above the threshold then the decision (to take action) is already made. This is one of the problem with the asymetric approach to classical statistics, but it is what it is.

Overall, the results of this DQA show that the soil and soil gas sampling designs accomplished the objective of collecting adequate data to support defensible risk management decisions. As summarized below, two risk-significant chemicals in soil gas have been highlighted in Table 4 where HHRA sample sizes were below the range of desired sample sizes. For these areas, either remedial action (e.g. vapor barrier) will be required, or additional data are necessary to justify no further action. However, if risk management decisions are based on 5-foot soil gas samples as opposed to 15-foot samples, then adequate soil gas data have been collected for benzene in Area F, and chloroform in Areas Ib and K. For the other areas where soil gas data adequacy issues have been identified, the following conclusions are made:

- For benzene in soil gas in Areas E and M, additional sampling is not likely to support a decision of no further action.
    - Area E includes the most industrialized portion of the Site, where a pump house, laboratory and truck loading rack were located. Soil gas sampling was biased towards these areas of known contamination, resulting in some of the highest benzene detections in soil gas.
    - Area M in the northeastern corner of the Site is slated for residential housing. Historically, this area included cottages for refinery worker residences and a pipeline passes through the southeastern corner, where benzene in soil gas has been well characterized. Additional sampling is not likely to support no further action.

- For chloroform in soil gas in Area J, which is located in the center of the Site, it is possible additional sampling at 5 ft bgs and a risk-based decision using 5-foot samples

may support a no further action decision. However, this also depends on the acceptable cancer risk goal identified for this exposure area.

Also shown in Table 4, three risk-significant chemicals in soil have been identified as having HHRA sample sizes below the range of desired sample sizes. For these areas, either remedial action (e.g. soil mitigation) will be required, or additional data collection will be needed in order to support a decision of no further action. However, the need for additional data collection will depend on the risk goal used to make risk management decisions.

- Benzene in soil in Area E: While there is a data adequacy issue with basing risk management decisions on the 10^{-6} risk goal, there are adequate data to use the 10^{-5} risk goal. The potential sources of benzene (e.g. tank loading rack, pipelines, etc.) are well characterized in this area, therefore additional data collection in this area is unlikely to lead to a decision of no further action for the 10^{-6} risk goal.
- Ethylbenzene in soil in Area J: Located in the center of the Site, where former pipeline activities occurred, Area J is proposed as part of the hotel or conference center complex. The sample size of 29 for ethylbenzene in soil falls below the desired sample range of 44 to 975 for the 10^{-6} risk goal, but there is an adequate sample size for the 10^{-5} risk goal. Petroleum-related impacts were identified as being limited to the pipeline corridor, which has been well characterized in this area.
- Lead in soil in Area D: The sHHRA data consist of 20 samples that were collected from 1.72 acres in Area D, which falls below the desired range of 48 to 1,028. Given the current data, the 95% UCL of average lead concentrations (1,038 mg/kg) in Area D exceeds the commercial CHHSL (320 mg/kg). Additional data collection in this area is unlikely to lead to a decision of no further action.

In conclusion, the results of this DQA show that the soil and soil gas sampling designs accomplished the objective of collecting adequate data to support defensible risk management decisions. For several areas, either remedial action will be required, or additional data collection will be needed in order to support a decision of *no further action*. For areas where further action is decided, data adequacy will need to be addressed in the remediation phase.

5.0 REFERENCES

California Environmental Protection Agency (Cal/EPA) 2009. Revised California Human Health Screening Levels for Lead. Office of Environmental Health Hazard Assessment. September.

California Environmental Protection Agency (Cal/EPA) 2010. Public Health Goals for Chemicals in Drinking Water: Benzo(a)pyrene. Office of Environmental Health Hazard Assessment. September.

McDaniel Lambert 2010. Supplemental Human Health Risk Assessment for the Avila Tank Farm, Final Version 2.0, Avila Beach, CA. April.

Neptune and Company, Inc. 2008. Avila Tank Farm Data Validation and Data Usability Report. April.

Pacific Northwest National Laboratory (PNNL) 2010. Visual Sample Plan, Version 6.0. Battelle Memorial Institute. Available via http://vsp.pnl.gov/.

United States Environmental Protection Agency (USEPA) 1994. Using the Data Quality Objectives in Risk Assessment. Office of Environmental Guidance, Washington DC. July.

United States Environmental Protection Agency (USEPA) 2006a. Guidance on Systematic Planning Using the Data Quality Objectives Process, EPA QA/G-4. Office of Environmental Information, Washington DC. February.

United States Environmental Protection Agency (USEPA) 2006b. Data Quality Assessment: Statistical Methods for Practitioners, EPA QA/G-9S. Office of Environmental Information, Washington DC. February.

Please amend the following items within the DQA:

- Transmit results in text of which categories do not meet the EPA defaults of 5% Type 1 error, 20% Type 2 error and MDDs of 20% for the RBC cDQA calculations, 100% for Pismo and 50% for Obispo for the DQA arsenic background comparisons. Although I did not update the redline/strikeout for my 2-25-11 submission I thought my statements were comprehensive. There are many references particularly in Section 4 & 5 that assign value to data sufficiency but sufficiency is not defined. My redline/strikeout from 1/14/11 requested the deletion of "adequacy" but also implied definition on sample sufficiency to a certain degree. Section 4&5 have numerous areas where value is established and I do not know how the values such as "sufficient data" "sufficient samples" "range of desired sample size" "sufficient number of samples" "data sufficiency" "required range of sample sizes" relate to the EPA defaults reading the text. It appears one way would be to remove Results and Conclusions section and replace with one section (summary) that summarizes results, transmiting which areas do not meet EPA defaults without terms that imply judgment.

- Perform a rigorous QA/QC to all Tables and confirm complete.
    - Replace "Attachment 2" with "Attachment 4".
    - Delete the first section of Attachment 4 which includes combined 5' and 15' soil data. We understood that all combined data would be removed as the sHHRA does not have combined data.
    - Delete all references to combined soil gas in DQA text. For example Section 4 of the DQA text references combined data. We understood that all combined data would be removed as the sHHRA does not have combined data.
    - For example, page 127: units and sample depth (soil gas) are not consistent or missing.
    - For example, page 115,116 Area D shows a different sample size for ethylbenzene and benzene.
    - Confirm the sample sizes and MDDs are consistent throughout. It appears this issue goes away once small bullet #2 is addressed.
    - Units are missing or wrong (e.g., ug/kg or mg/kg is listed for some soil gas samples). For Areas B,H,Ia,L, and N, the sample matrix should be changed to soil (produce is listed as the sample matrix).

- Confirm reporting limits (referenced Section 2.2.2) two or more orders of magnitude larger than other reporting limits (excluded from the datasets for the DQA evaluation) were also excluded in the HRA.

- Section 2.2.3, first paragraph, 7th line – it appears that the word “one” should be re-inserted.

- Cross check sample numbers and risks listed in the sHHRA for each Area with all relevant DQA tables (e.g. Table 2 series of HHRA, DQA Tables 7-9 and DQA Attachment 4).

- Confirm EHS edits to Arsenic text are complete. Appears they are but your confirmation is appreciated.
  I found a confusing edit we made that should be revised from: “The reason for the different percent MDDs is that the natural concentrations of arsenic in the Obispo formation are greater than those in the Pismo formation, so these differences correspond to very similar differences in mean concentration for the two geologies.” To “The reason for the different percent MDDs is that the natural concentrations of arsenic in the Obispo formation are greater than those in the Pismo formation. The different percent MDDs for each geology hence correspond to very similar differences in mean concentration for the two geologies.”

- Confirm previously accepted ~~Table~~ Attachment 2 (by Paul) has been included as ~~Table~~ Attachment 4, (other than comments listed above).

- I couldn’t see where you included your RTC regarding our 1/18/11 regarding lead CHHSLs (ie:320 ppm vs 80 ppm) in the DQA.

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Formatted: Bullets and Numbering

From: amutziger_apcd@co.slo.ca.us
Date: April 1, 2011 5:05:30 PM PDT
To: Chuck Lambert <celambert@mclam.com>
Cc: Aaron LaBarre <alabarre@co.slo.ca.us>, aarlingenet_apcd@co.slo.ca.us, Dan Niles <Dniles@waterboards.ca.gov>
Subject: RE: Final DQA Attachment for Avila sHHRA

Chuck,

Aaron and I spoke today and are separately providing you our some clarifying thoughts on the changes that you made to the DQA based on our input. Here are the Air District's suggested thoughts and updates:

1. I reviewed the Master Table (now Table 9) and it looks like ML did a good job of incorporated the comments that Teri and I made.

2. In reviewing the Red-line of the DQA I noted that page 6 defines the HHR working group as EH and their consultants. Please add RWQCB & APCD to the working group participants.

3. In terms of the APCD's concern about the off-site receptor review in the DQA, the tables look good with the exception that the sitewide eval for that work should specifically note that the 0 to 2 foot sample depth was used and why that was chosen over the 0 to 10 foot. The text in the document sheds little additional light on this distinction - it needs to; Page 13 talks briefly about the two horizons used, but it would be very helpful for the readers to know that only the off-site receptor used the 0 - 2 foot horizon samples and the reason for this difference relative to the on-site receptors. Attachment 1 briefly note "0-2" but there is no context, so that should be clarified as well.

These are pretty minor clarifying points that should be easy for your company to address. Please let me know if you have any questions.

Sincerely,

Andy Mutziger
Air Quality Specialist
San Luis Obispo County Air Pollution Control District
(805) 781-5956
fax: (805) 781-1002
www.slocleanair.org

|---------->

From:

"Chuck Lambert" <celambert@mclam.com>

To:

<alabarre@co.slo.ca.us>, <canders@strategicinit.com>

Cc:

'"Dan Niles" <Dniles@waterboards.ca.gov>, <amutziger_apcd@co.slo.ca.us>, '"Paul Black" <pblack@neptuneinc.org>, '"Teri L Copeland" <TeriLCopeland@yahoo.com>, '"Bill Almas" <walmas@chevron.com>, '"Kyle Rutherford" <krutherford@chevron.com>, '"Rebecca E. Countway" <rcountway@mclam.com>, '"Katie Butler" <kbutler@mclam.com>

Date:

03/11/2011 05:36 PM

|---------->
| Subject: |
|---------->

---|
|RE: Final DQA Attachment for Avila
sHHRA |

---|

Aaron and Chuck

Attached for Agency review is the final version of the DQA incorporating all of the written comments received since December 2010 on the previous version of the document. Along with the final is a redline/strikeout version indicating where changes were made. The tables were too complicated to present as redline/strikeout, but please note the inclusion of the Master Table (best printed as 11 x 17). Lastly we have attached a document which includes a list of all of the comments we have received and the responses to those comments.

It is my understanding that once you have determined that the appropriate additions/changes were made to the DQA, it can be officially finalized and included as an attachment in the final version of the HHRA.

Please contact us with any questions or concerns.

I will FEDEX one set of the 11 x17 Master Tables to your office.

Cheers

~~~~~~

Chuck Lambert
McDaniel Lambert Inc.
1608 Pacific Ave, Suite 201
Venice, CA 90291

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Fx. 310 392 6693
Cell. 323 717 0983
www.mclam.com
~~~~~~

From: alabarre@co.slo.ca.us [mailto:alabarre@co.slo.ca.us]
Sent: Monday, February 28, 2011 4:54 PM
To: Chuck Lambert
Cc: canders@strategicinit.com; 'Dan Niles'; amutziger_apcd@co.slo.ca.us; 'Katie Butler'; 'Paul Black'; 'Teri L Copeland'; 'Rebecca E. Countway'; 'Bill Almas'; 'Kyle Rutherford'
Subject: RE: Re: EHS Comments to revised DQA Tables and Arsenic section

Chuck,

This confirms our discussion on our requested revisions. We look forward to review the final product. Please call with any questions.

Thank you.
Aaron LaBarre
Supervising Environmental Health Specialist
Hazardous Materials Program
San Luis Obispo County Environmental Health Services
805-781-5595

-----"Chuck Lambert" <celambert@mclam.com> wrote: -----
To: <alabarre@co.slo.ca.us>, <canders@strategicinit.com>
From: "Chuck Lambert" <celambert@mclam.com>
Date: 02/28/2011 12:18PM
cc: "'Dan Niles'" <Dniles@waterboards.ca.gov>, <amutziger_apcd@co.slo.ca.us

, "'Katie Butler'" <kbutler@mclam.com>, "'Paul Black'" <pblack@neptuneinc.org>, "'Teri L Copeland'" <TeriLCopeland@yahoo.com>, "'Rebecca E. Countway'" <rcountway@mclam.com>, "'Bill Almas'" <walmas@chevron.com>, "'Kyle Rutherford'" <krutherford@chevron.com>
Subject: RE: Re: EHS Comments to revised DQA Tables and Arsenic section
Aaron

We will incorporate comments 1-4 in the final DQA along with specific edits to the arsenic section and the master table.
For 1&2 below we will flag the requested data (EPA conservative default) in Tables 4 & 5 in the DQA.
For 2 below we will reference these findings in the DQA and sHHRA text and point the reader to the appropriate Tables to view the results in more detail.

In addition to your most recent email, we are also incorporating your previous comments on the general DQA text.

Please let me know if this everything – we will quickly proceed once we

hear from you.

Thanks and Cheers

~~~~~~

Chuck Lambert
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From: alabarre@co.slo.ca.us [mailto:alabarre@co.slo.ca.us]
Sent: Friday, February 25, 2011 3:16 PM
To: canders@strategicinit.com
Cc: Dan Niles; amutziger_apcd@co.slo.ca.us; Katie Butler; Paul Black; Teri L Copeland; Rebecca E. Countway; Bill Almas; Kyle Rutherford; Chuck Lambert

Subject: Fw: Re: EHS Comments to revised DQA Tables and Arsenic section

Chuck,

Based on our review of the Tables and the new section "2.0 Arsenic Background Data" the following revisions are required:

1. Highlight all rows in Table 4 and 5 that do not meet the most conservative (further defined below) Desired Sample Size for both RBC Basis categories. This addresses item 5 from the 1-21-11 Conference Call Meeting Minutes and addendum provided from Chuck on 2-16-11 regarding my comments at the 1-21-11 meeting. All listed RBC basis categories need to be flagged regardless of proposed use for informational purposes based on a EPA default of 5% Type 1 error, 20% Type 2 error and MDDs of 20% for the RBC cDQA calculations, 100% for Pismo and 50% for Obispo for the DQA arsenic background comparisons. Most but not all flagging was completed on the latest version of the revised tables.
2. Transmit the results from item 1 to the text in the DQA and the sHHRA.
3. Make the edits to the attached "2.0 Arsenic Background Data" section.
4. Include master table discussed previously
~~~~~~

Please contact me if you have any questions.

Aaron LaBarre
Supervising Environmental Health Specialist
Hazardous Materials Program
San Luis Obispo County Environmental Health Services
805-781-5595

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[Scanned @co.slo.ca.us][attachment "DQA Text Tables Attachments.pdf" deleted by Aaron LaBarre/PH/COSLO] [attachment "DQA Red-lined strike out.pdf" deleted by Aaron LaBarre/PH/COSLO] [attachment "DQA Agency Comment Table.pdf" deleted by Aaron LaBarre/PH/COSLO]

[Scanned @co.slo.ca.us]

From: Chuck Lambert [mailto:celambert@mclam.com]
Sent: Thursday, April 21, 2011 10:41 AM
To: alabarre@co.slo.ca.us
Cc: 'Charles Anders'; amutziger_apcd@co.slo.ca.us; 'Dan Niles'; 'Teri L Copeland'; 'Paul Black'; 'Almas, William'; 'Kyle Rutherford'; 'Katie Butler'; 'Rebecca Countway'
Subject: RE: Final Supplemental HHRA - Former Avila Tank Farm

Hi Aaron

As per our recent email discussion we will go ahead and finalize the HHRA including the final version of the DQA and additional comments we have received. We will not include the previously discussed additional arsenic section.

Cheers

~~~~~~

Chuck Lambert
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~~~~~~

SAN LUIS OBISPO COUNTY HEALTH AGENCY

Public Health Department
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805-781-5500 ▪ FAX 805-781-5543

Jeff Hamm
Health Agency Director

Penny Borenstein, M.D., M.P.H.
Health Officer/Public Health Administrator

February 16, 2011

Chevron Corporation
Attn: Bill Almas
PO Box 1069
San Luis Obispo, CA 93406

SUMMARY AND DIRECTIVE TO COMPLETE THE SUPPLEMENTAL HUMAN HEALTH RISK ASSESSMENT FOR THE FORMER UNOCAL AVILA TANK FARM, AVILA BEACH, CA.

Dear Mr. Almas

To receive approval of the Avila Tank Farm Property Supplemental Human Health Risk Assessment (sHRRA) the following components require completion:

1. **Complete the quantitative data quality assessment (DQA) currently in progress.** The DQA has been in the process of dynamic revision between Chevron and the Agencies. This complex DQA has been scrutinized and the process has been intensive due to the value and implications the final product will provide. Environmental Health Services (EHS) received the latest revised DQA tables on 2-4-11 and 2-5-11 and revised text on 2-8-11. The final DQA should include the "master table" that has been discussed with McDaniel/Lambert. The Agencies will provide approval if the above tables and all previous Agency comments have been addressed as requested.

2. **Provide the revised sHHRA with required changes, including the final quantitative DQA.** Provide a final version of the sHHRA with the approved DQA and a underline/strikeout version of both. The Agencies will review the final sHHRA to ensure all previous comments have been addressed and will issue a determination. The Agency determination will identify which exposure areas can be designated as no further action (NFA) for the proposed land use, which areas require remediation and confirmatory sampling prior to determining NFA, and which areas require further sampling at this time to possibly support a NFA determination. For areas requiring further sampling, the risk characterization shall be recalculated using the combined (previous plus new supplemental) data.

Why the quantitative DQA was required:

- As noted by Chevron in Section 2.1.2 (p. 45 of the sHHRA version 2.0), in the absence of quantitatively specified data quality objectives (DQOs), a data quality assessment (DQA) should be performed to demonstrate that sufficient data has been collected to support the risk assessment and risk management decisions.
- A tool was needed to enable the Agencies to ensure risk has not been underestimated for specific exposure areas based on an insufficient number of samples when considering proposed land uses and assigned acceptable risk thresholds.
- The qualitative DQA performed for the baseline sHHRA was initially approved by the Agencies on the condition that the post-remediation HHRA would include a quantitative DQA for all exposure areas. We understand that Chevron subsequently decided to conduct the quantitative DQA at this time.
- To prove enough data has been collected to support a determination of no further action (NFA).
- It appears that Chevron is making decisions or assumptions of NFA for some areas where data adequacy is questionable to the Agency. This was illustrated when the Agencies were requested to review a draft risk management plan (RMP) that inappropriately designated some areas as NFA.

Items 1&2 will:

- Enable Agencies to determine which areas clearly pass or fail risk targets for the proposed land use.
- Enable Agencies to provide direction on areas that require additional sampling. The most conservative EPA Type I and Type II error and Minimum Detectable Difference (MDD) limits may be imposed when the Agency believes it is justified. Agency decisions will be based on DQA results and exposure area-specific criteria that include but are not limited to:

    - Future land use/ receptors (i.e. sensitive receptors)
    - Factors affecting risk and associated uncertainties (e.g. evidence for human toxicity)
    - Area-specific incremental lifetime cancer risk (ILCR), hazard index (HI), and lead risk.

Approval of the sHHRA will be provided upon satisfactory completion of items 1 & 2.

If you would like to have a discussion with me regarding this project, please contact Aaron LaBarre at 805-781-5595 to arrange a meeting.

Sincerely,

Curtis Batson, REHS
Environmental Health Director
Environmental Health Services

C:

1. Dan Niles, RWQCB
2. Andy Mutziger, APCD
3. Charles Anders, Strategic Initiatives

June 15, 2011

Aaron LaBarre, REHS
Supervising Environmental Health Specialist
Hazardous Materials Section
Public Health Department
2191 Johnson Ave, P.O. Box 1489
San Luis Obispo, CA 93406

Via email

Subject: Supplemental Human Health Risk Assessment for the Avila Tank Farm Property in Support of the Community Development Plan, Final Version 3.0 – Errata Sheet

Dear Aaron,

Attached please find a pdf copy of the above referenced single errata sheet for your files. This errata sheet was necessary to address some minor changes in the final document noted after discussions with you earlier today. None of these changes impacted calculations or conclusions. Please keep this page with the hard and electronic copies of the document.

Please contact me if you have any questions.

Sincerely,

Charles Lambert, PhD, DABT

Cc: Andy Mutzinger, SLO County APCD
Dan Niles, Central Coast RWQCB
Steve McMasters, SLO County
Melissa Boggs, California Department of Fish and Game - OSPR
Regina Donohoe, California Department of Fish and Game – OSPR
Teri Copeland
Paul Black, Neptune
William Almas, Chevron
Kyle Rutherford, Chevron
Robert Van Hyning, Avocet Environmental
Jennifer Holder, Geosyntec Consultants
Louis Cappel, Padre
Chuck Anders, Strategic Initiatives

Attachment

DRAFT

Errata Sheet – June 15, 2011

Supplemental Human Health Risk Assessment for the Avila Tank Farm Property in support of the Community Development Plan Final Version 3.0, May 2011

Section	Page/Table	Erratum
Tables	2-17	Replace residential lead CHHSL of 150 mg/kg with the current lead CHHSL of 80 mg/kg
Tables	2-19	Replace residential lead CHHSL of 150 mg/kg with the current lead CHHSL of 80 mg/kg
Tables	2-33	Replace residential lead CHHSL of 150 mg/kg with the current lead CHHSL of 80 mg/kg
Tables	2-37	Replace residential lead CHHSL of 150 mg/kg with the current lead CHHSL of 80 mg/kg
Attachment 10	4	For clarification please replace the sentence at the top of page 4 with: "Although the elevated reporting limits were included in the sHHRA, they do not significantly affect the risk results (with the exception of the recreational user, see Sections 7.2.2.2 and 7.4.3.1 of the sHHRA)"

DRAFT

Response to Comments Table – June 15, 2011

Section	Page/ Table	Comment	Response
Tables	Tables 2-17, 2-19, 2-33 and 2-37	***12/14/11 EHS comment #1****: Table 2-36 – The lead residential CHHSL is listed as 150 mg/kg but should be updated to 80 mg/kg, which is the revised CalEPA value. Please confirm change is made on all tables relevant to lead.* ***6/15/11 Comment****: Please edit Tables 2-17, 2-19, 2-33, and 2-37 to update the 150 mg/kg residential lead CHSSL to 80 mg/kg.*	In the sHHRA Final Version 3.0, Tables 2-17, 2-19, 2-33 and 2-37 reflect the previous residential CHHSL of 150 mg/kg, which was the basis of CHHSL comparisons at the time the background assessment was conducted in 2009. The outcome of the inorganic COPC selection process and background assessment is not dependent on whether the previous CHHSL (150 mg/kg) or the current CHHSL (80 mg/kg) is used for comparison purposes. To be consistent with other tables, Tables 2-17, 2-19, 2-33 and 2-37 are discussed in the errata noting the change.
Attachment 10	Page 4	***6/15/11 RTC for Comment 10.*** *Technically, omitting the extreme reporting limits from the DQA and then including them in the sHHRA is not defensible because the standard deviations are artificially reduced in the DQA which leads to smaller required sample sizes. The standard deviations are greater for the sHHRA than for the DQA. It is stated in the RTC that including the high reporting limits does not impact the sHHRA results. Further information on this is needed. Why is there no effect? The RBCs for PAHs are in the ball-park of these omitted RLs, in which case it seems at least possible that they could have an effect.*	We have addressed this comment in the main document - please refer to Sections 7.2.2.2 and 7.4.3.1. To clarify, the following sentence at the top of page 4 in Attachment 10 is revised in the errata to read: "Although the elevated reporting limits were included in the sHHRA, they do not significantly affect the risk results (with the exception of the recreational user, see Sections 7.2.2.2 and 7.4.3.1)." Per our phone conversation on April 4, we discussed that removing elevated reporting limits from the DQA and not the HHRA was a reasonable and health protective approach
Tables	ES and Section 8.0	**4/5/11 EHS *comment #4*** (last component): We also noted that this section does not list uncertainties associated with exposure areas that have an HI in exceedance of 1 (e.g. workers in exposure areas E and J). **6/15/11 Comment**: Please identify key uncertainties in these HIs.	In Tables ES-1 and 8-1, noncancer risk drivers are discussed for workers in exposure areas E and J with an HI in exceedance of 1.0. The notable uncertainties for Areas E and J are associated with indoor air cancer risks, which are summarized in these tables. Not necessary to identify uncertainties associated with these HIs over 1.0. Best addressed in the RMP in terms of all of the risk drivers for these two Areas.

Response to Comments Table – June 15, 2011

SAN LUIS OBISPO COUNTY HEALTH AGENCY

Public Health Department
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Jeff Hamm
Health Agency Director

Penny Borenstein, M.D., M.P.H.
Health Officer/Public Health Administrator

July 20, 2011

Chevron Corporation
Attn: Bill Almas
PO Box 1069
San Luis Obispo, CA 93406

ACCEPTANCE OF SUPPLEMENTAL HUMAN HEALTH RISK ASSESSMENT FOR THE FORMER UNOCAL AVILA TANK FARM, AVILA BEACH, CA.

Dear Mr. Almas

The San Luis Obispo County Health Agency, San Luis Obispo County Air Pollution Control District, and the Regional Water Quality Control Board (Agencies) reviewed the Supplemental Human Health Risk Assessment for the Avila Tank Farm Property in Support of the Community Development Plan, Final Version 3.0, May 2, 2011 by McDaniel Lambert, Inc. (sHHRA) and Errata, dated July 19, 2011.

The Agencies recognize the quantitative data quality assessment (DQA) and the sHHRA have been completed. This letter is an acceptance of the baseline sHHRA and is not an approval of use or action at the subject site. As identified within the San Luis Obispo County Health Agency letter dated February 16, 2011, the Agencies will provide a letter that determines which areas require further action based on Chevron's proposed land use and the results of the sHHRA. The Agencies also look forward to Chevron's integration of the sHHRA into their forthcoming feasibility study and remedial design when evaluating and proposing remedies for the entire site and all affected media.

If you have questions concerning this letter, please call Aaron LaBarre at 805-781-5595, Andy Mutziger at 805-781-5912, and Dan Niles at 805-549-3355.

Sincerely,

Aaron LaBarre, REHS
Supervising Environmental
Health Specialist
Hazardous Materials Section

Andy Mutziger
Air Quality Specialist
San Luis Obispo County Air
Pollution Control District

Thea Tryon
Senior Engineering Geologist
Site Cleanup Program
Regional Water Quality
Control Board

McDaniel | Lambert, Inc.
Health and Environmental Relations

July 19, 2011

Aaron LaBarre, REHS
Supervising Environmental Health Specialist
Hazardous Materials Section
Public Health Department
2191 Johnson Ave, P.O. Box 1489
San Luis Obispo, CA 93406

Via email

Subject: Supplemental Human Health Risk Assessment for the Avila Tank Farm Property in Support of the Community Development Plan, Final Version 3.0 – Errata Sheet

Dear Aaron,

Attached please find a PDF copy of the above referenced single errata sheet for your files. This errata sheet addresses some minor changes in the final document noted after discussions with you. None of these changes impacted calculations or conclusions. Please keep this page with the hard and/or electronic copies of the document.

Sincerely,

Charles Lambert, PhD, DABT

Cc: Andy Mutzinger, SLO County APCD
Dan Niles, Central Coast RWQCB
Steve McMasters, SLO County
Melissa Boggs, California Department of Fish and Game - OSPR
Regina Donohoe, California Department of Fish and Game – OSPR
Teri Copeland
Paul Black, Neptune
William Almas, Chevron
Kyle Rutherford, Chevron
Robert Van Hyning, Avocet Environmental
Jennifer Holder, ERM
Louis Cappel, Padre
Chuck Anders, Strategic Initiatives

Attachment

1608 Pacific Avenue Suite 201
Venice, California 90291
tel. (310) 392. 6462 fax. (310) 392. 6693

Errata Sheet – July 19, 2011

Supplemental Human Health Risk Assessment for the Avila Tank Farm Property in support of the Community Development Plan Final Version 3.0, May 2011

Section	Page/Table	Erratum
Tables	2-17	Replace residential lead CHHSL of 150 mg/kg with the current lead CHHSL of 80 mg/kg
Tables	2-19	Replace residential lead CHHSL of 150 mg/kg with the current lead CHHSL of 80 mg/kg
Tables	2-33	Replace residential lead CHHSL of 150 mg/kg with the current lead CHHSL of 80 mg/kg
Tables	2-37	Replace residential lead CHHSL of 150 mg/kg with the current lead CHHSL of 80 mg/kg
Tables	ES-1 and 8-1	For Areas E and J, uncertainties associated with HIs over 1.0 are not discussed. The notable uncertainties for these areas are associated with indoor air cancer risks, which are summarized in these tables. Uncertainties associated with these HIs over 1.0 are best addressed in the RMP in terms of all of the risk drivers for these two Areas.
Attachment 10	4	For clarification please replace the sentence at the top of page 4 with: "Although the elevated reporting limits were included in the sHHRA, they do not significantly affect the risk results (with the exception of the recreational user, see Sections 7.2.2.2 and 7.4.3.1 of the sHHRA)"
Attachment 10	16	Replace "5.0 References" with "6.0 References" to correct the typographical error in the section header

MEMORANDUM

To: Aaron LaBarre
Supervising Environmental Health Specialist
Hazardous Materials Program
San Luis Obispo County Environmental Health Services
2191 Johnson Avenue, P.O. Box 1489
San Luis Obisbo, California 93406

From: Rebecca Countway and Holly LeClair, McDaniel Lambert

Date: January 20, 2012

Re: Avila Tank Farm sHHRA Sitewide Recreator ProUCL 95% UCL Recalculations

The Supplemental Human Health Risk Assessment (sHHRA) for the former Avila Tank Farm estimated a cancer risk of $2x10^{-6}$ for sitewide (no development) recreational exposure to soil, which is barely above the low end of the United States Environmental Protection Agency (USEPA) risk management range of $1x10^{-6}$ (or one in one million) to $1x10^{-4}$ (one in ten thousand). As summarized in Section 6.2.18 of the sHHRA, the majority (75%) of the recreational cancer risk estimate results from the presence of polycyclic aromatic hydrocarbons (PAHs) in soil; benzo(a)pyrene (BaP) is the primary driver, accounting for 35% of the total (see sHHRA Table 6-88).

As noted in the uncertainty section of the sHHRA (Sections 7.2.2.2 and 7.4.3.1), the PAH soil dataset includes a number of samples with elevated reporting limits (RLs). Specifically, although the majority of the BaP reporting limits within the upper 10 feet are at or below 0.050 mg/kg, the values were as high as 20 mg/kg. Moreover, because the BaP soil dataset has a high frequency of nondetect values (41 to 64%, depending on depth horizon), the inclusion of nondetect sample results at half the reporting limit resulted in exposure point concentrations (EPCs) heavily influenced by the elevated nondetect results. While use of the half the reporting limit was consistent with guidance at the time the UCL calculation approach was agreed upon by the Human Health Working Group, the US Environmental Protection Agency (USEPA) recently updated its statistical software, ProUCL, to include methods that specifically address data sets with nondetect results (ProUCL version 4, released in March 2011).

This memo describes the approach used to calculate the sitewide recreator EPCs in the sHHRA, identifies the EPCs resulting from USEPA's revised ProUCL software, and discusses the differences in the corresponding cancer risk estimates.

1.0 EPC Calculation Methods used in sHHRA

In the sHHRA, potential health risks for the sitewide (no development) recreational exposure to soil were evaluated based on the greater of the EPCs (maximum or 95% upper confidence limit [UCL], as appropriate) calculated for the 0-2 and 0-10 foot depth horizons. As described in Section 5.1.1 of the sHHRA, EPCs were based on the 95% upper confidence limit (UCL) of the sitewide soil dataset, when the data permitted. The 95% UCL EPCs presented in the sHHRA were calculated using the USEPA software ProUCL Version 3.00.02. When a chemical of potential concern (COPC) was not detected in a sample, half of the reporting limit was used in the UCL calculation. In consultation with Neptune & Company, the parametric Student's-t UCL was selected as the primary method of UCL estimation, (email communication, Neptune and Company, July 9, 2008), although in cases where the COPC data were skewed or when the frequency of detection was less than 40%, the Bootstrap BCa method was used to calculate the 95% UCL.

In addition to BaP, the PAH dibenzo(a,h)anthracene, and the volatile organic chemicals benzene and ethylbenzene together account for 83% of the sitewide recreational user total cancer risk. Summary information from the sHHRA for these four primary risk drivers is presented below.

As summarized in Table 5-35 of the sHHRA, in the 0-10 foot below ground surface (bgs) depth horizon, the recreational risk driver, BaP, was detected in 75 of 210 samples (64% nondetects, ranging from 0.0049 to 20 mg/kg), with detections ranging from 0.0060 to 1.1 mg/kg. The 0-10 ft bgs 95% UCL estimate was 0.41 mg/kg. In the 0-2 foot bgs depth horizon, BaP was detected in 49 of 83 samples (41% nondetects, ranging from 0.0049 to 20 mg/kg), with detections also ranging from 0.0060 to 1.1 mg/kg (sHHRA Table 5-35). The 0-2 ft bgs 95% UCL estimate was 0.56 mg/kg, which because it was higher than the 0-10 foot result, was used as the EPC for sitewide recreational exposure to soil (sHHRA Table 5-36). This BaP EPC corresponded to a cancer risk of $6.6x10^{-7}$ for the sitewide recreator (sHHRA Table 6-88).

The PAH dibenzo(a,h)anthracene (dibenzo) accounted for 25% of the sitewide recreational risk (see sHHRA Table 6-88). In the 0-10 foot bgs depth horizon, dibenzo was detected in 22 of 210 samples (90% nondetects, ranging from 0.0049 to 20 mg/kg), with detections ranging from 0.0060 to 0.28 mg/kg (sHHRA Table 5-35). The 0-10 ft bgs 95% UCL estimate was 0.37 mg/kg, which exceeded the maximum detect. In the 0-2 foot bgs depth horizon, dibenzo was detected in 16 of 83 samples (81% nondetects, ranging from 0.0049 to 20 mg/kg), with detections also ranging from 0.0060 to 0.28 mg/kg (sHHRA Table 5-35). The 0-2 ft bgs 95% UCL estimate was 0.61 mg/kg, which also exceeded the maximum detected value of 0.28 mg/kg. Therefore, the maximum dibenzo value was used as the EPC for sitewide recreational exposure to soil, which corresponded to a cancer risk of $4.7x10^{-7}$ for the sitewide recreator (sHHRA Tables 5-36 and 6-88).

Benzene accounted for 12% of the sitewide recreational risk (see sHHRA Table 6-88). In the 0-10 foot bgs depth horizon, benzene was detected in 40 of 462 samples (91% nondetects, ranging from 0.0019 to 0.20 mg/kg), with detections ranging from 0.0016 to 19 mg/kg (sHHRA Table 5-35). The 0-10 ft bgs 95% UCL estimate was 0.26 mg/kg. In the 0-2 foot bgs depth horizon, benzene was detected in only one of 105 samples (99% nondetects, ranging from 0.0019 to 0.0050 mg/kg), with a detection of 0.018 mg/kg (sHHRA Table 5-35). The 0-2 ft bgs 95% UCL

estimate was 0.0026 mg/kg. Because the 0-10 foot 95% UCL result was higher, it was used as the EPC for sitewide recreational exposure to soil (sHHRA Table 5-36). This benzene EPC corresponded to a cancer risk of $2.3x10^{-7}$ for the sitewide recreator (sHHRA Table 6-88).

Ethylbenzene accounted for 11% of the sitewide recreational risk (see sHHRA Table 6-88). In the 0-10 foot bgs depth horizon, ethylbenzene was detected in 59 of 462 samples (87% nondetects, ranging from 0.0019 to 0.20 mg/kg), with detections ranging from 0.0060 to 120 mg/kg (sHHRA Table 5-35). The 0-10 ft bgs 95% UCL estimate was 1.3 mg/kg. In the 0-2 foot bgs depth horizon, ethylbenzene was detected in 9 of 105 samples (91% nondetects, ranging from 0.0019 to 0.0050 mg/kg), with detections ranging from 0.0070 to 120 mg/kg (sHHRA Table 5-35). The 0-2 ft bgs 95% UCL estimate was 4.6 mg/kg, which because it was higher than the 0-10 foot result, was used as the EPC for sitewide recreational exposure to soil (sHHRA Table 5-36). This ethylbenzene EPC corresponded to a cancer risk of $2.0x10^{-7}$ for the sitewide recreator (sHHRA Table 6-88).

2.0 USEPA's Revised ProUCL Version 4.0

Computing UCLs requires estimates of the population mean, standard deviation, and standard error of the mean, which can be especially challenging for data sets with single or multiple detection/reporting limits (e.g., left-censored datasets). Since initial review and agreement regarding the UCL approach used in the sHHRA, newer versions of ProUCL have been released, the most recent in March 2011 (ProUCL 4.00.05). As USEPA specifies in its *Facts Sheet for ProUCL 4.0*:

> "Nondetect observations are inevitable in most data sets collected from the various environmental applications. The ProUCL 4.0 software package is an upgrade of ProUCL 3.0 software package, and provides several statistical methods that can be used on left censored data sets with nondetect observations potentially having multiple detection limits (DLs). ProUCL 4.0 is especially developed to address the various statistical issues arising in exposure and risk assessment studies, and also in background and site evaluation and comparison applications. All capabilities of ProUCL 3.0 have been retained in ProUCL 4.0." (USEPA ProUCL Version 4 Fact Sheet, Attachment 1).

To evaluate datasets with nondetect values, ProUCL 4.0 has added a module to estimate these values for datasets with multiple nondetect levels, including the regression on order statistics (ROS) methods and Kaplan-Meier (KM) method. For datasets with nondetect values, the input file requires two columns, the result column and a corresponding column that distinguishes detects from nondetects (entered as 1 and 0, respectively). Nondetects are entered into ProUCL at their reporting limit, and if there is a high frequency of multiple detection limits, ProUCL recommends the use of the Kaplan-Meier (KM) method to censor nondetects. Specifically, as stated in the ProUCL version 4.1 Technical Guide:

> "ProUCL 4.00.05 contains state-of-the-art parametric and nonparametric UCL computation methods. Some of the methods (e.g., Kaplan-Meier method) are applicable on left-censored data sets having multiple detection limits." (USEPA 2010)

The Kaplan-Meier (KM) estimation method is based upon a nonparametric statistical distribution function estimate, similar to other UCL calculation methods which are based on the sample distribution (e.g., normal and lognormal), except that this method adjusts for censoring, or data for which the actual value

is unknown (USEPA 2006). The Technical Guide notes that many researchers have suggested the Kaplan-Meier method is the most appropriate to compute summary statistics and the 95% UCL for datasets with many non-detects and provides a better alternative to the standard practice of including non-detects in the calculation at one-half the reporting limit, and that this method provides a more reliable estimate when handling datasets with elevated reporting limits as it reduces the emphasis that is given to these values when using other methods (e.g., DL/2).

3.0 Version 4 ProUCL 95% UCL Calculations

The sitewide 0-10 and 0-2 foot bgs 95% UCLs for COPCs presented above have been recalculated using the most recent version of ProUCL (4.00.005); the data input and ProUCL output results are included as Attachments 2 and 3. Using the ProUCL recommended Kaplan-Meier estimation method, along with the UCL method choices agreed upon with Neptune and Company (Student's t or Boostrap BCa), the resulting KM(BCa) 95% UCLs for BaP are 0.055 mg/kg for the 0-10 foot depth horizon and 0.091 mg/kg for the 0-2 foot depth horizon. When the maximum value is used as the sitewide recreator EPC, resulting BaP cancer risk estimate is $1.1x10^{-7}$. The revised dibenzo 95% UCLs are 0.013 mg/kg for the 0-10 foot depth horizon and 0.024 mg/kg for the 0-2 foot depth horizon, with the maximum corresponding to a sitewide recreational cancer risk of $4.0x10^{-8}$. The revised benzene 95% UCLs are 0.21 mg/kg for the 0-10 foot depth horizon, which corresponds to a sitewide recreational cancer risk of $1.8x10^{-7}$. Because there was only one detect, a 95% UCL could not be calculated for the 0-2 foot bgs horizon using this approach. The revised ethylbenzene 95% UCLs are 0.97 mg/kg for the 0-10 foot depth horizon and 4.6 mg/kg for the 0-2 foot depth horizon, with the maximum corresponding to a sitewide recreational cancer risk of $2.0x10^{-7}$. The table below summarizes the sHHRA sitewide recreator 95% UCLs/EPCs and cancer risk results for these four COPCs, and the 95% UCLs based on the most recent version of ProUCL along with the corresponding cancer risk results.

Comparison of Sitewide Recreator EPCs and Cancer Risk Estimates

COPC	sHHRA EPC* (ProUCL v 3)	sHHRA Risk Estimate	Revised EPC* (ProUCL v 4)	Revised Risk Estimate
BaP (0-10 ft bgs)	0.41 (Bootstrap BCa)	NA	0.055 (KM BCa)	NA
BaP (0-2 ft bgs)	0.56 (Bootstrap BCa)	$6.6x10^{-7}$	0.091 (KM BCa)	$1.1x10^{-7}$
Dibenz (0-10 ft bgs)	0.28 (Maximum detect < Boostrap BCa – 0.37)	$4.7x10^{-7}$	0.013 (KM BCa)	NA
Dibenz (0-2 ft bgs)	0.28 (Maximum detect < Boostrap BCa – 0.61)		0.024 (KM BCa)	$4.0x10^{-8}$
Benzene (0-10 ft bgs)	0.26 (Bootstrap BCa)	$2.3x10^{-7}$	0.21 (KM BCa)	$1.8x10^{-7}$
Benzene (0-2 ft bgs)	0.0026 (Bootstrap BCa)	NA	0.018 (Maximum detect; ProUCL v 4 cannot evaluate single detect)	NA
Ethylbenzene (0-10 ft bgs)	1.3 (Bootstrap BCa)	NA	0.97 (KM BCa)	NA
Ethylbenzene (0-2 ft bgs)	4.6 (Bootstrap BCa)	$2.0x10^{-7}$	4.6 (KM BCa)	$2.0x10^{-7}$
Total Cancer Risk†		$1.9x10^{-6}$		$8.4x10^{-7}$

Notes

*Soil EPCs are in mg/kg; UCL estimation method included in parentheses.

†Total is for all COPCs, including those not shown in table; total for "revised EPC" includes only revised values for the four COPCs shown. Revised sHHRA Tables 5-36 (Sitewide Exposure Area EPCs), 6-88 (Sitewide Recreator Cancer Risk) and 6-89 (Sitewide Recreator Hazard Index) are included in Attachment 4.

4.0 Conclusions

The sHHRA for the former Avila Tank Farm estimated a sitewide (no development) recreational cancer risk of $2x10^{-6}$, the majority (75%) of which results from the presence of polycyclic aromatic hydrocarbons (PAHs) in soil; benzo(a)pyrene (BaP) is the primary driver, accounting for 35% of the total cancer risk. Dibenzo(a,h)anthracene, benzene, and ethylbenzene together with BaP account for 83% of the sitewide recreational total cancer risk.

The PAH soil dataset has a high frequency of nondetect values and includes a number of samples with elevated reporting limits, which together, highly bias the EPCs when included in the 95% UCL calculations at half the reporting limit. While use of half the reporting limit was consistent with guidance at the time the UCL calculation approach was agreed upon by the Human Health Working Group, the USEPA recently updated its statistical software, ProUCL, to include methods to specifically address data sets with nondetect results (ProUCL version 4). As summarized in the table above, when the PAH 95% UCLs are calculated using the ProUCL version 4 recommended Kaplan-Meier method of censoring nondetects, as opposed to including them at half the reporting limit, the EPCs for BaP and dibenzo are significantly reduced. The 95% UCLs for benzene and ethylbenzene are reduced only slightly, or do not change when the ProUCL Version 4/Kaplan-Meier method is used, which is consistent with the absence of elevated reporting limits in the datasets for these COPCs.

When the revised 95% UCL calculations for the four primary risk drivers are used as the EPCs in the recreational user cancer risk estimate, the total sitewide recreator cancer risk drops from $2x10^{-6}$ to $8x10^{-7}$, which is below the low end of the USEPA risk management range of $1x10^{-6}$ (or one in one million) to $1x10^{-4}$ (one in ten thousand).

5.0 References

U.S. Environmental Protection Agency (USEPA). 2006. On the Computation of a 95% Upper Confidence Limit of the Unknown Population Mean Based Upon Data Sets with Below Detection Limit Observations. Office of Research and Development, Las Vegas NV. March.

U.S. Environmental Protection Agency (USEPA). 2010. ProUCL – Version 4.00.05. Environmental Sciences Division, National Exposure Research Laboratory. Available from worldwide web: www.epa.gov/esd/tsc/software.htm. User Guide dated May 2010.

Attachments

Attachment 1: USEPA Fact Sheet for ProUCL 4.0: A Statistical Software Package for Environmental Applications for Data Sets With and Without Nondetect Observations

Attachment 2: Benzo(a)pyrene, dibenz(ah)anthracene, benzene, and ethylbenzene data input for ProUCL Version 4 Calculations

Attachment 3: ProUCL Version 4.00.05 Output

Attachment 4: Revised sHHRA Tables 5-36, 6-88, and 6-89

ATTACHMENTS

ATTACHMENT 1

USEPA FACT SHEET FOR PROUCL 4.0: A STATISTICAL SOFTWARE PACKAGE FOR ENVIRONMENTAL APPLICATIONS FOR DATA SETS WITH AND WITHOUT NONDETECT OBSERVATIONS

Facts Sheet for ProUCL 4.0
A Statistical Software Package for Environmental Applications for Data Sets With and Without Nondetect Observations

Exposure assessment, risk assessment and management, and cleanup decisions at potentially polluted sites are often made based upon the mean concentrations of the contaminants of potential concern (COPCs). Typically, the mean concentration of a COPC at a contaminated site is unknown, and is frequently estimated by the sample mean based upon the data collected from the site areas under investigation. In order to address the uncertainties associated with the estimates of the unknown mean concentrations of the COPCs, appropriate 95% upper confidence limits (UCLs) of the respective unknown means are used in many environmental applications including the estimation of exposure point concentration (EPC) terms. The Technical Support Center (TSC), EPA Las Vegas, NV developed ProUCL Version 3.0 software package (EPA, 2004) to support risk assessment and cleanup decisions at contaminated sites based upon full data sets without nondetect observations (NDs). For data sets without NDs, ProUCL 3.0 has several parametric and nonparametric UCL computation methods as described in the revised EPA UCL Guidance Document for Hazardous Waste Sites (EPA, 2002a).

The Need for an Upgrade of ProUCL 3.0

Nondetect observations are inevitable in most data sets collected from the various environmental applications. The ProUCL 4.0 software package is an upgrade of ProUCL 3.0 software package, and provides several statistical methods that can be used on left censored data sets with nondetect observations potentially having multiple detection limits (DLs). ProUCL 4.0 is especially developed to address the various statistical issues arising in exposure and risk assessment studies, and also in background and site evaluation and comparison applications. All capabilities of ProUCL 3.0 have been retained in ProUCL 4.0. The TSC, EPA Las Vegas has revised the Background Guidance Document for CERCLA sites (EPA, 2002b). The revised background document includes some exploratory graphical methods to pre-process a data set, and a couple of new chapters describing the computations of parametric and nonparametric upper limits that are used to estimate the background level contaminant concentrations or background threshold values (BTVs), and other not-to-exceed values based upon data sets with and without ND observations.

It is noted that the methods to compute upper limits to estimate BTVs and not-to-exceed values are not easily available in any of the available software packages, especially for data sets with nondetect observations. ProUCL 4.0 can be used to compute various parametric and nonparametric upper limits often used to estimate environmental parameters of interest including the EPC terms, BTVs, and other not-to-exceed values. The BTVs and not-to-exceed values are also used for screening of contaminants of potential concern (COPCs). Typically, upper confidence limits (UCLs) are used to estimate the EPC terms; upper prediction limits (UPLs), upper tolerance limits (UTLs), or upper percentiles are used to estimate the BTVs and not-to-exceed values. ProUCL 4.0 can be used to compute those upper limits based upon full uncensored data sets without NDs and left-censored data sets with NDs having multiple DLs.

Additionally, ProUCL 4.0 offers several parametric and nonparametric single sample and two sample hypotheses testing approaches used in background versus site comparison studies. Those hypotheses testing approaches can be used on data sets with NDs and without NDs. ProUCL 4.0

also offers some useful graphical displays including histograms, multiple quantile-quantile (Q-Q) plots, and side-by-side box plots for data sets with and without ND observations. The graphical displays provide additional insight and information contained in data sets that cannot be revealed by the use of estimates (e.g., 95% UCLs) and test statistics such as goodness-of-fit (GOF) test statistics, t-test statistic, Rosner test, and various other statistics. In addition to providing information about the data distributions (e.g., normal, lognormal, gamma), the graphical Q-Q plots are very useful to identify potential outliers and the presence of mixture samples (if any) in a data set. Side-by-side box plots and multiple Q-Q plots are quite useful to visually compare two or more data sets such as site versus background contaminant concentrations, monitoring well (MW) concentrations, and so on. Therefore, it is desirable and suggested that the conclusions derived using estimates (e.g., 95% UCL) and test statistics (e.g., t-test) should always be supplemented with graphical displays.

ProUCL 4.0 serves as a companion software package for the *UCL* Computation Guidance Document for Hazardous Waste Sites (EPA, 2002a) and the Background Guidance Document (currently under revision) for CERCLA Sites (EPA, 2002b). Most of the statistical and graphical methods described and recommended in these two EPA guidance documents have been incorporated in ProUCL 4.0. It should be noted that ProUCL 4.0 also has some parametric and nonparametric single sample hypotheses approaches that may be used to compare site mean concentrations (or some site threshold value such as an upper percentile) with some average cleanup standards, C_s (with a not-to-exceed limit, A_0) to verify the attainment of cleanup levels (EPA, 1989, and EPA, 2006) after some remediation activities have been performed at potentially impacted site areas. Several of the statistical methods as incorporated in ProUCL 4.0 can be used in groundwater (GW) monitoring applications (EPA, 1992).

Two reference guides: 1) ProUCL 4.0 User Guide and 2) ProUCL 4.0 Technical Guide have also been developed for ProUCL 4.0 software package. The User Guide describes and illustrates the uses of the various menu items and options as incorporated in ProUCL 4.0. The ProUCL 4.0 Technical Guide describes the theory (with references) behind the statistical methods as incorporated in ProUCL 4.0. These two documents can be downloaded from the EPA website for ProUCL 4.0. ProUCL 4.0 also provides Online Help for the various methods available in ProUCL 4.0.

Data Requirements

Statistical methods (e.g., upper limits) as incorporated in ProUCL 4.0 (and also in other software packages such as SAS and Minitab) assume that the user has collected an adequate amount of data of good quality, perhaps using appropriate data quality objectives (DQOs) as described in EPA, 2006. However, many times (e.g., using the available historical data, or due to budgetary and time constraints), it may not be possible to collect data sets based upon specified performance measures (e.g., decision errors) and other DQOs. It is noted that many times, administrators and decision makers do not want to collect many samples, especially background samples. Therefore, when it may not be possible to collect adequate amount of data using DQOs (EPA, 2006), Chapter 1 of the two ProUCL 4.0 reference guides can be used to determine the minimum sample size requirements associated with the various estimation and hypotheses testing approaches available in ProUCL 4.0. The suggested minimum sample size requirements as described in Chapter 1 are made based upon the practical applicability of the procedures incorporated in ProUCL 4.0. Those suggestions are particularly useful when the data are sparse and it may not be feasible to collect additional data based upon DQOs. However, it should be

pointed out that for more accurate (reduced bias) estimates and reliable (increased precision) results, whenever possible, it is desirable to collect adequate amount of data, perhaps using DQOs with specified performance measures.

A partial listing of the statistical and graphical methods as incorporated in ProUCL 4.0 is given as follows. The details of the various statistical and graphical procedures with illustrating examples can be found in the User Guide and the Technical Guide associated with ProUCL 4.0.

ProUCL Version 4.0 Capabilities

All of the capabilities of ProUCL 3.0 have been retained in ProUCL 4.0. It is anticipated that ProUCL 4.0 will serve as a companion software package for: 1) *UCL* Computation Guidance Document for Hazardous Waste Sites (EPA, 2002a), and 2) Background Guidance Document (currently under revision) for CERCLA Sites (EPA, 2002b). Several statistical and graphical methods for data sets with and without ND observations have been incorporated in the upgraded ProUCL 4.0 software package. Some of those capabilities are listed in the following paragraphs.

Group Option

ProUCL 4.0 provides a "Group" option. An appropriate Group-ID variable representing the various groups such as different site areas of concern (AOC) or monitoring wells (MWs) should be available in the data sheet. Using this option, graphical displays and statistical analyses can be performed separately for each of the group represented by the Group-ID variable. This group graph option is very useful to perform visual multiple comparison (multiple Q-Q plots, side-by-side box plots) of the various groups (e.g., AOCs, MWs) identified by the Group-ID variable. The details of this option are given in ProUCL 4.0 User Guide.

Graphical Methods

ProUCL 4.0 has several graphical methods including multiple quantile-quantile (Q-Q) plots, side-by-side box plots, and histograms. These graphical methods can be used on data sets with and without nondetect observations. A typical Q-Q plot (normal, gamma, lognormal) is often used to visually assess the data distribution of the COPCs. A Q-Q plot also provides important information about presence of potential outliers and multiple populations that may be contained in a data set. For data sets with NDs, ProUCL 4.0 can be used to generate Q-Q plots based upon regression on order statistics (ROS) methods including the robust ROS method. The graphical displays of multiple Q-Q plots and side-by-side box plots are useful to visually compare the concentrations of two or more populations, some of which are listed as follows:

- Site versus background populations (areas)
- Surface versus subsurface concentrations
- Concentrations of two or more AOCs or MWs

Goodness-of-Fit (GOF) Test Methods

ProUCL 4.0 has GOF tests for normal, lognormal, and gamma distributions for data sets with and without nondetect observations. The following GOF tests to assess normality or lognormality of a data set are available in ProUCL 4.0.

GOF Tests to Assess Normality or Lognormality for Full Data Sets without ND Observations

- Informal graphical Q-Q plot (normal probability plot) and histogram.
- Shapiro-Wilk (SW) test for sample sizes less than or equal to 50.
- Lilliefors test for larger sample sizes such as greater than 50.

GOF Tests to Assess Normality or Lognormality for Left-Censored Data Sets with NDs and Multiple Detection Limits

- ProUCL 4.0 can be used to perform normal GOF tests as mentioned above (for full data) on data sets consisting of ND values. Specifically, normal or lognormal GOF tests can be performed using detected data values only.
- The normal or lognormal GOF tests can also be performed on data sets (detected values and extrapolated NDs) obtained using one of the regression on order statistics (ROS) methods. The details of constructing Q-Q plots (normal and lognormal) and performing ROS on data sets with multiple DLs are given in ProUCL 4.0 Technical Guide.
- The three ROS methods available in ProUCL 4.0 are the normal ROS, lognormal ROS (also known as robust ROS), and Gamma ROS methods.
- ProUCL 4.0 can be used to generate additional columns (with suitable headings assigned by ProUCL 4.0) of data consisting of the detected data and extrapolated nondetect data.

<u>Goodness-of-Fit Test for Gamma Distribution</u>

Gamma GOF Tests for Full Data Sets without ND Observations

- Informal graphical quantile-quantile (Q-Q) plot (gamma probability plot) and histogram.
- Kolmogorov-Smirnov test for sample sizes in the range 4-2500 (critical values computed using Monte Carlo simulations) and values of the estimated shape parameter, k, in the interval [0.01, 100.0].
- Anderson-Darling test for sample sizes in the range 4-2500 (critical values computed using Monte Carlo simulations) and values of the estimated shape parameter, k, in the interval [0.01, 100.0].

Gamma GOF Tests for Left-Censored Data Sets with NDs and Multiple Detection Limit

- ProUCL 4.0 can be used to perform gamma GOF tests on data sets consisting of ND values. Specifically, gamma GOF tests can be performed on data set consisting of only detected data.
- The gamma GOF tests listed above can also be used on data sets (detected values and extrapolated NDs) obtained using one of the regression on order statistics (ROS) methods as incorporated in ProUCL 4.0. The details of constructing gamma Q-Q plots and performing ROS on data sets with multiple detection limits are given in ProUCL 4.0 Technical Guide.

Summary Statistics

- For full data sets without NDs, ProUCL computes and lists all relevant descriptive summary statistics for raw and log-transformed data.
- For data sets with NDs, ProUCL computes simple summary statistics using only detected data values for raw or log-transformed data.

Note: Summary statistics option does not compute and lists the estimates of the population parameters. Those estimates are computed and listed by the 'UCL' and 'Background' options of ProUCL 4.0.

Estimates of Population Parameters

- Computes the maximum likelihood estimates (MLEs) and minimum variance unbiased estimates (MVUEs) of the various population parameters such as the mean, standard deviation, quantiles, coefficient of variation (CV), skewness, and also the MLEs of the shape parameter k and scale parameter θ of a gamma distribution. These estimates (e.g., MLE, MVUE) are shown when the menu items Background and UCL are used to compute the upper limits.

- For data sets with NDs, ProUCL 4.0 also computes parametric (e.g., normal MLE) and nonparametric (Kaplan Meier (KM), Bootstrap) estimates of population mean, variance, and standard error of the mean. These statistics do not represent simple summary statistics. Therefore, these estimates (e.g., MLE, KM) are shown when the menu items Background and UCL are used to compute the upper limits.

Upper Confidence Limits (UCLs) to Estimate Exposure Point Concentration Terms

A 95% UCL of the unknown population arithmetic mean, μ_1, of a COPC is used to estimate the EPC term and also to determine the attainment of cleanup standards. It should be noted that gamma distribution is often better suited to model positively skewed environmental data sets than the lognormal distribution. For positively skewed data sets, the default use of a lognormal distribution often results in impractically large UCLs, especially when the data sets are small (Singh, Singh, and Iaci, 2002). In order to obtain accurate and stable UCLs of practical merit, other distributions such as a gamma distribution should be used to model positively skewed data sets. ProUCL, Version 4.0 has procedures to perform the gamma goodness-of-fit tests and to compute UCLs of the population mean, and various other limits based upon gamma distributed data sets with and without nondetect observations. ProUCL 4.0 also has several bootstrap methods (e.g., percentile bootstrap, bias corrected bootstrap, bootstrap-t) to compute UCLs of the mean for data sets with and without ND observations.

For full data sets without NDs and for left-censored data sets with ND observations, ProUCL 4.0 can compute several parametric and nonparametric UCLs with a confidence coefficient (*CC*) specified in the interval [0.5, 1.0) including the commonly used *CC* level 0.95. ProUCL 4.0 can compute parametric UCLs for normal, lognormal, and gamma distributions. It is noted that in environmental applications (e.g., estimation of EPC), a 95% UCL of mean is used, therefore, ProUCL makes recommendations only for an appropriate 95% UCL (s) which may be used to

estimate the EPC term. The basis and theoretical justification for those recommendations are summarized in Singh and Singh (2003) for full data sets without ND observations.

UCLs for Full Uncensored Data Sets without ND Observations

1. Student's-t UCL: to be used for normally (or at least approximately normally) distributed data sets. Student's-t UCL is available for all confidence coefficients, (1-α) in the interval [0.5, 1.0).
2. Approximate Gamma UCL: to be used for gamma distributed data and is typically used when k hat (ML estimate of the shape parameter, k) is greater than or equal to 0.5. Approximate gamma UCL is available for all confidence coefficients (1-α) in the interval [0.5, 1.0).
3. Adjusted Gamma UCL: to be used for gamma distributed data sets and should be used when k hat is greater than 0.1 and less than 0.5. Adjusted gamma UCL is available only for three confidence coefficients: 0.90, 0.95, and 0.99.
4. H-UCL based upon Land's H-statistic: to be used for lognormally distributed data sets. In ProUCL, H-UCL is available only for two confidence coefficients: 0.90 and 0.95. ProUCL can compute H-UCL for samples of size up to 1001.
   Caution: For highly skewed data sets, the use of H-UCL should be avoided as the H-statistic often results in unrealistically large, impractical and unusable H-UCL values. ProUCL provides warning messages and recommends the use of alternative UCLs for such highly skewed lognormally distributed data sets.
5. Chebyshev (MVUE) UCL: to be used for lognormally distributed data sets. This UCL computation method uses the MVU estimates of the standard deviation of the mean and of other parameters of a lognormal distribution. Chebyshev (MVUE) UCL is available for all confidence coefficients, (1-α) in the interval [0.5, 1.0).
6. Central Limit Theorem (CLT) based UCL: to be used when the sample size is large.
7. Adjusted-CLT (adjusted for skewness) UCL: may be used for mildly skewed data sets of large sizes.
8. Modified-t statistic (Adjusted for skewness) based UCL: may be used for mildly skewed data.
   Caution: UCLs listed in 6, 7, and 8 do not provide adequate (e.g., 95%) coverage when the data are moderately to heavily skewed, even when the sample size is large such as greater than 50.
9. Chebyshev (Mean, Sd) UCL: based upon the sample mean and standard deviation, Sd.
10. Jackknife UCL for mean (same as Student's-t UCL).
11. Standard Bootstrap UCL.
12. Bootstrap-t UCL.
13. Hall's Bootstrap UCL.
14. Percentile Bootstrap UCL.
15. Bias-corrected accelerated (BCA) Bootstrap UCL.

UCLs Based Upon Left Censored Data Sets with ND Observations

In order to compute UCLs, one has to first obtain estimates of population mean, standard deviation, and standard error of the mean based upon data sets with single or multiple detection limits. ProUCL 4.0 has a couple of estimation methods such as the ROS methods and Kaplan-Meier (KM) method that can handle multiple detection limits. The following methods for estimation of population mean and the standard deviation have been incorporated in ProUCL 4.0.

- Maximum likelihood method (MLE) (Cohen (1991)) – Single DL
- ROS Methods for normal, gamma, and lognormal distributions –Multiple DLs
  Note: ProUCL 4.0 can be used to generate columns consisting of detected data and extrapolated NDs obtained using a ROS method (normal, lognormal, and gamma).
- Kaplan-Meier (KM) method (Kaplan-Meier (1958)) – Multiple DLs
- Winsorization method
- DL/2 substitution (DL/2) method – not a recommended method. *The DL/2 method is included for historical reasons only.*

Note on the Use of DL/2 and Other Substitution Methods

- The use of DL/2 (and DL) method is not recommended in statistical procedures that may be used in decision-making processes. Therefore, it is suggested to avoid the use of the DL/2 method (and other substitution methods such replacement of NDs by '0', 'DL') to estimate the EPC terms and BTVs.
- Also, the use of the substitution methods is not recommended in hypothesis testing approaches.
- However, the substitution methods such as the DL/2 method may be used in graphical and exploratory methods to gain visual information about the data distributions and outliers. Several graphical methods (e.g., boxplots, Q-Q plots) based upon DL/2 method are available in ProUCL 4.0.

ProUCL 4.0 can compute several parametric and nonparametric UCLs with a confidence coefficient (*CC*) specified in the interval [0.5, 1.0) including the commonly used *CC* level 0.95. However, since in most environmental applications (e.g., estimation of EPC), a 95% UCL of mean is used, therefore, ProUCL 4.0 makes recommendations for the most appropriate 95% UCL (s) that may be used to estimate the EPC terms based upon data sets with ND observations. The theory behind those recommendations can be found in Singh, Maichle, and Lee (EPA, 2006). Using the estimates of mean and standard deviation, or extrapolated NDs obtained using one of the ROS methods listed above, ProUCL 4.0 computes UCLs of the means using the following methods.

- Tiku's UCL method (Tiku (1967 and 1971)) – Single DL
- Ad hoc UCL methods using Student's t-statistic on ML estimates and KM estimates
- Ad hoc UCL methods based upon Land's H-statistic – Single DL
- Gamma UCL – Bootstrap UCL on gamma ROS
- Nonparametric Chebyshev UCL based upon KM estimates
- Bootstrap (percentile, standard bootstrap, bootstrap t, and bias-corrected accelerated (BCA)) methods on ROS methods and KM estimates.

Upper Limits to Estimate Background Level Threshold Values (BTVs) or Not-to-Exceed Values

ProUCL 4.0 can be used to compute several parametric and nonparametric upper limits that are used to estimate the BTVs or not-to-exceed values for data sets with NDs and without NDs. These upper limits include: upper prediction limits (UPLs), upper tolerance limits (UTLs), and upper percentiles. Some of the nonparametric methods such as the Kaplan-Meier (Meier, 1958) method and ROS methods are applicable on left-censored data sets having multiple detection limits. The background statistics as incorporated in ProUCL 4.0 are particularly useful when individual site observations from some impacted site areas (perhaps after some remediation activities) are to be compared with BTVs to determine if adequate amount of remediation and cleanup has been performed yielding remediated site concentrations comparable to background level concentrations; that is if the site concentrations can be considered as coming from (or approaching to) the population of background concentrations.

The process of comparing individual site observations with BTVs or some other not-to-exceed values is also used for screening purposes (e.g., before performing any cleanup and assessment) to identify the COPCs, and to determine if site areas under study need further sampling and remediation actions. Specifically, the process of comparing onsite data with the BTVs may help the working crew, project team, or the decision makers to take immediate decisions if more remediation and more onsite sample collection need to be performed at the site areas under investigation.

The first step in establishing site specific background level contaminant concentrations for site related hazardous pollutants is to perform background sampling to collect appropriate number of samples from the designated site specific background areas or some agreed upon site reference areas. An appropriate DQO process (EPA, 2006) may be followed to collect an adequate number of background samples. It is desirable to collect at least 10-15 background samples to compute reliable estimates of BTVs. Furthermore, it is suggested not to use estimated BTVs and not-to-exceed values based upon background data sets of sizes smaller than 8-10. Once, an adequate amount of background data have been collected, the next step is to determine the data distribution. This can be achieved by using exploratory graphical tools (quantile-quantile (Q-Q) plots and histograms) as well as formal GOF tests as incorporated in ProUCL 4.0.

Once the data distribution of a background data set has been determined, one can use parametric or nonparametric statistical methods to compute background statistics. A review of the environmental literature reveals that one or more of the following statistical limits are used to compute the background statistics; that is to determine and estimate background level contaminant concentrations. Collectively, these statistics represent estimates of the background threshold values (BTVs). The BTVs are estimated by statistics representing values in the upper tail (e.g., 95% upper percentile, 95% UPL) of the background data distribution. Typically, a site observation (preferably based upon a composite sample) in exceedance of a BTV (e.g., UPL, upper percentile) can be considered as coming from a site area (location), which might have been impacted by the site-related activities. In other words, such a site observation may be considered as exhibiting some evidence of contamination at that site area (location) due to site related activities. For data sets with NDs, the BTVs can be estimated using upper limits based upon KM

estimates. Some of the statistical limits used to estimate the BTVs for data sets with and without NDs as incorporated in ProUCL 4.0 are listed as follows.

1. Upper Percentiles (e.g., 95%, 99%) for data sets without and with NDs (e.g., based upon KM estimates)
2. Upper Prediction Limit (UPL) for a future (site observation) observation (using KM or other estimates for data sets with NDs)
3. UPL for future k (e.g., next k or k site observations) observations
4. Upper Tolerance limits (UTLs) - Upper Confidence Limits for Upper Percentiles
5. Upper percentiles, UPLs, UTLs based upon data obtained using ROS methods – data with NDs
6. IQR Upper Limit (upper end of the upper whisker in a Box Plot)
7. UPL and UTL based upon resampling bootstrap
8. UPL based upon Chebyshev inequality
9. UTL based upon bootstrap methods for data sets with NDs
10. BTVs using nonparametric methods based upon higher order statistics (Conover, 1999)

Note: *The behavior of the exploratory IQR based upper limit as an estimate of a BTV is not well studied. This limit should be used with caution to estimate the BTVs or not-to-exceed values.*

It should be noted that background versus site comparisons based upon the BTVs are performed when not enough site data (e.g., < 4-6 observations) are available to perform traditional two sample comparisons using hypotheses testing approaches such as t-test, Wilcoxon Rank Sum test, and Gehan test. When enough site data are available (e.g., at least 8-10, more are preferable), it is preferable to use hypotheses testing approaches to compare site data with BTVs or not-to-exceed values. Thus, in the absence of adequate amount of site data, individual point-by-point site observations are compared with some BTVs to determine the presence or absence of contamination due to site related activities. This method of comparing site versus background level contamination is particularly helpful to use after some sort of remediation activities have taken place at the site; and the objective is to determine if the remediated site areas have been remediated enough to the background level contaminant concentrations.

Typically, a site observation (possibly based upon composite samples) in exceedance of a background threshold value can be considered as coming from a contaminated site area that may have been impacted by the site-related activities. In other words, such a site observation may be considered as exhibiting some evidence of contamination at the site due to site related activities. In case of an exceedance of the BTV by a site location, some practitioners like to verify the possibility of contaminated site location by re-sampling (collecting 2-3 additional samples) that location, and comparing the sampled value(s) with the BTV.

<u>Hypothesis Testing Approaches</u>

Both single sample and two sample parametric and nonparametric hypotheses testing approaches are available in ProUCL 4.0. The hypotheses testing approaches as incorporated in ProUCL 4.0 can be used on full data sets without any ND observations, and on left-censored with nondetect

data values. Form 1, Form 2, Form 2 with substantial difference, and two-sided alternative hypotheses approaches (EPA, 2002b) are available in ProUCL 4.0. It is desirable to collect adequate amount of data of good quality from the populations under investigation using appropriate DQOs (EPA, 2006). In case, data sets cannot be collected using DQOs, it is suggested to follow the minimum sample size requirements as described in Chapter 1 of the ProUCL Technical Guide and User Guide. Some single sample and two sample hypotheses testing approaches as available in ProUCL 4.0 are listed as follows.

Single Sample Hypotheses Testing Approaches

One Sample t-Test: Based upon the sampled site data, this test is used to compare the site mean, μ, with some specified cleanup standard, $C_{s,}$ where the cleanup standard, $C_{s,}$ represents an average threshold value, say μ_0. The Student's t- test (or a UCL of mean) is often used (assuming normality of site data or when site sample size is large such as larger than 30, 50) to determine the attainment of cleanup levels at a polluted site, perhaps after some remediation activities. This test should be used on data sets without any ND observations.

One Sample Sign Test or Wilcoxon Signed Rank (WSR) Test: These two tests are nonparametric tests and can also handle nondetect observations provided all nondetects (e.g., associated detection limits) fall below the specified threshold value, C_s. These tests are used to compare the site location (e.g., median, mean) with some specified cleanup standard, $C_{s,}$ representing the similar location parameter.

One Sample Proportion Test or Percentile Test: When a specified cleanup standard, $A_{0,}$ such as a PRG or a BTV represents an upper threshold value (e.g., not-to-exceed value, compliance limit) of a contaminant concentration distribution rather than the mean or median concentration value, μ_0, of the contaminant concentration distribution, then a test for a proportion or a percentile (equivalently a UTL 95%-95% or UTL 95%-90%) may be used to compare the site proportion, P, of exceeding (by site observations) the threshold value, A_0 with some pre-specified proportion, P_0, of exceedances of A_0 by site observations. This test is especially useful when the data set consists of many ND observations. However, this test also assumes that all ND observations lie below the Compliance Limit, A_0.

Two Sample Hypotheses testing Approaches

Typically, two sample hypotheses testing approaches are used for site versus background comparisons, for comparisons of two or more site areas of concern (AOCs), or for comparison of contaminant concentrations of two or more monitoring wells (MWs), provided enough data are available from each population under evaluation. Two sample hypotheses testing approaches as incorporated in ProUCL 4.0 are listed as follows.

1. Student's Two Sample t-Test to compare means - with equal dispersions - Parametric Test
2. Satterthwaite Two Sample t-Test to compare means - with unequal dispersions - Parametric Test

3. F Test to compare two variances (dispersions) – Parametric Test
4. Wilcoxon-Mann-Whitney (WMW) Test to compare two locations, comparability of two continuous distributions – Nonparametric Test
5. Quantile Test to compare the upper tails of two continuous distributions - Nonparametric Test
6. Gehan Test to compare two locations - Nonparametric Test

T-tests and F-test assume normality of the data sets under comparison. Some details of these approaches are described in ProUCL 4.0 Technical Guide. It should be noted that Gehan test, WMW test and Quantile test are also available for data sets with NDs. Gehan's test is specifically meant to be used on data sets with multiple detection limits. The Quantile test is a nonparametric test and is useful to detect a shift in the right tail of the site data distribution. The Quantile test when used in parallel with the Wilcoxon Mann Whitney (WMW) test provides the user with stronger evidence to make decisions about the comparability of site and background distributions, leading to more reliable conclusions whether the site has attained remediation levels or not. It is suggested that for best results, both WMW test and Quantile tests should be used on the same data set.

Note on Comparability of Data Sets

The samples collected from the two (or more) populations under comparisons should all be of the same type obtained using similar analytical methods and apparatus. In other words, the collected site and background samples should be all discrete or all composite (obtained using the same number of discrete samples, same design and pattern), and be collected from the same medium (soil) at similar depths (e.g., all surface samples or all subsurface samples) and time (e.g., during the same quarter in groundwater applications) using comparable (preferably same) analytical methods. Some good soil sample collection methods and sampling strategies are described in EPA, 2003 guidance document.

Note on Influence of Outliers and Use of Lognormal Distribution

Typically, in environmental data sets collected from impacted sites or monitoring wells (MWs), an outlier represents an observation coming from a potentially contaminated site location. This is especially true, when the data are collected from a site specific background area. The outlying observations need to be identified before computing the background statistics (and other estimates and test statistics) as outliers when present distort all statistics of interest, which in turn may lead to incorrect remediation and cleanup decisions for the site under investigation. For an example, inclusion of an outlier may distort the t-test statistic resulting in distorted and incorrect decision errors (Type 1 or Type 2 errors), which can lead to incorrect conclusion about the hypotheses testing. The incorrect decisions may adversely affect the human health and the environment.

The main objective of using a statistical procedure is to model the majority of the data representing the main dominant population, and not to accommodate a few low probability outliers that may yield inflated and impractical statistics, results, and incorrect conclusions. For

an example, background threshold values (BTVs) and exposure point concentration (EPC) terms should be estimated by reliable statistics (and not distorted statistics) obtained using data sets representing the main dominant population under study (e.g., site, background). The low probability high outlying values contaminate the underlying left-censored or uncensored full data set from the population under study. The inclusion of outliers in a background data set needs to be justified before performing other relevant statistical analyses including the estimation of BTVs. If possible, all interested parties should be involved in decision making about the disposition (inclusion or exclusion) of outliers in a background data set. Typically, outlying locations (if any) with elevated concentrations need separate investigation.

It should be noted that the objective is to compute reliable background statistics based upon the majority of a defensible background data set representing the dominant background population. In the process of estimating the BTVs, it may not be desirable to accommodate a few low probability outlying observations (if any) by using a lognormal distribution (Singh, Singh, and Iaci, 2002). The use of a lognormal distribution often accommodates outliers and multiple populations, which in turn yields inflated UCLs and background statistics such as UPLs, percentiles, and UTLs.

The proper identification of multiple outliers is a complex issue based upon robust statistical methods, and is beyond the scope of ProUCL 4.0. For details of the robust outlier identification procedures, refer to Barnett and Lewis (1994), and Singh and Nocerino (1995). A more complicated problem arises when the collected background data set may represent a potentially mixture data set including observations from some of the site areas. The occurrence of mixture samples is quite common in many environmental applications. This is especially true when data sets are collected from large federal facilities (e.g., Navy Sites). For such cases, the underlying data set may consist of samples from the background areas as well as from some other potentially contaminated site areas. In this situation, first, one has to separate the background observations from the other site related observations. After the background data set has been properly extracted from a potentially a mixture sample, one can proceed with the computation of background statistics as available in ProUCL 4.0.

Appropriate population partitioning techniques (e.g., see Singh, Singh, and Flatman (1994)) can be used to extract a background data set from a potentially mixture data set. However, the population partitioning methods are beyond the scope of ProUCL 4.0. It should be noted that some of those methods will be available in Scout (EPA, 2000) software which is currently under revision and upgrades. For methods as incorporated in ProUCL, it is assumed that one is dealing with a sample from a "single" population representing a valid site-related background data set. Therefore, before using statistical methods to compute the various limits such as UCLs, UTLs, and UPLs, it is suggested that the user pre-processes the data set to identify potential outliers and mixture populations (if any).

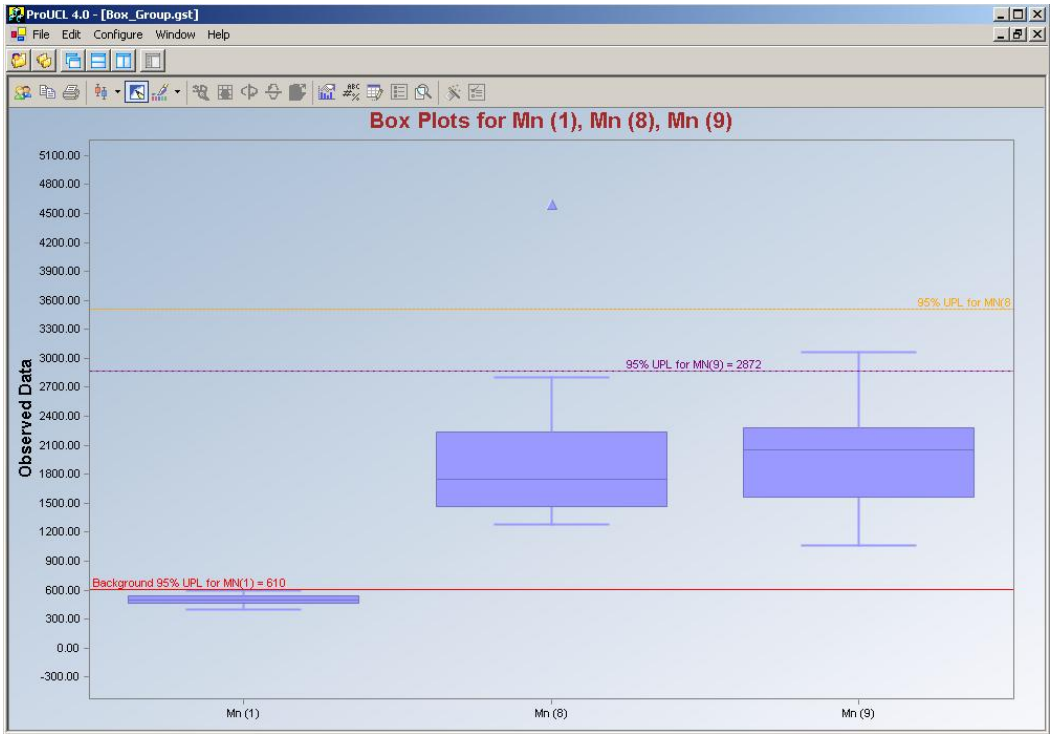
Outlier Tests

ProUCL 4.0 has a couple of classical outlier test procedures, such as the Dixon test and the Rosner test. Additionally, ProUCL 4.0 software has exploratory graphical methods including

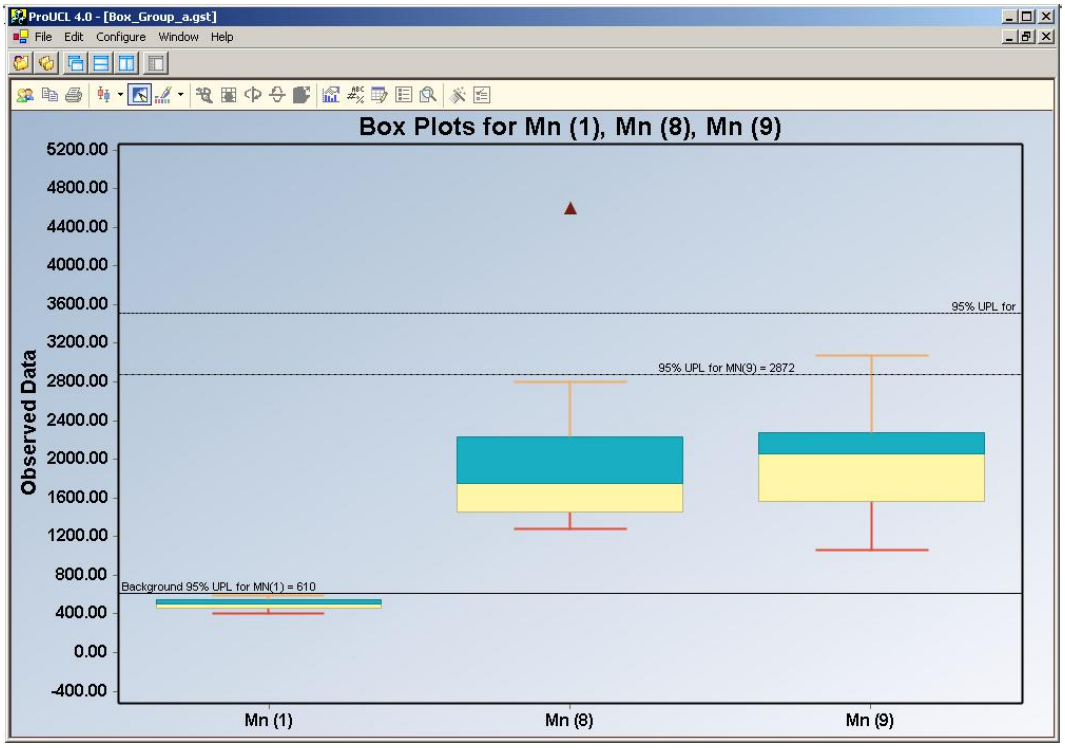
quantile-quantile (Q-Q) plots, box plots, and histograms. The graphical displays of Q-Q plot and box plot are also useful to visually identify outliers that may be present in a data set. It is noted that, the classical test statistics such as the Dixon test and the Rosner test get distorted by the presence of the same outlying observations that those tests are supposed to identify. Therefore, those test statistic (Dixon and Rosner) results should always be supplemented by the graphical displays to confirm the presence of outliers (and potential multiple populations) in a data set. Alternately, the use of robust and resistant outlier identification methods (Singh and Nocerino, 1995) is recommended to identify outliers. The robust outlier identification methods are beyond the scope of ProUCL 4.0.

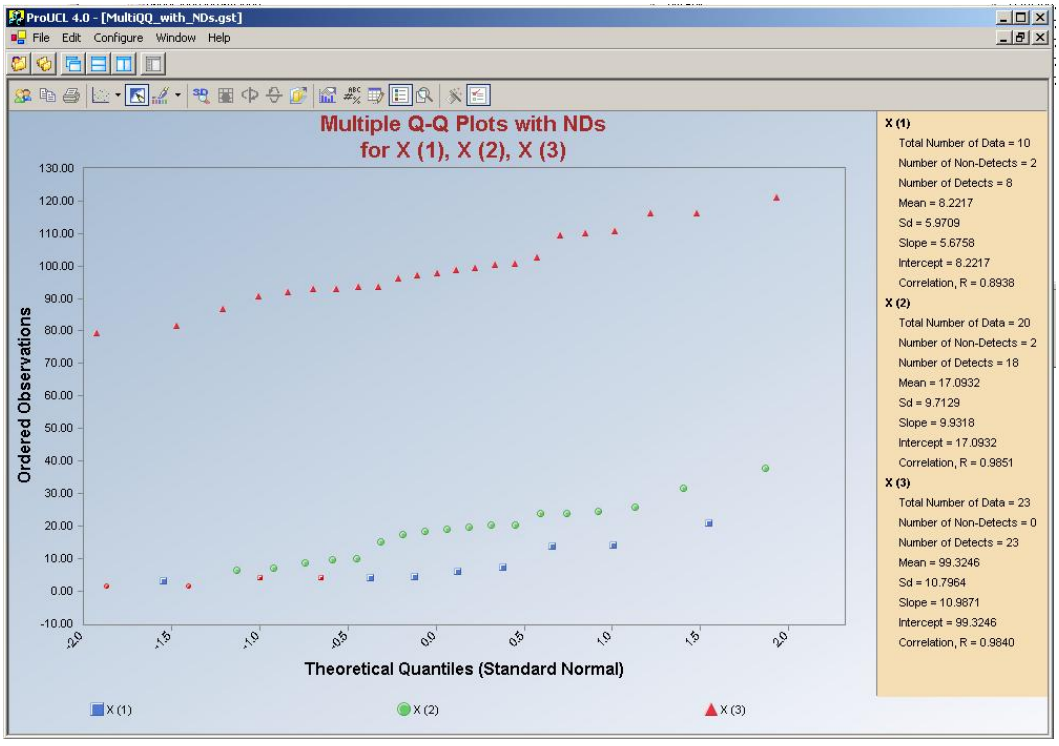
The proper disposition of outliers to include or not to include outliers in the computation of various statistics should be determined by the project team, site experts, and the decision makers involved in the project. In an effort to determine the influence of outliers on the statistics of interest, it is suggested to compute the various statistics based upon data sets with and without the outliers. This extra step should help the project team in determining the proper disposition of outliers. These issues have also been discussed in detail in ProUCL 4.0 Technical Guide.

Screen Shots Generated By ProUCL 4.0



(from MW89)





From (censor by grps)

X (1)

Some Non-Parametric Statistics	
Number of Valid Samples	10
Number of Unique Samples	9
Minimum	3.202
Maximum	20.777
Second Largest	14.138
Mean	8.2217
First Quartile	4
Median	5.347
Third Quartile	13.98575
SD	5.9709101
Variance	35.651767
Coefficient of Variation	0.7262379
Skewness	1.2868074
Mean of Log-Transformed data	1.9005085
SD of Log-Transformed data	0.6522793

Data Follow Appr. Gamma Distribution at 5% Significance Level

Non-Parametric Background Statistics	
90% Percentile	20.1131
95% Percentile	20.777
99% Percentile	20.777

95% UTL with 90% Coverage	
Order Statistic	10
Achieved CC	1
UTL	20.777
95% BCA Bootstrap UTL with 90% Coverage	20.777
95% Percentile Bootstrap UTL with 90% Coverage	20.777
95% UPL	20.777
95% Chebyshev UPL	35.518622
Upper Limit Based upon IQR	28.964375

Note: UPL (or upper percentile for gamma distributed data) represents a preferred estimate of BTV

X (2)

Some Non-Parametric Statistics	
Number of Valid Samples	20
Number of Unique Samples	19
Minimum	1.5
Maximum	37.867
Second Largest	31.565
Mean	17.09315
First Quartile	8.787
Median	18.794
Third Quartile	23.9455
SD	9.7128685
Variance	94.339814
Coefficient of Variation	0.5682316
Skewness	0.1567791
Mean of Log-Transformed data	2.5790218
SD of Log-Transformed data	0.8911249

Data appear Normal at 5% Significance Level

Non-Parametric Background Statistics	
90% Percentile	30.9882
95% Percentile	37.5519
99% Percentile	37.867

95% UTL with 90% Coverage	
Order Statistic	20
Achieved CC	1
UTL	37.867
95% BCA Bootstrap UTL with 90% Coverage	31.565
95% Percentile Bootstrap UTL with 90% Coverage	37.867
95% UPL	37.5519
95% Chebyshev UPL	60.476088
Upper Limit Based upon IQR	46.68325

Note: UPL (or upper percentile for gamma distributed data) represents a preferred estimate of BTV

From (censor by grps)

Computer Requirements to Operate ProUCL 4.0

Minimum Hardware Requirements

- Intel Pentium 1.0 GHz
- 50 MB of hard drive space
- 512 MB of memory (RAM)
- CD-ROM drive
- Windows 98 or newer. ProUCL was thoroughly tested on NT-4, Windows 2000, and Windows XP Operating Systems. Limited testing has been conducted on Windows ME.

Software Requirements

ProUCL 4.0 has been developed in the Microsoft .NET Framework using the C# programming language. As such, to properly run ProUCL 4.0, the computer using the program must have the .NET Framework pre-installed. The downloadable .NET files can be found at one of the following two Web sites:

- http://msdn.microsoft.com/netframework/downloads/updates/default.aspx
  Note: *Download .Net version 1.1*

- http://www.microsoft.com/downloads/details.aspx?FamilyId=262D25E3-F589-4842-8157-034D1E7CF3A3&displaylang=en

The first Web site lists all of the downloadable .NET Framework files, while the second Web site provides information about the specific file (s) needed to run ProUCL 4.0. Download times are estimated at 57 minutes for a dialup connection (56K), and 13 minutes on a DSL/Cable connection (256K).

Installation

ProUCL 4.0 can be downloaded from TSC website at http://www.epa.gov/nerlesd1/tsc/tsc.htm. The same website can be used to download ProUCL 4.0 User Guide, Technical Guide and Factsheet. The website contains download and usage instructions.

Find More Information About ProUCL

The TSC website at http://www.epa.gov/nerlesd1/tsc/tsc.htm provides additional information. EPA technical issue papers used in the development of ProUCL are also available at the TSC website. For additional information, contact:

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ATTACHMENT 2

BENZO(A)PYRENE, DIBENZ(AH)ANTHRACENE, BENZENE, AND ETHYLBENZENE DATA INPUT FOR PROUCL VERSION 4 CALCULATIONS

benz_2	d_benz_2	benz_10	d_benz_10	ebenz_10	_ebenz_10	ebenz_2	d_ebenz_2	dibenz_2	l_dibenz_2	dibenz_10	dibenz_10	BaP_10	d_BaP_10	BaP_2	d_BaP_2
0.005	0	0.005	0	0.005	0	0.005	0	0.0057	0	0.0057	0	0.0057	0	0.0057	0
0.005	0	0.005	0	0.005	0	0.005	0	0.0068	0	0.0054	0	0.0054	0	0.0068	0
0.0021	0	0.005	0	0.005	0	0.0021	0	0.0067	0	0.0066	0	0.0066	0	0.0067	0
0.002	0	0.005	0	0.005	0	0.002	0	0.012	1	0.0068	0	0.0068	0	0.035	1
0.002	0	0.0021	0	0.0021	0	0.002	0	0.0061	0	0.0071	0	0.0071	0	0.0061	0
0.002	0	0.0022	0	0.0022	0	0.002	0	0.0066	0	0.0074	0	0.0074	0	0.064	1
0.005	0	0.0021	0	0.0021	0	0.005	0	0.0065	0	0.2	0	0.2	0	0.0095	1
0.005	0	0.002	0	0.002	0	0.005	0	0.055	0	0.0067	0	0.0067	0	0.08	1
0.002	0	0.002	0	0.002	0	0.002	0	0.01	0	0.0071	0	0.0071	0	0.099	1
0.002	0	0.0019	0	0.0019	0	0.002	0	0.02	0	0.0075	0	0.0075	0	0.13	1
0.0022	0	0.005	0	0.005	0	0.0022	0	0.0056	0	0.012	1	0.035	1	0.0064	1
0.002	0	0.005	0	0.009	1	0.002	0	0.0056	0	0.0055	0	0.03	1	0.02	1
0.005	0	0.002	0	0.002	0	0.005	0	0.0049	0	0.0062	0	0.034	1	0.0049	0
0.005	0	0.002	0	0.002	0	0.005	0	0.0054	0	0.0061	0	0.0061	0	0.0054	0
0.0021	0	0.0022	0	0.0022	0	0.0021	0	0.005	0	0.0061	0	0.0061	0	0.013	1
0.002	0	0.002	0	0.002	0	0.002	0	0.016	1	0.0064	0	0.0064	0	0.1	1
0.005	0	0.002	0	0.002	0	0.005	0	0.005	0	0.0066	0	0.064	1	0.007	1
0.0019	0	0.0021	0	0.0021	0	0.0019	0	0.005	0	0.0079	0	0.0079	0	0.005	0
0.0019	0	0.005	0	0.005	0	0.0019	0	0.03	0	0.0073	0	0.0073	0	0.03	0
0.002	0	0.005	0	0.005	0	0.002	0	0.2	0	0.0065	0	0.0095	1	0.2	1
0.005	0	0.005	0	0.005	0	0.005	0	0.006	0	0.0069	0	0.0069	0	0.006	0
0.005	0	0.005	0	0.005	0	0.005	0	0.0054	0	0.0071	0	0.0071	0	0.0054	0
0.005	0	0.005	0	0.005	0	0.005	0	0.1	0	0.055	0	0.08	1	0.5	1
0.005	0	0.005	0	0.005	0	0.005	0	0.015	1	0.0053	0	0.0053	0	0.039	1
0.005	0	0.005	0	0.005	0	0.005	0	0.0064	0	0.01	0	0.099	1	0.0064	0
0.005	0	0.005	0	0.005	0	0.005	0	0.02	0	0.02	0	0.13	1	0.061	1
0.005	0	0.005	0	0.005	0	0.005	0	0.013	1	0.0056	0	0.0064	1	0.084	1
0.005	0	0.005	0	0.005	0	0.005	0	0.005	0	0.0057	0	0.0057	0	0.01	1
0.005	0	0.002	0	0.002	0	0.005	0	0.005	0	0.0056	0	0.02	1	0.005	0
0.002	0	0.002	0	0.002	0	0.002	0	0.03	1	0.0064	1	0.033	1	0.056	1
0.002	0	0.002	0	0.002	0	0.002	0	0.04	0	0.1	0	0.1	0	0.3	1
0.005	0	0.002	0	0.002	0	0.005	0	0.01	0	0.005	0	0.005	0	0.01	0
0.0019	0	0.002	0	0.002	0	0.0019	0	0.01	0	0.005	0	0.008	1	0.015	1
0.0021	0	0.0022	0	0.0022	0	0.0021	0	0.005	0	0.006	1	0.074	1	0.006	1
0.005	0	0.0022	0	0.0022	0	0.005	0	0.01	0	0.0049	0	0.0049	0	0.014	1
0.005	0	0.0022	0	0.0022	0	0.005	0	0.04	0	0.0051	0	0.0051	0	0.16	1
0.005	0	0.002	0	0.002	0	0.005	0	0.04	0	0.0054	0	0.0054	0	0.13	1
0.005	0	0.005	0	0.005	0	0.005	0	0.006	1	0.0055	0	0.0055	0	0.011	1
0.005	0	0.005	0	0.005	0	0.005	0	0.005	0	0.005	0	0.013	1	0.005	0
0.005	0	0.005	0	0.005	0	0.093	1	0.089	1	0.005	0	0.005	0	0.092	1
0.005	0	0.002	0	0.002	0	0.022	1	0.015	0	0.016	1	0.1	1	0.057	1
0.005	0	0.0021	0	0.0021	0	0.005	0	0.037	1	0.04	1	0.38	1	0.19	1
0.005	0	0.005	0	0.005	0	0.005	0	0.005	0	0.005	0	0.007	1	0.005	0
0.005	0	0.005	0	0.005	0	0.005	0	0.005	0	0.005	0	0.005	0	0.013	1
0.005	0	0.005	0	0.005	0	0.005	0	0.2	0	0.05	0	0.05	0	0.2	1
0.005	0	0.005	0	0.005	0	0.005	0	6	0	0.03	0	0.03	0	1.1	1
0.005	0	0.0021	0	0.0021	0	0.005	0	0.0056	0	0.03	0	0.03	0	0.0056	0
0.005	0	0.0019	0	0.0019	0	0.009	1	0.01	1	0.2	0	0.2	1	0.01	0
0.005	0	0.002	0	0.002	0	0.016	1	0.0053	0	0.006	0	0.006	0	0.0053	0
0.005	0	0.002	0	0.002	0	120	1	0.056	0	0.0064	0	0.0064	0	0.056	0
0.005	0	0.005	0	0.005	0	0.031	1	0.023	1	0.0054	0	0.0054	0	0.089	1
0.005	0	0.005	0	0.005	0	0.007	1	0.005	0	0.0063	0	0.0063	0	0.005	0
0.005	0	0.005	0	0.005	0	0.011	1	0.28	1	0.1	0	0.5	1	0.089	1
0.005	0	0.005	0	0.005	0	0.005	0	0.005	0	0.005	0	0.007	1	0.018	1
0.005	0	0.005	0	0.005	0	0.005	0	0.01	0	0.015	1	0.039	1	0.012	1
0.005	0	0.005	0	0.005	0	0.005	0	0.01	0	0.0066	0	0.0066	0	0.071	1
0.005	0	0.005	0	0.005	0	0.005	0	0.011	1	0.0064	0	0.0064	0	0.059	1
0.005	0	0.005	0	0.005	0	0.005	0	0.04	0	0.0064	0	0.0064	0	0.078	1
0.005	0	0.005	0	0.005	0	0.005	0	0.015	0	0.007	0	0.007	0	0.017	1
0.005	0	0.005	0	0.005	0	0.005	0	0.0057	0	0.5	0	0.5	0	0.0057	0
0.005	0	0.0019	0	0.0019	0	0.005	0	0.0067	0	0.05	0	0.05	0	0.0067	0
0.005	0	0.0021	0	0.0021	0	0.005	0	0.022	1	0.5	0	0.5	0	0.01	0
0.005	0	0.0019	0	0.0019	0	0.005	0	0.0053	0	5	0	5	0	0.0053	0
0.005	0	0.002	0	0.002	0	0.005	0	0.0057	0	0.04	0	0.07	1	0.014	1
0.005	0	0.002	0	0.002	0	0.005	0	0.0061	0	0.02	0	0.061	1	0.0061	0
0.005	0	0.0019	0	0.0019	0	0.005	0	0.005	0	0.015	0	0.032	1	0.005	0
0.002	0	0.005	0	0.005	0	0.002	0	0.0055	0	0.013	1	0.084	1	0.0055	0
0.005	0	0.005	0	0.005	0	0.005	0	0.0061	0	0.005	0	0.015	1	0.03	1
0.002	0	0.005	0	0.005	0	0.002	0	0.0059	0	0.005	0	0.01	1	0.0059	0
0.002	0	0.005	0	0.005	0	0.002	0	0.0054	0	0.005	0	0.005	0	0.0054	0
0.002	0	0.005	0	0.005	0	0.002	0	0.0058	0	0.2	0	0.2	0	0.0058	0
0.005	0	0.005	0	0.005	0	0.005	0	0.019	1	20	0	20	0	0.087	1
0.005	0	0.064	1	0.12	1	0.005	0	0.02	0	0.2	0	0.2	0	0.17	1
0.0019	0	0.1	0	0.3	1	0.0019	0	0.005	0	0.005	0	0.005	0	0.026	1
0.005	0	0.005	0	0.005	0	0.005	0	0.01	1	0.05	0	0.05	0	0.043	1

benz_2	d_benz_2	benz_10	d_benz_10	ebenz_10	_ebenz_10	ebenz_2	d_ebenz_2	dibenz_2	l_dibenz_2	dibenz_10	dibenz_10	BaP_10	d_BaP_10	BaP_2	d_BaP_2
0.005	0	0.005	0	0.005	0	0.005	0	0.0057	0	0.03	1	0.056	1	0.0057	0
0.005	0	0.005	0	0.005	0	0.005	0	0.0055	0	0.04	0	0.3	1	0.0055	0
0.005	0	0.005	0	0.005	0	0.005	0	0.054	0	0.005	0	0.005	0	0.11	1
0.005	0	0.005	0	0.005	0	0.005	0	0.049	1	0.01	0	0.01	0	0.085	1
0.005	0	0.005	0	0.005	0	0.005	0	20	0	2	0	2	0	20	0
0.002	0	0.005	0	0.005	0	0.002	0	0.01	0	0.01	0	0.015	1	0.032	1
0.002	0	0.005	0	0.005	0	0.002	0	0.03	0	0.005	0	0.006	1	0.084	1
0.005	0	0.005	0	0.005	0	0.005	0	0.0067	0	0.01	0	0.014	1	0.0067	0
0.002	0	0.005	0	0.005	0	0.002	0			10	0	10	0		
0.002	0	0.005	0	0.005	0	0.002	0			0.005	0	0.011	1		
0.0042	0	0.005	0	0.005	0	0.0042	0			0.05	0	0.05	0		
0.005	0	0.005	0	0.005	0	0.005	0			0.05	0	0.05	0		
0.005	0	0.005	0	0.005	0	0.005	0			0.05	0	0.05	0		
0.002	0	0.005	0	0.005	0	0.002	0			0.5	0	0.5	0		
0.002	0	0.005	0	0.005	0	0.002	0			0.05	0	0.05	0		
0.002	0	0.005	0	0.005	0	0.002	0			0.04	0	0.16	1		
0.002	0	0.005	0	0.005	0	0.002	0			0.04	0	0.13	1		
0.002	0	0.005	0	0.005	0	0.002	0			0.04	0	0.13	1		
0.002	0	0.002	0	0.002	0	0.002	0			0.006	1	0.011	1		
0.005	0	0.0019	0	0.0019	0	0.005	0			0.005	0	0.012	1		
0.005	0	0.002	0	0.002	0	0.005	0			0.005	0	0.005	0		
0.005	0	0.0021	0	0.0021	0	0.005	0			0.089	1	0.092	1		
0.0021	0	0.005	0	0.005	0	0.0021	0			0.02	0	0.077	1		
0.002	0	0.005	0	0.005	0	0.002	0			0.05	0	0.05	0		
0.0021	0	0.0019	0	0.0019	0	0.0021	0			0.02	0	0.02	0		
0.018	1	0.0021	0	0.0021	0	0.042	1			0.015	0	0.057	1		
0.005	0	0.0021	0	0.0021	0	0.005	0			0.037	1	0.19	1		
0.005	0	0.002	0	0.002	0	0.005	0			0.01	0	0.041	1		
0.005	0	0.0021	0	0.0021	0	0.005	0			0.005	0	0.005	0		
0.002	0	0.005	0	0.005	0	0.002	0			0.005	0	0.013	1		
		0.005	0	0.005	0					0.2	0	0.2	1		
		0.005	0	0.005	0					6	0	1.1	1		
		0.005	0	0.005	0					0.0056	0	0.0056	0		
		0.28	1	0.078	1					0.0065	0	0.0065	0		
		0.005	0	0.005	0					0.0057	0	0.0057	0		
		0.005	0	0.005	0					0.005	0	0.005	0		
		0.005	0	0.005	0					1	0	1	0		
		0.007	1	0.011	1					2	0	2	0		
		0.1	0	0.1	0					0.1	0	0.1	0		
		0.025	1	0.21	1					0.01	1	0.01	0		
		0.1	0	0.5	1					0.012	1	0.065	1		
		0.7	1	2	1					0.0053	0	0.0053	0		
		0.1	0	4.7	1					0.0059	0	0.0059	0		
		0.005	0	0.005	0					0.056	0	0.056	0		
		0.005	0	0.005	0					0.0056	0	0.0056	0		
		0.005	0	0.005	0					0.05	0	0.07	1		
		0.005	0	0.005	0					0.023	1	0.089	1		
		0.005	0	0.005	0					0.0058	0	0.0058	0		
		0.005	0	0.033	1					0.1	0	0.1	0		
		0.1	1	3.7	1					0.05	0	0.05	0		
		0.005	0	0.005	0					0.005	0	0.005	0		
		0.005	0	0.005	0					0.01	0	0.019	1		
		0.005	0	0.005	0					0.28	1	0.089	1		
		0.005	0	0.005	0					0.0056	0	0.0094	1		
		0.005	0	0.005	0					0.005	0	0.018	1		
		0.005	0	0.005	0					0.01	0	0.012	1		
		0.005	0	0.005	0					0.01	0	0.071	1		
		0.005	0	0.005	0					0.011	1	0.059	1		
		0.005	0	0.005	0					0.04	0	0.078	1		
		0.005	0	0.005	0					0.015	0	0.017	1		
		0.005	0	0.005	0					0.03	0	0.15	1		
		0.005	0	0.005	0					0.0057	0	0.0057	0		
		0.005	0	0.093	1					0.0061	0	0.0061	0		
		0.005	0	0.022	1					0.0067	0	0.0067	0		
		0.007	1	0.042	1					0.0067	0	0.0067	0		
		0.005	0	0.005	0					0.022	1	0.01	0		
		0.1	0	0.1	0					0.0053	0	0.0053	0		
		0.1	0	0.2	1					0.0056	0	0.0056	0		
		0.005	0	0.005	0					0.0057	0	0.014	1		
		0.005	0	0.005	0					0.0065	0	0.0065	0		
		0.005	0	0.005	0					0.0061	0	0.0061	0		
		0.005	0	0.005	0					0.006	0	0.006	0		
		0.005	0	0.005	0					0.005	0	0.005	0		
		0.1	0	0.1	0					0.005	0	0.005	0		
		0.005	0	0.005	0					0.0055	0	0.0055	0		

benz_2	d_benz_2	benz_10	d_benz_10	ebenz_10	_ebenz_10	ebenz_2	d_ebenz_2	dibenz_2	l_dibenz_2	dibenz_10	dibenz_10	BaP_10	d_BaP_10	BaP_2	d_BaP_2
		0.005	0	0.005	0					0.0062	1	0.014	1		
		0.005	0	0.005	0					0.0061	0	0.03	1		
		0.005	0	0.005	0					0.0068	0	0.0068	0		
		0.005	0	0.005	0					0.0059	0	0.0059	0		
		0.005	0	0.005	0					0.0054	0	0.0054	0		
		0.005	0	0.005	0					0.0057	0	0.0057	0		
		0.006	1	0.11	1					0.0054	0	0.0054	0		
		0.005	0	0.005	0					0.0058	0	0.0058	0		
		0.005	0	0.005	0					0.006	0	0.006	0		
		0.2	1	0.5	1					0.0058	0	0.0058	0		
		0.005	0	0.005	0					0.0054	0	0.0054	0		
		0.8	1	2.3	1					0.0061	0	0.0061	0		
		0.005	0	0.005	0					0.019	1	0.087	1		
		0.005	0	0.005	0					0.0063	0	0.0063	0		
		0.005	0	0.005	0					0.006	0	0.006	0		
		0.005	0	0.005	0					1	0	1	0		
		0.005	0	0.005	0					4	0	4	0		
		0.005	0	0.005	0					0.1	0	0.1	0		
		0.005	0	0.005	0					0.05	0	0.05	0		
		0.073	1	0.088	1					0.1	0	0.1	0		
		0.05	1	0.034	1					0.02	0	0.17	1		
		0.005	0	0.005	0					0.015	0	0.067	1		
		0.005	0	0.005	0					0.005	0	0.026	1		
		0.005	0	0.005	0					0.05	0	0.05	0		
		0.005	0	0.009	1					0.05	0	0.05	0		
		0.005	0	0.016	1					0.1	0	0.1	0		
		0.005	0	120	1					0.1	0	0.1	0		
		0.005	0	0.031	1					1	0	1	0		
		0.005	0	0.007	1					0.005	0	0.005	0		
		0.005	0	0.011	1					0.05	0	0.05	0		
		0.1	0	0.1	0					0.05	0	0.05	0		
		0.005	0	0.005	0					0.2	0	0.2	0		
		0.005	0	0.005	0					0.2	0	0.2	0		
		0.005	0	0.005	0					0.02	0	0.02	0		
		0.01	1	0.007	1					0.2	0	0.2	0		
		0.1	0	0.3	1					0.05	0	0.05	0		
		0.007	1	0.044	1					0.2	0	0.2	0		
		0.005	0	0.005	0					0.1	0	0.1	0		
		0.005	0	0.005	0					0.05	0	0.05	0		
		0.005	0	0.005	0					0.1	0	0.4	1		
		0.005	0	0.005	0					0.05	0	0.05	0		
		0.005	0	0.005	0					0.1	0	0.1	0		
		0.1	0	0.9	1					0.01	1	0.043	1		
		0.005	0	0.005	0					0.02	0	0.02	0		
		0.8	1	5.1	1					0.0057	0	0.0057	0		
		0.005	0	0.005	0					0.0058	0	0.019	1		
		0.005	0	0.005	0					0.0055	0	0.0055	0		
		0.005	0	0.005	0					0.0096	1	0.14	1		
		0.005	0	0.005	0					0.054	0	0.11	1		
		0.005	0	0.005	0					0.062	0	0.26	1		
		0.005	0	0.005	0					0.049	1	0.085	1		
		0.005	0	0.005	0					0.0058	0	0.0058	0		
		0.005	0	0.005	0					0.05	0	0.05	0		
		0.005	0	0.005	0					20	0	20	0		
		0.005	0	0.005	0					4	0	4	0		
		0.005	0	0.005	0					0.005	0	0.005	0		
		0.005	0	0.005	0					0.01	0	0.032	1		
		0.005	0	0.005	0					0.03	0	0.084	1		
		0.005	0	0.005	0					0.0067	0	0.0067	0		
		0.005	0	0.005	0					0.0058	0	0.0058	0		
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.015	1	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.011	1	0.042	1										
		0.1	0	0.3	1										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										

benz_2	d_benz_2	benz_10	d_benz_10	ebenz_10	_ebenz_10	ebenz_2	d_ebenz_2	dibenz_2	l_dibenz_2	dibenz_10	dibenz_10	BaP_10	d_BaP_10	BaP_2	d_BaP_2
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.1	0	0.1	1										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.008	1	0.005	0										
		0.005	0

benz_2	d_benz_2	benz_10	d_benz_10	ebenz_10	_ebenz_10	ebenz_2	d_ebenz_2	dibenz_2	l_dibenz_2	dibenz_10	dibenz_10	BaP_10	d_BaP_10	BaP_2	d_BaP_2
		0.005	0	0.005	0										

benz_2	d_benz_2	benz_10	d_benz_10	ebenz_10	_ebenz_10	ebenz_2	d_ebenz_2	dibenz_2	l_dibenz_2	dibenz_10	dibenz_10	BaP_10	d_BaP_10	BaP_2	d_BaP_2
		0.005	0	0.005	0										
		0.1	0	0.1	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.1	0	0.1	0										
		0.005	0	0.005	0										
		0.1	0	0.1	0										
		0.1	0	0.1	0										
		0.1	0	0.1	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		2.2	1	3.9	1										
		0.011	1	0.005	0										
		0.2	1	0.7	1										
		3.5	1	1.4	1										
		0.018	1	0.006	1										
		19	1	11	1										
		0.9	1	2.2	1										
		0.005	0	0.005	0										
		0.1	0	0.1	0										
		0.005	0	0.005	0										
		0.1	0	0.3	1										
		0.1	0	0.1	0										
		0.1	0	0.1	0										
		0.1	0	0.1	0										
		0.1	0	0.1	0										
		0.1	0	0.1	0										
		0.1	0	0.1	0										
		0.2	1	0.5	1										
		12	1	32	1										
		0.061	1	0.021	1										
		0.1	0	0.1	0										
		0.1	0	0.1	0										
		0.005	0	0.005	0										
		0.1	0	0.1	0										
		0.3	1	1.1	1										
		0.1	0	0.2	1										
		0.1	0	0.1	0										
		0.02	1	0.022	1										
		0.1	0	0.2	1										
		0.1	0	0.1	0										
		0.005	0	0.005	0										
		0.1	0	0.1	0										
		0.1	0	0.1	0										
		0.005	0	0.005	0										
		0.1	0	0.3	1										
		0.4	1	0.3	1										
		0.0021	0	0.0021	0										
		0.2	0	0.2	0										
		0.002	0	0.002	0										
		1.8	1	9.8	1										
		0.0021	0	0.0021	0										
		0.0097	0	0.0097	0										
		0.018	1	0.042	1										
		0.007	1	0.047	1										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.1	0	0.1	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										

benz_2	d_benz_2	benz_10	d_benz_10	ebenz_10	_ebenz_10	ebenz_2	d_ebenz_2	dibenz_2	_dibenz_2	dibenz_10	dibenz_10	BaP_10	d_BaP_10	BaP_2	d_BaP_2
		0.023	1	0.059	1										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.005	0	0.005	0										
		0.002	0	0.002	0										
		0.0021	0	0.0021	0										

ATTACHMENT 3

PROUCL VERSION 4.00.05 OUTPUT

1				General UCL Statistics for Data Sets with Non-Detects								
2		User Selected Options										
3			From File	Sheet1.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Number of Bootstrap Operations	2000								
7												
8												
9	BaP10ft											
10												
11					General Statistics							
12						Number of Valid Data	210			Number of Detected Data	75	
13						Number of Distinct Detected Data	59			Number of Non-Detect Data	135	
14										Percent Non-Detects	64.29%	
15												
16					Raw Statistics					Log-transformed Statistics		
17						Minimum Detected	0.006			Minimum Detected	-5.116	
18						Maximum Detected	1.1			Maximum Detected	0.0953	
19						Mean of Detected	0.0944			Mean of Detected	-3.053	
20						SD of Detected	0.151			SD of Detected	1.177	
21						Minimum Non-Detect	0.0049			Minimum Non-Detect	-5.319	
22						Maximum Non-Detect	20			Maximum Non-Detect	2.996	
23												
24					Note: Data have multiple DLs - Use of KM Method is recommended					Number treated as Non-Detect	210	
25					For all methods (except KM, DL/2, and ROS Methods),					Number treated as Detected	0	
26					Observations < Largest ND are treated as NDs					Single DL Non-Detect Percentage	100.00%	
27												
28					UCL Statistics							
29					Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only		
30						Lilliefors Test Statistic	0.279			Lilliefors Test Statistic	0.091	
31						5% Lilliefors Critical Value	0.102			5% Lilliefors Critical Value	0.102	
32					Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level		
33												
34					Assuming Normal Distribution					Assuming Lognormal Distribution		
35						DL/2 Substitution Method				DL/2 Substitution Method		
36						Mean	0.213			Mean	-3.965	
37						SD	1.061			SD	1.874	
38						95% DL/2 (t) UCL	0.334			95% H-Stat (DL/2) UCL	0.162	
39												
40						Maximum Likelihood Estimate(MLE) Method	N/A			Log ROS Method		
41					MLE method failed to converge properly					Mean in Log Scale	-4.791	
42										SD in Log Scale	1.699	
43										Mean in Original Scale	0.0374	
44										SD in Original Scale	0.0996	
45										95% t UCL	0.0487	
46										95% Percentile Bootstrap UCL	0.0492	
47										95% BCA Bootstrap UCL	0.0538	
48												
49					Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only		
50						k star (bias corrected)	0.824			Data appear Lognormal at 5% Significance Level		
51						Theta Star	0.115					
52						nu star	123.6					
53												

54				A-D Test Statistic	1.49	**Nonparametric Statistics**						
55				5% A-D Critical Value	0.788					Kaplan-Meier (KM) Method		
56				K-S Test Statistic	0.788					Mean		0.0414
57				5% K-S Critical Value	0.107					SD		0.101
58				**Data not Gamma Distributed at 5% Significance Level**						SE of Mean		0.00725
59										95% KM (t) UCL		0.0533
60				**Assuming Gamma Distribution**						95% KM (z) UCL		0.0533
61				Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL		0.0531
62				Minimum	0.006					95% KM (bootstrap t) UCL		0.06
63				Maximum	1.1					95% KM (BCA) UCL		0.0545
64				Mean	0.108					95% KM (Percentile Bootstrap) UCL		0.0544
65				Median	0.0857					95% KM (Chebyshev) UCL		0.0729
66				SD	0.106					97.5% KM (Chebyshev) UCL		0.0866
67				k star	1.424					99% KM (Chebyshev) UCL		0.113
68				Theta star	0.0757							
69				Nu star	597.9	**Potential UCLs to Use**						
70				AppChi2	542.2					95% KM (BCA) UCL		0.0545
71				95% Gamma Approximate UCL	0.119							
72				95% Adjusted Gamma UCL	0.119							
73	**Note: DL/2 is not a recommended method.**											
74												
75	**Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.**											
76	**These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).**											
77	**For additional insight, the user may want to consult a statistician.**											
78												
79												
80	**BaP2ft**											
81												
82						**General Statistics**							
83				Number of Valid Data	83					Number of Detected Data		49
84				Number of Distinct Detected Data	43					Number of Non-Detect Data		34
85										Percent Non-Detects		40.96%
86												
87				**Raw Statistics**		**Log-transformed Statistics**						
88				Minimum Detected	0.006					Minimum Detected		-5.116
89				Maximum Detected	1.1					Maximum Detected		0.0953
90				Mean of Detected	0.1					Mean of Detected		-3.004
91				SD of Detected	0.17					SD of Detected		1.186
92				Minimum Non-Detect	0.0049					Minimum Non-Detect		-5.319
93				Maximum Non-Detect	20					Maximum Non-Detect		2.996
94												
95	Note: Data have multiple DLs - Use of KM Method is recommended									Number treated as Non-Detect		83
96	For all methods (except KM, DL/2, and ROS Methods),									Number treated as Detected		0
97	Observations < Largest ND are treated as NDs									Single DL Non-Detect Percentage		100.00%
98												
99						**UCL Statistics**							
100				**Normal Distribution Test with Detected Values Only**		**Lognormal Distribution Test with Detected Values Only**						
101				Shapiro Wilk Test Statistic	0.507					Shapiro Wilk Test Statistic		0.963
102				5% Shapiro Wilk Critical Value	0.947					5% Shapiro Wilk Critical Value		0.947
103				**Data not Normal at 5% Significance Level**		**Data appear Lognormal at 5% Significance Level**						
104												
105				**Assuming Normal Distribution**		**Assuming Lognormal Distribution**						
106				DL/2 Substitution Method						DL/2 Substitution Method		

107					Mean	0.181					Mean	-4.012
108					SD	1.1					SD	1.779
109					95% DL/2 (t) UCL	0.382					95% H-Stat (DL/2) UCL	0.162
110												
111					Maximum Likelihood Estimate(MLE) Method	N/A					Log ROS Method	
112					**MLE method failed to converge properly**						Mean in Log Scale	-4.111
113											SD in Log Scale	1.66
114											Mean in Original Scale	0.0609
115											SD in Original Scale	0.139
116											95% t UCL	0.0862
117											95% Percentile Bootstrap UCL	0.0883
118											95% BCA Bootstrap UCL	0.101
119												
120					**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**	
121					k star (bias corrected)	0.799					**Data appear Lognormal at 5% Significance Level**	
122					Theta Star	0.126						
123					nu star	78.33						
124												
125					A-D Test Statistic	1.117					**Nonparametric Statistics**	
126					5% A-D Critical Value	0.788					Kaplan-Meier (KM) Method	
127					K-S Test Statistic	0.788					Mean	0.0625
128					5% K-S Critical Value	0.131					SD	0.138
129					**Data not Gamma Distributed at 5% Significance Level**						SE of Mean	0.0154
130											95% KM (t) UCL	0.0881
131					**Assuming Gamma Distribution**						95% KM (z) UCL	0.0878
132					Gamma ROS Statistics using Extrapolated Data						95% KM (jackknife) UCL	0.0879
133					Minimum	1E-12					95% KM (bootstrap t) UCL	0.117
134					Maximum	1.1					95% KM (BCA) UCL	0.0909
135					Mean	0.0795					95% KM (Percentile Bootstrap) UCL	0.0901
136					Median	0.0481					95% KM (Chebyshev) UCL	0.13
137					SD	0.136					97.5% KM (Chebyshev) UCL	0.159
138					k star	0.298					99% KM (Chebyshev) UCL	0.216
139					Theta star	0.267						
140					Nu star	49.43					**Potential UCLs to Use**	
141					AppChi2	34.29					95% KM (Chebyshev) UCL	0.13
142					95% Gamma Approximate UCL	0.115						
143					95% Adjusted Gamma UCL	0.115						
144	**Note: DL/2 is not a recommended method.**											
145												
146	**Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.**											
147	**These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).**											
148	**For additional insight, the user may want to consult a statistician.**											
149												

	Nonparametric UCL Statistics for Data Sets with Non-Detects	
User Selected Options		
From File	Sheet1.wst	
Full Precision	OFF	
Confidence Coefficient	95%	
Number of Bootstrap Operations	2000	

dibenz_10

Total Number of Data	210
Number of Non-Detect Data	188
Number of Detected Data	22
Minimum Detected	0.006
Maximum Detected	0.28
Percent Non-Detects	89.52%
Minimum Non-detect	0.0049
Maximum Non-detect	20
Mean of Detected Data	0.0328
Median of Detected Data	0.014
Variance of Detected Data	0.00342
SD of Detected Data	0.0585
CV of Detected Data	1.781
Skewness of Detected Data	3.965
Mean of Detected log data	-4.024
SD of Detected Log data	0.952

Note: Data have multiple DLs - Use of KM Method is recommended

For all methods (except KM, DL/2, and ROS Methods),

Observations < Largest DL are treated as NDs

Number treated as Non-Detect	210
Number treated as Detected	0
Single DL Percent Detection	100.00%

Data Dsitribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Winsorization Method	N/A
Kaplan Meier (KM) Method	
Mean	0.00952
SD	0.0212
Standard Error of Mean	0.00158
95% KM (t) UCL	0.0121
95% KM (z) UCL	0.0121
95% KM (BCA) UCL	0.0129
95% KM (Percentile Bootstrap) UCL	0.0126
95% KM (Chebyshev) UCL	0.0164
97.5% KM (Chebyshev) UCL	0.0194
99% KM (Chebyshev) UCL	0.0253

Potential UCL to Use

	A	B	C	D	E	F	G	H	I	J	K	L
54					95% KM (t) UCL	0.0121						
55					95% KM (% Bootstrap) UCL	0.0126						
56												
57	**Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.**											
58	**These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).**											
59	**For additional insight, the user may want to consult a statistician.**											
60												
61												
62	**dibenz_2**											
63												
64					Total Number of Data	83						
65					Number of Non-Detect Data	67						
66					Number of Detected Data	16						
67					Minimum Detected	0.006						
68					Maximum Detected	0.28						
69					Percent Non-Detects	80.72%						
70					Minimum Non-detect	0.0049						
71					Maximum Non-detect	20						
72												
73					Mean of Detected Data	0.0401						
74					Median of Detected Data	0.0175						
75					Variance of Detected Data	0.00452						
76					SD of Detected Data	0.0672						
77					CV of Detected Data	1.675						
78					Skewness of Detected Data	3.44						
79					Mean of Detected log data	-3.813						
80					SD of Detected Log data	0.958						
81												
82	**Note: Data have multiple DLs - Use of KM Method is recommended**											
83	**For all methods (except KM, DL/2, and ROS Methods),**											
84	**Observations < Largest DL are treated as NDs**											
85					Number treated as Non-Detect	83						
86					Number treated as Detected	0						
87					Single DL Percent Detection	100.00%						
88												
89	**Data Dsitribution Test with Detected Values Only**											
90	**Data appear Lognormal at 5% Significance Level**											
91												
92					Winsorization Method	N/A						
93												
94					Kaplan Meier (KM) Method							
95					Mean	0.0132						
96					SD	0.032						
97					Standard Error of Mean	0.00369						
98					95% KM (t) UCL	0.0193						
99					95% KM (z) UCL	0.0193						
100					95% KM (BCA) UCL	0.0236						
101					95% KM (Percentile Bootstrap) UCL	0.0212						
102					95% KM (Chebyshev) UCL	0.0293						
103					97.5% KM (Chebyshev) UCL	0.0363						
104					99% KM (Chebyshev) UCL	0.0499						
105												
106	**Data appear Lognormal (0.05)**											

	A	B	C	D	E	F	G	H	I	J	K	L
107												
108				**May want to try Lognormal UCLs**								
109												
110												
111	**benz_10**											
112												
113					Total Number of Data	462						
114					Number of Non-Detect Data	422						
115					Number of Detected Data	40						
116					Minimum Detected	0.006						
117					Maximum Detected	19						
118					Percent Non-Detects	91.34%						
119					Minimum Non-detect	0.0019						
120					Maximum Non-detect	0.2						
121												
122					Mean of Detected Data	1.231						
123					Median of Detected Data	0.0625						
124					Variance of Detected Data	12.44						
125					SD of Detected Data	3.526						
126					CV of Detected Data	2.865						
127					Skewness of Detected Data	4.213						
128					Mean of Detected log data	-2.244						
129					SD of Detected Log data	2.276						
130												
131	**Note: Data have multiple DLs - Use of KM Method is recommended**											
132	**For all methods (except KM, DL/2, and ROS Methods),**											
133	**Observations < Largest DL are treated as NDs**											
134					Number treated as Non-Detect	445						
135					Number treated as Detected	17						
136					Single DL Percent Detection	96.32%						
137												
138	**Data Dsitribution Test with Detected Values Only**											
139	**Data do not follow a Discernable Distribution (0.05)**											
140												
141					Winsorization Method	N/A						
142												
143					Kaplan Meier (KM) Method							
144					Mean	0.112						
145					SD	1.081						
146					Standard Error of Mean	0.0509						
147					95% KM (t) UCL	0.196						
148					95% KM (z) UCL	0.196						
149					95% KM (BCA) UCL	0.219						
150					95% KM (Percentile Bootstrap) UCL	0.205						
151					95% KM (Chebyshev) UCL	0.334						
152					97.5% KM (Chebyshev) UCL	0.43						
153					99% KM (Chebyshev) UCL	0.619						
154												
155				**Potential UCL to Use**								
156					97.5% KM (Chebyshev) UCL	0.43						
157												
158	**Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.**											
159	**These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).**											

160	For additional insight, the user may want to consult a statistician.	
161		
162		
163	benz_2	
164		
165	Total Number of Data	105
166		
167	Data set has all detected values equal to = 0.018, having '0' variation.	
168	e or meaningful statistics and estimates can be computed using such a data	
169	tics such as background statistics (UPLs, UTLs) and UCLs should also be n	
170	cally, UPLs, UCLs, UTLs are all less than the maximum detection limit = 0.01	
171		
172		
173	ebenz_10	
174		
175	Total Number of Data	462
176	Number of Non-Detect Data	403
177	Number of Detected Data	59
178	Minimum Detected	0.006
179	Maximum Detected	120
180	Percent Non-Detects	87.23%
181	Minimum Non-detect	0.0019
182	Maximum Non-detect	0.2
183		
184	Mean of Detected Data	3.586
185	Median of Detected Data	0.2
186	Variance of Detected Data	258.5
187	SD of Detected Data	16.08
188	CV of Detected Data	4.484
189	Skewness of Detected Data	6.867
190	Mean of Detected log data	-1.547
191	SD of Detected Log data	2.271
192		
193	Note: Data have multiple DLs - Use of KM Method is recommended	
194	For all methods (except KM, DL/2, and ROS Methods),	
195	Observations < Largest DL are treated as NDs	
196	Number treated as Non-Detect	431
197	Number treated as Detected	31
198	Single DL Percent Detection	93.29%
199		
200	Data Dsitribution Test with Detected Values Only	
201	Data appear Lognormal at 5% Significance Level	
202		
203	Winsorization Method	N/A
204		
205	Kaplan Meier (KM) Method	
206	Mean	0.463
207	SD	5.821
208	Standard Error of Mean	0.273
209	95% KM (t) UCL	0.914
210	95% KM (z) UCL	0.913
211	95% KM (BCA) UCL	0.958
212	95% KM (Percentile Bootstrap) UCL	0.927

	A	B	C	D	E	F	G	H	I	J	K	L
213					95% KM (Chebyshev) UCL	1.654						
214					97.5% KM (Chebyshev) UCL	2.169						
215					99% KM (Chebyshev) UCL	3.181						
216												
217				**Data appear Lognormal (0.05)**								
218												
219				**May want to try Lognormal UCLs**								
220												
221												
222	**ebenz_2**											
223												
224					Total Number of Data	105						
225					Number of Non-Detect Data	96						
226					Number of Detected Data	9						
227					Minimum Detected	0.007						
228					Maximum Detected	120						
229					Percent Non-Detects	91.43%						
230					Minimum Non-detect	0.0019						
231					Maximum Non-detect	0.005						
232												
233					Mean of Detected Data	13.36						
234					Median of Detected Data	0.022						
235					Variance of Detected Data	1599						
236					SD of Detected Data	39.99						
237					CV of Detected Data	2.994						
238					Skewness of Detected Data	3						
239					Mean of Detected log data	-2.93						
240					SD of Detected Log data	3.005						
241												
242	**Note: Data have multiple DLs - Use of KM Method is recommended**											
243	**For all methods (except KM, DL/2, and ROS Methods),**											
244	**the Largest DL value is used for all NDs**											
245												
246	**Warning: There are only 9 Detected Values in this data**											
247	**Note: It should be noted that even though bootstrap may be performed on this data set**											
248	**the resulting calculations may not be reliable enough to draw conclusions**											
249												
250	**It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.**											
251												
252												
253	**Data Dsitribution Test with Detected Values Only**											
254	**Data do not follow a Discernable Distribution (0.05)**											
255												
256					Winsorization Method	N/A						
257												
258					Kaplan Meier (KM) Method							
259					Mean	1.151						
260					SD	11.65						
261					Standard Error of Mean	1.206						
262					95% KM (t) UCL	3.153						
263					95% KM (z) UCL	3.136						
264					95% KM (BCA) UCL	4.581						
265					95% KM (Percentile Bootstrap) UCL	3.438						

	A	B	C	D	E	F	G	H	I	J	K	L
266					95% KM (Chebyshev) UCL	6.41						
267					97.5% KM (Chebyshev) UCL	8.685						
268					99% KM (Chebyshev) UCL	13.15						
269												
270				**Potential UCL to Use**								
271					97.5% KM (Chebyshev) UCL	8.685						
272												
273	**Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.**											
274	**These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).**											
275	**For additional insight, the user may want to consult a statistician.**											
276												

ATTACHMENT 4

REVISED SHHRA TABLES 5-36, 6-88, AND 6-89

Table 5-36
Exposure Point Concentrations
Site-Wide No Development Scenario

CHEMICAL	Offsite Resident Soil (0-2 feet) mg/kg	Other Receptor Soil mg/kg	Offsite Resident Outdoor Air (dust & volatiles) mg/m^3	Other Receptor Outdoor Air (dust & volatiles) mg/m^3
Inorganics				
Antimony	4.86E+00	4.86E+00	3.69E-09	3.69E-09
Cadmium	6.90E-01	6.90E-01	5.24E-10	5.24E-10
Chromium (total)	2.20E+01	2.20E+01	1.67E-08	1.67E-08
Lead	6.92E+01	6.92E+01	5.25E-08	5.25E-08
Mercury	2.88E-01	2.88E-01	2.19E-10	2.19E-10
Thallium	**7.50E-01**	**7.50E-01**	5.70E-10	5.70E-10
Vanadium	2.87E+01	2.87E+01	2.18E-08	2.18E-08
BTEX				
Benzene	2.61E-03	2.10E-01	9.55E-07	7.68E-05
Ethylbenzene	4.58E+00	4.58E+00	8.48E-04	8.48E-04
Toluene	1.45E+00	1.45E+00	3.65E-04	3.65E-04
Xylenes (total)	3.58E+01	3.58E+01	5.87E-03	5.87E-03
VOCs				
n-Butylbenzene	ND	1.15E-01	NA	1.01E-05
sec-Butylbenzene	3.76E-03	9.35E-02	4.53E-07	1.13E-05
tert-Butylbenzene	ND	3.59E-02	NA	3.56E-06
Chlorobenzene	2.10E-03	5.90E-03	3.35E-07	9.41E-07
Chloroform	2.06E-03	**4.40E-03**	7.73E-07	1.65E-06
1,2-Dichlorobenzene	2.54E-03	**2.70E-01**	1.74E-07	1.84E-05
1,3-Dichlorobenzene	ND	**1.70E-02**	NA	1.16E-06
1,4-Dichlorobenzene	2.13E-03	**9.60E-02**	1.64E-07	7.41E-06
1,1-Dichloroethane	ND	1.62E-02	NA	6.70E-06
Isopropylbenzene	1.14E-02	1.57E-01	3.18E-06	4.39E-05
p-Isopropyltoluene	2.79E-03	8.47E-02	7.77E-07	2.36E-05
n-Propylbenzene	1.44E-02	1.90E-01	1.27E-06	1.68E-05
1,1,1-Trichloroethane	ND	**7.00E-03**	NA	2.93E-06
Trichloroethene	ND	1.52E-02	NA	4.65E-06
1,2,4-Trimethylbenzene	8.07E-03	7.01E-01	4.10E-07	3.56E-05
1,3,5-Trimethylbenzene	4.24E-03	2.33E-01	5.28E-07	2.90E-05
PAHs				
Acenaphthene	**2.60E-01**	4.26E-01	1.43E-06	2.34E-06
Acenaphthylene	**5.20E-02**	3.86E-01	2.86E-07	2.12E-06
Anthracene	6.46E-01	6.46E-01	9.25E-07	9.25E-07
Benz(a)anthracene	5.95E-01	5.95E-01	4.52E-10	4.52E-10
Benzo(b)fluoranthene	6.58E-01	6.58E-01	5.00E-10	5.00E-10
Benzo(k)fluoranthene	**4.00E-01**	**4.00E-01**	3.04E-10	3.04E-10
Benzo(g,h,i)perylene	6.06E-01	6.06E-01	4.61E-10	4.61E-10
Benzo(a)pyrene	5.56E-01	9.10E-02	4.23E-10	6.91E-11
Chrysene	6.87E-01	6.87E-01	5.22E-10	5.22E-10
Dibenz(a,h)anthracene	**2.80E-01**	2.37E-02	2.13E-10	1.80E-11
Fluoranthene	**5.80E-01**	**5.80E-01**	4.41E-10	4.41E-10
Fluorene	6.67E-01	6.67E-01	1.85E-06	1.85E-06
Indeno(1,2,3-cd)pyrene	**3.00E-01**	**3.00E-01**	2.28E-10	2.28E-10
1-Methylnaphthalene	2.01E-01	3.61E-01	4.65E-06	8.34E-06
2-Methylnaphthalene	3.88E-01	3.88E-01	8.98E-06	8.98E-06
Naphthalene	5.18E-01	5.26E-01	1.20E-05	1.22E-05
Phenanthrene	6.85E-01	7.08E-01	9.81E-07	1.01E-06
Pyrene	6.16E-01	6.16E-01	1.62E-07	1.62E-07
Total Petroleum Hydrocarbons				
Aliphatic TPH	**4.55E+02**	**4.55E+02**	3.46E-07	3.46E-07
Aromatic TPH	**2.63E+02**	**2.63E+02**	2.00E-07	2.00E-07
Pesticides				
gamma-BHC	ND	5.80E-02	NA	4.41E-11

ND = Not detected
NA = Not applicable
NV = No Value
Bold text indicates a maximum value (from 0-10 and 0-2 depth horizon) used as soil EPC.
Shaded EPCs have been recalculated using ProUCL Version 4.00.05 (January 2012)

Table 6-88
Cancer Risk - Soil
Site-wide No Development Scenario

CHEMICAL	Recreational User				
	Adult				Child
	Ing	InhP	Dermal	Direct Total	(0-6 years)
Inorganics					
Antimony	NC	NC	NC	NC	NA
Cadmium	NC	1.642E-10	NC	1.64E-10	NA
Chromium (total)	NC	2.599E-08	NC	2.60E-08	NA
Mercury	NC	NC	NC	NC	NA
Thallium	NC	NC	NC	NC	NA
Vanadium	NC	NC	NC	NC	NA
BTEX					
Benzene	1.465E-08	1.662E-07	3.378E-09	1.84E-07	NA
Ethylbenzene	3.512E-08	1.572E-07	8.097E-09	2.00E-07	NA
Toluene	NC	NC	NC	NC	NA
Xylenes (total)	NC	NC	NC	NC	NA
VOCs					
sec-Butylbenzene	NC	NC	NC	NC	NA
Chlorobenzene	NC	NC	NC	NC	NA
Chloroform	9.518E-11	6.698E-10	2.194E-11	7.87E-10	NA
1,2-Dichlorobenzene	NC	NC	NC	NC	NA
1,4-Dichlorobenzene	3.617E-10	6.319E-09	8.339E-11	6.76E-09	NA
Isopropylbenzene	NC	NC	NC	NC	NA
p-Isopropyltoluene	NC	NC	NC	NC	NA
n-Propylbenzene	NC	NC	NC	NC	NA
1,2,4-Trimethylbenzene	NC	NC	NC	NC	NA
1,3,5-Trimethylbenzene	NC	NC	NC	NC	NA
PAHs					
Acenaphthene	NC	NC	NC	NC	NA
Acenaphthylene	NC	NC	NC	NC	NA
Anthracene	NC	NC	NC	NC	NA
Benz(a)anthracene	3.492E-08	3.710E-12	3.609E-08	7.10E-08	NA
Benzo(b)fluoranthene	3.861E-08	4.101E-12	3.990E-08	7.85E-08	NA
Benzo(k)fluoranthene	2.347E-08	2.494E-12	2.426E-08	4.77E-08	NA
Benzo(g,h,i)perylene	NC	NC	NC	NC	NA
Benzo(a)pyrene	5.340E-08	5.673E-12	5.519E-08	1.09E-07	NA
Chrysene	4.032E-09	4.283E-13	4.167E-09	8.20E-09	NA
Dibenz(a,h)anthracene	1.966E-08	1.574E-12	2.032E-08	4.00E-08	NA
Fluoranthene	NC	NC	NC	NC	NA
Fluorene	NC	NC	NC	NC	NA
Indeno(1,2,3-cd)pyrene	1.761E-08	1.870E-12	1.819E-08	3.58E-08	NA
1-Methylnaphthalene	2.118E-09	NC	1.684E-09	3.80E-09	NA
2-Methylnaphthalene	NC	NC	NC	NC	NA
Naphthalene	NC	3.082E-08	NC	3.08E-08	NA
Phenanthrene	NC	NC	NC	NC	NA
Pyrene	NC	NC	NC	NC	NA
Total Petroleum Hydrocarbons					
Aliphatic TPH	NC	NC	NC	NC	NA
Aromatic TPH	NC	NC	NC	NC	NA
TOTAL:	2.44E-07	3.87E-07	2.11E-07	**8.43E-07**	**NA**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value
Shaded cells incorporate EPCs have been recalculated using ProUCL Version 4.00.05 (January 2012)

Table 6-89
Noncancer Hazard - Soil
Site-wide No Development Scenario

CHEMICAL	Recreational User							
	Adult				Child (0-6 years)			
	Ing	InhP	Dermal	Direct Total	Ing	InhP	Dermal	Direct Total
Inorganics								
Antimony	7.415E-03	NC	8.534E-05	7.50E-03	6.921E-02	NC	1.938E-03	7.11E-02
Cadmium	8.424E-04	3.585E-06	9.695E-07	8.47E-04	7.862E-03	8.469E-06	2.201E-05	7.89E-03
Chromium (total)	1.046E-05	5.087E-10	1.204E-07	1.06E-05	9.760E-05	1.202E-09	2.733E-06	1.00E-04
Mercury	5.865E-04	9.982E-07	6.750E-05	6.55E-04	5.474E-03	2.358E-06	1.533E-03	7.01E-03
Thallium	NC	NC	NC	NC	NC	NC	NC	NC
Vanadium	2.502E-03	1.217E-07	2.880E-05	2.53E-03	2.336E-02	2.875E-07	6.540E-04	2.40E-02
BTEX								
Benzene	3.205E-05	1.751E-04	3.689E-06	2.11E-04	2.992E-04	4.137E-04	8.377E-05	7.97E-04
Ethylbenzene	2.794E-05	5.799E-05	3.216E-06	8.91E-05	2.608E-04	1.370E-04	7.302E-05	4.71E-04
Toluene	1.110E-05	1.666E-04	1.277E-06	1.79E-04	1.036E-04	3.936E-04	2.900E-05	5.26E-04
Xylenes (total)	1.094E-04	1.147E-03	1.259E-05	1.27E-03	1.021E-03	2.711E-03	2.859E-04	4.02E-03
VOCs								
sec-Butylbenzene	1.427E-06	1.099E-05	1.642E-07	1.26E-05	1.331E-05	2.597E-05	3.728E-06	4.30E-05
Chlorobenzene	1.801E-07	1.287E-07	2.073E-08	3.30E-07	1.681E-06	3.041E-07	4.707E-07	2.46E-06
Chloroform	2.686E-07	7.541E-07	3.092E-08	1.05E-06	2.507E-06	1.782E-06	7.021E-07	4.99E-06
1,2-Dichlorobenzene	1.832E-06	1.261E-05	2.108E-07	1.47E-05	1.710E-05	2.980E-05	4.787E-06	5.17E-05
1,4-Dichlorobenzene	8.373E-07	1.267E-06	9.638E-08	2.20E-06	7.815E-06	2.994E-06	2.188E-06	1.30E-05
Isopropylbenzene	9.607E-07	1.500E-05	1.106E-07	1.61E-05	8.966E-06	3.543E-05	2.511E-06	4.69E-05
p-Isopropyltoluene	5.170E-07	8.071E-06	5.951E-08	8.65E-06	4.826E-06	1.907E-05	1.351E-06	2.52E-05
n-Propylbenzene	1.163E-06	2.296E-06	1.339E-07	3.59E-06	1.086E-05	5.425E-06	3.039E-06	1.93E-05
1,2,4-Trimethylbenzene	2.139E-04	6.960E-04	2.462E-05	9.35E-04	1.996E-03	1.644E-03	5.589E-04	4.20E-03
1,3,5-Trimethylbenzene	1.423E-05	1.133E-04	1.638E-06	1.29E-04	1.328E-04	2.677E-04	3.719E-05	4.38E-04
PAHs								
Acenaphthene	1.257E-06	1.523E-06	6.484E-07	3.43E-06	1.173E-05	3.599E-06	1.472E-05	3.01E-05
Acenaphthylene	1.138E-06	1.380E-06	5.873E-07	3.11E-06	1.062E-05	3.260E-06	1.333E-05	2.72E-05
Anthracene	3.811E-07	1.204E-07	1.966E-07	6.98E-07	3.557E-06	2.845E-07	4.465E-06	8.31E-06
Benz(a)anthracene	3.512E-07	5.890E-11	1.812E-07	5.32E-07	3.278E-06	1.391E-10	4.114E-06	7.39E-06
Benzo(b)fluoranthene	2.912E-06	4.883E-10	1.502E-06	4.42E-06	2.718E-05	1.154E-09	3.411E-05	6.13E-05
Benzo(k)fluoranthene	1.771E-06	2.969E-10	9.136E-07	2.68E-06	1.653E-05	7.015E-10	2.074E-05	3.73E-05
Benzo(g,h,i)perylene	3.578E-06	5.999E-10	1.846E-06	5.42E-06	3.339E-05	1.417E-09	4.191E-05	7.53E-05
Benzo(a)pyrene	5.371E-07	9.007E-11	2.771E-07	8.14E-07	5.013E-06	2.128E-10	6.292E-06	1.13E-05
Chrysene	4.055E-06	6.800E-10	2.092E-06	6.15E-06	3.785E-05	1.607E-09	4.750E-05	8.54E-05
Dibenz(a,h)anthracene	1.399E-08	2.346E-12	7.217E-09	2.12E-08	1.306E-07	5.542E-12	1.639E-07	2.94E-07
Fluoranthene	2.567E-06	4.306E-10	1.325E-06	3.89E-06	2.396E-05	1.017E-09	3.008E-05	5.40E-05
Fluorene	2.954E-06	1.811E-06	1.524E-06	6.29E-06	2.757E-05	4.278E-06	3.461E-05	6.65E-05
Indeno(1,2,3-cd)pyrene	1.771E-06	2.969E-10	9.136E-07	2.68E-06	1.653E-05	7.015E-10	2.074E-05	3.73E-05
1-Methylnaphthalene	9.129E-07	4.658E-06	3.623E-07	5.93E-06	8.521E-06	1.100E-05	8.227E-06	2.78E-05
2-Methylnaphthalene	1.719E-05	8.771E-05	6.823E-06	1.12E-04	1.605E-04	2.072E-04	1.549E-04	5.23E-04
Naphthalene	4.655E-06	1.847E-04	1.847E-06	1.91E-04	4.344E-05	4.364E-04	4.194E-05	5.22E-04
Phenanthrene	4.177E-07	1.320E-07	2.155E-07	7.65E-07	3.898E-06	3.118E-07	4.893E-06	9.10E-06
Pyrene	3.636E-06	2.112E-07	1.876E-06	5.72E-06	3.394E-05	4.989E-07	4.260E-05	7.70E-05
Total Petroleum Hydrocarbons								
Aliphatic TPH	2.780E-03	4.828E-08	3.199E-04	3.10E-03	2.594E-02	1.141E-07	7.264E-03	3.32E-02
Aromatic TPH	5.346E-03	1.300E-07	6.152E-04	5.96E-03	4.989E-02	3.071E-07	1.397E-02	6.39E-02
TOTAL:	1.99E-02	2.69E-03	1.19E-03	**2.38E-02**	1.86E-01	6.37E-03	2.70E-02	**2.20E-01**

Notes:
NA = Not Applicable
NC = No Criteria
NV = No Value
Shaded cells incorporate EPCs have been recalculated using ProUCL Version 4.00.05 (January 2012)

Drafted by Strategic Initiatives based on the March 29, 2012 ATCAT conference call. Reviewed and ratified, as written, during the May 10, 2012 ATCAT Conference Call.

Avila Tank Farm Collaborative Assessment Team

Conference Call Summary

Date: March 29, 2012

Time: 1:30 PM – 2:35 PM

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Chuck Lambert	McDaniel Lambert
Chuck Anders	Strategic Initiatives	Steve McMasters	SLO County Planning
Teri Copeland	Consulting Toxicologist	Andrew Mutziger	APCD
Becky Countway	McDaniel Lambert	Kim Tulledge	Chevron
Regina Donohoe	CDFG	Robert Van Hyning	Avocet Environmental
Jennifer Holder	ERM	George Weber	ERM
Aaron LaBarre	Environmental Health	Rik Williams	Chevron

Safety Moment

Rik Williams reminded everyone that Easter break is coming up and to be vigilant for school age children playing in neighborhoods. This can also be a stressful time for parents.

Ratify March 6, 2012 Conference Call Summary

No comments were offered during the conference call. Any additional comments are to be submitted to Chuck Anders by close of business on Friday, March 30th. The draft summary will be considered ratified if no substantive comments are received.

Draft Table of ARARs

Robert Van Hyning indicated that he has received draft ARARs from the RWQCB, CDFG and SLO County Planning. Andy Mutziger indicated that he will send Robert the APCD draft ARARs by Friday, March 30th.

Robert intends to add the Draft ARARs to the SLO Tank Farm ARARs Table as a starting point to insure that all potential ARARs are considered. He will distribute the draft summary table by May 7th.

Rik Williams thanked all the agency participants for taking the time to prepare the draft ARARs.

Letter of Determination

Aaron LaBarre briefly reviewed the Letter of Determination dated March 16, 2012. He clarified that the Childhood Lead Poisoning Prevention Program action levels (400 ppm and 1,000 ppm) apply to a single point sample.

Bill Almas noted that Chevron is in general agreement with the letter; however, they would like clarification on a number of issues that are identified in their March 27th email to Aaron. These areas deal primarily with sampling and monitoring requirements. Bill will follow-up with Aaron LaBarre to clarify Chevron's questions regarding the letter.

Status of Site Conceptual Model

Rik indicated that he and Louis Cappel continue to work with Dan Niles to develop the Site Conceptual Model and resolve remaining issues. Dan was not able to participate in the conference call due to a conflict with mandatory training class. Dan, Louis and Rik prepared the following status report to share with the full ATCAT:

LNAPL - RWQCB has reviewed the Padre's LNAPL Mobility and Recoverability Pilot Study Report and would like to discuss the remedial alternatives to be evaluated in the Feasibility Study.

Cliff Area - RWQCB has performed a cursory review of the Supplemental Cliff Area Characterization Report, and will provide comment within the next month. RWQCB would like to perform a site walk at the cliff area during low tide to facilitate discussions regarding future cliff area monitoring activities.

Site Conceptual Model (SCM) - RWQCB reviewed the draft outline that was submitted last week and suggested comparing it with the original RMP to include/mention/capture applicable portions of the original RMP in developing the SCM outline. Dan suggested the comprehensive nature of the RMP provided a good template for the SCM development.

Rik, Louis and Dan will meet in mid-April to further discuss LNAPL remedial alternatives and revisit the monitoring program to incorporate recent investigation data and new wells in the cliff area. This will be done in conjunction with revitalizing the cliff area monitoring and reporting program since the cliff area landslide.

Rik will provide a progress report to the full ATCAT prior to the next ATCAT conference call.

Schedule for Pre-Feasibility Report

Jennifer Holder is compiling a detailed list of information and data requirements to complete each section of the Pre-Feasibility Report in order to understand the critical path and availability of data. She will meet with the appropriate individuals or organizations next week before she prepares an overall schedule for the completion of the draft Pre-Feasibility Report. She anticipates distributing a preliminary schedule by April 12th.

Bill Almas asked which were the critical path items. Jennifer noted that there were a wide variety of elements that require coordination in the Pre-Feasibility Report and offered the Site Conceptual Model and ARARs as examples of critical path items.

Jennifer also noted that the Pre-Feasibility Report outline may require tweaking for clarity and readability.

Compendium of Site Information and History

Robert Van Hyning indicated that the compendium of site information is complete and is undergoing internal review. The compendium consists of an extensive list of reports and documents that is currently in a searchable spreadsheet with links to the actual documents in PDF format. The information will be located on an FTP site that will be accessible with a username and password. The compendium will include all pertinent reports, including ATCAT minutes. Robert envisions the compendium to ultimately be accessed through a search interface instead of a spreadsheet.

Rick Williams questioned whether the database would identify which agency received the information and whether it is possible to match attachments to actual documents, since many reports, such as monitoring data, are attachments to other documents.

Robert expects to make the compendium accessible to the ATCAT participants by April 13th.

Schedule of Activities

Bill Almas provided an overview of the updated project schedule and noted that based on today's discussion of the Site Conceptual Model, the schedule is likely to take even longer because the Site Conceptual Model is critical path. He observed that based on the current sequential process most of the other project activities would also shift back.

Proposed 2012 - 2013 ATCAT Activities
Revised Target Dates

Activity	Original Target Date Revised Date
Site Conceptual Model Consensus	February 28 April 23
Wetland Delineation Verification	March 26 May 7
Pre-Feasibility Report	April 30 July 17
Feasibility Study	July 30 Jan. 8, 2013
Remedial Action Plan	November 15 June 5, 2013
Project Application	December 15 Oct. 11, 2013

Bill questioned whether it was possible to pursue a dual track and obtain Coastal Commission approval of a generalized Specific Plan/LCP Amendment while completing the Feasibility Study. Steve McMasters indicated that a dual-track process was a doable strategy. This approach would require the Specific Plan/LCP Amendment to be based on general assumptions and the subsequent project application would have to be consistent with those assumptions. Bill concluded that the dual-track approach was a viable possibility and would like to meet with Steve and Ryan Hostetter to discuss further. He will report the conclusions of the discussions to the ATCAT by the end of April.

Kim Tulledge questioned whether it made sense to bring an EIR consultant on board at this time to assist with the project development process and help prepare the project application. Steve indicated that it would be OK to bring a consultant on early and that a preliminary application was required to start the process.

Action Items

The following action items resulted from the conference call:

Status	Action Item
Due March 30	1) Provide comments, if any, on the draft 3/6/12 ATCAT conference call summary.
Due March 30	2) APCD will submit draft ARARs to Jennifer Holder.
Due April 12	3) Jennifer Holder will provide a schedule for preparation of the Pre-Feasibility Report.
Due April 13	4) Robert Van Hyning will complete the Compendium of Site Information and provide access information to the ATCAT participants.
Due April 30	5) During April, Chevron will meet with SLO County Planning to discuss the dual-track permitting approach and bringing an EIS consultant on board. Bill Almas will report back to the ATCAT by April 30th.
Due May 7	6) Robert Van Hyning will distribute the draft ARARs table.
Due May 7	7) Chevron and RWQCB will continue meeting to address Site Conceptual Model issues. Rik Williams will provide a written status report by May 7th for discussion at the May 10th conference call.
Pending	8) Jennifer Holder will "crystallize" summary table 3-1 of the draft RMP to memorialize conclusions to date (if appropriate after Pre-Feasibility Report outline is prepared.)
Pending	9) Jennifer Holder will prepare a Response to Comments to the draft Risk Management Plan (RMP) ver. 1.1 (or suggest an alternative strategy to address comments) within 4 weeks after receiving the preliminary Agency determination letter.

Upcoming Meeting Dates and Agenda Items

ATCAT Conference Call – Thursday, May 10, 2012 (1:00 PM – 2:30 PM)

1. Review Draft Table of ARARs
2. Status of Site Conceptual Model
3. Schedule for Pre-Feasibility Report and Feasibility Study
4. Site Information Database
5. Path Forward
    a. Dual-Track Permitting Process
    b. Schedule of Activities

Drafted by Strategic Initiatives based on the January 30, 2012 ATCAT conference call. During the March 6, 2012 ATCAT conference call, it was agreed to provide additional time for review. No additional comments were received; therefore, the conference call summary is considered ratified.

Avila Tank Farm Collaborative Assessment Team

Ratified Conference Call Summary

Date: January 30, 2012

Time: 1:30 PM – 2:30 PM

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Aaron LaBarre	Environmental Health
Chuck Anders	Strategic Initiatives	Chuck Lambert	McDaniel Lambert
Melissa Boggs	CDFG	Steve McMasters	SLO County Planning & Bldg.
Louis Cappel	Padre Associates	Andrew Mutziger	APCD
Teri Copeland	Consulting Toxicologist	Dan Niles	RWQCB
Becky Countway	McDaniel Lambert	Debbie Rudd	RRM Design Group
Regina Donohoe	CDFG	Kim Tulledge	Chevron
Jennifer Holder	ERM	Robert Van Hyning	Avocet Environmental
Ryan Hostetter	SLO County Planning & Bldg.	Rik Williams	Chevron

Safety Moment

Rik Williams noted that a squirrel or rodent chewed up wiring on two vehicles left in the Chevron parking lot for extended periods of time. He recommended checking under the hood for nests or damage anytime you leave your vehicle parked for extended periods.

Ratify December 5, 2011 Meeting Summary

Rik Williams raised a procedural question regarding the review and ratification of meeting summaries. He had questions regarding additional language added by Dan Niles and wondered whether he should coordinate with Dan to resolve the issue Dan raised before the summary was ratified. Dan explained that he added the language to more fully capture his comments at the meeting. Chuck Anders noted that the meeting summary is a snapshot in time of the collaborative process and is a means to establish a common understanding and clarify issues. It was agreed to include Dan's suggested changes; Rik will discuss his concerns with Dan and subsequent actions will be captured in future meeting summaries.

Bill Almas suggested deleting the second sentence in the definition of *"Chevron Minimum Proposed Site Activities"* since it seemed out of context. This recommendation was approved and the December 5, 2011 ATCAT meeting summary, version 2, was ratified.

Review Pre-Feasibility Report Outline

Jennifer Holder reviewed the draft outline of the Pre-Feasibility Report (PFR) that was previously distributed. The Introduction will provide background information and discuss why the PFR was developed. She noted that the PFR, previously called the Risk Management Plan, will be used to identify the issues to be addressed in the Feasibility Study (FS). She also discussed the PFR objectives.

Sections 2 and 3 will focus on past site activities, remedial investigations and risk assessments. Section 4 will address the risk management process. Section 5 will present human health and ecological risk management evaluations for the proposed development scenario and the baseline

remediation scenario. Section 6 will review the Applicable or Relevant and Appropriate Requirements (ARARs). It was agreed that the regulatory agencies participating in the ATCAT would prepare a preliminary list of ARARs and submit them to Jennifer by March 12th. Robert Van Hyning will send Chuck Anders the definition of ARARs and examples from the SLO Tank Farm for distribution to the full ATCAT. Section 8 will discuss the various risk management tools similar to the previous draft of the Risk Management Plan. Section 9 will present the remedial action objectives to be used in the FS. Section 10 will summarize the findings and conclusions of the PFR and Section 11 will include an extensive list of references and background resources.

The ATCAT participants agreed to provide comments (or a response that they have no comments) on the draft PFR outline to Jennifer by February 14th.

Action Items

Status	Action Item	Comments
Action Items from December 5, 2011 ATCAT Meeting		
Ongoing	1) EHS will issue a "Letter of Determination" with an action level for the recreational receptor by December 14th.	Chevron and EHS have been meeting to resolve the question of the action level for the recreational user. EHS is reviewing a recent memorandum from Chuck Lambert and anticipates issuing the Letter of Determination in the near future. Aaron LaBarre will meet with APCD and RWQCB this week to discuss the final letter and inform Chuck Anders of the proposed distribution date. Bill Almas noted that, while the collaboration between the three agencies is important, it should not hold up the issuance of the letter since each agency has the authority to issue a letter based on their individual requirements.
Complete	2) Andy Mutziger will determine the utility of reevaluating the original Project Avila Air Quality Assessment by December 9th.	APCD has come to a determination and will include their commentary in the Letter of Determination.
Complete	3) Ryan Hostetter will provide Chuck Anders with the contact information of CCC staff.	Chuck Anders noted that Dan Carl and Daniel Robinson are the CCC contacts. They will monitor the ATCAT activities and participate where appropriate.
Due 2/28/12	4) Chevron will meet with Dan Niles to resolve Site Conceptual Model issues and report back to the ATCAT by February 28th.	Chevron met with Dan Niles to review the Cliff Area Investigation and LNPL report. Dan requested that additional topological information be incorporated into site cross-sections. Robert Van Hyning and Louis Cappel will make their best effort to complete the Site Conceptual Model by February 28th for review at the March 6th ATCAT meeting.
Due 2/21/12	5) Robert Van Hyning and Louis Cappel will prepare a site history and compendium of site	Completion of site history extended to February 21st.

	information, including reference materials, by January 31st.	
Complete	6) Jennifer Holder will draft an outline of the Pre-Feasibility Report and the Feasibility Study by January 16th.	Complete - comments on draft outline due by February 14th.
Due 2/2/12	7) Louis Cappel will finalize the Cliff Area Investigation and the LNPL Report and submit to Dan Niles by December 16th.	Rik Williams and Louis Cappel met with Dan Niles and will submit the final documents to Dan on February 2nd or sooner.
Pending	8) Jennifer Holder will "crystallize" summary table 3-1 of the draft RMP to memorialize conclusions to date (if appropriate after Pre-Feasibility Report outline is prepared.)	Dependant on issuance of the Letter of Determination
Pending	9) Jennifer Holder will prepare a Response to Comments to the draft Risk Management Plan (RMP) ver 1.1 (or suggest an alternative strategy to address comments) within 4 weeks after receiving the preliminary Agency determination letter.	Dependant on issuance of the Letter of Determination
New Action Items from 1/30/11 Conference Call		
Due 2/2/12	10) Robert Van Hyning will send Chuck Anders the definition of ARARs and examples from the SLO Tank Farm for distribution to the full ATCAT by February 2nd.	
Due 2 /3/12	11) Aaron LaBarre will meet with APCD and RWQCB this week to discuss the final Letter of Determination and inform Chuck Anders of the proposed distribution date by February 3rd.	
Due 2/14/12	12) ATCAT participants will submit written comments on draft Pre-Feasibility Report outline to Jennifer Holder by February 14th.	
Due 3/12/12	13) Regulatory agencies participating in the ATCAT will submit a preliminary list of ARARs to be included in the Pre-Feasibility Report by March	

	12th.	

Upcoming Meeting Dates and Agenda Items

ATCAT Meeting in SLO – Tuesday, March 6, 2012 (9:30 AM – 3:00 PM)
NOTE: Meeting time may be shortened depending on agenda.

1. Review the Draft Site Conceptual Model.
2. Discuss PFR Outline Comments, if necessary
3. Discussion of ARARs (tentative)

Drafted by Strategic Initiatives based on the March 6, 2012 ATCAT conference call. During the March 29, 2012 ATCAT conference call, it was agreed to provide additional time for review. No additional comments were received; therefore, the conference call summary is considered ratified.

Avila Tank Farm Collaborative Assessment Team

Ratified Conference Call Summary

Date: March 6, 2012

Time: 9:30 AM – 10:30 AM

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Aaron LaBarre	Environmental Health
Chuck Anders	Strategic Initiatives	Chuck Lambert	McDaniel Lambert
Melissa Boggs	CDFG	Andrew Mutziger	APCD
Louis Cappel	Padre Associates	Debbie Rudd	RRM Design
Teri Copeland	Consulting Toxicologist	Kim Tulledge	Chevron
Becky Countway	McDaniel Lambert	Robert Van Hyning	Avocet Environmental
Regina Donohoe	CDFG	George Weber	ERM
Jennifer Holder	ERM	Rik Williams	Chevron
Ryan Hostetter	SLO County Planning & Bldg.		

Announcements

Kim Tulledge informed the ATCAT that Chevron recently donated $36,000 toward the completion of the Bob Jones Bike Trail.

Safety Moment

Rik Williams reminded everyone that daylight savings time begins on March 10th and it's a good reminder to check things like windshield wipers, batteries in smoke detectors, flashlights and other devices that require routine maintenance.

Ratify January 30, 2012 Conference Call Summary

No comments were offered during the conference call. Participants requested additional time to review the draft summary. Comments are to be submitted to Chuck Anders by close of business on Wednesday, March 7th. The draft summary will be considered ratified in no substantive comments are received.

Rik Williams asked if a statement provided by Dan Niles regarding work on the Site Conceptual Model should be added to the January 30th meeting summary. Chuck Anders indicated that it would be included in the meeting summary of the March 6th meeting.

Review of Action Items from January 30, 2012 ATCAT Conference Call

Chuck Anders noted that all of the action items from the January 30, 2012 ATCAT conference call had either been completed or would be discussed during this conference call.

Letter of Determination

Aaron LaBarre hopes to issue the letter in its final form by the end of next week. He noted that they have evaluated the site-wide recreational receptor work product and agree with the conclusions and that the issue has been adequately addressed. Aaron also noted that he conferred with DTSC regarding the screening levels for lead in the areas where a child might be

present and that it appears these areas would be taken care of with the anticipated soil excavation. The letter will also mention concerns with methane generation, which is typically addressed in the application process.

Aaron is working with Andy Mutziger regarding the final language for cumulative risks and it is close to being finished. He further observed that the new methodology used to calculate cumulative cancer risks resulted in a risk slightly less than $1x10^{-6}$. Becky Countway added that the new methodology has statistical procedures to deal with non-detect samples with higher detection limits, which results in a reduction in overall risk. Bill Almas emphasized that while the overall risk is less that 10^{-6}, this should not be considered the clean-up level for remediation. He further emphasized that Chevron needed the Letter of Determination before they could proceed further with the Preliminary Feasibility Report and Feasibility Study.

Pre-Feasibility Report Outline

Jennifer Holder distributed a revised draft of the Pre-Feasibility Report outline prior to the conference call. The revised draft included revisions suggested by Andy Mutziger and Melissa Boggs. No additional comments were offered during the conference call. Jennifer noted that the Letter of Determination and draft ARARs were critical inputs to the preparation of the Pre-Feasibility Report.

ARARs

Robert Van Hyning opened the discussion of the ARARs. Ryan Hostetter questioned why the coastal zone was included in the example ARARs table for the San Luis Obispo Tank Farm when the SLO Tank Farm is not located in the coastal zone. Robert indicated that the coastal zone was included to show that it was considered and then checked "not applicable." Ryan indicated that she would provide a general overview of the County's requirements. Robert emphasized that the more specific the ARARs, the better. Bill Almas added that it is the applicant's responsibility to identify the ARARs in the FS and that is very helpful to understand the agencies thinking regarding the remediation requirements and regulations.

Melissa Boggs indicated that the CDFG will be submitting draft ARARs and it may be a few days beyond the March 12th due date because it has to be reviewed by the DFG legal department.

Site Conceptual Model

Rik indicated that Chevron is working with Dan Niles to clarify and resolve the issues Dan raised at the December 5, 2011 ATCAT meeting regarding regulatory requirements. He noted that Dan reaffirmed that they would work together on the Site Conceptual Model, which will be a site description based on the data and information gathered from past studies. Any data gaps that are discovered or are not addressed in the recent studies currently under review by the RWQCB will be captured in the Pre-Feasibility Study, which will be done after the Site Conceptual Model is complete and shared with the ATCAT.

Since Dan was unable to participate in this conference call, Rik read the following statement that Dan prepared to share with the ATCAT:

> The RWQCB is currently reviewing two documents they received in January 2012 pertaining to the evaluation of the mobility and potential recoverability of LNAPL (LNAPL Pilot Study), as well as the supplemental assessment of soil/bedrock and groundwater at the cliff area of the site (Cliff Area Characterization). The RWQCB plans on issuing separate comment letters on each document. The RWQCB has reviewed the LNAPL Pilot Study Report in detail, and is in the process of verifying the assumptions and calculations in the document with an internal peer review prior to issuing a comment letter. Once comments letters on these two studies have been prepared, Chevron and the RWQCB staff will use these findings and those in

earlier studies to formulate and come in alignment with a Site Conceptual Model.

The RWQCB has performed a cursory review of the Cliff Area Characterization Report, and plans on meeting with CEMC in a couple of weeks (mid to late March) to discuss any comments or questions prior to issuing a comment letter. Initial discussions regarding the Site Conceptual Model may be held at this time. A review of the current Monitoring Program will also be done.

Rik anticipates meeting with Dan the week of March 19th where a more detailed schedule for completion of the site conceptual model will be prepared.

Compendium of Site Information and History

Robert Van Hyning shared the draft timeline and spreadsheet of site documents, which included over 160 individual entries. He plans to post this information on an FTP site and include links so that ATCAT participants would have easy access to all project documents. He hopes to include a search function at some time in the future to make it easy to search for specific topics.

Bill Almas envisions this compendium to be a clearinghouse for site data and information in the EIR process.

Action Items

The following action items resulted from the conference call:

Status	Action Item
Due March 12	1) Regulatory agencies participating in the ATCAT will submit a preliminary list of ARARs to be included in the Pre-Feasibility Report.
Due March 16	2) EHS will finalize and issue the "Letter of Determination."
Due March 23	3) Robert Van Hyning and Louis Cappel will prepare a site history and compendium of site information, including reference materials and distribute a draft table of site information.
Due March 27	4) Chevron will meet with Dan Niles to resolve Site Conceptual Model issues and distribute a written status report.
Pending	5) Jennifer Holder will "crystallize" summary table 3-1 of the draft RMP to memorialize conclusions to date (if appropriate after Pre-Feasibility Report outline is prepared.)
Pending	6) Jennifer Holder will prepare a Response to Comments to the draft Risk Management Plan (RMP) ver. 1.1 (or suggest an alternative strategy to address comments) within 4 weeks after receiving the preliminary Agency determination letter.

Drafted by Strategic Initiatives based on the March 6, 2012 ATCAT conference call. During the March 29, 2012 ATCAT conference call, it was agreed to provide additional time for review. No additional comments were received; therefore, the conference call summary is considered ratified.

Upcoming Meeting Dates and Agenda Items

ATCAT Conference Call – Thursday, March 29, 2012 (1:30 PM – 3:30 PM)

1. Letter of Determination
2. Draft Table of ARARs
3. Status of Site Conceptual Model
4. Schedule for Pre-Feasibility Report and Feasibility Study
5. Site Information Database
6. Path Forward – Schedule of Activities

SAN LUIS OBISPO COUNTY HEALTH AGENCY

Public Health Department
2191 Johnson Avenue ▪ P.O. Box 1489
San Luis Obispo, California 93406
805-781-5500 ▪ FAX 805-781-5543

Jeff Hamm
Health Agency Director

Penny Borenstein, M.D., M.P.H.
Health Officer/Public Health Administrator

March 16, 2012

Chevron Corporation
Attn: Bill Almas
PO Box 1069
San Luis Obispo, CA 93406

ACTION DETERMINATION BASED ON SUPPLEMENTAL HUMAN HEALTH RISK ASSESSMENT FOR PROPOSED LAND USES LOCATED AT THE FORMER UNOCAL AVILA TANK FARM, AVILA BEACH, CA.

Dear Mr. Almas

San Luis Obispo County Environmental Health Services (EHS), San Luis Obispo County Air Pollution Control District (APCD) and the Regional Water Quality Control Board (RWQCB) (Agencies) provide this letter based on our review of the Supplemental Human Health Risk Assessment (sHHRA). As identified within the EHS letter dated February 16, 2011, the undersigned agencies provide the following action determinations on potential human health risk only, for each area designated in the sHHRA based on Chevron's proposed land uses and the results of the sHHRA. This letter does not intend to address the potential additional ecological or leaching to groundwater risks that will be addressed by the collective agencies with jurisdiction. A summary list of determinations for human health is included as Figure 1. Determinations for each area are identified as Further Action or No Further Action. General and some specific commentary are provided for areas with a Further Action designation. Specific acceptable actions will be determined after the Feasibility Study. Other general human health considerations for the site are also presented. Determinations stated in this letter are provided within the purviews of the undersigned Agencies and do not constitute an approval for any other Agency with jurisdiction.

General determinations for each area:

Area A Residential Development:

Further action is required due to potential exposure from hydrocarbons in soil gas and arsenic from soil contact. Chevron has stated verbally it does not intend to proceed with residential development at this point.

Area B Commercial Development:
No further action is required.

Area C Commercial Development:
No further action is required.

Area D Commercial Development:
Further action is required due to potential lead exposure from soil contact.

Area E Commercial Development:
Further action is required due to potential exposure from hydrocarbons in soil gas and lead exposure from soil contact.

Area F Commercial Development:
Further action is required due to potential exposure from hydrocarbons in soil gas.

Area G Commercial Development:
No further action is required.

Area H Commercial Development:
No further action is required.

Area Ia Commercial Development:
Further action is required due to potential lead exposure from soil contact.

Area Ib Commercial Development:
Further action is required due to potential exposure from hydrocarbons in soil gas.

Area J Commercial Development:
Further action is required due to potential exposure from hydrocarbons in soil gas and hydrocarbons and metals from soil contact.

Area K Commercial Development:
Further action is required due to potential exposure from hydrocarbons in soil gas.

Area L Commercial Development:
Further action is required due to potential lead exposure from soil contact.

Area M Residential Development:
Further action is required due to potential exposure from hydrocarbons in soil gas. Chevron has stated verbally it does not intend to proceed with residential development at this point.

Area N Commercial Development:
Further action is required due to potential exposure from hydrocarbons in soil

gas.

Open Space:

No further action is required.

Native Gardens:

No further action is required.

Site wide Recreational Use:

Further action is required due to exceeded thresholds identified with the Childhood Lead Poisoning Prevention Program.

Other general human health considerations for the Avila Tank Farm site:

- Methane in soil gas: The potential for explosion hazard and the collection of methane from soil gas shall be evaluated for each proposed building. A plan to mitigate the potential explosion hazard and gas collection shall be presented and approved by the agency with jurisdiction (typically the Fire Authority, Building Official, RWQCB, APCD).
- Hazardous wastes: Hazardous waste determinations and a management plan will need to be identified within a future Remediation Action Plan. A limited evaluation of soil sampling data, identified that hazardous waste thresholds have been exceeded.
- Childhood Lead Poisoning Prevention Program: California Health and Safety Code (HSC) and Code of Federal Regulations (CFR) require mitigation for lead in soil that exceeds 400 parts per million (ppm) for proposed childhood play areas and 1,000 ppm for areas that a child could be present. These thresholds are active and independent of conclusions from the sHHRA.
- Land Use Revisions: Changes to proposed land uses presented within the sHHRA shall be formally presented to the agencies for review and determination. Formal presentations to the agencies can be made in the form of revisions to the sHHRA or addenda as appropriate.
- Site Condition Changes: Characterization, risk assessment and mitigation measures shall be provided if site conditions change.
- Cumulative Risk to Offsite Residential Receptors: The APCD's airborne cancer risk significance threshold for Type A projects is 10 in a million. Type A projects are identified in the APCD's CEQA Air Quality Handbook as projects that bring new or newly considered air quality risk impacts to existing nearby sensitive receptors. The California Air Pollution Control Officer Association and the APCD have developed policy that cumulative airborne cancer risk to a receptor within 1,000 feet of Type A projects is the sum of all risk from sources on a project's site in addition to off-site risk sources within 1,000 feet of the receptor; historic risk is not included. The sHHRA identifies the offsite residential receptor's airborne cancer risk from the existing subject site is 1 in a million. Prior to a potential remediation, the site is below the APCD's Type A project's risk threshold. Relative to the impacts to off-site receptors during a potential remediation phase, the APCD does not recommend risk assessments for short-term remediation projects. Chevron will however need to compare the impacts to the Handbook's construction

phase thresholds and if necessary, provide mitigation measures defined in a Remediation Action Plan (RAP) to bring these impacts to below APCD threshold levels. A RAP completion report shall confirm that the airborne cancer risk from the remediated project site to off-site residential receptors has been reduced to permitted threshold levels.

Specific commentary regarding further action for select areas:

Area A proposed residential land use:

- Arsenic was determined to be within background for this 1.24 acre site. There is concern regarding some of the higher concentrations (i.e., up to 57 ppm) relative to a residential exposure scenario. This may represent an exposure hot spot for a future resident considering the USEPA default residential exposure area (one-eighth acre) even though arsenic in soil in this referenced area is within background. For residential land use, further delineation and assessment of this data point shall be conducted.
- The sample density for the evaluation of soil gas does not meet an "EPA Default" which does not provide the Health Agency confidence to conclude the calculated risk is protective of public health for the proposed residential land use.

Area K proposed commercial land use:

- The sample density for the evaluation of soil gas does not meet an "EPA Default" which does not provide the Health Agency confidence to conclude the calculated risk is protective of public health for the proposed commercial land use.

Area N proposed commercial land use:

- Same commentary as Area A, K for soil gas. A sample of soil gas at 15 feet below grade drives the calculated risk.

Site Wide proposed recreational land use:

- Areas on the subject property have lead in soil that exceeds state and federal standards for the Childhood Lead Poisoning Prevention Program. California Health and Safety Code (HSC) and Code of Federal Regulations (CFR) require mitigation for lead in soil that exceeds 400 ppm for proposed childhood play areas and 1,000 ppm for areas that a child could be present. These thresholds are active and independent of conclusions from the sHHRA. It is also recognized that the site needs preparation to open the site for a proposed recreational use. Preparation would include but not necessarily limited to the removal of physical hazards (unused piping, buildings, impoundments, etc.) that could cause injury and nuisance. The sHHRA identifies that an average exposure throughout the site for a recreational user will not produce a cancer risk greater than 2 in a million, however a supplemental document with revised risk calculations provided by Chevron confirms risk to be less than 1 in a million. Chevron proposes to remove soil to 6 feet below grade in areas where the highest exposure point concentrations (EPCs) exist and where total petroleum hydrocarbons (TPH) exceed 1,000 ppm.

Recognized project direction from this point:

- Provide a formal response to this letter.
- Completion of the Pre-Feasibility Study
- Development of the scoping Feasibility Study.
- Development of a Remediation Action Plan (RAP). The RAP shall include a mechanism to verify risk based objectives are achieved during and after remediation.
- Review and approval of a RAP by all agencies with jurisdiction.
- Completion of the RAP.
- Confirmation the RAP achieved its approved objectives. The report shall confirm risk based objectives were achieved after remediation.
- Recording of agreed upon land use deed restrictions. To include but not limited to land use, resource use (groundwater use) etc.
- Final action determination from all agencies with jurisdiction.

If you have questions concerning this letter, please call Aaron LaBarre at 805-781-5595, Dan Niles, at 805-549-3355 and Andy Mutziger at 805-781-5912.

Sincerely,

Aaron LaBarre, REHS
Supervising Environmental Health Specialist
Hazardous Materials Section

Thea Tryon
Senior Engineering Geologist
Site Cleanup Program
Regional Water Quality Control Board

Andy Mutziger
Air Quality Specialist
San Luis Obispo County Air Pollution Control District

C:

- Steve McMasters, County Planning & Building
- Teri Copeland, DABT
- Dr. Chuck Lambert, DABT
- Charles Anders, Strategic Initiatives

Figure 1

Exposure Area	Further Action Y or N	Mitigation Y or N	Category based on proposed Land Use	Reason	Note
A	Y	Y	R	• Background Arsenic may present a potential health risk to a resident child; • SG for RA	• Arsenic: additional sampling may demonstrate a lower potential risk • Soil Gas: sample density does not meet a "EPA default" (identified in Quan.DQA a=5%,b=15%, MDD=20%) for 1E-06; not a source area; vapor migration;
B	N	N	C	Not exceeding ILCR,HI, Pb CHHSL	
C	N	N	C	SG	BIE=2E-06 risk
D	Y	Y	C	>Pb CHHSL	
E	Y	Y	C	>Pb CHHSL; SG	IE=9E-05 risk for SG; OE=3E-06 risk for S
F	Y	Y	C	SG	IE=2E-05 risk
G	N	N	C	Not exceeding ILCR,HI, Pb CHHSL	
H	N	N	C	Not exceeding ILCR,HI, Pb CHHSL	Additional PAH characterization and evaluation may be required if proposed land use changes
Ia	Y	Y	C	>Pb CHHSL for IUW;	• SG sample density sufficient to certify 6E-07 risk BIE due to sample locations and "EPA Default" for 5' (Quan. DQA, Attachment 4 of Attachment 10)
Ib	Y	Y	C	SG	BIE=2E-04 risk
J	Y	Y	C	SG, S for ILCR and S for HI	• ILCR: BIE=2E-04 for SG; OE=2E-06 for S • HI: 1.3 for S
K	Y	Y	C	SG	STR=4E-06 risk and IE=7E-06 risk (EPA Default not met; risk may be underestimated for SG; not a source area; vapor migration;
L	Y	Y	C	>Pb CHHSL	IUW
M	Y	Y	R	SG	RA=2E-06 risk
N	Y	Y	C	SG	BIE; risk from SG may occur due to 15' SG;
Open space	N	N	R	Not exceeding ILCR,HI, Pb CHHSL	
Native Gardens	N	N	R	Not exceeding ILCR,HI, Pb CHHSL	
Site Wide	Y	Y	Rec	S	Soil lead exceeds 400 ppm and 1,000 ppm of CLPPP

Acronym or symbol: BIE= Bungalow Indoor Employee; CHHSL=California Human Health Screening Level; C=Commercial; HI=Hazard Index; IE=Indoor Employee; ILCR=Incremental Lifetime Cancer Risk; IUW=Intrusive Utility Worker; OE=Outdoor Employee; PAH=polycyclic aromatic hydrocarbons; Pb=lead; R=Residential; RA=Resident Adult; Rec=Recreational; S=Soil; SG=Soil Gas; STR=Short Term Resident

Drafted by Strategic Initiatives based on the June 25, 2012 ATCAT conference call. Reviewed and ratified at the August 6, 2012 ATCAT meeting.

Avila Tank Farm Collaborative Assessment Team

Conference Call Summary

Date: June 25, 2012

Time: 2:00 PM – 2:40 PM

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Chuck Lambert	McDaniel Lambert
Chuck Anders	Strategic Initiatives	Steve McMasters	SLO County Planning & Bldg.
Trisha Atkins	EHS	Dan Niles	RWQCB
Melissa Boggs	CDFG	Thea Tryon	RWQCB
Louis Cappel	Padre Associates	Kim Tulledge	Chevron
Becky Countway	McDaniel Lambert	Robert Van Hyning	Avocet Environmental
Regina Donohoe	CDFG	George Weber	ERM
Jennifer Holder	ERM	Rik Williams	Chevron

Safety Moment

Rik Williams noted that they have observed small pebbles and rocks falling from the cliff area when collecting samples from the intertidal pools. He recommended wearing a hardhat and appropriate safety equipment when working in the vicinity of the intertidal pools close to the cliffs.

Intertidal Pool Activities

Rik Williams recalled that on May 8th, Melissa Boggs, Dan Niles, Louis Cappel and Rik were collecting samples in the cliff area and noticed an odor and slight sheen on the intertidal pools that were exposed during low tide. They collected samples, which verified the presence of hydrocarbons. Chevron proceeded to immediately make the appropriate notifications through the national and state spill response centers.

Since that time, numerous water and sediment samples have been collected. More recently, two rounds of air sampling were conducted on June 7th and June 20th. Louis Cappel noted that the air samples were submitted on Friday and the results should be available on Tuesday or Wednesday. Melissa Boggs also collected mussel specimens for analysis.

Chevron has prepared a draft sampling plan, which has been reviewed by the agencies involved, and he anticipates distributing the final draft within a week.

There are three more negative tide events during daylight hours, which will provide an opportunity to continue sampling. These will occur on July 5-6, July 19-20 and August 2-3 at sunrise (5:00 – 6:00 AM).

A follow-up conference call will take place from 4:00 – 5:00 PM today to discuss the intertidal pool activities. Rik recently distributed an agenda that includes a discussion of 1) communications, 2) action levels, and 3) potential activities above the cliffs to minimize the impact on the tidal pools.

Ratify May 10, 2012 Conference Call Summary

No comments or revisions were offered during the conference call and the ATCAT ratified the May 10, 2012 conference call summary (ver 1), as written.

Letter of Determination Follow-Up Activities

Rik Williams noted that Chevron collected additional soil-gas samples last week as requested in the Letter of Determination. Lous Cappel advised that the results should be available in a couple weeks with the report to follow. Rik anticipates submitting the information by the end of July or early August.

Pre-Feasibility Report Activities

On May 16, 2012 Jennifer Holder distributed an updated schedule for the preparation of the Pre-Feasibility Report with an anticipated distribution date of the beginning of October. She continues to plan on that date; however, it is possible that the timeline could slip slightly due to the additional soil-gas sampling and the activities in the intertidal area.

Robert Van Hyning confirmed that they are reorganizing the ARARs into two tables; 1) Federal and 2) State/County/Local. He noted that they were running behind the anticipated distribution schedule because of the unanticipated work in the intertidal area. He anticipates distribution of the revised ARARs tables in approximately one month.

Status of Site Conceptual Model

Rik Williams and Robert Van Hyning advised that they plan to submit the Site Conceptual Model to the RWQCB and distribute it to the ATCAT by the end of this week. Rik then reviewed the status of the various site activities:

- **LNAPL Study** – RWQCB is preparing a No Objection draft Letter on the Report of Findings for the LNAPL Recovery and Mobility Pilot Test and will be sending it to Chevron for their review this week.
- **Cliff Area Study** – RWQCB is preparing a No Objection draft Letter on the Report of Findings for the Supplemental Cliff Area Characterization and will be sending it to Chevron for their review this week.
- **Cursory LNAPL Brainstorm** - A follow-up to the Brainstorming session on May 2nd has been delayed due to the activity in the Cliff Area's intertidal zone pool. They hope to re-engage in mid July.
- **Monitoring and Report Plan (MRP)** - Several intertidal zone monitoring points were established on May 8th in preparation for a update to the Monitoring and Report Plan (MRP) draft that was to be shared with Dan Niles. However, activity in the Cliff Area's intertidal zone pool had delayed the meeting to review and finalize a new MRP to the end of July.
- **Cliff Area Intertidal Zone –** Chevron reviewed the Technical Workplan for the Intertidal Zone Assessment with Dan Niles. This included sampling protocols and getting more viable fluids at each sample point to conduct additional analytical analysis requested by CDFG and RWQCB.
- **Path Forward** – Rik noted that many of the activities, previously planned to be completed in May, were deferred to mid or late July due to the activity in the Cliff Area's intertidal zone pool.
    - Continue to conduct the planned observations and sampling events in the Cliff Area's intertidal zone through early August.
    - Lab Reports and cursory summaries will be sent to the ATCAT members as they become available.
    - A full analysis of all of the laboratory data will be developed and a draft prepared for comment by the end of August or early September.
    - Set up the next ATCAT meeting to be face-to-face to review the SCM draft for late-July.

- Calculate volumetric estimates of the 4 agreed upon areas - Loading Rack-Pump house, Refinery, Pipeline Corridors and Cliff Area (may take 2 weeks)
- Generate graphics and table to facilitate the LNAPL discussions (may take 2 to 3 weeks).
- Set up another brain storming session to identify potential LNAPL alternatives in each of the 4 areas by mid to late July.
- Set up a management meeting with RWQCB and Chevron supervisors to review for late July.

Dan Niles emphasized the importance of preparing a clear timeline that memorializes the response to the discovery of hydrocarbons in the intertidal zone area.

Compendium of Site Information and History

Chuck Anders noted that no comments on the compendium of site information have been received so far. Dan Niles indicated that Andy Mutziger suggested that he, Dan and Aaron LaBarre discuss their observations before they responded with comments, if any. The ATCAT conference call participants offered no other suggestions or observations. Chuck Anders encouraged ATCAT participants to review the site information, if they haven't already done so, and provide comments to Robert Van Hyning before the next ATCAT meeting.

Action Items and Path Forward

The ATCAT participants agreed to hold July 31st and August 6th as tentative dates for an ATCAT meeting in San Luis Obispo (9:30 AM – 3:00 PM). The primary purpose of the meeting will be to review the draft Site Conceptual Model.

Status	Action Item
Due June 26	1) Chevron will distribute the Site Conceptual Model to the ATCAT.
Due July 23	2) Robert Van Hyning will distribute the revised ARARs table to the full ATCAT.
Due July 27	3) ATCAT members will review the Compendium of Site Information and provide comments before the next ATCAT meeting. Andy Mutziger, Dan Niles and Aaron LaBarre will discuss their observations before submitting comments.
Pending	4) Jennifer Holder will "crystallize" summary table 3-1 of the draft RMP to memorialize conclusions to date (if appropriate after Pre-Feasibility Report outline is prepared.)
Pending	5) Jennifer Holder will prepare a Response to Comments to the draft Risk Management Plan (RMP) ver. 1.1 (or suggest an alternative strategy to address comments) within 4 weeks after receiving the preliminary Agency determination letter.

<u>Upcoming Meeting Dates and Agenda Items</u>

ATCAT Meeting, San Luis Obispo – Tentative dates: July 31 and August 6, 2012 (9:30 AM – 3:30 PM)

1. Safety Moment
2. Review and Ratify the June 25, 2012 Draft Conference Call Summary
3. Review/Discuss the Draft Site Conceptual Model
4. Review Comments on the Compendium of Site Information, if any.
5. Action Items / Path Forward

Drafted by Strategic Initiatives based on the August 8, 2012 ATCAT meeting. Reviewed and ratified during the 9/10/12 ATCAT conference call.

Avila Tank Farm Collaborative Assessment Team

Meeting Summary

Date: August 6, 2012

Time: 9:30 AM – 2:00 PM

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Chuck Lambert	McDaniel Lambert
Chuck Anders	Strategic Initiatives	Andy Mutziger	APCD
Melissa Boggs	CDFG	Dan Niles	RWQCB
Teri Copeland	Consultant to Environmental Health	Debbie Rudd	RRM Design
Regina Donohoe	CDFG	Kim Tulledge	Chevron
Jennifer Holder	ERM	Robert Van Hyning	Avocet Environmental
Ryan Hostetter	SLO County Planning & Bldg.	George Weber	ERM
Aaron LaBarre	Environmental Health	Rik Williams	Chevron

Announcements

Suzanne Parker has left Chevron to work for PG&E. Chevron has appointed an interim Policy Government and Public Affairs representative, Juliet Don.

Safety Moment

Rik Williams reminded everyone that school will be starting up soon so everyone needs to be aware when driving. Also when playing sports in the heat, parents need to be aware of heat-related issues, keep their kids hydrated and watch for other health issues that can be affected by heat, such as asthma.

Meeting Summary Review/Ratification

The draft meeting summary from the 6/25/12 ATCAT conference call, version 2 was reviewed and ratified, as written.

Status of Intertidal Zone Activities

Rik Williams noted that the last summer sampling event (interstitial and air) was completed last week. Negative tides, which are required for sampling, will not appear again until October. The air data should be available this week. VOC data should be available next week, but the lab is taking about three weeks to turn around the water/sediment data. The 7/6 sampling data was just released, as was the VOC data from the 7/20 sampling event. The intertidal area is now covered with about two feet of sand.

Chevron will prepare a compilation of all data with anticipated distribution at the end of September. The compilation will include a Field Summary report with field notes and QC'd data. (Teri Copeland Comment: I have in my notes that a human health evaluation will be issued in early October.)

Melissa Boggs presented information regarding the mussel sampling conducted by CDFG. She reported that the mussel sample data was distributed to the ATCAT and that Melissa and Regina Donohoe are preparing a summary report of the mussel study. Mussel sampling included three composite samples at the site and a control sample at Montana de Oro. Regina reviewed the

tissue data and determined that results were below toxicity benchmarks for mussels. OEHHA's Susan Klasing did a human health evaluation and concluded the benzo[a]pyrene equivalent concentration reported in the Avila Beach mussel samples were not considered to pose a significant human health risk.

Jennifer Holder and Chuck Lambert presented a summary of the proposed approach for risk evaluation included in the draft Intertidal Zone Action Level memo, dated August 2, 2012, recently provided to the Agencies.

> The proposed Action Levels (ALs) were developed for compounds of potential concern (COPCs), defined as the organics detected in surface water or sediment in the tidal area in May and June of 2012, or in groundwater from monitoring wells B-230 and B-231 in 2011.
>
> Exceedance of these ALs does not indicate that a health risk exists – but rather that additional evaluation is warranted, which could include: additional monitoring; control of human exposure; source mitigation; and/or additional risk assessment.
>
> Human health ALs for long-term exposure to water and sediment in the Tidal Area were developed using health protective assumptions consistent with previous agency reviewed assessments (Tidal Area sHHRA 2012; Cliff Spring Action Levels 2010). Equations used by the USEPA in the development of Human Health Benchmarks for Chemicals in Water and the USEPA Regional Screening Levels. Air screening action levels were developed separately and rely on comparison to area background concentrations as well as California OEHHA chronic reference exposure levels.
>
> Ecological risk-based ALs were developed for receptors potentially exposed to intertidal water for aquatic life (e.g., fish or aquatic invertebrates, such as mussels or crabs) and sediment exposure for benthic invertebrates (e.g., clams and worms) were developed. Available literature and recent studies were used to identify available action levels that were relevant to the COPCs and exposures at Avila. USEPA screening levels protective of aquatic life for use in the Deep Water Horizon (DWH) oil spill were deemed relevant. When a DWH benchmark was not available, it was calculated using the same approach. The DWH screening levels are based on the target lipid narcosis model (TLM) and the equilibrium partitioning (EqP) approach (USEPA 2003, 2008).

Regina expressed concern about using DWH screening levels. Melissa and Regina will work with Jennifer and Chuck to determine the path forward (how best to determine exposure scenarios and present the evaluation/conclusions).

Jennifer would like comments on the draft memorandum that was recently distributed. It was agreed that written comments on the draft Intertidal Zone Action Level Memo would be submitted by September 5th. An Agency conference call was scheduled for August 30th from 1:00 - 2:00 PM to discuss the draft. Melissa Boggs will take the lead to coordinate with other agencies. Rik Williams suggested that we also begin thinking about how to share this information with the public. (Teri Copeland Comment: I have in my notes that Jennifer proposed a screening risk assessment be done to incorporate the action levels (human health and eco) and mussel data.)

(Note - Intertidal Zone issues were further discussed in the Pre-Feasibility Report portion of the ATCAT meeting.)

Status of Site Development Plan

Debbie Rudd reviewed portions of the "Vision Package" (to be used to brief stakeholders) for the site development.

> Chevron anticipates calling the development "Avila Point." There is currently no developer for the project; however, Chevron has retained an architectural firm that specializes in resort development to represent developer considerations. Chevron plans to take the project

through entitlements (the EIR process and the County/Coastal Commission amendments to the Specific Plan and Local Coastal Plan). Chevron will complete the remediation, rough grading and install utility services for development prior to actual construction.

The proposed site development will include a resort with a hotel/meeting rooms/restaurant and fractional ownership cottages (no full-time residential). The "point" will be left undeveloped. A Coastal Trail will be established from one end of the site to the other along the bluff. Chevron will process architectural design guidelines during the entitlement process; the specific architectural design will be determined/processed by the developer. A strong theme for the site is "A future based on sustainability" emphasizing preservation and restoration of natural habitat. Currently they anticipate over 50% open space, and over 24% new resort landscaping.

The pre-application meeting was held with the County. The issues identified during the meeting included access, emergency evacuation around Avila, traffic and water/sewer. Chevron plans to file a preliminary application with the County in September and a full application in the 1st quarter of 2013. The County will solicit proposals for an EIR consultant once they receive the preliminary application. The EIR consultant will handle the EIR for the entire project through build out.

Some information, such as the Remedial Action Plan (RAP), will be submitted later as soon as it is available. Chevron still needs to determine the wetland approach. Letters were sent to ABCSD and SMMWC requesting service for the project. Chevron plans to have a community open house in the fall.

Draft Site Conceptual Model

Rik Williams indicated that Chevron submitted a draft Site Conceptual Model (SCM) to the RWQCB in June. They have had two follow-up meetings since that time.

Robert Van Hyning noted that the purpose of the SCM is to:

- Document the physical characteristics of the site, including the nature, extent and mobility of site contaminants,
- Develop consensus with regulatory agencies (anticipate ratification of the SCM by the ATCAT), and
- Clearly identify issues for the Feasibility Study (FS).

Robert noted that the current draft of the SCM does not explicitly address the intertidal zone. A decision to wrap the intertidal zone into the FS will be made later this year and will be based on the urgency to address the discharge in the intertidal area. The decision will be based on the physical conditions (odor, cover, discharge, etc.) and the implementation of interim actions. Melissa Boggs noted that we have only observed the intertidal zone without sand cover for approximately one week and she would like to see the intertidal area in its scoured condition again next winter, in addition to evaluating existing intertidal data, as we continue to evaluate the urgency.

Chevron is preparing an Interim Action Plan for the intertidal zone. Initial actions will involve bailing from existing wells, which will begin immediately. Chevron also intends to conduct a pilot study to determine the feasibility of full-scale vapor extraction and dewatering, which will require permitting through the County and other agencies prior to implementation. Chevron will distribute the Interim Action Plan in the next few weeks. The agencies will review and turn around comments as soon as possible. Chevron will implement the plan in September if the agencies have no major issues with the proposed actions.

Robert Van Hyning presented an overview of the Site Conceptual Model focusing on the areas that will be carried forward into the Pre-Feasibility Report and FS.

Robert noted that crude oil was main product stored onsite. There were 3 – 4 tanks with refined petroleum. Two tanks along the cliff were used for "slops" and raw gasoline from the

onsite refinery. The slop tank was removed in the 50's, prior to the use of oxygenates and Chevron is still investigating why oxygenates are present in the groundwater in this area. Tank 201104 is being addressed. The releases are localized and include dissolved phase BTEX and TBA.

The LNAPL onsite is viscous, located in fractured rock, immobile, and difficult to recover. The LNAPL increases in monitoring wells as the groundwater level decreases due to drought, etc. There is LNAPL beneath four areas: pump house and loading rack, refinery, principal pipeline corridors; and tanks sites.

Dissolved phase TPH is in groundwater around the LNAPL. It appears to be stable and undergoing active natural attenuation.

Chevron has been using a conservative "cliff retreat" line (where the cliff could potentially erode into the ocean in the next 75 years) for its current analyses of future development and remediation areas. Chevron is getting a more detailed analysis of the cliff retreat line for remediation considerations. The cliff erosion is not necessarily a SCM issue, but is a major consideration for the Pre-Feasibility Report and FS.

Issues to carry forward for the SCM are:

- Groundwater as a general operable unit
- LNAPL
- TPH and groundwater impacts in cliff erosion zone
- Methane in soil gas
- Impacts at and around Well B-223
- Impacts at and around Well B-230

No missing elements were identified at the meeting. The ATCAT representatives will review and comment on the SCM. Dan Niles will coordinate the agency review/comments and will provide the proposed timeline for this effort to the ATCAT by August 15th.

Pre-Feasibility Report Activities

Jennifer Holder noted that Chevron anticipates issuing a draft Pre-Feasibility Report by the beginning of November, assuming timely resolution on the CSM and no surprises (intertidal, etc.). Regina Donohoe expressed her preference to have the intertidal zone document as an appendix to the Pre-Feasibility Report since other agencies, not participating in the ATCAT, may be reviewing the intertidal zone information. Robert Van Hyning and Jennifer recommended that we not delay the preparation of the Pre-Feasibility Report in order to include the intertidal zone report and that we should include a summary of the current status if it is not complete). It was agreed that it would be desirable to include the intertidal zone information in the Pre-Feasibility Report as an appendix. If it is not complete, a summary of the status should be included in the Pre-Feasibility Report.

Melissa Boggs will coordinate with the Agencies to determine the path forward to address the intertidal zone issues and incorporate the intertidal zone data (sediment and surface water) into the Pre-Feasibility Study. Melissa will coordinate an agency-only conference call on August 30th from 1:00 – 2:30 PM. The agency group will provide written comments on the Action Level Memo by September 5th. Jennifer Holder will distribute a Word version of the Action Level Memo to facilitate the agency review/comments. Chuck Lambert will check on the feasibility of providing the action levels spreadsheets with calculations at the request of Teri Copeland and Aaron LaBarre.

Aaron LaBarre noted that the EHS role in the intertidal zone activities is to determine whether there is a risk that requires a public notice. He observed that the action level memo is very helpful. EHS has reviewed the risk assessment and subsequent data, conducted appropriate analysis and

concluded that the risk was not significant. His directive is to participate in the intertidal zone group to monitor activities and data.

Robert Van Hyning briefly discussed the status of the revised draft ARARs. He noted that that the agencies have provided their input and it was agreed that no additional review is necessary until the ARARs are presented in the Pre-Feasibility Report.

Compendium of Site Information and History

Andy Mutziger coordinated with EHS and RWQCB to identify a list of additional documents that they would like to have included in the compendium of site information. It was agreed that each agency would provide additional documents that they would like to be included in the compendium. It was noted that the meeting summaries, which capture comments from the ATCAT participants and documents the process, should also be included. Robert will work with Chuck Anders and George Weber to get the ATCAT meeting minutes and post them to the website.

Action Items and Path Forward

The ATCAT participants agreed to hold November 8th as tentative date for the next ATCAT meeting in San Luis Obispo (9:30 AM – 3:00 PM). The primary purpose of the meeting will be to review the Interim Remediation Actions.

Status	Action Items
Intertidal Zone Activities	
Due August 10	1) Chuck Lambert will send Aaron LaBarre and Teri Copeland the intertidal zone action level spreadsheets with calculations.
Due August 10	2) Jennifer Holder will distribute Word version of Action Level Memo for easier review.
Due August 27	3) Chevron will distribute the Interim Remedial Action Plan for review.
August 30 (1:00–2:30)	4) Melissa Boggs will coordinate an Agency conference call to review the Intertidal Zone Action Level Memo and a develop path forward to pull together data on intertidal zone activities. (Melissa will set up the conference call.)
August 31 (10:00-12:00)	5) ATCAT conference call to discuss the Interim Remedial Action Plan. (Kim Tulledge will set up the conference call and send notification.)
Due September 5	6) Agencies submit comments on the Intertidal Zone Action Level Memo. (To be discussed during the Agency conference call on August 30.)
Due September 5	7) Melissa Boggs/Regina Donohoe – Distribute Mussel Report.
September 10 (10:00–12:00)	8) ATCAT conference call to discuss and report out 1) Review Intertidal Zone Action Level memo, 2) Agency strategies to pull together data on intertidal zone activities/path forward, 3) inclusion of intertidal data in Pre-Feasibility Report and 4) need for October conference call. (Kim Tulledge will set up the conference call and send notification.)
Due September 30	9) Chevron prepare and distribute report of intertidal zone sampling/analytical data
Site Conceptual Model	

Due August 15	10) Dan Niles will coordinate agency comments on SCM and distribute a timeline of when agency comments will be completed.
Pre-Feasibility Report and FS	
Due Early November	11) Jennifer Holder will distribute the draft Pre-Feasibility Report for review.
Other Pending Items/Activities – not discussed at the meeting	
	▪ Prepare a Response to Comments to the draft Risk Management Plan (RMP) ver. 1.1 or suggest an alternative strategy to address comments (Jennifer Holder) - within 4 weeks after receiving the preliminary Agency determination letter. ▪ "Crystallize" summary table 3-1 of the draft RMP to memorialize conclusions to date (Jennifer Holder) - if appropriate after Pre-Feasibility Report outline is prepared. ▪ Draft No Objection letter from RWQCB to Chevron on the Report of Findings for the LNAPL Recovery and Mobility Pilot Test (Dan Niles) – In progress. ▪ Draft No Objection letter from RWQCB to Chevron on the Report of Findings for the Supplemental Cliff Area Characterization – (Dan Niles) In progress. ▪ LNAPL brainstorm session follow up, first generate graphics and table (Rik Williams) – Deferred pending outcome of sampling efforts in Avila Cliff Intertidal Zone Area. ▪ Monitoring and Report Plan changes. (Rik Williams) Deferred pending the conclusion of sampling activities in the Avila Cliff Intertidal Zone Area. ▪ Volumetric estimates of the loading rack/pump house, refinery, pipeline corridors and cliff area. (Rik Williams) In progress. ▪ RWQCB requested preparation of a timeline to memorialize response to the discovery of hydrocarbons in the intertidal area (Rik Williams?) In progress.

Upcoming Meeting Dates and Agenda Items

Agency Conference Call – August 30 (1:00 – 2:30 PM)

1. Discuss the Intertidal Zone Action Level Memo and develop path forward to pull together data on intertidal zone activities. (Melissa will set up the conference call.)

ATCAT Conference Call – August 31 (10:00 AM – 12:00 PM)

1. Safety Moment
2. Review/Ratify of 8/6/12 Meeting Summary
3. Review Interim Remedial Action Plan
4. Discuss Agency strategies to pull together data on intertidal zone activities/path forward (optional)
5. Action Items

ATCAT Conference Call – September 10 (10:00 AM – 12:00 PM)

1. Safety Moment
2. Review/Ratify 8/31/12 Conference Call Summary
3. Intertidal Zone Action Level memo
4. Agency strategies to pull together data on intertidal zone activities/path forward
5. Inclusion of intertidal data in Pre-Feasibility Report
6. Need for October conference call
7. Action Items

ATCAT Meeting, San Luis Obispo – November 8 (9:30 AM – 3:00 PM)

1. Safety Moment
2. Review/Ratify 9/10/12 Conference Call Summary
3. Pre-Feasibility Report
4. Remaining Intertidal Zone Items/Issues
5. Interim Remedial Action Plan
6. Action Items/Path Forward

Drafted by Strategic Initiatives based on the September 10, 2012 ATCAT conference call. Reviewed, revised and ratified via email after the November 8, 2012 ATCAT conference call.

Avila Tank Farm Collaborative Assessment Team

Conference Call Summary

Date: September 10, 2012

Time: 10:00 AM – 12:00 PM

Participants:

Name	Organization	Name	Organization
Chuck Anders	Strategic Initiatives	Chuck Lambert	McDaniel Lambert
Melissa Boggs	CDFG	Tim Fuhs	APCD
Louis Cappel	Padre Associates	Dan Niles	RWQCB
Teri Copeland	Consultant to EHS	Kim Tulledge	Chevron
Regina Donohoe	CDFG	Robert Van Hyning	Avocet Environmental
Jennifer Holder	ERM	George Weber	ERM
Aaron LaBarre	EHS	Rik Williams	Chevron

Safety Moment

Rik Williams reminded everyone to inspect rental equipment prior to taking it to the work site. In his experience, the equipment requires repair approximately one out of every five times. Ask to see a checklist from the rental vendor to conduct an inspection. The initial inspection will save time, assure safer working conditions and minimize environmental impacts.

Meeting Summary Review/Ratification

The draft meeting summary from the 8/6/12 ATCAT meeting, version 3 was reviewed and ratified, as written.

Review Status of Action Items from 8/6/12 ATCAT meeting

The action items from the 8/6/12 ACTAT meeting were reviewed to track progress on activities. See the Action Item table at the end of this meeting summary for current status.

Status of Interim Remedial Action Plan and Follow-Up

Rik Williams indicated that the draft Interim Remedial Action Plan was being reviewed by Chevron's subject matter experts and should be distributed to the ATCAT by September 12th. An ATCAT conference call was scheduled for Tuesday, September 25th from 10:00 AM – 12:00 PM to discuss the draft.

Intertidal Zone Action Level Memo

Rik Williams noted that Chevron has received comments from all agencies with the exception of APCD. Tim Fuhs will check with Andy Mutziger regarding the status of comments from APCD. Rik will organize the comments into a table to make it easier to review and track.

After reviewing the comments, Jennifer Holder questioned the objective of the Action Level Memo. Regina Donohoe noted that the goal would be to stop the discharge and the Action Level Memo would be useful to assess urgency of what needs to be done. Melissa Boggs added that exceedances of an action level could trigger an emergency action, which could expedite a remedial response. Melissa noted that it would likely not be practical to implement remedial actions in the intertidal zone and any remedial action will most likely need to be implemented from above on the

Tank Farm property. Melissa will consult with the Coast Guard to identify what remedial actions could be implemented in the intertidal zone if Action Levels are exceeded and/or if sheen continues to be observed in the tidepool area.

Dan Niles suggested framing the Action Level Memo to address two questions:

1. Is harm being done?
2. What do we do about it?

He noted that inclusion of the qualitative water quality goals makes the issue more complex and suggested using the action level memo as a relative yardstick to understand the implications of the data.

Jennifer Holder commented that the action levels would be a level that triggers an action and are not meant to be clean-up goals, which would require additional investigation and analysis. Chuck Lambert observed that the human health action levels focus on chronic exposure and the response would likely be remediation.

Regina Donohoe indicated that she offered alternative benchmarks in her comments because she does not agree with the benchmarks proposed because they are not conservative enough to be protective of ecological receptors, but agrees action levels can be used to identify triggers for next steps (e.g., public notice, more monitoring, interim remedial action implementation, etc.). Dan Niles added that it is key to agree on the benchmarks and then compare the field data. The definition of what could trigger an "emergency response" could be included in the Action Level Memo or another document. Regina observed that the human health and ecological objectives could be different.

Aaron LaBarre sees the Action Level Memo as a decision-making tool where actions to protect ecological receptors are likely to be triggered before actions are needed to protect human health. Dan Niles noted that Chevron is currently planning interim remedial actions based on the data we currently have. Jennifer Holder observed that the action levels will be useful to evaluate monitoring data; however, they do not take the place of a risk assessment. Action levels assume continued exposure for a significant amount of time and we would not likely measure constituents at significant levels during high tide (due to the dilution factor). Chuck Lambert and Teri Copeland noted that human health action levels are very conservative. It may require immediate action if action levels are exceeded by a large amount; however, if they are only slightly exceeded that would likely require more study. Aaron LaBarre sees the action levels as a practical decision-making tool because in some instances, we may not have the luxury of time.

Teri Copeland emphasized that the key will be how the actual data compares with the action levels. Louis Cappel anticipates completing the data compilation by September 30th or early October. He would like to have the action levels complete by that time so he could compare the actual data to the action levels in the report. There was general agreement with this approach.

Melissa Boggs observed that there was general agreement on the purpose of the Action Level Memo as a decision-making tool. The question to be addressed is whether the Deepwater Horizon levels are conservative enough to evaluate risks to ecological receptors. Rik Williams asked DFG why they do not think the Deepwater Horizon levels are protective enough. Regina Donohoe explained that she recommended using HC5 data in her comments on the Action Level Memo because the Deepwater Horizon benchmarks do not address uncertainties associated with interspecies variation/sensitivities and acute-to-chronic exposures. The HC5 levels address these issues and are more protective of chronic exposures. Rik Williams suggested listing the HC5 and Deepwater Horizon benchmarks side-by-side so it would be easier to compare. Jennifer Holder recommended that we agree on the objectives of the Action Level Memo before we start comparing levels. She advised against making things too complicated and having to deal with a large uncertainty. Teri Copeland suggested that it would be useful to reference how the objectives

will be used and that the ATCAT members work informally, as appropriate, to resolve these questions.

The ATCAT members agreed on the following action items:

1. (9/10/12) Rik Williams will forward Dan Niles comments to Chuck Anders for distribution to the full ATCAT. (Dan subsequently requested an extension to 9/14/12 in order to integrate a table of water quality standards and coordinate with the other Agency participants.
2. (9/14/12) Chevron will distribute a proposed timeline of activities for completing the Action Level Memo and include a discussion of combining DFG and Chevron data into a single report.
3. Chevron will draft straw-man objectives for the Action Level Memo per Dan's suggestion and distribute to the ATCAT for review.
4. Chevron will prepare and distribute a table of comments on the original draft of the Action Level memo.
5. Chevron will prepare a revised Action Level Memo for review and comment, including a discussion of data quality issues and methodology.

Agency Strategies to Pull Together Data on the Intertidal Zone

Melissa Boggs noted that all DFG raw data has already been distributed and asked whether the group wanted DFG data to be part of the Chevron report. It was agreed to develop the data on separate paths and to include a discussion of combining the data into one report in the proposed timeline being developed by Chevron.

Inclusion of Intertidal Data in the Pre-Feasibility Report

Jennifer Holder suggested referencing the intertidal data report if it is completed before Pre-Feasibility Report is released. The data could be included in the Pre-Feasibility Report if the data report is delayed.

Need for October Conference Call

The need for an October conference call will be addressed in the proposed timeline to be developed by Chevron.

Action Items and Path Forward

The following table includes the status of activities from the August 6 ATCAT meeting and additional action items from the September 10th conference call.

Status	Action Items	Status/Comments
Intertidal Zone Activities		
Due August 10	1) Chuck Lambert will send Aaron LaBarre and Teri Copeland the intertidal zone action level spreadsheets with calculations.	Complete
Due August 10	2) Jennifer Holder will distribute Word version of Action Level Memo for easier review.	Complete
Due September 12	3) Chevron will distribute the Interim Remedial Action Plan for review.	Distribute on September 12. Conference call to discuss September 25 (10:00 – 12:00 PM)
August 30	4) Melissa Boggs will coordinate an Agency	Complete

August 30 (1:00–2:30)	4) Melissa Boggs will coordinate an Agency conference call to review the Intertidal Zone Action Level Memo and a develop path forward to pull together data on intertidal zone activities. (Melissa will set up the conference call.)	Complete
August 31 (10:00-12:00)	5) ATCAT conference call to discuss the Interim Remedial Action Plan. (Kim Tulledge will set up the conference call and send notification.)	Cancelled
Due September 5	6) Agencies submit comments on the Intertidal Zone Action Level Memo. (To be discussed during the Agency conference call on August 30.)	Comments submitted by RWQCB, DFG and EHS. Tim Fuhs will check with Andy Mutziger regarding APCD comments.
September 10 (10:00–12:00)	7) ATCAT conference call to discuss and report out 1) Review Intertidal Zone Action Level memo, 2) Agency strategies to pull together data on intertidal zone activities/path forward, 3) inclusion of intertidal data in Pre-Feasibility Report and 4) need for October conference call. (Kim Tulledge will set up the conference call and send notification.)	Complete
Due September 14	8) Rik Williams will forward Dan Niles comments to Chuck Anders for distribution to the full ATCAT.	
Due September 14	9) Melissa Boggs will consult with the Coast Guard to identify what actions could be taken if Action Levels were exceeded.	
Due September 14	10) Chevron will distribute a proposed timeline of activities for completing the Action Level Memo and include a discussion of combining DFG and Chevron data into a single report.	
TBD	11) Chevron will draft straw-man objectives for the Action Level Memo per Dan's suggestion and distribute to the ATCAT for review.	Include schedule in timeline.
TBD	12) Chevron will prepare and distribute a table of comments on the original draft of the Action Level memo.	Include schedule in timeline.
TBD	13) Chevron will prepare a revised Action Level Memo for review and comment, including a discussion of data quality issues and methodology.	Include schedule in timeline.
Due September 30	14) Melissa Boggs/Regina Donohoe – Distribute Mussel Report.	Data has been distributed as received. Melissa will compile all data into one report and distribute by September 30.
Due	15) Chevron prepare and distribute report of	In progress

Site Conceptual Model		
Due September 21	16) Dan Niles will coordinate agency comments on SCM and distribute a timeline of when agency comments will be completed.	Dan distributed draft comments with final comments distributed by Sept. 14. (After the call, Dan requested an extension to Sept. 21 to better coordinate with other Agencies. May delay Pre-Feasibility Report.)
Pre-Feasibility Report and FS		
Due Early November	17) Jennifer Holder will distribute the draft Pre-Feasibility Report for review.	On schedule, pending final comments on SCM.
Other Pending Items/Activities		
	Prepare a Response to Comments to the draft Risk Management Plan (RMP) ver. 1.1 or suggest an alternative strategy to address comments (Jennifer Holder) - within 4 weeks after receiving the preliminary Agency determination letter.	Delete – no longer relevant.
	"Crystallize" summary table 3-1 of the draft RMP to memorialize conclusions to date (Jennifer Holder) - if appropriate after Pre-Feasibility Report outline is prepared.	Delete – no longer relevant.
	Draft No Objection letter from RWQCB to Chevron on the Report of Findings for the LNAPL Recovery and Mobility Pilot Test (Dan Niles) – In progress.	In progress.
	Draft No Objection letter from RWQCB to Chevron on the Report of Findings for the Supplemental Cliff Area Characterization – (Dan Niles) In progress.	In Progress.
	LNAPL brainstorm session follow up, first generate graphics and table (Rik Williams) – Deferred pending outcome of sampling efforts in Avila Cliff Intertidal Zone Area.	In Progress.
	Monitoring and Report Plan changes. (Rik Williams) Deferred pending the conclusion of sampling activities in the Avila Cliff Intertidal Zone Area.	In Progress.

	Volumetric estimates of the loading rack/pump house, refinery, pipeline corridors and cliff area. (Rik Williams) In progress.	In progress. Anticipate completion by September 30.
	RWQCB requested preparation of a timeline to memorialize response to the discovery of hydrocarbons in the intertidal area (Rik Williams?) In progress.	In progress. Anticipate completion by September 30.

Upcoming Meeting Dates and Agenda Items

ATCAT Conference Call – September 25 (10:00 AM – 12:00 PM)

1. Review the Interim Remedial Action Plan
2. Answer Questions
3. Discuss Timing and Next Steps
4. Action Items

ATCAT Meeting, San Luis Obispo – November 8 (9:30 AM – 3:00 PM)

1. Safety Moment
2. Review/Ratify 9/10/12 Conference Call Summary
3. Pre-Feasibility Report
4. Remaining Intertidal Zone Items/Issues
5. Interim Remedial Action Plan
6. Action Items/Path Forward

Drafted by Strategic Initiatives based on the November 8, 2012 ATCAT conference call. Reviewed and ratified during the December 13, 2012 ATCAT conference call.

Avila Tank Farm Collaborative Assessment Team

Conference Call Summary

Date: November 8, 2012

Time: 9:30 AM – 11:10 AM

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Aaron LaBarre	EHS
Chuck Anders	Strategic Initiatives	Chuck Lambert	McDaniel Lambert
Melissa Boggs	CDFG	Andy Mutziger	APCD
Louis Cappel	Padre Associates	Dan Niles	RWQCB
Teri Copeland	Consultant to EHS	Debbie Rudd	RRM Design
Juliet Don	Chevron	Kim Tulledge	Chevron
Regina Donohoe	CDFG	Robert Van Hyning	Avocet Environmental
Jennifer Holder	ERM	George Weber	ERM
Ryan Hostetter	SLO County Planning	Dave Whitney	APCD
Tim Hunt	Avocet Environmental	Rik Williams	Chevron

Safety Moment

Rik Williams reminded everyone to drive with caution in rainy conditions. This is the second rain of the season and it's time to make sure your vehicles are ready for the winter season.

Ratify 9/10/12 and 9/25/12 Conference Call Summaries

Melissa Boggs recently distributed suggested revisions; therefore the review period was extended to close of business on November 12. The meeting summaries as amended by Melissa will be considered ratified if no significant additional comments are received. A revised draft will be redistributed for review if significant comments are submitted.

Avila Point Open House (11/8/12)

Rik Williams announced that Chevron will be hosting an open house at the Avila Beach Community Center this evening at 7:00 PM. Debbie Rudd noted that they will meet one-half hour before the meeting to coordinate meeting activities. Nametags will only be provided to key speakers and technical resources. Others will need to sign in and make their own nametag. Agency personnel do not need to fill out public agency meal paper work if not eating any refreshments provided by Chevron. Debbie noted that the public will be able to provide feedback with comment cards, flip-charts at individual information stations and through a project web-site that will be up early next week. The URL is www.avilapoint.com. Rik will send out an email to the ATCAT when the web site is operational.

An overview of the proposed project will be presented at the beginning of the meeting. Topical information stations will be staffed with subject experts to answer specific questions and receive comments. No fact sheets will be distributed at the meeting since information will be posted on the web site.

Bill Almas noted that Chevron wants to provide the community with project information and the opportunity to ask questions before they submit a pre-application to County Planning, which triggers an "email blast" to interested parties. Debbie Rudd explained that they have met with numerous community stakeholders prior to the meeting. The primary concerns from the interviews were about the potential for contamination migrating to the community and when remediation would begin. Chevron doesn't expect to be in front of the Board of Supervisors for final approval until 2015. She emphasized that the focus of the meeting will be the concept plan.

Melissa Boggs asked if her comments regarding the impact to the ecosystem were included in the relevant flip charts. Rik noted that Melissa's comments were included. Ryan Hostetter indicated that she will be attending and will be available for questions.

Bill Almas noted that Chevron will be making a second request for water service to the Avila Beach CSD next week.

Update on the Intertidal Zone Action Level Memo (Intertidal Zone Notification Plan)

Rik Williams noted that Chevron met with Dan Niles to clarify agency expectations and have prepared a revised draft. As a result of the discussions, they have rebranded the Intertidal Zone Action Level Memo as the Intertidal Zone Notification Plan, which better describes its purpose. Chevron is conducting an internal review of the draft document and anticipates distributing the draft notification plan early to mid December. Jennifer Holder observed that the plan will include an appendix for each agency that discusses the individual Agency objectives and requirements. Chevron will distribute the draft appendices around Thanksgiving.

Jennifer explained that based on feedback from Dan and other Agencies there was confusion about the objectives and purpose of the action levels. The Agencies were looking for an easily way to evaluate and screen the monitoring data against conservative thresholds to trigger agency notification, resulting in changing the name of the document.

Jennifer further explained that they will review all Agency benchmarks and take the lowest value for each constituent to define the value that triggers notification. If the most conservative benchmark is exceeded, they would notify all four Agencies. It would be up to the individual Agencies to decide how to proceed. This is a much more simplified and straightforward approach and they will include a simple flowchart to illustrate the process.

The document will be relatively short and the appendices will provide a more detailed discussion of the benchmarks. Dan Niles and Melissa Boggs observed that this was a good approach. Aaron LaBarre added that it was important to EHS to determine when a public notification would be required. Jennifer reiterated that the notification threshold will be the lowest of all of the possible benchmarks and it will be up to Agencies to determine how it applies to them.

Update on the Intertidal Zone Observation Monitoring Plan and Sampling since the Beach Area has been Scoured

Louis Cappel reviewed the recent monitoring activities in the intertidal zone. He noted that two sampling events were recently conducted on October 15 and October 16, 2012. He reported that the intertidal area was partially scoured in the middle of October and that the odor and sheen had not materially changed from previous observations, except that the sheen area was slightly smaller. Samples were analyzed from both sampling events. The results from the first sampling event were similar to previous samples; however, the results from the second sampling event were significantly lower. The next observation monitoring events are scheduled for November 12 & 13 and again on

December 10, 11 & 12. Sampling during the scheduled events are dependent on beach scour, as well as the presence of sheen. Louis is waiting on the full laboratory report and will distribute the results when received. Louis will keep the ATCAT informed on the sampling schedule. Dan Niles asked if there were many people on the beach when they were sampling. Louis noted that there were a couple people and they didn't ask any questions.

Status of Interim Remedial Action Plan and Associated Activities

- **Liquid Recovery from Bailing**
  Louis Cappel reported that they observed approximately 0.5 feet of LNPL in well B-230 when preparing for the liquid recovery tests. Because of the presence of the LNPL in well B-230, they switched that well to an extraction well and placed the transducer in well B-231. Louis noted that they have recovered approximately 0.3 gallon of LNPL from well B- 230 over the past month and the level of LNPL has not recovered to the initial thickness of 0.5 feet. When dewatering well B-230 the well recharged to quickly to conduct the liquid recovery test, so they are now focused on implementing the vapor extraction pilot test. Melissa Boggs questioned whether automated bailing was feasible. Louis noted that the workplan states that they would use a pump if the manual bailing didn't work; however, the 2-inch diameter well is too small to accommodate both the pump and SVE equipment at the same time. Robert Van Hyning added that they will discuss additional remedial actions and present an amended plan on dewatering strategies after the open house.

- **Soil Vapor Extraction Set Up**
  Robert Van Hyning informed the group that Chevron has submitted an application to APCD for the vapor extraction system and they should have equipment out on the site soon. He will distribute additional information as soon as it becomes available.

Updates on the Following Studies:

- **Sampling Data Report from the Four Summer Sampling Events**
  Louis Cappel is preparing a report on sampling activities, including a third-party data evaluation that should be completed by the end of November. He anticipates distribution of the report in the first week of December.

- **Site Conceptual Model**
  Rik Williams anticipates distribution of the draft SCM before or after Thanksgiving

- **Pre-Feasibility Study**
  Rik Williams indicated that the target date to distribute the draft Pre-Feasibility Study is before the end of December. He would prefer to distribute the document one to two weeks prior to a face-to-face ATCAT meeting where the document would be discussed. He would like to get comments from agencies about one month after meeting. We would then have a second face-to-face meeting to discuss comments and response. Bill Almas noted that it will be a rather long document with numerous appendices. Jennifer Holder added that the Pre-Feasibility Study will likely be the first few chapters of the FS. It was agreed that the draft Pre-Feasibility Study would be available for download from the compendium of documents (FTP site) and also distributed to Agencies as a hard copy with CD if they preferred.

- **HHRA Addendum**
  Chuck Lambert announced that they distributed an addendum to the supplemental HHRA yesterday. The document was revised because some of the development bubbles had changed size and additional soil-gas and soil data was included. The same spreadsheets and assumptions were used and the results are very similar. Jennifer added that they will also be

updating the eco risk assessment for the eco analysis and remediation baseline where there is no development. Regina Donohoe questioned whether the Pre-Feasibility Study would be based on the new HHRA results. Jennifer confirmed that the draft Pre-Feasibility Study will include the updated data and will be consistent with the HHRA Addendum. Jennifer noted that the review timeline for the HHRA Addendum will be the same as the Pre-Feasibility Study so they will not be able to include any Agency revisions to the HHRA Addendum in the initial draft of the Pre-Feasibility Study.

It was agreed that Agency comments on the HHRA Addendum would be competed by December 3rd. Agencies will work directly with Chuck Lambert and Jennifer Holder to resolve questions and issues. Aaron LaBarre will review the EHS schedule to determine when they can provide comments. Andy Mutziger asked if the Addendum was distributed in track-changes mode. Chuck Lambert indicated that the only elements that changed were the bubble size and risk tables. There is a table in the back of the document that discusses the changes.

Schedule and Action Items

The next face-to-face meeting of the ATCAT will be held on Tuesday, January 15, 2013 from 9:30 AM – 3:00 PM. The focus of the meeting will be discussion of the draft Pre-Feasibility study. The ATCAT also scheduled time for a tentative conference call on Thursday, December 13, 2012 from 1:00 – 3:00 PM, if needed. The participants reviewed the action item table in the September 25th draft meeting summary. The following table presents the updated status of activities.

Schedule	Action Items	Status/Comments
Intertidal Zone Activities		
Early - Mid December	1) Chevron will prepare a revised ~~Action Level Memo~~ Intertidal Zone Notification Plan for review and comment, including objectives and a discussion of data quality issues and methodology.	Chevron will distribute draft appendices discussing Agency requirements around Thanksgiving.
Ongoing	2) Melissa Boggs/Regina Donohoe – Distribute Mussel Report.	Ongoing – Melissa recently received OEHHA review.
Early December	3) Chevron will prepare and distribute a report of intertidal zone sampling/analytical data.	Louis will keep the ATCAT informed of the upcoming sampling schedule.
TBD	4) Chevron will prepare an amended plan on dewatering strategies.	Prepare plan after Open House.
TBD	5) Chevron will distribute the SVE monitoring plan / information.	
Site Conceptual Model		
Before or After Thanksgiving	6) Chevron will distribute the SCM to the ATCAT for review and comment	
HHRA Addendum		

December 3	7) Agencies will submit comments on the draft HHRA Addendum.	Aaron LaBarre will review the EHS schedule and determine when they can provide comments.
Pre-Feasibility Study		
End of December	8) Jennifer Holder will distribute the draft Pre-Feasibility Study for review.	
Other Pending Items/Activities		
	Draft No Objection letter from RWQCB to Chevron on the Report of Findings for the LNAPL Recovery and Mobility Pilot Test (Dan Niles)	In progress.
	Draft No Objection letter from RWQCB to Chevron on the Report of Findings for the Supplemental Cliff Area Characterization (Dan Niles)	In Progress.
	LNAPL brainstorm session follow up, first generate graphics and table Deferred pending outcome of sampling efforts in Avila Cliff Intertidal Zone Area (Rik Williams)	In Progress.
	Monitoring and Report Plan changes. Deferred pending the conclusion of sampling activities in the Avila Cliff Intertidal Zone Area. (Rik Williams)	In Progress.
	Volumetric estimates of the loading rack/pump house, refinery, pipeline corridors and cliff area. (Rik Williams)	In progress. Anticipate completion by November 30.
	RWQCB requested preparation of a timeline to memorialize response to the discovery of hydrocarbons in the intertidal area (Rik Williams?)	In progress. Anticipate completion by November 30.

Upcoming Meeting Dates and Agenda Items

ATCAT Conference Call (tentative) – December 13 (1:00 – 3:00 PM)

1. Safety Moment
2. Review/Ratify 11/8/12 Conference Call Summary
3. HHRA Addendum

- Agency Comments
- Questions / Discussion

4. Intertidal Zone Issues and Activities
   - Draft Intertidal Zone Notification Plan and Appendices
   - Sampling/Analytical Report
   - Interim Remedial Action Plan
     a. SVE Activities
     b. Alternative Dewatering Test Strategies
5. Site Conceptual Model
6. Status of Pre-Feasibility Report
7. Action Items/Path Forward

ATCAT Meeting, San Luis Obispo – January 15, 2013 (9:30 AM – 3:00 PM)

1. Safety Moment
2. Review/Ratify 12/13/12 Conference Call Summary
3. Review/Discuss Pre-Feasibility Report
4. Remaining Intertidal Zone Items/Issues
5. Action Items/Path Forward

Drafted by Strategic Initiatives based on the January 15, 2013 ATCAT meeting. No additional comments or revisions were received after the February 1, 2013 ATCAT conference call; therefore, the January 15, 2013 meeting summary is considered ratified.

Avila Tank Farm Collaborative Assessment Team

Meeting Summary

Date: January 15, 2013

Time: 9:30 AM – 1:40 PM

Location: RRM Design, 3765 S. Higuera St., # 102, San Luis Obispo

Participants:

Name	Organization	Name	Organization
Bill Almas	Chevron	Chuck Lambert	McDaniel Lambert
Chuck Anders	Strategic Initiatives	Andy Mutziger	APCD
Melissa Boggs	CDFW	Dan Niles	RWQCB
Louis Cappel	Padre Associates	Jaydeep Purandare	Avocet Environmental
Teri Copeland	Consultant to EHS	Debbie Rudd	RRM Design
Juliet Don	Chevron	Kim Tulledge	Chevron
Regina Donohoe	CDFW	Robert Van Hyning	Avocet Environmental
Jennifer Holder	ERM	George Weber	ERM
Aaron LaBarre	EHS	Rik Williams	Chevron

Announcements

Regina Donohoe announced that recent legislation changed the name of the California Department of Fish and Game (CDFG) to the California Department of Fish and Wildlife (CDFW). The transition will take place over time due to budget limitations.

Safety Moment

Rik Williams shared a recent experience at the Avila Beach Scout House where rodents had damaged electrical wiring in the building. The wiring was immediately repaired and returned to service. Rik recommended that buildings be inspected periodically for water damage and infestation since damage to electrical systems could cause a fire hazard.

12/13/12 Conference Call Summary

The ATCAT ratified the December 13, 2012 ATCAT Draft Conference Call Summary ver1 with Melissa Boggs edits.

Status of HHRA Addendum

Chuck Lambert noted that the HHRA Addendum was currently under review by EHS. The HHRA addendum was necessary because of additional soil gas sampling requested by SLO County Health in areas where the DQA indicated that additional sampling would increase the statistical certainty associated with the calculated risks. The development areas also changed as did some of the potential exposure scenarios. All of these factors necessitated recalculating the risks associated with the final development scenario.

Status of Intertidal Zone Action Issues and Activities

- **Draft Intertidal Zone Notification Plan and Appendices**

  Jennifer Holder provided an overview of the draft notification plan that was distributed in December. She emphasized that the purpose of the document was to identify an agreed upon threshold that would trigger agency notification. She noted that the threshold levels were developed independently for each agency and then pooled together to identify the lowest level for notification purposes. Dan Niles and other Agency representatives confirmed that the draft plan met their notification objectives. Regina Donohoe added that it was CDFW's standard practice to review all data when received.

  Regina raised questions regarding some constituents that had no ecological thresholds and suggested that the literature be further reviewed to identify thresholds and/or a process be specified for reporting detections of these compounds. She also questioned how cumulative effects of constituents were handled. Chuck Lambert noted that the human health cumulative effects methodology was included as an attachment. Regina added that the CDFW typically looks at the "mixture toxicity" in addition to individual thresholds.

  Melissa Boggs expressed concern that the observation of a sheen be included as a threshold in the notification plan since it may not always be captured in the analytical data. She noted that the observation of a sheen requires reporting under some statues. Dan Niles agreed that the observation of a sheen should be included in the notification plan. Louis Cappel suggested clarifying sheen reporting in the intertidal zone observation and monitoring plan. The current practice is to immediately take and analyze water samples if a sheen is observed. Louis and Melissa are currently working with the CDFW laboratory to further characterize the sheen and its potential sources.

  Regina noted that the notification plan is based on constituents that have been observed to date. The plan needs to include a process on how to address new constituents that may be detected in the future.

  Melissa observed that there are many domestic dogs on the beach, particularly in the early morning. She raised concern for dogs that may be exposed to the tide pools.

  Agency representatives agreed to submit written comments on the draft notification plan by January 31, 2013. Aaron LaBarre will check the EHS schedule and notify Chuck Anders when they can submit comments by Wednesday.

- **Mussel Study**

  Melissa Boggs indicated that the Mussel Study was still ongoing.

- **Sampling/Analytical Report**

  Louis Cappel noted that they have completed two of the three planned winter tide pool sampling events. He will keep the ATCAT informed of activities and prepare an addendum to the sampling report after the third sampling event is complete.

  Bill Almas requested that Melissa clarify the term "sheen." Melissa noted that regulations prohibit discharge of a sheen to a navigable waterway and also noted that she previously provided Louis a document that defines different types of sheen. Louis observed that it is assumed that the sheen is from hydrocarbons due to the proximity of a potential hydrocarbon source. However, it is important to clarify whether the sheen is actually caused by hydrocarbons or some other material.

- **Interim Remedial Action Plan**
  - **SVE Activities**

Louis informed the ATCAT that the SVE equipment has arrived on-site and the seven-day pilot test is scheduled to begin on January 17th. The SVE system will continue to operate until the multiphase pilot test begins or the system is deemed ineffective. Chevron will distribute the revised SVE Monitoring Plan to the ATCAT by January 25th.

- **Alternative Dewatering Test Strategies**

Robert received the minor use permit from the County to begin construction of a 6-inch diameter well for future dewatering and SVE use. Louis noted that they continue to bale the existing well and have recovered a total of 1/2 gallon light-brown liquid, which is lighter than water. The well continues to recharge very slowly.

Site Conceptual Model

Robert Van Hyning views the SCM as an ongoing document. He will distribute information on how to access the FTP site by tomorrow. ATCAT members will provide written comments via email on the response to comments table by February 15th.

Rik Williams questioned whether the ATCAT intended to ratify the SCM. It was agreed that the ATCAT would ratify the SCM after comments were addressed.

Preliminary Application to the County

Debbie Rudd announced that Chevron has submitted the preliminary project application to County Planning and Building in order to get the EIR consultant onboard. Ryan Hostetter is now working on and RFP for an EIR consultant. Debbie anticipates having a consultant under contract by June.

Pre-Feasibility Study

Rik Williams provided an overview of how to download the Pre-Feasibility Study documents from the ERM FTP site. Jennifer Holder offered to provide hard copies of the document and 11x17 figures. Coordinate with George Weber to obtain any hard copies.

Jennifer provided an overview of the draft document and briefly reviewed the contents of each section. The document, which is basically the first few chapters of the Feasibility Study (FS), provides risk management recommendations, preliminary remedial action objectives, and a compendium of existing reports in the appendices. She noted that the land-use scenarios include the proposed development scenario and an open-space scenario. Each assumes that Chevron will conduct a baseline remediation regardless of whether the site is developed or not. The baseline remediation is not based on the risk assessments but on Chevron "legacy" criteria. It will provide a minimum of 4 feet of separation between the land surface and non-asphaltic TPH greater than 1,000 mg/kg. Jennifer noted that the Pre-Feasibility Study is designed so as not to lose sight of the risks, even if they will be addressed in the baseline remediation. Other risk management concerns, such as, water quality, methane, asphaltic materials in soils and coastal erosion are also be addressed.

Rik Williams noted that Chevron intends to begin work on the formal FS based on the current draft of the Pre-Feasibility Study. He anticipates filing with the County in approximately six months when the FS is complete.

Agencies participating in the ATCAT will evaluate whether they can provide comments in writing on the draft Pre-Feasibility Study by March 15th. A conference call was scheduled for February 1 from10:00 AM – 11:00 AM to address questions, clarify issues and confirm the timeline for comments. A second conference call was scheduled for March 21st from 1:00 PM – 3:00 PM to discuss comments and determine a path forward.

Schedule and Action Items

The following table presents the updated status of activities:

Status of ATCAT Action Items
(as of 1/15/13)

Schedule	Action Items	Status/Comments
Intertidal Zone Activities		
January 31st	1) ATCAT Agency participants will provide written comments on the draft Intertidal Zone Notification Plan by 1/31/13.	Aaron LaBarre will advise Chuck Anders of the EHS schedule by 1/16/13.
Ongoing	2) Melissa Boggs/Regina Donohoe – Distribute Mussel Report.	In Progress
	3) Chevron will prepare and distribute an addendum to the report of intertidal zone sampling/analytical data after the third winter sampling event.	
TBD	4) Chevron will prepare an amended plan on dewatering strategies.	Defer to 1st quarter 2013.
January 25th	5) Chevron will distribute the SVE monitoring plan / information by 1/25/13.	
Site Conceptual Model		
February 15th	6) ATCAT Agency participants will provide comments via email on the Response to Comments table by 2/15/13.	
HHRA Addendum		
February 28th	7) EHS will provide comments on the draft HHRA Addendum by 2/28/13.	The date may change due to prioritization of SLO EHS resources per Chevron's direction.
Pre-Feasibility Study		
March 15th (Tentative)	8) ATCAT Agency participants will provide written comments on the draft Pre-Feasibility Study by 3/15/13.	Agencies will assess whether 3/15 is a feasible date for comments and discuss during the 2/1/13 conference call.

Other Pending Items/Activities		
	Draft No Objection Letter from RWQCB to Chevron on the Report of Findings for the LNAPL Recovery and Mobility Pilot Test (Dan Niles)	In progress.
	Draft No Objection Letter from RWQCB to Chevron on the Report of Findings for the Supplemental Cliff Area Characterization (Dan Niles)	In progress.
Q1-2013	LNAPL brainstorm session follow up, first generate graphics and table (Rik Williams)	Defer to Q1 2013 pending outcome of sampling efforts in Avila Cliff Intertidal Zone
Early Feb.	Monitoring and Report Plan changes. (Rik Williams)	Deferred pending the conclusion of sampling activities in the Avila Cliff Intertidal Zone Area.
Late Jan./Early Feb.	Volumetric estimates of the loading rack/pump house, refinery, pipeline corridors and cliff area. (Rik Williams)	In progress.

ATCAT Conference Call – February 1, 2013 (10:00 AM – 11:00 AM)

1. Safety Moment
2. Review/Ratify 1/15/13 Meeting Summary
3. Review/Discuss Pre-Feasibility Report
4. Remaining Intertidal Zone Items/Issues
5. Site Conceptual Model
6. Action Items/Path Forward

ATCAT Conference Call – March 21, 2013 (1:00 PM – 3:00 PM)

1. Safety Moment
2. Review/Ratify 2/1/13 Conference Call Summary
3. Review/Discuss Pre-Feasibility Report Comments
4. Remaining Intertidal Zone Items/Issues
5. Site Conceptual Model
6. Action Items/Path Forward

Avila Tank Farm Collaborative Assessment Team

Conference Call Summary

Date: February 1, 2013

Time: 10:00 AM – 11:00 AM

Participants:

Name	Organization	Name	Organization
Chuck Anders	Strategic Initiatives	Andy Mutziger	APCD
Melissa Boggs	CDFW	Dan Niles	RWQCB
Louis Cappel	Padre Associates	Jaydeep Purandare	Avocet Environmental
Jennifer Holder	ERM	Debbie Rudd	RRM Design
Aaron LaBarre	EHS	Kim Tulledge	Chevron
Chuck Lambert	McDaniel Lambert	Robert Van Hyning	Avocet Environmental
Steve McMasters	SLO Building and Planning	Rik Williams	Chevron

Safety Moment

Rik Williams discussed a vehicle accident involving a young man who was a participant in a soccer match he was officiating. Shortly after the match, the young man apparently hit a car when changing lanes and was killed. Rik reminded everyone to use their mirrors to check for traffic and physically turn to check the blind spots on either side of your vehicle when changing lanes.

1/5/13 Conference Call Summary

Debbie Rudd provided additional comments on version 2 of the draft meeting summary. Aaron LaBarre also clarified document review timelines for EHS. Chuck Anders will prepare a version 3 incorporating Debbie and Aaron's comments and distribute it to the ATCAT for review. If no substantive comments are received, version 3 of the meeting summary will be considered ratified.

Pre-Feasibility Report

The participants discussed the ability of the Agency representatives to meet the tentative March 15th timeline to submit comments on the draft Pre-Feasibility Report. Jennifer indicated that she had not received any comments to date. Andy, Dan and Melissa/Regina indicated that they could submit comments by March 15th. Steve indicated that SLO County Planning and Building will not be submitting comments. Aaron noted that he is relying on Chevron to establish priorities for EHS to review Avila Tank Farm and SLO Tank Farm risk assessments. Rik will discuss the priorities with Aaron and Chuck Lambert this afternoon and send Chuck Anders an email with the proposed EHS review timeline for the HHRA Addendum and Draft Pre-Feasibility Report by COB today. *(Note: on 2/6/13 Rik reported that EHS would provide comments on the Draft Pre-Feasibility Report and HHRA Addendum by 3/28/13.)*

No one had any additional questions of Jennifer regarding the draft Pre-Feasibility Report.

Site Conceptual Model

Rik noted that he had recently sent Dan corrected meeting notes and comment tables. Robert indicated that Dan had requested a track-changes version of the recent revisions to the SCM. Robert explained that the current version of the SCM on the web site includes a response to comments table for all of the agency comments that were originally submitted. Dan has some additional comments,

which will be incorporated into the next draft. Robert will provide Dan with a track-changes version of the SCM for his review by February 8th. He will work with Dan to make sure all his comments are addressed and upload the revised track-changes version of the SCM to the Avocet FTP site by February 15th. Agency representatives agreed that they could review the updated SCM and provide additional comments, if any, by March 1st. Aaron noted that he is committed to completing the review of the SCM and that his review of the SCM should not be impacted by the SLO Tank Farm priorities.

Status of Intertidal Zone Issues and Activities

- **Draft Intertidal Zone Notification Plan and Appendices**

  Jennifer Holder noted that she received comments on the draft Intertidal Zone Notification Plan from EHS and emails from APCD and RWQCB stating that they had no additional comments. Melissa indicated that she has received Regina's comments and will commit to integrating her comments with Regina's and getting them to Jennifer by Monday (2/4/13). No one else indicated their intention to submit comments.

- **SVE Activities**

  Robert explained that upon start-up of the SVE system they began pulling gas-range TPH at much higher concentrations than anticipated. They were able to get useful information from the test; however, the system was only able to operate a couple of hours before the carbon filtration system was overwhelmed and it had to be shut down. It appears that vapor was being pulled from a wide area and that SVE with thermal oxidation should be a viable remediation strategy. Robert noted that, based on discussions with RWQCB and APCD, it is important to complete the workplan and move forward with remediation. Robert is in the process of finishing the workplan and anticipates completion in 3-4 weeks.

Schedule and Action Items

The following table presents the updated status of activities:

Status of ATCAT Action Items
(as of 2/1/13)

Schedule	Action Items	Status/Comments
Intertidal Zone Activities		
February 4th	1) ATCAT Agency participants to provide written comments on the draft Intertidal Zone Notification Plan.	Comments have been submitted by EHS. APCD and RWQCB will not submit comments. CDGF will submit comments by 2/4/13.
Ongoing	2) Melissa Boggs/Regina Donohoe – Distribute Mussel Report.	In Progress
	3) Chevron to prepare and distribute an addendum to the report of intertidal zone sampling/analytical data after the third winter sampling event.	Anticipate sampling in mid- February or March.

March 31st (depending on Chevron Internal Review)	4) Chevron to prepare a consolidated dewatering and SVE workplan.	Agreed to consolidate the SVE Workplan and the dewatering strategies into one document.
Site Conceptual Model		
March 1st	5) ATCAT Agency participants to provide comments via email on the revised track-changes version of the SCM.	The updated track-changes SCM will be available for review on the Avocet FTP site by 2/15/13.
HHRA Addendum		
March 28th	6) EHS to provide comments on the draft HHRA Addendum by 3/28/13.	*(Note: after review of SLOTF and APTF priorities, EHS review date changed from 2/28/13 to 3/28/13.)*
Pre-Feasibility Study		
March 15th (EHS to provide comments by March 28th)	7) ATCAT Agency participants to provide written comments on the draft Pre-Feasibility Study.	All Agencies, except EHS, to provide comments by 3/15/13. *(Note: after review of SLOTF and APTF priorities, EHS review date changed from 3/15/13 to 3/28/13.)*
Other Pending Items/Activities		
	Draft No Objection Letter from RWQCB to Chevron on the Report of Findings for the LNAPL Recovery and Mobility Pilot Test (Dan Niles)	In progress.
	Draft No Objection Letter from RWQCB to Chevron on the Report of Findings for the Supplemental Cliff Area Characterization (Dan Niles)	In progress.
Q1-2013	LNAPL brainstorm session follow up, first generate graphics and table (Rik Williams)	Will be incorporated into development of the Dewatering and SVE Workplan.
Mid February / Early March	Monitoring and Report Plan changes. (Rik Williams)	Deferred pending the conclusion of sampling activities in the Avila Cliff Intertidal Zone Area.

Mid February / Early March	Volumetric estimates of the loading rack/pump house, refinery, pipeline corridors and cliff area. (Rik Williams)	In progress.

ATCAT Conference Call – March 21, 2013 (1:00 PM – 3:00 PM)

1. Safety Moment
2. Review/Ratify 2/1/13 Conference Call Summary
3. Review/Discuss Pre-Feasibility Report Comments
4. Remaining Intertidal Zone Items/Issues
5. Site Conceptual Model
6. Action Items/Path Forward

Avila Tank Farm Collaborative Assessment Team

Conference Call Summary

Date: March 21, 2013

Time: 1:00 PM – 2:30 PM

Participants:

Name	Organization	Name	Organization
Chuck Anders	Strategic Initiatives	Andy Mutziger	APCD
Melissa Boggs	CDFW	Jaydeep Purandare	Avocet Environmental
Teri Copeland	Consultant to EHS	Debbie Rudd	RRM Design
Juliet Don	Chevron	Kim Tulledge	Chevron
Regina Donohoe	CDFW	Robert Van Hyning	Avocet Environmental
Jennifer Holder	ERM	David Whitney	APCD
Aaron LaBarre	EHS	Rik Williams	Chevron
Chuck Lambert	McDaniel Lambert		

Safety Moment

Rik Williams reminded everyone that we have not had much rain since the first of the year and the potential for fire hazards will be greater sooner than normal. Rik suggested that extra care be taken to prepare for the fire season and avoid fire hazards.

2/1/13 Conference Call Summary

The 2/1/13 Draft Conference Call Summary ver2 was ratified as written.

Site Conceptual Model

Robert Van Hyning explained that Avocet made the red-line revisions of the SCM available on their FTP site to the RWQCB and other agencies in late February. He noted that the RWQCB has a few more questions and he hopes to complete the final draft by 4/22. Andy Mutziger explained that Dan Niles stopped his review of the draft because he did not feel his previous comments were addressed. Andy has similar concerns and would like to participate in the meeting with the RWQCB.

Andy added that the APCD has also stopped their review of the Pre-Feasibility Report (PFR) until the SCM adequately addresses their concerns stated in their March 12, 2013 letter to the ATCAT because the conclusions of the PFR are dependant on the SCM. Robert will coordinate setting up the meeting with Dan and Andy within the next week. He will advise the full ATCAT on the outcome of the meeting and the implications on the Pre-Feasibility Report review.

There was a question of whether Chevron and Avocet received the email from Chuck Anders distributed to the full ATCAT on 3/12/13. Chevron also did not receive the hard copy of the letter that APCD mailed to Chevron on that same date. Rik Williams explained that Chevron will only get US mail sent to their P.O. Box address (P.O. BOX 1332) and mail sent to the street address (276 Tank Farm Road) will not be received.

HHRA Review Status

Rik Williams recalled that the timeline for EHS to complete their review of the HHRA Addendum was revised to 3/28/13 because of Chevron's priorities to complete document review on the SLO Tank Farm. Aaron LaBarre indicated that he has received Teri Copeland's review and anticipates submitting comments by on the HHRA Addendum by 3/28/13.

Aaron noted that he has not received a review of the PFR from Teri Copeland who is currently working on SLO Tank Farm; therefore, he is uncertain about meeting the 3/28/13 target for submitting comments of the PFR. He noted that revisions to the HHRA Addendum could impact the conclusions of the PFR and that he would anticipate revisions to the Addendum would be reflected in the PFR.

Volumetric Estimates

Rik Williams indicated that it is difficult to estimate volumes in the complex geologic formations at the site. He considers the recent report a starting point and is looking forward to discussions with Dan Niles to refine the estimates. Andy Mutziger indicated that APCD would like to be included in the discussions. Their concern is the volume of materials to be removed and the resulting number of truck trips. Andy suggested including the discussion of the volume of materials and truck traffic in the PFR.

Pre-Feasibility Report

Jennifer Holder noted that they were waiting on comments on the PFR. Aaron will provide an updated review target date early next week for EHS to submit comments on the PFR. Jennifer suggested also addressing the question of how the revisions to the CSM would impact getting comments back on the PFR and how the timing would work. Melissa Boggs indicated that CDFW is almost done with their review of the PFR, contingent on any significant changes with the SCM, and will submit their comments later today or tomorrow. Regina Donohoe suggested setting up an Eco Working Group conference call to discuss their comments on Appendix D. They have a number of other comments on the report and would not consider them major.

Rik Williams will follow-up and set up a meeting with Dan Niles and Andy Mutziger to work through the wording of the SCM and provide a timeline based on their discussions. Jennifer noted that the PFR would be updated to reflect revisions in the various documents in the next version. Andy Mutziger will provide a date when they can provide comments on the PFR after the meeting with Chevron to discuss the SCM.

Status of Intertidal Zone Issues and Activities

- **Intertidal Zone Sampling and Reporting**

  Rik Williams reported on behalf of Louis Cappel. He noted that the most recent sampling event was on March 7 & 8 and that the sampling results were distributed last week. The last of the three scheduled winter sampling activities is scheduled for April 29 & 30. Louis will then prepare a monitoring report summarizing the winter sampling activities, which should be available sometime in May. Rik also intends to prepare a one-year monitoring report summarizing all the sampling results since last summer.

  Rick noted that LNPL recovery is ongoing and they have recovered about 0.5 gallon so far. There has not been any indication of LNPL in the boreholes in that last few weeks. They were successful in recovering enough sheen sample to have it analyzed by Colorado State University. Chevron is currently reviewing the preliminary information and is in the process of setting up a conference with them to discuss how to proceed. Melissa Boggs asked if they were able to get enough sheen sample so the lab can attempt to fingerprint the sheen sample against a "source" sample and Rik clarified that they intended to discuss the

adequacy of the sample to conduct various analyses. Rik hopes they will get a better understanding from the university of what they can do in a week or two and he will report back. Melisa also asked what sample collection method was used that enabled them to get enough sheen sample for analysis and Rik will follow-up with Louis when he returns and report back.

- **Dewatering and SVE Activities**

  Robert Van Hyning reported that work was proceeding on the Dewatering/SVE Workplan and a draft should be available for review in 6 weeks. The workplan will provide a comprehensive cliff area approach. The workplan will likely include two new deep extraction wells, one new shallow extraction well plus other observation points. Chevron anticipates modifying the existing minor use permits to construct and expects installation mid-summer.

  Aaron LaBarre noted that EHS was reviewing all the current data and calculating the cumulative risk, which has remained steady around 1 $x10^{-5}$. He recalled that EHS had previously requested that Chevron also calculate cumulative risk in their reporting. Rik indicated that he would work to accommodate Aaron's request.

Draft Cliff Springs Monitoring Plan

Rik Williams indicated that Chevron would incorporate Tim Fuhs' comments into the next version of the document. Melissa Boggs will review the draft. All comments should be submitted to Chevron by 3/28/13. Aaron noted that EHS did review the draft and they do not have any comments. Aaron will send a note to Chevron indicating that he has no comments. Regina suggested checking with Dan Niles when he returns to make sure he can provide comments by 3/28/13. Rik will check with Dan when they discuss the SCM.

Notification Plan Status

Jennifer Holder will distribute the response to Agency comments in the next day or two. Aaron indicated that EHS has prioritized work on the Notification Plan as the 1st priority for Avila Tank Farm deliverables. Melissa agreed that the Notification Plan should be the 1st priority for review. It was agreed that the Agencies would provide comments by 4/12/13 (or provide an alternate date after they review the response to comments document). Jennifer suggested that anyone with questions work to resolve those questions via phone or email. Assuming all issues can be resolved, a final draft of the Notification Plan will be distributed for final review and ratification.

Chevron, EHS, CDFW, and APCD agreed to the following priority of documents for review purposes:

1. Notification Plan
2. SCM
3. HHRA Addendum
4. Pre-Feasibility Report

Status of EIS Consultant

Chuck Anders reported that County Planning was proceeding with hiring an EIS consultant. He noted that Ryan Hostetter provided the following update via email. County Planning will be sending out a request for proposals by the end of next week and will be hosting a bidder's meeting in mid-April. The County hopes to have received all proposals by the beginning of May. Chuck also related an invitation from Steve McMasters for interested Agency representatives to participate in the bidder's meeting to ensure that all of their concerns are addressed. Debbie Rudd indicated that Ryan had mentioned a target date for the bidder's meeting the morning of April 18th. It was her understanding

that there will be a meeting in the morning and a site tour in the afternoon. Melissa, Aaron Andy and David indicated that they would like to participate in the bidder's meeting.

Schedule and Action Items

The following table presents the updated status of activities:

Status of ATCAT Action Items
(as of 3/21/13)

Schedule	Action Items	Status/Comments
Intertidal Zone Activities		
Distribute draft by 3/26/13 Comments due by 4/12/13	1) Jennifer will distribute the Response to Agency comments on the draft Notification Plan by 3/26/13. Agencies to provide comments back to Jennifer by 4/12/13.	
Ongoing	2) Melissa Boggs/Regina Donohoe – Distribute Mussel Report.	In Progress
May/June	3) Chevron to prepare and distribute sampling/analytical data after the third winter sampling event. The winter sampling data will be combined with previous data and distributed as an "annual report."	The 3rd winter sampling event is scheduled for April 29 & 30. Sampling data will be distributed as soon as available and reviewed.
Late April/Early May	4) Chevron to prepare a consolidated dewatering and SVE workplan.	
Site Conceptual Model		
Meeting the week of 3/25/13	5) Chevron will meet with Dan Niles and Andy Mutziger to resolve questions on the red-lined draft of the SCM.	Chevron will advise ATCAT about implications to schedule and when meeting date is set.
TBD after meeting to discuss red-lined draft of SCM	6) ATCAT Agency participants to provide comments via email on the revised track-changes version of the SCM.	
HHRA Addendum		
March 28th	7) EHS to provide comments on the draft HHRA Addendum by 3/28/13.	*On track.*

Pre-Feasibility Study		
Notify ATCAT of the outcome/implications immediately after meeting	8) Robert Van Hyning will inform the ATCAT of the outcome of the meeting to discuss the red-lined draft of the SCM and the implications on the PFR review.	
CDFW will provide comments by 3/25/13 Other Agencies – TBD depending on SCM meeting and SLO TF status	9) ATCAT Agency participants to provide written comments on the draft Pre-Feasibility Study.	Convene Eco Working Group to review CDFW comments on Appendix D.
Other Pending Items/Activities		
TBD	Draft No Objection Letter from RWQCB to Chevron on the Report of Findings for the LNAPL Recovery and Mobility Pilot Test (Dan Niles)	In progress.
TBD	Draft No Objection Letter from RWQCB to Chevron on the Report of Findings for the Supplemental Cliff Area Characterization (Dan Niles)	In progress.
TBD	Chevron to meet with RWQCB and APCD to discuss draft Volumetric estimates of the loading rack/pump house, refinery, pipeline corridors and cliff area.	

ATCAT Conference Call (tentative) – April 18, 2013 (1:30 PM – 3:00 PM)

1. Safety Moment
2. Review/Ratify 3/21/13 Conference Call Summary
3. Site Conceptual Model
4. Review/Discuss Pre-Feasibility Report Comments
5. HHRA Addendum
6. Volumetric Estimates
7. Remaining Intertidal Zone Items/Issues
8. Action Items/Path Forward

SAN LUIS OBISPO COUNTY HEALTH AGENCY

Public Health Department
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805-781-5500 ▪ FAX 805-781-5543

Jeff Hamm
Health Agency Director

Penny Borenstein, M.D., M.P.H.
Health Officer/Public Health Administrator

March 29, 2013

Chevron Corporation
Attn: Rik Williams
PO Box 1069
San Luis Obispo, CA 93406

REVIEW OF DRAFT ADDENDUM TO THE SUPPLEMENTAL HUMAN HEALTH RISK ASSESSMENT (sHHRA) FOR THE FORMER UNOCAL AVILA TANK FARM, AVILA BEACH, CA, NOVEMBER 2012.

Dear Mr. Williams

We have reviewed the referenced document. As stated in the joint agency letter to Chevron on March 16, 2012, changes to the sHHRA such as land use changes and characterization would require "…revisions to the sHHRA or addenda as appropriate." The extent of changes documented within the Addendum need to be directly incorporated within a revised sHHRA.

In the 3-16-12 joint agency letter we stated "The sample density for the evaluation of soil gas does not meet an "EPA Default" which does not provide the Health Agency confidence to conclude the calculated risk is protective of public health…" for exposure areas A,K,N. Data was collected for other Exposure Areas (EA's) in addition to these 3. With changes to land uses, EA boundaries, risk calculations for EA's, etc. incorporation of the Addendum into a revision to the sHHRA is reasonable and appropriate.

A revision to the sHHRA is requested due to the following:

- Efficiency of review and reference. Referencing multiple sections within 2 documents to find an answer is inefficient and can lead to incorrect answers and assumptions. It is possible a reader (Agency, consultants, the public, etc.) to render an incorrect answer to a question if only one document, such as the sHHRA versus the Addendum was referenced.
- Unclear what level of confidence new data presents without an update to Table 2-1 of the sHHRA.
- Unclear what percentage of the former data was used in the new risk calculations although it was stated in one sentence in the Addendum (page 5) that the sHHRA database was updated.

- Unclear as to what the new data sets within each modified EA specifically contain.
- Exposure Areas have been added or eliminated
- Exposure Area boundaries have changed. Boundaries have expanded in some cases.
- Risk calculations have changed for each EA.
- Critical Sections of the sHHRA are outdated and inaccurate.
    - Section 1.4,
    - Section 1.6
    - Section 2.1
    - Section 2.2
- All data used to determine potential risk should be accounted for in one risk assessment.
- 7 new soil and 8 new soil gas Chemicals of Potential Concern (COPCs) were discovered.
- Referencing parallel sections back and forth is not efficient: ie: Section 2.2 of Addendum and Section 2 of the sHHRA would need to be referenced at the same time rather than referencing one section.
- Clear commentary needs to be added to confirm the changes in risk thresholds from the sHHRA to the Addendum. Risk thresholds for EA's D, E, Ia, Ib, J have changed.
- Methodology represented in Table 7-1 of Addendum should be consistent with Table 2.1 of the sHHRA.

Please provide an updated sHHRA to include:

- The incorporation of new data. For example Table 2.1 of sHHRA needs an update including the new data to confirm the current level of confidence the new data set provides when comparing it to "USEPA acceptable performance criteria" referenced in this table. As stated in the 3-16-12 letter "The sample density for the evaluation of soil gas does not meet an "EPA Default" which does not provide the Health Agency confidence to conclude the calculated risk is protective of public health…" for areas A,K, N. Table 7-1 of Addendum needs to confirm if the new sample size meets "USEPA acceptable performance criteria" as stated in sHHRA Table 2.1

Please provide an updated sHHRA that incorporates changes within the Addendum that include the following:

- Section 1.0 Introduction
    - Provide descriptions of the new set of exposure areas (including the Drainage Area) in Section 1.6 of the sHHRA. Provide clarity in the description of Area C that it now includes Area B (possibly Area B/C) and the revised Open Space as it now includes the former Areas F and H.
    - Add Open Space to the list of areas for which additional soil sampling was performed (Addendum p. 3, last paragraph). Also, this paragraph lists Area Ib as having additional soil sampling, however data were not found for Area Ib in the 2011/2012 database (Attachment 2).
- Table 1.1
    - Provide text to accompany appropriate tables so that changes made in

exposure area boundaries, scenarios, and datasets are clearly tracked. For some areas (e.g., Areas Ia, Ib, J where "Changes in Addendum" lists "No changes in land use") it is not clear if there were changes to boundaries or receptors.

- Identify in the appropriate table all of the areas for which boundaries have changed. Based on a comparison of Figure 1-3 of the sHHRA (May 2011) and Figure 1-1 of the Addendum, it appears that the following areas have had changes in boundaries: A, C, D, E, G, J, K, L, M. and N.
- Add "new soil data" for Area Ib if additional soil sampling was conducted (as per page 3, last paragraph).
- The name of Area N should be changed to provide clarity (such as "Area N – Parking Lot") so that readers can identify the data in the database for this area (denoted as "Parking" in the database). Also, as per p. 29, 3rd paragraph, the boundaries of Area N have changed. Add that information to the table.
- Drainage Area is listed as an exposure area, yet under the Land Uses column, it states this is not an exposure area. We note that Exposure Point Concentrations (EPCs) and risks are calculated for receptors in this area.

- Section 2.1 Data Validation and Usability
  - This section states that a data usability evaluation was conducted using the six USEPA data usability (DU) criteria that are listed, yet all that was provided was the Laboratory Data Package Review (Attachment 3) and a summary paragraph on p. 6 identifying chemicals detected in blanks and noting that several matrix spike recoveries and relative percent differences were outside laboratory-specific control limits.
  - For future submittals, each of the DU criteria should be specifically addressed as follows:
    - Criterion I, Reports – list all reports from which the HHRA database was generated and note if reporting was adequate for HRA use.
    - Criterion II, Documentation – document that a specific geographic location has been identified for each sample ID listed in the database and reference a relevant figure.
    - Criterion III, Data Sources – document, with the support of the CSM that analytical methods are adequate to identify COPCs for each area and each environmental medium of interest and that broad spectrum methods were used.
    - Criterion IV, Analytical Methods and Detection Limits – confirm analytical methods and associated reporting limits as adequate for HRA.
    - Criterion V, Data Review – document that a qualified professional (e.g., risk assessor) conducted the DU evaluation and tied it to the HHRA uncertainty analysis.
    - Criterion VI, Data Quality Indicators (DQIs) – discuss the DQIs in terms of uncertainties in the identification of COPCs and EPCs, as well as the risk characterization.
  - This section notes that several matrix spike (MS) recoveries and relative percent differences (for MS duplicates [MSD]) were outside laboratory-specific control limits, but that the associated data are usable as the laboratory control samples were acceptable. The MS/MSD data are key data to support the uncertainty in soil EPCs (and associated risks). If MS recoveries are low (e.g., below the lower lab QC limit), then accuracy of

the associated EPCs must be discussed in the uncertainty analysis. If the MSD is outside of lab QC limits, then precision of the associated EPCs must be discussed in the uncertainty analysis. Laboratory control samples cannot be substituted for MS/MSD, as they are spikes of deionized water, which is not the exposure medium in the HRA.
    - Discuss in the DU evaluation the notation in Attachment 3, top of p. 4, "High frequency of "R-06": The reporting limit has been raised to account for the presence of high levels of analytes".
- Section 2.2 Chemicals of Potential Concern
    - Provide rationale for not re-evaluating metals COPCs (i.e. background analysis) using the supplemental metals sampling data.
- Section 3.0 Dose-Response Assessment
    - A list of toxicity criteria for "new" COPCs is presented in Table 3-1.
    - Replace values with the following values and update risk calculations. These values have been published for a few years.
    - Dichlorodifluoromethane: RfC = 1 E-1 mg/m3 (current RSL table, November 2011 [PPRTV])
    - 1,2-Dichloroethane: RfD: 6 E-3 mg/kg-day (current RSL table, PPRTV); RfC = 7.0 E-3 mg/m3 (current RSL table, PPRTV)
    - cis-1,2-Dichloroethylene: RfD = 2 E-3 mg/kg-day (current IRIS); RfC = 6 E-2 mg/m3 (RIVM peer-reviewed value, TERA database)
    - trans-1,2-Dichloroethylene: RfD = 2 E-2 mg/kg-day (current IRIS); RfC = 6 E-2 mg/m3 (current RSL table, PPRTV)
    - 4-Methyl-2-pentanone (MIBK): RfC = 3 mg/m3 (current IRIS)
    - Propylene: REL = 3,000 µg/m3 (3 mg/m3 [current OEHHA REL table])
    - Trichlorofluoromethane: RfC = 7 E-1 mg/m3 (current RSL table [HEAST])
    - 1,1,2-Trichlorotrifluoroethane: RfC = 3 E+1 mg/m3 (current RSL table [HEAST])
    - 1,2,3-Trichloropropane: RfD = 4 E-3 mg/kg-day (current IRIS); RfC = 3 E-4 mg/m3(current IRIS)
    - Vinyl chloride: RfC = 1 E-1 E mg/m3 (current IRIS).
    - As per Part F RAGS, the inhalation pathway should be assessed using the IUR, REL/RfC directly with the air EPCs, rather than converting units and using the dose methodology.
- Section 4.0 Conceptual Exposure Model
    - Expand this section to include a description of the "updated" receptor populations (and associated exposure pathways) for the "updated" exposure areas.
- Section 5.0 Exposure Assessment
    - Describe each exposure area in this section and identified on Figure 1-1.
- Section 5.1 Exposure Point Concentrations
    - The higher of the Student's-t UCL and the BCA Bootstrap should be selected as the EPC. Last paragraph – "The parametric Student's-t UCL was selected as the primary method of UCL estimation, based on the assumption that the means for each COPC are approximately normal even in cases when the data distributions are not normal. In cases of skewed data (standard deviation of log-transformed data exceeds 1.5) or when the frequency of detections is less than 40%, the Kaplan Meier (KM) BCa method was used to calculate the 95% UCL. When there were not enough distinct observations to calculate the KM BCa estimate, the KM (Percentile Bootstrap) was selected or the maximum detect was used as

the EPC." This rationale for the selection of UCLs is not adequate.
    - Based on a single spot check for "Sum TPH" for Area E, the maximum concentration listed in the ProUCL output (electronic page 132 of Attachment 4) did not match the maximum concentration listed in Table 2-4 and the number of samples did not match.
    - The EPC for "Sum TPH" for Area E listed in Table 5-20 did not match any of the UCLs in the ProUCL file for "Sum TPH" for Area E.
- Section 5.2 Indoor Air Vapor Exposure Point Concentrations
    - Provide the J & E model output files. The indoor air EPCs were not cross checked against the Johnson & Ettinger model output, as the latter was not provided in Attachment 5.
- Section 6.0 Risk Characterization
    - We note that soil risk calculations for chromium, vanadium, benzene, benzo(b)fluoranthene, benzo(a)pyrene, dibenz(ah)anthracene, and aromatic TPH were reproduced for Areas A, C, D, E, G, Ia, Ib, and J (all spreadsheets provided by McDaniel Lambert).
    - p. 26 – For Area N, change the range of HI to "0.004 – 0.04".
- Section 7.1 Site Characterization and Sampling Activities –It is not clear what the desired sample size is based on. Confirm methodology used and that it is based on previous calculations.
    - Only soil gas data appear to have been evaluated. Some comment should be made regarding the additional soil data.
- Figure 1-2
    - It is difficult to read some of the sample ID, for example within Area K. Also, please cross check to ensure that all soil and soil gas samples are included on the figure.
- Attachment 2, 2011 and 2012 Soil and Soil Gas Data
    - Please explain why Area M data are designated "Ma" and "Mb".

If you would like to have a discussion with me regarding this project, please contact me at 805-781-5595 to arrange a meeting.

Sincerely,

Aaron LaBarre, REHS
Supervising Environmental Health Specialist
Hazardous Materials Section
Environmental Health Services

C:

1. Bill Almas, Chevron Corporation
2. Dan Niles, RWQCB
3. Andy Mutziger, APCD
4. Charles Anders, Strategic Initiatives

Chevron Avila Tank Farm
Response to Comments

Section	#	Comment	Specific Response
Revise sHHRA for the following reasons			
General Comments for revising sHHRA	1	Efficiency of review and reference. Referencing multiple sections within 2 documents to find an answer is inefficient and can lead to incorrect answers and assumptions. It is possible a reader (Agency, consultants, the public, etc.) to render an incorrect answer to a question if only one document, such as the sHHRA versus the Addendum was referenced.	Merged documents and provided Final HHRA
	2	Unclear what level of confidence new data presents without an update to Table 2-1 of the sHHRA.	Updated Table 2-1 DQA
	3	Unclear what percentage of the former data was used in the new risk calculations although it was stated in one sentence in the Addendum (page 5) that the sHHRA database was updated.	The recent sampling events were summarized in Section 1 to identify the scope of the new data incorporated. Each of the new data pacakges are summarized in Attachment 6 - there are 4 new soil data packages, and 1 new soil vapor data package. Additionally, there are 2 new ground water sampling events: 4Q12 and 2Q13. The 4Q12 data is included in Attachment 7, and the 2Q13 Padre report is still in progress. The former data accounts for the majority of the sHHRA data. In Final HHRA, there is no distinction between "old" and "new" data.
	4	Unclear as to what the new data sets within each modified EA specifically contain.	Datasets for each EA may have changed with respect to new boundaries, as well as collection of new data. The summary table in the Introduction intended to portray these changes. Attachment 6 contains the complete soil and soil gasdata set.
	5	Exposure Areas have been added or eliminated	Merged documents and provided Final HHRA
	6	Exposure Area boundaries have changed . Boundaries have expanded in some cases.	Merged documents and provided Final HHRA
	7	Risk calculations have changed for each EA.	Merged documents and provided Final HHRA
	8	Critical Sections of the sHHRA are outdated and inaccurate.	Merged documents and provided Final HHRA
	9	o Section 1.4	Updated list of site characterization studies to include latest soil, soil gas and groundwater sampling events
	10	o Section 1.6	Updated exposure area descriptions, see Table 1-2
	11	o Section 2.1	Updated data validation and usability section, six criteria were reviewed in more detail for the laboratory QC data summarized in the Data Package Reviews. Refer to Section 7 and Attachment 10 (Data Package Reviews)
	12	o Section 2.2	Updated COPC selection section, background metals evaluation discussion includes rationale for not revising the background analysis
	13	All data used to determine potential risk should be accounted for in one risk assessment.	Merged documents and provided Final HHRA
	14	7 new soil and 8 new soil gas Chemicals of Potential Concern (COPCs) were discovered.	Merged documents and provided Final HHRA
	15	Referencing parallel sections back and forth is not efficient: ie: Section 2.2 of Addendum and Section 2 of the sHHRA would need to be referenced at the same time rather than referencing one section.	Merged documents and provided Final HHRA
	16	Clear commentary needs to be added to confirm the changes in risk thresholds from the sHHRA to the Addendum. Risk thresholds for EA's D, E, Ia, Ib, J have changed .	Merged documents and provided Final HHRA, risk thresholds are consistent with Final HHRA results.
	17	Methodology represented in Table 7-1 of Addendum should be consistent with Table 2.1 of the sHHRA.	The methodology in Table 7-1 was consistent with Table 2-1, but the table was formatted differently. Provided an updated Table 2-1 with new DQA results.

Chevron Avila Tank Farm
Response to Comments

Section	#	Comment	Specific Response
Please provide an updated sHHRA to include			
	18	The incorporation of new data. For example Table 2.1 of sHHRA needs an update including the new data to confirm the current level of confidence the new data set provides when comparing it to "USEPA acceptable performance criteria" referenced in this table. As stated in the 3-16-12 letter "The sample density for the evaluation of soil gas does not meet an "EPA Default" which does not provide the Health Agency confidence to conclude the calculated risk is protective of public health ... " for areas A,K, N. Table 7-1 of Addendum needs to confirm if the new sample size meets "USEPA acceptable performance criteria" as stated in sHHRA Table 2.1	Table 2-1 was completely updated to reflect the new exposure areas, sample sizes, and RBCs so all of the information is in one place. Sample size calculations are based on USEPA default criteria, unless these criteria are not met, in which case the range of sample sizes is presented.
Please provide an updated sHHRA that incorporates changes within the Addendum that include the following			
Section 1, Intro.	19	Provide descriptions of the new set of exposure areas (including the Drainage Area) in Section 1.6 of the sHHRA. Provide clarity in the description of Area C that it now includes Area B (possibly Area B/C) and the revised Open Space as it now includes the former Areas F and H.	Merged documents and provided Final HHRA - this included new exposure areas in Section 1.6 of the sHHRA. Since the documents were merged, there is no need to track differences between development plans.
Section 1, Intro.	20	Add Open Space to the list of areas for which additional soil sampling was performed (Addendum p. 3, last paragraph). Also, this paragraph lists Area lb as having additional soil sampling, however data were not found for Area lb in the 2011/2012 database (Attachment 2).	Area Ib did not include not have additional soil sampling in 2012, this appears to be a typo and should have listed "Open Space" instead of "Ib". Not necessary to track changes between development plans since Final HHRA will be completely revised
Table 1.1	21	Provide text to accompany appropriate tables so that changes made in exposure area boundaries, scenarios, and datasets are clearly tracked. For some areas (e.g. , Areas Ia, lb, J where "Changes in Addendum" lists "No changes in land use") it is not clear if there were changes to boundaries or receptors.	Not necessary to track changes between development plans since Final HHRA was completely revised
Table 1.1	22	Identify in the appropriate table all of the areas for which boundaries have changed. Based on a comparison of Figure 1-3 of the sHHRA (May 2011) and Figure 1-1 of the Addendum, it appears that the following areas have had changes in boundaries: A, C, D, E, G, J, K, L, M. and N.	Not necessary to track changes between development plans since Final HHRA was completely revised
Table 1.1	23	Add "new soil data" for Area lb if additional soil sampling was conducted (as per page 3, last paragraph).	Done.
Table 1.1	24	The name of Area N should be changed to provide clarity (such as "Area N - Parking Lot") so that readers can identify the data in the database for this area (denoted as "Parking" in the database). Also, as per p. 29, 3rd paragraph, the boundaries of Area N have changed. Add that information to the table.	Clarified description of Area N in text. Not necessary to track changes between development plans since Final HHRA was completely revised.
Table 1.1	25	Drainage Area is listed as an exposure area, yet under the Land Uses column, it states this is not an exposure area. We note that Exposure Point Concentrations (EPCs) and risks are calculated for receptors in this area.	Included Drainage Area as exposure area in Final HHRA
Section 2.1 DVDU	26	This section states that a data usability evaluation was conducted using the six USEPA data usability (DU) criteria that are listed, yet all that was provided was the Laboratory Data Package Review (Attachment 3) and a summary paragraph on p. 6 identifying chemicals detected in blanks and noting that several matrix spike recoveries and relative percent differences were outside laboratory-specific control limits.	Discussed matrix spike recoveries and RPDs in more detail in Section 7, following same format as matrix spike discussion in sHHRA. Data package reviews are included as Attachment 10.
Section 2.1 DVDU	27	For future submittals, each of the DU criteria should be specifically addressed as follows: Criterion I thorugh VI	Addressed in Sections 2 and 7.

Chevron Avila Tank Farm
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Section	#	Comment	Specific Response
Section 2.1 DVDU	28	This section notes that several matrix spike (MS) recoveries and relative percent differences (for MS duplicates [MSD]) were outside laboratoryspecific control limits, but that the associated data are usable as the laboratory control samples were acceptable. The MS/MSD data are key data to support the uncertainty in soil EPCs (and associated risks). If MS recoveries are low (e.g., below the lower lab QC limit), then accuracy of the associated EPCs must be discussed in the uncertainty analysis. If the MSD is outside of lab QC limits, then precision of the associated EPCs must be discussed in the uncertainty analysis. Laboratory control samples cannot be substituted for MS/MSD, as they are spikes of deionized water, which is not the exposure medium in the HRA.	Matrix spikes discussed in detail in Section 7.2.3
Section 2.1 DVDU	29	Discuss in the DU evaluation the notation in Attachment 3, top of p. 4, "High frequency of "R-06": The reporting limit has been raised to account for the presence of high levels of analytes" .	Attachment 3 was updated to provide more detail. After looking into this issue further, it was noted that VOCs have a reporting limit equal to 0.5 mg/kg in two samples. Considering the small inflation on reporting limit in only two samples, this issue does not seem significant enough to discuss in the text. No changes made to Section 2 or 7.
Section 2.2 Chemicals of Potential Concern	30	Provide rationale for not re-evaluating metals COPCs (i.e. background analysis) using the supplemental metals sampling data.	Addressed in Section 2 (see footnote in Section 2.2.1, at the bottom of page 51) and Section 7.2.4 (page 149). Since the background analysis of the metals was conducted on a site-wide basis, the change in exposure area boundaries does not necessitate the need to change the background approach. The new soil data included only 5 samples analyzed for metals in 3 exposure areas: D, L and E. Presented rationale for how this small sample does not change the conclusions based on the large number of total onsite samples for metals, and examined arsenic distribution since this a metal with elevated toxicity (see Figure 7-1).
Section 3.0 Dose-Response Assessment	31	A list of toxicity criteria for "new" COPCs is presented in Table 3-1.	Merged documents and provided Final HHRA
Section 3.0 Dose-Response Assessment	32	Replace values with the following values and update risk calculations. These values have been published for a few years.	Done. Reflected in updates to toxicity criteria that have ocurred since 2007.
Section 3.0 Dose-Response Assessment	33	Dichlorodifluoromethane: RfC = 1 E-1 mg/m3 (current RSL table, November 2011 [PPRTV])	Done. Reflected in updates to toxicity criteria that have ocurred since 2007.
Section 3.0 Dose-Response Assessment	34	1 ,2-Dichloroethane: RfD: 6 E-3 mg/kg-day (current RSL table, PPRTV); RfC = 7.0 E-3 mg/m3 (current RSL table, PPRTV)	Done. Reflected in updates to toxicity criteria that have ocurred since 2007.
Section 3.0 Dose-Response Assessment	35	cis-1 ,2-Dichloroethylene: RfD = 2 E-3 mg/kg-day (current IRIS); RfC = 6 E-2 mg/m3 (RIVM peer-reviewed value, TERA database)	Updated RfD value. SLO County EHS deferred to McDaniel Lambert for RfC selection. As discussed in Section 7.3.4, an RfC was not selected for cis-1,2-dichloroethene. Both USEPA and ATSDR have determined there are insufficient inhalation studies to derive an RfC. The RIVM value suggested is based on the LOAEL from an inhalation study of limited duration for the isomer, trans-1,2-dichloroethylene. Since this is a "provisional" tolerable concentration in air (TCA), and has changed several times since the 1977 study on which it is based was published - overall low level of confidence in this value.
Section 3.0 Dose-Response Assessment	36	trans-1 ,2-Dichloroethylene: RfD = 2 E-2 mg/kg-day (current IRIS); RfC = 6 E-2 mg/m3 (current RSL table, PPRTV)	Done. Reflected in updates to toxicity criteria that have ocurred since 2007.
Section 3.0 Dose-Response Assessment	37	4-Methyl-2-pentanone (MIBK): RfC = 3 mg/m3 (current IRIS)	Done. Reflected in updates to toxicity criteria that have ocurred since 2007.

Chevron Avila Tank Farm
Response to Comments

Section	#	Comment	Specific Response
Section 3.0 Dose-Response Assessment	38	Propylene: REL = 3,000 1Jg/m3 (3 mg/m3 [current OEHHA REL table])	Done. Reflected in updates to toxicity criteria that have ocurred since 2007.
Section 3.0 Dose-Response Assessment	39	1,1 ,2-Trichlorotrifluoroethane: RfC = 3 E+1 mg/m3 (current RSL table [HEAST])	Done. Reflected in updates to toxicity criteria that have ocurred since 2007.
Section 3.0 Dose-Response Assessment	40	1 ,2,3-Trichloropropane: RfD = 4 E-3 mg/kg-day (current IRIS); RfC = 3 E-4 mg/m3(current IRIS)	Done. Reflected in updates to toxicity criteria that have ocurred since 2007.
Section 3.0 Dose-Response Assessment	41	Vinyl chloride: RfC = 1 E-1 E mg/m3 (current IRIS).	Done. Reflected in updates to toxicity criteria that have ocurred since 2007.
Section 3.0 Dose-Response Assessment	42	As per Part F RAGS, the inhalation pathway should be assessed using the IUR, REL!RfC directly with the air EPCs, rather than converting units and using the dose methodology.	RAGS F methodology was used for inhalation pathways.
Section 4.0 Conceptual Exposure Model	43	Expand this section to include a description of the "updated" receptor populations (and associated exposure pathways) for the "updated" exposure areas.	Final HHRA includes complete list of receptors and associated pathways
Section 5.0 Exposure Assessment	44	Describe each exposure area in this section and identified on Figure 1-1.	Done
Section 5.1 Exposure Point Concentrations	45	The higher of the Student's-t UCL and the BCA Bootstrap should be selected as the EPC. Last paragraph- "The parametric Student's-t UCL was selected as the primary method of UCL estimation, based on the assumption that the means for each COPC are approximately normal even in cases when the data distributions are not normal. In cases of skewed data (standard deviation of log-transformed data exceeds 1.5) or when the frequency of detections is less than 40%, the Kaplan Meier (KM) BCa method was used to calculate the 95% UCL. When there were not enough distinct observations to calculate the KM BCa estimate, the KM (Percentile Bootstrap) was selected or the maximum detect was used as the EPC." This rationale for the selection of UCLs is not adequate .	Based on discusions with SLO County EHS, we agreed to inspect UCLs that were calculated using the KM method to ensure that they are not significantly over- or underestimated. No issues were found.
Section 5.1 Exposure Point Concentrations	46	Based on a single spot check for "Sum TPH" for Area E, the maximum concentration listed in the ProUCL output (electronic page 132 of Attachment 4) did not match the maximum concentration listed in Table 2-4 and the number of samples did not match.	The maximum concentration for Sum TPH in Area E in the ProUCL output (electronic page 196 of the Attachments file) matches the maximum concentration listed in Table 2-3. The number of samples also matches. SLO County EHS verified that these numbers matched in the Addendum.
Section 5.1 Exposure Point Concentrations	47	The EPC for "Sum TPH" for Area E listed in Table 5-20 did not match any of the UCLs in the ProUCL file for "Sum TPH" for Area E.	We verified this discrepancy and fixed it in the Final HHRA. Since TPH is now evalauted as three carbon chains (TPH-g, -d, and -mo), these ProUCL outputs were re-run and included as an attachment.
Section 5.2 Indoor Air Vapor Exposure Point Concentrations	48	Provide the J & E model output files. The indoor air EPCs were not cross checked against the Johnson & Ettinger model output, as the latter was not provided in Attachment 5.	We are no longer able to provie the J&E model outputs, only the summary page. As discussed, J&E model summaries were provided for each scenario - includes soil gas concentrations, depth, attenuation factor, and resulting indoor air concentration.
Section 6.0 Risk Characterization	49	We note that soil risk calculations for chromium, vanadium, benzene, benzo(b)fluoranthene, benzo(a)pyrene, dibenz(ah)anthracene, and aromatic TPH were reproduced for Areas A, C, D, E, G, Ia, Ib, and J (all spreadsheets provided by McDaniel Lambert).	OK

Chevron Avila Tank Farm
Response to Comments

Section	#	Comment	Specific Response
Section 6.0 Risk Characterization	50	p. 26- For Area N, change the range of HI to "0.004- 0.04".	N/A. Risk results and discussion updated
Section 7.1 Site Characterization and Sampling Activities	51	It is not clear what the desired sample size is based on. Confirm methodology used and that it is based on previous calculations.	USEPA default performance criteria was used for the updated DQA. DQA methodology remained the same as previous versions, with the exception of two items previously discussed with SLO County: (1) range of acceptable sample sizes only calculated for risk drivers where default USEPA criteria are not met, and (2) 10-6 used as a threshold for any child receptor, and 10-5 used as a threshold for other commercial receptors.
Section 7.1 Site Characterization and Sampling Activities	52	Only soil gas data appear to have been evaluated. Some comment should be made regarding the additional soil data.	DQA updated to reflect data collected from 2007 to 2013. Additional soil and soil gas data for revised areas were incorporated in the new Table 2-1. Ground water pathway was not a risk driver, therefore it does not appear in Table 2-1.
Figure 1-2	53	It is difficult to read some of the sample ID, for example within Area K. Also, please cross check to ensure that all soil and soil gas samples are included on the figure.	Figure 1-2 is Figure 7-1 in the Final HHRA. Revised Figure 7-1 so sample names would not overlap.
Attachment 2, 2011 and 2012 Soil and Soil Gas Data	54	Please explain why Area M data are designated "Ma" and "Mb".	N/A. Ma and Mb are no longer exposure areas. Ma is replaced by the new Exposure Area M and Mb is replaced by Exposure Area O.

ATTACHMENT 3

Former Avila Tank Farm: PCBs at the Tank Farm
(McDaniel Lambert, Inc. 2007)

MEMORANDUM

To: Avila Tank Farm Collaborative Assessment Team

From: Chuck Lambert and Becky Countway, McDaniel Lambert, Inc.
Mike Rendina, Avocet Environmental, Inc.

Date: October 8, 2007

Re: **Former Avila Tank Farm: PCBs at the Tank Farm**

On the June 6, 2007 Avila Tank Farm Collaborative Assessment Team (ATCAT) conference call, existing site data and the area-by-area data needs for the former Avila Tank Farm (the Site) were reviewed. The team discussed various chemicals of potential concern (COPCs) and questioned the adequacy of polychlorinated biphenyl (PCB) sampling at the Site. Although PCBs have not been detected at the Site and, based on this, were not included in the 2005 Baseline Human Health Risk Assessment, the ATCAT requested a memorandum summarizing what is known about PCBs at the Site, particularly in the most industrialized areas of the former Tank Farm.

Assessment of the former Unocal Avila Tank Farm was initiated in the summer of 1997 in response to a request from the Regional Water Quality Control Board – Central Coast Region. This investigation followed a similar investigation of the Guadalupe Oil Field (GOF), where PCBs were unexpectedly encountered in diluentimpacted soil. The source of the PCB contamination at the GOF was believed to be from two sources – 1) leakage from the compressors used to lift the natural gas produced in the field, and, 2) contamination caused by the Santa Maria Refinery adding recycled oil to the diluent for use at the GOF[1] (LFR 1998; LFR 1999; McDaniel Lambert 2001).

Although the activities and processes described above for the GOF did not occur at Avila, representative shallow soil samples from areas of intensive industrial use at the Avila Tank Farm were evaluated for the presence of PCBs (Figure 1).[2]

As illustrated in Figure 1, this resulted in the collection of more than 40 PCB soil samples from around the refinery area, in the vicinity of the truck loading rack and the pump house, and along some former transmission lines and some of the above-ground storage tanks (ASTs). If there were leaking transformers or other equipment that may have contained PCBs they would most likely have been in these areas. A few PCB soil

[1] Personal communication – Dr. Robert Haddad, Chief, Assessment and Restoration Division, NOAA
[2] All analyses of PCBs at the Site have been as Aroclors.

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samples also have been collected from open areas on the southern portion of the Site. A total of 50 soil samples (≤10 feet bgs) have been analyzed for PCBs, and included some of the most contaminated samples from the Site, such B-95 and B-122, which have some of the highest residual soil petroleum hydrocarbon concentrations detected at the Site. PCBs were not detected in any of these 50 samples (with detection limits ranging from 0.030 to 3.0 mg/kg). In addition, a number of groundwater and free petroleum samples from wells situated throughout the Site have been tested for PCBs, with none detected (i.e., <0.3 µg/l and <4.0 mg/kg, respectively). The absence of PCBs in product collected from the Avila Tank Farm is also notable, as PCBs at the Guadalupe Oil Field were detected in the free diluent.

Because the PCB evaluation at the former Avila Tank Farm focused on the areas of greatest use and impact, the coverage of samples over the 10 Evaluation Areas delineated by the ATCAT is uneven (see below). Specifically, the majority of the samples are from Evaluation Area 9, where the refinery, loading rack and pump house were located, and in the vicinity of former transmission lines and ASTs falling in Evaluation Areas 2 and 3. No PCBs samples have been collected from Evaluation Areas 1, 7 and 8, where little or no tank-farm related infrastructure was located.

No sources of PCBs have been identified at the former Avila Tank Farm. Processes that resulted in the release of PCBs at the GOF did not occur at the Avila Tank Farm. Despite the varying spatial coverage, the fact that PCB have not been detected in the most heavily industrialized areas of the Site suggests that historic activities at the Avila Tank Farm did not result in PCB contamination, and that they were appropriately excluded as COPCs in the 2005 Baseline HHRA. In addition, detection limits for samples collected from the Avila Tank Farm are adequate for risk assessment purposes. Specifically, reporting limits vary from 0.03 to 3.0 mg/kg, with the majority at 0.3 mg/kg or below (see Tables 1-7 below); the California Human Health Screening Levels for PCBs in soil are 0.089 and 0.3 mg/kg for residential and commercial use, respectively. Therefore, we believe that no additional analyses of PCBs in soil are warranted.

A summary of the PCB soil data available broken down by Evaluation Area, follows.

EVALUATION AREA 1

Evaluation Area 1 is located in the northeast corner of the site, and covers 10.29 acres. Potential sources of contamination in this area include a crude oil pipeline which traverses a portion of Area 1. Aerial deposition and surface water runoff are other potential contaminant sources. A small area of TPH-related contamination has been delineated in the vicinity of the former pipeline. Other than some company housing in the early 20th century, no other infrastructure associated with the former Avila Tank Farm was located on this portion of the property. Of the 16 soil samples collected from ≤10 feet below ground surface (bgs) in this area, none have been analyzed for PCBs from Evaluation Area 1.

EVALUATION AREA 2

Evaluation Area 2 is located in the central portion of the site, and covers 11.8 acres. Potential sources of contamination in this area include historical activities associated with the storage of petroleum in above-ground tanks. Additional infrastructure in Evaluation Area 2 included the pipelines associated with the transport and storage of petroleum products. A sizeable portion of the subsurface TPH "plume" delineated at the Site runs along the southern "boundary" of this Evaluation Area, with concentrations of TPH greater than 10,000 mg/kg. Five soil samples collected from ≤10 feet bgs have been analyzed for PCBs (Figure 1). Overall, detection limits for soils collected to date appear adequate for risk assessment purposes (PCBs – 0.030 to 3.0 mg/kg).

Table 1. Evaluation Area 2 Data Summary

Depth Range	PCBs	DLs (mg/kg)
Total ≤ 10 ft bgs	*5*	*0.03 to 3.0*
0 ≤ 2 ft bgs	0	NA
> 2 ≤ 5 ft bgs	4	0.03(1); 0.3(2); 3(1)
> 5 ≤ 10 ft bgs	1	0.03

Note: Number in parentheses indicate number of samples at that detection limit.

EVALUATION AREA 3

Evaluation Area 3 is located in the central portion of the site, and covers 15.59 acres. A sizeable portion of this evaluation area overlies the subsurface TPH plume, with concentrations over 10,000 mg/kg. Several large ASTs and their associated piping were located in this area of the Site. Eleven soil samples collected from ≤10 feet bgs have been analyzed for PCBs (Figure 1). Overall, detection limits for soils collected to date appear adequate for risk assessment purposes (PCBs – 0.030 to 3.0 mg/kg).

Table 2. Evaluation Area 3 Data Summary

Depth Range	PCBs	DLs (mg/kg)
Total ≤ 10 ft bgs	*11*	*0.03 to 3.0*
0 ≤ 2 ft bgs	0	NA
> 2 ≤ 5 ft bgs	9	0.03(4); 0.2(1); 0.3(2); 0.6(1); 3(1)
> 5 ≤ 10 ft bgs	2	0.03

EVALUATION AREA 4

Evaluation Area 4 is located in the southeast corner of the site at the base of steep slopes along the coastline, and covers 4.9 acres. No infrastructure associated with the tank farm was located in this portion of the site. Therefore, the potential sources of contamination in this area are aerial deposition and runoff. Two soil samples collected from ≤10 feet bgs have been analyzed for PCBs (Figure 1). Overall, detection limits for soils collected to date appear adequate for risk assessment purposes (PCBs – 1.1 to 1.5 mg/kg).

Table 3. Evaluation Area 4 Data Summary

Depth Range	PCBs	DLs (mg/kg)
Total ≤ 10 ft bgs	*2*	*1.1 to 1.5*
0 ≤ 2 ft bgs	2	1.1 to 1.5
> 2 ≤ 5 ft bgs	0	NA
> 5 ≤ 10 ft bgs	0	NA

EVALUATION AREA 5

Evaluation Area 5 is located in the southwest corner of the Site, and covers 3.92 acres. Two large above-ground storage tanks, and the associated piping, were located in this portion of the tank farm. The subsurface TPH "plume" delineated in the central portion of the Site extends into Evaluation Area 5. Three soil samples collected from ≤10 feet bgs have been analyzed for PCBs (Figure 1). Overall, detection limits for soils collected to date appear adequate for risk assessment purposes (PCBs – 0.030 to 0.60 mg/kg).

Table 4. Evaluation Area 5 Data Summary

Depth Range	PCBs	DLs (mg/kg)
Total ≤ 10 ft bgs	*3*	*0.03 to 0.60*
0 ≤ 2 ft bgs	0	NA
> 2 ≤ 5 ft bgs	3	0.03(2); 0.60(1)
> 5 ≤ 10 ft bgs	0	NA

EVALUATION AREA 6

Evaluation Area 6 is located on the western side of the Site, and covers 8.88 acres. Historic infrastructure in this area of the site included several ASTs and the associated piping. The eastern edge of Evaluation Area 6 overlies the subsurface TPH "plume" delineated in the central portion of the Site. One soil sample collected from ≤10 feet bgs have been analyzed for PCBs (Figure 1). Overall, detection limits for soils collected to date appear adequate for risk assessment purposes (PCBs – 0.030 mg/kg).

Table 5. Evaluation Area 6 Data Summary

Depth Range	PCBs	DLs (mg/kg)
Total ≤ 10 ft bgs	*1*	*0.03*
0 ≤ 2 ft bgs	0	NA
> 2 ≤ 5 ft bgs	1	0.03
> 5 ≤ 10 ft bgs	0	NA

EVALUATION AREA 7

Evaluation Area 7 is located on the western border of the Site, and covers 4.56 acres. Other than bordering an access road, no infrastructure was located on this portion of the Site. The pipeline to Avila Pier ran just south of this Evaluation Area. Aerial deposition

and surface water runoff are the primary potential contaminant sources. No soil samples from this area have been analyzed for PCBs.

EVALUATION AREA 8

Evaluation Area 8 is in the northwest corner of the Site and encompasses 1.8 acres. The Scout House was located in Evaluation Area 8. The primary potential sources of contamination in this area are aerial deposition and surface water runoff. No soil samples from this area have been analyzed for PCBs.

EVALUATION AREA 9

Evaluation Area 9 is in the center of the Site and covers 4.14 acres. The refinery was located in northern portion of this area, while the southern portion included the pump house and truck loading rack. This was the most heavily industrialized area of the Site. Twenty five soil samples collected from ≤10 feet bgs have been analyzed for PCBs (Figure 1). Overall, detection limits for soils collected to date appear adequate for risk assessment purposes (PCBs – 0.030 to 0.30 mg/kg).

Table 6. Evaluation Area 9 Data Summary

Depth Range	PCBs	DLs (mg/kg)
Total ≤ 10 ft bgs	*25*	*0.03 to 0.3*
0 ≤ 2 ft bgs	1	0.3
> 2 ≤ 5 ft bgs	15	0.03(12); 0.12(1); 0.3(2)
> 5 ≤ 10 ft bgs	9	0.03(6); 0.3(3)

EVALUATION AREA 10

Evaluation Area 10 includes the steep slopes bordering the northern and southern boundaries of the Site. The northern parcel covers 8.45 acres, while the southern section encompasses 20.57 acres. Other than a small AST on the southern side of Evaluation Area 10, no tank farm-related infrastructure existed in these areas of the side, although debris has been observed along the slopes below the refinery area. Other sources of contamination in Evaluation Area 10 are aerial deposition and surface water runoff. No soil samples from this the northern parcel have been analyzed for PCBs; in the southern parcel, three soil samples collected from ≤10 feet bgs have been analyzed for PCBs (Figure 1). Overall, detection limits for soils collected to date appear adequate for risk assessment purposes (PCBs – 0.030 to 1.2 mg/kg).

Table 7. Evaluation Area 10 Data Summary

Depth Range	PCBs	DLs (mg/kg)
Total ≤ 10 ft bgs	*3*	*0.03 to 1.2*
0 ≤ 2 ft bgs	1	1.2
> 2 ≤ 5 ft bgs	2	0.03(1);0.3(1)
> 5 ≤ 10 ft bgs	0	NA

References

LFR. Memorandum Report. 1998. Status of PCB Site Assessment at the Guadalupe Oil Field. December 4th.

LFR. 1999. 5X Beach and A2A North Areas Work Plan for Assessing Potential PCB and other Nondiluent Compounds, Guadalupe Oil Field, SLO County, CA, Version 2.2.

McDaniel Lambert Inc. 2001. Screening Human Health Risk Assessment for Non-Petroleum Compounds at the Guadalupe Oil Field. Version 2.1. November 8th.

S:\GIS\1190_Avila_Beach_Chevron\1190.002_Risk_Management_Plan\ArcMapDocuments\009_1190.002_Site_Plan_PCB.mxd\08/15/07

Explanation

- Diesel / Gas / Crude Oil Pipeline
- Storage Tanks / Areas
- Approximate Site Boundary
- Soil Samples (≤10 feet) Tested for PCBs

N

0 75 150 300 450 600 FEET

Approximate Scale

FIGURE 1

SITE PLAN SHOWING LOCATIONS OF SAMPLES TESTED FOR PCBs

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON INC.
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

ATTACHMENT 4

Avila Beach Remediation Community Monitoring Program Results, Avila Final Report
(Applied Measurement Science 2001)

Final Report

Avila Beach Remediation
Community Monitoring Program Results

Prepared by:

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July, 2001

EXECUTIVE SUMMARY

The Community Monitoring Program (CMP) was produced through a joint effort among local lead regulatory agencies, the San Luis Obispo Air Pollution Control District (APCD) and County Public Health Department (CPHD), and Unocal Corporation. The purpose of the program was to ensure that public health was protected during remediation activities. The CMP provided a framework and technical basis for monitoring activities, responded to public concerns, implemented corrective actions, and communicated results to interested parties. The CMP specified the use of state-of the-art instruments and techniques to monitor over 100 chemicals, in addition to dust and odor. Real-time measurements of eleven of these substances were used to make hour-by-hour risk management decisions to ensure that public exposure was below levels of concern.

The CMP was reviewed and augmented by several regulatory agencies, including the local lead agencies, and the San Luis Obispo Air Pollution Control District (APCD) and County Public Health Department (CPHD), in addition to statewide agencies charged with protecting public health, including the California Department of Health Services (DHS), the Office of Environmental Health Hazard Assessment (OEHHA), and the Department of Toxic Substances Control (DTSC). After input from these groups was incorporated, the final CMP was released on February 8, 1999.

The function of the Community Monitoring Team (CMT) was to execute the CMP as described above—to collect air samples throughout the town of Avila Beach during remediation activities and to evaluate the data collected vis-à-vis the health-protective standards set forth. The purpose of air sampling was to provide immediate and long-range assessments of air quality and associated potential impacts on the health of residents and visitors to Avila Beach. This program extended from October, 1998 to April, 2000, the entire time frame of the remediation process.

Chemicals of Concern and Trigger Levels

The nature of the chemicals associated with the remedial activities at Avila Beach required careful forethought in order to have reasonable assurance that potential adverse health risks associated with the remediation would not be underestimated. On the basis of two differing evaluation objectives and methods, two sets of individual chemicals were identified. One set of chemicals were identified for evaluating airborne chemical concentrations in real time on a daily basis. Another set of chemicals was evaluated for purposes of performing a human health risk assessment. Although the two lists differ, both lists represented the same suite of substances and chemicals associated with the remediation activities.

The chemicals of concern (COC) were selected based on site-specific criteria. Consideration of the source of chemicals, potential receptors, exposure pathways, and routes of exposure were important criteria used to identify the COC. The Risk Assessment Report of October 12, 2000 used the term SOPC or substances of potential concern because, strictly speaking, diesel exhaust and particulates smaller than 2.5 microns are not chemicals but a mixture of chemicals. For purposes of this report, the standard term COC will be used acknowledging the status of diesel exhaust and particulates.

Due to an inordinately large number of chemicals (exceeding a thousand) potentially present as the result of soil excavation activities, an effort was made to reduce the number of chemicals monitored and evaluated to a manageable number. The CMP identified 11 chemicals or substances for monitoring. The risk assessment was based on an evaluation of diesel exhaust, the volatile components of total petroleum hydrocarbons, hydrogen sulfide, and polynuclear aromatic hydrocarbons.

The concentrations at which the Chemicals of Concern begin to either become a trigger to increase monitoring or to affect human health were termed the trigger levels. In order to maximize the protection of public health, a series of three trigger levels were developed for each chemical with requirements for increasingly stringent engineering and project activity management controls applied at the higher concentration levels. Each level was associated with a particular course of action, such as engineering controls or the halting of operations. The three trigger level concentrations for chemicals of health concern are termed Level 1, Level 2 and Level 3:

Level 1
Concentration: 50% of agency chronic safe exposure levels (California EPA Office of Environmental Health Hazard Assessment Chronic Toxicity Reference Exposure Levels - OEHHA RELs).
Exceedance Response: Increased real-time sampling in the area of concern.

Level 2
Concentration: 75% of Agency chronic safe exposure levels (OEHHA RELs).
Exceedance Response: Implementation of engineering controls and notification of agencies.

Level 3
Concentration: 100% of agency acute safe exposure levels.
Exceedance Response: Immediate halt in excavation activities, implementation of engineering and activity management controls and notification of the agencies and the Fire Department.

Types of Monitoring Activities

Monitoring was conducted during all remediation activities and the data obtained was compared on a continual basis to the trigger levels as described above. Monitoring was carried out either by real-time or time-integrated approaches for three parameters: dust, odors and COCs. Specific monitoring activities for each parameter are indicated below:

Dust

- Visual observation
- MIE Personal Data RAM for total dust (0.5 times total dust will be assumed to be PM10[a])
- MIE Data 2000 for PM 2.5 (particulate matter of 2.5 micron aerodynamic diameter and below)
- Federal Reference Method for Time Integrated PM 10 (40 CFR 50, Appendix B),
- Airmetrics MiniVol PM10 for Time Integrated PM 10.

[a]It should be noted that since dust derived from abrasive activities associated with construction, etc., is composed of mostly larger particles, the total dust value had an assumed contribution from PM10 of 50%.

Odor

- Direct olfactory observation
- Jerome 631-X Hydrogen Sulfide sensor for the common surrogate for odor
- EPA Method TO-14, as modified for use in reduced sulfur sampling to detect reduced sulfur compounds as surrogates for malodorous compounds
- EPA Method TO-14 for a wide range of volatile organic compounds, many of which are surrogates for malodorous chemical mixtures.

Chemicals of Concern

- PhotoVac Voyager Portable GC/PID for volatile organic compounds chemicals of concern: benzene, toluene, ethyl benzene, and xylenes
- Jerome 631-X Hydrogen Sulfide sensor
- Ecochem PAS-2000 for real-time detection of total PAH compounds
- Andersen Instruments Aethalometer for particulate elemental carbon
- EPA Method TO-13 (GC/MS) for carcinogenic PAH compounds
- EPA Method TO-14 with GC/MS for toxic volatile organic compounds
- EPA Method TO-14 with GC/FID for hydrocarbon compounds
- EPA Method TO-14 with GC/FPD for reduced sulfur compounds EPA Method TO-11 for aldehydes and ketones

Meteorological Data Collection

Meteorological data were collected continuously during the project. Two locations provided localized data for use in determining appropriate air sampling locations, and in assessing the movement of air masses over the excavation pit containing potentially harmful air-borne chemicals.

Monitoring Duration, Period and Locations

Monitoring Duration: Monitoring was conducted during all major phases of the work day, which generally consisted of 7:30 AM-5:30 PM—ten hours daily, five or six days per week, depending upon remediation contractor work schedule. No sampling was conducted when the remediation work was not in progress.

Monitoring Period: Following a two week baseline period in October, 1998, initial monitoring commenced in November, 1998, extended during all periods in which work was conducted, and ceased on April 6, 2000.

Monitoring Locations: Locations for the real-time monitoring were selected on an hourly basis, depending on wind direction and work activities. These locations were noted and included in the sample data base. Sampling locations for integrated samples were selected throughout the town, and samples were collected initially in five locations. Later, after an evaluation of the data, between one and three locations were sampled.

Results

The overall result from the CMP was a successful management of the risk to the community from the remediation process. The goal of a risk factor of less than 10 in one million was achieved.

The success of the program was based on the ability of the CMP to detect rapid changes in local air quality and to provide immediate feedback to the remediation contractors so that appropriate activity management could be maintained. Since the objective of the overall Avila Beach project was the removal of the contaminated soils, the contractors focused on that activity, often diverted their attention from the impacts that their activities would have on the community. However, the implementation of the CMP resulted in a higher visibility to the monitoring activities, resulting in a priority to the community protection efforts. These efforts for minimizing the community impacts were seen in the low number of dust and odor incidents for a project this size and the few exceedances of the trigger levels.

Other than construction related disruptions (e.g., traffic, noise, etc.), the CMP monitoring detected few impacts to the community from the remediation. A general petroleum odor saturated the town for much of the project time line, but it was generally adapted to and not considered a direct health effect. A few specific odor complaints arose over the course of the project, but nothing that lasted more than a few hours at most, and all were addressed according to the CMP guidelines. Dust became an issue periodically, but with increased vigilance by the contractors, this was addressed.

The long-term impact from vehicle emissions and off-gassing of contaminants from the affected material were addressed with the real-time monitoring and integrated sampling. The results from these efforts were incorporated into the risk assessment conducted by SOMA Corporation. This risk assessment concluded that the less than lifetime reasonable maximum exposure excess

carcinogenic risk to a resident child was calculated to be nine in one million (9×10^{-6}). The average excess carcinogenic risk to a resident child was 6.4 in one million (6.4×10^{-6}). The less than lifetime reasonable maximum exposure excess carcinogenic risk to a resident adult was calculated to be 3.8 in one million (3.8×10^{-6}). The average excess carcinogenic risk to a resident adult was calculated to be 2.7 in one million (2.7×10^{-6}). These risks for cancer due to diesel exhaust and benzene do not exceed the CMP risk management goal of 10 in a million.

Other than nuisance effects such as disagreeable odors, chronic noncarcinogenic hazards were not predicted to occur. The RME chronic hazard index for the child resident was 0.63 and the average chronic hazard index for the child resident was 0.45. The acute hazard index for the child resident was 0.83. A target organ analysis was not performed to further detail noncancer effects since none of the hazard indices exceeded one.

These results showed that the CMP goal of prevention of significant impact to the health of the Avila Beach community was achieved.

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1.0 INTRODUCTION

1.1 HISTORY OF THE SITE

Avila Beach has been the site of oil storage and transportation activities since the late 1800's. Underground pipelines below Front Street in the town of Avila had been in operation for about 80 years and had been used to transport gasoline, diesel and crude oil. Leaks from the pipelines occurred over the years, resulting in releases of hydrocarbon materials to subsurface soils and groundwater.

Site assessment work began in 1989, following the discovery of subsurface hydrocarbon contamination on private property undergoing construction. Work between 1989 and 1999 has included site assessments, remedial feasibility studies, interim remediation, risk assessments, air monitoring, and remediation pilot testing. Responding to the expressed concerns of the residents of the town of Avila Beach, it was decided in 1998 by Unocal, the County of San Luis Obispo, and the responsible regulatory agencies, that the best option for the community was to excavate the contaminated soil and replace it with clean soil.

The excavation and clean-up of Avila Beach was a mammoth undertaking involving the demolition of many of the structures on Front Street—the main street fronting the ocean beach—as well as the transportation and storage of large volumes of petroleum-contaminated soil. There was significant concern expressed by local agencies, including the San Luis Obispo Air Pollution Control District (SLOAPCD), County Environmental Health, and the Regional Water Quality Control Board (RWQCB), as well as local residents, about potential health impacts associated with excavation activities. Concerns focused on the potentially harmful effects of pollutants released from contaminated soil and diesel equipment used during the excavation. As a result of these concerns, provisions were included in the County excavation and air permits that required a Community Monitoring Program (CMP) to be carried out during the remediation and excavation activities. The purpose of the CMP was to insure that the residents and general public were not exposed to harmful concentrations of pollutants. The responsible party, Unocal, worked with the agencies and their consultants to put together a plan that would protect the residents of Avila Beach and provide sufficient warning should hazardous conditions be created.

Purpose and Organization of the Current Report

The purpose of this report is to describe the development, implementation and results of the CMP for the Avila Beach Remediation Project. The CMP was designed to provide assurance to the community of Avila Beach that emissions associated with the remediation process, including emissions from both the "affected" material and from heavy duty excavation equipment, would not adversely affect their health and well-being. This effort was a multi-disciplinary activity that involved participants from several local government agencies, as well as representatives from Unocal Corporation. The effort was funded by Unocal as part of their site remediation responsibilities.

This report consists of the following three major parts:

Main body of text. This part includes descriptions of the monitoring approach, the remediation activities, the data collected, significant results, and the final risk assessment. Details regarding the rationale for the monitoring approach will not be discussed as they have been documented in the Community Monitoring Plan presented in Appendix C. However, in this document, a summary of the CMP is presented. It should be noted that the term "work plan" and CMP were used interchangeably and are essentially equivalent.

Appendices. There are several appendices that contain important background information. The first two appendices, in particular, present the most important additional material regarding the execution of the CMP. Appendix C contains the CMP, which will be cited extensively as the source for descriptions of monitoring approaches, techniques, and the rationale for selecting these techniques. This document guided the performance of the monitoring activities. Appendix D contains the Human Health Risk Assessment conducted by SOMA Corporation. The Assessment presents the primary data interpretation of the monitoring data for the purpose of providing an estimate of the risk to the community associated with remediation project activities. Other appendices are included as supporting material, background descriptions, and documentary information for the data collection and remediation efforts.

Supplementary Data. The supplementary data includes all the supporting data from the program, such as hard copies of all the laboratory data, daily data collection sheets, site logs, real-time data collection logs, etc. Since this material fills three+ file cabinets, it is not all included in the report, but is cited as the source for the reduced data. These file cabinets will be stored at the San Luis County Air Pollution Control District until 2003, after which they will be sent to the Unocal Corporation corporate storage facilities.

1.2 THE COMMUNITY MONITORING PROGRAM AND TEAM

1.2.1 Summary of the Community Monitoring Program

The CMP was designed to provide the community with a rapid assessment of the potential risk to human health from remediation activities. The development and implementation of the CMP took approximately six months, and involved the following activities:

- Development of the CMP, Version 1.0, Aug. 12, 1998, which served as the basis for the Request for Proposals for the Community Monitoring Contractor.
- Selection of the Community Monitoring Contractor in October 1998, subsequently called the Community Monitoring Team (CMT).
- Development and implementation of the Baseline Sampling Plan, October 1998.
- Initial site monitoring, starting early November 1998.
- Development and implementation of the revised CMP, starting November 1998, with the final version released on February 8, 1999.
- Full implementation of the CMP during February 1999.

When implemented, the CMP undertook the following activities:

- Integrated air monitoring at fixed sites for, initially, over 100 chemicals.

- Real-time, roving monitoring for the following parameters:
  - Total suspended particulate matter (TSP)
  - Particulate matter of 10 microns or less (PM10)
  - Particulate matter of 2.5 microns or less (PM2.5)
  - Particulate elemental carbon (PEC)
  - Polycyclic aromatic hydrocarbons (PAH)
  - Hydrogen sulfide
  - Benzene, toluene, ethyl benzene, xylenes (BTEX)
  - 1,3-Butadiene
  - Dust
  - Odor
- Off-hours monitoring of excavation pit emissions for hydrocarbons and hydrogen sulfide
- Rapid posting of daily data at Community Center
- Posting of daily data on CMP web site
- Development of a comprehensive database for all laboratory and field data
- Risk assessment using the data collected from both laboratory and real-time equipment

This program was partially implemented in November 1998, gradually expanded until full implementation in February 1999, and was in full operation until December 27, 1999. Some minor changes occurred during that period regarding the numbers of secondary analytes monitored, sampling locations, and sampling frequencies, but only after adequate review by all parties and consensus that the changes would not affect the data integrity. These changes are documented in Section 4.6. After December, 1999, a minimal program was in place during the sporadic activities from January, 2000 to April, 2000.

1.2.2. Summary of Community Monitoring Plan

The CMP was the guiding document for the monitoring program. As noted above, the full document is included in Appendix C. Of particular importance is Table 1.1 which is reproduced here. This table contains the health-based or nuisance trigger concentration levels at which corrective actions were required. This table was referred to frequently as data was collected for assessment of any required action based on what was detected. The information in this table formed the heart of the program and was the center of monitoring activity.

1.2.3 The Community Monitoring Team

The CMT was established to implement and provide oversight to the CMP. Oversight and approval of the CMP were provided by Karen Brooks of the San Luis Obispo APCD and Dr. Greg Thomas of the County Public Health Department. Assistance was provided by the County Public Health Assessment Contractors, toxicologist Dr. Norman Ozaki of SOMA Corporation, and air quality scientist Dr. Gary Bertolin of SAIC. Monitoring activities and laboratory analysis were conducted initially by Environmental Analytical Services (EAS) of San Luis Obispo, a

contractor selected by Unocal in consultation with the APCD and County Environmental Health and subsequently by Air Toxics Limited of Folsom, California.

1.3 COMMUNITY MONITORING ACTIVITIES

1.3.1 Previous Monitoring Efforts

Prior to the remediation, three monitoring efforts were conducted to assess potential public health risk from possible exposure to emissions from the subsurface contamination, exclusive of remediation activities. These programs included ambient air testing in Avila Beach and other surrounding communities, soil gas testing to evaluate potential sources of contamination, and flux chamber testing to determine the nature of surface emissions from the potentially gaseous constituents.

These testing programs and the resulting health risk assessments indicated that the potential for significant risk from the existing subsurface contamination was below the threshold for action. These results were documented in the following reports:

> Mesa Associates, Ambient Air Sampling Report, U.S. EPA Method TO-14A, Prepared for Risk Science Associates, October 9, 1997.
>
> Mesa Associates, Sampling Report: Ambient Air, Soil Gas, Sampling Event: Avila Beach, CA. March 20, 1998, Prepared for Risk Science Associates, April 14, 1998.
>
> Risk Science Associates (RSA), Transmittal of Results of Reconnaissance Sampling Event #4, July 2, 1997.

Some data from these reports were used in the CMP risk assessment effort, primarily in terms of determining background levels of the chemicals of concern. The specific data sets used are cited in the risk assessment report, included in Appendix D. Further discussion of the background data is presented in Section 9.5.

1.3.2 Workday Community Monitoring

Chemical-specific trigger level concentrations were used to determine if detected concentrations of chemicals in air represented potential adverse health hazards. Concerns over potential chemical releases from open excavations during weekends and holidays lead to a distinction between “workday” and “non-workday” periods. The community workday trigger levels were set at or below safe exposure levels that have been established by regulatory agencies to protect public health. If any trigger level was exceeded, control measures, as described below, were implemented to reduce the potential for public exposure. In the event that these control measures were not successful, community notification and shelter-in-place measures were identified. The non-workday period is discussed in the next section.

In order to ensure the maximum protection of public health, the CMP trigger levels (Table 1.1) were in most cases significantly lower than regulatory safe exposure levels. The Tier 1 levels were set at 50 % of the OEHHA chronic reference exposure level or an incremental cancer risk of $10x10^{-6}$ for individual trigger compounds. If any Tier 1 level was exceeded, further monitoring was conducted, the APCD and Jacobs Engineering (Jacobs) were to be notified, and/or a risk assessment was to be performed to evaluate cumulative public exposure. A flow diagram of the noticification system is presented in Figure 1.1. The Tier 1 levels were exceeded a number of times, as will be documented in Section 7 of this report.

The Tier 2 trigger levels were set at 75% of the OEHHA chronic reference exposure level, or a total incremental cancer risk of $10x10^{-6}$ based on a health risk assessment that includes all chemicals of concern. If any Tier 2 level was exceeded, the APCD, Jacobs, and the Fire Department, were notified and engineering controls were immediately implemented to reduce ambient concentrations below the Tier 2 levels. These controls may have included water sprays, foams, tenting, wind screens, or reducing the rate of excavation, among others. The Tier 2 trigger levels were exceeded only once throughout the entire project when an exceedance for 1,3-butadiene was detected. Control measures were put into place and the problem subsided. This occurrence is discussed in Section 7 in detail.

If Tier 2 control actions were not successful and ambient concentrations exceeded Tier 3 levels (acute reference exposure levels), the APCD, Jacobs, the Public Health Assessment Contractors, and the Fire Department would have been notified and the project would have been shut down. If concentrations had exceeded the Tier 3 trigger levels for more than 4 hours and/or reached a level that was more than two times the Tier 3 levels, affected parties would have been required to Shelter-in-Place or take other actions deemed appropriate by the Incident Command Team and County Public Health Officer. A decision to move beyond Shelter-in-Place to evacuation would have been made by the Incident Command Team in consultation with the County Public Health Officer. Notification of the public would have occurred through the town public address system and/or a mobile public address system.

The CMP monitored over 100 chemicals, in addition to odors and dust. Substances were selected based on their potential for being released during remediation activities and their ability to be readily measured by the selected analytical methods. Eleven chemicals were selected as workday trigger substances that were monitored and reported continuously in real time using portable, field instruments. These eleven trigger substances were benzene, toluene, ethylbenzene, xylene, 1,3-butadiene, hydrogen sulfide, polyaromatic hydrocarbons, fine particulate matter, diesel exhaust, and odor.

1.3.3 Non-Workday and After-hours Monitoring

The non-workday and after-hours monitoring periods were defined in order to address concerns about potential emissions when normal daytime CMT staffing was not in place. Therefore, at the end of the workday, on weekends, and on holidays, the air in the currently active excavation cell was monitored using for hydrogen sulfide and total hydrocarbons using electrochemical monitors. A wireless communication system was implemented that notified CMT staff of any exceedances of the set thresholds. These thresholds were set such that measured concentrations

were compared to 50% of occupational exposure levels. If these levels were exceeded within the excavation cell, the CMT was mobilized and real-time workday community monitoring was implemented. During non-workday and after hours, all stockpiles and affected soil surfaces were covered. Therefore, the only potential project-related source of emissions during non-work hours was volatile emissions from uncovered liquid surfaces within the excavation cell. There were no actual occurrences of exceeding the non-workday and after-hours thresholds, as will be discussed in Section 7.

1.3.4 Odor and Dust Monitoring

The CMT was constantly vigilant of odors and dust in the community. Monitoring took place continually during all site activity. On-site meteorological data and real-time air sampling data were reviewed several times a day to ensure that patrol routes were focused on the areas with the highest potential for nuisance conditions. A log was kept of odor observations. Upon observation or report of odor or dust, follow-up real-time and/or time-integrated sampling was completed as soon as possible and the APCD and County Public Health Monitor were notified. Engineering controls were typically used as a first step to control odor and dust. The CMP specified that should the controls not work, activity management steps were implemented, such as reducing the size of the excavation or the number of excavators, or stopping the excavation completely. These steps were not required, as the odor and dust incidents that occurred were managed effectively with simple procedures.

1.3.5 Communications

After the data were collected, summaries of both real-time and time-integrated monitoring were provided to the lead agencies and the Public Health Assessment Contractors. A summary of this information was then posted in Avila at the Community Center and on the monitoring program web site (www.avilaCMT.org). Information about the ongoing monitoring efforts was provided at periodic community meetings. Dates of these meetings will be presented in Section 2.

The CMT and APCD staffs were available on a 24-hour basis to investigate odor or other concerns in a timely manner. During operating hours, a CMT trailer was available in Avila where monitors could be contacted directly by the community. Both during and after operating hours, the APCD, the Avila Project Hotline, and Arrie Bachrach, Jacobs Project Ombudsman, were available to serve as a channel of communication to the monitors.

TABLE 1.1. Trigger Levels

Substance (Measured As)	Units	Trigger Level	Basis[a]	Averaging Time	Number of Measure-ments[e]	Method	Required Action	Notification
TIER 1								
1,3-Butadiene[g]	ppmv	0.027[h]	C	1-hr	3	Voyager	Risk assessment	APCD
1,3-Butadiene[g]	ppmv	0.02	50% CREL	1-hr	3	Voyager	Increased monitoring	Jacobs
Benzene[g]	ppmv	0.11[h]	C	1-hr	3	Voyager	Risk assessment	
Benzene[g]	ppmv	0.1	50% CREL	1-hr	3	Voyager	Increased monitoring	
Toluene	ppmv	0.53	50% CREL	1-hr	3	Voyager	Increased monitoring	
Xylene	ppmv	0.23	50% CREL	1-hr	3	Voyager	Increased monitoring	
Ethylbenzene	ppmv	1.15	50% CREL	1-hr	3	Voyager	Increased monitoring	
Hydrogen sulfide	ppmv	0.015	50% 1-hr CAQS	1-hr	Continuous	Jerome	Increased monitoring	
Diesel exhaust (PEC)[f,g]	µg/m^3	29[h]	C	1-hr	Continuous	Aethalometer	Risk assessment	
Diesel exhaust (PEC)[f,g]	µg/m^3	21	50% CREL	1-hr	Continuous	Aethalometer	Increased monitoring	
PM2.5	µg/m^3	75	50% AFAQS	1-hr	Continuous	DR-2000	Increased monitoring	
PM10 (total PM)[b]	µg/m^3	150	50% ACAQS	1-hr	Continuous	PDR-1000	Increased monitoring	
Odor	complaint	1	Nuisance	-	-	Observation	Increased monitoring	
Total PAHs	µg/m^3	TBD[c,h]	C	1-hr	Continuous	PAS 2000	Risk assessment	
TIER 2								
Incremental Cancer Risk	unitless	10x10^{-6}	C	Annual	-	Risk assessment	Engineering controls	APCD
1,3-Butadiene	ppmv	0.027	75% CREL	1-hr	3	Voyager	• wind screens	Jacobs
Benzene	ppmv	0.14	75% CREL	1-hr	3	Voyager	• foams	PHAC
Toluene	ppmv	0.8	75% CREL	1-hr	3	Voyager	• water sprays	Fire Dept.
Xylene	ppmv	0.35	75% CREL	1-hr	3	Voyager	• tenting	CPHD
Ethylbenzene	ppmv	1.7	75% CREL	1-hr	3	Voyager	• reduction in excavation rate	
Hydrogen sulfide	ppmv	0.023	75% 1-hr CAAQS	1-hr	Continuous	Jerome	• modification of activity	
Diesel exhaust (PEC)[f]	µg/m^3	22	75% CREL	1-hr	Continuous	Aethalometer		
PM2.5	µg/m^3	113	75% AFAQS	1-hr	Continuous	DR-2000		
PM10 (total PM)[b]	µg/m^3	225	75% ACAQS	1-hr	Continuous	PDR-2000		
Odor	complaint	5	Nuisance	-	-	Observation		
TIER 3								
Incremental Cancer Risk	unitless	100x10^{-6}	C	Annual	-	Risk assessment	Halt activity(ies) causing	APCD
1,3-Butadiene	ppmvd	0.36	10xCREL	1-hr	3	Voyager	exceedance. If exceedance	Jacobs
Benzene	ppmv	0.24	100% AREL	1-hr	3	Voyager	lasts longer than 4 hrs or	PHAC
Toluene	ppmv	9.8	100% AREL	1-hr	3	Voyager	concentration reaches twice	Fire Dept.
Xylene	ppmv	0.5	100% AREL	1-hr	3	Voyager	the trigger level, shelter in	French
Ethylbenzene	ppmv	2.300	10xCREL	1-hr	3	Voyager	place or other actions	Hospital ER
Hydrogen sulfide	ppmv	0.100	100% AREL	1-hr	Continuous	Jerome	recommended by the CPHD	CPHD
Diesel exhaust (PEC)[f]	µg/m^3	50.000	10xCREL	1-hr	Continuous	Aethalometer	and ICT.	
PM2.5	µg/m^3	162	100% 24 FAAQS	1-hr	Continuous	DR-2000		
PM10 (total PM)[b]	µg/m^3	375	100% 24 FAAQS	1-hr	Continuous	PDR-2000		
Odor	complaint	NOV	Nuisance	-	Continuous	Observation		

NOTES TO TABLE 1.1:

[a] The bases are as follows: 24 CAQS = 24-hr California air quality standard; ACAQS = annual California air quality standard; 24 FAQS = 24-hr federal air quality standard; AFAQS = annual federal air quality standard; 1-hr CAQS = 1-hr California hydrogen sulfide air quality standard; AREL = acute reference exposure level; CREL = chronic reference exposure level; C = cancer.

[b] Total dust is the surrogate for PM10. The trigger level assumes 50% of total dust is PM10, based on CARB speciation profiles for road and building construction dust. A site-specific factor will be developed after remediation activities are under way and used to adjust the PM10 trigger level (Sec. 3.6.7).

[c] To be determined as the average plus two standard deviations of the 1-hr rolling mean baseline concentration or some other suitable statistical measure of variance.

[d] Other abbreviations used in this table are: PM = Particulate Matter; TBD = To Be Determined; DR = Data Ram; PDR = Personal Data Ram; PAS = Photoelectric Aerosol Sensor; APCD = Air Pollution Control District; PEC = Particulate Elemental Carbon or Soot; NOV = Notice of Violation; PHAC = Public Health Assessment Contractors; POC = Particulate Organic Carbon; Continuous = Measurements will be made essentially continuously, within the constraints of the instrumentation (Sec. 3.2).

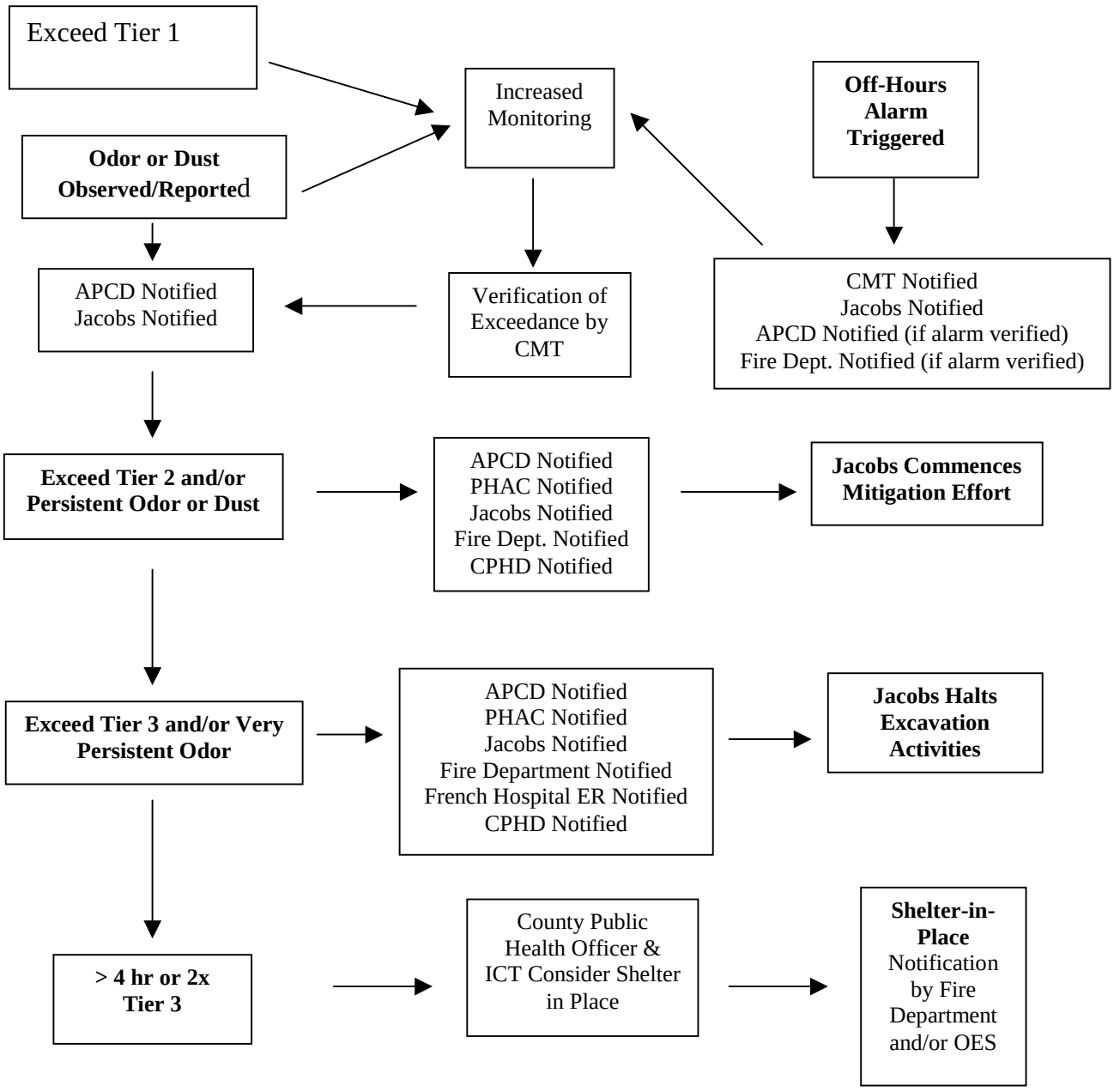
[e] The number of measurements is based solely on the limitations of the instrumentation. The Voyager can only analyze three samples per hour. Therefore, only three measurements are specified for all analytes measured by the Voyager. All other instruments are capable of nearly continuous measurements.

[f] Particulate elemental carbon (PEC) is the surrogate for diesel exhaust. The trigger level assumes that 85 wt% of diesel exhaust is PEC based on literature values. A site-specific factor will be developed after remediation activities are under way and used to adjust the diesel trigger level (Sec. 3.6.4).

[g] Separate trigger levels are reported for chronic and carcinogenic health effects for 1,3-butadiene, benzene, and diesel exhaust. When the chronic trigger level established at 50% of the chronic REL is exceeded, monitoring is increased. When the carcinogenic trigger level established at the $10x10^{-6}$ risk level is exceeded, a health risk assessment will be conducted using time-integrated data for all monitored carcinogens and noncarcinogens.

[h] Cancer-based trigger levels are to be compared to an incremental 1-hr average concentration, calculated as the difference between the upwind and downwind concentration.

Figure 1.1. Notification and Tier Process



2.0 COMMUNITY MONITORING PROGRAM DEVELOPMENT

2.1 THE CMP DEVELOPMENT PROCESS

The CMP was developed to fulfill a condition in Unocal's Permit to Operate for the Avila Beach Remediation Project, issued by the San Luis Obispo County APCD. The first formal description of the program was developed in the spring of 1998 by McDaniel-Lambert Inc., and a revised draft was submitted on August 12, 1998. The revised draft formed part of the Request for Proposals issued by Unocal in August 1998, and was the foundation for subsequent documents.

Following selection of the contract-monitoring group in September 1998, the CMP was revised in various stages. The second main version was dated October 21, 1998. A conceptual plan was developed by November 3, 1998; this was substantially revised by November 24, 1998, and was distributed to key project personnel. Following additional discussions amongst CMT members, other aspects of the program were more completely developed. These discussions resulted in the final revision, completed in late January 1999, which was released on February 9, 1999. Copies were distributed to key public agencies and outside parties, and were available for inspection by the public. The final CMP is included as Appendix C to this report. The interim versions were internal drafts that reflected input from various parties. Extensive discussions were held between Unocal representatives and consultants and between APCD and their oversight consultants during the revision period.

Changes to the CMP and how the field program was conducted after release of the February 8, 1999 version due to changes in site conditions and other circumstances were discussed with the APCD and other agencies prior to implementation. These changes, as documented in memoranda or other communications at the time they occurred, are summarized in Section 3.5.

Oversight on behalf of Unocal for the entire project was supplied by Dr. Chuck Lambert of McDaniel-Lambert, Inc., and Dr. Phyllis Fox of Environmental Management.

2.2 THE CMP TEAM

The development of the final CMP was a team effort, incorporating extensive input from many participants according their expertise. The major deliberative component of this process concerned the development of adequately health-protective trigger levels and the ability to provide real-time monitoring data to document potential exposure.

Key personnel on the CMP team included:

San Luis County Air Pollution Control District
Larry Allen
Barry Lajoie
Karen Brooks

San Luis County Public Health Department
Greg Thomas, MD
Michelle Cowan
Curt Batson

Public Health Advisory Consultant
Norm Ozaki, Ph.D., SOMA Corporation
Gary Bertolin, Ph.D., SAIC

Unocal Representative
Kevin McNichol

Unocal Consultants
Chuck Lambert, Ph.D., DABT, McDaniel-Lambert, Inc.
Phyllis Fox, Ph.D., Environmental Management

Community Monitoring Team
Steve Hoyt, Ph.D., Environmental Analytical Service
Eric Winegar, Ph.D., Applied Measurement Science

In addition to these participants, several outside parties, including staff from the Office of Environmental Health Hazard Assessment (OEHHA), and the Department of Toxic Substances Control (DTSC), reviewed and provided input to the preliminary drafts. These reviewers are listed in the acknowledgement section of the CMP Work Plan.

Key interaction between the CMP team and the CMT field crew was provided by the field crew from Jacobs Engineering, particularly John Baum, Compliance Manager; Steve Arington, Primary Excavation Foreman; and Arrie Bachrach, Jacobs Engineering Project Ombudsman. These individuals were kept apprised of all developments, particularly those that would potentially impact remediation operations.

Other county personnel involved in oversight of the excavation and in assisting APCD in their oversight of community health were Rod Farrell of Padre Associates, and MaryKate Morabito, also of Padre Associates, who at one time had worked with the CMT as part of the field crew.

2.3 COMMUNITY MONITORING TEAM

After a short time in the field, the "Community Monitoring Contractor" (the field staff) was renamed the Community Monitoring Team (CMT). This team was charged with implementing the details of the CMP Work Plan and was selected following a competitive bidding process conducted by Unocal. A key aspect of the selection process was the desire to use local resources as much as possible.

Initially, Dr. Steve Hoyt of Environmental Analytical Service, San Luis Obispo, California was the overall program manager with contractual responsibility to Unocal. He also took the lead in

developing a comprehensive database program. A number of subcontractors played major roles in providing field services.

Dr. Eric Winegar of Applied Measurement Science of Fair Oaks, California, was the project manager in charge of all field activities. Mr. Scott Santala of Mesa Associates, Nipomo, California, was the site coordinator. Mr. Julius Carstens of Oilfield Environmental and Compliance (OEC) was the field analysis manager, and worked with the assistance of Dr. Hoyt in configuring portable field instrumentation.

Staff from each of the following companies was used for various sampling and monitoring tasks:

Mesa Associates:
Eric Covington
Gretchen Scheibel
Lanaya Voelz

OEC
Leslie Nelson
Kathy Johnson
Rechai Talley
Marykate Morabito
Vicki Rocha

In April 1999, Dr. Eric Winegar became the overall program manager, replacing Steve Hoyt of EAS, and Air Toxics Limited of Folsom California became the contract laboratory. At that time, the duties of Mesa Associates were taken over by other staff as the number of sampling locations were reduced with approval of the San Luis Obispo Air Pollution Control District upon careful review of existing data. In December 1999, as activities were slowing, the staff was further cut down to Dr. Eric Winegar and Ms. Vicki Rocha, a previous employee of OEC who was then working as an independent contractor. From January 2000 to March 2000, Mr. Jesse Delacruz of Environmental Science and Engineering provided field support assistance to Dr. Winegar. Throughout these periods, Dr. Chuck Lambert and Dr. Phyllis Fox both continued in their roles as project overseers.

2.4 REGULATORY OVERSIGHT

Regulatory oversight was carried out by two main arms of local agencies. First, Padre Associates, under contract to the County Planning Department, was responsible for oversight of overall project compliance to the permit conditions. While oversight of CMP was not directly in their purview, they did report on all compliance actions, including community health issues, which were the focus of the CMP. The Padre staff also assisted in the CMP effort by providing information to the CMT about site activities and potential issues.

The San Luis Obispo County APCD was the key agency involved in developing, implementing, and providing regulatory oversight to the CMP. Several personnel from APCD were active

throughout the development process of the CMP Work Plan, which contained the trigger levels and other health-protective action levels.

In addition, APCD staff conducted regular inspections of the site, and whenever an incident occurred, staff was dispatched rapidly to investigate. Off-hours coverage was also available via scheduled duty shifts. A notable component of the APCD agency oversight was the capability for continuous coverage in the event of any incidents, including off-hours and weekends. A 24-hour number was provided to the community for reporting any incidents.

Other local agencies provided oversight for excavation activities and were only indirectly associated with the conduct of the CMP.

When incidents occurred, the procedure listed in the CMP Work Plan was followed, which included a number of notification and monitoring actions. A list of incidents and odor complaints is contained in Section 8 in conjunction with a discussion regarding field events.

Lastly, as part of the overall compliance activities, a weekly compliance meeting with Jacobs project staff, oversight contractors (Padre), and agency representatives was held to go over any issues at hand. Dr. Winegar, the CMT project manager, attended the weekly meetings and provided a summary of data collected and any incidents that had occurred.

These activities provided a high level of feedback to the responsible agencies regarding field activities and compliance with permit conditions.

2.5 CMP IMPLEMENTATION

2.5.1 Preliminary and Final Trigger Levels

Various portions of the CMP were implemented by the CMT as they were developed. In particular, preliminary and final trigger levels—the key to the process—were implemented as soon as they were developed. Preliminary trigger levels had previously been established in early versions of the CMP document. These trigger levels were used by the field crews to interpret daily field data, beginning with routine monitoring in early November 1998. In addition, preliminary data collection forms and protocols as described in early versions of the CMP were used and adhered to. It was understood that revised versions were potentially in development and would supplant these earlier versions.

2.5.2 Final Implementation

Following completion of the CMP Work Plan, the document was distributed to all relevant parties, including regulatory agencies involved in oversight of the remediation project and field personnel involved at the interface with the CMT and the public. Prior to the start of full-scale excavation, a meeting was held with all relevant project personnel (including site contractors, agency staff, CMT staff, etc., approximately 30 people) to review the communication and

notification process. Given that the implementation of the CMP was an integral part of the project, this milestone was considered critical to on-going progress.

2.5.3 Interface with Site Plans

The CMP Work Plan was intended to operate in conjunction with other plans existing for the site, including the following:

- Jacobs Engineering, Implementation Plan for Cleanup or Abatement Order 98-37 for Avila Beach Remediation Project, prepared for Unocal, June 1, 1998, and updates;

- San Luis Obispo County Office of Emergency Services, San Luis Obispo County Summary of Emergency Response Procedures for Hazardous Material Emergencies for the Avila Beach Area, March 1999; and

- Jacobs Engineering, Avila Beach Remediation Project Health and Safety Plan, Revision 01, January 1999.

The Implementation Plan, which included the requirement for air monitoring as configured in the CMP, was the guiding force in the project.

2.6 WORK PLAN IMPLEMENTATION

Due to site conditions and changing circumstances, portions of the CMP scope of work were modified as the project progressed. In order to have a complete accounting of the program, this section documents CMP changes and the rationale behind them. These changes were made and implemented with the full knowledge of the CMP team, including APCD representatives.

2.6.1 Changes in Monitoring Activities

2.6.1.1 Change in the Number of Sampling Locations

The CMP originally cited a total of five stationary sampling locations per day—four downwind and one upwind of remediation activities. The CMP also cited that after an initial period, the number of sampling locations would most likely decrease. Changes occurred on two separate occasions.

In March 1999, after several months of daily sampling at five stationary locations and after approximately three weeks of excavation proper, the need for five locations was re-assessed and the number was reduced to two. The Fire Station location was selected as the primary monitoring site, given its position adjacent to receptors (residents) and downwind of much of project operations. The second sampling location was changeable, to be selected based on the location of major project activities. The need for frequent upwind samples was also re-assessed at this time

and it was determined that the data already collected would be adequate for background concentrations determination.

In August 1999, in an effort to reduce costs, data from the two main locations collected to date—the Fire Station and Jacobs Office—were examined to determine if they were comparable, and thus if only one location could be used without sacrificing representativeness. A compilation of data was examined for the high activity period of June 24 to July 1, during which period both locations were sampled. An F-test to determine the variability between the locations was conducted along with a t-test. These tests showed that there were no statistically significant differences in the data between these two locations for the selected time period. Therefore, the Fire Station location was selected as the primary station. In addition, since site 13 (at the corner of 1st and San Francisco) was not operating, but was close to the currently operating site 17 (the Field at 1st and San Miguel), the former location was suspended.

2.6.1.2 Changes to the Selection of Sampling Locations

The Work Plan cited a procedure whereby sampling locations would be selected based on the previous day's daily meteorological conditions and by consensus within the project team. However, due to the spread of the activities across much of the town and the location of the primary sampling location mostly downwind of major activities, the daily consultation procedure was early on deemed unnecessary. A more informal and less restrictive procedure was followed for the remainder of the project.

On page 3-2, it was stated that samples would be collected at points away from the fenceline to ensure that no plumes further downwind would be missed. However, it was determined early on that the highest concentrations were found near the fenceline. Therefore, testing was concentrated at this area, with the exception of odor events or other special circumstances.

2.6.1.3 Changes to Integrated Sample Chemical Analysis

After approximately two and a half weeks of monitoring at five locations, an evaluation of the data and operations was conducted, along with an examination of the cost factors involved in analysis of the full set of integrated laboratory analysis parameters. From this evaluation, it was concluded that a number of tests could be discontinued:

- TO-14 GC/FPD sulfur analysis: a comparison of the Jerome H2S sensor with several hundred integrated laboratory analysis samples showed that the average hydrogen sulfide concentration was in the 4-5 ppbv range, while there was only one detect from the laboratory analysis. It was concluded that the integrated bag sample procedure caused a complete loss of any hydrogen sulfide or other reduced sulfur compounds present.

- TO-14 GC/FID hydrocarbon analysis: This analysis produced a large amount of information that was found to be superfluous to the assessment of human health. The hydrocarbon data would be useful for ozone formation evaluation, which was not a part of this program. In addition, there were no health effects information for the majority of

the compounds, so the data did not add any value to the community risk management function of the CMP.

- TO-13 GC/MS Full Scan: The full scan analysis was seen to produce detection limits much higher than would be needed for the risk management process. The higher sensitivity selected ion mode (SIM) analysis was continued.

2.6.1.4 Changes to Special Tests

A number of special tests that were planned and presented in the CMP Work Plan, were not implemented in the field due to a number of reasons:

- On page 3-7, it was stated that studies of PM2.5 and the PM10/PM2.5 ratio would be conducted to ensure that the real-time monitors were accurate. The only study that was conducted was a side-by-side test of the PM10 Minivol and the PDR instrument. The results of this study are shown in Section 4.3.

- Page 3-9 states that the Ecochem PAS 2000 would be calibrated specifically to the PAH compounds found in the petroleum-contaminated soils. However, it was determined that since the PAS 2000 did not supply sufficiently defined chemical data for use in risk management, this test would be unnecessary.

- An audit of the TO-14 VOC and TO-14 sulfur samplers was planned, but was never implemented. The TO-14 sulfur analysis was discontinued due to stability problems in this system. These problems are discussed in Section 6.1.8. An audit of the VOC samplers was conducted by APCD and SAIC in October 1999 and is summarized in Section 9.4.6.1.

2.6.2 Risk Assessment

In Section 2.3.3.3 of the CMP Work Plan, the risk assessment procedure was described and was intended to be conducted at various points during the remediation. However, the final "Risk Assessment for the Remediation Phase, Avila Beach, CA" was produced by SOMA Corporation in May 2000 after completion of the entire remediation. This final risk assessment differed somewhat from the assessment proposed in the CMP. The following is a list of the major differences:

1) In the CMP, it was proposed that a cancer risk assessment be carried out, "whenever Tier 1 cancer triggers are exceeded or, otherwise, at least monthly". This was not done for two reasons: (1) no Tier 1 cancer triggers were ever exceeded by the remediation activities; and (2) the large amount of effort needed to undertake the risk assessment was not deemed necessary, given the generally low concentrations of project-related chemicals found during air monitoring. In addition to these factors, efforts to assure the integrity of the project data base superceded the need for a risk assessment. Instead, a final risk assessment using all of the data gathered over the course of the project was completed.

2) In the CMP, a methodology was described for calculating the 95% UCL air concentration for various chemicals of concern. This methodology is the result of a number of meetings and discussions among the agencies, consultants, and an expert statistician (John Rice, UCB), held during late 1999 and early 2000. These procedures were made to incorporate stratified samples and the effect of differential standard deviations from background and project-related samples. These changes were necessary due to the nature of the data that was collected. The actual methodology used is described in detail in Section 2.3 and Appendix B of the final risk assessment.

3) In the CMP, the Chemicals of Concern (COCs) to be included in the risk assessment were: acetaldehyde, acrolein, benzene, 1,3-butadiene, diesel exhaust (PEC), formaldehyde, hydrogen sulfide, naphthalene, toluene, xylene, and non-diesel-exhaust PAHs. Because of a number of analytical limitations (described elsewhere in this document), as well as concerns about double counting (aldehydes are included in the diesel exhaust unit risk factor), the aldehydes (acetaldehyde, acrolein, and formaldehyde) were not included as COCs in the final document. Because of these same double counting concerns, as well as the fact that few PAHs were found in the original soil contamination, the PAHs and naphthalene were also not included as COCs in the final risk assessment. Instead, a screening evaluation for the cPAHs in soil was carried out in the final risk assessment (Section 2.1.3 "Polynuclear Aromatic Hydrocarbons"), the results of which supported the decision not to include PAHs in the final risk assessment. A complete discussion of the selection process for COCs can be found in Section 3.1 "Substances and Chemicals of Potential Concern" of the final risk assessment.

   Carcinogenic PAHs found in the original soil contamination were a concern; however, a screening evaluation of the cPAHs in soil was carried out in the final risk assessment (Section 2.1.3 "Polynuclear Aromatic Hydrocarbons"). Instead of incorporating indirect calculations that involved quantitative estimates of airborne cPAHs and the use of ratios of PEC to PM2.5, a screening evaluation assuming that all cPAHs in soil became airborne and were PM10 and smaller was performed (Section 2.1.3 of the Human Health Risk Assessment Report). The results of this evaluation supported the decision not to include the cPAHs in soil in the final risk assessment. A complete discussion of the selection process for COCs can be found in Sections 2.1 and 3.1 of the final risk assessment. SOPCs for the risk assessment were, diesel exhaust, the volatile components of total petroleum hydrocarbons, and hydrogen sulfide.

4) Protocols indicating the criteria and frequency for performing noncarcinogenic public health risk assessments are identified in the CMP. The criteria were:

   - Whenever a cancer risk assessment is triggered
   - Whenever deemed appropriate by the PHAC in consultation with the APCD
   - When concentrations deviate significantly from background
   - At least once a month

The risk assessment procedures in the CMP were written prior to the remedial activities in anticipation of the environmental data available for performing the risk assessment. Due to various project-related constraints, a final noncancer risk assessment was carried out at the conclusion of the remedial excavation project. The final "Human Health Risk Assessment for the Remediation Phase, Avila Beach, CA" was performed to address changes to the implementation of the CMP.

The decision to wait until the conclusion of the project was based on several factors. A requirement for a noncarcinogenic health risk assessment was not indicated based on the absence of a need to perform a cancer risk assessment. Because the concentration of chemicals were within the Trigger Level concentrations designated in the CMP, the APCD decided noncarcinogenic risk assessments would not be required monthly and was only necessary at the conclusion of air monitoring.

It should be noted that the final risk assessment goes into much more detail on toxicity assessment, exposure scenarios and assessment, as well as statistical and data considerations, than the CMP. For further information on the risk assessment protocol and results, please refer to the complete final risk assessment in the Appendices section of this document.

3.0 COMMUNITY OUTREACH

As the CMP was designed for the protection of community health, outreach to community stakeholders was a key component of the program. As a public agency, the APCD was the community's indirect representative in the CMP development process. However, other reporting mechanisms were put into place to provide rapid and comprehensive communication to the community regarding the results of the program.

3.1 COMMUNITY MEETINGS

Although a number of community meetings were held regarding the Avila Beach remediation process, there were three major meetings in which a key focus was the CMP. On October 21, 1998, a meeting was held at the Avila Bay Inn at which the operation of sampling equipment was demonstrated to the public and announcements regarding the on-going baseline program were made. In January 1999, other aspects of the fully developed CMP Work Plan were presented to the public, along with issues related to the risk assessment. This latter meeting was followed up by a tour of the site in February 1999, which included demonstrations of the field sampling van and integrated sampling equipment.

In addition to the community meetings, a front page article in the San Luis Obispo newspaper presented the CMP in a positive light, with favorable discussion of the program's objectives.

3.2 PAMPHLETS

Besides the publicly available CMP Work Plan, several printed communications were developed for community-wide distribution. At the January 1999 public meeting, a pamphlet was distributed that contained a short description of the CMP monitoring that had been ongoing for a couple of months. This was followed in February 1999, by a more complete description of the program, including identification of staff, definition of trigger levels, descriptions of measurement technology, and avenues for reporting problems. This pamphlet was mailed to every resident of Avila Beach.

A final pamphlet was mailed to the community in November 2000, following the completion of the final risk assessment document. This document explained the results from the CMP program and the risk assessment.

All three of these documents are contained in Appendix A.

3.3 WEB SITE AND DATA POSTINGS

Two additional avenues of community notification included the CMP web site and daily data postings at the community center.

The web site content was a replication of the CMP brochure, followed by a section with daily data postings. The goal was to post data on the www.AvilaCMT.org web site and update it periodically with daily data summaries and other critical information. The content of the web site is contained on the supplementary CDs in Appendix F. Statistics generated during the program indicated that upwards of 800 or more hits per month were generated on the site.

In addition to the web site postings, data were posted periodically at the Avila Beach Community Center. These postings contained two types of information: (1) a numerical table that contained the days' data summary compared to the trigger levels, and (2) a graphic comparison of that same information. Figures 3.1 and 3.2 contain examples of these plots. These same plots were available on the web site.

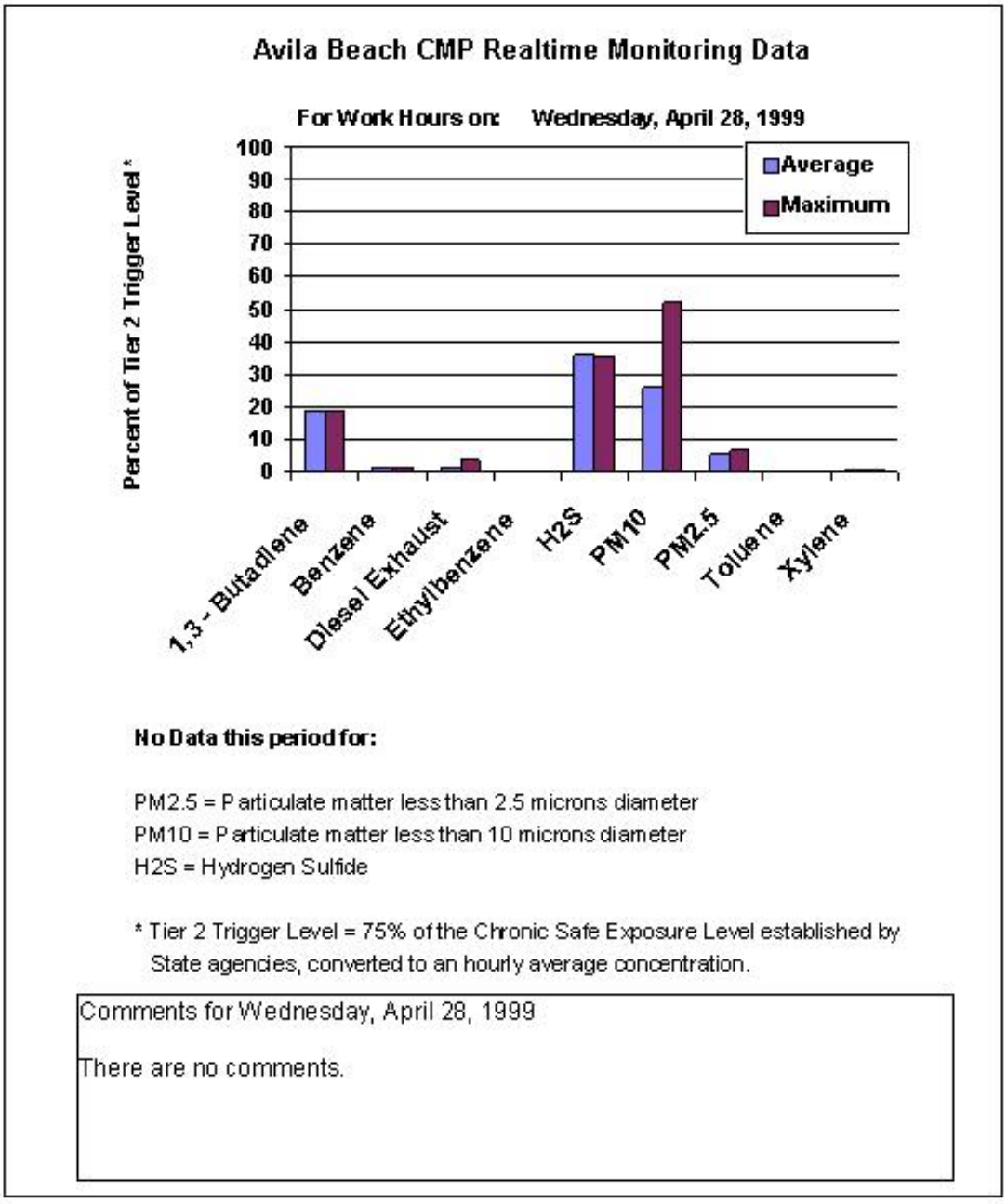


Figure 3.1. Example of daily graphic data posting for web site and Community Center

Avila Beach CMP Realtime Monitoring Data

For Work Hours on: Wednesday, April 28, 1999

Substance	Units	Daily Avg.	Max. Hour	Trigger Levels Tier1	Tier2	Tier3
Benzene	ppmv	0.002	0.002	0.100	0.140	0.240
Diesel Exhaust	ug/m3	0.239	0.797	21.000	22.000	50.000
Ethylbenzene	ppmv	0.002	0.002	1.150	1.700	2.300
H2S	ppmv	0.008	0.008	0.015	0.023	0.100
PM10	ug/m3	77.870	157.000	150.000	300.000	450.000
PM2.5	ug/m3	6.442	7.550	75.000	113.000	162.000
Toluene	ppmv	0.002	0.002	0.530	0.800	9.800
Xylene	ppmv	0.003	0.003	0.230	0.350	0.500

No Data this period for:

ppmv = parts per million byvolume

ug/m3 = micrograms per cubic meter of air

PM2.5 = Particulate matter less than 2.5 microns diameter

PM10 = Particulate matter less than 10 microns diameter

H2S = Hydrogen Sulfide

PAH = Polycyclic aromatic hydrocarbon

Trigger Levels

Tier 1 = 50% of the Chronic Safe Exposure Level established by State agencies, converted to an hourlyaverage concentration.

Tier 2 = 75% of the Chronic Safe Exposure Level established by State agencies, converted to an hourlyaverage concentration.

Tier 3 = 100% of the Acute Safe Exposure Level established by State agencies.

Figure 3.2. Example of daily numeric data posting for web site and Community Center.

3.4 FIELD CREW PUBLIC INTERACTION

The CMT field crew was the front line for inquiries related to field activities. By design, the CMT van and cart were highly visible during all project activities so that the community and local agencies could be assured that the monitoring was occurring. At the beginning of the project, there was frequent interaction of the community with the CMT staff, mainly to ask questions about what they were doing and what was being detected by the equipment. Many comments were heard that they in the community were glad that the data was being collected and that this effort was important. The community soon became familiar with the CMT and generally did not approach them unless to report a problem. As with many of the Jacobs field crew, several CMT staff became quite familiar with the community and were well-recognized. This level of recognition provided a level of trust that assisted in the CMP functions.

3.5 RESULTS OF COMMUNITY OUTREACH

The success of the community outreach program were mostly seen in the community's reliance on notification of CMT field crews or APCD of problems (odor or dust, etc.). This suggested a level of trust that had been established. The relative quiet from the community over time suggested that acceptance of the activities had been made and that no new significant concerns were being generated.

4.0 REAL-TIME CONTINUOUS MONITORING PROCEDURES

The purpose of this section is to provide a summary of the monitoring and laboratory procedures that were used in the CMP data collection effort. The CMP Work Plan (in Appendix C) provides details on most aspects of the techniques and procedures used. In addition, a general summary of CMT activities throughout the project is presented. Details relating to each portion of these time periods, including monitoring results, are presented in Section 6. Major changes to the overall plans presented in the CMP work plan were documented in Section 3.6.1.

The sampling procedures consisted of both real-time mobile and fixed integrated methods. Each of these approaches is described below. For the fixed integrated sampling methods, laboratory analysis was required, as is described below.

4.1 DATA COLLECTION PROCEDURES

4.2 REAL-TIME MONITORING APPROACH

As presented in the CMP Work Plan, the purpose of the real-time monitors was to collect data that could be used to give rapid information about potentially unsafe levels of the chemicals of concern. The reference time frame for all the measurements was 15 minutes; four of these were averaged to provide a one-hour average to compare against CMP trigger levels. The CMT field staff would communicate one-hour averages that approached the trigger levels to the appropriate CMT and project team members. If the one-hour concentrations came close to, or exceeded, the trigger level, Jacobs excavation staff would be alerted of the need to alter field activities in order to mitigate the high levels.

4.2.1 Measured Parameters

The measured parameters and the instruments used for real time monitoring are listed in Table 4.1.

Table 4.1. Summary of Real-time Monitoring Parameters and Instruments

Real-time Field Data Collection	
PEC (Diesel Exhaust)	Aethalometer AE-16
PM2.5	URG inlet, DataRam 2000
PM10 (dust)	Personal DataRAM 1000
Total PAH	PAH 2000
Hydrogen sulfide	Jerome 631-X sensor
BTEX, 1,3-butadiene	Voyager GC/PID--Instruments 204, 301, 303
Nuisance dust	Visual observations
Odors	Olfactory observations

4.2.2 Mobile Measurement Platforms

Three main methods were used to move instrumentation around the monitoring area: hand carried, modified baby carriers (two versions), and a van.

4.2.2.1 Monitoring Cart

Starting with preconstruction monitoring, real-time instruments were either hand-carried or transported in a baby carrier retrofitted with a plastic crate in which the instruments were placed. Figure 4.1 shows a CMT technician using the baby carrier. This carrier could be equipped with the Jerome H2S sensor, the Photovac, and the PDR dust sensor.

Figure 4.1. CMT Mobile Instrument Platform

The baby carrier method worked successfully until staff reductions in April 1999 required a single field technician to operate the van and the cart. The staff reduction also required additional security for the equipment, more space for other instruments and storage, and a larger platform for a car battery for overall power.

These requirements were met with the “second generation” cart, which consisted of the baby carrier modified with a large metal box, a pole for the meteorological sensors, and a larger platform underneath for battery storage. Figure 4.2 shows a photograph of this system.

Figure 4.2. CMT Instrument Cart

The box was insulated to prevent overheating of the instruments when the carrier was left unattended in the sun. Insulation was augmented by a peltier cooler to keep the temperature below critical levels for the GC and laptop computer. This system allowed the Jerome, Voyager GC, PDR and meteorological data sensors (wind speed, wind direction and temperature) to collect data automatically and to log it to the computer. The laptop computer was equipped with a multiple serial port PC card that allowed all the instruments to be directly operated via data logging software. This system had the added benefit of saving additional labor in instrument data downloading at the end of the day.

When in use, the cart was placed in an appropriate downwind position, the direction of the wind sensor was adjusted to approximately north (magnetic north), and logging was commenced. The field technician would note the grid system location and periodically make hard copy notations of measured concentrations. However, because the cart was unattended at times, redundant hard

copy recording was not continuously available. However, this redundancy turned out to be unnecessary since the data logging systems worked very well throughout the project.

4.2.2.2 Monitoring Van

A larger and more protected mobile platform was required for other instruments used in the real-time monitoring. In particular, a key piece of equipment—the aethalometer—was designed as a standard monitor requiring line power and shelter from the weather. In addition, it was seen early on in the preconstruction period that there would be a need for a mobile platform on which the field technicians would have protection from the elements while they collected data and made notes.

A converted General Motors cargo van was used as the mobile lab platform. This van was large enough to house several instruments and work space for the field technicians. The GC data required operator interaction in order to confirm the correct integration of the chromatograms, particularly in cases of possible exceedances of trigger levels. This interaction was made more effective inside the van.

Figure 4.3. Interior of Van

The van was outfitted with an extensive power supply system for use by the various instruments. Several instruments were not amenable to cart-type field operation: the aethalometer, the PAS

2000 PAH sensor, the DR2000 with cyclone inlet, and the Voyager (at least during data reduction operations).

The power supply consisted of a bank of large diesel batteries, giving a total of approximately 1000 amps of DC power at 12 volts. These batteries supplied an 1800 watt inverter that provided adequate supply for the operation of the line-power instruments for approximately 10 hours. At the end of each day, the van was parked at the CMT trailer and the batteries were re-charged overnight. Following some experimentation with various charging systems, it was found that a high-powered charger would be adequate for overnight charging. The inverter was found to be somewhat sensitive to temperature, and a fan was installed to provide cooling air. Overall, the van set up proved quite useful. The full suite of instruments could be mobilized and moved in a matter of a few minutes, and the end of the day operations of transferring data to the database were made easier by having continuous power to supply the laptop computers.

4.2.3 Inlet System

One inlet system supplied all instrumentation in the mobile monitoring van. This inlet was the University Research Glassware PM2.5 cyclone, which was operated at 10 L/min to make the correct size fractionation. The required volume was supplied by all the instrumentation in the van, including the DataRAM 2000 at 2 L/min, the aethalometer at 6 L/min, and the PAS 2000 at 2 L/min. The Voyager GC required only 120 mL/min once every 20 minutes or so, and the Jerome required only 150 mL/min for 30 seconds every minute. A secondary pump was available to make up any difference for those times that one or more of the instruments was inoperative. An on-board flow sensor was used to check the flow frequently to make sure the combined flow was 10 L/min.

The cyclone catch basin was cleaned on a daily basis, and the entire cyclone was cleaned approximately once every two months. It was found that the initial startup of the pumps in the morning stirred up residual particulate in the catch basin or other points and that the initial high values should be ignored until the readings stabilized.

4.3 REAL-TIME INSTRUMENTATION

4.3.1 Aethalometer Black Carbon Sensor

An Andersen Instruments AE-16 aethalometer was used to collect continuous data for black carbon, or particulate elemental carbon (PEC), for use as a surrogate for diesel exhaust. Figure 4.4 shows a photo of this instrument. Figure 4.5 shows the interior of the instrument, with the quartz fiber tape collection system.

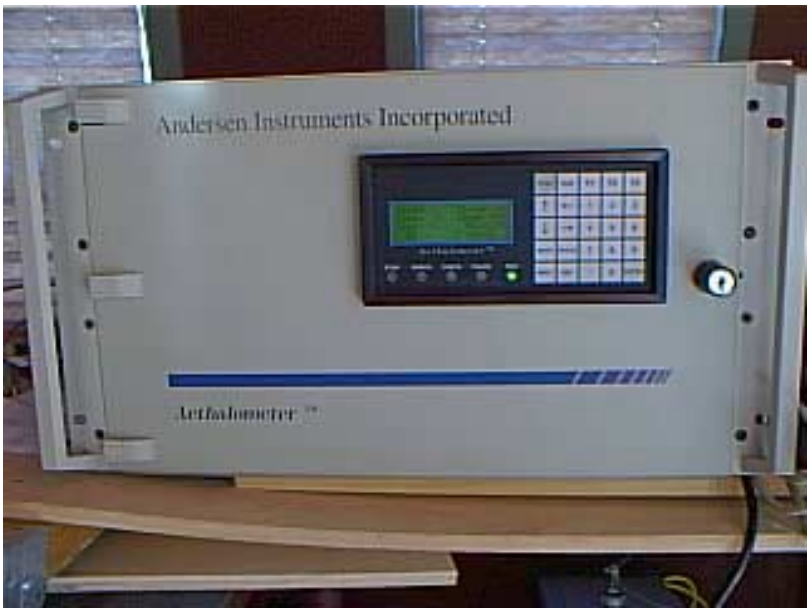


Figure 4.4. Aethalometer Black Carbon Sensor

Figure 4.5. Interior of Aethalometer

The aethalometer used an internal pump to draw approximately 6 L/min through the tape at a point below a light source and sensor. The light was an 880 nm LED. Absorption at that wavelength is solely due to PEC, excluding other colored substances. During the 15-minute time base of the measurement, the sensor collects and averages the amount of attenuation due to PEC.

At the end of the period, the data system saves the result on the on-board disk drive. Subsequent time periods are recorded throughout the day. As a backup and to track trends, the field technician noted the values frequently and manually recorded the 15-minute average displayed on the outer LCD screen.

Figure 4.6 shows an example of a 24-hour data collection test that recorded the effect of remediation activities on daily PEC values. The high early morning data peaks relative to the rest of the day demonstrate the effect of calm winds on the measured emissions due to the start-up activities of the trucks and other equipment in the morning. The start up of the cold engines is expected to produce high concentrations, and the early morning calm winds did not disperse the emissions. For much of the rest of the day, the concentrations were much lower. However, at various points throughout the day, there were sporadic high values. In the late afternoon, the concentrations increased due to both site activities and increased commuter traffic on Avila Beach Drive from Diablo Canyon workers. In the late evening and night-time hours, the background levels are low due to the low number of diesel sources in the area during that time. Thet background level of around 100 ng/m3 is consistent with a clean area relatively unimpacted by urban sources.

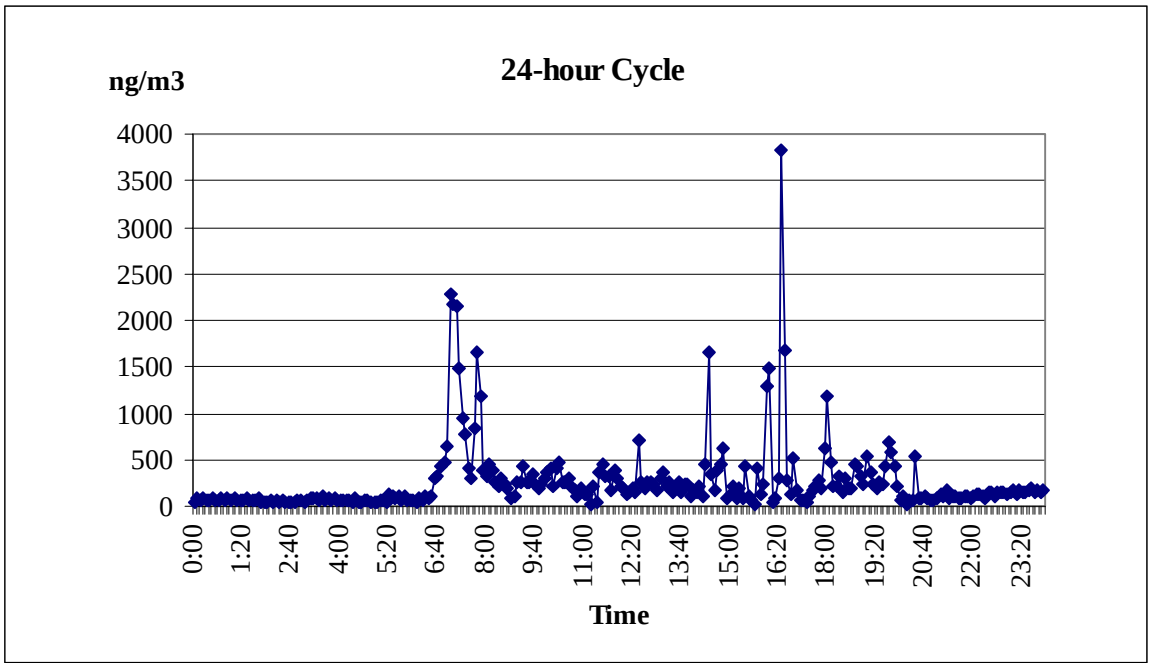


Figure 4.6. Example of 24-hour cycle of PEC values in Avila Beach

Further discussion of the aethalometer data is presented in Section 6.

4.3.2 DataRAM 2000 Particulate Monitor

Data of particulates 2.5 microns or smaller aerodynamic equivalent diameter (AED) were collected using the PM2.5 cyclone described above and the MIE DataRAM 2000. The instrument uses forward scattering of 880 nm light to detect aerosol concentration in the sampled air stream. Calibration is done with latex spheres in the factory. It has an on-board logger that averages the continuous sensor readings according to the input time base. As with the other instruments, the time base was 15 minutes. The continuous readings were displayed on the LCD readout and were checked frequently by the field technician to gauge what was being detected. Figure 4.7 shows the DataRAM 2000 light scattering photometer used in conjunction with the cyclone to monitor for PM2.5.

Figure 4.7. DataRAM 2000 Sensor used for PM2.5 Monitoring

Directly above the instrument inlet, the sample conditioner/heater was used to dry out high humidity air that causes the growth of the hydrophilic portions of aerosols and the agglomeration of smaller particles.

The calibration of the DR2000 was made at the factory, but was checked periodically by the on-board calibration disk that is placed in the beam path. The calibration remained satisfactory throughout the project.

While the instrument failed a number of times due to power supply or pump problems, the internal optical detection system appeared to have operated satisfactorily throughout the project.

4.3.3 Voyager Portable Gas Chromatograph

The Photovac Voyager portable gas chromatograph was used for quantitative detection of volatile chemicals of concern, including benzene, toluene, ethyl benzene, m and p-xylene, o-xylene, and 1,3-butadiene. These compounds are very volatile and would be expected components of diesel exhaust, but also originate from contaminated soil. 1,3-Butadiene would be expected only as an exhaust by-product.

The Voyager is a field-portable instrument designed specifically for use in remediation or similar types of real-time, on-site analysis of toxic chemical species. Figure 4.8 shows a photograph of the unit.

Figure 4.8. Photovac Voyager Portable GC

Figure 4.9. Voyager GC Inside the Van

Figure 4.9 shows the typical placement of the instrument inside the van. The common sampling line for the PAS 2000, the aethalometer, the DR 2000 and the Voyager, came down through the roof of the van and sampling points for each instrument were teed or appropriately configured. The on-board pump of the Voyager sampled at 120 mL a minute for 30 seconds to purge the line from the GC to the larger continuously purged inlet line.

The sample that was drawn into the instrument passed through a 1 mL loop. From this loop, variable amounts of gas could be injected under instrument control, depending upon the desired level of sensitivity. For this program, maximum sensitivity was always sought, so the maximum sampling volume was always selected.

The Voyager GC consists of four columns: three analytical columns with typical chromatographic stationary phases and one deactivated silica transfer line. A special column switching apparatus configured with valves to direct flow through the various columns provides the necessary combination of phases to accomplish the desired separation. The Voyagers used in the CMP were configured with Assay #1, which consisted of a 4 meter, 0.53 mm diameter with 2 um thickness SPB-35 (phenyl-methyl) phase (Column A), a 20 meter, 0.32 mm diameter with 1 um thickness WAX phase (Column B), and a 15 meter, 0.32 mm diameter with 12 um thickness methyl silicone phase (Column C). Column A was used for BTEX and Column C was used for 1,3-butadiene.

The Voyager was configured with both photoionization (PID) (at an energy of 10.6 eV) and electron capture detectors (ECD). The ECD was not used in these analyses.

The run time for the BTEX compounds was approximately 20 minutes and for 1,3-butadiene, approximately 3 minutes. The analysis sequence was set to run automatically with one analysis

following the other by a brief delay. Data were collected and saved automatically with compound identification and quantification performed automatically according to the calibration parameters input previously.

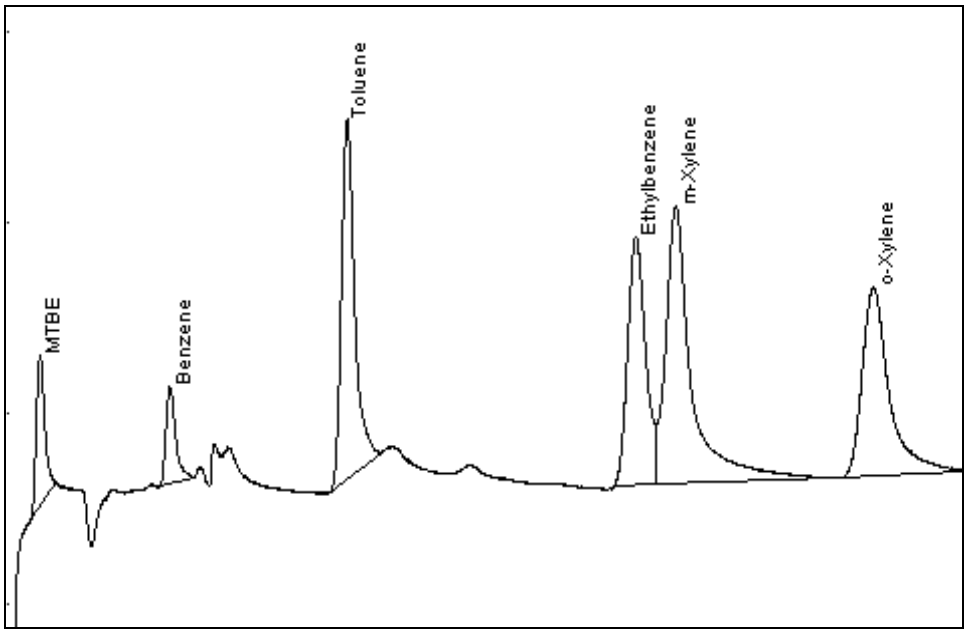


Figure 4.10. Example Calibration Check Chromatogram

Table 4.2. Example Quantitation Results

PEAK REPORT:

# Name	Conc (PPM)	Area (mVS)	Height (mV)	R.T. (S)	Status
1 MTBE	0.050	44.0	4.563	117.7	Cal
2 Benzene	0.050	32.7	2.729	259.5	Cal
3 Toluene	0.209	166	10.3	452.0	Cal
4 Ethylbenzene	0.201	156	6.981	766.0	Cal
5 m-Xylene	0.201	252	7.798	809.7	Cal
6 o-Xylene	0.199	181	5.267	1024.7	Cal

Three Voyager GCs were used during the project, two as part of the original design and a third loaner unit as a replacement during times when instruments were being repaired or were inoperative. Problems with the instruments occurred throughout the project, though for the most part adequate data was collected for at least one of the instruments continuously. Internal quality control assessment of the data provided by the Voyager will be presented in Section 8.4.

4.3.4 Jerome Hydrogen Sulfide Sensor

Hydrogen sulfide was detected with the Jerome 631-X gold film sensor. This sensor consists of a film of gold across which the sampled air is passed. The hydrogen sulfide molecules are adsorbed on the surface of the gold film and cause a change in the film's sensitivity that is proportional to the number of molecules on the surface. This change is translated into a concentration on the display. Figure 4.11 shows the unit and Figure 4.12 shows the plumbing diagram of the unit.

Figure 4.11. Jerome Sensor

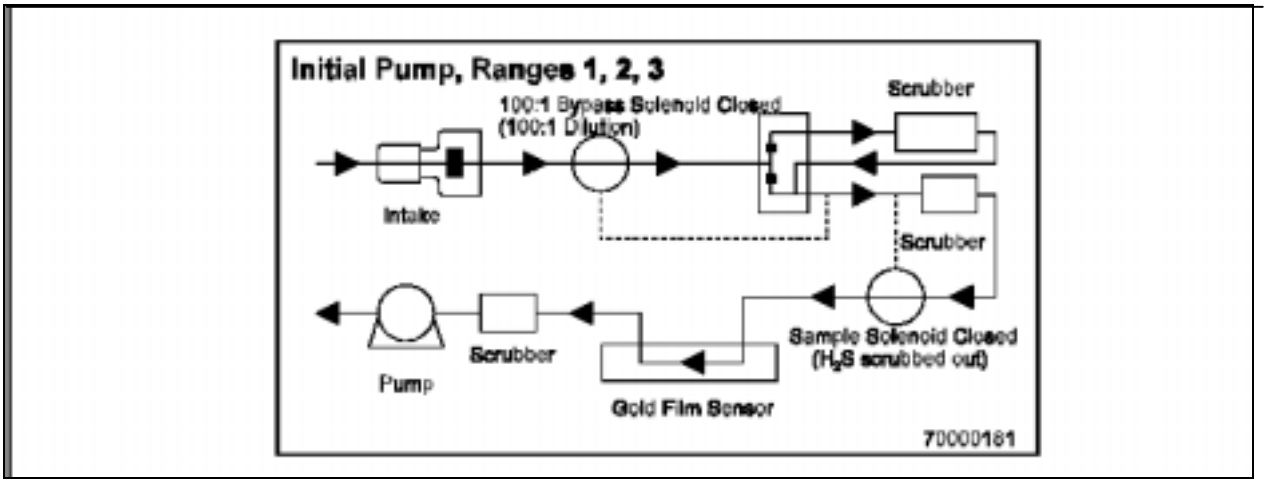


Figure 4.12. Schematic of Jerome Sensor

The Jerome was sensitive down to 1 ppbv of hydrogen sulfide. Data were initially collected on a 15 minute basis but were subsequently collected on a 1-minute basis for correlation with meteorological and odor data. Two Jerome sensors were used, and when one or the other was returned to the factory for recalibration or repair, which happened several times, a loaner was made available for use.

4.3.5 Personal DataRAM Particulate Monitor

The MIE Personal DataRAM (PDR) was used to measure total suspended particulate as a surrogate for PM10. Figure 4.13 shows a photo of the instrument. Figure 4.2 shows how it was deployed on the met sensor mast of the cart (at the top of the photo).

Figure 4.13. MIE Personal DataRAM

Several aspects of this instrument proved to be problematic for this use. First, since the instrument is a passive dust monitor that relies on openings at the sides, there is a directional bias to aerosol sampling. Second, the inlets are not designed for aerodynamically correct sampling of multiple particle sizes—there is a built in bias for larger particles above 10 microns. Third, the optical sensing methodology is effectively limited to smaller particles due to the inherent constraints of Mie scattering. Lastly, since the passive inlets do not allow for heating and drying of the samples, in high humidity atmospheres there is a possibility of agglomeration of smaller particles into larger sizes due to absorption of water vapor.

The limitations described above were evident on several occasions. The dependence on relative humidity became evident on the first full day of excavation, March 1, 1999. On the morning of March 1, the readings for the PDR rose to over 800 ug/m3 immediately and decreased over the course of the day, as shown in Figure 4.14. However, it was clear that these high readings were not due to excavation activities. First, major activities did not start until after noontime as noted by the field crew. This fact is confirmed by the aethalometer data, as shown in Figure 4.15. The

PEC data shows low levels during the morning, followed by higher spikes in the afternoon, corresponding to truck activity.

Second, it was clear that atmospheric conditions were unusual—there was a moderate haze emanating from the beach area, the surf was unusually heavy, and the wind was calm, with approximately 70% of the winds less than 3 mph. . Figure 4.16 indicates that the wind was coming from the ocean for the majority of the day, suggesting an effect from the surf.

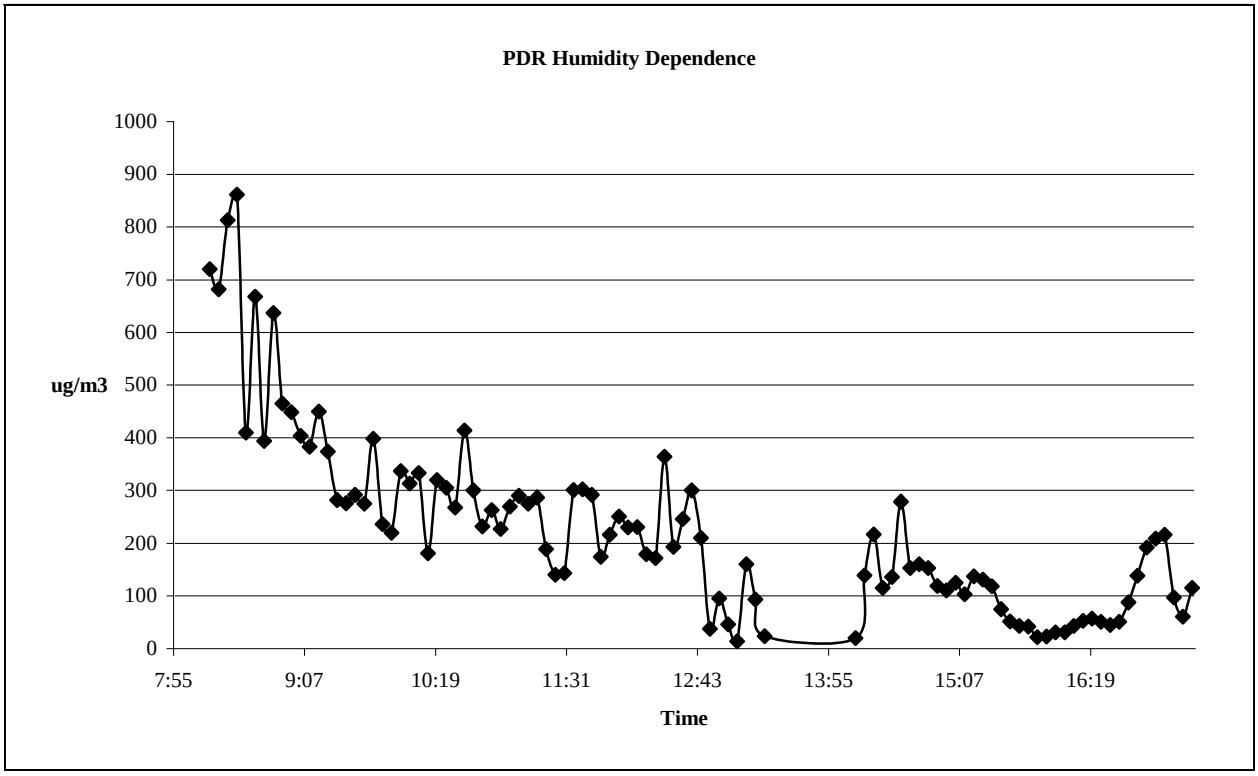


Figure 4.14. PDR Data for March 1, 1999

In addition to the decrease over time of total particulate that corresponds to increased turbulence with the daytime warming trend and dissipation of the night time calm, the aethalometer data for diesel exhaust showed low levels in the morning followed by higher levels in the afternoon after the haul trucks commenced their runs. Therefore, on the basis of all this information, it was concluded that the PDR sensor was responding to increased water vapor in the air and possibly other surf-derived sulfate aerosols.

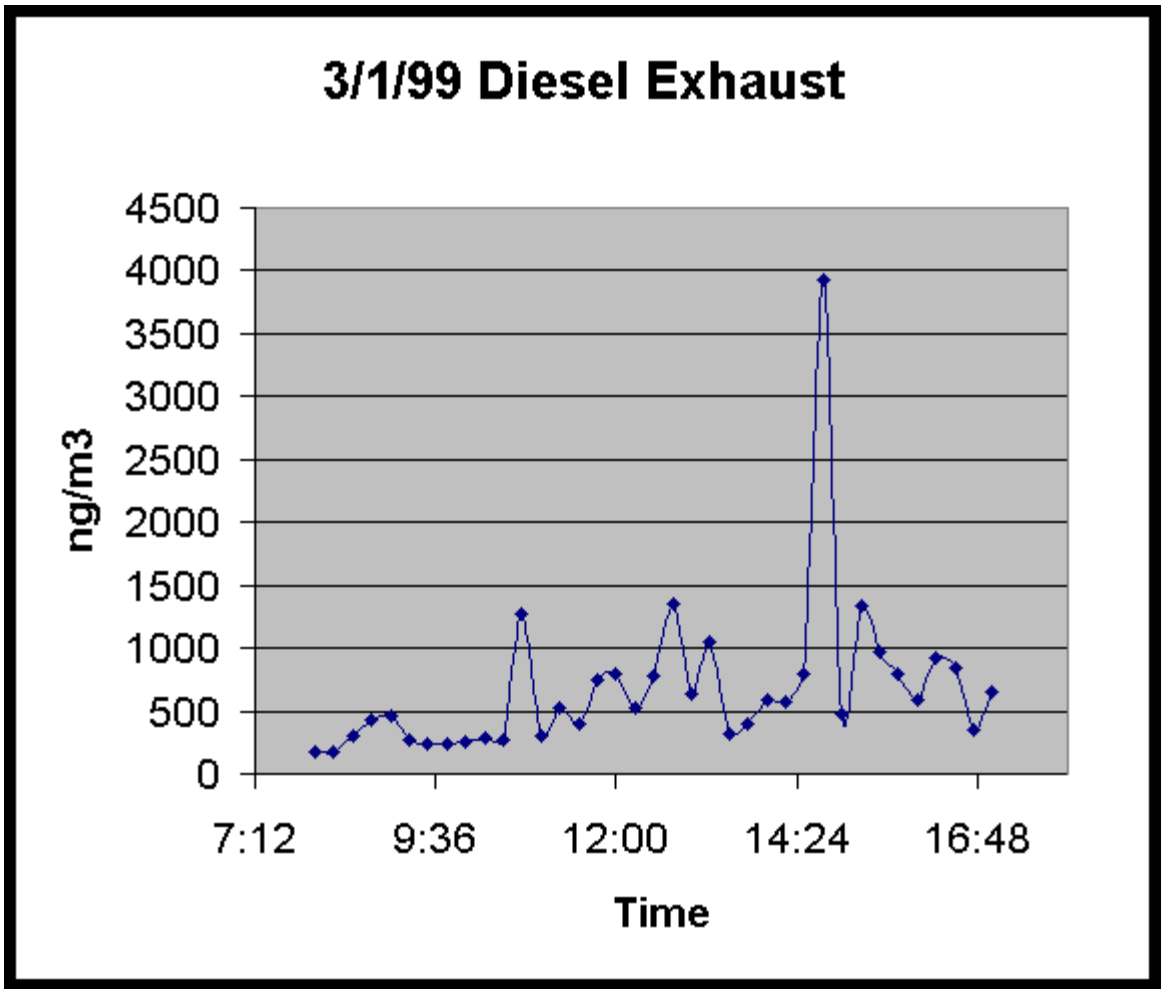


Figure 4.15. Aethalometer Data for March 1, 1999

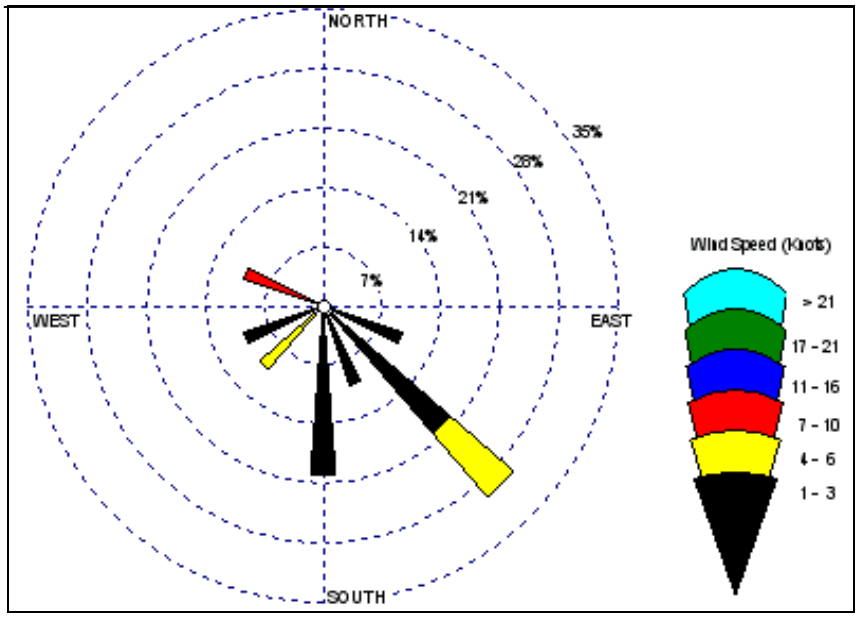


Figure 4.16. Wind Rose for March 1, 1999

Due to this finding and further investigation into the operational limitations of the PDR, the device was not used when the humidity exceeded 70% RH. This occurred only infrequently as the average relative humidity was in the 50-60% range, notwithstanding the proximity to the ocean.

The sampling efficiency of the PDR was tested on several occasions in order to calibrate its response to aerosol levels at the Avila Beach location during excavation. This was done by sampling with the PDR alongside an Airmetrics Minivol sampler with a PM10 impactor for size segregation. Sampling was conducted for the same time period by both devices. Figure 4.17 and Table 4.3 show the results of the comparison between the two methods.

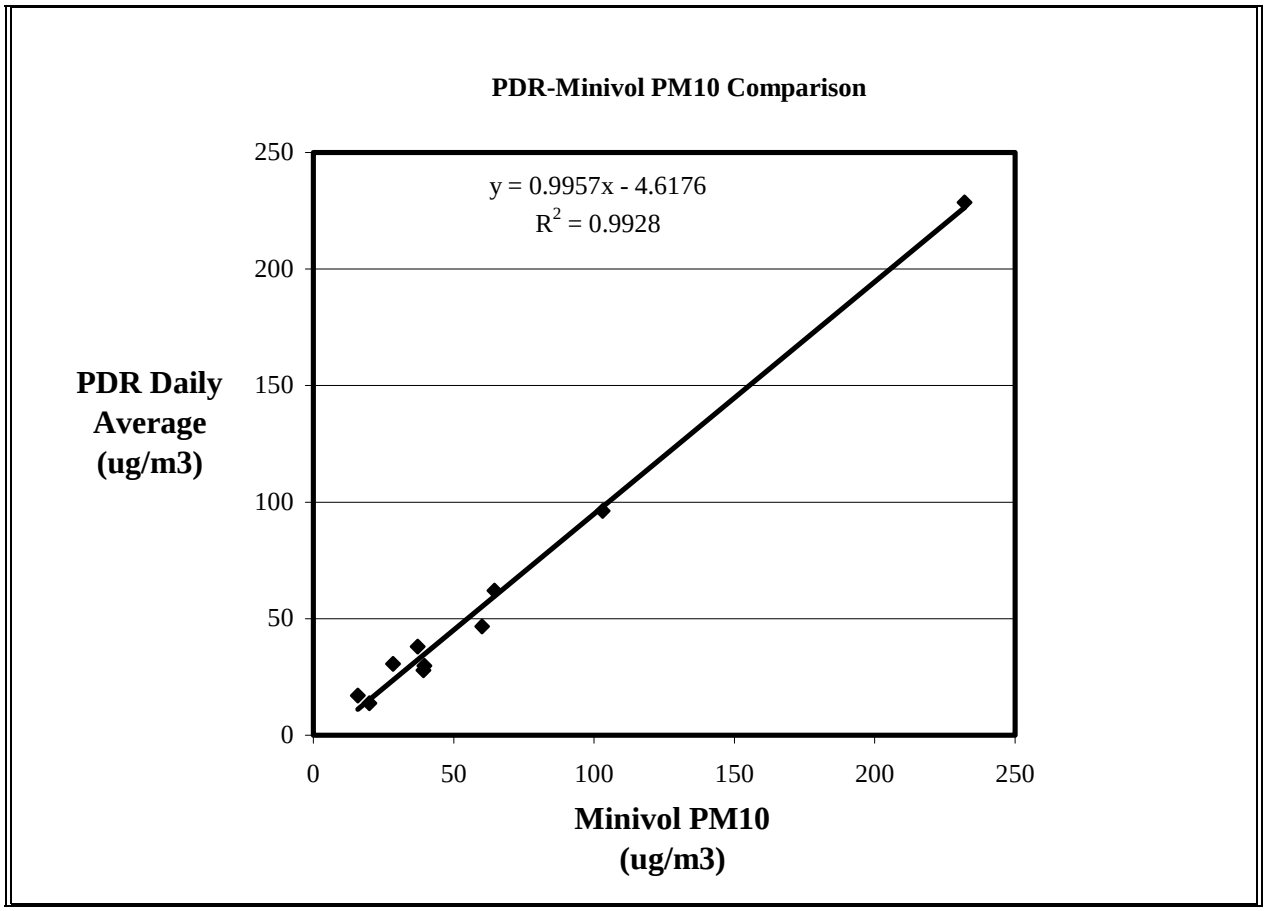


Figure 4.17. PDR vs. Minivol Comparison

Table 4.3. PDR vs. Minivol Comparison

MiniVol PM10 Summary		
DATE	**Minivol (ug/m3)**	**PDR (ug/m3)**
2/24/99	28.3	30.6
2/26/99	20.0	13.8
3/1/99	232.0	228.6
3/2/99	103.0	96.2
3/4/99	15.9	17.0
3/17/99	64.6	62.0
3/18/99	60.1	46.7
3/22/99	37.1	38.0
3/23/99	39.5	29.8
3/24/99	39.2	27.9

These data suggest that the combination of the sensor characteristics, the instrument inlet, the average wind velocity and the construction and combustion derived aerosols results in an effective sampling size selection of approximately 10 um AED for the PDR, the same as for the Minivol impactor.

This finding was useful as it suggested that, instead of a surrogate for PM10 from total dust, the PDR provided data that were comparable to a specific PM10 monitor.

4.3.6 PAS 2000 Total PAH Sensor

Particulate-bound PAH was monitored using the Ecochem PAS 2000 instrument. This instrument uses low-energy UV light to photoionize the bound PAH molecules on the surface of particles. The low-energy selectively ionizes only PAH molecules, ignoring other aromatic target species.

The instrument provides a continuous read-out of PAH concentration. The read-out was averaged over the usual 15-minute time base as with the other instruments. Due to its rapid response, short-term peaks of less than 5 seconds in response to passing vehicles were often seen.

Due to uncertainty in how the data would be used for risk management, the PAS2000 data were used only in a qualitative sense. The only instance in which the PAH data suggested a potential problem was when the instrument was located directly across from the Maxigrinder, a large debris grinding machine that was handling material from Cell 3 demolition. However, this was a short-term event and the other instruments did not show values of concern.

Figure 4.18. PAS 2000 Particulate-bound PAH Sensor

4.3.7 Snapshot Portable Gas Chromatograph

The PhotoVac Snapshot Portable GC was evaluated for use in augmenting the Voyagers for rapid detection of BTEX in the field. It was used on a preliminary basis at the beginning of the Baseline and Preconstruction monitoring periods, but was soon rejected due to its operational difficulty and its relatively high detection limit of 100-200 ppbv for BTEX, which was an appreciable fraction of the trigger levels. Its use was abandoned in favor of the Voyager portable GC.

4.3.8 Instrument Quality Assurance

In order to assure high quality data, a program of daily checks was used to assess the operation of the field instruments.

4.3.8.1 Daily checks

- PDR Particulate Sensor. Before the PDR was used each day, it was zeroed using zero air flowing through a special reclosable plastic bag. After approximately 2 minutes, the sensor indicates if the calibration is still good. If the calibration was not good, the test was repeated. Additional failures meant a factory calibration check was in order.

Although a factory calibration check was never needed, the calibration was checked in the course of other servicing at the factory and never needed adjustment.

- DR2000 Particulate Sensor. The DR was factory calibrated. Two user checks for quality assurance are possible—the periodic auto-zero and the periodic internal calibration check. The instrument was always operated (checked??)on an auto-zero basis for auto-zero once every 2 hours. The periodic internal check was performed manually and was done about once every two weeks. Internal checks always showed an acceptable continuing calibration value of ±5%.

- Voyager Portable GCs. The Voyager GCs were checked first thing every morning on a daily basis using two mixes of the target compounds. A 50 ppbv BTEX standard prepared from a stock 5 ppmv standard was used to check calibration for BTEX and a 100 ppbv standard of 1,3-butadiene was used to check for its continuing calibration. An acceptance criterion of ±30% was used. If this value was exceeded, the test was repeated. If additional failures occurred, the instrument was removed from service until a satisfactory response was obtained. Further details on Voyager data assessment are provided in Section 8.

- Aethalometer. The aethalometer calibration depended on the internal value of sigma, a constant empirically derived from cross-calibration studies with integrated sampling methods and laboratory analysis. Once set, this value does not change. The only other check required is the flow sensor, which was checked approximately once every 3 months and always showed satisfactory operation.

- Jerome H2S Sensor. The Jerome is factory calibrated and cannot be changed by the user. However, checks of its operation are possible against a prepared standard. Periodic checks of the sensor against a 5 ppmv hydrogen sulfide standard always showed adequate agreement. Cases of poor operation were immediately identified by unusual daily readings when checked against the other instrument or the standard. If this occurred, the instrument was returned to the factory for re-calibration. Due to the heavy use of the instrument, this occurred several times and several new sensors were installed in the course of repair.

- PAS 2000 Sensor. The PAS was factory calibrated and due to its use as a qualitative sensor only, the calibration was not checked during the project.

4.3.8.2 Standards Preparation and Certification

The BTEX and 1,3-butadiene standards used for daily continuing calibration checks were prepared from a commercial stock 5 ppmv standard by static dilution into a Tedlar bag. Over the course of the program, these standards were checked by a number of means. First, various prepared standards were checked against other previously prepared standards to compare response. The responses were also compared to what would be expected from the dilution of the 5 ppmv standard.

A number of standards were submitted to the laboratory for analysis by TO-14. In all cases, the results showed adequate comparability with laboratory-prepared standards, showing that the field crew's preparation technique was sound.

4.3.8.3 Instrumental Problems

Due to continuous use of the field instruments, a number of problems occurred. As much as possible, factory replacement units or rentals were used to ensure that continuous coverage would be maintained.

- Voyager GCs. The Voyager GCs were problematic from the beginning. A number of quality problems with the instruments were evident immediately, including a short in the case that prevented continuous operation and software glitches that caused problematic data interpretation. The largest problem was caused by an internal contamination of some part in the instrument that could not be flushed out and that did not respond to cleaning efforts. Several factory servicing failed to remedy the problem. While it did not prevent continuing use of the instrument, it did cause additional labor to be expended in more tedious data manipulation and interpretation.

- Aethalometer. The aethalometer failed on two occasions for the same reason—pump failure. In the first case, the pump failed due to quality problems with the pump itself and until a replacement could be obtained, an external pump was used. The second case of failure was due to an overheating pump caused by misplacement of the ventilation slots on the top of the instrument. In both cases, minimal data were lost due to servicing.

- DR2000. The DR2000 failed on one occasion early in the program due to internal pump failure. A second failure occurred when the power supply failed. In both these cases, minimal data collection time was lost.

- PDR. The PDR experienced a number of problems, several of which required factory servicing. In order to limit the need for continual battery replacement, an external battery pack was used. However, the cable connection for the power supply was sensitive to misalignment, which happened frequently. This was never fully repaired satisfactorily, but field fixes were made to ensure continuing operation. Other problems included failures of the internal logger and front switches. These malfunctions were repaired quickly in most cases and only once was a replacement unit needed.

- Jerome. The Jerome H2S gold foil sensor has only a limited lifetime, and due to the program requirement of continual one-minute values, it frequently became dysfunctional. While waiting for replacements, a loaner instrument was used.

4.4 OFF-HOURS SENSOR

4.4.1 Monitoring Strategy

The off-hours sensor system was designed to collect continuous data from a point over the excavation pit and to notify CMT staff in the event of an exceedance of trigger thresholds. The trigger threshold was 5 ppmv for hydrogen sulfide, which is 50% of the TLV level, and 25 ppmv for total hydrocarbons, which is 50% of the TLV for hexane, which was a surrogate for total hydrocarbons.

Two sensors were installed: CEA, Inc. electrochemical sensors for total hydrocarbons and for hydrogen sulfide. The detection limit was cited to be nominally 1 ppmv for these two chemicals.

These two sensors were connected to a data logger that continuously collected data. In the event of an exceedance, the logger sent a pre-programmed alphanumeric page notification via cellular phone. The notification contained the message that an exceedance had occurred and what the concentration was. The system also transmitted various system fault messages such as power outages, and times it was actuated or deactuated.

The sensors were placed in a weather-proof box with the data logger, cell phone and a 12 VDC battery. A small pump pulled sample from a probe through a manifold that exposed the sensor to the flow. The response time was in the order of 3 minutes.

The probe consisted of a 100 foot teflon tube inside of a larger silicone protective tube. At the end, an inlet funnel with a filter was attached. The end of the probe was extended over the active area of the pit at the end of each day and retrieved at the beginning of the following day. Since it was battery powered and cell-phone connected, there was no need for direct connection to any utility supply. The battery was swapped with a fresh one by CMT technicians once every two days.

Figure 4.19 shows a photo of the sensor system. Figure 4.20 shows a photo of the sensor extended over the pit area. Another larger extender allowed the probe to be placed further outward from the sheet pile wall.

Figure 4.19. Sensor Cart.

Figure 4.20. Sensor Probe over Pit Water

4.4.2 Operation

The sensors were calibrated by flowing a standard of hexane for the hydrocarbon sensor or hydrogen sulfide for the hydrogen sulfide sensor through the sampling manifold and noting the response. The response factor was entered into the data logger so that continuous quantification was possible.

The response was found to be nonlinear for hexane, contrary to the manufacturers claims, but was linear for hydrogen sulfide. Table 4.4 shows the response obtained on June 17, 1999 from various concentrations of hydrogen sulfide to the Jerome sensor for confirmation and the H2S sensor. Figure 4.21 shows the calibration curve obtained.

Table 4.4. Example Calibration of H2S Sensor

Jerome (ppmv)	Sensor (ppmv)
3.0	0.0
4.0	0.7
5.0	1.3
7.1	4.5
18.0	10.6

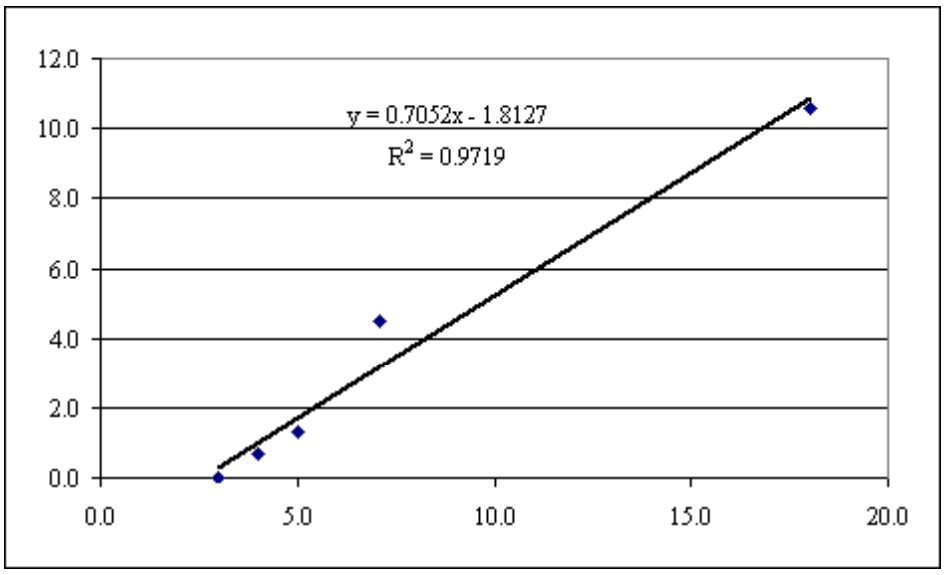


Figure 4.21. Calibration Curve for H2S Sensor

The operation of the sensor was troublesome for a number of reasons. Although the calibration shown in Figure 4.21 is approximately linear, in many cases it was nonlinear and unstable, and

could not be coaxed to be otherwise, contrary to specifications. In addition, as the data shows, the absolute sensor calibration as provided was significantly off from the external calibration as provided by the Jerome.

However, the most significant problem was the temperature dependence of the sensor, which again was contrary to the expressed specifications of the manufacturer. After a number of false alarms, it was determined that the sensor began to register detections as the temperature rose, which was verified by a plot of the temperature vs. response over time. A replacement sensor was obtained, which ameliorated the problem to a small degree, but did not remove it.

The temperature problem was mitigated somewhat by insulating the sensor box, placing a reflective cover over the box, and opening the lid to allow more air circulation. The operation of the off-hours sensor system was much more time intensive than expected due to these problems.

Other problems occurred as a result of telecommunications issues. In mid-June, a continuing communication problem began that could not be solved by either CMT or the logger manufacturer. Finally, in July, the sensor was sent back to the factory. The investigation took three weeks with the factory finally not being able to solve the problem. A replacement cell phone was obtained and with some other adjustments, communication was restored.

For the remainder of the project, the system required a lot of attention but operated satisfactorily.

4.4.3 Exceedances

Other than false alarms, there were no exceedances of the target concentrations levels from emissions from the active pit areas.

4.5 FIELD CREW OBSERVATIONS

One of the responsibilities of each CMT field technician was to observe potential dust and odor problems. This was done as a routine part of their roaming function, both to collect instrumental data and to monitor the events in the pit. Dust and odor exceedances will be discussed in Section 8.

4.6 FIELD MONITORING

Field monitoring was conducted every day of the excavation period during which significant activities were conducted. Close communications with the site foremen were maintained throughout the project, with daily updates on status and forecasts for upcoming activities. For the preconstruction period, few activities were conducted on Saturdays, but after the start of the active excavation, a Monday-Saturday schedule was followed by the remediation crew, and the CMT adhered to this schedule. On some Saturdays, activities were minimal; however monitoring continued throughout.

The daily monitoring schedule typically started at approximately 7:30 AM and ended about 5 PM, following the shut-down of major site activities. While site crew were present at 7 AM, no real activities commenced until approximately 7:30 AM following the daily safety meeting and planning activities. Cessation of activities at the end of the day was the cue for the CMT staff to begin the daily downloading of data and posting of data to the database, etc. These activities frequently lasted into the late evening. The objective was to keep up with this task so that a timely reporting of trends could be made to the project team and to the community.

5.0 INTEGRATED SAMPLING AND ANALYSIS PROCEDURES

The collection of integrated samples satisfied two data needs in the CMP. First, a larger number of target compounds could be collected with standard integrated methods, compared to just a few with the real-time instruments. The total number of compounds analyzed during the first part of the program was over 100. Second, the laboratory analysis afforded a much higher sensitivity for the monitored compounds compared with field analysis (at least a factor of ten higher). Third, several species could simply not be monitored using a real-time field instrument due to inherent limitations in the technology. Therefore, integrated sampling provided a valuable second dimension in the community risk management by giving a broad and deep confirmation of the effects on the community from the remediation activities.

Table 5.1 contains a list of the integrated sampling approach along with the laboratory that conducted the analysis for each set of methods.

Table 5.1. Integrated Sampling Methods and Laboratories

Integrated Sampling	
Integrated Data-Environmental Analytical Service	
BTEX, butadiene	Summa canister, TO-14
Hydrocarbons	Summa canister, TO-14
PAH-full scan	HiVol PUF/XAD. GC/MS Full Scan
PAH-SIM	HiVol PUF/XAD. GC/MS--SIM
Aldehydes/Ketones	DNPH Cart, HPLC
Sulfur species	Tedlar Bag, GC/FPD
Integrated Data-Air Toxics Limited	
BTEX, butadiene	Summa canister, TO-14/15
PAH-SIM	HiVol PUF/XAD. GC/MS--SIM
Aldehydes/Ketones	DNPH Cart, HPLC
Integrated Data-Chester LabNet	
PM10	HiVol/Gravimetric
Cascade Impactor	HiVol Impactor/Gravimetric
MiniVol PM10	Low volume Impactor/Gravimetric

Two laboratories provided the analysis service: Environmental Analytical Service, and Air Toxics Limited. More details about the laboratory analysis procedures are presented in Section 5.2.

The integrated sampling program consisted of a large set of toxic volatile and semi-volatile organic compounds that are commonly associated with vehicle exhaust and emissions from

remediation activities. The rationale for choosing this list is contained in the CMP Work Plan in Appendix C The list of chemical parameters sampled changed over the course of the program as changes were made in laboratory analysis and after examination of initial data.

All standard integrated CMP samples were collected using the combined VOC/Carbonyl/Sulfur sampler with the High Volume PUF sampler. Both samplers were placed on 4 x 4 ft. pads, as shown in Figure 5.1. The samplers were attached to the pads and could be moved with relative ease. Further details relating to these samplers are presented below.

Figure 5.1. VOC and PUF Samplers

5.1 VOLATILE ORGANIC COMPOUNDS

5.1.1 Sampling Method

A custom sampler was constructed to collect VOC and carbonyl samples. Figure 5.2 shows the system. Figure 5.3 shows a schematic of the system. The enclosure provided protection from weather and outside intrusions.

Figure 5.2. VOC-Carbonyl Sampler

The system consisted of a manifold flow system that produced a negative pressure flow for the inlet line and the carbonyl sampler and a positive pressure for the canister sampler.

The main pump used produced a flow of approximately 4 L/min that purged the inlet line and provided a pressurized flow to the canister. A second pump produced the lower flow for the carbonyl sampler. This flow was directed from the main inlet through the carbonyl sampler system that was controlled by a rotameter with an integrated needle valve. The other main flow was directed towards the flow controller for the Summa canister. Canister flow was set for 20 mL/min; for a 10 hour sampling day, this would provide a positive pressure of 10-15 psig. This positive pressure would allow the bypassing of the pressurization step in the laboratory and provide the lowest possible detection limits.

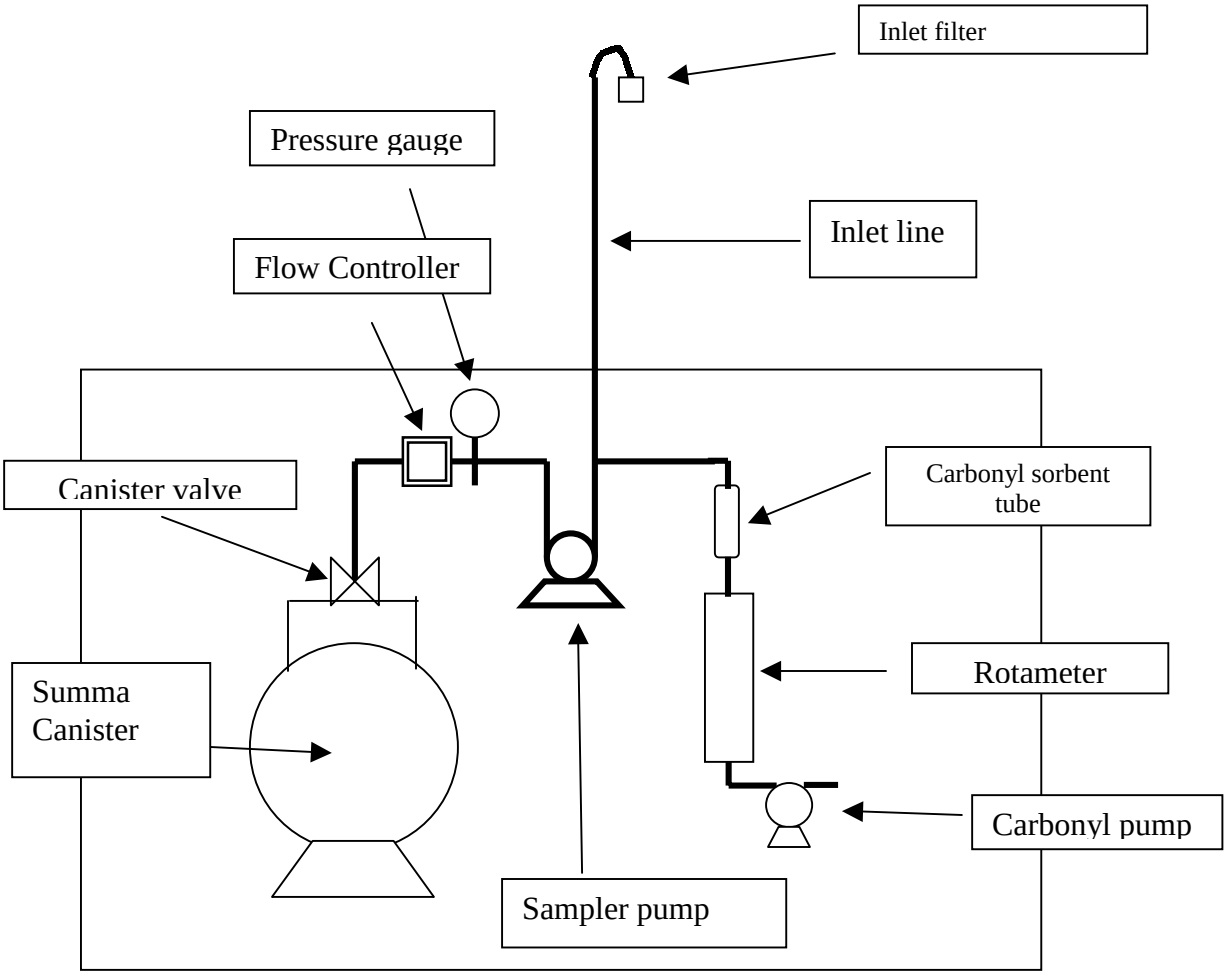


Figure 5.3. Sampler Schematic.

The on and off times were collected by two timers, one that actuated the main pump approximately two minutes prior opening the solenoid valve on the canister and the second one controlling the power for the carbonyl sampler. These samplers were serviced once per day: when the samples from the current day were removed and sample media for the next day loaded. The flow was checked periodically throughout the day. Although the flow controllers were designed to operate at a set flow rate, they frequently required adjustments due to temperature effects, clogging or other problems.

5.1.1.1 Sampler Certification

The samplers were certified by collecting ultra high purity (UHP) air from a tedlar bag through the sampler inlet into the sample canister over a short period of time (~30 minutes) and analyzing the results in a normal fashion. The initial certification showed that some residual contamination was present, however, after some flushing with clean air, the levels decreased to concentrations less than the detection limit of the analysis.

5.1.2 Analysis Method

All samples were analyzed using EPA Method TO-14 GC/MS full scan. This method used a cryotrapping system with a high resolution capillary column to analyze for volatile organic compounds using full scan GC/MS. The cryotrapping system could measure compounds down to 0.1 ppbV. Since there were two laboratories supplying the analysis, some details in the analysis differed.

At EAS, samples were analyzed on an HP 5890 Series II gas chromatograph and HP 5971 MSD quadrupole mass spectrometer detector. A 100 to 1000 mL gas sample was loaded from the air sampling canister or bag through a Nafion dryer onto the freezeout loop. The ATL system used an HP 5973 MSD system with a proprietary sample drier.

A gas phase internal standard mixture was injected with each sample prior to sample loading. The freezeout loop was constructed of 1/8" x 8” nickel tubing packed with glass beads and was immersed in liquid argon or oxygen while the sample was drawn through the loop using a vacuum pump connected to a mass flow controller adjusted to a flow of 50 ml/min.

After the sample was trapped, it was thermally desorbed at 150° C using an electric heater and was cryofocussed onto the beginning of a 0.32 mm ID deactivated fused silica capillary column. The cryofocussed loop was then warmed and the compounds were injected onto a 60 meter, DB-5, 0.25 mm ID fused silica capillary column in the GC. The GC was temperature programmed from -10° C to 220° C at a ramp rate of 13° C/min. As the column was heated, the compounds elute off the column and enter the mass spectrometer.

The MS was scanned from 45 to 300 AMU with a scan rate of 1 to 2 seconds for the Full Scan. The GC/MS was tuned and operated according to the specifications outlined in the EPA draft SOW for VOC compounds in ambient air, and EPA Method 8260 in the SW 846 Test Methods. Compounds were calibrated by the external standard procedure using NIST traceable air standards as described below. The relative percent difference (RPD) of a duplicate pair was less then 30% at 10 ppbV and the average MDL was approximately 0.1 ppbV for most compounds at a 500 ml load volume.

The standards used for the routine analytical tests were commercial NBS/NIST traceable gas standards normally ordered at a concentration of 2 to 10 ppmV. Commercial standards were available for the TO-14 GC/MS target list. Special in-house standards were prepared for special projects where commercial standards were not available or when commercial standards need to be diluted.

The GC/MS compounds were calibrated by using a dilution of the NBS/NIST traceable standard. The initial calibration curve consists of three to five calibration points. The continuing calibration consists of one point for the GC/MS Full Scan. The response factors for the initial calibration curve were to be within 30% RSD. If the response factor for the daily standard was more than 30% RPD from the average response factor of the initial calibration a new calibration curve was prepared.

Standards were prepared by using a gas dilution system on the gas chromatograph or by making static dilutions to atmospheric levels. The gas dilution system was constructed from an eight-port gas sampling valve with various size sample loops. The loops were filled with the standard and flushed with "zero air". The gas dilution system was used for the daily instrument calibration.

5.1.2.1 QC Criteria

Table 5.2. shows the quality control criteria used for laboratory analysis. Both EAS and ATL followed the same general QC criteria.

Table 5.2. QC Criteria

Parameter:	**Criteria:**	**Corrective Action:**
Blank	< 0.20 ppbv	Clean Instrument, Analyze another blank
Continuing Calibration	±30 % Initial Calibration	Re-Run Initial Calibration
Duplicate or MSD	< 30 %	Reanalyze duplicate or matrix spike.
Matrix Spike	70% to 130%	Reanalyze Matrix Spike.

Table 5.3 contains the target analyte list. After Air Toxics began analysis, acrolein was added to the VOC analysis list due to the instability of the hydrazone derivative on the acidic DNPH sample media used in Method TO-11. Air Toxics had expanded the TO-14 method sufficiently to provide for detection of low levels of acrolein using Summa canisters, so it was added to that list.

Table 5.3. EAS VOC Target List

Compound	MDL (ppbv)
Benzene	0.1
Toluene	0.1
Ethylbenzene	0.1
Xylenes	0.1
1,3-Butadiene	0.1
Methyl-tert-butyl ether	0.1-2.0
Ethylene dibromide	0.1-2.0
Ethylene dichloride	0.1-2.0
Freon 11	0.10

Table 5.4. ATL VOC Target List

Compound	MDL (ppbv)
Benzene	0.1
Toluene	0.1
Ethylbenzene	0.1
Xylenes	0.1
1,3-Butadiene	0.1
Methyl-tert-butyl ether	0.1
Freon 11	0.1
Acrolein	0.1

5.2 SEMI VOLATILE ORGANIC COMPOUNDS

5.2.1 Sampling Method

The semi-volatile organic compounds were collected using a standard TO-13 sampling apparatus. Figure 5.4 shows the high volume PUF sampler obtained from Andersen Instruments and Figure 5.5 shows the sampler head. This sampler produces flows at approximately 180 L/min. Calibration was performed using the valve restrictor and magnahelic pressure gauge, and flow was monitored using the Dickson circular paper gauge recorder.

Figure 5.4. High Volume PUF Sampler

Figure 5.5. PUF/XAD Sampler Head

The sample media were processed daily by removing that day's sample at the end of the day and placing the next day media into the sampler head. Extra sample heads allowed a simple switching of the heads and prevented the need to change media in the field and to potentially expose the media to contamination.

5.2.2 Initial Calibration and On-going Checks

Initial calibration was performed using the variable restrictor valve and a magnahelic gauge. On-going calibration checks were performed by checking the flow rate at the beginning and end of each work day. The values were recorded and the agreement to specifications was calculated. Assessment of these values is presented in Section 9.

5.2.3 Analysis Method

Samples collected from the TO-13 sampler were analyzed using the TO-13 analysis method. Samples for semi volatile organic compounds were collected on a combined PUF/XAD resin cartridge with a 102 mm quartz fiber pre filter. The sampler was the high volume type sampler described above. The PUF plug, XAD resin, and filter were combined and extracted in a soxhlet extractor using 400 ml of a 10:1 mixture of hexane/ethyl ether spiked with a surrogate standard mix. The extract was concentrated to 1.0 ml using a KD concentrator. After concentration internal standard was added to the mix.

The extracts were analyzed for target compounds by injecting a 1 to 2 ul sample in a split/splitless injector on an HP 5890 GC and HP 5970 MSD mass spectrometer in the full scan mode. The compounds were separated on a 30 meter, DB-5 column designed for the analysis of semi volatile organic compounds by EPA Method 8270. The column was temperature programmed from 35 C to 275 C at 10 C per minute. The signal was processed and integrated using the HP Chemstation and HP Enviroquant software. The mass spectrometer was calibrated using commercially available standards for the target semi-volatile organic compounds. The detection limit for the method was about 0.5 ug/sample.

Two types of semi-volatile analyses were performed—full scan GC/MS and SIM (selected ion monitoring) GC/MS. The SIM mode was used for a subset of the full scan list in order to obtain lower detection limits. Initially, the higher concentrations of naphthalene prevented a single SIM analysis run due to instrumental limitations.

After the laboratory change, Air Toxics was able to do a single SIM GC/MS analysis for the subset list. Table 5.5 shows the analyte list for the full-scan EAS analyses.

Table 5.5. Analyte List for the EAS SIM Analyses

Target Compound	MW (g/mol)
Naphthalene	128.16
1,1'-Biphenyl	154.2
Acenaphene	154.21
Fluorene	166.22
Dibenzothiophene	184.26
Phenanthrene	178.22
Anthracene	178.22
Fluoranthene	202.26
Pyrene	202.24
Chrysene	228.09
Benzo(a)anthracene	228.09
Benzo(b)fluoranthene	252.32
Benzo(k)fluoranthene	252.32
Benzo(e)pyrene	252.32
Benzo(a)pyrene	252.32
Perylene	252.3
Indeno(1,2,3-c,d)pyrene	276.09
Dibenz(a,h)anthracene	278.33
Benzo(g,h,i)perylene	276.34

Table 5.6. The Analyte List for the Air Toxics SIM Analysis

Target Compound	MW (g/mol)
Chrysene	228.09
Benzo(a)anthracene	228.09
Benzo(b)fluoranthene	252.32
Benzo(k)fluoranthene	252.32
Benzo(a)pyrene	252.32
Indeno(1,2,3-c,d)pyrene	276.09
Dibenz(a,h)anthracene	278.33

Table 5.7. Air Toxics Full Scan Analysis List

Target Compound	MW (g/mol)
Acenaphthene	154.21
Acenaphthylene	178.22
Anthracene	228.09
Benzo(a)anthracene	252.32
Benzo(a)pyrene	252.32
Benzo(b)fluoranthene	252.32
Benzo(e)pyrene	276.34
Benzo(g,h,i)perylene	252.32
Benzo(k)fluoranthene	228.09
Chrysene	278.33
Dibenz(a,h)anthracene	184.26
Fluoranthene	202.26
Fluorene	166.22
Indeno(1,2,3-c,d)pyrene	276.09
Naphthalene	128.16
Phenanthrene	178.22
Pyrene	202.24

5.3 CARBONYL ANALYSES

5.3.1 Sampling Method

The carbonyl sampling method, based on EPA Compendium Method TO-11, was integrated with the VOC sampler, as described above, and shown in Figures 5.2 and 5.3. The flow of the sampler was set with the rotameter valve to 1.5 L/min. This rotameter was cross-checked against a primary reference laminar flow element during the external audit, and more frequently with the Minibuck bubble meter. With this nominal flow, the total volume collected over the 10 hour sampling period was 900 L. The sampling system worked with a moderate degree of stability, with adjustments made occasionally.

5.3.2 Analysis Method

Formaldehyde and carbonyl samples were collected onto DNPH (2,4-dinitrophenyl-hydrazine) cartridges purchased from Supelco or Waters. Some early batches of custom made DNPH cartridges from a regional laboratory were impeding flow due to too-tightly packed sorbent. A different vendor was chosed subsequently to supply the media.

The samples were collected at a target flow rate of 1.5 L/min. A formaldehyde blank was run on each batch of cartridges to characterize the background formaldehyde (carbonyls) on the cartridges. Formaldehyde is an effective indicator for contamination of the sample media.

The carbonyl-DNPH derivatives were eluted with 2 mL of carbonyl-free methanol. The derivatives were analyzed by HPLC with UV detection at 360 nm. The mobile phase was distilled water/acetonitrile: 40/60 v/v at 1.5 mL/min. A 100 ul sample of the methanol extract was injected onto two 25 cm Restek Pinnacle TO-11 columns that were connected in series. A Shimadzu Model LC-6A Pump and SPD-6AV UV detector were used for analysis. The output of the detector was integrated by computer on the HP Chemstation Software. The standards used were commercially available carbonyl-DNPH derivatives of the target compound list of 17 carbonyls shown in Table 5.8.

Table 5.8. EAS Carbonyl Analysis list

Target Compound	MW g/mol
Formaldehyde	30.0
Acetaldehyde	44.0
2-Propanone	58.1
Propanal	58.1
2-Butanone	72
Butryaldehyde	72
Benzaldehyde	106.1
Cyclohexanone	98.0
Pentanal	74.14
Hexanal	86.14
Heptanal	100.17
Octanal	112.17
Nonanal	124.17
Decanal	136.17
Undecanal	148.17
Dodecanal	160.17
Acrolein	56.06

The acrolein analysis proved to be problematic due to losses in the sorbent collection cartridge. As a result, all acrolein data provided by EAS were suspect, and after further examination were discarded. Further details on this issue are presented in Section 9, Data Assessment.

Table 5.9. Air Toxics carbonyl analysis list

Target Compound	MW (g/mol)
Formaldehyde	30.03
Acetaldehyde	44.05
Acetone	58.08
Crotonaldehyde	70.09
MEK/Butyraldehydes	72.11
Benzaldehyde	106.11
Isopentanal	86.14
Pentanal	86.14
o-Tolualdehyde	120.15
m,p-Tolualdehyde	120.15

5.4 TOTAL REDUCED SULFUR

5.4.1 Sampling Method

The total reduced sulfur method was based on a modification of EPA Compendium Method To-14 and standard industry practice for sample collection using Tedlar bags. The sampling method for reduced sulfur species was a custom sampler consisting of a Pelican air-tight case that contained a 10 liter Tedlar bag. This case was in the bottom section of the metal sampler housing shown in Figure 5.2. Two types of filling techniques were used—the evacuated "lung" chamber approach, and the direct approach through a pump with elastomeric wetted surfaces to avoid losses from contact on metal. Flows were approximately 20 mL/minute. Both approaches proved equally difficult to operate consistently well. The pump frequently changed flow rates or stopped, probably due to the low flow rate, which is difficult to control in a simple system. Flows were checked once every two hours with an Alltech mass flow sensor.

In addition to sampling difficulties, it appeared over time that the stability of the sulfur compounds was being compromised due to heat in the sampler container. This was deduced by comparing the detected concentrations from the laboratory analysis with the Jerome analysis conducted on-site. The average Jerome result was approximately 4 ppbv, while the average laboratory result was non-detect at a detection limit of 1 ppbv. Due to this finding, routine sulfur sampling and analysis was ceased in March, 1999.

5.4.2 Analysis Method

EPA TO-14 GC/FPD is a GC method using a flame photometric detector. The method uses a cryotrapping/cryofocussing system with a high resolution capillary column to analyze for reduced sulfur compounds. The method can measure TRS compounds down to 1 ppbv.

Samples were analyzed on an HP 5890 Series II gas chromatograph with an HP flame photometric detector. A 100-200 ml gas sample was loaded from the air sampling canister or bag and then injected onto the freezoutloop/cryotrap. The concentrator was constructed of Teflon tubing, which is inert to the reactive sulfur compounds. The freeze out loop was constructed of 1/8" x 8" Teflon tubing packed with deactivated glass beads. The loop was immersed in liquid oxygen while the sample was drawn into it using a vacuum pump connected to a mass flow controller adjusted to a flow of 50 ml/min.

After the sample was trapped, it was thermally desorbed at 100° C and was cryofocussed onto the beginning of a 0.32 mm ID deactivated fused silica capillary column. The cryofocussed loop was then warmed and the compounds were injected onto a 30 meter, SBP-1, 4.0 micron fused silica capillary column in the GC. The GC was temperature programmed from 30° C to 250° C at a ramp rate of 10° C/min. As the column is heated, the compounds elute off the column and enter the detector. The detector converts all TRS compounds to an excited S2 that is measured by a photomultiplier tube resulting in a response that was logarithmic.

The log of the concentration and the log of the area counts were plotted to give a slope of about 0.5 for all sulfur species. Concentrations of individual compounds were calibrated by the

external standard procedure using NIST traceable gas standards as described below. The precision as measured by the relative percent difference (RPD) of a duplicate pair was less then 30% at 10 ppbV. The MDL of the method was 1.0 ppbV for all of the reduced sulfur compounds.

Table 5.10. Reduced Sulfur Compound List (TO14 GC/FPD)

Hydrogen Sulfide	34.08	1
Carbonyl Sulfide	60.07	1
Methyl Mercaptan	48.11	1
Ethyl Mercaptan	62.13	1
Dimethyl Sulfide	62.13	1
Carbon Disulfide	76.12	1
Isopropylmercaptan	76.16	1
tert-Butyl Mercaptan	90.19	1
n-Propylmercaptan	76.16	1
Ethyl Methyl Sulfide	76.16	1
Thiophene	84.14	1
Isobutyl Mercaptan	90.19	1
Diethyl Sulfide	90.13	1
n-Butylmercaptan	90.19	1
Dimethyl Disulfide	94.20	1
3-Methylthiophene	98.17	1
Tetrahydrothiophene	88.17	1
2-Ethylthiophene	112.19	1
2,5-Dimethylthiophene	112.19	1
Diethyl Disulfide	122.25	1

5.5 HYDROCARBON SPECIATION

5.5.1 Sampling Method

Hydrocarbons were sampled using the same sampler used for the VOC samples. The hydrocarbon speciation analysis was a separate analysis from the same canister sample.

5.5.2 Analysis Method

Hydrocarbon speciation was performed using the single column approach in which the C_2 to C_{11} hydrocarbons and stable oxygenates were analyzed using a single fused silica capillary column on an HP 5890 GC with dual FID detectors. Both detectors were used with two identical capillary columns to give two channels for the analysis of samples. A 100 to 200ml sample was loaded onto a 1/8" by 8" glass bead freeze out loop immersed in liquid oxygen. The components were desorbed onto a capillary cryofocussing loop with 90 C hot water. They were then desorbed from the cryofocus loop, and separated using a 100-meter, 0.25-micron fused silica PetroCol capillary column with a 0.5-micron phase coating. The column was programmed from -20 C to 225 C at 4 C/min. Total analysis time was about 65 minutes.

The compounds were detected on a FID set to operate at high sensitivity. The detector temperature was 275 C. The chromatographs were integrated using the HP Chemstation computer data station and stored on a hard disk drive for reintegration or further examination if required at a later date. Data from the integrator were entered into an Excel spreadsheet to generate the final report.

Hydrocarbon compounds were quantitatively calibrated using a NIST traceable propane/hexane/standard that may contain other hydrocarbons. On the FID, hydrocarbons have a uniform response based on the number of carbon atoms so the individual compounds are calibrated against the propane and hexane peak. The other hydrocarbons were used as a QC check to make sure the detector response was uniform. The C2 to C4 hydrocarbons were calibrated using propane and the C5 to C12 hydrocarbons were calibrated using hexane. The calibrated response was checked by quantitatively analyzing the 57 component EPA PAMS sample and other reference samples provided by agencies or other participant labs.

Qualitative calibration of the hydrocarbon retention times was done using pure materials for about 82 target hydrocarbons and spiking them into a 35 liter SUMMA canister that was pressurized to 120 psig. The retention times of individual hydrocarbons in this mix were calibrated against commercial gas standard blends for the light hydrocarbons and 6 liter SUMMA canisters spiked with 10 to 15 target compounds for the heavier hydrocarbons. The retention times were verified using a Kovats retention time index available for the PetroCol 100 m capillary column. The retention times were qualitatively checked against the 57 component EPA PAMS sample.

Table 5.11. Hydrocarbon Target List

Compound	*MDL (ppbv)*
Ethene	0.25
Acetylene	0.25
Ethane	0.25
Propene	0.17
Propane	0.17
i-Butane	0.13
1-Butene&IsoButene	0.13
n-Butane	0.13
t-2-Butene	0.13
c-2-Butene	0.13
3-Methyl-1-butene	0.10
i-Pentane	0.10
1-Pentene	0.10
n-Pentane	0.10
t-2-Pentene	0.10
c-2-Pentene	0.10
2-Methyl-2-butene	0.10
2,2-Dimethylbutane	0.08
Cyclopentene	0.10
Cyclopentane	0.10
2,3-Dimethylbutane	0.08
2-Methylpentane	0.08
3-Methylpentane	0.08
n-Hexane	0.08
t-2-Hexene	0.08
2-Methyl-2-pentene	0.08
c-2-Hexene	0.08
Methylcyclopentane	0.08
2,4-Dimethylpentane	0.07
Benzene	0.08
Cyclohexane	0.08
2-Methylhexane	0.07
2,3-Dimethylpentane	0.07
3-Methylhexane	0.07
2,2,4-Trimethylpentane	0.06
n-Heptane	0.07
Methylcyclohexane	0.07
2,3,4-Trimethylpentane	0.06
Toluene	0.07
2-Methylheptane	0.06
3-Methylheptane	0.06
n-Octane	0.06
Ethylbenzene	0.06
m&p-xylene	0.06
Styrene	0.06

o-Xylene	0.06
n-Nonane	0.06
i-Propylbenzene	0.06
n-Propylbenzene	0.06
p-Ethyltoluene	0.06
1,3,5-Trimethylbenzene	0.06
1,2,4-Trimethylbenzene	0.06
n-Decane	0.05
1,2,3-Trimethylbenzene	0.06
Undecane	0.05

The hydrocarbon sampling was maintained during the preconstruction period and the initial stages start of the Cell 1 period, but was discontinued due to the changes discussed elsewhere in this report.

5.6 PM10

Federal Reference Method for Time Integrated PM 10 (40 CFR 50, Appendix B) was used for collection of PM10. Figure 5.6 shows a photograph of the sampler. Two PM10 samplers were maintained for the preconstruction period, after which only one was maintained at the Post Office location.

Figure 5.6. PM10 Sampler

5.7 SIZE-FRACTIONATED PARTICULATE MATTER

A number of samples were collected using an Anderson Model 2000 cascade impactor . The flow was calibrated using the valve restrictor and magnahelic pressure gauge and was monitored using a Dickson paper circular gauge recorder. The flow was set to approximately 40 CFM in order to collect an adequate amount of material on the filter during the 10 hour daytime test period. Technical contacts at Andersen led us to believe that the cut point curves were available for a 40 CFM flow rate. Unfortunately, it was later learned that this was not the case and that only a 20 CFM size cut curve for the cascade impactor was available. As a result, these data could not be adequately interpreted.

5.8 SAMPLING LOCATIONS

Sampling locations varied during the different phases of the project in accordance with on-going evaluations of meteorological conditions, operations, and the potential for community exposure. The original plan was to sample at five stationary locations, which was done during the preconstruction period and for a few weeks after the beginning of the excavation period itself.

At that point in time, a re-evaluation was made and changes to the data collection scheme were made, including the number of sampling points and the parameters to be analyzed. Detailed discussions of the changes to the program were made in Section 2.6, and specific summaries of the sampling locations will be presented in Section 8.

6.0 METEOROLOGICAL DATA COLLECTION

Meteorological data collection was critical for understanding the origin and dispersion of the measured parameters. Multiple sites were used to collect data since micrometeorological effects were considered to be a potential issue. More critical than this, was the need for immediate access to wind data along with the COC data collected. The data collected with these systems are discussed in conjunction with the other field data in Section 8.

The following Table 6.1 shows a summary of the various meteorological data collection instruments.

Table 6.1. Meteorological Data Collection

Meteorological Data	
WS, WD, Temp--Contractor Lot	Tracer Research System
WS, WD, Temp--Tank Farm	RM Young
WS, WD--Community Center	Xontech System
WS, WD, Temp, BP, RH--Van	Davis Instruments Weather Wizard III
WS, WD, Temp—Cart	Davis Instruments Weather Monitor II

6.1 FIXED METEOROLOGICAL MONITORS

6.1.1 Contractors Lot

The main site was a 10 meter tower installed in the contractors lot by Tracer Research Corp under contract to Jacobs Engineering. This tower was designed under the PSD guidelines, with instruments to record wind direction, wind speed, temperature at two heights, dew point, rain, and light intensity. Data were logged on an hourly basis, with hard copy strip chart backup and were downloaded via modem. The data logging equipment was maintained in the CMT trailer, with CMT staff changing paper periodically. Tracer staff also visited periodically to maintain the instruments and to do calibration checks. The data from these efforts were compiled by Tracer and sent directly to Jacobs Engineering.

A parallel ESC 3300 data logger was set up for CMP use. This logger was wired directly into the same collection points as the Tracer system.

6.1.2 Tank Farm

A limited monitoring station was set up at the water tower at the Unocal Tank Farm. This station collected data for wind speed, wind direction, and temperature on an hourly basis. These data were maintained for possible use and were not consulted nor compiled regularly. They were only

available as raw downloaded data logger text files. The wind speed and wind direction sensors were a RM Young Model 5103 combination sensor, with a Model 107 temperature sensor inside a passively aspirated shield.

Figure 6.1. Meteorological Sensor set at Tank Farm

6.1.3 Community Center

During the Baseline study and until the Tracer met tower could be installed, a portable meteorological station was set up at the Community Center. This system was set up and maintained by Xontech Environmental. This system collected only wind speed and direction. These data were used to compile the meteorological data from October, 1998 to April, 1999, presented below in conjunction with other field data for that time period.

6.2 MOBILE METEOROLOGICAL MONITORS

6.2.1 Monitoring Van

The monitoring van was equipped with portable meteorological sensors that could be adjusted easily for the various configurations the van was parked in. Equipment consisted of a Davis Instruments Weather Wizard III with three cup wind speed anemometer, a single van direction

sensor, and a combination temperature and relative humidity sensor. Inside temperature and barometric pressure were collected in the console that also held the data logging module. Each time the van was parked, the reference direction of the direction sensor was adjusted by twisting the stand on which it was attached. This was done using a compass and did not account for magnetic declination. The mast the sensors was mounted on was approximately 10 feet off the ground and 4 feet above the top of the van, as is shown in Figure 6.2.

Figure 6.2. Monitoring Van Meteorological Sensors

Data were averaged on a minute by minute basis and were downloaded daily into the database. This data set served as the time basis for the other data since it was collected the most frequently.

These data are not to be considered rigorous for several reasons. The sensors were only of a semi-professional quality and were not intended for strict scientific use. In addition, the siting process was approximate, as the direction was not corrected to true north. Finally, the height above the van was not sufficient to meet standard siting criteria. As was intended, these data were used to gain a general indication of the micrometeorological conditions that might affect dispersion of the detected chemicals of concern.

6.2.2 Cart

The mobile cart also carried meteorological sensors for wind speed, wind direction, and temperature. The temperature data were considered to be biased due to the sensor's location in the console, which was often closed inside the metal instrument case. The sensor mast was approximately 7 feet above the ground, as is shown in Figure 6.3. As with the van sensors, these data were used for general wind indications and were not considered to be rigorous

Figure 6.3. The Mobile Meteorological Cart

7.0 RESULTS AND DISCUSSION OF MONITORING DATA

This section contains the results based on monitoring data collected during all phases of the project, including the Baseline Study. The Background Data will be discussed in Section 8, Data Management. The time period for the project is broken down into four major phases for ease of reporting:

- Baseline Study
- Preconstruction
- Excavation
- Outlying Properties

As the main excavation period extended over several months, discussion of the excavation phase will be broken down into monthly summaries. The other phases will be treated as single time periods.

7.1 SUMMARY OF REMEDIATION PROJECT ACTIVITIES

The purpose of this section is to provide a description of the excavation activities that were monitored by the CMP. This description is based primarily on observations made by CMT staff during daily monitoring of the excavation. Two types of emissions were expected: vehicular exhaust from haul trucks, excavators, and other earth-moving equipment, and emissions from the petroleum-contaminated soil and oil-contaminated groundwater in excavation cells. The CMP was designed to collect data for both of these potential sources.

Descriptions of the site activities will be presented in a narrative, followed by a table that notes key event dates and descriptions. Table 7.1 contains a summary of major project phases.

Table 7.1. Summary of Major Phases of the Project

Dates	Excavation Activity	CMT Activity	Purpose	Comments
Oct. 21-Oct. 31, 1998	Site Prep--utility relocation, Tank Farm Preparation	Baseline Study	Determine pre-excavation baseline pollutant levels	Results included in background data set for use in risk assessment.
Nov. 1 to Nov. 14, 1998	Site Prep--utility relocation, Tank Farm Preparation	Preparation/Mobilization/ Staff Training	Prepare for main excavation work with installation of equipment at main sampling sites. Also, to prepare real-time measurement systems for implementation.	No data collection until November 11.
Nov. 11 , 1998 to Mar. 1999	Site Prep--Sheet pile installation, site prep.	Preconstruction Monitoring	Provide initial data for public protection during startup activities.	Major re-working of CMP Work Plan conducted during this time period. Development of data base.
Mar. 1, 1999 to Dec. 11, 1999	Excavation in cells.	Monitoring during excavation activities.	Routine CMP monitoring	Various special tests also conducted in this time period.
Dec. 11, 1999 to Dec. 27, 1999	Pit closed, backfill and sheet pile removal.	Limited monitoring--sheet pile removal only.	Sheetpile removal and backfill were only activities--no open pit remained.	
Jan. 2 to April 6, 2000	Outlying Properties excavation	Limited monitoring during outlying plume excavation.	Continue monitoring during limited excavations.	Limited informal monitoring included only PEC, dust, H2S, PAH. No VOCs. Data not included in data base.

Presentation of the major site activities will be made, followed by a more detailed accounting of results from sample collection, both real-time and integrated, on a month by month basis during the main excavation period.

7.1.1 General Site Preparation

General site preparation began in October 1998, and consisted mainly of utility changes, such as the re-routing or closing of utility services in areas that would be disrupted. During this phase, truck traffic was only slightly different from a non-construction time period. Only two or three

extra construction-oriented trucks were in use, in addition to one back hoe that was used sporadically for short periods to open up areas for trench work.

Site preparation activities were deemed to not contribute substantially to normal emissions in town or to compromise baseline monitoring. The baseline monitoring program was conducted from October 21, 1998 to October 30, 1998. Beginning in early November, preconstruction monitoring commenced so that any changes to ambient air quality from the increasingly scaled up activities could be monitored.

Initial site demolition commenced on December 2, 1998 at the west end of town. This activity was heavily monitored both visually and with instrumentation. The data did not record substantial impacts to the atmosphere from dust-producing activities. Following this initial demolition, smaller demolitions occurred at various times, as needed. The Cell 3 demolition, for example, did not occur until much later.

Figures 7.1 and 7.2 show photographs of representative activities associated with the preconstruction phase. Other than some backhoe work, major equipment use was minimal.

Figure 7.1. Pipeline Cutting

Figure 7.2. Utility Relocation

7.1.2 Main Excavation

The excavation was organized into cells according to the location and type of contamination to be removed. Figure 7.3 shows a map of the town and the cell organization.

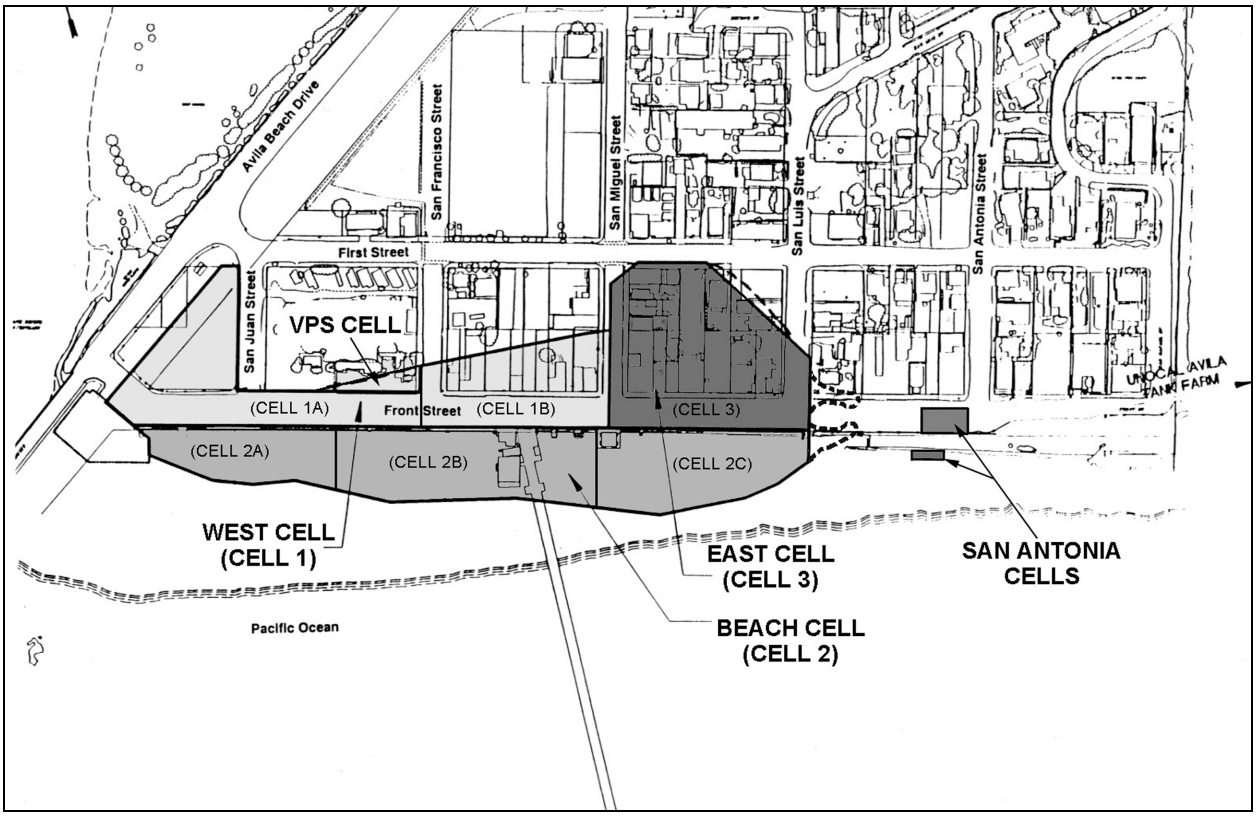


Figure 7.3. Map of Cell Organization of Excavation.

The above map does not include the Lyons-Togazzini property along Avila Beach Drive, between 1st St. and San Miguel Street, or the small Bachino property on Avila Beach Drive near the end of Laurel Street. These cells were small and did not require sheet piling. Figure 7.29 shows a more detailed map of the town, including sampling sites and the outlying properties.

7.1.3 Types of Emission Producing Activities

There were a number of emission-producing activities in which the equipment, the duration, or the location, made the activity noteworthy. The sections below present photographs of various sources of emissions that were included in as monitoring targets during the project.

7.1.3.1 Sheet-pile Driving

Sheet piling installation operations used a large crane with an external power-assist unit to drive the sheet pile into the ground. A standard pile driver was used on a short-term basis to install the pier piles. All of these pieces of equipment produced periodic spurts of uncontrolled diesel exhaust, while the pile driver produced a continuous stream of emissions. Figures 7.4 and 7.5

show examples of these puffs of exhaust fumes. While the time resolution of the aethalometer was not sufficient to capture individual pieces of equipment, the overall impact from these operations were captured in the 15 minute averages. The crane in Figure 7.6 shows a large plume, attributable to the continuous nature of the pile installation compared to the sheet pile.

Figure 7.4 Puff of Diesel Exhaust

Figure 7.5. Sheet Pile Crane in Operation

Figure 7.6. Pile Crane in Operation

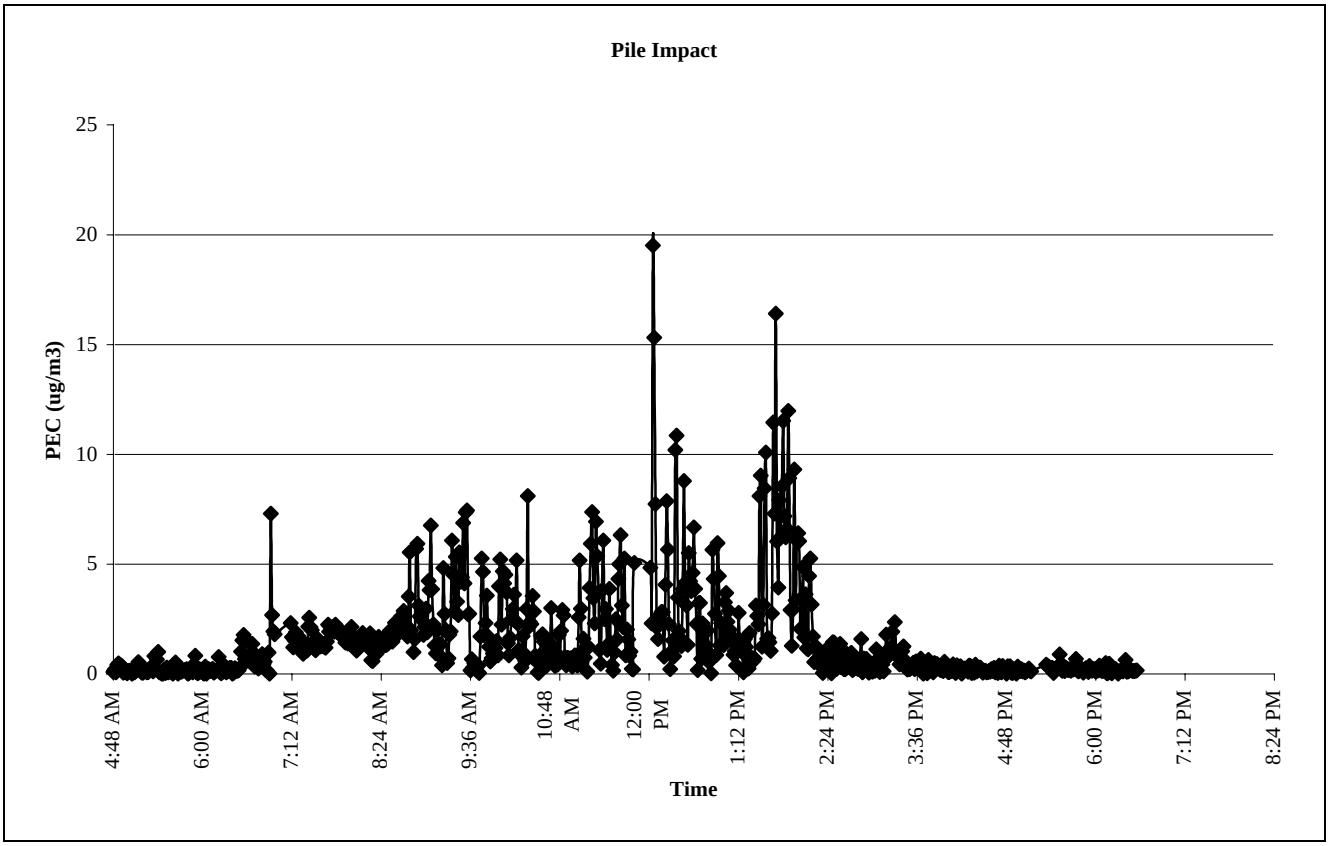


Figure 7.7. Pile Crane Emissions

The pile crane data show the meteorological dependence of the emissions and the short-term duration of the plumes. This set of data was collected on a 1-minute basis in order to detect shorter-term phenomena. As can be seen in Figure 7.7, above, there were several high data points; however, these episodes lasted for only one or two minutes. Sustained high concentrations of this magnitude during normal operations did not occur. When the time dependence of the wind direction shift from southerly to northerly was examined, it is evident that shifts in wind direction corresponds well with sudden decreases in emission concentrations. The wind began to shift at around 2 PM and completed a 180 degree shift by 3 PM. This shift was away from populated areas. The detected concentrations reflect this change, decreasing from average 15 minute values in the 5-10 ug/m3 range to less than 1 ug/m3.

Figure 7.8 shows a wind rose for the same day. The wind rose indicates that the monitoring van, located downwind (north of the crane), would have directly captured the emissions from the crane. In addition to the pile crane, a sheet pile crane was also in operation at the time. Therefore, the measured values reflect the combined effects of two cranes.

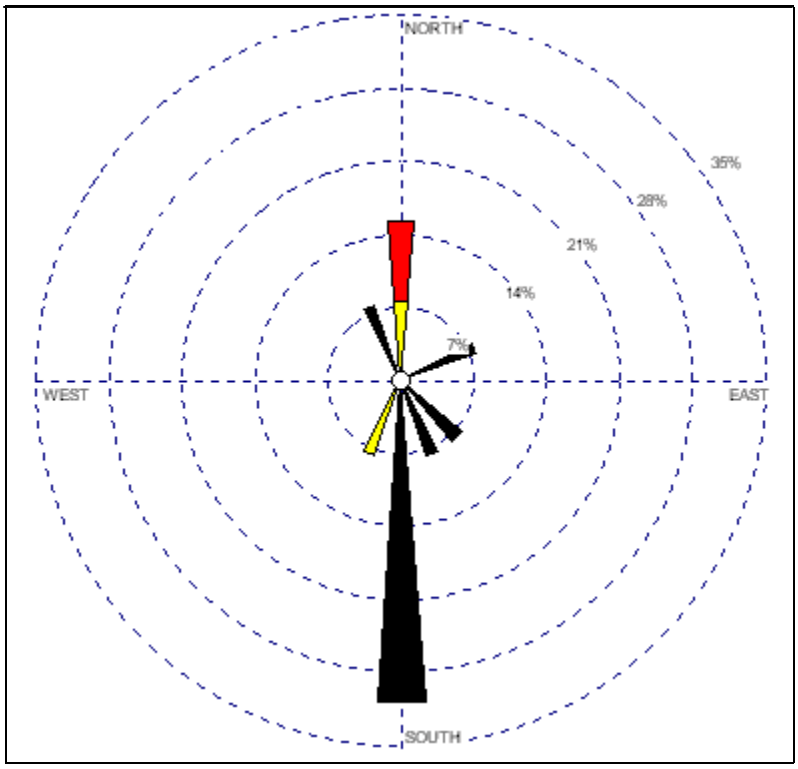


Figure 7.8. Wind Directions for Dec. 17, 1999

Figure 7.9 shows the potential for dust generation from the sheet piling operation.

Figure 7.9. Dust and Odor from Sheet Pile Installation

7.1.3.2 Excavation and Pit Equipment

A major source of emissions was the equipment used in the excavation pit. This equipment included excavators, backhoes, front loaders, haul trucks, plus miscellaneous other equipment such as cranes and sheet pile drivers, etc. The pit equipment worked consistently throughout the project, serving as the primary means to move the soil up and out of the pit area. Haul trucks were another consistent presence. Figures 7.10 and 7.11 show examples of pit equipment in use.

Figure 7.10. Photograph of Excavators in Action.

Figure 7.11. Pit Equipment in Use

A major emitter that was used for only a few days was the Maxigrinder, a unit used to grind large amounts of demolition debris. Figure 7.12 shows a photo of the Maxigrinder in use. Figure 7.13 shows the PAH emissions that were detected directly downwind of the unit, which were significantly higher than any other piece of equipment. It should be noted that these data are not representative of common exposure scenarios since the inlet of the monitoring van was directly downwind of the exhaust plume. Since there were no specific trigger levels associated with particulate-bound PAH, these data were used only as indicators of potential trigger level exceedances. In this case, the data were monitored closely. The standard trigger levels were not exceeded due to the short-term duration of the peaks.

Figure 7.12. Maxigrinder used in grinding construction debris

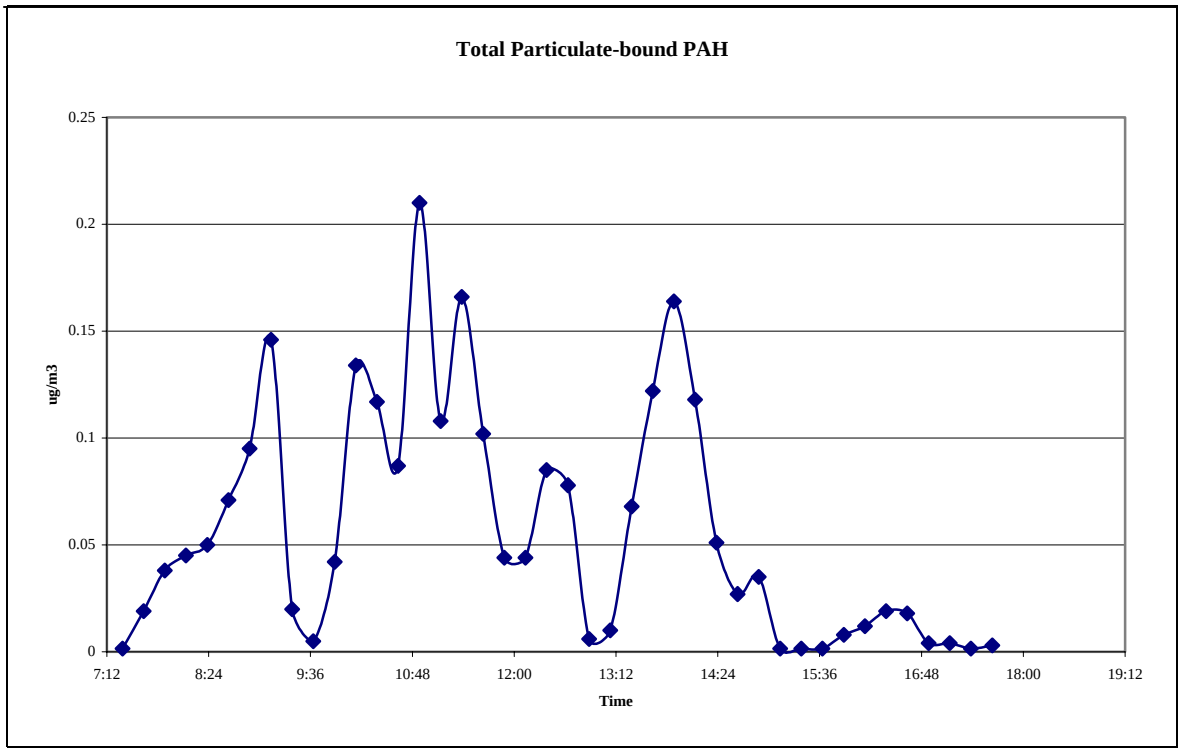


Figure 7.13. Downwind Impact of Maxigrinder

7.1.3.3 Trucks

A large number of trucks were used for various activities. There were three main categories of trucks: (1) short-haul trucks used to haul the affected soil from the pit to the stockpile area; (2) clean fill trucks used to bring clean sand in for backfilling completed excavation areas; and (3) long-haul disposal trucks used to haul the affected soil to the soil disposal site. The short haul trucks were the primary source of emissions in the town area, followed by the backfill trucks. The long-haul trucks operated from the stockpile area at the Tank Farm and out Cave Landing Road, bypassing the town. Figure 7.14 shows a photo of typical types of haul trucks. The haul trucks are behind the water truck in the foreground.

Figure 7.14. Haul and Watering Trucks

Figure 7.15 contains a summary of truck loads on a daily basis. The number of truck loads does not correspond directly with fuel usage. Peak fuel usage corresponds with pit equipment in use in September when both Cell 2 and Cell 3 were in operation.

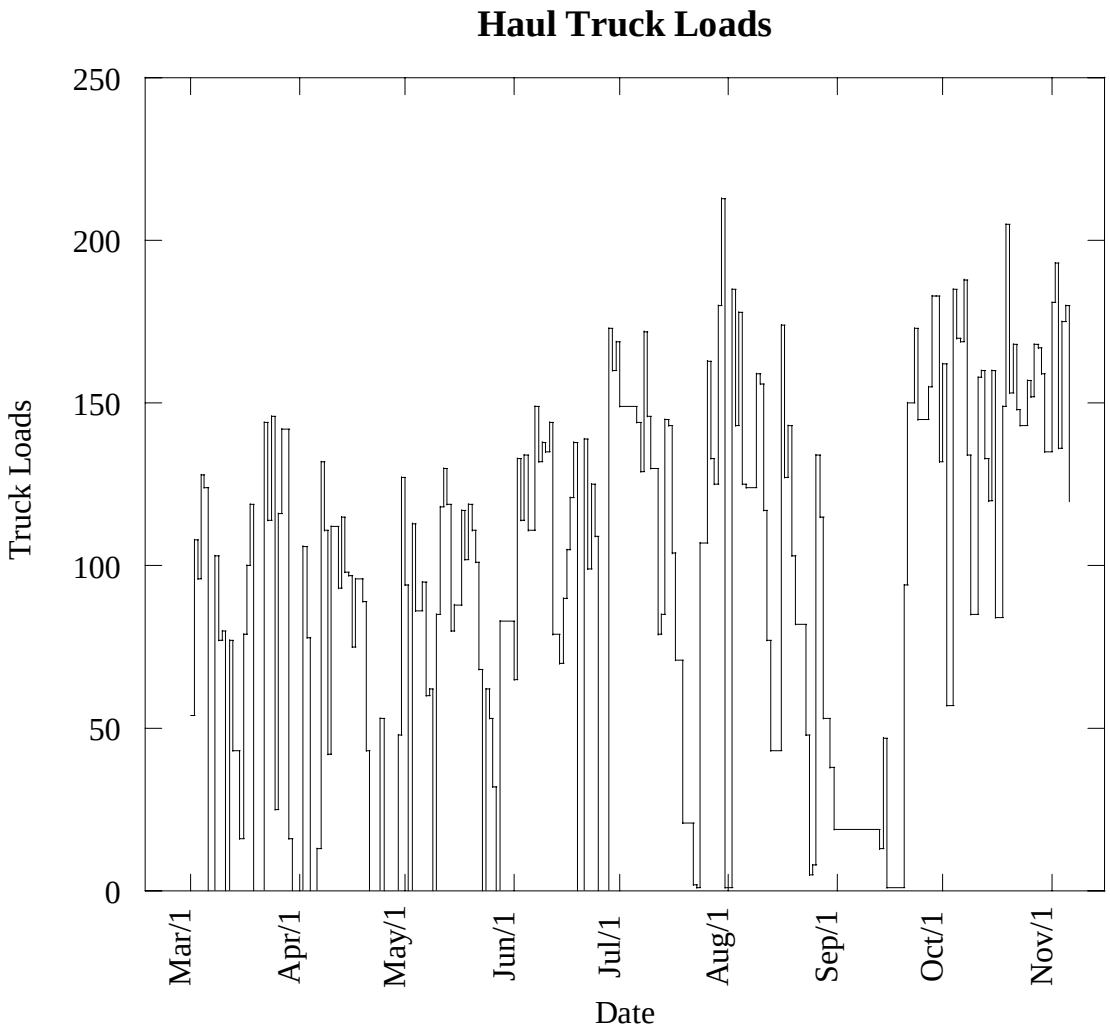


Figure 7.15. Haul Truck Loads

7.1.3.4 Dust and Odor Emissions

Dust and odor emissions were a concern throughout the duration of the project. One of the key functions of the CMT was to monitor both parameters. Key incidents for both these parameters are discussed below in relation to each month's data summary.

Dust was generated by a number of activities. For instance, when the wet soil on truck tires was tracked onto roads and subsequently dried, substantial dust accumulated. The dried mud appeared to be more of a problem than wind-blown dust from the ground, since the action of the vehicles on the road caused a grinding motion, making the particles more fine and susceptible to

entrainment in winds. The problem was dealt with by frequent waterings by a water truck and by using street cleaners to sweep up the excess dried soil. Figure 7.16 shows a street cleaner in action. The amount of dirt on the ground is evident from the tire tracks.

Dust was also periodically generated by demolition and soil moving activity. Figure 7.17 shows dust being generated by demolition activities. While these activities produced high levels of dust in the immediate area, the dust settled quickly. Typical average 15 minute values were less than the trigger level.

Figure 7.16. Street Cleaner in Operation.

Figure 7.17. Dust Generation from Demolition

Consistent efforts were made in the pit excavation area to keep dust to a minimum. However, due to the number of vehicles and activities, this was a difficult task. Figure 7.18 shows, as an example, the breadth of simultaneous activities in Cell 3, many of which had the potential to produce dust.

Figure 7.18. Multiple Cell Activities

Odors were another continuous problem. Specific odor complaints are addressed below in relation to each month's data. In general, odor complaints were related to a number of specific activities. First, at times when wind speeds were low or wind direction was out of the southwest, there was a higher incidence of diesel-fume complaints. Second, a specific odor problem was associated with sheet piling operations in one particular area along Front and San Luis Street. Data collected during the investigation of this latter problem are presented in Section 9.

The main type of odor was of petroleum, associated with exposed affected material. While not particularly intense, this general odor was noticeable when coming into town after being away for some time. Figure 7.19 shows a photograph of a particularly odorous pile of affected material, with intense odors probably due to the influence of marine organisms and the degradation of material into odorous organic compounds. Data on the composition of the headspace vapors are presented in Section 9.

Figure 7.19. Odorous Material in Cell 2C

Figure 7.20 shows a photograph of petroleum material that is oozing out from exposed affected soil. This type of petroleum exposure contributed to the constant ambient petroleum odor.

Figure 7.20. Oil Residue from Soil

7.1.3.4.1 Meteorological dependence

Emissions from on-site equipment were subject to the general meteorological conditions of the site. The wind-roses for each time period, presented below, show how the site activities could impact downwind receptors. As an example of the specific micro-meteorological dependence, Figure 7.21 shows the wind rose for June 22, 1999, the only day for which there was an exceedance of a volatile organic chemical of concern—1,3-butadiene.

On this day, the monitoring van was parked near the corner of San Francisco and 1st Streets, near to where clean fill trucks were converting their trailers from a two-segment haul configuration to a one-trailer configuration. Concentrations of 1,3-butadiene exceeded the Tier 2 trigger level, necessitating changes in site operations. Figure 7.22 shows the time-resolved data from that period. Apparently, plumes from the truck traffic impacted the monitoring inlet directly, causing the high concentrations.

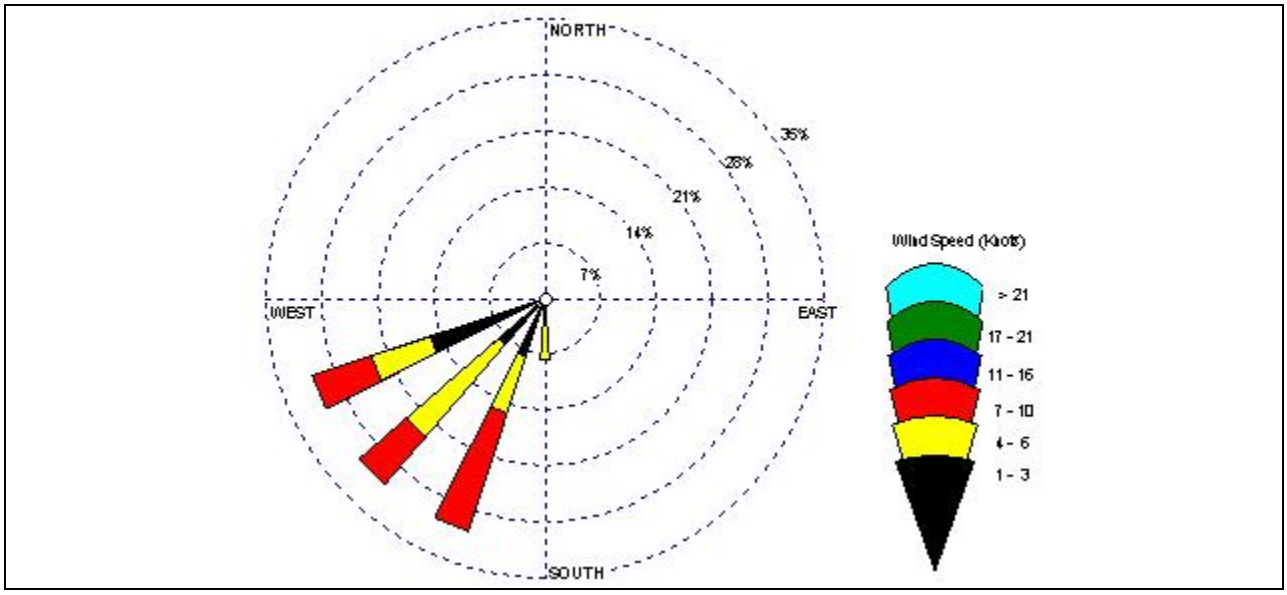


Figure 7.21. Wind Rose for June 22, 1999 Showing Directional Dependence of Emissions

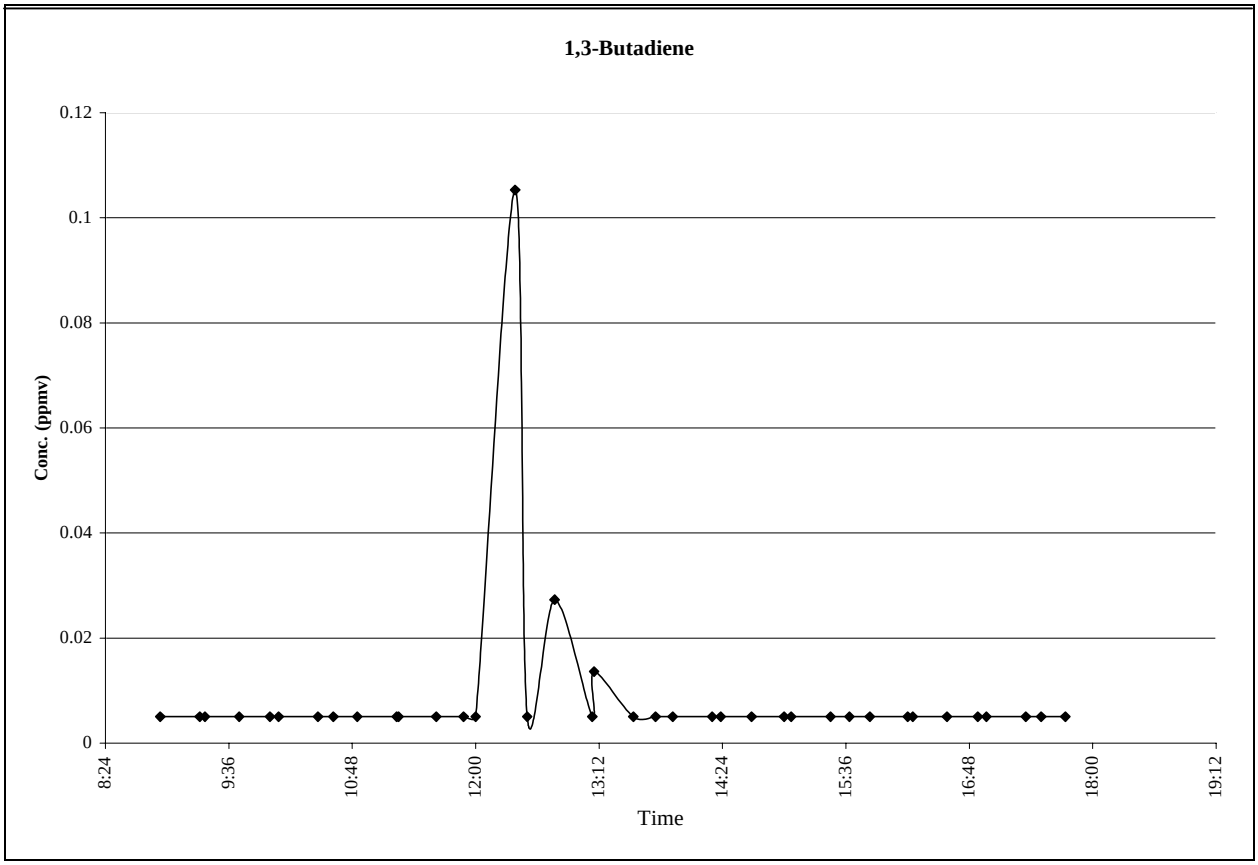


Figure 7.22. 1,3-Butadiene Data for June 22, 1999 Exceedance

7.1.3.4.2 Control measures

Various control measures were used throughout the project to reduce the impact of emissions from project activities. These measures had been planned previously and were part of the operating permit for the project.

As mentioned above, dust was a major problem due to dried soil on the streets. Besides a street cleaner, washing of the street was performed periodically, as shown in Figure 7.23. In add ition, truck tires were brushed off prior to leaving the active area. While these efforts made a substantial impact on the amount of dust generated, there were still a few instances of exceedances. Some of these instances were due to circumstances beyond reasonable control.

Figure 7.23. Street Washing to Control Dust

Another measure to control odor or chemical emissions from the affected soil, included the covering of stockpiled material. While most of the affected soil was immediately hauled to the Tank Farm stockpile, any remaining material in the pit was either covered with clean fill or or a tarp. Figure 7.24 shows a small in-pit stockpile covered with a tarp.

Figure 7.24. Tarp Covering In-pit Stockpile

The Tank Farm stockpile area was designed to store affected soil before it was transported to the final storage area. Figure 7.25 shows a typical pile under the canopy prior to being loaded onto long-haul trucks.

Figure 7.25. Tank Farm Stockpile Area

The Tank Farm piles were covered with tarps or foam on a daily basis. Figure 7.26 shows the application of odor suppression foam to the pile.

Figure 7.26. Application of Odor Suppression Foam to Stockpile

Data on the effectiveness of the suppressant material are presented in Section 9.

Several pieces of pit equipment had soot and chemical traps installed that substantially reduced emissions. Figure 7.27 shows an emission stack with an oxidation catalyst installed.

Figure 7.27. Close up of control equipment on emission stack

The following filters were installed on various pieces of equipment:

- Four (4) DPX catalyzed soot filters (Engelhard): >90% PM reduction, >70% hydrocarbon reduction, >70% CO reduction;
- Fourteen (14) DVC oxidation catalysts (Engelhard): 20% PM reduction (soluble organic fraction only), >70% hydrocarbon reduction, >70% CO reduction.

The reductions are approximate, with actual performance depending on engine type, duty cycle, fuel and lubrication characteristics, etc. These specifications are based on the manufacturers' product information. No independent verification of these specifications were made.

7.1.3.5 Emissions Factor Calculations

Table 7.2 contains the results of using standard emission factors based on fuel usage to predict emission amounts for various constituents. These data were obtained from the Jacobs Engineering report presented to APCD on a monthly basis. This report was based on AP-42 emission factors and fuel usage as monitored by equipment operators. Figure 7.28 shows a plot of the fuel usage over the main project time line, with peak usage occurring in September 1999, when Cells 2 and 3 were both active.

Table 7.2. Project Emissions

Onsite Construction Emissions Mitigated Emissions					
	Fuel	Controlled (lb)			
	(gal/mo)	ROG	NOx	PM10ex	CO
Oct-98	1310	59	397	30	143
Nov-98	6006	389	1948	151	586
Dec-98	8713	303	3331	249	990
Jan-99	4078	110	1963	143	441
Feb-99	885	31	280	22	72
Mar-99	5480	161	1655	134	730
Apr-99	11109	255	4675	349	1399
May-99	12316	295	4598	351	1516
Jun-99	18356	357	7392	511	2326
Jul-99	20470	437	9020	605	2553
Aug-99	16441	331	6609	434	2117
Sep-99	41142	781	21637	1529	5219
Oct-99	16248	340	6051	392	2058
Nov-99	7897	156	2287	131	1085
Dec-99	5798	147	2465	158	746
Jan -00*	3174	101	888	77	271
Feb-00	3174	101	888	77	271
Mar-00	7376	197	1627	144	510
Total (lb)	189973	4551	77711	5487	23033
Total (ton)		2.2755	38.8555	2.7435	11.5165

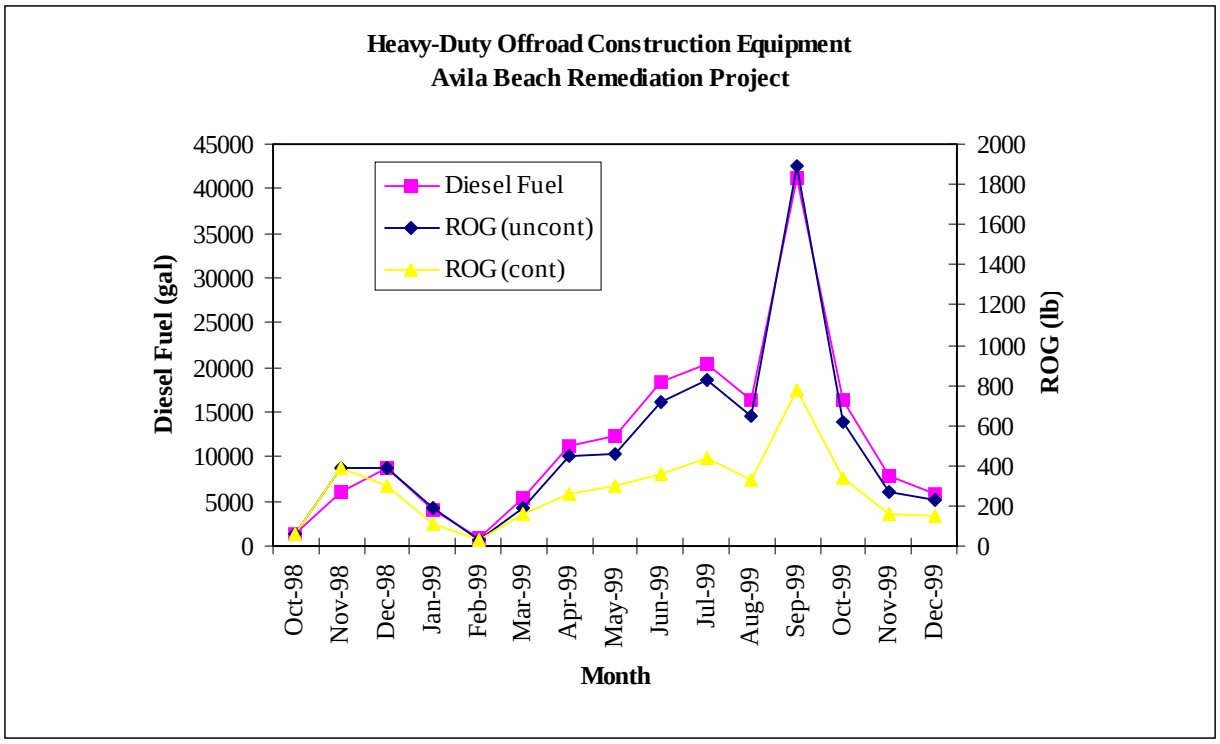


Figure 7.28. Fuel Usage and Emissions

7.2 SAMPLING AND MONITORING LOCATIONS

Sampling was conducted with integrated sample collection equipment, while monitoring was conducted with continuous or semicontinuous monitoring or analysis equipment. The sampling locations were fixed, while the monitoring locations varied according to current activities.

Sampling locations for integrated laboratory analysis samples for the CMP are indicated in Figure 7.29. The integrated sampling locations are identified by name and number. Only the sampling locations used are noted; a larger number was initially designated but some were never implemented due to various circumstances. Table 7.3 contains a list of all the integrated sampling locations used. Mobile monitoring locations were noted in a grid system and integrated with each set of data, as noted below.

The primary fixed sampling point was the rooftop of the Fire Station, location 5. This location was key to assessing the exposure of the main town population as it was located in the main residential area. In addition, it was downwind for much of the excavation period and was far back enough from specific activities to capture a range of potential emissions from the various sources on site.

Other locations were closer to the main project activities, such as Jacobs Office (location 1) and the corner of 1st and San Francisco (location 13). These locations were immediately impacted by site activities, particularly location 13, which captured direct emissions from truck traffic coming

in and out of the entrance to Cell 2 and from the old trailer park area where clean fill trucks passed through and adjusted their rigs.

Location 17 was added to the list and was a good sampling point due to its location downwind and its proximity to traffic along 1st and San Miguel Streets, which became heavier as cell 3 progressed.

The background location was used only sporadically at the beginning of the program until it was determined that an adequate number of background samples had been collected.

For mobile monitoring, the town was divided into grids approximately 100 feet square, following the same grid that Jacobs set forth for the excavation pit sampling. A numbering system for the field data allowed the field technicians to record the location of data collection and any notable observational comments, in addition to a hard copy of the output from the instruments. The grid points were associated with each point of data collected. These data were recorded manually along with the downloaded data files from the instruments and were input into the database. As a result, a fully searchable index of locations was available if necessary.

Due to somewhat predictable wind conditions and site activities, some locations were more commonly chosen for monitoring. A location along 1st near San Francisco was useful for the Cell 1 and Cell 2A and 2B work, particularly since it was along the main road used by the fill trucks. A location directly on San Francisco Street was also useful for the same reason, but was better for activities closer to the center of town.

Another frequent monitoring point was along 1st Street between San Miguel and San Juan. This location was favored due to its proximity to receptors along 1st Street and the potential coverage for a wide range of activities in Cells 2C and 3. Other frequent locations were on San Miguel near 1st Street, close to the Fire Station, and along San Miguel close to Front Street prior to its closing. Monitoring locations were typically moved once per day.

All samples, both real-time and integrated, were collected during daytime hours since the purpose of the program was to assess the impact of daytime site activities.

Table 7.3. Integrated Field Sampling Locations

Integrated Sampling Locations			
Site ID	**Designation**	**Description**	**Comments**
1	Jacob's Office	Adjacent to 479 First St.	Standard station
2	Beach	Between pier and restroom on beach	Baseline only
3	Triangle Park	Triangle park near Front St.	Baseline only
4	Post Office	Parking lot of Community Center	Operational
5	Fire Station	Fire Station rooftop	Operational
6	Scout House	At gate to Scout House	Baseline only
7	Unocal Fence line	At Unocal fence line. Near 1st St. /San Rafael St.	Baseline only
8	Bluff	Bluff on tank farm	Baseline only
9	Unocal pier	At end of Unocal pier	Upwind location
10	San Luis St.	250 San Luis St.	Never used
11	First St.	Front yard of 356 First St.	Never used
12	Front St.	Unocal Bldg. Rooftop	Used only two times.
13	1St. & San Francisco	Corner of First St. and San Francisco St.	Operational
14	First St. And San Antonia	Corner of First St. And san Antonia	Never used
15	Second St. Bluff	At end of Second St.	Never used
16	Avila Bay Inn	Southeast parking lot overlooking San Luis Creek.	Never used
17	Field	Field at corner of 1st and San Miguel	Operational

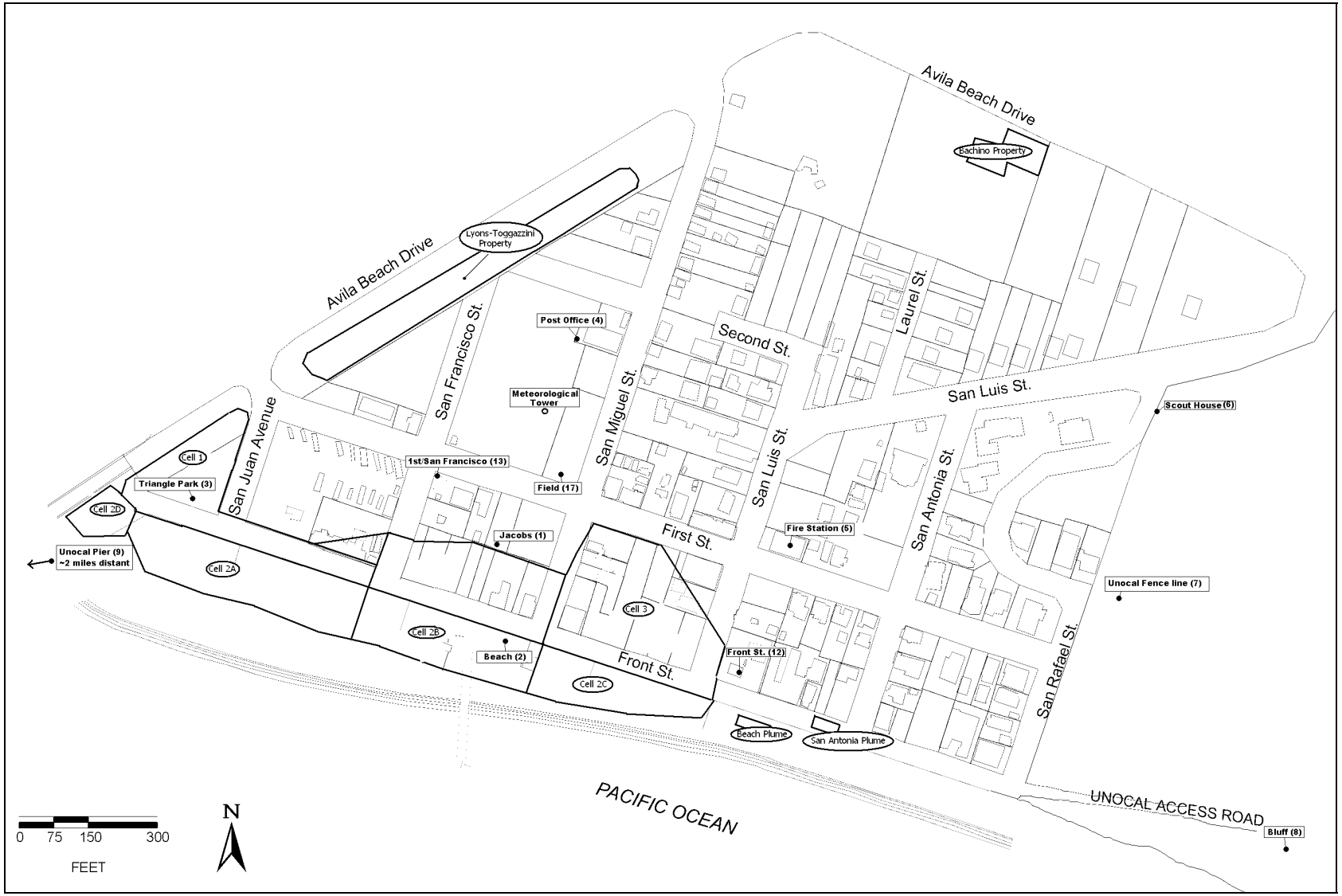


Figure 7.29. Map of Avila Beach with Integrated Sampling Locations

7.3 SITE METEOROLOGY

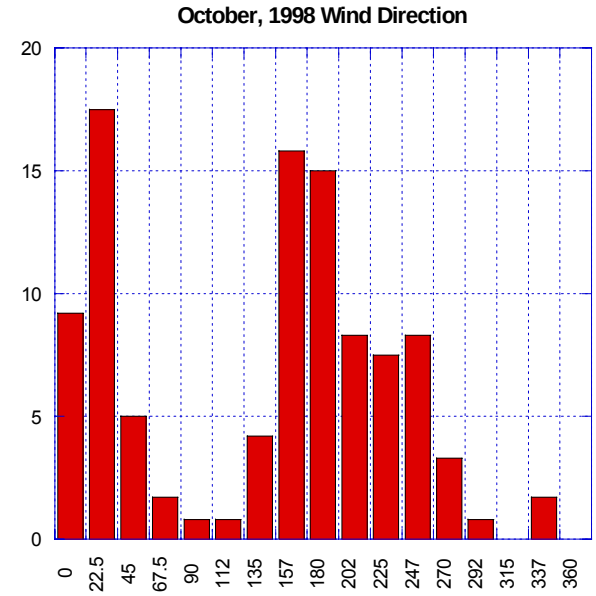
The general meteorology was typical of a seaside area—onshore flow during the day with offshore flow at night, and transitions between the two at various hours of the morning or evening. Daytime meteorology was only of particular interest as it interacted directly with project activities.

As discussed previously, wind speed and direction data were collected by several systems during different phase of the project. A detailed listing of the meteorology will not be presented here. The wind data for the Baseline and preconstruction period were not amenable to the database wind rose calculation, so histogram charts were used to represent the data trends. Figure 7.30 contains composite histogram plots of monthly wind speed and wind direction for the Baseline and preconstruction periods.

These data show that the dominant wind direction was out of the southern sectors, as is seen in the classic wind rose representations. As far as can be determined from long-term workers in the area, a review of informal hand notation data from the Tank Farm, and APCD observations, the wind data collected in 1998-2000 was representative of typical long-term conditions, although there is no other source of data available for comparison.

All wind speed is expressed in miles per hour, and direction is degree, and all direction data shows the direction the wind is coming from. Figure 7.30 shows frequency plots for wind speed and wind direction for the Preconstruction period. Data for this period was collected at the Tank Farm. Figure 7.31 contains wind roses for the main excavation and outlying property phases, from March, 1999 to April, 2000. These data were collected from the 10 meter tower in the contractors parking lot. These data show the typical trends as discussed above. Note that the scales for all these wind roses are identical. Figure 7.32 shows a summary project wind rose superimposed on a map of Avila Beach. The Figure indicates the tendency for emissions to disperse towards the town. This general pattern can be visualized for the various phases and activities, such as truck traffic up Front St.

Daily meteorological data are available from the project database, including micrometeorological data on a minute by minute basis at various monitoring sites. These data were used for the real-time examination of detected target parameters and to interpret downwind impacts. No long-term trends were expected from this set of data; however, the parking lot tower data with its more rigorous collection methods were intended for interpreting long-term trends, as discussed here.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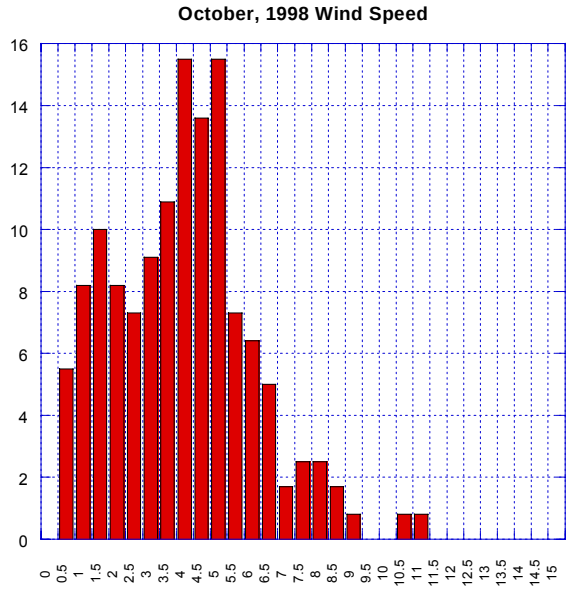
0 5 10 15 20
0 22.5 45 67.5 90 112 135 157 180 202 225 247 270 292 315 337 360


October, 1998 Wind Speed
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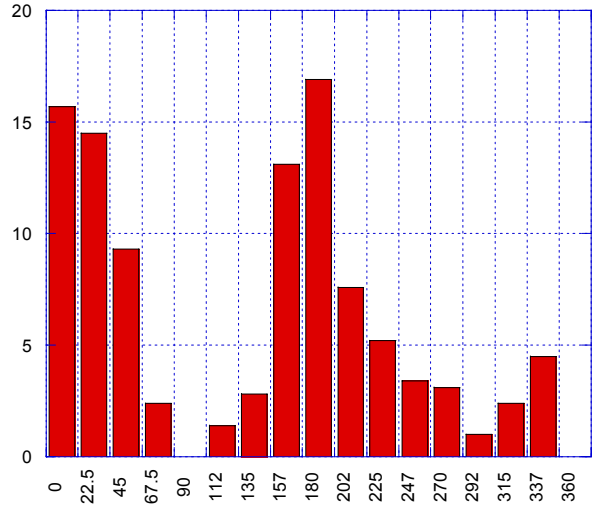
0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 5.5 6 6.5 7 7.5 8 8.5 9 9.5 10 10.5 11 11.5 12 12.5 13 13.5 14 14.5 15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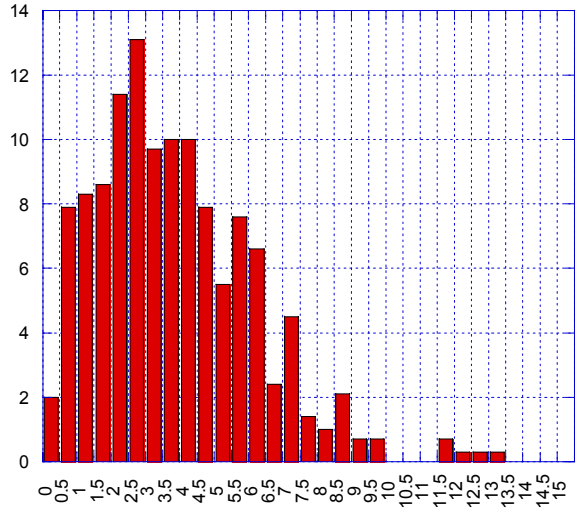
November, 1998 Wind Speed
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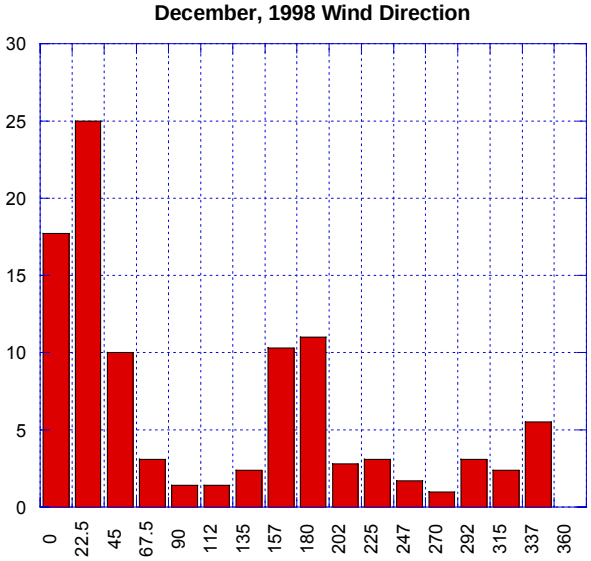
December, 1998 Wind Direction
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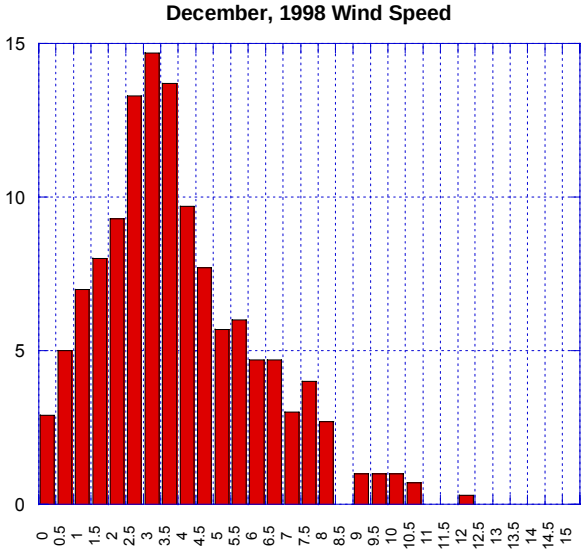
0 22.5 45 67.5 90 112 135 157 180 202 225 247 270 292 315 337 360


December, 1998 Wind Speed
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0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 5.5 6 6.5 7 7.5 8 8.5 9 9.5 10 10.5 11 11.5 12 12.5 13 13.5 14 14.5 15

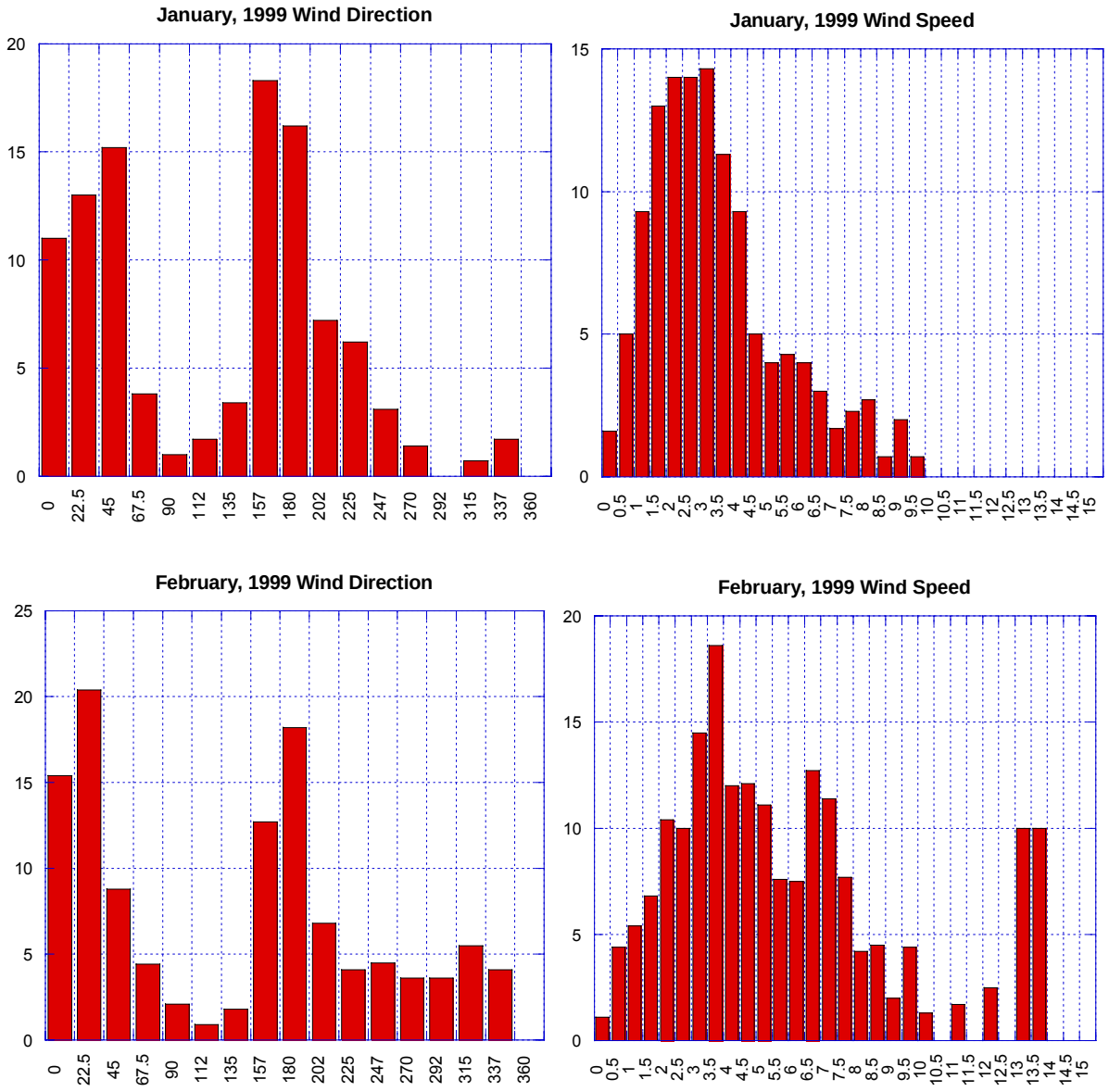
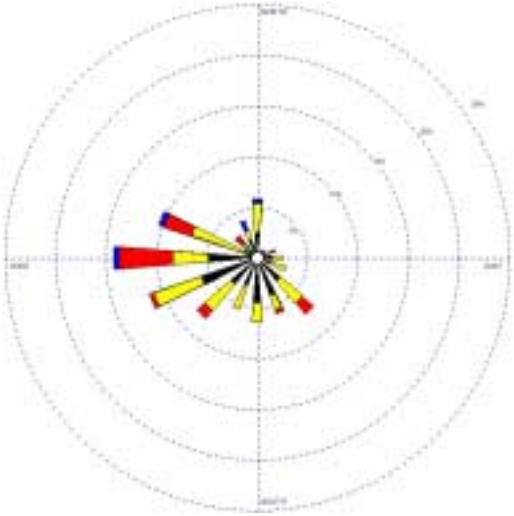


Figure 7.30. Meteorology Data for Baseline and Preconstruction Periods Collected at Tank Farm



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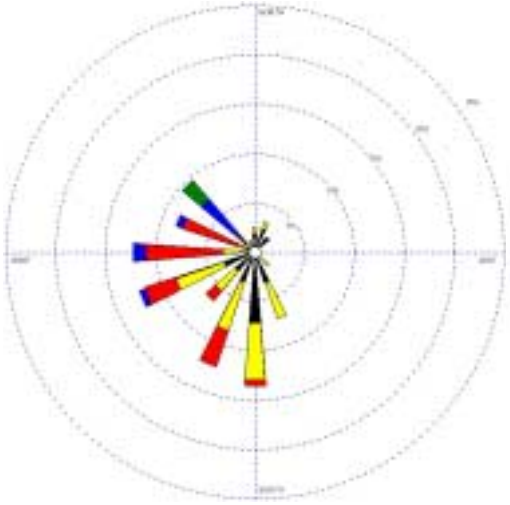
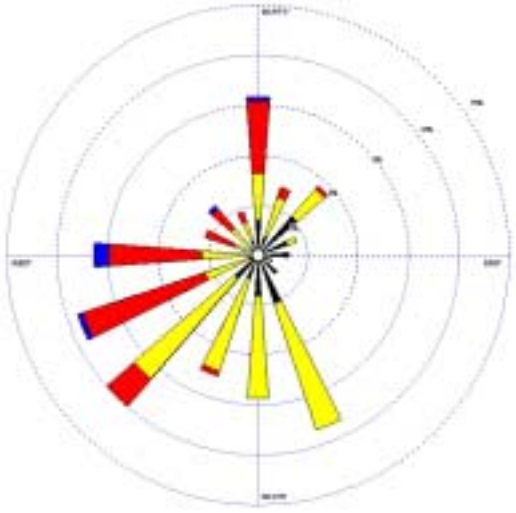
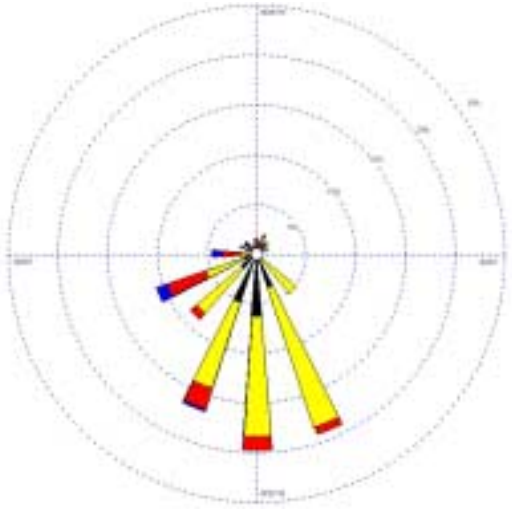


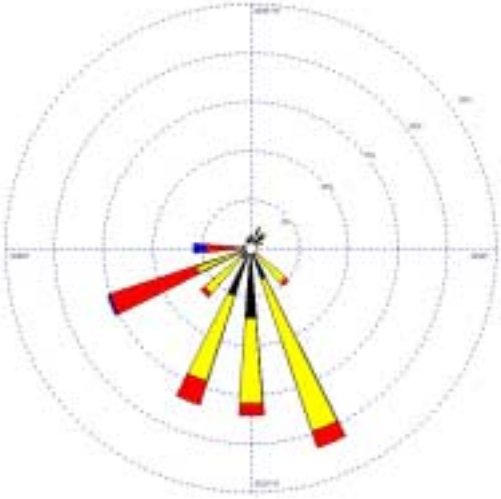
April



May



June



July

Aug

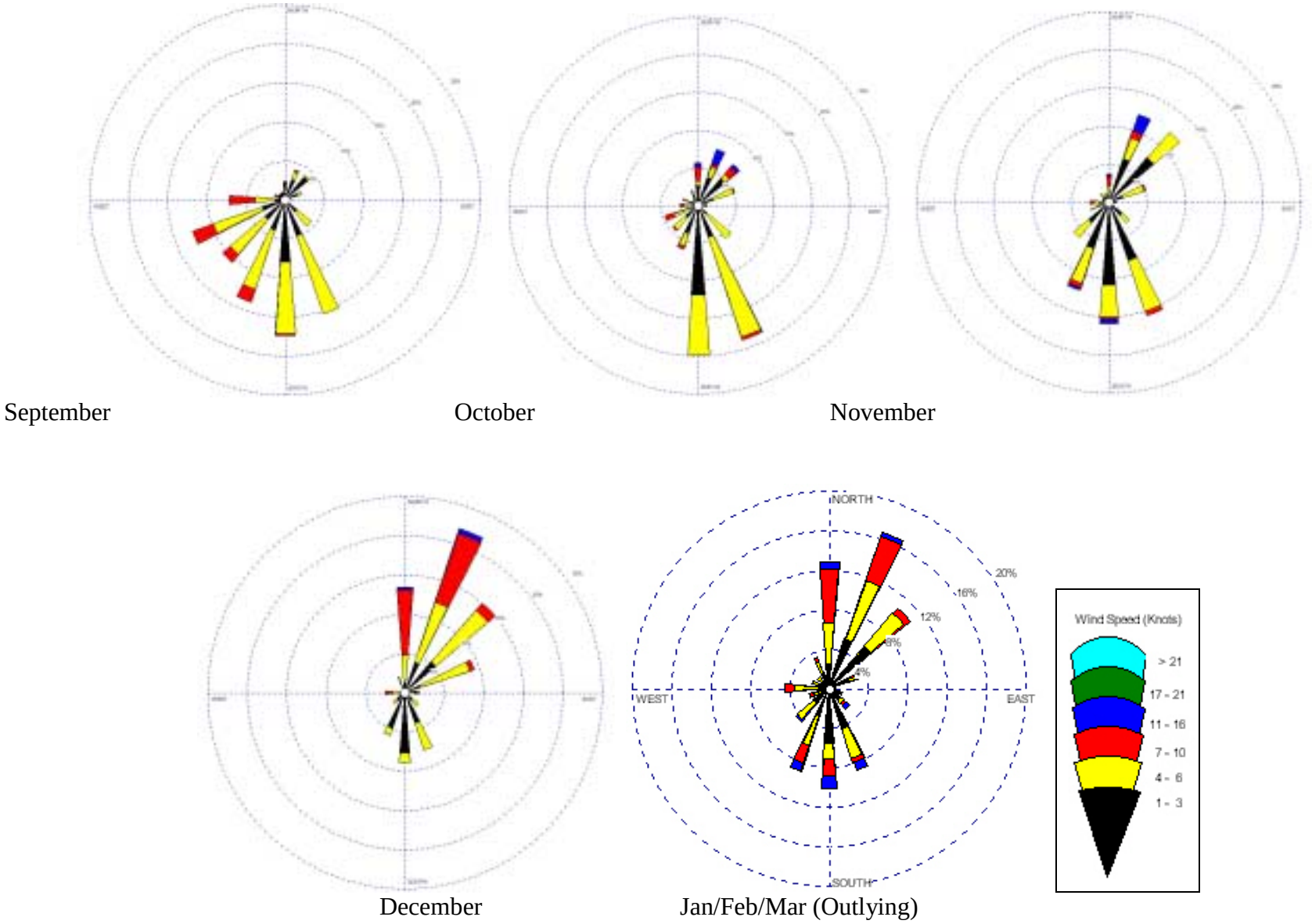


Figure 7.31. Wind roses for Excavation and Outlying Phases

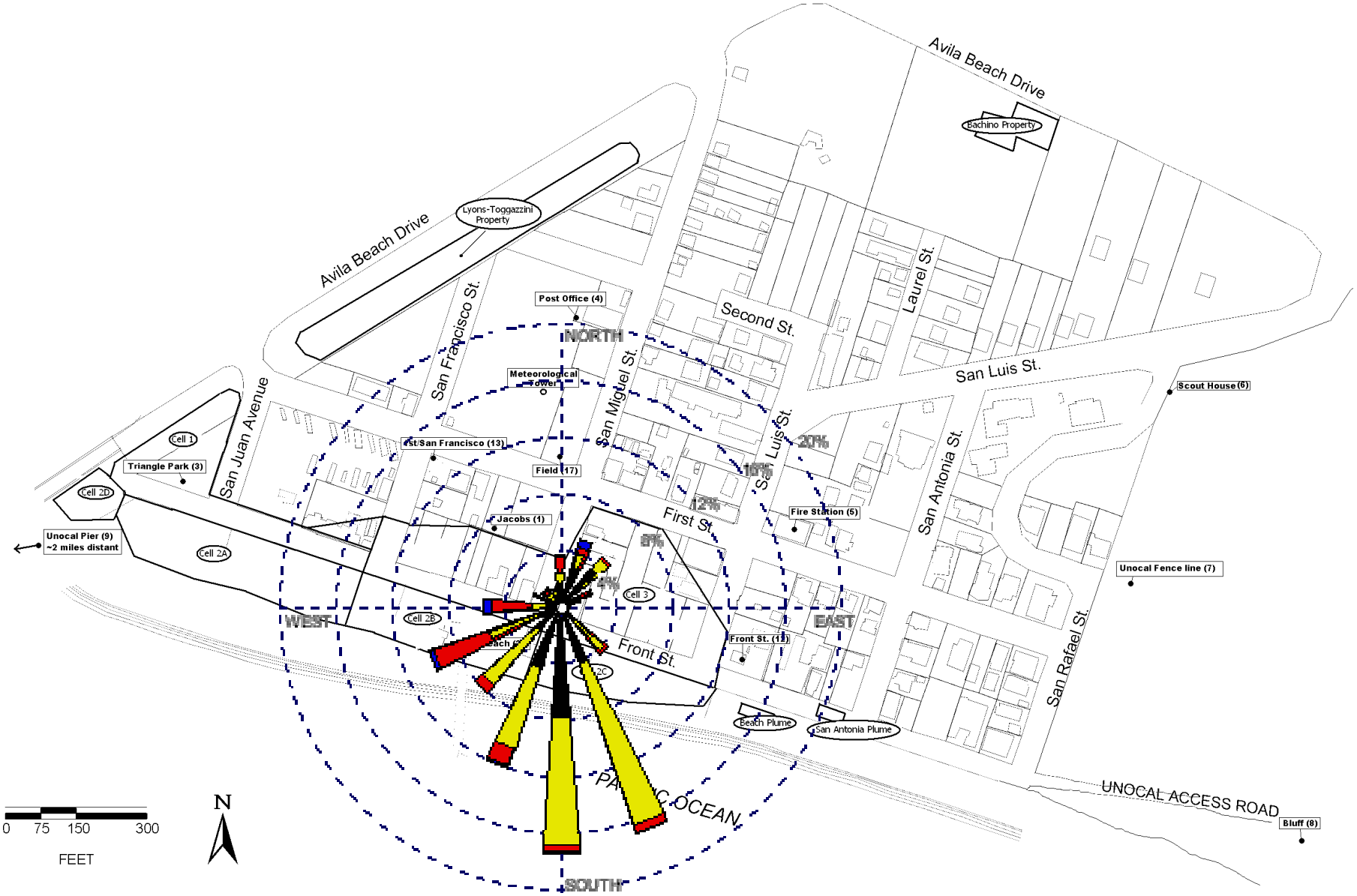


Figure 7.32. Project wind rose over map of town

7.4 BASELINE TEST PERIOD RESULTS

The Baseline Study was designed to collect data on Chemicals of Concern concentrations over a period during which little to no remediation activity was occurring. The Baseline Study was conducted from October 20 through October 30, 1998. The work plan for this program is included in Appendix B. The data collected in this effort were used in conjunction with previous data sets to provide a picture of the pre-excavation levels of the COCs, and were used along with other background information as input into risk assessment background determination. These data were not used for calculation of community exposure from the remediation, but for a determination of background in the town prior to major project activities.

7.5 TYPES OF EMISSION PRODUCING ACTIVITIES

Over the Baseline Study time period there was some sporadic site activity, mainly related to utility relocation, as discussed previously. These activities were sporadic at most and did not consistently produce emissions. It was concluded that this time period was representative of non-project background conditions.

Only daytime, time integrated samples were collected during this time period in order to capture the normal daytime emission profile. Only sporadic real-time data were collected but they were not tabulated nor put into the database. Table 7.4 shows the locations where samples were collected, as shown on the map in Figure 7.29.

Table 7.4. Sample Locations

Integrated Sampling Locations									
		Jacobs	**Beach**	**Triangle**	**Post Off.**	**Fire Sta.**	**Scout**	**UnoFence**	**Bluff**
Date	**Day**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
20-Oct-98	Tue		•	•	•				•
21-Oct-98	Wed	•	•	•	•	•	•	•	•
22-Oct-98	Thu	•	•	•	•	•	•		•
23-Oct-98	Fri	•	•	•	•	•	•	•	•
24-Oct-98	Sat				•	•			
25-Oct-98	Sun								
26-Oct-98	Mon	•	•	•	•	•	•	•	•
27-Oct-98	Tue								
28-Oct-98	Wed								
29-Oct-98	Thu	•	•	•					•
30-Oct-98	Fri	•	•	•		•			•

Since the sampling was not designed to be continuous, collection was sporadic and the data are best interpreted as averages. Table 7.5 shows the average of the baseline data for VOCs, including both carbonyl compounds and conventional volatile species. These data are reported

in ppbv, following convention for volatile species. This table includes the data for acrolein by Method TO-11, which was seen to be incorrect and which was replaced by Method TO-14 after April, 1999. Therefore, the data in this table for acrolein should be viewed with caution.

Table 7.6 shows the average for the PAH species, which include both the GC/MS full scan and SIM analyses. These data are reported in ug/m3, following convention for semivolatile compounds. Where SIM data are missing, the full scan are used. Otherwise, the SIM data are reported due to the lower detectability and the probability of a real detection due to the short sampling time.

Both the VOC and PAH data are plotted in Figures 7.35 and 7.36 on arbitrary concentration scales. Note that the full scale does not include the highest data point so that the lower levels could be more easily seen. These highest points were most likely due to contamination or a one-time anomaly, so putting in the full scale value would mis-represent the true magnitude of the concentrations detected.

Table 7.5. Baseline Study Average Data for Detected Volatile Organic Compounds

Compound	Ave. (ppbv)	Max (ppbv)
Acetaldehyde	1.10	1.83
Acetone	0.52	1.30
Acrolein*	0.02	0.03
Benzaldehyde	0.16	0.56
Benzene	0.13	0.62
1,3-Butadiene	0.13	0.62
Butyraldehyde	0.28	0.61
Cyclohexanone	0.02	0.03
1,2-Dibromoethane	0.08	0.15
Ethylbenzene	0.09	0.19
Formaldehyde	2.52	5.34
Freon 11	0.11	0.54
Hexaldehyde	0.26	0.95
m,p-Xylene	0.09	0.54
Methyl ethyl ketone	2.18	7.22
Methyl t-butyl ether	0.08	0.15
o-Xylene	0.19	0.73
Propionaldehyde	0.26	0.62
Toluene	0.40	0.73
Valeraldehyde	0.27	0.76

*Invalid data. See Section 9.

Table 7.6. Baseline Study Average Detected PAH Data

Compound	Ave. (ug/m3)	Max (ug/m3)
Full Scan data		
Acenaphthene	0.00418	0.03197
Acenaphthylene	0.00274	0.00504
Anthracene	0.00245	0.00450
Benzo(a)pyrene	0.00583	0.01070
Benzo(b)fluoranthene	0.00494	0.00908
Benzo(e)pyrene	0.00587	0.01079
Benzo(g,h,i)perylene	0.00573	0.01052
Benzo(k)fluoranthene	0.00441	0.00809
Benzo[a]anthracene	0.00382	0.00701
Chrysene	0.00362	0.00665
1,1-Biphenyl	0.01020	0.03849
Dibenzothiophene	0.00255	0.00507
Fluoranthene	0.00315	0.01019
Fluorene	0.00738	0.04073
Ideno(1,2,3-cd)pyrene	0.00602	0.01106
Naphthalene	0.08621	0.21860
Perylene	0.00588	0.01079
Phenanthrene	0.01268	0.06375
Pyrene	0.00175	0.00322
SIM data		
benz [a] anthracene	0.00049	0.00090
benzo (a) pyrene	0.00052	0.00132
benzo [b] fluoranthene	0.00051	0.00100
benzo [k] fluoranthene	0.00049	0.00090
chrysene	0.00081	0.00215
dibenz [a,h] anthracene	0.00057	0.00292
ideno (1,2,3-cd) pyrene	0.00059	0.00382

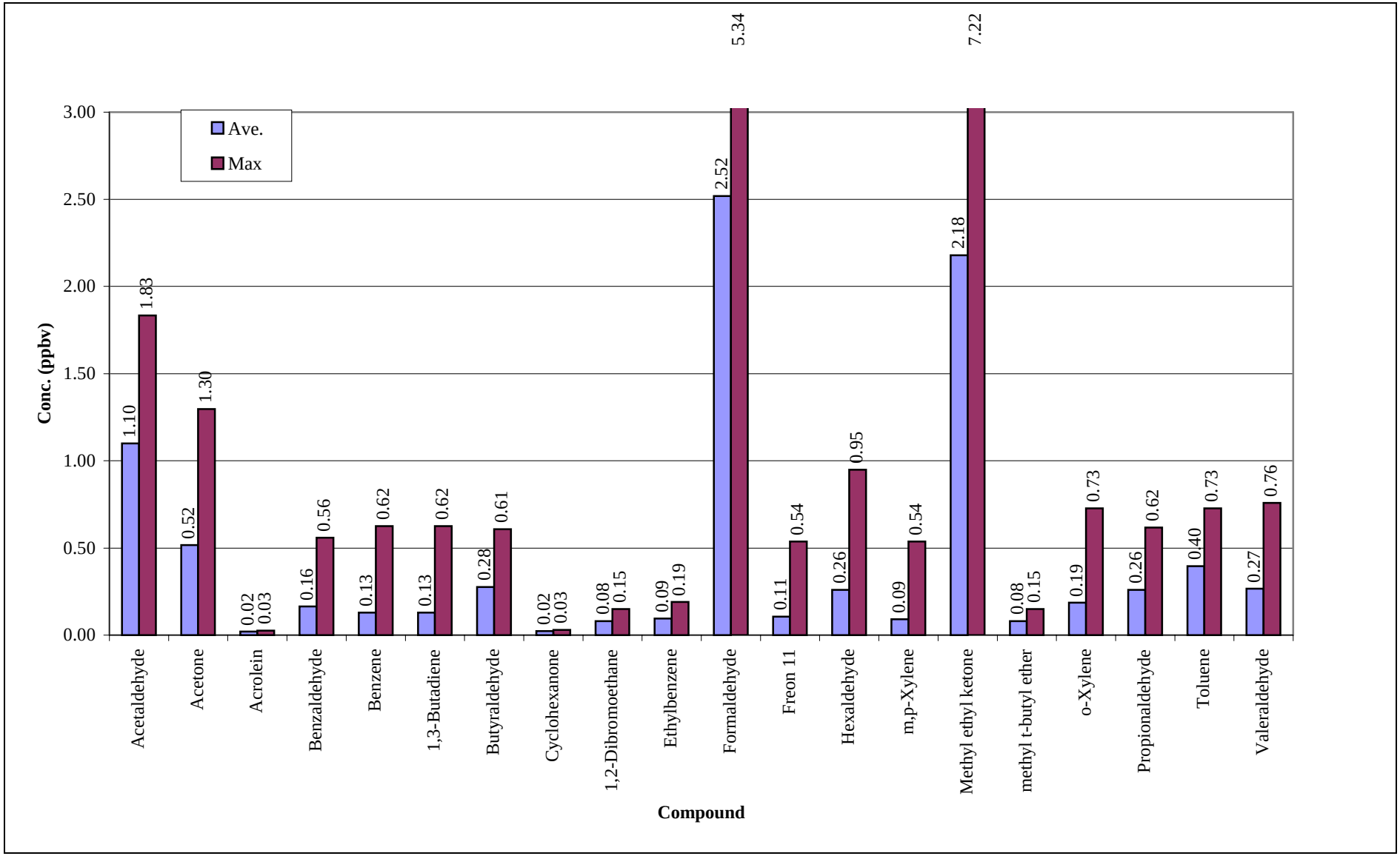


Figure 7.33. Baseline Study volatile organic compounds average concentrations

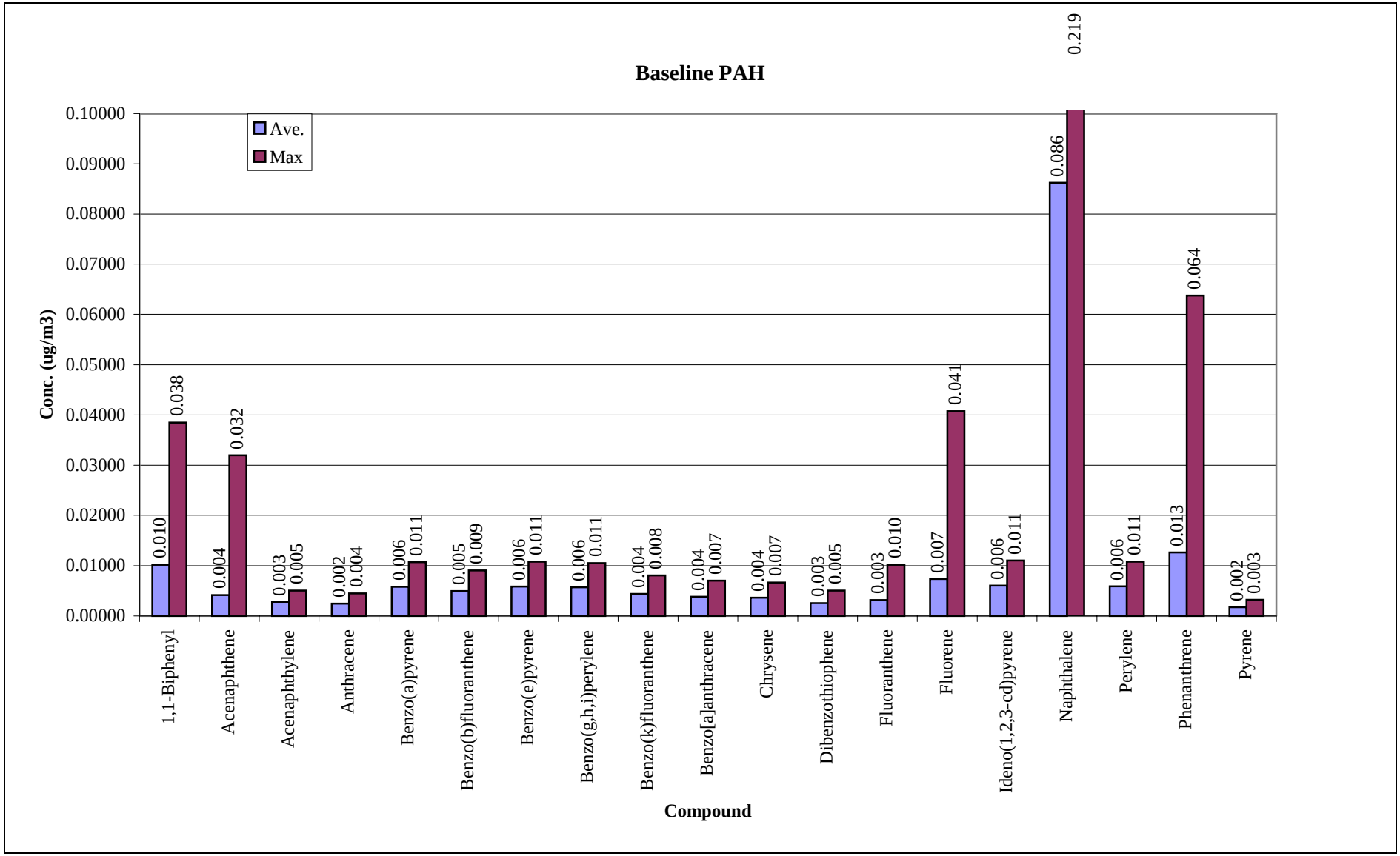


Figure 7.34. Baseline Study average PAH concentrations

In order to establish the background levels for the Chemicals of Concern for use in the the risk assessment, the Baseline Study data were used along with the background data obtained in previous studies or in Avila Beach background locations. The procedures used in this determination are presented in the risk assessment document, included as Appendix D.

7.6 PRECONSTRUCTION PERIOD

The Preconstruction period covered the interval from November 11, 1998 to February 27, 1999. Monitoring during this period commenced earlier than expected due to an incident in the community in which a residence experienced offgassing from the sewer system due to utility work nearby. The potential for concern over this incident prompted the start of continuous monitoring and sampling for both real-time and integrated methods. This effort rapidly expanded and continued throughout the 3+ months of site preparation before actual excavation began.

7.6.1 Site Activities

During the Preconstruction period, site preparation activities began in earnest. Major activities included project site preparation, preparation and demolition of buildings along Front Street, commencement of installation of sheet pile, etc. Table 7.7 contains a list of major activities. Table 7.8 contains a list of the major incidents responded to by the CMT.

Table 7.7. Major Phase Activities

DATE	KEY EVENT
11/15/1998	Beach soil augmentation commenced
12/2/1998	Demolition of Front St. buildings commenced
12/15/98	Other demolition conducted.
1/5/1999	Sheet pile installation begun
1/18/1999	Tank farm canopy installation begun.

Table 7.8. Major Incidents Responded to by CMT

DATE	INCIDENT
11/10/1998	Odor complaint due to gas emitted from backed up sewer system. Utility work was being conducted nearby. CMT responded within 4 minutes of the call from APCD.
11/25/1998	Dust complaint from resident stating that her house was being inundated with project dust. APCD contacted and blinds and other materials removed by APCD for further testing.
1/7/1999	Notification that the fire department has received at least three complaints from neighbors regarding the noise from the monitoring equipment on their roof. Chief Gorman was advised that CMT would place a sound barrier around the base of the sampler stand to muffle as much noise as possible without affecting the sampler.
1/11/1999	At about 13:25 the CMT observed a dust "plume" coming form the community center parking lot as a result of a strong wind gust. A water trunk was deployed to suppress the dust. The APCD was notified at about 14:50 that visible dust had been observed but that an exceedance had not occurred.
1/16/1999	Possible exceedance (of preliminary PAH triggers) of total PAH on two occasions: a 5 minute exceedance at 8:35 and a 10 minute exceedance at 14:10. Due to nearby trucks
1/28/1999	Re-entrained road dust was observed at the corner of First St. and San Miguel St. by the CMT. The APCD was notified at 15:00. Mitigation measures to control the dust included re-routing the dump trucks going to the tank farm to the Cave Landing Rd. route, and the use of water on San Francisco St. and First St.
1/29/1999	An odor was detected in the localized work area. No odors were detected past Front St. or in the community. No target substances were exceeded.
2/5/1999	A complaint was received at 15:45 from the Jacobs Ombudsman regarding the noise of the Hi-Vol PUF on the Fire Station roof. CMT confirmed that the sampler was operating correctly and assured the source of the complaint that steps had been taken to reduce the noise. Further steps were investigated.
2/11/1999	A second complaint from the same source as above was received at 16:30 regarding the noise from the PUF sampler on the Fire Station roof. The CMT repositioned the sampler and the exhaust hose to reduce noise in his direction. A significant reduction in noise was achieved.

7.6.2 Monitoring Locations

Table 7.9 contains a comprehensive list of the integrated sampling conducted during the Preconstruction phase. For the majority of this time period, two locations were sampled—the Fire Station and the Community Center parking lot. Various other locations were sampled for special purposes, such as the Unocal pier for background determination, and Front Street locations to capture emissions from test truck runs.

Table 7.10 contains a list of the real-time monitoring locations. The real-time monitoring started on a sporadic basis in November as time was needed to mobilize, configure and train the field technician crew. In addition, the data collection procedures were still being worked out and the database was not in operation. Hard copy data were recorded during this time period but were

not input into the database. Data collection for input into the database began on December 15., 1999. By that time, many of the technical issues with the instruments had been resolved and routine monitoring was in progress.

Table 7.9. Integrated Sampling Locations for Preconstruction Phase

		Integrated Sampling Locations							
Date	**Day**	**JEG-1**	**PO Lot-4**	**Fire Sta.-5**	**Field-17**	**1st/SF-13**	**Uno Pier-9**	**Front St.-12**	**UnoFence-7**
11-Nov-98	Wed			•					
12-Nov-98	Thu			•					
13-Nov-98	Fri			•					
14-Nov-98	Sat								
15-Nov-98	Sun								
16-Nov-98	Mon			•					
17-Nov-98	Tue			•					
18-Nov-98	Wed			•					
19-Nov-98	Thu		•	•					
20-Nov-98	Fri			•					
21-Nov-98	Sat								
22-Nov-98	Sun								
23-Nov-98	Mon		•	•					
24-Nov-98	Tue		•	•					
25-Nov-98	Wed		•	•					
26-Nov-98	Thu								
27-Nov-98	Fri								
28-Nov-98	Sat								
29-Nov-98	Sun								
30-Nov-98	Mon		•	•					
1-Dec-98	Tue		•	•					
2-Dec-98	Wed		•	•					
3-Dec-98	Thu		•	•					
4-Dec-98	Fri		•	•					
5-Dec-98	Sat								
6-Dec-98	Sun								
7-Dec-98	Mon		•	•					
8-Dec-98	Tue		•	•					•
9-Dec-98	Wed		•	•			•		
10-Dec-98	Thu		•	•					
11-Dec-98	Fri		•	•					

		Integrated Sampling Locations							
Date	**Day**	**JEG-1**	**PO Lot-4**	**Fire Sta.-5**	**Field-17**	**1st/SF-13**	**Uno Pier-9**	**Front St.-12**	**UnoFence-7**
12-Dec-98	Sat								
13-Dec-98	Sun								
14-Dec-98	Mon		•	•			•		
15-Dec-98	Tue		•	•					
16-Dec-98	Wed		•	•					
17-Dec-98	Thu		•	•					
18-Dec-98	Fri		•	•					
19-Dec-98	Sat								
20-Dec-98	Sun								
21-Dec-98	Mon		•	•					
22-Dec-98	Tue		•	•					
23-Dec-98	Wed		•	•					
24-Dec-98	Thu								
25-Dec-98	Fri								
26-Dec-98	Sat								
27-Dec-98	Sun								
28-Dec-98	Mon		•	•					
29-Dec-98	Tue		•	•					
30-Dec-98	Wed		•	•					
31-Dec-98	Thu		•	•					
1-Jan-99	Fri								
2-Jan-99	Sat								
3-Jan-99	Sun								
4-Jan-99	Mon		•	•					
5-Jan-99	Tue		•	•					
6-Jan-99	Wed		•	•					
7-Jan-99	Thu		•	•				•	•
8-Jan-99	Fri		•	•				•	•
9-Jan-99	Sat								
10-Jan-99	Sun								
11-Jan-99	Mon		•	•					
12-Jan-99	Tue		•	•					
13-Jan-99	Wed		•	•					

		Integrated Sampling Locations							
Date	**Day**	**JEG-1**	**PO Lot-4**	**Fire Sta.-5**	**Field-17**	**1st/SF-13**	**Uno Pier-9**	**Front St.-12**	**UnoFence-7**
14-Jan-99	Thu		•	•					
15-Jan-99	Fri		•	•					
16-Jan-99	Sat								
17-Jan-99	Sun								
18-Jan-99	Mon		•	•					
19-Jan-99	Tue		•	•					
20-Jan-99	Wed		•	•					
21-Jan-99	Thu		•	•					
22-Jan-99	Fri		•	•					
23-Jan-99	Sat								
24-Jan-99	Sun								
25-Jan-99	Mon		•	•					
26-Jan-99	Tue		•	•					
27-Jan-99	Wed		•	•					
28-Jan-99	Thu		•	•					
29-Jan-99	Fri		•	•					
30-Jan-99	Sat								
31-Jan-99	Sun								
1-Feb-99	Mon		•	•					
2-Feb-99	Tue		•	•					
3-Feb-99	Wed		•	•					
4-Feb-99	Thu		•	•					
5-Feb-99	Fri		•	•					
6-Feb-99	Sat								
7-Feb-99	Sun								
8-Feb-99	Mon		•	•					
9-Feb-99	Tue		•	•					
10-Feb-99	Wed		•	•					
11-Feb-99	Thu		•	•			•		
12-Feb-99	Fri								
13-Feb-99	Sat								
14-Feb-99	Sun								
15-Feb-99	Mon		•	•			•		

		Integrated Sampling Locations							
Date	**Day**	**JEG-1**	**PO Lot-4**	**Fire Sta.-5**	**Field-17**	**1st/SF-13**	**Uno Pier-9**	**Front St.-12**	**UnoFence-7**
16-Feb-99	Tue		•	•			•		
17-Feb-99	Wed		•	•			•		
18-Feb-99	Thu		•	•			•		
19-Feb-99	Fri								
20-Feb-99	Sat								
21-Feb-99	Sun								
22-Feb-99	Mon		•	•					
23-Feb-99	Tue		•	•					
24-Feb-99	Wed		•	•					
25-Feb-99	Thu		•	•					
26-Feb-99	Fri		•	•					
27-Feb-99	Sat								
28-Feb-99	Sun								

Table 7.10. Real-time Monitoring Data Collection during Preconstruction Phase

Real-Time Monitoring Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
10-Nov-98	Tue										
11-Nov-98	Wed										
12-Nov-98	Thu										
13-Nov-98	Fri										
14-Nov-98	Sat										
15-Nov-98	Sun										
16-Nov-98	Mon										
17-Nov-98	Tue										
18-Nov-98	Wed										
19-Nov-98	Thu										
20-Nov-98	Fri										
21-Nov-98	Sat										
22-Nov-98	Sun										
23-Nov-98	Mon										
24-Nov-98	Tue										
25-Nov-98	Wed										
26-Nov-98	Thu										
27-Nov-98	Fri										
28-Nov-98	Sat										
29-Nov-98	Sun										
30-Nov-98	Mon										
1-Dec-98	Tue										
2-Dec-98	Wed										
3-Dec-98	Thu										
4-Dec-98	Fri										
5-Dec-98	Sat										
6-Dec-98	Sun										
7-Dec-98	Mon										
8-Dec-98	Tue										
9-Dec-98	Wed										

Preconstruction Monitoring--field portable instruments were used during major preparation activities. Data from this period is not included in the data base. The data base time period for real-time instruments starts on December 15, 1998.

Real-Time Monitoring Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
10-Dec-98	Thu										
11-Dec-98	Fri										
12-Dec-98	Sat										
13-Dec-98	Sun										
14-Dec-98	Mon										
15-Dec-98	Tue		•	•	•		•			•	•
16-Dec-98	Wed		•	•	•		•			•	•
17-Dec-98	Thu			•	•		•			•	
18-Dec-98	Fri			•	•		•			•	
19-Dec-98	Sat				•		•			•	•
20-Dec-98	Sun										
21-Dec-98	Mon		•		•		•			•	•
22-Dec-98	Tue				•		•			•	•
23-Dec-98	Wed		•	•	•		•			•	•
24-Dec-98	Thu										
25-Dec-98	Fri										
26-Dec-98	Sat										
27-Dec-98	Sun										
28-Dec-98	Mon		•		•		•			•	•
29-Dec-98	Tue		•	•	•		•			•	•
30-Dec-98	Wed		•	•	•		•			•	•
31-Dec-98	Thu		•	•	•		•			•	•
1-Jan-99	Fri										
2-Jan-99	Sat										
3-Jan-99	Sun										
4-Jan-99	Mon		•	•	•		•			•	
5-Jan-99	Tue		•	•	•		•			•	
6-Jan-99	Wed		•	•	•		•			•	
7-Jan-99	Thu		•	•	•		•			•	•
8-Jan-99	Fri				•		•			•	
9-Jan-99	Sat										
10-Jan-99	Sun										

Real-Time Monitoring Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
11-Jan-99	Mon		•	•	•		•			•	
12-Jan-99	Tue		•	•	•		•			•	
13-Jan-99	Wed		•	•	•		•			•	
14-Jan-99	Thu		•	•	•		•			•	
15-Jan-99	Fri		•	•	•		•			•	
16-Jan-99	Sat		•	•	•		•			•	
17-Jan-99	Sun										
18-Jan-99	Mon		•	•	•		•			•	
19-Jan-99	Tue		•	•			•			•	
20-Jan-99	Wed		•	•	•		•			•	
21-Jan-99	Thu		•	•	•		•			•	
22-Jan-99	Fri		•	•	•		•			•	
23-Jan-99	Sat										
24-Jan-99	Sun										
25-Jan-99	Mon		•	•	•		•			•	
26-Jan-99	Tue		•	•	•		•			•	
27-Jan-99	Wed		•	•	•		•			•	
28-Jan-99	Thu		•	•	•		•			•	
29-Jan-99	Fri		•	•	•		•			•	
30-Jan-99	Sat										
31-Jan-99	Sun										
1-Feb-99	Mon		•	•	•		•			•	
2-Feb-99	Tue		•	•	•		•			•	
3-Feb-99	Wed		•		•	•	•			•	
4-Feb-99	Thu		•	•	•	•				•	
5-Feb-99	Fri		•	•							•
6-Feb-99	Sat										
7-Feb-99	Sun										
8-Feb-99	Mon		•							•	
9-Feb-99	Tue		•	•							
10-Feb-99	Wed		•	•							
11-Feb-99	Thu		•	•							

Real-Time Monitoring Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
12-Feb-99	Fri										
13-Feb-99	Sat										
14-Feb-99	Sun										
15-Feb-99	Mon		•								
16-Feb-99	Tue		•	•							
17-Feb-99	Wed		•	•							
18-Feb-99	Thu		•			•					
19-Feb-99	Fri										
20-Feb-99	Sat										
21-Feb-99	Sun										
22-Feb-99	Mon	•	•	•	•	•	•			•	
23-Feb-99	Tue	•	•	•	•	•	•			•	
24-Feb-99	Wed	•	•	•	•	•	•			•	
25-Feb-99	Thu	•		•							
26-Feb-99	Fri	•		•	•	•	•				
27-Feb-99	Sat	•		•	•	•					
28-Feb-99	Sun										

Abbreviations
AETH: aethalometer—diesel exhaust;
PAS: PAS2000—particulate bound PAH;
DR: DataRAM 2000—PM2.5;
PDR: personal DataRAM 1000—PM10
J1: Jerome—Hydrogen sulfide
J2: Jerome—Hydrogen sulfide
J8: Jerome—Hydrogen sulfide
V204: Voyager GC/PID—BTEX, 1,3-butadiene
V301: Voyager GC/PID—BTEX, 1,3-butadiene
V303: Voyager GC/PID—BTEX, 1,3-butadiene

7.6.3 Data Presentation

Table 7.11 contains the average VOC concentrations detected over the preconstruction period and Figure 7.35 contains a plot of these data. The maximum value corresponds to a single sample and does not reflect the overall status of the measured air. The plot contains some high, outlier values for benzene and toluene, all of which contribute to higher overall averages. As no concentrations as high as these were recorded throughout the remainder of the project, these values were likely anomalies and did not represent actual conditions. These values occurred in the same short period in early February along with high values of hydrocarbons. The GC/MS data did not record as high values for that time period but are still higher than average. Regardless, as there was no specific reason to reject these data, they are included in the data reporting.

Table 7.11. Preconstruction Period Average Concentrations of Volatile Organic Compounds

Compound	Ave (ppbv)	Max (ppbv)
Acetaldehyde	0.65	1.56
Acetone	0.64	1.73
Benzaldehyde	0.10	0.32
Benzene	1.52	11.03
Butadiene,1,3-	0.08	0.11
Butyraldehyde	0.07	0.24
Cyclohexanone	0.03	0.04
Dibromoethane,1,2-	0.08	0.11
Dichloroethane,1,2-	0.08	0.11
Ethylbenzene	0.08	0.17
Formaldehyde	1.32	3.97
Freon 11	0.12	0.23
Hexaldehyde	0.05	0.16
Methyl ethyl ketone	1.23	2.75
Methyl t-butyl ether	0.08	0.26
Propionaldehyde	0.11	0.39
Toluene	0.84	6.43
Valeraldehyde	0.10	0.38
Xylene,m,p-	0.17	0.69
Xylene,o-	0.09	0.19

The average of the integrated PAH analyses are contained in Table 7.12 and Figure 7.36. These data show low levels of most compounds, although a high level of naphthalene. High levels of naphthalene are not unusual and are generally attributed to higher ambient levels in the atmosphere and frequent contamination in the laboratory analysis or sample media. A discussion of the naphthalene laboratory issue is contained in Section 9. Note that in Table 7.12 the lower case compound names are indicative of the higher sensitivity SIM analysis.

Table 7.12. Preconstruction Period Average PAH Concentrations

Compound	Ave. (ug/m3)	Max (ug/m3)
Acenaphthene	0.00350	0.02042
Acenaphthylene	0.00268	0.00676
Anthracene	0.00246	0.00676
benz [a] anthracene	0.00054	0.00263
benzo (a) pyrene	0.00042	0.00144
benzo [b] fluoranthene	0.00056	0.00335
benzo [k] fluoranthene	0.00038	0.00114
Benzo(a)pyrene	0.00464	0.00764
Benzo(b)fluoranthene	0.00407	0.00676
Benzo(e)pyrene	0.00456	0.00771
Benzo(g,h,i)perylene	0.00457	0.00752
Benzo(k)fluoranthene	0.00372	0.00676
Benzo[a]anthracene	0.00334	0.00676
Biphenyl,1,1-	0.00963	0.02437
Chrysene	0.00322	0.00676
chrysene	0.00191	0.00589
dibenz [a,h] anthracene	0.00043	0.00103
Dibenz(a,h)anthracene	0.00596	0.01034
Dibenzothiophene	0.00190	0.00321
Fluoranthene	0.00288	0.00678
Fluorene	0.00493	0.02208
ideno (1,2,3-cd) pyrene	0.00043	0.00110
Ideno(1,2,3-cd)pyrene	0.00476	0.00790
Naphthalene	0.06970	0.22256
Perylene	0.00467	0.00771
Phenanthrene	0.00902	0.03591
Pyrene	0.01039	0.01934

(Lower case compound names indicate SIM analysis)

Data for the Preconstruction period are contained in Tables 7.13 to 7.16. Tables 7.13 and 7.14 contain daily and overall averages of the real-time data for volatiles and Tables 7.15 and 7.16 contain daily and overall averages of the real-time data for particulates. Figures 7.35 and 7.36 contain plots of the data. It should be noted that the concentration scale is arbitrary on these plots in order to show the lower concentration detections. The highest concentrations were significantly higher and do not represent typical concentrations detected.

Blank entries in these table represent periods in which either the instrument had not yet been placed in service or were out of service on that particular day.

As is evident from the concentrations recorded, volatile constituents were not frequently detectable—the majority were non-detect. The average noted is highly influenced by a large number of non-detects, with half the detection limit being used in the calculation of the average in the place of a detection value.

The particulate data appear representative of general low-level impacts to the atmosphere during the preconstruction period. The aethalometer data collection commenced on February 22, later on in the Preconstruction period, and the data set does not include impacts from the sheet pile operations that were seen later to have a higher impact on downwind particulate concentrations.

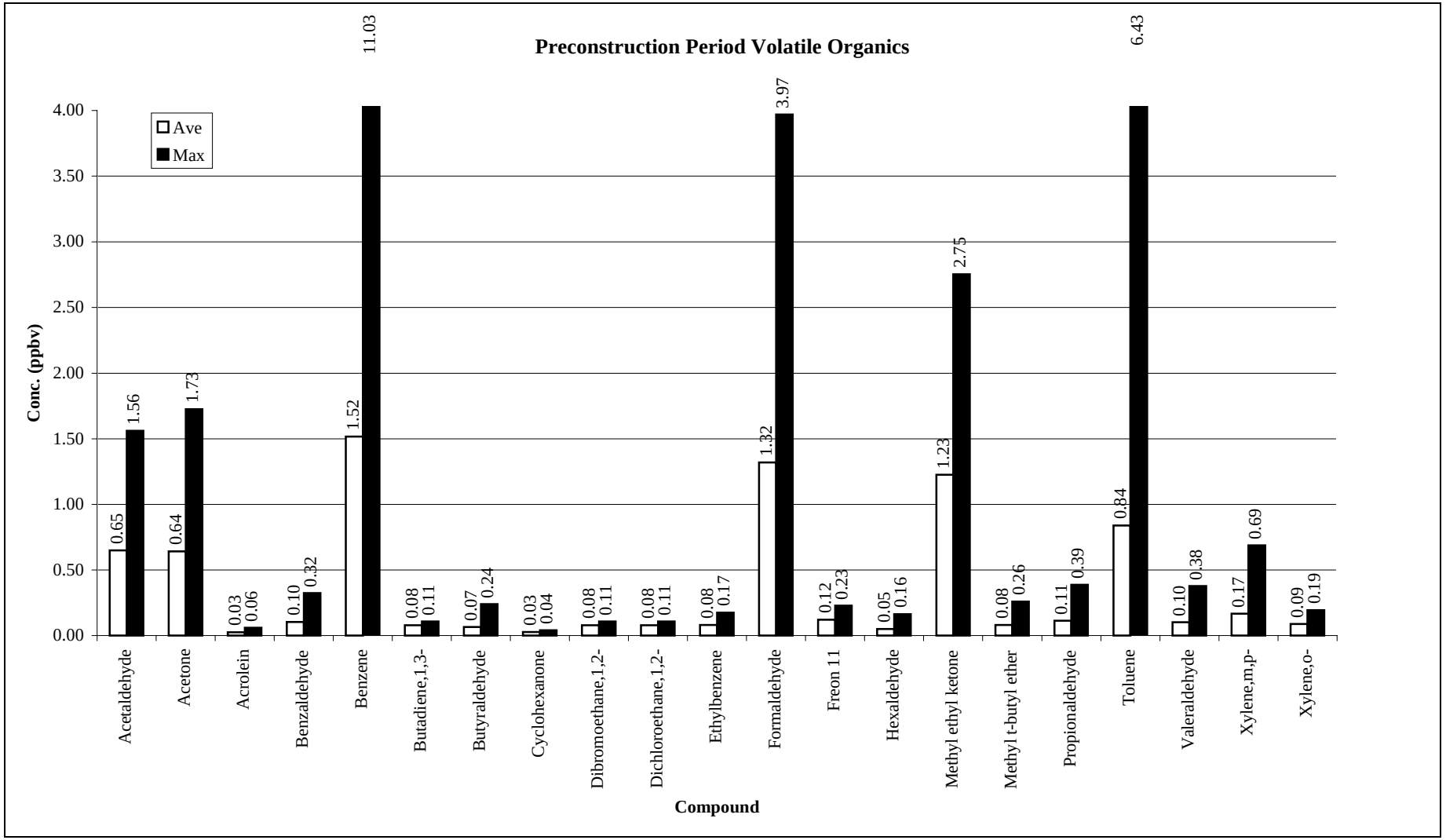


Figure 7.35. Preconstruction Period Volatile Organic Concentrations

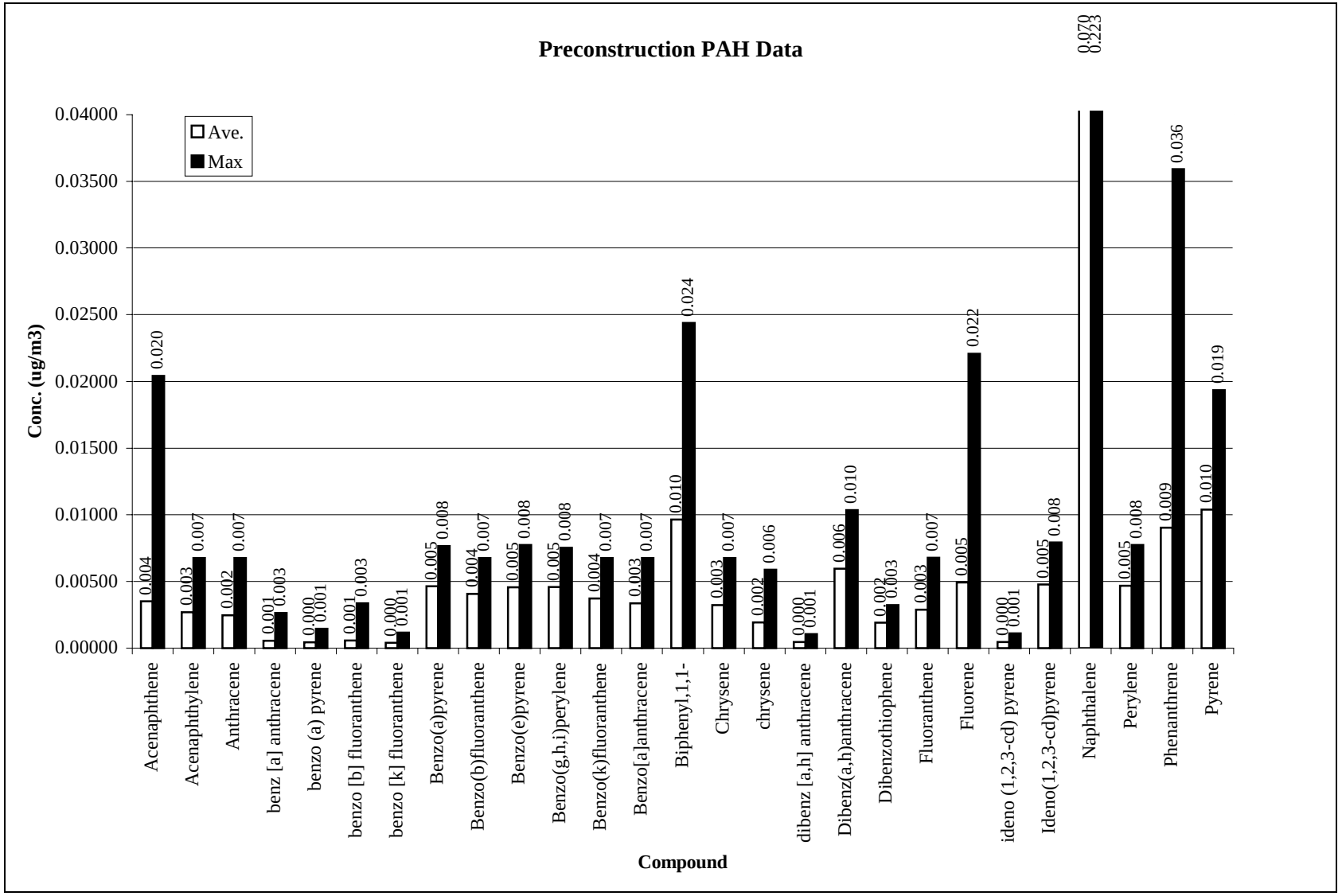


Figure 7.36. Preconstruction Period PAH Concentrations

Table 7.13. Daily Real-time Data for Volatiles during Preconstruction Period (units: ppbv)

Dates	Benzene	Ethylbenzene	Toluene	Xylene	1,3 Butadiene	H2S
1998/12/15	0.0015	0.0037	0.0034	0.0038		0.0050
1998/12/16	0.0015	0.0035	0.0038	0.0044		0.0054
1998/12/17	0.0015	0.0015	0.0015	0.0025		0.0027
1998/12/18	0.0015	0.0080	0.0080	0.0160		0.0016
1998/12/19	0.0015	0.0038	0.0033	0.0039		0.0015
1998/12/21	0.0015	0.0033	0.0029	0.0036		0.0058
1998/12/22	0.0015	0.0041	0.0035	0.0041		0.0056
1998/12/23	0.0015	0.0080	0.0080	0.0160		0.0081
1998/12/28	0.0015	0.0080	0.0082	0.0160		0.0030
1998/12/29	0.0015	0.0080	0.0083	0.0160		0.0041
1998/12/30	0.0015	0.0038	0.0033	0.0039		0.0036
1998/12/31	0.0015	0.0035	0.0031	0.0038		0.0027
1999/01/04	0.0015	0.0015	0.0015	0.0025		0.0054
1999/01/05	0.0015	0.0015	0.0015	0.0025		0.0056
1999/01/06	0.0015	0.0015	0.0015	0.0025		0.0049
1999/01/07	0.0015	0.0073	0.0069	0.0121		0.0028
1999/01/08	0.0015	0.0015	0.0015	0.0025		0.0066
1999/01/11	0.0015	0.0015	0.0015	0.0025		0.0042
1999/01/12	0.0015	0.0015	0.0016	0.0025		0.0032
1999/01/13	0.0015	0.0015	0.0015	0.0025		0.0035
1999/01/14	0.0015	0.0024	0.0018	0.0134		0.0064
1999/01/15	0.0015	0.0015	0.0015	0.0025		0.0076
1999/01/16	0.0015	0.0015	0.0015	0.0025		0.0018
1999/01/18	0.0015	0.0015	0.0015	0.0025		0.0015
1999/01/19	0.0015	0.0015	0.0017	0.0025		0.0015
1999/01/20	0.0015	0.0015	0.0015	0.0025		0.0015
1999/01/21	0.0015	0.0015	0.0015	0.0025		0.0040
1999/01/22	0.0015	0.0015	0.0015	0.0025		0.0015
1999/01/25	0.0015	0.0015	0.0015	0.0025		0.0026
1999/01/26	0.0015	0.0015	0.0015	0.0025		0.0016
1999/01/27	0.0015	0.0015	0.0018	0.0025		0.0019
1999/01/28	0.0015	0.0015	0.0015	0.0025		0.0042

Dates	Benzene	Ethylbenzene	Toluene	Xylene	1,3 Butadiene	H2S
1999/01/29						0.0052
1999/02/01	0.0015	0.0015	0.0015	0.0025		0.0041
1999/02/02	0.0015	0.0015	0.0015	0.0025		0.0055
1999/02/03	0.0015	0.0017	0.0022	0.0025		0.0028
1999/02/04	0.0015	0.0015	0.0015	0.0025		0.0023
1999/02/05	0.0015	0.0060	0.0050	0.0053		0.0000
1999/02/08	0.0015	0.0015	0.0015	0.0025		0.0000
1999/02/18						0.0015
1999/02/22	0.0015	0.0015	0.0015	0.0031	0.0050	0.0032
1999/02/23	0.0015	0.0015	0.0018	0.0059	0.0050	0.0042
1999/02/24	0.0015	0.0015	0.0017	0.0040	0.0050	0.0015
1999/02/26						0.0018
1999/02/27						0.0005

Table 7.14. Average of Preconstruction Period Real-time Monitoring Data (units: ppbv)

Dates	Benzene	Ethylbenzene	Toluene	Xylene	1,3 Butadiene	H2S
Ave-Precon	0.0015	0.0028	0.0027	0.0048	0.0050	0.0034

Table 7.15. Daily Real-time Averages during Preconstruction Period
(units: ug/m3)

Dates	Diesel Exhaust	PM10	PM2.5	Total PAHs
1998/12/15		16.23	5.54	0.0024
1998/12/16		59.89	21.57	0.0062
1998/12/17		120.14	30.39	
1998/12/18		73.93	16.27	
1998/12/19		62.77		
1998/12/21		52.92		0.0014
1998/12/22		24.85		
1998/12/23		54.75		0.0013
1998/12/28		32.49		0.0041
1998/12/29		81.21	23.30	0.0026
1998/12/30		111.03	23.91	0.0029
1998/12/31		69.58	10.22	0.0039
1999/01/04		61.13	12.12	0.0077
1999/01/05		63.28	10.00	0.0036
1999/01/06		42.09	9.97	0.0022
1999/01/07		58.63	10.12	0.0027
1999/01/08		35.80		
1999/01/11		63.26	14.97	0.0062
1999/01/12		48.30	11.80	0.0030
1999/01/13		53.15	12.17	0.0077
1999/01/14		85.85	11.58	0.0070
1999/01/15		41.57	7.81	0.0017
1999/01/16		52.68	6.93	0.0054
1999/01/18		57.55	9.89	0.0083
1999/01/19			9.15	0.0059
1999/01/20		156.67	8.84	0.0029
1999/01/21		37.07	11.86	0.0033
1999/01/22		78.94	11.63	0.0051
1999/01/25		29.15	2.63	0.0071
1999/01/26		27.46	6.49	0.0044

Dates	Diesel Exhaust	PM10	PM2.5	Total PAHs
1999/01/27		19.98	17.80	0.0035
1999/01/28		28.22	8.44	0.0237
1999/01/29		72.65	52.02	0.0051
1999/02/01		10.15	2.48	0.0006
1999/02/02		22.13	10.48	0.0013
1999/02/03		41.25		0.0032
1999/02/04		22.20	7.74	0.0029
1999/02/05			14.14	0.0011
1999/02/08				0.0006
1999/02/09			53.75	0.0007
1999/02/10			5.61	0.0008
1999/02/11			9.53	0.0010
1999/02/15				0.0003
1999/02/16			13.03	0.0022
1999/02/17			35.85	0.0012
1999/02/18				0.0030
1999/02/22	0.34	10.05	1.93	0.0011
1999/02/23	0.74	20.64	6.85	0.0016
1999/02/24	0.83	30.61	9.11	0.0016
1999/02/25	0.12		8.22	
1999/02/26	0.16	13.78	4.37	
1999/02/27	0.30	23.90	10.04	

Table 7.16. Overall Average during Preconstruction Period (units: ug/m3)

Dates	Diesel Exhaust	PM10	PM2.5	Total PAHs
Ave-Precon	0.42	50.44	13.58	0.0037

7.7 EXCAVATION PHASE

The excavation phase began with the removal of overburden in Cell 1A, beginning March 1, 1999, and continued through December 27, 1999 when the last sheet pile was removed from Cell 3. The excavation process consisted of first removing the clean overburden to a storage site, either at the Tank Farm or adjacent to the excavation areas, and then removing the affected material. Soil testing was conducted regularly to determine the contamination level throughout both the vertical and horizontal extent of the pit area. Following certification that the cleanup levels were reached, clean backfill was put into place, compacted, and graded. During this last process, sheet pile may have been removed, depending on the need for it in the other cells. The cell was complete when the last sheet pile was removed, which may have been months after the start and some time after the placement of the last clean fill.

The progress of the excavation from cell to cell was uneven, with much overlap of activities between cells. There was no definite start and stop of activities at each, with preparation work commencing in future cells while some cells were under active excavation. As a result, a breakdown of time periods associated with a single cell was impossible. In this report, the time line of the excavation is represented by monthly increments.

Air monitoring began shortly after the commencement of excavation activities since the effects from first exposure of the affected material to the atmosphere were unknown. There was some anticipation that high levels of hydrocarbons and hydrogen sulfide would be released due to the quantity and concentration of the subsurface contamination. Therefore, the CMT was ready to provide data during this initial phase, as well as continued integrated sampling.

The data collected did not show a substantial impact to the atmosphere from exposure of the contaminated soil. While there were some instances of high petroleum odor in periods of calm, the downwind concentrations were much lower than the trigger levels as set by the CMP Work Plan. In addition, some monitoring conducted close to the pit area where odors were strongest, showed relatively low levels of BTEX target compounds (See Section 10.3.2.1).

Data from the remainder of the excavation period are presented below. Table 7.17 contains a list of the integrated sampling locations where data were collected, from March 1, 1999 to November 22, 1999, when the last open pit in Cell 3 was closed. The real-time monitoring was conducted from March 1, 1999 to December 27, 1999 when the last sheet pile was removed. Table 7.18 contains a list of the days of real-time monitoring over this time period. Table 7.19 contains a list of significant activities for the time period; Table 7.20 contains a list of associated incidents.

Since trends are more easily seen in a group of data and particular data points are more easily interpreted in context, the data set for the entire excavation phase will be presented as monthly averages. This is justified as specific daily circumstances are not as important when determining overall health effects as are long-term trends. Tables7.21-24 present real-time and integrated data for the monthly periods during the Excavation period. The high points in these table correspond quite well with the periods of highest activities—September to October, 1999 when three cells were in progress simultaneously.

Table 7.17. List of Integrated Sampling Locations during Excavation Phase

		Integrated Sampling Locations							
Date	**Day**	**JEG-1**	**PO Lot-4**	**Fire Sta.-5**	**Field-17**	**1st/SF-13**	**Uno Pier-9**	**Front St.-12**	**UnoFence-7**
1-Mar-99	Mon	•	•	•		•	•		
2-Mar-99	Tue	•	•	•		•	•		
3-Mar-99	Wed	•	•	•		•	•		
4-Mar-99	Thu	•	•	•		•	•		
5-Mar-99	Fri	•	•	•		•	•		
6-Mar-99	Sat	•	•	•		•	•		
7-Mar-99	Sun								
8-Mar-99	Mon	•	•	•		•	•		
9-Mar-99	Tue	•	•	•		•	•		
10-Mar-99	Wed	•	•	•		•	•		
11-Mar-99	Thu	•	•	•		•	•		
12-Mar-99	Fri	•	•	•		•	•		
13-Mar-99	Sat	•	•	•		•	•		
14-Mar-99	Sun								
15-Mar-99	Mon	•	•	•		•	•		
16-Mar-99	Tue	•	•	•		•	•		
17-Mar-99	Wed	•	•	•		•	•		
18-Mar-99	Thu	•	•	•		•	•		
19-Mar-99	Fri	•		•		•			
20-Mar-99	Sat	•		•		•			
21-Mar-99	Sun								
22-Mar-99	Mon	•		•		•			
23-Mar-99	Tue	•		•		•			
24-Mar-99	Wed	•		•		•			
25-Mar-99	Thu	•		•		•			
26-Mar-99	Fri	•		•		•			
27-Mar-99	Sat	•		•		•			
28-Mar-99	Sun								
29-Mar-99	Mon	•		•					
30-Mar-99	Tue								

		Integrated Sampling Locations							
Date	**Day**	**JEG-1**	**PO Lot-4**	**Fire Sta.-5**	**Field-17**	**1st/SF-13**	**Uno Pier-9**	**Front St.-12**	**UnoFence-7**
31-Mar-99	Wed								
1-Apr-99	Thu	•		•					
2-Apr-99	Fri	•		•		•	•		
3-Apr-99	Sat	•		•					
4-Apr-99	Sun								
5-Apr-99	Mon	•		•					
6-Apr-99	Tue	•		•					
7-Apr-99	Wed	•		•		•			
8-Apr-99	Thu	•		•					
9-Apr-99	Fri	•		•		•			
10-Apr-99	Sat	•		•		•			
11-Apr-99	Sun								
12-Apr-99	Mon	•		•		•			
13-Apr-99	Tue	•		•		•			
14-Apr-99	Wed	•		•		•			
15-Apr-99	Thu	•		•		•			
16-Apr-99	Fri	•		•		•			
17-Apr-99	Sat	•		•		•			
18-Apr-99	Sun								
19-Apr-99	Mon	•							
20-Apr-99	Tue	•							
21-Apr-99	Wed	•							
22-Apr-99	Thu	•							
23-Apr-99	Fri	•							
24-Apr-99	Sat	•							
25-Apr-99	Sun								
26-Apr-99	Mon	•							
27-Apr-99	Tue	•							
28-Apr-99	Wed	•							
29-Apr-99	Thu	•							
30-Apr-99	Fri	•							
1-May-99	Sat	•							

		Integrated Sampling Locations							
Date	**Day**	**JEG-1**	**PO Lot-4**	**Fire Sta.-5**	**Field-17**	**1st/SF-13**	**Uno Pier-9**	**Front St.-12**	**UnoFence-7**
2-May-99	Sun								
3-May-99	Mon	•							
4-May-99	Tue	•							
5-May-99	Wed	•							
6-May-99	Thu	•							
7-May-99	Fri	•							
8-May-99	Sat	•							
9-May-99	Sun								
10-May-99	Mon	•							
11-May-99	Tue	•							
12-May-99	Wed	•							
13-May-99	Thu	•							
14-May-99	Fri	•							
15-May-99	Sat	•							
16-May-99	Sun								
17-May-99	Mon	•							
18-May-99	Tue	•							
19-May-99	Wed	•							
20-May-99	Thu	•							
21-May-99	Fri	•							
22-May-99	Sat	•							
23-May-99	Sun								
24-May-99	Mon	•							
25-May-99	Tue	•							
26-May-99	Wed	•							
27-May-99	Thu	•							
28-May-99	Fri	•							
29-May-99	Sat								
30-May-99	Sun								
31-May-99	Mon								
1-Jun-99	Tue	•							
2-Jun-99	Wed	•							

		Integrated Sampling Locations							
Date	**Day**	**JEG-1**	**PO Lot-4**	**Fire Sta.-5**	**Field-17**	**1st/SF-13**	**Uno Pier-9**	**Front St.-12**	**UnoFence-7**
3-Jun-99	Thu					•			
4-Jun-99	Fri					•			
5-Jun-99	Sat					•			
6-Jun-99	Sun								
7-Jun-99	Mon					•			
8-Jun-99	Tue					•			
9-Jun-99	Wed					•			
10-Jun-99	Thu					•			
11-Jun-99	Fri					•			
12-Jun-99	Sat					•			
13-Jun-99	Sun								
14-Jun-99	Mon					•			
15-Jun-99	Tue					•			
16-Jun-99	Wed					•			
17-Jun-99	Thu					•			
18-Jun-99	Fri					•			
19-Jun-99	Sat					•			
20-Jun-99	Sun								
21-Jun-99	Mon					•			
22-Jun-99	Tue					•			
23-Jun-99	Wed					•			
24-Jun-99	Thu			•		•			
25-Jun-99	Fri			•		•			
26-Jun-99	Sat			•		•			
27-Jun-99	Sun								
28-Jun-99	Mon			•		•			
29-Jun-99	Tue			•		•			
30-Jun-99	Wed			•		•			
1-Jul-99	Thu					•			
2-Jul-99	Fri					•			
3-Jul-99	Sat					•			
4-Jul-99	Sun								

		Integrated Sampling Locations							
Date	**Day**	**JEG-1**	**PO Lot-4**	**Fire Sta.-5**	**Field-17**	**1st/SF-13**	**Uno Pier-9**	**Front St.-12**	**UnoFence-7**
5-Jul-99	Mon								
6-Jul-99	Tue					•			
7-Jul-99	Wed					•			
8-Jul-99	Thu					•			
9-Jul-99	Fri					•			
10-Jul-99	Sat					•			
11-Jul-99	Sun								
12-Jul-99	Mon					•			
13-Jul-99	Tue					•			
14-Jul-99	Wed					•			
15-Jul-99	Thu					•			
16-Jul-99	Fri					•			
17-Jul-99	Sat					•			
18-Jul-99	Sun								
19-Jul-99	Mon			•		•			
20-Jul-99	Tue			•		•			
21-Jul-99	Wed			•					
22-Jul-99	Thu			•					
23-Jul-99	Fri			•					
24-Jul-99	Sat			•					
25-Jul-99	Sun								
26-Jul-99	Mon			•					
27-Jul-99	Tue			•					
28-Jul-99	Wed			•					
29-Jul-99	Thu			•					
30-Jul-99	Fri			•					
31-Jul-99	Sat			•					
1-Aug-99	Sun								
2-Aug-99	Mon			•					
3-Aug-99	Tue			•					
4-Aug-99	Wed			•					
5-Aug-99	Thu			•	•				

		Integrated Sampling Locations							
Date	**Day**	**JEG-1**	**PO Lot-4**	**Fire Sta.-5**	**Field-17**	**1st/SF-13**	**Uno Pier-9**	**Front St.-12**	**UnoFence-7**
6-Aug-99	Fri			•	•				
7-Aug-99	Sat			•	•				
8-Aug-99	Sun								
9-Aug-99	Mon			•	•				
10-Aug-99	Tue			•	•				
11-Aug-99	Wed			•	•				
12-Aug-99	Thu			•	•				
13-Aug-99	Fri			•	•				
14-Aug-99	Sat			•	•				
15-Aug-99	Sun								
16-Aug-99	Mon			•	•				
17-Aug-99	Tue			•	•				
18-Aug-99	Wed			•	•				
19-Aug-99	Thu			•	•				
20-Aug-99	Fri			•	•				
21-Aug-99	Sat				•				
22-Aug-99	Sun								
23-Aug-99	Mon				•				
24-Aug-99	Tue				•				
25-Aug-99	Wed				•				
26-Aug-99	Thu				•				
27-Aug-99	Fri				•				
28-Aug-99	Sat				•				
29-Aug-99	Sun								
30-Aug-99	Mon				•				
31-Aug-99	Tue				•				
1-Sep-99	Wed				•				
2-Sep-99	Thu				•				
3-Sep-99	Fri				•				
4-Sep-99	Sat								
5-Sep-99	Sun								
6-Sep-99	Mon								

		Integrated Sampling Locations							
Date	**Day**	**JEG-1**	**PO Lot-4**	**Fire Sta.-5**	**Field-17**	**1st/SF-13**	**Uno Pier-9**	**Front St.-12**	**UnoFence-7**
7-Sep-99	Tue				•				
8-Sep-99	Wed			•	•				
9-Sep-99	Thu			•	•				
10-Sep-99	Fri			•	•				
11-Sep-99	Sat			•	•				
12-Sep-99	Sun								
13-Sep-99	Mon								
14-Sep-99	Tue			•	•				
15-Sep-99	Wed			•	•				
16-Sep-99	Thu			•	•				
17-Sep-99	Fri			•	•				
18-Sep-99	Sat			•	•				
19-Sep-99	Sun								
20-Sep-99	Mon			•	•				
21-Sep-99	Tue			•	•				
22-Sep-99	Wed			•	•				
23-Sep-99	Thu			•	•				
24-Sep-99	Fri			•	•				
25-Sep-99	Sat			•	•				
26-Sep-99	Sun								
27-Sep-99	Mon			•	•				
28-Sep-99	Tue			•	•				
29-Sep-99	Wed			•	•				
30-Sep-99	Thu			•	•				
1-Oct-99	Fri			•	•				
2-Oct-99	Sat			•	•				
3-Oct-99	Sun								
4-Oct-99	Mon			•	•				
5-Oct-99	Tue			•	•				
6-Oct-99	Wed			•	•				
7-Oct-99	Thu			•	•				
8-Oct-99	Fri			•	•				

		Integrated Sampling Locations							
Date	**Day**	**JEG-1**	**PO Lot-4**	**Fire Sta.-5**	**Field-17**	**1st/SF-13**	**Uno Pier-9**	**Front St.-12**	**UnoFence-7**
9-Oct-99	Sat			•	•				
10-Oct-99	Sun								
11-Oct-99	Mon			•	•				
12-Oct-99	Tue			•					
13-Oct-99	Wed			•					
14-Oct-99	Thu			•					
15-Oct-99	Fri			•					
16-Oct-99	Sat			•					
17-Oct-99	Sun								
18-Oct-99	Mon			•					
19-Oct-99	Tue			•					
20-Oct-99	Wed			•					
21-Oct-99	Thu			•					
22-Oct-99	Fri			•					
23-Oct-99	Sat			•					
24-Oct-99	Sun								
25-Oct-99	Mon			•					
26-Oct-99	Tue			•					
27-Oct-99	Wed			•					
28-Oct-99	Thu			•					
29-Oct-99	Fri			•					
30-Oct-99	Sat			•					
31-Oct-99	Sun								
1-Nov-99	Mon			•					
2-Nov-99	Tue			•					
3-Nov-99	Wed			•					
4-Nov-99	Thu			•					
5-Nov-99	Fri			•					
6-Nov-99	Sat			•					
7-Nov-99	Sun								
8-Nov-99	Mon			•					
9-Nov-99	Tue			•					

		Integrated Sampling Locations							
Date	**Day**	**JEG-1**	**PO Lot-4**	**Fire Sta.-5**	**Field-17**	**1st/SF-13**	**Uno Pier-9**	**Front St.-12**	**UnoFence-7**
10-Nov-99	Wed			•					
11-Nov-99	Thu			•					
12-Nov-99	Fri			•					
13-Nov-99	Sat			•					
14-Nov-99	Sun								
15-Nov-99	Mon			•					
16-Nov-99	Tue			•					
17-Nov-99	Wed			•					
18-Nov-99	Thu			•					
19-Nov-99	Fri			•					
20-Nov-99	Sat								
21-Nov-99	Sun								
22-Nov-99	Mon			•					

Table 7.18. Real-time Monitoring during Excavation Phase

Real-Time Monitoring Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
1-Mar-99	Mon	•	•	•	•		•			•	
2-Mar-99	Tue	•	•	•	•	•	•			•	
3-Mar-99	Wed	•	•	•	•	•	•			•	
4-Mar-99	Thu	•	•	•	•	•	•			•	
5-Mar-99	Fri	•	•	•	•	•	•				
6-Mar-99	Sat	•	•	•	•	•	•				
7-Mar-99	Sun										
8-Mar-99	Mon	•	•	•	•	•	•			•	
9-Mar-99	Tue	•	•	•		•	•			•	
10-Mar-99	Wed	•	•	•	•	•	•			•	
11-Mar-99	Thu	•	•	•			•				
12-Mar-99	Fri	•	•	•	•	•	•				
13-Mar-99	Sat	•	•	•	•	•	•				
14-Mar-99	Sun										
15-Mar-99	Mon	•	•	•		•				•	
16-Mar-99	Tue	•	•	•		•	•			•	
17-Mar-99	Wed	•	•	•	•	•	•		•		
18-Mar-99	Thu	•	•	•	•	•	•		•	•	
19-Mar-99	Fri	•	•	•		•	•			•	
20-Mar-99	Sat	•	•	•		•	•			•	
21-Mar-99	Sun										
22-Mar-99	Mon	•	•	•	•	•	•		•	•	
23-Mar-99	Tue	•	•	•	•	•	•		•	•	
24-Mar-99	Wed	•	•	•	•	•	•		•	•	
25-Mar-99	Thu	•	•	•	•	•	•			•	
26-Mar-99	Fri	•	•	•	•	•	•		•	•	
27-Mar-99	Sat	•	•	•	•	•	•		•	•	
28-Mar-99	Sun										
29-Mar-99	Mon	•	•	•	•	•	•		•	•	
30-Mar-99	Tue										

Real-Time Monitoring Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
31-Mar-99	Wed						•				
1-Apr-99	Thu	•	•	•	•	•	•		•	•	
2-Apr-99	Fri	•	•	•	•	•	•		•	•	
3-Apr-99	Sat	•	•	•	•	•	•		•	•	
4-Apr-99	Sun										
5-Apr-99	Mon	•	•	•	•	•	•			•	
6-Apr-99	Tue	•	•	•	•		•		•	•	
7-Apr-99	Wed	•	•	•	•	•	•		•	•	
8-Apr-99	Thu	•	•	•	•	•	•		•	•	
9-Apr-99	Fri				•	•	•		•	•	
10-Apr-99	Sat	•	•	•	•	•	•		•	•	
11-Apr-99	Sun										
12-Apr-99	Mon	•	•	•	•	•	•		•	•	
13-Apr-99	Tue	•	•	•	•	•	•		•	•	
14-Apr-99	Wed	•	•	•	•	•	•		•	•	
15-Apr-99	Thu	•	•	•			•		•	•	
16-Apr-99	Fri	•	•	•	•	•	•		•	•	
17-Apr-99	Sat	•	•	•	•	•	•		•	•	
18-Apr-99	Sun										
19-Apr-99	Mon	•	•	•	•	•			•	•	
20-Apr-99	Tue	•	•	•	•	•	•		•		
21-Apr-99	Wed	•	•	•	•	•			•	•	
22-Apr-99	Thu	•	•	•	•	•			•	•	
23-Apr-99	Fri	•	•	•	•	•			•	•	
24-Apr-99	Sat	•	•	•	•	•			•	•	
25-Apr-99	Sun										
26-Apr-99	Mon	•	•	•	•	•			•	•	
27-Apr-99	Tue	•	•	•	•	•			•	•	
28-Apr-99	Wed	•	•	•	•	•			•	•	
29-Apr-99	Thu	•	•	•	•	•			•	•	
30-Apr-99	Fri	•	•	•	•	•			•	•	
1-May-99	Sat	•	•	•	•	•			•	•	

Real-Time Monitoring Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
2-May-99	Sun										
3-May-99	Mon	•	•	•	•	•			•	•	
4-May-99	Tue	•	•	•	•	•			•	•	
5-May-99	Wed	•	•	•	•	•			•	•	
6-May-99	Thu	•	•	•	•	•			•	•	
7-May-99	Fri	•	•	•	•	•			•	•	
8-May-99	Sat	•	•	•	•	•			•	•	
9-May-99	Sun										
10-May-99	Mon	•	•	•	•	•			•		
11-May-99	Tue	•	•	•	•	•				•	
12-May-99	Wed	•	•	•	•	•			•	•	
13-May-99	Thu	•	•	•	•	•			•	•	
14-May-99	Fri	•	•	•	•	•				•	
15-May-99	Sat	•	•	•	•	•			•	•	
16-May-99	Sun										
17-May-99	Mon	•	•	•	•	•			•	•	
18-May-99	Tue	•	•	•	•	•			•	•	
19-May-99	Wed	•	•	•	•	•			•	•	
20-May-99	Thu	•	•	•	•	•			•	•	
21-May-99	Fri	•	•	•	•	•			•	•	
22-May-99	Sat	•	•	•	•	•				•	
23-May-99	Sun										
24-May-99	Mon	•	•	•	•	•			•	•	
25-May-99	Tue	•	•	•	•	•			•	•	
26-May-99	Wed	•	•	•	•	•			•	•	
27-May-99	Thu	•	•	•	•	•			•	•	
28-May-99	Fri	•	•	•	•				•	•	
29-May-99	Sat										
30-May-99	Sun										
31-May-99	Mon										
1-Jun-99	Tue	•	•	•	•				•	•	
2-Jun-99	Wed	•	•	•	•				•	•	

Real-Time Monitoring Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
3-Jun-99	Thu	•	•	•	•		•		•	•	
4-Jun-99	Fri	•	•	•	•		•		•	•	
5-Jun-99	Sat		•	•	•		•		•	•	
6-Jun-99	Sun										
7-Jun-99	Mon		•	•	•		•		•	•	
8-Jun-99	Tue		•	•	•		•		•	•	
9-Jun-99	Wed	•	•	•	•		•		•	•	
10-Jun-99	Thu	•	•	•	•		•			•	
11-Jun-99	Fri	•	•	•	•		•		•	•	
12-Jun-99	Sat	•	•	•	•		•		•	•	
13-Jun-99	Sun										
14-Jun-99	Mon	•	•	•	•		•		•	•	
15-Jun-99	Tue	•	•	•	•		•		•		
16-Jun-99	Wed	•	•	•	•		•		•	•	
17-Jun-99	Thu	•	•	•	•		•		•	•	
18-Jun-99	Fri	•	•	•	•		•		•	•	
19-Jun-99	Sat	•	•	•	•		•		•	•	
20-Jun-99	Sun										
21-Jun-99	Mon	•	•	•	•		•		•	•	
22-Jun-99	Tue	•	•	•	•		•		•	•	
23-Jun-99	Wed	•	•	•	•		•		•	•	
24-Jun-99	Thu	•	•	•			•		•	•	
25-Jun-99	Fri	•	•	•			•		•		
26-Jun-99	Sat	•	•	•	•		•		•		
27-Jun-99	Sun										
28-Jun-99	Mon	•	•	•			•		•	•	
29-Jun-99	Tue	•	•	•	•	•	•		•	•	
30-Jun-99	Wed	•	•	•		•	•		•	•	
1-Jul-99	Thu	•	•	•		•	•		•	•	
2-Jul-99	Fri	•	•	•	•	•	•		•	•	
3-Jul-99	Sat	•	•	•	•	•	•		•	•	
4-Jul-99	Sun										

Real-Time Monitoring Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
5-Jul-99	Mon										
6-Jul-99	Tue	•	•	•	•	•			•	•	
7-Jul-99	Wed	•	•	•	•	•	•		•	•	
8-Jul-99	Thu	•	•	•	•	•	•		•	•	
9-Jul-99	Fri	•	•	•	•	•	•		•	•	
10-Jul-99	Sat	•	•	•	•	•	•		•	•	
11-Jul-99	Sun										
12-Jul-99	Mon	•	•	•	•				•	•	
13-Jul-99	Tue	•	•	•	•		•		•	•	
14-Jul-99	Wed	•	•	•	•	•	•		•	•	
15-Jul-99	Thu	•	•	•	•	•	•		•	•	
16-Jul-99	Fri	•	•	•	•					•	
17-Jul-99	Sat	•	•	•	•	•			•	•	
18-Jul-99	Sun										
19-Jul-99	Mon	•	•	•	•	•			•	•	
20-Jul-99	Tue	•	•	•	•	•			•	•	
21-Jul-99	Wed	•	•	•	•	•			•	•	
22-Jul-99	Thu	•	•	•	•				•	•	
23-Jul-99	Fri	•	•	•	•				•	•	
24-Jul-99	Sat	•	•	•	•	•			•	•	
25-Jul-99	Sun										
26-Jul-99	Mon	•	•	•	•	•			•		
27-Jul-99	Tue	•	•	•	•	•			•	•	
28-Jul-99	Wed	•	•	•	•	•			•	•	
29-Jul-99	Thu	•	•	•	•	•			•	•	
30-Jul-99	Fri	•	•	•	•	•			•	•	
31-Jul-99	Sat	•	•	•	•	•			•	•	
1-Aug-99	Sun										
2-Aug-99	Mon	•	•	•	•	•				•	
3-Aug-99	Tue	•	•	•	•	•			•	•	
4-Aug-99	Wed	•	•	•	•	•			•	•	
5-Aug-99	Thu	•	•	•	•	•			•	•	

Real-Time Monitoring Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
6-Aug-99	Fri	•	•	•	•	•			•	•	
7-Aug-99	Sat	•	•	•	•	•			•	•	
8-Aug-99	Sun										
9-Aug-99	Mon	•	•	•	•	•			•	•	
10-Aug-99	Tue	•	•	•	•	•				•	
11-Aug-99	Wed	•	•	•	•	•			•	•	
12-Aug-99	Thu	•	•	•	•		•		•	•	
13-Aug-99	Fri	•	•	•	•		•			•	
14-Aug-99	Sat	•	•	•	•		•		•	•	
15-Aug-99	Sun										
16-Aug-99	Mon	•	•	•	•	•			•	•	
17-Aug-99	Tue	•	•	•	•		•		•	•	
18-Aug-99	Wed	•	•	•	•		•		•	•	
19-Aug-99	Thu	•	•	•	•		•		•	•	
20-Aug-99	Fri	•	•	•	•		•		•		
21-Aug-99	Sat	•	•	•	•		•		•	•	
22-Aug-99	Sun										
23-Aug-99	Mon	•	•	•	•		•		•	•	
24-Aug-99	Tue	•	•	•	•		•		•	•	
25-Aug-99	Wed	•	•	•	•		•		•		
26-Aug-99	Thu	•	•	•			•			•	
27-Aug-99	Fri	•	•	•	•		•		•	•	
28-Aug-99	Sat	•	•	•	•				•	•	
29-Aug-99	Sun										
30-Aug-99	Mon	•	•	•	•		•			•	
31-Aug-99	Tue	•	•	•	•		•			•	
1-Sep-99	Wed	•	•	•	•		•			•	
2-Sep-99	Thu	•	•	•	•		•		•	•	
3-Sep-99	Fri	•	•	•	•		•		•	•	
4-Sep-99	Sat										
5-Sep-99	Sun										
6-Sep-99	Mon										

Real-Time Monitoring Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
7-Sep-99	Tue	•	•	•	•		•		•	•	
8-Sep-99	Wed	•	•	•	•		•		•	•	
9-Sep-99	Thu	•	•	•	•		•		•	•	
10-Sep-99	Fri	•	•	•	•		•		•	•	
11-Sep-99	Sat	•	•	•	•		•		•	•	
12-Sep-99	Sun										
13-Sep-99	Mon	•	•	•	•		•		•	•	
14-Sep-99	Tue	•	•	•	•		•		•	•	
15-Sep-99	Wed	•	•	•	•		•		•	•	
16-Sep-99	Thu	•	•	•	•		•		•	•	
17-Sep-99	Fri	•	•	•	•		•		•	•	
18-Sep-99	Sat	•	•	•	•		•		•	•	
19-Sep-99	Sun										
20-Sep-99	Mon	•	•	•	•		•		•	•	
21-Sep-99	Tue	•	•	•	•		•		•	•	
22-Sep-99	Wed	•	•	•			•			•	
23-Sep-99	Thu	•	•	•	•		•		•	•	
24-Sep-99	Fri	•	•	•	•		•		•	•	
25-Sep-99	Sat	•	•		•		•		•	•	
26-Sep-99	Sun										
27-Sep-99	Mon	•	•	•	•		•		•	•	
28-Sep-99	Tue	•	•	•	•		•		•	•	
29-Sep-99	Wed	•	•	•	•		•			•	
30-Sep-99	Thu	•	•	•	•		•			•	
1-Oct-99	Fri	•	•	•	•		•			•	
2-Oct-99	Sat	•	•	•	•		•		•	•	
3-Oct-99	Sun										
4-Oct-99	Mon	•	•	•	•		•		•	•	
5-Oct-99	Tue	•	•	•	•		•	•	•	•	
6-Oct-99	Wed	•	•	•	•		•	•	•	•	
7-Oct-99	Thu	•	•	•	•		•	•	•	•	
8-Oct-99	Fri	•	•	•	•		•	•	•	•	

Real-Time Monitoring Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
9-Oct-99	Sat	•	•	•	•		•			•	
10-Oct-99	Sun										
11-Oct-99	Mon	•	•	•	•		•		•	•	
12-Oct-99	Tue	•	•	•	•		•	•	•	•	
13-Oct-99	Wed	•	•	•	•		•	•	•	•	
14-Oct-99	Thu	•	•	•	•		•	•	•	•	
15-Oct-99	Fri	•	•	•	•		•		•	•	
16-Oct-99	Sat		•	•	•		•	•	•	•	
17-Oct-99	Sun										
18-Oct-99	Mon	•	•	•	•		•		•	•	
19-Oct-99	Tue	•	•	•	•		•	•	•	•	
20-Oct-99	Wed	•	•	•	•		•	•	•	•	
21-Oct-99	Thu	•	•	•	•		•	•	•	•	
22-Oct-99	Fri	•	•	•	•		•	•	•	•	
23-Oct-99	Sat	•	•	•	•		•	•	•	•	
24-Oct-99	Sun										
25-Oct-99	Mon	•	•	•	•		•		•	•	
26-Oct-99	Tue	•	•	•	•		•	•	•	•	
27-Oct-99	Wed	•	•	•	•		•	•	•	•	
28-Oct-99	Thu	•	•	•	•		•		•	•	
29-Oct-99	Fri	•	•	•	•		•		•	•	
30-Oct-99	Sat	•	•	•	•		•	•	•	•	
31-Oct-99	Sun										
1-Nov-99	Mon	•	•	•	•		•	•	•	•	
2-Nov-99	Tue	•	•	•	•		•	•	•	•	
3-Nov-99	Wed	•	•	•	•		•	•	•	•	
4-Nov-99	Thu	•	•	•	•		•	•	•	•	
5-Nov-99	Fri	•	•	•	•		•	•	•	•	
6-Nov-99	Sat	•	•	•	•		•	•	•	•	
7-Nov-99	Sun									•	
8-Nov-99	Mon	•	•	•	•		•	•	•	•	
9-Nov-99	Tue	•	•	•	•		•		•		

Real-Time Monitoring Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
10-Nov-99	Wed	•	•	•	•		•		•		
11-Nov-99	Thu	•	•	•	•		•	•	•	•	
12-Nov-99	Fri	•	•	•	•		•	•	•	•	
13-Nov-99	Sat	•	•	•	•		•	•	•	•	
14-Nov-99	Sun										
15-Nov-99	Mon	•	•	•	•		•	•	•	•	
16-Nov-99	Tue	•	•	•	•		•	•	•	•	
17-Nov-99	Wed	•	•	•	•		•	•	•	•	
18-Nov-99	Thu	•	•		•			•		•	
19-Nov-99	Fri		•	•	•		•		•		
20-Nov-99	Sat										
21-Nov-99	Sun										
22-Nov-99	Mon		•	•	•		•		•		
23-Nov-99	Tue		•	•				•		•	
24-Nov-99	Wed		•	•	•		•			•	
25-Nov-99	Thu										
26-Nov-99	Fri										
27-Nov-99	Sat										
28-Nov-99	Sun										
29-Nov-99	Mon	•	•	•	•					•	
30-Nov-99	Tue	•								•	
1-Dec-99	Wed	•		•						•	
2-Dec-99	Thu	•		•	•		•			•	
3-Dec-99	Fri	•		•	•		•			•	
4-Dec-99	Sat	•		•	•		•			•	
5-Dec-99	Sun										
6-Dec-99	Mon	•		•	•					•	
7-Dec-99	Tue	•		•	•		•			•	
8-Dec-99	Wed	•		•	•		•			•	
9-Dec-99	Thu	•		•	•		•			•	
10-Dec-99	Fri	•		•	•		•			•	
11-Dec-99	Sat	•		•	•		•			•	

Real-Time Monitoring Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
12-Dec-99	Sun										
13-Dec-99	Mon	•		•	•		•			•	
14-Dec-99	Tue	•		•	•		•			•	
15-Dec-99	Wed	•		•	•		•			•	
16-Dec-99	Thu	•		•	•		•			•	
17-Dec-99	Fri	•		•	•		•			•	
18-Dec-99	Sat										
19-Dec-99	Sun										
20-Dec-99	Mon				•						
21-Dec-99	Tue	•			•		•			•	
22-Dec-99	Wed	•			•		•				
23-Dec-99	Thu										
24-Dec-99	Fri										
25-Dec-99	Sat										
26-Dec-99	Sun										
27-Dec-99	Mon	•			•		•			•	

Abbreviations
AETH: aethalometer—diesel exhaust;
PAS: PAS2000—particulate bound PAH;
DR: DataRAM 2000—PM2.5;
PDR: personal DataRAM 1000—PM10
J1: Jerome—Hydrogen sulfide
J2: Jerome—Hydrogen sulfide
J8: Jerome—Hydrogen sulfide
V204: Voyager GC/PID—BTEX, 1,3-butadiene
V301: Voyager GC/PID—BTEX, 1,3-butadiene
V303: Voyager GC/PID—BTEX, 1,3-butadiene

Table 7.19. Summary of Key Events during Excavation

Date	Key Event
3/1/1999	Overburden removal in Cell 1A begun.
3/2/1999	First full day of excavation in Cell 1A; approximately 100 trucks employed.
3/8/1999	Groundwater reached in Cell 1A; excavation of affected soil begun.
3/28/1999	Main part of major plume for Cell 1A reached.
4/23/1999	Backfilling and sand augmentation of Cell 1A begun.
4/26/1999	Overburden excavation in Cell 1B commences.
4/30/1999	Cell 1B activities increasing; groundwater reached.
4/30/1999	Sheet pile removal from parts of Cell 1A beginning. More than one half of backfill completed.
5/3/1999	In Cell 1B, groundwater and affected soil reached.
5/10/1999	Yacht Club moved away from site without mishap. Activity in Cell 2A begins with sheet pile installation.
5/13/1999	Preparation work for Cell 2B begins with pier dismantling.
5/17/1999	Cell 1A is completely backfilled. Activity completed.
5/19/1999	Laying down of sheet pile for Cell 2B installation begun.
5/23/1999	Backfilling in Cell 1B begins. Excavation nears completion.
5/24/1999	Cell 2A piling and overburden moving into Cell 1A.
5/27/1999	Excavation in Cell 1B complete. Cell 2A sheet piling complete. Pier dismantling begun.
5/31/1999	Cell 2A excavation begun, with affected soils being reached.
6/10/1999	Excavation of a hot spot in corner of Cell 1B begun. This is completed within 24 hrs.
6/17/1999	Cell 2B sheet pile completed. Overburden removal begun.
6/21/1999	Affected soil and groundwater reached in Cell 2B.
6/22/1999	Backfill of west end of Cell 2A begun with sand and gravel. Cell 1B backfill in the polishing stages.
6/26/1999	Cell 1B serving as a stockpile for Cell 2B overburden material. Cell 2C sheet piling and overburden removal begun.
6/28/1999	Sheet piling removal commenced in Cell 2A.
7/13/1999	Installation of new seawall in Cell 2A begun with the unloading of pre-cast sections.
7/15/1999	Cell 2C activity ramps up, with sheet pile installation and removal of overburden.
7/16/1999	Cell 2A backfill completed except for high quality sand to be imported when seawall installed.
7/17/1999	Cell 2B excavation complete.
7/24/1999	Connection between Cell 2A and 2B removed completely.
7/26/1999	Backfilling begun in Cell 2B. In Cell 2A seawall construction begun.
7/27/1999	Demolition begun in Cell 3 with media in full force.
7/28/1999	Demolition of 50 San Miguel and the Jetty complete. Excavation of Cell 2C ramping up.
7/30/1999	Demolition of Ferini Building in Cell 3.
8/2/1999	Demolition of tenplex in Cell 3.
8/2/1999	Demolition of Old Custom House in Cell 3.
8/9/1999	Demolition of Martin House in Cell 3. Sheet pile driving begun in Cell 2E.

Date	Key Event
8/13/1999	Demolition of the Sea Barn in Cell 3.
8/19/1999	Overburden removal in Cell 2E. Excavation of Cell 2E moving forward rapidly.
8/24/1999	Backfilling commenced in Cell 2C.
8/26/1999	Avila Grocery move begun in Cell 3.
9/10/1999	Preparatory work taking place in Cell 2D.
9/14/1999	Excavation begun in Cell 2D.
9/15/1999	Sheet pile installation begun in Cell 3. Excavation completed in Cell 2D.
9/16/1999	Backfill commenced in Cell 2E. Stockpile is gone in Cell 1A and plastic liner removed.
9/20/1999	Commencement of excavation in southwest corner of Cell 3.
10/7/1999	Last section put in place on the east end of the sea wall in Cell 2C.
10/8/1999	Cell 1A almost returned to pre-excavation contours – looking like Triangle Park again.
10/14/1999	Backfill complete in Cell 2E. Sand compacted in Cell 1A; final grade complete.
10/19/1999	All sheet pile removed from Cell 2C; backfilling and grading throughout the cell. Waves can be heard in town again.
10/20/1999	Backfilling commenced in southwest corner of Cell 3.
10/21/1999	Re-excavation for placement of gravel in Cell 2D begun.
10/22/1999	Grading of Cell 2A to 2C completed.
10/27/1999	An exploratory pit uncovered a small plume of contamination along Avila Beach Dr. The pit was backfilled by mid-afternoon.
10/28/1999	Deadline for finishing work on the beach (October 31) is met.
11/22/1999	Excavation of Cell 3 completed. Backfill continuing.
11/30/1999	Ribbon cutting held to celebrate the opening of the west end of the beach.
12/2/1999	Small dig behind the Avila Pizza Pantry commenced. Data distribution suggested a plume extending away from the main area thought to be contaminated. More soil testing was undertaken.
12/3/1999	VPS Cell excavation completed. Sea wall cap construction begun.
12/27/1999	End of sheet pile removal, real-time monitoring ends.

Table 7.20. Summary of Incidents during Excavation

DATE	INCIDENT
3/1/1999	Some dust was observed in Cells 1A and 1B. Water trucks were employed. The APCD was on site and advised additional watering for dust control.
3/2/1999	Total dust (PDR) exceedance in AM; steadily decreasing concentrations in the PM. APCD was notified at 13:40. The dust was likely not related to construction activities as wind was coming from the south and weather conditions were unusual.
3/23/1999	Odors were detected in the Cell 1A area and in the community near San Francisco St. and First St. The APCD was notified at 15:05.
3/25/1999	Transient to mild petroleum odors were evident most of the day in the areas of First St. to San Francisco St. and the community center parking lot.
3/29/1999	Two complaints received regarding: (1) Diesel exhaust from the start up and idling of project trucks in the AM. Monitoring equipment was placed in the area of the complaint to monitor PEC, PAHs and PM2.5 dust. (2) Dust in the area of First and San Miguel Streets. The APCD was notified of both complaints.
3/31/1999	The CMT received an anonymous odor complaint. Moderate petroleum odors were confirmed.
4/28/1999	Odor detected at 9:30. Source was a manhole on Avila Beach Dr. and was not related to the project.
5/19/1999	High wind causing dust plumes from Cell 2A area.
5/23/1999	Generalized petroleum odor evident throughout the town due to excavation in Cell 1B in highly contaminated southeast corner.
5/24/1999	One odor and noise complaint was received by the APCD at 15:30. No unusual conditions were recorded.
6/14/1999	PM10 exceedance between 13:30 and 14:30 due to significant trunk activity. APCD was notified.
6/23/1999	Two exceedances of target substances recorded: 1,3 Butadiene and PM10 on the corner of San Francisco and First Streets. The APCD was notified in both cases and truck traffic was stopped and manual watering of beach properties was undertaken.
7/15/1999	A Tier 1 odor exceedance was registered, resulting from 3 odor complaints made in the mid-late afternoon. CMT responded to an APCD call within 3 minutes with field instrumentation. Odor was described as sulfur-like. Source may have been the pile of creosote pier pilings stored in Cell 2C.
7/16/1999	Odor complaint received at 10:30 through APCD and the Fire Department. CMT responded with instruments and increased monitoring. Two types of odors were noted: (1) a heavy, sour odor; (2) a light odor similar to odorized gas.
7/17/1999	Odor complaint received at 11:00 from a resident northeast of the fire station. Intermittent odors were detected at this location throughout the day and were attributed to sheet piling operations in Cell 2C.
7/27/1999	Meeting held in Avilia to discuss odor complaints. Most of the evidence pointed to a past leaking gas line that posed no safety issue. The petroleum odor is expected from the affected material. It was decided to further investigate the source of the odors, including the geologic features that may contribute odor.
7/29/1999	APCD was informed of high odor in Cell 2C area, although there were no exceedances of target substances.

DATE	INCIDENT
8/5/1999	Two odor complaints were received. The first was for sulfurous odors, likely originating from the tank farm stockpile area. The second was for petroleum odors in the Fire Station/San Luis/First St. area, directly downwind of the grinder and excavation activities. APCD was informed but no exceedances of target substances were recorded.
8/13/1999	Short-term high values of diesel exhaust and PAH attributed to the Maxigrinder.
9/2/1999	Tier 1 dust exceedance at 16-17:00 due to truck loading activities. Watering was increased and activity stopped early.
9/9/1999	Tier 1 dust exceedance in the late afternoon. APCD notified and area watered.
9/30/1999	Tier 1 dust exceedance caused by the fine soils and activities in Cell 3. High readings commenced at 14:15. Watering was commenced and the APCD was notified. High diesel and PAH values were also recorded but did not exceed acceptable levels.
10/6/1999	Tier 1 dust exceedance around 14-15:00, mainly due to high gusts of wind. Watering was commenced and the APCD was notified.
11/5/1999	A PM2.5 exceedance occurred 12:30-15:00. This level was not attributable to project activities, but to natural haze.
11/30/1999	APCD received an odor complaint but odor was not associated with project activities.

Table 7.21. Monthly Averages of Volatile Organic Compounds during Excavation Phase (in ppbv)

Dates	Acet-aldehyde	Acetone	Acrolein	Benz-aldehyde	Benzene	Butyr-aldehyde	1,2-Dichloro-ethane	Ethyl Benzene	Form-aldehyde	Freon 11	Hex-aldehyde
Mar	0.86	1.22	0.03	0.09	0.59	0.15	0.09	0.80	1.27	0.14	0.06
Apr	0.67	0.87	0.99	0.06	0.21	0.21	0.06	0.21	1.27	0.21	0.08
May	0.84	0.49	0.74	0.03	0.22	NA	NA	0.26	1.10	0.23	0.04
Jun	0.72	0.40	0.49	0.04	0.20	NA	NA	0.19	1.31	0.16	0.04
Jul	1.41	0.47	0.29	0.04	0.15	NA	NA	0.08	1.44	0.15	0.04
Aug	0.77	0.53	0.27	0.04	0.16	NA	NA	0.10	2.05	0.19	0.18
Sep	0.47	0.45	0.19	0.04	0.25	NA	NA	0.07	1.59	0.12	0.04
Oct	0.74	0.93	0.24	0.07	0.25	NA	NA	0.05	1.13	0.10	0.05
Nov	0.33	0.29	0.37	0.05	0.27	NA	NA	0.07	0.73	0.20	0.04
All	0.75	0.63	0.30	0.06	0.75	NA	NA	0.32	1.35	0.15	0.06

Dates	Iso-pentanal	MEK/Butyr aldehydes	Methyl tert-Butyl Ether	m,p-Tolu-aldehyde	o-Tolu-aldehyde	m,p-Xylene	o-Xylene	Pentanal	Propion-aldehyde	Toluene	Valer-aldehyde
Mar	NA	1.20	0.09	NA	NA	0.95	0.80	NA	0.05	2.04	0.08
Apr	0.05	0.46	0.15	0.03	0.03	0.89	0.47	0.05	0.08	0.46	0.06
May	0.04	0.59	0.50	0.03	0.03	1.06	0.51	0.05	1.06	0.26	NA
Jun	0.05	0.22	0.12	0.03	0.03	0.95	0.45	0.05	0.18	0.30	NA
Jul	0.04	0.52	0.28	0.03	0.03	0.33	0.19	0.04	0.15	0.35	NA
Aug	0.04	0.58	0.20	0.03	0.03	0.40	0.26	0.04	0.11	0.62	NA
Sep	0.04	0.34	0.19	0.03	0.03	0.26	0.15	0.04	0.09	0.50	NA
Oct	0.05	1.09	0.27	0.03	0.03	0.17	0.09	0.05	0.18	0.47	NA
Nov	0.03	0.43	0.41	0.02	0.02	0.20	0.08	0.03	0.12	0.66	NA
All	0.04	0.67	0.22	NA	NA	0.66	0.40	NA	0.21	0.75	NA

Table 7.22. Monthly Averages of PAH Compounds during Excavation Phase (in ug/m3)

Dates	Acenaph-thene	Acenaph-thylene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Benzo(e) pyrene	Benzo(g,h,i) perylene	1,1-Bi-phenyl
Ave-Mar	0.0041	0.0043	0.0042	0.0004	0.0005	0.0009	0.0007	0.0042	0.0050	0.0056
Ave-Apr	0.0050	0.0032	0.0031	0.0004	0.0004	0.0004	0.0004	0.0005	0.0031	NA
Ave-May	0.0060	0.0007	0.0008	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	NA
Ave-Jun	0.0185	0.0017	0.0015	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	NA
Ave-Jul	0.0263	0.0045	0.0047	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	NA
Ave-Aug	0.0022	0.0008	0.0008	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	NA
Ave-Sep	0.0024	0.0008	0.0006	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	NA
Ave-Oct	0.0023	0.0007	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	NA
Ave-Nov	0.0026	0.0006	0.0004	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	NA
Ave-All	0.0070	0.0022	0.0020	0.0009	0.0010	0.0010	0.0009	0.0017	0.0022	0.0056
Dates	**Chrysene**	**Dibenz(a,h) anthracene**	**Dibenzo-thiophene**	**Fluor-anthene**	**Fluorene**	**Indeno (1,2,3-c,d)pyrene**	**Naphthalene**	**Perylene**	**Phen-anthrene**	**Pyrene**
Ave-Mar	0.0029	0.0006	0.0018	0.0043	0.0043	0.0006	0.0410	0.0051	0.0057	0.0072
Ave-Apr	0.0020	0.0005	NA	0.0035	0.0049	0.0005	0.0438	0.0055	0.0080	0.0034
Ave-May	0.0004	0.0006	NA	0.0017	0.0046	0.0006	0.0438	NA	0.0094	0.0012
Ave-Jun	0.0007	0.0013	NA	0.0021	0.0107	0.0013	0.1460	NA	0.0146	0.0015
Ave-Jul	0.0023	0.0046	NA	0.0031	0.0123	0.0046	0.2727	NA	0.0147	0.0027
Ave-Aug	0.0004	0.0019	NA	0.0009	0.0022	0.0008	0.0455	NA	0.0049	0.0007
Ave-Sep	0.0004	0.0006	NA	0.0011	0.0022	0.0006	0.0247	NA	0.0054	0.0010
Ave-Oct	0.0003	0.0005	NA	0.0009	0.0025	0.0005	0.0351	NA	0.0054	0.0008
Ave-Nov	0.0002	0.0004	NA	0.0012	0.0032	0.0004	0.0352	NA	0.0074	0.0006
Ave-All	0.0015	0.0017	0.0018	0.0023	0.0053	0.0014	0.0791	0.0051	0.0088	0.0043

Table 7.23. Monthly Averages of Real-time Monitoring during Excavation Period (in ppbv)

Dates	Benzene	Ethylbenzene	Toluene	Xylene	1,3 Butadiene	H2S
Ave-Mar	0.0015	0.0015	0.0015	0.0026	0.0050	0.0044
Ave-Apr	0.0015	0.0015	0.0015	0.0028	0.0050	0.0060
Ave-May	0.0015	0.0015	0.0015	0.0033	0.0050	0.0057
Ave-Jun	0.0015	0.0016	0.0039	0.0032	0.0052	0.0041
Ave-Jul	0.0015	0.0015	0.0018	0.0029	0.0050	0.0023
Ave-Aug	0.0015	0.0015	0.0017	0.0030	0.0051	0.0027
Ave-Sep	0.0015	0.0015	0.0016	0.0029	0.0050	0.0023
Ave-Oct	0.0015	0.0015	0.0016	0.0026	0.0050	0.0020
Ave-Nov	0.0015	0.0015	0.0017	0.0025	0.0050	0.0009
Ave-Dec	0.0015	0.0016	0.0345	0.0092	0.0053	0.0024
Ave-All	0.0015	0.0017	0.0036	0.0035	0.0051	0.0034

Table 7.24. Monthly Averages of Particulate Matter Monitoring during Excavation Period (in ug/m3)

Dates	Diesel Exhaust	PM10	PM2.5	Total PAHs
Ave-Mar	0.78	51.35	10.98	0.0062
Ave.-Apr	0.86	50.63	10.82	0.0109
Ave.-May	0.94	41.19	11.90	0.0119
Ave.-Jun	1.14	38.81	11.23	0.0170
Ave-Jul	1.02	38.93	11.85	0.0141
Ave.-Aug	0.91	38.51	10.02	0.0117
Ave.-Sep	1.47	67.76	18.65	0.0226
Ave.-Oct	1.38	70.55	24.31	0.0205
Ave.-Nov	1.00	55.25	16.09	0.0117
Ave-Dec	0.61	NA	10.90	NA
Ave-All	1.00	50.35	13.76	0.0124

7.8 OUTLYING PROPERTIES

The outlying properties consisted of a small area in front of the Inn at Avila Beach, a larger property along Avila Beach Drive between San Miguel and the entrance to 1st St., and a lot along Avila Beach Drive near the foot of Laurel Street. These properties were contaminated with only minor levels of material and did not warrant the full scale excavation nor monitoring programs.

These properties were excavated between January 4, 2000 and April 6, 2000, with many long periods of inactivity between these dates due to normal project delays and the passage of major storm systems. A much reduced level of monitoring was conducted during this time, in terms of both sampling scope and intensity. Only the instrumentation capable of unattended continuous monitoring were used. The data collected were checked periodically to assess any trends. No data from this period were entered into the database since the collection frequency was sparse and the database had been tailored for a particular sampling period for use in the risk assessment. In addition, the data base for the risk assessment had been fixed as the period ending December 27, 1999, the end of Cell 3 activities.

In general, the data collected over this time period show very low concentrations of pollutants. This is because activities were of low intensity and utilized only a few pieces of equipment. In addition, the pace of activity and the removal rate were slower. Weather problems slowed the removal rate, but also contributed to much lower dust levels than would be expected from soil removal. The number of diesel vehicles used was also low, which kept levels of diesel exhaust to a minimum. Comparison of the data collected with the standard CMP trigger levels, indicated that in no instance were trigger levels reached. Indeed, for most of the time, the values were consistent with background levels.

Table 7.26 shows the data collected over time periods that correspond with the excavation of outlying properties activities. No incidents were recorded during this time period.

Table 7.25. Real-time Data Collection

Real-Time Sampling Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
4-Jan-00	Tue	•	•	•	•	•					
5-Jan-00	Wed	•	•	•	•	•					
6-Jan-00	Thu	•	•	•	•	•					
7-Jan-00	Fri										
8-Jan-00	Sat										
9-Jan-00	Sun										
10-Jan-00	Mon										
11-Jan-00	Tue										
12-Jan-00	Wed										
13-Jan-00	Thu										
14-Jan-00	Fri										
15-Jan-00	Sat										
16-Jan-00	Sun										
17-Jan-00	Mon										
18-Jan-00	Tue										
19-Jan-00	Wed										
20-Jan-00	Thu										
21-Jan-00	Fri										
22-Jan-00	Sat										
23-Jan-00	Sun										
24-Jan-00	Mon										
25-Jan-00	Tue										
26-Jan-00	Wed										
27-Jan-00	Thu										
28-Jan-00	Fri										
29-Jan-00	Sat										
30-Jan-00	Sun										
31-Jan-00	Mon										
1-Feb-00	Tue										

Real-Time Sampling Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
2-Feb-00	Wed	•	•	•	•	•					
3-Feb-00	Thu	•	•	•	•	•					
4-Feb-00	Fri	•	•	•	•	•					
5-Feb-00	Sat										
6-Feb-00	Sun										
7-Feb-00	Mon	•	•	•	•	•					
8-Feb-00	Tue	•	•	•	•	•					
9-Feb-00	Wed										
10-Feb-00	Thu										
11-Feb-00	Fri										
12-Feb-00	Sat										
13-Feb-00	Sun										
14-Feb-00	Mon										
15-Feb-00	Tue										
16-Feb-00	Wed										
17-Feb-00	Thu										
18-Feb-00	Fri	•	•	•	•	•					
19-Feb-00	Sat										
20-Feb-00	Sun										
21-Feb-00	Mon	•	•	•	•	•					
22-Feb-00	Tue	•	•	•	•	•					
23-Feb-00	Wed	•	•	•	•	•					
24-Feb-00	Thu	•	•	•	•	•					
25-Feb-00	Fri	•	•	•	•	•					
26-Feb-00	Sat										
27-Feb-00	Sun										
28-Feb-00	Mon	•	•	•	•	•					
29-Feb-00	Tue	•	•	•	•	•					
1-Mar-00	Wed	•	•	•	•	•					
2-Mar-00	Thu	•	•	•	•	•					
3-Mar-00	Fri	•	•	•	•	•					

Real-Time Sampling Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
4-Mar-00	Sat										
5-Mar-00	Sun										
6-Mar-00	Mon	•	•	•	•	•					
7-Mar-00	Tue	•	•	•	•	•					
8-Mar-00	Wed	•	•	•	•	•					
9-Mar-00	Thu	•	•	•	•	•					
10-Mar-00	Fri	•	•	•	•	•					
11-Mar-00	Sat										
12-Mar-00	Sun										
13-Mar-00	Mon	•	•	•	•	•					
14-Mar-00	Tue	•	•	•	•	•					
15-Mar-00	Wed	•	•	•	•	•					
16-Mar-00	Thu	•	•	•	•	•					
17-Mar-00	Fri	•	•	•	•	•					
18-Mar-00	Sat										
19-Mar-00	Sun										
20-Mar-00	Mon	•	•	•	•	•					
21-Mar-00	Tue	•	•	•	•	•					
22-Mar-00	Wed	•	•	•	•	•					
23-Mar-00	Thu	•	•	•	•	•					
24-Mar-00	Fri	•	•	•	•	•					
25-Mar-00	Sat										
26-Mar-00	Sun										
27-Mar-00	Mon	•	•	•	•	•					
28-Mar-00	Tue	•	•	•	•	•					
29-Mar-00	Wed	•	•	•	•	•					
30-Mar-00	Thu	•	•	•	•	•					
31-Mar-00	Fri	•	•	•	•	•					
1-Apr-00	Sat										
2-Apr-00	Sun										
3-Apr-00	Mon	•	•	•	•	•					
4-Apr-00	Tue	•	•	•	•	•					

Real-Time Sampling Data Collection											
Date	**Day**	**AETH**	**PAS**	**DR**	**PDR**	**J1**	**J2**	**J8**	**V204**	**V301**	**V303**
5-Apr-00	Wed	•	•	•	•	•					
6-Apr-00	Thu	•	•	•	•	•					

Abbreviations
AETH: aethalometer—diesel exhaust;
PAS: PAS2000—particulate bound PAH;
DR: DataRAM 2000—PM2.5;
PDR: personal DataRAM 1000—PM10
J1: Jerome—Hydrogen sulfide
J2: Jerome—Hydrogen sulfide
J8: Jerome—Hydrogen sulfide
V204: Voyager GC/PID—BTEX, 1,3-butadiene
V301: Voyager GC/PID—BTEX, 1,3-butadiene
V303: Voyager GC/PID—BTEX, 1,3-butadiene

Table 7.26. Summary of Outlying Property Activities

1/5/2000	Eastern edge of San Antonia plume reached and backfill begun Dec. 6.
3/14/2000	No excavation this week due to heavy rain.
3/29/2000	Resumption of work after 15 days of non-operation due to rain.
2/7/2000	Lyons-Togazzini property work started. Small potentially affected soil areas removed.
3/9/2000	Excavation of Lyons-Togazzini completed.
3/13/2000	Bachino Property excavation begun.
3/14/2000	Backfill of Lyons-Togazzini completed.
4/6/2000	Backfill of Bachino completed. Monitoring ceased.

7.9 ANCILLARY DATA—HYDROCARBON AND SULFUR COMPOUNDS

While two sets of ancillary data were collected as part of the original monitoring plan, both were decreased in scope and eventually dropped. The hydrocarbon data were expected to be useful for assessing potential emissions of a wide range of unusual hydrocarbon species that could be emitted from the surfaces of the petroleum excavations or from vehicle exhaust. Measurement of reduced sulfur species was intended to augment the Jerome hydrogen sulfide sensor data and to provide integrated data on the presence of a wide range of odorous reduced sulfur species.

Sampling and analytical problems led to the rejection or qualification of the ancillary data. A first review of the hydrocarbon data suggested that it was too complex to be easily assigned to specific sources. In addition, the species of potential public health interest were covered by other analyses and were therefore redundant. As a result, analysis of hydrocarbon data was ceased in early April, 1999.

A later analysis of the data set indicated another problem that was not evident previously. As discussed in Section 10.4.4.3, comparison of the GC/FID with the GC/MS data showed a clear overall high bias in the GC/FID data. Since the FID is a non-specific detector, it was presumed that high background levels were causing this bias across the board. Therefore, these data were considered unusable for a quantitative evaluation of emissions from the site.

The hydrogen sulfide data were affected by sample instability, as discussed in Section 10.4.4.2, and were deemed unusable. For this reasons, these data are not presented in this report. However, the entire set of ancillary data is contained in the database.

8.0 DATA MANAGEMENT

8.1 DATA MANAGEMENT SYSTEM

The purpose of the database management system was two-fold. First, the system needed to provide cognizant users with a complete dataset from which to analyze and interpret data. Second, and key to the rapid response function of the CMP, the system needed to allow for rapid access to data from remote locations. In addition to the local project staff and nearby parties in San Luis Obispo, the project team consisted of individuals located in the San Francisco Bay Area and in Southern California. The database management system was designed to provide this group with accessibility, ease of use, completeness, and rapid response, so that decisions could be made rapidly and with a consensus among the project team.

8.1.1 Description

The database system consisted of a custom-developed relational database written in Microsoft Access. The system had several modules, including:

- Data Capture
  - Real-time instrument data
  - Laboratory data
  - Van and cart meteorological data
  - Tower meteorological data
  - Site logs

- Data validation

- Data posting

- Reporting
  - Daily comparison to trigger levels, both graphic and table
  - Period comparison to trigger levels, both graphic and table
  - Summary table—real time or lab data
  - Graph of time series data—real time or lab data
  - Daily field data graph
  - Field data by location
  - Meteorological data—summary and wind rose
  - Data inventory—real time and laboratory
  - Laboratory hold time report

- Maintenance
  - Change passwords
  - Calculate rolling averages
  - Options for ND calculation

8.1.2 Development

A preliminary system was initiated by an initial contractor. However, this effort was terminated in favor of an alternate approach proposed by another group. Following the cessation of the first efforts, two contractors were used to provide assistance in preparing the database system. Mr. Brock Taylor of Pacific Computing, and Dr. Barry Floyd of Cal Poly San Luis Obispo carried out the coding tasks under the direction of the field project manager, Dr. Eric Winegar.

8.1.3 Operation

The goal in developing the database was to provide external users with the capability to dial into the project trailer via the NT server and to connect to the database using their personal profile. The CMT trailer was outfitted with five telephone lines so that multiple users could access the project database simultaneously. A central NT server with a multiple line router was used to maintain security for each of the users, while continuing to allow on-site users access to the network.

Outside users were able to dial in, access data remotely, and have the data copied to an Excel spreadsheet format for further personal exploration. Local printing was performed by configuring a remote printer connection.

Overall, the external users found that the system served their needs. The speed of the system was limited by the 56K modem speed available in Avila and at each user's location. In addition, as the database became larger, the processing time, in addition to the transmit time, increased. As miscellaneous user connection issues became more frequent, the database was subsequently distributed in CD format, which each user could access at will. This system proved successful.

8.1.4 Daily Data Review

The daily data review process consisted of the following steps:

- Site coordinator checked on field technicians throughout the day for consistency, accuracy and completeness.
- During the importation process, errors in the data logged in the instrument were noted and corrected or deleted. These data were reconciled with the field data sheets maintained by the field technician.
- The importation process included several data validation steps that allowed mistakes to be caught before entry into the system. Wrong dates, missed data points, data values out of range were all automatically reviewed before allowing the process to continue.
- Finally, before posting into the main database, the final data were reviewed by the project manager for accuracy and consistency. The most frequent errors were outliers due to instrumental problems.

8.2 DATA BASE AUDIT

In order to provide assurance that the database yielded accurate results to users, three checks of the system were performed:

- Verification of calculation algorithms
- Verification of report table contents
- Audit of input data files

8.2.1 Algorithm Accuracy

During the development process, key parts of the program that were being coded and readied to deploy were tested for output accuracy. This was done by calculating the output value both manually and via the database using the same dataset. If any discrepancy was found, the data were remedied. The special stratified standard deviation function, which was added to the system, was checked by two separate individuals to confirm that the complicated calculation was implemented correctly.

8.2.2 Audit Results

The database was audited by verifying the values in the system with the actual laboratory reports. This was performed on a limited basis by Mr. Barry Lajoie of APCD and by CMT staff.

Mr. Lajoie compared a set of approximately thirty work orders from Air Toxics Limited to data that had been imported into the database. There were only three small deviations between the two sets of data. Another more extensive audit was performed by CMT staff, in which 39% of the work orders for both Air Toxics Limited and EAS were compared to the values in the database. Less than ten errors were noted, and were primarily associated with missing data. From these two efforts, it was concluded that the database management system was accurately storing and reproducing the data from the laboratory and field instruments.

9.0 DATA QUALITY ASSESSMENT

9.1 DATA INVENTORY

The overall data capture rate was determined to be greater than 95%, as determined from the intended sample collection scheme.

9.1.1. Field

Table 9.1 contains a complete data inventory of the field data, and Table 9.2 contains a summary of these data. The values are the number of data points collected on each day. Gaps are due to instrumental or other problems that prevented the deployment of monitoring equipment for that day. The gray periods are weekends, holidays, or other time periods in which no site activities occurred and no monitoring was needed.

The data inventory shows a high level of coverage for the excavation period. As such, the complete data set was deemed useful for use in the execution of the health risk assessment, as described in Appendix D.

As shown in Table 9.2, the total number of data points was over 180,000. This extensive coverage provided the community with a high degree of confidence that no extraneous activities were missed.

Table 9.1. Inventory of Real-time Field Data.

Date	Day	AETH	PAS	DR	PDR	J1	J2	J8	V204	V301	V303
12/15/98	Tue		105	105	54		71			68	64
12/16/98	Wed		103	102	71		69			64	44
12/17/98	Thu			87	92		73			60	
12/18/98	Fri			83	99		65			56	
12/19/98	Sat				96		20			16	16
12/20/98	Sun										
12/21/98	Mon		101		93		65			48	32
12/22/98	Tue				34		59			36	48
12/23/98	Wed		92		42		31			32	52
12/24/98	Thu										
12/25/98	Fri										
12/26/98	Sat										
12/27/98	Sun										
12/28/98	Mon		81		86		52			40	28
12/29/98	Tue		85	84	89		62			60	28
12/30/98	Wed		87	90	88		69			39	40
12/31/98	Thu		80	81	72		68			24	64
01/01/99	Fri										
01/02/99	Sat										

Date	Day	AETH	PAS	DR	PDR	J1	J2	J8	V204	V301	V303
01/03/99	Sun										
01/04/99	Mon		90	85	93		79			56	
01/05/99	Tue		98	93	92		60			40	
01/06/99	Wed		104	92	82		53			32	
01/07/99	Thu		102	99	104		90			64	36
01/08/99	Fri				81		72			48	
01/09/99	Sat										
01/10/99	Sun										
01/11/99	Mon		122	122	90		93			88	
01/12/99	Tue		106	104	106		100			68	
01/13/99	Wed		115	78	40		75			67	
01/14/99	Thu		99	95	102		90			68	
01/15/99	Fri		90	71	81		63			52	
01/16/99	Sat		72	73	72		64			48	
01/17/99	Sun										
01/18/99	Mon		103	92	94		88			40	
01/19/99	Tue		88	73			70			56	
01/20/99	Wed		77	79	39		73			56	
01/21/99	Thu		33	32	69		81			44	
01/22/99	Fri		30	31	34		17			36	
01/23/99	Sat										
01/24/99	Sun										
01/25/99	Mon		28	26	73		75			48	
01/26/99	Tue		24	23	24		66			56	
01/27/99	Wed		37	37	46		73			64	
01/28/99	Thu		30	30	69		52			40	
01/29/99	Fri		32	33	68		33				
01/30/99	Sat										
01/31/99	Sun										
02/01/99	Mon		28	28	67		65			52	
02/02/99	Tue		28	27	64		54			52	
02/03/99	Wed		24		69	67	77			52	
02/04/99	Thu		14	14	35	34				32	
02/05/99	Fri		33	33							12
02/06/99	Sat										
02/07/99	Sun										
02/08/99	Mon		29							68	
02/09/99	Tue		40	39							
02/10/99	Wed		36	36							
02/11/99	Thu		27	19							
02/12/99	Fri										
02/13/99	Sat										
02/14/99	Sun										
02/15/99	Mon		24								
02/16/99	Tue		33	32							
02/17/99	Wed		33	39							
02/18/99	Thu		17			8					

Date	Day	AETH	PAS	DR	PDR	J1	J2	J8	V204	V301	V303
02/19/99	Fri										
02/20/99	Sat										
02/21/99	Sun										
02/22/99	Mon	39	39	39	76	26	30			115	
02/23/99	Tue	39	41	40	58	20	28			130	
02/24/99	Wed	35	33	34	107	22	14			115	
02/25/99	Thu	52		50							
02/26/99	Fri	34		35	109	20	7				
02/27/99	Sat	25		22	42	43					
02/28/99	Sun										
03/01/99	Mon	74	114	37	100		22			96	
03/02/99	Tue	37	37	38	109	55	49			104	
03/03/99	Wed	36	37	37	9	54	48			108	
03/04/99	Thu	37	39	38	37	51	47			16	
03/05/99	Fri	35	34	34	51	35	38				
03/06/99	Sat	22	22	22	11	33	33				
03/07/99	Sun										
03/08/99	Mon	37	38	38	35	52	54			120	
03/09/99	Tue	24	24	24		41	31			85	
03/10/99	Wed	39	39	39	39	47	61			130	
03/11/99	Thu	21	21	20			21				
03/12/99	Fri	29	36	36	18	41	43				
03/13/99	Sat	13	11	16	36	20	22				
03/14/99	Sun										
03/15/99	Mon	25	27	27		45				130	
03/16/99	Tue	38	38	36		51	38			125	
03/17/99	Wed	40	39	39	34	58	55		80		
03/18/99	Thu	39	38	38	38	56	44		140	55	
03/19/99	Fri	23	23	23		26	26			80	
03/20/99	Sat	9	9	9		12	12			15	
03/21/99	Sun										
03/22/99	Mon	40	40	39	38	48	47		55	130	
03/23/99	Tue	40	39	39	37	55	35		20	130	
03/24/99	Wed	44	44	44	43	45	47		125	80	
03/25/99	Thu	46	46	46		54	45			150	
03/26/99	Fri	38	37	37	34	18	44		55	115	
03/27/99	Sat	37	37	19	36	56	57		61	135	
03/28/99	Sun										
03/29/99	Mon	16	15	16	14	22	25		15	40	
03/30/99	Tue										
03/31/99	Wed						6				
04/01/99	Thu	29	30	29	19	12	30		20	62	
04/02/99	Fri	40	41	37	49	26	66		64	26	
04/03/99	Sat	26	27	27	9	16	23		34	19	
04/04/99	Sun										
04/05/99	Mon	32	34	33	20	52	48			110	
04/06/99	Tue	37	38	38	8		51		70	30	

Date	Day	AETH	PAS	DR	PDR	J1	J2	J8	V204	V301	V303
04/07/99	Wed	37	38	38	37	46	47		40	110	
04/08/99	Thu	39	39	39	7	26	40		64	30	
04/09/99	Fri				33	33	14		46	20	
04/10/99	Sat	28	28	27	25	37	44		55	90	
04/11/99	Sun										
04/12/99	Mon	38	38	38	35	50	53		50	119	
04/13/99	Tue	42	43	43	28	36	57		65	110	
04/14/99	Wed	47	47	47	27	26	642		84	94	
04/15/99	Thu	40	41	21			583		45	45	
04/16/99	Fri	33	43	42	28	48	141		68	120	
04/17/99	Sat	35	35	36	25	328	469		45	69	
04/18/99	Sun										
04/19/99	Mon	38	39	36	32	48			30	84	
04/20/99	Tue	40	43	43	31	566	489		80		
04/21/99	Wed	41	41	42	31	56			70	110	
04/22/99	Thu	43	44	44	29	344			74	106	
04/23/99	Fri	34	37	37	25	311			55	79	
04/24/99	Sat	29	29	27	26	129			55	85	
04/25/99	Sun										
04/26/99	Mon	38	39	39	28	33			55	100	
04/27/99	Tue	36	38	37	25	196			44	105	
04/28/99	Wed	37	38	38	23	115			35	105	
04/29/99	Thu	37	38	38	31	43			70	73	
04/30/99	Fri	36	37	37	32	468			65	59	
05/01/99	Sat	29	31	31	29	136			45	80	
05/02/99	Sun										
05/03/99	Mon	43	44	44	38	228			75	100	
05/04/99	Tue	37	38	38	37	88			56	105	
05/05/99	Wed	39	40	39	35	317			55	115	
05/06/99	Thu	38	38	38	37	301			50	88	
05/07/99	Fri	39	39	39	37	495			63	110	
05/08/99	Sat	31	32	31	28	97			40	95	
05/09/99	Sun										
05/10/99	Mon	39	40	39	38	403			60		
05/11/99	Tue	38	38	38	37	522				109	
05/12/99	Wed	37	37	37	36	485			45	115	
05/13/99	Thu	39	39	38	37	533			64	114	
05/14/99	Fri	36	36	36	36	552				105	
05/15/99	Sat	30	30	30	24	30			15	80	
05/16/99	Sun										
05/17/99	Mon	38	38	38	38	560			4	99	
05/18/99	Tue	40	41	41	39	611			40	125	
05/19/99	Wed	38	39	39	35	502			50	120	
05/20/99	Thu	37	40	39	37	502			31	110	
05/21/99	Fri	38	41	40	35	601			35	120	
05/22/99	Sat	38	38	38	29	382				115	
05/23/99	Sun										

Date	Day	AETH	PAS	DR	PDR	J1	J2	J8	V204	V301	V303
05/24/99	Mon	39	42	41	38	622			20	125	
05/25/99	Tue	38	39	39	38	582			45	120	
05/26/99	Wed	39	40	39	31	541			55	122	
05/27/99	Thu	37	37	38	38	530			50	110	
05/28/99	Fri	29	29	29	28				85	16	
05/29/99	Sat										
05/30/99	Sun										
05/31/99	Mon										
06/01/99	Tue	39	40	39	39				31	100	
06/02/99	Wed	38	38	38	13				56	110	
06/03/99	Thu	40	41	40	37		70		34	85	
06/04/99	Fri	37	38	38	37		115		60	90	
06/05/99	Sat		32	31	27		72		46	90	
06/06/99	Sun										
06/07/99	Mon		36	35	38		104		16	90	
06/08/99	Tue		42	42	39		533		35	125	
06/09/99	Wed	37	38	37	32		514		41	110	
06/10/99	Thu	40	42	41	33		443			85	
06/11/99	Fri	39	40	40	36		581		39	119	
06/12/99	Sat	31	31	31	25		425		49	85	
06/13/99	Sun										
06/14/99	Mon	41	41	40	33		604		61	115	
06/15/99	Tue	37	40	39	38		543		65		
06/16/99	Wed	39	41	40	35		606		45	115	
06/17/99	Thu	36	38	37	89		524		35	115	
06/18/99	Fri	37	38	38	112		536		65	105	
06/19/99	Sat	33	33	33	90		276		54	84	
06/20/99	Sun										
06/21/99	Mon	40	42	42	113		27		35	100	
06/22/99	Tue	76	78	78	315		1188		132	240	
06/23/99	Wed	76	40	78	108		1174		65	114	
06/24/99	Thu	36	41	38			570		66	120	
06/25/99	Fri	38	40	39			587		60		
06/26/99	Sat	27	30	29	53		348		20		
06/27/99	Sun										
06/28/99	Mon	39	39	39			546		70	125	
06/29/99	Tue	37	39	38	95	546	458		47	105	
06/30/99	Wed	40	40	39		583	530		80	115	
07/01/99	Thu	37	38	38		547	497		75	90	
07/02/99	Fri	37	38	38	97	569	492		70	100	
07/03/99	Sat	27	28	23	77	410	386		50	80	
07/04/99	Sun										
07/05/99	Mon										
07/06/99	Tue	39	40	39	104	508			49	125	
07/07/99	Wed	38	40	40	104	582	543		70	120	
07/08/99	Thu	37	39	38	81	578	500		75	105	
07/09/99	Fri	38	39	36	96	505	573		74	120	

Date	Day	AETH	PAS	DR	PDR	J1	J2	J8	V204	V301	V303
07/10/99	Sat	32	33	32	94	448	383		60	85	
07/11/99	Sun										
07/12/99	Mon	37	39	39	94				75	110	
07/13/99	Tue	36	38	37	84		562		65	105	
07/14/99	Wed	38	40	40	89	557	586		70	125	
07/15/99	Thu	39	37	38	99	454	532		75	110	
07/16/99	Fri	41	43	42	105					100	
07/17/99	Sat	38	41	38	106	22			75	68	
07/18/99	Sun										
07/19/99	Mon	40	41	40	108	439			80	90	
07/20/99	Tue	40	41	40	106	605			75	120	
07/21/99	Wed	36	39	38	109	576			65	115	
07/22/99	Thu	45	45	45	121				85	134	
07/23/99	Fri	40	42	39	122				75	110	
07/24/99	Sat	28	30	31	93	456			60	90	
07/25/99	Sun										
07/26/99	Mon	39	39	39	106	593			44		
07/27/99	Tue	39	39	38	120	579			50	69	
07/28/99	Wed	39	39	38	112	584			75	85	
07/29/99	Thu	38	40	39	112	602			60	100	
07/30/99	Fri	38	41	30	119	401			75	50	
07/31/99	Sat	31	32	31	95	453			45	20	
08/01/99	Sun										
08/02/99	Mon	36	39	31	115	590				100	
08/03/99	Tue	38	43	33	73	624			41	125	
08/04/99	Wed	36	42	42	108	616			57	130	
08/05/99	Thu	37	39	9		493			70	65	
08/06/99	Fri	40	40	40	112	594			75	105	
08/07/99	Sat	44	44	44	107	669			85	114	
08/08/99	Sun										
08/09/99	Mon	38	39	39	108	562			65	104	
08/10/99	Tue	18	34	34	114	455				120	
08/11/99	Wed	47	48	47	110	702			90	105	
08/12/99	Thu	41	41	40	127		604		65	70	
08/13/99	Fri	46	47	47	150		711			110	
08/14/99	Sat	24	29	30	91		399		55	80	
08/15/99	Sun										
08/16/99	Mon	36	36	36	109	349			60	55	
08/17/99	Tue	39	39	38	95		547		70	80	
08/18/99	Wed	36	36	38	112		417		75	110	
08/19/99	Thu	40	40	40	85		557		75	110	
08/20/99	Fri	39	37	41	125		575		25		
08/21/99	Sat	32	33	33	56		491		65	95	
08/22/99	Sun										
08/23/99	Mon	40	39	39	83		582		74	129	
08/24/99	Tue	36	35	38	101		539		65	115	
08/25/99	Wed	36	37	39	100		569		45		

Date	Day	AETH	PAS	DR	PDR	J1	J2	J8	V204	V301	V303
08/26/99	Thu	31	32	32			467			95	
08/27/99	Fri	38	37	37	89		554		65	50	
08/28/99	Sat	28	29	29	88				55	80	
08/29/99	Sun										
08/30/99	Mon	35	36	37	19		148			95	
08/31/99	Tue	36	38	40	118		591			125	
09/01/99	Wed	38	39	39	114		570			109	
09/02/99	Thu	39	40	40	106		521		75	115	
09/03/99	Fri	31	32	31	75		393		50	90	
09/04/99	Sat										
09/05/99	Sun										
09/06/99	Mon										
09/07/99	Tue	43	45	44	81		636		70	96	
09/08/99	Wed	41	41	40	94		602		80	115	
09/09/99	Thu	40	41	40	101		508		80	95	
09/10/99	Fri	40	41	40	92		593		80	95	
09/11/99	Sat	36	39	34	80		518		70	85	
09/12/99	Sun										
09/13/99	Mon	39	39	38	83		540		75	115	
09/14/99	Tue	32	35	39	99		442		65	110	
09/15/99	Wed	39	40	40	99		599		75	110	
09/16/99	Thu	36	37	37	89		551		78	115	
09/17/99	Fri	40	41	41	106		617		80	116	
09/18/99	Sat	27	28	27	78		414		55	85	
09/19/99	Sun										
09/20/99	Mon	35	38	41	104		590		80	120	
09/21/99	Tue	40	41	43	69		602		65	120	
09/22/99	Wed	33	36	41			132			128	
09/23/99	Thu	44	43	43	69		606		30	90	
09/24/99	Fri	40	41	23	89		602		60	125	
09/25/99	Sat	38	37		12		480		45	16	
09/26/99	Sun										
09/27/99	Mon	40	49	41	86		495		81	87	
09/28/99	Tue	41	42	42	95		538		83	115	
09/29/99	Wed	46	48	50	72		697			161	
09/30/99	Thu	41	42	46	97		583			145	
10/01/99	Fri	34	41	41	85		608			121	
10/02/99	Sat	39	38	43	94		563		75	120	
10/03/99	Sun										
10/04/99	Mon	35	39	39	93		567		65	90	
10/05/99	Tue	67	46	47	97		495	559	54	67	
10/06/99	Wed	44	47	48	99		580	486	90	115	
10/07/99	Thu	41	42	42	92		487	504	65	40	
10/08/99	Fri	39	42	43	107		554	498	69	107	
10/09/99	Sat	29	31	31	65		465			89	
10/10/99	Sun										
10/11/99	Mon	36	38	38	88		578		70	105	

Date	Day	AETH	PAS	DR	PDR	J1	J2	J8	V204	V301	V303
10/12/99	Tue	37	38	39	93		536	510	70	110	
10/13/99	Wed	38	38	38	124		516	513	65	114	
10/14/99	Thu	37	39	39	121		592	555	75	120	
10/15/99	Fri	37	40	39	123		552		70	110	
10/16/99	Sat		38	37	82		509	490	70	110	
10/17/99	Sun										
10/18/99	Mon	36	39	38	121		548		65	95	
10/19/99	Tue	31	32	32	63		502	568	65	100	
10/20/99	Wed	27	31	29	54		543	525	45	111	
10/21/99	Thu	27	29	29	76		515	540	55	115	
10/22/99	Fri	29	31	30	75		601	507	70	105	
10/23/99	Sat	35	36	36	65		543	422	55	70	
10/24/99	Sun										
10/25/99	Mon	40	39	39	79		574		75	55	
10/26/99	Tue	39	41	40	76		496	443	55	90	
10/27/99	Wed	41	40	41	89		616	509	80	95	
10/28/99	Thu	45	44	28	88		622		70	115	
10/29/99	Fri	42	41	40	109		612		70	105	
10/30/99	Sat	31	31	30	108		486	539	5	55	
10/31/99	Sun										
11/01/99	Mon	37	38	38	87		507	371	52	85	
11/02/99	Tue	41	42	42	83		607	495	80	110	
11/03/99	Wed	44	45	38	121		542	613	55	90	
11/04/99	Thu	42	43	42	101		590	548	65	120	
11/05/99	Fri	41	43	43	99		626	546	80	105	
11/06/99	Sat	27	27	62	58		363	305	45	65	
11/07/99	Sun										
11/08/99	Mon	33	26	28	14		56	354	55	80	
11/09/99	Tue	40	40	39	92		587		70		
11/10/99	Wed	41	41	41	97		596		50		
11/11/99	Thu	40	40	29	90		560	282	75	110	
11/12/99	Fri	42	40	41	107		425	504	80	120	
11/13/99	Sat	39	39	39	66		550	495	65	110	
11/14/99	Sun										
11/15/99	Mon	37	38	30	116		580	494	75	115	
11/16/99	Tue	43	45	45	135		690	492	69	100	
11/17/99	Wed	28	35	38	114		545	505	70	110	
11/18/99	Thu	39	44		132			511		114	
11/19/99	Fri		38	38	79		530		154		
11/20/99	Sat										
11/21/99	Sun										
11/22/99	Mon		40	39	76		499		64		
11/23/99	Tue		37	37				60		4	
11/24/99	Wed		32	32	31		486			64	
11/25/99	Thu										
11/26/99	Fri										
11/27/99	Sat										

Date	Day	AETH	PAS	DR	PDR	J1	J2	J8	V204	V301	V303
11/28/99	Sun										
11/29/99	Mon	38	37	38	27					130	
11/30/99	Tue	124								25	
12/01/99	Wed	275		109						115	
12/02/99	Thu	137		161	44		94			82	
12/03/99	Fri	208		128	67		460			115	
12/04/99	Sat	129		216	31		414			60	
12/05/99	Sun										
12/06/99	Mon	120		129	38					65	
12/07/99	Tue	317		136	41		34			116	
12/08/99	Wed	696		214	40		82			119	
12/09/99	Thu	676		716	15		116			135	
12/10/99	Fri	669		721	38		118			121	
12/11/99	Sat	386		345	29		75			100	
12/12/99	Sun										
12/13/99	Mon	654		697	37		108			120	
12/14/99	Tue	572		626	41		124			84	
12/15/99	Wed	661		641	5		4			71	
12/16/99	Thu	289		644	37		127			112	
12/17/99	Fri	1079		729	31		123			80	
12/18/99	Sat										
12/19/99	Sun										
12/20/99	Mon				42						
12/21/99	Tue	69			42		123			108	
12/22/99	Wed	321			35		417				
12/23/99	Thu										
12/24/99	Fri										
12/25/99	Sat										
12/26/99	Sun										
12/27/99	Mon	186			36		84			79	

Abbreviations

AETH: aethalometer—diesel exhaust;
PAS: PAS2000—particulate bound PAH;
DR: DataRAM 2000—PM2.5;
PDR: personal DataRAM 1000—PM10
J1: Jerome—Hydrogen sulfide
J2: Jerome—Hydrogen sulfide
J8: Jerome—Hydrogen sulfide
V204: Voyager GC/PID—BTEX, 1,3-butadiene
V301: Voyager GC/PID—BTEX, 1,3-butadiene
V303: Voyager GC/PID—BTEX, 1,3-butadiene

Table 9.2. Summary of Field Analysis Data—Number of Samples

Data Points	AETH	PAS	DR	PDR	J1	J2	J8	V204	V301	V303
Total	15,783	11,212	16,935	18,334	31,131	69,303	14,743	2,260	4,839	93
Grand Total	184,633									

9.1.2. Laboratory

Table 9.3 contains the laboratory data inventory. As with the field data, the coverage for the project period was reviewed closely and deemed complete. The complete data set contains an extraordinary sample density for a small area. This density, along with the quality of the data, allowed the data to be used for a rigorous risk assessment procedure, as shown in Appendix D.

Table 9.3. Laboratory Data Inventory

Date	Day	TO11	TO13 FS	TO13 SIM	TO14 TRS	TO14 FID	TO14 GCMS
10/20/98	Tue		5	5	3	1	1
10/21/98	Wed	5	5	5	7	7	7
10/22/98	Thu	4	5	5	6	6	6
10/23/98	Fri	5	5	5	6	7	7
10/24/98	Sat	2	2	2	2		
10/25/98	Sun						
10/26/98	Mon	5			7		7
10/27/98	Tue						
10/28/98	Wed	5	5	5	7	8	8
10/29/98	Thu	3	3	3	3	1	1
10/30/98	Fri		2	2	6		
10/31/98	Sat						
11/1/98	Sun						
11/2/98	Mon						
11/3/98	Tue						
11/4/98	Wed						
11/5/98	Thu						
11/6/98	Fri						
11/7/98	Sat						
11/8/98	Sun						
11/9/98	Mon						
11/10/98	Tue						
11/11/98	Wed	2	2	2	2	2	2
11/12/98	Thu	2	2	2	2	2	2
11/13/98	Fri	2	2	2	2	2	2
11/14/98	Sat						
11/15/98	Sun						
11/16/98	Mon	2	2	2	2	2	2
11/17/98	Tue	2			2	2	2
11/18/98	Wed	1			2	2	2
11/19/98	Thu	2			2	2	2
11/20/98	Fri	1			1	1	1
11/21/98	Sat						
11/22/98	Sun						

Date	Day	TO11	TO13 FS	TO13 SIM	TO14 TRS	TO14 FID	TO14 GCMS
11/23/98	Mon	2			2	2	2
11/24/98	Tue	2			2	2	2
11/25/98	Wed	2			2	2	2
11/26/98	Thu						
11/27/98	Fri						
11/28/98	Sat						
11/29/98	Sun						
11/30/98	Mon	2			2	2	2
12/1/98	Tue	2	2	2	2	2	2
12/2/98	Wed	2	2	2	2	2	2
12/3/98	Thu	2	2	2	2	2	2
12/4/98	Fri	2	2	2	2	2	2
12/5/98	Sat						
12/6/98	Sun						
12/7/98	Mon	2	1	2	2	2	2
12/8/98	Tue	3	3	3	3	3	3
12/9/98	Wed	3	3	3	3	3	3
12/10/98	Thu	2	2	2	2	2	2
12/11/98	Fri	2	1	1	2	2	2
12/12/98	Sat						
12/13/98	Sun						
12/14/98	Mon	3	3	3	3	4	4
12/15/98	Tue	1	2	2	2	2	2
12/16/98	Wed	2	2	2	2	2	2
12/17/98	Thu	2	2	2	2	2	2
12/18/98	Fri	2	2	2	2	2	2
12/19/98	Sat						
12/20/98	Sun						
12/21/98	Mon	2	2	2	2	2	2
12/22/98	Tue	2	2	2	2	2	2
12/23/98	Wed	1	2	2	2	2	2
12/24/98	Thu						
12/25/98	Fri						
12/26/98	Sat						
12/27/98	Sun						
12/28/98	Mon	2	2	2	2	2	2
12/29/98	Tue	2	2	2	2	2	2
12/30/98	Wed	2	2	2	2	2	2
12/31/98	Thu	2	2	2	2	2	2
1/1/99	Fri						
1/2/99	Sat						
1/3/99	Sun						
1/4/99	Mon	1	2	2	2	2	2
1/5/99	Tue	3	2	2	2	2	2

Date	Day	TO11	TO13 FS	TO13 SIM	TO14 TRS	TO14 FID	TO14 GCMS
1/6/99	Wed	2	2	2	2	2	2
1/7/99	Thu	4	4	4	4	4	4
1/8/99	Fri	4	4	4	4	4	4
1/9/99	Sat						
1/10/99	Sun						
1/11/99	Mon	2	2	2	2	2	2
1/12/99	Tue	2	2	2	2	2	2
1/13/99	Wed	2	2	2	2	2	2
1/14/99	Thu		2	2	2	2	2
1/15/99	Fri	2	2	2	2	2	2
1/16/99	Sat						
1/17/99	Sun						
1/18/99	Mon	2	2	2	2	2	2
1/19/99	Tue	2	2	2	2	2	2
1/20/99	Wed	2	2	2	2	1	1
1/21/99	Thu	2	2	2	2	1	1
1/22/99	Fri	2	2	2	2	1	1
1/23/99	Sat						
1/24/99	Sun						
1/25/99	Mon	2	2	2	2		
1/26/99	Tue	2	2	2	2	1	1
1/27/99	Wed	2	2	2	2	2	2
1/28/99	Thu	2	2	2	2	2	2
1/29/99	Fri	2	2	1	2	2	2
1/30/99	Sat						
1/31/99	Sun						
2/1/99	Mon	2	2	2	2	2	2
2/2/99	Tue	2	2	2	2	2	2
2/3/99	Wed	2	2	2	2	2	2
2/4/99	Thu	2	2	2	2	2	2
2/5/99	Fri	2	2	2		2	2
2/6/99	Sat						
2/7/99	Sun						
2/8/99	Mon	2	1	1	2	2	2
2/9/99	Tue	2	1	1	2	2	2
2/10/99	Wed	4	4	4	3	4	4
2/11/99	Thu	4	4	4	4	4	4
2/12/99	Fri	4	4	4	4	4	4
2/13/99	Sat						
2/14/99	Sun						
2/15/99	Mon	4	4	4	4	4	4
2/16/99	Tue	3	2	2	3	3	3
2/17/99	Wed	4	4	4	4	4	4
2/18/99	Thu	3	3	3	4	4	4

Date	Day	TO11	TO13 FS	TO13 SIM	TO14 TRS	TO14 FID	TO14 GCMS
2/19/99	Fri	4	4	4	4	4	5
2/20/99	Sat						
2/21/99	Sun						
2/22/99	Mon	2	1	1	2	2	1
2/23/99	Tue	2	2	2	2	2	2
2/24/99	Wed	2	1	1	2	2	2
2/25/99	Thu	2	2	2	2	2	2
2/26/99	Fri	2	1	1	2	2	2
2/27/99	Sat						
2/28/99	Sun						
3/1/99	Mon	5	5	5	5	5	5
3/2/99	Tue	5	5	5	5	5	5
3/3/99	Wed	5	5	5	5	5	5
3/4/99	Thu	5	5	5	5	5	5
3/5/99	Fri	5	5	5	5	5	5
3/6/99	Sat	5	5	5	5	5	5
3/7/99	Sun						
3/8/99	Mon	5	5	5	5	5	5
3/9/99	Tue	5	5	5	5	4	4
3/10/99	Wed	5	5	5	5	5	5
3/11/99	Thu	3	3	3	3	3	3
3/12/99	Fri	5	5	5	5	5	5
3/13/99	Sat	5	5	5	5	5	5
3/14/99	Sun						
3/15/99	Mon	2	2	2	2		1
3/16/99	Tue	2	2	2	2		2
3/17/99	Wed	5	5	5	5		5
3/18/99	Thu	5	5	5	5		5
3/19/99	Fri						
3/20/99	Sat						
3/21/99	Sun						
3/22/99	Mon	2	2	2	2		2
3/23/99	Tue	2	2	2	2		2
3/24/99	Wed	2	2	2	2		2
3/25/99	Thu						
3/26/99	Fri	2	2	2	2		2
3/27/99	Sat	2	2	2	1		1
3/28/99	Sun						
3/29/99	Mon						
3/30/99	Tue						
3/31/99	Wed						
4/1/99	Thu						
4/2/99	Fri	3	3	3	3		3
4/3/99	Sat						

Date	Day	TO11	TO13 FS	TO13 SIM	TO14 TRS	TO14 FID	TO14 GCMS
4/4/99	Sun						
4/5/99	Mon						
4/6/99	Tue						
4/7/99	Wed	2	2	2			2
4/8/99	Thu	1	2	2			
4/9/99	Fri	2	2	2			2
4/10/99	Sat	2	2	2			2
4/11/99	Sun						
4/12/99	Mon	2	2	2			2
4/13/99	Tue	2	2	2			2
4/14/99	Wed	2	2	2			2
4/15/99	Thu	2	2	2			2
4/16/99	Fri	3	3	3			3
4/17/99	Sat	2	2	2			2
4/18/99	Sun						
4/19/99	Mon	1		1			1
4/20/99	Tue	1		1			1
4/21/99	Wed	1		1			1
4/22/99	Thu	1		1			1
4/23/99	Fri	1		1			1
4/24/99	Sat	1		1			1
4/25/99	Sun						
4/26/99	Mon	1		1			1
4/27/99	Tue	1		1			1
4/28/99	Wed	1		1			1
4/29/99	Thu	1		1			1
4/30/99	Fri	1		1			1
5/1/99	Sat	1		1			1
5/2/99	Sun						
5/3/99	Mon	1		1			1
5/4/99	Tue	1		1			1
5/5/99	Wed	1		1			1
5/6/99	Thu	1		1			1
5/7/99	Fri	1		1			1
5/8/99	Sat	1		1			1
5/9/99	Sun						
5/10/99	Mon	1		1			1
5/11/99	Tue	1		1			1
5/12/99	Wed	1		1			1
5/13/99	Thu	1		1			1
5/14/99	Fri	1		1			1
5/15/99	Sat	1		1			1
5/16/99	Sun						
5/17/99	Mon	1		1			1

Date	Day	TO11	TO13 FS	TO13 SIM	TO14 TRS	TO14 FID	TO14 GCMS
5/18/99	Tue	1		1			1
5/19/99	Wed	1		1			1
5/20/99	Thu	1		1			1
5/21/99	Fri	1		1			1
5/22/99	Sat	1		1			1
5/23/99	Sun						
5/24/99	Mon	1		1			1
5/25/99	Tue	1		1			1
5/26/99	Wed	1		1			1
5/27/99	Thu	1		1			1
5/28/99	Fri	1		1			1
5/29/99	Sat						
5/30/99	Sun						
5/31/99	Mon						
6/1/99	Tue	1		1			1
6/2/99	Wed	1		1			1
6/3/99	Thu	1		1			1
6/4/99	Fri	1		1			1
6/5/99	Sat	1		1			1
6/6/99	Sun						
6/7/99	Mon	1		1			1
6/8/99	Tue	1		1			1
6/9/99	Wed	1		1			1
6/10/99	Thu	1		1			1
6/11/99	Fri	1		1			1
6/12/99	Sat	1		1			1
6/13/99	Sun						
6/14/99	Mon	1		1			1
6/15/99	Tue	1		1			1
6/16/99	Wed	1		1			1
6/17/99	Thu	1		1			1
6/18/99	Fri	1		1			1
6/19/99	Sat	1		1			1
6/20/99	Sun						
6/21/99	Mon	1		1			1
6/22/99	Tue	1		1			1
6/23/99	Wed	1		1			1
6/24/99	Thu	2		2			2
6/25/99	Fri	2		2			2
6/26/99	Sat	2		2			2
6/27/99	Sun						
6/28/99	Mon	2		2			2
6/29/99	Tue	2		2			2
6/30/99	Wed	2		2			2

Date	Day	TO11	TO13 FS	TO13 SIM	TO14 TRS	TO14 FID	TO14 GCMS
7/1/99	Thu	2		2			2
7/2/99	Fri	2		2			2
7/3/99	Sat	1		1			1
7/4/99	Sun						
7/5/99	Mon						
7/6/99	Tue	1		1			1
7/7/99	Wed	1		1			1
7/8/99	Thu	1		1			1
7/9/99	Fri	1		1			1
7/10/99	Sat	1		1			1
7/11/99	Sun						
7/12/99	Mon	1		1			1
7/13/99	Tue	1		1			1
7/14/99	Wed	3		1			1
7/15/99	Thu	1		1			1
7/16/99	Fri	1		1			1
7/17/99	Sat	1		1			
7/18/99	Sun						
7/19/99	Mon	2		2			2
7/20/99	Tue	2		2			2
7/21/99	Wed	2		1			1
7/22/99	Thu	1		1			1
7/23/99	Fri	1		1			1
7/24/99	Sat	1		1			1
7/25/99	Sun						
7/26/99	Mon	1		1			1
7/27/99	Tue	1		1			1
7/28/99	Wed	1		1			1
7/29/99	Thu	1		1			1
7/30/99	Fri	1		1			1
7/31/99	Sat	1		1			1
8/1/99	Sun						
8/2/99	Mon	1		1			2
8/3/99	Tue	1		1			1
8/4/99	Wed	1		1			1
8/5/99	Thu	1		1			1
8/6/99	Fri	1		1			1
8/7/99	Sat	1		1			1
8/8/99	Sun						
8/9/99	Mon	1		1			1
8/10/99	Tue	1		1			1
8/11/99	Wed	1		1			1
8/12/99	Thu	1		1			1
8/13/99	Fri	1		1			1

Date	Day	TO11	TO13 FS	TO13 SIM	TO14 TRS	TO14 FID	TO14 GCMS
8/14/99	Sat	1		1			1
8/15/99	Sun						
8/16/99	Mon	1		1			1
8/17/99	Tue	1		1			1
8/18/99	Wed	1		1			1
8/19/99	Thu	1		1			1
8/20/99	Fri	1		1			1
8/21/99	Sat	1		1			1
8/22/99	Sun						
8/23/99	Mon	1		1			1
8/24/99	Tue	1		1			1
8/25/99	Wed	1		1			
8/26/99	Thu						
8/27/99	Fri	2		1			
8/28/99	Sat	1		1			
8/29/99	Sun						
8/30/99	Mon	1		1			
8/31/99	Tue	1		1			1
9/1/99	Wed	1		1			1
9/2/99	Thu	1		1			1
9/3/99	Fri	1		1			1
9/4/99	Sat						
9/5/99	Sun						
9/6/99	Mon						
9/7/99	Tue	1		1			1
9/8/99	Wed	1		1			1
9/9/99	Thu	1		1			1
9/10/99	Fri	1		1			1
9/11/99	Sat	1		1			1
9/12/99	Sun						
9/13/99	Mon	1		1			1
9/14/99	Tue	1		1			1
9/15/99	Wed	2		2			2
9/16/99	Thu	2		2			2
9/17/99	Fri	2		2			2
9/18/99	Sat	2		2			2
9/19/99	Sun						
9/20/99	Mon	2		2			2
9/21/99	Tue	2		2			2
9/22/99	Wed	2		2			2
9/23/99	Thu	2		2			1
9/24/99	Fri	2		2			2
9/25/99	Sat	2		2			2
9/26/99	Sun						

Date	Day	TO11	TO13 FS	TO13 SIM	TO14 TRS	TO14 FID	TO14 GCMS
9/27/99	Mon	2		1			2
9/28/99	Tue	2		2			2
9/29/99	Wed	2		2			2
9/30/99	Thu	2		2			2
10/1/99	Fri	2		2			4
10/2/99	Sat	2		2			1
10/3/99	Sun						
10/4/99	Mon	2		2			2
10/5/99	Tue	2		2			2
10/6/99	Wed	2		2			1
10/7/99	Thu	2		2			2
10/8/99	Fri	2		2			2
10/9/99	Sat						
10/10/99	Sun						
10/11/99	Mon	2		2			2
10/12/99	Tue						
10/13/99	Wed	1		1			1
10/14/99	Thu	1		1			1
10/15/99	Fri	1		1			1
10/16/99	Sat						
10/17/99	Sun						
10/18/99	Mon	1		1			1
10/19/99	Tue	1		1			1
10/20/99	Wed	1		1			1
10/21/99	Thu	1		1			1
10/22/99	Fri	1		1			1
10/23/99	Sat	1		1			1
10/24/99	Sun						
10/25/99	Mon	1		1			1
10/26/99	Tue	1		1			1
10/27/99	Wed	1		1			1
10/28/99	Thu	1		1			1
10/29/99	Fri	1		1			1
10/30/99	Sat	1		1			1
10/31/99	Sun						
11/1/99	Mon	1		1			1
11/2/99	Tue	1		1			
11/3/99	Wed	1		1			1
11/4/99	Thu	1		1			1
11/5/99	Fri	1		1			1
11/6/99	Sat						
11/7/99	Sun						
11/8/99	Mon						
11/9/99	Tue	1		1			1

Date	Day	TO11	TO13 FS	TO13 SIM	TO14 TRS	TO14 FID	TO14 GCMS
11/10/99	Wed	1		1			1
11/11/99	Thu	1		1			1
11/12/99	Fri	1		1			1
11/13/99	Sat						
11/14/99	Sun						
11/15/99	Mon	1		1			1
11/16/99	Tue	1		1			1
11/17/99	Wed	1		1			1
11/18/99	Thu	1		1			1
11/19/99	Fri	1		1			1
11/20/99	Sat						
11/21/99	Sun						
11/22/99	Mon	1		1			1

Table 9.4. Summary of Integrated Samples—Numbers of Samples

Method	Aldehyde/ Ketones	PAH Full Scan	PAH SIM	Sulfurs	Hydrocarbons	VOCs
Total	504	281	485	295	249	499

9.2. SPECIAL DATA COLLECTION

9.2.1. Soil Odor Test

In late July 1999, during the installation of sheet pile in Cell 3 along the south side of Front St., a number of odor complaints were registered. The odor was described as "natural-gas like," and "mercaptan-like." A number of measures were taken to assess this odor, including the collection of additional grab samples downwind of the cell, additional monitoring by CMT technicians, and a soil odor test. The soil odor test was developed in response to concerns about additional odor releases during the next phase of sheet pile installation along San Luis Street.

It was surmised that the odor was emitted as a result of high-energy sheet pile pushing, which caused the release of either adsorbed mercaptans from a previously known natural gas leak, or the formation of odorous sulfur compounds from the friction of sheet pile on various types of sulfur-containing subsurface rocks. The natural gas leak scenario was raised based on recollections of an old sealed off natural gas pipeline in the area along Front Street. Figure 9.1 shows a photograph of steam rising from the sheet pile as it is being pushed into the ground around the time that the odors were released.

The soil odor test necessitated the collection of a number of soil samples at points near to the suspected points of emission, and near to the position of the next phase of sheet pile installation. The soil samples were collected into small glass bottles, which were shipped to the laboratory for analysis. The analysis consisted of heating the vials to 100°C and extracting an aliquot for injection into the gas chromatograph for reduced sulfur analysis.

Figure 9.2 shows a map of the soil sampling locations. Table 9.5 shows the listing of the sampling points, and Table 9.6 contains the results of the soil headspace analysis. The sample points were located in an area that was being excavated for installation of a drainage system, so subsurface soil was exposed and could be sampled. It was assumed that the soil in this area was similar to the area nearby (within 15 feet) that had produced the noxious odors during sheet pile installation.

Figure 9.1. Steam from Sheet Pile Installation

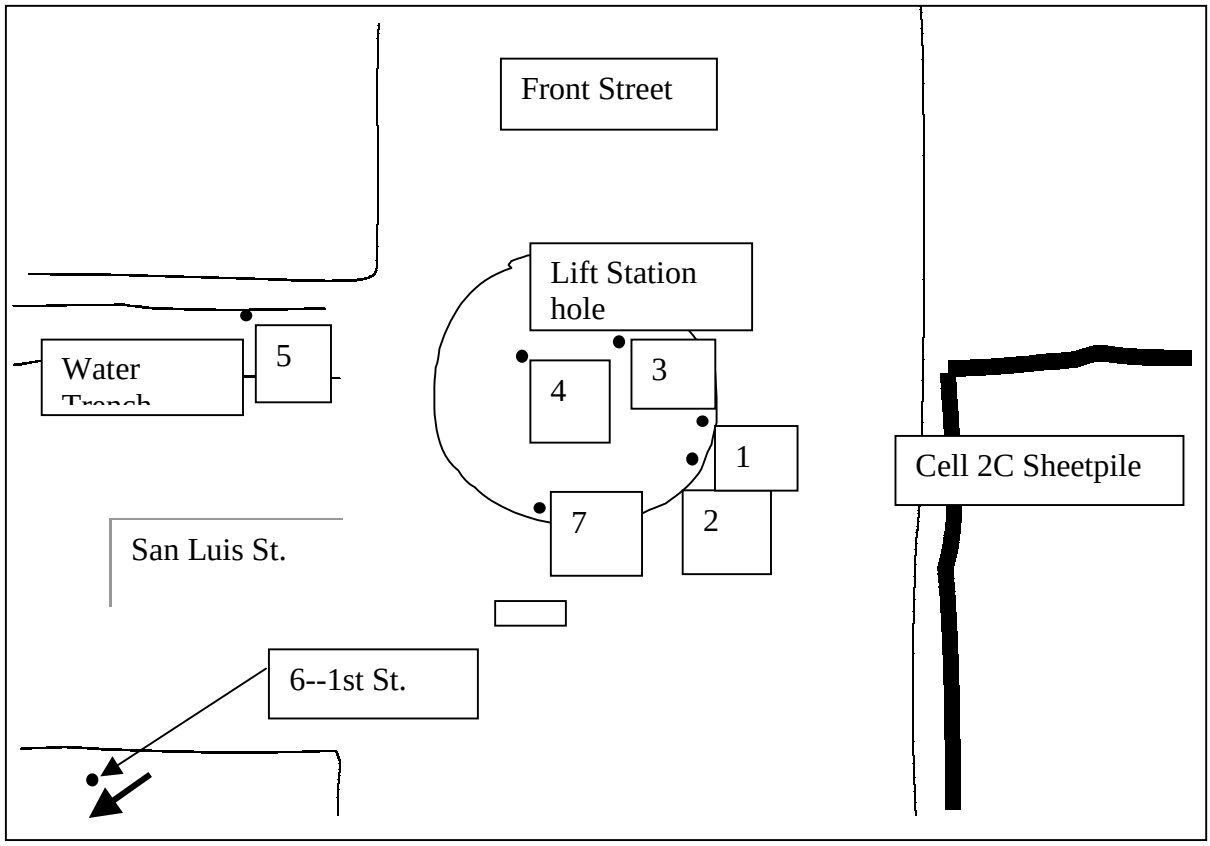


Figure 9.2. Map of Soil Sampling Locations

Table 9.5. List of Soil Sampling Locations

Number	Description
1	1 foot below Asphalt
2	1 foot below Asphalt, two feet laterally from #1
3	6 feet below Asphalt, next to water drain pipe
4	2 feet below Asphalt, adjacent to pipeline
5	6 inches below Asphalt, in water pipeline trench
7	1 foot below Asphalt
6	6 inches below sidewalk, 1st St. middle of San Luis/San Miguel block.

Table 9.6. Results from Soil Sample Heated Headspace Analysis (ppbv)

Compound	1	2	3	4	5	7	6-Bkg
Hydrogen Sulfide	2.3				1.8		
Carbonyl Sulfide	54.4	15	4.1	127	9.5	79.3	48
Methyl Mercaptan	7.9	6.2	2.0		2.0		
Ethyl Mercaptan							
Dimethyl Sulfide							
Carbon Disulfide	10.9	4.8	6.1	5.8	8.9	5.5	10.8
Isopropylmercaptan	1.3						
tert-Butyl Mercaptan							
n-Propylmercaptan							
Ethyl Methyl Sulfide							
Thiophene							4.3
Isobutyl Mercaptan							
Diethyl Sulfide							4.0
n-Butylmercaptan					1.1		
Dimethyl Disulfide	1.5		2.4	1.2	1.2	3.6	5.6
3-Methylthiophene	1.9		1.8		1.6	6.7	9.2
Tetrahydrothiophene	3.6		1.6			6.4	9.2
2-Ethylthiophene			1.8			9.4	10.2
2,5-Dimethylthiophene			6.5		4.2	2.8	21.6
Diethyl Disulfide	5.1	1.1	1.7	4.5	2.6	10.4	13.5

The results show a high variability in the odor species concentration. While there is some indication of a difference for carbonyl sulfide at different locations, none of the concentrations were above the reported odor threshold of 100 ppbv. Several other species, however, such as methyl mercaptan, dimethyl disulfide, the various thiophenes, and diethyl disulfide, all have relatively low odor thresholds, suggesting that the soil did indeed contain the potential for noxious odors. However, the spatial aspect of the data suggested little difference between soil samples in the different locations, leading to the conclusion that soil odor tests were unlikely to predict the potential for odorous emissions during sheet pile installation.

The result of this test was the conclusion that no prediction could be made for future odor emissions and that in order to handle the potential for problems, an increased odor patrol would be initiated to patrol the area during subsequent sheet pile installation.

The last portion of sheet pile installation proceeded without any odor emissions, suggesting that the source of the odor was localized, possibly from remnants of leaking natural gas odorants.

9.2.2. Inside of Cell Tests

9.2.2.1.Voyager Tests

During the height of Cell 1A excavation, air samples were collected and analysed at the area with calmest daytime air and most contaminated material in the cell, the southwest corner. The purpose of this was to determine the response for the off-hours sensor. The information was also useful for determining the potential for emissions to off-site receptors.

The samples showed moderate levels of BTEX, with a maximum of 100 ppbv of toluene. Other compounds were detected at lower levels, with many peaks corresponding to unidentified compounds. While interesting from a general perspective, these data were not of particular value to the CMP.

Jacobs Engineering safety staff regularly collected data inside the pit using handheld PID and hydrogen sulfide sensors. While the data from these efforts are not available, the data never surpassed the limit for worker health and safety, both for hydrocarbons (50 ppmv) and hydrogen sulfide (10 ppmv). However, these limits could potentially not be exceeded while still having some impact to odors or ambient air trigger levels.

9.2.2.2.Soil Headspace VOC Speciation

Four sets of speciation data were collected in order to assess the nature of emissions directly from the affected material.

The first two sets of speciation data consisted of a headspace sample, though not rigorously sealed against ambient air intrusions, collected using Summa canisters from a batch of freshly excavated affected soil in Cell 2C, an area that had been associated with localized odors. Tables 9.7 and 9.8 show the results of the sampling and laboratory speciation. In both cases, the standard analytes were provided, along with the top ten tentatively identified compounds (TICs).

Table 9.7. Soil Emissions Speciation—Cell 2C, August 4, 1999

8/4/99	ppbv
Freon 11	<3.4
Benzene	<3.4
Toluene	<3.4
Ethyl Benzene	<3.4
m,p-Xylene	<3.4
o-Xylene	<3.4
1,3-Butadiene	<3.4
Methyl tert-Butyl Ether	<3.4
Acrolein	78
Cyclopentane, 1,2,4-trimethyl-, (1.alpha	350
4-Undecene, 8-methyl-, (Z)-	230
Cyclopentane, 1-methyl-3-(2-methylpropyl	330
Cyclohexane, 1,1,2,3-tetramethyl-	230
Cyclopentane, (3-methylbutylidene)-	220
Cyclohexane, 2-ethyl-1,3-dimethyl-	220
Cyclopentane, 1-butyl-2-ethyl-	220
1,2-Diheptylcyclopropene	280
Unknown	490
9-Octadecyne	220

Table 9.8. Soil Emissions Speciation—Cell 2C, August 5, 1999

8/5/99	ppbv
Freon 11	<0.72
Benzene	<0.72
Toluene	<0.72
Ethyl Benzene	<0.72
m,p-Xylene	<0.72
o-Xylene	<0.72
1,3-Butadiene	<0.72
Methyl tert-Butyl Ether	<0.72
Acrolein	5.9
Bicyclo[2.2.1]heptane, 2-(2-propenyl)-	200
1H-Inden-1-one, octahydro-7a-methyl-, ci	140
Cyclopropane, 1-hexyl-2-propyl-, cis-	170
Cyclohexene, 3-methyl-6-(1-methylethyl)-	140
Tricyclo[3.3.1.13,7]decane	180
Tricyclo[4.3.1.13,8]undecane, 3-chloro-	130
2H-Inden-2-one, 1,4,5,6,7,7a-hexahydro-7	130
5-Undecene, 5-methyl-, (Z)-	190
Tricyclo[3.3.1.13,7]decane, 1,3-dimethyl	160
7-Heptadecyne, 1-chloro-	150

Both of the samples show detects of acrolein, suggesting that ambient air from the pit area that was impacted by diesel exhaust infiltrated the headspace container. The presence of these high levels of acrolein supports the downwind detection of this compound in regular CMP sampling locations.

The TICs show a number of unusual compounds that are high in cyclic species. This was unexpected since the hydrocarbons in the affected soil were typically straight chain alkane type species. However, it is possible that these species were caused by microbial degradation of the petroleum products, since the area the soil was drawn from near the beach where marine life was present. Because of the unusual mix of compounds present, these data were not useful for understanding the odor phenomenon associated with the affected soil in that area.

Other headspace samples were collected from the San Antonia plume and the Lyons-Togazzini property. Table 9.9 shows a full hydrocarbon speciation analysis performed on these headspace samples. These data show a wide range of hydrocarbons present, dominated by higher carbon number species. This is not unexpected since the products had been present for many years, allowing the more volatile species to escape.

Table 9.9. San Antonia and Lyons-Togazzini Soil Headspace

Location/Compound	San Antonia	Lyons-Togazzini
Sampled	1/15/00	3/15/00
Analyzed	4/12/00	4/12/00
	ppbC	ppbC
TNMHC*	153,586	4,991
Sum Id	61,539	2,198
Sum Unid	92,047	2,793
Parafins	29,958	1,093
Olefins	8,783	201
Aromatics	19,408	716
*Total Non-Methane Hydrocarbon		
	Amount	Amount
Compound	ppbV	ppbV
Ethene	<7.65	0.9
Acetylene	<7.65	0.6
Ethane	<7.65	7.0
Propene	<5.1	0.8
Propane	<5.1	2.4
Methylacetylene	<5.1	<5.1
i-Butane	<3.825	7.6
IsoButene	<3.825	<3.825
1-Butene	<3.825	0.9
1,3-Butadiene	<3.825	<3.825
n-Butane	4.8	7.6
t-2-Butene	<3.825	<3.825
2,2-Dimethylpropane	<3.06	<3.06
c-2-Butene	<3.825	<3.825
3-Methyl-1-butene	<3.06	<3.06
i-Pentane	191.8	12.9
1-Pentene	<3.06	<3.06
2-Methyl-1-butene	<3.06	<3.06
n-Pentane	115.1	0.3
Isoprene	<3.06	<3.06
t-2-Pentene	<3.06	<3.06
c-2-Pentene	<3.06	<3.06
2-Methyl-2-butene	<3.06	<3.06
2,2-Dimethylbutane	13.7	2.3
Cyclopentene	<3.06	3.6
Cyclopentane	17.7	1.5
2,3-Dimethylbutane	79.5	0.5
Methyl-tert-butylether	<3.06	<3.06

Location/Compound	San Antonia	Lyons-Togazzini
2-Methylpentane	248.8	0.5
3-Methylpentane	380.9	1.1
2-Methyl-1-pentene	<2.55	<2.55
1-Hexene	35.5	2.9
n-Hexane	58.1	1.7
t-2-Hexene	<2.55	4.4
2-Methyl-2-pentene	<2.55	<2.55
c-2-Hexene	<2.55	<2.55
Methylcyclopentane	72.2	4.9
2,4-Dimethylpentane	49.6	5.5
Benzene	3.3	5.2
Cyclohexane	133.8	16.6
2-Methylhexane	72.0	2.5
2,3-Dimethylpentane	140.2	3.5
3-Methylhexane	206.5	2.7
1-Heptene	371.8	6.4
2,2,4-Trimethylpentane	365.5	7.0
n-Heptane	13.2	4.1
Methylcyclohexane	805.2	2.8
2,4-Dimethylhexane	254.3	3.7
2,3,4-Trimethylpentane	39.1	23.7
Toluene	23.2	5.9
2-Methylheptane	159.0	2.3
3-Methylheptane	41.4	4.8
1-Octene	543.2	3.7
n-Octane	39.7	1.3
Ethylbenzene	227.8	3.3
m&p-xylene	101.6	3.6
Styrene	233.7	3.3
o-Xylene	40.3	1.9
1-Nonene	178.9	6.1
n-Nonane	265.2	9.2
i-Propylbenzene	97.0	1.3
a-Pinene	141.3	1.9
n-Propylbenzene	185.4	4.5
3-Ethyltoluene	65.6	<1.7
4-Ethyltoluene	150.1	4.9
1,3,5-Trimethylbenzene	38.5	9.2
2-Ethyltoluene	28.8	3.3
b-Pinene	235.3	13.9
1,2,4-Trimethylbenzene	252.5	12.2
n-Decane	143.4	13.9
1,2,3-Trimethylbenzene	360.0	8.8
p-Cymene	40.1	7.5
d-Limonene	<1.53	4.5

Location/Compound	San Antonia	Lyons-Togazzini
n-Butylbenzene	339.7	7.3
Undecane	213.6	5.5

9.2.2.3.H2S/Odor

Several tests were made inside the excavation pits using the Jerome H2S sensor. In these cases, ambient air samples from approximate breathing zone were collected, or the Jerome probe was placed very close to the soil or hydrocarbon contaminated standing water. In the majority of the cases, no hydrogen sulfide was detected, suggesting that the amounts detected downwind during the CMP monitoring were primarily due to emissions from diesel equipment.

This assertion was confirmed in one test in which a Jerome was placed approximately 3 feet downwind of an idling truck exhaust pipe. The data showed 20 ppmv of H2S in one sample, and 5 ppmv in another sample. While this test is not definitive, it supports the contention that the exhaust was causing the hydrogen sulfide emissions, not the petroleum product contaminated soil.

One pit did display specific H2S odors that were confirmed by the Jerome H2S sensor. The VPS pit, which was a small area remaining in Cell 1 where the VPS recovery equipment was located, was noticed to produce a slight hydrogen sulfide odor. When the perimeter of the pit was tested with the Jerome, several high readings were detected, ranging from background levels of 3-5 ppbv to 20 ppbv. These values were supportive of an olfactory detection. Samples collected over the active pit area showed low levels of H2S. Downwind samples showed general background levels, suggesting that, even with detectable levels at the pit area, the downwind sampling locations near the fence line were sufficiently distant to allow a high level of dilution to the odor plume.

9.2.3. Foam Efficacy Test

In early August 1999, questions arose concerning the effectiveness of the foaming process for controlling emissions of VOCs and odor from the stockpile at the Tank Farm. To assay foam efficacy, a test was performed on unfoamed vs. foamed soil.

The testing process involved placing an inverted plastic garbage can on the soil surface. After equilibrating for 5 minutes, a grab Summa canister sample was collected of the gas inside the container. The sample was then analyzed for total non-methane hydrocarbons using US EPA Compendium Method TO-12 (preconcentrated direct flame ionization detection). Three surfaces were tested: uncontrolled bare soil surface, controlled surface (covered with foam approximately one to two inches thick that had been applied 15 minutes earlier), and controlled surface (foam covering) after approximately 12 hours following application.

The results of these tests were as follows (all results are ppmv of non-methane carbon):

- Uncontrolled: 19.0 ppmv (3.2 ppmv as hexane)

- Controlled—15 minutes post-application: 3.7 ppmv (0.62 ppmv as hexane)
- Controlled—12 hours post-application: 2.4 ppmv (0.40 ppmv as hexane)

Using the equation: efficiency = (uncontrolled-controlled)/controlled, the suppression efficiency was calculated as 84.0%. It should be noted that this was a minimum control for two reasons: (1) the 12 hour post-application data point was used, which is approximately 40% lower than the immediate post-application, and (2) the foam itself has a hydrocarbon emission that contributes to the totals. The proportion of the total that the foam contributes to would raise the efficiency if subtracted from each measurement. The amount of emission from the foam itself is unknown. Figure 9.3 shows a photograph of the foaming process during this test.

Figure 9.3. Stockpile Foaming for Odor Suppression

9.3. BACKGROUND DATA COLLECTION

The purpose of background data collection was to obtain information on Chemical of Concern levels in Avila Beach prior to remediation activities. This information allows for a more balanced assessment of the impact of the remediation activities.

In early October 1999, a project team meeting was held to select the data sets to be used for defining background conditions. There were a number of data sets examined; each was evaluated for its representativeness of Avila Beach.

The background data sets chosen included the following:

- Previous Avila Data from 1998 and 1999;
- Unocal Pier samples collected during construction activities;
- Data sets from Avila Beach during non-construction time periods, including the Baseline Sampling period;
- Data from surrounding areas, such as Pismo Beach and San Luis Obispo; and
- Other general background data useful for general applications, but not for calculations.

A detailed listing of the background data is included in the Risk Assessment report included in Appendix D.

Dr. John Rice, Chairman of the Statistics Department at UC Berkeley, was retained to assist the team in understanding the appropriate treatment of concentration data. Based on discussions at the meeting, two procedures were developed: one that provided for the calculation of statistics for a stratified sample design that was in use, and the other that utilized the background data from other locations to be used in correcting for background concentrations. Dr. Rice produced two memoranda that discussed the methodology for correct statistical calculations. These two memoranda are reproduced in the Risk Assessment document, Appendix D.

9.4. DATA QUALITY REVIEW

Implementation of mobile field analysis followed the protocols set forth in the CMP Work Plan. The purpose of this section is to review data quality and to assess the overall uncertainty associated with the data.

9.4.1. Voyager Quality Assurance Data

The daily use of the Voyager GCs was the most important effort in terms of daily quality control checks. As cited in Section 5, the other field instruments were calibrated at the factory and did not require daily checks; any issues with calibration and performance of these instruments were cited in Section 5. In this discussion, quality control of the Voyager is presented.

Quality assurance procedures implemented for the field GCs included:

- Method detection limit study
- Initial multi-point calibration
- Daily QC checks
- Audit samples

9.4.1.1.Method Detection Limit Study

The method detection limit study was conducted at the beginning of the program. The study followed the standard protocol of running a minimum of seven replicate analyses of a low-level standard, and calculating the MDL by multipying the standard deviation of those values by 3.14. Tables 9.10 and 9.11 show the results of these studies. The values obtained were used throughout the program.

Table 9.10. Voyager 301 MDL Study Results

Voyager MDL Study					
Inst: 301					
Run	benzene	toluene	ethylbenzene	m-xylene	o-xylene
1	10	40	40	41	47
2	11	42	42	44	48
3	11	41	42	44	49
4	11	41	41	43	49
5	11	40	42	43	50
6	11	41	43	46	51
7	12	42	43	45	49
8	11	41	41	43	48
s	0.533	0.76	1.04	1.501	1.25
$\bar{x}$	11	41	41.8	43.6	48.9
	99.5% C.I.= $\bar{x}$ + 3.355s				
99.5% C.I.	12.79	43.54	45.22	48.68	53.06
MDL	9.2	38.5	38.3	38.6	44.7

Table 9.11. Voyager 303 MDL Study Results

Inst: 303	benzene	toluene	ethylbenzene	m-xylene	o-xylene
1	10	44	39	26	39
2	10	43	42	32	38
3	10	43	35	23	41
4	10	43	37	23	38
5	10	43	39	36	41
6	10	43	39	37	42
S	0	0.4	2.3	6.3	1.7
x	10	43.16667	38.5	29.5	39.8
	99.5% C.I.= x + 3.499s				
99.5% C.I.	10	44.6	46.7	51.7	45.9
MDL	10	41.7	30.3	7.3	33.8

A similar study was conducted for 1,3-butadiene. However, its values suggested a much lower MDL, which appeared unrealistic. Therefore, an arbitrary 10 ppbv detection limit was chosed based on a level that could be easily seen.

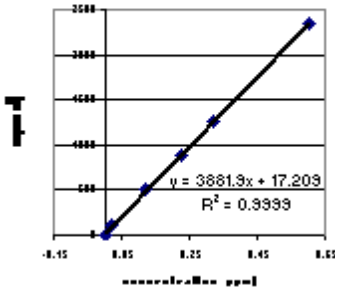
9.4.1.2.Initial Calibration Curve

A five-point calibration curve was used to establish the calibration function for the data system. An initial calibration was performed and if changes in the system necessitated it, a recalibration was performed. Recalibration was necessary only a few times. Table 9.12 shows an example of an initial calibration data set. The range of calibration was from 10 ppbv to 200 ppbv for benzene, and from approximately 50 to 250 ppbv for the other analytes. The acceptance criterion for linearity was a correlation coefficient of $r^2 > 0.995$. This was accomplished without many difficulties.

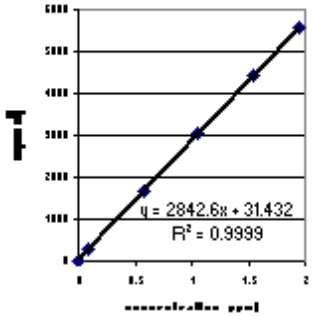
Table 9.12. Results of Initial Calibration Runs

301 Calibration Curves and Peak Reports

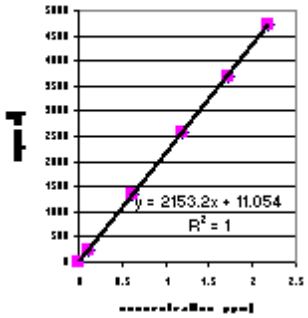
benzene



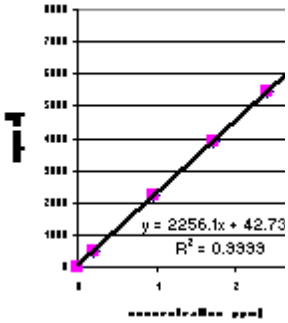
toluene



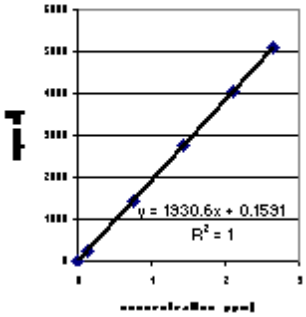
ethylbenzene



m-xylene



o-xylene



8111514		Conc	Area	Height	R.T.
10ppb BTEX		(PPM)	(mVS)	(mV)	(S)
1 Benzene		0.02	101	5.562	252.5
2 Unknown			302	15.1	273.9
3 Unknown			315	6.077	286.7
4 Unknown			0.514	0.343	383
5 Toluene		0.086	293	16.6	434
6 Ethylbenzene		0.111	257	9.998	746
7 m-Xylene		0.193	507	10.3	785.5
8 o-Xylene		0.131	253	6.917	997.9

8111517		Conc	Area	Height	R.T.
150ppb BTEX		(PPM)	(mVS)	(mV)	(S)
1 Benzene		0.321	1265	87.9	251.2
2 Unknown			463	2.851	270.4
3 Unknown			390	5.274	286.9
4 Unknown			1.479	0.534	405
5 Toluene		1.541	4410	229	432.4
6 Ethylbenzene		1.71	3693	156	744
7 m-Xylene		2.393	5440	101	784.7
8 o-Xylene		2.104	4062	106	995.3

50ppb BTEX				8111515	**200ppb BTEX**				8111518
1 Benzene	0.122	499	31.8	251.7	1 Benzene	0.602	2349	114	251.2
2 Unknown		380	7.701	272.8	2 Unknown		66.6	1.679	269.6
3 Unknown		355	4.883	286.1	3 Unknown		58.4	5.3	287.2
4 Toluene	0.576	1686	82.1	432.8	4 Toluene	1.952	5572	296	432.4
5 Ethylbenzene	0.622	1355	54.5	744.7	5 Ethylbenzene	2.186	4715	203	744
6 m-Xylene	0.958	2223	31.3	784.7	6 m-Xylene	2.965	6721	135	784
7 o-Xylene	0.75	1448	36.4	996.2	7 o-Xylene	2.649	5114	137	995.3
100ppb BTEX				8111516	**50ppbcal BTEX**				8111522
1 Benzene	0.224	893	60.4	251.5	1 Benzene	0.052	503	31.5	252
2 Unknown		425	4.733	270.9	2 Unknown		407	7.482	272.5
3 Unknown		376	4.859	286.9	3 Unknown		374	6.867	288.8
4 Toluene	1.053	3032	156	432.4	4 Toluene	0.206	1671	81.5	434
5 Ethylbenzene	1.184	2563	107	744	5 Ethylbenzene	0.211	1346	54.4	746
6 m-Xylene	1.708	3904	65.6	784	6 m-Xylene	0.214	2193	30.8	786.2
7 o-Xylene	1.438	2777	72	995.3	7 o-Xylene	0.214	1377	36.1	997.9

9.4.1.3.Daily QC Checks

Daily calibration checks for all analytes were performed before the instruments were used in the field. The acceptance criterion was ±30%. Table 9.13 shows the results of a subset of the daily QC check data, showing that this criterion was met at a high frequency. No instrument was used unless this criterion was met. In some cases, several runs were needed, frequently because of problems with the standards and not the instrument. The standards were used over a period of several days, and if poor recovery was noted, a new standard was prepared and re-analyzed. After several instances of poor recovery, the analyst was able to judge whether the problem was associated with the instrument or the standard.

Figure 9.4 shows a control chart with the average of daily QC checks. It is evident that the average daily recovery was well within the required specifications.

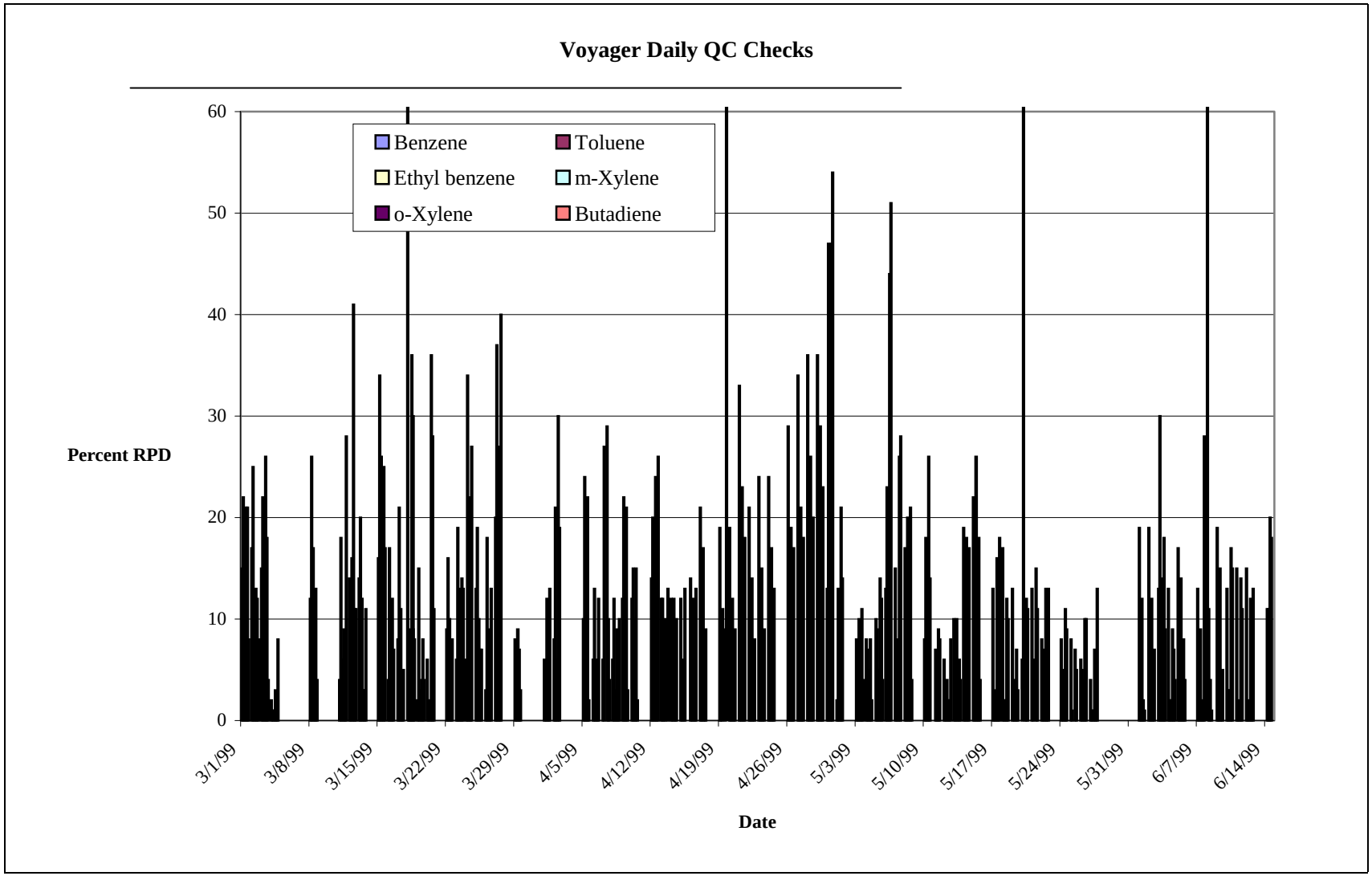


Figure 9.4. Subset of Daily QC Check Data

Table 9.13. Summary of Voyager GC Daily QC Check

Relative Percent Difference (%)	Benzene	Toluene	Ethyl benzene	m-Xylene	o-Xylene	1,3-Butadiene
n=264	15.8	13.4	12.1	12.7	14.1	10.1

9.4.2. Field Instrument Calibration

Except for the Voyager GC, the real-time field instruments were all factory calibrated. However, some minimal checking could be conducted to provide the assurance that the unit was still operating within standard guidelines.

For the the DR2000, calibration was checked periodically using the on-board optical calibration disk. This procedure consisted of inserting the disk and commencing the internal routine that compared the current response to the pre-set calibration response. The agreement was shown as a percentage. If the agreement was greater than 10 percent, the unit should be returned to the factory for recalibration. The results of this test consistently showed that the calibration was within acceptable limits.

The PDR1000 calibration was checked daily during the zeroing process with the zero air bag. In this procedure, clean air is used to provide a zero background level in which the internal optics can be checked. This test immediately indicated that the calibration was within acceptable limits. This test always produced a positive indication that calibration was still within acceptable limits.

The aethalometer calibration function was governed by the internal sigma value, which is proportional to the absorption coefficient of black carbon. This value was supposed to be fixed at the factory prior to shipping and would not therefore require adjustment. However, it was determined after the field program was completed that the sigma value had been set incorrectly from the beginning. The sigma value in place during the field program was 21, while the correct value should have been a value 16, or a factor of 1.31 too high. The result of this incorrect value was to produce a consistent low bias in the data. However, compared to other uncertainties surrounding the diesel emission estimate, this uncertainty is not significantly different from the error bounds of the other measurements, which were generally between ± 30 to 50 percent.

Among the uncertainties associated with diesel emission estimates are the lack of agreement on the actual definition of diesel exhaust, and the correct way to measure it. There is no one method for completely measuring diesel exhaust, but rather a number of ways to measure the carbon associated with it. The definitions of these carbon fractions are all operational and depend solely on how the analysis is conducted. The main analysis that is conducted is thermal optical reflectance (TOR). The various fractions of carbon that are analyzed in this method are carbonate

carbon, volatile carbon, organic carbon, several fractions of elemental carbon, and pyrolyzed carbon.

The PEC analysis provided by the aethalometer produces a value for black carbon that is not included in this set of carbon fractions. Since most definitions of diesel exhaust are based on the TOR method, various cross-calibrations have been performed that provide for a comparison function that goes into the sigma value in the aethalometer so that the data are comparable to the other sets of measurements.

However, the TOR method is fraught with uncertainties since the definintion of the various carbon fractions are operational, each laboratory that produces data can produce a different set of carbon fractions. The net result is a wide uncertainty in not only the identification of the fractions but the quantitation of those fractions. Since these major uncertainties in the carbon fractions is incorporated into the value of sigma, this leads to a large uncertainty in the diesel exhaust value.

An additional source of uncertainty associated with the diesel value lies the determination of the percentage of diesel exhaust that is elemental carbon. The value that was used for the risk assessment was a conservative 64%, which was obtained from CARB and the South Coast AQMD. Other literature values range form 17% to 90%. Most calculations are based on a large mix of primarily on-road diesel vehicles. However, it has been shown that each type of carbon aerosol effectively has its own mix and that a site-specific sigma value should be developed for use with the aethalometer. Without an in-depth study of the absorption characteristics of the carbon fraction and a comparison with the usual operational definitions of the carbon fractions, the value of sigma has a high level of uncertainty associated with it.

Other uncertain factors relating to diesel exhaust are the possible presence of different carcinogenic PAH compounds. While these compounds were measured directly in this program, the connection between those species and risk from diesel has not be made. This lack of connection provides for another layer of uncertainty around the aethalometer results.

The conclusion is that, given the conflicting approaches for quantifying diesel exhaust, the aethalometer data incorporate a high degree of uncertainty and should be viewed carefully.

9.4.3. Field Sampler Quality Assurance

9.4.3.1. Sampler Flow

The manual and automated integrated samplers were checked on a regular basis to determine the consistency of flow rates. Due to the problems of temperature dependence of the flow rates for the VOC samplers, these units were checked several times a day and adjustments made as necessary. In most cases, the flow either changed very little or changed dramatically, indicating a larger problem than temperature dependence. These changes were noted in the daily field sheets. Each set of data was evaluated prior to being sent out for analysis, following receipt of the data analysis, and prior to being incorporated into the database. Therefore, any problems in the data collection were weeded out.

Figure 9.5 shows a subset of the flow precision data collected from one sampler over a brief period of use. The data show that the agreement between the beginning and end of the day is within the nominal specification of ±10% with initial calibration value.

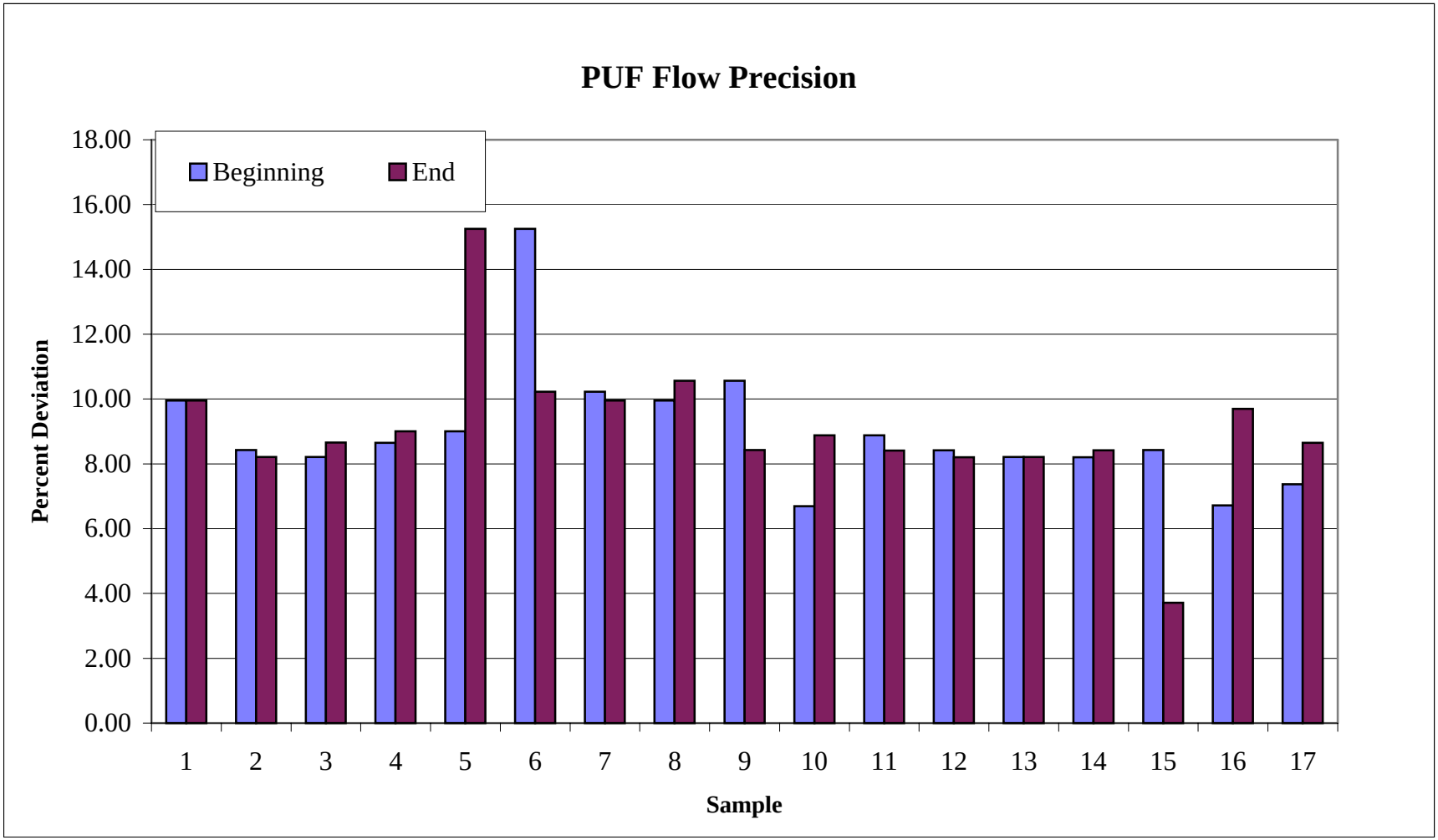


Figure 9.5. Example Flow Precision for PUF Sampler

9.4.3.2. Field Blanks

Field blanks were collected periodically to assess the potential for contamination of the samplers. Table 9.14 shows the average of detection of these field blanks. These values are close to the detection limits for each of the compounds and are on average much lower than the average of the field results. The small number of these detections in the overall number of blanks suggests a minimal impact from any contamination. Therefore, there is no substantial impact to the data quality from these low-level contaminations.

For TO-13 field blanks, there were no detections of target species other than naphthalene, which is a common contaminant in this type of sample media. The net effect of this contamination was an effective detection limit a factor of 5 higher than would have been the case in the absence of this contamination.

Table 9.14. Detected Results from Field Blank Analyses

Compound	Conc. (ppbv)	Count
Acetaldehyde	0.06	6
Acetone	0.14	2
Acrolein	0.37	6
Benzaldehyde	0.02	4
Benzene	0.13	1
Carbonyl Sulfide	2.27	4
Formaldehyde	0.42	7
Freon 11	0.16	2
Hydrogen Sulfide	4.17	2
i-Butane	0.22	2
i-Pentane	0.29	2
IsoButene	0.32	3
m,p-Xylene	0.15	5
n-Butane	0.60	3
n-Heptane	0.23	2
n-Hexane	0.31	3
n-Octane	0.22	1
n-Pentane	0.44	2
o-Xylene	0.17	1
Propane	1.30	3
Tetrahydrothiophene	2.11	3
TNMHC	34.88	3
Toluene	0.23	8

9.4.3.3. Field Duplicates

Field duplicates were performed on a periodic basis to assess the precision of the sampling process. Table 9.15 contains the results of these tests, from a compilation of analyte by analyte comparisons. The data show that 77% of the detected compounds were within the general ±50%

criterion for field duplicate samples. These data show that the sampling precision is adequate for the data's intended use.

Table 9.15. Field Duplicate Summary

RPD Range	Percent
-200%	1.9
-175%	2.8
-150%	2.6
-125%	2.0
-100%	1.9
-75%	4.9
-50%	7.7
-25%	18.4
0%	39.1
25%	5.7
50%	6.1
75%	1.9
100%	1.8
125%	1.1
150%	1.1
175%	1.1
200%	0.0

9.4.4. Laboratory and Analytical Data Issues

9.4.4.1. Sample Hold Time

Sample hold time became a critical issue due to a large number of exceedances that were not reported promptly and that potentially compromised a large portion of data. The situation arose at EAS was that due to laboratory overload, many sets of data were not reported in a timely fashion, thereby allowing a number of other quality issues to occur without detection. The major problem that arose was the exceedance of sample hold time as specified in the CMP Work Plan. Since the turnaround time agreed to initially was not met, a review of the data could not conducted in a timely fashion. The net effect was that although substantial support exists in the literature for a longer hold time for various samples, the exceedances of the agreed upon hold time specified in the CMP was grounds for qualification of the data.

Table 9.16 shows an analysis of hold times as reported by EAS for the period of October 1998 to March 1999. The table shows the number of days that the samples exceeded the contract hold times. For all methods, a large number of missed hold times were reported. While some of the hold times as specified in the CMP Work Plan may have been conservative; however, since the criteria were clearly specified, these data were outside of bounds. In particular, the BTEX data from TO-14 and the TO-14 FID could support a 30 day hold time as suggested in the outside

literature, but other methods such as TO-11 are less forgiving. Regardless of these factors, the net effect was that these data were considered to be of a lower quality due to the missed hold times, and were all flagged in the data base system. These data were excluded from the data set used in the risk assessment calculations. This lapse caused a considerable impact to the quantity and quality of the data set available for use in the program for evaluation of impacts to the community. The net result of this problem was the removal of EAS as the contract laboratory and the substitution of Air Toxics in its place. A high degree of scrutiny was made on the subsequent data so that this lapse would not occur again.

Table 9.16. Missed Hold Times

Method	Ave Days	Count	Max Days
TO11	6	61	47
TO13 FS	6	13	10
TO13 SIM	16	62	22
TO14 FID	11	96	27
TO14 GCMS	16	94	41
TO14 TRS	1	2	1

9.4.4.2. Sulfur compounds-stability

Hydrogen sulfide is known to be unstable in Tedlar bags over an extended period of time, ranging from 4 hours to 48 hours, depending on the matrix. For ambient air, the commonly accepted value is 48 hours from sample collection to analysis. For this reason, the hold time specified was 48 hours after receipt. However, over time it was found that the use of Tedlar bags for the integrated sampling was unsatisfactory as seen from the large discrepancy in the field analysis results as generated by the Jerome hydrogen sulfide sensor compared to the results obtained from the laboratory analysis.

Figure 9.6 shows a plot of laboratory and field analysis data over the project time frame. Over the period from October 1998 to April 1999 in which samples were collected in Tedlar bags, the laboratory data are mostly non-detect (the 0.5 ppbv value shown is the result of the database substitution of one-half the detection limit for non-detects).

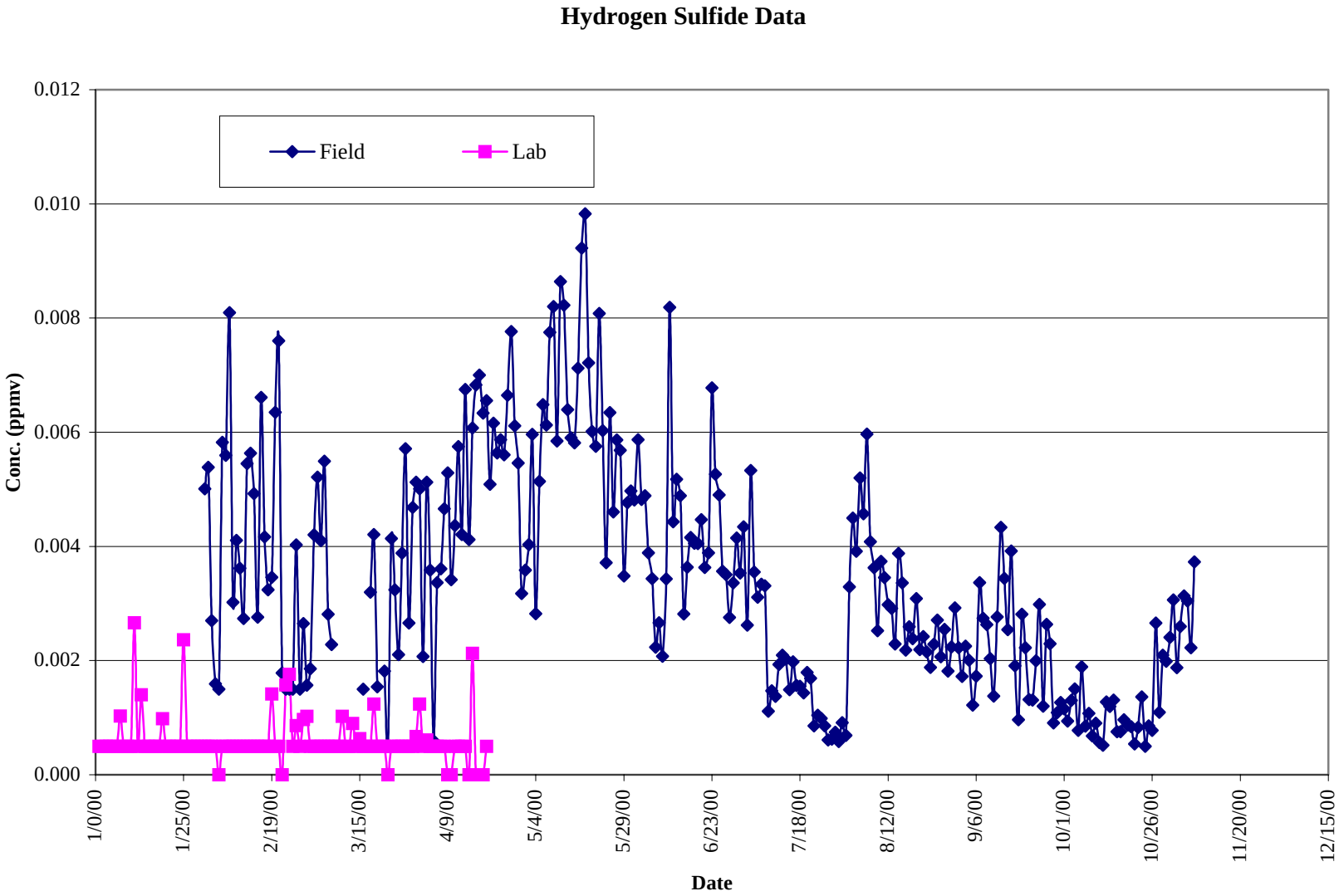


Figure 9.6. Comparison of Field to Laboratory Data for Hydrogen Sulfide

However, for this sample period, the disparity is seen in the average value from field analysis of 3.9 ppbv analysis compared to the laboratory analysis value of 0.6 ppbv.

The suspected reason for this disparity was the use of Tedlar bags in the sampler boxes. The sampler boxers were often out in the sun, resulting in heating of the bags and sample degradation. Although no specific testing was conducted to further explore this issue, sulfur sampling was discontinued after April 2, 1999. As a result of this finding, the laboratory-derived hydrogen sulfide data collected over the first part of the project was not used. The field-analysis data was deemed correct and was used for various purposes throughout the program. Part of the confidence in these data lies in the frequent factory recalibration conducted on the two Jerome instruments.

9.4.4.3. GC/FID vs. GC/MS

During the preconstruction and early excavation phases of the project, GC/FID analyses were conducted for hydrocarbon detection, along with GC/MS analysis for Chemical of Concern analysis. While the two analyses should show a good agreement, a close examination of the two sets of data for common analytes shows a bias towards high values in the GC/FID data.

Table 9.17 shows the BTEX averages and average differences of 48 pairs of results at a single location (Fire Station) for the period from November 13, 1998 to March 13, 1999.

Table 9.17. Comparison GC/FID to GC/MS

	Benzene	Toluene	Ethyl benzene	m,p-Xylene	o-Xylene
FID (ppbv)	1.59	2.37	1.30	1.67	1.01
MS (ppbv)	0.93	1.23	0.08	0.21	0.10
RPD (%)	80%	65%	138%	128%	117%

These data show that across the board, the GC/FID data overestimated the BTEX concentrations, as represented in the high relative percent difference between the two numbers. In comparing these two data sets, generally, the GC/MS analysis is considered more accurate than the GC/FID analysis because of the higher resolving power of its MS detection, and because the GC/FID data can suffer from unknown interferences. Therefore, the GC/MS data is considered of greater value and was used exclusive of the GC/FID data for the risk assessment determination.

9.4.4.4. Acrolein

A key componet for the noncancer effects from diesel exhaust was identified as acrolein. Therefore, this compound was of particular interest. The method used for sample collection for acrolein was thought to be adequate based on EPA methodology. However, a data assessment following the initial period of excavation suggested that the acrolein data were likely incorrect, probably due to losses in the sampling media. In addition, in January 1999, a new version of

EPA Compendium Method TO-11, which was called TO-11A, was put forth, and in it the statement was made that acrolein can not be adequately sampled using the DNPH coated silica gel tubes that was in current use. The finding was that due to the acidic matrix of the DNPH, the derivative that is formed decomposes and cannot be accurately quantified, leading to a low bias in the result. This problem had previously been seen in stack testing, but had not been fully explored for ambient air. It was decided that an alternate way to sample for acrolein needed to be found. The effect of this discovery was that the data collected from October, 1998 to April, 1999 were incorrect and could not be used.

An alternative method developed by Air Toxics Limited was implemented based on their initial laboratory method development. However, following several weeks of sampling, initial data review of data from Air Toxics showed some very high levels of acrolein compared not only to previous data, but to other literature data from around California. These outside data suggested typical ambient levels should be much lower than what was being seen in the Avila Beach samples. While these outside data were likely also flawed due to their reliance on the DNPD method, the actual concentrations detected were of concern.

For comparison between the old and new method, Figure 9.7 presents all the acrolein data, demonstrating the difference in the two methods.

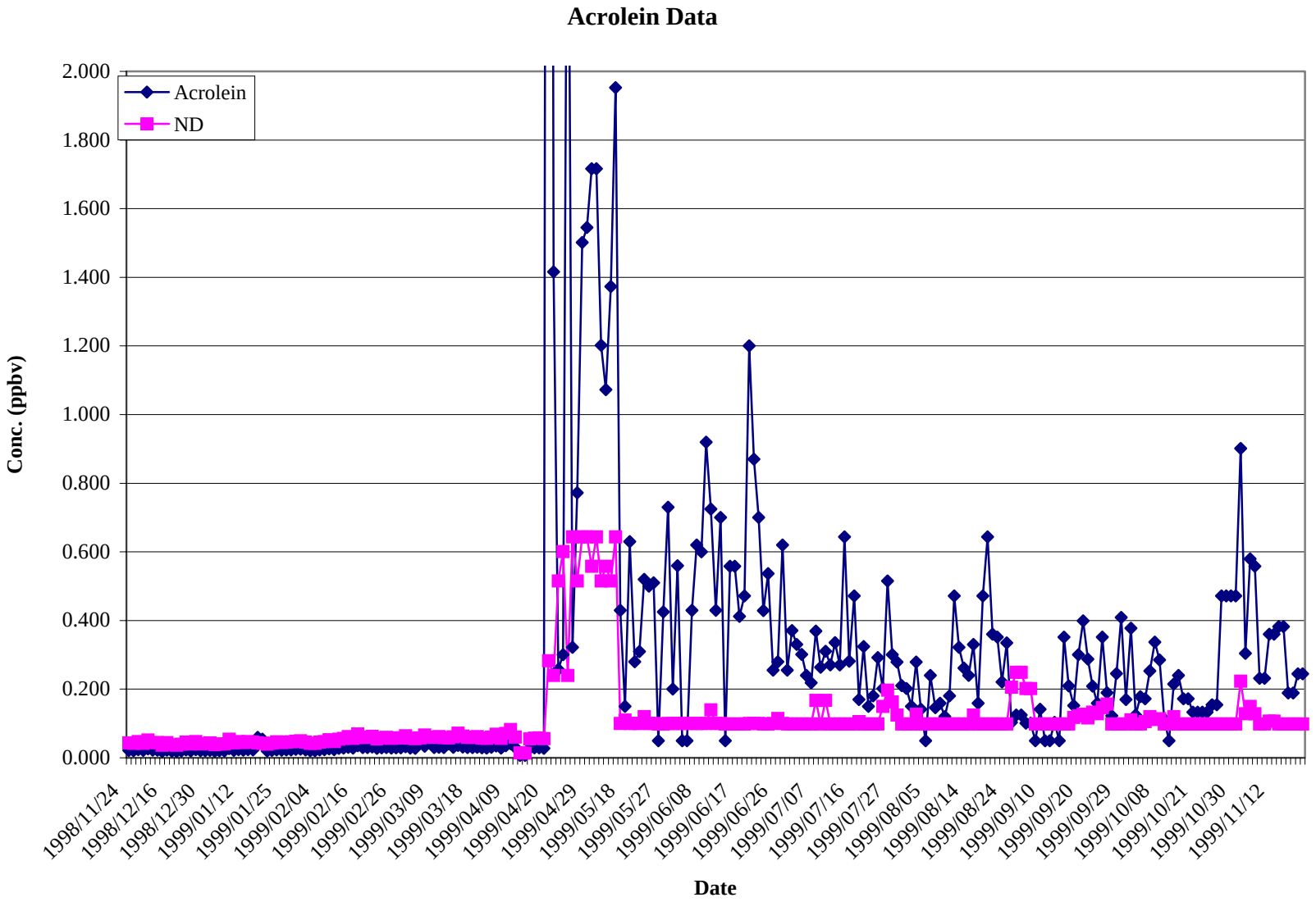


Figure 9.7. All Acrolein Data

In order to collect usable data, various tests were conducted in order to assure a correct evaluation of acrolein. Air Toxics Limited, the contract laboratory that replaced EAS and began operations in mid-April, had previously investigated the acrolein degradation problem and recommended the use of the Summa canister for the sampling. Their work indicated that detection limits down to 0.1 ppbv could be achieved.

Three types of tests were conducted: laboratory test, hold time tests, and sampler tests.

- Laboratory tests

  The first set of tests was conducted to evaluate the possible losses from the normal sorbent sampling using TO-11A. In this test, a set of DNPH sorbent tubes were spiked with a standard and analyzed periodically over 72 hours. The data are shown in Table 9.18 and Figure 9.8. These data clearly demonstrate the rapid degradation of acrolein in the TO-11A sorbent method.

Table 9.18. Acrolein Stability Data

Time (hr)	Mass	% Loss
0	35	-
1	24	32.1%
2	20	43.4%
4	20	43.4%
7.5	20	43.4%
16	19	46.2%
24	18	49.1%
48	14	60.4%
72	13	63.2%
Triplicate Samples Average		

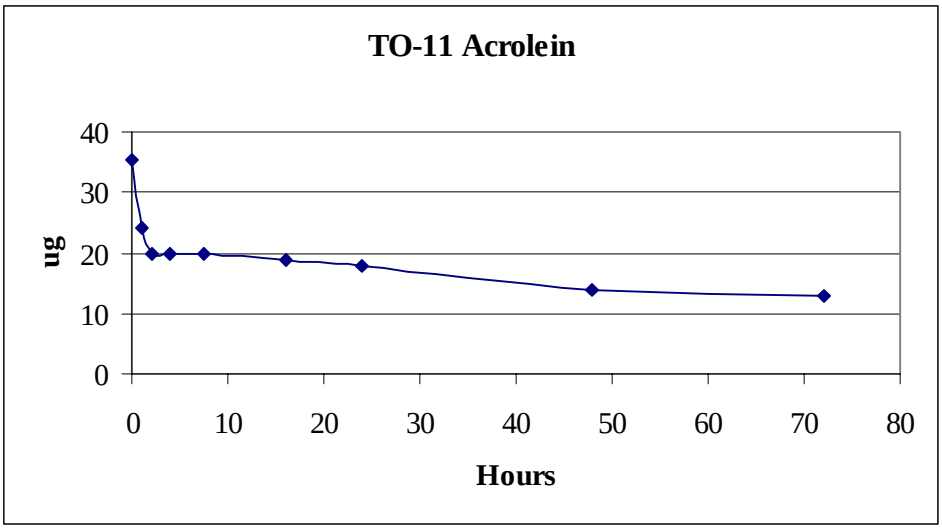


Figure 9.8. Plot of Stability Data

- Hold Time Study

  Since it was clear that the sorbent was not appropriate, tests were conducted to evaluate acrolein stability in Summa canisters. To do this, three canisters were spiked with 5 ppbv acrolein and repeatedly analyzed over 18 days. Figure 9.9 shows the results on the basis of area counts. This data set shows adequate stability for the standard 14 day hold time for canister samples. The solid symbol in the plot shows the analysis data point, and the error bars indicate the estimated uncertainty in each value based on a 10 % variability. The data points all show a consistent value within that acceptable error bounds, suggesting good stability in the canister.

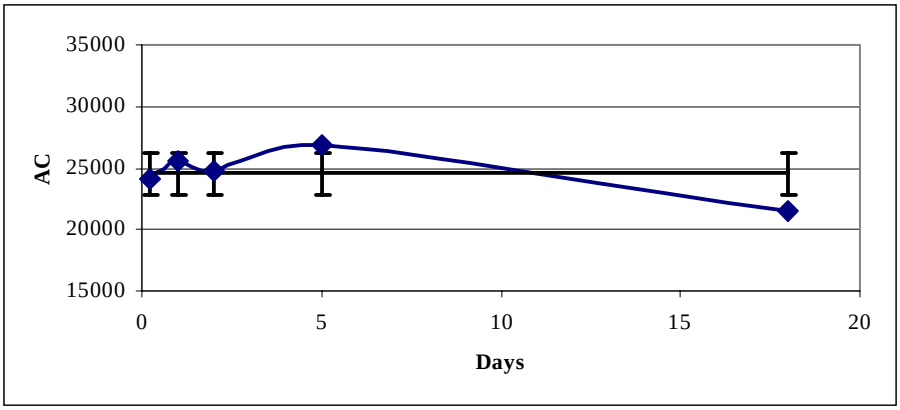


Figure 9.9. Hold Time Study Data

- Sampler Tests

  In these tests, the field samplers, or various components of the sampler, were sampled with clean air following normal sample collection. The data in Table 9.19 show the carry over from the field samples on a consistent basis.

Table 9.19. Results of Sampler Tests

15-Jul	ppbv
System 17	0.24
8-Aug	
System 5	0.13
System 17	0.16
Air	ND
Flow cont.-UN01	0.24
11-Sep	
Pump-17	0.27
Pump-5	0.33
Filter	0.27
Flow cont.-DR01	0.69
Ave.	0.29

These data show that the clean air which had flowed through the sampler previously used to sample ambient air had detectable levels of acrolein. The 0.29 ppbv represents the average carryover value from the sampler. The overall acrolein field sample average was 0.45 ppbv, and with a carryover value of 0.29, it is shown that acrolein is quite "sticky." Daily values from samplers with exposed flow controllers (that is, used previously) are therefore suspect and warrant a qualification of the complete acrolein data set to that point.

Following these tests, it was found that the flow controllers required a daily cleaning. After this action, concentrations appeared to stabilize suggesting a possibly useful method. However, since the time and resources were not available for a complete study of the problems, it was determined that these data should not be utilized for risk determination. The net result of these tests was an understanding of the problematic nature of acrolein sampling and analysis, and a clear conclusion that the data were of insufficient quality to use in the risk assessment program.

9.4.5. Spikes and Internal Laboratory QC

9.4.5.1. Blanks

Standard laboratory protocol for both EAS and Air Toxics was to analyze system blanks on a daily basis prior to analysis. If any result was greater than the detection limits, the system was

adjusted and re-run until clean. For the VOC analyses, this procedure was not difficult in that there was no sample media to deal with. However, for the TO-13 SVOC and TO-11 carbonyl analyses, both of which utilize sorbents, there was greater potential for laboratory contamination to affect the final data. The laboratory data all showed acceptable blanks for TO-14 for BTEX and sulfur species. Tables 9.20 and 9.21 show the results of blanks for TO-11 and TO-13. These levels are not significant and were found only on a limited number of sample media. Therefore, they did not affect the data quality.

Table 9.20. TO-11 Laboratory Blank Data

Compound	ug/sample
Formaldehyde	0.17
Acetaldehyde	0.12
Benzaldehyde	0.40
Benzaldehyde	0.11
Hexaldehyde	0.22

Table 9.21. Laboratory Blanks for TO-13

Blanks	ug/sample
Naphthalene	2.8
Acenaphthene	0.52
Pyrene	3.0
1,1'-Biphenyl	0.57
Chrysene	0.30

9.4.5.2. Internal QC

Standard EAS practice for internal quality control was to perform spike analysis and to duplicate spike analysis on a sample batch basis. The duplicate spike analysis was in lieu of duplicate samples for precision determination.

Tables 9.22 to 9.25 show the results of 30 sample batches, all showing acceptable spike recovery and duplicate spike analysis precision.

Table 9.22. EAS Internal QC for TO-14

Percent	Benzene	Toluene	Ethyl benzene	m-Xylene	o-Xylene
Spike Recovery (%)	96.60	102.1	96.4	90.3	90.1
Duplicate Analysis (%RPD)	5.60	4.2	5.7	7.0	8.3

Table 9.23. EAS Internal QC for TO-11

	Formaldehyde	Acetaldehyde	Acrolein	Acetone	Propionaldehyde
Spike Recovery (%)	92.6	90.8	90.3	94.8	89.4
Duplicate Analysis (%RPD)	4.5	4.8	7.1	3.6	5.1
	Butyaldehyde	Methyl ethyl ketone	Benzaldehyde	Valeraldehyde/ Cyclohexanone	Hexaldehyde
Spike Recovery (%)	94.2	89.9	93.3	86.1	94.4
Duplicate Analysis (%RPD)	3.4	5.3	3.8	4.9	7.4

Table 9.24. Internal QC for TO-13

	Acenapthene	Pyrene
Recovery (%)	55.2	48.8

Table 9.25. EAS Internal QC for Sulfur Analysis

	Spike	
Percent	H2S	DMS
Spike Recovery	112.03	104.85
Duplicate Analysis (RPD)	8.41	8.52

9.4.5.3. Laboratory Duplicates

For Air Toxics, the measure of analysis precision was performed using duplicate analyses of field samples. Table 9.26 shows the results of these analyses. The standard criterion for this analysis was an RPD of ±30%. The data show that 88% of the duplicate analyses had an RPD of less than 25%, indicating adequate laboratory precision.

Table 9.26. Duplicate Analysis Data

RPD Range	Percent
-200%	0.0
-175%	0.0
-150%	3.4
-125%	0.1
-100%	0.0
-75%	0.6
-50%	2.2
-25%	11.8
0%	74.7
25%	1.2
50%	3.9
75%	0.0
100%	0.1
125%	1.6
150%	0.0
175%	0.1

9.4.5.4. Surrogates

Method surrogate data were not recorded for input into the database, but were reviewed as part of the data package for each submission. If any internal surrogate was out of specifications, this would have been noted in the laboratory narrative. There were less than five instances of this occurring, due to both the simple ambient air matrix and the quality of the laboratory analyses. As a result, no qualification of the data was necessary due to surrogate exceedances.

9.4.6. Results of Laboratory Quality Assurance

An overall review of laboratory quality assurance shows that the internal quality assurance for both EAS and Air Toxics was acceptable. Therefore, the data provided to the CMP were of sufficient quality for a valid risk assessment.

9.4.6.1. Audit Results

An audit of field sample systems was conducted on November 12 and 13, 1999 of both the integrated and real-time data collection efforts. Audit findings included the following:

- Field GC accuracy is adequate, although not what was expected given the system performance and QA program associated with it;
- Field precision is adequate, as noted from the comparisons between the field audit samples and the regular samples;

- Laboratory accuracy is adequate based on blind audit samples presented to the laboratory prepared by a third party.

9.5. SUMMARY OF DATA ASSESSMENT

Any field data set will have error associated with it, and this program was no exception. The above discussion presented the various quality assurance indicators that provide a measure of the usefulness of the data for the intended use. The quality assurance data needs to be judged in relation to the initial quality objectives for both measurement tools and final data quality.

There are five factors commonly considered in the assessment of overall data quality:

- *Precision*. The precision of the data set was measured using the combination of duplicate samples and duplicate analyses. The field duplicate samples provided an average RPD of less than the target of 50%.
- *Accuracy*. Accuracy is represented by a statement of how close the measured values were to the "actual" value. This was determined by laboratory spikes and field spikes. The laboratory spikes all showed an agreement within the specified ±25% true value. The audit data also support this agreement level.
- *Representativeness* is a function of the type of sample collected and where it was collected. Considering the large number of samples collected and the high level of coverage throughout the town, the representiveness for this program was very good.
- *Completeness* is measure of how many data points were collected versus the number intended to be collected. For this program, the completeness factor was above 90%.
- *Comparability* relates to the ability of the data sets to be compared to other standard programs. The use of standard EPA methods and accepted testing methods provided a high degree of comparability.

The combination of these factors led to the conclusion that the data set was of an acceptable quality for its intended use in a risk assessment.

10.0 CONCLUSIONS

The CMP consisted of two major phases: real-time continuous management of risk through the use of mobile monitoring instruments, and the assessment of chronic risk from both integrated sampling and real-time data. The risk assessment was conducted by SOMA Corporation using the data acquired through CMP sampling and monitoring.

This section provides a three items:

1) A summary of the overall dataset, including grand averages over the entire project period;

2) A précis of the the results of the risk assessment, and;

3) Conclusions regarding the success of the CMP.

10.1 SUMMARY OF DATA SET

In Section 7, the project time period was split into the Baseline, Preconstruction, Excavation, and Outlying Properties, and the data presented as averages for those periods. For the entire project time period, the grand averages are presented in Tables 10.1 to 10.4. Figures 10.1 to 10.4 show bar charts of these same sets of data for comparison. As with previous plots, note that the concentration scale is arbitrary in most cases.These averages were obtained from the database program and represent the entire project period.

Figure 10.5 shows a map of Avila Beach with a wind rose for the entire program superimposed over it, showing the dominant wind directions and speeds for the period that these averages cover.

Figure 10.6 shows a plot of key representative indicators for odor, dust and diesel exhaust, the parameters that were of greatest concern to the health and welfare of Avila Beach residents.

Table 10.1. Grand Averages of Volatile Organic Compounds Collected by Integrated Sampling (units: ppbv)

Dates	Acet-aldehyde	Acetone	Acrolein	Benz-aldehyde	Benzene	Butyr-aldehyde	1,2-Dichloro-ethane	Ethyl Benzene	Form-Aldehyde	Freon 11	Hex-aldehyde
Ave-All	0.75	0.63	0.30	0.06	0.75	0.14	0.08	0.32	1.35	0.15	0.06
Dates	**Iso-pentanal**	**MEK/Butyr Aldehydes**	**Methyl tert-Butyl Ether**	**m,p-Tolu-aldehyde**	**o-Tolu-aldehyde**	**m,p-Xylene**	**o-Xylene**	**Pentanal**	**Propion-Aldehyde**	**Toluene**	**Valer-aldehyde**
Ave-All	0.04	0.67	0.22	0.03	0.03	0.66	0.40	0.04	0.21	0.75	0.08

Table 10.2. Grand Averages of PAH Compounds Collected by Integrated Sampling (units: ug/m3)

Dates	Acenaph-thene	Acenaph-thylene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Benzo(e) pyrene	Benzo(g,h,i) perylene	1,1-Bi-phenyl
Ave-All	0.0070	0.0022	0.0020	0.0009	0.0010	0.0010	0.0009	0.0017	0.0022	0.0056
Dates	**Chrysene**	**Dibenz(a,h) anthracene**	**Dibenzo-thiophene**	**Fluor-anthene**	**Fluorene**	**Indeno (1,2,3-c,d)pyrene**	**Naphthalene**	**Perylene**	**Phen-anthrene**	**Pyrene**
Ave-All	0.0015	0.0017	0.0018	0.0023	0.0053	0.0014	0.0791	0.0051	0.0088	0.0043

Table 10.3. Grand Averages of Volatile Organic Compounds Collected by Real-time Monitoring (units: ppbv)

Dates	Benzene	Ethylbenzene	Toluene	Toluene	1,3 Butadiene	H2S
Ave-All	0.0015	0.0017	0.0036	0.0035	0.0051	0.0034

Table 10.4. Grand Averages of Particulate Matter Collected by Real-time Monitoring (units: ug/m3)

Dates	Diesel Exhaust	PM10	PM2.5	Total PAHs
Ave-All	1.00	50.35	13.76	0.0124

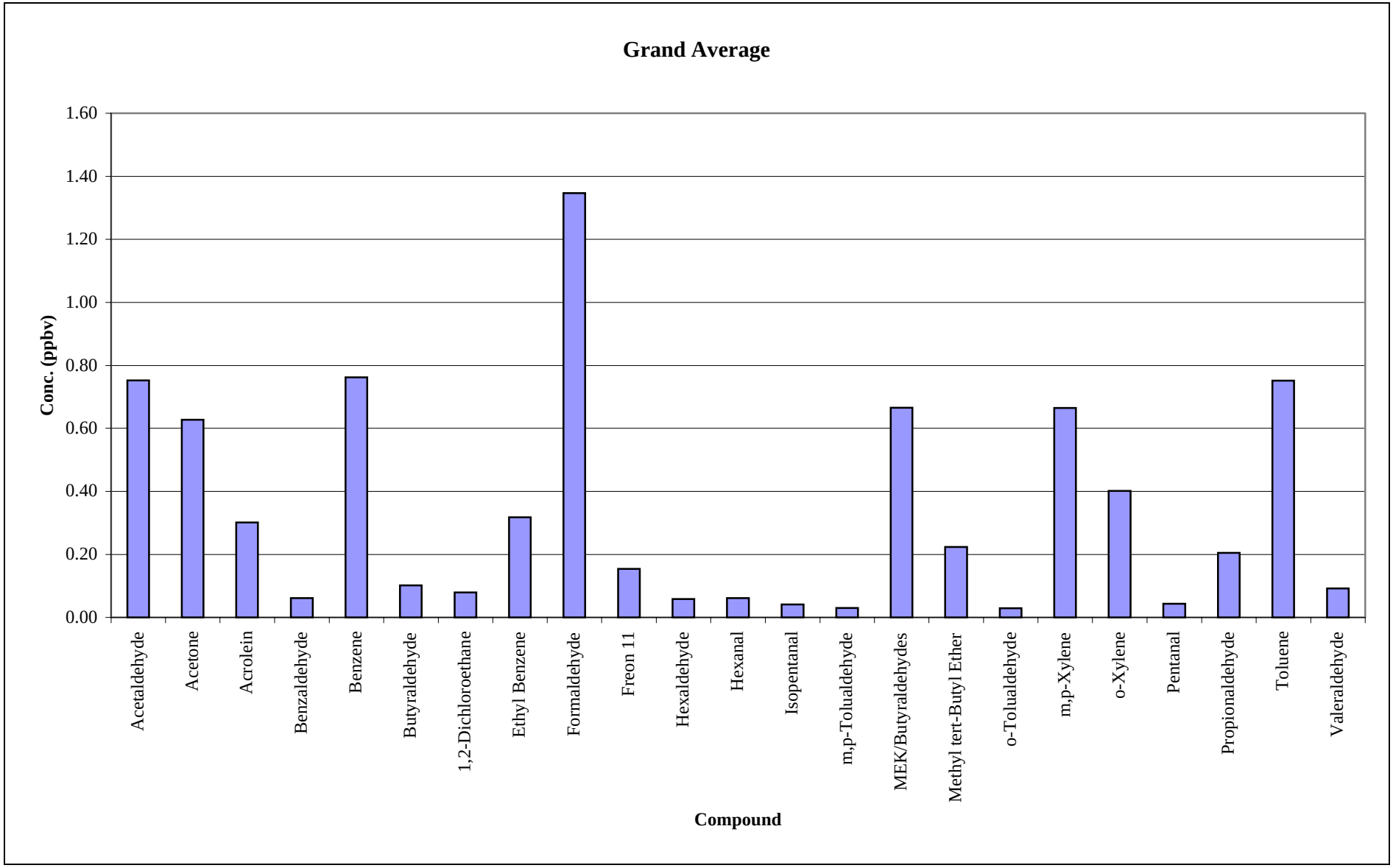


Figure 10.1. Grand Averages for Volatile Species

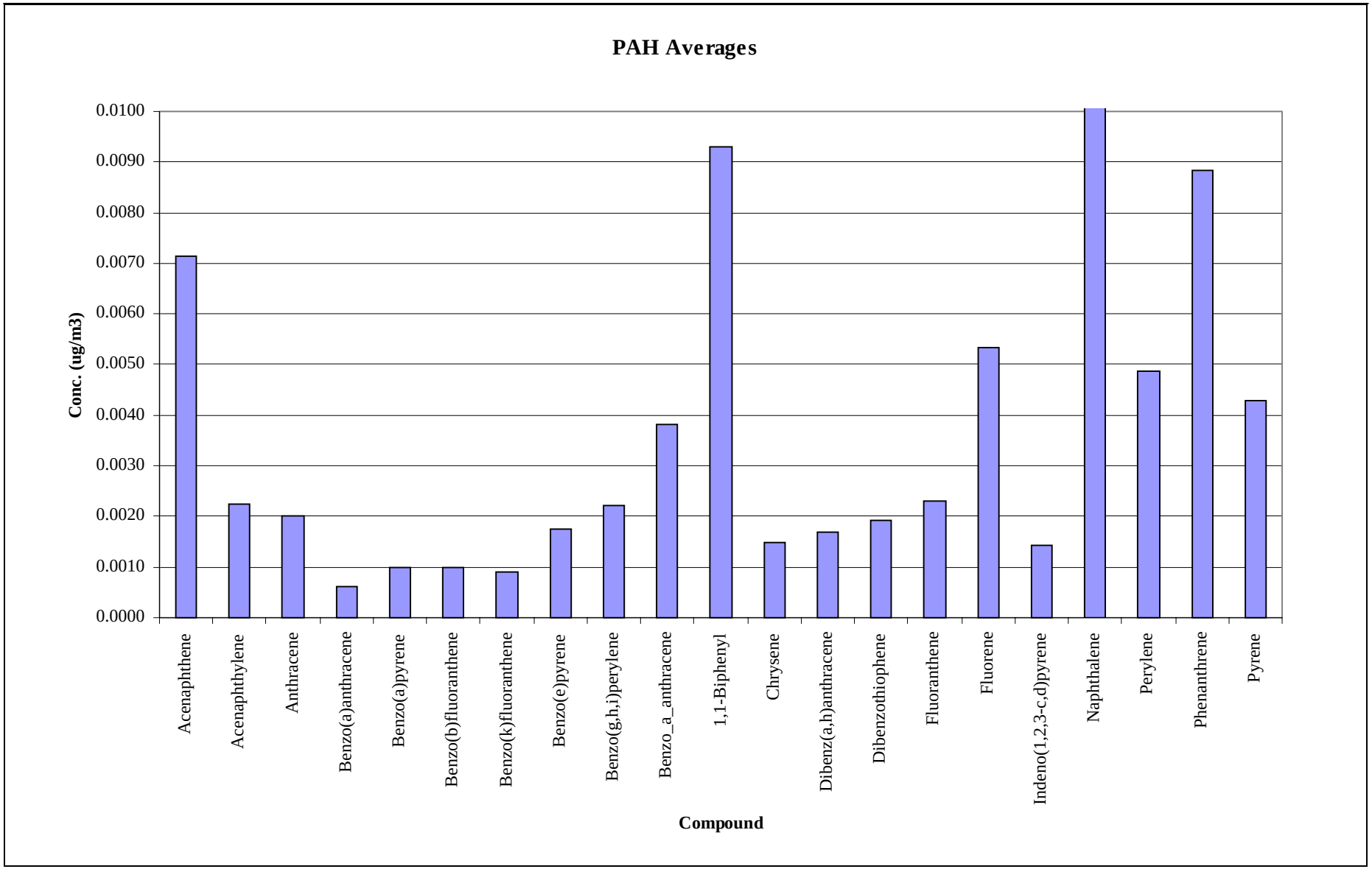


Figure 10.2. Grand Averages for Semivolatile Species

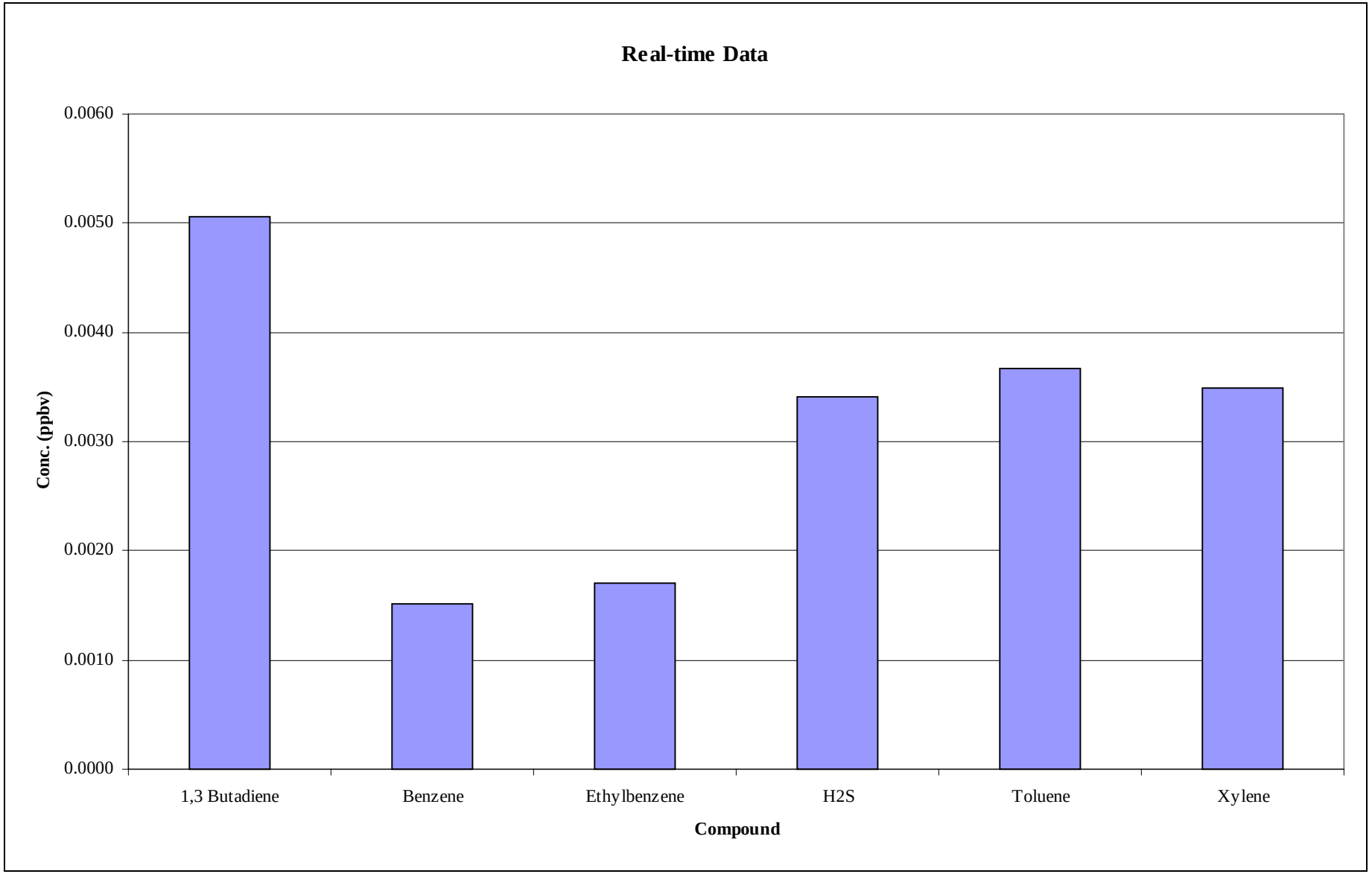


Figure 10.3. Grand Averages for Real-time Volatile Data

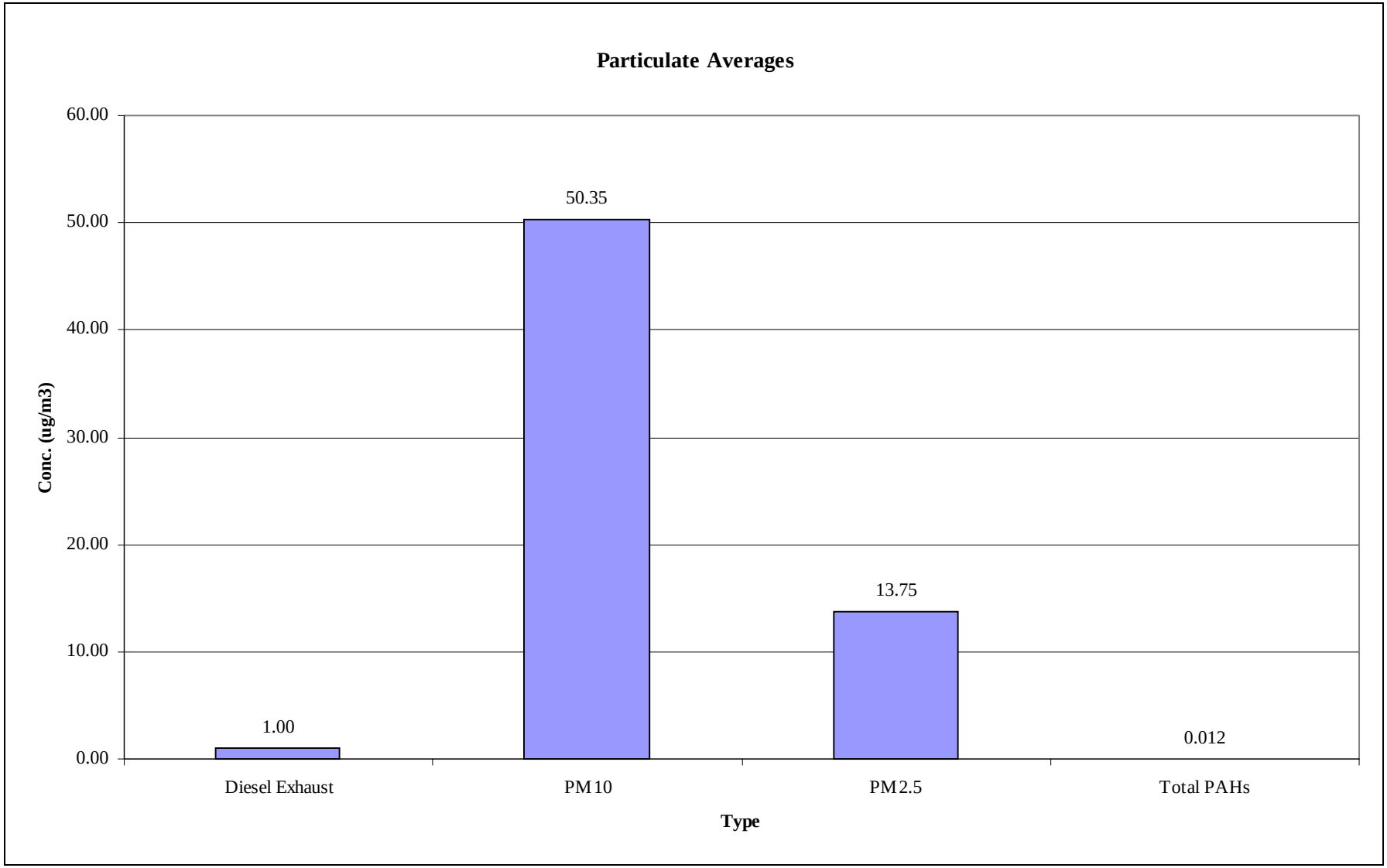


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Figure 10.4. Grand Averages for Real-time Particulate Data

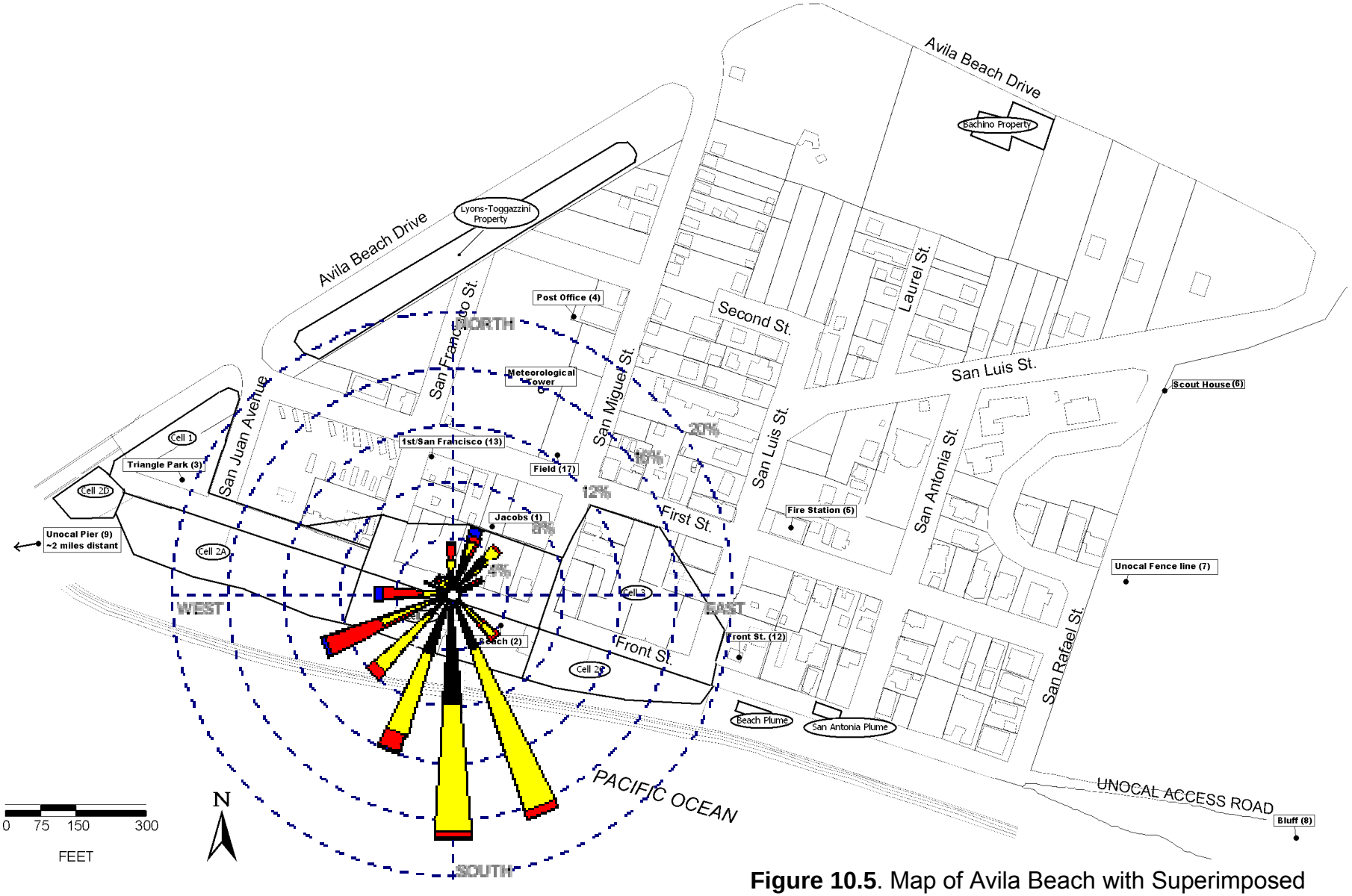

Figure 10.5. Map of Avila Beach with Superimposed Summary Wind Rose for the Full Study Period

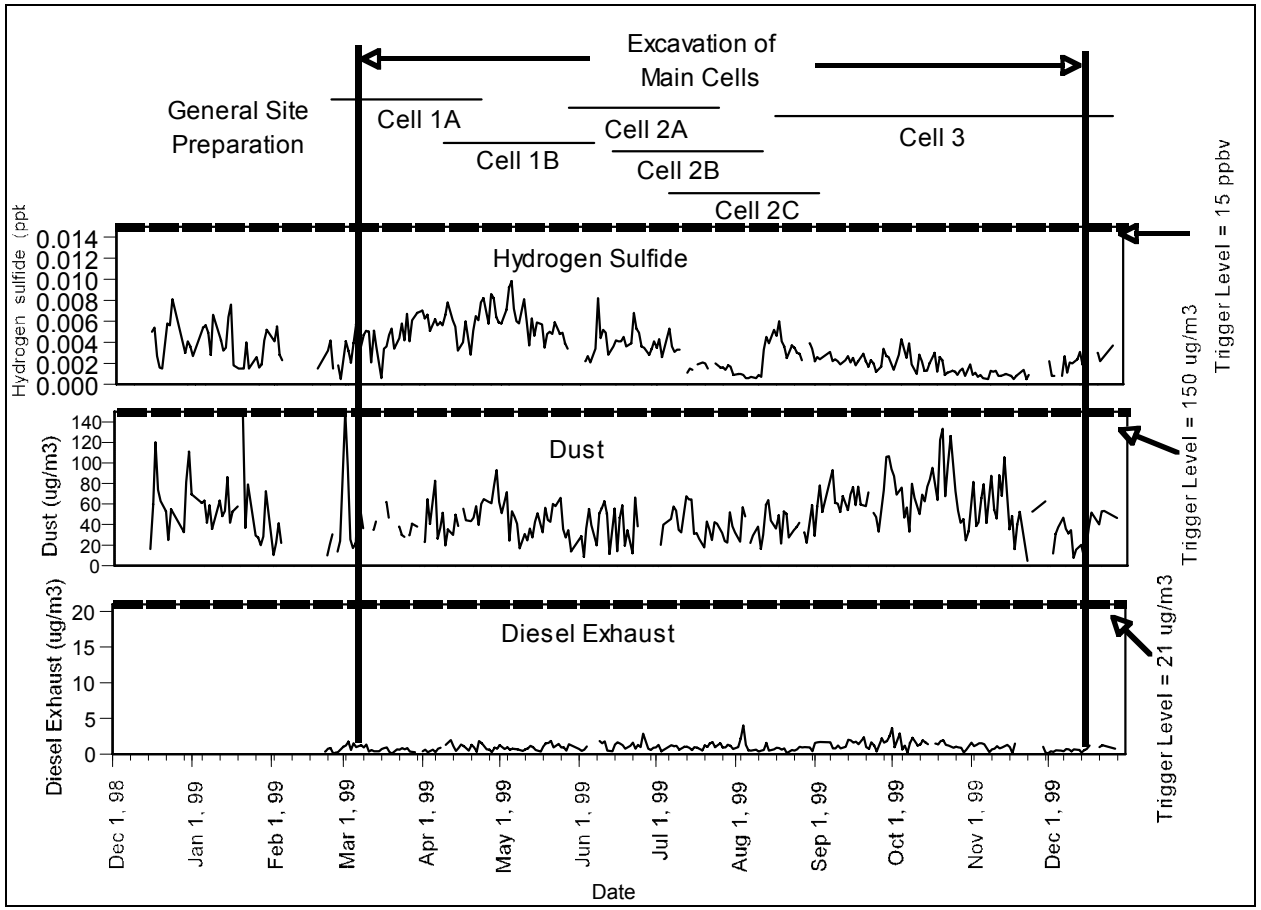

Figure 10.6. Plot of Key Indicators over Project Period

10.2 RISK ASSESSMENT SUMMARY

The full risk assessment document is included in Appendix D. In it, the conclusion is documented that the additional risk to the community was within the limits targeted by the CMP. The following text was extracted from the conclusion of the risk assessment document included in Appendix D and is reproduced here for convenience:

"The HHRA was performed to evaluate the actual and potential risks to human health from excavation activities performed by Unocal at Avila Beach…..Diesel exhaust and petroleum hydrocarbons were evaluated as the substance and chemicals of potential concern. Quantitative estimates of carcinogenic risks and noncarcinogenic adverse health effects were evaluated within the context of potential residential exposures. Risks to both children and adults were analyzed. The primary exposure pathway and route of exposure centered on airborne pathways and inhalation exposures. This emphasis was due to the physical and chemical characteristics of the substances and chemicals of concern. All significant exposure pathways involved emission and migration into air. Air was the environmental medium through which the chemical mixtures and other chemicals of potential concern were dispersed.

The less than lifetime reasonable maximum exposure excess carcinogenic risk to a resident child was calculated to be nine in one million (9×10^{-6})…. The average excess carcinogenic risk to a resident child was 6.4 in one million (6.4×10^{-6})…. The less than lifetime reasonable maximum exposure excess carcinogenic risk to a resident adult was calculated to be 3.8 in one million (3.8×10^{-6})…. The average excess carcinogenic risk to a resident adult was calculated to be 2.7 in one million (2.7×10^{-6})…. These risks for cancer due to diesel exhaust and benzene do not exceed the CMP risk management goal of 10 in a million….

Other than nuisance effects such as disagreeable odors, chronic noncarcinogenic hazards are not predicted to occur. The RME chronic hazard index for the child resident is 0.63… and the average chronic hazard index for the child resident is 0.45…. The acute hazard index for the child resident is 0.83…. A target organ analysis was not performed to further detail noncancer effects since none of the hazard indices exceeded one.

These quantitative estimates of carcinogenic risk and noncarcinogenic hazards are consistent with the stated objectives of the Community Monitoring Plan for the protection of public health. The estimates demonstrate the effectiveness of the monitoring program and controls for limiting dispersion of airborne chemicals associated with the remediation activities.

Uncertainty associated with the risk characterization results was qualitatively evaluated… and integrated to qualitatively evaluate the overall uncertainty. The overall uncertainty is moderate to high with a bias toward overestimation of risks."

10.3 EVALUATION OF THE COMMUNITY MONITORING PROGRAM

An evaluation of the Community Monitoring Program starts with a restatement of the the purpose and objectives of the program, which come from the introduction to Community Monitoring Program document. In this concluding portion of this report, each of these statements will be evaluated in terms of what this report has presented.

Purpose of the CMP

The ultimate goal of the CMP was to protect public health during remediation activities. Given the broad nature of this purpose, it can be evaluated best after examining the success of reaching the objectives of the program. This question will be revisited after examining these objectives.

Objectives of the CMP

The four objectives of the CMP were to

- Provide a framework and technical basis to monitor
- Respond to public concerns
- Implement corrective actions
- Communicate the resulting data to interested parties

Each of these objectives will be examined in turn.

Objective 1. Provide a framework and technical basis for monitoring

This objective was met successfully through the implementation of a knowledgeable staff and state of the art equipment. The staff that directed the CMP were top technical personnel and well-known in the field. The technicians were able individuals experienced in technical work and quickly learned the details of operating the various pieces of equipment. Although some problems were experienced in the laboratory front, successful efforts were made to compensate for these problems by bringing on another well-respected air laboratory.

The equipment was considered technologically advanced and current. A balance was sought between advanced capability and operational efficiency, though sometimes the maintenance overhead required for the sensitive equipment limited their flexibility. The implementation of a mobile monitoring platform was unique for this combination of equipment, which garnered attention from several outside groups.

Overall, the equipment selected and used met the objectives of providing real-time, sensitive detection of the key chemical parameters of interest.

Objective 2. Respond to public concerns.

This objective was met through several means. Several public meetings were held in which the approach to monitoring and information sharing was dessiminated. Several key personnel in the CMP project team were public agency staff whose explicit responsibility was the protection of

public health. Weekly meetings with local agencies were held to review any concerns or problems. Issues were dealt with quickly as they arose.

As noted previously, the CMP was reviewed by several state and local agencies prior to finalizing it. When completed, the CMP document was made available to any outside party.

Two phamplets were prepared and distributed to every resident in Avila Beach. These phamplets contained names and contact information so that any person could contact the appropriate person to express their concerns.

The CMT technicians were constantly available for responding to public concerns, and they were instructed to communicate these concerns to CMP management and APCD.

These efforts show the responsiveness to public concerns on both a larger public basis and on individual bases. The success of this objective was seen in the decrease in public comment and concern over the passage of the project.

Objective 3. Implement corrective actions.

This objective was met through the trigger level process and the lines of notification, as described in Section 1. Several corrective actions were implemented on the basis of exceedances of trigger levels. While only a few Notice of Violations were issued, there were other circumstances in which the enforcement authority of APCD was visible.

Objective 4. Communicate the resultant data to interested parties.

The results from the CMT data collection were communicated in several ways. First, data was posted on the Community Center bulletin board or window. Second, the CMT web site provided a description of the program and posted daily data on a regular basis. Third, any outside request was responded to and data provided upon request. Finally, the reports and documents produced in support of this program were made available to the public at APCD and the County Health Department.

After the final risk assessment, a phamplet with the results was published and distributed to every household in Avila Beach.

These efforts demonstrate a successful meeting of this objective.

Realization of the Purpose of the Community Monitoring Program

That the CMP was successful in meeting its purpose of protecting the public health during remediation was borne out by the results of the human health risk assessment. As presented in Section 10.2, the goal of an overall risk of less than 10 in one million was met. Other goals for manageing risk levels for various other populations in the town were also met, as stated above.

Through meeting the specific CMP objectives and with the results of the risk assessment, it can be concluded that the Community Monitoring Program was successful and that public health was protected throughout the remediation project.

SOMA CORPORATION

October 12, 2000 SOMA 98-2196

Larry Allen
Air Pollution Control District
San Luis Obispo County
3433 Roberto Court
San Luis Obispo, CA 93401-7126

Regarding: Remediation Phase, Avila Beach, California – Final Human Health Risk Assessment

Dear Mr. Allen:

Enclosed is the Final Human Health Risk Assessment Report of the remediation phase for Avila Beach, California. If you have any questions or comments, please call me at (510) 654-3900.

Sincerely,

Norman T. Ozaki, Ph.D.
President and Principal Toxicologist

Enclosure

cc:
Barry Lajoie – County of San Luis Obispo
Gary Bertolin – Science Applications International Corporation
Chuck Lambert – McDaniel Lambert, Inc.
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HUMAN HEALTH RISK ASSESSMENT
REMEDIATION PHASE, AVILA BEACH
CALIFORNIA

SOMA Project No. 98-2196
October 12, 2000

Prepared For:

San Luis Obispo Air Pollution Control District
and
San Luis Obispo County Health Department

Prepared By:

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RISK ASSESSMENT
AVILA BEACH PROJECT SITE

1.0 INTRODUCTION

Union Oil of California (Unocal) began mobilization for a large-scale remediation project in the Community of Avila Beach during the fall of 1998. The object was the excavation of petroleum-affected soil along the beachfront and property immediately adjacent to it on the south side of town. The project was anticipated to take one year. Excavation activities were initiated in March of 1999 and concluded in April of 2000. Due to the large amount of chemically affected soil to be excavated and the logistics of excavation, the San Luis Obispo County Air Pollution Control District and the San Luis Obispo County Health Department, the two local agencies charged with regulatory oversight, required extensive air quality monitoring in order to monitor and prevent potential adverse public health effects to the Community of Avila Beach. The monitoring program was formally presented and described in the Community Monitoring Program (CMP), published February 8, 1999 (SLOAPCD-SLOPHD, 1999). A Final Report containing the CMP with revisions will be released later this year.

The CMP requires the evaluation of potential health risks associated with Unocal's remediation efforts based on actual ambient air monitoring data. In compliance with the CMP, SOMA Corporation (SOMA) has prepared this risk assessment for the San Luis Obispo Air Pollution Control District and the San Luis Obispo County Health Department.

The key assumptions and methods used in the development of Human Health Risk Assessments (HHRA) are presented in the first section of this report. This risk assessment is a site-specific evaluation that incorporates all of the project activities and modifications that have been made to the monitoring program. Revisions have been

made to the monitoring program since the initial publication of the CMP. Those revisions reflect the changing nature of the project as it has progressed since the beginning of 1999. Thus, some aspects of this risk assessment differ from the February 8, 1999 version of the CMP, but are consistent with the CMP as it was revised and implemented during the course of the project.

The assumptions and methods described for conducting the HHRA are health conservative and are designed to yield overestimates of human exposure and risk. This approach is consistent with the requirements of public health agencies to ensure that potential health risks are not underestimated. The quantification of risk presented in this report is summarized for each scenario as both the average estimate of exposure and risk and the reasonable maximum estimate (REM) of exposure and risk.

The conceptual model presented in Figure 1A and Figure 1B, Conceptual Site Model Site Remediation Activities, summarizes potential exposure pathways associated with Unocal's remediation efforts at Avila Beach. The major pathways of concern are those related to the potential inhalation exposure to diesel exhaust and volatile organic compounds (VOCs). Diesel exhaust and the VOCs associated with petroleum hydrocarbons in soil are the primary sources of potential chemical exposures from the project. A possible secondary exposure pathway may occur if polynuclear aromatic hydrocarbons (PAHs) in excavated soil become absorbed to dust particles that may become airborne. A more detailed discussion of PAH-affected dust is presented in Section 2.1.3.

2.0 HUMAN HEALTH RISK ASSESSMENT: APPROACH

The HHRA presented here is an evaluation of potential residential inhalation exposures resulting from the excavation and transport of chemically affected soils at the project site. The guidance discussed in the Community Monitoring Plan (SLOAPCD-SLOPHD, 1999), including subsequent revisions and modifications, form the framework within which the HHRA was performed. The health risk calculations were performed consistent with the guidance described in the 1993 California Air Pollution Control Officers Association (CAPCOA) Air Toxics "Hot Spots" Program Revised 1992 Risk Assessment

Guidelines, and with guidance from the Office of Environmental Health Hazard Assessment (OEHHA) of the California Environmental Protection Agency (Cal EPA).

Both average and upper-bound cancer risks were estimated. Average risks were calculated by estimating exposure point concentrations based on the arithmetic mean of the data collected since the mobilization of heavy equipment on November 15, 1998. Upper-bound risks were calculated by estimating the reasonable maximum exposure (RME) point concentrations using the lower of the 95 percent upper confidence limit (UCL) concentration or the highest measured daily concentration of each chemical of concern over the same period of record. The reasonable maximum estimate is based on data that represents the 95 percent upper confidence limit (UCL) on the arithmetic mean. The 95 percent UCL is defined as, "…a value that, when calculated repeatedly for randomly drawn subsets of site data, equals or exceeds the true mean 95 percent of the time."(US EPA 1992) The calculation of the reasonable maximum exposure, as used in this report, contains many worst-case assumptions that contribute to an overall conservativeness. The underlying assumption to this approach is that if worst-case conditions do not indicate significant potential risks, potential risks under "reasonable maximum" conditions would also not exceed established levels of significance. If the quantitative estimates of exposure and risks exceed the established criteria using these conservative assumptions and methods, then more detailed site-specific information and procedures would be used to perform a more refined risk assessment.

2.1 Substances (and Chemicals) of Potential Concern

For the evaluation of potential inhalation exposures at the Avila Beach Site, the substances of potential concern (SOPC) are diesel exhaust and the volatile components of total petroleum hydrocarbon (TPH). The equipment used to excavate and transport soils (excavators, trucks, tractors, etc.) is a source of diesel exhaust. The TPH-affected excavated soils and, to a lesser degree, diesel exhaust, are sources of the volatile components of TPH and other volatile organic compounds (VOCs). Hydrogen sulfide is also included as a chemical of potential concern. The sources of hydrogen sulfide are diesel exhaust, soil, and groundwater.

2.1.1 Diesel Exhaust

Diesel exhaust is a complex mixture of over a thousand chemical compounds in gaseous, vapor, and fine particulate states. The chemical components exhibit carcinogenic and other toxicological characteristics. The particulate fraction of diesel exhaust consists of carbon soot or particulate elemental carbon (PEC) (80 to 90 percent organic and inorganic carbon), an SO_4 fraction, metals, and other aerosols; the soot is predominantly PEC particles smaller than 2.5 microns in diameter ($PM_{2.5}$). The percent carbon soot varies with the type of diesel engine, type of diesel fuel, and other operating conditions. Based on a review of the literature for the type of equipment used by Unocal, a 64 percent carbon soot fraction was found to be appropriate for characterizing diesel exhaust (South Coast AQMD 1999, STAPPA/ALAPCO 2000). Because of the complex composition of diesel exhaust, PEC data converted to a diesel PM_{10} equivalence was used as a surrogate for diesel exhaust concentrations in air. PEC has been measured continuously using an aethalometer since February 1999. The data obtained from the aethalometer was divided by 0.64 in order to convert the PEC concentration to a concentration that represents total diesel particulates.

The air samples collected with the Andersen Instruments Model AE16 aethalometer were collected through a sampling port fitted with a selective particle size restricter that limited the particle size in the air samples to 2.5 microns and smaller. Diesel exhaust is made of approximately 94 percent particulates 2.5 microns and smaller (ARB 1998). Since 98 percent of the particles emitted from diesel engines are 10 microns and smaller in diameter, the aethalometer data is corrected using a factor of 98/94 to represent the PM_{10} fraction of diesel exhaust.

The use of PM_{10} as a surrogate for whole diesel exhaust is a practice established by the Air Resources Board (ARB), under a recommendation made by OEHHA (ARB, 1998). Because the toxicity values used in the cancer risk evaluations and the evaluations of risk of adverse, non-cancer health effects were derived from whole diesel exhaust exposure studies, an evaluation of the individual components of diesel exhaust was not conducted.

2.1.2 Total Petroleum Hydrocarbons

Benzene, toluene, ethylbenzene, and xylenes are used as surrogates for the toxic components of TPH-affected soils. Because measurements of these SOPCs include indistinguishable contributions from both diesel exhaust and volatiles from TPH-affected soils, the exposures associated with TPH from soil may be overestimated.

2.1.3 Polynuclear Aromatic Hydrocarbons

Low concentrations of PAHs have been found in soil. Table 1, PAH Summary Statistics, presents PAH soil data collected at Avila Beach (Table 2-2, Avila Beach PAH Summary Statistics, SLOAPCD-SLOPHD, 1999) prior to remediation. TPH-affected soil was generally found at or below the water table and was wet and oily. This condition significantly reduced the potential for fugitive dust. Additionally, decontamination procedures were also followed before vehicles carrying soil were permitted to leave the excavation area. Overburden removal generated dust; however, this dust is not TPH-affected. Because it is unlikely that dust generated by truck traffic contains significant PAH concentrations, it is unlikely that inhalation risks associated with fugitive dust are significant. Thus, a quantitative estimate of risk was not performed; however, in order to confirm these facts a worst-case quantitative screen was performed.

The quantitative screen of PAHs was based on the assumption that the maximum detected concentrations of the individual carcinogenic PAHs presented in Table 1, PAH Summary Statistics, were representative of the soil that was assumed to be the source of fugitive dust. The maximum carcinogenic PAH concentrations in Table 1 were summed after correcting for the toxicity equivalence to benzo(a)pyrene. Table 2, Benzo(a)pyrene-Equivalent Concentrations and Slope Factors of Carcinogenic PAHs, presents the results of the quantitative transformations. These worst-case soil concentrations were used to estimate potential PAH concentrations in fugitive dust. It was assumed for purposes of this evaluation that the particle size of this PAH-affected soil is 10 microns in diameter or less and the 24-hour average airborne particulate concentration reaches the State PM_{10} 24-hour standard of 50 ug/m^3. Based on these assumptions, it was calculated that a B(a)P equivalent concentration of 1.85×10^{-5} ug/m^3 and a dibenzo(a,h)anthracene concentration

of 4 x 10^{-6} ug/m^3 would be observed in ambient air.** A risk estimate of 3.0 x 10^{-10} (i.e., a risk of three in ten billion) was calculated for potential risks to a child associated with fugitive dust based on the maximum concentrations of the carcinogenic PAHs in Table 1. This estimate of risk is insignificant, and supports the decision to preclude a detailed quantitative risk assessment of inhalation-related risks due to potential PAH concentrations in fugitive dust.

2.1.4 Hydrogen Sulfide

Hydrogen sulfide (H_2S) is also evaluated quantitatively as a chemical of potential concern. Concentrations of hydrogen sulfide have been detected periodically during the course of excavation activities. The origin of this gas monitored at the site is diesel exhaust and the natural decomposition of organic materials in soil and groundwater. The component of measured hydrogen sulfide concentrations in air from diesel exhaust is incorporated in the method used to quantitatively evaluate the noncarcinogenic adverse health effects of diesel exhaust. This approach incorporates hydrogen sulfide as a chemical component of the over one thousand chemical compounds in diesel exhaust and can not differentiate the quantitative contribution of hydrogen sulfide to potential adverse health effects. Hydrogen sulfide was monitored independently because of its toxicity characteristics and because it has a secondary source in the soil and groundwater

The independent quantification of potential adverse health effects of hydrogen sulfide that will be performed in this HHRA can result in a duplication of the quantification of potential risks. There is uncertainty in performing an independent quantification of potential noncarcinogenic adverse health effects from hydrogen sulfide that will result in an overestimate of risk. A large part of the uncertainly arises if the sampling location of the measured hydrogen sulfide concentration is not taken into consideration when

---

** These concentrations were calculated according to the following sample calculation:

$$Air\ Concentration = \left(\frac{0.37 mg}{10^9 ug}\right)\left(50 ug/m^3\right) = 1.85x10^{-8} mg/m^3 = 1.85x10^{-5} ug/m^3$$

interpreting monitored concentration results. For example, if hydrogen sulfide is measured in the excavation pit, close to newly excavated material, the source is more likely to be from soil and groundwater rather than diesel exhaust, and the potential for residential exposures is not significant due to the containment in the pit and air dilution over the distance to the residential receptors. This factor is discussed in the Uncertainty Section.

2.2 Project-Related Data

Five types of environmental monitoring data were collected at Avila Beach: 1) workday real-time data, 2) non-workday real-time data, 3) time-integrated data, 4) meteorological data, and 5) nuisance observation data. The data used for quantifying risk was based primarily on time-integrated data. Time-integrated data resulted from samples that were collected over an eight- to ten-hour period and submitted to an off-site certified laboratory for chemical analysis. The only field data used for evaluating risk was collected with the Andersen Instruments Model AE16 aethalometer and the Jerome Model 631X. The aethalometer field instrument was used to measure ambient concentrations of particulate elemental carbon associated with diesel exhaust. The Jerome was used to monitor airborne hydrogen sulfide concentrations. The chemical data for the project was entered into an Access database. Table 3, Statistical Summary Data, presents statistical summary data for the substances and chemicals of potential concern that were evaluated in the risk assessment. The data represents a period of approximately 13 months from November 15, 1998 through December 27, 1999.

Hydrogen sulfide gas was monitored continuously using a Jerome Model 631X field instrument. This instrument uses a gold film sensor to detect hydrogen sulfide from 0.001 to 50 parts per million (ppm). This approach permitted continuous monitoring of potential hydrogen sulfide concentrations in air in order to prevent exceedence of trigger levels. In addition, hydrogen sulfide was evaluated independently for potential noncarcinogenic adverse health risks. It was also included in the noncarcinogenic evaluation of diesel exhaust.

During the course of the remediation activities, some of the sampling and analysis methods initially described in the CMP to collect and analyze environmental samples were revised. Table 4, Summary of Data Sources, presents information about the methods used to collect and analyze the environmental samples that formed the basis of the data used in the risk assessment.

Although the plan for monitoring potential chemical releases during the remediation project required the collection of environmental samples on a daily basis, only data that met the project data quality objectives presented in the CMP were used in the risk calculations. To address missing data points and identify upper-bound estimates of the exposure point concentrations, the background-corrected 95 percent upper confidence limit (UCL) concentrations of the arithmetic mean are calculated from the available data for each chemical. Detailed information regarding the data collected and sample validation procedures will be discussed in the Final CMP report.

The existence of multiple sampling locations on any given day has resulted in a database that reflects a stratified sample design. Because of this, the calculation of the 95 percent UCL required the incorporation of statistical techniques that considered the effect of the stratification on the standard deviation. In addition, background concentrations of chemicals of concern were subtracted from the monitored chemical concentrations in an effort to identify chemical concentrations that are specifically associated with Unocal's remediation activities. The methods used to account for background and calculate the 95 percent UCL are discussed in the following section.

2.3 Background-Corrections to the Site Data

To account for background concentrations originating from normal public traffic patterns and other, non-excavation related sources; the project-related chemical concentrations are corrected for background contributions (Rice, 1999). This is accomplished by subtracting the mean background concentration from mean project-related concentration, then calculating the 95 percent UCL concentration.

2.3.1 Background Data

Background data was collected for the substances and chemicals of potential concern due to the presence of non-project-related sources. The use of private automobiles and trucks, natural phenomena such as wave action, fog, and wind, as well as the use of fireplaces and barbecues contribute to a background concentration of chemicals and substances that are similar to those associated with Unocal's remediation activities. The background data collected for Avila Beach are presented in Appendix A, Background Data for the Substances and Chemicals of Potential Concern. A more detailed description of background monitoring activities and the resulting data are presented in the Final Avila Beach Community Monitoring Program Report. In addition, a brief description of the local and regional factors affecting air quality in the Avila Beach vicinity is provided to aid the reader's understanding of what constitutes the "background."

Small coastal communities in San Luis Obispo County such as Avila Beach enjoy good air quality due to the relative absence of nearby industrial sources and the presence of prevailing ocean breezes. These conditions provide good dispersion and dilution of polluted air. Local pre-existing sources of target pollutants within the Avila Beach area include, but are not limited to: exhaust from automobile traffic within town and along Avila Beach Drive, evaporative emissions from parked automobiles, diesel and gasoline powered marine vessels, stationary diesel engines (pumps, generator sets etc.), restaurants, outdoor barbecues, residential fireplaces, and possibly the subsurface hydrocarbon contamination targeted by the clean-up efforts. Various stationary, area, and mobile sources within the County, and transport from sources located outside of the county, may influence background concentrations on a more regional level.

Background BTEX and PAH concentrations were measured prior to the initiation of clean-up activities between October 20 and November 13, 1998 using EPA methods TO-14 and TO-13 respectively. All BTEX and PAH background samples were collected over a 10-hour workday during the mobilization period from approximately 7:00 AM to

5:00pm. In all, thirty-eight 10-hour integrated BTEX samples and thirty-two 10-hour integrated PAH samples were collected over 10 and 11 days respectively.

The decision to use and deploy the aethalometer to monitor diesel exhaust soot levels was not made until after the initiation of over-burden removal activities during the mobilization period. For this reason, pre-project background diesel soot data does not exist in the project database. Therefore, background diesel soot levels were monitored during the excavation phase of the project on several Sundays and over the Labor Day weekend of 1999 when no project activities occurred. It is important to note that though chemically affected soils and groundwater were exposed to ambient air after excavation activities were initiated, these sources of VOCs and semi-VOCs are not sources of black carbon (diesel exhaust soot). Thus, background measurements of carbon black background concentrations measured by the aethalometer were unaffected by open excavation pits.

Hydrogen sulfide exposure point concentrations used in this risk assessment have been corrected for background concentrations. Background hydrogen sulfide data was collected over 7 days in November 1998 and February 1999 and is presented in Appendix A. Hydrogen sulfide background data were collected prior to the initiation of excavation activities. Open excavation pits represent a source of hydrogen sulfide. TPH-affected soils and ground water are potential sources (if not the dominant source) of hydrogen sulfide. Even during periods of no project activity such as weekends and holidays, open excavation pits represent potential sources of hydrogen sulfide. The exposure point concentrations employed in this risk assessment have been corrected for background.

2.3.2 Background Correction Method

The 95 percent UCL concentration is based on the difference between the project-related and background concentrations and includes consideration of the standard deviation of the difference. Copies of John Rice's evaluation of the required statistical procedures are presented in Appendix B. These relationships are given by the following formulas:

$$D = \bar{x} - \bar{y}$$ Equation 1

Where:

D = Difference of the mean of the project-related concentration, $\bar{x}$, and the mean of the background concentration, $\bar{y}$

$$S_D = \sqrt{\frac{S_x^{\,2}}{n_x} + \frac{S_y^{\,2}}{n_y}} = \sqrt{S_{\bar{x}}^2 + S_{\bar{y}}^2}$$ Equation 2

Where:

S_D = Standard error of D

S_x = Standard deviation of project-related data

S_y = Standard deviation of background data

n_x = Number of project-related data points

n_y = Number of background data points

$S_{\bar{x}}$ = Standard error of the mean of the project-related data

$S_{\bar{y}}$ = Standard error of the mean of the background data

The calculation of the 95 percent UCL is given by the formula:

$$95\%\ Upper\ Confidence\ Limit = D + Z_{1-\alpha} S_D$$ Equation 3

Where:

$Z_{(1-\alpha)}$ = 1.65 (rounded from 1.645), where α is equal to 0.05 (Gilbert 1987)

The 95 percent UCL from Equation 3 for each of the chemicals or SOPCs will be used as the exposure point concentrations for the exposure estimates and risk calculations.

2.4 Exposure Assessment and Exposure Parameter Variables

Table 5, Parameters for Estimating Exposure, presents the exposure parameters for the calculation of a lifetime average daily dose for the evaluation of excess cancer risks. A residential exposure scenario is assumed for the HHRA. Variations from U.S. EPA, DTSC, and CAPCOA default residential exposure parameters are discussed below. The evaluation of adverse non-cancer health effects is performed by comparing exposure point concentrations to both the chronic and acute reference exposure levels (RELs). This approach is consistent with CAPCOA guidelines (CAPCOA 1993). Additional details regarding adverse non-cancer health effects are presented in Section 2.6.

A 15-month exposure duration was evaluated for the estimates of excess cancer risks. This period represents the actual period of excavation, as well as the mobilization and demobilization activities from November 15, 1998 through April 2000. This site-specific exposure duration differs from the typical residential exposure duration of 30 years or a lifetime exposure duration of 70 years. The potential exposure duration at the Site was limited to the actual duration of the remediation schedule since it was assumed that it was the remediation activities that carried with it the potential for chemical exposures. All other potential exposure parameters are consistent with a residential risk assessment. Cancer risks are averaged over a 70-year lifetime. The exposure frequency for residents is assumed to be 313 days per year based on a conservative assumption that excavation activities were performed up to six days per week. This estimate of exposure frequency was calculated by subtracting 52 Sundays (the number of Sundays in 1999) from 365 days. Because of the short exposure duration, exposure estimates for a child and an adult were developed separately.

2.5 Estimates of Excess Cancer Risk

Cancer slope factors, derived from unit risk values published by the OEHHA, were used to estimate risk. The use of cancer slope factors permitted the risk assessment of children and adults independently. Table 6, Carcinogenic Toxicity Criteria, lists the cancer slope factors and unit risk values for substances of potential concern. Cancer risk was estimated for two receptor types, a child and an adult. For modeling purposes, a child is

considered a person 6 years of age or under; an adult is over 6 years. Table 7, Residential Carcinogenic Risks and Noncarcinogenic Hazard Indices: 95 Percent Upper Confidence Level Source Term – Inhalation, and Table 8, Residential Carcinogenic Risks and Noncarcinogenic Hazard Indices: Arithmetic Mean Source Term – Inhalation, present the calculation spreadsheet used to calculate the RME and average excess carcinogenic risks, respectively. The RME associated risks for the child and adult and the average excess carcinogenic risks for the child and adult did not exceed the project-related significance level of 10 in one million (10×10^{-6}) identified in the CMP (SLOAPCD-SLOPHD, 1999).

Health risks from exposures to diesel exhaust are difficult to precisely quantify using a chemical-specific approach because diesel exhaust is a complex mixture of gases, vapors, and fine particles comprising numerous compounds, most of which cannot be readily measured in the environment. The contribution of each of these components to the carcinogenic activity of diesel exhaust is not known. OEHHA has developed toxicity data for whole diesel exhaust using particulate matter as a surrogate, obviating the need to do a chemical-by-chemical risk analysis. This approach differs from the chemical-specific evaluation described in the February 1998 CMP. SOMA has calculated estimates of potential risks due to diesel exhaust based on toxicity data identified by OEHHA. Potential risks of cancer due to petroleum hydrocarbon chemical compounds are calculated based on benzene as a surrogate.

2.6 Estimates of Risk of Adverse Non-Cancer Health Effects

Hazards from both acute and chronic non-cancer adverse health effects were evaluated in the HHRA. For the evaluation of acute exposures, the maximum 10-hour time-weighted average concentration for benzene, toluene, ethylbenzene, and xylenes, were converted to equivalent one-hour data by dividing the time-weighted average concentration by a time-scaling factor of 0.7 for a ten-hour averaging time period (U.S. EPA, 1995). In the case of diesel exhaust and hydrogen sulfide, the maximum rolling 1-hour average concentration was queried from essentially continuous short-term measurements in the database. The maximum equivalent one-hour concentration was divided by the chemical-

specific acute REL (Table 9, Non-Carcinogenic Toxicity Criteria for Substances of Potential Concern) to calculate a chemical-specific RME and average acute Hazard Quotient (HQ) (Tables 7 and 8 respectively). The chemical-specific acute HQs were summed to yield a total acute Hazard Index (HI). The total acute HI was calculated to be 0.83, which is below the level at which a target-organ analysis is required. Thus, no target-organ analysis was performed.

In the evaluation of chronic exposures, annual average 10-hour time-integrated concentrations for benzene, toluene, ethylbenzene, and xylenes (see Sections 2.2 and 2.3 for details on exposure point concentrations) were used. For hydrogen sulfide and diesel exhaust, the statistical summaries of all valid data over the period of interest were used. The estimate of the annual average chemical-specific concentration (Equation 3) was divided by the chronic RELs (Table 9, Non-carcinogenic Toxicity Criteria) to calculate a chemical-specific chronic HQ. The chemical-specific chronic HQs were then summed to yield a total chronic HI of 0.45. If the total chronic HI exceeds a value of one, a more detailed target-organ analysis would be conducted. Since an exceedence was not encountered, a target organ analysis was not undertaken.

3.0 UNCERTAINTY ANALYSIS

The methods and procedures used in the HHRA result in conditional estimates of risk that incorporate numerous assumptions concerning chemical toxicity and human exposure. This situation has resulted in uncertainties that are inherent in the estimates of potential cancer risk and noncancer health hazard presented in the HHRA. The use of site-specific data reduces the uncertainty in some parameters but unavoidably leaves others.

The U.S. EPA and Cal EPA use conservativeness to purposely overestimate risk in order to address uncertainty in the quantification of exposure and toxicity data and to avoid underestimates of risk. One of the principal criticisms of the risk assessment process has been the compounding of conservative assumptions that are contained in the various methods, procedures, and toxicity criteria that biases the assessment to a yet higher level of conservativism. The relative magnitude of the uncertainties and biases must be

considered in interpreting the results of this HHRA. This section presents a discussion of the uncertainty and bias in the HHRA.

3.1 Substances (and Chemicals) of Potential Concern

An important source of uncertainty lies in the selection of the substances and chemicals of potential concern. The California Air Resources Board (ARB) has only recently classified diesel exhaust as a toxic air contaminant. As previously described, diesel exhaust was selected as a substance of potential concern because of the large number of diesel-fueled heavy equipment used in the remediation of Avila Beach. Diesel exhaust is an extremely complex mixture of over a thousand individual chemical compounds in gaseous, vapor, and fine particulate states. Particulate elemental carbon has been identified by ARB as an appropriate surrogate for diesel exhaust measurements. Particulate elemental carbon concentrations in ambient air were measured directly with an Andersen Instruments Model AE16 aethalometer field instrument.

The conversion of particulate elemental carbon to an equivalent concentration of diesel exhaust involves the use of an estimate of percent elemental carbon in diesel exhaust. On the surface, this value would appear to be a relatively easy value to identify. Unfortunately, the percent particulate elemental carbon or PEC is a value that is contingent on many different variables related to the generation of diesel exhaust. Factors such as the type of engine, type of diesel fuel used, type of lubricating oil, engine wear, load, operating speed, and engine emission controls affect the percent elemental carbon released. Due to the importance of the estimate of percent elemental carbon to the calculation of risk, the estimate of risk is subject to uncertainty from the variability of this parameter. A value of 64 percent was used in this analysis (South Coast AQMD 1999, STAPPA/ALAPCO 2000).

Benzene, toluene, ethylbenzene, and xylene (BTEX) were selected as surrogate chemicals of potential concern for the numerous petroleum hydrocarbons associated with the various fuel products that have leaked from Unocal's pipeline that connected the tank farm to the terminals at the end of the Unocal pier. The BTEX group of chemicals has

traditionally been used as surrogates for petroleum hydrocarbons. The use of these chemicals may over- or underestimates the risks associated with petroleum hydrocarbons.

Hydrogen sulfide was separately selected as a chemical of potential concern even though it is a component of diesel exhaust. This resulted in an overestimate of the contribution of hydrogen sulfide to potential noncarcinogenic hazards due to the inability to differentiate the fraction of hydrogen sulfide in diesel exhaust from the fraction of hydrogen sulfide emitted by organic decomposition in soil and groundwater. Since the fraction of hydrogen sulfide from diesel exhaust was included in the noncarcinogenic evaluation of diesel exhaust as a complex mixture, the independent evaluation of hydrogen sulfide concentrations based on Jerome data overlapped and duplicated the quantification of hydrogen sulfide from diesel exhaust.

3.2 Exposure Assessment

Receptors and exposure scenarios were identified based on the most sensitive observed receptors and land use. To the extent that actual land use and activity patterns do not conform to those evaluated, uncertainties are introduced.

3.2.1 Selection of Exposure Pathways

The potential exposure pathways quantified in this HHRA were identified on the basis of the conceptual model and contaminant fate and transport considerations. To the extent that these factors may not accurately predict the migration of chemicals at Avila Beach, uncertainty is introduced into the exposure assessment.

3.2.2 Exposure Point Concentrations

The HHRA is based on available data from the analysis of time-integrated samples collected from locations identified in the CMP. With the exception of the Andersen Instruments Model AE16 aethalometer data (surrogate for diesel exhaust) and the hydrogen sulfide (H_2S) data collected with the Jerome Model 631X, real-time monitoring data was not used to quantify risk in the HHRA. This decision was made to avoid the mathematical bias introduced by high reporting limits inherent in most field instruments

used for real-time monitoring. The reporting limit for the aethalometer for a 15-minute sample collected at 6 L/minute is 11 ng/m^3, a value sufficiently low for purposes of risk assessment. Similarly, the reporting limit for the Jerome 631X is 1 ppb (part per billion) for a 15-second sample.

A reasonably large data set representing approximately a year of data formed the basis for the calculation of the exposure point concentrations (EPC). The estimation of the EPC is affected by the sampling strategy, accuracy of sampled concentrations in representing potential exposures in the residential community, the treatment of nondetectable concentrations and high detection limits, background concentrations of diesel exhaust and BTEX from traffic not related to the remediation activities, and the location of the samplers. In the case of diesel exhaust, the identification of percent particulate elemental carbon affects the estimation of the EPC of diesel exhaust.

An obvious difficulty in evaluating chemical data for identifying appropriate EPCs is the identification of source-specific chemical concentrations. This shortcoming can result in potentially biased EPCs that will overestimate risk. For example, benzene is found in diesel exhaust, incomplete combustion of gasoline, and potentially from TPH-affected soil and groundwater. The chemical-specific concentration of benzene in air is quantified at Avila Beach by sample collection using summa canisters and chemical analysis by Method TO-14. The source of measured benzene by TO-14 is extremely important in the identification of an appropriate EPC. If the benzene originates exclusively from diesel exhaust, then the measured concentration from TO-14 should be ignored since benzene in diesel exhaust is quantified using particulate elemental carbon aethalometer data as a surrogate. In actuality, the detected benzene may originate from any single or combination of sources at Avila Beach. Acknowledging the inability to differentiate chemical-specific sources, it is assumed that all BTEX chemicals detected by TO-14 originate independently from diesel exhaust. This assumption is very conservative because it results in overestimates of risk from these chemicals to the extent that they are found in diesel exhaust.

The sample collection strategy was intended to obtain data at a location approximating the nearest residential location. In practice the sampling location of the aethalometer and the use of the Jerome instrument were used to collect data that represented maximum potential worst-case exposure concentrations. The aethalometer was installed in a mobile van and the van was generally sited downwind, immediately adjacent to the excavation activity. At these monitoring locations, the diesel exhaust sample concentrations would be close to maximum to estimate potential exposures and would likely overestimate exposures to community residents who live further downwind. The overall effect of distance from the excavation activities to the point of potential exposures within the residential community is a lowering of exposure point concentrations and resulting risks. Although still in draft status with a cautionary statement not to cite or quote, the publication entitled, Proposed Risk Management Guidance for the Permitting of New Stationary Diesel- Fueled Engines from the California Air Resources Board (ARB) documents the effect of distance on estimates of risk. In general, the highest estimates of risk occur within the first 330 feet from the source and falls off drastically (ARB 2000). The effect of distance was not taken into account in calculating risk and resulted in an overestimate of risk.

The percent elemental carbon fraction of diesel exhaust is an important parameter for the calculation of airborne diesel exhaust concentrations. The Andersen Instruments Model AE16 aethalometer was used to measure concentrations of particulate elemental carbon in ambient air at Avila Beach during the remediation activities. This measured concentration was corrected to calculate an equivalent concentration of the total particulate fraction of diesel exhaust. The calculation required a representative estimate of the percent elemental carbon fraction in diesel exhaust. Because of the numerous variables that affect the measured percent elemental carbon fraction in diesel exhaust, variability in the estimate is a given. The percent elemental carbon varies with the type of diesel engine, type of diesel fuel, and other operating conditions. A percent elemental carbon fraction of 64 percent was found to be appropriate for characterizing diesel exhaust at Avila Beach based on a review of the literature for the type of equipment used by Unocal (South Coast AQMD 1999, STAPPA/ALAPCO 2000). To the extent that a variety of diesel-powered equipment was used at Avila Beach, the use of a value of 64

percent for the percent elemental carbon may over- or underestimate equipment-specific diesel exhaust concentrations.

The Jerome Model 631X was used to monitor hydrogen sulfide on a daily basis. Ambient air in the immediate area of the excavation and directly inside the excavation pit was monitored for hydrogen sulfide. Hydrogen sulfide monitoring was undertaken to prevent acute exposures at the time of monitoring. When monitored concentrations that could lead to acute exposures were observed, engineering controls were instituted to control and lower hydrogen sulfide concentrations. The observed concentrations for hydrogen sulfide overestimate exposure and risk to the residential community. The use of maximum observed concentrations at the excavation pit for evaluating potential acute exposures to hydrogen sulfide overestimate acute hazards in this risk assessment.

3.2.3 Exposure Parameters

The exposure parameters used to estimate chemical intake are a mixture of standard upper-bound default estimates and site-specific parameters. In reality, there may be considerable variation in the activity patterns and physiological response of individuals. It is possible that the exposure parameters used in this evaluation do not represent actual exposure conditions. For example, it was assumed that excavation activities were carried out 6 days per week. In reality, 5-day workweeks were the norm, although 6-day workweeks were in evidence. Another example is the assumption that the exposure duration was 15 months. This exposure period represents the actual project duration from November 1998 through April 2000. The importance of representativeness draws attention to the incongruence of the actual time period between November 15, 1998 and April 2000, a time period of 17 months. In reality, the highest period of diesel exhaust emissions occurred during the heaviest period of actual excavation from March 1999 to December 1999, a period of 10 months. An exposure duration of 15 months considered the following conditions:

- Approximately 4 months of mobilization, from November 15, 1998 through the end of February 1999, that included activities such as equipment preparation, removal of street and sidewalk pavement, demolition of

buildings, underground and above ground utility removal, sheet pile driving, overburden excavation and removal, historical and archeological surveys, canopy installation

- 10 months of heavy excavation
- Inclement weather conditions
- Work delays due to agency reviews and permit approvals

Although the Unocal soil remediation project in Avila Beach lasted approximately 17 months, approximately 2 months were taken up by work delays from inclement weather, agency review and permit approvals and other conditions that resulted in work stoppage. An exposure duration of 15 months may slightly over- or underestimate the actual period of potential exposures due to remediation-related activities.

The collection of time-integrated data terminated on December 27, 1999 when the beachfront areas of Avila Beach were cleaned up. After December, field instruments were used to monitor air quality during field activities from January 2000 to April 2000. The rationale for the decision to change the monitoring procedures was the existence of approximately 10 months of monitoring data that provided a predictive ability for tracking air quality to avoid exceedence of trigger levels. The rationale also considered the fact that the remaining excavations scheduled for the year 2000 were all small and contained areas. These excavations were known as: 1) San Antonia, 2) Lyons-Toggazzini property, and 3) Ferris-Bachino property plumes. The outcome of this series of decisions was to use air quality data representative of the worst-case beachfront excavation areas for calculating risk during the 4-month period from January to April 2000. This approach resulted in an overestimate of risk.

The use of a less than lifetime exposure duration of 15 months also raises questions about the nature of the dose-rate relationship. In general, the use of cancer slope factors in the calculation of risk implies a lifetime exposure duration of 70 years. The calculation of carcinogenic risk for a less than lifetime exposure duration of 15 months assumes a linear relationship between risk and dose. This may not be the case particularly in the case of

children where growth and normal development occur at rapid rates. The effect of dose on childhood risks may not be linear; however, our present knowledge about the effect of dose over time does not permit us to address the concern by revising the risk algorithms currently recommended by regulatory agencies. The calculation of risk for a 70-year exposure duration would not provide a meaningful estimate of risk at Avila Beach. The method used in the Avila Beach risk assessment is consistent with US EPA and DTSC guidelines.

3.3 Toxicity Assessment

The primary uncertainties associated with the toxicity assessment are related to derivation of toxicity criteria for the substances and chemicals of potential concern. Toxicity criteria developed by Cal EPA were used to estimate potential cancer and noncancer health effects from exposure to the substances and chemicals of potential concern at the site. These values are generally derived from animal studies by applying conservative (health-protective) assumptions and are intended to protect the most sensitive potentially exposed individuals. In the case of benzene and diesel exhaust, data from human epidemiological studies were used by Cal EPA to calculate the cancer slope factors.

In the evaluation of potential noncancer chronic adverse health effects, SOMA used Reference Exposure Levels (RELs) developed by Cal EPA. RELs are concentrations or doses at or below which adverse health effects are not likely to occur in the general population from a lifetime of exposure to hazardous airborne substances. The basis for the RELs is the most sensitive relevant adverse health effect reported in the medical and toxicological literature. RELs are designed to protect the most sensitive individuals in the population by the inclusion of margins of safety (Cal EPA 1999). A key assumption to the use of RELs is that a population threshold exists below which adverse health effects will not occur in a population. The REL is an estimate of that threshold. The REL for both chronic and acute adverse health effects were used in this evaluation. The heterogeneity of a general population is a source of uncertainty.

The derivation of the cancer slope factors (CSFs) used to estimate carcinogenic risk for benzene and diesel exhaust was based on human epidemiological data. The use of human

epidemiological data decreases the amount of uncertainty in the derivation of the toxicity criteria in contrast to criteria that are typically based on animal studies. For example, it eliminates the uncertainty associated with the necessity of performing interspecies and low dose extrapolations

The CSFs are considered to be plausible upper bounds of risk at a 95 percent confidence level. Thus, there is a high probability that the true risks do not exceed these levels and are much lower than the estimated values. The U.S. EPA Carcinogenic Assessment Group states that the use of upper-bound risk estimates is appropriate for estimating the upper bounds of cancer risk, but that the lower limit of risk may be as low as zero (U.S. EPA 1989)

3.4 Risk Characterization

The methods and procedures used in the characterization of risk are consistent with CAPCOA, Cal EPA and U.S. EPA guidelines. In the case of carcinogenic risks, it was assumed that risks across various carcinogens and types of cancers were additive. This assumption results in an uncertainty in the risk assessment that may over- or underestimate risk. Synergistic and antagonistic phenomena are not fully understood for the substances and chemicals of potential concern. In the case of diesel exhaust, this issue is addressed by the use of CSF and noncancer toxicity criteria that incorporate whole diesel exhaust. By using whole diesel exhaust in the exposure experiments to derive a CSF and noncancer toxicity criteria, the interactive effects of the mixture of chemicals that constitute diesel exhaust are taken into account. Considering the large number of chemicals detected in diesel exhaust, the availability of toxicity data on whole exhaust offers an enormous advantage over the method of performing chemical-specific risk assessments. In summing the carcinogenic risks for diesel exhaust with benzene from other sources, there is uncertainty in the interactive effects of the chemical constituents of diesel exhaust and the other chemicals of TPH.

Finally, the risk assessment process brings together the various methods and procedures that have inherent uncertainties, so the results of the risk characterization step represent a compilation and compounding of all uncertainties linked to the process. The

conservativeness incorporated into the risk assessment methods and procedures are likely to result in estimates of risk that are higher than risks that may actually or potentially occur. The overestimate may be as high as one to two orders of magnitude.

4.0 SUMMARY AND CONCLUSIONS

This HHRA was performed to evaluate the actual and potential risks to human health from excavation activities performed by Unocal at Avila Beach. This section summarizes the results of the HHRA.

Diesel exhaust and petroleum hydrocarbons were evaluated as the substance and chemicals of potential concern. Quantitative estimates of carcinogenic risks and noncarcinogenic adverse health effects were evaluated within the context of potential residential exposures. Risks to both children and adults were analyzed. As indicated in the Conceptual Site Model, the primary exposure pathway and route of exposure centered on airborne pathways and inhalation exposures. This emphasis was due to the physical and chemical characteristics of the substances and chemicals of concern. All significant exposure pathways involved emission and migration into air. Air was the environmental medium through which the chemical mixtures and other chemicals of potential concern were dispersed.

The less than lifetime reasonable maximum exposure excess carcinogenic risk to a resident child was calculated to be nine in one million (9×10^{-6}) (Table 7). The average excess carcinogenic risk to a resident child was 6.4 in one million (6.4×10^{-6}) (Table 8). The less than lifetime reasonable maximum exposure excess carcinogenic risk to a resident adult was calculated to be 3.8 in one million (3.8×10^{-6}) (Table 7). The average excess carcinogenic risk to a resident adult was calculated to be 2.7 in one million (2.7×10^{-6}) (Table 8). These risks for cancer due to diesel exhaust and benzene do not exceed the CMP risk management goal of 10 in a million. The calculated RME and average estimates of excess carcinogenic risks are summarized in Table 10, Summary Residential Carcinogenic Risks and Noncarcinogenic Hazard Indices: 95 Percent Upper Confidence Limit Source Term - Inhalation and Table 11, Summary Residential Carcinogenic Risks

and Noncarcinogenic Hazard Indices: Arithmetic Mean Source Term - Inhalation respectively.

Other than nuisance effects such as disagreeable odors, chronic noncarcinogenic hazards are not predicted to occur. The RME chronic hazard index for the child resident is 0.63 (Table 7) and the average chronic hazard index for the child resident is 0.45 (Table 8). The acute hazard index for the child resident is 0.83. Noncarcinogenic RME and average hazards are summarized in Tables 10 and 11 respectively. A target organ analysis was not performed to further detail noncancer effects since none of the hazard indices exceeded one.

These quantitative estimates of carcinogenic risk and noncarcinogenic hazards are consistent with the stated objectives of the Community Monitoring Plan for the protection of public health. The estimates demonstrate the effectiveness of the monitoring program and controls for limiting dispersion of airborne chemicals associated with the remediation activities.

Uncertainty associated with the risk characterization results was qualitatively evaluated, as presented in Section 3.0, and integrated to qualitatively evaluate the overall uncertainty. The overall uncertainty is moderate to high with a bias toward overestimation of risks.

5.0 REFERENCES

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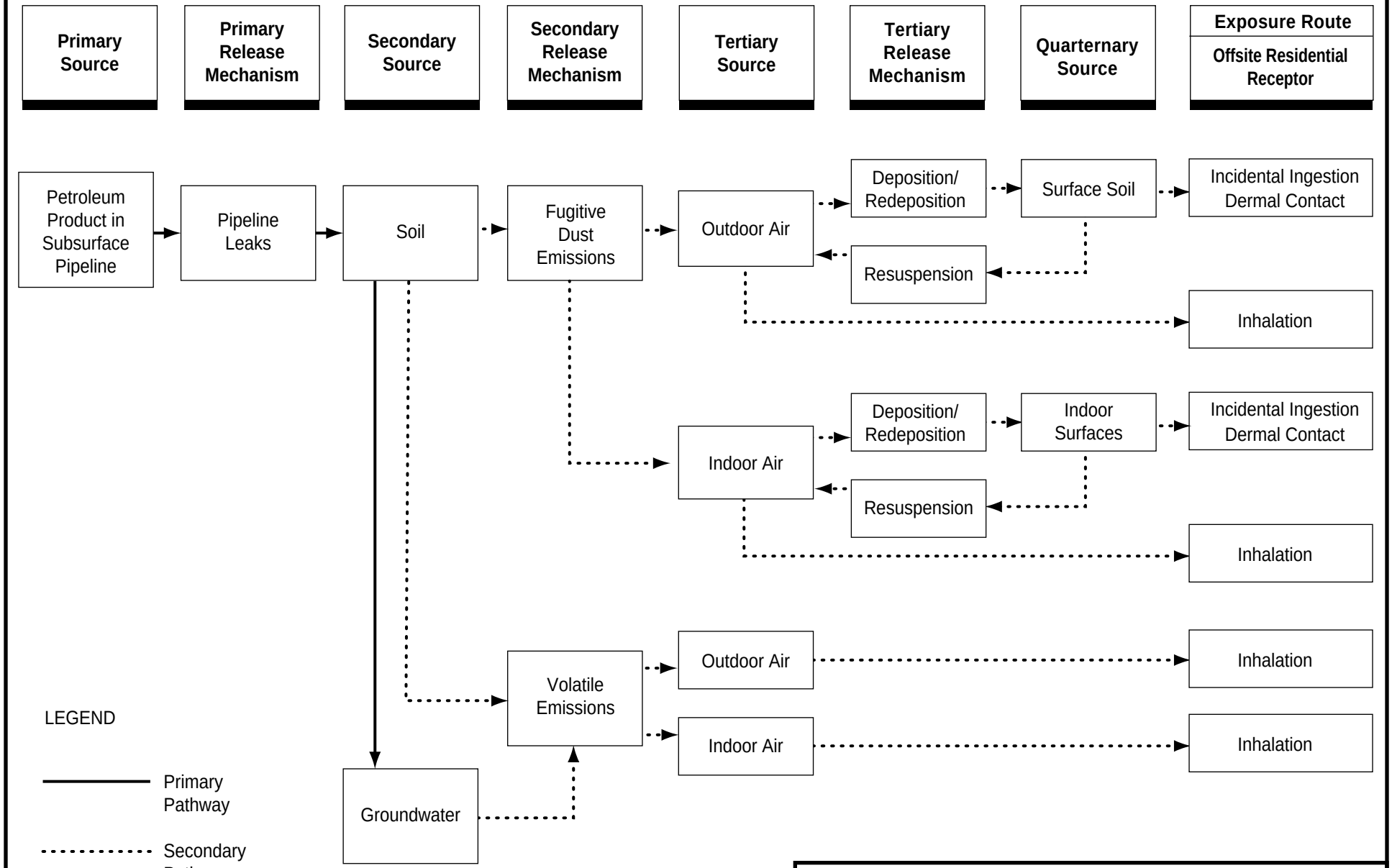
FIGURES

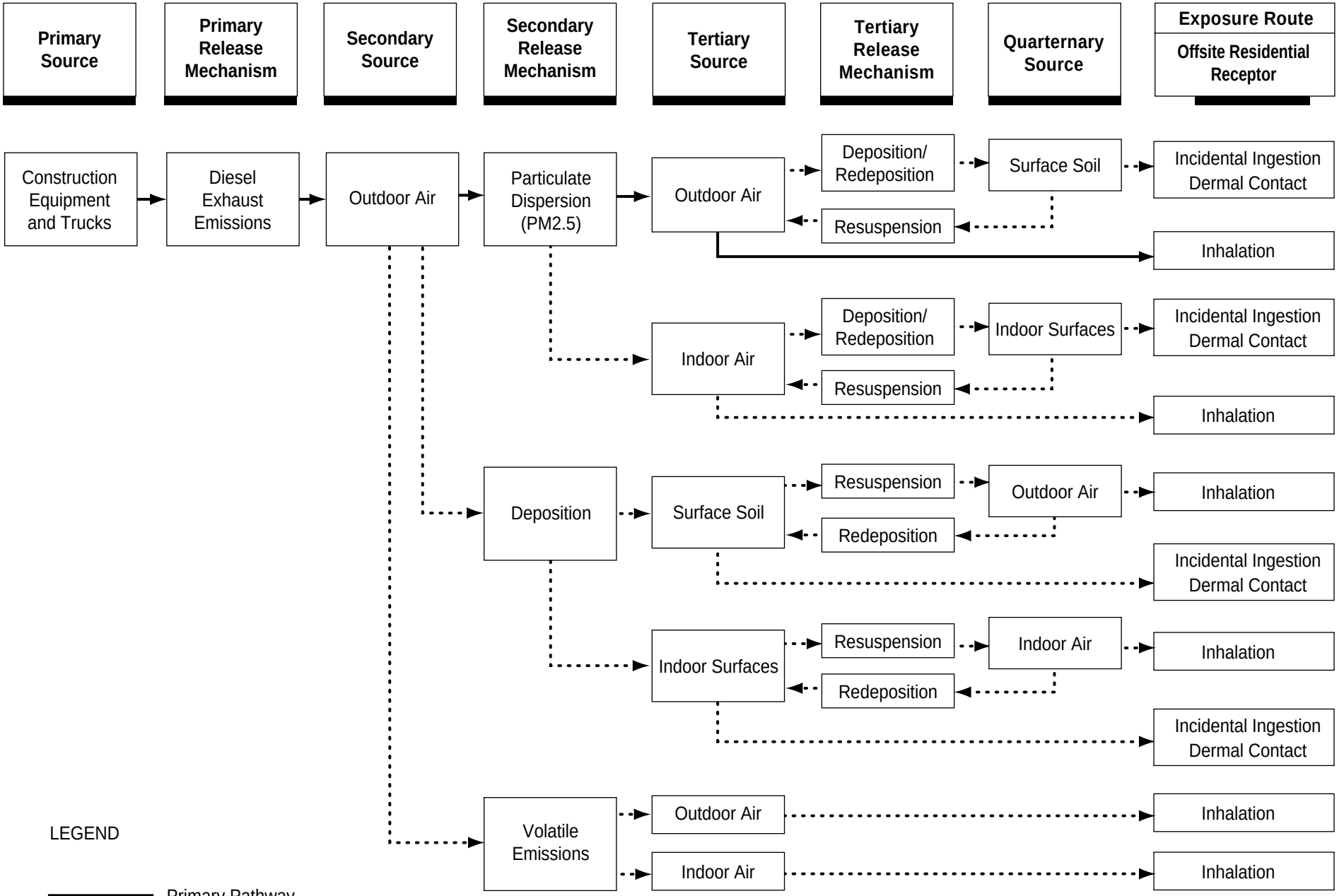


CONCEPTUAL SITE MODEL
SITE REMEDIATION ACTIVITIES

Avila Beach, California

Figure 1A

SOMA CORPORATION



(PM2.5) Particulate matter less than 2.5 microns in diameter

CONCEPTUAL SITE MODEL
SITE REMEDIATION ACTIVITIES

Avila Beach, California

Figure 1B

SOMA CORPORATION

TABLES

Table 1. PAH Summary Statistics

Standard Chemical Name	n	Detects	Percent Detected	Concentration (mg/kg)			
				Minimum	Maximum	Average	Median
Acenaphthene	72	26	36	0.0025	2.9	0.19	0.04
Acenaphthylene	72	26	36	0.0025	0.77	0.09	0.03
Anthracene	72	22	31	0.0025	0.3	0.05	0.03
Benz(a)anthracene*	72	16	22	0.0025	0.61	0.06	0.03
Benzo(a)pyrene*	72	9	13	0.0025	0.24	0.04	0.03
Benzo(b)fluoranthene*	72	11	15	0.0025	0.38	0.04	0.03
Benzo(ghi)perylene	72	8	11	0.0025	0.11	0.03	0.03
Benzo(k)fluoranthene*	72	5	7	0.0025	0.11	0.03	0.03
Chrysene*	72	14	19	0.0025	0.7	0.06	0.03
Dibenzo(a,h)anthracene*	72	5	7	0.0025	0.08	0.03	0.03
Fluoranthene	72	14	19	0.0025	0.5	0.06	0.03
Fluorene	72	15	21	0.0025	1.8	0.13	0.05
Indeno(1,2,3,-cd)pyrene*	72	4	6	0.0025	0.084	0.03	0.03
Naphthalene	72	17	24	0.0025	6.1	0.22	0.03
Phenanthrene	72	34	47	0.0025	6.3	0.58	0.05
Pyrene	72	31	43	0.0025	1	0.11	0.05

Source: CMP, Table 2-2, SLOAPCD-SLOPHD, 1999.
Note:
*Carcinogen

Table 2. Benzo(a)pyrene-Equivalent Concentrations and Slope Factors of Carcinogenic PAHs

Standard Chemical Name	n	Detects	Percent Detected	Concentration (mg/kg)				Toxicity Equivalency Factor**	Equivalent Concentration (mg/kg)	Slope Factor
				Minimum	Maximum	Average	Median			
Benz(a)anthracene*	72	16	22	0.0025	0.61	0.06	0.03	0.1	0.061	3.9
Benzo(a)pyrene*	72	9	13	0.0025	0.24	0.04	0.03	1	0.24	3.9
Benzo(b)fluoranthene*	72	11	15	0.0025	0.38	0.04	0.03	0.1	0.038	3.9
Benzo(k)fluoranthene*	72	5	7	0.0025	0.11	0.03	0.03	0.1	0.011	3.9
Chrysene*	72	14	19	0.0025	0.7	0.06	0.03	0.01	0.007	3.9
Dibenzo(a,h)anthracene*	72	5	7	0.0025	0.08	0.03	0.03		0.08	4.1
Indeno(1,2,3,-cd)pyrene*	72	4	6	0.0025	0.084	0.03	0.03	0.1	0.0084	3.9

Source: CMP, Table 2-2, SLOAPCD-SLOPHD, 1999.

Notes:

*Carcinogen

**DTSC 1999

Total	**BaP**	0.3654	3.9
	DBahA	0.08	4.1

Table 3. Statistical Summary Data

Chemicals	Site Average	Site Stratified Error	Site Count	Site Maximum	Site 95% UCL	Background Average	Background Stratified Error	Background Count	D = x - y	Standard Deviation of D	95% UCL of D
Benzene	1.55	0.21	415	35.81	1.89	0.74	0.09	38	0.81	0.23	1.18
Toluene	2.31	0.49	415	24.64	3.12	1.98	0.26	38	0.33	0.56	1.25
Ethylbenzene	0.59	0.05	199	13.39	0.68	0.36	0.02	38	0.24	0.055	0.33
Xylenes *	3.12	0.36	415	34.87	3.71	0.42	0.05	76	2.70	0.36	3.29
Diesel	1.52	0.02	15675	14.20	1.55	0.28	0.30	225	1.24	0.30	1.80
PM10	49.19	0.34	18124	769.25	49.75	29.39	1.26	790	19.80	1.31	21.96
PM2.5 **	13.30	0.07	16826	376.80	13.41	--	--	--	--	--	--
Hydrogen Sulfide	4.802	0.01878	107233	21.25	4.8325	3.25	0.33	204	1.55	0.33	2.09

Notes

All units ug/m^3

D = Difference of the mean of the source concentration, x and the mean of the background concentration, y.

95% UCL of D = 95 percent upper confidence limit of the difference between the source and background and standard deviation of the difference.

* Xylenes include m, p-xylene and o-xylene.

** PM 2.5 is not background corrected due to the lack of background data.

-- Data not available

Diesel's 95% UCL of D and Site Maximum value are corrected by a 1.04 factor for the PM2.5 fraction to a PM10 equivalent concentration.

Diesel's Site Average, Site Stratified Error and Site Maximum include the 64% correction for Particulate Elemental Carbon (PEC).

Table 4. Summary of Data Sources

Chemicals	Analytical Method	Sample Collection Method
Benzene	TO14 GC/MS	Summa Canisters
Toluene	TO14 GC/MS	Summa Canisters
Ethylbenzene	TO14 GC/MS	Summa Canisters
Xylene	TO14 GC/MS	Summa Canisters
Diesel	Aethalometer	Aethalometer
Hydrogen Sulfide	Jerome Model 631X	Portable Jerome Analyzer
PM 2.5	MIE™ Data RAM-2000	MIE™ Data RAM-2000
PM 10	Personal Data RAM-1000	Personal Data RAM-1000
PAH's	TO13A GC/MS TO13A GC/MS SIM	High volume sampler with PUF/XAD sampling head

Notes:
PAH's - Polynuclear Aromatic Hydorcarbons
GC/MS - Gas Chromatography/Mass Chromatography
SIM - Selected Ion Monitoring
PUF - Polyurethane Foam
XAD - A synthetic polymeric resin used to trap volatile organic chemicals

Table 5. Parameters for Estimating Exposure

Parameter	Value	Source
C_a	95% UCL of the arithmetic mean	Calculated from all available field data
Inhalation Rate	20 m^3/day - adult 10 m^3/day - child	DTSC 1992 U.S. EPA 1997
Exposure Time	10 hours/day	Project Specific
Exposure Duration	15 months - adult 15 months - child	Project Specific Project Specific
Conversion Factor	1 day/24 hours	--
Exposure Frequency	313 days/year	Project Specific
Body Weight	70 kg - adult 15 kg - child	DTSC 1992 DTSC 1992
Averaging Time	25550 days (70 years) - cancer	DTSC 1992

Notes:
Ca - air concentration
kg - kilogram
m^3 - cubic meter
UCL - Upper confidence limit

References:
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Table 6. Carcinogenic Toxicity Criteria

Chemical	Inhalation Unit Risk Factor $(ug/m^3)^{-1}$	Inhalation Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$	Source
Benzene	2.9E-05	1.0E-01	OEHHA, 1999
Diesel exhaust	3.0E-04	1.1E+00	OEHHA, 1999

Notes:
m^3 - cubic meter
ug - microgram
mg - milligram
kg - kilogram

References:
Office of Environmental Health Hazard Assessment (OEHHA). 1999. Air Toxics Hot Spots Program, Risk Assessment Guidelines - Part II Technical Support Document for Describing Available Cancer Potency Factors. April.

Table 7. Residential Carcinogenic Risks and Noncarcinogenic Hazard Indices: 95 Percent Upper Confidence Level Source Term - Inhalation

Variables	Acronym	Units	Values	Diesel Exhaust	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Hydrogen Sulfide	Total
Exposure Parameters:										
Maximum 1 hour Average Air Concentration (uncorrected for background)[a]	C_a	ug/m^3	Chem-Spec	1.42E+01	5.12E+01	3.52E+01	1.91E+01	4.98E+01	2.13E+01	--
95 UCL Air Concentration (corrected for background)	C_a	ug/m^3	Chem-Spec	1.80E+00	1.18E+00	1.25E+00	3.26E-01	3.29E+00	2.09E+00	--
Unit conversion factor	CF	mg/ug	0.001	--	--	--	--	--	--	--
Inhalation Rate - Child	Ch IR_a	m^3/day	10	--	--	--	--	--	--	--
Inhalation Rate - Adult	Ad IR_a	m^3/day	20	--	--	--	--	--	--	--
Exposure Time (work duration)	ET	hours/day	10	--	--	--	--	--	--	--
Time conversion factor	TCF	days/hour	0.0417							
Exposure Frequency - Child	Ch EF	days/year	313	--	--	--	--	--	--	--
Exposure Frequency - Adult	Ad EF	days/year	313	--	--	--	--	--	--	--
Exposure Duration - Child	Ch ED	years	1.25	--	--	--	--	--	--	--
Exposure Duration - Adult	Ad ED	years	1.25	--	--	--	--	--	--	--
Body Weight - Child	Ch BW	kg	15	--	--	--	--	--	--	--
Body Weight - Adult	Ad BW	kg	70	--	--	--	--	--	--	--
Averaging Time-Carcinogenic	AT_{carc}	days	25550	--	--	--	--	--	--	--
Averaging Time-Non-carcinogenic	$AT_{non\text{-}carc}$	days	456	--	--	--	--	--	--	--
Chronic Daily Intakes:										
Carcinogenic - Child	Ch CDI_{carc}	mg/kg-day	Chem-Spec	7.68E-06	5.04E-06	NC	NC	NC	NC	--
Carcinogenic - Adult	Ad CDI_{carc}	mg/kg-day	Chem-Spec	3.29E-06	2.16E-06	NC	NC	NC	NC	--
Non-carcinogenic - Child	Ch $CDI_{non\text{-}carc}$	mg/kg-day	Chem-Spec	4.30E-04	2.82E-04	2.99E-04	7.77E-05	7.85E-04	4.99E-04	--
Non-carcinogenic - Adult	Ad $CDI_{non\text{-}carc}$	mg/kg-day	Chem-Spec	9.21E-05	6.05E-05	6.40E-05	1.67E-05	1.68E-04	1.07E-04	--
Toxicity Criteria:										
Chronic Reference Exposure Levels	Chr REL	ug/m^3	Chem-Spec	5	71	200	1000	300	9	--
Acute Reference Exposure Levels	Ac REL	ug/m^3	Chem-Spec	50	1300	37000	--	22000	4.20E+01	--
Cancer Slope Factor	CSF	$(mg/kg\text{-}day)^{-1}$	Chem-Spec	1.1E+00	1.0E-01	--	--	--	--	--
Chronic Noncarcinogenic Hazards:										
Chronic Hazard Quotient	Chr HQ	unitless	Chem-Spec	3.61E-01	1.67E-02	6.26E-03	3.26E-04	1.10E-02	2.33E-01	
Chronic Hazard Index										**6.3E-01**
Chronic Hazard Index										
Acute Noncarcinogenic Hazards:										
Acute Hazard Quotient	Ac HQ	unitless	Chem-Spec	2.84E-01	3.93E-02	9.51E-04	--	2.26E-03	5.06E-01	
Acute Hazard Index										**8.3E-01**
Acute Hazard Index										
Carcinogenic Risk:										
Carcinogenic Risk - Child	Ch RISK	unitless	Chem-Spec	8.45E-06	5.04E-07	--	--	--	--	**9.0E-06**
Carcinogenic Risk - Adult	Ad RISK	unitless	Chem-Spec	3.62E-06	2.16E-07	--	--	--	--	**3.8E-06**

Note:
The maximum 10-hour average for benzene, toluene, ethylbenzene and xylene is divided by 0.7 to convert to a one-hour average maximum.

Table 8. Residential Carcinogenic Risks and Noncarcinogenic Hazard Indices: Arithmetic Mean Source Term - Inhalation

Variables	Acronym	Units	Values	Diesel Exhaust	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Hydrogen Sulfide	Total
Exposure Parameters:										
Maximum 1 hour Average Air Concentration (uncorrected for background)	C_a	ug/m^3	Chem-Spec	1.42E+01	5.12E+01	3.52E+01	1.91E+01	4.98E+01	2.13E+01	--
Average Air Concentration (corrected for background)	C_a	ug/m^3	Chem-Spec	1.29E+00	8.12E-01	3.28E-01	2.36E-01	2.70E+00	1.55E+00	--
Unit conversion factor	CF	mg/ug	0.001	--	--	--	--	--	--	--
Inhalation Rate - Child	Ch IR_a	m^3/day	10	--	--	--	--	--	--	--
Inhalation Rate - Adult	Ad IR_a	m^3/day	20	--	--	--	--	--	--	--
Exposure Time (work duration)	ET	hours/day	10	--	--	--	--	--	--	--
Time conversion factor	TCF	days/hour	0.0417							
Exposure Frequency - Child	Ch EF	days/year	313	--	--	--	--	--	--	--
Exposure Frequency - Adult	Ad EF	days/year	313	--	--	--	--	--	--	--
Exposure Duration - Child	Ch ED	years	1.25	--	--	--	--	--	--	--
Exposure Duration - Adult	Ad ED	years	1.25	--	--	--	--	--	--	--
Body Weight - Child	Ch BW	kg	15	--	--	--	--	--	--	--
Body Weight - Adult	Ad BW	kg	70	--	--	--	--	--	--	--
Averaging Time-Carcinogenic	AT_{carc}	days	25550	--	--	--	--	--	--	--
Averaging Time-Non-carcinogenic	$AT_{non\text{-}carc}$	days	456	--	--	--	--	--	--	--
Chronic Daily Intakes:										
Carcinogenic - Child	Ch CDI_{carc}	mg/kg-day	Chem-Spec	5.49E-06	3.46E-06	NC	NC	NC	NC	--
Carcinogenic - Adult	Ad CDI_{carc}	mg/kg-day	Chem-Spec	2.35E-06	1.48E-06	NC	NC	NC	NC	--
Non-carcinogenic - Child	Ch $CDI_{non\text{-}carc}$	mg/kg-day	Chem-Spec	3.07E-04	1.94E-04	7.83E-05	5.62E-05	6.44E-04	3.70E-04	--
Non-carcinogenic - Adult	Ad $CDI_{non\text{-}carc}$	mg/kg-day	Chem-Spec	6.58E-05	4.15E-05	1.68E-05	1.20E-05	1.38E-04	7.92E-05	--
Toxicity Criteria:										
Chronic Reference Exposure Levels	Chr REL	ug/m^3	Chem-Spec	5	71	200	1000	300	9	--
Acute Reference Exposure Levels	Ac REL	ug/m^3	Chem-Spec	50	1300	37000	--	22000	4.20E+01	--
Cancer Slope Factor	CSF	$(mg/kg\text{-}day)^{-1}$	Chem-Spec	1.1E+00	1.0E-01	--	--	--	--	--
Chronic Noncarcinogenic Hazards:										
Chronic Hazard Quotient	Chr HQ	unitless	Chem-Spec	2.58E-01	1.14E-02	1.64E-03	2.36E-04	9.00E-03	1.72E-01	
Chronic Hazard Index										**4.5E-01**
Chronic Hazard Index										
Acute Noncarcinogenic Hazards:										
Acute Hazard Quotient	Ac HQ	unitless	Chem-Spec	2.84E-01	3.93E-02	9.51E-04	--	2.26E-03	5.06E-01	
Acute Hazard Index										**8.3E-01**
Acute Hazard Index										
Carcinogenic Risk:										
Carcinogenic Risk - Child	Ch RISK	unitless	Chem-Spec	6.04E-06	3.46E-07	--	--	--	--	**6.4E-06**
Carcinogenic Risk - Adult	Ad RISK	unitless	Chem-Spec	2.59E-06	1.48E-07	--	--	--	--	**2.7E-06**

Notes:
Diesel's average air concentration (corrected for background) includes the 1.04 factor for the PM2.5 fraction to a PM10 equivalent concentration.
The maximum 10-hour average for benzene, toluene, ethylbenzene and xylene is divided by 0.7 to convert to a one-hour average maximum.

Table 9. Non-Carcinogenic Toxicity Criteria for Substances of Potential Concern

Chemical	Chronic REL (ug/m^3)	Chronic REL Source	Acute REL (ug/m^3)	Acute REL Source
Benzene	71	CAPCOA, 1993	1300	OEHHA, 1999
Diesel exhaust	5	U.S. EPA, 1999 a	50	Chronic REL x 10
Ethylbenzene	1000	U.S. EPA, 1999 b	--	--
Hydrogen Sulfide	9	OEHHA, 2000	42	OEHHA, 1999
Toluene	200	CAPCOA, 1993	37000	OEHHA, 1999
Xylenes	300	CAPCOA, 1993	22000	OEHHA, 1999

Notes:
REL - Reference Exposure Level
-- Not applicable
m^3 - cubic meter
ug - microgram

References:

California Air Pollution Control Officers Association (CAPCOA). 1993. Air Toxics Hot Spots Program - Revised 1992 Risk Assessment Guidelines. October.

Office of Environmental Health Hazard Assessment (OEHHA). 2000. Air Toxics Hot Spots Program Risk Assessment Guidelines - Part III Technical Support Document for the Determination of Noncancer Chronic Reference Exposure Levels. February.

OEHHA. 1999. Air Toxics Hot Spots Program Risk Assessment Guidelines - Part I The Determination of Acute Reference Exposure Levels for Airborne Toxicants. March.

United States Environmental Protection Agency (U.S. EPA). 1999 a. Diesel Engine Emissions. Integrated Risk Information System (IRIS). Printed on October 7, 1999. Last revised June 1, 1993.

U.S. EPA. 1999 b. Ethylbenzene. IRIS. Printed on October 12, 1999. Last revised August 1, 1991.

Table 10. Summary Residential Carcinogenic Risks and Noncarcinogenic Hazard Indices: 95 Percent Upper Confidence Limit Source Term - Inhalation

Variables	Diesel Exhaust	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Hydrogen Sulfide	Total
Chronic Noncarcinogenic Hazards:							
Chronic Hazard Quotient	3.61E-01	1.67E-02	6.26E-03	3.26E-04	1.10E-02	2.33E-01	
Chronic Hazard Index							**6.3E-01**
Acute Noncarcinogenic Hazards:							
Acute Hazard Quotient*	2.84E-01	3.93E-02	9.51E-04	--	2.26E-03	5.06E-01	
Acute Hazard Index							**8.3E-01**
Carcinogenic Risk:							
Carcinogenic Risk - Child	8.45E-06	5.04E-07	--	--	--	--	**9.0E-06**
Carcinogenic Risk - Adult	3.62E-06	2.16E-07	--	--	--	--	**3.8E-06**

Note:
* Based on maximum chemical concentrations (uncorrected for background).

Table 11. Summary Residential Carcinogenic Risks and Noncarcinogenic Hazard Indices: Arithmetic Mean Source Term - Inhalation

Variables	Diesel Exhaust	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Hydrogen Sulfide	Total
Chronic Noncarcinogenic Hazards:							
Chronic Hazard Quotient	2.58E-01	1.14E-02	1.64E-03	2.36E-04	9.00E-03	1.72E-01	
Chronic Hazard Index							**4.5E-01**
Acute Noncarcinogenic Hazards:							
Acute Hazard Quotient*	2.84E-01	3.93E-02	9.51E-04	--	2.26E-03	5.06E-01	
Acute Hazard Index							**8.3E-01**
Carcinogenic Risk:							
Carcinogenic Risk - Child	6.04E-06	3.46E-07	--	--	--	--	**6.4E-06**
Carcinogenic Risk - Adult	2.59E-06	1.48E-07	--	--	--	--	**2.7E-06**

Note:
* Based on maximum chemical concentrations (uncorrected for background).

APPENDIX A

Background Data

Benzene Background Data

Method: TO14 GCMS-E
Period: Oct 20 1998 to Nov 14 1998
Locations: (1) JE Office, (2) Beach, (3) Triangle Park, (4) Post Office, (5) Fire Station, (6) Scout House, (7) UnoFenceline,(10) San Luis St., (11) First St. (12) Front St., (13) 1st/SF, (14) 1st/Antonia, (15) 2nd St. Hill

Query: Lab Data Details, Barry Lajoie 10/12/99

Sample Date	Compound	dataugm3	repolimitm3	Units	Flag	Location Description
20-Oct-98	benzene	0.408	0.815	ug/m3	U	Triangle Pk
21-Oct-98	benzene	0.930	0.617	ug/m3		JE Office
21-Oct-98	benzene	0.484	0.968	ug/m3	U	Beach
21-Oct-98	benzene	0.539	0.386	ug/m3		Triangle Pk
21-Oct-98	benzene	0.581	0.464	ug/m3		Post Office
21-Oct-98	benzene	0.749	0.455	ug/m3		Scout House
21-Oct-98	benzene	0.735	0.432	ug/m3		UnoFenceline
22-Oct-98	benzene	0.600	0.578	ug/m3		JE Office
22-Oct-98	benzene	0.852	0.409	ug/m3		Beach
22-Oct-98	benzene	1.715	0.562	ug/m3		Triangle Pk
22-Oct-98	benzene	2.028	0.672	ug/m3		Fire Station
22-Oct-98	benzene	0.622	0.562	ug/m3		Scout House
23-Oct-98	benzene	0.669	0.497	ug/m3		JE Office
23-Oct-98	benzene	0.649	0.416	ug/m3		Triangle Pk
23-Oct-98	benzene	0.684	0.477	ug/m3		Post Office
23-Oct-98	benzene	0.534	0.533	ug/m3		Fire Station
23-Oct-98	benzene	0.673	0.448	ug/m3		Scout House
23-Oct-98	benzene	0.992	0.481	ug/m3		UnoFenceline
26-Oct-98	benzene	0.273	0.546	ug/m3	U	JE Office
26-Oct-98	benzene	0.278	0.555	ug/m3	U	Triangle Pk
26-Oct-98	benzene	0.255	0.510	ug/m3	U	Post Office
26-Oct-98	benzene	0.211	0.422	ug/m3	U	Fire Station
26-Oct-98	benzene	0.333	0.666	ug/m3	U	Scout House
26-Oct-98	benzene	0.326	0.653	ug/m3	U	UnoFenceline
28-Oct-98	benzene	0.576	0.325	ug/m3		JE Office
28-Oct-98	benzene	0.253	0.507	ug/m3	U	Beach
28-Oct-98	benzene	0.452	0.373	ug/m3		Triangle Pk
28-Oct-98	benzene	0.709	0.325	ug/m3		Post Office
28-Oct-98	benzene	0.580	0.539	ug/m3		Fire Station
28-Oct-98	benzene	0.219	0.438	ug/m3	U	Scout House
28-Oct-98	benzene	0.371	0.325	ug/m3		UnoFenceline
29-Oct-98	benzene	0.488	0.390	ug/m3		Triangle Pk
11-Nov-98	benzene	0.982	0.487	ug/m3		Triangle Pk
11-Nov-98	benzene	0.745	0.464	ug/m3		Fire Station
12-Nov-98	benzene	0.240	0.481	ug/m3	U	Triangle Pk
12-Nov-98	benzene	0.696	0.529	ug/m3		Fire Station
13-Nov-98	benzene	0.794	0.487	ug/m3		Triangle Pk
13-Nov-98	benzene	3.020	0.523	ug/m3		Fire Station

Toluene Background Data

Method: TO14 GCMS-E
Period: Oct 20 1998 to Nov 14 1998
Locations: (1) JE Office, (2) Beach, (3) Triangle Park, (4) Post Office, (5) Fire Station, (6) Scout House, (7) UnoFenceline,(10) San Luis St., (11) First St. (12) Front St., (13) 1st/SF, (14) 1st/Antonia, (15) 2nd St. Hill

Query: Lab Data Details, Barry Lajoie 10/12/99

Sample Date	Compound	dataugm3	repolimitm3	Units	Flag	Location Description
20-Oct-98	toluene	2.364	0.961	ug/m3		Triangle Pk
21-Oct-98	toluene	2.784	0.728	ug/m3		JE Office
21-Oct-98	toluene	0.571	1.141	ug/m3	U	Beach
21-Oct-98	toluene	0.746	0.456	ug/m3		Triangle Pk
21-Oct-98	toluene	1.057	0.548	ug/m3		Post Office
21-Oct-98	toluene	1.781	0.536	ug/m3		Scout House
21-Oct-98	toluene	2.154	0.509	ug/m3		UnoFenceline
22-Oct-98	toluene	1.074	0.682	ug/m3		JE Office
22-Oct-98	toluene	1.041	0.483	ug/m3		Beach
22-Oct-98	toluene	1.461	0.663	ug/m3		Triangle Pk
22-Oct-98	toluene	2.216	0.793	ug/m3		Fire Station
22-Oct-98	toluene	0.864	0.663	ug/m3		Scout House
23-Oct-98	toluene	1.429	0.586	ug/m3		JE Office
23-Oct-98	toluene	1.252	0.490	ug/m3		Triangle Pk
23-Oct-98	toluene	1.881	0.563	ug/m3		Post Office
23-Oct-98	toluene	1.085	0.628	ug/m3		Fire Station
23-Oct-98	toluene	0.901	0.529	ug/m3		Scout House
23-Oct-98	toluene	0.762	0.567	ug/m3		UnoFenceline
26-Oct-98	toluene	1.016	0.643	ug/m3		JE Office
26-Oct-98	toluene	1.246	0.655	ug/m3		Triangle Pk
26-Oct-98	toluene	0.972	0.601	ug/m3		Post Office
26-Oct-98	toluene	0.982	0.498	ug/m3		Fire Station
26-Oct-98	toluene	0.393	0.785	ug/m3	U	Scout House
26-Oct-98	toluene	0.385	0.770	ug/m3	U	UnoFenceline
28-Oct-98	toluene	1.107	0.383	ug/m3		JE Office
28-Oct-98	toluene	1.145	0.597	ug/m3		Beach
28-Oct-98	toluene	1.060	0.440	ug/m3		Triangle Pk
28-Oct-98	toluene	1.831	0.383	ug/m3		Post Office
28-Oct-98	toluene	1.451	0.636	ug/m3		Fire Station
28-Oct-98	toluene	0.259	0.517	ug/m3	U	Scout House
28-Oct-98	toluene	0.772	0.383	ug/m3		UnoFenceline
29-Oct-98	toluene	1.381	0.460	ug/m3		Triangle Pk
11-Nov-98	toluene	1.739	0.574	ug/m3		Triangle Pk
11-Nov-98	toluene	1.448	0.548	ug/m3		Fire Station
12-Nov-98	toluene	1.150	0.567	ug/m3		Triangle Pk
12-Nov-98	toluene	8.551	0.624	ug/m3		Fire Station
13-Nov-98	toluene	1.435	0.574	ug/m3		Triangle Pk
13-Nov-98	toluene	5.749	0.617	ug/m3		Fire Station

Ethylbenzene Background Data

Method: TO14 GCMS-E
Period: Oct 20 1998 to Nov 14 1998
Locations: (1) JE Office, (2) Beach, (3) Triangle Park, (4) Post Office, (5) Fire Station, (6) Scout House, (7) UnoFenceline,(10) San Luis St., (11) First St. (12) Front St., (13) 1st/SF, (14) 1st/Antonia, (15) 2nd St. Hill

Query: Lab Data Details, Barry Lajoie 10/12/99

Sample Date	Compound	dataugm3	repolimitm3	Units	Flag	Location Description
20-Oct-98	ethylbenzene	0.554	1.108	ug/m3	U	Triangle Pk
21-Oct-98	ethylbenzene	0.419	0.839	ug/m3	U	JE Office
21-Oct-98	ethylbenzene	0.658	1.315	ug/m3	U	Beach
21-Oct-98	ethylbenzene	0.263	0.525	ug/m3	U	Triangle Pk
21-Oct-98	ethylbenzene	0.316	0.631	ug/m3	U	Post Office
21-Oct-98	ethylbenzene	0.309	0.618	ug/m3	U	Scout House
21-Oct-98	ethylbenzene	0.293	0.587	ug/m3	U	UnoFenceline
22-Oct-98	ethylbenzene	0.393	0.786	ug/m3	U	JE Office
22-Oct-98	ethylbenzene	0.278	0.556	ug/m3	U	Beach
22-Oct-98	ethylbenzene	0.382	0.763	ug/m3	U	Triangle Pk
22-Oct-98	ethylbenzene	0.457	0.914	ug/m3	U	Fire Station
22-Oct-98	ethylbenzene	0.382	0.763	ug/m3	U	Scout House
23-Oct-98	ethylbenzene	0.338	0.675	ug/m3	U	JE Office
23-Oct-98	ethylbenzene	0.282	0.565	ug/m3	U	Triangle Pk
23-Oct-98	ethylbenzene	0.324	0.649	ug/m3	U	Post Office
23-Oct-98	ethylbenzene	0.362	0.724	ug/m3	U	Fire Station
23-Oct-98	ethylbenzene	0.305	0.609	ug/m3	U	Scout House
23-Oct-98	ethylbenzene	0.327	0.653	ug/m3	U	UnoFenceline
26-Oct-98	ethylbenzene	0.371	0.741	ug/m3	U	JE Office
26-Oct-98	ethylbenzene	0.377	0.755	ug/m3	U	Triangle Pk
26-Oct-98	ethylbenzene	0.346	0.693	ug/m3	U	Post Office
26-Oct-98	ethylbenzene	0.287	0.574	ug/m3	U	Fire Station
26-Oct-98	ethylbenzene	0.452	0.905	ug/m3	U	Scout House
26-Oct-98	ethylbenzene	0.444	0.887	ug/m3	U	UnoFenceline
28-Oct-98	ethylbenzene	0.221	0.441	ug/m3	U	JE Office
28-Oct-98	ethylbenzene	0.344	0.688	ug/m3	U	Beach
28-Oct-98	ethylbenzene	0.254	0.508	ug/m3	U	Triangle Pk
28-Oct-98	ethylbenzene	0.221	0.441	ug/m3	U	Post Office
28-Oct-98	ethylbenzene	0.366	0.733	ug/m3	U	Fire Station
28-Oct-98	ethylbenzene	0.298	0.596	ug/m3	U	Scout House
28-Oct-98	ethylbenzene	0.221	0.441	ug/m3	U	UnoFenceline
29-Oct-98	ethylbenzene	0.265	0.530	ug/m3	U	Triangle Pk
11-Nov-98	ethylbenzene	0.331	0.662	ug/m3	U	Triangle Pk
11-Nov-98	ethylbenzene	0.316	0.631	ug/m3	U	Fire Station
12-Nov-98	ethylbenzene	0.327	0.653	ug/m3	U	Triangle Pk
12-Nov-98	ethylbenzene	0.360	0.719	ug/m3	U	Fire Station
13-Nov-98	ethylbenzene	0.331	0.662	ug/m3	U	Triangle Pk
13-Nov-98	ethylbenzene	0.355	0.711	ug/m3	U	Fire Station

Xylene Background Data

Method: TO14 GCMS-E
Period: Oct 20 1998 to Nov 14 1998
Locations: (1) JE Office, (2) Beach, (3) Triangle Park, (4) Post Office, (5) Fire Station, (6) Scout House, (7) UnoFenceline,(10) San Luis St., (11) First St. (12) Front St., (13) 1st/SF, (14) 1st/Antonia, (15) 2nd St. Hill

Query: Lab Data Details, Barry Lajoie 10/12/99

Sample Date	Compound	dataugm3	repolimitm3	Units	Flag	Location Description
20-Oct-98	m,p-xylene	0.554	1.108	ug/m3	U	Triangle Pk
20-Oct-98	o-xylene	0.554	1.108	ug/m3	U	Triangle Pk
21-Oct-98	o-xylene	0.419	0.839	ug/m3	U	JE Office
21-Oct-98	o-xylene	0.658	1.315	ug/m3	U	Beach
21-Oct-98	o-xylene	0.263	0.525	ug/m3	U	Triangle Pk
21-Oct-98	o-xylene	0.316	0.631	ug/m3	U	Post Office
21-Oct-98	o-xylene	0.309	0.618	ug/m3	U	Scout House
21-Oct-98	o-xylene	0.294	0.587	ug/m3	U	UnoFenceline
21-Oct-98	m,p-xylene	1.066	0.839	ug/m3		JE Office
21-Oct-98	m,p-xylene	0.658	1.315	ug/m3	U	Beach
21-Oct-98	m,p-xylene	0.263	0.525	ug/m3	U	Triangle Pk
21-Oct-98	m,p-xylene	0.691	0.631	ug/m3		Post Office
21-Oct-98	m,p-xylene	0.309	0.618	ug/m3	U	Scout House
21-Oct-98	m,p-xylene	0.294	0.587	ug/m3	U	UnoFenceline
22-Oct-98	m,p-xylene	0.393	0.786	ug/m3	U	JE Office
22-Oct-98	o-xylene	0.393	0.786	ug/m3	U	JE Office
22-Oct-98	o-xylene	0.278	0.556	ug/m3	U	Beach
22-Oct-98	o-xylene	0.382	0.764	ug/m3	U	Triangle Pk
22-Oct-98	o-xylene	0.457	0.914	ug/m3	U	Fire Station
22-Oct-98	o-xylene	0.382	0.764	ug/m3	U	Scout House
22-Oct-98	m,p-xylene	0.278	0.556	ug/m3	U	Beach
22-Oct-98	m,p-xylene	0.382	0.764	ug/m3	U	Triangle Pk
22-Oct-98	m,p-xylene	2.369	0.914	ug/m3		Fire Station
22-Oct-98	m,p-xylene	0.382	0.764	ug/m3	U	Scout House
23-Oct-98	m,p-xylene	0.338	0.675	ug/m3	U	JE Office
23-Oct-98	o-xylene	0.338	0.675	ug/m3	U	JE Office
23-Oct-98	o-xylene	0.282	0.565	ug/m3	U	Triangle Pk
23-Oct-98	o-xylene	0.324	0.649	ug/m3	U	Post Office
23-Oct-98	o-xylene	0.362	0.724	ug/m3	U	Fire Station
23-Oct-98	o-xylene	0.305	0.609	ug/m3	U	Scout House
23-Oct-98	o-xylene	0.327	0.653	ug/m3	U	UnoFenceline
23-Oct-98	m,p-xylene	0.282	0.565	ug/m3	U	Triangle Pk
23-Oct-98	m,p-xylene	0.324	0.649	ug/m3	U	Post Office
23-Oct-98	m,p-xylene	0.362	0.724	ug/m3	U	Fire Station
23-Oct-98	m,p-xylene	0.305	0.609	ug/m3	U	Scout House
23-Oct-98	m,p-xylene	0.327	0.653	ug/m3	U	UnoFenceline
26-Oct-98	m,p-xylene	0.371	0.741	ug/m3	U	JE Office
26-Oct-98	o-xylene	0.371	0.741	ug/m3	U	JE Office
26-Oct-98	o-xylene	0.377	0.755	ug/m3	U	Triangle Pk
26-Oct-98	o-xylene	0.346	0.693	ug/m3	U	Post Office
26-Oct-98	o-xylene	0.287	0.574	ug/m3	U	Fire Station
26-Oct-98	o-xylene	0.452	0.905	ug/m3	U	Scout House
26-Oct-98	o-xylene	0.444	0.887	ug/m3	U	UnoFenceline
26-Oct-98	m,p-xylene	0.377	0.755	ug/m3	U	Triangle Pk
26-Oct-98	m,p-xylene	0.346	0.693	ug/m3	U	Post Office
26-Oct-98	m,p-xylene	0.287	0.574	ug/m3	U	Fire Station
26-Oct-98	m,p-xylene	0.452	0.905	ug/m3	U	Scout House
26-Oct-98	m,p-xylene	0.444	0.887	ug/m3	U	UnoFenceline
28-Oct-98	m,p-xylene	0.462	0.441	ug/m3		JE Office
28-Oct-98	o-xylene	0.221	0.441	ug/m3	U	JE Office
28-Oct-98	o-xylene	0.344	0.689	ug/m3	U	Beach
28-Oct-98	o-xylene	0.254	0.508	ug/m3	U	Triangle Pk
28-Oct-98	o-xylene	0.221	0.441	ug/m3	U	Post Office

Xylene Background Data

Method: TO14 GCMS-E
Period: Oct 20 1998 to Nov 14 1998
Locations: (1) JE Office, (2) Beach, (3) Triangle Park, (4) Post Office, (5) Fire Station, (6) Scout House, (7) UnoFenceline,(10) San Luis St., (11) First St. (12) Front St., (13) 1st/SF, (14) 1st/Antonia, (15) 2nd St. Hill

Query: Lab Data Details, Barry Lajoie 10/12/99

Sample Date	Compound	dataugm3	repolimitm3	Units	Flag	Location Description
28-Oct-98	o-xylene	0.366	0.733	ug/m3	U	Fire Station
28-Oct-98	o-xylene	0.298	0.596	ug/m3	U	Scout House
28-Oct-98	o-xylene	0.221	0.441	ug/m3	U	UnoFenceline
28-Oct-98	m,p-xylene	0.344	0.689	ug/m3	U	Beach
28-Oct-98	m,p-xylene	0.254	0.508	ug/m3	U	Triangle Pk
28-Oct-98	m,p-xylene	0.873	0.441	ug/m3		Post Office
28-Oct-98	m,p-xylene	0.366	0.733	ug/m3	U	Fire Station
28-Oct-98	m,p-xylene	0.298	0.596	ug/m3	U	Scout House
28-Oct-98	m,p-xylene	0.221	0.441	ug/m3	U	UnoFenceline
29-Oct-98	m,p-xylene	0.265	0.530	ug/m3	U	Triangle Pk
29-Oct-98	o-xylene	0.265	0.530	ug/m3	U	Triangle Pk
11-Nov-98	o-xylene	0.331	0.662	ug/m3	U	Triangle Pk
11-Nov-98	o-xylene	0.316	0.631	ug/m3	U	Fire Station
11-Nov-98	m,p-xylene	0.331	0.662	ug/m3	U	Triangle Pk
11-Nov-98	m,p-xylene	0.316	0.631	ug/m3	U	Fire Station
12-Nov-98	m,p-xylene	0.327	0.653	ug/m3	U	Triangle Pk
12-Nov-98	m,p-xylene	0.360	0.719	ug/m3	U	Fire Station
12-Nov-98	o-xylene	0.327	0.653	ug/m3	U	Triangle Pk
12-Nov-98	o-xylene	0.360	0.719	ug/m3	U	Fire Station
13-Nov-98	o-xylene	0.331	0.662	ug/m3	U	Triangle Pk
13-Nov-98	o-xylene	0.355	0.711	ug/m3	U	Fire Station
13-Nov-98	m,p-xylene	0.331	0.662	ug/m3	U	Triangle Pk
13-Nov-98	m,p-xylene	1.720	0.711	ug/m3		Fire Station

Diesel Background Data

units are in nanogram per cubic meter (ng/m^3)

SLO, near Rt. 101		
Sunday, June 20, 1999: 13:00-18:45		
Ave.	289.0	
Stdev.	130.7	
n	23	
20-Jun-99	13:00	186
20-Jun-99	13:30	199
20-Jun-99	13:45	442
20-Jun-99	14:00	566
20-Jun-99	14:15	237
20-Jun-99	14:30	262
20-Jun-99	14:45	179
20-Jun-99	15:00	219
20-Jun-99	15:15	571
20-Jun-99	15:30	234
20-Jun-99	15:45	322
20-Jun-99	16:00	536
20-Jun-99	16:15	126
20-Jun-99	16:30	248
20-Jun-99	16:45	152
20-Jun-99	17:00	256
20-Jun-99	17:15	146
20-Jun-99	17:30	285
20-Jun-99	17:45	371
20-Jun-99	18:00	334
20-Jun-99	18:15	307
20-Jun-99	18:30	169
20-Jun-99	18:45	300

Santa Maria Truckstop, near 101		
Sunday, June 27, 1999: 14:45-21:00		
Ave.	331.7	
Stdev.	199.0	
n	26	
27-Jun-99	14:45	86
27-Jun-99	15:00	102
27-Jun-99	15:15	316
27-Jun-99	15:30	227
27-Jun-99	15:45	411
27-Jun-99	16:00	329
27-Jun-99	16:15	245
27-Jun-99	16:30	477
27-Jun-99	16:45	167
27-Jun-99	17:00	187
27-Jun-99	17:15	133
27-Jun-99	17:30	55
27-Jun-99	17:45	161
27-Jun-99	18:00	164
27-Jun-99	18:15	265
27-Jun-99	18:30	413
27-Jun-99	18:45	271
27-Jun-99	19:00	265
27-Jun-99	19:15	202
27-Jun-99	19:30	682
27-Jun-99	19:45	519
27-Jun-99	20:00	648
27-Jun-99	20:15	389
27-Jun-99	20:30	492
27-Jun-99	20:45	736
27-Jun-99	21:00	683

Avila Beach CMT trailer		
Saturday, September 4, 1999		
Ave.	112.9	
Stdev.	21.3	
n	45	
4-Sep-99	7:00	80
4-Sep-99	7:15	143
4-Sep-99	7:30	95
4-Sep-99	7:45	106
4-Sep-99	8:00	102
4-Sep-99	8:15	84
4-Sep-99	8:30	104
4-Sep-99	8:45	94
4-Sep-99	9:00	125
4-Sep-99	9:15	83
4-Sep-99	9:30	51
4-Sep-99	9:45	69
4-Sep-99	10:00	93
4-Sep-99	10:15	122
4-Sep-99	10:30	125
4-Sep-99	10:45	138
4-Sep-99	11:00	140
4-Sep-99	11:15	111
4-Sep-99	11:30	124
4-Sep-99	11:45	144
4-Sep-99	12:00	103
4-Sep-99	12:15	106
4-Sep-99	12:30	95
4-Sep-99	12:45	103
4-Sep-99	13:00	117
4-Sep-99	13:15	101
4-Sep-99	13:30	98
4-Sep-99	13:45	122
4-Sep-99	14:00	102
4-Sep-99	14:15	104
4-Sep-99	14:30	109
4-Sep-99	14:45	104
4-Sep-99	15:00	111
4-Sep-99	15:15	118
4-Sep-99	15:30	129
4-Sep-99	15:45	126
4-Sep-99	16:00	128
4-Sep-99	16:15	125
4-Sep-99	16:30	149
4-Sep-99	16:45	117
4-Sep-99	17:00	131
4-Sep-99	17:15	128
4-Sep-99	17:30	138
4-Sep-99	17:45	141
4-Sep-99	18:00	142

Avila Beach CMT trailer		
Sunday, September 5, 1999		
Ave.	137.5	
Stdev.	64.4	
n	45	
5-Sep-99	7:00	227
5-Sep-99	7:15	208
5-Sep-99	7:30	243
5-Sep-99	7:45	249
5-Sep-99	8:00	250
5-Sep-99	8:15	279
5-Sep-99	8:30	233
5-Sep-99	8:45	219
5-Sep-99	9:00	216
5-Sep-99	9:15	206
5-Sep-99	9:30	162
5-Sep-99	9:45	100
5-Sep-99	10:00	60
5-Sep-99	10:15	75
5-Sep-99	10:30	89
5-Sep-99	10:45	120
5-Sep-99	11:00	110
5-Sep-99	11:15	86
5-Sep-99	11:30	47
5-Sep-99	11:45	30
5-Sep-99	12:00	38
5-Sep-99	12:15	68
5-Sep-99	12:30	89
5-Sep-99	12:45	106
5-Sep-99	13:00	113
5-Sep-99	13:15	99
5-Sep-99	13:30	90
5-Sep-99	13:45	67
5-Sep-99	14:00	99
5-Sep-99	14:15	93
5-Sep-99	14:30	186
5-Sep-99	14:45	201
5-Sep-99	15:00	205
5-Sep-99	15:15	172
5-Sep-99	15:30	128
5-Sep-99	15:45	157
5-Sep-99	16:00	121
5-Sep-99	16:15	120
5-Sep-99	16:30	114
5-Sep-99	16:45	118
5-Sep-99	17:00	128
5-Sep-99	17:15	83
5-Sep-99	17:30	107
5-Sep-99	17:45	131
5-Sep-99	18:00	146

Avila Beach CMT trailer		
Monday, September 6, 1999		
Ave.	95.0	
Stdev.	42.1	
n	45	
6-Sep-99	7:00	59
6-Sep-99	7:15	61
6-Sep-99	7:30	57
6-Sep-99	7:45	78
6-Sep-99	8:00	66
6-Sep-99	8:15	84
6-Sep-99	8:30	51
6-Sep-99	8:45	57
6-Sep-99	9:00	53
6-Sep-99	9:15	45
6-Sep-99	9:30	79
6-Sep-99	9:45	84
6-Sep-99	10:00	103
6-Sep-99	10:15	118
6-Sep-99	10:30	112
6-Sep-99	10:45	93
6-Sep-99	11:00	106
6-Sep-99	11:15	63
6-Sep-99	11:30	78
6-Sep-99	11:45	32
6-Sep-99	12:00	73
6-Sep-99	12:15	47
6-Sep-99	12:30	69
6-Sep-99	12:45	86
6-Sep-99	13:00	71
6-Sep-99	13:15	90
6-Sep-99	13:30	105
6-Sep-99	13:45	109
6-Sep-99	14:00	116
6-Sep-99	14:15	102
6-Sep-99	14:30	120
6-Sep-99	14:45	136
6-Sep-99	15:00	100
6-Sep-99	15:15	118
6-Sep-99	15:30	107
6-Sep-99	15:45	127
6-Sep-99	16:00	114
6-Sep-99	16:15	118
6-Sep-99	16:30	99
6-Sep-99	16:45	113
6-Sep-99	17:00	129
6-Sep-99	17:15	302
6-Sep-99	17:30	98
6-Sep-99	17:45	87
6-Sep-99	18:00	160

Avila Beach CMT trailer		
Sunday, September 12, 1999		
Ave.	115.2	
Stdev.	26.9	
n	41	
12-Sep-99	6:00	158
12-Sep-99	6:15	111
12-Sep-99	6:30	107
12-Sep-99	6:45	108
12-Sep-99	7:00	84
12-Sep-99	7:15	137
12-Sep-99	7:30	125
12-Sep-99	7:45	119
12-Sep-99	8:00	116
12-Sep-99	8:15	120
12-Sep-99	8:30	115
12-Sep-99	8:45	108
12-Sep-99	9:00	118
12-Sep-99	9:15	109
12-Sep-99	9:30	205
12-Sep-99	9:45	123
12-Sep-99	10:00	138
12-Sep-99	10:15	114
12-Sep-99	10:30	107
12-Sep-99	10:45	120
12-Sep-99	11:00	141
12-Sep-99	11:15	114
12-Sep-99	11:30	120
12-Sep-99	11:45	126
12-Sep-99	12:00	99
12-Sep-99	12:15	66
12-Sep-99	12:30	71
12-Sep-99	12:45	82
12-Sep-99	13:00	87
12-Sep-99	13:15	90
12-Sep-99	13:30	82
12-Sep-99	13:45	86
12-Sep-99	14:00	93
12-Sep-99	14:15	116
12-Sep-99	14:30	110
12-Sep-99	14:45	114
12-Sep-99	15:00	187
12-Sep-99	15:15	144
12-Sep-99	15:30	118
12-Sep-99	15:45	112
12-Sep-99	16:00	125

Hydrogen Sulfide Background Data

	11/3/98	AB	**11/11/98**	AB	**11/11/98**	AB	**11/12/98**	AB	**11/12/98**	AB	**11/13/98**	AB	**2/4/99**	AB	**2/18/99**	AB
ave		0.003		0.002		0.002		0.002		0.003		0.002		0.002		0.002
std dev		0.001		0.006		0.002		0.002		0.001		0.004		0.001		0.000
count		35		26		29		20		26		26		34		8
	9:40	0.000	8:00	0.000	8:30	0.001	8:45	0.000	8:00	0.003	8:00	0.004	9:35	0.0015	10:00	0.0015
	9:50	0.004	8:15	0.002	8:45	0.001	9:00	0.002	8:15	0.003	8:15	0.022	10:25	0.003	10:20	0.0015
	10:00	0.001	8:30	0.000	9:00	0.004	9:15	0.002	8:30	0.004	8:30	0.001	10:20	0.0015	11:00	0.0015
	10:10	0.002	8:45	0.001	9:15	0.002	9:30	0.001	8:45	0.003	8:45	0.000	10:15	0.0015	10:40	0.0015
	10:20	0.002	9:00	0.001	9:30	0.001	9:45	0.005	9:00	0.002	9:00	0.001	10:10	0.003	9:30	0.0015
	10:30	0.003	9:15	0.000	9:45	0.001	10:00	0.001	9:15	0.003	9:15	0.001	10:05	0.003	9:50	0.0015
	10:40	0.001	9:30	0.000	10:00	0.001	10:15		9:30	0.003	9:30	0.000	10:00	0.0015	9:40	0.0015
	10:50	0.001	9:45	0.001	10:15	0.002	10:30	0.004	9:45	0.002	9:45	0.001	9:55	0.0015	10:30	0.0015
	11:00	0.003	10:00	0.000	10:30	0.002	10:45	0.006	10:00	0.003	10:00	0.000	9:50	0.0015		
	11:10	0.002	10:15	0.000	11:00	0.001	11:00	0.001	10:15	0.004	10:15	0.000	10:30	0.0015		
	11:20	0.004	10:30	0.001	11:15	0.000	11:15		10:30	0.004	10:30	0.001	9:40	0.003		
	11:30	0.003	10:45	0.001	11:30	0.002	11:30	0.003	10:45	0.002	10:45	0.003	9:25	0.0015		
	11:40	0.003	11:00	0.001	11:45	0.004	11:45	0.002	11:00	0.003	11:00	0.001	9:30	0.0015		
	11:50	0.004	11:15	0.000	12:00	0.003	12:00		11:15	0.001	11:15	0.002	9:20	0.003		
	12:00	0.003	11:30	0.001	12:45	0.002	12:15		11:30	0.003	11:30	0.001	9:10	0.0015		
	12:40	0.003	11:45	0.001	13:00	0.002	12:30		14:00	0.004	11:45	0.002	9:05	0.0015		
	12:50	0.002	12:00	0.000	13:15	0.002	12:45		14:15	0.003	12:00	0.002	9:00	0.0015		
	13:00	0.004	13:15	0.001	13:30	0.000	13:00		14:30	0.004	12:15		8:55	0.0015		
	13:10	0.003	13:30	0.000	13:45	0.000	13:15		14:45	0.005	12:30		8:50	0.0015		
	13:20	0.004	13:45	0.003	14:00	0.002	13:30		15:00	0.004	12:45		8:45	0.0015		
	13:30	0.003	14:00	0.001	14:15	0.003	13:45		15:15	0.003	13:00	0.003	9:45	0.003		
	13:40	0.002	14:15	0.001	14:30	0.002	14:00	0.002	15:30	0.003	13:15	0.000	11:10	0.003		
	13:50	0.003	14:30	0.029	15:00	0.000	14:15	0.001	15:45	0.004	13:30	0.003	10:35	0.0015		
	14:00	0.004	15:00	0.001	15:30	0.000	14:30		16:00	0.002	13:45	0.002	9:15	0.0015		
	14:10	0.004	15:15	0.001	15:45	0.000	14:45		16:15	0.004	14:00		11:30	0.003		
	14:20	0.003	15:30	0.001	16:00	0.012	15:00	0.002	16:30	0.004	14:15		11:25	0.003		
	14:30	0.004			16:15	0.000	15:15	0.004			14:30	0.002	11:15	0.003		
	14:40	0.004			16:30	0.000	15:30	0.002			14:45	0.002	11:05	0.003		
	14:50	0.004			17:30	0.000	15:45	0.002			15:00	0.002	11:00	0.003		
	15:00	0.007					16:00	0.003			15:15	0.002	10:55	0.003		
	15:01	0.004					16:15	0.001			15:30	0.002	10:50	0.003		
	15:22	0.004					16:30	0.001					10:45	0.003		
	15:30	0.003											10:40	0.004		
	15:40	0.003											11:20	0.003		
	15:50	0.005														

APPENDIX B

Statistical Guidance – John Rice

Correcting Upper Confidence Limits for Background

John Rice

October 2, 1999

We can view this as a standard two-sample problem (see section 11.2 of the reference below). The model is that we have n observations, $X_1, \ldots, X_n$, a sample from a population which has a mean μ_X and a sample of m observations, $Y_1, \ldots, Y_m$ from a population which has mean μ_Y. The samples have means $\bar{X}$ and $\bar{Y}$ which are estimates of μ_X and μ_Y and standard deviations S_X and S_Y. The difference $\mu_X - \mu_Y$ is estimated by $D = \bar{X} - \bar{Y}$ and we wish to quantify the uncertainty in this estimate by using an upper confidence limit. Translating into the situation of interest: the Y_i represent background observations and the X_i represent project observations.

The uncertainty in $\bar{X}$ is quantified by it's standard error, $S_{\bar{X}} = S_X/\sqrt{n}$. Similarly, the standard error of $\bar{Y}$ is $S_{\bar{Y}} = S_Y/\sqrt{m}$. The standard error of the difference is

$$\begin{aligned} S_D &= \sqrt{S_{\bar{X}}^2 + S_{\bar{Y}}^2} \\ &= \sqrt{\frac{S_X^2}{n} + \frac{S_Y^2}{m}} \end{aligned}$$

The estimated difference, D, is a linear function of all the observations, and if the number of elements in the combination is large, as it is in the case at hand, the distribution of D is nearly Gaussian, by the central limit theorem. This enables us to use the Gaussian distribution to set an upper confidence limit of the form $D + z(\alpha)S_D$, where $z(\alpha)$ is that point of the standard normal distribution which has probability α to its right. For example, for a 95% confidence interval $z(\alpha) = 1.65$.

This estimate of the background correction and the construction of an upper confidence limit does not rely on an assumption that the populations are normally distributed, as evidenced by normal shaped histograms of the observations. It relies on the central limit theorem, which says that the probability distribution of a linear combination of random variables is approximately normal. In the example at hand, the number of elements in the linear combination is in the hundreds, which should be large enough for the normal approximation to be quite good. The only exception would likely be if there were a small number of observations which were orders of magnitude larger than the others, so that excluding them would change the mean dramatically.

It does not appear to me to be necessary or reasonable to use the lognormal distribution in this situation. In a situation involving a single sample an upper confidence limit for a single mean can be derived under the assumption that the data are log normally distributed. In our situation, we are talking about two samples and similar results do not exist, to my knowledge. Even if they did, their validity would depend crucially on the assumption that the populations were log normal.

References

John Rice (1995). *Mathematical Statistics and Data Analysis.* Duxbury

Note on Weighting Multiple Daily Samples

John Rice

October 23, 1999

Phyllis: I'm writing about how to account for the fact that on many days there were multiple samples on the Avilla project, while there was at least one sample on almost every day. This is a little more complicated than I thought initially. We have to decide not only how to weight the samples of each day, but how to go about estimating the variance of the resulting weighted average. The point of view I am going to take is that the exposure time during the life of the project is divided into daily strata and that within each stratum (day), locations are sampled. We wish to estimate average daily exposure, that average being over days and locations. I am going to use a model for stratified random sampling that says that within each stratum, locations are randomly sampled. See my book for details on stratified random sampling. In fact I imagine that the locations were not actually chosen randomly, but assume the variability was as if they were. If this is a serious limitation on what I am going to propose, we will have to get into exactly what the locations were on each day, what the set of possible locations was, etc. That will probably take a lot more time, and may well not be worth it.

Some notation:

- Let there be D days in all
- Let there be n_d samples on day d. Let N denote the total number of samples.
- Let X_{id} be the value of the i-th sample on day d.
- Let $\bar{X}_d$ be the average of the samples on day d.

The stratified estimate of average daily exposure is

$$\bar{X}_{ST} = \frac{1}{D} \sum_{d=1}^{D} \bar{X}_d \; . \tag{1}$$

That is, you just average within each day and then average the results.

Now we have to be careful about how to estimate the standard error of $\bar{X}_{ST}$. I will assume that the variability between possible locations within each day is the same from day to day. Let

$$\hat{\sigma}^2 = \frac{1}{N - D} \sum_{d=1}^{D} \sum_{i=1}^{n_d} (X_{id} - \bar{X}_d)^2 \; . \tag{2}$$

Note that those days for which $n_d = 1$ contribute nothing at all to this estimate. We are basically estimating the variability between locations within days, and there is no such information on those days. We can now estimate the variance of $\bar{X}_{ST}$ by

$$\widehat{\mathrm{Var}}(\bar{X}_{ST}) = \frac{\hat{\sigma}^2}{D^2} \sum_{d=1}^{D} \frac{1}{n_d} \tag{3}$$

The estimated standard error of $\bar{X}_{ST}$ is the square root of this quantity. It is then used in constructing confidence intervals, etc. Stratified sampling is typically more accurate than simple random sampling and this standard error will be smaller than what would be computed from the variance of the $\bar{X}_d$.

References

John Rice (1995). *Mathematical Statistics and Data Analysis.* Duxbury

ATTACHMENT 5

Final Screening Human Health Risk Assessment for the Cliff Springs at the Former Avila Tank Farm
(McDaniel Lambert, Inc. 2007)

MEMORANDUM

To: Avila Tank Farm Collaborative Assessment Team

From: Charles E. Lambert, Ph.D., DABT
Rebecca E. Countway, M.S.

Date: November 20, 2007

Re: FINAL Screening Human Health Risk Assessment for the Cliff Springs at the Former Avila Tank Farm

Introduction

This memorandum describes the results of a screening Human Health Risk Assessment (sHHRA) evaluating possible impacts to human health from potentially petroleum impacted water seeping from the cliff springs at the former Avila Tank Farm (the Site). This assessment addresses a data gap previously identified by the California Central Coast Regional Water Quality Control Board (RWQCB) and discussed again during the June 6, 2007 Avila Tank Farm Collaborative Assessment Team (ATCAT) conference call, when existing site data and the area-by-area data needs for the former Avila Tank Farm (the Site) were reviewed. This particular recreational receptor was not evaluated in the 2005 Baseline Human Health Risk Assessment for the former Avila Tank Farm. During the call the ATCAT discussed the safety of beach users recreating at the bottom of the cliff springs, and potential contact with the spring water. This memorandum addresses this concern and finds that there are no significant risks to beach users who would have unrealistically high contact with seeps over a nine year period.

Background

The cliff springs are ephemeral, year-round, and emergent features that are present in years with average or above average rainfall (RWQCB Staff). These springs have highly variable seasonal flow volumes, however, when there is flow the volumes are so low as to make sample collection difficult (Mike Rendina, Avocet – personal communication). The water does not pool at the base of the cliffs, but rather is rapidly absorbed by the sand. The cliff springs can produce significant algal growth (see pictures below).

Chemicals of Potential Concern

Chemicals of potential concern (COPCs) for water from the cliff springs were selected based on all available sampling data for these ephemeral features. The data were provided by Avocet Environmental, Inc. in a database received via email on July 8, 2007. The database includes information on 67 cliff springs samples (including 3 duplicates) collected from February 1998 through May 2007. Table 1 presents a summary of the frequency and range of detections for all chemicals analyzed. Water collected from the cliff springs has been analyzed for total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), and polycyclic aromatic hydrocarbons (PAHs).

Views of cliff spring/seeps from a distance

Up close view of cliff springs/seeps including algal growth and lack of pooling

Data used in this screening evaluation was not subjected to a formal data usability analysis. However, laboratory data reports were reviewed and summarized for 3 of the key data usability criteria (USEPA 1992):

1. Analytical Methods and Detection Limits: Documents that the appropriate analytical methods are able to identify COPCs and that detection limits that meet risk assessment requirements.
2. Data Review: An examination of laboratory and method performance for the samples and analytes.
3. Data Quality Indicators: Data quality indicators provide quantitative measures of the completeness, comparability, representativeness, precision, and accuracy of the environmental analytical data. These indicators are assessed through the review of sampling and analytical data and accompanying documentation.

The laboratory data report summaries are included as Attachment 1, and the laboratory data reports are included as Attachment 2. Review of the complete laboratory data reports and associated electronic database found that overall, the data adequately meet the required criteria, with the following key exceptions:

1. Data Quality Indicators:
   - The only data quality indicators included in the Zymax Envirotechnology laboratory reports are surrogate recoveries. Despite the absence of other laboratory quality

control data, the results reported by Zymax Envirotechnology were included in this risk evaluation.

- Surrogate recoveries for PAHs reported by Zymax Envirotechnology for samples 38669-01 and 38669-03 were below 50% and therefore the results may be underestimated; however, the results were reported as nondetects, and included in this assessment.
- Benz(a)anthracene (BaA) was identified as detected in BC Laboratories samples 0604210-01 and -02; however, BaA was detected above the practical quantitation limit (PQL) in the method blank at the same levels as reported for the samples. Therefore, these two results were considered as non-detect (at the practical quantitation limit of 0.10 ug/L) in this screening assessment.
- Gasoline range hydrocarbons detected in Test America sample NPK3519-01 identified as "possible carryover" from previous samples, which was unrelated to the cliff springs seeps. Despite the uncertainty associated with this result, it was included in this conservative screening assessment. This result is not associated with the maximum TPH value evaluated in the risk assessment (1.7 mg/L detected in June 2006).
- No extractable TPH data (C10-C25 and C25-C40) are available for Test America samples associated with batches NPK3519 and NQA2829; the only extractable TPH analyses were for extract that had been subjected to silica gel cleanup. The impact of this "missing" data on the health risk evaluation likely is minimal, as Test America commonly reported similar TPH results for silica gel and non-silica gel extracts, and the silica gel results associated with these samples are below the maximum TPH value used in the health evaluation.
- Phenanthrene was identified as detected in Test America sample NQE3244-02; however, phenanthrene was detected above the method reporting limit (MRL) in the method blank at a level higher than reported for the aforementioned sample. Therefore, this result was considered as non-detect (at the method reporting limit of 0.0939 ug/L) in this screening assessment..

2. Chain of custody forms were not found for several of the BC Laboratories reports (batch numbers 0603215, 0604210, 0605312, and 0606525). However, the remainder of these data packages were complete, therefore all associated results were included in this screening risk evaluation.

3. With respect to analytes included in EPA 8260 and 8270 SIM analyses, some discrepancies were observed between the electronic database and the hardcopy laboratory reports. For example, methylnapthalenes were included in the Test America analyses of PAHs (8270 SIM), but were not recorded in the electronic database. The COPC summary included as Table 1 is consistent with information included in the laboratory reports.

Total petroleum hydrocarbons in cliff springs water have been analyzed in discrete carbon ranges (C4-C10, C10-C25, and C25-C40) via the gas chromatography/mass spectrometry (GC/MS) combination method, EPA Method 8015B (gas chromatography/flame ionization detector, GC/FID), and EPA Method 8015C, also GC/FID. In addition, the nature of the high molecular weight TPH fractions has been investigated by treating select duplicate water samples with silica gel to remove the polar fraction prior to analysis, or by filtering the samples to remove organic debris (i.e., algae) prior to analysis. The summary data included in Table 1 are for only the standard TPH analytical results for the carbon ranges C4-C10, C10-C25, and C25-C40 (no silica gel cleanup or filtering). Table 1 also includes data for "Sum TPH", which was created by

summing the discrete carbon range results for each sample. Some of the samples did not include data for all three carbon ranges, so the Sum TPH was comprised of only the available carbon ranges. When a carbon range was not detected, the range was included in the Sum TPH calculation using ½ of the reporting limit (RL). No aromatic or aliphatic TPH data are available for water samples from the cliff springs. They also have not been analyzed for inorganic compounds, or for semi-volatile compounds (SVOCs) other than PAHs, as hydrocarbons comprised of 20 or more carbon atoms (C20+) have a negligible (<<0.1 mg/L) solubility in water (TPHCWG 1997, Yaws and Yang 1990).

Table 1 includes the rationale for whether or not a chemical was carried forward as a COPC. Any chemical that has been detected in water samples collected from the cliff springs was included in the assessment as a COPC. Although only one PAH was detected in the cliff springs samples, all 18 PAHs were included as COPCs. The following chemicals were identified as COPCs and carried forward in the sHHRA: TPH, acenaphthene, acenaphthylene, anthracene, benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, benzo(a)pyrene, chrysene, dibenz(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-c,d)pyrene, naphthalene, 1- and 2-methylnaphthalene, phenanthrene, and pyrene.

Dose-Response Assessment

The toxicity values used in the sHHRA are summarized in Table 2. In accordance with Cal/EPA's suggested hierarchy of sources to identify dose-response values (Cal/EPA 1992), relevant carcinogenic and noncarcinogenic dose-response values were obtained from the following sources (in descending order of preference):

- OEHHA Toxicity Criteria Database (Cal/EPA 2007)
- Integrated Risk Information System (IRIS) database (USEPA 2007)
- Total Petroleum Hydrocarbon Criteria Working Group Series: Volumes 4 and 5 (TPHCWG 1997 and 1999)

Toxicity information for TPH is available for two components of TPH: the aliphatic and aromatic fractions. Although TPH also includes NSO/asphaltenes, however, the literature is inadequate to assess the toxicity of these components to humans.[1] Most of the available mammalian toxicity data for TPH fractions, as well as individual compounds within those fractions, are for the aliphatic and aromatic fractions. The TPHCWG has derived reference doses for various carbon ranges within the aliphatic and aromatic fractions, shown in Table 3 below.

For this screening risk assessment, the most conservative reference doses for the entire aliphatic range (C5-C35, 1.0 mg/m^3) and the entire aromatic range (C5-C35, 0.2 mg/m^3) were considered as toxicity values for TPH. However, as described above, the only petroleum hydrocarbon data for the cliff springs samples are for the entire C4-C10, C10-C25 and C25-C40 carbon ranges; no aliphatic and aromatic fraction data are available. In the absence of fraction data, and in order to be health protective, TPH was evaluated assuming that it was composed entirely of the more toxic aromatic fraction. This approach also likely compensates for any additional toxicity that may be due to the NSO/asphaltene components (TPHCWG 1997).

[1] NSO refers to the fraction of oil with nitrogen, sulfur, and oxygen-containing compounds. This fraction is also referred to as the NSO/resin or the polar fraction.

Table 3. TPH Fraction Reference Doses

*Equivalent Carbon Number**	*Oral RfD (mg/kg-day)*	*Inhalation RfC (mg/m^3)*	*Critical Health Effect*
Aliphatic Fractions			
>5-6 and >6-8	*5.0*	*18.4*	*Nephrotoxicity & hepatotoxicity*
>8-10, >10-12, and >12-16	*0.1*	*1.0*	*Hepatic & hematological changes*
>16-35	*2.0*	*Not Available*	*Hepatic granuloma*
Selected Value	*0.1*	*1.0*	
Aromatic Fractions			
>8-10, >10-12, and >12-16	*0.04*	*0.2*	*Decreased body weight*
>16-21 and >21-35	*0.03*	*Not Available*	*Nephrotoxicity*
Selected Value	*0.03*	*0.2*	

(TPHCWG 1997)

*Carbon number correlated with the retention time of constituents in a boiling point gas chromatography column normalized to the n-alkanes.

Another health protective aspect of this approach is that the toxicity of individual compounds (e.g., noncancer hazard for PAHs) was used to help derive the reference dose for a particular TPH fraction (in this case the aromatic C20-C40 fraction). In many cliff springs samples, both PAHs and TPH were analyzed, and the discrete risk from these individual compounds and as well as the TPH are included in the total determination of risk. In this way, the TPH assessment methodology results in a "double counting" of the toxicity for petroleum compounds that are evaluated individually, but also occur within a particular TPH fraction.

Conceptual Exposure Model

The USEPA (1989) defines an exposure pathway as "the course a chemical or pollutant takes from the source to the organism exposed." A complete exposure pathway requires four key elements: chemical sources; migration routes (i.e., environmental transport); potentially exposed human receptors; and routes of exposure to impacted media (e.g., inhalation of chemicals in air). All four factors are required for a complete exposure pathway; if any one factor is missing, the pathway is considered incomplete. Because an incomplete pathway does not pose a potential health hazard, incomplete exposure pathways were not included in this health evaluation.

This screening risk assessment focuses specifically on potential exposure to water seeping from the cliff springs along Avila Beach adjacent to the former Avila Tank Farm. These features are ephemeral, and do not result in actual pools of water at the base of the cliffs (Mike Rendina, Avocet - personal communication). To be exposed to this water, a person would have to have contact with the water as it flows down the surface of the cliff face. However, in order to be health protective, this evaluation considers that the springs result in hypothetical wadeable pools of water, with potential ingestion of seep-related water via collection into hands or a container. Given the unattractive nature of the mechanism for exposure to the cliff springs, the sHHRA assumes that only older children and adolescents could be exposed (aged 7 through 16). Adult supervision would prevent exposure of younger children, and adults simply would not be attracted to these features.

The resulting exposure scenario evaluated in this screening risk assessment is a ***hypothetical*** *cliff spring recreational user* who is exposed to cliff springs water via ingestion and dermal contact.

Exposure Assessment

Exposure point concentrations were based on maximum cliff springs seep water concentrations for samples collected from February 1998 through May 2007. For COPCs that were not detected, one-half the minimum detection limit was used as the EPC. The resulting representative concentrations for COPCs in water are presented in Table 4.

The exposure intake factors are derived from the equations shown below. Intake factors are used to determine the amount of COPC that each receptor is potentially exposed to via each exposure route. The intake factors (the amount of environmental medium someone is exposed to) were used to evaluate both cancer risk and noncancer hazard.

Cliff Spring Water Exposure - Incidental Ingestion

The following equation was used to quantify intake from the ingestion pathway:

$$I_w = (C_w)(IngR)(EF)(ED) / (BW)(AT)$$

where

I_w	=	intake from incidental ingestion of water for a COPC (mg/kg-d)
C_w	=	maximum concentration of COPC in water (mg/L)
IngR	=	ingestion rate (L/day)
EF	=	exposure frequency (d/y)
ED	=	exposure duration (y)
BW	=	body weight (kg)
AT	=	averaging time (d) - ED x 365d/y (noncarcinogens), 70y x 365d/y (carcinogens)

Cliff Spring Water Exposure - Dermal Contact

The following equation was used to quantify intake from the dermal contact pathway:

$$I_w = (C_w)(SA)(PC)(CF)(ET)(EF)(ED) / (BW)(AT)$$

where

I_w	=	intake from dermal contact with water for a COPC (mg/kg-d)
C_w	=	maximum concentration of a COPC in water (mg/L)
SA	=	skin surface area in contact with surface water (cm^2/d)
CF	=	conversion factor 10^{-3} (L/cm^3)
PC	=	dermal permeability constant (cm/hr) (Table 5)
EF	=	exposure frequency (d/y)
ED	=	exposure duration (y)
ET	=	exposure time (h/d)
BW	=	body weight (kg)
AT	=	averaging time (d), ED x 365d/y (noncarcinogens), 70y x 365d/y (carcinogens)

The exposure factors and associated assumptions for the exposure of hypothetical waders to the cliff springs are described below, and the resulting intake factors presented in Tables 6 and 7.

- *Ingestion Rate:* Given the actual lack of pooling water, hypothetical waders are unlikely to actually ingest water from the cliff springs. In order to be health protective, the ingestion rate for swimming, 0.05 L/day, was applied (EPA 1989).
- *Exposure Frequency:* The cliff springs are ephemeral features, emergent following rainy periods. Although Southern California's rainy season is generally considered to extend from November through March or April, the flow from the cliff springs has been observed at times throughout the year. During the recent extraordinarily wet rainy season of 2004-2005, water samples were collected from the cliff springs from mid-November

2004 through early-June 2005, or over a total of 29 weeks. Although flow from the cliff springs varies greatly from year-to-year, in order to be health protective hypothetical waders were assumed to be exposed to water from the cliff springs on two days per week for 29 weeks. This results in an exposure frequency of 58 days per year.

- *Exposure Duration:* Hypothetical waders are assumed to be local residents, aged 7 to 16, for a maximum exposure duration of 9 years.
- *Body Weight:* The mean 50th percentile body weight of boys and girls aged 7 to16 is 43 kg (EPA 1997).
- *Averaging Time:* The life expectancy of 70 years (25,550 days) was used as the averaging time for exposure to carcinogenic contaminants (EPA 2002). The averaging time for non-carcinogenic effects is equal to the exposure duration of 9 years (3,285 days).
- *Skin Surface Area Available for Contact:* Hypothetical waders were assumed to wear a short-sleeved shirt and shorts (no shoes), resulting in exposure of hands, forearms, lower legs, and feet. The resulting skin surface area available for contact is 4,093 cm^2, the average of the 50th percentile total skin surface area for males and females aged 7 through 16 years (EPA 2004).
- *Permeability Constant:* Chemical-specific, see Table 8.
- *Exposure Time*: The exposure time for hypothetical waders was assumed to be one hour per event. This is EPA's recommended swimming duration of 60 minutes per event, based on the 50th percentile value (EPA 1997).

Risk Characterization

In human health risk assessments, two different values are calculated to evaluate potential health impacts: the incremental lifetime cancer risk (ILCR) and the Hazard Index (HI). The ILCR is compared to a range of acceptable probabilities to determine whether the potential risk poses an unacceptable health threat. The USEPA currently uses an ILCR of 10^{-4} to 10^{-7} as the range of acceptable risk (USEPA 1990, 1991). The risk that is acceptable is very much dependent on site-specific characteristics that include: the number of people potentially exposed, the likelihood of exposure, the chemicals driving the risk, the future use(s) of the site, and the decisions of local risk managers including the RWQCB. A risk level of $1x10^{-5}$ is used as a point of departure for risk management decisions under Cal/EPA Proposition 65 and has been used in the County of San Luis Obispo (McDaniel Lambert 2003).

The potential for health effects resulting from exposure to a noncarcinogenic COPC is evaluated by comparing a receptor's exposure or intake level to the reference dose (RfD) of that COPC (USEPA 1989), a ratio that is termed the Hazard Quotient (HQ). If the HQ is greater than 1.0, there may be concern for potential noncarcinogenic health effects. The level of concern increases as the HQ increases above unity, although the two are not linearly related (USEPA 1989). When receptors are exposed to more than one COPC through multiple pathways, it is useful to develop a total Hazard Index, the sum of HQs across COPCs and pathways (USEPA 1986). The HI is also compared to a threshold level of 1.0.

The table below presents the ICLR and HI results for each receptor. Because the reasonable maximum exposure (RME) approach was used to quantify potential health risks, if the RME values are below acceptable limits, then all other, lesser exposures related to the Site are below these limits (USEPA 1989).

Table 8. Summary of Cliff Springs Health Risks

Receptor	Total Cancer Risk (ILCR)*	Risk Contribution	Total Noncancer Hazard (HI)	Risk Contribution
Maximum EPCs				
Hypothetical Recreational Cliff Spring User	1.7E-06	BaP ND** (45%)	0.22	Aromatic TPH (99.99%)

*1.7E-06 = 0.0000017 = 1.7 excess cancers per million people exposed.
**ND = Benzo(a)pyrene, not detected.

As shown in Table 8, the estimated cancer risk to hypothetical waders is within the 10^{-4} (1 in 10,000) to 10^{-7} (1 in 10,000,000) risk management range stipulated by the USEPA (1990), and is below the Cal/EPA Proposition 65 point of departure (10 in 1,000,000). Cancer risk at the Site is driven largely by dermal contact with nondetect concentrations of benzo(a)pyrene in cliff springs water (Table 9). Only one PAH was detected (naphthalene), therefore BaP was included in the assessment and evaluated at half the minimum report limit. Although naphthalene has been identified as a carcinogen via the inhalation pathway, it is not considered carcinogenic via the oral pathway. Given that no carcinogenic PAHs (via the oral pathway) were detected, the actual cancer risk likely is less than $1x10^{-6}$. The estimated noncancer hazards are below the level of concern of 1.0 (Table 8). Dermal contact with total petroleum hydrocarbons, as the aromatic fraction, in water is responsible for nearly the total noncancer hazard (Table 10).

Conclusions

This screening risk assessment demonstrates the cliff springs do not pose a significant risk to a hypothetical cliff spring recreational user. This recreational user was assumed to come into contact with the springs for one hour per day, 58 days per year, for nine years (ages 7 through 16). They were assumed to not only expose much of their body to the seep runoff, but also to drink the same amount a person would if they were swimming each of those 58 days per year in a pool filled with seep water. Because the cliff springs are ephemeral features that do not result in pools of water, it is very unlikely that beach goers could actually be exposed to the levels of chemicals evaluated in this screening assessment, therefore actual risks from the cliff springs are likely much lower.

References

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Table 1
Cliff Spring Seeps Chemicals of Potential Concern Selection Summary

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Background Concentration	COPC?	Rationale
BTEX								
Benzene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Ethylbenzene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Toluene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Xylenes (total)	surface water	0 / 57	0 %	0.00050 - 0.0010	-		No	Never detected
Volatile Organic Compounds (VOCs)								
Acetone	surface water	0 / 6	0 %	0.050 - 0.050	-		No	Never detected
Bromobenzene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Bromochloromethane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Bromodichloromethane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Bromoform	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Bromomethane	surface water	0 / 57	0 %	0.00050 - 0.0010	-		No	Never detected
2-Butanone	surface water	0 / 6	0 %	0.050 - 0.050	-		No	Never detected
n-Butylbenzene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
sec-Butylbenzene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
tert-Butylbenzene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Carbon disulfide	surface water	0 / 6	0 %	0.00050 - 0.00050	-		No	Never detected
Carbon tetrachloride	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Chlorobenzene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Chloroethane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
2-Chloroethyl vinyl ether	surface water	0 / 37	0 %	0.00050 - 0.0010	-		No	Never detected
Chloroform	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Chloromethane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
2-Chlorotoluene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
4-Chlorotoluene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Dibromochloromethane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
1,2-Dibromo-3-chloropropane	surface water	0 / 57	0 %	0.0010 - 0.0010	-		No	Never detected
1,2-Dibromoethane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Dibromomethane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
1,2-Dichlorobenzene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
1,3-Dichlorobenzene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
1,4-Dichlorobenzene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Dichlorodifluoromethane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
1,1-Dichloroethane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
1,2-Dichloroethane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
1,1-Dichloroethene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
cis-1,2-Dichloroethene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
trans-1,2-Dichloroethene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
1,2-Dichloropropane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
1,3-Dichloropropane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
2,2-Dichloropropane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
1,1-Dichloropropene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
cis-1,3-Dichloropropene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
trans-1,3-Dichloropropene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Diisopropyl ether	surface water	0 / 11	0 %	0.00050 - 0.00050	-		No	Never detected
Ethyl tert-butyl ether	surface water	0 / 8	0 %	0.00050 - 0.00050	-		No	Never detected
2-Hexanone	surface water	0 / 6	0 %	0.010 - 0.010	-		No	Never detected
Isopropylbenzene	surface water	0 / 57	0 %	0.00050 - 0.0010	-		No	Never detected
p-Isopropyltoluene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Methylene chloride	surface water	0 / 57	0 %	0.00050 - 0.0050	-		No	Never detected
4-Methyl-2-pentanone	surface water	0 / 6	0 %	0.010 - 0.010	-		No	Never detected

Table 1
Cliff Spring Seeps Chemicals of Potential Concern Selection Summary

Chemical	Matrix	Frequency Detects / Total	Percent Detects	NonDetects Min – Max	Detects Min – Max	Background Concentration	COPC?	Rationale
Methyl tert-butyl ether	surface water	0 / 24	0 %	0.00050 - 0.00050	-		No	Never detected
n-Propylbenzene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Styrene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
tert-amyl butyl ether	surface water	0 / 8	0 %	0.00050 - 0.00050	-		No	Never detected
tertiary butyl alcohol	surface water	0 / 8	0 %	0.010 - 0.010	-		No	Never detected
1,1,1,2-Tetrachloroethane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
1,1,2,2-Tetrachloroethane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Tetrachloroethene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
1,2,3-Trichlorobenzene	surface water	0 / 57	0 %	0.00050 - 0.0010	-		No	Never detected
1,2,4-Trichlorobenzene	surface water	0 / 57	0 %	0.00050 - 0.0010	-		No	Never detected
1,1,1-Trichloroethane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
1,1,2-Trichloroethane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Trichloroethene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Trichlorofluoromethane	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
1,1,2-Trichlorotrifluoroethane	surface water	0 / 14	0 %	0.00050 - 0.00050	-		No	Never detected
1,2,3-Trichloropropane	surface water	0 / 57	0 %	0.00050 - 0.0010	-		No	Never detected
1,2,4-Trimethylbenzene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
1,3,5-Trimethylbenzene	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Vinyl chloride	surface water	0 / 57	0 %	0.00050 - 0.00050	-		No	Never detected
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	surface water	0 / 20	0 %	0.000094 - 0.0020	-		Yes	Other PAHs detected
Acenaphthylene	surface water	0 / 20	0 %	0.000094 - 0.0020	-		Yes	Other PAHs detected
Anthracene	surface water	0 / 20	0 %	0.000094 - 0.0020	-		Yes	Other PAHs detected
Benz(a)anthracene	surface water	0 / 20	0 %	0.000094 - 0.0020	-		Yes	Other PAHs detected
Benzo(b)fluoranthene	surface water	0 / 20	0 %	0.000094 - 0.0020	-		Yes	Other PAHs detected
Benzo(k)fluoranthene	surface water	0 / 20	0 %	0.000094 - 0.0020	-		Yes	Other PAHs detected
Benzo(g,h,i)perylene	surface water	0 / 20	0 %	0.000094 - 0.0020	-		Yes	Other PAHs detected
Benzo(a)pyrene	surface water	0 / 20	0 %	0.000094 - 0.0020	-		Yes	Other PAHs detected
Chrysene	surface water	0 / 20	0 %	0.000094 - 0.0020	-		Yes	Other PAHs detected
Dibenz(a,h)anthracene	surface water	0 / 20	0 %	0.000094 - 0.0020	-		Yes	Other PAHs detected
Fluoranthene	surface water	0 / 20	0 %	0.000094 - 0.0020	-		Yes	Other PAHs detected
Fluorene	surface water	0 / 20	0 %	0.000094 - 0.0020	-		Yes	Other PAHs detected
Indeno(1,2,3-cd)pyrene	surface water	0 / 20	0 %	0.000094 - 0.0020	-		Yes	Other PAHs detected
1-Methylnaphthalene	surface water	0 / 7	0 %	0.000094 - 0.000095	-		Yes	Other PAHs detected
2-Methylnaphthalene	surface water	0 / 7	0 %	0.000094 - 0.000095	-		Yes	Other PAHs detected
Naphthalene	surface water	1 / 57	2 %	0.000094 - 0.0050	0.00030 - 0.00030		Yes	Detected
Phenanthrene	surface water	0 / 20	0 %	0.000094 - 0.0020	-		Yes	Other PAHs detected
Pyrene	surface water	0 / 20	0 %	0.000094 - 0.0020	-		Yes	Other PAHs detected
Semiolatile Organic Compounds (SVOCs)								
Dichlorotrifluoroethane	surface water	0 / 37	0 %	0.00050 - 0.00050	-		No	Never detected
Hexachlorobutadiene	surface water	0 / 57	0 %	0.00050 - 0.0010	-		No	Never detected
Total Petroleum Hydrocarbons (TPH)								
TPH	surface water	34 / 68	50 %	0.070 - 0.30	0.089 - 1.7		Yes	Detected
TPH - Gasoline	surface water	2 / 60	3 %	0.050 - 0.10	0.074 - 0.079		No	Evaluated as TPH fractions based on Sum TPH
TPH - Diesel	surface water	32 / 58	55 %	0.010 - 0.10	0.066 - 0.53		No	Evaluated as TPH fractions based on Sum TPH
TPH - Motor Oil	surface water	30 / 58	52 %	0.010 - 0.10	0.054 - 1.4		No	Evaluated as TPH fractions based on Sum TPH

Notes:
Concentrations are in mg/L.

Table 2
Chemicals of Potential Concern Toxicity Criteria

CHEMICAL	Cancer Slope Factors (CSF)		Noncancer Reference Doses (RfD)	
	Oral CSF (mg/kg-day)$^{-1}$	Source	Oral RfD (mg/kg-day)	Source
PAHs				
Acenaphthene	NC		6.00E-02	IRIS
Acenaphthylene	NC		6.00E-02	*Ace (IRIS)*
Anthracene	NC		3.00E-01	IRIS
Benz(a)anthracene	1.20E+00	Cal/EPA	3.00E-01	*Anth (IRIS)*
Benzo(b)fluoranthene	1.20E+00	Cal/EPA	4.00E-02	*Fluoranth (IRIS)*
Benzo(k)fluoranthene	1.20E+00	Cal/EPA	4.00E-02	*Fluoranth (IRIS)*
Benzo(g,h,i)perylene	NC		3.00E-02	*Pyrene (IRIS)*
Benzo(a)pyrene	1.20E+01	Cal/EPA	3.00E-02	*Pyrene (IRIS)*
Chrysene	1.20E-01	Cal/EPA	3.00E-02	*Pyrene (IRIS)*
Dibenz(a,h)anthracene	4.10E+00	Cal/EPA	3.00E-01	*Anth (IRIS)*
Fluoranthene	NC		4.00E-02	IRIS
Fluorene	NC		4.00E-02	IRIS
Indeno(1,2,3-cd)pyrene	1.20E+00	Cal/EPA	3.00E-02	*Pyrene (IRIS)*
1-Methylnaphthalene	NC		4.00E-03	*2-MethNa (IRIS)*
2-Methylnaphthalene	NC		4.00E-03	*IRIS*
Naphthalene	NC		2.00E-02	*OEHHA (IRIS)*
Phenanthrene	NC		3.00E-01	*Anth (IRIS)*
Pyrene	NC		3.00E-02	IRIS
Total Petroleum Hydrocarbons				
Aliphatic TPH	NC		1.00E-01	TPHCWG
Aromatic TPH	NC		3.00E-02	TPHCWG

NC = No Criteria

Sources:
Cal/EPA = California Office of Environmental Health Hazard Assessment (OHHEA) Toxicity Criteria Database (Cal/EPA 2007)
OEHHA = Human-Exposure-Based Screening Numbers Developed to Aid Estimation of Cleanup Costs for Contaminated Soil (Cal/EPA 2005)
IRIS = USEPA's Integrated Risk Information System (http://www.epa.gov/iris/) (USEPA 2007)
TPHCWG = Total Petroleum Hydrocarbon Work Group
Italics indicate criteria for surrogate compound applied: "Ace" = acenaphthene, "Fluoranth" = fluoranthene, and "Anth" - anthracene.

Table 4
Cliff Springs Exposure Point Concentrations

CHEMICAL	Cliff Spring Seep Water mg/L
PAHs	
Acenaphthene	**4.70E-05**
Acenaphthylene	**4.70E-05**
Anthracene	**4.70E-05**
Benz(a)anthracene	**4.70E-05**
Benzo(b)fluoranthene	**4.70E-05**
Benzo(k)fluoranthene	**4.70E-05**
Benzo(g,h,i)perylene	**4.70E-05**
Benzo(a)pyrene	**4.70E-05**
Chrysene	**4.70E-05**
Dibenz(a,h)anthracene	**4.70E-05**
Fluoranthene	**4.70E-05**
Fluorene	**4.70E-05**
Indeno(1,2,3-cd)pyrene	**4.70E-05**
1-Methylnaphthalene	**4.70E-05**
2-Methylnaphthalene	**4.70E-05**
Naphthalene	3.03E-04
Phenanthrene	**4.70E-05**
Pyrene	**4.70E-05**
Total Petroleum Hydrocarbons	
Aromatic TPH	1.72E+00

Bold text indicates non-detect value

Table 5
Chemical Specific Expsoure Parameters

CHEMICAL	Dermal Permeability Consant	Source
PAHs		
Acenaphthene	0.092	calculated
Acenaphthylene	0.11	calculated
Anthracene	0.16	calculated
Benz(a)anthracene	0.47	USEPA RAGS Part E
Benzo(b)fluoranthene	0.70	USEPA RAGS Part E
Benzo(k)fluoranthene	0.61	calculated
Benzo(g,h,i)perylene	0.85	calculated
Benzo(a)pyrene	0.70	USEPA RAGS Part E
Chrysene	0.47	USEPA RAGS Part E
Dibenz(a,h)anthracene	1.5	USEPA RAGS Part E
Fluoranthene	0.22	USEPA RAGS Part E
Fluorene	0.11	calculated
Indeno(1,2,3-cd)pyrene	1	USEPA RAGS Part E
1-Methylnaphthalene	0.047	naphthalene
2-Methylnaphthalene	0.047	naphthalene
Naphthalene	0.047	USEPA RAGS Part E
Phenanthrene	0.14	USEPA RAGS Part E
Pyrene	0.31	calculated
Total Petroleum Hydrocarbons		
Aromatic TPH	0.24	Obtained by averaging Kp values for aliphatic C8-C35; see below

Sources:
USEPA RAGS Part E = 2004 Risk Assessment Guidance for Superfund (RAGS), Vol., I, Part E (Supplemental Guidance for Dermal Risk Assessment); ABS are from Exhibit 3-4

Carbon Group	MW	log Kow	Chemical/Surrogates	Log Kp	Kp (cm/hr)
aliph C_{5-6}	86.17	4.11		-0.569952	0.269183
aliph $>C_{6-8}$	114.23	5.15		-0.040688	0.910567
arom C_{5-7}	78.11	2.13	benzene as surrogate	-1.831616	0.014736
arom $>C_{7-8}$	106.20	3.13	ethylbenzene as surrogate	-1.32892	0.046890
aliph $>C_{8-10}$	142.29	6.25		0.528176	3.374240
aliph $>C_{10-12}$	170.33	7.24		1.024552	10.581616
aliph $>C_{12-16}$	226.40	8.25		1.37716	23.831973
arom$>C_{8-10}$	134.22	4.01	isobutylbenzene as surrogate	-0.905032	0.124442
arom$>C_{10-12}$	162.28	5.52	n-hexylbenzene as surrogate	-0.065568	0.859868
arom$>C_{12-16}$	168.24	4.63	4-methylbiphenyl as surrogate	-0.686344	0.205900
aliph$>C_{16-35}$	226.40	8.25	n-hexadecane as surrogate	1.37716	23.831973
arom$>C_{16-35}$	168.24	4.63	4-methylbiphenyl as surrogate	-0.686344	0.205900
NA	154.21	3.98	Acenaphthene	-1.0367816	0.091879
NA	152.20	4.07	Acenaphthylene	-0.9660931	0.108120
NA	178.23	4.54	Anthracene	-0.8017048	0.157868
NA	252.31	6.06	Benzo(k)fluoranthene	-0.2133629	0.611839
NA	278.30	6.5	Benzo(g,h,i)perylene	-0.06848	0.854122
NA	166.22	4.18	Fluorene	-0.9720432	0.106649
NA	202.26	5.18	Pyrene	-0.513828	0.306318

Note:
LogKp = -2.80 + 0.66 logKow - 0.0056*MW (USEPA 2004, Equation 3.8)
kp = permeability constant in centimeters per hour
Carbon Group Information regarding Kow from TPHCWG, vol 3, p 33 - 38
PAH Information regarding Kow from ATSDR

Table 6
Intake Factors for Exposure Via Ingestion of Seep Water

Oral Seep Water Intake Factor (IForal):

$$IF_{oral} = \frac{IngR \times EF \times ED}{BW \times AT}$$

IF_{oral} = Oral Intake Factor, L water/kg body weight-day
IR = Ingestion Rate, L/day
EF = Exposure Frequency, days/year
ED = Exposure Duration, years
BW = Body Weight, kg
AT = Averaging Time, days

Exposure Variable	Hypothetical Cliff Spring Recreational User
IngR	0.05
EF	58
ED	9
BW	43
$AT_{carcinogens}$	25550
$AT_{nonarcinogens}$	3285

PATHWAY-SPECIFIC INTAKE FACTORS:

Chemical-Specific Intake Factors via Water Ingestion (IF_{oral}), L water/kg body weight-day

Carcinogens x BF	2.38E-05
Noncarcinogens x BF	1.85E-04

Table 7
Intake Factors for Dermal Exposure to Seep Water

Dermal Water Intake Factor (IFdermal):

$$IF_{dermal} = \frac{SA \times PC \times CF \times ET \times EF \times ED}{BW \times AT}$$

IF_{dermal} = Dermal Intake Factor, L water/kg body weight-day
SA = Surface Area, cm^2
PC = Dermal Permeability Constant, cm/hour
CF = Volumetric Conversion Factor, 1 Liter/1000 cm^3
ET = Exposure Time, hours/day
EF = Exposure Frequency, days/year
ED = Exposure Duration, years
BW = Body Weight, kg
AT = Averaging Time, days

Exposure Variable	Hypothetical Cliff Spring Recreational User
SA	4093
CF	0.001
ET	1
EF	58
ED	9
BW	43
$AT_{carcinogens}$	25550
$AT_{nonarcinogens}$	3285

PATHWAY-SPECIFIC INTAKE FACTORS:
Chemical-Specific Intake Factors via Dermal Water Contact (IF_{dermal}),L water/kg body weight-day

Carcinogens x PC	1.94E-03
Noncarcinogens x PC	1.51E-02

Table 9
Summary of Cancer Risk

CHEMICAL	Hypothetical Cliff Spring Recreational User		
	Ing	Dermal	Direct Total
PAHs			
Acenaphthene	NC	NC	NC
Acenaphthylene	NC	NC	NC
Anthracene	NC	NC	NC
Benz(a)anthracene	1.338E-09	5.150E-08	5.28E-08
Benzo(b)fluoranthene	1.338E-09	7.670E-08	7.80E-08
Benzo(k)fluoranthene	1.338E-09	6.704E-08	6.84E-08
Benzo(g,h,i)perylene	NC	NC	NC
Benzo(a)pyrene	1.338E-08	7.670E-07	7.80E-07
Chrysene	1.338E-10	5.150E-09	5.28E-09
Dibenz(a,h)anthracene	4.573E-09	5.615E-07	5.66E-07
Fluoranthene	NC	NC	NC
Fluorene	NC	NC	NC
Indeno(1,2,3-cd)pyrene	1.338E-09	1.096E-07	1.11E-07
1-Methylnaphthalene	NC	NC	NC
2-Methylnaphthalene	NC	NC	NC
Naphthalene	NC	NC	NC
Phenanthrene	NC	NC	NC
Pyrene	NC	NC	NC
Total Petroleum Hydrocarbons			
Aromatic TPH	NC	NC	NC
TOTAL:	2.34E-08	1.64E-06	**1.66E-06**

Notes:
NC = No Criteria

Table 10
Summary of Noncancer Hazard

CHEMICAL	Hypothetical Cliff Spring Recreational User		
	Ing	Dermal	Direct Total
PAHs			
Acenaphthene	1.446E-07	1.087E-06	1.23E-06
Acenaphthylene	1.446E-07	1.280E-06	1.42E-06
Anthracene	2.892E-08	3.737E-07	4.03E-07
Benz(a)anthracene	2.892E-08	1.113E-06	1.14E-06
Benzo(b)fluoranthene	2.169E-07	1.243E-05	1.26E-05
Benzo(k)fluoranthene	2.169E-07	1.086E-05	1.11E-05
Benzo(g,h,i)perylene	2.892E-07	2.022E-05	2.05E-05
Benzo(a)pyrene	2.892E-07	1.657E-05	1.69E-05
Chrysene	2.892E-07	1.113E-05	1.14E-05
Dibenz(a,h)anthracene	2.892E-08	3.551E-06	3.58E-06
Fluoranthene	2.169E-07	3.906E-06	4.12E-06
Fluorene	2.169E-07	1.893E-06	2.11E-06
Indeno(1,2,3-cd)pyrene	2.892E-07	2.367E-05	2.40E-05
1-Methylnaphthalene	2.169E-06	8.344E-06	1.05E-05
2-Methylnaphthalene	2.169E-06	8.344E-06	1.05E-05
Naphthalene	2.799E-06	1.077E-05	1.36E-05
Phenanthrene	2.892E-08	3.314E-07	3.60E-07
Pyrene	2.892E-07	7.251E-06	7.54E-06
Total Petroleum Hydrocarbons*			
Aromatic TPH	1.056E-02	2.101E-01	2.21E-01
TOTAL:	1.06E-02	2.10E-01	**2.21E-01**

Attachment 1: Laboratory Data Package Reviews – Cliff Springs Seep Samples

Samples collected on February 17, 1998 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 13331-##	
	Samples: CS-1 to -4
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260) PAHs (EPA 3510 and 8270)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL); PAHs 2.0 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on March 22, 1998 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 14176-##	
	Samples: CS-1, -4, -5, -6
	Analyses: Filtered TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on August 19, 1998 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 14863-##	
	Samples: CS-5
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on March 7, 2001 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 23117-##	
	Samples: CS-1 to -5; OSS-1 to -4
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) Filtered TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) Silica Gel TPH C10-25, C25-40 (EPA 3510, EPA 3630 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on April 26, 2001 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 23656-##	
	Samples: CS-1 to -5 (entered in electronic database as CS-B, and CS-E to -H; Field Blank (not included in electronic database; ND)
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) Filtered TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) - not entered in electronic database
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on February 22, 2002 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 26705-##	
	Samples: CS-2
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) Filtered TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) Silica Gel TPH C10-25, C25-40 (EPA 3510, EPA 3630 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100 ug/L (PQL); VOCs 0.5 to 1.0 ug/L(PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on April 1, 2003 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 31230-##	
	Samples: CS-2
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) Silica Gel TPH C10-25, C25-40 (EPA 3510, EPA 3630 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260) PAHs (EPA 3510 and 8270 SIM)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL); PAHs 0.1 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on May 6, 2003 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 31230-##	
	Samples: CS-E, CS-G
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) Silica Gel TPH C10-25, C25-40 (EPA 3510, EPA 3630 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260) PAHs (EPA 3510 and 8270 SIM)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL); PAHs 0.1 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on January 14, 2004 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 34427-##	
	Samples: CS-A
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) Silica Gel TPH C10-25, C25-40 (EPA 3510, EPA 3630 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on January 15, 2004 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 34435-##	
	Samples: CS-E, CS-I
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) Silica Gel TPH C10-25, C25-40 (EPA 3510, EPA 3630 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on February 18, 2004 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 34813-##	
	Samples: CS-A, CS-E, CS-G
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on March 9, 2004 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 35017-##	
	Samples: CS-A
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on April 14, 2004 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 35405-##	
	Samples: CS-A
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on May 13, 2004 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 35405-##	
	Samples: CS-A
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on May 13, 2004 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 35405-##	
	Samples: CS-A
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on July 14, 2004 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 36412-##	
	Samples: CS-B
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260) General Minerals (EPA 120.1, 150.1, 160.1, 200.8, 300.0, 310.1, SM 2340B
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on November 17, 2004 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 38025-##	
	Samples: CS-A, CS-B
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) Silica Gel TPH C10-25, C25-40 (EPA 3510, EPA 3630 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260) PAHs (EPA 3510 and 8270 SIM)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL); PAHs 0.1 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)

No	Raw laboratory data

Samples collected on January 12, 2005 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 38669-##	
	Samples: CS-A, CS-C, CS-G
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) Silica Gel TPH C10-25, C25-40 (EPA 3510, EPA 3630 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260) PAHs (EPA 3510 and 8270 SIM)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL); PAHs 0.1 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
Yes	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses; surrogate recoveries for CS-A and CS-C for Silica Gel TPH C10-25, C25-40 and PAHs below QC limit of 50% therefore results may be underestimated
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on February 9, 2005 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 38953-##	
	Samples: CS-A
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) Silica Gel TPH C10-25, C25-40 (EPA 3510, EPA 3630 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260) PAHs (EPA 3510 and 8270 SIM)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL); PAHs 0.1 ug/L (PQL)
Yes No	Results given on a per sample basis Qualified Data

No	Tentatively identified compounds
Yes	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on March 31, 2005 Analyzed by *Zymax Envirotechnology* Laboratory Batch Numbers 38953-##	
	Samples: CS-A, CS-G, CS-I
	Analyses: TPH C10-25, C25-40 (EPA 3510 and GC/MS Combination) Silica Gel TPH C10-25, C25-40 (EPA 3510, EPA 3630 and GC/MS Combination) TPH C4-C10 (EPA 5030 and GC/MS Combination) VOCs (EPA 5030 and EPA 8260) PAHs (EPA 3510 and 8270 SIM)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 100 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL); PAHs 0.1 ug/L (PQL)
Yes No No	Results given on a per sample basis Qualified Data Tentatively identified compounds
Yes	Narrative explanation of qualified data/No qualified data
No	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Lab sheets include only surrogate recoveries for TPH analyses
NA	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on April 26, 2005 Analyzed by *BC Laboratories* Laboratory Batch Numbers 0504271-##	
	Samples: CS-A, CS-E, CS-G
	Analyses: TPH C10-25, C25-40 (EPA 8015C - GC/FID) TPH C4-C10 (EPA 8260 - GC/FID) VOCs (EPA 8260)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 10 to 50 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL)
Yes Yes No	Results given on a per sample basis Qualified Data: Continuing Calibration Verification (CCV) for 1,2,3-Trichlorobenzene not within limits Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
Yes	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note:
Yes	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on June 9, 2005 Analyzed by *BC Laboratories* Laboratory Batch Numbers 0505785-##	
	Samples: CS-A, CS-E
	Analyses: TPH C10-25, C25-40 (EPA 8015C - GC/FID) TPH C4-C10 (EPA 8260 - GC/FID) VOCs (EPA 8260)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 10 to 50 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL)
Yes Yes No	Results given on a per sample basis Qualified Data: Continuing Calibration Verification (CCV) for bromochloromethane, dichlorodifluoromethane, and 1,1,2-trichlorotrifluoroethane not within limits Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
Yes	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note:
Yes	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on March 31, 2006 Analyzed by *BC Laboratories* Laboratory Batch Numbers 0603215-##	
	Samples: AT-A, AT-E, AT-G and duplicates
	Analyses: TPH C10-25, C25-40 (GC/MS) TPH C4-C10 (EPA 8260) VOCs (EPA 8260)
No	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 50 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL)
Yes Yes No	Results given on a per sample basis Qualified Data: Continuing Calibration Verification (CCV) for dichlorodifluoromethane, and n-propylbenzene not within limits Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
Yes	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note:
Yes	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on April 27, 2006 Analyzed by *BC Laboratories* Laboratory Batch Numbers 0604210-##	
	Samples: AT-B, AT-D
	Analyses: TPH C10-25, C25-40 (GC/MS) TPH C4-C10 (EPA 8260) VOCs (EPA 8260) PAHs (EPA 8270 SIM)
No	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 50 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL); PAHs 0.1 ug/L (PQL)
Yes Yes No	Results given on a per sample basis Qualified Data: Continuing Calibration Verification (CCV) for t-Butyl alcohol not within limits Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
Yes	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: surrogate recovery for 1,2-dichloroethane-d4 outside limits; benz(a)anthracene detected in method blank above PQL (benzo(g,h,i)perylene and dibenz(a,h)anthracene also detected in method blank)
Yes	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)

No	Raw laboratory data

Samples collected on May 25, 2006 Analyzed by *BC Laboratories* Laboratory Batch Numbers 0605312-##	
	Samples: AT-A, AT-F
	Analyses: TPH C10-25, C25-40 (GC/MS) Silica Gel TPH C10-25, C25-40 (GC/MS) TPH C4-C10 (EPA 8260) VOCs (EPA 8260)
No	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 50 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL)
Yes Yes No	Results given on a per sample basis Qualified Data: Continuing Calibration Verification (CCV) for Naphthalene (8260) not within limits Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data
Yes	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: surrogate recovery for 1,2-dichloroethane-d4 outside control limits/matrix interferences verified; TPH detected in method blank for Silica Gel cleaned extracts above PQL; methylene chloride detected in continuing calibration blank >0.5 PQL but < PQL
Yes	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on June 30, 2006 Analyzed by *BC Laboratories* Laboratory Batch Numbers 0606525-##	
	Samples: CS-E
	Analyses: TPH C10-25, C25-40 (GC/MS) Silica Gel TPH C10-25, C25-40 (GC/MS) TPH C4-C10 (EPA 8260) VOCs (EPA 8260)
No	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH 50 ug/L (PQL); VOCs 0.5 to 1.0 ug/L (PQL)
Yes Yes No	Results given on a per sample basis Qualified Data: Continuing Calibration Verification (CCV) for bromomethane and 2,2-dichloropropane not within limits Tentatively identified compounds
No	Narrative explanation of qualified data/No qualified data

Yes	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: surrogate recoveries for 1,2-dichloroethane-d4 and p-terphenyl-d14 (TPH and silica gel TPH, including MS/MSD, LCS and method blanks) outside limits; diesel TPH detected in method blank for Silica Gel cleaned extracts above PQL; diesel TPH detected in method blank for TPH >0.5 PQL but < PQL
Yes	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Discrepancies between hardcopy laboratory reports and electronic database:

- VOCs not included in BC Laboratories reports with 8260 analyses but recorded in electronic database include 2-chloroethylvinyl ether and dichlorotrifluoroethane
- VOCs included in all 6 BC Laboratories reports with 8260 analyses but not included in electronic database – 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)
- VOCs included in 4 of 6 BC Laboratories reports (batch numbers 0504271, 0505785, 0605312, and 0606525) with 8260 analyses but not included in electronic database – methyl-tert-butyl ether
- VOCs included in 2 of 6 BC Laboratories reports with 8260 analyses but not included in electronic database (batch numbers 0603215 and 0604210) – t-amyl methyl ether, t-butyl alcohol, diispropyl ether, and ethyl t-butyl ether

Samples collected on November 22, 2006 Analyzed by *Test America* Laboratory Batch Numbers NPK3519-##	
	Samples: AT-CS-A, AT-CS-B, trip blank
	Analyses: Silica Gel TPH C10-25, C25-40 (EPA 3510 and 8015B) TPH C4-C10 (EPA 8015B) VOCs (EPA 8260) PAHs (EPA 3510 and EPA 8270 SIM)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH C4-C10 50 ug/L (MRL); TPH C10-C40 94.3 ug/L (MRL); VOCs 0.5 to 50.0 ug/L (PQL) ; PAHs 0.0943 to 0.0971 ug/L (MRL)
Yes No No	Results given on a per sample basis Qualified Data: AT-CS-A detect C4-C10 TPH "result may be elevated due to carryover from previously analyzed sample"; Extractable hydrocarbons only analyzed following treatment with silica gel Tentatively identified compounds
Yes	Narrative explanation of qualified data/No qualified data
Yes	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Laboratory control sample (LCS) 1,2,3-trichloropropane recovery outside acceptable limits; No matrix spike/matrix spike duplicates (MS/MSD) for PAH analyses due to insufficient sample volume
Yes	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on January 25, 2007 Analyzed by *Test America* Laboratory Batch Numbers NQA2829-##	
	Samples: AT-CS-B, AT-CS-E
	Analyses: Silica Gel TPH C10-25, C25-40 (EPA 3510 and 8015B) TPH C4-C10 (EPA 8015B) PAHs (EPA 3510 and EPA 8270 SIM)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH C4-C10 50 ug/L (MRL); TPH C10-C40 93.9 ug/L (MRL); PAHs 0.0939 ug/L (MRL)
Yes Yes No	Results given on a per sample basis Qualified Data Extractable hydrocarbons only analyzed following treatment with silica gel Tentatively identified compounds
Yes	Narrative explanation of qualified data/No qualified data
Yes	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note:

Yes	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on February 23, 2007 Analyzed by *Test America* Laboratory Batch Numbers NQB2770-##	
	Samples: AT-CS-B, trip blank
	Analyses: TPH C10-25, C25-40 (EPA 3510 and 8015B) Silica Gel TPH C10-25, C25-40 (EPA 3510 and 8015B) TPH C4-C10 (EPA 8015B) VOCs (EPA 8260) PAHs (EPA 3510 and EPA 8270 SIM)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH C4-C10 50 ug/L (MRL); TPH C10-C40 94.3 ug/L (MRL); PAHs 0.0939 ug/L (MRL)
Yes Yes No	Results given on a per sample basis Qualified Data: Laboratory control sample (LCS) naphthalene recovery above acceptable limits but "analyte not detected, data not impacted" Tentatively identified compounds
Yes	Narrative explanation of qualified data/No qualified data
Yes	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: No matrix spike/matrix spike duplicates (MS/MSD) for PAH analyses due to insufficient sample volume; 1,2,4- and 1,2,3-trichlorobenzene and hexachlorobutadiene detected in laboratory blanks between MDL and MRL (J values)
Yes	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on March 23, 2007 Analyzed by *Test America* Laboratory Batch Numbers NQC3393-##	
	Samples: AT-CS-B, trip blank
	Analyses: TPH C10-25, C25-40 (EPA 3510 and 8015B) Silica Gel TPH C10-25, C25-40 (EPA 3510 and 8015B) TPH C4-C10 (EPA 8015B) VOCs (EPA 8260) PAHs (EPA 3510 and EPA 8270 SIM)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH C4-C10 50 ug/L (MRL); TPH C10-C40 94.8 ug/L (MRL); PAHs 0.0948 ug/L (MRL)
Yes	Results given on a per sample basis

Yes No	Qualified Data: Acetone detected in trip blank between MDL and MRL (J value) Tentatively identified compounds
Yes	Narrative explanation of qualified data/No qualified data
Yes	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Laboratory control sample (LCS) nitrobenzene-d5 surrogate recovery above acceptable limit; No matrix spike/matrix spike duplicates (MS/MSD) for PAH analyses due to insufficient sample volume; methylene chloride detected in laboratory blank between MDL and MRL (J value)
Yes	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on April 25, 2007 Analyzed by *Test America* Laboratory Batch Numbers NQD3265-##	
	Samples: AT-CS-B, trip blank
	Analyses: TPH C10-25, C25-40 (EPA 3510 and 8015B) Silica Gel TPH C10-25, C25-40 (EPA 3510 and 8015B) TPH C4-C10 (EPA 8015B) VOCs (EPA 8260) PAHs (EPA 3510 and EPA 8270 SIM)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH C4-C10 50 ug/L (MRL); TPH C10-C40 95.2 ug/L (MRL); PAHs 0.0952 ug/L (MRL)
Yes No No	Results given on a per sample basis Qualified Data: Tentatively identified compounds
Yes	Narrative explanation of qualified data/No qualified data
Yes	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Matrix spike duplicate (MSD) fluoranthene recovery above acceptable limit; 1,2,3-trichlorobenzene detected in laboratory blank above MRL
Yes	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Samples collected on May 23, 2007 Analyzed by *Test America* Laboratory Batch Numbers NQE3244-##	
	Samples: AT-CS-B, trip blank
	Analyses: TPH C10-25, C25-40 (EPA 3510 and 8015B) Silica Gel TPH C10-25, C25-40 (EPA 3510 and 8015B)

	TPH C4-C10 (EPA 8015B) VOCs (EPA 8260) PAHs (EPA 3510 and EPA 8270 SIM)
Yes	Includes all chain of custody forms
Yes	Identification of analytical methods and detection limits Detection Limits Notes: TPH C4-C10 50 ug/L (MRL); TPH C10-C40 95.2 ug/L (MRL); PAHs 0.0952 ug/L (MRL)
Yes Yes No	Results given on a per sample basis Qualified Data: Phenanthrene detected at level between MDL and MRL (J value); phenanthrene detected in laboratory blank at level greater than MRL Tentatively identified compounds
Yes	Narrative explanation of qualified data/No qualified data
Yes	Includes project quality control data (blanks, LCS/LCSD, MS/MSD) QC Note: Matrix spike duplicate (MSD) fluoranthene recovery above acceptable limit; 1,2,3-trichlorobenzene detected in laboratory blank above MRL
Yes	Definitions and descriptions of flagged data (J values)
Yes	Hardcopy of laboratory electronic files (see Attachment 2)
No	Raw laboratory data

Discrepancies between hardcopy laboratory reports and electronic database:

- VOCs included in all 5 Test America reports with 8260 analyses (laboratory batches NPK3519, NQB2770, NQC3393, NQD3265 and NQE3244), but not included in electronic database – probably because not previously included in 8260 analyses by previous laboratory: acetone, 2-butanone, carbon disulfide, 2-haxanone, diisopropyl ether, and 4-methyl-2-pentanone.
    - Acetone only analyted ever detected, at an estimated value of 4.07 ug/L (MRL = 50 ug/L) in a trip blank (NQC3393-01)
- VOCs included in only 2 (NPK3519 and NQD3265) of 5 Test America reports with 8260 analyses, but not included in electronic database – probably because not previously included in 8260 analyses by previous laboratory: tert-amyl methyl ether, ethyl tert-butyl ether, and tertiary butyl alcohol.
- VOCs included in all 5 Test America reports with 8260 analyses but not included in electronic database even though recorded for earlier laboratories – dibromochloromethane (b/c named chlorodibromoethane), 1,2-dibromoethane, and methyl-tert-butyl ether
- VOCs not included in all 5 Test America reports with 8260 analyses but recorded for earlier laboratories – dichlortrifluoromethane
- PAHs included in all 6 Test America reports (all had 8270 SIM analyses) but not included in electronic database – probably because not previously included in 8270 analyses by previous laboratory: 1-methylnaphthalene, 2-methylnaphthalene
- Test America had the following results identified as estimated values, but they are not J-qualified in the electronic database:
    - NQC3393-02 (AT-CS-B) Oil Range TPH 53.6 ug/L (MRL 94.8 ug/L)

- NQC3393-02 (AT-CS-B) C25-C40 TPH following silica gel 43.8 ug/L (MRL 95.2 ug/L)
- NQD3265-02 (AT-CS-B) Oil Range TPH 75.7 ug/L (MRL 95.2 ug/L)
- NQD3265-02 (AT-CS-B) C25-C40 TPH following silica gel 44.8 ug/L (MRL 94.8 ug/L)
- NQE3244-02 (AT-CS-B) Phenanthrene 0.0845 ug/L (MRL 0.0939 ug/L)

Attachment 2: Laboratory Data Reports – Cliff Springs Seep Samples

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718	Lab Number: Collected: Received: Matrix:	See Below 02/17/98 02/17/98 Aqueous
Project: Project Number: Collected by:	Avila Station 526-A Zach Dickson	Sample Description: Analyzed: Method:	See Below 02/18/98 See Below

Lab Number	Sample Description	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	Surrogate Recovery
13331-1	CS-1	100.	ND	ND	65
13331-2	CS-2	100.	ND	ND	61

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 02/17/98.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

MSD #4
13331t.xls
JMM/sw/dz/ln

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FEB 19 1998
ENGLAND & ASSOCIATES

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

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ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718	Lab Number: Collected: Received: Matrix:	13331-1 02/17/98 02/17/98 Aqueous
Project: Project Number: Collected by:	Avila Station 526-A Zach Dickson	Sample Description: Analyzed: Method:	CS-1 02/18/98 See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
13331-1v.xls
JMM/sw/mh/kh

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Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718
Project:	Avila Station
Project Number:	526-A
Collected by:	Zach Dickson

Lab Number:	13331-1
Collected:	02/17/98
Received:	02/17/98
Matrix:	Aqueous
Sample Description:	CS-1
Analyzed:	02/18/98
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
13331-1v.xls
JMM/sw/mh/kh

Client: Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718	Lab Number: 13331-1 Collected: 02/17/98 Received: 02/17/98 Matrix: Aqueous
Project: Avila Station Project Number: 526-A Collected by: Zach Dickson	Sample Description: CS-1 Analyzed: 02/18/98 Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		100

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #2
13331-1v.xls
JMM/sw/mh/kh

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718
Project:	Avila Station
Project Number:	526-A
Collected by:	Zach Dickson

Lab Number:	13331-1
Collected:	02/17/98
Received:	02/17/98
Matrix:	Aqueous
Sample Description:	CS-1
Analyzed:	02/18/98
Method:	EPA 8270

CONSTITUENT	PQL* ug/L	RESULT** ug/L
POLYNUCLEAR AROMATIC HYDROCARBONS		
Acenaphthene	2.0	ND
Acenaphthylene	2.0	ND
Anthracene	2.0	ND
Benz (a) anthracene	2.0	ND
Benzo (b) fluoranthene	2.0	ND
Benzo (k) fluoranthene	2.0	ND
Benzo (a) pyrene	2.0	ND
Benzo (ghi) perylene	2.0	ND
Chrysene	2.0	ND
Dibenzo (a,h) anthracene	2.0	ND
Fluoranthene	2.0	ND
Fluorene	2.0	ND
Indeno (1,2,3-cd) pyrene	2.0	ND
Naphthalene	2.0	ND
Phenanthrene	2.0	ND
Pyrene	2.0	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 3510 on 02/17/98.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #4
13331-1p.xls
JMM/sw/dz/ln

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ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718	Lab Number: Collected: Received: Matrix:	13331-2 02/17/98 02/17/98 Aqueous
Project: Project Number: Collected by:	Avila Station 526-A Zach Dickson	Sample Description: CS-2 Analyzed: Method:	 02/18/98 See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
13331-2v.xls
JMM/sw/mh/kh

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Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718

Lab Number:	13331-2
Collected:	02/17/98
Received:	02/17/98
Matrix:	Aqueous

Project:	Avila Station
Project Number:	526-A
Collected by:	Zach Dickson

Sample Description:	CS-2
Analyzed:	02/18/98
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
13331-2v.xls
JMM/sw/mh/kh

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718
Project:	Avila Station
Project Number:	526-A
Collected by:	Zach Dickson

Lab Number:	13331-2
Collected:	02/17/98
Received:	02/17/98
Matrix:	Aqueous
Sample Description:	CS-2
Analyzed:	02/18/98
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		95

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #2
13331-2v.xls
JMM/sw/mh/kh

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718	Lab Number: Collected: Received: Matrix:	13331-2 02/17/98 02/17/98 Aqueous
Project: Project Number: Collected by:	Avila Station 526-A Zach Dickson	Sample Description: CS-2 Analyzed: Method:	 02/18/98 EPA 8270

CONSTITUENT	PQL* ug/L	RESULT** ug/L
POLYNUCLEAR AROMATIC HYDROCARBONS		
Acenaphthene	2.0	ND
Acenaphthylene	2.0	ND
Anthracene	2.0	ND
Benz (a) anthracene	2.0	ND
Benzo (b) fluoranthene	2.0	ND
Benzo (k) fluoranthene	2.0	ND
Benzo (a) pyrene	2.0	ND
Benzo (ghi) perylene	2.0	ND
Chrysene	2.0	ND
Dibenzo (a,h) anthracene	2.0	ND
Fluoranthene	2.0	ND
Fluorene	2.0	ND
Indeno (1,2,3-cd) pyrene	2.0	ND
Naphthalene	2.0	ND
Phenanthrene	2.0	ND
Pyrene	2.0	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 3510 on 02/17/98.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #4
13331-2p.xls
JMM/sw/dz/ln

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ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718
Project:	Avila Station
Project Number:	526-A
Collected by:	Zach Dickson

Lab Number:	13331-3
Collected:	02/17/98
Received:	02/17/98
Matrix:	Aqueous
Sample Description:	CS-3
Analyzed:	02/18/98
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
13331-3v.xls
JMM/sw/mh/kh

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Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718

Lab Number:	13331-3
Collected:	02/17/98
Received:	02/17/98
Matrix:	Aqueous

Project:	Avila Station
Project Number:	526-A
Collected by:	Zach Dickson

Sample Description:	CS-3
Analyzed:	02/18/98
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
13331-3v.xls
JMM/sw/mh/kh

Client: Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718	Lab Number: 13331-3 Collected: 02/17/98 Received: 02/17/98 Matrix: Aqueous
Project: Avila Station Project Number: 526-A Collected by: Zach Dickson	Sample Description: CS-3 Analyzed: 02/18/98 Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		99

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #2
13331-3v.xls
JMM/sw/mh/kh

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718
Project:	Avila Station
Project Number:	526-A
Collected by:	Zach Dickson

Lab Number:	13331-4
Collected:	02/17/98
Received:	02/17/98
Matrix:	Aqueous
Sample Description:	CS-4
Analyzed:	02/18/98
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
13331-4v.xls
JMM/sw/mh/kh

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fax 805.544.822
tel 805.544.469

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718	Lab Number: Collected: Received: Matrix:	13331-4 02/17/98 02/17/98 Aqueous
Project: Project Number: Collected by:	Avila Station 526-A Zach Dickson	Sample Description: CS-4 Analyzed: Method:	 02/18/98 See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
13331-4v.xls
JMM/sw/mh/kh

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718	Lab Number: Collected: Received: Matrix:	13331-4 02/17/98 02/17/98 Aqueous
Project: Project Number: Collected by:	Avila Station 526-A Zach Dickson	Sample Description: Analyzed: Method:	CS-4 02/18/98 See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		102

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

MSD #2
13331-4v.xls
JMM/sw/mh/kh

John MacMurphey
Laboratory Director

CHAIN OF CUSTODY

Date 2/17/98 Page 1 Of 1

PROJECT MANAGER: ALICE RENDINA
COMPANY: ENGLAND & ASSOCIATES
ADDRESS: 15375 Barranca Parkway, Suite F-106
Irvine, California 92718
Phone: 714-453-8085 Fax: 714-453-0733

BILL TO: UNOCAL - JOHN Ljung
COMPANY: UNOCAL
ADDRESS: SANTA MARIA

SAMPLERS SIGNATURE

714 453 8085
PHONE NUMBER

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
CS-1	2/17/98	12:00	Liquid	13331-1
CS-2	"	12:30	"	-2
CS-3	"	13:00	"	-3
CS-4	"	15:00	"	-4

	Petroleum Hydrocarbons 418.1	Oil and Grease 413.2	Gasoline (MOD 8015/DOHS)	Diesel (MOD 8015/DOHS)	Gasoline/BTXE (MOD 8015/8020)	Petroleum Distillates (C6-C25)	BTXE (8020)	Chlorinated Hydrocarbons (8010)	Aromatic Hydrocarbons	Chlorincted/Aromatic Hydrocarbons (8010/8020)	Organic Pb	Pesticides/PCB (8080)	Base/NEU/Acid Cmpds GC/MS (8270) 8260	Volatile Cmpds GC/MS (8240)	Polynuclear Aromatic (8310)	CCR Metals	Priority Pollutant Metals	TPH Cy-C8	TPH C8-C12 C12-C40	PAHs	Number of Containers
	1L (H2SO4)/1C0g	1L (H2SO4)/1C0g	4 oz (HCL)/50g	4 oz (HCL)/50g	4 oz (HCL)/50g	4 oz (HCL)/50g	2X40ml (HCL)/50g	2X40ml (HCL)/50g	2X40ml (HCL)/50g	2X40ml (HCL)/50g	500ml/50g	1L/50g	1L/100g	2X40ml (HCL)/100g	1L/100g	500ml/100g	500ml/100g				
CS-1														X				X	X	X	3
CS-2														X				X	X	X	3
CS-3														X				X			2
CS-4														X				X			2

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJECT NUMBER:	526-A	TOTAL NUMBER OF CONTAINERS	10
PROJECT NAME:	AVILA STATION	CHAIN OF CUSTODY SEALS Y/N/NA	N
PURCHASE ORDER NUMBER:		INTACT? Y/N/NA	Y
VIA		RECEIVED GOOD COND./COLD	Y
TAT:	24-HOURS	LAB NUMBER	

SAMPLE DISPOSAL INSTRUCTIONS

COMMENTS: 24-Hour TAT !!!

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Mike Rendina Time: 16:38	Signature: Time:	Signature: Time:
Printed Name: Mike RENDINA Date: 2/17/98	Printed Name: Date:	Printed Name: Date:
Company: ENGLAND & ASSOCIATES	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: 3.**
Signature: Cheryl Hall Time: 1638	Signature: Time:	Signature: Time:
Printed Name: Cheryl Hall Date: 2/17/98	Printed Name: Date:	Printed Name: Date:
Company: ZYMAX	Company:	Company

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718

Lab Number:	See Below
Collected:	05/22/98
Received:	05/22/98
Matrix:	Aqueous

Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Sample Description:	See Below
Analyzed:	05/28/98
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
14176-1	CS-4 (Filtered) D	100.	580.	530.	97
14176-3	CS-5 (Filtered) A	100.	180.	ND	87
14176-4	CS-6 (Filtered) E	100.	ND	ND	96

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Samples were filtered prior to analysis.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 05/27/98.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #5
14176tf.xls
JMM/sw/dz/ln/ll

1

1 Zaca Lane
San Luis Obispo, California 93401
e-mail: zymax@ZymaXusa.com
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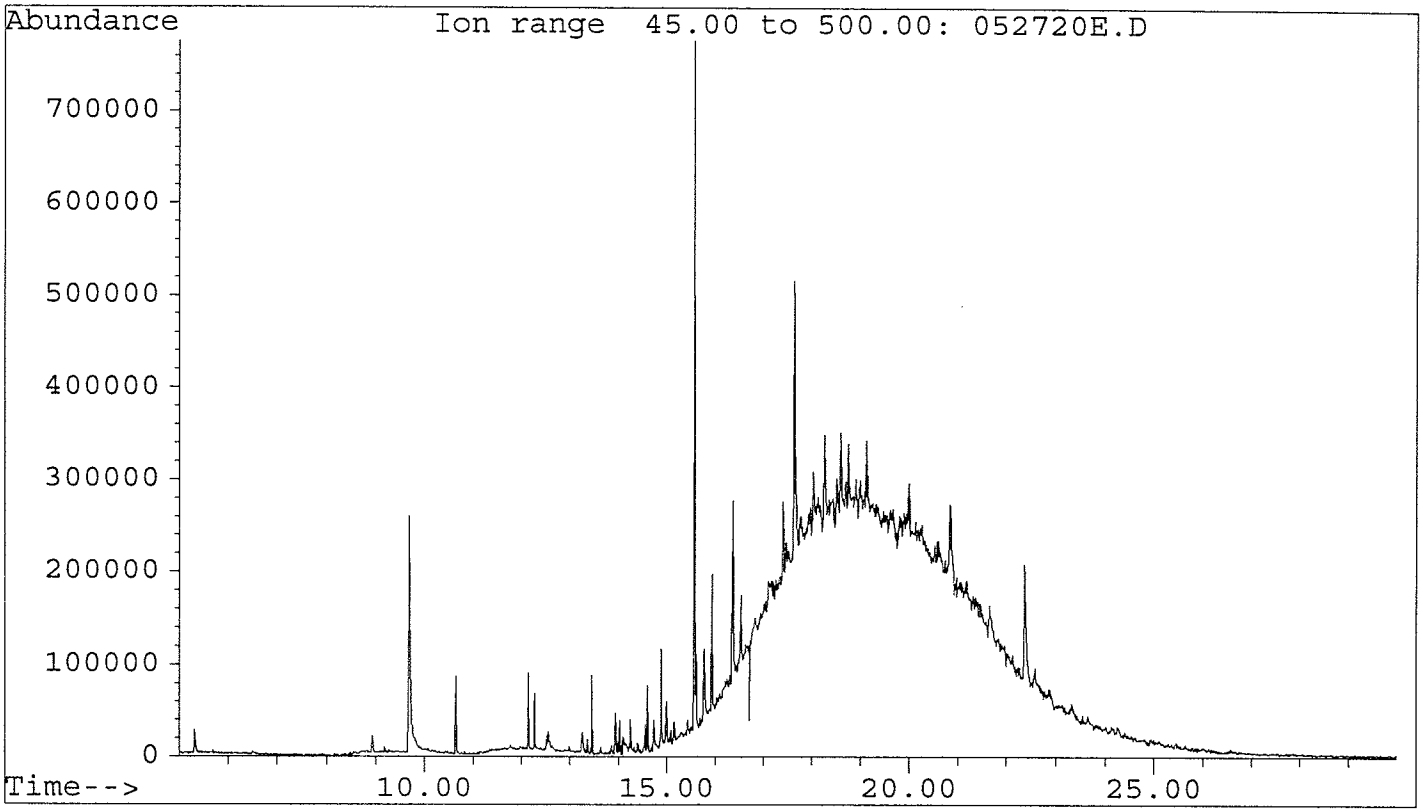
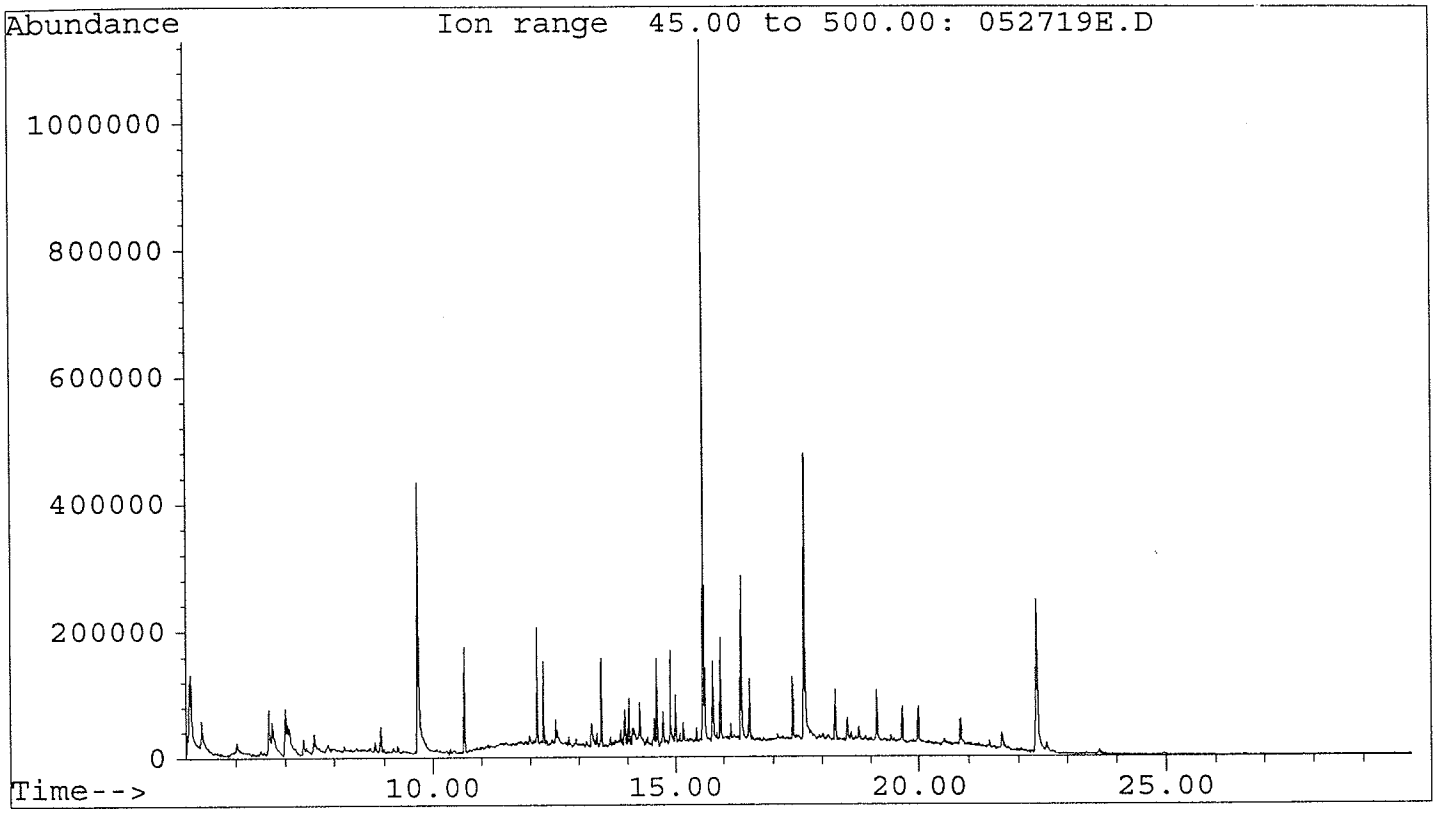
tel 805.544.4696

File : U:\ENGLAND\052720E.D
Operator : L.Nelson
Acquired : 28 May 98 8:25 am using AcqMethod TPH-CRD
Instrument : MSD #5
Sample Name: 14176-1f England/Avila Station
Misc Info : 1uL, 1L, CS-4
Vial Number: 18

ZymaX



File : U:\ENGLAND\052719E.D
Operator : L.Nelson
Acquired : 28 May 98 7:36 am using AcqMethod TPH-CRD
Instrument : MSD #5
Sample Name: 14176-3f England/Avila Station
Misc Info : 1uL, 1L, CS-5
Vial Number: 17



Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718

Lab Number:	14176-1
Collected:	05/22/98
Received:	05/22/98
Matrix:	Aqueous

Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Sample Description:	CS-4
Analyzed:	05/27/98
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
14176-1.xls
JMM/sw/mh/ap

4

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fax 805.544.8226
tel 805.544.4696

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718
Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Lab Number:	14176-1
Collected:	05/22/98
Received:	05/22/98
Matrix:	Aqueous
Sample Description:	CS-4
Analyzed:	05/27/98
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
14176-1.xls
JMM/sw/mh/ap

5

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718	Lab Number: Collected: Received: Matrix:	14176-1 05/22/98 05/22/98 Aqueous
Project: Project Number: Collected by:	Avila Station 526-A Mike Rendina	Sample Description: Analyzed: Method:	CS-4 05/27/98 See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		97

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #7
14176-1.xls
JMM/sw/mh/ap

6

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718
Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Lab Number:	14176-2
Collected:	05/22/98
Received:	05/22/98
Matrix:	Aqueous
Sample Description:	CS-1
Analyzed:	05/27/98
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
14176-2.xls
JMM/sw/mh/ap

1

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an Luis Obispo, California 93401
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tel 805.544.4696

Client: Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718	Lab Number: 14176-2 Collected: 05/22/98 Received: 05/22/98 Matrix: Aqueous
Project: Avila Station Project Number: 526-A Collected by: Mike Rendina	Sample Description: CS-1 Analyzed: 05/27/98 Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
14176-2.xls
JMM/sw/mh/ap

8

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718
Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Lab Number:	14176-2
Collected:	05/22/98
Received:	05/22/98
Matrix:	Aqueous
Sample Description:	CS-1
Analyzed:	05/27/98
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		97

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #7
14176-2.xls
JMM/sw/mh/ap

9

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718	Lab Number: Collected: Received: Matrix:	14176-3 05/22/98 05/22/98 Aqueous
Project: Project Number: Collected by:	Avila Station 526-A Mike Rendina	Sample Description: Analyzed: Method:	CS-5 05/27/98 See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
14176-3.xls
JMM/sw/mh/kh

10

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718
Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Lab Number:	14176-3
Collected:	05/22/98
Received:	05/22/98
Matrix:	Aqueous
Sample Description:	CS-5
Analyzed:	05/27/98
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
14176-3.xls
JMM/sw/mh/kh

11

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718
Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Lab Number:	14176-3
Collected:	05/22/98
Received:	05/22/98
Matrix:	Aqueous
Sample Description:	CS-5
Analyzed:	05/27/98
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		97

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

MSD #7
14176-3.xls
JMM/sw/mh/kh

John MacMurphey
Laboratory Director

12

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718

Lab Number:	14176-4
Collected:	05/22/98
Received:	05/22/98
Matrix:	Aqueous

Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Sample Description:	CS-6
Analyzed:	05/27/98
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
14176-4.xls
JMM/sw/mh/kh

13

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718	Lab Number: Collected: Received: Matrix:	14176-4 05/22/98 05/22/98 Aqueous
Project: Project Number: Collected by:	Avila Station 526-A Mike Rendina	Sample Description: Analyzed: Method:	CS-6 05/27/98 See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
14176-4.xls
JMM/sw/mh/kh

14

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718
Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Lab Number:	14176-4
Collected:	05/22/98
Received:	05/22/98
Matrix:	Aqueous
Sample Description:	CS-6
Analyzed:	05/27/98
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		99

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #7
14176-4.xls
JMM/sw/mh/kh

15

CHAIN OF CUSTODY

DATE 5/22/98 PAGE 1 OF 1

PROJECT MANAGER: MIKE RENDINA
COMPANY: ENGLAND & ASSOCIATES
ADDRESS: 15375 Barranca Parkway, Suite F-106
Irvine, California 92718
Phone: 714-453-8085 Fax: 714-453-0733

BILL TO: UNOCAL
COMPANY: ATTN: JOHN Ljung
ADDRESS :

Michael A Rendina (SAMPLERS SIGNATURE) 714 453 8085 (PHONE NUMBER)

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
CS-4	5/22/98	1013	LIQUID	14176-1
CS-1		1035		-2
CS-5		1110		-3
CS-6		1200		-4

	1L (H_2SO_4)/100g	1L (H_2SO_4)/100g	4 oz (HCL)/50g	4 oz (HCL)/50g	4 oz (HCL)/50g	4 oz (HCL)/50g	2X40ml (HCL)/50g	2X40ml (HCL)/50g	2X40ml (HCL)/50g	2X40ml (HCL)/50g	500ml/50g		1L/50g	1L/100g	2X40ml (HCL)/100g	1L/100g	500ml/100g	500ml/100g									
	Petroleum Hydrocarbons 418.1	Oil and Grease 413.2	Gasoline (MOD 8015/DOHS)	Diesel (MOD 8015/DOHS)	Gasoline/BTXE (MOD 8015/8020)	Petroleum Distillates (C6-C25)	BTXE (8020)	Chlorinated Hydrocarbons (8010)	Aromatic Hydrocarbons	Chlorinated/Aromatic Hydrocarbons (8010/8020)	Organic Pb		Pesticides/PCB (8080)	Base/NEU/Acid Cmpds GC/MS (8270) 8260	Volatile Cmpds GC/MS (8240)	Polynuclear Aromatic (8310)	CCR Metals	Priority Pollutant Metals	C_4-C_6 TPH	$C_{10}-C_{40}$ TPH - FILTER First								Number of Containers
CS-4															X				X	X								3
CS-1															X				X									2
CS-5															X				X	X								3
CS-6															X				X	X								3

PROJECT INFORMATION	SAMPLE RECEIPT	
PROJECT NUMBER: 526-A	TOTAL NUMBER OF CONTAINERS	11
PROJECT NAME: AVILA TERMINAL	CHAIN OF CUSTODY SEALS Y/N/NA	
PURCHASE ORDER NUMBER:	INTACT? Y/N/NA	
VIA	RECEIVED GOOD COND./COLD	
TAT: NORMAL	LAB NUMBER	

SAMPLE DISPOSAL INSTRUCTIONS

COMMENTS: FILTER $C_{10}-C_{40}$ TPH Samples
B-- ee TestAm

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Mike Rendina Time: 1235	Signature: Time:	Signature: Time:
Printed Name: MIKE RENDINA Date: 5/22/98	Printed Name: Date:	Printed Name: Date:
Company: ENGLAND & ASSOCIATES	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: 3.**
Signature: Cheryl Hall Time: 1235	Signature: Time:	Signature: Time:
Printed Name: Cheryl Hall Date: 5/22/98	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Company:

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718

Lab Number:	See Below
Collected:	08/19/98
Received:	08/20/98
Matrix:	Aqueous

Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Sample Description:	See Below
Analyzed:	08/25/98
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
14863-1	CS-5	100.	ND	ND	79

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 08/24/94.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #4
14863t.xls
JMM/sw/dz/ln/dc

1

71 Zaca Lane
San Luis Obispo, California 93401
e-mail: zymax@ZymaXusa.com
fax 805.544.8226
tel 805.544.4696

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718
Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Lab Number:	14863-1
Collected:	08/19/98
Received:	08/20/98
Matrix:	Aqueous
Sample Description:	CS-5
Analyzed:	08/26/98
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
14863-1v.xls
JMM/sw/mh/kh

71 Zaca Lane
San Luis Obispo, California 93401
e-mail: zymax@ZymaXusa.com
fax 805.544.8226
tel 805.544.4696

Client:	Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718

Lab Number:	14863-1
Collected:	08/19/98
Received:	08/20/98
Matrix:	Aqueous

Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Sample Description:	CS-5
Analyzed:	08/26/98
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

***PQL - Practical Quantitation Limit**

****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
14863-1v.xls
JMM/sw/mh/kh

3

Client: Mike Rendina England & Associates 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92718	Lab Number: 14863-1 Collected: 08/19/98 Received: 08/20/98 Matrix: Aqueous
Project: Avila Station Project Number: 526-A Collected by: Mike Rendina	Sample Description: CS-5 Analyzed: 08/26/98 Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		103

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

MSD #2
14863-1v.xls
JMM/sw/mh/kh

John MacMurphey
Laboratory Director

4

CHAIN OF CUSTODY

DATE 8/19/98 PAGE 1 OF 1

ENGLAND & ASSOCIATES
15375 Barranca Parkway, Suite F-106 Irvine, California 92618
TEL (714) 453-8085 FAX (714) 453-0733

Project Manager: MIKE RENDINA

Bill To: ~~E.~~ JOHN Ljung

Company: Unocal

Address: SANTA MARIA

Samplers Signature

714 453 3085 Phone Number

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
CS-5	8/19/98	18:15	Liquid	14863-1

	Petroleum Hydrocarbons 418.1	Oil and Grease 413.2	Gasoline (MOD 8015/DOHS)	Diesel (MOD 8015/DOHS)	Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (8010)	MTBE	Chlorinated/Aromatic Hydrocarbons (8010/8020)	Organic Pb	Pesticides/PCB (8020)	Base/NEU/Acid Cmpds GC/MS (8270)	Volatile Cmpds GC/MS (8240)	Polynuclear Aromatic (8310)	CCR Metals	Priority Pollutant Metals									Number of Containers
	1L (H_2SO_4)/100g	1L (H_2SO_4)/100g	4oz (HCL)/50g	4oz (HCL)/50g	4oz (HCL)/50g	2X40ml (HCL)/50g	2X40ml (HCL)/50g	2X40ml (HCL)/50g	2X40ml (HCL)/50g	500ML/50g	1L/50g	1L/100g	2X40ml (HCL)/100g	1L/100g	500ml/100g	500ml/100g									
																	X	X	X						3

PROJECT INFORMATION	
Project Number:	526-A
Project Name:	AVILA PUMP STATION
Purchase Order Number:	
VIA:	
TAT:	

SAMPLE RECEIPT	
Total Number of Containers	3
Chain of Custody Seals Y/N/NA	
Intact? Y/N/NA	
Received in Good Condition/Cold	
Lab Number:	

SAMPLE DISPOSAL INSTRUCTIONS

COMMENTS:
5

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time: 19:40	Signature: Time:	Signature: Time:
Printed Name: MIKE RENDINA Date: 8/20/98	Printed Name: Date:	Printed Name: Date:
Company: ENGLAND & ASSOCIATES	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: 3.**
Signature: Time: 19:40	Signature: Time:	Signature: Time:
Printed Name: Jamie Davis Date: 8/20/98	Printed Name: Date:	Printed Name: Date:
Company: Zymax	Company:	Company:

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618
Project:	Avila Station
Project Number:	526-F
Collected by:	Mike Rendina

Lab Number:	See Below
Collected:	03/07/01
Received:	03/07/01
Matrix:	Aqueous
Sample Description:	See Below
Analyzed:	03/27/01
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
23117-1	OSS-1	100.	620.	290.	90
23117-2	OSS-2	100.	ND	ND	79
23117-3	OSS-3	100.	490.	480.	82
23117-4	OSS-4	100.	140.	160.	82
23117-5	CS-1	100.	360.	750.	85
23117-6	CS-2	100.	ND	ND	71
23117-7	CS-3	100.	430.	520.	86
23117-8	CS-4	100.	240.	290.	78
23117-9	CS-5	100.	360.	510.	72

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 03/13/01.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #9
23117ta.xls
JMM/al/dz/pf/ag

805.544.4696
www.ZymaXusa.com
71 Zaca Lane
San Luis Obispo CA 93401
fax 805.544.8226

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618
Project:	Avila Station
Project Number:	526-F
Collected by:	Mike Rendina

Lab Number:	See Below
Collected:	03/07/01
Received:	03/07/01
Matrix:	Aqueous
Sample Description:	See Below
Analyzed:	03/26/01 - 03/27/01
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
23117-1	OSS-1 (Filtered)	100.	210.	110.	65
23117-2	OSS-2 (Filtered)	100.	ND	ND	85
23117-3	OSS-3 (Filtered)	100.	440.	380.	85
23117-4	OSS-4 (Filtered)	100.	ND	ND	85
23117-5	CS-1 (Filtered)	100.	370.	620.	81
23117-6	CS-2 (Filtered)	100.	ND	ND	79
23117-7	CS-3 (Filtered)	100.	390.	430.	96
23117-8	CS-4 (Filtered)	100.	260.	370.	95
23117-9	CS-5 (Filtered)	100.	360.	490.	84

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Samples were filtered prior to analysis.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 03/13/01.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #9
23117tf.xls
JMM/al/dz/pf/ag

805.544.4696
www.ZymaXusa.com

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San Luis Obispo CA 93401
fax 805.544.8226

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618	Lab Number: Collected: Received: Matrix:	See Below 03/07/01 03/07/01 Aqueous
Project: Project Number: Collected by:	Avila Station 526-F Mike Rendina	Sample Description: Analyzed: Method:	See Below 03/23/01 See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
23117-1	OSS-1 (Silica Gel)	100.	ND	ND	89
23117-2	OSS-2 (Silica Gel)	100.	ND	ND	85
23117-3	OSS-3 (Silica Gel)	100.	ND	ND	91
23117-4	OSS-4 (Silica Gel)	100.	ND	ND	92
23117-5	CS-1 (Silica Gel)	100.	ND	ND	93
23117-6	CS-2 (Silica Gel)	100.	ND	ND	71
23117-7	CS-3 (Silica Gel)	100.	ND	ND	82
23117-8	CS-4 (Silica Gel)	100.	ND	ND	75
23117-9	CS-5 (Silica Gel)	100.	ND	ND	73

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*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 03/13/01.
Note: Cleanup performed on extract by EPA 3630 (Silica Gel) on 03/15/01.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #4
23117tg.xls
JMM/al/dz/ag/ws

805.544.4696
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71 Zaca Lane
San Luis Obispo CA 93401
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Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**23117-1** **03/07/01** **03/07/01** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-F** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**OSS-1** **03/17/01** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-1v.xls
JMM/al/mb/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**23117-1** **03/07/01** **03/07/01** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-F** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**OSS-1** **03/17/01** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-1v.xls
JMM/al/mb/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**23117-1** **03/07/01** **03/07/01** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-F** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**OSS-1** **03/17/01** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		99

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #7
23117-1v.xls
JMM/al/mb/bp/bm

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	**Mike Rendina**
	England Geosystem, Inc.
	15375 Barranca Pkwy., Ste. F-106
	Irvine, CA 92618

Lab Number:	**23117-2**
Collected:	**03/07/01**
Received:	**03/07/01**
Matrix:	**Aqueous**

Project:	**Avila Station**
Project Number:	**526-F**
Collected by:	**Mike Rendina**

Sample Description:	**OSS-2**
Analyzed:	**03/17/01**
Method:	**See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-2v.xls
JMM/al/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**

Lab Number:	**23117-2**
Collected:	**03/07/01**
Received:	**03/07/01**
Matrix:	**Aqueous**

Project:	**Avila Station**
Project Number:	**526-F**
Collected by:	**Mike Rendina**

Sample Description:	**OSS-2**
Analyzed:	**03/17/01**
Method:	**See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-2v.xls
JMM/al/bp/bm

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618

Lab Number:	23117-2
Collected:	03/07/01
Received:	03/07/01
Matrix:	Aqueous

Project:	Avila Station
Project Number:	526-F
Collected by:	Mike Rendina

Sample Description:	OSS-2
Analyzed:	03/17/01
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		97

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #7
23117-2v.xls
JMM/al/bp/bm

ZymaX envirotechnology

Client:	**Mike Rendina**
	England Geosystem, Inc.
	15375 Barranca Pkwy., Ste. F-106
	Irvine, CA 92618

Lab Number:	**23117-3**
Collected:	**03/07/01**
Received:	**03/07/01**
Matrix:	**Aqueous**

Project:	**Avila Station**
Project Number:	**526-F**
Collected by:	**Mike Rendina**

Sample Description:	**OSS-3**
Analyzed:	**03/17/01**
Method:	**See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-3v.xls
JMM/al/mb/bp/bm

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618	Lab Number: Collected: Received: Matrix:	23117-3 03/07/01 03/07/01 Aqueous
Project: Project Number: Collected by:	Avila Station 526-F Mike Rendina	Sample Description: Analyzed: Method:	OSS-3 03/17/01 See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-3v.xls
JMM/al/mb/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**23117-3** **03/07/01** **03/07/01** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-F** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**OSS-3** **03/17/01** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		98

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #7
23117-3v.xls
JMM/al/mb/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**

Lab Number:	**23117-4**
Collected:	**03/07/01**
Received:	**03/07/01**
Matrix:	**Aqueous**

Project:	**Avila Station**
Project Number:	**526-F**
Collected by:	**Mike Rendina**

Sample Description:	**OSS-4**
Analyzed:	**03/17/01**
Method:	**See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-4v.xls
JMM/al/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**23117-4** **03/07/01** **03/07/01** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-F** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**OSS-4** **03/17/01** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-4v.xls
JMM/al/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**23117-4** **03/07/01** **03/07/01** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-F** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**OSS-4** **03/17/01** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		98

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #7
23117-4v.xls
JMM/al/bp/bm

ZymaX envirotechnology

Client:	Mike Rendina
	England Geosystem, Inc.
	15375 Barranca Pkwy., Ste. F-106
	Irvine, CA 92618

Lab Number:	23117-5
Collected:	03/07/01
Received:	03/07/01
Matrix:	Aqueous

Project:	Avila Station
Project Number:	526-F
Collected by:	Mike Rendina

Sample Description:	CS-1
Analyzed:	03/17/01
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-5v.xls
JMM/al/mb/bp/bm

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618	Lab Number: Collected: Received: Matrix:	23117-5 03/07/01 03/07/01 Aqueous
Project: Project Number: Collected by:	Avila Station 526-F Mike Rendina	Sample Description: Analyzed: Method:	CS-1 03/17/01 See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-5v.xls
JMM/al/mb/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**23117-5** **03/07/01** **03/07/01** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-F** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**CS-1** **03/17/01** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		96

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #7
23117-5v.xls
JMM/al/mb/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**23117-6** **03/07/01** **03/07/01** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-F** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**CS-2** **03/17/01** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-6v.xls
JMM/al/mb/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**23117-6** **03/07/01** **03/07/01** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-F** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**CS-2** **03/17/01** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-6v.xls
JMM/al/mb/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**23117-6** **03/07/01** **03/07/01** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-F** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**CS-2** **03/17/01** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		96

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #7
23117-6v.xls
JMM/al/mb/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**23117-7** **03/07/01** **03/07/01** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-F** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**CS-3** **03/17/01** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-7v.xls
JMM/al/mb/bp/bm

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618

Lab Number:	23117-7
Collected:	03/07/01
Received:	03/07/01
Matrix:	Aqueous

Project:	Avila Station
Project Number:	526-F
Collected by:	Mike Rendina

Sample Description:	CS-3
Analyzed:	03/17/01
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-7v.xls
JMM/al/mb/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**23117-7** **03/07/01** **03/07/01** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-F** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**CS-3** **03/17/01** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		95

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #7
23117-7v.xls
JMM/al/mb/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**23117-8** **03/07/01** **03/07/01** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-F** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**CS-4** **03/17/01** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-8v.xls
JMM/al/mb/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**

Lab Number:	**23117-8**
Collected:	**03/07/01**
Received:	**03/07/01**
Matrix:	**Aqueous**

Project:	**Avila Station**
Project Number:	**526-F**
Collected by:	**Mike Rendina**

Sample Description:	**CS-4**
Analyzed:	**03/17/01**
Method:	**See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-8v.xls
JMM/al/mb/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**23117-8** **03/07/01** **03/07/01** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-F** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**CS-4** **03/17/01** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		96

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #7
23117-8v.xls
JMM/al/mb/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**23117-9** **03/07/01** **03/07/01** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-F** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**CS-5** **03/17/01** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-9v.xls
JMM/al/mb/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**23117-9** **03/07/01** **03/07/01** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-F** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**CS-5** **03/17/01** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #7
23117-9v.xls
JMM/al/mb/bp/bm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**23117-9** **03/07/01** **03/07/01** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-F** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**CS-5** **03/17/01** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		96

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #7
23117-9v.xls
JMM/al/mb/bp/bm

CHAIN OF CUSTODY

DATE 3/7/01 PAGE 1 OF 3

ENGLAND & ASSOCIATES
15375 Barranca Parkway, Suite F-106 Irvine, California 92618
TEL (949) 453-8085 FAX (949) 453-0733

Project Manager: MICHAEL RENDINA

Bill To: JOHN LJUNG

Company: Unocal

Address: SLO, CA

Michael Rendina — Sampler's Signature

949 453 8085 — Phone Number

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Number of Containers
OSS-1	3/7/01	~~15:30~~ 17:19	LIQUID	23117-1	4
OSS-2		12:55		-2	4
OSS-3		~~14:25~~	13:50	-3	4
OSS-4		~~14:49~~	15:03	-4	4
CS-1		15:30		-5	4
CS-2		15:56		-6	4
CS-3		16:25		-7	4
CS-4		16:49		-8	4
CS-5		17:12		-9	4

	TRPH (418.1)	Oil and Grease (413.2)	TPH (G) (MOD 8015)	TPH (D) (MOD 8015)	BTEX/MTBE (8021B)	BTEX (8260B)	MTBE (8260B) CONFIRMATION	Chlorinated Hydrocarbons (8010)	Pesticides/PCBs (8080)	Base/Neut/Acid Cmpds (8270)	VOCs (8260)	PAHs (8310)	Organic Pb	CCR Metals	Priority Pollutant Metals	General Minerals		TPH (C_4-C_{40})		TPH (C_6-C_{35} C_{35}=C_{40})(1)		TPH (C_{10}-C_{35} C_{35}-C_{40})(2)				
1L (H_2SO_4)/100g		1L (H_2SO_4)/100g	4oz (HCl)/50g	4oz (HCl)/50g	4oz (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	1L/50g	1L/100g	2X40ml (HCl)/100g	1L/100g	500ML/50g	500ml/100g	500ml/100g	500ml(HNO_3)/1L										
OSS-1											X							X		X		X				4
OSS-2											X							X		X		X				4
OSS-3											X							X		X		X				4
OSS-4											X							X		X		X				4
CS-1											X							X		X		X				4
CS-2											X							X		X		X				4
CS-3											X							X		X		X				4
CS-4											X							X		X		X				4
CS-5											X							X		X		X				4

PROJECT INFORMATION		SAMPLE RECEIPT	
Project Number:	526-F	Total Number of Containers	36
Project Name:	AVILA	Chain of Custody Seals Y/N/NA	
Purchase Order Number:		Intact? Y/N/NA	Y
VIA:		Received in Good Condition/Cold	Y
TAT:	24-HR TO FILTER // STD. RESULTS	Lab Number:	

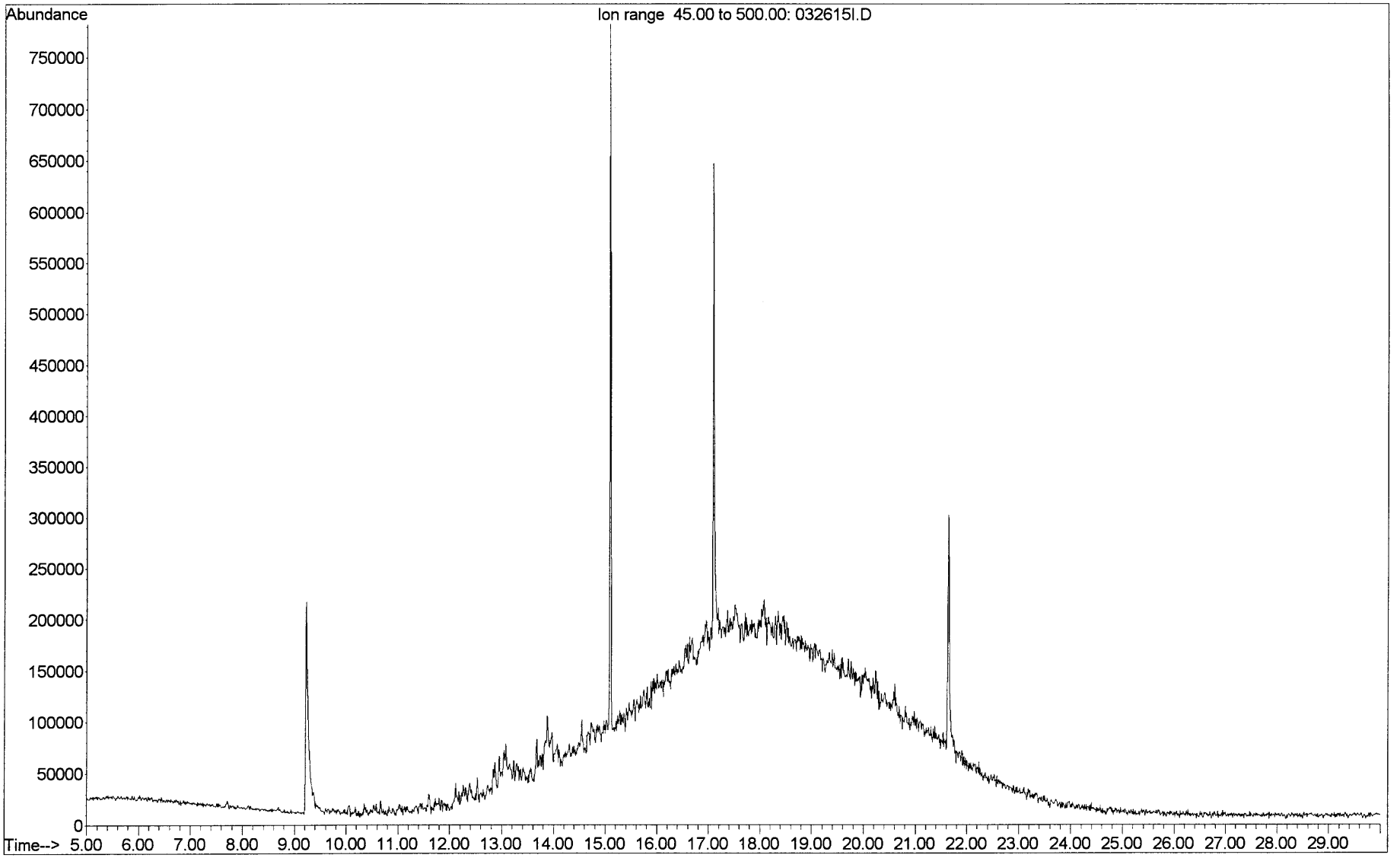
SAMPLE DISPOSAL INSTRUCTIONS

COMMENTS: (1) TREAT EXTRACT W/ Silica Gel before analyzing.
(2) FILTER SAMPLE IN LAB BEFORE EXTRACTING

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Michael Rendina Time: 1805	Signature: Time:	Signature: Time:
Printed Name: MIKE RENDINA Date: 3/7/01	Printed Name: Date:	Printed Name: Date:
Company: ENGLAND & ASSOCIATES	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: 3.**
Signature: Time: 1805	Signature: Time:	Signature: Time:
Printed Name: CHAD MESSER Date: 3/7/01	Printed Name: Date:	Printed Name: Date:
Company: Eymax	Company:	Company:

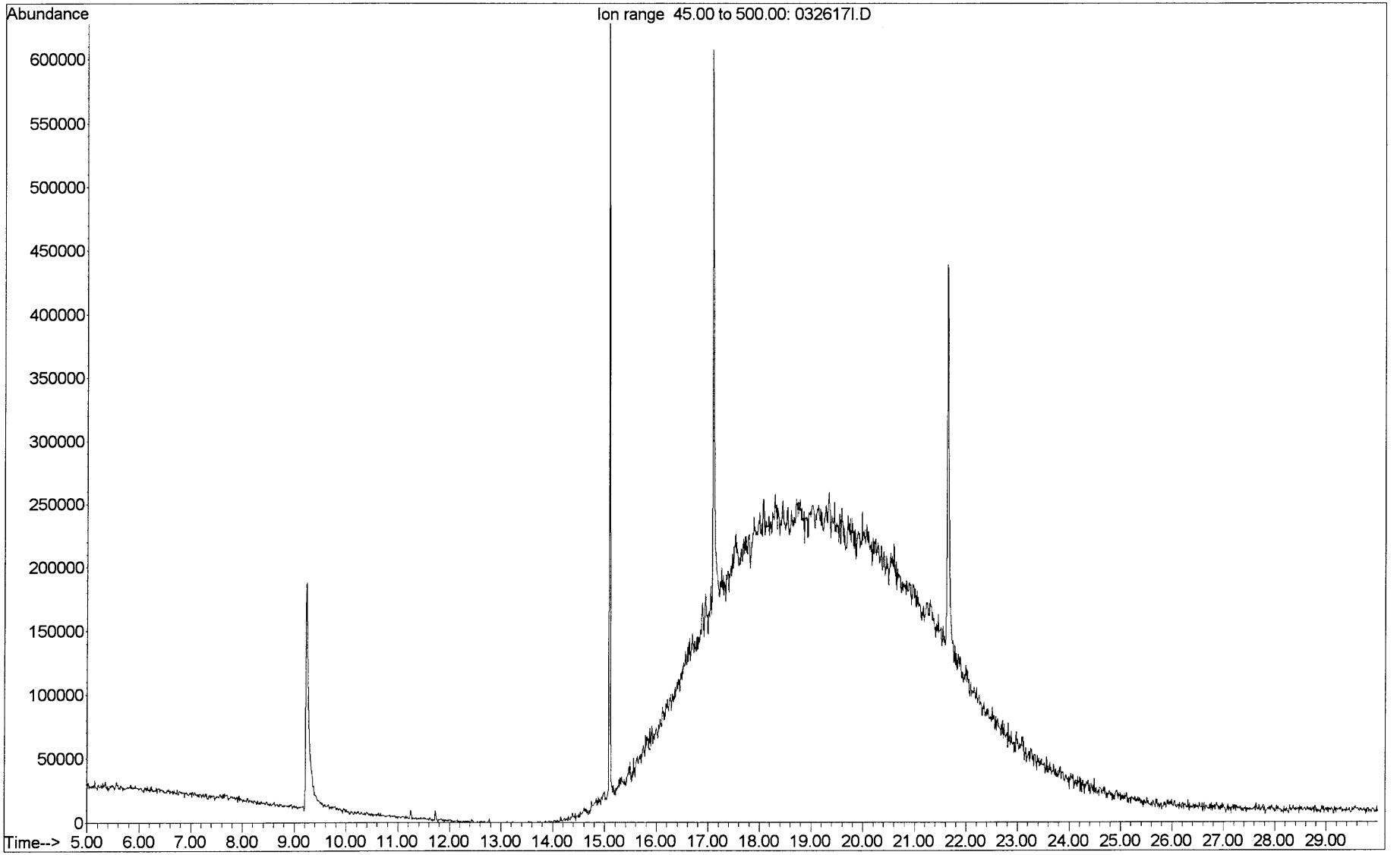
ZymaX

Sample Name: 23117-1 England/Avila
Misc Info : 1uL,1L OSS-1



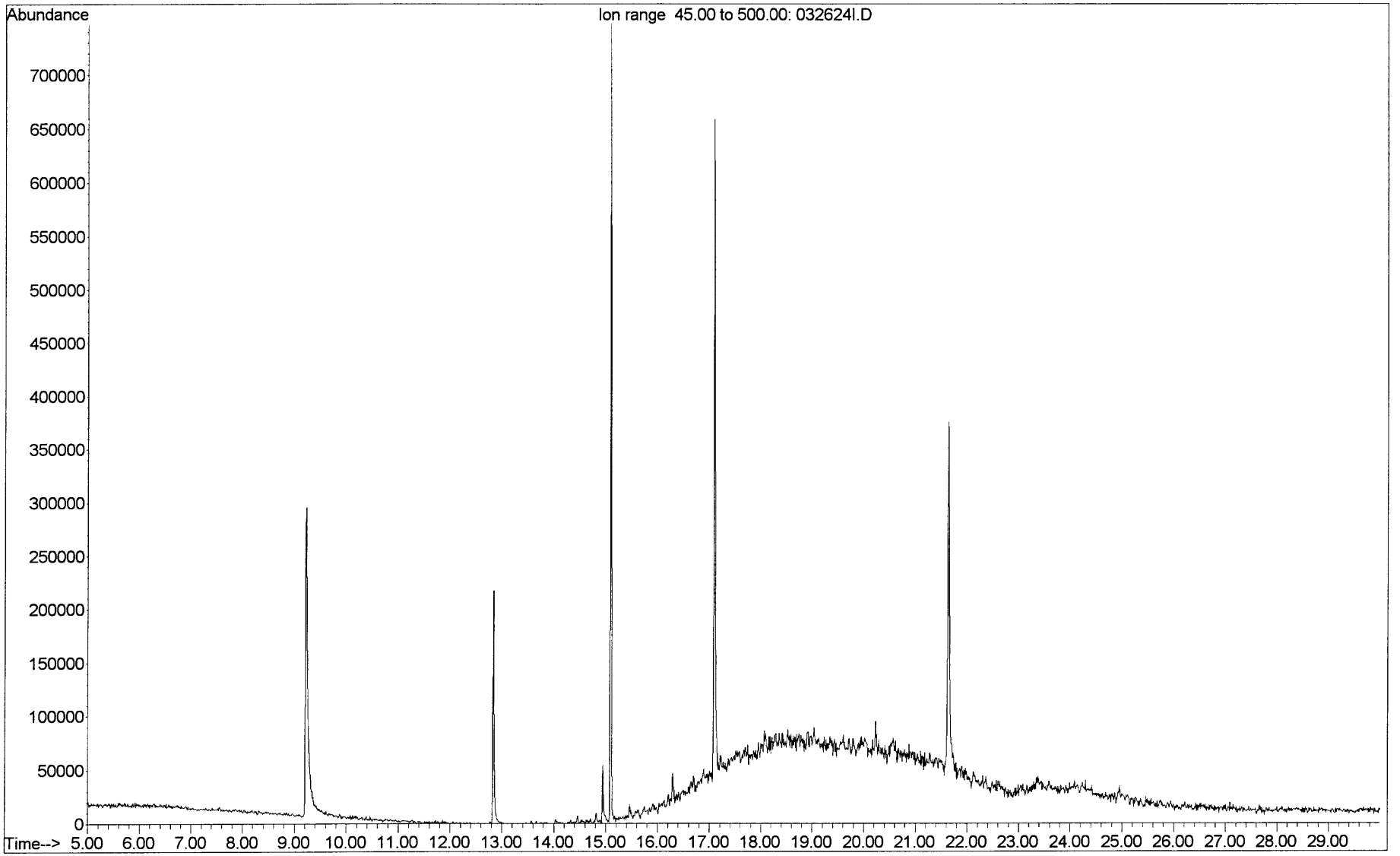
ZymaX

Sample Name: 23117-3 England/Avila SA2162/ag
Misc Info : 1uL,1L OSS-3 ext:03.13.01



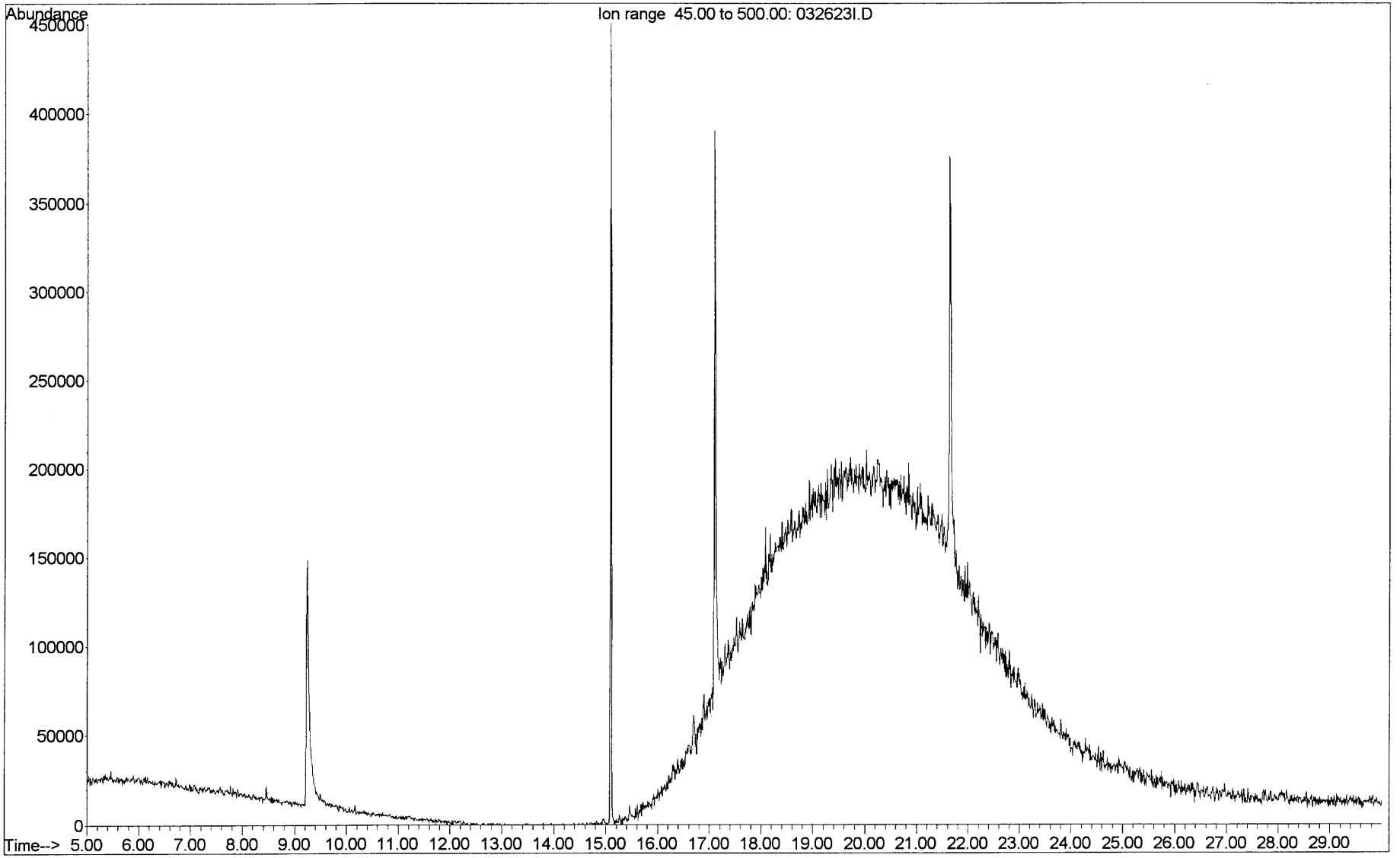
ZymaX

Sample Name: 23117-4 England/Avila
Misc Info : 1uL,1L OSS-4



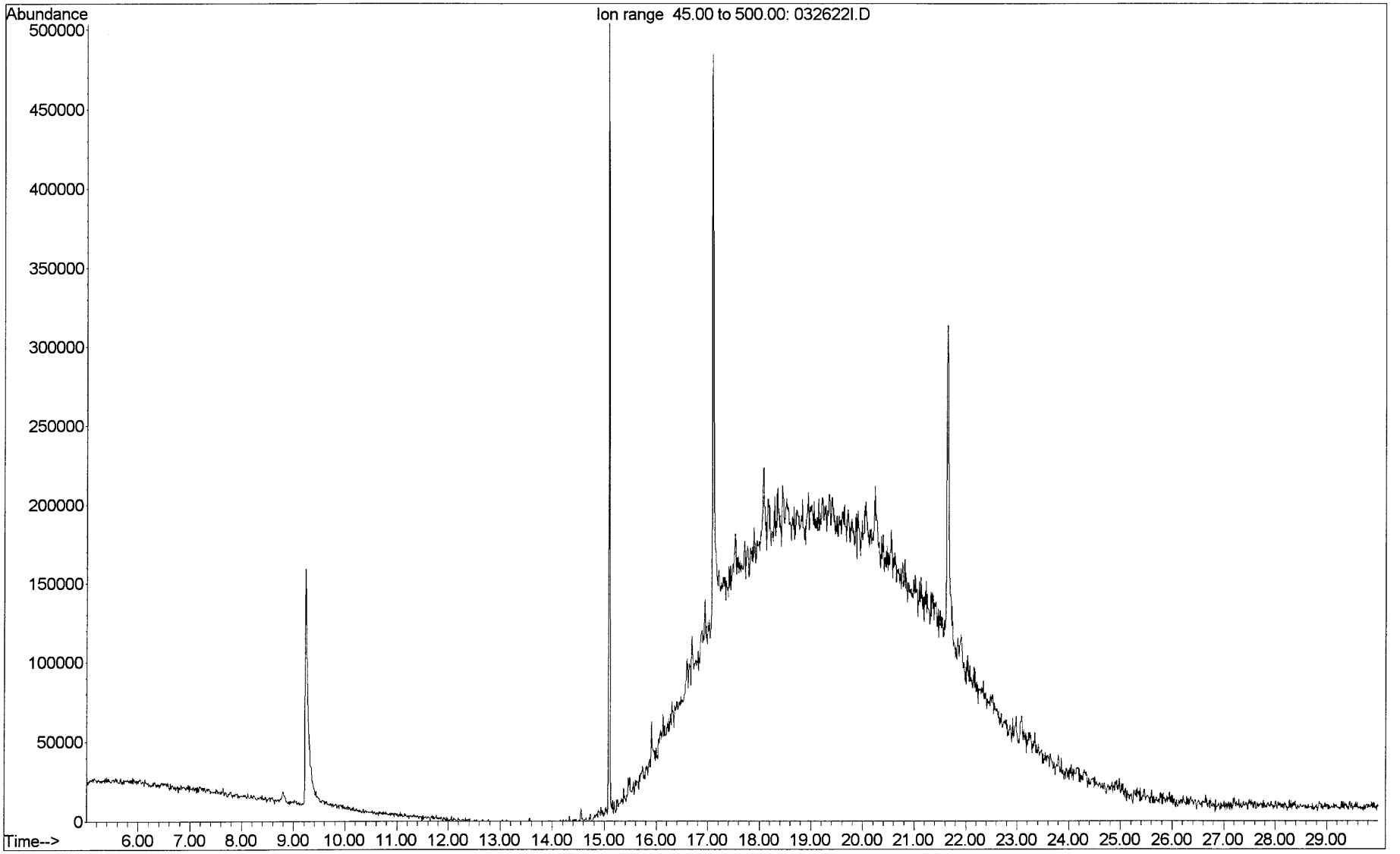
ZymaX

Sample Name: 23117-5 England/Avila
Misc Info : 1uL,1L CS-1



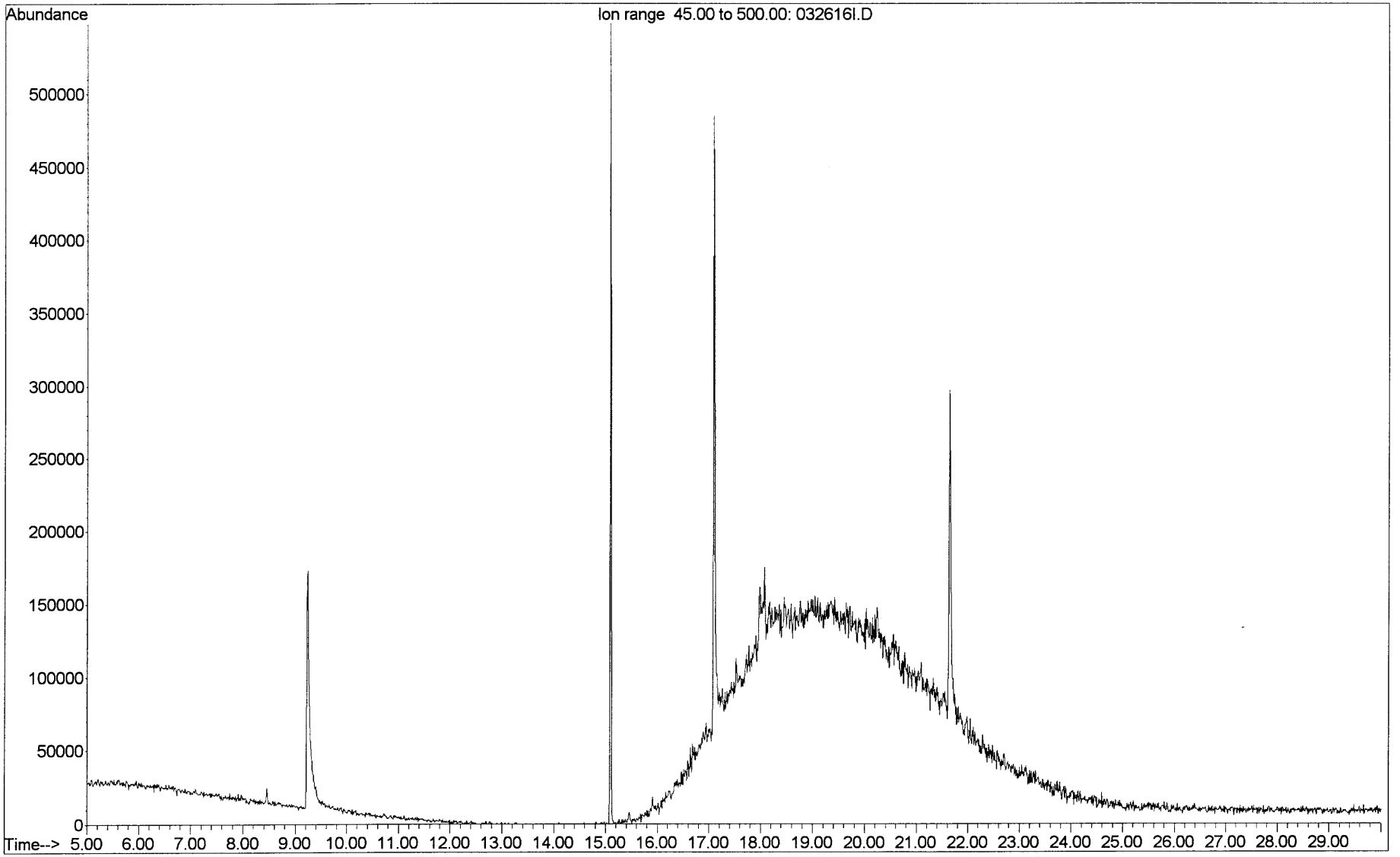
ZymaX

Sample Name: 23117-7 England/Avila
Misc Info : 1uL,1L CS-3



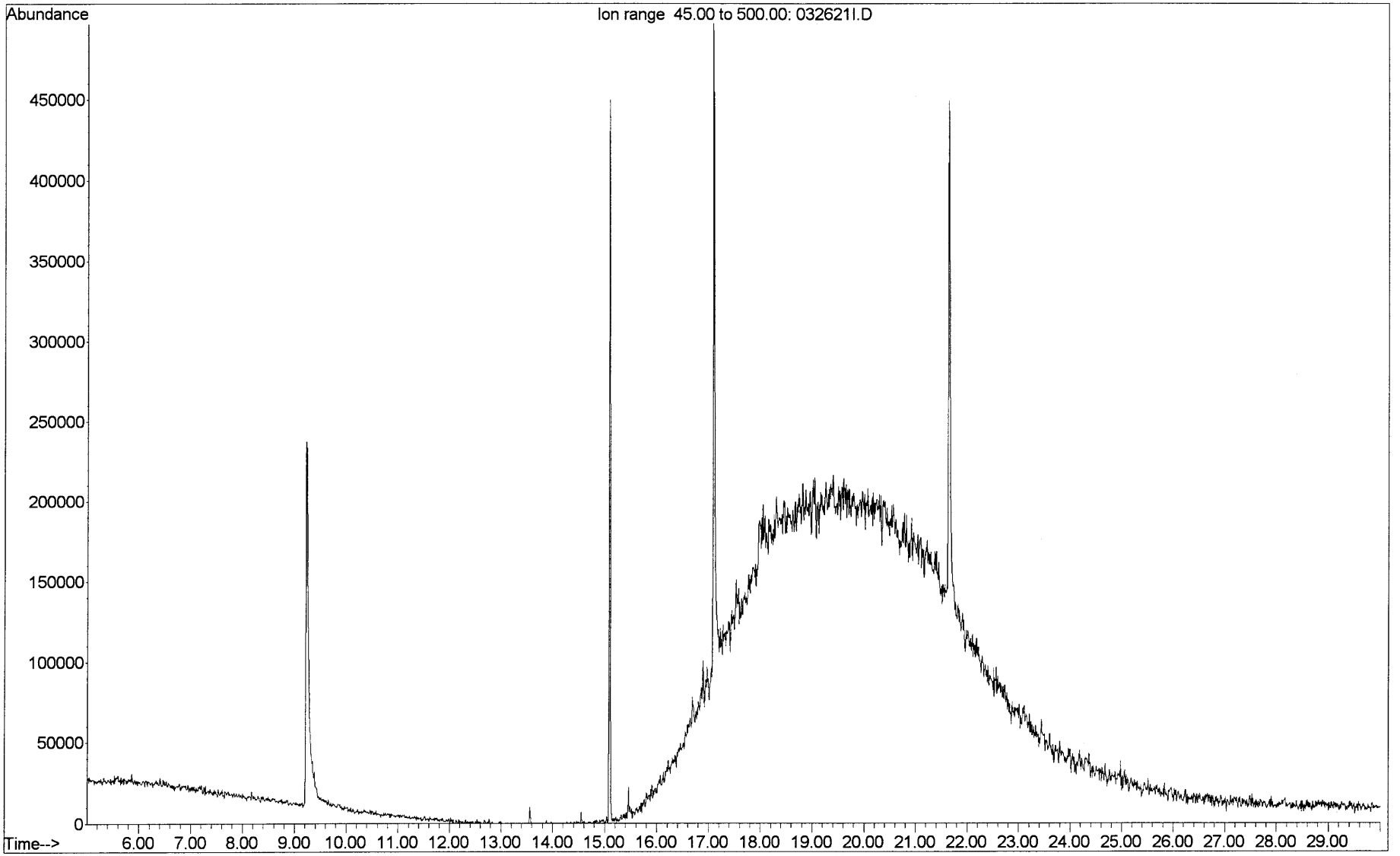
ZymaX

Sample Name: 23117-8 England/Avila
Misc Info : 1uL,1L CS-4

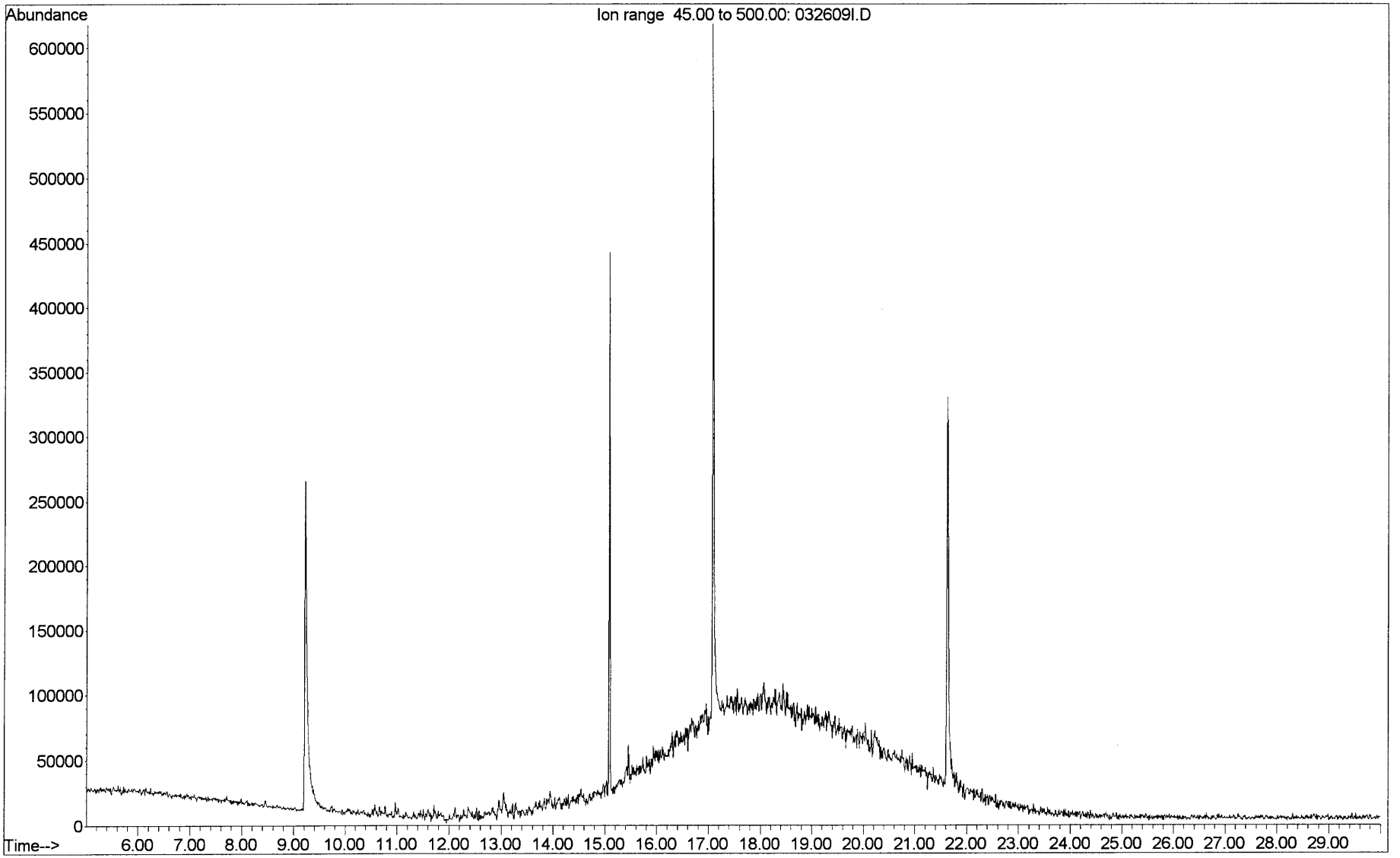


ZymaX

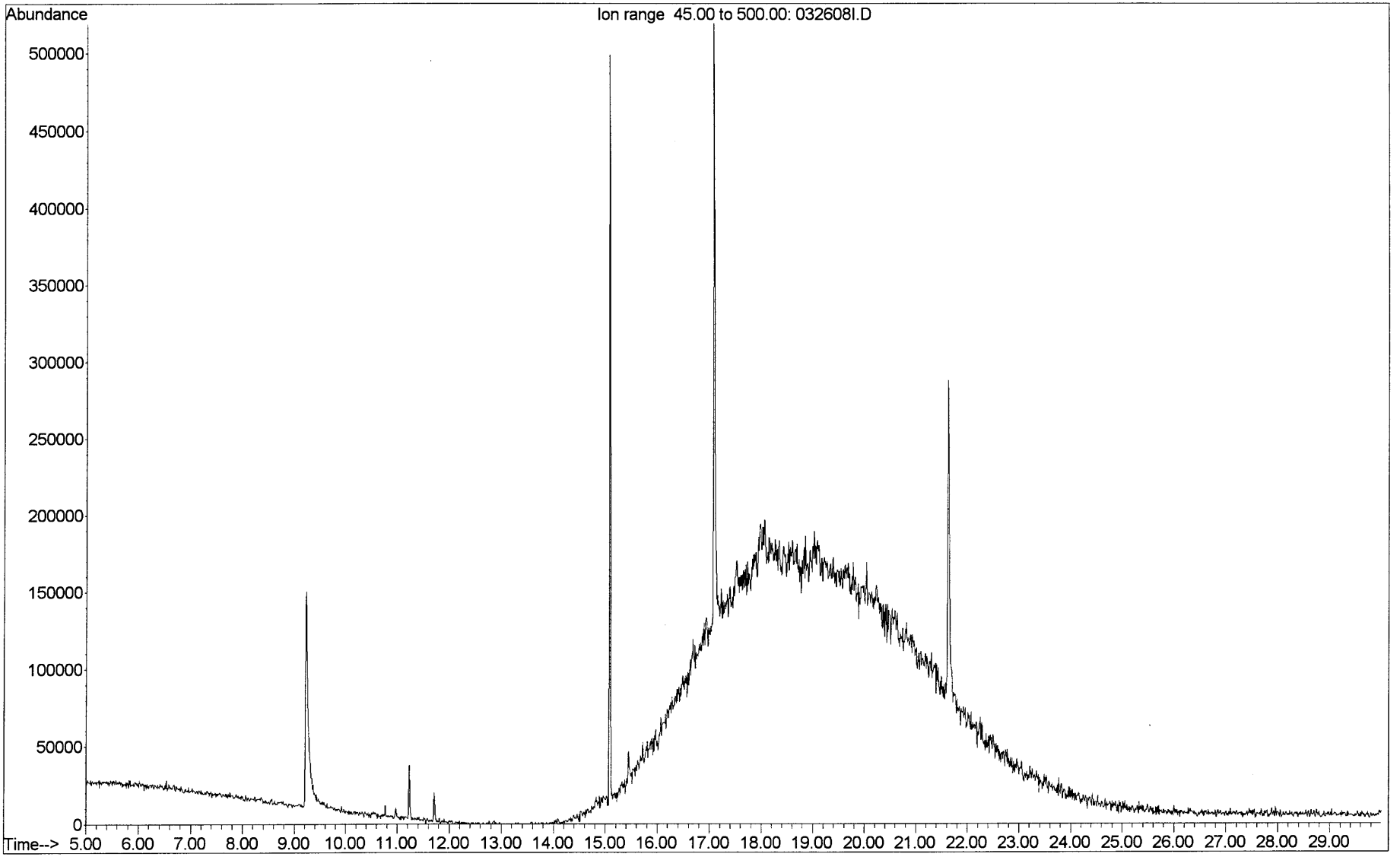
Sample Name: 23117-9 England/Avila
Misc Info : 1uL,1L CS-5



Sample Name: 23117-1 (FILTERED) England/Avila
Misc Info : 1uL,1L   OSS-1

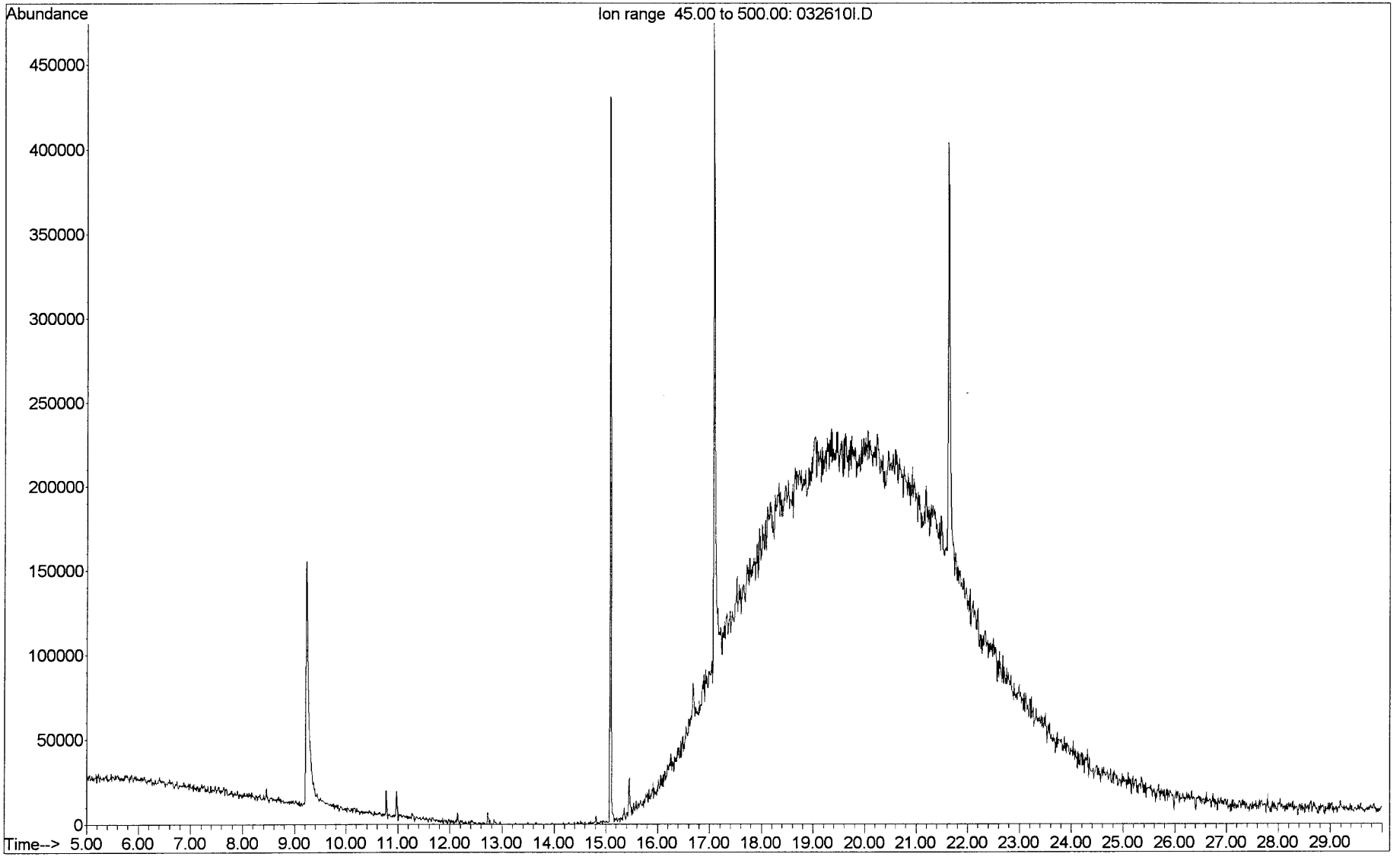


Sample Name: 23117-3 (FILTERED) England/Avila
Misc Info : 1uL,1L OSS-3

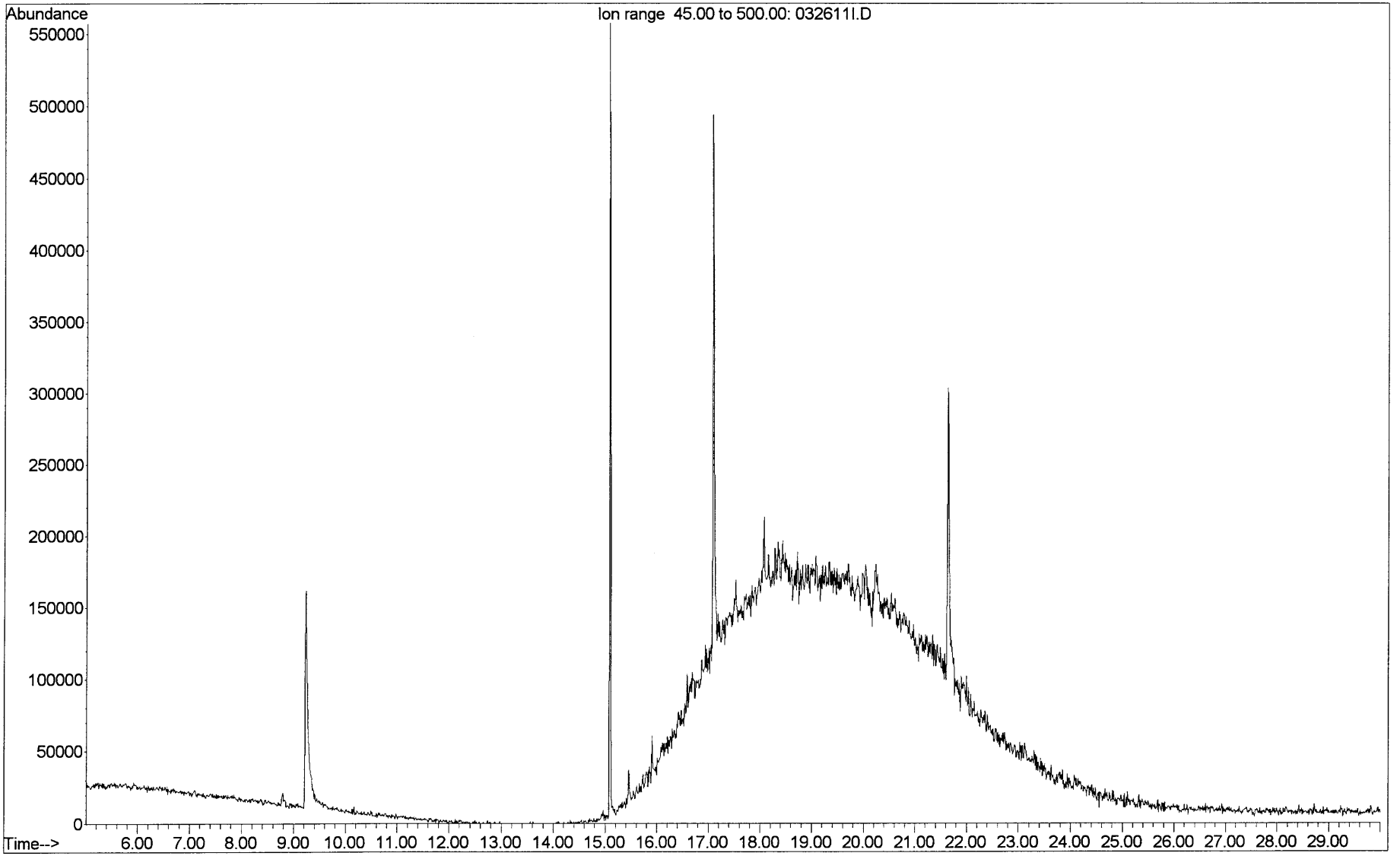


ZymaX

Sample Name: 23117-5 (FILTERED) England/Avila
Misc Info : 1uL,1L   CS-1

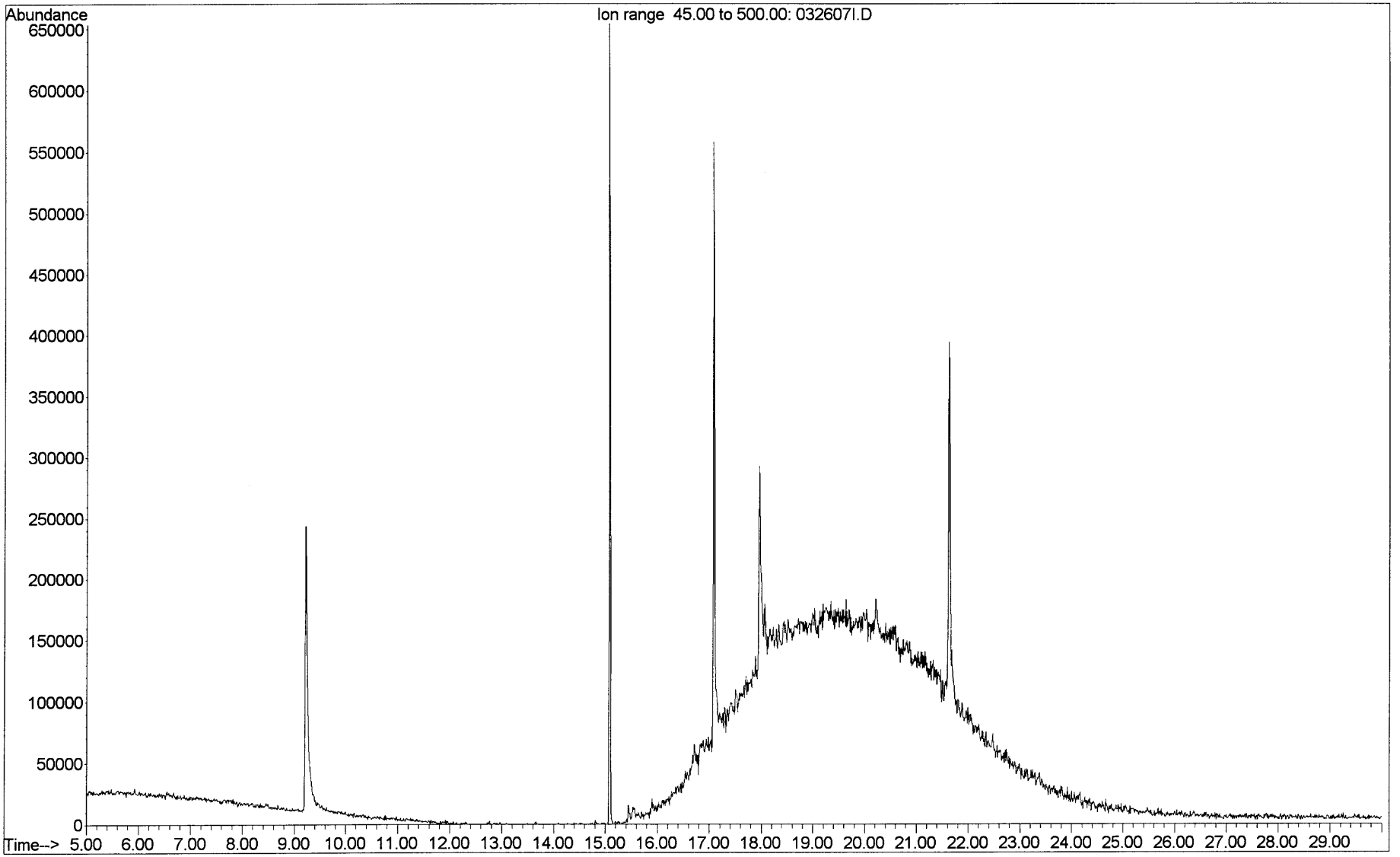


Sample Name: 23117-7 (FILTERED) England/Avila
Misc Info : 1uL,1L   CS-3



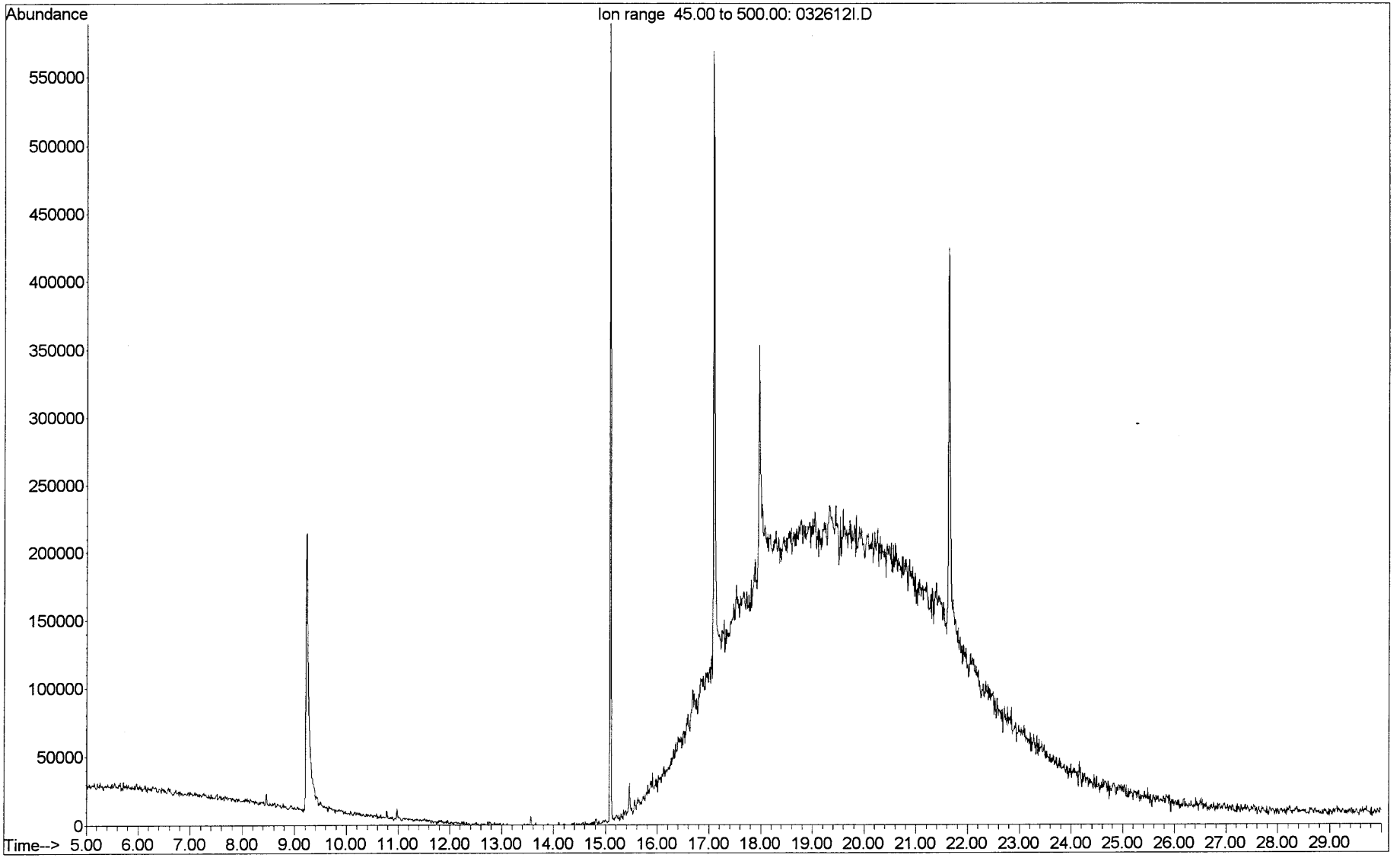
ZymaX

Sample Name: 23117-8 (FILTERED) England/Avila
Misc Info : 1uL,1L   CS-4



ZymaX

Sample Name: 23117-9 (FILTERED) England/Avila
Misc Info : 1uL,1L   CS-5



ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618
Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Lab Number:	See Below
Collected:	04/26/01
Received:	04/26/01
Matrix:	Aqueous
Sample Description:	See Below
Analyzed:	04/27/01
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
23656-1	CS-1	100.	ND	ND	89
23656-2	CS-2	100.	ND	ND	83
23656-3	CS-3	100.	530.	510.	85
23656-4	CS-4	100.	ND	ND	93
23656-5	CS-5	100.	ND	ND	102
23656-6	FIELD BLANK	100.	ND	ND	108

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 04/27/01.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

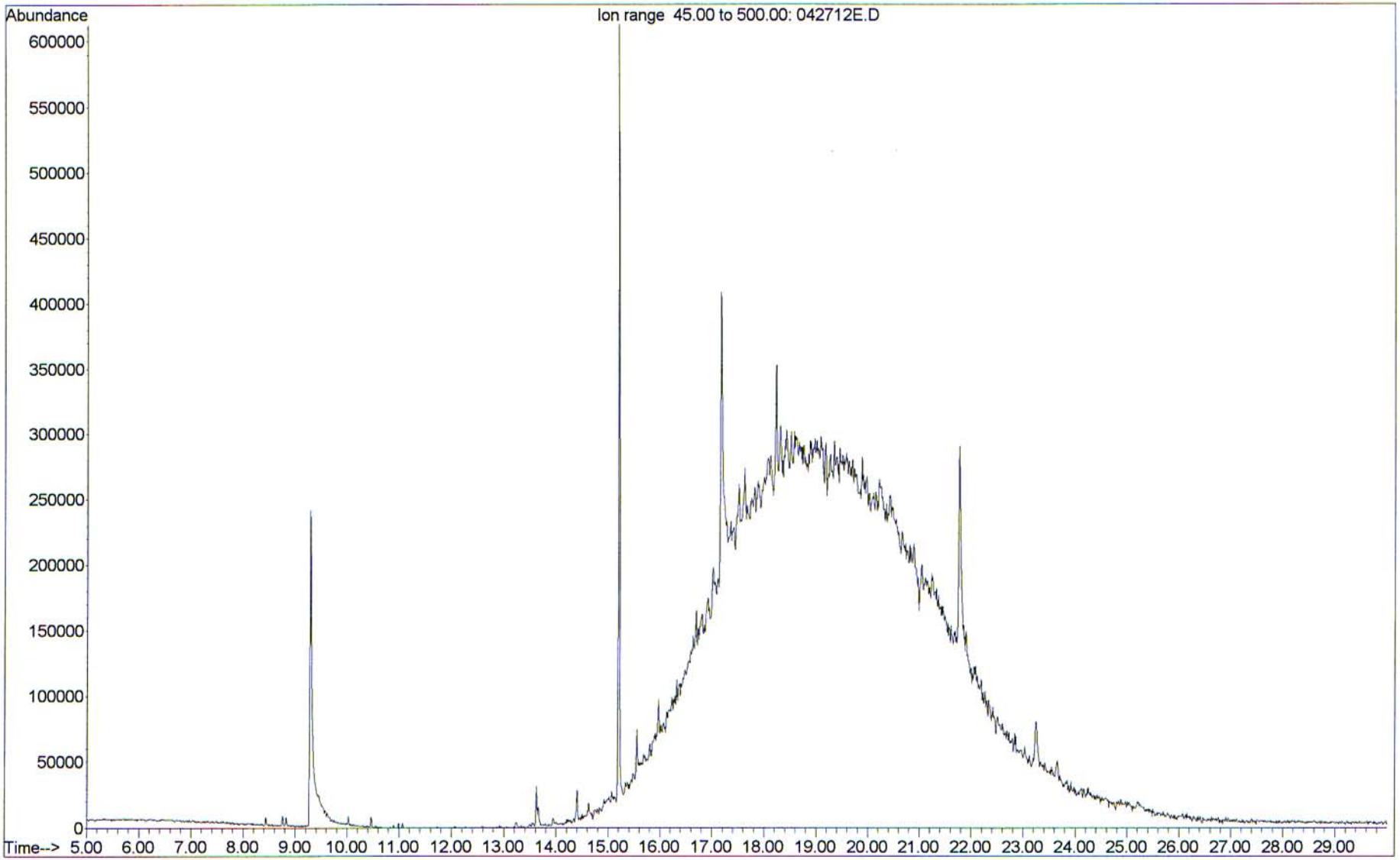
MSD #5
23656ta.xls
JMM/sw/dz/yl/ws

John MacMurphey
Laboratory Director

805.544.4696
www.ZymaXusa.com

71 Zaca Lane
San Luis Obispo CA 93401
fax 805.544.8226

Sample Name: 23656-3 England/Avila Station
Misc Info : 1uL,1L, CS-3



ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618	Lab Number: Collected: Received: Matrix:	See Below 04/26/01 04/26/01 Aqueous
Project: Project Number: Collected by:	Avila Station 526-A Mike Rendina	Sample Description: Analyzed: Method:	See Below 04/27/01 See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
23656-1	CS-1 (Filtered)	100.	ND	ND	105
23656-2	CS-2 (Filtered)	100.	ND	ND	103
23656-4	CS-4 (Filtered)	100.	ND	ND	103
23656-5	CS-5 (Filtered)	100.	ND	ND	102

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Samples were filtered prior to analysis.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 04/27/01.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #5
23656tf.xls
JMM/sw/dz/yl/ws

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San Luis Obispo CA 93401
fax 805.544.8226

ZymaX

71 Zaca Lane San Luis Obispo CA 93401 tel 805.544.4696 fax 805.544.8226

CHAIN of CUSTODY

UNOCAL

report to MICHAEL RENDINA	phone 949 453 8085	fax 949 453 0733
company ENGLAND & ASSOCIATES	project AVILA	
address 15375 BARRANCA AVE F-106 IRVINE CA 92618	project # 526-A	
	sampler M. RENDINA	

Turnaround Time: ASAP ☐ 48 hr ☒ 12 hr ☐ 72 hr ☐ 24 hr ☐ std ☐

ZymaX use only	SAMPLE DESCRIPTION	Date Sampled	Time	Matrix	Preserve	TPH(C6-C12)	TPH(C13-C24)	# of containers	Remarks
036601	CS-1	4/26/01	12:20	WATER	None	X	X	2	
-2	CS-2		12:30			X	X	2	
-3	CS-3		11:00			X	X	1	
-4	CS-4		11:35			X	X	2	
-5	CS-5		11:45			X	X	2	
-6	FIELD BLANK		12:43			X		1	

Comments

* Filter w/ glass fiber filter prior to extracting

Relinquished by:
Signature
Print Michael Rendina
Company England GeoSystems
Date 4-27-01 Time 1410

Received by:
Signature
Print
Company
Date Time

Sample integrity upon receipt:
Samples received intact ☑
Samples received cold ☐
Custody seals ☐
Correct container types ☑

AFE#:

Task #:

Site #:

Relinquished by:
Signature
Print
Company
Date Time

Received by ZymaX envirotechnology inc:
Signature
Print Andy Brandon
Company ZymaX
Date 4-26-01 Time 1410

email: zvmax@ZymaXusa.com

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207

Lab Number:	See Below
Collected:	02/22/02
Received:	02/22/02
Matrix:	Aqueous

Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Sample Description:	See Below
Analyzed:	02/28/02
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
26705-1	CS-2	100.	ND	ND	89

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 02/27/02.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #5
26705ta.xls
JMM/sw/jd/rb/pf

805.544.4696
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71 Zaca Lane
San Luis Obispo CA 93401
fax 805.544.8226

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207

Lab Number:	See Below
Collected:	02/22/02
Received:	02/22/02
Matrix:	Aqueous

Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Sample Description:	See Below
Analyzed:	02/28/02
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
26705-1	CS-2 (Filtered)	100.	ND	ND	87

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Samples were filtered prior to analysis.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 02/27/02.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #5
26705tf.xls
JMM/sw/jd/rb/pf

805.544.4696
www.ZymaXusa.com
71 Zaca Lane
San Luis Obispo CA 93401
fax 805.544.8226

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207
Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Lab Number:	See Below
Collected:	02/22/02
Received:	02/22/02
Matrix:	Aqueous
Sample Description:	See Below
Analyzed:	02/28/02
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
26705-1	CS-2 (Silica Gel)	100.	ND	ND	90

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 02/27/02.
Note: Cleanup performed on extract by EPA 3630 (Silica Gel) on 02/28/02.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #5
26705tg.xls
JMM/sw/jd/rb/pf

ZymaX envirotechnology

Client:	Mike Rendina
	England Geosystem, Inc.
	15375 Barranca Pkwy., Ste. F-106
	Irvine, CA 92618-2207

Lab Number:	26705-1
Collected:	02/22/02
Received:	02/22/02
Matrix:	Aqueous

Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Sample Description:	CS-2
Analyzed:	02/28/02
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #8
26705-1v.xls
JMM/sw/pv/lz

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207
Project:	Avila Station
Project Number:	526-A
Collected by:	Mike Rendina

Lab Number:	26705-1
Collected:	02/22/02
Received:	02/22/02
Matrix:	Aqueous
Sample Description:	CS-2
Analyzed:	02/28/02
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #8
26705-1v.xls
JMM/sw/pv/lz

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618-2207**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**26705-1** **02/22/02** **02/22/02** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526-A** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**CS-2** **02/28/02** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		99

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

MSD #8
26705-1v.xls
JMM/sw/pv/lz

John MacMurphey
Laboratory Director

CHAIN OF CUSTODY

DATE 2/22/02 PAGE 1 OF 1

ENGLAND GEOSYSTEM
ENVIRONMENTAL ENGINEERING
15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618 TEL (949) 453-8085 FAX (949) 453-0733

Project Manager: MIKE RENDINA

Bill To: JOHN Ljung

Company: UNOCAL

Address: SLO

Mike Rendina — Sampler's Signature

949 453 8085 — Phone Number

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
CS-B2Δ	2/22/02	1550	WATER	26705-1

	1L (H_2SO_4)/100g	1L (H_2SO_4)/100g	4oz (HCl)/50g	4oz (HCl)/50g	4oz (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	1L/50g	1L/100g	2X40ml (HCl)/100g	1L/100g	500ML/50g	500ml/100g	500ml/100g	500ml(HNO_3)/1L								
	TRPH (418.1)	Oil and Grease (413.2)	TPH (G) (MOD 8015)	TPH (D) (MOD 8015)	BTEX/MTBE (8021B)	BTEX (8260B)	MTBE (8260B) CONFIRMATION	Chlorinated Hydrocarbons (8010)	Pesticides/PCBs (8080)	Base/Neut/Acid Cmpds (8270)	VOCs (8260)	PAHs (8310)	Organic Pb	CCR Metals	Priority Pollutant Metals	General Minerals		TPH C_4-C_{10}	TPH C_{10}-C_{25} C_{25}-C_{40}	TPH C_{10}-C_{15} C_{15}-C_{40} (w/ Silica Gel)**	TPH C_{10}-C_{15} C_{25}-C_{40} (Filter)**					Number of Containers
CS-B2Δ											X							X	X	X	X					4

PROJECT INFORMATION	
Project Number:	526-A
Project Name:	AVILA
Purchase Order Number:	
VIA:	
TAT:	STD.

SAMPLE RECEIPT	
Total Number of Containers	4
Chain of Custody Seals Y/N/NA	
Intact? Y/N/NA	
Received in Good Condition/Cold	
Lab Number:	

SAMPLE DISPOSAL INSTRUCTIONS

COMMENTS: * TREAT EXTRACT w/ SILICA GEL AND TEST FOR C_{10}-C_{15} C_{25}-C_{40} TPH
** FILTER SAMPLE THRU TWO STACKED GLASS FIBER FILTERS, THEN EXTRACT AND TEST FOR C_{10}-C_{15} C_{25}-C_{40} TPH.

Δ CS-2 per M. Rendina 2-28-02 cm

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Mike Rendina Time: 1630	Signature: Time:	Signature: Time:
Printed Name: Mike Rendina Date: 2/22/02	Printed Name: Date:	Printed Name: Date:
Company: ENGLAND GEOSYSTEM	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: 3.**
Signature: Time: 1630	Signature: Time:	Signature: Time:
Printed Name: Date: 2/22/02	Printed Name: Date:	Printed Name: Date:
Company: Zymax	Company:	Company:

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207

Lab Number:	See Below
Collected:	04/01/03
Received:	04/01/03
Matrix:	Aqueous

Project:	Avila Station
Project Number:	526.008
Collected by:	Mike Rendina

Sample Description:	See Below
Analyzed:	04/09/03
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
31230-1	CS-2	100.	ND	ND	92

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 04/05/03.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #4
31230ta.xls
JMM/sw/yl/pe

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ENGLAND GEOSYSTEM
☐ ELECTRONIC ☐ SCAN

805.544.4696
www.ZymaXusa.com
71 Zaca Lane
San Luis Obispo CA 93401
fax 805.544.8226

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207	Lab Number: Collected: Received: Matrix:	See Below 04/01/03 04/01/03 Aqueous
Project: Project Number: Collected by:	Avila Station 526.008 Mike Rendina	Sample Description: Analyzed: Method:	See Below 04/08/03 See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
31230-1	CS-2 (Silica Gel)	100.	ND	ND	98

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 04/05/03.
Note: Cleanup performed on extract by EPA 3630 (Silica Gel) on 04/06/03.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #4
31230tg.xls
JMM/sw/yl/ag/pe

805.544.4696
www.ZymaXusa.com
71 Zaca Lane
San Luis Obispo CA 93401
fax 805.544.8226

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina
	England Geosystem, Inc.
	15375 Barranca Pkwy., Ste. F-106
	Irvine, CA 92618-2207

Lab Number:	31230-1
Collected:	04/01/03
Received:	04/01/03
Matrix:	Aqueous

Project:	Avila Station
Project Number:	526.008
Collected by:	Mike Rendina

Sample Description:	CS-2
Analyzed:	04/07/03
Method:	EPA 8270 (SIM)

CONSTITUENT	PQL* ug/L	RESULT** ug/L
POLYNUCLEAR AROMATIC HYDROCARBONS		
Acenaphthene	0.1	ND
Acenaphthylene	0.1	ND
Anthracene	0.1	ND
Benz (a) anthracene	0.1	ND
Benzo (b) fluoranthene	0.1	ND
Benzo (k) fluoranthene	0.1	ND
Benzo (a) pyrene	0.1	ND
Benzo (ghi) perylene	0.1	ND
Chrysene	0.1	ND
Dibenzo (a,h) anthracene	0.1	ND
Fluoranthene	0.1	ND
Fluorene	0.1	ND
Indeno (1,2,3-cd) pyrene	0.1	ND
Naphthalene	0.1	ND
Phenanthrene	0.1	ND
Pyrene	0.1	ND
Percent Surrogate Recovery		90

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Extracted by EPA 3510 on 04/05/03.

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #5
31230-1p.xls
JMM/sw/yl/ag/pe

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207
Project:	Avila Station
Project Number:	526.008
Collected by:	Mike Rendina

Lab Number:	31230-1
Collected:	04/01/03
Received:	04/01/03
Matrix:	Aqueous
Sample Description:	CS-2
Analyzed:	04/09/03
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #8
31230-1v.xls
JMM/sw/pv

Client:	Mike Rendina
	England Geosystem, Inc.
	15375 Barranca Pkwy., Ste. F-106
	Irvine, CA 92618-2207

Lab Number:	31230-1
Collected:	04/01/03
Received:	04/01/03
Matrix:	Aqueous

Project:	Avila Station
Project Number:	526.008
Collected by:	Mike Rendina

Sample Description:	CS-2
Analyzed:	04/09/03
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #8
31230-1v.xls
JMM/sw/pv

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207
Project:	Avila Station
Project Number:	526.008
Collected by:	Mike Rendina

Lab Number:	31230-1
Collected:	04/01/03
Received:	04/01/03
Matrix:	Aqueous
Sample Description:	CS-2
Analyzed:	04/09/03
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		88

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #8
31230-1v.xls
JMM/sw/pv

CHAIN OF CUSTODY

DATE 4/1/03 PAGE 1 OF 1

ENGLAND GEOSYSTEM
ENVIRONMENTAL ENGINEERING
15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618 TEL (949) 453-8085 FAX (949) 453-0733

Project Manager: M. RENDINA

Bill To: JOHN Ljung

Company: UNOCAL

Address: SLO

Michael A Rendina — Sampler's Signature

949 453 8085 — Phone Number

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
230-1 CS-2	4/1/03	17:00	H2O	

	1L (H_2SO_4)/100g	1L (H_2SO_4)/100g	4oz (HCl)/50g	4oz (HCl)/50g	4oz (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	1L/50g	1L/100g	2X40ml (HCl)/100g	1L/100g	500ML/50g	500ml/100g	500ml/100g	500ml(HNO_3)/1L									
	TRPH (418.1)	Oil and Grease (413.2)	TPH (G) (MOD 8015)	TPH (D) (MOD 8015)	BTEX/MTBE (8021B)	BTEX (8260B)	MTBE (8260B) CONFIRMATION	Chlorinated Hydrocarbons (8010)	Pesticides/PCBs (8080)	Base/Neut/Acid Cmpds (8270)	VOCs (8260)	PAHs (8310)	Organic Pb	CCR Metals	Priority Pollutant Metals	General Minerals	TPH (C_4-C_{10})(C_{10}-C_{25})(C_{25}-C_{40})	SILICA GEL TPH (C_{10}-C_{25})(C_{25}-C_{40})	PAHs - SIM							Number of Containers
230-1 CS-2											X						X	X	X							6

PROJECT INFORMATION

Project Number:	526.008
Project Name:	AVILA
Purchase Order Number:	
VIA:	
TAT:	STD.

SAMPLE RECEIPT

Total Number of Containers	6
Chain of Custody Seals Y/N/NA	
Intact? Y/N/NA	
Received in Good Condition/Cold	
Lab Number:	

SAMPLE DISPOSAL INSTRUCTIONS

COMMENTS:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Michael A Rendina Time: 1735	Signature: Time:	Signature: Time:
Printed Name: MICHAEL A. RENDINA Date: 4/1/03	Printed Name: Date:	Printed Name: Date:
Company: ENGLAND GEOSYSTEM	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: 3.**
Signature: Time: 1735	Signature: Time:	Signature: Time:
Printed Name: Amy Branham Date: 4/1/03	Printed Name: Date:	Printed Name: Date:
Company: Zymax	Company:	Company:

CHAIN OF CUSTODY

DATE 5/6/03 PAGE 1 OF 1

ENGLAND GEOSYSTEM
ENVIRONMENTAL ENGINEERING
15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618 TEL (949) 453-8085 FAX (949) 453-0733

Project Manager: MIKE RENDINA

Bill To: J. Ljung

Company: UNOCAL

Address: SLO TANK FARM

Mike Rendina (Sampler's Signature) 949 453 8085 (Phone Number)

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
CS-E	5/6/03	14:25	WATER	
CS-G	5/6/03	15:10	"	

	1L (H_2SO_4)/100g	1L (H_2SO_4)/100g	4oz (HCl)/50g	4oz (HCl)/50g	4oz (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	1L/50g	1L/100g	2X40ml (HCl)/100g	1L/100g	500ML/50g	500ml/100g	500ml/100g	500ml(HNO_3)/1L	TPH (C_4-C_{24}) (C_6-C_{35}) (C_{24}-C_{40})	PAHs by SIM	TPH (C_6-C_{40}) (C_{35}-C_{40}) SILICA GEL							Number of Containers
TRPH (418.1)																										
Oil and Grease (413.2)																										
TPH (G) (MOD 8015)			3														X	(1)	(1)							5
TPH (D) (MOD 8015)				6																						
BTEX/MTBE (8021B)					3																					
BTEX (8260B)						1																				
MTBE (8260B) CONFIRMATION						2																				
Chlorinated Hydrocarbons (8010)											X						X	(*)	(*)							5
Pesticides/PCBs (8080)																										
Base/Neut/Acid Cmpds (8270)																										
VOCs (8260) + MTBE																										
PAHs (8310)																										
Organic Pb																										
CCR Metals																										
Priority Pollutant Metals																										
General Minerals																										

PROJECT INFORMATION	
Project Number:	526.008
Project Name:	AVILA
Purchase Order Number:	
VIA:	
TAT:	

SAMPLE RECEIPT	
Total Number of Containers	10
Chain of Custody Seals Y/N/NA	
Intact? Y/N/NA	
Received in Good Condition/Cold	
Lab Number:	

SAMPLE DISPOSAL INSTRUCTIONS

COMMENTS: NOTE: (1) IF TPH (C_6-C_{40}) IS DETECTED IN INITIAL SAMPLE, ALSO TEST FOR PAHs by SIM AND TPH w/ SILICA GEL.

(*) Analyzed ~~per~~ based on TPH result.

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Mike Rendina Time: 1630	Signature: Time:	Signature: Time:
Printed Name: MIKE RENDINA Date: 5/6/03	Printed Name: Date:	Printed Name: Date:
Company: ENGLAND GEOSYSTEM	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: 3.**
Signature: Time: 1630	Signature: Time:	Signature: Time:
Printed Name: BUCKWALTER Date: 5/6/3	Printed Name: Date:	Printed Name: Date:
Company: ZYMAX	Company:	Company:

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207
Project:	Avila Station
Project Number:	526.008
Collected by:	Mike Rendina

Lab Number:	See Below
Collected:	05/06/03
Received:	05/06/03
Matrix:	Aqueous
Sample Description:	See Below
Analyzed:	05/13/03 - 05/14/03
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
31613-1	CS-E	100.	ND	ND	74
31613-2	CS-G	100.	130.	180.	83

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 05/10/03.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

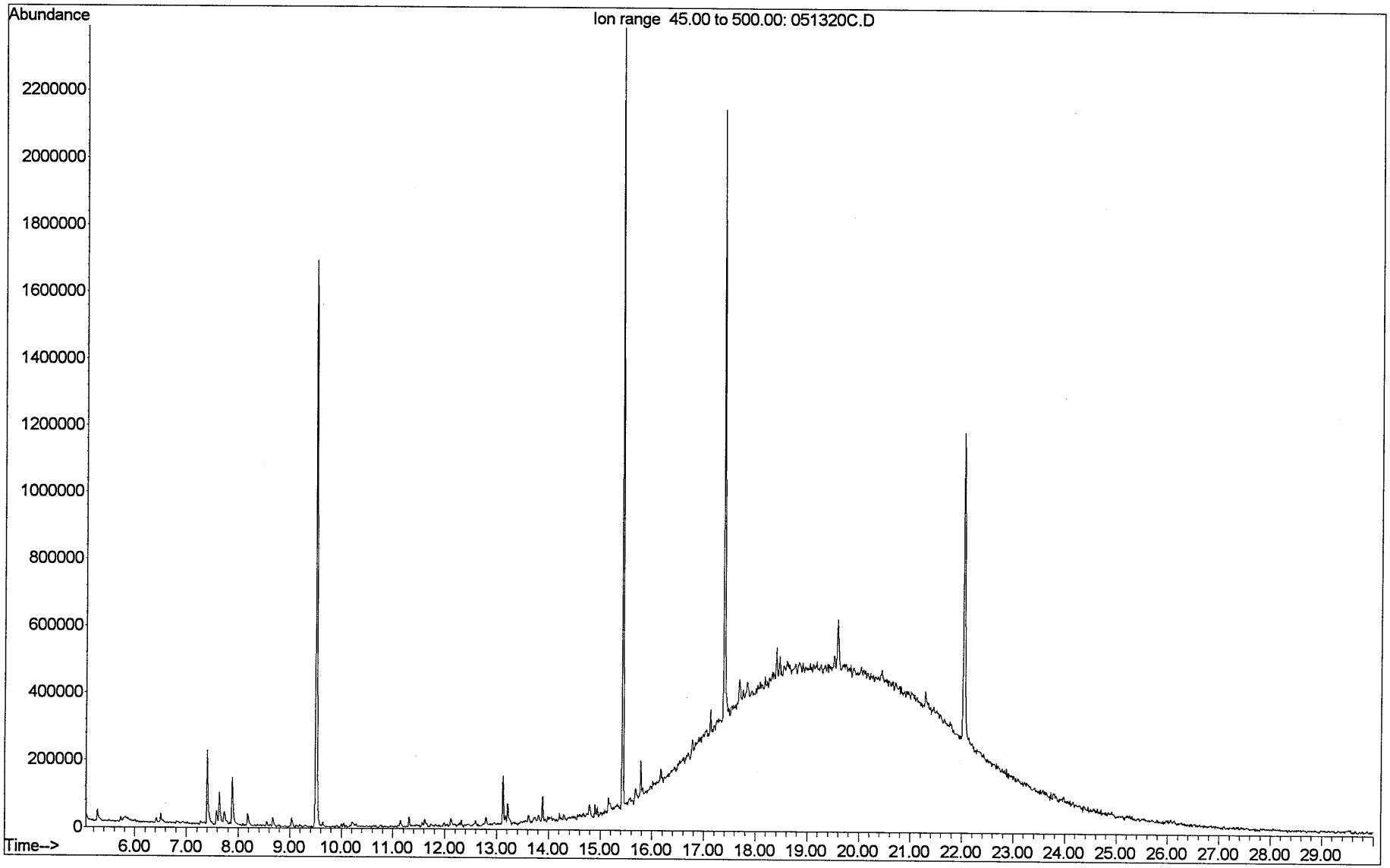
John MacMurphey
Laboratory Director

MSD #3
31613ta.xls
JMM/sks/ag/yl/am

805.544.4696
www.ZymaXusa.com

71 Zaca Lane
San Luis Obispo CA 93401
fax 805.544.8226

Sample Name: 31613-2 England/Avila Station
Misc Info : 1uL, 1L, CS-G



ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207
Project:	Avila Station
Project Number:	526.008
Collected by:	Mike Rendina

Lab Number:	See Below
Collected:	05/06/03
Received:	05/06/03
Matrix:	Aqueous
Sample Description:	See Below
Analyzed:	05/14/03
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
31613-2	CS-G(Silica Gel)	100.	ND	ND	76

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 05/10/03.
Note: Cleanup performed on extract by EPA 3630 (Silica Gel) on 05/13/03.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

MSD #5
31623tg.xls
JMM/sks/ag/yl/am

John MacMurphey
Laboratory Director

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618-2207**
Project:	**Avila Station**
Project Number:	**526.008**
Collected by:	**Mike Rendina**

Lab Number:	**31613-1**
Collected:	**05/06/03**
Received:	**05/06/03**
Matrix:	**Aqueous**
Sample Description:	**CS-E**
Analyzed:	**05/17/03**
Method:	**See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #8
31613-1v.xls
JMM/sks/pv/ccc

ZymaX envirotechnology

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618-2207**

Lab Number:	**31613-1**
Collected:	**05/06/03**
Received:	**05/06/03**
Matrix:	**Aqueous**

Project:	**Avila Station**
Project Number:	**526.008**
Collected by:	**Mike Rendina**

Sample Description:	**CS-E**
Analyzed:	**05/17/03**
Method:	**See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #8
31613-1v.xls
JMM/sks/pv/ccc

ZymaX envirotechnology

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207
Project:	Avila Station
Project Number:	526.008
Collected by:	Mike Rendina

Lab Number:	31613-1
Collected:	05/06/03
Received:	05/06/03
Matrix:	Aqueous
Sample Description:	CS-E
Analyzed:	05/17/03
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		95

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

MSD #8
31613-1v.xls
JMM/sks/pv/ccc

John MacMurphey
Laboratory Director

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	**Mike Rendina**
	England Geosystem, Inc.
	15375 Barranca Pkwy., Ste. F-106
	Irvine, CA 92618-2207

Lab Number:	**31613-2**
Collected:	**05/06/03**
Received:	**05/06/03**
Matrix:	**Aqueous**

Project:	**Avila Station**
Project Number:	**526.008**
Collected by:	**Mike Rendina**

Sample Description:	**CS-G**
Analyzed:	**05/15/03**
Method:	**EPA 8270 (SIM)**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
POLYNUCLEAR AROMATIC HYDROCARBONS		
Acenaphthene	0.1	ND
Acenaphthylene	0.1	ND
Anthracene	0.1	ND
Benz (a) anthracene	0.1	ND
Benzo (b) fluoranthene	0.1	ND
Benzo (k) fluoranthene	0.1	ND
Benzo (a) pyrene	0.1	ND
Benzo (ghi) perylene	0.1	ND
Chrysene	0.1	ND
Dibenzo (a,h) anthracene	0.1	ND
Fluoranthene	0.1	ND
Fluorene	0.1	ND
Indeno (1,2,3-cd) pyrene	0.1	ND
Naphthalene	0.1	ND
Phenanthrene	0.1	ND
Pyrene	0.1	ND
Percent Surrogate Recovery (o-Terphenyl)		71

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Extracted by EPA 3510 on 05/10/03.

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
ZymaX envirotechnology, inc.

SA3241
MSD #4
31613-2n.xls
JMM/sks/ag/yl/am

John MacMurphey
Laboratory Director

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618-2207**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**31613-2** **05/06/03** **05/06/03** **Aqueous**
Project: **Project Number:** **Collected by:**	**Avila Station** **526.008** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**CS-G** **05/15/03** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #8
31613-2v.xls
JMM/sks/pv/ccc/dk

Client: Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207	Lab Number: 31613-2 Collected: 05/06/03 Received: 05/06/03 Matrix: Aqueous
Project: Avila Station Project Number: 526.008 Collected by: Mike Rendina	Sample Description: CS-G Analyzed: 05/15/03 Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #8
31613-2v.xls
JMM/sks/pv/ccc/dk

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618-2207**
Project:	**Avila Station**
Project Number:	**526.008**
Collected by:	**Mike Rendina**

Lab Number:	**31613-2**
Collected:	**05/06/03**
Received:	**05/06/03**
Matrix:	**Aqueous**
Sample Description:	**CS-G**
Analyzed:	**05/15/03**
Method:	**See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		95

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

MSD #8
31613-2v.xls
JMM/sks/pv/ccc/dk

John MacMurphey
Laboratory Director

CHAIN OF CUSTODY

DATE 1/14/04 PAGE 1 OF 3

ENGLAND GEOSYSTEM
ENVIRONMENTAL ENGINEERING
15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618 TEL (949) 453-8085 FAX (949) 453-0733

Project Manager: MIKE RENDINA

Bill To: JOHN Ljung

Company: Unocal

Address: SLO TANK FARM

Sampler's Signature

714 345 1061
949 453 8085
Phone Number

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
S-27D-0.5	1/14/04	8:07	SOIL	
S-27D-2.5		8:20		
S-27C-0.5		8:35		
S-27C-2.5		8:42		
S-9A-0.5		10:50		
S-9A-2.5		11:05		
S-9C-0.5		11:11		
S-9C-2.5		11:23		
S-9B-0.5		11:32		
S-9B-2.5		11:45		
S-9D-0.5		13:14		
S-9D-2.5		13:30		
S-24C-0.5		14:32		

	1L (H_2SO_4)/100g	1L (H_2SO_4)/100g	4oz (HCl)/50g	4oz (HCl)/50g	4oz (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	1L/50g	1L/100g	2X40ml (HCl)/100g	1L/100g	500ML/50g	500ml/100g	500ml/100g	500ml(HNO_3)/1L									
	TRPH (418.1)	Oil and Grease (413.2)	TPH (G) (MOD 8015)	TPH (D) (MOD 8015)	BTEX/MTBE (8021B)	BTEX (8260B)	MTBE (8260B) CONFIRMATION	Chlorinated Hydrocarbons (8010)	Pesticides/PCBs (8080)	Base/Neut/Acid Cmpds (8270)	VOCs (8260)	PAHs (8310)	Organic Pb	CCR Metals (17 CAM)	Priority Pollutant Metals	General Minerals	% MOISTURE*	TPH (G-C_6 C_6-C_{12} C_{12}-C_{40})							Number of Containers
S-27D-0.5														X				X			34427-1				1
S-27D-2.5														X				X			-2				1
S-27C-0.5														X			⊗	X			-3				1
S-27C-2.5														X			⊗	X			-4				1
S-9A-0.5														X			⊗				-5				1
S-9A-2.5														X			⊗				-6				1
S-9C-0.5														X							-7				1
S-9C-2.5														X							-8				1
S-9B-0.5														X			⊗				-9				1
S-9B-2.5														X			⊗				-10				1
S-9D-0.5														X							-11				1
S-9D-2.5														X							-12				1
S-24C-0.5														X							-13				1

PROJECT INFORMATION

Project Number:	526.014
Project Name:	AVILA
Purchase Order Number:	
VIA:	
TAT:	STD

SAMPLE RECEIPT

Total Number of Containers	13
Chain of Custody Seals Y/N/NA	
Intact? Y/N/NA	
Received in Good Condition/Cold	
Lab Number:	

SAMPLE DISPOSAL INSTRUCTIONS

COMMENTS: * AS PER M.R. 1-16-4 B.T. ⊗

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time: 17:55	Signature: Time:	Signature: Time:
Printed Name: MIKE RENDINA Date: 1/14/04	Printed Name: Date:	Printed Name: Date:
Company: ENGLAND GEOSYSTEM	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: 3.
Signature: Time: 1755	Signature: Time:	Signature: Time:
Printed Name: C. Dahlquist Date: 1/14/04	Printed Name: Date:	Printed Name: Date:
Company: Zymax	Company:	Company:

CHAIN OF CUSTODY

DATE 1/14/04 PAGE 2 OF 3

ENGLAND GEOSYSTEM
ENVIRONMENTAL ENGINEERING
15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618 TEL (949) 453-8085 FAX (949) 453-0733

Project Manager: MIKE RENDINA

Bill To: JOHN LJUNG

Company: UNOCAL

Address: SEO TANK FARM

Mylan A Rendina
Sampler's Signature

CELL 714 345 1061
949 453 8085
Phone Number

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
S-24C-2.5'	1/14/04	14:30	SOIL	
S-24A-0.5		15:00		
S-24A-2.5		15:25		
S-24B-0.5		15:35		
S-24B-2.5		15:45		
S-45A-0.5	1/14/04	8:10	SOIL	
S-45A-2.5		8:20		
S-11D-0.5		8:35		
S-11D-2.5		8:45		
S-11C-0.5		13:00		
S-11C-~~2.5~~ 2.0		13:15	TAR	
S-11C-2.5		13:20	SOIL	
S-11B-0.5		13:45		

	1L (H_2SO_4)/100g	1L (H_2SO_4)/100g	4oz (HCl)/50g	4oz (HCl)/50g	4oz (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	1L/50g	1L/100g	2X40ml (HCl)/100g	1L/100g	500ML/50g	500ml/100g	500ml/100g	500ml(HNO_3)/1L									
	TRPH (418.1)	Oil and Grease (413.2)	TPH (G) (MOD 8015)	TPH (D) (MOD 8015)	BTEX/MTBE (8021B)	BTEX (8260B)	MTBE (8260B) CONFIRMATION	Chlorinated Hydrocarbons (8010)	Pesticides/PCBs (8080)	Base/Neut/Acid Cmpds (8270)	VOCs (~~8260~~) ~~8270 (SIM)~~	PAHs (8310) 8270 (SIM)	Organic Pb	CCR Metals (17 CAM)	Priority Pollutant Metals	General Minerals	HEXAVALENT CHROMIUM	TPH (C_4-C_{40} C_6-C_{12} C_{12}-C_{40})	% MOISTURE*							Number of Containers
S-24C-2.5'														X						34427-14					1
S-24A-0.5														X					⊗			-15			1
S-24A-2.5														X					⊗			-16			1
S-24B-0.5														X					⊗			-17			1
S-24B-2.5														X					⊗			-18			1
S-45A-0.5														X				X				-19			1
S-45A-2.5														X				X				-20			1
S-11D-0.5														X			X					-21			1
S-11D-2.5														X			X					-22			1
S-11C-0.5														X			X	X				-23			1
S-11C-~~2.5~~ 2.0											~~X~~	X		X			X	X				-24			1
S-11C-2.5														X			X	X				-25			1
S-11B-0.5														X			X		⊗			-26			1

PROJECT INFORMATION

Project Number:	526.014
Project Name:	AVILA
Purchase Order Number:	
VIA:	
TAT:	STD

SAMPLE RECEIPT

Total Number of Containers	13
Chain of Custody Seals Y/N/NA	
Intact? Y/N/NA	
Received in Good Condition/Cold	
Lab Number:	

SAMPLE DISPOSAL INSTRUCTIONS

COMMENTS: * AS PER M.R. 1-16-4 BA. ⊗

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Mylan Rendina Time: 17:55	Signature: Time:	Signature: Time:
Printed Name: MIKE RENDINA Date: 1/14/04	Printed Name: Date:	Printed Name: Date:
Company: ENGLAND GEOSYSTEM	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: 3.
Signature: Time: 1755	Signature: Time:	Signature: Time:
Printed Name: C. Dahlquist Date: 1/14/04	Printed Name: Date:	Printed Name: Date:
Company: Cymat	Company:	Company:

CHAIN OF CUSTODY

DATE 1/14/04 PAGE 3 OF 3

ENGLAND GEOSYSTEM
ENVIRONMENTAL ENGINEERING
15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618 TEL (949) 453-8085 FAX (949) 453-0733

Project Manager: MIKE RENDINA

Bill To: JOHN Ljung

Company: UNOCAL

Address: SLO TANK FARM

Sampler's Signature

CELL 714 345 1061
949 453 8085
Phone Number

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
S-11B-2.5	1/14/04	13:55	SOIL	
S-11A-0.5		14:35		
S-11A-2.5		14:50		
SP-3-6'		15:06	SOIL GAS	
SP-3-6' DUP		15:15		
SP-1-6'		16:04		
BG-1		15:55		
CS-A	1/14/04	11:35	WATER	

	1L (H_2SO_4)/100g	1L (H_2SO_4)/100g	4oz (HCl)/50g	4oz (HCl)/50g	4oz (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	1L/50g	1L/100g 3L SUMMA	2X40ml (HCl)/100g	1L/100g	500ML/50g	500ml/100g	500ml/100g	500ml(HNO_3)/1L										Number of Containers
	TRPH (418.1)	Oil and Grease (413.2)	TPH (G) (MOD 8015)	TPH (D) (MOD 8015)	BTEX/MTBE (8021B)	BTEX (8260B)	MTBE (8260B) CONFIRMATION	Chlorinated Hydrocarbons (8010)	Pesticides/PCBs (8080)	Base/Neut/Acid Cmpds (8270)	VOCs (8260) TO-14	PAHs (8310)	Organic Pb	CCR Metals 17 CAM METALS	Priority Pollutant Metals	General Minerals	HEXAVALENT CHROMIUM	TPH (C_4-C_{40} C_6-C_{35} C_{35}-C_{40})	VOCs (8260) 40 ml x 2	TPH (C_4-C_{40} C_6-C_{35} C_{35}-C_{40})(1)	% MOISTURE*					
S-11B-2.5											X			X			X			X	34427-27				1
S-11A-0.5											X			X			X			X	-28				1
S-11A-2.5											X			X			X			X	-29				1
SP-3-6'											X										-30				1
SP-3-6' DUP											X										-31				1
SP-1-6'											X										-32				1
BG-1											X										-33				1
CS-A																		X	X	X	-34				5

PROJECT INFORMATION

Project Number:	526.014
Project Name:	AVILA
Purchase Order Number:	
VIA:	
TAT:	STD

SAMPLE RECEIPT

Total Number of Containers	
Chain of Custody Seals Y/N/NA	
Intact? Y/N/NA	
Received in Good Condition/Cold	
Lab Number:	

SAMPLE DISPOSAL INSTRUCTIONS

.

COMMENTS: (1) TREAT EXTRACT W/ SILICA GEL PRIOR TO TESTING
* AS PER M.R. 1-16-4 DA. (X) (+) Not needed per M. Rendina 1-16-04 DA

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time: 17:55	Signature: Time:	Signature: Time:
Printed Name: MIKE RENDINA Date: 1/14/04	Printed Name: Date:	Printed Name: Date:
Company: ENGLAND GEOSYSTEM	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: 3.**
Signature: Time: 1755	Signature: Time:	Signature: Time:
Printed Name: C. Dahlquist Date: 1/14/04	Printed Name: Date:	Printed Name: Date:
Company: Zymax	Company:	Company:

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207
Project:	Unocal - Avila Station
Project Number:	
Collected by:	Mike Rendina

Lab Number:	See Below
Collected:	01/14/04
Received:	01/14/04
Matrix:	Aqueous
Sample Description:	See Below
Analyzed:	01/19/04
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
34427-34	CS-A	100.	ND	ND	87

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 01/16/04.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #5
34427ta.xls
JMM/sks/kg/sd/ec/hnb

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207
Project:	Unocal - Avila Station
Project Number:	
Collected by:	Mike Rendina

Lab Number:	See Below
Collected:	01/14/04
Received:	01/14/04
Matrix:	Aqueous
Sample Description:	See Below
Analyzed:	01/21/04
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
34427-34	CS-A (Silica Gel)	100.	ND	ND	85

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 01/16/04.
Note: Cleanup performed on extract by EPA 3630 (Silica Gel) on 01/16/04.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #5
34427tg.xls
JMM/sks/kg/sd/ec/hnb

ZymaX envirotechnology

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207
Project:	Unocal - Avila Station
Project Number:	
Collected by:	Mike Rendina

Lab Number:	34427-34
Collected:	01/14/04
Received:	01/14/04
Matrix:	Aqueous
Sample Description:	CS-A
Analyzed:	01/15/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
3442734v.xls
JMM/sks/pv/ra/sm

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618-2207**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**34427-34** **01/14/04** **01/14/04** **Aqueous**
Project: **Project Number:** **Collected by:**	**Unocal - Avila Station** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**CS-A** **01/15/04** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
3442734v.xls
JMM/sks/pv/ra/sm

ZymaX envirotechnology

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618-2207**
Project:	**Unocal - Avila Station**
Project Number:	
Collected by:	**Mike Rendina**

Lab Number:	**34427-34**
Collected:	**01/14/04**
Received:	**01/14/04**
Matrix:	**Aqueous**
Sample Description:	**CS-A**
Analyzed:	**01/15/04**
Method:	**See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		97

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #2
3442734v.xls
JMM/sks/pv/ra/sm

CHAIN OF CUSTODY

DATE 1/15/04 PAGE 1 OF 1

ENGLAND GEOSYSTEM
ENVIRONMENTAL ENGINEERING
15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618 TEL (949) 453-8085 FAX (949) 453-0733

Project Manager: MIKE RENDINA

Bill To: JOHN Ljung

Company: UNOCAL

Address: SLO TANK FARM

Sampler's Signature

714 345 1061
949 453 8085
Phone Number

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
GS-1-0'	1/15/04	8:05	TAR/SOIL	34435-1
GS-1-2.5'		8:14	SOIL	-2
GS-1-4'		8:30	SOIL	-3
GS-2-1'		8:13	TAR/SOIL	-4
~~GS~~ GS-3-2'		9:31	SOIL	-5
GS-3-5'		8:45	SOIL	-6
GS-3-6'		9:10	SOIL	-7
GS-4-2.5'		9:41	TAR	-8
GS-4-6'		10:15	SOIL	-9
GS-5-2'		9:40	TAR	-10
GS-5-2.5'		9:44	SOIL	-11
CS-E		12:00	WATER	-12
CS-I	"	12:30	WATER	-13

	TRPH (418.1)	Oil and Grease (413.2)	TPH (G) (MOD 8015)	TPH (D) (MOD 8015)	BTEX/MTBE (8021B)	BTEX (8260B)	MTBE (8260B) CONFIRMATION	Chlorinated Hydrocarbons (8010)	Pesticides/PCBs (8080)	Base/Neut/Acid Cmpds (8270)	VOCs (8260)	PAHs (~~8310~~) 8270 (SIM)(2)	Organic Pb	CCR Metals	Priority Pollutant Metals	General Minerals	TPH (G-C6 C6-C8 C8-C40)	TPH (~~C6~~ C6 C8-C40)(1)	Tetraethyl Lead (3) - Test for TEL if Total Lead > 25 mg/kg	Moisture (%)	Number of Containers
	1L (H_2SO_4)/100g	1L (H_2SO_4)/100g	4oz (HCl)/50g	4oz (HCl)/50g	4oz (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	1L/50g	1L/100g	2X40ml (HCl)/100g	1L/100g	500ML/50g	500ml/100g	500ml/100g	500ml(HNO_3)/1L					
GS-1-0'												(2)		X			X		(3)		1
GS-1-2.5'												X		X			X			X	1
GS-1-4'												X		X			X			X	1
GS-2-1'												X		X			X				1
GS-3-2'														X			X			X	1
GS-3-5'														X			X			X	1
GS-3-6'														X			X			X	1
GS-4-2.5'												X		X			X				1
GS-4-6'														X			X			X	1
GS-5-2'												X		X			X				1
GS-5-2.5'												X		X			X			X	1
CS-E											X						X	X			5
CS-I											X						X	X			5

PROJECT INFORMATION	
Project Number:	526.014
Project Name:	AVILA
Purchase Order Number:	
VIA:	
TAT:	STD.

SAMPLE RECEIPT	
Total Number of Containers	21
Chain of Custody Seals Y/N/NA	
Intact? Y/N/NA	
Received in Good Condition/Cold	
Lab Number:	

SAMPLE DISPOSAL INSTRUCTIONS

(△) - TEL add-on per results Due 2-20-04 (⊕) - not needed per M. Rendina 1-16-04-DH

COMMENTS: (1) TREAT W/ SILICA GEL PRIOR TO ANALYSIS
(2) TEST SAMPLES FOR PAHs (SIM) if TPH > 1,000

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time: 1345	Signature: Time:	Signature: Time:
Printed Name: Date: 1/15/04	Printed Name: Date:	Printed Name: Date:
Company: ENGLAND GEOSYSTEM	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: 3.**
Signature: Time: 1345	Signature: Time:	Signature: Time:
Printed Name: Date: 1/15/04	Printed Name: Date:	Printed Name: Date:
Company: Zymax	Company:	Company:

TEA ... PAHs SIM added per results 1/20/04 DH

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207

Lab Number:	See Below
Collected:	01/15/04
Received:	01/15/04
Matrix:	Aqueous

Project:	Unocal - Avila Station
Project Number:	
Collected by:	Mike Rendina

Sample Description:	See Below
Analyzed:	01/19/04
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
34435-12	CS-E	100.	ND	ND	81
34435-13	CS-I	100.	ND	ND	87

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 01/16/04.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #5
34435ta.xls
JMM/sks/kg/yl/sd/ec/hnb

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207
Project:	Unocal - Avila Station
Project Number:	
Collected by:	Mike Rendina

Lab Number:	See Below
Collected:	01/15/04
Received:	01/15/04
Matrix:	Aqueous
Sample Description:	See Below
Analyzed:	01/20/04 - 01/21/04
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
34435-12	CS-E (Silica Gel)	100.	ND	ND	94
34435-13	CS-I (Silica Gel)	100.	ND	ND	93

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 01/16/04.
Note: Cleanup performed on extract by EPA 3630 (Silica Gel) on 01/16/04.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #9
34435tg.xls
JMM/sks/kg/ec/sd/hnb

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618-2207**	**Lab Number:** **Collected:** **Received:** **Matrix:**	**34435-12** **01/15/04** **01/15/04** **Aqueous**
Project: **Project Number:** **Collected by:**	**Unocal - Avila Station** **Mike Rendina**	**Sample Description:** **Analyzed:** **Method:**	**CS-E** **01/16/04** **See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
3443512v.xls
JMM/sks/pv/sm/ra

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618-2207**
Project:	**Unocal - Avila Station**
Project Number:	
Collected by:	**Mike Rendina**

Lab Number:	**34435-12**
Collected:	**01/15/04**
Received:	**01/15/04**
Matrix:	**Aqueous**
Sample Description:	**CS-E**
Analyzed:	**01/16/04**
Method:	**See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
3443512v.xls
JMM/sks/pv/sm/ra

ZymaX envirotechnology

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618-2207**
Project:	**Unocal - Avila Station**
Project Number:	
Collected by:	**Mike Rendina**

Lab Number:	**34435-12**
Collected:	**01/15/04**
Received:	**01/15/04**
Matrix:	**Aqueous**
Sample Description:	**CS-E**
Analyzed:	**01/16/04**
Method:	**See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		98

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #2
3443512v.xls
JMM/sks/pv/sm/ra

ZymaX envirotechnology

Client:	Mike Rendina
	England Geosystem, Inc.
	15375 Barranca Pkwy., Ste. F-106
	Irvine, CA 92618-2207

Lab Number:	34435-13
Collected:	01/15/04
Received:	01/15/04
Matrix:	Aqueous

Project:	Unocal - Avila Station
Project Number:	
Collected by:	Mike Rendina

Sample Description:	CS-I
Analyzed:	01/16/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
3443513v.xls
JMM/sks/pv/sm/ra

ZymaX envirotechnology

Client:	Mike Rendina England Geosystem, Inc. 15375 Barranca Pkwy., Ste. F-106 Irvine, CA 92618-2207
Project:	Unocal - Avila Station
Project Number:	
Collected by:	Mike Rendina

Lab Number:	34435-13
Collected:	01/15/04
Received:	01/15/04
Matrix:	Aqueous
Sample Description:	CS-I
Analyzed:	01/16/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
3443513v.xls
JMM/sks/pv/sm/ra

ZymaX envirotechnology

Client:	**Mike Rendina** **England Geosystem, Inc.** **15375 Barranca Pkwy., Ste. F-106** **Irvine, CA 92618-2207**
Project:	**Unocal - Avila Station**
Project Number:	
Collected by:	**Mike Rendina**

Lab Number:	**34435-13**
Collected:	**01/15/04**
Received:	**01/15/04**
Matrix:	**Aqueous**
Sample Description:	**CS-I**
Analyzed:	**01/16/04**
Method:	**See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		93

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #2
3443513v.xls
JMM/sks/pv/sm/ra

ZymaX — CHAIN of CUSTODY

71 Zaca Lane
San Luis Obispo CA 93401
vox 805.544.4696
fax 805.544.8226

CLIENT EDD ☐ LUFT EDF ☐ DW EDT ☐

report to MIKE KENDINA	vox (949) 933 6031	fax
company	proj AVILA	
address 16 TECHNOLOGY #154 IRVINE CA 92618	proj # 526	
	sampler MIKE KENDINA	

Turnaround Time

ASAP ☐ 48 hr ☐ 12 hr ☐ 72 hr ☐ 24 hr ☐ std ☐

ZymaX use only	SAMPLE DESCRIPTION	Date Sampled	Time	Matrix	Preserve	TPH (C4-C10-C15-C36)	TPH (C10-C15-C40)	VOCs (8260)	SULFATE	# of containers	Remarks
34813-1	RAIN GAUGE	2/18/04	13:50	H2O	NONE				X	1	
-2	CS-A	2/18/04	14:37	"	HCL/NONE	X	(1)	X		4	
-3	CS-E	2/18/04	15:07	"	"	X	(1)	X		4	
-4	CS-G	2/18/04	15:50	"	"	X	(1)	X		4	

Comments
(1) IF TPH > ND, TREAT EXTRACT W/ SILICA GEL AND TEST FOR C_{10}-C_{40} HYDROCARBONS.

Relinquished by:
Signature Mike Kendina
Print MIKE KENDINA
Company
Date 2/18/04 Time 17:15

Received by:
Signature
Print
Company
Date Time

Sample integrity upon receipt:
Samples received intact ☐
Samples received cold ☐
Custody seals ☐
Correct container types ☐

Bill 3rd party: JOHN LJUNG UNOCAL SLO TANK FARM
PO#:
Quote yes no

Relinquished by:
Signature
Print
Company
Date Time

Received by ZymaX envirotechnology, inc:
Signature
Print C. Dahlquist
Company ZymaX
Date 2/18/04 Time 1715

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	
Mike Rendina	
16 Technology #154	
Irvine, CA 92618	

Lab Number:	See Below
Collected:	02/18/04
Received:	02/18/04
Matrix:	Aqueous

Project:	Unocal - Avila Station
Project Number:	526
Collected by:	Mike Rendina

Sample Description:	See Below
Analyzed:	02/25/04
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
34813-2	CS-A	100.	ND	ND	81
34813-3	CS-E	100.	ND	ND	87
34813-4	CS-G	100.	ND	ND	93

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 02/25/04.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #4
34813t.xls
JMM/sks/kg/yl/sd/hb/cr

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	
	Mike Rendina
	16 Technology #154
	Irvine, CA 92618

Lab Number:	34813-1
Collected:	02/18/04
Received:	02/18/04
Matrix:	Aqueous

Project:	Unocal - Avila Station
Project Number:	526
Collected by:	Mike Rendina

Sample Description:	RAIN GAUGE
Analyzed:	02/23/04
Method:	EPA 300.0

CONSTITUENT	PQL* mg/L	RESULT** mg/L
Sulfate	0.5	4.3

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

34813-1i.xls
JMM/sks/mm/ss

805.544.4696
www.ZymaXusa.com
71 Zaca Lane
San Luis Obispo CA 93401
fax 805.544.8226

ZymaX envirotechnology

Client:	
Mike Rendina	
16 Technology #154	
Irvine, CA 92618	
Project:	Unocal - Avila Station
Project Number:	526
Collected by:	Mike Rendina

Lab Number:	34813-2
Collected:	02/18/04
Received:	02/18/04
Matrix:	Aqueous
Sample Description:	CS-A
Analyzed:	02/25/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #12
34813-2v.xls
JMM/sks/pv/ra/ds

ZymaX envirotechnology

Client:	
Mike Rendina	
16 Technology #154	
Irvine, CA 92618	

Lab Number:	34813-2
Collected:	02/18/04
Received:	02/18/04
Matrix:	Aqueous

Project:	Unocal - Avila Station
Project Number:	526
Collected by:	Mike Rendina

Sample Description:	CS-A
Analyzed:	02/25/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #12
34813-2v.xls
JMM/sks/pv/ra/ds

ZymaX envirotechnology

Client:	
	Mike Rendina
	16 Technology #154
	Irvine, CA 92618

Lab Number:	34813-2
Collected:	02/18/04
Received:	02/18/04
Matrix:	Aqueous

Project:	Unocal - Avila Station
Project Number:	526
Collected by:	Mike Rendina

Sample Description:	CS-A
Analyzed:	02/25/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		99

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #12
34813-2v.xls
JMM/sks/pv/ra/ds

ZymaX envirotechnology

Client:	
	Mike Rendina
	16 Technology #154
	Irvine, CA 92618

Lab Number:	34813-3
Collected:	02/18/04
Received:	02/18/04
Matrix:	Aqueous

Project:	Unocal - Avila Station
Project Number:	526
Collected by:	Mike Rendina

Sample Description:	CS-E
Analyzed:	02/25/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #12
34813-3v.xls
JMM/sks/pv/ra/ds

ZymaX envirotechnology

Client:	
Mike Rendina	
16 Technology #154	
Irvine, CA 92618	

Lab Number:	34813-3
Collected:	02/18/04
Received:	02/18/04
Matrix:	Aqueous

Project:	Unocal - Avila Station
Project Number:	526
Collected by:	Mike Rendina

Sample Description:	CS-E
Analyzed:	02/25/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #12
34813-3v.xls
JMM/sks/pv/ra/ds

ZymaX envirotechnology

Client:	
	Mike Rendina
	16 Technology #154
	Irvine, CA 92618

Lab Number:	34813-3
Collected:	02/18/04
Received:	02/18/04
Matrix:	Aqueous

Project:	Unocal - Avila Station
Project Number:	526
Collected by:	Mike Rendina

Sample Description:	CS-E
Analyzed:	02/25/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		85

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #12
34813-3v.xls
JMM/sks/pv/ra/ds

ZymaX envirotechnology

Client:	
Mike Rendina	
16 Technology #154	
Irvine, CA 92618	

Lab Number:	34813-4
Collected:	02/18/04
Received:	02/18/04
Matrix:	Aqueous

Project:	Unocal - Avila Station
Project Number:	526
Collected by:	Mike Rendina

Sample Description:	CS-G
Analyzed:	02/25/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #12
34813-4v.xls
JMM/sks/pv/ra/ds

ZymaX envirotechnology

Client:	
Mike Rendina	
16 Technology #154	
Irvine, CA 92618	

Lab Number:	34813-4
Collected:	02/18/04
Received:	02/18/04
Matrix:	Aqueous

Project:	Unocal - Avila Station
Project Number:	526
Collected by:	Mike Rendina

Sample Description:	CS-G
Analyzed:	02/25/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #12
34813-4v.xls
JMM/sks/pv/ra/ds

ZymaX envirotechnology

Client:	
Mike Rendina	
16 Technology #154	
Irvine, CA 92618	

Lab Number:	34813-4
Collected:	02/18/04
Received:	02/18/04
Matrix:	Aqueous

Project:	Unocal - Avila Station
Project Number:	526
Collected by:	Mike Rendina

Sample Description:	CS-G
Analyzed:	02/25/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		103

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #12
34813-4v.xls
JMM/sks/pv/ra/ds

CHAIN of CUSTODY

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71 Zaca Lane
San Luis Obispo CA 93401
vox 805.544.4696
fax 805.544.8226

BILL TO: JOHN Kjung
UNOCAL
SLO TRANSFARM

CLIENT EDD ☐ LUFT EDF ☐ DW EDT ☐

report to MICHAEL RENDINA	vox (949) 296 0977	fax 949 296 0975
company AGUEST ENVIRONMENTAL	proj AVILA	
address 16 TECHNOLOGY STE 154 IRVINE CA 92718	proj # 1007.005	
	sampler MIKE RENDINA	

ANALYSIS REQUESTED

Turnaround Time

ASAP ☐ 48 hr ☐
12 hr ☐ 72 hr ☐
24 hr ☐ std ☑

ZymaX use only	SAMPLE DESCRIPTION	Date Sampled	Time	Matrix	Preserve	TPH (C4-C12 Gx)	TPH (C13-C24 Dx)	VOCs (8260)	TPH (C4-C12 Gx) (1)	# of containers	Remarks
35017-1	CS-A	3/9/04	16:00	WATER	NONE/HCL	X		X	(1)	5	
									40 min		

Comments
(1) If C6-C40 TPH > 100 µg/L, treat extract w/ silica gel and re-run.

Relinquished by:
Signature: Mike Rendina
Print: MIKE RENDINA
Company: AGUEST ENVIRONMENTAL
Date: 3/9/04 Time: 1645

Received by:
Signature
Print
Company
Date Time

Relinquished by:
Signature
Print
Company
Date Time

Received by ZymaX envirotechnology, inc:
Signature
Print: Billy J. Atkins
Company: ZYMAX
Date: 3-9-4 Time: 1645

Sample integrity upon receipt:
Samples received intact ☐
Samples received cold ☐
Custody seals ☐
Correct container types ☐

Bill 3rd party:
UNOCAL CORP.
JOHN Kjung

PO#:
Quote yes no

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618
Project:	Unocal - Avila Station
Project Number:	1007.005
Collected by:	Mike Rendina

Lab Number:	See Below
Collected:	03/09/04
Received:	03/09/04
Matrix:	Aqueous
Sample Description:	See Below
Analyzed:	03/16/04
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
35017-1	CS-A	100.	ND	ND	74

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 03/15/04.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #4
35017t.xls
JMM/sks/kg/yl/sd/ns

805.544.4696
www.ZymaXusa.com
71 Zaca Lane
San Luis Obispo CA 93401
fax 805.544.9226

ZymaX envirotechnology

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	35017-1
Collected:	03/09/04
Received:	03/09/04
Matrix:	Aqueous

Project:	Unocal - Avila Station
Project Number:	1007.005
Collected by:	Mike Rendina

Sample Description:	CS-A
Analyzed:	03/11/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
35017-1v.xls
JMM/sks/pv/ra/jp

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618
Project:	Unocal - Avila Station
Project Number:	1007.005
Collected by:	Mike Rendina

Lab Number:	35017-1
Collected:	03/09/04
Received:	03/09/04
Matrix:	Aqueous
Sample Description:	CS-A
Analyzed:	03/11/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
35017-1v.xls
JMM/sks/pv/ra/jp

Client:	**Mike Rendina** **Avocet Environmental, Inc.** **16 Technology, Ste. 154** **Irvine, CA 92618**

Lab Number:	**35017-1**
Collected:	**03/09/04**
Received:	**03/09/04**
Matrix:	**Aqueous**

Project:	**Unocal - Avila Station**
Project Number:	**1007.005**
Collected by:	**Mike Rendina**

Sample Description:	**CS-A**
Analyzed:	**03/11/04**
Method:	**See Below**

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		99

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #2
35017-1v.xls
JMM/sks/pv/ra/jp

NUCLEI ENVIRONMENTAL
16 TECHNOLOGY, SUITE 154

CHAIN OF CUSTODY

DATE 4/14/04 PAGE 1 OF 1

~~ENGLAND & ASSOCIATES~~
~~15375 Barranca Parkway, Suite F-106, Irvine, California 92618~~
~~TEL (949) 450-0685 FAX (949) 453-0733~~
IRVINE, CA 92618

Project Manager: MICHAEL RENDINA

Bill To: JOHN LUSH

Company: Unocal

Address: SLO TANK FARM

Michael A Rendina — Sampler's Signature

949 296 0977 — Phone Number

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
CS-A	4/14/04	8:45	LIQUID	35405-1

	1L (H_2SO_4)/100g	1L (H_2SO_4)/100g	4oz (HCl)/50g	4oz (HCl)/50g	4oz (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	2X40ml (HCl)/50g	1L/50g	1L/100g	2X40ml (HCl)/100g	1L/100g	500ML/50g	500ml/100g	500ml/100g	500ml(HNO_3)/1L										
	TRPH (418.1)	Oil and Grease (413.2)	TPH (G) (MOD 8015)	TPH (D) (MOD 8015)	BTEX/MTBE (8021B)	BTEX (8260B)	MTBE (8260B) CONFIRMATION	Chlorinated Hydrocarbons (8010)	Pesticides/PCBs (8080)	Base/Neut/Acid Cmpds (8270)	VOCs (8260)	PAHs (8310)	Organic Pb	CCR Metals	Priority Pollutant Metals	General Minerals		TPH ($G-C_{10}$ $C_{10}-C_{28}$ $C_{28}-C_{40}$)	1* TPH ($C_{10}-C_{40}$) + SILICA GEL							Number of Containers
CS-A											X							X	1*							5

PROJECT INFORMATION

Project Number:	1007.001
Project Name:	AVILA
Purchase Order Number:	
VIA:	
TAT:	STD.

SAMPLE RECEIPT

Total Number of Containers	5
Chain of Custody Seals Y/N/NA	
Intact? Y/N/NA	
Received in Good Condition/Cold	
Lab Number:	

SAMPLE DISPOSAL INSTRUCTIONS

COMMENTS: 1* - IF TPH ($C_{10}-C_{40}$) IS DETECTED, TREAT W/ SILICA GEL AND TEST FOR TPH ($C_{28}-C_{40}$).

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Michael A Rendina Time: 9:30	Signature: Time:	Signature: Time:
Printed Name: MICHAEL A. RENDINA Date: 4/14/04	Printed Name: Date:	Printed Name: Date:
Company: ENGLAND & ASSOCIATES	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: 3.**
Signature: Time: 9:30	Signature: Time:	Signature: Time:
Printed Name: Billy J. Adkins 4-14-4 Date:	Printed Name: Date:	Printed Name: Date:
Company: ZYMAX	Company:	Company:

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Michael Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	See Below
Collected:	04/14/04
Received:	04/14/04
Matrix:	Aqueous

Project:	Unocal - Avila Station
Project Number:	1007.001
Collected by:	Michael Rendina

Sample Description:	See Below
Analyzed:	04/20/04
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
35405-1	CS-A	100.	ND	ND	103

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 04/19/04.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #4
35405t.xls
JMM/sks/kg/sd/yl/ap

Client:	Michael Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618	Lab Number: Collected: Received: Matrix:	35405-1 04/14/04 04/14/04 Aqueous
Project: Project Number: Collected by:	Unocal - Avila Station 1007.001 Michael Rendina	Sample Description: Analyzed: Method:	CS-A 04/21/04 See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
35405-1v.xls
JMM/sks/pv/ra

Client:	Michael Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	35405-1
Collected:	04/14/04
Received:	04/14/04
Matrix:	Aqueous

Project:	Unocal - Avila Station
Project Number:	1007.001
Collected by:	Michael Rendina

Sample Description:	CS-A
Analyzed:	04/21/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
35405-1v.xls
JMM/sks/pv/ra

Client:	Michael Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	35405-1
Collected:	04/14/04
Received:	04/14/04
Matrix:	Aqueous

Project:	Unocal - Avila Station
Project Number:	1007.001
Collected by:	Michael Rendina

Sample Description:	CS-A
Analyzed:	04/21/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		97

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #2
35405-1v.xls
JMM/sks/pv/ra

CHAIN of CUSTODY

Zymax
71 Zaca Lane
San Luis Obispo CA 93401
vox 805.544.4696
fax 805.544.8226

CLIENT EDD ☐ LUFT EDF ☐ DW EDT ☐

report to MICHAEL RENDINA	vox (949) 296-0977	fax 949 296 0978
company AVOCET ENVIRONMENTAL, INC.	proj 1007.01.01	
address 16 TECHNOLOGY DRIVE, STE 154 IRVINE CA 92618	proj # AVICA CLIFF SPRINGS	
	sampler MIKE RENDINA	

ANALYSIS REQUESTED

Turnaround Time

ASAP ☐ 48 hr ☐
12 hr ☐ 72 hr ☐
24 hr ☐ std ☒

ZymaX use only	SAMPLE DESCRIPTION	Date Sampled	Time	Matrix	Preserve	TPH(C10-C28) C6-C12 (8260)	VOCs	# of containers	Remarks
35760-1	CS-A	5/13/04	16:15	UQ		X	X	3	

Comments
NOTE: IF TPH (C_{10}-C_{40}) IS DETECTED, TREAT W/ SILICA GEL + RE-TEST.

Relinquished by:
Signature [signature]
Print MICHAEL A. RENDINA
Company AVOCET
Date 5/13/04 Time 1650

Received by:
Signature
Print
Company
Date Time

Relinquished by:
Signature
Print
Company
Date Time

Received by ZymaX envirotechnology, inc:
Signature [signature]
Print C. Dahlquist
Company Zymax
Date 5/13/04 Time 1650

Sample integrity upon receipt:
Samples received intact ☐
Samples received cold ☐
Custody seals ☐
Correct container types ☐

Bill 3rd party:
JOHN KUNG
UNOCAL
SLO TANK FARM

PO#:
Quote yes no

email: login@ZymaXusa.com

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Michael Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	See Below
Collected:	05/13/04
Received:	05/13/04
Matrix:	Aqueous

Project:	Unocal Avila Cliff Springs
Project Number:	1007.01.01
Collected by:	Michael Rendina

Sample Description:	See Below
Analyzed:	05/21/04
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
35760-1	CS-A	100.	ND	ND	84

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 05/19/04.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #4
35760t.xls
JMM/sks/kg/ec/yl/ap

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Michael Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	35760-1
Collected:	05/13/04
Received:	05/13/04
Matrix:	Aqueous

Project:	Unocal Avila Cliff Springs
Project Number:	1007.01.01
Collected by:	Michael Rendina

Sample Description:	CS-A
Analyzed:	05/21/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

***PQL - Practical Quantitation Limit**

****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
35760-1v.xls
JMM/sks/ra

Client:	Michael Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	35760-1
Collected:	05/13/04
Received:	05/13/04
Matrix:	Aqueous

Project:	Unocal Avila Cliff Springs
Project Number:	1007.01.01
Collected by:	Michael Rendina

Sample Description:	CS-A
Analyzed:	05/21/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #2
35760-1v.xls
JMM/sks/ra

Client:	Michael Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	35760-1
Collected:	05/13/04
Received:	05/13/04
Matrix:	Aqueous

Project:	Unocal Avila Cliff Springs
Project Number:	1007.01.01
Collected by:	Michael Rendina

Sample Description:	CS-A
Analyzed:	05/21/04
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		103

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #2
35760-1v.xls
JMM/sks/ra

CHAIN of CUSTODY

ZymaX
71 Zaca Lane
San Luis Obispo CA 93401
vox 805.544.4696
fax 805.544.8226

CLIENT EDD ☐ LUFT EDF ☐ DW EDT ☐

report to MICHAEL RENDINA	vox (949) 296 0977	fax 949 296 0977
company AVOCET ENVIRONMENTAL	proj 1114.001	
address 16 TECHNOLOGY, SUITE 154, IRVINE CA 92618	proj # AVILA TANK FARM	
	sampler MIKE RENDINA	

Turnaround Time

ASAP ☐ 48 hr ☐ 12 hr ☐ 72 hr ☐ 24 hr ☐ std ☒

ZymaX use only	SAMPLE DESCRIPTION	Date Sampled	Time	Matrix	Preserve	TPH (C4-C10)	TPH(C10-C36 - C36-C40)	VOCs (8260)	TPH(C10-C40) SILICA GEL	PAHs (8270 SIM)	# of containers	Remarks
38669-1	CS-A	1/12/05	17:45	H2O		⊗	⊗	⊗	Δ	Δ	3	Δ Added
-2	CS-G	〃	18:10	〃		〃	〃	〃	(1)	(1)	3	per results.
-3	CS-C	〃	18:30	〃		〃	〃	〃	Δ	Δ	3	(MD) 1/25/05
	(C4-C40)											

Comments
(1) IF TPH IS DETECTED, TREAT EXTRACT W/ SILICA GEL AND RE-RUN FOR TPH (C10-C40). ALSO TEST FOR PAHs by SIM (IF TPH IS DETECTED). ⊗ 1/13/05 per M. Rendina Rush.

Sample integrity upon receipt:
- Samples received intact ☒
- Samples received cold ☒
- Custody seals ☐
- Correct container types ☒

Bill 3rd party: UNOCAL, RICK RITTENBERG
7°C
PO#: _____
Quote yes no

Relinquished by:
Signature _____
Print MICHAEL RENDINA
Company AVOCET ENVIRONMENTAL
Date 1/13/05 Time 8:45

Relinquished by:
Signature _____
Print _____
Company _____
Date _____ Time _____

Received by:
Signature _____
Print _____
Company _____
Date _____ Time _____

Received by ZymaX envirotechnology, inc:
Signature _____
Print _____
Company ZymaX
Date 1-13-05 Time 0845

email: login@ZymaXusa.com

ZymaX envirotechnology, inc.

February 3, 2005

RECEIVED
FEB 08 2005
AVOCET ENVIRONMENTAL, INC.

Mike Rendina
Avocet Environmental, Inc.
16 Technology, Ste. 154
Irvine, CA 92618

Subject: Unocal Avila Tank Farm, ZymaX Lab ID 38669

Dear Mr. Rendina:

For samples ID CS-A and CS-C, ZymaX Lab ID 38669-1 and 38669-3 respectively, the surrogate recoveries for the PNA-SIM and silica gel treated TPH-diesel/crude oil were below the QC limit of 50%. The low surrogate recoveries were due to emulsion problem encountered during sample extraction. The samples were re-analyzed and the re-analysis results yielded similarly low surrogate recoveries. It should be noted that the low surrogate recoveries suggest that the reported PNA-SIM and TPH-diesel/crude oil results might be correspondingly underestimated.

If you have any questions, feel free to call me at (805) 544-4696.

Sincerely,
ZymaX envirotechnology, inc.

Michael Ng
Acting Lab Director

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618
Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	Mike Rendina

Lab Number:	See Below
Collected:	01/12/05
Received:	01/13/05
Matrix:	Aqueous
Sample Description:	See Below
Analyzed:	01/28/2005
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
38669-1	CS-A	100.	ND	ND	39
38669-3	CS-C	100.	ND	ND	52

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 01/14/05.
Note: Cleanup performed on extract by EPA 3630 (Silica Gel) on 01/27/05.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

MSD #6
38669ts.xls
MN/sks/tl/cj/kr

Michael Ng
Acting Laboratory Director

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	38669-1
Collected:	01/12/05
Received:	01/13/05
Matrix:	Aqueous

Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	Mike Rendina

Sample Description:	CS-A
Analyzed:	01/28/05
Method:	EPA 8270 (SIM)

CONSTITUENT	PQL* ug/L	RESULT** ug/L
POLYNUCLEAR AROMATIC HYDROCARBONS		
Acenaphthene	0.1	ND
Acenaphthylene	0.1	ND
Anthracene	0.1	ND
Benz (a) anthracene	0.1	ND
Benzo (b) fluoranthene	0.1	ND
Benzo (k) fluoranthene	0.1	ND
Benzo (a) pyrene	0.1	ND
Benzo (ghi) perylene	0.1	ND
Chrysene	0.1	ND
Dibenzo (a,h) anthracene	0.1	ND
Fluoranthene	0.1	ND
Fluorene	0.1	ND
Indeno (1,2,3-cd) pyrene	0.1	ND
Naphthalene	0.1	ND
Phenanthrene	0.1	ND
Pyrene	0.1	ND
Percent Surrogate Recovery (o-Terphenyl)		42

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Extracted by EPA 3510 on 01/14/05.

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
ZymaX envirotechnology, inc.

Michael Ng
Acting Laboratory Director

MSD #5
38669-1o.xls
MN/sks/tl/yl/cj/cr

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618
Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	Mike Rendina

Lab Number:	38669-3
Collected:	01/12/05
Received:	01/13/05
Matrix:	Aqueous
Sample Description:	CS-C
Analyzed:	01/28/05
Method:	EPA 8270 (SIM)

CONSTITUENT	PQL* ug/L	RESULT** ug/L
POLYNUCLEAR AROMATIC HYDROCARBONS		
Acenaphthene	0.1	ND
Acenaphthylene	0.1	ND
Anthracene	0.1	ND
Benz (a) anthracene	0.1	ND
Benzo (b) fluoranthene	0.1	ND
Benzo (k) fluoranthene	0.1	ND
Benzo (a) pyrene	0.1	ND
Benzo (ghi) perylene	0.1	ND
Chrysene	0.1	ND
Dibenzo (a,h) anthracene	0.1	ND
Fluoranthene	0.1	ND
Fluorene	0.1	ND
Indeno (1,2,3-cd) pyrene	0.1	ND
Naphthalene	0.1	ND
Phenanthrene	0.1	ND
Pyrene	0.1	ND
Percent Surrogate Recovery (o-Terphenyl)		44

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 3510 on 01/14/05.

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
ZymaX envirotechnology, inc.

Michael Ng
Acting Laboratory Director

MSD #5
38669-3o.xls
MN/sks/tl/cj/cr

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618
Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	Mike Rendina

Lab Number:	See Below
Collected:	01/12/05
Received:	01/13/05
Matrix:	Aqueous
Sample Description:	See Below
Analyzed:	01/17/05
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
38669-1	CS-A	100.	330.	590.	55
38669-2	CS-G	100.	ND	ND	87
38669-3	CS-C	100.	390.	670.	60

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

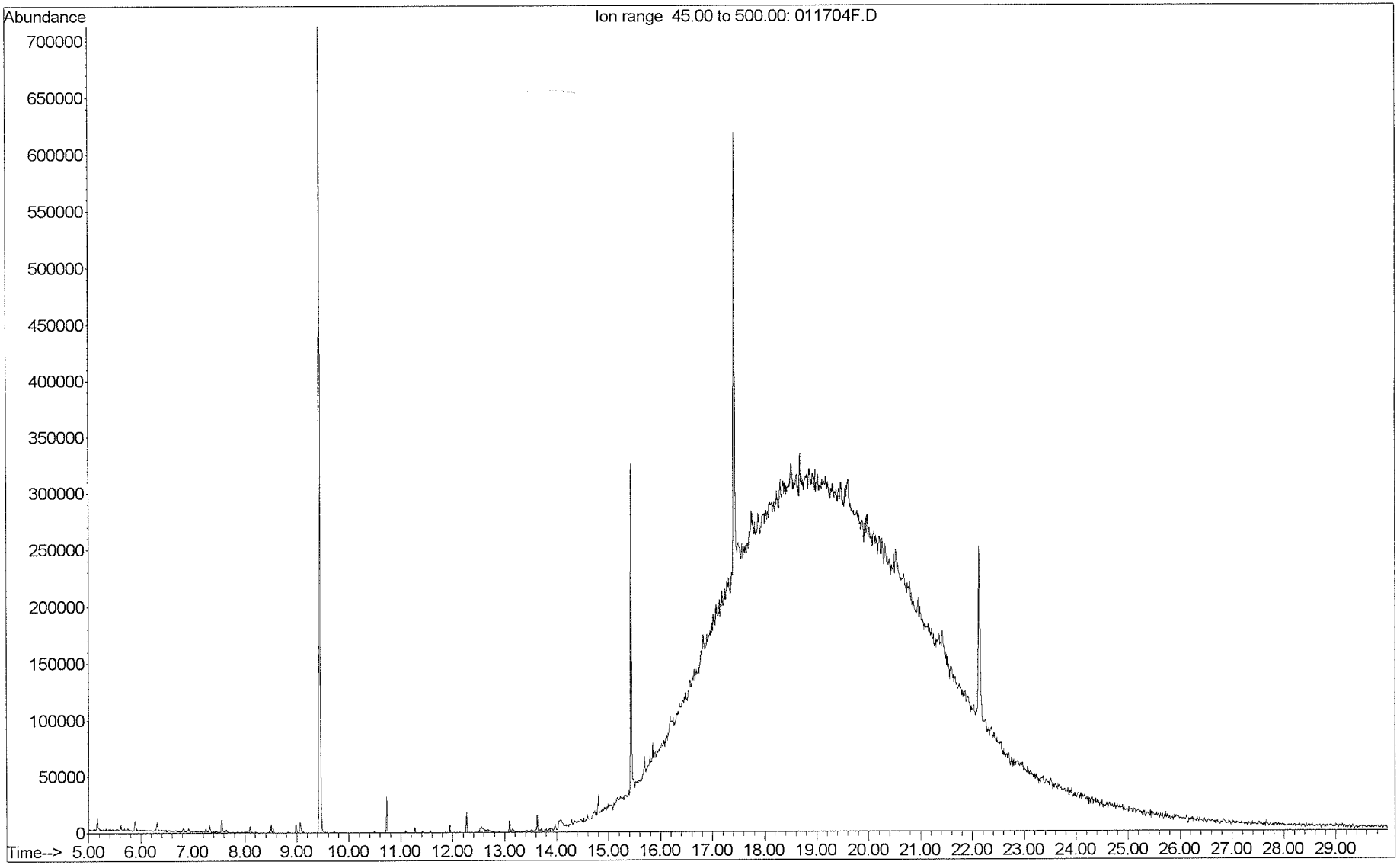
Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 01/14/05.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

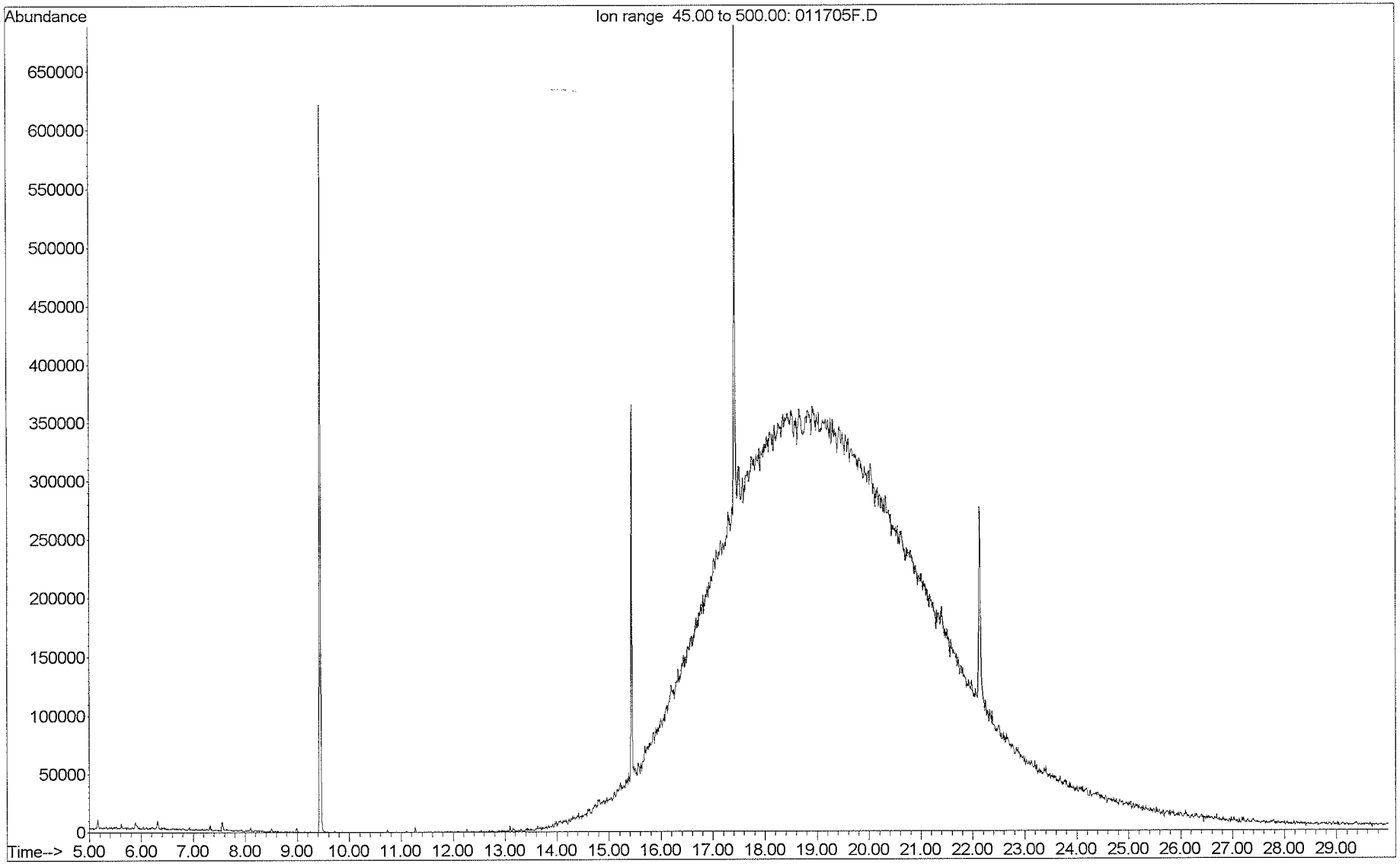
Michael Ng
Acting Laboratory Director

MSD #6
35017t.xls
MN/sks/yl/tl/cr

Sample Name: 38669-1 Avocet/Avila Tank Farm
Misc Info : 1uL, 1L, CS-A



Sample Name: 38669-3 Avocet/Avila Tank Farm
Misc Info : 1uL, 1L, CS-C



ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina
	Avocet Environmental, Inc.
	16 Technology, Ste. 154
	Irvine, CA 92618

Lab Number:	38669-1
Collected:	01/12/05
Received:	01/13/05
Matrix:	Aqueous

Project:	Unocal
	Avila Tank Farm
Project Number:	1114.001
Collected by:	Mike Rendina

Sample Description:	
	CS-A
Analyzed:	01/18/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #8
38669-1v.xls
MN/sks/ra/aw/dk

ZymaX envirotechnology

Client:	Mike Rendina
	Avocet Environmental, Inc.
	16 Technology, Ste. 154
	Irvine, CA 92618

Lab Number:	38669-1
Collected:	01/12/05
Received:	01/13/05
Matrix:	Aqueous

Project:	Unocal
	Avila Tank Farm
Project Number:	1114.001
Collected by:	Mike Rendina

Sample Description:	
	CS-A
Analyzed:	01/18/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #8
38669-1v.xls
MN/sks/ra/aw/dk

ZymaX envirotechnology

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	38669-1
Collected:	01/12/05
Received:	01/13/05
Matrix:	Aqueous

Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	Mike Rendina

Sample Description:	CS-A
Analyzed:	01/18/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		116

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

Michael Ng
Acting Laboratory Director

MSD #8
38669-1v.xls
MN/sks/ra/aw/dk

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina
	Avocet Environmental, Inc.
	16 Technology, Ste. 154
	Irvine, CA 92618

Lab Number:	38669-2
Collected:	01/12/05
Received:	01/13/05
Matrix:	Aqueous

Project:	Unocal
	Avila Tank Farm
Project Number:	1114.001
Collected by:	Mike Rendina

Sample Description:	
	CS-G
Analyzed:	01/14/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #8
38669-2v.xls
MN/sks/ra/mjl

ZymaX envirotechnology

Client:	Mike Rendina
	Avocet Environmental, Inc.
	16 Technology, Ste. 154
	Irvine, CA 92618

Lab Number:	38669-2
Collected:	01/12/05
Received:	01/13/05
Matrix:	Aqueous

Project:	Unocal
	Avila Tank Farm
Project Number:	1114.001
Collected by:	Mike Rendina

Sample Description:	
	CS-G
Analyzed:	01/14/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #8
38669-2v.xls
MN/sks/ra/mjl

ZymaX envirotechnology

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618
Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	Mike Rendina

Lab Number:	38669-2
Collected:	01/12/05
Received:	01/13/05
Matrix:	Aqueous
Sample Description:	CS-G
Analyzed:	01/14/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		105

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

Michael Ng
Acting Laboratory Director

MSD #8
38669-2v.xls
MN/sks/ra/mjl

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	38669-3
Collected:	01/12/05
Received:	01/13/05
Matrix:	Aqueous

Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	Mike Rendina

Sample Description:	CS-C
Analyzed:	01/22/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #12
38669-3v.xls
MN/sks/ra/msa/cb

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	38669-3
Collected:	01/12/05
Received:	01/13/05
Matrix:	Aqueous

Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	Mike Rendina

Sample Description:	CS-C
Analyzed:	01/22/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #12
38669-3v.xls
MN/sks/ra/msa/cb

ZymaX envirotechnology

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618
Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	Mike Rendina

Lab Number:	38669-3
Collected:	01/12/05
Received:	01/13/05
Matrix:	Aqueous
Sample Description:	CS-C
Analyzed:	01/22/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		94

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

MSD #12
38669-3v.xls
MN/sks/ra/msa/cb

Michael Ng
Acting Laboratory Director

CHAIN of CUSTODY

ZymaX
71 Zaca Lane
San Luis Obispo CA 93401
vox 805.544.4696
fax 805.544.8226

CLIENT EDD ☐ LUFT EDF ☐ DW EDT ☐

report to MIKE RENDINA	vox (949) 296 0977	fax -0978
company AVOCET ENVIRONMENTAL	proj AVICA	
address 16 TECHNOLOGY DR., SUITE 150 IRVINE, CA 92618	proj # 1114.001	
	sampler M. RENDINA	

ANALYSIS REQUESTED

Turnaround Time

ASAP ☐ 48 hr ☐ 12 hr ☐ 72 hr ☐ 24 hr ☐ std ☒

ZymaX use only	SAMPLE DESCRIPTION	Date Sampled	Time	Matrix	Preserve	TPH(D) (Si Gel Cl. Cor-Cor)	VOCs	Silica Gel TPH Cl. Cor-Cor	PAHs - SIM	# of containers	Remarks
38955-1	CS-A	2/9/05	16:00	H2O		X	X	(1)⊗	(1)⊗	3	⊗Added per results. MR 2/18/05

Comments (1) IF TPH IS DETECTED (>100 µg/L) ALSO TEST FOR PAHs (SIM) AND TREAT EXTRACT W/ SILICA GEL AND RE-RUN FOR EXTRACTABLE RANGE TPH.

Sample integrity upon receipt:
- Samples received intact ☐
- Samples received cold ☐
- Custody seals ☐
- Correct container types ☐

Bill 3rd party: UNOCAL RICK RITTENBERG

PO#: _____
Quote yes no

Relinquished by:
Signature Michael D Rendina
Print MICHAEL D. RENDINA
Company AVOCET ENV.
Date 2/9/05 Time 1710

Relinquished by:
Signature _____
Print _____
Company _____
Date _____ Time _____

Received by:
Signature _____
Print _____
Company _____
Date _____ Time _____

Received by ZymaX envirotechnology, inc:
Signature [illegible]
Print A BYRNE
Company ZYMAX
Date 2/9/05 Time 1710

email: login@ZymaXusa.com

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	See Below
Collected:	02/09/05
Received:	02/09/05
Matrix:	Aqueous

Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Sample Description:	See Below
Analyzed:	02/11/05
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
38953-1	CS-A	100.	220.	230.	105

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 02/10/05.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

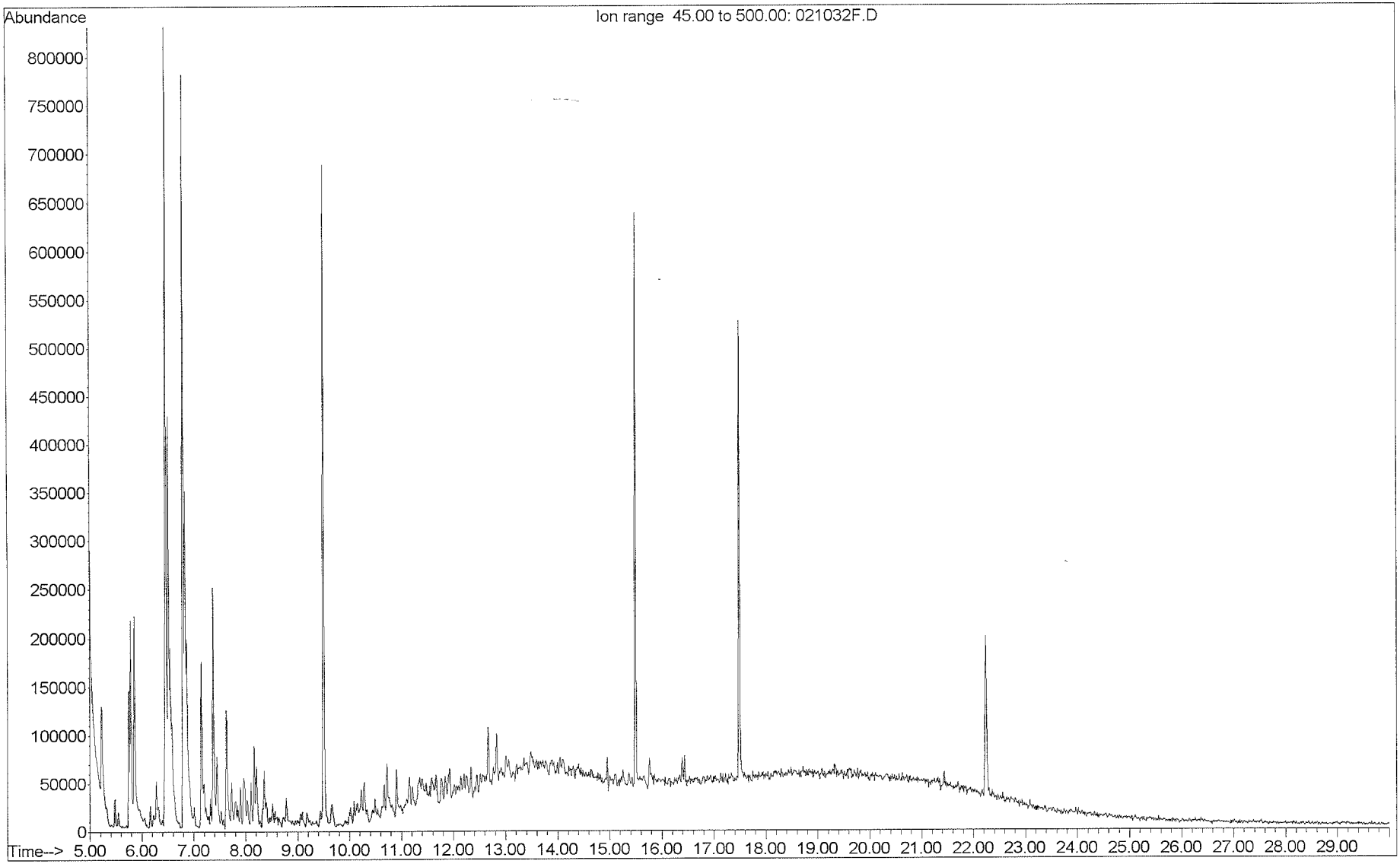
Submitted by,
ZymaX envirotechnology, inc.

Michael Ng
Acting Laboratory Director

MSD #6
38953t.xls
MN/sks/yl/tl/hb

RECEIVED
MAR 04 2005
AVOCET ENVIRONMENTAL, INC.

Sample Name: 38953-1 Avocet/Avila Tank Farm
Misc Info : 1uL, 1L, CS-A



ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	See Below
Collected:	02/09/05
Received:	02/09/05
Matrix:	Aqueous

Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Sample Description:	See Below
Analyzed:	02/25/05
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
38953-1	CS-A	100.	ND	ND	95

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 02/10/05.
Note: Cleanup performed on extract by EPA 3630 (Silica Gel) on 02/23/05.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

Michael Ng
Acting Laboratory Director

MSD #5
38953ts.xls
MN/sks/yl/jt/hb

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618
Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Lab Number:	38953-1
Collected:	02/09/05
Received:	02/09/05
Matrix:	Aqueous
Sample Description:	CS-A
Analyzed:	02/23/05
Method:	EPA 8270 (SIM)

CONSTITUENT	PQL* ug/L	RESULT** ug/L
POLYNUCLEAR AROMATIC HYDROCARBONS		
Acenaphthene	0.1	ND
Acenaphthylene	0.1	ND
Anthracene	0.1	ND
Benz (a) anthracene	0.1	ND
Benzo (b) fluoranthene	0.1	ND
Benzo (k) fluoranthene	0.1	ND
Benzo (a) pyrene	0.1	ND
Benzo (ghi) perylene	0.1	ND
Chrysene	0.1	ND
Dibenzo (a,h) anthracene	0.1	ND
Fluoranthene	0.1	ND
Fluorene	0.1	ND
Indeno (1,2,3-cd) pyrene	0.1	ND
Naphthalene	0.1	ND
Phenanthrene	0.1	ND
Pyrene	0.1	ND
Percent Surrogate Recovery (o-Terphenyl)		103

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Extracted by EPA 3510 on 02/20/05.

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
ZymaX envirotechnology, inc.

Michael Ng
Acting Laboratory Director

MSD #4
38953-1o.xls
MN/sks/yl/sk/hb

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina
	Avocet Environmental, Inc.
	16 Technology, Ste. 154
	Irvine, CA 92618

Lab Number:	38953-1
Collected:	02/09/05
Received:	02/09/05
Matrix:	Aqueous

Project:	Unocal
	Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Sample Description:	
	CS-A
Analyzed:	02/12/05
Method:	EPA 8260

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

MSD #8
38953-1v.xls
MN/sks/ra/cb

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	38953-1
Collected:	02/09/05
Received:	02/09/05
Matrix:	Aqueous

Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Sample Description:	CS-A
Analyzed:	02/12/05
Method:	EPA 8260

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

MSD #8
38953-1v.xls
MN/sks/ra/cb

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	38953-1
Collected:	02/09/05
Received:	02/09/05
Matrix:	Aqueous

Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Sample Description:	CS-A
Analyzed:	02/12/05
Method:	EPA 8260

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Percent Surrogate Recovery		100

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 5030 (Purge and Trap).

Submitted by,
ZymaX envirotechnology, inc.

MSD #8
38953-1v.xls
MN/sks/ra/cb

Michael Ng
Acting Laboratory Director

CHAIN of CUSTODY

ZymaX
71 Zaca Lane
San Luis Obispo CA 93401
vox 805.544.4696
fax 805.544.8226

CLIENT EDD ☐ LUFT EDF ☐ DW EDT ☐

report to MIKE RENDINA	vox (949) 396-0277	fax
company AVOCET ENVIRONMENTAL	proj AVILA TANK FARM	
address 16 TECHNOLOGY SUITE 154 IRVINE CA 92618	proj # 1114.001	
	sampler M. RENDINA	

ANALYSIS REQUESTED

Turnaround Time

ASAP ☐ 48 hr ☐ 12 hr ☐ 72 hr ☐ 24 hr ☐ std ☒

ZymaX use only	SAMPLE DESCRIPTION	Date Sampled	Time	Matrix	Preserve	TPH (C_4-C_{10})	TPH (C_{10}-C_{25}) (C_{25}-C_{40})	VOCs (8260)		TPH (C_{10}-C_{40}) silica gel (1)	PAHs (8270 SIM) (1)	# of containers	Remarks
39495-1	CS-G	3/31/05	8:40	LIQ		X	X	X		(1)	(1)	3	(X) Added PAH-SIM
-2	CS-A	↓	8:50	↓		X	X	X		(1)	(1)	3	+ TPH (silica)
-3	CS-I	↓	9:10	↓		X	X	X		(1)	(1)	3	for 39495-1,3
													per results.
													(MU) 4/5/05

Comments

(1) IF TPH (C_{10}-C_{40}) IS DETECTED (>100 µg/L) TREAT EXTRACT W/ SILICA GEL AND RE-RUN. ☒ (TEST SAMPLE FOR PAHS VIA 8270 SIM AND...) ☒

Relinquished by:
Signature [signature]
Print MICHAEL A. RENDINA
Company Avocet
Date 3/31/05 Time 1604

Received by:
Signature
Print
Company
Date Time

Relinquished by:
Signature
Print
Company
Date Time

Received by ZymaX envirotechnology, inc:
Signature [signature]
Print Dana Carmichael
Company Zymax
Date 3/31/05 Time 1004

Sample integrity upon receipt:
- Samples received intact ☐
- Samples received cold ☐
- Custody seals ☐
- Correct container types ☐

Bill 3rd party:
RICK KITAGAWA
UNOCAL
AVILA TANK FARM

PO#:
Quote yes no

email: **login@ZymaXusa.com**

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina
	Avocet Environmental, Inc.
	16 Technology, Ste. 154
	Irvine, CA 92618

Lab Number:	See Below
Collected:	03/31/05
Received:	03/31/05
Matrix:	Aqueous

Project:	Unocal
	Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Sample Description:	
	See Below
Analyzed:	04/05/05
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
39495-1	CS-G	100.	190.	170.	76
39495-2	CS-A	100.	ND	ND	92
39495-3	CS-I	100.	130.	200.	82

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

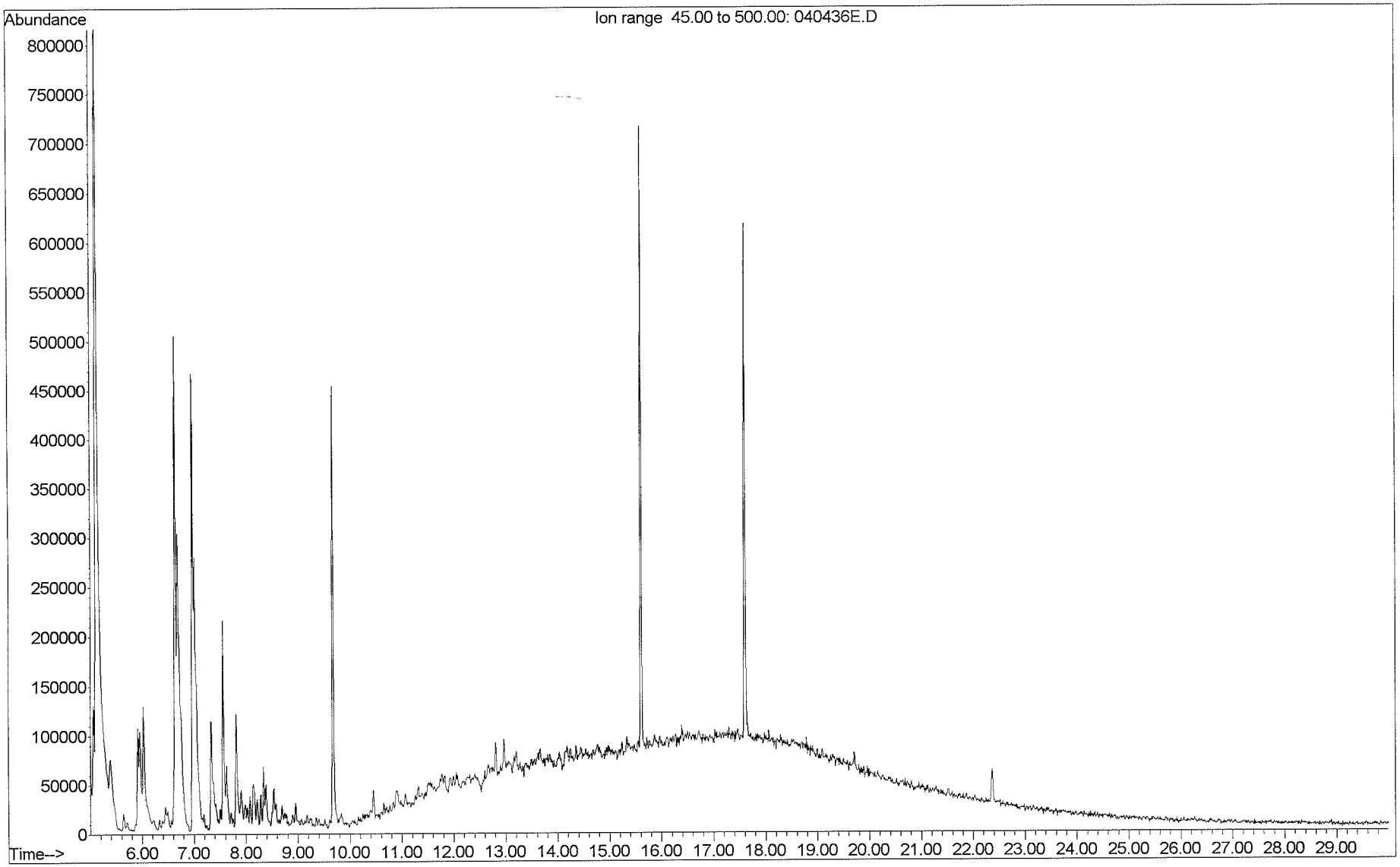
Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 04/01/05.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

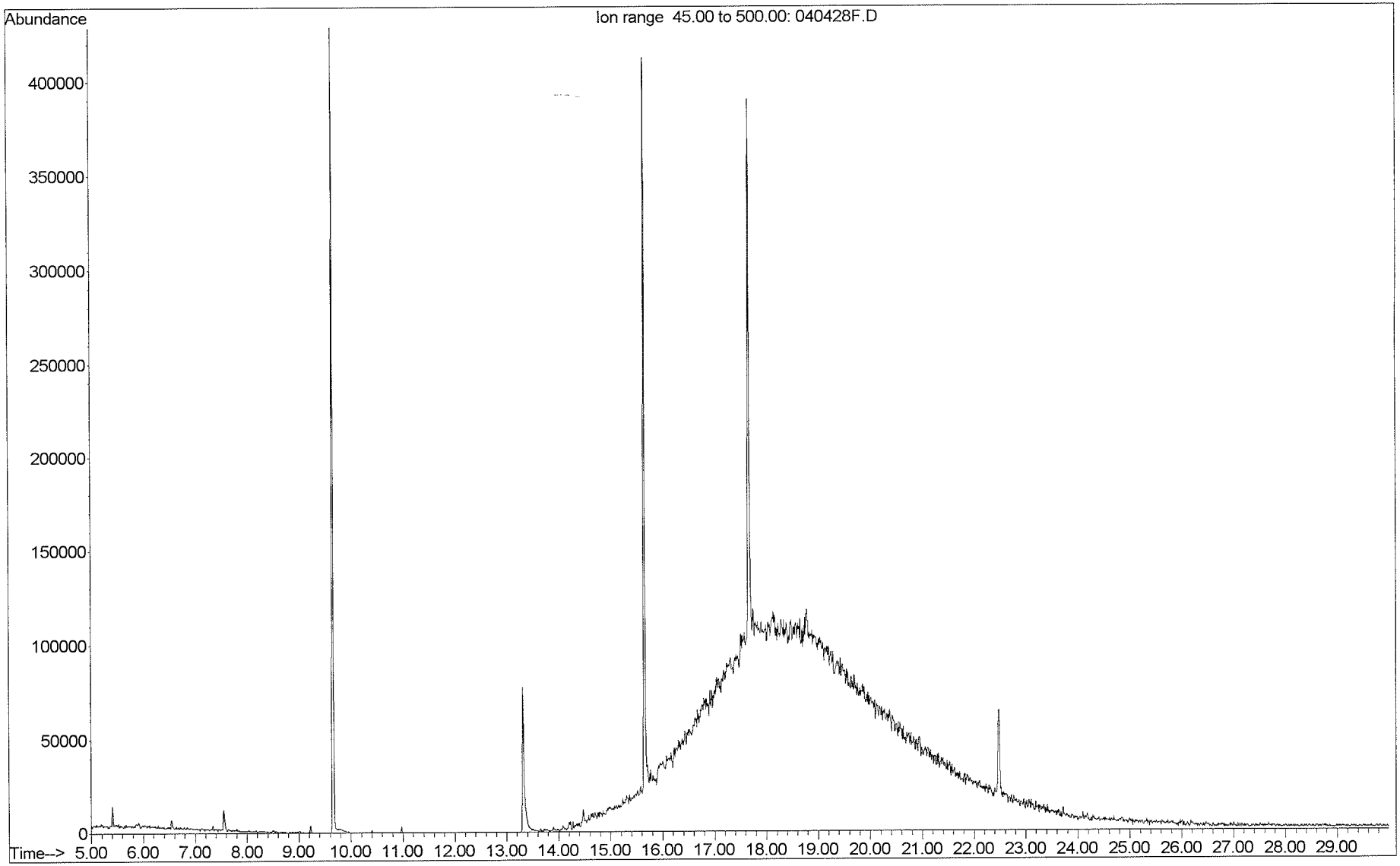
SA4244
MSD #5/#6
39495t.xls
MN/sks/yl/jkt/sf

Michael Ng
Laboratory Director

Sample Name: 39495-1 Avocet/Avila Tank Farm
Misc Info : 1uL, 1L, CS-G



Sample Name: 39495-3 Avocet/Avila Tank Farm
Misc Info : 1uL, 1L, CS-I



ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	See Below
Collected:	03/31/05
Received:	03/31/05
Matrix:	Aqueous

Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Sample Description:	See Below
Analyzed:	04/08/05
Method:	See Below

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	TPH(C10-C25)** ug/L	TPH(C25-C40)** ug/L	SURROGATE RECOVERY
39495-1	CS-G	100.	ND	ND	116
39495-3	CS-I	100.	ND	ND	117

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.
Note: Extracted by EPA 3510 on 04/01/05
Note: Cleanup performed on extract by EPA 3630 (Silica Gel) on 04/06/05.
Note: TPH (C10-C25) quantitated against diesel fuel.
Note: TPH (C25-C40) quantitated against crude oil.

Submitted by,
ZymaX envirotechnology, inc.

SA4244
MSD #4
39095tg.xls
MN/sks/yl/jkt/sk/sf

Michael Ng
Laboratory Director

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina
	Avocet Environmental, Inc.
	16 Technology, Ste. 154
	Irvine, CA 92618

Lab Number:	39495-1
Collected:	03/31/05
Received:	03/31/05
Matrix:	Aqueous

Project:	Unocal
	Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Sample Description:	
	CS-G
Analyzed:	04/06/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #13
39495-1v.xls
MN/sks/ra/cd

ZymaX envirotechnology

Client:	Mike Rendina
	Avocet Environmental, Inc.
	16 Technology, Ste. 154
	Irvine, CA 92618

Lab Number:	39495-1
Collected:	03/31/05
Received:	03/31/05
Matrix:	Aqueous

Project:	Unocal
	Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Sample Description:	
	CS-G
Analyzed:	04/06/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #13
39495-1v.xls
MN/sks/ra/cd

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	39495-1
Collected:	03/31/05
Received:	03/31/05
Matrix:	Aqueous

Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Sample Description:	CS-G
Analyzed:	04/06/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		108

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

Michael Ng
Laboratory Director

MSD #13
39495-1v.xls
MN/sks/ra/cd

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618
Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Lab Number:	39495-1
Collected:	03/31/05
Received:	03/31/05
Matrix:	Aqueous
Sample Description:	CS-G
Analyzed:	04/07/05
Method:	EPA 8270 (SIM)

CONSTITUENT	PQL* ug/L	RESULT** ug/L
POLYNUCLEAR AROMATIC HYDROCARBONS		
Acenaphthene	0.1	ND
Acenaphthylene	0.1	ND
Anthracene	0.1	ND
Benz (a) anthracene	0.1	ND
Benzo (b) fluoranthene	0.1	ND
Benzo (k) fluoranthene	0.1	ND
Benzo (a) pyrene	0.1	ND
Benzo (ghi) perylene	0.1	ND
Chrysene	0.1	ND
Dibenzo (a,h) anthracene	0.1	ND
Fluoranthene	0.1	ND
Fluorene	0.1	ND
Indeno (1,2,3-cd) pyrene	0.1	ND
Naphthalene	0.1	ND
Phenanthrene	0.1	ND
Pyrene	0.1	ND
Percent Surrogate Recovery (o-Terphenyl)		107

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Extracted by EPA 3510 on 04/01/05.

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
ZymaX envirotechnology, inc.

Michael Ng
Laboratory Director

MSD #3
39495-1n.xls
MN/sks/yl/jkt/cs

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina
	Avocet Environmental, Inc.
	16 Technology, Ste. 154
	Irvine, CA 92618

Lab Number:	39495-2
Collected:	03/31/05
Received:	03/31/05
Matrix:	Aqueous

Project:	Unocal
	Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Sample Description:	
	CS-A
Analyzed:	04/06/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #13
39495-2v.xls
MN/sks/ra/cd

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618
Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Lab Number:	39495-2
Collected:	03/31/05
Received:	03/31/05
Matrix:	Aqueous
Sample Description:	CS-A
Analyzed:	04/06/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #13
39495-2v.xls
MN/sks/ra/cd

ZymaX envirotechnology

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	39495-2
Collected:	03/31/05
Received:	03/31/05
Matrix:	Aqueous

Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Sample Description:	CS-A
Analyzed:	04/06/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		107

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

Michael Ng
Laboratory Director

MSD #13
39495-2v.xls
MN/sks/ra/cd

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	39495-3
Collected:	03/31/05
Received:	03/31/05
Matrix:	Aqueous

Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Sample Description:	CS-I
Analyzed:	04/06/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Benzene	0.5	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
1,2-Dibromo-3-Chloropropane	1.0	ND
Dibromochloromethane	0.5	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #13
39495-3v.xls
MN/sks/ra/cd

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	39495-3
Collected:	03/31/05
Received:	03/31/05
Matrix:	Aqueous

Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Sample Description:	CS-I
Analyzed:	04/06/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dichlorotrifluoroethane	0.5	ND
Ethylbenzene	0.5	ND
Ethylene dibromide (EDB)	0.5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
Methylene Chloride	0.5	ND
Naphthalene	0.5	ND
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	1.0	ND
1,2,4-Trichlorobenzene	1.0	ND
1,1,1-Trichloroethane (TCA)	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #13
39495-3v.xls
MN/sks/ra/cd

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618

Lab Number:	39495-3
Collected:	03/31/05
Received:	03/31/05
Matrix:	Aqueous

Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Sample Description:	CS-I
Analyzed:	04/06/05
Method:	See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
VOLATILE ORGANIC COMPOUNDS/TPH		
Trichlorofluoromethane (freon 11)	0.5	ND
1,2,3-Trichloropropane	0.5	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	ND
Total Petroleum Hydrocarbons (C4-C10)	100.	ND
Percent Surrogate Recovery		104

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.
Note: Extracted by EPA 5030 (Purge and Trap).
Note: TPH (C4-C10) quantitated against gasoline.

Submitted by,
ZymaX envirotechnology, inc.

Michael Ng
Laboratory Director

MSD #13
39495-3v.xls
MN/sks/ra/cd

ZymaX envirotechnology

REPORT OF ANALYTICAL RESULTS

Client:	Mike Rendina Avocet Environmental, Inc. 16 Technology, Ste. 154 Irvine, CA 92618
Project:	Unocal Avila Tank Farm
Project Number:	1114.001
Collected by:	M. Rendina

Lab Number:	39495-3
Collected:	03/31/05
Received:	03/31/05
Matrix:	Aqueous
Sample Description:	CS-I
Analyzed:	04/07/05
Method:	EPA 8270 (SIM)

CONSTITUENT	PQL* ug/L	RESULT** ug/L
POLYNUCLEAR AROMATIC HYDROCARBONS		
Acenaphthene	0.1	ND
Acenaphthylene	0.1	ND
Anthracene	0.1	ND
Benz (a) anthracene	0.1	ND
Benzo (b) fluoranthene	0.1	ND
Benzo (k) fluoranthene	0.1	ND
Benzo (a) pyrene	0.1	ND
Benzo (ghi) perylene	0.1	ND
Chrysene	0.1	ND
Dibenzo (a,h) anthracene	0.1	ND
Fluoranthene	0.1	ND
Fluorene	0.1	ND
Indeno (1,2,3-cd) pyrene	0.1	ND
Naphthalene	0.1	ND
Phenanthrene	0.1	ND
Pyrene	0.1	ND
Percent Surrogate Recovery (o-Terphenyl)		106

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717
***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**

Note: Extracted by EPA 3510 on 04/01/05.

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
ZymaX envirotechnology, inc.

Michael Ng
Laboratory Director

MSD #3
39495-3n.xls
MN/sks/yl/jkt/cs

BC Laboratories, Inc

RECEIVED
MAY 20 2005
AVOCET ENVIRONMENTAL, INC.

Date of Report: 05/24/2005

Mike Rendina

Avocet Environmental
16 Technology Drive, Suite 154
Irvine, CA 92618-2327
RE: Avila Tank Farm, Cliff Springs
BC Lab Number: 0504271

Enclosed are the results of analyses for samples received by the laboratory on 04/28/05 18:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Molly Meyers

Contact Person: Molly Meyers
Client Service Rep

Authorized Signature

1114.001

AVOCET ENVIRONMENTAL, INC.
16 Technology Drive, Suite 154
Irvine, California 92618-2327
TEL (949) 296-0977
FAX (949) 297-0978

CHAIN OF CUSTODY RECORD

Project Information:

Site Name	Avila Tank Farm, Cliff Springs
Site Address	Avila Beach, CA
Project No.	1114.00
Project Manager	Michael A. Rendina
Sampled By	Michael A. Rendina
Global I.D.	05-4271

Analyses

Sample Identification	Sample Date	Sample Time	Matrix	No. of Samples	Lab I.D. Number	TPH (C4-C10) (EPA 8260)	TPH (C10-C25 and C25-C40) (GC/FID)	TPH (C10-C25 and C25-C40) w/ Silica Gel Treatment (GC/FID)	PAHs (EPA 8270 SIM)	VOCs (EPA 8260B)	HOLD FOR FUTURE ANALYSIS	Sample Depth (feet bgs)
CS-G	04/26/05	16:00	Aq.	3		X	X	(1)	(1)	X		
CS-E	04/26/05	16:20	Aq.	3		X	X	(1)	(1)	X		
CS-A	04/26/05	16:35	Aq.	3		X	X	(1)	(1)	X		

CHK BY HPR

DISTRIBUTION SB SUB-OUT

Relinquished by	Company	Received by	Company
Printed Name: Michael Rendina Date: 04/27/2005	Avocet Environmental, Inc.	Printed Name: Date: 04/ /2005	Avocet Environmental, Inc.
Signature: Michael A Rendina Time: 13:20		Signature: Time:	
Printed Name: Date: 4/ /2005	Avocet Environmental, Inc.	Printed Name: David Rittenhouse Date: 04/28/2005	BC Labs
Signature: Time:		Signature: Time: 1320	
Printed Name: David Rittenhouse Date: 4-18-05		Printed Name: Teri Okafor Date: 4-28-05	
Signature: Time: 1800		Signature: Time: 1805	

Sample Receipt	Billing Information	Special Instructions
Total Containers	Bill To: Rick Rittenberg	*Request standard 10-day TAT. (1) Test samples for PAHs and treat extract with silica gel and re-run for extractable range hydrocarbons only if TPH is detected. If any questions, please call Mike Rendina @ (949) 933 6031*
Temperature °C / °F ——— Lab N	Company: Unocal	
COC Seal (Y/N/NA) Intact (Y/N)	Address: 276 Tank Farm Road San Luis Obispo, California	

BC Laboratories, Inc

Avocet Environmental	Project: Avila Tank Farm, Cliff Springs	
16 Technology Drive, Suite 154	Project Number: [none]	
Irvine CA, 92618-2327	Project Manager: Mike Rendina	**Reported:** 05/24/05 08:34

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
0504271-01	**COC Number:**	---	**Receive Date:**	04/28/05 18:05
	Project Number:	---	**Sampling Date:**	04/26/05 16:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	CS-G	**Sample Matrix:**	Water
	Sampled By:	---		
0504271-02	**COC Number:**	---	**Receive Date:**	04/28/05 18:05
	Project Number:	---	**Sampling Date:**	04/26/05 16:20
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	CS-E	**Sample Matrix:**	Water
	Sampled By:	---		
0504271-03	**COC Number:**	---	**Receive Date:**	04/28/05 18:05
	Project Number:	---	**Sampling Date:**	04/26/05 16:35
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	CS-A	**Sample Matrix:**	Water
	Sampled By:	---		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.
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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0504271-01 | **Client Sample Name:** CS-G, 4/26/2005 4:00:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Bromobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Bromochloromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Bromodichloromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Bromoform	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Bromomethane	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
n-Butylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
sec-Butylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
tert-Butylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Carbon tetrachloride	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Chlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Chloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Chloroform	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Chloromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
2-Chlorotoluene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
4-Chlorotoluene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Dibromochloromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Dibromomethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,2-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,3-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,4-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Dichlorodifluoromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,1-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0504271-01 | **Client Sample Name:** CS-G, 4/26/2005 4:00:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,1-Dichloroethene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
cis-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
trans-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Total 1,2-Dichloroethene	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,3-Dichloropropane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
2,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,1-Dichloropropene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
cis-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
trans-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Total 1,3-Dichloropropene	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Hexachlorobutadiene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Isopropylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
p-Isopropyltoluene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Methylene chloride	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Naphthalene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
n-Propylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Styrene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Tetrachloroethene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Toluene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0504271-01 | **Client Sample Name:** CS-G, 4/26/2005 4:00:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,2,3-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	V11
1,2,4-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,1,1-Trichloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,1,2-Trichloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Trichloroethene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Trichlorofluoromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,2,3-Trichloropropane	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,2,4-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,3,5-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Vinyl chloride	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Total Xylenes	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451	ND	
1,2-Dichloroethane-d4 (Surrogate)	110	%	76 - 114 (LCL - UCL)		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451		
Toluene-d8 (Surrogate)	101	%	88 - 110 (LCL - UCL)		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451		
4-Bromofluorobenzene (Surrogate)	94.7	%	86 - 115 (LCL - UCL)		EPA-8260	05/09/05	05/09/05 20:21	tlf	MS-V4	1	BOE0451		

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Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 0504271-01 | **Client Sample Name:** CS-G, 4/26/2005 4:00:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
TPH - C10 - C25	ND	ug/L	10		EPA-8015C	05/05/05	05/14/05 15:35	MAA	GC-2	1	BOE0330	ND	
TPH - C25 - C40	ND	ug/L	10		EPA-8015C	05/05/05	05/14/05 15:35	MAA	GC-2	1	BOE0330	ND	
Tetracosane (Surrogate)	81.0	%	44 - 127 (LCL - UCL)		EPA-8015C	05/05/05	05/14/05 15:35	MAA	GC-2	1	BOE0330		

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16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0504271-02 | **Client Sample Name:** CS-E, 4/26/2005 4:20:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Bromobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Bromochloromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Bromodichloromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Bromoform	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Bromomethane	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
n-Butylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
sec-Butylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
tert-Butylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Carbon tetrachloride	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Chlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Chloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Chloroform	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Chloromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
2-Chlorotoluene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
4-Chlorotoluene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Dibromochloromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Dibromomethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,2-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,3-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,4-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Dichlorodifluoromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,1-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0504271-02 | **Client Sample Name:** CS-E, 4/26/2005 4:20:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,1-Dichloroethene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
cis-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
trans-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Total 1,2-Dichloroethene	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,3-Dichloropropane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
2,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,1-Dichloropropene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
cis-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
trans-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Total 1,3-Dichloropropene	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Hexachlorobutadiene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Isopropylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
p-Isopropyltoluene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Methylene chloride	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Naphthalene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
n-Propylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Styrene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Tetrachloroethene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Toluene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	

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16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0504271-02 | **Client Sample Name:** CS-E, 4/26/2005 4:20:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,2,3-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	V11
1,2,4-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,1,1-Trichloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,1,2-Trichloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Trichloroethene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Trichlorofluoromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,2,3-Trichloropropane	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,2,4-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,3,5-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Vinyl chloride	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Total Xylenes	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451	ND	
1,2-Dichloroethane-d4 (Surrogate)	108	%	76 - 114 (LCL - UCL)		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451		
Toluene-d8 (Surrogate)	101	%	88 - 110 (LCL - UCL)		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451		
4-Bromofluorobenzene (Surrogate)	91.5	%	86 - 115 (LCL - UCL)		EPA-8260	05/09/05	05/09/05 20:50	tlf	MS-V4	1	BOE0451		

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 0504271-02 | **Client Sample Name:** CS-E, 4/26/2005 4:20:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
TPH - C10 - C25	ND	ug/L	10		EPA-8015C	05/05/05	05/14/05 16:21	MAA	GC-2	1	BOE0330	ND	
TPH - C25 - C40	ND	ug/L	10		EPA-8015C	05/05/05	05/14/05 16:21	MAA	GC-2	1	BOE0330	ND	
Tetracosane (Surrogate)	93.0	%	44 - 127	(LCL - UCL)	EPA-8015C	05/05/05	05/14/05 16:21	MAA	GC-2	1	BOE0330		

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Avocet Environmental
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Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0504271-03 | **Client Sample Name:** CS-A, 4/26/2005 4:35:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Bromobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Bromochloromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Bromodichloromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Bromoform	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Bromomethane	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
n-Butylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
sec-Butylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
tert-Butylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Carbon tetrachloride	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Chlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Chloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Chloroform	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Chloromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
2-Chlorotoluene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
4-Chlorotoluene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Dibromochloromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Dibromomethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,2-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,3-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,4-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Dichlorodifluoromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,1-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	

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16 Technology Drive, Suite 154
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Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0504271-03 | **Client Sample Name:** CS-A, 4/26/2005 4:35:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,1-Dichloroethene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
cis-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
trans-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Total 1,2-Dichloroethene	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,3-Dichloropropane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
2,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,1-Dichloropropene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
cis-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
trans-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Total 1,3-Dichloropropene	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Hexachlorobutadiene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Isopropylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
p-Isopropyltoluene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Methylene chloride	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Naphthalene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
n-Propylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Styrene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Tetrachloroethene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Toluene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	

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16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0504271-03 | **Client Sample Name:** CS-A, 4/26/2005 4:35:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,2,3-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	V11
1,2,4-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,1,1-Trichloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,1,2-Trichloroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Trichloroethene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Trichlorofluoromethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,2,3-Trichloropropane	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,2,4-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,3,5-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Vinyl chloride	ND	ug/L	0.50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Total Xylenes	ND	ug/L	1.0		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
Total Purgeable Petroleum Hydrocarbons	79	ug/L	50		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451	ND	
1,2-Dichloroethane-d4 (Surrogate)	108	%	76 - 114 (LCL - UCL)		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451		
Toluene-d8 (Surrogate)	100	%	88 - 110 (LCL - UCL)		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451		
4-Bromofluorobenzene (Surrogate)	95.5	%	86 - 115 (LCL - UCL)		EPA-8260	05/09/05	05/09/05 21:19	tlf	MS-V4	1	BOE0451		

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Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 0504271-03 | **Client Sample Name:** CS-A, 4/26/2005 4:35:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
TPH - C10 - C25	ND	ug/L	10		EPA-8015C	05/05/05	05/14/05 17:07	MAA	GC-2	1	BOE0330	ND	
TPH - C25 - C40	ND	ug/L	10		EPA-8015C	05/05/05	05/14/05 17:07	MAA	GC-2	1	BOE0330	ND	
Tetracosane (Surrogate)	88.6	%	44 - 127	(LCL - UCL)	EPA-8015C	05/05/05	05/14/05 17:07	MAA	GC-2	1	BOE0330		

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Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample ID	QC Sample Type	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Benzene	BOE0451	BOE0451-MS1	Matrix Spike	ND	23.870	25.000	ug/L		95.5		70 - 130	
		BOE0451-MSD1	Matrix Spike Duplicate	ND	25.550	25.000	ug/L	6.58	102	20	70 - 130	
Bromodichloromethane	BOE0451	BOE0451-MS1	Matrix Spike	ND	25.490	25.000	ug/L		102		70 - 130	
		BOE0451-MSD1	Matrix Spike Duplicate	ND	26.130	25.000	ug/L	2.90	105	20	70 - 130	
Chlorobenzene	BOE0451	BOE0451-MS1	Matrix Spike	ND	24.490	25.000	ug/L		98.0		70 - 130	
		BOE0451-MSD1	Matrix Spike Duplicate	ND	25.100	25.000	ug/L	2.02	100	20	70 - 130	
Chloroethane	BOE0451	BOE0451-MS1	Matrix Spike	ND	26.150	25.000	ug/L		105		70 - 130	
		BOE0451-MSD1	Matrix Spike Duplicate	ND	29.500	25.000	ug/L	11.7	118	20	70 - 130	
1,4-Dichlorobenzene	BOE0451	BOE0451-MS1	Matrix Spike	ND	25.210	25.000	ug/L		101		70 - 130	
		BOE0451-MSD1	Matrix Spike Duplicate	ND	25.770	25.000	ug/L	1.96	103	20	70 - 130	
1,1-Dichloroethane	BOE0451	BOE0451-MS1	Matrix Spike	0.47000	26.340	25.000	ug/L		103		70 - 130	
		BOE0451-MSD1	Matrix Spike Duplicate	0.47000	27.910	25.000	ug/L	6.57	110	20	70 - 130	
1,1-Dichloroethene	BOE0451	BOE0451-MS1	Matrix Spike	ND	26.720	25.000	ug/L		107		70 - 130	
		BOE0451-MSD1	Matrix Spike Duplicate	ND	29.470	25.000	ug/L	9.78	118	20	70 - 130	
Toluene	BOE0451	BOE0451-MS1	Matrix Spike	ND	25.250	25.000	ug/L		101		70 - 130	
		BOE0451-MSD1	Matrix Spike Duplicate	ND	25.970	25.000	ug/L	2.93	104	20	70 - 130	
Trichloroethene	BOE0451	BOE0451-MS1	Matrix Spike	0.24000	27.390	25.000	ug/L		109		70 - 130	
		BOE0451-MSD1	Matrix Spike Duplicate	0.24000	27.840	25.000	ug/L	0.913	110	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	BOE0451	BOE0451-MS1	Matrix Spike	ND	10.450	10.000	ug/L		104		76 - 114	
		BOE0451-MSD1	Matrix Spike Duplicate	ND	10.780	10.000	ug/L		108		76 - 114	
Toluene-d8 (Surrogate)	BOE0451	BOE0451-MS1	Matrix Spike	ND	10.050	10.000	ug/L		100		88 - 110	
		BOE0451-MSD1	Matrix Spike Duplicate	ND	10.080	10.000	ug/L		101		88 - 110	
4-Bromofluorobenzene (Surrogate)	BOE0451	BOE0451-MS1	Matrix Spike	ND	10.180	10.000	ug/L		102		86 - 115	
		BOE0451-MSD1	Matrix Spike Duplicate	ND	10.110	10.000	ug/L		101		86 - 115	

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16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample ID	QC Sample Type	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Tetracosane (Surrogate)	BOE0330	BOE0330-MS1	Matrix Spike	ND	63.860	100.00	ug/L		63.9		44 - 127	
		BOE0330-MSD1	Matrix Spike Duplicate	ND	74.395	100.00	ug/L		74.4		44 - 127	

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Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Benzene	BOE0451	BOE0451-BS1	LCS	23.280	25.000	0.50	ug/L	93.1		70 - 130		
Bromodichloromethane	BOE0451	BOE0451-BS1	LCS	23.770	25.000	0.50	ug/L	95.1		70 - 130		
Chlorobenzene	BOE0451	BOE0451-BS1	LCS	22.880	25.000	0.50	ug/L	91.5		70 - 130		
Chloroethane	BOE0451	BOE0451-BS1	LCS	25.640	25.000	0.50	ug/L	103		70 - 130		
1,4-Dichlorobenzene	BOE0451	BOE0451-BS1	LCS	22.820	25.000	0.50	ug/L	91.3		70 - 130		
1,1-Dichloroethane	BOE0451	BOE0451-BS1	LCS	24.960	25.000	0.50	ug/L	99.8		70 - 130		
1,1-Dichloroethene	BOE0451	BOE0451-BS1	LCS	25.990	25.000	0.50	ug/L	104		70 - 130		
Toluene	BOE0451	BOE0451-BS1	LCS	23.290	25.000	0.50	ug/L	93.2		70 - 130		
Trichloroethene	BOE0451	BOE0451-BS1	LCS	25.380	25.000	0.50	ug/L	102		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BOE0451	BOE0451-BS1	LCS	10.300	10.000		ug/L	103		76 - 114		
Toluene-d8 (Surrogate)	BOE0451	BOE0451-BS1	LCS	10.260	10.000		ug/L	103		88 - 110		
4-Bromofluorobenzene (Surrogate)	BOE0451	BOE0451-BS1	LCS	9.8800	10.000		ug/L	98.8		86 - 115		

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Tetracosane (Surrogate)	BOE0330	BOE0330-BS1	LCS	68.800	100.00		ug/L	68.8		44 - 127		

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.13	
Bromobenzene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.14	
Bromodichloromethane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.16	
Bromoform	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.33	
Bromomethane	BOE0451	BOE0451-BLK1	ND	ug/L	1.0	0.21	
n-Butylbenzene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.13	
sec-Butylbenzene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.12	
tert-Butylbenzene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.12	
Carbon tetrachloride	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.15	
Chlorobenzene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.12	
Chloroethane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.17	
Chloroform	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.11	
Chloromethane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.17	
2-Chlorotoluene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.17	
4-Chlorotoluene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.17	
Dibromochloromethane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.14	
1,2-Dibromo-3-chloropropane	BOE0451	BOE0451-BLK1	ND	ug/L	1.0	0.69	
1,2-Dibromoethane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.16	
Dibromomethane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.26	
1,2-Dichlorobenzene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.16	
1,3-Dichlorobenzene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.14	
1,4-Dichlorobenzene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.14	
Dichlorodifluoromethane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.20	
1,1-Dichloroethane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.17	

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
1,2-Dichloroethane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.25	
1,1-Dichloroethene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.15	
cis-1,2-Dichloroethene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.19	
trans-1,2-Dichloroethene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.19	
Total 1,2-Dichloroethene	BOE0451	BOE0451-BLK1	ND	ug/L	1.0	0.38	
1,2-Dichloropropane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.16	
1,3-Dichloropropane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.18	
2,2-Dichloropropane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloropropene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.18	
cis-1,3-Dichloropropene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.16	
trans-1,3-Dichloropropene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.14	
Total 1,3-Dichloropropene	BOE0451	BOE0451-BLK1	ND	ug/L	1.0	0.30	
Ethylbenzene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.14	
Hexachlorobutadiene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.23	
Isopropylbenzene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.22	
p-Isopropyltoluene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.15	
Methylene chloride	BOE0451	BOE0451-BLK1	ND	ug/L	1.0	0.44	
Methyl t-butyl ether	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.15	
Naphthalene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.12	
n-Propylbenzene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.13	
Styrene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.16	
1,1,1,2-Tetrachloroethane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.18	
1,1,2,2-Tetrachloroethane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.23	
Tetrachloroethene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.15	
Toluene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.15	

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
1,2,3-Trichlorobenzene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.16	
1,2,4-Trichlorobenzene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.16	
1,1,1-Trichloroethane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.16	
1,1,2-Trichloroethane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.15	
Trichloroethene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.18	
Trichlorofluoromethane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.20	
1,2,3-Trichloropropane	BOE0451	BOE0451-BLK1	ND	ug/L	1.0	0.46	
1,1,2-Trichloro-1,2,2-trifluoroethane	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.18	
1,2,4-Trimethylbenzene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.16	
1,3,5-Trimethylbenzene	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.13	
Vinyl chloride	BOE0451	BOE0451-BLK1	ND	ug/L	0.50	0.16	
Total Xylenes	BOE0451	BOE0451-BLK1	ND	ug/L	1.0	0.40	
1,2-Dichloroethane-d4 (Surrogate)	BOE0451	BOE0451-BLK1	105	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BOE0451	BOE0451-BLK1	100	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BOE0451	BOE0451-BLK1	94.4	%	86 - 115 (LCL - UCL)		

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BC Laboratories, Inc

Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
TPH - C10 - C25	BOE0330	BOE0330-BLK1	ND	ug/L	10	5.0	
TPH - C25 - C40	BOE0330	BOE0330-BLK1	ND	ug/L	10	5.0	
Tetracosane (Surrogate)	BOE0330	BOE0330-BLK1	67.8	%	44 - 127 (LCL - UCL)		

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 05/24/05 08:34

Notes and Definitions

V11	The Continuing Calibration Verification (CCV) recovery is not within established control limits.
J	Estimated value
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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BC Laboratories, Inc

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
0505280-CCB1	g8260w Full	4-Bromofluorobenzene (Surrogate)	No spike level
	g8015CCw CC-Seq4	(Water)	Result calculations based on MDL
	g8260w Full	(Water)	Result calculations based on MDL
	g8015CCw CC-Seq4	(Water)	RPD calculations based on %Recovery
	g8260w Full	(Water)	RPD calculations based on %Recovery
	g8015CCw CC-Seq4	(Water)	J-Flags used
			Default Report (not modified)
0505280-CCB1	g8260w Full	1,2-Dichloroethane-d4 (Surrogate)	No spike level
0504271-03	g8260w Full	1,2,3-Trichlorobenzene	V11
0505280-CCB1	g8260w Full	Toluene-d8 (Surrogate)	No spike level
0505280-CCB2	g8260w Full	1,2-Dichloroethane-d4 (Surrogate)	No spike level
0505280-CCB2	g8260w Full	4-Bromofluorobenzene (Surrogate)	No spike level
0505280-CCB2	g8260w Full	Toluene-d8 (Surrogate)	No spike level
0504271-01	g8260w Full	1,2,3-Trichlorobenzene	V11
0504271-02	g8260w Full	1,2,3-Trichlorobenzene	V11
	g8260w Full	(Water)	J-Flags used

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4100 Atlas Court • Bakersfield, CA 93308 • (661) 327-4911 • Fax (661) 327-1918 • www.bclabs.com

BC LABORATORIES INC. SAMPLE RECEIPT FORM Rev. No. 10 01/21/04 Page __ Of __

Submission #: 05-4271 | Project Code: | TB Batch #

SHIPPING INFORMATION

Federal Express ☐ UPS ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

SHIPPING CONTAINER

Ice Chest ☒ None ☐
Box ☐ Other ☐ (Specify)_____

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Ice Chest ID BLW Temperature: 5.8 °C Thermometer ID: #48 Emissivity .93 Container QTA

Date/Time 4/28/05 1806 Analyst Init OTO

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL PHYSICAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
100ml TOTAL ORGANIC CARBON										
QT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A 2	A 2	A 2	( )	( )	( )	( )	( )	( )	( )
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT QA/QC										
QT AMBER	B	B	B							
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										

Comments:_____

Sample Numbering Completed By: CV Date/Time: 4/29/05 1030

BC Laboratories, Inc

RECEIVED
JUL 0 9 2005
AVOCET ENVIRONMENTAL, INC.

Date of Report: 06/30/2005

Mike Rendina

Avocet Environmental
16 Technology Drive, Suite 154
Irvine, CA 92618-2327

RE: Avila Tank Farm, Cliff Springs
BC Lab Number: 0505785

Enclosed are the results of analyses for samples received by the laboratory on 06/10/05 21:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Molly Meyers

Contact Person: Molly Meyers
Client Service Rep

Authorized Signature

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AVOCET ENVIRONMENTAL, INC.
16 Technology Drive, Suite 154
Irvine, California 92618-2327
TEL (949) 296-0977
FAX (949) 297-0978

05-5785

CHAIN OF CUSTODY RECORD

Project Information:	
Site Name	Avila Tank Farm, Cliff Springs
Site Address	Avila Beach, CA
Project No.	1114.00
Project Manager	Michael A. Rendina
Sampled By	Michael A. Rendina
Global I.D.	

	Sample Identification	Sample Date	Sample Time	Matrix	No. of Samples	Lab I.D. Number	Analyses: TPH (C4-C10) (Purgeable - Gasoline Standard)	TPH (C10-C25 and C25-C40) (Diesel and Unocal Crude Oil Standards)	TPH (C10-C25 and C25-C40) w/ Silica Gel Treatment (Diesel and	PAHs (EPA 8270 SIM)	VOCs (EPA 8260B)	HOLD FOR FUTURE ANALYSIS	Sample Depth (feet bgs)
-1	CS-A	06/09/05	13:15	Aq.	#5		X	X	(1)	(1)	X		
-2	CS-E	06/09/05	13:30	Aq.	4		X	X	(1)	(1)	X		

Relinquished by	Company	Received by	Company
Printed Name: Michael Rendina Date: 06/9/2005	Avocet Environmental, Inc.	Printed Name: Date: 06/10/2005	Avocet Environmental, Inc.
Signature: Time: 21:10	BC Labs	Signature: Time: 1230	
Printed Name: Date: 6/10/2005	~~Avocet Environmental, Inc.~~	Printed Name: David Rittenhouse Date: 06/10/2005	
Signature: Time: 13:5	BC Labs	Signature: Time: 1315	
Printed Name: Date: 6-10-05		Printed Name: Date: 6-10-05	
Signature: Time: 2110		Signature: Time: 2110	

Sample Receipt	Billing Information	Special Instructions
Total Containers	Bill To: Rick Rittenberg	Request standard 10-day TAT. (1) Test samples for PAHs and treat extract with silica gel and re-run for extractable range hydrocarbons only if TPH is detected. If any questions, please call Mike Rendina @ (949) 933 6031
Temperature °C / °F ——— Lab N	Company: Unocal	
COC Seal (Y/N/NA) Intact (Y/N)	Address: 276 Tank Farm Road, San Luis Obispo, California	

BC LABORATORIES INC. | SAMPLE RECEIPT FORM | Rev. No. 10 01/21/04 | Page ___ Of ___

Submission #: 05-5785 | Project Code: | TB Batch #

SHIPPING INFORMATION

Federal Express ☐ UPS ☐ Hand Delivery ☐
BC Lab Field Service ☑ Other ☐ (Specify)_____

SHIPPING CONTAINER

Ice Chest ☑ None ☐
Box ☐ Other ☐ (Specify)_____

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Ice Chest ID R/W Emissivity .93 Date/Time 6/10/05
Temperature: 1.6 °C Container QHA
Thermometer ID: #148 Analyst Init NVI 2/12

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL PHYSICAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
100ml TOTAL ORGANIC CARBON										
QT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A, B(2)	B, 3								
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT QA/QC										
QT AMBER	B, C	A								
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										

CHK BY: QTC | DISTRIBUTION: ~~SB/JKR~~ | SUB-OUT ☐

Comments:_____
Sample Numbering Completed By: NVI Date/Time: 6/10/05 23:45

Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
0505785-01	**COC Number:**	---	**Receive Date:**	06/10/05 21:10
	Project Number:	---	**Sampling Date:**	06/09/05 13:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	CS-A	**Sample Matrix:**	Water
	Sampled By:	Mike Rendina		
0505785-02	**COC Number:**	---	**Receive Date:**	06/10/05 21:10
	Project Number:	---	**Sampling Date:**	06/09/05 13:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	CS-E	**Sample Matrix:**	Water
	Sampled By:	Mike Rendina		

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0505785-01 | **Client Sample Name:** CS-A, 6/9/2005 1:15:00PM, Mike Rendina

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Bromobenzene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Bromochloromethane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	V11
Bromodichloromethane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Bromoform	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Bromomethane	ND	ug/L	1.0		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
n-Butylbenzene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
sec-Butylbenzene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
tert-Butylbenzene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Carbon tetrachloride	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Chlorobenzene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Chloroethane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Chloroform	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Chloromethane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
2-Chlorotoluene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
4-Chlorotoluene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Dibromochloromethane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Dibromomethane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,2-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,3-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,4-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Dichlorodifluoromethane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	V11
1,1-Dichloroethane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0505785-01 | **Client Sample Name:** CS-A, 6/9/2005 1:15:00PM, Mike Rendina

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,1-Dichloroethene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
cis-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
trans-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Total 1,2-Dichloroethene	ND	ug/L	1.0		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,3-Dichloropropane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
2,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,1-Dichloropropene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
cis-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
trans-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Total 1,3-Dichloropropene	ND	ug/L	1.0		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Hexachlorobutadiene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Isopropylbenzene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
p-Isopropyltoluene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Methylene chloride	ND	ug/L	1.0		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Naphthalene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
n-Propylbenzene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Styrene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Tetrachloroethene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Toluene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0505785-01 | **Client Sample Name:** CS-A, 6/9/2005 1:15:00PM, Mike Rendina

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,2,3-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,2,4-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,1,1-Trichloroethane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,1,2-Trichloroethane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Trichloroethene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Trichlorofluoromethane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,2,3-Trichloropropane	ND	ug/L	1.0		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,2,4-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,3,5-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Vinyl chloride	ND	ug/L	0.50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Total Xylenes	ND	ug/L	1.0		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736	ND	
1,2-Dichloroethane-d4 (Surrogate)	112	%	76 - 114 (LCL - UCL)		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736		
Toluene-d8 (Surrogate)	100	%	88 - 110 (LCL - UCL)		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736		
4-Bromofluorobenzene (Surrogate)	93.9	%	86 - 115 (LCL - UCL)		EPA-8260	06/13/05	06/14/05 01:13	lrf	MS-V9	1	BOF0736		

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Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 0505785-01 | **Client Sample Name:** CS-A, 6/9/2005 1:15:00PM, Mike Rendina

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel - C10 - C25	67	ug/L	50		EPA-8015C	06/13/05	06/23/05 08:48	VTR	GC-13A	4.72	BOF0997		
Crude Oil - C25 - C40	ND	ug/L	50		EPA-8015C	06/13/05	06/23/05 08:48	VTR	GC-13A	4.72	BOF0997		
Tetracosane (Surrogate)	98.3	%	32 - 140	(LCL - UCL)	EPA-8015C	06/13/05	06/23/05 08:48	VTR	GC-13A	4.72	BOF0997		

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Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0505785-02 | **Client Sample Name:** CS-E, 6/9/2005 1:30:00PM, Mike Rendina

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Bromobenzene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Bromochloromethane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Bromodichloromethane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Bromoform	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Bromomethane	ND	ug/L	1.0		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
n-Butylbenzene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
sec-Butylbenzene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
tert-Butylbenzene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Carbon tetrachloride	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Chlorobenzene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Chloroethane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Chloroform	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Chloromethane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
2-Chlorotoluene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
4-Chlorotoluene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Dibromochloromethane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Dibromomethane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,2-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,3-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,4-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Dichlorodifluoromethane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,1-Dichloroethane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0505785-02 | **Client Sample Name:** CS-E, 6/9/2005 1:30:00PM, Mike Rendina

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,1-Dichloroethene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
cis-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
trans-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Total 1,2-Dichloroethene	ND	ug/L	1.0		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,3-Dichloropropane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
2,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,1-Dichloropropene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
cis-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
trans-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Total 1,3-Dichloropropene	ND	ug/L	1.0		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Hexachlorobutadiene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Isopropylbenzene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
p-Isopropyltoluene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Methylene chloride	ND	ug/L	1.0		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Naphthalene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
n-Propylbenzene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Styrene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Tetrachloroethene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Toluene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0505785-02 | **Client Sample Name:** CS-E, 6/9/2005 1:30:00PM, Mike Rendina

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,2,3-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,2,4-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,1,1-Trichloroethane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,1,2-Trichloroethane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Trichloroethene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Trichlorofluoromethane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,2,3-Trichloropropane	ND	ug/L	1.0		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	V11
1,2,4-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,3,5-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Vinyl chloride	ND	ug/L	0.50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Total Xylenes	ND	ug/L	1.0		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082	ND	
1,2-Dichloroethane-d4 (Surrogate)	98.5	%	76 - 114 (LCL - UCL)		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082		
Toluene-d8 (Surrogate)	100	%	88 - 110 (LCL - UCL)		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082		
4-Bromofluorobenzene (Surrogate)	91.9	%	86 - 115 (LCL - UCL)		EPA-8260	06/21/05	06/22/05 01:58	svm	MS-V4	1	BOF1082		

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Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID: 0505785-02 | **Client Sample Name:** CS-E, 6/9/2005 1:30:00PM, Mike Rendina

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel - C10 - C25	86	ug/L	50		EPA-8015C	06/13/05	06/23/05 09:11	VTR	GC-13A	4.72	BOF0997		
Crude Oil - C25 - C40	ND	ug/L	50		EPA-8015C	06/13/05	06/23/05 09:11	VTR	GC-13A	4.72	BOF0997		
Tetracosane (Surrogate)	108	%	32 - 140	(LCL - UCL)	EPA-8015C	06/13/05	06/23/05 09:11	VTR	GC-13A	4.72	BOF0997		

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16 Technology Drive, Suite 154
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Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample ID	QC Sample Type	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Benzene	BOF0736	BOF0736-MS1	Matrix Spike	ND	23.670	25.000	ug/L		94.7		70 - 130	
		BOF0736-MSD1	Matrix Spike Duplicate	ND	24.100	25.000	ug/L	1.78	96.4	20	70 - 130	
Bromodichloromethane	BOF0736	BOF0736-MS1	Matrix Spike	ND	25.630	25.000	ug/L		103		70 - 130	
		BOF0736-MSD1	Matrix Spike Duplicate	ND	25.300	25.000	ug/L	1.96	101	20	70 - 130	
Chlorobenzene	BOF0736	BOF0736-MS1	Matrix Spike	ND	25.200	25.000	ug/L		101		70 - 130	
		BOF0736-MSD1	Matrix Spike Duplicate	ND	24.430	25.000	ug/L	3.32	97.7	20	70 - 130	
Chloroethane	BOF0736	BOF0736-MS1	Matrix Spike	ND	23.930	25.000	ug/L		95.7		70 - 130	
		BOF0736-MSD1	Matrix Spike Duplicate	ND	26.140	25.000	ug/L	9.27	105	20	70 - 130	
1,4-Dichlorobenzene	BOF0736	BOF0736-MS1	Matrix Spike	ND	26.530	25.000	ug/L		106		70 - 130	
		BOF0736-MSD1	Matrix Spike Duplicate	ND	25.910	25.000	ug/L	1.90	104	20	70 - 130	
1,1-Dichloroethane	BOF0736	BOF0736-MS1	Matrix Spike	ND	25.050	25.000	ug/L		100		70 - 130	
		BOF0736-MSD1	Matrix Spike Duplicate	ND	25.340	25.000	ug/L	0.995	101	20	70 - 130	
1,1-Dichloroethene	BOF0736	BOF0736-MS1	Matrix Spike	ND	25.680	25.000	ug/L		103		70 - 130	
		BOF0736-MSD1	Matrix Spike Duplicate	ND	26.560	25.000	ug/L	2.87	106	20	70 - 130	
Toluene	BOF0736	BOF0736-MS1	Matrix Spike	ND	25.170	25.000	ug/L		101		70 - 130	
		BOF0736-MSD1	Matrix Spike Duplicate	ND	25.350	25.000	ug/L	0.00	101	20	70 - 130	
Trichloroethene	BOF0736	BOF0736-MS1	Matrix Spike	ND	25.130	25.000	ug/L		101		70 - 130	
		BOF0736-MSD1	Matrix Spike Duplicate	ND	24.860	25.000	ug/L	1.60	99.4	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	BOF0736	BOF0736-MS1	Matrix Spike	ND	9.8100	10.000	ug/L		98.1		76 - 114	
		BOF0736-MSD1	Matrix Spike Duplicate	ND	10.350	10.000	ug/L		104		76 - 114	
Toluene-d8 (Surrogate)	BOF0736	BOF0736-MS1	Matrix Spike	ND	10.070	10.000	ug/L		101		88 - 110	
		BOF0736-MSD1	Matrix Spike Duplicate	ND	9.9700	10.000	ug/L		99.7		88 - 110	
4-Bromofluorobenzene (Surrogate)	BOF0736	BOF0736-MS1	Matrix Spike	ND	10.640	10.000	ug/L		106		86 - 115	
		BOF0736-MSD1	Matrix Spike Duplicate	ND	10.310	10.000	ug/L		103		86 - 115	
Benzene	BOF1082	BOF1082-MS1	Matrix Spike	ND	24.200	25.000	ug/L		96.8		70 - 130	
		BOF1082-MSD1	Matrix Spike Duplicate	ND	25.340	25.000	ug/L	4.25	101	20	70 - 130	
Bromodichloromethane	BOF1082	BOF1082-MS1	Matrix Spike	ND	22.340	25.000	ug/L		89.4		70 - 130	
		BOF1082-MSD1	Matrix Spike Duplicate	ND	22.640	25.000	ug/L	1.33	90.6	20	70 - 130	

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample ID	QC Sample Type	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Chlorobenzene	BOF1082	BOF1082-MS1	Matrix Spike	ND	24.840	25.000	ug/L		99.4		70 - 130	
		BOF1082-MSD1	Matrix Spike Duplicate	ND	25.200	25.000	ug/L	1.60	101	20	70 - 130	
Chloroethane	BOF1082	BOF1082-MS1	Matrix Spike	ND	25.980	25.000	ug/L		104		70 - 130	
		BOF1082-MSD1	Matrix Spike Duplicate	ND	27.020	25.000	ug/L	3.77	108	20	70 - 130	
1,4-Dichlorobenzene	BOF1082	BOF1082-MS1	Matrix Spike	ND	26.050	25.000	ug/L		104		70 - 130	
		BOF1082-MSD1	Matrix Spike Duplicate	ND	25.860	25.000	ug/L	0.966	103	20	70 - 130	
1,1-Dichloroethane	BOF1082	BOF1082-MS1	Matrix Spike	ND	25.370	25.000	ug/L		101		70 - 130	
		BOF1082-MSD1	Matrix Spike Duplicate	ND	26.240	25.000	ug/L	3.88	105	20	70 - 130	
1,1-Dichloroethene	BOF1082	BOF1082-MS1	Matrix Spike	ND	26.720	25.000	ug/L		107		70 - 130	
		BOF1082-MSD1	Matrix Spike Duplicate	ND	27.430	25.000	ug/L	2.76	110	20	70 - 130	
Toluene	BOF1082	BOF1082-MS1	Matrix Spike	ND	24.850	25.000	ug/L		99.4		70 - 130	
		BOF1082-MSD1	Matrix Spike Duplicate	ND	25.310	25.000	ug/L	1.60	101	20	70 - 130	
Trichloroethene	BOF1082	BOF1082-MS1	Matrix Spike	ND	25.630	25.000	ug/L		103		70 - 130	
		BOF1082-MSD1	Matrix Spike Duplicate	ND	25.790	25.000	ug/L	0.00	103	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	BOF1082	BOF1082-MS1	Matrix Spike	ND	10.480	10.000	ug/L		105		76 - 114	
		BOF1082-MSD1	Matrix Spike Duplicate	ND	10.710	10.000	ug/L		107		76 - 114	
Toluene-d8 (Surrogate)	BOF1082	BOF1082-MS1	Matrix Spike	ND	9.9000	10.000	ug/L		99.0		88 - 110	
		BOF1082-MSD1	Matrix Spike Duplicate	ND	10.060	10.000	ug/L		101		88 - 110	
4-Bromofluorobenzene (Surrogate)	BOF1082	BOF1082-MS1	Matrix Spike	ND	10.190	10.000	ug/L		102		86 - 115	
		BOF1082-MSD1	Matrix Spike Duplicate	ND	10.120	10.000	ug/L		101		86 - 115	

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Benzene	BOF0736	BOF0736-BS1	LCS	24.780	25.000	0.50	ug/L	99.1		70 - 130		
Bromodichloromethane	BOF0736	BOF0736-BS1	LCS	25.530	25.000	0.50	ug/L	102		70 - 130		
Chlorobenzene	BOF0736	BOF0736-BS1	LCS	24.140	25.000	0.50	ug/L	96.6		70 - 130		
Chloroethane	BOF0736	BOF0736-BS1	LCS	26.100	25.000	0.50	ug/L	104		70 - 130		
1,4-Dichlorobenzene	BOF0736	BOF0736-BS1	LCS	25.140	25.000	0.50	ug/L	101		70 - 130		
1,1-Dichloroethane	BOF0736	BOF0736-BS1	LCS	25.540	25.000	0.50	ug/L	102		70 - 130		
1,1-Dichloroethene	BOF0736	BOF0736-BS1	LCS	26.490	25.000	0.50	ug/L	106		70 - 130		
Toluene	BOF0736	BOF0736-BS1	LCS	25.750	25.000	0.50	ug/L	103		70 - 130		
Trichloroethene	BOF0736	BOF0736-BS1	LCS	25.220	25.000	0.50	ug/L	101		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BOF0736	BOF0736-BS1	LCS	10.100	10.000		ug/L	101		76 - 114		
Toluene-d8 (Surrogate)	BOF0736	BOF0736-BS1	LCS	10.010	10.000		ug/L	100		88 - 110		
4-Bromofluorobenzene (Surrogate)	BOF0736	BOF0736-BS1	LCS	10.820	10.000		ug/L	108		86 - 115		
Benzene	BOF1082	BOF1082-BS1	LCS	22.340	25.000	1.0	ug/L	89.4		70 - 130		
Bromodichloromethane	BOF1082	BOF1082-BS1	LCS	24.150	25.000	0.50	ug/L	96.6		70 - 130		
Chlorobenzene	BOF1082	BOF1082-BS1	LCS	23.760	25.000	0.50	ug/L	95.0		70 - 130		
Chloroethane	BOF1082	BOF1082-BS1	LCS	23.000	25.000	0.50	ug/L	92.0		70 - 130		
1,4-Dichlorobenzene	BOF1082	BOF1082-BS1	LCS	25.520	25.000	0.50	ug/L	102		70 - 130		
1,1-Dichloroethane	BOF1082	BOF1082-BS1	LCS	23.420	25.000	0.50	ug/L	93.7		70 - 130		
1,1-Dichloroethene	BOF1082	BOF1082-BS1	LCS	24.280	25.000	0.50	ug/L	97.1		70 - 130		
Toluene	BOF1082	BOF1082-BS1	LCS	23.930	25.000	1.0	ug/L	95.7		70 - 130		
Trichloroethene	BOF1082	BOF1082-BS1	LCS	24.650	25.000	0.50	ug/L	98.6		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BOF1082	BOF1082-BS1	LCS	10.350	10.000		ug/L	104		76 - 114		
Toluene-d8 (Surrogate)	BOF1082	BOF1082-BS1	LCS	9.8300	10.000		ug/L	98.3		88 - 110		
4-Bromofluorobenzene (Surrogate)	BOF1082	BOF1082-BS1	LCS	10.320	10.000		ug/L	103		86 - 115		

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16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.12	
Bromobenzene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.14	
Bromochloromethane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.14	
Bromodichloromethane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.12	
Bromoform	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.33	
Bromomethane	BOF0736	BOF0736-BLK1	ND	ug/L	1.0	0.21	
n-Butylbenzene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.13	
sec-Butylbenzene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.11	
tert-Butylbenzene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.12	
Carbon tetrachloride	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.15	
Chlorobenzene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.12	
Chloroethane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.17	
Chloroform	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.11	
Chloromethane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.17	
2-Chlorotoluene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.17	
4-Chlorotoluene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.13	
Dibromochloromethane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.14	
1,2-Dibromo-3-chloropropane	BOF0736	BOF0736-BLK1	ND	ug/L	1.0	0.69	
1,2-Dibromoethane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.11	
Dibromomethane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.14	
1,2-Dichlorobenzene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.077	
1,3-Dichlorobenzene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.14	
1,4-Dichlorobenzene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.14	
Dichlorodifluoromethane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.20	
1,1-Dichloroethane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.13	

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
1,2-Dichloroethane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.25	
1,1-Dichloroethene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.14	
cis-1,2-Dichloroethene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.19	
trans-1,2-Dichloroethene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.19	
Total 1,2-Dichloroethene	BOF0736	BOF0736-BLK1	ND	ug/L	1.0	0.38	
1,2-Dichloropropane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.16	
1,3-Dichloropropane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.18	
2,2-Dichloropropane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloropropene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.18	
cis-1,3-Dichloropropene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.13	
trans-1,3-Dichloropropene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.14	
Total 1,3-Dichloropropene	BOF0736	BOF0736-BLK1	ND	ug/L	1.0	0.26	
Ethylbenzene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.13	
Hexachlorobutadiene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.23	
Isopropylbenzene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.22	
p-Isopropyltoluene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.12	
Methylene chloride	BOF0736	BOF0736-BLK1	ND	ug/L	1.0	0.44	
Methyl t-butyl ether	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.15	
Naphthalene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.098	
n-Propylbenzene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.13	
Styrene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.16	
1,1,1,2-Tetrachloroethane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.18	
1,1,2,2-Tetrachloroethane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.23	
Tetrachloroethene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.15	
Toluene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.15	

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
1,2,3-Trichlorobenzene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.14	
1,2,4-Trichlorobenzene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.16	
1,1,1-Trichloroethane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.16	
1,1,2-Trichloroethane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.15	
Trichloroethene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.18	
Trichlorofluoromethane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.20	
1,2,3-Trichloropropane	BOF0736	BOF0736-BLK1	ND	ug/L	1.0	0.46	
1,1,2-Trichloro-1,2,2-trifluoroethane	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.18	
1,2,4-Trimethylbenzene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.11	
1,3,5-Trimethylbenzene	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.11	
Vinyl chloride	BOF0736	BOF0736-BLK1	ND	ug/L	0.50	0.16	
Total Xylenes	BOF0736	BOF0736-BLK1	ND	ug/L	1.0	0.40	
Total Purgeable Petroleum Hydrocarbons	BOF0736	BOF0736-BLK1	ND	ug/L	50	23	
1,2-Dichloroethane-d4 (Surrogate)	BOF0736	BOF0736-BLK1	108	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BOF0736	BOF0736-BLK1	102	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BOF0736	BOF0736-BLK1	89.2	%	86 - 115 (LCL - UCL)		
Benzene	BOF1082	BOF1082-BLK1	ND	ug/L	1.0	0.13	
Bromobenzene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.14	
Bromodichloromethane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.16	
Bromoform	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.33	
Bromomethane	BOF1082	BOF1082-BLK1	ND	ug/L	1.0	0.21	
n-Butylbenzene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.13	
sec-Butylbenzene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.12	
tert-Butylbenzene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.12	

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Carbon tetrachloride	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.15	
Chlorobenzene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.12	
Chloroethane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.17	
Chloroform	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.11	
Chloromethane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.17	
2-Chlorotoluene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.17	
4-Chlorotoluene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.17	
Dibromochloromethane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.14	
1,2-Dibromo-3-chloropropane	BOF1082	BOF1082-BLK1	ND	ug/L	1.0	0.69	
1,2-Dibromoethane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.16	
Dibromomethane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.26	
1,2-Dichlorobenzene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.16	
1,3-Dichlorobenzene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.14	
1,4-Dichlorobenzene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.14	
Dichlorodifluoromethane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.20	
1,1-Dichloroethane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloroethane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.25	
1,1-Dichloroethene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.15	
cis-1,2-Dichloroethene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.19	
trans-1,2-Dichloroethene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.19	
Total 1,2-Dichloroethene	BOF1082	BOF1082-BLK1	ND	ug/L	1.0	0.38	
1,2-Dichloropropane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.16	
1,3-Dichloropropane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.18	
2,2-Dichloropropane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloropropene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.18	

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
cis-1,3-Dichloropropene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.16	
trans-1,3-Dichloropropene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.14	
Total 1,3-Dichloropropene	BOF1082	BOF1082-BLK1	ND	ug/L	1.0	0.30	
Ethylbenzene	BOF1082	BOF1082-BLK1	ND	ug/L	1.0	0.14	
Hexachlorobutadiene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.23	
Isopropylbenzene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.22	
p-Isopropyltoluene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.15	
Methylene chloride	BOF1082	BOF1082-BLK1	ND	ug/L	1.0	0.44	
Methyl t-butyl ether	BOF1082	BOF1082-BLK1	ND	ug/L	2.0	0.15	
Naphthalene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.12	
n-Propylbenzene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.13	
Styrene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.16	
1,1,1,2-Tetrachloroethane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.18	
1,1,2,2-Tetrachloroethane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.23	
Tetrachloroethene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.15	
Toluene	BOF1082	BOF1082-BLK1	ND	ug/L	1.0	0.15	
1,2,3-Trichlorobenzene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.16	
1,2,4-Trichlorobenzene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.16	
1,1,1-Trichloroethane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.16	
1,1,2-Trichloroethane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.15	
Trichloroethene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.18	
Trichlorofluoromethane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.20	
1,2,3-Trichloropropane	BOF1082	BOF1082-BLK1	ND	ug/L	1.0	0.46	
1,1,2-Trichloro-1,2,2-trifluoroethane	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.18	
1,2,4-Trimethylbenzene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.16	

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
1,3,5-Trimethylbenzene	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.13	
Vinyl chloride	BOF1082	BOF1082-BLK1	ND	ug/L	0.50	0.16	
Total Xylenes	BOF1082	BOF1082-BLK1	ND	ug/L	1.0	0.40	
Total Purgeable Petroleum Hydrocarbons	BOF1082	BOF1082-BLK1	ND	ug/L	50	23	
1,2-Dichloroethane-d4 (Surrogate)	BOF1082	BOF1082-BLK1	102	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BOF1082	BOF1082-BLK1	99.3	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BOF1082	BOF1082-BLK1	91.1	%	86 - 115 (LCL - UCL)		

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Avocet Environmental
16 Technology Drive, Suite 154
Irvine CA, 92618-2327

Project: Avila Tank Farm, Cliff Springs
Project Number: [none]
Project Manager: Mike Rendina

Reported: 06/30/05 16:21

Notes and Definitions

V11	The Continuing Calibration Verification (CCV) recovery is not within established control limits.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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Date of Report: 04/20/2006

Jay Simonds

Parsons

1150 Laurel Ln., Suite 190
San Luis Obispo, CA 93401

RE: Avila Tank Farm

BC Lab Number: 0603215

Enclosed are the results of analyses for samples received by the laboratory on 04/05/06 12:08. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Molly Meyers

Client Service Rep

Authorized Signature

Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
0603215-01	**COC Number:**	---	**Receive Date:**	04/05/06 12:08
	Project Number:	---	**Sampling Date:**	03/31/06 16:10
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	AT-A	**Sample Matrix:**	Water
	Sampled By:	Jay Simonds		
0603215-02	**COC Number:**	---	**Receive Date:**	04/05/06 12:08
	Project Number:	---	**Sampling Date:**	03/31/06 15:53
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	AT-E	**Sample Matrix:**	Water
	Sampled By:	Jay Simonds		
0603215-03	**COC Number:**	---	**Receive Date:**	04/05/06 12:08
	Project Number:	---	**Sampling Date:**	03/31/06 15:28
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	AT-G	**Sample Matrix:**	Water
	Sampled By:	Jay Simonds		
0603215-04	**COC Number:**	---	**Receive Date:**	04/05/06 12:08
	Project Number:	---	**Sampling Date:**	03/31/06 15:28
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	AT-G	**Sample Matrix:**	Water
	Sampled By:	Jay Simonds		
0603215-05	**COC Number:**	---	**Receive Date:**	04/05/06 12:08
	Project Number:	---	**Sampling Date:**	03/31/06 15:53
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	AT-E	**Sample Matrix:**	Water
	Sampled By:	Jay Simonds		

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
0603215-06	**COC Number:**	---	**Receive Date:**	04/05/06 12:08
	Project Number:	---	**Sampling Date:**	03/31/06 16:10
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	AT-A	**Sample Matrix:**	Water
	Sampled By:	Jay Simonds		
0603215-07	**COC Number:**	---	**Receive Date:**	04/05/06 12:08
	Project Number:	---	**Sampling Date:**	03/31/06 15:28
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	AT-G	**Sample Matrix:**	Water
	Sampled By:	Jay Simonds		
0603215-08	**COC Number:**	---	**Receive Date:**	04/05/06 12:08
	Project Number:	---	**Sampling Date:**	03/31/06 15:53
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	AT-E	**Sample Matrix:**	Water
	Sampled By:	Jay Simonds		
0603215-09	**COC Number:**	---	**Receive Date:**	04/05/06 12:08
	Project Number:	---	**Sampling Date:**	03/31/06 16:10
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	AT-A	**Sample Matrix:**	Water
	Sampled By:	Jay Simonds		

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Luft Crude Oil Ranges by GC/MS

BCL Sample ID: 0603215-01 **Client Sample Name:** AT-A, 3/31/2006 4:10:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel - C10 - C25	220	ug/L	50		Luft/GCMS C	04/10/06	04/18/06 22:11	JST	MS-B5	1.03	BPD0830	23	
Crude Oil - C25 - C40	250	ug/L	50		Luft/GCMS C	04/10/06	04/18/06 22:11	JST	MS-B5	1.03	BPD0830	23	
p-Terphenyl-d14 (Surrogate)	96.4	%	60 - 140 (LCL - UCL)		Luft/GCMS C	04/10/06	04/18/06 22:11	JST	MS-B5	1.03	BPD0830		

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Luft Crude Oil Ranges by GC/MS

BCL Sample ID: 0603215-02 **Client Sample Name:** AT-E, 3/31/2006 3:53:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel - C10 - C25	230	ug/L	50		Luft/GCMS C	04/10/06	04/18/06 22:33	JST	MS-B5	1.04	BPD0830	23	
Crude Oil - C25 - C40	830	ug/L	50		Luft/GCMS C	04/10/06	04/18/06 22:33	JST	MS-B5	1.04	BPD0830	23	
p-Terphenyl-d14 (Surrogate)	77.4	%	60 - 140 (LCL - UCL)		Luft/GCMS C	04/10/06	04/18/06 22:33	JST	MS-B5	1.04	BPD0830		

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Luft Crude Oil Ranges by GC/MS

BCL Sample ID: 0603215-03 **Client Sample Name:** AT-G, 3/31/2006 3:28:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel - C10 - C25	66	ug/L	62		Luft/GCMS C	04/10/06	04/18/06 22:55	JST	MS-B5	1.25	BPD0830	27	
Crude Oil - C25 - C40	140	ug/L	62		Luft/GCMS C	04/10/06	04/18/06 22:55	JST	MS-B5	1.25	BPD0830	28	
p-Terphenyl-d14 (Surrogate)	99.1	%	60 - 140 (LCL - UCL)		Luft/GCMS C	04/10/06	04/18/06 22:55	JST	MS-B5	1.25	BPD0830		

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Luft Crude Oil Ranges by GC/MS

BCL Sample ID: 0603215-04 **Client Sample Name:** AT-G, 3/31/2006 3:28:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel - C10 - C25	68	ug/L	50		Luft/GCMS C	04/10/06	04/18/06 23:16	JST	MS-B5	1.06	BPD0830	23	
Crude Oil - C25 - C40	140	ug/L	50		Luft/GCMS C	04/10/06	04/18/06 23:16	JST	MS-B5	1.06	BPD0830	24	
p-Terphenyl-d14 (Surrogate)	99.4	%	60 - 140 (LCL - UCL)		Luft/GCMS C	04/10/06	04/18/06 23:16	JST	MS-B5	1.06	BPD0830		

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Luft Crude Oil Ranges by GC/MS

BCL Sample ID: 0603215-05 **Client Sample Name:** AT-E, 3/31/2006 3:53:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel - C10 - C25	220	ug/L	50		Luft/GCMS C	04/10/06	04/18/06 23:38	JST	MS-B5	1.04	BPD0830	23	
Crude Oil - C25 - C40	790	ug/L	50		Luft/GCMS C	04/10/06	04/18/06 23:38	JST	MS-B5	1.04	BPD0830	23	
p-Terphenyl-d14 (Surrogate)	53.3	%	60 - 140 (LCL - UCL)		Luft/GCMS C	04/10/06	04/18/06 23:38	JST	MS-B5	1.04	BPD0830		S09

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Luft Crude Oil Ranges by GC/MS

BCL Sample ID: 0603215-06 **Client Sample Name:** AT-A, 3/31/2006 4:10:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel - C10 - C25	220	ug/L	50		Luft/GCMS C	04/10/06	04/19/06 00:00	JST	MS-B5	1.03	BPD0830	23	
Crude Oil - C25 - C40	280	ug/L	50		Luft/GCMS C	04/10/06	04/19/06 00:00	JST	MS-B5	1.03	BPD0830	23	
p-Terphenyl-d14 (Surrogate)	86.3	%	60 - 140 (LCL - UCL)		Luft/GCMS C	04/10/06	04/19/06 00:00	JST	MS-B5	1.03	BPD0830		

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0603215-07 **Client Sample Name:** AT-G, 3/31/2006 3:28:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Bromobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Bromochloromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Bromodichloromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Bromoform	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Bromomethane	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
n-Butylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
sec-Butylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
tert-Butylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Carbon tetrachloride	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Chlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Chloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Chloroform	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Chloromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
2-Chlorotoluene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
4-Chlorotoluene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Dibromochloromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Dibromomethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,2-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,3-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,4-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0603215-07 **Client Sample Name:** AT-G, 3/31/2006 3:28:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Dichlorodifluoromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	V11
1,1-Dichloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,1-Dichloroethene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
cis-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
trans-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Total 1,2-Dichloroethene	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,3-Dichloropropane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
2,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,1-Dichloropropene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
cis-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
trans-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Total 1,3-Dichloropropene	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Hexachlorobutadiene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Isopropylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
p-Isopropyltoluene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Methylene chloride	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Naphthalene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
n-Propylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	V11
Styrene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	

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1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0603215-07 **Client Sample Name:** AT-G, 3/31/2006 3:28:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Tetrachloroethene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Toluene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,2,3-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,2,4-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,1,1-Trichloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,1,2-Trichloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Trichloroethene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Trichlorofluoromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,2,3-Trichloropropane	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,2,4-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,3,5-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Vinyl chloride	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Total Xylenes	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
t-Butyl alcohol	ND	ug/L	10		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Diisopropyl ether	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458	ND	
1,2-Dichloroethane-d4 (Surrogate)	95.3	%	76 - 114 (LCL - UCL)		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458		
Toluene-d8 (Surrogate)	99.4	%	88 - 110 (LCL - UCL)		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458		
4-Bromofluorobenzene (Surrogate)	87.1	%	86 - 115 (LCL - UCL)		EPA-8260	04/07/06	04/11/06 01:46	MWB	MS-V9	1	BPD0458		

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San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0603215-08 **Client Sample Name:** AT-E, 3/31/2006 3:53:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Bromobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Bromochloromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Bromodichloromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Bromoform	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Bromomethane	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
n-Butylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
sec-Butylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
tert-Butylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Carbon tetrachloride	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Chlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Chloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Chloroform	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Chloromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
2-Chlorotoluene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
4-Chlorotoluene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Dibromochloromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Dibromomethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,2-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,3-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,4-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	

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San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0603215-08 **Client Sample Name:** AT-E, 3/31/2006 3:53:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Dichlorodifluoromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	V11
1,1-Dichloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,1-Dichloroethene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
cis-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
trans-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Total 1,2-Dichloroethene	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,3-Dichloropropane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
2,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,1-Dichloropropene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
cis-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
trans-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Total 1,3-Dichloropropene	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Hexachlorobutadiene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Isopropylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
p-Isopropyltoluene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Methylene chloride	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Naphthalene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
n-Propylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	V11
Styrene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	

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Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0603215-08 **Client Sample Name:** AT-E, 3/31/2006 3:53:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Tetrachloroethene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Toluene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,2,3-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,2,4-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,1,1-Trichloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,1,2-Trichloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Trichloroethene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Trichlorofluoromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,2,3-Trichloropropane	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,2,4-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,3,5-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Vinyl chloride	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Total Xylenes	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
t-Butyl alcohol	ND	ug/L	10		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Diisopropyl ether	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458	ND	
1,2-Dichloroethane-d4 (Surrogate)	95.0	%	76 - 114 (LCL - UCL)		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458		
Toluene-d8 (Surrogate)	98.1	%	88 - 110 (LCL - UCL)		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458		
4-Bromofluorobenzene (Surrogate)	91.2	%	86 - 115 (LCL - UCL)		EPA-8260	04/07/06	04/11/06 02:12	MWB	MS-V9	1	BPD0458		

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1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0603215-09 **Client Sample Name:** AT-A, 3/31/2006 4:10:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Bromobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Bromochloromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Bromodichloromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Bromoform	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Bromomethane	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
n-Butylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
sec-Butylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
tert-Butylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Carbon tetrachloride	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Chlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Chloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Chloroform	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Chloromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
2-Chlorotoluene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
4-Chlorotoluene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Dibromochloromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Dibromomethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,2-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,3-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,4-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	

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1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0603215-09 **Client Sample Name:** AT-A, 3/31/2006 4:10:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Dichlorodifluoromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	V11
1,1-Dichloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,1-Dichloroethene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
cis-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
trans-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Total 1,2-Dichloroethene	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,3-Dichloropropane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
2,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,1-Dichloropropene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
cis-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
trans-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Total 1,3-Dichloropropene	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Hexachlorobutadiene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Isopropylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
p-Isopropyltoluene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Methylene chloride	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Naphthalene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
n-Propylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	V11
Styrene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	

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Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0603215-09 | **Client Sample Name:** AT-A, 3/31/2006 4:10:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Tetrachloroethene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Toluene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,2,3-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,2,4-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,1,1-Trichloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,1,2-Trichloroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Trichloroethene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Trichlorofluoromethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,2,3-Trichloropropane	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,2,4-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,3,5-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Vinyl chloride	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Total Xylenes	ND	ug/L	1.0		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
t-Butyl alcohol	ND	ug/L	10		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Diisopropyl ether	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458	ND	
1,2-Dichloroethane-d4 (Surrogate)	95.5	%	76 - 114 (LCL - UCL)		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458		
Toluene-d8 (Surrogate)	98.5	%	88 - 110 (LCL - UCL)		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458		
4-Bromofluorobenzene (Surrogate)	90.7	%	86 - 115 (LCL - UCL)		EPA-8260	04/07/06	04/11/06 02:37	MWB	MS-V9	1	BPD0458		

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San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample ID	QC Sample Type	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Benzene	BPD0458	BPD0458-MS1	Matrix Spike	ND	25.170	25.000	ug/L		101		70 - 130	
		BPD0458-MSD1	Matrix Spike Duplicate	ND	25.550	25.000	ug/L	0.985	102	20	70 - 130	
Bromodichloromethane	BPD0458	BPD0458-MS1	Matrix Spike	ND	24.380	25.000	ug/L		97.5		70 - 130	
		BPD0458-MSD1	Matrix Spike Duplicate	ND	24.690	25.000	ug/L	1.32	98.8	20	70 - 130	
Chlorobenzene	BPD0458	BPD0458-MS1	Matrix Spike	ND	20.730	25.000	ug/L		82.9		70 - 130	
		BPD0458-MSD1	Matrix Spike Duplicate	ND	21.400	25.000	ug/L	3.20	85.6	20	70 - 130	
Chloroethane	BPD0458	BPD0458-MS1	Matrix Spike	ND	26.240	25.000	ug/L		105		70 - 130	
		BPD0458-MSD1	Matrix Spike Duplicate	ND	26.340	25.000	ug/L	0.00	105	20	70 - 130	
1,4-Dichlorobenzene	BPD0458	BPD0458-MS1	Matrix Spike	ND	21.040	25.000	ug/L		84.2		70 - 130	
		BPD0458-MSD1	Matrix Spike Duplicate	ND	21.240	25.000	ug/L	0.946	85.0	20	70 - 130	
1,1-Dichloroethane	BPD0458	BPD0458-MS1	Matrix Spike	ND	25.690	25.000	ug/L		103		70 - 130	
		BPD0458-MSD1	Matrix Spike Duplicate	ND	25.760	25.000	ug/L	0.00	103	20	70 - 130	
1,1-Dichloroethene	BPD0458	BPD0458-MS1	Matrix Spike	ND	26.620	25.000	ug/L		106		70 - 130	
		BPD0458-MSD1	Matrix Spike Duplicate	ND	26.810	25.000	ug/L	0.939	107	20	70 - 130	
Toluene	BPD0458	BPD0458-MS1	Matrix Spike	ND	24.480	25.000	ug/L		97.9		70 - 130	
		BPD0458-MSD1	Matrix Spike Duplicate	ND	24.540	25.000	ug/L	0.306	98.2	20	70 - 130	
Trichloroethene	BPD0458	BPD0458-MS1	Matrix Spike	ND	24.260	25.000	ug/L		97.0		70 - 130	
		BPD0458-MSD1	Matrix Spike Duplicate	ND	24.180	25.000	ug/L	0.310	96.7	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	BPD0458	BPD0458-MS1	Matrix Spike	ND	10.160	10.000	ug/L		102		76 - 114	
		BPD0458-MSD1	Matrix Spike Duplicate	ND	9.7000	10.000	ug/L		97.0		76 - 114	
Toluene-d8 (Surrogate)	BPD0458	BPD0458-MS1	Matrix Spike	ND	10.210	10.000	ug/L		102		88 - 110	
		BPD0458-MSD1	Matrix Spike Duplicate	ND	10.030	10.000	ug/L		100		88 - 110	
4-Bromofluorobenzene (Surrogate)	BPD0458	BPD0458-MS1	Matrix Spike	ND	10.610	10.000	ug/L		106		86 - 115	
		BPD0458-MSD1	Matrix Spike Duplicate	ND	11.030	10.000	ug/L		110		86 - 115	

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Luft Crude Oil Ranges by GC/MS

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample ID	QC Sample Type	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
p-Terphenyl-d14 (Surrogate)	BPD0830	BPD0830-MS1	Matrix Spike	ND	39.570	40.000	ug/L		98.9		60 - 140	
		BPD0830-MSD1	Matrix Spike Duplicate	ND	39.100	40.000	ug/L		97.8		60 - 140	

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1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Benzene	BPD0458	BPD0458-BS1	LCS	25.460	25.000	0.50	ug/L	102		70 - 130		
Bromodichloromethane	BPD0458	BPD0458-BS1	LCS	24.460	25.000	0.50	ug/L	97.8		70 - 130		
Chlorobenzene	BPD0458	BPD0458-BS1	LCS	21.330	25.000	0.50	ug/L	85.3		70 - 130		
Chloroethane	BPD0458	BPD0458-BS1	LCS	27.080	25.000	0.50	ug/L	108		70 - 130		
1,4-Dichlorobenzene	BPD0458	BPD0458-BS1	LCS	21.170	25.000	0.50	ug/L	84.7		70 - 130		
1,1-Dichloroethane	BPD0458	BPD0458-BS1	LCS	26.090	25.000	0.50	ug/L	104		70 - 130		
1,1-Dichloroethene	BPD0458	BPD0458-BS1	LCS	27.050	25.000	0.50	ug/L	108		70 - 130		
Toluene	BPD0458	BPD0458-BS1	LCS	24.670	25.000	0.50	ug/L	98.7		70 - 130		
Trichloroethene	BPD0458	BPD0458-BS1	LCS	24.910	25.000	0.50	ug/L	99.6		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BPD0458	BPD0458-BS1	LCS	9.8100	10.000		ug/L	98.1		76 - 114		
Toluene-d8 (Surrogate)	BPD0458	BPD0458-BS1	LCS	10.230	10.000		ug/L	102		88 - 110		
4-Bromofluorobenzene (Surrogate)	BPD0458	BPD0458-BS1	LCS	10.580	10.000		ug/L	106		86 - 115		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Luft Crude Oil Ranges by GC/MS

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
p-Terphenyl-d14 (Surrogate)	BPD0830	BPD0830-BS1	LCS	38.020	40.000		ug/L	95.0		60 - 140		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.12	
Bromobenzene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.17	
Bromochloromethane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.25	
Bromodichloromethane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.12	
Bromoform	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.33	
Bromomethane	BPD0458	BPD0458-BLK1	ND	ug/L	1.0	0.21	
n-Butylbenzene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.13	
sec-Butylbenzene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.11	
tert-Butylbenzene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.11	
Carbon tetrachloride	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.15	
Chlorobenzene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.12	
Chloroethane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.38	
Chloroform	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.11	
Chloromethane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.17	
2-Chlorotoluene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.17	
4-Chlorotoluene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.17	
Dibromochloromethane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.11	
1,2-Dibromo-3-chloropropane	BPD0458	BPD0458-BLK1	ND	ug/L	1.0	0.69	
1,2-Dibromoethane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.24	
Dibromomethane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.19	
1,2-Dichlorobenzene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.11	
1,3-Dichlorobenzene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.14	
1,4-Dichlorobenzene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.14	
Dichlorodifluoromethane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.20	
1,1-Dichloroethane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.13	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
1,2-Dichloroethane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.25	
1,1-Dichloroethene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.15	
cis-1,2-Dichloroethene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.20	
trans-1,2-Dichloroethene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.19	
Total 1,2-Dichloroethene	BPD0458	BPD0458-BLK1	ND	ug/L	1.0	0.38	
1,2-Dichloropropane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.16	
1,3-Dichloropropane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.18	
2,2-Dichloropropane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.14	
1,1-Dichloropropene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.18	
cis-1,3-Dichloropropene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.13	
trans-1,3-Dichloropropene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.15	
Total 1,3-Dichloropropene	BPD0458	BPD0458-BLK1	ND	ug/L	1.0	0.26	
Ethylbenzene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.12	
Hexachlorobutadiene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.28	
Isopropylbenzene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.20	
p-Isopropyltoluene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.12	
Methylene chloride	BPD0458	BPD0458-BLK1	ND	ug/L	1.0	0.44	
Naphthalene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.13	
n-Propylbenzene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.13	
Styrene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.16	
1,1,1,2-Tetrachloroethane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.12	
1,1,2,2-Tetrachloroethane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.23	
Tetrachloroethene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.18	
Toluene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.15	
1,2,3-Trichlorobenzene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.15	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
1,2,4-Trichlorobenzene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.11	
1,1,1-Trichloroethane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.16	
1,1,2-Trichloroethane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.14	
Trichloroethene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.18	
Trichlorofluoromethane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.20	
1,2,3-Trichloropropane	BPD0458	BPD0458-BLK1	ND	ug/L	1.0	0.55	
1,1,2-Trichloro-1,2,2-trifluoroethane	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.18	
1,2,4-Trimethylbenzene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.11	
1,3,5-Trimethylbenzene	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.11	
Vinyl chloride	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.16	
Total Xylenes	BPD0458	BPD0458-BLK1	ND	ug/L	1.0	0.37	
t-Amyl Methyl ether	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.49	
t-Butyl alcohol	BPD0458	BPD0458-BLK1	ND	ug/L	10	10	
Diisopropyl ether	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.25	
Ethyl t-butyl ether	BPD0458	BPD0458-BLK1	ND	ug/L	0.50	0.25	
Total Purgeable Petroleum Hydrocarbons	BPD0458	BPD0458-BLK1	ND	ug/L	50	23	
1,2-Dichloroethane-d4 (Surrogate)	BPD0458	BPD0458-BLK1	94.7	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BPD0458	BPD0458-BLK1	102	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BPD0458	BPD0458-BLK1	97.7	%	86 - 115 (LCL - UCL)		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 04/20/06 15:39

Luft Crude Oil Ranges by GC/MS

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Diesel - C10 - C25	BPD0830	BPD0830-BLK1	21.850	ug/L	50	8.2	
Crude Oil - C25 - C40	BPD0830	BPD0830-BLK1	ND	ug/L	50	24	
p-Terphenyl-d14 (Surrogate)	BPD0830	BPD0830-BLK1	103	%	60 - 140 (LCL - UCL)		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Notes and Definitions

V11	The Continuing Calibration Verification (CCV) recovery is not within established control limits.
S09	The surrogate recovery on the sample for this compound was not within the control limits.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Date of Report: 06/02/2006

Jay Simonds

Parsons

1150 Laurel Ln., Suite 190
San Luis Obispo, CA 93401

RE: Avila Tank Farm

BC Lab Number: 0604210

Enclosed are the results of analyses for samples received by the laboratory on 04/29/06 16:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Molly Meyers

Client Service Rep

Authorized Signature

Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
0604210-01	**COC Number:**	---	**Receive Date:**	04/29/06 16:25
	Project Number:	---	**Sampling Date:**	04/27/06 16:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	AT-B	**Sample Matrix:**	Water
	Sampled By:	Jay Simonds		
0604210-02	**COC Number:**	---	**Receive Date:**	04/29/06 16:25
	Project Number:	---	**Sampling Date:**	04/27/06 15:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	AT-D	**Sample Matrix:**	Water
	Sampled By:	Jay Simonds		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0604210-01 **Client Sample Name:** AT-B, 4/27/2006 4:15:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Bromobenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Bromochloromethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Bromodichloromethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Bromoform	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Bromomethane	ND	ug/L	1.0		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
n-Butylbenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
sec-Butylbenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
tert-Butylbenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Carbon tetrachloride	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Chlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Chloroethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Chloroform	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Chloromethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
2-Chlorotoluene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
4-Chlorotoluene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Dibromochloromethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Dibromomethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,2-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,3-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,4-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0604210-01 **Client Sample Name:** AT-B, 4/27/2006 4:15:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Dichlorodifluoromethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,1-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,1-Dichloroethene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
cis-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
trans-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Total 1,2-Dichloroethene	ND	ug/L	1.0		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,3-Dichloropropane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
2,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,1-Dichloropropene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
cis-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
trans-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Total 1,3-Dichloropropene	ND	ug/L	1.0		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Hexachlorobutadiene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Isopropylbenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
p-Isopropyltoluene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Methylene chloride	ND	ug/L	1.0		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Naphthalene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
n-Propylbenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Styrene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0604210-01 **Client Sample Name:** AT-B, 4/27/2006 4:15:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Tetrachloroethene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Toluene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,2,3-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,2,4-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,1,1-Trichloroethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,1,2-Trichloroethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Trichloroethene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Trichlorofluoromethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,2,3-Trichloropropane	ND	ug/L	1.0		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,2,4-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,3,5-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Vinyl chloride	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Total Xylenes	ND	ug/L	1.0		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
t-Butyl alcohol	ND	ug/L	10		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Diisopropyl ether	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479	ND	
1,2-Dichloroethane-d4 (Surrogate)	121	%	76 - 114 (LCL - UCL)		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479		S09
Toluene-d8 (Surrogate)	99.2	%	88 - 110 (LCL - UCL)		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479		
4-Bromofluorobenzene (Surrogate)	86.6	%	86 - 115 (LCL - UCL)		EPA-8260	05/09/06	05/10/06 09:15	MWB	MS-V9	1	BPE0479		

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San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Polynuclear Aromatic Hydrocarbons (EPA Method 8270-SIM)

BCL Sample ID: 0604210-01 **Client Sample Name:** AT-B, 4/27/2006 4:15:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Acenaphthene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927	0.001	
Acenaphthylene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927	ND	
Anthracene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927	0.001	
Benzo[a]anthracene	0.12	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927	0.12	
Benzo[b]fluoranthene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927	ND	
Benzo[k]fluoranthene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927	0.003	
Benzo[a]pyrene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927	0.002	
Benzo[g,h,i]perylene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927	0.009	
Chrysene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927	0.003	
Dibenzo[a,h]anthracene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927	0.017	
Fluoranthene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927	0.001	
Fluorene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927	0.001	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927	0.011	
Naphthalene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927	0.003	
Phenanthrene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927	0.006	
Pyrene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927	0.004	
Nitrobenzene-d5 (Surrogate)	95.3	%	42 - 140 (LCL - UCL)		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927		
2-Fluorobiphenyl (Surrogate)	88.2	%	56 - 108 (LCL - UCL)		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927		
p-Terphenyl-d14 (Surrogate)	84.7	%	52 - 129 (LCL - UCL)		EPA-8270C-S	05/03/06	05/25/06 06:28	DA1	MS-B4	1.02	BPE0927		

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San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Luft Crude Oil Ranges by GC/MS

BCL Sample ID: 0604210-01 **Client Sample Name:** AT-B, 4/27/2006 4:15:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel - C10 - C25	160	ug/L	50		Luft/GCMS C	05/01/06	05/15/06 15:54	JST	MS-B5	1	BPE0687	23	
Crude Oil - C25 - C40	100	ug/L	50		Luft/GCMS C	05/01/06	05/15/06 15:54	JST	MS-B5	1	BPE0687	15	
p-Terphenyl-d14 (Surrogate)	90.1	%	60 - 140 (LCL - UCL)		Luft/GCMS C	05/01/06	05/15/06 15:54	JST	MS-B5	1	BPE0687		

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San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0604210-02 **Client Sample Name:** AT-D, 4/27/2006 3:50:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Bromobenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Bromochloromethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Bromodichloromethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Bromoform	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Bromomethane	ND	ug/L	1.0		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
n-Butylbenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
sec-Butylbenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
tert-Butylbenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Carbon tetrachloride	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Chlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Chloroethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Chloroform	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Chloromethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
2-Chlorotoluene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
4-Chlorotoluene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Dibromochloromethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Dibromomethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,2-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,3-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,4-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	

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Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0604210-02 **Client Sample Name:** AT-D, 4/27/2006 3:50:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Dichlorodifluoromethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,1-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,1-Dichloroethene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
cis-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
trans-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Total 1,2-Dichloroethene	ND	ug/L	1.0		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,3-Dichloropropane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
2,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,1-Dichloropropene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
cis-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
trans-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Total 1,3-Dichloropropene	ND	ug/L	1.0		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Hexachlorobutadiene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Isopropylbenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
p-Isopropyltoluene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Methylene chloride	ND	ug/L	1.0		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Naphthalene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
n-Propylbenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Styrene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	

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San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0604210-02 **Client Sample Name:** AT-D, 4/27/2006 3:50:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Tetrachloroethene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Toluene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,2,3-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,2,4-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,1,1-Trichloroethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,1,2-Trichloroethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Trichloroethene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Trichlorofluoromethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,2,3-Trichloropropane	ND	ug/L	1.0		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,2,4-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,3,5-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Vinyl chloride	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Total Xylenes	ND	ug/L	1.0		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
t-Butyl alcohol	ND	ug/L	10		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	V11
Diisopropyl ether	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479	ND	
1,2-Dichloroethane-d4 (Surrogate)	119	%	76 - 114 (LCL - UCL)		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479		S09
Toluene-d8 (Surrogate)	97.3	%	88 - 110 (LCL - UCL)		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479		
4-Bromofluorobenzene (Surrogate)	92.1	%	86 - 115 (LCL - UCL)		EPA-8260	05/09/06	05/09/06 21:16	MWB	MS-V9	1	BPE0479		

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Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Polynuclear Aromatic Hydrocarbons (EPA Method 8270-SIM)

BCL Sample ID: 0604210-02 **Client Sample Name:** AT-D, 4/27/2006 3:50:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Acenaphthene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927	0.001	
Acenaphthylene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927	ND	
Anthracene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927	0.001	
Benzo[a]anthracene	0.12	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927	0.12	
Benzo[b]fluoranthene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927	ND	
Benzo[k]fluoranthene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927	0.003	
Benzo[a]pyrene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927	0.002	
Benzo[g,h,i]perylene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927	0.009	
Chrysene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927	0.003	
Dibenzo[a,h]anthracene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927	0.017	
Fluoranthene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927	0.001	
Fluorene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927	0.001	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927	0.010	
Naphthalene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927	0.003	
Phenanthrene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927	0.006	
Pyrene	ND	ug/L	0.10		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927	0.004	
Nitrobenzene-d5 (Surrogate)	92.8	%	42 - 140 (LCL - UCL)		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927		
2-Fluorobiphenyl (Surrogate)	86.9	%	56 - 108 (LCL - UCL)		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927		
p-Terphenyl-d14 (Surrogate)	83.6	%	52 - 129 (LCL - UCL)		EPA-8270C-S	05/03/06	05/25/06 06:55	DA1	MS-B4	1	BPE0927		

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Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Luft Crude Oil Ranges by GC/MS

BCL Sample ID: 0604210-02 **Client Sample Name:** AT-D, 4/27/2006 3:50:00PM, Jay Simonds

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel - C10 - C25	290	ug/L	50		Luft/GCMS C	05/01/06	05/15/06 16:17	JST	MS-B5	1	BPE0687	23	
Crude Oil - C25 - C40	1400	ug/L	50		Luft/GCMS C	05/01/06	05/15/06 16:17	JST	MS-B5	1	BPE0687	15	
p-Terphenyl-d14 (Surrogate)	72.8	%	60 - 140 (LCL - UCL)		Luft/GCMS C	05/01/06	05/15/06 16:17	JST	MS-B5	1	BPE0687		

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Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample ID	QC Sample Type	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Benzene	BPE0479	BPE0479-MS1	Matrix Spike	ND	24.440	25.000	ug/L		97.8		70 - 130	
		BPE0479-MSD1	Matrix Spike Duplicate	ND	24.950	25.000	ug/L	2.02	99.8	20	70 - 130	
Bromodichloromethane	BPE0479	BPE0479-MS1	Matrix Spike	ND	23.300	25.000	ug/L		93.2		70 - 130	
		BPE0479-MSD1	Matrix Spike Duplicate	ND	24.220	25.000	ug/L	3.89	96.9	20	70 - 130	
Chlorobenzene	BPE0479	BPE0479-MS1	Matrix Spike	ND	23.050	25.000	ug/L		92.2		70 - 130	
		BPE0479-MSD1	Matrix Spike Duplicate	ND	23.450	25.000	ug/L	1.72	93.8	20	70 - 130	
Chloroethane	BPE0479	BPE0479-MS1	Matrix Spike	ND	23.120	25.000	ug/L		92.5		70 - 130	
		BPE0479-MSD1	Matrix Spike Duplicate	ND	23.520	25.000	ug/L	1.71	94.1	20	70 - 130	
1,4-Dichlorobenzene	BPE0479	BPE0479-MS1	Matrix Spike	ND	23.670	25.000	ug/L		94.7		70 - 130	
		BPE0479-MSD1	Matrix Spike Duplicate	ND	23.610	25.000	ug/L	0.317	94.4	20	70 - 130	
1,1-Dichloroethane	BPE0479	BPE0479-MS1	Matrix Spike	ND	24.990	25.000	ug/L		100		70 - 130	
		BPE0479-MSD1	Matrix Spike Duplicate	ND	25.450	25.000	ug/L	1.98	102	20	70 - 130	
1,1-Dichloroethene	BPE0479	BPE0479-MS1	Matrix Spike	ND	24.100	25.000	ug/L		96.4		70 - 130	
		BPE0479-MSD1	Matrix Spike Duplicate	ND	24.270	25.000	ug/L	0.724	97.1	20	70 - 130	
Toluene	BPE0479	BPE0479-MS1	Matrix Spike	ND	24.320	25.000	ug/L		97.3		70 - 130	
		BPE0479-MSD1	Matrix Spike Duplicate	ND	25.160	25.000	ug/L	3.73	101	20	70 - 130	
Trichloroethene	BPE0479	BPE0479-MS1	Matrix Spike	ND	24.900	25.000	ug/L		99.6		70 - 130	
		BPE0479-MSD1	Matrix Spike Duplicate	ND	26.000	25.000	ug/L	4.32	104	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	BPE0479	BPE0479-MS1	Matrix Spike	ND	9.9200	10.000	ug/L		99.2		76 - 114	
		BPE0479-MSD1	Matrix Spike Duplicate	ND	10.070	10.000	ug/L		101		76 - 114	
Toluene-d8 (Surrogate)	BPE0479	BPE0479-MS1	Matrix Spike	ND	10.030	10.000	ug/L		100		88 - 110	
		BPE0479-MSD1	Matrix Spike Duplicate	ND	10.290	10.000	ug/L		103		88 - 110	
4-Bromofluorobenzene (Surrogate)	BPE0479	BPE0479-MS1	Matrix Spike	ND	8.8200	10.000	ug/L		88.2		86 - 115	
		BPE0479-MSD1	Matrix Spike Duplicate	ND	8.9000	10.000	ug/L		89.0		86 - 115	

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Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Polynuclear Aromatic Hydrocarbons (EPA Method 8270-SIM)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample ID	QC Sample Type	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Acenaphthene	BPE0927	BPE0927-MS1	Matrix Spike	ND	0.88970	1.0000	ug/L		89.0		58 - 108	
		BPE0927-MSD1	Matrix Spike Duplicate	ND	0.92530	1.0000	ug/L	3.86	92.5	20	58 - 108	
Acenaphthylene	BPE0927	BPE0927-MS1	Matrix Spike	ND	0.91760	1.0000	ug/L		91.8		54 - 117	
		BPE0927-MSD1	Matrix Spike Duplicate	ND	0.96380	1.0000	ug/L	4.89	96.4	19	54 - 117	
Anthracene	BPE0927	BPE0927-MS1	Matrix Spike	ND	0.85890	1.0000	ug/L		85.9		48 - 120	
		BPE0927-MSD1	Matrix Spike Duplicate	ND	0.87490	1.0000	ug/L	1.85	87.5	20	48 - 120	
Benzo[a]anthracene	BPE0927	BPE0927-MS1	Matrix Spike	0.11780	0.92430	1.0000	ug/L		80.6		53 - 129	
		BPE0927-MSD1	Matrix Spike Duplicate	0.11780	0.98340	1.0000	ug/L	7.18	86.6	19	53 - 129	
Benzo[b]fluoranthene	BPE0927	BPE0927-MS1	Matrix Spike	ND	1.1305	1.0000	ug/L		113		49 - 133	
		BPE0927-MSD1	Matrix Spike Duplicate	ND	1.1564	1.0000	ug/L	2.62	116	23	49 - 133	
Benzo[k]fluoranthene	BPE0927	BPE0927-MS1	Matrix Spike	ND	0.83090	1.0000	ug/L		83.1		42 - 137	
		BPE0927-MSD1	Matrix Spike Duplicate	ND	0.89660	1.0000	ug/L	7.64	89.7	24	42 - 137	
Benzo[a]pyrene	BPE0927	BPE0927-MS1	Matrix Spike	ND	0.86240	1.0000	ug/L		86.2		35 - 137	
		BPE0927-MSD1	Matrix Spike Duplicate	ND	0.91990	1.0000	ug/L	6.51	92.0	19	35 - 137	
Benzo[g,h,i]perylene	BPE0927	BPE0927-MS1	Matrix Spike	0.0093000	0.90760	1.0000	ug/L		89.8		28 - 107	
		BPE0927-MSD1	Matrix Spike Duplicate	0.0093000	1.0161	1.0000	ug/L	11.7	101	30	28 - 107	
Chrysene	BPE0927	BPE0927-MS1	Matrix Spike	ND	0.81810	1.0000	ug/L		81.8		57 - 112	
		BPE0927-MSD1	Matrix Spike Duplicate	ND	0.88750	1.0000	ug/L	8.21	88.8	19	57 - 112	
Dibenzo[a,h]anthracene	BPE0927	BPE0927-MS1	Matrix Spike	0.015400	1.0414	1.0000	ug/L		103		29 - 118	
		BPE0927-MSD1	Matrix Spike Duplicate	0.015400	1.0092	1.0000	ug/L	3.56	99.4	30	29 - 118	
Fluoranthene	BPE0927	BPE0927-MS1	Matrix Spike	ND	0.94720	1.0000	ug/L		94.7		63 - 129	
		BPE0927-MSD1	Matrix Spike Duplicate	ND	1.0105	1.0000	ug/L	6.44	101	21	63 - 129	
Fluorene	BPE0927	BPE0927-MS1	Matrix Spike	ND	0.95510	1.0000	ug/L		95.5		61 - 118	
		BPE0927-MSD1	Matrix Spike Duplicate	ND	0.99690	1.0000	ug/L	4.30	99.7	18	61 - 118	
Indeno[1,2,3-cd]pyrene	BPE0927	BPE0927-MS1	Matrix Spike	ND	0.94010	1.0000	ug/L		94.0		39 - 116	
		BPE0927-MSD1	Matrix Spike Duplicate	ND	0.93070	1.0000	ug/L	0.962	93.1	23	39 - 116	
Naphthalene	BPE0927	BPE0927-MS1	Matrix Spike	ND	0.86700	1.0000	ug/L		86.7		52 - 117	
		BPE0927-MSD1	Matrix Spike Duplicate	ND	0.89410	1.0000	ug/L	3.07	89.4	30	52 - 117	

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Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Polynuclear Aromatic Hydrocarbons (EPA Method 8270-SIM)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample ID	QC Sample Type	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Phenanthrene	BPE0927	BPE0927-MS1	Matrix Spike	ND	0.93200	1.0000	ug/L		93.2		59 - 116	
		BPE0927-MSD1	Matrix Spike Duplicate	ND	0.99830	1.0000	ug/L	6.84	99.8	20	59 - 116	
Pyrene	BPE0927	BPE0927-MS1	Matrix Spike	ND	0.83430	1.0000	ug/L		83.4		47 - 137	
		BPE0927-MSD1	Matrix Spike Duplicate	ND	0.90460	1.0000	ug/L	8.17	90.5	25	47 - 137	
Nitrobenzene-d5 (Surrogate)	BPE0927	BPE0927-MS1	Matrix Spike	ND	3.5070	4.0000	ug/L		87.7		42 - 140	
		BPE0927-MSD1	Matrix Spike Duplicate	ND	3.5393	4.0000	ug/L		88.5		42 - 140	
2-Fluorobiphenyl (Surrogate)	BPE0927	BPE0927-MS1	Matrix Spike	ND	3.4420	4.0000	ug/L		86.0		56 - 108	
		BPE0927-MSD1	Matrix Spike Duplicate	ND	3.4928	4.0000	ug/L		87.3		56 - 108	
p-Terphenyl-d14 (Surrogate)	BPE0927	BPE0927-MS1	Matrix Spike	ND	3.2368	4.0000	ug/L		80.9		52 - 129	
		BPE0927-MSD1	Matrix Spike Duplicate	ND	3.4559	4.0000	ug/L		86.4		52 - 129	

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Luft Crude Oil Ranges by GC/MS

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample ID	QC Sample Type	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
p-Terphenyl-d14 (Surrogate)	BPE0687	BPE0687-MS1	Matrix Spike	ND	34.779	40.000	ug/L		86.9		60 - 140	
		BPE0687-MSD1	Matrix Spike Duplicate	ND	36.338	40.000	ug/L		90.8		60 - 140	

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Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Benzene	BPE0479	BPE0479-BS1	LCS	25.540	25.000	0.50	ug/L	102		70 - 130		
Bromodichloromethane	BPE0479	BPE0479-BS1	LCS	24.500	25.000	0.50	ug/L	98.0		70 - 130		
Chlorobenzene	BPE0479	BPE0479-BS1	LCS	24.910	25.000	0.50	ug/L	99.6		70 - 130		
Chloroethane	BPE0479	BPE0479-BS1	LCS	23.980	25.000	0.50	ug/L	95.9		70 - 130		
1,4-Dichlorobenzene	BPE0479	BPE0479-BS1	LCS	25.320	25.000	0.50	ug/L	101		70 - 130		
1,1-Dichloroethane	BPE0479	BPE0479-BS1	LCS	26.180	25.000	0.50	ug/L	105		70 - 130		
1,1-Dichloroethene	BPE0479	BPE0479-BS1	LCS	24.420	25.000	0.50	ug/L	97.7		70 - 130		
Toluene	BPE0479	BPE0479-BS1	LCS	24.950	25.000	0.50	ug/L	99.8		70 - 130		
Trichloroethene	BPE0479	BPE0479-BS1	LCS	26.130	25.000	0.50	ug/L	105		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BPE0479	BPE0479-BS1	LCS	9.9200	10.000		ug/L	99.2		76 - 114		
Toluene-d8 (Surrogate)	BPE0479	BPE0479-BS1	LCS	9.6900	10.000		ug/L	96.9		88 - 110		
4-Bromofluorobenzene (Surrogate)	BPE0479	BPE0479-BS1	LCS	9.4800	10.000		ug/L	94.8		86 - 115		

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Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Polynuclear Aromatic Hydrocarbons (EPA Method 8270-SIM)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Acenaphthene	BPE0927	BPE0927-BS1	LCS	0.93440	1.0000	0.10	ug/L	93.4		62 - 108		
Acenaphthylene	BPE0927	BPE0927-BS1	LCS	0.96120	1.0000	0.10	ug/L	96.1		59 - 117		
Anthracene	BPE0927	BPE0927-BS1	LCS	0.92940	1.0000	0.10	ug/L	92.9		56 - 121		
Benzo[a]anthracene	BPE0927	BPE0927-BS1	LCS	0.97170	1.0000	0.10	ug/L	97.2		56 - 131		
Benzo[b]fluoranthene	BPE0927	BPE0927-BS1	LCS	1.1757	1.0000	0.10	ug/L	118		54 - 131		
Benzo[k]fluoranthene	BPE0927	BPE0927-BS1	LCS	0.91910	1.0000	0.10	ug/L	91.9		50 - 128		
Benzo[a]pyrene	BPE0927	BPE0927-BS1	LCS	0.93200	1.0000	0.10	ug/L	93.2		45 - 137		
Benzo[g,h,i]perylene	BPE0927	BPE0927-BS1	LCS	0.93880	1.0000	0.10	ug/L	93.9		31 - 111		
Chrysene	BPE0927	BPE0927-BS1	LCS	0.92130	1.0000	0.10	ug/L	92.1		61 - 111		
Dibenzo[a,h]anthracene	BPE0927	BPE0927-BS1	LCS	1.1800	1.0000	0.10	ug/L	118		26 - 126		
Fluoranthene	BPE0927	BPE0927-BS1	LCS	1.0211	1.0000	0.10	ug/L	102		63 - 133		
Fluorene	BPE0927	BPE0927-BS1	LCS	1.0102	1.0000	0.10	ug/L	101		63 - 118		
Indeno[1,2,3-cd]pyrene	BPE0927	BPE0927-BS1	LCS	0.92060	1.0000	0.10	ug/L	92.1		46 - 116		
Naphthalene	BPE0927	BPE0927-BS1	LCS	0.91840	1.0000	0.10	ug/L	91.8		65 - 106		
Phenanthrene	BPE0927	BPE0927-BS1	LCS	0.98400	1.0000	0.10	ug/L	98.4		64 - 114		
Pyrene	BPE0927	BPE0927-BS1	LCS	0.93020	1.0000	0.10	ug/L	93.0		49 - 135		
Nitrobenzene-d5 (Surrogate)	BPE0927	BPE0927-BS1	LCS	3.6129	4.0000		ug/L	90.3		42 - 140		
2-Fluorobiphenyl (Surrogate)	BPE0927	BPE0927-BS1	LCS	3.5372	4.0000		ug/L	88.4		56 - 108		
p-Terphenyl-d14 (Surrogate)	BPE0927	BPE0927-BS1	LCS	3.4835	4.0000		ug/L	87.1		52 - 129		

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Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Luft Crude Oil Ranges by GC/MS

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
p-Terphenyl-d14 (Surrogate)	BPE0687	BPE0687-BS1	LCS	36.329	40.000		ug/L	90.8		60 - 140		

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Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.12	
Bromobenzene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.17	
Bromochloromethane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.25	
Bromodichloromethane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.12	
Bromoform	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.33	
Bromomethane	BPE0479	BPE0479-BLK1	ND	ug/L	1.0	0.21	
n-Butylbenzene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.13	
sec-Butylbenzene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.11	
tert-Butylbenzene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.11	
Carbon tetrachloride	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.15	
Chlorobenzene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.12	
Chloroethane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.38	
Chloroform	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.11	
Chloromethane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.17	
2-Chlorotoluene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.17	
4-Chlorotoluene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.17	
Dibromochloromethane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.11	
1,2-Dibromo-3-chloropropane	BPE0479	BPE0479-BLK1	ND	ug/L	1.0	0.69	
1,2-Dibromoethane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.24	
Dibromomethane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.19	
1,2-Dichlorobenzene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.11	
1,3-Dichlorobenzene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.14	
1,4-Dichlorobenzene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.14	
Dichlorodifluoromethane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.20	
1,1-Dichloroethane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.13	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
1,2-Dichloroethane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.25	
1,1-Dichloroethene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.15	
cis-1,2-Dichloroethene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.20	
trans-1,2-Dichloroethene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.19	
Total 1,2-Dichloroethene	BPE0479	BPE0479-BLK1	ND	ug/L	1.0	0.38	
1,2-Dichloropropane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.16	
1,3-Dichloropropane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.18	
2,2-Dichloropropane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.14	
1,1-Dichloropropene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.18	
cis-1,3-Dichloropropene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.13	
trans-1,3-Dichloropropene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.15	
Total 1,3-Dichloropropene	BPE0479	BPE0479-BLK1	ND	ug/L	1.0	0.26	
Ethylbenzene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.12	
Hexachlorobutadiene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.28	
Isopropylbenzene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.20	
p-Isopropyltoluene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.12	
Methylene chloride	BPE0479	BPE0479-BLK1	ND	ug/L	1.0	0.44	
Naphthalene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.13	
n-Propylbenzene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.13	
Styrene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.16	
1,1,1,2-Tetrachloroethane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.12	
1,1,2,2-Tetrachloroethane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.23	
Tetrachloroethene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.18	
Toluene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.15	
1,2,3-Trichlorobenzene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.15	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
1,2,4-Trichlorobenzene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.11	
1,1,1-Trichloroethane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.16	
1,1,2-Trichloroethane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.14	
Trichloroethene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.18	
Trichlorofluoromethane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.20	
1,2,3-Trichloropropane	BPE0479	BPE0479-BLK1	ND	ug/L	1.0	0.55	
1,1,2-Trichloro-1,2,2-trifluoroethane	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.18	
1,2,4-Trimethylbenzene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.11	
1,3,5-Trimethylbenzene	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.11	
Vinyl chloride	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.16	
Total Xylenes	BPE0479	BPE0479-BLK1	ND	ug/L	1.0	0.37	
t-Amyl Methyl ether	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.49	
t-Butyl alcohol	BPE0479	BPE0479-BLK1	ND	ug/L	10	10	
Diisopropyl ether	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.25	
Ethyl t-butyl ether	BPE0479	BPE0479-BLK1	ND	ug/L	0.50	0.25	
Total Purgeable Petroleum Hydrocarbons	BPE0479	BPE0479-BLK1	ND	ug/L	50	23	
1,2-Dichloroethane-d4 (Surrogate)	BPE0479	BPE0479-BLK1	103	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BPE0479	BPE0479-BLK1	96.9	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BPE0479	BPE0479-BLK1	87.9	%	86 - 115 (LCL - UCL)		

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San Luis Obispo CA, 93401

Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Polynuclear Aromatic Hydrocarbons (EPA Method 8270-SIM)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Acenaphthene	BPE0927	BPE0927-BLK1	ND	ug/L	0.10	0.015	
Acenaphthylene	BPE0927	BPE0927-BLK1	ND	ug/L	0.10	0.011	
Anthracene	BPE0927	BPE0927-BLK1	ND	ug/L	0.10	0.018	
Benzo[a]anthracene	BPE0927	BPE0927-BLK1	0.11770	ug/L	0.10	0.020	M01
Benzo[b]fluoranthene	BPE0927	BPE0927-BLK1	ND	ug/L	0.10	0.017	
Benzo[k]fluoranthene	BPE0927	BPE0927-BLK1	ND	ug/L	0.10	0.0070	
Benzo[a]pyrene	BPE0927	BPE0927-BLK1	ND	ug/L	0.10	0.0085	
Benzo[g,h,i]perylene	BPE0927	BPE0927-BLK1	0.0092000	ug/L	0.10	0.0091	
Chrysene	BPE0927	BPE0927-BLK1	ND	ug/L	0.10	0.011	
Dibenzo[a,h]anthracene	BPE0927	BPE0927-BLK1	0.016700	ug/L	0.10	0.0090	
Fluoranthene	BPE0927	BPE0927-BLK1	ND	ug/L	0.10	0.0083	
Fluorene	BPE0927	BPE0927-BLK1	ND	ug/L	0.10	0.012	
Indeno[1,2,3-cd]pyrene	BPE0927	BPE0927-BLK1	ND	ug/L	0.10	0.011	
Naphthalene	BPE0927	BPE0927-BLK1	ND	ug/L	0.10	0.028	
Phenanthrene	BPE0927	BPE0927-BLK1	ND	ug/L	0.10	0.015	
Pyrene	BPE0927	BPE0927-BLK1	ND	ug/L	0.10	0.0079	
Nitrobenzene-d5 (Surrogate)	BPE0927	BPE0927-BLK1	83.8	%	42 - 140 (LCL - UCL)		
2-Fluorobiphenyl (Surrogate)	BPE0927	BPE0927-BLK1	82.8	%	56 - 108 (LCL - UCL)		
p-Terphenyl-d14 (Surrogate)	BPE0927	BPE0927-BLK1	88.2	%	52 - 129 (LCL - UCL)		

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Project: Avila Tank Farm
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/02/06 09:36

Luft Crude Oil Ranges by GC/MS

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Diesel - C10 - C25	BPE0687	BPE0687-BLK1	23.016	ug/L	50	8.2	
Crude Oil - C25 - C40	BPE0687	BPE0687-BLK1	ND	ug/L	50	24	
p-Terphenyl-d14 (Surrogate)	BPE0687	BPE0687-BLK1	90.9	%	60 - 140 (LCL - UCL)		

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Notes and Definitions

V11	The Continuing Calibration Verification (CCV) recovery is not within established control limits.
S09	The surrogate recovery on the sample for this compound was not within the control limits.
M01	Analyte detected in the Method Blank at or above the PQL.
J	Estimated value
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Date of Report: 06/13/2006

Jay Simonds

Parsons

1150 Laurel Ln., Suite 190
San Luis Obispo, CA 93401

RE: Avila Terminal Cliff Springs

BC Lab Number: 0605312

Enclosed are the results of analyses for samples received by the laboratory on 05/26/06 20:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Molly Meyers

Client Service Rep

Authorized Signature

Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/13/06 08:36

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
0605312-01	**COC Number:**	---	**Receive Date:**	05/26/06 20:00
	Project Number:	---	**Sampling Date:**	05/25/06 15:40
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	AT-F	**Sample Matrix:**	Water
	Sampled By:	---		
0605312-02	**COC Number:**	---	**Receive Date:**	05/26/06 20:00
	Project Number:	---	**Sampling Date:**	05/25/06 16:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	AT-A	**Sample Matrix:**	Water
	Sampled By:	---		

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/13/06 08:36

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0605312-01 **Client Sample Name:** AT-F, 5/25/2006 3:40:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Bromobenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Bromochloromethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Bromodichloromethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Bromoform	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Bromomethane	ND	ug/L	1.0		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
n-Butylbenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
sec-Butylbenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
tert-Butylbenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Carbon tetrachloride	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Chlorobenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Chloroethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Chloroform	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Chloromethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
2-Chlorotoluene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
4-Chlorotoluene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Dibromochloromethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Dibromomethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,2-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,3-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,4-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/13/06 08:36

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0605312-01 **Client Sample Name:** AT-F, 5/25/2006 3:40:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Dichlorodifluoromethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,1-Dichloroethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,1-Dichloroethene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
cis-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
trans-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Total 1,2-Dichloroethene	ND	ug/L	1.0		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,3-Dichloropropane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
2,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,1-Dichloropropene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
cis-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
trans-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Total 1,3-Dichloropropene	ND	ug/L	1.0		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Hexachlorobutadiene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Isopropylbenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
p-Isopropyltoluene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Methylene chloride	ND	ug/L	1.0		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	0.70	
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Naphthalene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	V11
n-Propylbenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Styrene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	

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1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/13/06 08:36

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0605312-01 **Client Sample Name:** AT-F, 5/25/2006 3:40:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Tetrachloroethene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Toluene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,2,3-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,2,4-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,1,1-Trichloroethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,1,2-Trichloroethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Trichloroethene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Trichlorofluoromethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,2,3-Trichloropropane	ND	ug/L	1.0		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,2,4-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,3,5-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Vinyl chloride	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Total Xylenes	ND	ug/L	1.0		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033	ND	
1,2-Dichloroethane-d4 (Surrogate)	118	%	76 - 114 (LCL - UCL)		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033		A19, S09
Toluene-d8 (Surrogate)	97.7	%	88 - 110 (LCL - UCL)		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033		
4-Bromofluorobenzene (Surrogate)	105	%	86 - 115 (LCL - UCL)		EPA-8260	06/01/06	06/05/06 16:23	MWB	MS-V9	1	BPF0033		

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1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/13/06 08:36

Luft Crude Oil Ranges by GC/MS

BCL Sample ID: 0605312-01 **Client Sample Name:** AT-F, 5/25/2006 3:40:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel - C10 - C25	360	ug/L	50		Luft/GCMS C	06/05/06	06/09/06 19:53	JST	MS-B5	1	BPF0658	17	
Crude Oil - C25 - C40	1200	ug/L	50		Luft/GCMS C	06/05/06	06/09/06 19:53	JST	MS-B5	1	BPF0658	21	
p-Terphenyl-d14 (Surrogate)	76.1	%	60 - 140 (LCL - UCL)		Luft/GCMS C	06/05/06	06/09/06 19:53	JST	MS-B5	1	BPF0658		

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Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/13/06 08:36

Luft Crude Oil Ranges by GC/MS (Silica Gel Treated)

BCL Sample ID: 0605312-01 **Client Sample Name:** AT-F, 5/25/2006 3:40:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel - C10 - C25	300	ug/L	50		Luft/GCMS C	06/05/06	06/09/06 22:06	JST	MS-B5	1	BPF0661	60	
Crude Oil - C25 - C40	730	ug/L	50		Luft/GCMS C	06/05/06	06/09/06 22:06	JST	MS-B5	1	BPF0661	83	
p-Terphenyl-d14 (Surrogate)	75.4	%	62 - 122 (LCL - UCL)		Luft/GCMS C	06/05/06	06/09/06 22:06	JST	MS-B5	1	BPF0661		

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San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/13/06 08:36

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0605312-02 **Client Sample Name:** AT-A, 5/25/2006 4:00:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Bromobenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Bromochloromethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Bromodichloromethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Bromoform	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Bromomethane	ND	ug/L	1.0		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
n-Butylbenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
sec-Butylbenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
tert-Butylbenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Carbon tetrachloride	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Chlorobenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Chloroethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Chloroform	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Chloromethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
2-Chlorotoluene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
4-Chlorotoluene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Dibromochloromethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Dibromomethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,2-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,3-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,4-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	

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Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/13/06 08:36

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0605312-02 **Client Sample Name:** AT-A, 5/25/2006 4:00:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Dichlorodifluoromethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,1-Dichloroethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,1-Dichloroethene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
cis-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
trans-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Total 1,2-Dichloroethene	ND	ug/L	1.0		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,3-Dichloropropane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
2,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,1-Dichloropropene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
cis-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
trans-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Total 1,3-Dichloropropene	ND	ug/L	1.0		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Hexachlorobutadiene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Isopropylbenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
p-Isopropyltoluene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Methylene chloride	ND	ug/L	1.0		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	0.70	
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Naphthalene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	V11
n-Propylbenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Styrene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	

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Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/13/06 08:36

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0605312-02 **Client Sample Name:** AT-A, 5/25/2006 4:00:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Tetrachloroethene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Toluene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,2,3-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,2,4-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,1,1-Trichloroethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,1,2-Trichloroethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Trichloroethene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Trichlorofluoromethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,2,3-Trichloropropane	ND	ug/L	1.0		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,2,4-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,3,5-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Vinyl chloride	ND	ug/L	0.50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Total Xylenes	ND	ug/L	1.0		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033	ND	
1,2-Dichloroethane-d4 (Surrogate)	132	%	76 - 114 (LCL - UCL)		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033		A19, S09
Toluene-d8 (Surrogate)	100	%	88 - 110 (LCL - UCL)		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033		
4-Bromofluorobenzene (Surrogate)	106	%	86 - 115 (LCL - UCL)		EPA-8260	06/01/06	06/05/06 16:49	MWB	MS-V9	1	BPF0033		

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Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/13/06 08:36

Luft Crude Oil Ranges by GC/MS

BCL Sample ID: 0605312-02 **Client Sample Name:** AT-A, 5/25/2006 4:00:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel - C10 - C25	200	ug/L	50		Luft/GCMS C	06/05/06	06/09/06 20:15	JST	MS-B5	1	BPF0658	17	
Crude Oil - C25 - C40	320	ug/L	50		Luft/GCMS C	06/05/06	06/09/06 20:15	JST	MS-B5	1	BPF0658	21	
p-Terphenyl-d14 (Surrogate)	77.4	%	60 - 140 (LCL - UCL)		Luft/GCMS C	06/05/06	06/09/06 20:15	JST	MS-B5	1	BPF0658		

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Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/13/06 08:36

Luft Crude Oil Ranges by GC/MS (Silica Gel Treated)

BCL Sample ID: 0605312-02 **Client Sample Name:** AT-A, 5/25/2006 4:00:00PM

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel - C10 - C25	180	ug/L	50		Luft/GCMS C	06/05/06	06/09/06 22:28	JST	MS-B5	1	BPF0661	60	
Crude Oil - C25 - C40	260	ug/L	50		Luft/GCMS C	06/05/06	06/09/06 22:28	JST	MS-B5	1	BPF0661	83	
p-Terphenyl-d14 (Surrogate)	80.1	%	62 - 122 (LCL - UCL)		Luft/GCMS C	06/05/06	06/09/06 22:28	JST	MS-B5	1	BPF0661		

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Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/13/06 08:36

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample ID	QC Sample Type	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Benzene	BPF0033	BPF0033-MS1	Matrix Spike	ND	21.660	25.000	ug/L		86.6		70 - 130	
		BPF0033-MSD1	Matrix Spike Duplicate	ND	22.430	25.000	ug/L	3.52	89.7	20	70 - 130	
Bromodichloromethane	BPF0033	BPF0033-MS1	Matrix Spike	ND	25.660	25.000	ug/L		103		70 - 130	
		BPF0033-MSD1	Matrix Spike Duplicate	ND	25.290	25.000	ug/L	1.96	101	20	70 - 130	
Chlorobenzene	BPF0033	BPF0033-MS1	Matrix Spike	ND	23.460	25.000	ug/L		93.8		70 - 130	
		BPF0033-MSD1	Matrix Spike Duplicate	ND	23.750	25.000	ug/L	1.27	95.0	20	70 - 130	
Chloroethane	BPF0033	BPF0033-MS1	Matrix Spike	ND	24.280	25.000	ug/L		97.1		70 - 130	
		BPF0033-MSD1	Matrix Spike Duplicate	ND	23.850	25.000	ug/L	1.77	95.4	20	70 - 130	
1,4-Dichlorobenzene	BPF0033	BPF0033-MS1	Matrix Spike	ND	26.960	25.000	ug/L		108		70 - 130	
		BPF0033-MSD1	Matrix Spike Duplicate	ND	26.980	25.000	ug/L	0.00	108	20	70 - 130	
1,1-Dichloroethane	BPF0033	BPF0033-MS1	Matrix Spike	ND	25.570	25.000	ug/L		102		70 - 130	
		BPF0033-MSD1	Matrix Spike Duplicate	ND	25.260	25.000	ug/L	0.985	101	20	70 - 130	
1,1-Dichloroethene	BPF0033	BPF0033-MS1	Matrix Spike	ND	24.650	25.000	ug/L		98.6		70 - 130	
		BPF0033-MSD1	Matrix Spike Duplicate	ND	24.810	25.000	ug/L	0.607	99.2	20	70 - 130	
Toluene	BPF0033	BPF0033-MS1	Matrix Spike	ND	25.630	25.000	ug/L		103		70 - 130	
		BPF0033-MSD1	Matrix Spike Duplicate	ND	25.320	25.000	ug/L	1.96	101	20	70 - 130	
Trichloroethene	BPF0033	BPF0033-MS1	Matrix Spike	ND	22.840	25.000	ug/L		91.4		70 - 130	
		BPF0033-MSD1	Matrix Spike Duplicate	ND	23.220	25.000	ug/L	1.63	92.9	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	BPF0033	BPF0033-MS1	Matrix Spike	ND	10.740	10.000	ug/L		107		76 - 114	
		BPF0033-MSD1	Matrix Spike Duplicate	ND	10.530	10.000	ug/L		105		76 - 114	
Toluene-d8 (Surrogate)	BPF0033	BPF0033-MS1	Matrix Spike	ND	10.980	10.000	ug/L		110		88 - 110	
		BPF0033-MSD1	Matrix Spike Duplicate	ND	10.660	10.000	ug/L		107		88 - 110	
4-Bromofluorobenzene (Surrogate)	BPF0033	BPF0033-MS1	Matrix Spike	ND	10.360	10.000	ug/L		104		86 - 115	
		BPF0033-MSD1	Matrix Spike Duplicate	ND	10.420	10.000	ug/L		104		86 - 115	

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Luft Crude Oil Ranges by GC/MS

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample ID	QC Sample Type	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
p-Terphenyl-d14 (Surrogate)	BPF0658	BPF0658-MS1	Matrix Spike	ND	36.303	40.000	ug/L		90.8		60 - 140	
		BPF0658-MSD1	Matrix Spike Duplicate	ND	38.116	40.000	ug/L		95.3		60 - 140	

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1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/13/06 08:36

Luft Crude Oil Ranges by GC/MS (Silica Gel Treated)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample ID	QC Sample Type	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
p-Terphenyl-d14 (Surrogate)	BPF0661	BPF0661-MS1	Matrix Spike	ND	34.919	40.000	ug/L		87.3		62 - 122	
		BPF0661-MSD1	Matrix Spike Duplicate	ND	35.071	40.000	ug/L		87.7		62 - 122	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Benzene	BPF0033	BPF0033-BS1	LCS	22.960	25.000	0.50	ug/L	91.8		70 - 130		
Bromodichloromethane	BPF0033	BPF0033-BS1	LCS	25.900	25.000	0.50	ug/L	104		70 - 130		
Chlorobenzene	BPF0033	BPF0033-BS1	LCS	23.350	25.000	0.50	ug/L	93.4		70 - 130		
Chloroethane	BPF0033	BPF0033-BS1	LCS	24.180	25.000	0.50	ug/L	96.7		70 - 130		
1,4-Dichlorobenzene	BPF0033	BPF0033-BS1	LCS	26.340	25.000	0.50	ug/L	105		70 - 130		
1,1-Dichloroethane	BPF0033	BPF0033-BS1	LCS	26.060	25.000	0.50	ug/L	104		70 - 130		
1,1-Dichloroethene	BPF0033	BPF0033-BS1	LCS	25.870	25.000	0.50	ug/L	103		70 - 130		
Toluene	BPF0033	BPF0033-BS1	LCS	25.280	25.000	0.50	ug/L	101		70 - 130		
Trichloroethene	BPF0033	BPF0033-BS1	LCS	23.680	25.000	0.50	ug/L	94.7		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BPF0033	BPF0033-BS1	LCS	11.350	10.000		ug/L	114		76 - 114		
Toluene-d8 (Surrogate)	BPF0033	BPF0033-BS1	LCS	10.950	10.000		ug/L	110		88 - 110		
4-Bromofluorobenzene (Surrogate)	BPF0033	BPF0033-BS1	LCS	9.9300	10.000		ug/L	99.3		86 - 115		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/13/06 08:36

Luft Crude Oil Ranges by GC/MS

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
p-Terphenyl-d14 (Surrogate)	BPF0658	BPF0658-BS1	LCS	37.318	40.000		ug/L	93.3		60 - 140		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/13/06 08:36

Luft Crude Oil Ranges by GC/MS (Silica Gel Treated)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
p-Terphenyl-d14 (Surrogate)	BPF0661	BPF0661-BS1	LCS	34.214	40.000		ug/L	85.5		62 - 122		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.12	
Bromochloromethane	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.25	
Bromodichloromethane	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.12	
Bromoform	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.33	
Bromomethane	BPF0033	BPF0033-BLK1	ND	ug/L	1.0	0.21	
Carbon tetrachloride	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.15	
Chlorobenzene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.12	
Chloroethane	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.38	
Chloroform	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.11	
Chloromethane	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.17	
Dibromochloromethane	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.11	
1,2-Dibromo-3-chloropropane	BPF0033	BPF0033-BLK1	ND	ug/L	1.0	0.69	
1,2-Dibromoethane	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.24	
1,2-Dichlorobenzene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.11	
1,3-Dichlorobenzene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.14	
1,4-Dichlorobenzene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.14	
Dichlorodifluoromethane	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.20	
1,1-Dichloroethane	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.25	
1,1-Dichloroethene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.15	
cis-1,2-Dichloroethene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.20	
trans-1,2-Dichloroethene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.19	
1,2-Dichloropropane	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.16	
cis-1,3-Dichloropropene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.13	
trans-1,3-Dichloropropene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.15	

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1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 06/13/06 08:36

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Ethylbenzene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.12	
Hexachlorobutadiene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.28	
Methylene chloride	BPF0033	BPF0033-BLK1	0.70000	ug/L	1.0	0.44	B02
Methyl t-butyl ether	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.12	
Naphthalene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.13	
Styrene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.16	
1,1,1,2-Tetrachloroethane	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.12	
1,1,2,2-Tetrachloroethane	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.23	
Tetrachloroethene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.18	
Toluene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.15	
1,2,4-Trichlorobenzene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.11	
1,1,1-Trichloroethane	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.16	
1,1,2-Trichloroethane	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.14	
Trichloroethene	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.18	
Trichlorofluoromethane	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.20	
1,2,3-Trichloropropane	BPF0033	BPF0033-BLK1	ND	ug/L	1.0	0.55	
Vinyl chloride	BPF0033	BPF0033-BLK1	ND	ug/L	0.50	0.16	
Total Xylenes	BPF0033	BPF0033-BLK1	ND	ug/L	1.0	0.37	
1,2-Dichloroethane-d4 (Surrogate)	BPF0033	BPF0033-BLK1	115	%	76 - 114 (LCL - UCL)		S09
Toluene-d8 (Surrogate)	BPF0033	BPF0033-BLK1	103	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BPF0033	BPF0033-BLK1	102	%	86 - 115 (LCL - UCL)		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Luft Crude Oil Ranges by GC/MS

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Diesel - C10 - C25	BPF0658	BPF0658-BLK1	17.213	ug/L	50	8.2	
Crude Oil - C25 - C40	BPF0658	BPF0658-BLK1	ND	ug/L	50	24	
p-Terphenyl-d14 (Surrogate)	BPF0658	BPF0658-BLK1	87.8	%	60 - 140 (LCL - UCL)		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Luft Crude Oil Ranges by GC/MS (Silica Gel Treated)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Diesel - C10 - C25	BPF0661	BPF0661-BLK1	59.877	ug/L	50	8.2	M01
Crude Oil - C25 - C40	BPF0661	BPF0661-BLK1	83.372	ug/L	50	24	M01
p-Terphenyl-d14 (Surrogate)	BPF0661	BPF0661-BLK1	85.6	%	62 - 122 (LCL - UCL)		

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Notes and Definitions

V11	The Continuing Calibration Verification (CCV) recovery is not within established control limits.
S09	The surrogate recovery on the sample for this compound was not within the control limits.
M01	Analyte detected in the Method Blank at or above the PQL.
J	Estimated value
B02	Analyte detected in the Continuing Calibration Blank (CCB) at a level between the PQL and 1/2 the PQL.
A19	Surrogate is high due to matrix interference. Interferences verified through second extraction/analysis.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Date of Report: 07/17/2006

Jay Simonds

Parsons

1150 Laurel Ln., Suite 190
San Luis Obispo, CA 93401

RE: Avila Terminal Cliff Springs

BC Lab Number: 0606525

Enclosed are the results of analyses for samples received by the laboratory on 06/30/06 18:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Molly Meyers

Client Service Rep

Authorized Signature

Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 07/17/06 16:26

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information				
0606525-01	**COC Number:**	---	**Receive Date:**	06/30/06 18:50	Delivery Work Order:
	Project Number:	---	**Sampling Date:**	06/30/06 08:55	Global ID:
	Sampling Location:	---	**Sample Depth:**	---	Matrix:
	Sampling Point:	CS-E	**Sample Matrix:**	Water	Samle QC Type (SACode):
	Sampled By:	BKE/ENS			Cooler ID:

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 07/17/06 16:26

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0606525-01 **Client Sample Name:** CS-E, 6/30/2006 8:55:00AM, BKE/ENS

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Bromobenzene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Bromochloromethane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Bromodichloromethane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Bromoform	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Bromomethane	ND	ug/L	1.0		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	V11
n-Butylbenzene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
sec-Butylbenzene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
tert-Butylbenzene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Carbon tetrachloride	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Chlorobenzene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Chloroethane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Chloroform	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Chloromethane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
2-Chlorotoluene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
4-Chlorotoluene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Dibromochloromethane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Dibromomethane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,2-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,3-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,4-Dichlorobenzene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 07/17/06 16:26

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0606525-01 **Client Sample Name:** CS-E, 6/30/2006 8:55:00AM, BKE/ENS

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Dichlorodifluoromethane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,1-Dichloroethane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,1-Dichloroethene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
cis-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
trans-1,2-Dichloroethene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Total 1,2-Dichloroethene	ND	ug/L	1.0		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,3-Dichloropropane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
2,2-Dichloropropane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	V11
1,1-Dichloropropene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
cis-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
trans-1,3-Dichloropropene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Total 1,3-Dichloropropene	ND	ug/L	1.0		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Hexachlorobutadiene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Isopropylbenzene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
p-Isopropyltoluene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Methylene chloride	ND	ug/L	1.0		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Naphthalene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
n-Propylbenzene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Styrene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 07/17/06 16:26

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0606525-01 **Client Sample Name:** CS-E, 6/30/2006 8:55:00AM, BKE/ENS

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Tetrachloroethene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Toluene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,2,3-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,2,4-Trichlorobenzene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,1,1-Trichloroethane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,1,2-Trichloroethane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Trichloroethene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Trichlorofluoromethane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,2,3-Trichloropropane	ND	ug/L	1.0		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,2,4-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,3,5-Trimethylbenzene	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Vinyl chloride	ND	ug/L	0.50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Total Xylenes	ND	ug/L	1.0		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093	ND	
1,2-Dichloroethane-d4 (Surrogate)	118	%	76 - 114 (LCL - UCL)		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093		S09
Toluene-d8 (Surrogate)	102	%	88 - 110 (LCL - UCL)		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093		
4-Bromofluorobenzene (Surrogate)	108	%	86 - 115 (LCL - UCL)		EPA-8260	07/05/06	07/05/06 20:13	MGC	MS-V5	1	BPG0093		

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 07/17/06 16:26

Luft Crude Oil Ranges by GC/MS

BCL Sample ID: 0606525-01 **Client Sample Name:** CS-E, 6/30/2006 8:55:00AM, BKE/ENS

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel - C10 - C25	170	ug/L	50		Luft/GCMS C	07/05/06	07/15/06 00:10	JST	MS-B5	1.01	BPG0228	21	
Crude Oil - C25 - C40	330	ug/L	50		Luft/GCMS C	07/05/06	07/15/06 00:10	JST	MS-B5	1.01	BPG0228	20	
p-Terphenyl-d14 (Surrogate)	48.2	%	60 - 140 (LCL - UCL)		Luft/GCMS C	07/05/06	07/15/06 00:10	JST	MS-B5	1.01	BPG0228		S09

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 07/17/06 16:26

Luft Crude Oil Ranges by GC/MS (Silica Gel Treated)

BCL Sample ID: 0606525-01 **Client Sample Name:** CS-E, 6/30/2006 8:55:00AM, BKE/ENS

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel - C10 - C25	150	ug/L	50		Luft/GCMS C	07/06/06	07/15/06 06:46	JST	MS-B5	1.02	BPG0701	35	
Crude Oil - C25 - C40	240	ug/L	50		Luft/GCMS C	07/06/06	07/15/06 06:46	JST	MS-B5	1.02	BPG0701	110	
p-Terphenyl-d14 (Surrogate)	47.6	%	62 - 122 (LCL - UCL)		Luft/GCMS C	07/06/06	07/15/06 06:46	JST	MS-B5	1.02	BPG0701		S09

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 07/17/06 16:26

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Benzene	BPG0093	Matrix Spike	0606525-01	ND	24.570	25.000	ug/L		98.3		70 - 130	
		Matrix Spike Duplicate	0606525-01	ND	24.500	25.000	ug/L	0.306	98.0	20	70 - 130	
Bromodichloromethane	BPG0093	Matrix Spike	0606525-01	ND	28.910	25.000	ug/L		116		70 - 130	
		Matrix Spike Duplicate	0606525-01	ND	28.880	25.000	ug/L	0.00	116	20	70 - 130	
Chlorobenzene	BPG0093	Matrix Spike	0606525-01	ND	26.780	25.000	ug/L		107		70 - 130	
		Matrix Spike Duplicate	0606525-01	ND	26.490	25.000	ug/L	0.939	106	20	70 - 130	
Chloroethane	BPG0093	Matrix Spike	0606525-01	ND	23.630	25.000	ug/L		94.5		70 - 130	
		Matrix Spike Duplicate	0606525-01	ND	24.090	25.000	ug/L	1.99	96.4	20	70 - 130	
1,4-Dichlorobenzene	BPG0093	Matrix Spike	0606525-01	ND	27.040	25.000	ug/L		108		70 - 130	
		Matrix Spike Duplicate	0606525-01	ND	26.450	25.000	ug/L	1.87	106	20	70 - 130	
1,1-Dichloroethane	BPG0093	Matrix Spike	0606525-01	ND	25.580	25.000	ug/L		102		70 - 130	
		Matrix Spike Duplicate	0606525-01	ND	25.580	25.000	ug/L	0.00	102	20	70 - 130	
1,1-Dichloroethene	BPG0093	Matrix Spike	0606525-01	ND	26.490	25.000	ug/L		106		70 - 130	
		Matrix Spike Duplicate	0606525-01	ND	26.490	25.000	ug/L	0.00	106	20	70 - 130	
Toluene	BPG0093	Matrix Spike	0606525-01	ND	27.160	25.000	ug/L		109		70 - 130	
		Matrix Spike Duplicate	0606525-01	ND	27.010	25.000	ug/L	0.922	108	20	70 - 130	
Trichloroethene	BPG0093	Matrix Spike	0606525-01	ND	26.850	25.000	ug/L		107		70 - 130	
		Matrix Spike Duplicate	0606525-01	ND	26.970	25.000	ug/L	0.930	108	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	BPG0093	Matrix Spike	0606525-01	ND	10.730	10.000	ug/L		107		76 - 114	
		Matrix Spike Duplicate	0606525-01	ND	10.870	10.000	ug/L		109		76 - 114	
Toluene-d8 (Surrogate)	BPG0093	Matrix Spike	0606525-01	ND	10.350	10.000	ug/L		104		88 - 110	
		Matrix Spike Duplicate	0606525-01	ND	10.160	10.000	ug/L		102		88 - 110	
4-Bromofluorobenzene (Surrogate)	BPG0093	Matrix Spike	0606525-01	ND	10.960	10.000	ug/L		110		86 - 115	
		Matrix Spike Duplicate	0606525-01	ND	10.930	10.000	ug/L		109		86 - 115	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Luft Crude Oil Ranges by GC/MS

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
TPH - Diesel (FFP)	BPG0228	Matrix Spike	0605234-38	43.580	957.39	1000.0	ug/L		91.4		50 - 150	
		Matrix Spike Duplicate	0605234-38	43.580	962.86	1000.0	ug/L	0.546	91.9	30	50 - 150	
p-Terphenyl-d14 (Surrogate)	BPG0228	Matrix Spike	0605234-38	ND	25.487	40.000	ug/L		63.7		60 - 140	
		Matrix Spike Duplicate	0605234-38	ND	25.362	40.000	ug/L		63.4		60 - 140	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Luft Crude Oil Ranges by GC/MS (Silica Gel Treated)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
TPH - Diesel (FFP)	BPG0701	Matrix Spike	0605234-98	50.760	883.17	1000.0	ug/L		83.2		50 - 150	
		Matrix Spike Duplicate	0605234-98	50.760	881.75	1000.0	ug/L	0.120	83.1	30	50 - 150	
p-Terphenyl-d14 (Surrogate)	BPG0701	Matrix Spike	0605234-98	ND	21.601	40.000	ug/L		54.0		62 - 122	S09
		Matrix Spike Duplicate	0605234-98	ND	22.238	40.000	ug/L		55.6		62 - 122	S09

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Benzene	BPG0093	BPG0093-BS1	LCS	23.850	25.000	0.50	ug/L	95.4		70 - 130		
Bromodichloromethane	BPG0093	BPG0093-BS1	LCS	27.930	25.000	0.50	ug/L	112		70 - 130		
Chlorobenzene	BPG0093	BPG0093-BS1	LCS	25.250	25.000	0.50	ug/L	101		70 - 130		
Chloroethane	BPG0093	BPG0093-BS1	LCS	23.140	25.000	0.50	ug/L	92.6		70 - 130		
1,4-Dichlorobenzene	BPG0093	BPG0093-BS1	LCS	25.510	25.000	0.50	ug/L	102		70 - 130		
1,1-Dichloroethane	BPG0093	BPG0093-BS1	LCS	24.890	25.000	0.50	ug/L	99.6		70 - 130		
1,1-Dichloroethene	BPG0093	BPG0093-BS1	LCS	25.600	25.000	0.50	ug/L	102		70 - 130		
Toluene	BPG0093	BPG0093-BS1	LCS	26.470	25.000	0.50	ug/L	106		70 - 130		
Trichloroethene	BPG0093	BPG0093-BS1	LCS	26.600	25.000	0.50	ug/L	106		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BPG0093	BPG0093-BS1	LCS	10.350	10.000		ug/L	104		76 - 114		
Toluene-d8 (Surrogate)	BPG0093	BPG0093-BS1	LCS	10.260	10.000		ug/L	103		88 - 110		
4-Bromofluorobenzene (Surrogate)	BPG0093	BPG0093-BS1	LCS	10.590	10.000		ug/L	106		86 - 115		

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 07/17/06 16:26

Luft Crude Oil Ranges by GC/MS

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
TPH - Diesel (FFP)	BPG0228	BPG0228-BS1	LCS	917.52	1000.0	50	ug/L	91.8		50 - 150		
p-Terphenyl-d14 (Surrogate)	BPG0228	BPG0228-BS1	LCS	23.460	40.000		ug/L	58.6		60 - 140		S09

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San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 07/17/06 16:26

Luft Crude Oil Ranges by GC/MS (Silica Gel Treated)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
TPH - Diesel (FFP)	BPG0701	BPG0701-BS1	LCS	928.03	1000.0	50	ug/L	92.8		50 - 150		
p-Terphenyl-d14 (Surrogate)	BPG0701	BPG0701-BS1	LCS	21.592	40.000		ug/L	54.0		62 - 122		S09

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Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 07/17/06 16:26

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BPG0093	BPG0093-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	BPG0093	BPG0093-BLK1	ND	ug/L	0.50	0.094	
Methyl t-butyl ether	BPG0093	BPG0093-BLK1	ND	ug/L	0.50	0.12	
Toluene	BPG0093	BPG0093-BLK1	ND	ug/L	0.50	0.12	
Total Xylenes	BPG0093	BPG0093-BLK1	ND	ug/L	1.0	0.35	
Total Purgeable Petroleum Hydrocarbons	BPG0093	BPG0093-BLK1	ND	ug/L	50	16	
1,2-Dichloroethane-d4 (Surrogate)	BPG0093	BPG0093-BLK1	112	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BPG0093	BPG0093-BLK1	100	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BPG0093	BPG0093-BLK1	104	%	86 - 115 (LCL - UCL)		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Parsons
1150 Laurel Ln., Suite 190
San Luis Obispo CA, 93401

Project: Avila Terminal Cliff Springs
Project Number: [none]
Project Manager: Jay Simonds

Reported: 07/17/06 16:26

Luft Crude Oil Ranges by GC/MS

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
TPH - Diesel (FFP)	BPG0228	BPG0228-BLK1	43.580	ug/L	50	8.2	M02
Diesel - C10 - C25	BPG0228	BPG0228-BLK1	20.667	ug/L	50	8.2	
Crude Oil - C25 - C40	BPG0228	BPG0228-BLK1	ND	ug/L	50	24	
p-Terphenyl-d14 (Surrogate)	BPG0228	BPG0228-BLK1	47.9	%	60 - 140 (LCL - UCL)		S09

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Luft Crude Oil Ranges by GC/MS (Silica Gel Treated)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
TPH - Diesel (FFP)	BPG0701	BPG0701-BLK1	50.760	ug/L	50	8.2	M01
Diesel - C10 - C25	BPG0701	BPG0701-BLK1	34.244	ug/L	50	8.2	M02
Crude Oil - C25 - C40	BPG0701	BPG0701-BLK1	109.05	ug/L	50	24	M01
p-Terphenyl-d14 (Surrogate)	BPG0701	BPG0701-BLK1	43.6	%	62 - 122 (LCL - UCL)		S09

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Notes and Definitions

V11	The Continuing Calibration Verification (CCV) recovery is not within established control limits.
S09	The surrogate recovery on the sample for this compound was not within the control limits.
M02	Analyte detected in the Method Blank at a level between the PQL and 1/2 the PQL.
M01	Analyte detected in the Method Blank at or above the PQL.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

January 16, 2007 11:05:44AM

Client: Parson's Engineering (14054)
1150 Laurel Lane, Ste 190
San Luis Obispo, CA 93401
Attn: Satya Varadhi

Work Order: NPK3519
Project Name: Avila Beach Terminal
Project Nbr: NWABN-00021-001
P/O Nbr:
Date Received: 11/28/06

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
AT-CS-A	NPK3519-01	11/22/06 12:20
AT-CS-B	NPK3519-02	11/22/06 12:40
Trip Blank	NPK3519-03	11/22/06 00:01

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accredidation.

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Additional Laboratory Comments:
Revised Report 01/16/07

TPH-GRO result for NPK3519-01 is probable carryover from sample analyzed immediately prior to this sample.
See attached chromatograms.

Revised Report 01/02/2007

Added Oil Range C25-C40.
California Certification Number: 01168CA

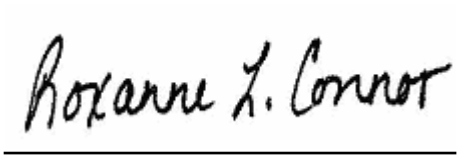
The Chain(s) of Custody, 5 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

Estimated uncertainity is available upon request.

This report has been electronically signed.

Report Approved By:



Roxanne Connor

Program Manager - Conventional Accounts

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client Parson's Engineering (14054)
1150 Laurel Lane, Ste 190
San Luis Obispo, CA 93401
Attn Satya Varadhi

Work Order: NPK3519
Project Name: Avila Beach Terminal
Project Number: NWABN-00021-001
Received: 11/28/06 07:45

ANALYTICAL REPORT

Sample ID: NPK3519-01 (AT-CS-A - Water) Sampled: 11/22/06 12:20

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Acetone	ND		ug/L	3.96	50.0	1	12/03/06 14:21	SW846 8260B	6120447
Tert-Amyl Methyl Ether	ND		ug/L	0.200	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Benzene	ND		ug/L	0.170	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Ethyl tert-Butyl Ether	ND		ug/L	0.210	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Bromobenzene	ND		ug/L	0.350	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Diisopropyl Ether	ND		ug/L	0.210	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Bromochloromethane	ND		ug/L	0.400	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Methyl tert-Butyl Ether	ND		ug/L	0.190	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Bromodichloromethane	ND		ug/L	0.150	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Tertiary Butyl Alcohol	ND		ug/L	4.07	10.0	1	12/03/06 14:21	SW846 8260B	6120447
Bromoform	ND		ug/L	0.290	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Bromomethane	ND		ug/L	0.270	0.500	1	12/03/06 14:21	SW846 8260B	6120447
2-Butanone	ND		ug/L	2.76	50.0	1	12/03/06 14:21	SW846 8260B	6120447
sec-Butylbenzene	ND		ug/L	0.160	0.500	1	12/03/06 14:21	SW846 8260B	6120447
n-Butylbenzene	ND		ug/L	0.210	0.500	1	12/03/06 14:21	SW846 8260B	6120447
tert-Butylbenzene	ND		ug/L	0.220	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Carbon disulfide	ND		ug/L	0.180	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Carbon Tetrachloride	ND		ug/L	0.220	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Chlorobenzene	ND		ug/L	0.120	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Chlorodibromomethane	ND		ug/L	0.230	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Chloroethane	ND		ug/L	0.190	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Chloroform	ND		ug/L	0.270	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Chloromethane	ND		ug/L	0.260	0.500	1	12/03/06 14:21	SW846 8260B	6120447
4-Chlorotoluene	ND		ug/L	0.190	0.500	1	12/03/06 14:21	SW846 8260B	6120447
2-Chlorotoluene	ND		ug/L	0.130	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,2-Dibromo-3-chloropropane	ND		ug/L	0.880	1.00	1	12/03/06 14:21	SW846 8260B	6120447
1,2-Dibromoethane (EDB)	ND		ug/L	0.320	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Dibromomethane	ND		ug/L	0.230	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,4-Dichlorobenzene	ND		ug/L	0.150	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,3-Dichlorobenzene	ND		ug/L	0.160	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,2-Dichlorobenzene	ND		ug/L	0.150	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Dichlorodifluoromethane	ND		ug/L	0.140	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,2-Dichloroethane	ND		ug/L	0.370	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,1-Dichloroethane	ND		ug/L	0.130	0.500	1	12/03/06 14:21	SW846 8260B	6120447
cis-1,2-Dichloroethene	ND		ug/L	0.160	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,1-Dichloroethene	ND		ug/L	0.270	0.500	1	12/03/06 14:21	SW846 8260B	6120447
trans-1,2-Dichloroethene	ND		ug/L	0.200	0.500	1	12/03/06 14:21	SW846 8260B	6120447
2,2-Dichloropropane	ND		ug/L	0.190	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,3-Dichloropropane	ND		ug/L	0.100	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,2-Dichloropropane	ND		ug/L	0.200	0.500	1	12/03/06 14:21	SW846 8260B	6120447
trans-1,3-Dichloropropene	ND		ug/L	0.230	0.500	1	12/03/06 14:21	SW846 8260B	6120447
cis-1,3-Dichloropropene	ND		ug/L	0.270	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,1-Dichloropropene	ND		ug/L	0.160	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Ethylbenzene	ND		ug/L	0.230	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Hexachlorobutadiene	ND		ug/L	0.360	1.00	1	12/03/06 14:21	SW846 8260B	6120447

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NPK3519-01 (AT-CS-A - Water) - cont. Sampled: 11/22/06 12:20									
Volatile Organic Compounds by EPA Method 8260B - cont.									
2-Hexanone	ND		ug/L	1.11	10.0	1	12/03/06 14:21	SW846 8260B	6120447
Isopropylbenzene	ND		ug/L	0.230	1.00	1	12/03/06 14:21	SW846 8260B	6120447
Methylene Chloride	ND		ug/L	0.330	5.00	1	12/03/06 14:21	SW846 8260B	6120447
4-Methyl-2-pentanone	ND		ug/L	1.53	10.0	1	12/03/06 14:21	SW846 8260B	6120447
Styrene	ND		ug/L	0.140	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,1,1,2-Tetrachloroethane	ND		ug/L	0.220	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,1,2,2-Tetrachloroethane	ND		ug/L	0.120	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Tetrachloroethene	ND		ug/L	0.220	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Toluene	ND		ug/L	0.220	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,2,4-Trichlorobenzene	ND		ug/L	0.240	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,2,3-Trichlorobenzene	ND		ug/L	0.210	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,1,2-Trichloroethane	ND		ug/L	0.270	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,1,1-Trichloroethane	ND		ug/L	0.160	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Trichloroethene	ND		ug/L	0.170	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Trichlorofluoromethane	ND		ug/L	0.110	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,2,3-Trichloropropane	ND		ug/L	0.240	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,3,5-Trimethylbenzene	ND		ug/L	0.240	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Vinyl chloride	ND		ug/L	0.200	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Xylenes, total	ND		ug/L	0.320	0.500	1	12/03/06 14:21	SW846 8260B	6120447
1,2,4-Trimethylbenzene	ND		ug/L	0.180	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Naphthalene	ND		ug/L	0.650	5.00	1	12/03/06 14:21	SW846 8260B	6120447
p-Isopropyltoluene	ND		ug/L	0.140	0.500	1	12/03/06 14:21	SW846 8260B	6120447
n-Propylbenzene	ND		ug/L	0.180	0.500	1	12/03/06 14:21	SW846 8260B	6120447
Surr: 1,2-Dichloroethane-d4 (62-142%)	*110 %*					*1*	*12/03/06 14:21*	*SW846 8260B*	*6120447*
Surr: Dibromofluoromethane (78-123%)	*101 %*					*1*	*12/03/06 14:21*	*SW846 8260B*	*6120447*
Surr: Toluene-d8 (79-120%)	*101 %*					*1*	*12/03/06 14:21*	*SW846 8260B*	*6120447*
Surr: 4-Bromofluorobenzene (75-133%)	*107 %*					*1*	*12/03/06 14:21*	*SW846 8260B*	*6120447*
Polyaromatic Hydrocarbons by EPA 8270C SIM									
Acenaphthene	ND		ug/L	0.0408	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125
Acenaphthylene	ND		ug/L	0.0252	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125
Anthracene	ND		ug/L	0.0408	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125
Benzo (a) anthracene	ND		ug/L	0.0330	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125
Benzo (a) pyrene	ND		ug/L	0.0252	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125
Benzo (b) fluoranthene	ND		ug/L	0.0243	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125
Benzo (g,h,i) perylene	ND		ug/L	0.0243	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125
Benzo (k) fluoranthene	ND		ug/L	0.0243	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125
Chrysene	ND		ug/L	0.0340	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125
Dibenz (a,h) anthracene	ND		ug/L	0.0301	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125
Fluoranthene	ND		ug/L	0.0350	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125
Fluorene	ND		ug/L	0.0350	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125
Indeno (1,2,3-cd) pyrene	ND		ug/L	0.0243	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125
1-Methylnaphthalene	ND		ug/L	0.0417	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125
2-Methylnaphthalene	ND		ug/L	0.0786	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125
Naphthalene	ND		ug/L	0.0379	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125

Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NPK3519-01 (AT-CS-A - Water) - cont. Sampled: 11/22/06 12:20									
Polyaromatic Hydrocarbons by EPA 8270C SIM - cont.									
Phenanthrene	ND		ug/L	0.0592	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125
Pyrene	ND		ug/L	0.0330	0.0971	1	12/02/06 01:51	SW846 8270CSIM	6115125
Surr: Nitrobenzene-d5 (24-125%)	*66 %*					*1*	*12/02/06 01:51*	*SW846 8270CSIM*	*6115125*
Surr: 2-Fluorobiphenyl (30-120%)	*59 %*					*1*	*12/02/06 01:51*	*SW846 8270CSIM*	*6115125*
Surr: Terphenyl-d14 (29-149%)	*54 %*					*1*	*12/02/06 01:51*	*SW846 8270CSIM*	*6115125*
Extractable Petroleum Hydrocarbons									
TPH - Oil Range	ND	A-01, QSG	ug/L	34.9	94.3	1	11/29/06 15:37	SW846 8015B	6115131
Surr: o-Terphenyl (33-147%)	*81 %*					*1*	*11/29/06 15:37*	*SW846 8015B*	*6115131*
Purgeable Petroleum Hydrocarbons									
GRO as Gasoline	**73.7**	CF7	ug/L	43.0	50.0	1	11/29/06 23:10	SW846 8015B	6115355
Surr: a,a,a-Trifluorotoluene (44-152%)	*85 %*					*1*	*11/29/06 23:10*	*SW846 8015B*	*6115355*
Extractable Petroleum Hydrocarbons with Silica Gel Treatment									
Diesel	**139**	QSG	ug/L	34.9	47.2	1	11/29/06 15:37	SW846 8015B	6115131
C10 - C40	**140**	QSG	ug/L	31.1	47.2	1	11/29/06 15:37	8015B Mod.	6115131
Surr: o-Terphenyl (55-150%)	*81 %*					*1*	*11/29/06 15:37*	*8015B Mod.*	*6115131*
Surr: o-Terphenyl (33-147%)	*81 %*					*1*	*11/29/06 15:37*	*SW846 8015B*	*6115131*
Sample ID: NPK3519-02 (AT-CS-B - Water) Sampled: 11/22/06 12:40									
Volatile Organic Compounds by EPA Method 8260B									
Acetone	ND		ug/L	3.96	50.0	1	12/03/06 01:16	SW846 8260B	6103359
Tert-Amyl Methyl Ether	ND		ug/L	0.200	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Benzene	ND		ug/L	0.170	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Ethyl tert-Butyl Ether	ND		ug/L	0.210	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Bromobenzene	ND		ug/L	0.350	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Diisopropyl Ether	ND		ug/L	0.210	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Bromochloromethane	ND		ug/L	0.400	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Methyl tert-Butyl Ether	ND		ug/L	0.190	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Bromodichloromethane	ND		ug/L	0.150	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Tertiary Butyl Alcohol	ND		ug/L	4.07	10.0	1	12/03/06 01:16	SW846 8260B	6103359
Bromoform	ND		ug/L	0.290	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Bromomethane	ND		ug/L	0.270	0.500	1	12/03/06 01:16	SW846 8260B	6103359
2-Butanone	ND		ug/L	2.76	50.0	1	12/03/06 01:16	SW846 8260B	6103359
sec-Butylbenzene	ND		ug/L	0.160	0.500	1	12/03/06 01:16	SW846 8260B	6103359
n-Butylbenzene	ND		ug/L	0.210	0.500	1	12/03/06 01:16	SW846 8260B	6103359
tert-Butylbenzene	ND		ug/L	0.220	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Carbon disulfide	ND		ug/L	0.180	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Carbon Tetrachloride	ND		ug/L	0.220	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Chlorobenzene	ND		ug/L	0.120	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Chlorodibromomethane	ND		ug/L	0.230	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Chloroethane	ND		ug/L	0.190	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Chloroform	ND		ug/L	0.270	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Chloromethane	ND		ug/L	0.260	0.500	1	12/03/06 01:16	SW846 8260B	6103359

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

ANALYTICAL REPORT

Sample ID: NPK3519-02 (AT-CS-B - Water) - cont. Sampled: 11/22/06 12:40

Volatile Organic Compounds by EPA Method 8260B - cont.

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
4-Chlorotoluene	ND		ug/L	0.190	0.500	1	12/03/06 01:16	SW846 8260B	6103359
2-Chlorotoluene	ND		ug/L	0.130	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,2-Dibromo-3-chloropropane	ND		ug/L	0.880	1.00	1	12/03/06 01:16	SW846 8260B	6103359
1,2-Dibromoethane (EDB)	ND		ug/L	0.320	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Dibromomethane	ND		ug/L	0.230	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,4-Dichlorobenzene	ND		ug/L	0.150	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,3-Dichlorobenzene	ND		ug/L	0.160	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,2-Dichlorobenzene	ND		ug/L	0.150	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Dichlorodifluoromethane	ND		ug/L	0.140	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,2-Dichloroethane	ND		ug/L	0.370	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,1-Dichloroethane	ND		ug/L	0.130	0.500	1	12/03/06 01:16	SW846 8260B	6103359
cis-1,2-Dichloroethene	ND		ug/L	0.160	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,1-Dichloroethene	ND		ug/L	0.270	0.500	1	12/03/06 01:16	SW846 8260B	6103359
trans-1,2-Dichloroethene	ND		ug/L	0.200	0.500	1	12/03/06 01:16	SW846 8260B	6103359
2,2-Dichloropropane	ND		ug/L	0.190	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,3-Dichloropropane	ND		ug/L	0.100	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,2-Dichloropropane	ND		ug/L	0.200	0.500	1	12/03/06 01:16	SW846 8260B	6103359
trans-1,3-Dichloropropene	ND		ug/L	0.230	0.500	1	12/03/06 01:16	SW846 8260B	6103359
cis-1,3-Dichloropropene	ND		ug/L	0.270	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,1-Dichloropropene	ND		ug/L	0.160	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Ethylbenzene	ND		ug/L	0.230	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Hexachlorobutadiene	ND		ug/L	0.360	1.00	1	12/03/06 01:16	SW846 8260B	6103359
2-Hexanone	ND		ug/L	1.11	10.0	1	12/03/06 01:16	SW846 8260B	6103359
Isopropylbenzene	ND		ug/L	0.230	1.00	1	12/03/06 01:16	SW846 8260B	6103359
Methylene Chloride	ND		ug/L	0.330	5.00	1	12/03/06 01:16	SW846 8260B	6103359
4-Methyl-2-pentanone	ND		ug/L	1.53	10.0	1	12/03/06 01:16	SW846 8260B	6103359
Styrene	ND		ug/L	0.140	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,1,1,2-Tetrachloroethane	ND		ug/L	0.220	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,1,2,2-Tetrachloroethane	ND		ug/L	0.120	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Tetrachloroethene	ND		ug/L	0.220	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Toluene	ND		ug/L	0.220	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,2,4-Trichlorobenzene	ND		ug/L	0.240	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,2,3-Trichlorobenzene	ND		ug/L	0.210	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,1,2-Trichloroethane	ND		ug/L	0.270	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,1,1-Trichloroethane	ND		ug/L	0.160	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Trichloroethene	ND		ug/L	0.170	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Trichlorofluoromethane	ND		ug/L	0.110	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,2,3-Trichloropropane	ND		ug/L	0.240	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,3,5-Trimethylbenzene	ND		ug/L	0.240	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Vinyl chloride	ND		ug/L	0.200	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Xylenes, total	ND		ug/L	0.320	0.500	1	12/03/06 01:16	SW846 8260B	6103359
1,2,4-Trimethylbenzene	ND		ug/L	0.180	0.500	1	12/03/06 01:16	SW846 8260B	6103359
Naphthalene	ND		ug/L	0.650	5.00	1	12/03/06 01:16	SW846 8260B	6103359
p-Isopropyltoluene	ND		ug/L	0.140	0.500	1	12/03/06 01:16	SW846 8260B	6103359
n-Propylbenzene	ND		ug/L	0.180	0.500	1	12/03/06 01:16	SW846 8260B	6103359

Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NPK3519-02 (AT-CS-B - Water) - cont. Sampled: 11/22/06 12:40									
Volatile Organic Compounds by EPA Method 8260B - cont.									
Surr: 1,2-Dichloroethane-d4 (62-142%)	*110 %*					*1*	*12/03/06 01:16*	*SW846 8260B*	*6103359*
Surr: Dibromofluoromethane (78-123%)	*101 %*					*1*	*12/03/06 01:16*	*SW846 8260B*	*6103359*
Surr: Toluene-d8 (79-120%)	*102 %*					*1*	*12/03/06 01:16*	*SW846 8260B*	*6103359*
Surr: 4-Bromofluorobenzene (75-133%)	*107 %*					*1*	*12/03/06 01:16*	*SW846 8260B*	*6103359*
Polyaromatic Hydrocarbons by EPA 8270C SIM									
Acenaphthene	ND		ug/L	0.0396	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
Acenaphthylene	ND		ug/L	0.0245	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
Anthracene	ND		ug/L	0.0396	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
Benzo (a) anthracene	ND		ug/L	0.0321	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
Benzo (a) pyrene	ND		ug/L	0.0245	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
Benzo (b) fluoranthene	ND		ug/L	0.0236	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
Benzo (g,h,i) perylene	ND		ug/L	0.0236	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
Benzo (k) fluoranthene	ND		ug/L	0.0236	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
Chrysene	ND		ug/L	0.0330	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
Dibenz (a,h) anthracene	ND		ug/L	0.0292	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
Fluoranthene	ND		ug/L	0.0340	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
Fluorene	ND		ug/L	0.0340	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
Indeno (1,2,3-cd) pyrene	ND		ug/L	0.0236	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
1-Methylnaphthalene	ND		ug/L	0.0406	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
2-Methylnaphthalene	ND		ug/L	0.0764	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
Naphthalene	ND		ug/L	0.0368	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
Phenanthrene	ND		ug/L	0.0575	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
Pyrene	ND		ug/L	0.0321	0.0943	1	12/02/06 02:18	SW846 8270CSIM	6115125
Surr: Nitrobenzene-d5 (24-125%)	*59 %*					*1*	*12/02/06 02:18*	*SW846 8270CSIM*	*6115125*
Surr: 2-Fluorobiphenyl (30-120%)	*53 %*					*1*	*12/02/06 02:18*	*SW846 8270CSIM*	*6115125*
Surr: Terphenyl-d14 (29-149%)	*51 %*					*1*	*12/02/06 02:18*	*SW846 8270CSIM*	*6115125*
Extractable Petroleum Hydrocarbons									
TPH - Oil Range	ND	A-01, QSG	ug/L	35.1	94.8	1	11/29/06 15:53	SW846 8015B	6115131
Surr: o-Terphenyl (33-147%)	*86 %*					*1*	*11/29/06 15:53*	*SW846 8015B*	*6115131*
Purgeable Petroleum Hydrocarbons									
GRO as Gasoline	ND		ug/L	43.0	50.0	1	11/29/06 23:25	SW846 8015B	6115355
Surr: a,a,a-Trifluorotoluene (44-152%)	*87 %*					*1*	*11/29/06 23:25*	*SW846 8015B*	*6115355*
Extractable Petroleum Hydrocarbons with Silica Gel Treatment									
Diesel	**131**	QSG	ug/L	35.1	47.4	1	11/29/06 15:53	SW846 8015B	6115131
C10 - C40	**132**	QSG	ug/L	31.3	47.4	1	11/29/06 15:53	8015B Mod.	6115131
Surr: o-Terphenyl (33-147%)	*86 %*					*1*	*11/29/06 15:53*	*SW846 8015B*	*6115131*
Surr: o-Terphenyl (55-150%)	*86 %*					*1*	*11/29/06 15:53*	*8015B Mod.*	*6115131*

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

ANALYTICAL REPORT

Sample ID: NPK3519-03 (Trip Blank - Water) Sampled: 11/22/06 00:01

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Acetone	ND		ug/L	3.96	50.0	1	12/01/06 08:04	SW846 8260B	6120332
Tert-Amyl Methyl Ether	ND		ug/L	0.200	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Benzene	ND		ug/L	0.170	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Ethyl tert-Butyl Ether	ND		ug/L	0.210	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Bromobenzene	ND		ug/L	0.350	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Diisopropyl Ether	ND		ug/L	0.210	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Bromochloromethane	ND		ug/L	0.400	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Methyl tert-Butyl Ether	ND		ug/L	0.190	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Bromodichloromethane	ND		ug/L	0.150	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Tertiary Butyl Alcohol	ND		ug/L	4.07	10.0	1	12/01/06 08:04	SW846 8260B	6120332
Bromoform	ND		ug/L	0.290	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Bromomethane	ND		ug/L	0.270	0.500	1	12/01/06 08:04	SW846 8260B	6120332
2-Butanone	ND		ug/L	2.76	50.0	1	12/01/06 08:04	SW846 8260B	6120332
sec-Butylbenzene	ND		ug/L	0.160	0.500	1	12/01/06 08:04	SW846 8260B	6120332
n-Butylbenzene	ND		ug/L	0.210	0.500	1	12/01/06 08:04	SW846 8260B	6120332
tert-Butylbenzene	ND		ug/L	0.220	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Carbon disulfide	ND		ug/L	0.180	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Carbon Tetrachloride	ND		ug/L	0.220	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Chlorobenzene	ND		ug/L	0.120	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Chlorodibromomethane	ND		ug/L	0.230	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Chloroethane	ND		ug/L	0.190	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Chloroform	ND		ug/L	0.270	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Chloromethane	ND		ug/L	0.260	0.500	1	12/01/06 08:04	SW846 8260B	6120332
4-Chlorotoluene	ND		ug/L	0.190	0.500	1	12/01/06 08:04	SW846 8260B	6120332
2-Chlorotoluene	ND		ug/L	0.130	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,2-Dibromo-3-chloropropane	ND		ug/L	0.880	1.00	1	12/01/06 08:04	SW846 8260B	6120332
1,2-Dibromoethane (EDB)	ND		ug/L	0.320	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Dibromomethane	ND		ug/L	0.230	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,4-Dichlorobenzene	ND		ug/L	0.150	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,3-Dichlorobenzene	ND		ug/L	0.160	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,2-Dichlorobenzene	ND		ug/L	0.150	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Dichlorodifluoromethane	ND		ug/L	0.140	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,2-Dichloroethane	ND		ug/L	0.370	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,1-Dichloroethane	ND		ug/L	0.130	0.500	1	12/01/06 08:04	SW846 8260B	6120332
cis-1,2-Dichloroethene	ND		ug/L	0.160	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,1-Dichloroethene	ND		ug/L	0.270	0.500	1	12/01/06 08:04	SW846 8260B	6120332
trans-1,2-Dichloroethene	ND		ug/L	0.200	0.500	1	12/01/06 08:04	SW846 8260B	6120332
2,2-Dichloropropane	ND		ug/L	0.190	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,3-Dichloropropane	ND		ug/L	0.100	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,2-Dichloropropane	ND		ug/L	0.200	0.500	1	12/01/06 08:04	SW846 8260B	6120332
trans-1,3-Dichloropropene	ND		ug/L	0.230	0.500	1	12/01/06 08:04	SW846 8260B	6120332
cis-1,3-Dichloropropene	ND		ug/L	0.270	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,1-Dichloropropene	ND		ug/L	0.160	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Ethylbenzene	ND		ug/L	0.230	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Hexachlorobutadiene	ND		ug/L	0.360	1.00	1	12/01/06 08:04	SW846 8260B	6120332

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NPK3519-03 (Trip Blank - Water) - cont. Sampled: 11/22/06 00:01									
Volatile Organic Compounds by EPA Method 8260B - cont.									
2-Hexanone	ND		ug/L	1.11	10.0	1	12/01/06 08:04	SW846 8260B	6120332
Isopropylbenzene	ND		ug/L	0.230	1.00	1	12/01/06 08:04	SW846 8260B	6120332
Methylene Chloride	ND		ug/L	0.330	5.00	1	12/01/06 08:04	SW846 8260B	6120332
4-Methyl-2-pentanone	ND		ug/L	1.53	10.0	1	12/01/06 08:04	SW846 8260B	6120332
Styrene	ND		ug/L	0.140	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,1,1,2-Tetrachloroethane	ND		ug/L	0.220	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,1,2,2-Tetrachloroethane	ND		ug/L	0.120	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Tetrachloroethene	ND		ug/L	0.220	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Toluene	ND		ug/L	0.220	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,2,4-Trichlorobenzene	ND		ug/L	0.240	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,2,3-Trichlorobenzene	ND		ug/L	0.210	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,1,2-Trichloroethane	ND		ug/L	0.270	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,1,1-Trichloroethane	ND		ug/L	0.160	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Trichloroethene	ND		ug/L	0.170	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Trichlorofluoromethane	ND		ug/L	0.110	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,2,3-Trichloropropane	ND		ug/L	0.240	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,3,5-Trimethylbenzene	ND		ug/L	0.240	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Vinyl chloride	ND		ug/L	0.200	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Xylenes, total	ND		ug/L	0.320	0.500	1	12/01/06 08:04	SW846 8260B	6120332
1,2,4-Trimethylbenzene	ND		ug/L	0.180	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Naphthalene	ND		ug/L	0.650	5.00	1	12/01/06 08:04	SW846 8260B	6120332
p-Isopropyltoluene	ND		ug/L	0.140	0.500	1	12/01/06 08:04	SW846 8260B	6120332
n-Propylbenzene	ND		ug/L	0.180	0.500	1	12/01/06 08:04	SW846 8260B	6120332
Surr: 1,2-Dichloroethane-d4 (62-142%)	*104 %*					*1*	*12/01/06 08:04*	*SW846 8260B*	*6120332*
Surr: Dibromofluoromethane (78-123%)	*100 %*					*1*	*12/01/06 08:04*	*SW846 8260B*	*6120332*
Surr: Toluene-d8 (79-120%)	*102 %*					*1*	*12/01/06 08:04*	*SW846 8260B*	*6120332*
Surr: 4-Bromofluorobenzene (75-133%)	*105 %*					*1*	*12/01/06 08:04*	*SW846 8260B*	*6120332*

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Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Extractable Petroleum Hydrocarbons							
SW846 8015B	6115131	NPK3519-01	1060.00	1.00	11/28/06 15:55	JFW	EPA 3510C
SW846 8015B	6115131	NPK3519-02	1055.00	1.00	11/28/06 15:55	JFW	EPA 3510C
Extractable Petroleum Hydrocarbons with Silica Gel Treatment							
8015B Mod.	6115131	NPK3519-01	1060.00	1.00	11/28/06 15:55	BJM	EPA 3510C
8015B Mod.	6115131	NPK3519-02	1055.00	1.00	11/28/06 15:55	BJM	EPA 3510C
SW846 8015B	6115131	NPK3519-01	1060.00	1.00	11/28/06 15:55	BJM	EPA 3510C
SW846 8015B	6115131	NPK3519-02	1055.00	1.00	11/28/06 15:55	BJM	EPA 3510C
Polyaromatic Hydrocarbons by EPA 8270C SIM							
SW846 8270CSIM	6115125	NPK3519-01	1030.00	1.00	11/28/06 16:01	CEC	EPA 3510C
SW846 8270CSIM	6115125	NPK3519-02	1060.00	1.00	11/28/06 16:01	CEC	EPA 3510C

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	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
6103359-BLK1						
Acetone	<1.28		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Tert-Amyl Methyl Ether	<0.200		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Benzene	<0.170		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Ethyl tert-Butyl Ether	<0.210		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Bromobenzene	<0.200		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Diisopropyl Ether	<0.210		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Bromochloromethane	<0.310		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Methyl tert-Butyl Ether	<0.190		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Bromodichloromethane	<0.150		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Tertiary Butyl Alcohol	<4.07		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Bromoform	<0.290		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Bromomethane	<0.270		ug/L	6103359	6103359-BLK1	12/03/06 00:51
2-Butanone	<2.76		ug/L	6103359	6103359-BLK1	12/03/06 00:51
sec-Butylbenzene	<0.160		ug/L	6103359	6103359-BLK1	12/03/06 00:51
n-Butylbenzene	<0.200		ug/L	6103359	6103359-BLK1	12/03/06 00:51
tert-Butylbenzene	<0.200		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Carbon disulfide	<0.180		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Carbon Tetrachloride	<0.220		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Chlorobenzene	<0.120		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Chlorodibromomethane	<0.230		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Chloroethane	<0.190		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Chloroform	<0.200		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Chloromethane	<0.220		ug/L	6103359	6103359-BLK1	12/03/06 00:51
4-Chlorotoluene	<0.190		ug/L	6103359	6103359-BLK1	12/03/06 00:51
2-Chlorotoluene	<0.130		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,2-Dibromo-3-chloropropane	<0.730		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,2-Dibromoethane (EDB)	<0.250		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Dibromomethane	<0.230		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,4-Dichlorobenzene	<0.150		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,3-Dichlorobenzene	<0.160		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,2-Dichlorobenzene	<0.150		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Dichlorodifluoromethane	<0.140		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,2-Dichloroethane	<0.370		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,1-Dichloroethane	<0.130		ug/L	6103359	6103359-BLK1	12/03/06 00:51
cis-1,2-Dichloroethene	<0.160		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,1-Dichloroethene	<0.200		ug/L	6103359	6103359-BLK1	12/03/06 00:51
trans-1,2-Dichloroethene	<0.200		ug/L	6103359	6103359-BLK1	12/03/06 00:51
2,2-Dichloropropane	<0.190		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,3-Dichloropropane	<0.100		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,2-Dichloropropane	<0.200		ug/L	6103359	6103359-BLK1	12/03/06 00:51
trans-1,3-Dichloropropene	<0.230		ug/L	6103359	6103359-BLK1	12/03/06 00:51
cis-1,3-Dichloropropene	<0.200		ug/L	6103359	6103359-BLK1	12/03/06 00:51

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Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
6103359-BLK1						
1,1-Dichloropropene	<0.160		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Ethylbenzene	<0.200		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Hexachlorobutadiene	<0.360		ug/L	6103359	6103359-BLK1	12/03/06 00:51
2-Hexanone	<1.11		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Isopropylbenzene	<0.200		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Methylene Chloride	<0.330		ug/L	6103359	6103359-BLK1	12/03/06 00:51
4-Methyl-2-pentanone	<1.12		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Styrene	<0.140		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,1,1,2-Tetrachloroethane	<0.200		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,1,2,2-Tetrachloroethane	<0.120		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Tetrachloroethene	<0.220		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Toluene	<0.200		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,2,4-Trichlorobenzene	<0.240		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,2,3-Trichlorobenzene	<0.210		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,1,2-Trichloroethane	<0.200		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,1,1-Trichloroethane	<0.160		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Trichloroethene	<0.170		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Trichlorofluoromethane	<0.110		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,2,3-Trichloropropane	<0.240		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,3,5-Trimethylbenzene	<0.220		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Vinyl chloride	<0.200		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Xylenes, total	<0.320		ug/L	6103359	6103359-BLK1	12/03/06 00:51
1,2,4-Trimethylbenzene	<0.180		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Naphthalene	<0.650		ug/L	6103359	6103359-BLK1	12/03/06 00:51
p-Isopropyltoluene	<0.140		ug/L	6103359	6103359-BLK1	12/03/06 00:51
n-Propylbenzene	<0.180		ug/L	6103359	6103359-BLK1	12/03/06 00:51
Surrogate: 1,2-Dichloroethane-d4	106%			6103359	6103359-BLK1	12/03/06 00:51
Surrogate: 1,2-Dichloroethane-d4	106%			6103359	6103359-BLK1	12/03/06 00:51
Surrogate: Dibromofluoromethane	100%			6103359	6103359-BLK1	12/03/06 00:51
Surrogate: Dibromofluoromethane	100%			6103359	6103359-BLK1	12/03/06 00:51
Surrogate: Toluene-d8	101%			6103359	6103359-BLK1	12/03/06 00:51
Surrogate: Toluene-d8	101%			6103359	6103359-BLK1	12/03/06 00:51
Surrogate: 4-Bromofluorobenzene	108%			6103359	6103359-BLK1	12/03/06 00:51
Surrogate: 4-Bromofluorobenzene	108%			6103359	6103359-BLK1	12/03/06 00:51
6120332-BLK1						
Acetone	<3.96		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Tert-Amyl Methyl Ether	<0.200		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Benzene	<0.170		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Ethyl tert-Butyl Ether	<0.210		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Bromobenzene	<0.350		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Diisopropyl Ether	<0.210		ug/L	6120332	6120332-BLK1	12/01/06 07:39

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
6120332-BLK1						
Bromochloromethane	<0.400		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Methyl tert-Butyl Ether	<0.190		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Bromodichloromethane	<0.150		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Tertiary Butyl Alcohol	<4.07		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Bromoform	<0.290		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Bromomethane	<0.270		ug/L	6120332	6120332-BLK1	12/01/06 07:39
2-Butanone	<2.76		ug/L	6120332	6120332-BLK1	12/01/06 07:39
sec-Butylbenzene	<0.160		ug/L	6120332	6120332-BLK1	12/01/06 07:39
n-Butylbenzene	<0.210		ug/L	6120332	6120332-BLK1	12/01/06 07:39
tert-Butylbenzene	<0.220		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Carbon disulfide	<0.180		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Carbon Tetrachloride	<0.220		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Chlorobenzene	<0.120		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Chlorodibromomethane	<0.230		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Chloroethane	<0.190		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Chloroform	<0.270		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Chloromethane	<0.260		ug/L	6120332	6120332-BLK1	12/01/06 07:39
4-Chlorotoluene	<0.190		ug/L	6120332	6120332-BLK1	12/01/06 07:39
2-Chlorotoluene	<0.130		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,2-Dibromo-3-chloropropane	<0.880		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,2-Dibromoethane (EDB)	<0.320		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Dibromomethane	<0.230		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,4-Dichlorobenzene	<0.150		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,3-Dichlorobenzene	<0.160		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,2-Dichlorobenzene	<0.150		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Dichlorodifluoromethane	<0.140		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,2-Dichloroethane	<0.370		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,1-Dichloroethane	<0.130		ug/L	6120332	6120332-BLK1	12/01/06 07:39
cis-1,2-Dichloroethene	<0.160		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,1-Dichloroethene	<0.270		ug/L	6120332	6120332-BLK1	12/01/06 07:39
trans-1,2-Dichloroethene	<0.200		ug/L	6120332	6120332-BLK1	12/01/06 07:39
2,2-Dichloropropane	<0.190		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,3-Dichloropropane	<0.100		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,2-Dichloropropane	<0.200		ug/L	6120332	6120332-BLK1	12/01/06 07:39
trans-1,3-Dichloropropene	<0.230		ug/L	6120332	6120332-BLK1	12/01/06 07:39
cis-1,3-Dichloropropene	<0.270		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,1-Dichloropropene	<0.160		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Ethylbenzene	<0.230		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Hexachlorobutadiene	<0.360		ug/L	6120332	6120332-BLK1	12/01/06 07:39
2-Hexanone	<1.11		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Isopropylbenzene	<0.230		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Diisopropyl Ether	<0.210		ug/L	6120332	6120332-BLK1	12/01/06 07:39

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ANALYTICAL TESTING CORPORATION
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Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
6120332-BLK1						
Methyl tert-Butyl Ether	<0.190		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Methylene Chloride	0.760	J	ug/L	6120332	6120332-BLK1	12/01/06 07:39
4-Methyl-2-pentanone	<1.53		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Styrene	<0.140		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,1,1,2-Tetrachloroethane	<0.220		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,1,2,2-Tetrachloroethane	<0.120		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Tetrachloroethene	<0.220		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Toluene	<0.220		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,2,4-Trichlorobenzene	<0.240		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,2,3-Trichlorobenzene	<0.210		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,1,2-Trichloroethane	<0.270		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,1,1-Trichloroethane	<0.160		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Trichloroethene	<0.170		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Trichlorofluoromethane	<0.110		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,2,3-Trichloropropane	<0.240		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,3,5-Trimethylbenzene	<0.240		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Vinyl chloride	<0.200		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Xylenes, total	<0.320		ug/L	6120332	6120332-BLK1	12/01/06 07:39
1,2,4-Trimethylbenzene	<0.180		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Naphthalene	<0.650		ug/L	6120332	6120332-BLK1	12/01/06 07:39
p-Isopropyltoluene	<0.140		ug/L	6120332	6120332-BLK1	12/01/06 07:39
n-Propylbenzene	<0.180		ug/L	6120332	6120332-BLK1	12/01/06 07:39
Surrogate: 1,2-Dichloroethane-d4	104%			6120332	6120332-BLK1	12/01/06 07:39
Surrogate: 1,2-Dichloroethane-d4	104%			6120332	6120332-BLK1	12/01/06 07:39
Surrogate: Dibromofluoromethane	100%			6120332	6120332-BLK1	12/01/06 07:39
Surrogate: Dibromofluoromethane	100%			6120332	6120332-BLK1	12/01/06 07:39
Surrogate: Toluene-d8	102%			6120332	6120332-BLK1	12/01/06 07:39
Surrogate: Toluene-d8	102%			6120332	6120332-BLK1	12/01/06 07:39
Surrogate: 4-Bromofluorobenzene	104%			6120332	6120332-BLK1	12/01/06 07:39
Surrogate: 4-Bromofluorobenzene	104%			6120332	6120332-BLK1	12/01/06 07:39
6120447-BLK1						
Acetone	<3.96		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Tert-Amyl Methyl Ether	<0.200		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Benzene	<0.170		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Ethyl tert-Butyl Ether	<0.210		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Bromobenzene	<0.350		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Diisopropyl Ether	<0.210		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Bromochloromethane	<0.400		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Methyl tert-Butyl Ether	<0.190		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Bromodichloromethane	<0.150		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Tertiary Butyl Alcohol	<4.07		ug/L	6120447	6120447-BLK1	12/03/06 13:56

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ANALYTICAL TESTING CORPORATION
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Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
6120447-BLK1						
Bromoform	<0.290		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Bromomethane	<0.270		ug/L	6120447	6120447-BLK1	12/03/06 13:56
2-Butanone	<2.76		ug/L	6120447	6120447-BLK1	12/03/06 13:56
sec-Butylbenzene	<0.160		ug/L	6120447	6120447-BLK1	12/03/06 13:56
n-Butylbenzene	<0.210		ug/L	6120447	6120447-BLK1	12/03/06 13:56
tert-Butylbenzene	<0.220		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Carbon disulfide	<0.180		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Carbon Tetrachloride	<0.220		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Chlorobenzene	<0.120		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Chlorodibromomethane	<0.230		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Chloroethane	<0.190		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Chloroform	<0.270		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Chloromethane	<0.260		ug/L	6120447	6120447-BLK1	12/03/06 13:56
4-Chlorotoluene	<0.190		ug/L	6120447	6120447-BLK1	12/03/06 13:56
2-Chlorotoluene	<0.130		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,2-Dibromo-3-chloropropane	<0.880		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,2-Dibromoethane (EDB)	<0.320		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Dibromomethane	<0.230		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,4-Dichlorobenzene	<0.150		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,3-Dichlorobenzene	<0.160		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,2-Dichlorobenzene	<0.150		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Dichlorodifluoromethane	<0.140		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,2-Dichloroethane	<0.370		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,1-Dichloroethane	<0.130		ug/L	6120447	6120447-BLK1	12/03/06 13:56
cis-1,2-Dichloroethene	<0.160		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,1-Dichloroethene	<0.270		ug/L	6120447	6120447-BLK1	12/03/06 13:56
trans-1,2-Dichloroethene	<0.200		ug/L	6120447	6120447-BLK1	12/03/06 13:56
2,2-Dichloropropane	<0.190		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,3-Dichloropropane	<0.100		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,2-Dichloropropane	<0.200		ug/L	6120447	6120447-BLK1	12/03/06 13:56
trans-1,3-Dichloropropene	<0.230		ug/L	6120447	6120447-BLK1	12/03/06 13:56
cis-1,3-Dichloropropene	<0.270		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,1-Dichloropropene	<0.160		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Ethylbenzene	<0.230		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Hexachlorobutadiene	<0.360		ug/L	6120447	6120447-BLK1	12/03/06 13:56
2-Hexanone	<1.11		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Isopropylbenzene	<0.230		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Diisopropyl Ether	<0.210		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Methyl tert-Butyl Ether	<0.190		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Methylene Chloride	<0.330		ug/L	6120447	6120447-BLK1	12/03/06 13:56
4-Methyl-2-pentanone	<1.53		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Styrene	<0.140		ug/L	6120447	6120447-BLK1	12/03/06 13:56

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
6120447-BLK1						
1,1,1,2-Tetrachloroethane	<0.220		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,1,2,2-Tetrachloroethane	<0.120		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Tetrachloroethene	<0.220		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Toluene	<0.220		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,2,4-Trichlorobenzene	<0.240		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,2,3-Trichlorobenzene	<0.210		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,1,2-Trichloroethane	<0.270		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,1,1-Trichloroethane	<0.160		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Trichloroethene	<0.170		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Trichlorofluoromethane	<0.110		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,2,3-Trichloropropane	<0.240		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,3,5-Trimethylbenzene	<0.240		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Vinyl chloride	<0.200		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Xylenes, total	<0.320		ug/L	6120447	6120447-BLK1	12/03/06 13:56
1,2,4-Trimethylbenzene	<0.180		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Naphthalene	<0.650		ug/L	6120447	6120447-BLK1	12/03/06 13:56
p-Isopropyltoluene	<0.140		ug/L	6120447	6120447-BLK1	12/03/06 13:56
n-Propylbenzene	<0.180		ug/L	6120447	6120447-BLK1	12/03/06 13:56
Surrogate: 1,2-Dichloroethane-d4	108%			6120447	6120447-BLK1	12/03/06 13:56
Surrogate: 1,2-Dichloroethane-d4	108%			6120447	6120447-BLK1	12/03/06 13:56
Surrogate: Dibromofluoromethane	102%			6120447	6120447-BLK1	12/03/06 13:56
Surrogate: Dibromofluoromethane	102%			6120447	6120447-BLK1	12/03/06 13:56
Surrogate: Toluene-d8	102%			6120447	6120447-BLK1	12/03/06 13:56
Surrogate: Toluene-d8	102%			6120447	6120447-BLK1	12/03/06 13:56
Surrogate: 4-Bromofluorobenzene	106%			6120447	6120447-BLK1	12/03/06 13:56
Surrogate: 4-Bromofluorobenzene	106%			6120447	6120447-BLK1	12/03/06 13:56
Polyaromatic Hydrocarbons by EPA 8270C SIM						
6115125-BLK1						
Acenaphthene	<0.0420		ug/L	6115125	6115125-BLK1	12/02/06 00:58
Acenaphthylene	<0.0260		ug/L	6115125	6115125-BLK1	12/02/06 00:58
Anthracene	<0.0420		ug/L	6115125	6115125-BLK1	12/02/06 00:58
Benzo (a) anthracene	<0.0340		ug/L	6115125	6115125-BLK1	12/02/06 00:58
Benzo (a) pyrene	<0.0260		ug/L	6115125	6115125-BLK1	12/02/06 00:58
Benzo (b) fluoranthene	<0.0250		ug/L	6115125	6115125-BLK1	12/02/06 00:58
Benzo (g,h,i) perylene	<0.0250		ug/L	6115125	6115125-BLK1	12/02/06 00:58
Benzo (k) fluoranthene	<0.0250		ug/L	6115125	6115125-BLK1	12/02/06 00:58
Chrysene	<0.0350		ug/L	6115125	6115125-BLK1	12/02/06 00:58
Dibenz (a,h) anthracene	<0.0310		ug/L	6115125	6115125-BLK1	12/02/06 00:58
Fluoranthene	<0.0360		ug/L	6115125	6115125-BLK1	12/02/06 00:58
Fluorene	<0.0360		ug/L	6115125	6115125-BLK1	12/02/06 00:58

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM						
6115125-BLK1						
Indeno (1,2,3-cd) pyrene	<0.0250		ug/L	6115125	6115125-BLK1	12/02/06 00:58
1-Methylnaphthalene	<0.0430		ug/L	6115125	6115125-BLK1	12/02/06 00:58
2-Methylnaphthalene	<0.0810		ug/L	6115125	6115125-BLK1	12/02/06 00:58
Naphthalene	<0.0390		ug/L	6115125	6115125-BLK1	12/02/06 00:58
Phenanthrene	<0.0610		ug/L	6115125	6115125-BLK1	12/02/06 00:58
Pyrene	<0.0340		ug/L	6115125	6115125-BLK1	12/02/06 00:58
Surrogate: Nitrobenzene-d5	67%			6115125	6115125-BLK1	12/02/06 00:58
Surrogate: 2-Fluorobiphenyl	59%			6115125	6115125-BLK1	12/02/06 00:58
Surrogate: Terphenyl-d14	61%			6115125	6115125-BLK1	12/02/06 00:58
Purgeable Petroleum Hydrocarbons						
6115355-BLK1						
GRO as Gasoline	<43.0		ug/L	6115355	6115355-BLK1	11/29/06 15:35
Surrogate: a,a,a-Trifluorotoluene	91%			6115355	6115355-BLK1	11/29/06 15:35
6115355-BLK2						
GRO as Gasoline	<43.0		ug/L	6115355	6115355-BLK2	11/29/06 15:50
Surrogate: a,a,a-Trifluorotoluene	87%			6115355	6115355-BLK2	11/29/06 15:50
Extractable Petroleum Hydrocarbons with Silica Gel Treatment						
6115131-BLK1						
Diesel	<37.0		ug/L	6115131	6115131-BLK1	11/29/06 15:04
C10 - C40	<33.0		ug/L	6115131	6115131-BLK1	11/29/06 15:04
Surrogate: o-Terphenyl	78%			6115131	6115131-BLK1	11/29/06 15:04
Surrogate: o-Terphenyl	78%			6115131	6115131-BLK1	11/29/06 15:04

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
6103359-BS1								
Acetone	250	294		ug/L	118%	57 - 152	6103359	12/02/06 23:36
Tert-Amyl Methyl Ether	50.0	54.7		ug/L	109%	68 - 134	6103359	12/02/06 23:36
Benzene	50.0	50.2		ug/L	100%	79 - 123	6103359	12/02/06 23:36
Ethyl tert-Butyl Ether	50.0	53.0		ug/L	106%	69 - 130	6103359	12/02/06 23:36
Bromobenzene	50.0	55.5		ug/L	111%	74 - 124	6103359	12/02/06 23:36
Diisopropyl Ether	50.0	54.3		ug/L	109%	70 - 128	6103359	12/02/06 23:36
Bromochloromethane	50.0	53.0		ug/L	106%	80 - 126	6103359	12/02/06 23:36
Methyl tert-Butyl Ether	50.0	51.1		ug/L	102%	64 - 129	6103359	12/02/06 23:36
Bromodichloromethane	50.0	57.0		ug/L	114%	76 - 133	6103359	12/02/06 23:36
Tertiary Butyl Alcohol	500	654		ug/L	131%	45 - 171	6103359	12/02/06 23:36
Bromoform	50.0	47.9		ug/L	96%	47 - 135	6103359	12/02/06 23:36
Bromomethane	50.0	34.6		ug/L	69%	53 - 162	6103359	12/02/06 23:36
2-Butanone	250	278		ug/L	111%	72 - 136	6103359	12/02/06 23:36
sec-Butylbenzene	50.0	55.8		ug/L	112%	76 - 128	6103359	12/02/06 23:36
n-Butylbenzene	50.0	54.6		ug/L	109%	70 - 134	6103359	12/02/06 23:36
tert-Butylbenzene	50.0	54.5		ug/L	109%	73 - 127	6103359	12/02/06 23:36
Carbon disulfide	50.0	49.4		ug/L	99%	71 - 134	6103359	12/02/06 23:36
Carbon Tetrachloride	50.0	51.8		ug/L	104%	71 - 136	6103359	12/02/06 23:36
Chlorobenzene	50.0	52.0		ug/L	104%	85 - 120	6103359	12/02/06 23:36
Chlorodibromomethane	50.0	50.2		ug/L	100%	68 - 126	6103359	12/02/06 23:36
Chloroethane	50.0	51.3		ug/L	103%	60 - 138	6103359	12/02/06 23:36
Chloroform	50.0	50.5		ug/L	101%	77 - 124	6103359	12/02/06 23:36
Chloromethane	50.0	37.8		ug/L	76%	39 - 151	6103359	12/02/06 23:36
4-Chlorotoluene	50.0	53.7		ug/L	107%	81 - 127	6103359	12/02/06 23:36
2-Chlorotoluene	50.0	54.4		ug/L	109%	81 - 129	6103359	12/02/06 23:36
1,2-Dibromo-3-chloropropane	50.0	59.8		ug/L	120%	56 - 130	6103359	12/02/06 23:36
1,2-Dibromoethane (EDB)	50.0	60.7		ug/L	121%	83 - 128	6103359	12/02/06 23:36
Dibromomethane	50.0	53.3		ug/L	107%	78 - 124	6103359	12/02/06 23:36
1,4-Dichlorobenzene	50.0	49.9		ug/L	100%	80 - 122	6103359	12/02/06 23:36
1,3-Dichlorobenzene	50.0	52.6		ug/L	105%	82 - 124	6103359	12/02/06 23:36
1,2-Dichlorobenzene	50.0	55.2		ug/L	110%	83 - 123	6103359	12/02/06 23:36
Dichlorodifluoromethane	50.0	23.6		ug/L	47%	28 - 149	6103359	12/02/06 23:36
1,2-Dichloroethane	50.0	52.0		ug/L	104%	74 - 131	6103359	12/02/06 23:36
1,1-Dichloroethane	50.0	52.4		ug/L	105%	77 - 127	6103359	12/02/06 23:36
cis-1,2-Dichloroethene	50.0	53.4		ug/L	107%	77 - 126	6103359	12/02/06 23:36
1,1-Dichloroethene	50.0	51.0		ug/L	102%	73 - 129	6103359	12/02/06 23:36
trans-1,2-Dichloroethene	50.0	53.2		ug/L	106%	76 - 129	6103359	12/02/06 23:36
2,2-Dichloropropane	50.0	50.2		ug/L	100%	45 - 139	6103359	12/02/06 23:36
1,3-Dichloropropane	50.0	58.4		ug/L	117%	80 - 121	6103359	12/02/06 23:36
1,2-Dichloropropane	50.0	51.7		ug/L	103%	76 - 124	6103359	12/02/06 23:36
trans-1,3-Dichloropropene	50.0	53.6		ug/L	107%	64 - 127	6103359	12/02/06 23:36

Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
6103359-BS1								
cis-1,3-Dichloropropene	50.0	54.6		ug/L	109%	70 - 130	6103359	12/02/06 23:36
1,1-Dichloropropene	50.0	50.2		ug/L	100%	80 - 129	6103359	12/02/06 23:36
Ethylbenzene	50.0	53.1		ug/L	106%	83 - 125	6103359	12/02/06 23:36
Hexachlorobutadiene	50.0	52.2		ug/L	104%	64 - 133	6103359	12/02/06 23:36
2-Hexanone	250	314		ug/L	126%	67 - 133	6103359	12/02/06 23:36
Isopropylbenzene	50.0	50.3		ug/L	101%	75 - 126	6103359	12/02/06 23:36
Methylene Chloride	50.0	53.6		ug/L	107%	81 - 128	6103359	12/02/06 23:36
4-Methyl-2-pentanone	250	319		ug/L	128%	73 - 133	6103359	12/02/06 23:36
Styrene	50.0	64.8		ug/L	130%	82 - 133	6103359	12/02/06 23:36
1,1,1,2-Tetrachloroethane	50.0	52.2		ug/L	104%	79 - 130	6103359	12/02/06 23:36
1,1,2,2-Tetrachloroethane	50.0	62.9		ug/L	126%	70 - 128	6103359	12/02/06 23:36
Tetrachloroethene	50.0	48.8		ug/L	98%	76 - 125	6103359	12/02/06 23:36
Toluene	50.0	53.3		ug/L	107%	78 - 122	6103359	12/02/06 23:36
1,2,4-Trichlorobenzene	50.0	52.1		ug/L	104%	65 - 134	6103359	12/02/06 23:36
1,2,3-Trichlorobenzene	50.0	55.0		ug/L	110%	67 - 133	6103359	12/02/06 23:36
1,1,2-Trichloroethane	50.0	57.8		ug/L	116%	84 - 120	6103359	12/02/06 23:36
1,1,1-Trichloroethane	50.0	50.7		ug/L	101%	74 - 130	6103359	12/02/06 23:36
Trichloroethene	50.0	48.4		ug/L	97%	80 - 128	6103359	12/02/06 23:36
Trichlorofluoromethane	50.0	40.7		ug/L	81%	62 - 133	6103359	12/02/06 23:36
1,2,3-Trichloropropane	50.0	69.3	L1	ug/L	139%	66 - 131	6103359	12/02/06 23:36
1,3,5-Trimethylbenzene	50.0	54.4		ug/L	109%	79 - 128	6103359	12/02/06 23:36
Vinyl chloride	50.0	53.4		ug/L	107%	61 - 131	6103359	12/02/06 23:36
Xylenes, total	150	157		ug/L	105%	79 - 130	6103359	12/02/06 23:36
1,2,4-Trimethylbenzene	50.0	54.9		ug/L	110%	78 - 130	6103359	12/02/06 23:36
Naphthalene	50.0	60.9		ug/L	122%	66 - 137	6103359	12/02/06 23:36
p-Isopropyltoluene	50.0	51.2		ug/L	102%	74 - 131	6103359	12/02/06 23:36
n-Propylbenzene	50.0	52.9		ug/L	106%	76 - 132	6103359	12/02/06 23:36
Surrogate: 1,2-Dichloroethane-d4	50.0	47.5			95%	62 - 142	6103359	12/02/06 23:36
Surrogate: 1,2-Dichloroethane-d4	50.0	47.5			95%	70 - 130	6103359	12/02/06 23:36
Surrogate: Dibromofluoromethane	50.0	48.6			97%	79 - 122	6103359	12/02/06 23:36
Surrogate: Dibromofluoromethane	50.0	48.6			97%	78 - 123	6103359	12/02/06 23:36
Surrogate: Toluene-d8	50.0	50.1			100%	79 - 120	6103359	12/02/06 23:36
Surrogate: Toluene-d8	50.0	50.1			100%	79 - 120	6103359	12/02/06 23:36
Surrogate: 4-Bromofluorobenzene	50.0	49.0			98%	75 - 133	6103359	12/02/06 23:36
Surrogate: 4-Bromofluorobenzene	50.0	49.0			98%	78 - 126	6103359	12/02/06 23:36
6120332-BS1								
Acetone	250	285		ug/L	114%	57 - 160	6120332	12/01/06 06:18
Tert-Amyl Methyl Ether	50.0	52.7		ug/L	105%	68 - 134	6120332	12/01/06 06:18
Benzene	50.0	49.2		ug/L	98%	79 - 123	6120332	12/01/06 06:18
Ethyl tert-Butyl Ether	50.0	51.7		ug/L	103%	69 - 130	6120332	12/01/06 06:18
Bromobenzene	50.0	52.3		ug/L	105%	71 - 139	6120332	12/01/06 06:18

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
6120332-BS1								
Diisopropyl Ether	50.0	52.8		ug/L	106%	70 - 128	6120332	12/01/06 06:18
Bromochloromethane	50.0	51.3		ug/L	103%	80 - 126	6120332	12/01/06 06:18
Methyl tert-Butyl Ether	50.0	49.1		ug/L	98%	64 - 129	6120332	12/01/06 06:18
Bromodichloromethane	50.0	57.9		ug/L	116%	68 - 133	6120332	12/01/06 06:18
Tertiary Butyl Alcohol	500	525		ug/L	105%	45 - 171	6120332	12/01/06 06:18
Bromoform	50.0	50.4		ug/L	101%	43 - 135	6120332	12/01/06 06:18
Bromomethane	50.0	37.8		ug/L	76%	36 - 171	6120332	12/01/06 06:18
2-Butanone	250	256		ug/L	102%	72 - 138	6120332	12/01/06 06:18
sec-Butylbenzene	50.0	53.6		ug/L	107%	12 - 180	6120332	12/01/06 06:18
n-Butylbenzene	50.0	52.0		ug/L	104%	67 - 139	6120332	12/01/06 06:18
tert-Butylbenzene	50.0	51.9		ug/L	104%	12 - 180	6120332	12/01/06 06:18
Carbon disulfide	50.0	49.0		ug/L	98%	64 - 134	6120332	12/01/06 06:18
Carbon Tetrachloride	50.0	53.0		ug/L	106%	67 - 138	6120332	12/01/06 06:18
Chlorobenzene	50.0	51.9		ug/L	104%	85 - 122	6120332	12/01/06 06:18
Chlorodibromomethane	50.0	53.5		ug/L	107%	68 - 134	6120332	12/01/06 06:18
Chloroethane	50.0	50.8		ug/L	102%	60 - 138	6120332	12/01/06 06:18
Chloroform	50.0	50.6		ug/L	101%	76 - 124	6120332	12/01/06 06:18
Chloromethane	50.0	39.8		ug/L	80%	12 - 180	6120332	12/01/06 06:18
4-Chlorotoluene	50.0	52.1		ug/L	104%	81 - 127	6120332	12/01/06 06:18
2-Chlorotoluene	50.0	52.3		ug/L	105%	81 - 129	6120332	12/01/06 06:18
1,2-Dibromo-3-chloropropane	50.0	55.3		ug/L	111%	56 - 131	6120332	12/01/06 06:18
1,2-Dibromoethane (EDB)	50.0	60.0		ug/L	120%	83 - 128	6120332	12/01/06 06:18
Dibromomethane	50.0	52.4		ug/L	105%	78 - 124	6120332	12/01/06 06:18
1,4-Dichlorobenzene	50.0	49.8		ug/L	100%	80 - 124	6120332	12/01/06 06:18
1,3-Dichlorobenzene	50.0	51.9		ug/L	104%	82 - 127	6120332	12/01/06 06:18
1,2-Dichlorobenzene	50.0	54.3		ug/L	109%	83 - 130	6120332	12/01/06 06:18
Dichlorodifluoromethane	50.0	25.0		ug/L	50%	12 - 149	6120332	12/01/06 06:18
1,2-Dichloroethane	50.0	50.6		ug/L	101%	71 - 132	6120332	12/01/06 06:18
1,1-Dichloroethane	50.0	52.4		ug/L	105%	77 - 127	6120332	12/01/06 06:18
cis-1,2-Dichloroethene	50.0	52.0		ug/L	104%	77 - 126	6120332	12/01/06 06:18
1,1-Dichloroethene	50.0	48.6		ug/L	97%	73 - 129	6120332	12/01/06 06:18
trans-1,2-Dichloroethene	50.0	52.6		ug/L	105%	76 - 129	6120332	12/01/06 06:18
2,2-Dichloropropane	50.0	47.1		ug/L	94%	45 - 139	6120332	12/01/06 06:18
1,3-Dichloropropane	50.0	58.4		ug/L	117%	79 - 130	6120332	12/01/06 06:18
1,2-Dichloropropane	50.0	51.2		ug/L	102%	72 - 124	6120332	12/01/06 06:18
trans-1,3-Dichloropropene	50.0	53.6		ug/L	107%	64 - 127	6120332	12/01/06 06:18
cis-1,3-Dichloropropene	50.0	54.3		ug/L	109%	70 - 130	6120332	12/01/06 06:18
1,1-Dichloropropene	50.0	49.2		ug/L	98%	80 - 133	6120332	12/01/06 06:18
Ethylbenzene	50.0	52.3		ug/L	105%	83 - 125	6120332	12/01/06 06:18
Hexachlorobutadiene	50.0	49.4		ug/L	99%	63 - 135	6120332	12/01/06 06:18
2-Hexanone	250	294		ug/L	118%	67 - 141	6120332	12/01/06 06:18

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
6120332-BS1								
Isopropylbenzene	50.0	49.9		ug/L	100%	73 - 126	6120332	12/01/06 06:18
Diisopropyl Ether	50.0	52.8		ug/L	106%	70 - 128	6120332	12/01/06 06:18
Methyl tert-Butyl Ether	50.0	49.1		ug/L	98%	64 - 129	6120332	12/01/06 06:18
Methylene Chloride	50.0	53.4		ug/L	107%	81 - 128	6120332	12/01/06 06:18
4-Methyl-2-pentanone	250	300		ug/L	120%	73 - 136	6120332	12/01/06 06:18
Styrene	50.0	65.9		ug/L	132%	82 - 136	6120332	12/01/06 06:18
1,1,1,2-Tetrachloroethane	50.0	53.2		ug/L	106%	79 - 130	6120332	12/01/06 06:18
1,1,2,2-Tetrachloroethane	50.0	58.4		ug/L	117%	70 - 137	6120332	12/01/06 06:18
Tetrachloroethene	50.0	48.8		ug/L	98%	76 - 127	6120332	12/01/06 06:18
Toluene	50.0	53.1		ug/L	106%	77 - 126	6120332	12/01/06 06:18
1,2,4-Trichlorobenzene	50.0	48.7		ug/L	97%	64 - 134	6120332	12/01/06 06:18
1,2,3-Trichlorobenzene	50.0	49.3		ug/L	99%	64 - 133	6120332	12/01/06 06:18
1,1,2-Trichloroethane	50.0	57.3		ug/L	115%	78 - 128	6120332	12/01/06 06:18
1,1,1-Trichloroethane	50.0	50.6		ug/L	101%	73 - 130	6120332	12/01/06 06:18
Trichloroethene	50.0	48.0		ug/L	96%	80 - 128	6120332	12/01/06 06:18
Trichlorofluoromethane	50.0	40.9		ug/L	82%	62 - 133	6120332	12/01/06 06:18
1,2,3-Trichloropropane	50.0	65.6		ug/L	131%	50 - 153	6120332	12/01/06 06:18
1,3,5-Trimethylbenzene	50.0	52.5		ug/L	105%	79 - 129	6120332	12/01/06 06:18
Vinyl chloride	50.0	53.7		ug/L	107%	61 - 131	6120332	12/01/06 06:18
Xylenes, total	150	157		ug/L	105%	78 - 130	6120332	12/01/06 06:18
1,2,4-Trimethylbenzene	50.0	52.9		ug/L	106%	78 - 130	6120332	12/01/06 06:18
Naphthalene	50.0	54.0		ug/L	108%	66 - 137	6120332	12/01/06 06:18
p-Isopropyltoluene	50.0	49.8		ug/L	100%	74 - 131	6120332	12/01/06 06:18
n-Propylbenzene	50.0	50.6		ug/L	101%	76 - 132	6120332	12/01/06 06:18
Surrogate: 1,2-Dichloroethane-d4	50.0	48.1			96%	62 - 142	6120332	12/01/06 06:18
Surrogate: 1,2-Dichloroethane-d4	50.0	48.1			96%	62 - 142	6120332	12/01/06 06:18
Surrogate: Dibromofluoromethane	50.0	48.2			96%	78 - 123	6120332	12/01/06 06:18
Surrogate: Dibromofluoromethane	50.0	48.2			96%	78 - 123	6120332	12/01/06 06:18
Surrogate: Toluene-d8	50.0	50.0			100%	79 - 120	6120332	12/01/06 06:18
Surrogate: Toluene-d8	50.0	50.0			100%	79 - 120	6120332	12/01/06 06:18
Surrogate: 4-Bromofluorobenzene	50.0	47.3			95%	75 - 133	6120332	12/01/06 06:18
Surrogate: 4-Bromofluorobenzene	50.0	47.3			95%	75 - 133	6120332	12/01/06 06:18
6120447-BS1								
Acetone	250	276		ug/L	110%	57 - 160	6120447	12/03/06 12:40
Tert-Amyl Methyl Ether	50.0	53.7		ug/L	107%	68 - 134	6120447	12/03/06 12:40
Benzene	50.0	49.9		ug/L	100%	79 - 123	6120447	12/03/06 12:40
Ethyl tert-Butyl Ether	50.0	53.4		ug/L	107%	69 - 130	6120447	12/03/06 12:40
Bromobenzene	50.0	54.5		ug/L	109%	71 - 139	6120447	12/03/06 12:40
Diisopropyl Ether	50.0	54.2		ug/L	108%	70 - 128	6120447	12/03/06 12:40
Bromochloromethane	50.0	52.2		ug/L	104%	80 - 126	6120447	12/03/06 12:40
Methyl tert-Butyl Ether	50.0	51.0		ug/L	102%	64 - 129	6120447	12/03/06 12:40

Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
6120447-BS1								
Bromodichloromethane	50.0	58.9		ug/L	118%	68 - 133	6120447	12/03/06 12:40
Tertiary Butyl Alcohol	500	623		ug/L	125%	45 - 171	6120447	12/03/06 12:40
Bromoform	50.0	47.7		ug/L	95%	43 - 135	6120447	12/03/06 12:40
Bromomethane	50.0	39.9		ug/L	80%	36 - 171	6120447	12/03/06 12:40
2-Butanone	250	261		ug/L	104%	72 - 138	6120447	12/03/06 12:40
sec-Butylbenzene	50.0	56.0		ug/L	112%	12 - 180	6120447	12/03/06 12:40
n-Butylbenzene	50.0	58.2		ug/L	116%	67 - 139	6120447	12/03/06 12:40
tert-Butylbenzene	50.0	54.0		ug/L	108%	12 - 180	6120447	12/03/06 12:40
Carbon disulfide	50.0	50.5		ug/L	101%	64 - 134	6120447	12/03/06 12:40
Carbon Tetrachloride	50.0	55.8		ug/L	112%	67 - 138	6120447	12/03/06 12:40
Chlorobenzene	50.0	52.0		ug/L	104%	85 - 122	6120447	12/03/06 12:40
Chlorodibromomethane	50.0	52.1		ug/L	104%	68 - 134	6120447	12/03/06 12:40
Chloroethane	50.0	52.9		ug/L	106%	60 - 138	6120447	12/03/06 12:40
Chloroform	50.0	51.7		ug/L	103%	76 - 124	6120447	12/03/06 12:40
Chloromethane	50.0	52.5		ug/L	105%	12 - 180	6120447	12/03/06 12:40
4-Chlorotoluene	50.0	54.8		ug/L	110%	81 - 127	6120447	12/03/06 12:40
2-Chlorotoluene	50.0	54.9		ug/L	110%	81 - 129	6120447	12/03/06 12:40
1,2-Dibromo-3-chloropropane	50.0	55.8		ug/L	112%	56 - 131	6120447	12/03/06 12:40
1,2-Dibromoethane (EDB)	50.0	59.7		ug/L	119%	83 - 128	6120447	12/03/06 12:40
Dibromomethane	50.0	52.2		ug/L	104%	78 - 124	6120447	12/03/06 12:40
1,4-Dichlorobenzene	50.0	50.8		ug/L	102%	80 - 124	6120447	12/03/06 12:40
1,3-Dichlorobenzene	50.0	52.7		ug/L	105%	82 - 127	6120447	12/03/06 12:40
1,2-Dichlorobenzene	50.0	54.0		ug/L	108%	83 - 130	6120447	12/03/06 12:40
Dichlorodifluoromethane	50.0	48.8		ug/L	98%	12 - 149	6120447	12/03/06 12:40
1,2-Dichloroethane	50.0	53.0		ug/L	106%	71 - 132	6120447	12/03/06 12:40
1,1-Dichloroethane	50.0	53.4		ug/L	107%	77 - 127	6120447	12/03/06 12:40
cis-1,2-Dichloroethene	50.0	55.3		ug/L	111%	77 - 126	6120447	12/03/06 12:40
1,1-Dichloroethene	50.0	50.6		ug/L	101%	73 - 129	6120447	12/03/06 12:40
trans-1,2-Dichloroethene	50.0	54.9		ug/L	110%	76 - 129	6120447	12/03/06 12:40
2,2-Dichloropropane	50.0	59.5		ug/L	119%	45 - 139	6120447	12/03/06 12:40
1,3-Dichloropropane	50.0	58.4		ug/L	117%	79 - 130	6120447	12/03/06 12:40
1,2-Dichloropropane	50.0	51.6		ug/L	103%	72 - 124	6120447	12/03/06 12:40
trans-1,3-Dichloropropene	50.0	55.4		ug/L	111%	64 - 127	6120447	12/03/06 12:40
cis-1,3-Dichloropropene	50.0	55.8		ug/L	112%	70 - 130	6120447	12/03/06 12:40
1,1-Dichloropropene	50.0	52.1		ug/L	104%	80 - 133	6120447	12/03/06 12:40
Ethylbenzene	50.0	53.8		ug/L	108%	83 - 125	6120447	12/03/06 12:40
Hexachlorobutadiene	50.0	51.3		ug/L	103%	63 - 135	6120447	12/03/06 12:40
2-Hexanone	250	298		ug/L	119%	67 - 141	6120447	12/03/06 12:40
Isopropylbenzene	50.0	50.8		ug/L	102%	73 - 126	6120447	12/03/06 12:40
Diisopropyl Ether	50.0	54.2		ug/L	108%	70 - 128	6120447	12/03/06 12:40
Methyl tert-Butyl Ether	50.0	51.0		ug/L	102%	64 - 129	6120447	12/03/06 12:40

Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
6120447-BS1								
Methylene Chloride	50.0	54.3		ug/L	109%	81 - 128	6120447	12/03/06 12:40
4-Methyl-2-pentanone	250	306		ug/L	122%	73 - 136	6120447	12/03/06 12:40
Styrene	50.0	65.2		ug/L	130%	82 - 136	6120447	12/03/06 12:40
1,1,1,2-Tetrachloroethane	50.0	52.7		ug/L	105%	79 - 130	6120447	12/03/06 12:40
1,1,2,2-Tetrachloroethane	50.0	58.8		ug/L	118%	70 - 137	6120447	12/03/06 12:40
Tetrachloroethene	50.0	49.6		ug/L	99%	76 - 127	6120447	12/03/06 12:40
Toluene	50.0	54.0		ug/L	108%	77 - 126	6120447	12/03/06 12:40
1,2,4-Trichlorobenzene	50.0	51.0		ug/L	102%	64 - 134	6120447	12/03/06 12:40
1,2,3-Trichlorobenzene	50.0	50.5		ug/L	101%	64 - 133	6120447	12/03/06 12:40
1,1,2-Trichloroethane	50.0	56.5		ug/L	113%	78 - 128	6120447	12/03/06 12:40
1,1,1-Trichloroethane	50.0	53.1		ug/L	106%	73 - 130	6120447	12/03/06 12:40
Trichloroethene	50.0	48.6		ug/L	97%	80 - 128	6120447	12/03/06 12:40
Trichlorofluoromethane	50.0	49.7		ug/L	99%	62 - 133	6120447	12/03/06 12:40
1,2,3-Trichloropropane	50.0	68.8		ug/L	138%	50 - 153	6120447	12/03/06 12:40
1,3,5-Trimethylbenzene	50.0	54.8		ug/L	110%	79 - 129	6120447	12/03/06 12:40
Vinyl chloride	50.0	55.0		ug/L	110%	61 - 131	6120447	12/03/06 12:40
Xylenes, total	150	161		ug/L	107%	78 - 130	6120447	12/03/06 12:40
1,2,4-Trimethylbenzene	50.0	55.0		ug/L	110%	78 - 130	6120447	12/03/06 12:40
Naphthalene	50.0	54.6		ug/L	109%	66 - 137	6120447	12/03/06 12:40
p-Isopropyltoluene	50.0	51.6		ug/L	103%	74 - 131	6120447	12/03/06 12:40
n-Propylbenzene	50.0	53.8		ug/L	108%	76 - 132	6120447	12/03/06 12:40
Surrogate: 1,2-Dichloroethane-d4	50.0	49.2			98%	62 - 142	6120447	12/03/06 12:40
Surrogate: 1,2-Dichloroethane-d4	50.0	49.2			98%	62 - 142	6120447	12/03/06 12:40
Surrogate: Dibromofluoromethane	50.0	48.6			97%	78 - 123	6120447	12/03/06 12:40
Surrogate: Dibromofluoromethane	50.0	48.6			97%	78 - 123	6120447	12/03/06 12:40
Surrogate: Toluene-d8	50.0	49.7			99%	79 - 120	6120447	12/03/06 12:40
Surrogate: Toluene-d8	50.0	49.7			99%	79 - 120	6120447	12/03/06 12:40
Surrogate: 4-Bromofluorobenzene	50.0	48.1			96%	75 - 133	6120447	12/03/06 12:40
Surrogate: 4-Bromofluorobenzene	50.0	48.1			96%	75 - 133	6120447	12/03/06 12:40
Polyaromatic Hydrocarbons by EPA 8270C SIM								
6115125-BS1								
Acenaphthene	1.00	0.730	MNR1	ug/L	73%	48 - 133	6115125	12/02/06 01:25
Acenaphthylene	1.00	0.720	MNR1	ug/L	72%	49 - 139	6115125	12/02/06 01:25
Anthracene	1.00	0.700	MNR1	ug/L	70%	55 - 146	6115125	12/02/06 01:25
Benzo (a) anthracene	1.00	0.730	MNR1	ug/L	73%	54 - 143	6115125	12/02/06 01:25
Benzo (a) pyrene	1.00	0.770	MNR1	ug/L	77%	47 - 140	6115125	12/02/06 01:25
Benzo (b) fluoranthene	1.00	0.820	MNR1	ug/L	82%	56 - 142	6115125	12/02/06 01:25
Benzo (g,h,i) perylene	1.00	0.450	MNR1	ug/L	45%	39 - 142	6115125	12/02/06 01:25
Benzo (k) fluoranthene	1.00	0.820	MNR1	ug/L	82%	54 - 147	6115125	12/02/06 01:25
Chrysene	1.00	0.750	MNR1	ug/L	75%	60 - 145	6115125	12/02/06 01:25

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM								
6115125-BS1								
Dibenz (a,h) anthracene	1.00	0.550	MNR1	ug/L	55%	35 - 146	6115125	12/02/06 01:25
Fluoranthene	1.00	0.760	MNR1	ug/L	76%	56 - 135	6115125	12/02/06 01:25
Fluorene	1.00	0.730	MNR1	ug/L	73%	52 - 141	6115125	12/02/06 01:25
Indeno (1,2,3-cd) pyrene	1.00	0.490	MNR1	ug/L	49%	41 - 139	6115125	12/02/06 01:25
1-Methylnaphthalene	1.01	0.710	MNR1	ug/L	70%	42 - 130	6115125	12/02/06 01:25
2-Methylnaphthalene	1.00	0.770	MNR1	ug/L	77%	46 - 136	6115125	12/02/06 01:25
Naphthalene	1.00	0.740	MNR1	ug/L	74%	47 - 129	6115125	12/02/06 01:25
Phenanthrene	1.00	0.770	MNR1	ug/L	77%	50 - 133	6115125	12/02/06 01:25
Pyrene	1.00	0.730	MNR1	ug/L	73%	56 - 140	6115125	12/02/06 01:25
Surrogate: Nitrobenzene-d5	1.00	0.680			68%	24 - 125	6115125	12/02/06 01:25
Surrogate: 2-Fluorobiphenyl	1.00	0.590			59%	30 - 120	6115125	12/02/06 01:25
Surrogate: Terphenyl-d14	1.00	0.580			58%	29 - 149	6115125	12/02/06 01:25
Purgeable Petroleum Hydrocarbons								
6115355-BS1								
GRO as Gasoline	1000	1000		ug/L	100%	58 - 138	6115355	11/30/06 05:13
Surrogate: a,a,a-Trifluorotoluene	30.0	31.3			104%	44 - 152	6115355	11/30/06 05:13
6115355-BS2								
GRO as Gasoline	1000	919		ug/L	92%	58 - 138	6115355	11/30/06 05:28
Surrogate: a,a,a-Trifluorotoluene	30.0	33.1			110%	44 - 152	6115355	11/30/06 05:28
Extractable Petroleum Hydrocarbons with Silica Gel Treatment								
6115131-BS1								
Diesel	1000	713		ug/L	71%	38 - 123	6115131	11/29/06 15:20
C10 - C40	1000	697		ug/L	70%	49 - 118	6115131	11/29/06 15:20
Surrogate: o-Terphenyl	20.0	19.6			98%	55 - 150	6115131	11/29/06 15:20
Surrogate: o-Terphenyl	20.0	19.6			98%	33 - 147	6115131	11/29/06 15:20

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Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B										
6103359-MS1										
Acetone	ND	278		ug/L	250	111%	46 - 152	6103359	NPK3386-13	12/03/06 09:39
Tert-Amyl Methyl Ether	ND	52.8		ug/L	50.0	106%	52 - 154	6103359	NPK3386-13	12/03/06 09:39
Benzene	ND	50.2		ug/L	50.0	100%	72 - 137	6103359	NPK3386-13	12/03/06 09:39
Ethyl tert-Butyl Ether	ND	54.0		ug/L	50.0	108%	54 - 154	6103359	NPK3386-13	12/03/06 09:39
Bromobenzene	ND	52.2		ug/L	50.0	104%	69 - 133	6103359	NPK3386-13	12/03/06 09:39
Diisopropyl Ether	ND	57.4		ug/L	50.0	115%	64 - 144	6103359	NPK3386-13	12/03/06 09:39
Bromochloromethane	ND	52.4		ug/L	50.0	105%	73 - 137	6103359	NPK3386-13	12/03/06 09:39
Methyl tert-Butyl Ether	10.0	62.0		ug/L	50.0	104%	54 - 143	6103359	NPK3386-13	12/03/06 09:39
Bromodichloromethane	ND	60.6		ug/L	50.0	121%	70 - 143	6103359	NPK3386-13	12/03/06 09:39
Tertiary Butyl Alcohol	ND	595		ug/L	500	119%	35 - 208	6103359	NPK3386-13	12/03/06 09:39
Bromoform	ND	43.4		ug/L	50.0	87%	39 - 135	6103359	NPK3386-13	12/03/06 09:39
Bromomethane	ND	34.5		ug/L	50.0	69%	28 - 179	6103359	NPK3386-13	12/03/06 09:39
2-Butanone	ND	248		ug/L	250	99%	60 - 139	6103359	NPK3386-13	12/03/06 09:39
sec-Butylbenzene	ND	54.0		ug/L	50.0	108%	66 - 144	6103359	NPK3386-13	12/03/06 09:39
n-Butylbenzene	ND	52.5		ug/L	50.0	105%	57 - 148	6103359	NPK3386-13	12/03/06 09:39
tert-Butylbenzene	ND	52.5		ug/L	50.0	105%	67 - 140	6103359	NPK3386-13	12/03/06 09:39
Carbon disulfide	ND	59.1		ug/L	50.0	118%	53 - 152	6103359	NPK3386-13	12/03/06 09:39
Carbon Tetrachloride	ND	59.9		ug/L	50.0	120%	63 - 146	6103359	NPK3386-13	12/03/06 09:39
Chlorobenzene	ND	50.2		ug/L	50.0	100%	76 - 129	6103359	NPK3386-13	12/03/06 09:39
Chlorodibromomethane	ND	47.7		ug/L	50.0	95%	64 - 127	6103359	NPK3386-13	12/03/06 09:39
Chloroethane	ND	54.9		ug/L	50.0	110%	59 - 153	6103359	NPK3386-13	12/03/06 09:39
Chloroform	ND	52.7		ug/L	50.0	105%	74 - 135	6103359	NPK3386-13	12/03/06 09:39
Chloromethane	ND	54.7		ug/L	50.0	109%	24 - 163	6103359	NPK3386-13	12/03/06 09:39
4-Chlorotoluene	ND	53.1		ug/L	50.0	106%	71 - 138	6103359	NPK3386-13	12/03/06 09:39
2-Chlorotoluene	ND	51.9		ug/L	50.0	104%	69 - 139	6103359	NPK3386-13	12/03/06 09:39
1,2-Dibromo-3-chloropropane	ND	49.7		ug/L	50.0	99%	48 - 137	6103359	NPK3386-13	12/03/06 09:39
1,2-Dibromoethane (EDB)	ND	54.6		ug/L	50.0	109%	72 - 138	6103359	NPK3386-13	12/03/06 09:39
Dibromomethane	ND	51.9		ug/L	50.0	104%	71 - 135	6103359	NPK3386-13	12/03/06 09:39
1,4-Dichlorobenzene	ND	47.7		ug/L	50.0	95%	72 - 130	6103359	NPK3386-13	12/03/06 09:39
1,3-Dichlorobenzene	ND	49.2		ug/L	50.0	98%	74 - 133	6103359	NPK3386-13	12/03/06 09:39
1,2-Dichlorobenzene	ND	50.6		ug/L	50.0	101%	76 - 133	6103359	NPK3386-13	12/03/06 09:39
Dichlorodifluoromethane	ND	52.4		ug/L	50.0	105%	14 - 173	6103359	NPK3386-13	12/03/06 09:39
1,2-Dichloroethane	ND	54.8		ug/L	50.0	110%	70 - 140	6103359	NPK3386-13	12/03/06 09:39
1,1-Dichloroethane	ND	55.0		ug/L	50.0	110%	71 - 142	6103359	NPK3386-13	12/03/06 09:39
cis-1,2-Dichloroethene	ND	54.9		ug/L	50.0	110%	68 - 139	6103359	NPK3386-13	12/03/06 09:39
1,1-Dichloroethene	ND	52.8		ug/L	50.0	106%	65 - 146	6103359	NPK3386-13	12/03/06 09:39
trans-1,2-Dichloroethene	ND	56.0		ug/L	50.0	112%	68 - 146	6103359	NPK3386-13	12/03/06 09:39

TestAmerica
ANALYTICAL TESTING CORPORATION
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Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B										
6103359-MS1										
2,2-Dichloropropane	ND	52.1		ug/L	50.0	104%	35 - 150	6103359	NPK3386-13	12/03/06 09:39
1,3-Dichloropropane	ND	54.5		ug/L	50.0	109%	75 - 130	6103359	NPK3386-13	12/03/06 09:39
1,2-Dichloropropane	ND	54.3		ug/L	50.0	109%	73 - 136	6103359	NPK3386-13	12/03/06 09:39
trans-1,3-Dichloropropene	ND	50.6		ug/L	50.0	101%	50 - 130	6103359	NPK3386-13	12/03/06 09:39
cis-1,3-Dichloropropene	ND	51.2		ug/L	50.0	102%	52 - 140	6103359	NPK3386-13	12/03/06 09:39
1,1-Dichloropropene	ND	54.4		ug/L	50.0	109%	72 - 139	6103359	NPK3386-13	12/03/06 09:39
Ethylbenzene	ND	51.7		ug/L	50.0	103%	72 - 139	6103359	NPK3386-13	12/03/06 09:39
Hexachlorobutadiene	ND	44.5		ug/L	50.0	89%	50 - 143	6103359	NPK3386-13	12/03/06 09:39
2-Hexanone	ND	287		ug/L	250	115%	62 - 136	6103359	NPK3386-13	12/03/06 09:39
Isopropylbenzene	ND	52.5		ug/L	50.0	105%	67 - 147	6103359	NPK3386-13	12/03/06 09:39
Methylene Chloride	ND	52.7		ug/L	50.0	105%	69 - 142	6103359	NPK3386-13	12/03/06 09:39
4-Methyl-2-pentanone	ND	295		ug/L	250	118%	65 - 142	6103359	NPK3386-13	12/03/06 09:39
Styrene	ND	52.3		ug/L	50.0	105%	57 - 149	6103359	NPK3386-13	12/03/06 09:39
1,1,1,2-Tetrachloroethane	ND	51.4		ug/L	50.0	103%	70 - 139	6103359	NPK3386-13	12/03/06 09:39
1,1,2,2-Tetrachloroethane	ND	54.3		ug/L	50.0	109%	69 - 137	6103359	NPK3386-13	12/03/06 09:39
Tetrachloroethene	ND	48.7		ug/L	50.0	97%	70 - 135	6103359	NPK3386-13	12/03/06 09:39
Toluene	0.980	53.1		ug/L	50.0	104%	73 - 133	6103359	NPK3386-13	12/03/06 09:39
1,2,4-Trichlorobenzene	ND	44.0		ug/L	50.0	88%	55 - 141	6103359	NPK3386-13	12/03/06 09:39
1,2,3-Trichlorobenzene	ND	42.6		ug/L	50.0	85%	56 - 142	6103359	NPK3386-13	12/03/06 09:39
1,1,2-Trichloroethane	ND	53.0		ug/L	50.0	106%	77 - 130	6103359	NPK3386-13	12/03/06 09:39
1,1,1-Trichloroethane	ND	56.4		ug/L	50.0	113%	70 - 144	6103359	NPK3386-13	12/03/06 09:39
Trichloroethene	1.80	51.5		ug/L	50.0	99%	72 - 141	6103359	NPK3386-13	12/03/06 09:39
Trichlorofluoromethane	ND	54.3		ug/L	50.0	109%	59 - 152	6103359	NPK3386-13	12/03/06 09:39
1,2,3-Trichloropropane	ND	62.1		ug/L	50.0	124%	57 - 142	6103359	NPK3386-13	12/03/06 09:39
1,3,5-Trimethylbenzene	ND	52.0		ug/L	50.0	104%	68 - 141	6103359	NPK3386-13	12/03/06 09:39
Vinyl chloride	ND	55.8		ug/L	50.0	112%	55 - 149	6103359	NPK3386-13	12/03/06 09:39
Xylenes, total	ND	156		ug/L	150	104%	70 - 143	6103359	NPK3386-13	12/03/06 09:39
1,2,4-Trimethylbenzene	ND	51.8		ug/L	50.0	104%	36 - 158	6103359	NPK3386-13	12/03/06 09:39
Naphthalene	ND	46.8		ug/L	50.0	94%	43 - 152	6103359	NPK3386-13	12/03/06 09:39
p-Isopropyltoluene	ND	50.4		ug/L	50.0	101%	58 - 149	6103359	NPK3386-13	12/03/06 09:39
n-Propylbenzene	ND	51.8		ug/L	50.0	104%	62 - 151	6103359	NPK3386-13	12/03/06 09:39
Surrogate: 1,2-Dichloroethane-d4		52.9		ug/L	50.0	106%	70 - 130	6103359	NPK3386-13	12/03/06 09:39
Surrogate: 1,2-Dichloroethane-d4		52.9		ug/L	50.0	106%	62 - 142	6103359	NPK3386-13	12/03/06 09:39
Surrogate: Dibromofluoromethane		50.1		ug/L	50.0	100%	78 - 123	6103359	NPK3386-13	12/03/06 09:39
Surrogate: Dibromofluoromethane		50.1		ug/L	50.0	100%	79 - 122	6103359	NPK3386-13	12/03/06 09:39
Surrogate: Toluene-d8		49.3		ug/L	50.0	99%	79 - 120	6103359	NPK3386-13	12/03/06 09:39
Surrogate: Toluene-d8		49.3		ug/L	50.0	99%	79 - 120	6103359	NPK3386-13	12/03/06 09:39

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B										
6103359-MS1										
Surrogate: 4-Bromofluorobenzene		48.3		ug/L	50.0	97%	75 - 133	6103359	NPK3386-13	12/03/06 09:39
Surrogate: 4-Bromofluorobenzene		48.3		ug/L	50.0	97%	78 - 126	6103359	NPK3386-13	12/03/06 09:39
Purgeable Petroleum Hydrocarbons										
6115355-MS1										
GRO as Gasoline	73.7	1170		ug/L	1000	110%	34 - 201	6115355	NPK3519-01	11/30/06 04:44
Surrogate: a,a,a-Trifluorotoluene		38.3		ug/L	30.0	128%	44 - 152	6115355	NPK3519-01	11/30/06 04:44

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Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B												
6103359-MSD1												
Acetone	ND	256		ug/L	250	102%	46 - 152	8	30	6103359	NPK3386-13	12/03/06 10:04
Tert-Amyl Methyl Ether	ND	52.4		ug/L	50.0	105%	52 - 154	0.8	41	6103359	NPK3386-13	12/03/06 10:04
Benzene	ND	50.3		ug/L	50.0	101%	72 - 137	0.2	23	6103359	NPK3386-13	12/03/06 10:04
Ethyl tert-Butyl Ether	ND	53.9		ug/L	50.0	108%	54 - 154	0.2	41	6103359	NPK3386-13	12/03/06 10:04
Bromobenzene	ND	52.1		ug/L	50.0	104%	69 - 133	0.2	21	6103359	NPK3386-13	12/03/06 10:04
Diisopropyl Ether	ND	57.3		ug/L	50.0	115%	64 - 144	0.2	26	6103359	NPK3386-13	12/03/06 10:04
Bromochloromethane	ND	51.2		ug/L	50.0	102%	73 - 137	2	24	6103359	NPK3386-13	12/03/06 10:04
Methyl tert-Butyl Ether	10.0	61.6		ug/L	50.0	103%	54 - 143	0.6	27	6103359	NPK3386-13	12/03/06 10:04
Bromodichloromethane	ND	61.0		ug/L	50.0	122%	70 - 143	0.7	21	6103359	NPK3386-13	12/03/06 10:04
Tertiary Butyl Alcohol	ND	581		ug/L	500	116%	35 - 208	2	50	6103359	NPK3386-13	12/03/06 10:04
Bromoform	ND	43.8		ug/L	50.0	88%	39 - 135	0.9	25	6103359	NPK3386-13	12/03/06 10:04
Bromomethane	ND	41.4		ug/L	50.0	83%	28 - 179	18	37	6103359	NPK3386-13	12/03/06 10:04
2-Butanone	ND	239		ug/L	250	96%	60 - 139	4	28	6103359	NPK3386-13	12/03/06 10:04
sec-Butylbenzene	ND	54.4		ug/L	50.0	109%	66 - 144	0.7	24	6103359	NPK3386-13	12/03/06 10:04
n-Butylbenzene	ND	52.0		ug/L	50.0	104%	57 - 148	1	24	6103359	NPK3386-13	12/03/06 10:04
tert-Butylbenzene	ND	53.3		ug/L	50.0	107%	67 - 140	2	27	6103359	NPK3386-13	12/03/06 10:04
Carbon disulfide	ND	59.6		ug/L	50.0	119%	53 - 152	0.8	25	6103359	NPK3386-13	12/03/06 10:04
Carbon Tetrachloride	ND	60.0		ug/L	50.0	120%	63 - 146	0.2	25	6103359	NPK3386-13	12/03/06 10:04
Chlorobenzene	ND	50.3		ug/L	50.0	101%	76 - 129	0.2	20	6103359	NPK3386-13	12/03/06 10:04
Chlorodibromomethane	ND	49.9		ug/L	50.0	100%	64 - 127	5	21	6103359	NPK3386-13	12/03/06 10:04
Chloroethane	ND	54.0		ug/L	50.0	108%	59 - 153	2	26	6103359	NPK3386-13	12/03/06 10:04
Chloroform	ND	52.9		ug/L	50.0	106%	74 - 135	0.4	21	6103359	NPK3386-13	12/03/06 10:04
Chloromethane	ND	53.8		ug/L	50.0	108%	24 - 163	2	40	6103359	NPK3386-13	12/03/06 10:04
4-Chlorotoluene	ND	52.8		ug/L	50.0	106%	71 - 138	0.6	22	6103359	NPK3386-13	12/03/06 10:04
2-Chlorotoluene	ND	52.7		ug/L	50.0	105%	69 - 139	2	23	6103359	NPK3386-13	12/03/06 10:04
1,2-Dibromo-3-chloropropane	ND	49.5		ug/L	50.0	99%	48 - 137	0.4	31	6103359	NPK3386-13	12/03/06 10:04
1,2-Dibromoethane (EDB)	ND	54.6		ug/L	50.0	109%	72 - 138	0	27	6103359	NPK3386-13	12/03/06 10:04
Dibromomethane	ND	51.2		ug/L	50.0	102%	71 - 135	1	25	6103359	NPK3386-13	12/03/06 10:04
1,4-Dichlorobenzene	ND	48.7		ug/L	50.0	97%	72 - 130	2	21	6103359	NPK3386-13	12/03/06 10:04
1,3-Dichlorobenzene	ND	50.3		ug/L	50.0	101%	74 - 133	2	22	6103359	NPK3386-13	12/03/06 10:04
1,2-Dichlorobenzene	ND	50.7		ug/L	50.0	101%	76 - 133	0.2	21	6103359	NPK3386-13	12/03/06 10:04
Dichlorodifluoromethane	ND	51.2		ug/L	50.0	102%	14 - 173	2	26	6103359	NPK3386-13	12/03/06 10:04
1,2-Dichloroethane	ND	53.5		ug/L	50.0	107%	70 - 140	2	21	6103359	NPK3386-13	12/03/06 10:04
1,1-Dichloroethane	ND	55.3		ug/L	50.0	111%	71 - 142	0.5	21	6103359	NPK3386-13	12/03/06 10:04
cis-1,2-Dichloroethene	ND	55.0		ug/L	50.0	110%	68 - 139	0.2	22	6103359	NPK3386-13	12/03/06 10:04
1,1-Dichloroethene	ND	52.8		ug/L	50.0	106%	65 - 146	0	23	6103359	NPK3386-13	12/03/06 10:04
trans-1,2-Dichloroethene	ND	55.6		ug/L	50.0	111%	68 - 146	0.7	22	6103359	NPK3386-13	12/03/06 10:04
2,2-Dichloropropane	ND	52.5		ug/L	50.0	105%	35 - 150	0.8	26	6103359	NPK3386-13	12/03/06 10:04
1,3-Dichloropropane	ND	55.1		ug/L	50.0	110%	75 - 130	1	20	6103359	NPK3386-13	12/03/06 10:04
1,2-Dichloropropane	ND	53.8		ug/L	50.0	108%	73 - 136	0.9	21	6103359	NPK3386-13	12/03/06 10:04
trans-1,3-Dichloropropene	ND	51.2		ug/L	50.0	102%	50 - 130	1	23	6103359	NPK3386-13	12/03/06 10:04

TestAmerica
ANALYTICAL TESTING CORPORATION
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Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B												
6103359-MSD1												
cis-1,3-Dichloropropene	ND	52.8		ug/L	50.0	106%	52 - 140	3	23	6103359	NPK3386-13	12/03/06 10:04
1,1-Dichloropropene	ND	53.9		ug/L	50.0	108%	72 - 139	0.9	24	6103359	NPK3386-13	12/03/06 10:04
Ethylbenzene	ND	52.6		ug/L	50.0	105%	72 - 139	2	23	6103359	NPK3386-13	12/03/06 10:04
Hexachlorobutadiene	ND	45.7		ug/L	50.0	91%	50 - 143	3	29	6103359	NPK3386-13	12/03/06 10:04
2-Hexanone	ND	287		ug/L	250	115%	62 - 136	0	25	6103359	NPK3386-13	12/03/06 10:04
Isopropylbenzene	ND	53.5		ug/L	50.0	107%	67 - 147	2	23	6103359	NPK3386-13	12/03/06 10:04
Methylene Chloride	ND	52.5		ug/L	50.0	105%	69 - 142	0.4	22	6103359	NPK3386-13	12/03/06 10:04
4-Methyl-2-pentanone	ND	291		ug/L	250	116%	65 - 142	1	24	6103359	NPK3386-13	12/03/06 10:04
Styrene	ND	52.5		ug/L	50.0	105%	57 - 149	0.4	28	6103359	NPK3386-13	12/03/06 10:04
1,1,1,2-Tetrachloroethane	ND	53.1		ug/L	50.0	106%	70 - 139	3	20	6103359	NPK3386-13	12/03/06 10:04
1,1,2,2-Tetrachloroethane	ND	53.3		ug/L	50.0	107%	69 - 137	2	25	6103359	NPK3386-13	12/03/06 10:04
Tetrachloroethene	ND	49.4		ug/L	50.0	99%	70 - 135	1	21	6103359	NPK3386-13	12/03/06 10:04
Toluene	0.980	53.7		ug/L	50.0	105%	73 - 133	1	25	6103359	NPK3386-13	12/03/06 10:04
1,2,4-Trichlorobenzene	ND	44.7		ug/L	50.0	89%	55 - 141	2	26	6103359	NPK3386-13	12/03/06 10:04
1,2,3-Trichlorobenzene	ND	46.0		ug/L	50.0	92%	56 - 142	8	32	6103359	NPK3386-13	12/03/06 10:04
1,1,2-Trichloroethane	ND	53.6		ug/L	50.0	107%	77 - 130	1	20	6103359	NPK3386-13	12/03/06 10:04
1,1,1-Trichloroethane	ND	56.1		ug/L	50.0	112%	70 - 144	0.5	23	6103359	NPK3386-13	12/03/06 10:04
Trichloroethene	1.80	51.8		ug/L	50.0	100%	72 - 141	0.6	25	6103359	NPK3386-13	12/03/06 10:04
Trichlorofluoromethane	ND	53.8		ug/L	50.0	108%	59 - 152	0.9	23	6103359	NPK3386-13	12/03/06 10:04
1,2,3-Trichloropropane	ND	64.2		ug/L	50.0	128%	57 - 142	3	24	6103359	NPK3386-13	12/03/06 10:04
1,3,5-Trimethylbenzene	ND	52.1		ug/L	50.0	104%	68 - 141	0.2	26	6103359	NPK3386-13	12/03/06 10:04
Vinyl chloride	ND	55.8		ug/L	50.0	112%	55 - 149	0	24	6103359	NPK3386-13	12/03/06 10:04
Xylenes, total	ND	159		ug/L	150	106%	70 - 143	2	27	6103359	NPK3386-13	12/03/06 10:04
1,2,4-Trimethylbenzene	ND	51.4		ug/L	50.0	103%	36 - 158	0.8	41	6103359	NPK3386-13	12/03/06 10:04
Naphthalene	ND	49.5		ug/L	50.0	99%	43 - 152	6	34	6103359	NPK3386-13	12/03/06 10:04
p-Isopropyltoluene	ND	51.7		ug/L	50.0	103%	58 - 149	3	50	6103359	NPK3386-13	12/03/06 10:04
n-Propylbenzene	ND	51.9		ug/L	50.0	104%	62 - 151	0.2	26	6103359	NPK3386-13	12/03/06 10:04
Surrogate: 1,2-Dichloroethane-d4		50.7		ug/L	50.0	101%	70 - 130			6103359	NPK3386-13	12/03/06 10:04
Surrogate: 1,2-Dichloroethane-d4		50.7		ug/L	50.0	101%	62 - 142			6103359	NPK3386-13	12/03/06 10:04
Surrogate: Dibromofluoromethane		50.2		ug/L	50.0	100%	78 - 123			6103359	NPK3386-13	12/03/06 10:04
Surrogate: Dibromofluoromethane		50.2		ug/L	50.0	100%	79 - 122			6103359	NPK3386-13	12/03/06 10:04
Surrogate: Toluene-d8		49.6		ug/L	50.0	99%	79 - 120			6103359	NPK3386-13	12/03/06 10:04
Surrogate: Toluene-d8		49.6		ug/L	50.0	99%	79 - 120			6103359	NPK3386-13	12/03/06 10:04
Surrogate: 4-Bromofluorobenzene		48.3		ug/L	50.0	97%	78 - 126			6103359	NPK3386-13	12/03/06 10:04
Surrogate: 4-Bromofluorobenzene		48.3		ug/L	50.0	97%	75 - 133			6103359	NPK3386-13	12/03/06 10:04
Purgeable Petroleum Hydrocarbons												
6115355-MSD1												
GRO as Gasoline	73.7	1150		ug/L	1000	108%	34 - 201	2	28	6115355	NPK3519-01	11/30/06 04:59
Surrogate: a,a,a-Trifluorotoluene		37.9		ug/L	30.0	126%	44 - 152			6115355	NPK3519-01	11/30/06 04:59

TestAmerica
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Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

CERTIFICATION SUMMARY

TestAmerica - Nashville, TN

Method	Matrix	AIHA	Nelac	California
8015B Mod.	Water			
SW846 8015B	Water	N/A	X	X
SW846 8260B	Water	N/A	X	X
SW846 8270CSIM	Water	N/A	X	X

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Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

NELAC CERTIFICATION SUMMARY

TestAmerica Analytical - Nashville does not hold NELAC certifications for the following analytes included in this report

Method	Matrix	Analyte
8015B Mod.	Water	C10 - C40

TestAmerica
ANALYTICAL TESTING CORPORATION
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Client	Parson's Engineering (14054)	Work Order:	NPK3519
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	11/28/06 07:45

DATA QUALIFIERS AND DEFINITIONS

A-01	Evaluated for C25-C40.
CF7	Result may be elevated due to carry over from previously analyzed sample.
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
L1	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.
MNR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike.
QSG	Silica Gel clean-up performed on extracts.

METHOD MODIFICATION NOTES

TestAmerica
ANALYTICAL TESTING CORPORATION

Nashville Division

COOLER RECEIPT FORM **BC#** NPK3519

Cooler Received/Opened On 11/28/06 7:45

1. Indicate the Airbill Tracking Number (last 4 digits for Fedex only) and Name of Courier below: 5394

(Fed-Ex) UPS Velocity DHL Route Off-street Misc.

2. Temperature of representative sample or temperature blank when opened: 0.6 **Degrees Celsius**
(indicate IR Gun ID#)

NA A00466 A00750 A01124 100190 101282 (90942856)

3. Were custody seals on outside of cooler?..... (YES)....NO....NA

a. If yes, how many and where: 1 Front

4. Were the seals intact, signed, and dated correctly?..... (YES)....NO...NA

5. Were custody papers inside cooler?..... (YES)....NO...NA

I certify that I opened the cooler and answered questions 1-5 (intial)..... JR

6. Were custody seals on containers: YES (NO) and Intact YES NO (NA)

were these signed, and dated correctly?..... (YES)...NO...NA

7. What kind of packing material used? (Bubblewrap) Peanuts Vermiculite Foam Insert

(Plastic bag) Paper Other_____ None

8. Cooling process: (Ice) Ice-pack Ice (direct contact) Dry ice Other None

9. Did all containers arrive in good condition (unbroken)?..... (YES)...NO...NA

10. Were all container labels complete (#, date, signed, pres., etc)?..... (YES)...NO...NA

11. Did all container labels and tags agree with custody papers?..... (YES)...NO...NA

12. a. Were VOA vials received?..... (YES)...NO...NA

b. Was there any observable head space present in any VOA vial?..... YES...(NO)...NA

I certify that I unloaded the cooler and answered questions 6-12 (intial)..... KG

13. a. On preserved bottles did the pH test strips suggest that preservation reached the correct pH level? (YES)...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used..... (YES)...NO...NA

If preservation in-house was needed, record standard ID of preservative used here_____

14. Was residual chlorine present?..... YES...NO...(NA)

I certify that I checked for chlorine and pH as per SOP and answered questions 13-14 (intial)..... KG

15. Were custody papers properly filled out (ink, signed, etc)?..... (YES)...NO...NA

16. Did you sign the custody papers in the appropriate place?..... (YES)...NO...NA

17. Were correct containers used for the analysis requested?..... (YES)...NO...NA

18. Was sufficient amount of sample sent in each container?..... (YES)...NO...NA

I certify that I entered this project into LIMS and answered questions 15-18 (intial)..... KG

I certify that I attached a label with the unique LIMS number to each container (intial)..... KG

19. Were there Non-Conformance issues at login YES (NO) Was a PIPE generated YES (NO) #_____

TB
Here

BIS = Broken in shipment

TestAmerica
ANALYTICAL TESTING CORPORATION

Nashville Division
COOLER RECEIPT FORM

BC#

Cooler Received/Opened On 11/28/06 @ 7:45

1. Indicate the Airbill Tracking Number (last 4 digits for Fedex only) and Name of Courier below: 5409

(Fed-Ex) UPS Velocity DHL Route Off-street Misc.

2. Temperature of representative sample or temperature blank when opened: 2.2 Degrees Celsius
(indicate IR Gun ID#)

NA (A00466) A00750 A01124 100190 101282 10594 Raynger ST

3. Were custody seals on outside of cooler?..... (YES)...NO....NA

a. If yes, how many and where: (1) Front

4. Were the seals intact, signed, and dated correctly?..... (YES)...NO...NA

5. Were custody papers inside cooler?..... (YES)...NO...NA

I certify that I opened the cooler and answered questions 1-5 (intial)..... (w)

6. Were custody seals on containers: YES (NO) and Intact YES NO (NA)

were these signed, and dated correctly?..... YES...NO...(NA)

7. What kind of packing material used? (Bubblewrap) Peanuts Vermiculite Foam Insert

Plastic bag Paper Other_____ None

8. Cooling process: (Ice) Ice-pack Ice (direct contact) Dry ice Other None

9. Did all containers arrive in good condition (unbroken)?..... YES...NO...NA

10. Were all container labels complete (#, date, signed, pres., etc)?..... YES...NO...NA

11. Did all container labels and tags agree with custody papers?..... YES...NO...NA

12. a. Were VOA vials received?..... YES...NO...NA

b. Was there any observable head space present in any VOA vial?..... YES...NO...NA

I certify that I unloaded the cooler and answered questions 6-12 (intial)..... KG

13. a. On preserved bottles did the pH test strips suggest that preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used..... YES...NO...NA

If preservation in-house was needed, record standard ID of preservative used here_____

14. Was residual chlorine present?..... YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 13-14 (intial)..... KG

15. Were custody papers properly filled out (ink, signed, etc)?..... YES...NO...NA

16. Did you sign the custody papers in the appropriate place?..... YES...NO...NA

17. Were correct containers used for the analysis requested?..... YES...NO...NA

18. Was sufficient amount of sample sent in each container?..... YES...NO...NA

I certify that I entered this project into LIMS and answered questions 15-18 (intial)..... KG

I certify that I attached a label with the unique LIMS number to each container (intial)..... KG

19. Were there Non-Conformance issues at login YES (NO) Was a PIPE generated YES (NO) #_____

BIS = Broken in shipment
Cooler Receipt Form

Chevron Analysis Request/Chain of Custody

For Parsons use only
Date Results Received: _____ Requested TAT Met: Yes / No
Parsons PM Signature _____

For Laboratory use only
Acct. #:_____ Sample #:_____ SCR#:_____

PARSONS
Project Mgr.: Satya Varadhi
Project Name: Chevron Avila Terminal Cliff Springs, Avila Beach, CA
Project Charge Code: 442170.10080
Sampler: _____
Report To: Satya Varadhi, Parsons San Luis Obispo
State of Origin: California

Analyses Requested — List total number of containers in the box under each analysis.

Preservation Codes

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☑ J value reporting needed.
* Specify special detection limits/reporting lists below.
TPH = 50 ppb
PAHs = 0.5 ppb
Metals = 1.0 ppb
VOCs = 0.5 ppb
MTBE = 1.0 ppb

NPK3519
12/07/06 23:59

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (Potable ☐ NPDES ☐)	Matrix: Oil ☐ Air ☐	Total Number of Containers	TPH-diesel & crude (GC/MS)	TPH-gas (8015M) & VOCs (8260)	Silica gel cleanup	PAHs (8270 SIM) HOLD	
AT-CS-A	11/22/06	1220	✓			✓		10	X	X	X	X	NPK3519-01
AT-CS-B	11/22/06	1240	✓			✓		10	X	X	X	X	02
trip blank	11/22/06	—						1		X			03

Perform PAH analysis if TPH-crude or diesel is detected

Ambers are mixed between two coolers

11/27/06

Turnaround Time Requested (TAT) (please circle)
(STD. TAT) 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / CA Geotracker EDD
WIP (RWQCB) Standard Format
Disk _____Other.

	Date	Time		Date	Time
Relinquished by: Field Sampler Eric N. Storms	11/22/06	1420	Received by:	11/28/06	0745
Relinquished by: Sean Alyea	11/27/06	1530	Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS FedEx Other _____			Received by:		

Temperature Upon Receipt _____ C°

Custody Seals Intact? Yes No

6/4/01

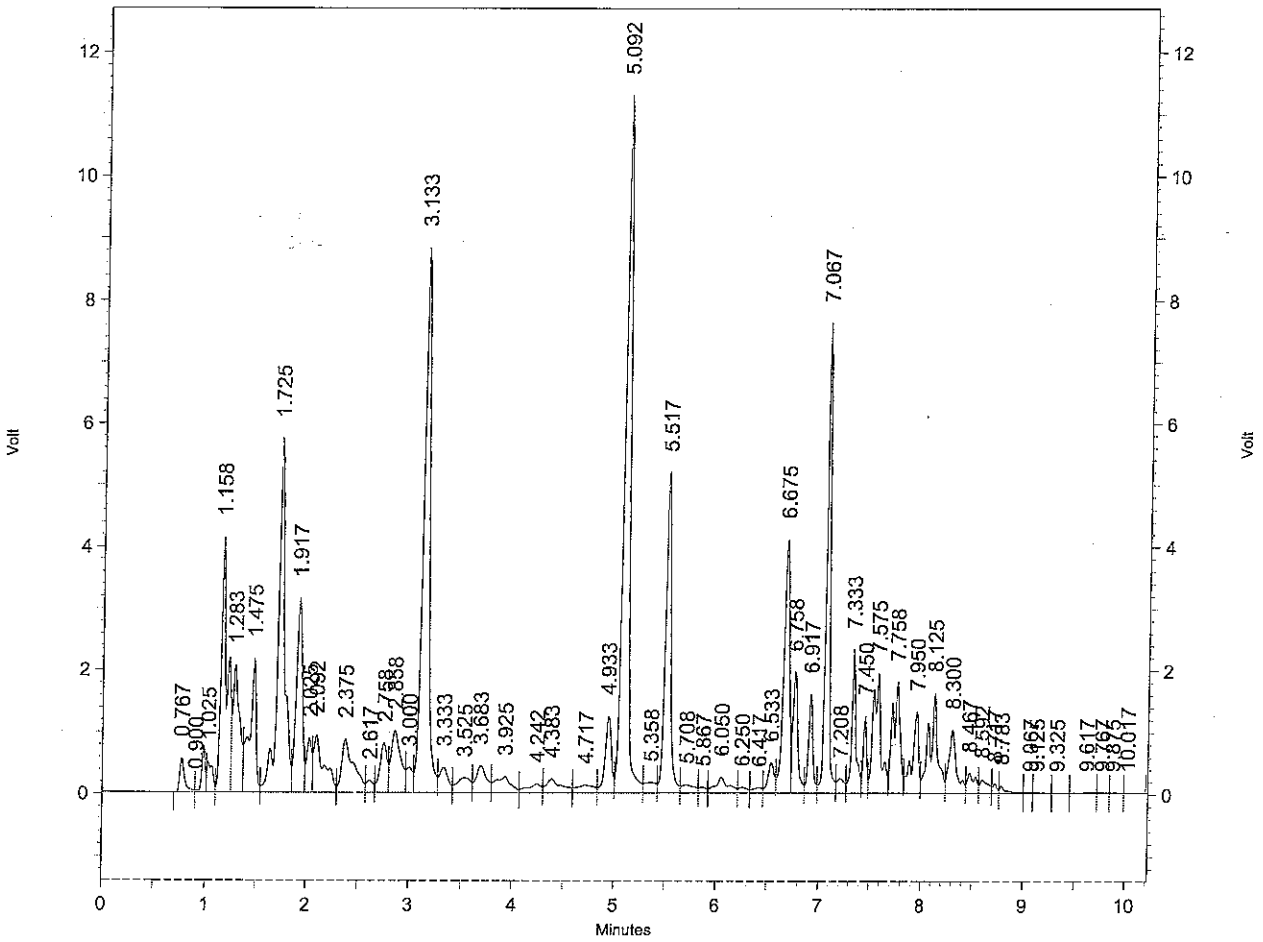
TEST AMERICA, INC. -- NASHVILLE, TENNESSEE
HP-44 HP6890 TEKMAR 3100 CENTURION
EPA METHOD 8015-GRO,TPH,OA1,TN GRO

FILE: C:\EZChrom Elite\Projects\Default\Data\1129HP44.023
METHOD: C:\EZChrom Elite\Projects\Default\Methods\112706HP44A.MET
SAMPLE I.D: NPK3440-02@100
RUN TIME 11/29/06 22:56:03

this sample ran directly before your sample NPK 3519-01

FID Results

Name	Area	ESTD concentration PPB
GRO-TN	256606080	12226.005
GRO as gas	256606080	17241.045 HC
GRO-LUFT	307072480	17822.582 HC



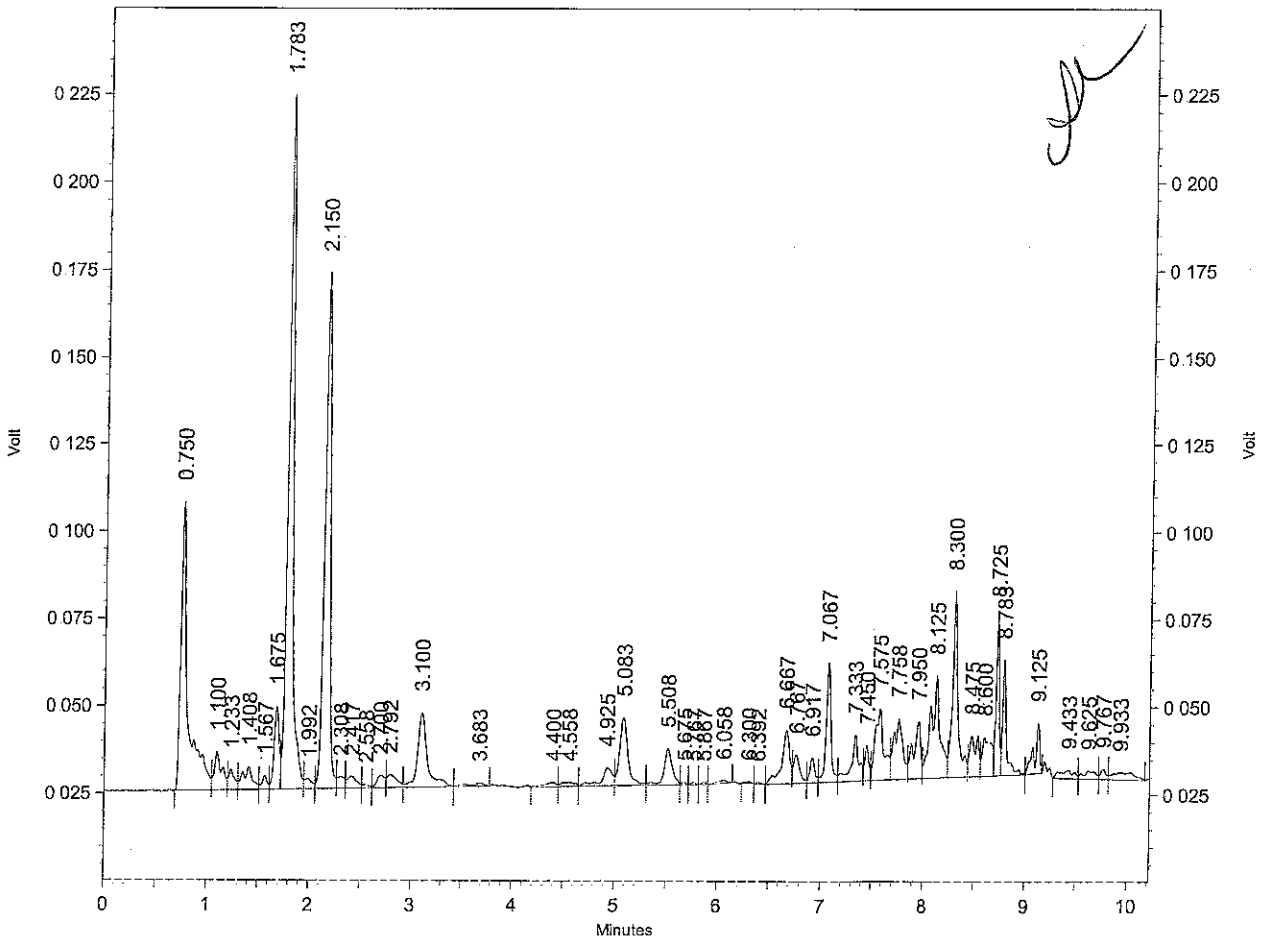
TEST AMERICA, INC. -- NASHVILLE, TENNESSEE
HP-44 HP6890 TEKMAR 3100 CENTURION
EPA METHOD 8015-GRO,TPH,OA1,TN GRO

FILE: C:\EZChrom Elite\Projects\Default\Data\1129HP44.024
METHOD: C:\EZChrom Elite\Projects\Default\Methods\112706HP44B.MET
SAMPLE I.D: NPK3519-01
RUN TIME 11/29/06 23:10:37

FID Results

Name	Area	ESTD concentration PPB
GRO-TN	1301521	66.240
GRO as gas	1301521	73 724 LC
GRO-LUFT	2082586	105.256 LC

possible/probable carryover



TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

February 01, 2007 8:27:02AM

Client: Parson's Engineering (14054)
1150 Laurel Lane, Ste 190
San Luis Obispo, CA 93401
Attn: Satya Varadhi

Work Order: NQA2829
Project Name: Avila Beach Terminal
Project Nbr: NWABN-00021-001
P/O Nbr:
Date Received: 01/26/07

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
AT-CS-B	NQA2829-01	01/25/07 11:00
AT-CS-E	NQA2829-02	01/25/07 11:30

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accredidation.

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Additional Laboratory Comments:
Revised Report 2/01/07

8270 PAH added for NQA2829-01.

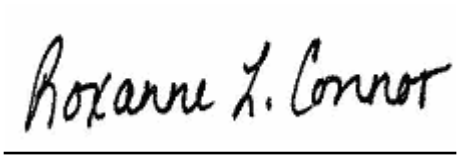
The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

Estimated uncertainity is available upon request.

This report has been electronically signed.

Report Approved By:



Roxanne Connor

Program Manager - Conventional Accounts

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQA2829
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	01/26/07 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NQA2829-01 (AT-CS-B - Water) Sampled: 01/25/07 11:00									
Polyaromatic Hydrocarbons by EPA 8270C SIM									
Acenaphthene	ND		ug/L	0.0394	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
Acenaphthylene	ND		ug/L	0.0244	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
Anthracene	ND		ug/L	0.0394	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
Benzo (a) anthracene	ND		ug/L	0.0319	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
Benzo (a) pyrene	ND		ug/L	0.0244	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
Benzo (b) fluoranthene	ND		ug/L	0.0235	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
Benzo (g,h,i) perylene	ND		ug/L	0.0235	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
Benzo (k) fluoranthene	ND		ug/L	0.0235	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
Chrysene	ND		ug/L	0.0329	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
Dibenz (a,h) anthracene	ND		ug/L	0.0291	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
Fluoranthene	ND		ug/L	0.0338	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
Fluorene	ND		ug/L	0.0338	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
Indeno (1,2,3-cd) pyrene	ND		ug/L	0.0235	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
1-Methylnaphthalene	ND		ug/L	0.0404	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
2-Methylnaphthalene	ND		ug/L	0.0761	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
Naphthalene	ND		ug/L	0.0366	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
Phenanthrene	ND		ug/L	0.0573	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
Pyrene	ND		ug/L	0.0319	0.0939	1	01/27/07 23:41	SW846 8270CSIM	7014271
Surr: Nitrobenzene-d5 (24-125%)	*89 %*					*1*	*01/27/07 23:41*	*SW846 8270CSIM*	*7014271*
Surr: 2-Fluorobiphenyl (30-120%)	*82 %*					*1*	*01/27/07 23:41*	*SW846 8270CSIM*	*7014271*
Surr: Terphenyl-d14 (29-149%)	*84 %*					*1*	*01/27/07 23:41*	*SW846 8270CSIM*	*7014271*
Extractable Petroleum Hydrocarbons									
TPH - Oil Range	ND	A-01b, QSG	ug/L	34.7	93.9	1	01/29/07 17:07	SW846 8015B	7014277
Purgeable Petroleum Hydrocarbons									
GRO as Gasoline	ND	A-01a	ug/L	43.0	50.0	1	01/28/07 21:59	SW846 8015B	7014394
Surr: a,a,a-Trifluorotoluene (44-152%)	*105 %*					*1*	*01/28/07 21:59*	*SW846 8015B*	*7014394*
Extractable Petroleum Hydrocarbons with Silica Gel Treatment									
Diesel	**266**	A-01, QSG	ug/L	34.7	46.9	1	01/29/07 17:07	SW846 8015B	7014277
Surr: o-Terphenyl (33-147%)	*80 %*					*1*	*01/29/07 17:07*	*SW846 8015B*	*7014277*

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQA2829
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	01/26/07 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NQA2829-02 (AT-CS-E - Water) Sampled: 01/25/07 11:30									
Extractable Petroleum Hydrocarbons									
TPH - Oil Range	ND	A-01b, QSG	ug/L	34.7	93.9	1	01/29/07 17:25	SW846 8015B	7014277
Purgeable Petroleum Hydrocarbons									
GRO as Gasoline	ND	A-01a	ug/L	43.0	50.0	1	01/28/07 22:26	SW846 8015B	7014394
Surr: a,a,a-Trifluorotoluene (44-152%)	*103 %*					*1*	*01/28/07 22:26*	*SW846 8015B*	*7014394*
Extractable Petroleum Hydrocarbons with Silica Gel Treatment									
Diesel	ND	A-01, QSG	ug/L	34.7	46.9	1	01/29/07 17:25	SW846 8015B	7014277
Surr: o-Terphenyl (33-147%)	*88 %*					*1*	*01/29/07 17:25*	*SW846 8015B*	*7014277*

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQA2829
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	01/26/07 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Extractable Petroleum Hydrocarbons							
SW846 8015B	7014277	NQA2829-01	1065.00	1.00	01/27/07 15:36	BJM	EPA 3510C
SW846 8015B	7014277	NQA2829-02	1065.00	1.00	01/27/07 15:36	BJM	EPA 3510C
Extractable Petroleum Hydrocarbons with Silica Gel Treatment							
SW846 8015B	7014277	NQA2829-01	1065.00	1.00	01/27/07 15:36	BJM	EPA 3510C
SW846 8015B	7014277	NQA2829-02	1065.00	1.00	01/27/07 15:36	BJM	EPA 3510C
Polyaromatic Hydrocarbons by EPA 8270C SIM							
SW846 8270CSIM	7014271	NQA2829-01	1065.00	1.00	01/27/07 07:48	BJM	EPA 3510C

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Client	Parson's Engineering (14054)	Work Order:	NQA2829
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	01/26/07 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM						
7014271-BLK1						
Acenaphthene	<0.0420		ug/L	7014271	7014271-BLK1	01/27/07 19:38
Acenaphthylene	<0.0260		ug/L	7014271	7014271-BLK1	01/27/07 19:38
Anthracene	<0.0420		ug/L	7014271	7014271-BLK1	01/27/07 19:38
Benzo (a) anthracene	<0.0340		ug/L	7014271	7014271-BLK1	01/27/07 19:38
Benzo (a) pyrene	<0.0260		ug/L	7014271	7014271-BLK1	01/27/07 19:38
Benzo (b) fluoranthene	<0.0250		ug/L	7014271	7014271-BLK1	01/27/07 19:38
Benzo (g,h,i) perylene	<0.0250		ug/L	7014271	7014271-BLK1	01/27/07 19:38
Benzo (k) fluoranthene	<0.0250		ug/L	7014271	7014271-BLK1	01/27/07 19:38
Chrysene	<0.0350		ug/L	7014271	7014271-BLK1	01/27/07 19:38
Dibenz (a,h) anthracene	<0.0310		ug/L	7014271	7014271-BLK1	01/27/07 19:38
Fluoranthene	<0.0360		ug/L	7014271	7014271-BLK1	01/27/07 19:38
Fluorene	<0.0360		ug/L	7014271	7014271-BLK1	01/27/07 19:38
Indeno (1,2,3-cd) pyrene	<0.0250		ug/L	7014271	7014271-BLK1	01/27/07 19:38
1-Methylnaphthalene	<0.0430		ug/L	7014271	7014271-BLK1	01/27/07 19:38
2-Methylnaphthalene	<0.0810		ug/L	7014271	7014271-BLK1	01/27/07 19:38
Naphthalene	<0.0390		ug/L	7014271	7014271-BLK1	01/27/07 19:38
Phenanthrene	<0.0610		ug/L	7014271	7014271-BLK1	01/27/07 19:38
Pyrene	<0.0340		ug/L	7014271	7014271-BLK1	01/27/07 19:38
Surrogate: Nitrobenzene-d5	102%			7014271	7014271-BLK1	01/27/07 19:38
Surrogate: 2-Fluorobiphenyl	98%			7014271	7014271-BLK1	01/27/07 19:38
Surrogate: Terphenyl-d14	109%			7014271	7014271-BLK1	01/27/07 19:38
Extractable Petroleum Hydrocarbons						
7014277-BLK1						
Diesel	<37.0		ug/L	7014277	7014277-BLK1	01/30/07 09:30
TPH - Oil Range	<37.0		ug/L	7014277	7014277-BLK1	01/30/07 09:30
Surrogate: o-Terphenyl	90%			7014277	7014277-BLK1	01/30/07 09:30
Purgeable Petroleum Hydrocarbons						
7014394-BLK1						
GRO as Gasoline	<43.0		ug/L	7014394	7014394-BLK1	01/28/07 14:26
Surrogate: a,a,a-Trifluorotoluene	100%			7014394	7014394-BLK1	01/28/07 14:26
Extractable Petroleum Hydrocarbons with Silica Gel Treatment						
7014277-BLK1						
Diesel	<37.0		ug/L	7014277	7014277-BLK1	01/30/07 09:30
Surrogate: o-Terphenyl	90%			7014277	7014277-BLK1	01/30/07 09:30

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQA2829
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	01/26/07 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM								
7014271-BS1								
Acenaphthene	1.00	0.950	MNR1	ug/L	95%	48 - 133	7014271	01/27/07 20:08
Acenaphthylene	1.00	1.06	MNR1	ug/L	106%	49 - 139	7014271	01/27/07 20:08
Anthracene	1.00	1.10	MNR1	ug/L	110%	55 - 146	7014271	01/27/07 20:08
Benzo (a) anthracene	1.00	1.12	MNR1	ug/L	112%	54 - 143	7014271	01/27/07 20:08
Benzo (a) pyrene	1.00	1.10	MNR1	ug/L	110%	47 - 140	7014271	01/27/07 20:08
Benzo (b) fluoranthene	1.00	1.15	MNR1	ug/L	115%	56 - 142	7014271	01/27/07 20:08
Benzo (g,h,i) perylene	1.00	0.920	MNR1	ug/L	92%	39 - 142	7014271	01/27/07 20:08
Benzo (k) fluoranthene	1.00	1.02	MNR1	ug/L	102%	54 - 147	7014271	01/27/07 20:08
Chrysene	1.00	1.04	MNR1	ug/L	104%	60 - 145	7014271	01/27/07 20:08
Dibenz (a,h) anthracene	1.00	0.890	MNR1	ug/L	89%	35 - 146	7014271	01/27/07 20:08
Fluoranthene	1.00	1.07	MNR1	ug/L	107%	56 - 135	7014271	01/27/07 20:08
Fluorene	1.00	1.01	MNR1	ug/L	101%	52 - 141	7014271	01/27/07 20:08
Indeno (1,2,3-cd) pyrene	1.00	0.870	MNR1	ug/L	87%	41 - 139	7014271	01/27/07 20:08
1-Methylnaphthalene	1.01	0.870	MNR1	ug/L	86%	42 - 130	7014271	01/27/07 20:08
2-Methylnaphthalene	1.00	0.930	MNR1	ug/L	93%	46 - 136	7014271	01/27/07 20:08
Naphthalene	1.00	0.890	MNR1	ug/L	89%	47 - 129	7014271	01/27/07 20:08
Phenanthrene	1.00	1.00	MNR1	ug/L	100%	50 - 133	7014271	01/27/07 20:08
Pyrene	1.00	1.10	MNR1	ug/L	110%	56 - 140	7014271	01/27/07 20:08
Surrogate: Nitrobenzene-d5	1.00	1.07			107%	24 - 125	7014271	01/27/07 20:08
Surrogate: 2-Fluorobiphenyl	1.00	0.940			94%	30 - 120	7014271	01/27/07 20:08
Surrogate: Terphenyl-d14	1.00	1.02			102%	29 - 149	7014271	01/27/07 20:08
Extractable Petroleum Hydrocarbons								
7014277-BS1								
Diesel	1000	823		ug/L	82%	38 - 123	7014277	01/29/07 14:15
Surrogate: o-Terphenyl	20.0	14.4			72%	33 - 147	7014277	01/29/07 14:15
Purgeable Petroleum Hydrocarbons								
7014394-BS1								
GRO as Gasoline	1000	954		ug/L	95%	58 - 138	7014394	01/28/07 23:45
Surrogate: a,a,a-Trifluorotoluene	30.0	33.2			111%	44 - 152	7014394	01/28/07 23:45
Extractable Petroleum Hydrocarbons with Silica Gel Treatment								
7014277-BS1								
Diesel	1000	823		ug/L	82%	38 - 123	7014277	01/29/07 14:15
Surrogate: o-Terphenyl	20.0	14.4			72%	33 - 147	7014277	01/29/07 14:15

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQA2829
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	01/26/07 08:00

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM												
7014271-BSD1												
Acenaphthene		0.960		ug/L	1.00	96%	48 - 133	1	32	7014271		01/27/07 20:39
Acenaphthylene		1.06		ug/L	1.00	106%	49 - 139	0	34	7014271		01/27/07 20:39
Anthracene		1.10		ug/L	1.00	110%	55 - 146	0	50	7014271		01/27/07 20:39
Benzo (a) anthracene		1.12		ug/L	1.00	112%	54 - 143	0	50	7014271		01/27/07 20:39
Benzo (a) pyrene		1.13		ug/L	1.00	113%	47 - 140	3	38	7014271		01/27/07 20:39
Benzo (b) fluoranthene		1.19		ug/L	1.00	119%	56 - 142	3	50	7014271		01/27/07 20:39
Benzo (g,h,i) perylene		1.05		ug/L	1.00	105%	39 - 142	13	50	7014271		01/27/07 20:39
Benzo (k) fluoranthene		1.05		ug/L	1.00	105%	54 - 147	3	50	7014271		01/27/07 20:39
Chrysene		1.05		ug/L	1.00	105%	60 - 145	1	50	7014271		01/27/07 20:39
Dibenz (a,h) anthracene		1.02		ug/L	1.00	102%	35 - 146	14	47	7014271		01/27/07 20:39
Fluoranthene		1.07		ug/L	1.00	107%	56 - 135	0	27	7014271		01/27/07 20:39
Fluorene		1.01		ug/L	1.00	101%	52 - 141	0	31	7014271		01/27/07 20:39
Indeno (1,2,3-cd) pyrene		1.01		ug/L	1.00	101%	41 - 139	15	50	7014271		01/27/07 20:39
1-Methylnaphthalene		0.860		ug/L	1.01	85%	42 - 130	1	50	7014271		01/27/07 20:39
2-Methylnaphthalene		0.910		ug/L	1.00	91%	46 - 136	2	38	7014271		01/27/07 20:39
Naphthalene		0.870		ug/L	1.00	87%	47 - 129	2	39	7014271		01/27/07 20:39
Phenanthrene		0.990		ug/L	1.00	99%	50 - 133	1	37	7014271		01/27/07 20:39
Pyrene		1.11		ug/L	1.00	111%	56 - 140	0.9	50	7014271		01/27/07 20:39
Surrogate: Nitrobenzene-d5		1.04		ug/L	1.00	104%	24 - 125			7014271		01/27/07 20:39
Surrogate: 2-Fluorobiphenyl		0.930		ug/L	1.00	93%	30 - 120			7014271		01/27/07 20:39
Surrogate: Terphenyl-d14		1.03		ug/L	1.00	103%	29 - 149			7014271		01/27/07 20:39

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQA2829
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	01/26/07 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Purgeable Petroleum Hydrocarbons										
7014394-MS1										
GRO as Gasoline	8.32	1050		ug/L	1000	104%	34 - 201	7014394	NQA2448-01	01/29/07 00:12
Surrogate: a,a,a-Trifluorotoluene		36.9		ug/L	30.0	123%	44 - 152	7014394	NQA2448-01	01/29/07 00:12

TestAmerica
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Client	Parson's Engineering (14054)	Work Order:	NQA2829
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	01/26/07 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Purgeable Petroleum Hydrocarbons												
7014394-MSD1												
GRO as Gasoline	8.32	1090		ug/L	1000	108%	34 - 201	4	28	7014394	NQA2448-01	01/30/07 11:48
Surrogate: a,a,a-Trifluorotoluene		37.9		ug/L	30.0	126%	44 - 152			7014394	NQA2448-01	01/30/07 11:48

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQA2829
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	01/26/07 08:00

CERTIFICATION SUMMARY

TestAmerica - Nashville, TN

Method	Matrix	AIHA	Nelac	California
SW846 8015B	Water	N/A	X	X
SW846 8270CSIM	Water	N/A	X	X

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQA2829
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	01/26/07 08:00

NELAC CERTIFICATION SUMMARY

TestAmerica Analytical - Nashville does not hold NELAC certifications for the following analytes included in this report

Method	Matrix	Analyte

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQA2829
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	01/26/07 08:00

DATA QUALIFIERS AND DEFINITIONS

A-01	DRO evaluated from C10 to C25.
A-01a	GRO evaluated from C4-C10.
A-01b	ORO evaluated from C25 to C40.
MNR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike.
QSG	Silica Gel clean-up performed on extracts.

METHOD MODIFICATION NOTES

TestAmerica
ANALYTICAL TESTING CORPORATION

NQA2829

Nashville Division
COOLER RECEIPT FORM

BC#

Cooler Received/Opened On: January 26, 2007@ 800

1. Indicate the Airbill Tracking Number (last 4 digits for Fedex only) and Name of Courier below: 7006

Fed-Ex

2. Temperature of representative sample or temperature blank when opened: 0.9 Degrees Celsius
(indicate IR Gun ID#)

92171982

3. Were custody seals on outside of cooler?..... YES...NO...NA

a. If yes, how many and where:_____

4. Were the seals intact, signed, and dated correctly?..... YES....NO...NA

5. Were custody papers inside cooler?..... YES...NO...NA

I certify that I opened the cooler and answered questions 1-5 (intial)..... _____

6. Were custody seals on containers: YES NO and Intact YES NO NA

were these signed, and dated correctly?..... YES...NO...NA

7. What kind of packing material used? Bubblewrap Peanuts Vermiculite Foam Insert

Plastic bag Paper Other_____ None

8. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

9. Did all containers arrive in good condition (unbroken)?..... YES...NO...NA

10. Were all container labels complete (#, date, signed, pres., etc)?..... YES...NO...NA

11. Did all container labels and tags agree with custody papers?..... YES...NO...NA

12. a. Were VOA vials received?..... YES...NO...NA

b. Was there any observable head space present in any VOA vial?..... YES...NO...NA

I certify that I unloaded the cooler and answered questions 6-12 (intial)..... WS

13. a. On preserved bottles did the pH test strips suggest that preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used..... YES...NO...NA

If preservation in-house was needed, record standard ID of preservative used here_____

14. Was residual chlorine present?..... YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 13-14 (intial)..... WS

15. Were custody papers properly filled out (ink, signed, etc)?..... YES...NO...NA

16. Did you sign the custody papers in the appropriate place?..... YES...NO...NA

17. Were correct containers used for the analysis requested?..... YES...NO...NA

18. Was sufficient amount of sample sent in each container?..... YES...NO...NA

I certify that I entered this project into LIMS and answered questions 15-18 (intial)..... WS

I certify that I attached a label with the unique LIMS number to each container (intial)..... WS

19. Were there Non-Conformance issues at login YES NO Was a PIPE generated YES NO #_____

BIS = Broken in shipment
Cooler Receipt Form

LF-1
End of Form

Revised 3/9/06

ws 1/26/07

~~PAH~~

PAH was recieved HCl preserved should be unpreserved

Chevron Analysis Request/Chain of Custody

For Parsons use only
Date Results Received: _____ Requested TAT Met: Yes / No
Parsons PM Signature _____

For Laboratory use only
Acct. #: _____ Sample #: _____ SCR#: _____

PARSONS

Project Mgr.: ~~Jay Simonds~~ Satya Varadhi
Project Name: Former Avila Terminal, Avila Beach, CA
Project Charge Code:
Sampler: E.N Storms, Satya Varadhi
Report To: Satya Varadhi
State of Origin: California

Analyses Requested List total number of containers in the box under each analysis.

Preservation Codes

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☑ J value reporting needed.
* Specify special detection limits/reporting lists below.
TPH = 50 ppb
PAHs = 0.5 ppb
Metals = 1.0 ppb
VOCs = 0.5 ppb
MTBE = 1.0 ppb

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (Potable ☐ NPDES ☐)	Matrix: Oil ☐ Air ☐	Total Number of Containers	TPH-gas (C_4-C_{10})	TPH-diesel (C_{10}-C_{25})	TPH-crude (C_{25}-C_{40})	Silica gel cleanup + PAH	
AT-CS-B	1/25/07	11:00	✓			✓		10	✓	✓	✓	✓	-01
AT-CS-E	"	11:30	✓			✓		10	✓	✓	✓	✓	-02

NQA2829
02/06/07 23:59

Turnaround Time Requested (TAT) (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / EDD
WIP (RWQCB) Standard Format
Disk _____ Other.

	Date	Time		Date	Time
Relinquished by: Field Sampler	1/25/07	1630	Received by: Fed Ex 8564-3879 3006	1/25/07	1630
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by Commercial Carrier: UPS (FedEx) Other _____			Received by: [signature]	1/26/07	8:00

Temperature Upon Receipt 0.4 C°

Custody Seals Intact? Yes (No)

6/4/01

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

March 02, 2007 4:46:12PM

Client: Parson's Engineering (14054)
1150 Laurel Lane, Ste 190
San Luis Obispo, CA 93401
Attn: Satya Varadhi

Work Order: NQB2770
Project Name: Avila Beach Terminal
Project Nbr: 442964.10081
P/O Nbr:
Date Received: 02/24/07

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
Trip Blank	NQB2770-01	02/23/07 08:00
AT-CS-B	NQB2770-02	02/23/07 09:00

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accredidation.

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California Certification Number: 01168CA

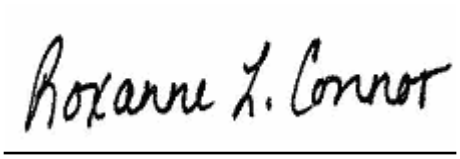
The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

Estimated uncertainity is available upon request.

This report has been electronically signed.

Report Approved By:



Roxanne Connor

Program Manager - Conventional Accounts

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQB2770
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	442964.10081
Attn	Satya Varadhi	Received:	02/24/07 07:50

ANALYTICAL REPORT

Sample ID: NQB2770-01 (Trip Blank - Water) Sampled: 02/23/07 08:00

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Acetone	ND		ug/L	3.96	50.0	1	02/26/07 19:04	SW846 8260B	7024844
Benzene	ND		ug/L	0.170	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Bromobenzene	ND		ug/L	0.350	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Bromochloromethane	ND		ug/L	0.400	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Bromodichloromethane	ND		ug/L	0.150	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Bromoform	ND		ug/L	0.290	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Bromomethane	ND		ug/L	0.270	0.500	1	02/26/07 19:04	SW846 8260B	7024844
2-Butanone	ND		ug/L	2.76	50.0	1	02/26/07 19:04	SW846 8260B	7024844
sec-Butylbenzene	ND		ug/L	0.160	0.500	1	02/26/07 19:04	SW846 8260B	7024844
n-Butylbenzene	ND		ug/L	0.210	0.500	1	02/26/07 19:04	SW846 8260B	7024844
tert-Butylbenzene	ND		ug/L	0.220	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Carbon disulfide	ND		ug/L	0.180	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Carbon Tetrachloride	ND		ug/L	0.220	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Chlorobenzene	ND		ug/L	0.120	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Chlorodibromomethane	ND		ug/L	0.230	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Chloroethane	ND		ug/L	0.190	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Chloroform	ND		ug/L	0.270	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Chloromethane	ND		ug/L	0.260	0.500	1	02/26/07 19:04	SW846 8260B	7024844
4-Chlorotoluene	ND		ug/L	0.190	0.500	1	02/26/07 19:04	SW846 8260B	7024844
2-Chlorotoluene	ND		ug/L	0.130	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,2-Dibromo-3-chloropropane	ND		ug/L	0.880	1.00	1	02/26/07 19:04	SW846 8260B	7024844
1,2-Dibromoethane (EDB)	ND		ug/L	0.320	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Dibromomethane	ND		ug/L	0.230	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,4-Dichlorobenzene	ND		ug/L	0.150	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,3-Dichlorobenzene	ND		ug/L	0.160	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,2-Dichlorobenzene	ND		ug/L	0.150	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Dichlorodifluoromethane	ND		ug/L	0.140	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,2-Dichloroethane	ND		ug/L	0.370	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,1-Dichloroethane	ND		ug/L	0.130	0.500	1	02/26/07 19:04	SW846 8260B	7024844
cis-1,2-Dichloroethene	ND		ug/L	0.160	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,1-Dichloroethene	ND		ug/L	0.270	0.500	1	02/26/07 19:04	SW846 8260B	7024844
trans-1,2-Dichloroethene	ND		ug/L	0.200	0.500	1	02/26/07 19:04	SW846 8260B	7024844
2,2-Dichloropropane	ND		ug/L	0.190	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,3-Dichloropropane	ND		ug/L	0.100	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,2-Dichloropropane	ND		ug/L	0.200	0.500	1	02/26/07 19:04	SW846 8260B	7024844
trans-1,3-Dichloropropene	ND		ug/L	0.230	0.500	1	02/26/07 19:04	SW846 8260B	7024844
cis-1,3-Dichloropropene	ND		ug/L	0.270	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,1-Dichloropropene	ND		ug/L	0.160	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Ethylbenzene	ND		ug/L	0.230	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Hexachlorobutadiene	ND		ug/L	0.360	1.00	1	02/26/07 19:04	SW846 8260B	7024844
2-Hexanone	ND		ug/L	1.11	10.0	1	02/26/07 19:04	SW846 8260B	7024844
Isopropylbenzene	ND		ug/L	0.230	1.00	1	02/26/07 19:04	SW846 8260B	7024844
Diisopropyl Ether	ND		ug/L	0.210	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Methyl tert-Butyl Ether	ND		ug/L	0.190	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Methylene Chloride	ND		ug/L	0.330	5.00	1	02/26/07 19:04	SW846 8260B	7024844

Client	Parson's Engineering (14054)	Work Order:	NQB2770
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	442964.10081
Attn	Satya Varadhi	Received:	02/24/07 07:50

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NQB2770-01 (Trip Blank - Water) - cont. Sampled: 02/23/07 08:00									
Volatile Organic Compounds by EPA Method 8260B - cont.									
4-Methyl-2-pentanone	ND		ug/L	1.53	10.0	1	02/26/07 19:04	SW846 8260B	7024844
Styrene	ND		ug/L	0.140	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,1,1,2-Tetrachloroethane	ND		ug/L	0.220	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,1,2,2-Tetrachloroethane	ND		ug/L	0.120	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Tetrachloroethene	ND		ug/L	0.220	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Toluene	ND		ug/L	0.220	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,2,4-Trichlorobenzene	ND		ug/L	0.240	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,2,3-Trichlorobenzene	ND		ug/L	0.210	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,1,2-Trichloroethane	ND		ug/L	0.270	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,1,1-Trichloroethane	ND		ug/L	0.160	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Trichloroethene	ND		ug/L	0.170	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Trichlorofluoromethane	ND		ug/L	0.110	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,2,3-Trichloropropane	ND		ug/L	0.240	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,3,5-Trimethylbenzene	ND		ug/L	0.240	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Vinyl chloride	ND		ug/L	0.200	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Xylenes, total	ND		ug/L	0.320	0.500	1	02/26/07 19:04	SW846 8260B	7024844
1,2,4-Trimethylbenzene	ND		ug/L	0.180	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Naphthalene	ND	L	ug/L	0.650	5.00	1	02/26/07 19:04	SW846 8260B	7024844
p-Isopropyltoluene	ND		ug/L	0.140	0.500	1	02/26/07 19:04	SW846 8260B	7024844
n-Propylbenzene	ND		ug/L	0.180	0.500	1	02/26/07 19:04	SW846 8260B	7024844
Surr: 1,2-Dichloroethane-d4 (62-142%)	*103 %*					*1*	*02/26/07 19:04*	*SW846 8260B*	*7024844*
Surr: Dibromofluoromethane (78-123%)	*97 %*					*1*	*02/26/07 19:04*	*SW846 8260B*	*7024844*
Surr: Toluene-d8 (79-120%)	*93 %*					*1*	*02/26/07 19:04*	*SW846 8260B*	*7024844*
Surr: 4-Bromofluorobenzene (75-133%)	*95 %*					*1*	*02/26/07 19:04*	*SW846 8260B*	*7024844*
Sample ID: NQB2770-02 (AT-CS-B - Water) Sampled: 02/23/07 09:00									
Volatile Organic Compounds by EPA Method 8260B									
Acetone	ND		ug/L	3.96	50.0	1	02/26/07 19:29	SW846 8260B	7024844
Benzene	ND		ug/L	0.170	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Bromobenzene	ND		ug/L	0.350	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Bromochloromethane	ND		ug/L	0.400	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Bromodichloromethane	ND		ug/L	0.150	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Bromoform	ND		ug/L	0.290	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Bromomethane	ND		ug/L	0.270	0.500	1	02/26/07 19:29	SW846 8260B	7024844
2-Butanone	ND		ug/L	2.76	50.0	1	02/26/07 19:29	SW846 8260B	7024844
sec-Butylbenzene	ND		ug/L	0.160	0.500	1	02/26/07 19:29	SW846 8260B	7024844
n-Butylbenzene	ND		ug/L	0.210	0.500	1	02/26/07 19:29	SW846 8260B	7024844
tert-Butylbenzene	ND		ug/L	0.220	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Carbon disulfide	ND		ug/L	0.180	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Carbon Tetrachloride	ND		ug/L	0.220	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Chlorobenzene	ND		ug/L	0.120	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Chlorodibromomethane	ND		ug/L	0.230	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Chloroethane	ND		ug/L	0.190	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Chloroform	ND		ug/L	0.270	0.500	1	02/26/07 19:29	SW846 8260B	7024844

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQB2770
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	442964.10081
Attn	Satya Varadhi	Received:	02/24/07 07:50

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NQB2770-02 (AT-CS-B - Water) - cont. Sampled: 02/23/07 09:00									
Volatile Organic Compounds by EPA Method 8260B - cont.									
Chloromethane	ND		ug/L	0.260	0.500	1	02/26/07 19:29	SW846 8260B	7024844
4-Chlorotoluene	ND		ug/L	0.190	0.500	1	02/26/07 19:29	SW846 8260B	7024844
2-Chlorotoluene	ND		ug/L	0.130	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,2-Dibromo-3-chloropropane	ND		ug/L	0.880	1.00	1	02/26/07 19:29	SW846 8260B	7024844
1,2-Dibromoethane (EDB)	ND		ug/L	0.320	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Dibromomethane	ND		ug/L	0.230	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,4-Dichlorobenzene	ND		ug/L	0.150	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,3-Dichlorobenzene	ND		ug/L	0.160	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,2-Dichlorobenzene	ND		ug/L	0.150	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Dichlorodifluoromethane	ND		ug/L	0.140	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,2-Dichloroethane	ND		ug/L	0.370	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,1-Dichloroethane	ND		ug/L	0.130	0.500	1	02/26/07 19:29	SW846 8260B	7024844
cis-1,2-Dichloroethene	ND		ug/L	0.160	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,1-Dichloroethene	ND		ug/L	0.270	0.500	1	02/26/07 19:29	SW846 8260B	7024844
trans-1,2-Dichloroethene	ND		ug/L	0.200	0.500	1	02/26/07 19:29	SW846 8260B	7024844
2,2-Dichloropropane	ND		ug/L	0.190	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,3-Dichloropropane	ND		ug/L	0.100	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,2-Dichloropropane	ND		ug/L	0.200	0.500	1	02/26/07 19:29	SW846 8260B	7024844
trans-1,3-Dichloropropene	ND		ug/L	0.230	0.500	1	02/26/07 19:29	SW846 8260B	7024844
cis-1,3-Dichloropropene	ND		ug/L	0.270	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,1-Dichloropropene	ND		ug/L	0.160	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Ethylbenzene	ND		ug/L	0.230	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Hexachlorobutadiene	ND		ug/L	0.360	1.00	1	02/26/07 19:29	SW846 8260B	7024844
2-Hexanone	ND		ug/L	1.11	10.0	1	02/26/07 19:29	SW846 8260B	7024844
Isopropylbenzene	ND		ug/L	0.230	1.00	1	02/26/07 19:29	SW846 8260B	7024844
Diisopropyl Ether	ND		ug/L	0.210	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Methyl tert-Butyl Ether	ND		ug/L	0.190	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Methylene Chloride	ND		ug/L	0.330	5.00	1	02/26/07 19:29	SW846 8260B	7024844
4-Methyl-2-pentanone	ND		ug/L	1.53	10.0	1	02/26/07 19:29	SW846 8260B	7024844
Styrene	ND		ug/L	0.140	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,1,1,2-Tetrachloroethane	ND		ug/L	0.220	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,1,2,2-Tetrachloroethane	ND		ug/L	0.120	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Tetrachloroethene	ND		ug/L	0.220	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Toluene	ND		ug/L	0.220	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,2,4-Trichlorobenzene	ND		ug/L	0.240	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,2,3-Trichlorobenzene	ND		ug/L	0.210	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,1,2-Trichloroethane	ND		ug/L	0.270	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,1,1-Trichloroethane	ND		ug/L	0.160	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Trichloroethene	ND		ug/L	0.170	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Trichlorofluoromethane	ND		ug/L	0.110	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,2,3-Trichloropropane	ND		ug/L	0.240	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,3,5-Trimethylbenzene	ND		ug/L	0.240	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Vinyl chloride	ND		ug/L	0.200	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Xylenes, total	ND		ug/L	0.320	0.500	1	02/26/07 19:29	SW846 8260B	7024844
1,2,4-Trimethylbenzene	ND		ug/L	0.180	0.500	1	02/26/07 19:29	SW846 8260B	7024844

Client	Parson's Engineering (14054)	Work Order:	NQB2770
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	442964.10081
Attn	Satya Varadhi	Received:	02/24/07 07:50

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NQB2770-02 (AT-CS-B - Water) - cont. Sampled: 02/23/07 09:00									
Volatile Organic Compounds by EPA Method 8260B - cont.									
Naphthalene	ND	L	ug/L	0.650	5.00	1	02/26/07 19:29	SW846 8260B	7024844
p-Isopropyltoluene	ND		ug/L	0.140	0.500	1	02/26/07 19:29	SW846 8260B	7024844
n-Propylbenzene	ND		ug/L	0.180	0.500	1	02/26/07 19:29	SW846 8260B	7024844
Surr: 1,2-Dichloroethane-d4 (62-142%)	*109 %*					*1*	*02/26/07 19:29*	*SW846 8260B*	*7024844*
Surr: Dibromofluoromethane (78-123%)	*97 %*					*1*	*02/26/07 19:29*	*SW846 8260B*	*7024844*
Surr: Toluene-d8 (79-120%)	*92 %*					*1*	*02/26/07 19:29*	*SW846 8260B*	*7024844*
Surr: 4-Bromofluorobenzene (75-133%)	*94 %*					*1*	*02/26/07 19:29*	*SW846 8260B*	*7024844*
Polyaromatic Hydrocarbons by EPA 8270C SIM									
Acenaphthene	ND		ug/L	0.0394	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
Acenaphthylene	ND		ug/L	0.0244	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
Anthracene	ND		ug/L	0.0394	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
Benzo (a) anthracene	ND		ug/L	0.0319	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
Benzo (a) pyrene	ND		ug/L	0.0244	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
Benzo (b) fluoranthene	ND		ug/L	0.0235	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
Benzo (g,h,i) perylene	ND		ug/L	0.0235	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
Benzo (k) fluoranthene	ND		ug/L	0.0235	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
Chrysene	ND		ug/L	0.0329	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
Dibenz (a,h) anthracene	ND		ug/L	0.0291	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
Fluoranthene	ND		ug/L	0.0338	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
Fluorene	ND		ug/L	0.0338	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
Indeno (1,2,3-cd) pyrene	ND		ug/L	0.0235	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
1-Methylnaphthalene	ND		ug/L	0.0404	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
2-Methylnaphthalene	ND		ug/L	0.0761	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
Naphthalene	ND		ug/L	0.0366	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
Phenanthrene	ND		ug/L	0.0573	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
Pyrene	ND		ug/L	0.0319	0.0939	1	02/27/07 12:09	SW846 8270CSIM	7024382
Surr: Nitrobenzene-d5 (24-125%)	*113 %*					*1*	*02/27/07 12:09*	*SW846 8270CSIM*	*7024382*
Surr: 2-Fluorobiphenyl (30-120%)	*105 %*					*1*	*02/27/07 12:09*	*SW846 8270CSIM*	*7024382*
Surr: Terphenyl-d14 (29-149%)	*119 %*					*1*	*02/27/07 12:09*	*SW846 8270CSIM*	*7024382*
Extractable Petroleum Hydrocarbons									
TPH - Oil Range	**225**	A-01a	ug/L	34.9	94.3	1	02/28/07 15:59	SW846 8015B	7024605
Diesel	**498**	A-01	ug/L	34.9	94.3	1	02/28/07 15:59	SW846 8015B	7024605
Surr: o-Terphenyl (33-147%)	*105 %*					*1*	*02/28/07 15:59*	*SW846 8015B*	*7024605*
Surr: o-Terphenyl (33-147%)	*105 %*					*1*	*02/28/07 15:59*	*SW846 8015B*	*7024605*
Purgeable Petroleum Hydrocarbons									
GRO as Gasoline	ND		ug/L	43.0	50.0	1	03/01/07 05:09	SW846 8015B	7025041
Surr: a,a,a-Trifluorotoluene (44-152%)	*84 %*					*1*	*03/01/07 05:09*	*SW846 8015B*	*7025041*
Extractable Petroleum Hydrocarbons with Silica Gel Treatment									
Diesel	**545**	A-01, QSG	ug/L	34.9	47.2	1	02/28/07 15:59	SW846 8015B	7024681
C10 - C40	**122**	A-01a, QSG	ug/L	31.1	47.2	1	02/28/07 15:59	8015B Mod.	7024681
Surr: o-Terphenyl (55-150%)	*105 %*					*1*	*02/28/07 15:59*	*8015B Mod.*	*7024681*

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQB2770
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	442964.10081
Attn	Satya Varadhi	Received:	02/24/07 07:50

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NQB2770-02 (AT-CS-B - Water) - cont. Sampled: 02/23/07 09:00									
Extractable Petroleum Hydrocarbons with Silica Gel Treatment - cont.									
Surr: o-Terphenyl (33-147%)	*105 %*					*1*	*02/28/07 15:59*	*SW846 8015B*	*7024681*

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Client	Parson's Engineering (14054)	Work Order:	NQB2770
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	442964.10081
Attn	Satya Varadhi	Received:	02/24/07 07:50

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Extractable Petroleum Hydrocarbons							
SW846 8015B	7024605	NQB2770-02	1060.00	1.00	02/27/07 10:30	MSR	EPA 3510C
SW846 8015B	7024605	NQB2770-02	1060.00	1.00	02/27/07 10:30	MSR	EPA 3510C
Extractable Petroleum Hydrocarbons with Silica Gel Treatment							
8015B Mod.	7024681	NQB2770-02	1060.00	1.00	02/27/07 14:35	MSR	EPA 3510C
SW846 8015B	7024681	NQB2770-02	1060.00	1.00	02/27/07 14:35	MSR	EPA 3510C
Polyaromatic Hydrocarbons by EPA 8270C SIM							
SW846 8270CSIM	7024382	NQB2770-02	1065.00	1.00	02/26/07 09:30	BJM	EPA 3510C

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Client	Parson's Engineering (14054)	Work Order:	NQB2770
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	442964.10081
Attn	Satya Varadhi	Received:	02/24/07 07:50

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
7024844-BLK1						
Acetone	<3.96		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Benzene	<0.170		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Bromobenzene	<0.350		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Bromochloromethane	<0.400		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Bromodichloromethane	<0.150		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Bromoform	<0.290		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Bromomethane	<0.270		ug/L	7024844	7024844-BLK1	02/26/07 18:40
2-Butanone	<2.76		ug/L	7024844	7024844-BLK1	02/26/07 18:40
sec-Butylbenzene	<0.160		ug/L	7024844	7024844-BLK1	02/26/07 18:40
n-Butylbenzene	<0.210		ug/L	7024844	7024844-BLK1	02/26/07 18:40
tert-Butylbenzene	<0.220		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Carbon disulfide	<0.180		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Carbon Tetrachloride	<0.220		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Chlorobenzene	<0.120		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Chlorodibromomethane	<0.230		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Chloroethane	<0.190		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Chloroform	<0.270		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Chloromethane	<0.260		ug/L	7024844	7024844-BLK1	02/26/07 18:40
4-Chlorotoluene	<0.190		ug/L	7024844	7024844-BLK1	02/26/07 18:40
2-Chlorotoluene	<0.130		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,2-Dibromo-3-chloropropane	<0.880		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,2-Dibromoethane (EDB)	<0.320		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Dibromomethane	<0.230		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,4-Dichlorobenzene	<0.150		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,3-Dichlorobenzene	<0.160		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,2-Dichlorobenzene	<0.150		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Dichlorodifluoromethane	<0.140		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,2-Dichloroethane	<0.370		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,1-Dichloroethane	<0.130		ug/L	7024844	7024844-BLK1	02/26/07 18:40
cis-1,2-Dichloroethene	<0.160		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,1-Dichloroethene	<0.270		ug/L	7024844	7024844-BLK1	02/26/07 18:40
trans-1,2-Dichloroethene	<0.200		ug/L	7024844	7024844-BLK1	02/26/07 18:40
2,2-Dichloropropane	<0.190		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,3-Dichloropropane	<0.100		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,2-Dichloropropane	<0.200		ug/L	7024844	7024844-BLK1	02/26/07 18:40
trans-1,3-Dichloropropene	<0.230		ug/L	7024844	7024844-BLK1	02/26/07 18:40
cis-1,3-Dichloropropene	<0.270		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,1-Dichloropropene	<0.160		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Ethylbenzene	<0.230		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Hexachlorobutadiene	0.450	J	ug/L	7024844	7024844-BLK1	02/26/07 18:40
2-Hexanone	<1.11		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Isopropylbenzene	<0.230		ug/L	7024844	7024844-BLK1	02/26/07 18:40

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Client	Parson's Engineering (14054)	Work Order:	NQB2770
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	442964.10081
Attn	Satya Varadhi	Received:	02/24/07 07:50

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
7024844-BLK1						
Diisopropyl Ether	<0.210		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Methyl tert-Butyl Ether	<0.190		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Methylene Chloride	<0.330		ug/L	7024844	7024844-BLK1	02/26/07 18:40
4-Methyl-2-pentanone	<1.53		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Styrene	<0.140		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,1,1,2-Tetrachloroethane	<0.220		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,1,2,2-Tetrachloroethane	<0.120		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Tetrachloroethene	<0.220		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Toluene	<0.220		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,2,4-Trichlorobenzene	0.340	J	ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,2,3-Trichlorobenzene	0.440	J	ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,1,2-Trichloroethane	<0.270		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,1,1-Trichloroethane	<0.160		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Trichloroethene	<0.170		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Trichlorofluoromethane	<0.110		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,2,3-Trichloropropane	<0.240		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,3,5-Trimethylbenzene	<0.240		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Vinyl chloride	<0.200		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Xylenes, total	<0.320		ug/L	7024844	7024844-BLK1	02/26/07 18:40
1,2,4-Trimethylbenzene	<0.180		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Naphthalene	<0.650		ug/L	7024844	7024844-BLK1	02/26/07 18:40
p-Isopropyltoluene	<0.140		ug/L	7024844	7024844-BLK1	02/26/07 18:40
n-Propylbenzene	<0.180		ug/L	7024844	7024844-BLK1	02/26/07 18:40
Surrogate: 1,2-Dichloroethane-d4	105%			7024844	7024844-BLK1	02/26/07 18:40
Surrogate: Dibromofluoromethane	98%			7024844	7024844-BLK1	02/26/07 18:40
Surrogate: Toluene-d8	94%			7024844	7024844-BLK1	02/26/07 18:40
Surrogate: 4-Bromofluorobenzene	93%			7024844	7024844-BLK1	02/26/07 18:40
Polyaromatic Hydrocarbons by EPA 8270C SIM						
7024382-BLK1						
Acenaphthene	<0.0420		ug/L	7024382	7024382-BLK1	02/27/07 09:49
Acenaphthylene	<0.0260		ug/L	7024382	7024382-BLK1	02/27/07 09:49
Anthracene	<0.0420		ug/L	7024382	7024382-BLK1	02/27/07 09:49
Benzo (a) anthracene	<0.0340		ug/L	7024382	7024382-BLK1	02/27/07 09:49
Benzo (a) pyrene	<0.0260		ug/L	7024382	7024382-BLK1	02/27/07 09:49
Benzo (b) fluoranthene	<0.0250		ug/L	7024382	7024382-BLK1	02/27/07 09:49
Benzo (g,h,i) perylene	<0.0250		ug/L	7024382	7024382-BLK1	02/27/07 09:49
Benzo (k) fluoranthene	<0.0250		ug/L	7024382	7024382-BLK1	02/27/07 09:49
Chrysene	<0.0350		ug/L	7024382	7024382-BLK1	02/27/07 09:49
Dibenz (a,h) anthracene	<0.0310		ug/L	7024382	7024382-BLK1	02/27/07 09:49
Fluoranthene	<0.0360		ug/L	7024382	7024382-BLK1	02/27/07 09:49

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQB2770
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	442964.10081
Attn	Satya Varadhi	Received:	02/24/07 07:50

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM						
7024382-BLK1						
Fluorene	<0.0360		ug/L	7024382	7024382-BLK1	02/27/07 09:49
Indeno (1,2,3-cd) pyrene	<0.0250		ug/L	7024382	7024382-BLK1	02/27/07 09:49
1-Methylnaphthalene	<0.0430		ug/L	7024382	7024382-BLK1	02/27/07 09:49
2-Methylnaphthalene	<0.0810		ug/L	7024382	7024382-BLK1	02/27/07 09:49
Naphthalene	<0.0390		ug/L	7024382	7024382-BLK1	02/27/07 09:49
Phenanthrene	<0.0610		ug/L	7024382	7024382-BLK1	02/27/07 09:49
Pyrene	<0.0340		ug/L	7024382	7024382-BLK1	02/27/07 09:49
Surrogate: Nitrobenzene-d5	104%			7024382	7024382-BLK1	02/27/07 09:49
Surrogate: 2-Fluorobiphenyl	101%			7024382	7024382-BLK1	02/27/07 09:49
Surrogate: Terphenyl-d14	128%			7024382	7024382-BLK1	02/27/07 09:49
Extractable Petroleum Hydrocarbons						
7024605-BLK1						
Diesel	<37.0		ug/L	7024605	7024605-BLK1	02/28/07 17:06
TPH - Oil Range	<37.0		ug/L	7024605	7024605-BLK1	02/28/07 17:06
Diesel	<37.0		ug/L	7024605	7024605-BLK1	02/28/07 17:06
Surrogate: o-Terphenyl	84%			7024605	7024605-BLK1	02/28/07 17:06
Surrogate: o-Terphenyl	84%			7024605	7024605-BLK1	02/28/07 17:06
Purgeable Petroleum Hydrocarbons						
7025041-BLK1						
GRO as Gasoline	<43.0		ug/L	7025041	7025041-BLK1	02/28/07 20:37
Surrogate: a,a,a-Trifluorotoluene	90%			7025041	7025041-BLK1	02/28/07 20:37
Extractable Petroleum Hydrocarbons with Silica Gel Treatment						
7024681-BLK1						
Diesel	<37.0		ug/L	7024681	7024681-BLK1	02/28/07 15:25
C10 - C40	<33.0		ug/L	7024681	7024681-BLK1	02/28/07 15:25
Surrogate: o-Terphenyl	94%			7024681	7024681-BLK1	02/28/07 15:25
Surrogate: o-Terphenyl	94%			7024681	7024681-BLK1	02/28/07 15:25

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Client	Parson's Engineering (14054)	Work Order:	NQB2770
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	442964.10081
Attn	Satya Varadhi	Received:	02/24/07 07:50

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
7024844-BS1								
Acetone	250	339		ug/L	136%	57 - 160	7024844	02/26/07 17:27
Benzene	50.0	50.7		ug/L	101%	79 - 123	7024844	02/26/07 17:27
Bromobenzene	50.0	54.2		ug/L	108%	71 - 139	7024844	02/26/07 17:27
Bromochloromethane	50.0	58.7		ug/L	117%	80 - 126	7024844	02/26/07 17:27
Bromodichloromethane	50.0	56.7		ug/L	113%	68 - 133	7024844	02/26/07 17:27
Bromoform	50.0	48.7		ug/L	97%	43 - 135	7024844	02/26/07 17:27
Bromomethane	50.0	49.9		ug/L	100%	36 - 171	7024844	02/26/07 17:27
2-Butanone	250	310		ug/L	124%	72 - 138	7024844	02/26/07 17:27
sec-Butylbenzene	50.0	53.4		ug/L	107%	12 - 180	7024844	02/26/07 17:27
n-Butylbenzene	50.0	57.1		ug/L	114%	67 - 139	7024844	02/26/07 17:27
tert-Butylbenzene	50.0	52.7		ug/L	105%	12 - 180	7024844	02/26/07 17:27
Carbon disulfide	50.0	49.1		ug/L	98%	64 - 134	7024844	02/26/07 17:27
Carbon Tetrachloride	50.0	55.6		ug/L	111%	67 - 138	7024844	02/26/07 17:27
Chlorobenzene	50.0	51.2		ug/L	102%	85 - 122	7024844	02/26/07 17:27
Chlorodibromomethane	50.0	50.2		ug/L	100%	68 - 134	7024844	02/26/07 17:27
Chloroethane	50.0	49.5		ug/L	99%	60 - 138	7024844	02/26/07 17:27
Chloroform	50.0	52.7		ug/L	105%	76 - 124	7024844	02/26/07 17:27
Chloromethane	50.0	46.1		ug/L	92%	12 - 180	7024844	02/26/07 17:27
4-Chlorotoluene	50.0	52.0		ug/L	104%	81 - 127	7024844	02/26/07 17:27
2-Chlorotoluene	50.0	52.5		ug/L	105%	81 - 129	7024844	02/26/07 17:27
1,2-Dibromo-3-chloropropane	50.0	57.0		ug/L	114%	56 - 131	7024844	02/26/07 17:27
1,2-Dibromoethane (EDB)	50.0	53.4		ug/L	107%	83 - 128	7024844	02/26/07 17:27
Dibromomethane	50.0	59.6		ug/L	119%	78 - 124	7024844	02/26/07 17:27
1,4-Dichlorobenzene	50.0	52.6		ug/L	105%	80 - 124	7024844	02/26/07 17:27
1,3-Dichlorobenzene	50.0	54.4		ug/L	109%	82 - 127	7024844	02/26/07 17:27
1,2-Dichlorobenzene	50.0	56.5		ug/L	113%	83 - 130	7024844	02/26/07 17:27
Dichlorodifluoromethane	50.0	36.5		ug/L	73%	12 - 149	7024844	02/26/07 17:27
1,2-Dichloroethane	50.0	58.0		ug/L	116%	71 - 132	7024844	02/26/07 17:27
1,1-Dichloroethane	50.0	51.0		ug/L	102%	77 - 127	7024844	02/26/07 17:27
cis-1,2-Dichloroethene	50.0	52.8		ug/L	106%	77 - 126	7024844	02/26/07 17:27
1,1-Dichloroethene	50.0	52.7		ug/L	105%	73 - 129	7024844	02/26/07 17:27
trans-1,2-Dichloroethene	50.0	52.0		ug/L	104%	76 - 129	7024844	02/26/07 17:27
2,2-Dichloropropane	50.0	57.3		ug/L	115%	45 - 139	7024844	02/26/07 17:27
1,3-Dichloropropane	50.0	55.4		ug/L	111%	79 - 130	7024844	02/26/07 17:27
1,2-Dichloropropane	50.0	49.9		ug/L	100%	72 - 124	7024844	02/26/07 17:27
trans-1,3-Dichloropropene	50.0	60.8		ug/L	122%	64 - 127	7024844	02/26/07 17:27
cis-1,3-Dichloropropene	50.0	55.1		ug/L	110%	70 - 130	7024844	02/26/07 17:27
1,1-Dichloropropene	50.0	51.7		ug/L	103%	80 - 133	7024844	02/26/07 17:27
Ethylbenzene	50.0	49.9		ug/L	100%	83 - 125	7024844	02/26/07 17:27
Hexachlorobutadiene	50.0	55.0		ug/L	110%	63 - 135	7024844	02/26/07 17:27
2-Hexanone	250	276		ug/L	110%	67 - 141	7024844	02/26/07 17:27

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Client	Parson's Engineering (14054)	Work Order:	NQB2770
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	442964.10081
Attn	Satya Varadhi	Received:	02/24/07 07:50

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
7024844-BS1								
Isopropylbenzene	50.0	48.7		ug/L	97%	73 - 126	7024844	02/26/07 17:27
Diisopropyl Ether	50.0	50.7		ug/L	101%	70 - 128	7024844	02/26/07 17:27
Methyl tert-Butyl Ether	50.0	53.4		ug/L	107%	64 - 129	7024844	02/26/07 17:27
Methylene Chloride	50.0	55.3		ug/L	111%	81 - 128	7024844	02/26/07 17:27
4-Methyl-2-pentanone	250	289		ug/L	116%	73 - 136	7024844	02/26/07 17:27
Styrene	50.0	64.6		ug/L	129%	82 - 136	7024844	02/26/07 17:27
1,1,1,2-Tetrachloroethane	50.0	56.4		ug/L	113%	79 - 130	7024844	02/26/07 17:27
1,1,2,2-Tetrachloroethane	50.0	62.5		ug/L	125%	70 - 137	7024844	02/26/07 17:27
Tetrachloroethene	50.0	48.0		ug/L	96%	76 - 127	7024844	02/26/07 17:27
Toluene	50.0	48.7		ug/L	97%	77 - 126	7024844	02/26/07 17:27
1,2,4-Trichlorobenzene	50.0	56.4		ug/L	113%	64 - 134	7024844	02/26/07 17:27
1,2,3-Trichlorobenzene	50.0	60.8		ug/L	122%	64 - 133	7024844	02/26/07 17:27
1,1,2-Trichloroethane	50.0	55.4		ug/L	111%	78 - 128	7024844	02/26/07 17:27
1,1,1-Trichloroethane	50.0	53.9		ug/L	108%	73 - 130	7024844	02/26/07 17:27
Trichloroethene	50.0	51.8		ug/L	104%	80 - 128	7024844	02/26/07 17:27
Trichlorofluoromethane	50.0	46.9		ug/L	94%	62 - 133	7024844	02/26/07 17:27
1,2,3-Trichloropropane	50.0	50.6		ug/L	101%	50 - 153	7024844	02/26/07 17:27
1,3,5-Trimethylbenzene	50.0	52.9		ug/L	106%	79 - 129	7024844	02/26/07 17:27
Vinyl chloride	50.0	47.3		ug/L	95%	61 - 131	7024844	02/26/07 17:27
Xylenes, total	150	149		ug/L	99%	78 - 130	7024844	02/26/07 17:27
1,2,4-Trimethylbenzene	50.0	52.1		ug/L	104%	78 - 130	7024844	02/26/07 17:27
Naphthalene	50.0	69.7	L	ug/L	139%	66 - 137	7024844	02/26/07 17:27
p-Isopropyltoluene	50.0	52.5		ug/L	105%	74 - 131	7024844	02/26/07 17:27
n-Propylbenzene	50.0	52.9		ug/L	106%	76 - 132	7024844	02/26/07 17:27
Surrogate: 1,2-Dichloroethane-d4	25.0	25.9			104%	62 - 142	7024844	02/26/07 17:27
Surrogate: Dibromofluoromethane	25.0	24.7			99%	78 - 123	7024844	02/26/07 17:27
Surrogate: Toluene-d8	25.0	23.4			94%	79 - 120	7024844	02/26/07 17:27
Surrogate: 4-Bromofluorobenzene	25.0	24.1			96%	75 - 133	7024844	02/26/07 17:27
Polyaromatic Hydrocarbons by EPA 8270C SIM								
7024382-BS1								
Acenaphthene	1.00	0.860	MNR1	ug/L	86%	48 - 133	7024382	02/27/07 10:17
Acenaphthylene	1.00	0.900	MNR1	ug/L	90%	49 - 139	7024382	02/27/07 10:17
Anthracene	1.00	1.05	MNR1	ug/L	105%	55 - 146	7024382	02/27/07 10:17
Benzo (a) anthracene	1.00	1.12	MNR1	ug/L	112%	54 - 143	7024382	02/27/07 10:17
Benzo (a) pyrene	1.00	1.02	MNR1	ug/L	102%	47 - 140	7024382	02/27/07 10:17
Benzo (b) fluoranthene	1.00	1.05	MNR1	ug/L	105%	56 - 142	7024382	02/27/07 10:17
Benzo (g,h,i) perylene	1.00	1.16	MNR1	ug/L	116%	39 - 142	7024382	02/27/07 10:17
Benzo (k) fluoranthene	1.00	1.11	MNR1	ug/L	111%	54 - 147	7024382	02/27/07 10:17
Chrysene	1.00	1.05	MNR1	ug/L	105%	60 - 145	7024382	02/27/07 10:17
Dibenz (a,h) anthracene	1.00	1.12	MNR1	ug/L	112%	35 - 146	7024382	02/27/07 10:17

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ANALYTICAL TESTING CORPORATION
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Client	Parson's Engineering (14054)	Work Order:	NQB2770
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	442964.10081
Attn	Satya Varadhi	Received:	02/24/07 07:50

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM								
7024382-BS1								
Fluoranthene	1.00	1.15	MNR1	ug/L	115%	56 - 135	7024382	02/27/07 10:17
Fluorene	1.00	0.930	MNR1	ug/L	93%	52 - 141	7024382	02/27/07 10:17
Indeno (1,2,3-cd) pyrene	1.00	1.09	MNR1	ug/L	109%	41 - 139	7024382	02/27/07 10:17
1-Methylnaphthalene	1.01	0.780	MNR1	ug/L	77%	42 - 130	7024382	02/27/07 10:17
2-Methylnaphthalene	1.00	0.810	MNR1	ug/L	81%	46 - 136	7024382	02/27/07 10:17
Naphthalene	1.00	0.790	MNR1	ug/L	79%	47 - 129	7024382	02/27/07 10:17
Phenanthrene	1.00	0.920	MNR1	ug/L	92%	50 - 133	7024382	02/27/07 10:17
Pyrene	1.00	1.08	MNR1	ug/L	108%	56 - 140	7024382	02/27/07 10:17
Surrogate: Nitrobenzene-d5	1.00	0.940			94%	24 - 125	7024382	02/27/07 10:17
Surrogate: 2-Fluorobiphenyl	1.00	0.870			87%	30 - 120	7024382	02/27/07 10:17
Surrogate: Terphenyl-d14	1.00	1.10			110%	29 - 149	7024382	02/27/07 10:17
Extractable Petroleum Hydrocarbons								
7024605-BS1								
Diesel	1000	900		ug/L	90%	38 - 123	7024605	02/28/07 17:23
Diesel	1000	900		ug/L	90%	38 - 123	7024605	02/28/07 17:23
Surrogate: o-Terphenyl	20.0	20.5			102%	33 - 147	7024605	02/28/07 17:23
Surrogate: o-Terphenyl	20.0	20.5			102%	33 - 147	7024605	02/28/07 17:23
Purgeable Petroleum Hydrocarbons								
7025041-BS1								
GRO as Gasoline	1000	826		ug/L	83%	58 - 138	7025041	02/28/07 11:40
Surrogate: a,a,a-Trifluorotoluene	30.0	33.7			112%	44 - 152	7025041	02/28/07 11:40
Extractable Petroleum Hydrocarbons with Silica Gel Treatment								
7024681-BS1								
Diesel	1000	946		ug/L	95%	38 - 123	7024681	02/28/07 15:42
Surrogate: o-Terphenyl	20.0	21.5			108%	55 - 150	7024681	02/28/07 15:42
Surrogate: o-Terphenyl	20.0	21.5			108%	33 - 147	7024681	02/28/07 15:42

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQB2770
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	442964.10081
Attn	Satya Varadhi	Received:	02/24/07 07:50

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Purgeable Petroleum Hydrocarbons										
7025041-MS1										
GRO as Gasoline	14.2	846		ug/L	1000	83%	34 - 201	7025041	NQB2324-01	03/01/07 10:48
Surrogate: a,a,a-Trifluorotoluene		32.3		ug/L	30.0	108%	44 - 152	7025041	NQB2324-01	03/01/07 10:48

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQB2770
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	442964.10081
Attn	Satya Varadhi	Received:	02/24/07 07:50

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Purgeable Petroleum Hydrocarbons												
7025041-MSD1												
GRO as Gasoline	14.2	848		ug/L	1000	83%	34 - 201	0.2	28	7025041	NQB2324-01	03/01/07 11:15
Surrogate: a,a,a-Trifluorotoluene		31.5		ug/L	30.0	105%	44 - 152			7025041	NQB2324-01	03/01/07 11:15

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQB2770
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	442964.10081
Attn	Satya Varadhi	Received:	02/24/07 07:50

CERTIFICATION SUMMARY

TestAmerica - Nashville, TN

Method	Matrix	AIHA	Nelac	California
8015B Mod.	Water			
SW846 8015B	Water	N/A	X	X
SW846 8260B	Water	N/A	X	X
SW846 8270CSIM	Water	N/A	X	X

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ANALYTICAL TESTING CORPORATION
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Client	Parson's Engineering (14054)	Work Order:	NQB2770
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	442964.10081
Attn	Satya Varadhi	Received:	02/24/07 07:50

NELAC CERTIFICATION SUMMARY

TestAmerica Analytical - Nashville does not hold NELAC certifications for the following analytes included in this report

Method	Matrix	Analyte
8015B Mod.	Water	C10 - C40

TestAmerica
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Client	Parson's Engineering (14054)	Work Order:	NQB2770
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	442964.10081
Attn	Satya Varadhi	Received:	02/24/07 07:50

DATA QUALIFIERS AND DEFINITIONS

A-01	Data reported is for range C10 - C25
A-01a	Data Reported is for range C25 to C40
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
L	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.
MNR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike.
QSG	Silica Gel clean-up performed on extracts.

METHOD MODIFICATION NOTES

TestAmerica
ANALYTICAL TESTING CORPORATION

NQB2770

Nashville Division
COOLER RECEIPT FORM BC#

Cooler Received/Opened On 2/24/07 @ 7:50

1. Indicate the Airbill Tracking Number (last 4 digits for Fedex only) and Name of Courier below: 2720

Fed-Ex UPS Velocity DHL Route Off-street Misc.

2. Temperature of representative sample or temperature blank when opened: 2.3 **Degrees Celsius**
(indicate IR Gun ID#)

NA A00466 A00750 A01124 100190 101282 10594 90942856

3. Were custody seals on outside of cooler?..... YES...NO....NA

a. If yes, how many and where:_____

4. Were the seals intact, signed, and dated correctly?..... YES....NO...NA

5. Were custody papers inside cooler?..... YES...NO...NA

I certify that I opened the cooler and answered questions 1-5 (intial)..... JR

6. Were custody seals on containers: YES NO and Intact YES NO NA

were these signed, and dated correctly?..... YES...NO...NA

7. What kind of packing material used? Bubblewrap Peanuts Vermiculite Foam Insert Plastic bag Paper Other_____ None

8. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

9. Did all containers arrive in good condition (unbroken)?..... YES...NO...NA

10. Were all container labels complete (#, date, signed, pres., etc)?..... YES...NO...NA

11. Did all container labels and tags agree with custody papers?..... YES...NO...NA

12. a. Were VOA vials received?..... YES...NO...NA

b. Was there any observable head space present in any VOA vial?..... YES...NO...NA

I certify that I unloaded the cooler and answered questions 6-12 (intial)..... JR

13. a. On preserved bottles did the pH test strips suggest that preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used..... YES...NO...NA

If preservation in-house was needed, record standard ID of preservative used here_____

14. Was residual chlorine present?..... YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 13-14 (intial)..... WS

15. Were custody papers properly filled out (ink, signed, etc)?..... YES...NO...NA

16. Did you sign the custody papers in the appropriate place?..... YES...NO...NA

17. Were correct containers used for the analysis requested?..... YES...NO...NA

18. Was sufficient amount of sample sent in each container?..... YES...NO...NA

I certify that I entered this project into LIMS and answered questions 15-18 (intial)..... WS

I certify that I attached a label with the unique LIMS number to each container (intial)..... WS

19. Were there Non-Conformance issues at login YES NO Was a PIPE generated YES NO #_____

BIS = Broken in shipment

Chevron Analysis Request/Chain of Custody

For Parsons use only
Date Results Received: _____ Requested TAT Met: Yes / No
Parsons PM Signature _____

For Laboratory use only
Acct. #: _____ Sample #: _____ SCR#: _____

PARSONS

Project Mgr.: Satya Varadhi
Project Name: Chevron Avila Terminal Cliff Springs, Avila Beach, CA
Project Charge Code: 442964.10081
Sampler: AH / SU
Report To: Satya Varadhi, Parsons San Luis Obispo
State of Origin: California

Analyses Requested — List total number of containers in the box under each analysis.

Preservation Codes

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☑ J value reporting needed.
* Specify special detection limits/reporting lists below.
TPH = 50 ppb
PAHs = 0.5 ppb
Metals = 1.0 ppb
VOCs = 0.5 ppb
MTBE = 1.0 ppb

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Oil ☐ Air ☐	Total Number of Containers	VOCs (8260)	TPH-gas (C4-C10) – 8015M (GC/MS)	TPH-diesel (C10-C25) – 3510 (GC/MS)	TPH-crude (C25-C40) – 3510 (GC/MS)	Silica gel cleanup	PAHs (8270 SIM) HOLD
-01 TRIP BLANK	2/23/07	0800				X		1	X	→	→	→	→	→
-02 AT-CS-B	" " "	0900	X			X		10	X	X	X	X	X	X

Perform PAH analysis if ~~TPH-crude or diesel is detected~~

NQB2770
03/07/07 23:59

Turnaround Time Requested (TAT) (please circle)
(STD. TAT) 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / CA Geotracker EDD
WIP (RWQCB) Standard Format
Disk _____ Other.

	Date	Time		Date	Time
Relinquished by: Field Sampler Alex Hastig	2/23/07	1130	Received by: Brian Eyestone	2/23/07	1130
Relinquished by: Brian Eyestone	2/23/07	1400	Received by: FedEx	2/25/07	1400
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by Commercial Carrier: UPS (FedEx) Other _____			Received by:	Date 2/24/07	Time 7:50
Temperature Upon Receipt 2-3 C°			Custody Seals Intact? Yes (No)		

6/4/01

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

April 09, 2007 5:52:01PM

Client: Parson's Engineering (14054)
1150 Laurel Lane, Ste 190
San Luis Obispo, CA 93401
Attn: Satya Varadhi

Work Order: NQC3393
Project Name: Avila Beach Terminal
Project Nbr: NWABN-00021-001
P/O Nbr:
Date Received: 03/24/07

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
Trip Blank	NQC3393-01	03/23/07 00:01
AT-CS-B	NQC3393-02	03/23/07 08:00

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.
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California Certification Number: 01168CA

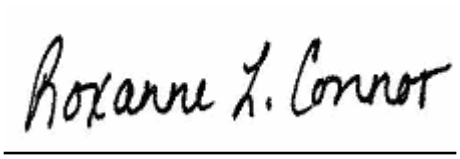
The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

Estimated uncertainity is available upon request.

This report has been electronically signed.

Report Approved By:



Roxanne Connor

Program Manager - Conventional Accounts

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client Parson's Engineering (14054)
1150 Laurel Lane, Ste 190
San Luis Obispo, CA 93401
Attn Satya Varadhi

Work Order: NQC3393
Project Name: Avila Beach Terminal
Project Number: NWABN-00021-001
Received: 03/24/07 08:00

ANALYTICAL REPORT

Sample ID: NQC3393-01 (Trip Blank - Water) Sampled: 03/23/07 00:01

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Acetone	**4.07**	J	ug/L	3.96	50.0	1	03/31/07 18:50	SW846 8260B	7040230
Benzene	ND		ug/L	0.170	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Bromobenzene	ND		ug/L	0.350	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Bromochloromethane	ND		ug/L	0.400	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Bromodichloromethane	ND		ug/L	0.150	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Bromoform	ND		ug/L	0.290	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Bromomethane	ND		ug/L	0.270	0.500	1	03/31/07 18:50	SW846 8260B	7040230
2-Butanone	ND		ug/L	2.76	50.0	1	03/31/07 18:50	SW846 8260B	7040230
sec-Butylbenzene	ND		ug/L	0.160	0.500	1	03/31/07 18:50	SW846 8260B	7040230
n-Butylbenzene	ND		ug/L	0.210	0.500	1	03/31/07 18:50	SW846 8260B	7040230
tert-Butylbenzene	ND		ug/L	0.220	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Carbon disulfide	ND		ug/L	0.180	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Carbon Tetrachloride	ND		ug/L	0.220	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Chlorobenzene	ND		ug/L	0.120	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Chlorodibromomethane	ND		ug/L	0.230	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Chloroethane	ND		ug/L	0.190	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Chloroform	ND		ug/L	0.270	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Chloromethane	ND		ug/L	0.260	0.500	1	03/31/07 18:50	SW846 8260B	7040230
4-Chlorotoluene	ND		ug/L	0.190	0.500	1	03/31/07 18:50	SW846 8260B	7040230
2-Chlorotoluene	ND		ug/L	0.130	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,2-Dibromo-3-chloropropane	ND		ug/L	0.880	1.00	1	03/31/07 18:50	SW846 8260B	7040230
1,2-Dibromoethane (EDB)	ND		ug/L	0.320	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Dibromomethane	ND		ug/L	0.230	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,4-Dichlorobenzene	ND		ug/L	0.150	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,3-Dichlorobenzene	ND		ug/L	0.160	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,2-Dichlorobenzene	ND		ug/L	0.150	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Dichlorodifluoromethane	ND		ug/L	0.140	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,2-Dichloroethane	ND		ug/L	0.370	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,1-Dichloroethane	ND		ug/L	0.130	0.500	1	03/31/07 18:50	SW846 8260B	7040230
cis-1,2-Dichloroethene	ND		ug/L	0.160	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,1-Dichloroethene	ND		ug/L	0.270	0.500	1	03/31/07 18:50	SW846 8260B	7040230
trans-1,2-Dichloroethene	ND		ug/L	0.200	0.500	1	03/31/07 18:50	SW846 8260B	7040230
2,2-Dichloropropane	ND		ug/L	0.190	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,3-Dichloropropane	ND		ug/L	0.100	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,2-Dichloropropane	ND		ug/L	0.200	0.500	1	03/31/07 18:50	SW846 8260B	7040230
trans-1,3-Dichloropropene	ND		ug/L	0.230	0.500	1	03/31/07 18:50	SW846 8260B	7040230
cis-1,3-Dichloropropene	ND		ug/L	0.270	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,1-Dichloropropene	ND		ug/L	0.160	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Ethylbenzene	ND		ug/L	0.230	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Hexachlorobutadiene	ND		ug/L	0.360	1.00	1	03/31/07 18:50	SW846 8260B	7040230
2-Hexanone	ND		ug/L	1.11	10.0	1	03/31/07 18:50	SW846 8260B	7040230
Isopropylbenzene	ND		ug/L	0.230	1.00	1	03/31/07 18:50	SW846 8260B	7040230
Diisopropyl Ether	ND		ug/L	0.210	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Methyl tert-Butyl Ether	ND		ug/L	0.190	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Methylene Chloride	ND		ug/L	0.330	5.00	1	03/31/07 18:50	SW846 8260B	7040230

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQC3393
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NQC3393-01 (Trip Blank - Water) - cont. Sampled: 03/23/07 00:01									
Volatile Organic Compounds by EPA Method 8260B - cont.									
4-Methyl-2-pentanone	ND		ug/L	1.53	10.0	1	03/31/07 18:50	SW846 8260B	7040230
Styrene	ND		ug/L	0.140	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,1,1,2-Tetrachloroethane	ND		ug/L	0.220	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,1,2,2-Tetrachloroethane	ND		ug/L	0.120	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Tetrachloroethene	ND		ug/L	0.220	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Toluene	ND		ug/L	0.220	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,2,4-Trichlorobenzene	ND		ug/L	0.240	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,2,3-Trichlorobenzene	ND		ug/L	0.210	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,1,2-Trichloroethane	ND		ug/L	0.270	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,1,1-Trichloroethane	ND		ug/L	0.160	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Trichloroethene	ND		ug/L	0.170	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Trichlorofluoromethane	ND		ug/L	0.110	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,2,3-Trichloropropane	ND		ug/L	0.240	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,3,5-Trimethylbenzene	ND		ug/L	0.240	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Vinyl chloride	ND		ug/L	0.200	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Xylenes, total	ND		ug/L	0.320	0.500	1	03/31/07 18:50	SW846 8260B	7040230
1,2,4-Trimethylbenzene	ND		ug/L	0.180	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Naphthalene	ND		ug/L	0.650	5.00	1	03/31/07 18:50	SW846 8260B	7040230
p-Isopropyltoluene	ND		ug/L	0.140	0.500	1	03/31/07 18:50	SW846 8260B	7040230
n-Propylbenzene	ND		ug/L	0.180	0.500	1	03/31/07 18:50	SW846 8260B	7040230
Surr: 1,2-Dichloroethane-d4 (62-142%)	*101 %*					*1*	*03/31/07 18:50*	*SW846 8260B*	*7040230*
Surr: Dibromofluoromethane (78-123%)	*99 %*					*1*	*03/31/07 18:50*	*SW846 8260B*	*7040230*
Surr: Toluene-d8 (79-120%)	*104 %*					*1*	*03/31/07 18:50*	*SW846 8260B*	*7040230*
Surr: 4-Bromofluorobenzene (75-133%)	*105 %*					*1*	*03/31/07 18:50*	*SW846 8260B*	*7040230*
Sample ID: NQC3393-02 (AT-CS-B - Water) Sampled: 03/23/07 08:00									
Volatile Organic Compounds by EPA Method 8260B									
Acetone	ND		ug/L	3.96	50.0	1	03/31/07 16:39	SW846 8260B	7040230
Benzene	ND		ug/L	0.170	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Bromobenzene	ND		ug/L	0.350	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Bromochloromethane	ND		ug/L	0.400	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Bromodichloromethane	ND		ug/L	0.150	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Bromoform	ND		ug/L	0.290	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Bromomethane	ND		ug/L	0.270	0.500	1	03/31/07 16:39	SW846 8260B	7040230
2-Butanone	ND		ug/L	2.76	50.0	1	03/31/07 16:39	SW846 8260B	7040230
sec-Butylbenzene	ND		ug/L	0.160	0.500	1	03/31/07 16:39	SW846 8260B	7040230
n-Butylbenzene	ND		ug/L	0.210	0.500	1	03/31/07 16:39	SW846 8260B	7040230
tert-Butylbenzene	ND		ug/L	0.220	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Carbon disulfide	ND		ug/L	0.180	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Carbon Tetrachloride	ND		ug/L	0.220	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Chlorobenzene	ND		ug/L	0.120	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Chlorodibromomethane	ND		ug/L	0.230	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Chloroethane	ND		ug/L	0.190	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Chloroform	ND		ug/L	0.270	0.500	1	03/31/07 16:39	SW846 8260B	7040230

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQC3393
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NQC3393-02 (AT-CS-B - Water) - cont. Sampled: 03/23/07 08:00									
Volatile Organic Compounds by EPA Method 8260B - cont.									
Chloromethane	ND		ug/L	0.260	0.500	1	03/31/07 16:39	SW846 8260B	7040230
4-Chlorotoluene	ND		ug/L	0.190	0.500	1	03/31/07 16:39	SW846 8260B	7040230
2-Chlorotoluene	ND		ug/L	0.130	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,2-Dibromo-3-chloropropane	ND		ug/L	0.880	1.00	1	03/31/07 16:39	SW846 8260B	7040230
1,2-Dibromoethane (EDB)	ND		ug/L	0.320	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Dibromomethane	ND		ug/L	0.230	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,4-Dichlorobenzene	ND		ug/L	0.150	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,3-Dichlorobenzene	ND		ug/L	0.160	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,2-Dichlorobenzene	ND		ug/L	0.150	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Dichlorodifluoromethane	ND		ug/L	0.140	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,2-Dichloroethane	ND		ug/L	0.370	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,1-Dichloroethane	ND		ug/L	0.130	0.500	1	03/31/07 16:39	SW846 8260B	7040230
cis-1,2-Dichloroethene	ND		ug/L	0.160	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,1-Dichloroethene	ND		ug/L	0.270	0.500	1	03/31/07 16:39	SW846 8260B	7040230
trans-1,2-Dichloroethene	ND		ug/L	0.200	0.500	1	03/31/07 16:39	SW846 8260B	7040230
2,2-Dichloropropane	ND		ug/L	0.190	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,3-Dichloropropane	ND		ug/L	0.100	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,2-Dichloropropane	ND		ug/L	0.200	0.500	1	03/31/07 16:39	SW846 8260B	7040230
trans-1,3-Dichloropropene	ND		ug/L	0.230	0.500	1	03/31/07 16:39	SW846 8260B	7040230
cis-1,3-Dichloropropene	ND		ug/L	0.270	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,1-Dichloropropene	ND		ug/L	0.160	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Ethylbenzene	ND		ug/L	0.230	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Hexachlorobutadiene	ND		ug/L	0.360	1.00	1	03/31/07 16:39	SW846 8260B	7040230
2-Hexanone	ND		ug/L	1.11	10.0	1	03/31/07 16:39	SW846 8260B	7040230
Isopropylbenzene	ND		ug/L	0.230	1.00	1	03/31/07 16:39	SW846 8260B	7040230
Diisopropyl Ether	ND		ug/L	0.210	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Methyl tert-Butyl Ether	ND		ug/L	0.190	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Methylene Chloride	ND		ug/L	0.330	5.00	1	03/31/07 16:39	SW846 8260B	7040230
4-Methyl-2-pentanone	ND		ug/L	1.53	10.0	1	03/31/07 16:39	SW846 8260B	7040230
Styrene	ND		ug/L	0.140	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,1,1,2-Tetrachloroethane	ND		ug/L	0.220	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,1,2,2-Tetrachloroethane	ND		ug/L	0.120	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Tetrachloroethene	ND		ug/L	0.220	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Toluene	ND		ug/L	0.220	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,2,4-Trichlorobenzene	ND		ug/L	0.240	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,2,3-Trichlorobenzene	ND		ug/L	0.210	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,1,2-Trichloroethane	ND		ug/L	0.270	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,1,1-Trichloroethane	ND		ug/L	0.160	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Trichloroethene	ND		ug/L	0.170	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Trichlorofluoromethane	ND		ug/L	0.110	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,2,3-Trichloropropane	ND		ug/L	0.240	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,3,5-Trimethylbenzene	ND		ug/L	0.240	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Vinyl chloride	ND		ug/L	0.200	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Xylenes, total	ND		ug/L	0.320	0.500	1	03/31/07 16:39	SW846 8260B	7040230
1,2,4-Trimethylbenzene	ND		ug/L	0.180	0.500	1	03/31/07 16:39	SW846 8260B	7040230

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQC3393
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NQC3393-02 (AT-CS-B - Water) - cont. Sampled: 03/23/07 08:00									
Volatile Organic Compounds by EPA Method 8260B - cont.									
Naphthalene	ND		ug/L	0.650	5.00	1	03/31/07 16:39	SW846 8260B	7040230
p-Isopropyltoluene	ND		ug/L	0.140	0.500	1	03/31/07 16:39	SW846 8260B	7040230
n-Propylbenzene	ND		ug/L	0.180	0.500	1	03/31/07 16:39	SW846 8260B	7040230
Surr: 1,2-Dichloroethane-d4 (62-142%)	*101 %*					*1*	*03/31/07 16:39*	*SW846 8260B*	*7040230*
Surr: Dibromofluoromethane (78-123%)	*98 %*					*1*	*03/31/07 16:39*	*SW846 8260B*	*7040230*
Surr: Toluene-d8 (79-120%)	*102 %*					*1*	*03/31/07 16:39*	*SW846 8260B*	*7040230*
Surr: 4-Bromofluorobenzene (75-133%)	*107 %*					*1*	*03/31/07 16:39*	*SW846 8260B*	*7040230*
Polyaromatic Hydrocarbons by EPA 8270C SIM									
Acenaphthene	ND		ug/L	0.0398	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
Acenaphthylene	ND		ug/L	0.0246	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
Anthracene	ND		ug/L	0.0398	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
Benzo (a) anthracene	ND		ug/L	0.0322	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
Benzo (a) pyrene	ND		ug/L	0.0246	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
Benzo (b) fluoranthene	ND		ug/L	0.0237	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
Benzo (g,h,i) perylene	ND		ug/L	0.0237	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
Benzo (k) fluoranthene	ND		ug/L	0.0237	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
Chrysene	ND		ug/L	0.0332	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
Dibenz (a,h) anthracene	ND		ug/L	0.0294	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
Fluoranthene	ND		ug/L	0.0341	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
Fluorene	ND		ug/L	0.0341	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
Indeno (1,2,3-cd) pyrene	ND		ug/L	0.0237	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
1-Methylnaphthalene	ND		ug/L	0.0408	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
2-Methylnaphthalene	ND		ug/L	0.0768	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
Naphthalene	**0.303**		ug/L	0.0370	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
Phenanthrene	ND		ug/L	0.0578	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
Pyrene	ND		ug/L	0.0322	0.0948	1	04/01/07 14:14	SW846 8270CSIM	7034535
Surr: Nitrobenzene-d5 (24-125%)	*89 %*					*1*	*04/01/07 14:14*	*SW846 8270CSIM*	*7034535*
Surr: 2-Fluorobiphenyl (30-120%)	*55 %*					*1*	*04/01/07 14:14*	*SW846 8270CSIM*	*7034535*
Surr: Terphenyl-d14 (29-149%)	*73 %*					*1*	*04/01/07 14:14*	*SW846 8270CSIM*	*7034535*
Extractable Petroleum Hydrocarbons									
TPH - Oil Range	**53.6**	A-01a, J	ug/L	35.1	94.8	1	03/27/07 16:55	SW846 8015B	7034732
Diesel	**306**	A-01	ug/L	35.1	94.8	1	03/27/07 16:55	SW846 8015B	7034732
Surr: o-Terphenyl (33-147%)	*81 %*					*1*	*03/27/07 16:55*	*SW846 8015B*	*7034732*
Purgeable Petroleum Hydrocarbons									
GRO as Gasoline	ND		ug/L	43.0	50.0	1	03/30/07 04:53	SW846 8015B	7035323
Surr: a,a,a-Trifluorotoluene (44-152%)	*107 %*					*1*	*03/30/07 04:53*	*SW846 8015B*	*7035323*
Extractable Petroleum Hydrocarbons with Silica Gel Treatment									
Diesel	**338**	A-01, QSG	ug/L	35.2	95.2	1	03/28/07 15:55	SW846 8015B	7034528
C10 - C40	**43.8**	A-01a, QSG, J	ug/L	31.4	95.2	1	03/28/07 15:55	8015B Mod.	7034528
Surr: o-Terphenyl (33-147%)	*87 %*					*1*	*03/28/07 15:55*	*SW846 8015B*	*7034528*

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Client	Parson's Engineering (14054)	Work Order:	NQC3393
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Extractable Petroleum Hydrocarbons							
SW846 8015B	7034732	NQC3393-02	1055.00	1.00	03/26/07 12:30	MSR	EPA 3510C
SW846 8015B	7034732	NQC3393-02	1055.00	1.00	03/26/07 12:30	MSR	EPA 3510C
Extractable Petroleum Hydrocarbons with Silica Gel Treatment							
8015B Mod.	7034528	NQC3393-02	1050.00	1.00	03/27/07 12:30	BJM	EPA 3510C
SW846 8015B	7034528	NQC3393-02	1050.00	1.00	03/27/07 12:30	BJM	EPA 3510C
Polyaromatic Hydrocarbons by EPA 8270C SIM							
SW846 8270CSIM	7034535	NQC3393-02	1055.00	1.00	03/27/07 10:15	AJR	EPA 3510C

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	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
7040230-BLK1						
Acetone	<3.96		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Benzene	<0.170		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Bromobenzene	<0.350		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Bromochloromethane	<0.400		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Bromodichloromethane	<0.150		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Bromoform	<0.290		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Bromomethane	<0.270		ug/L	7040230	7040230-BLK1	03/31/07 16:13
2-Butanone	<2.76		ug/L	7040230	7040230-BLK1	03/31/07 16:13
sec-Butylbenzene	<0.160		ug/L	7040230	7040230-BLK1	03/31/07 16:13
n-Butylbenzene	<0.210		ug/L	7040230	7040230-BLK1	03/31/07 16:13
tert-Butylbenzene	<0.220		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Carbon disulfide	<0.180		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Carbon Tetrachloride	<0.220		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Chlorobenzene	<0.120		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Chlorodibromomethane	<0.230		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Chloroethane	<0.190		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Chloroform	<0.270		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Chloromethane	<0.260		ug/L	7040230	7040230-BLK1	03/31/07 16:13
4-Chlorotoluene	<0.190		ug/L	7040230	7040230-BLK1	03/31/07 16:13
2-Chlorotoluene	<0.130		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,2-Dibromo-3-chloropropane	<0.880		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,2-Dibromoethane (EDB)	<0.320		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Dibromomethane	<0.230		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,4-Dichlorobenzene	<0.150		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,3-Dichlorobenzene	<0.160		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,2-Dichlorobenzene	<0.150		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Dichlorodifluoromethane	<0.140		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,2-Dichloroethane	<0.370		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,1-Dichloroethane	<0.130		ug/L	7040230	7040230-BLK1	03/31/07 16:13
cis-1,2-Dichloroethene	<0.160		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,1-Dichloroethene	<0.270		ug/L	7040230	7040230-BLK1	03/31/07 16:13
trans-1,2-Dichloroethene	<0.200		ug/L	7040230	7040230-BLK1	03/31/07 16:13
2,2-Dichloropropane	<0.190		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,3-Dichloropropane	<0.100		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,2-Dichloropropane	<0.200		ug/L	7040230	7040230-BLK1	03/31/07 16:13
trans-1,3-Dichloropropene	<0.230		ug/L	7040230	7040230-BLK1	03/31/07 16:13
cis-1,3-Dichloropropene	<0.270		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,1-Dichloropropene	<0.160		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Ethylbenzene	<0.230		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Hexachlorobutadiene	<0.360		ug/L	7040230	7040230-BLK1	03/31/07 16:13
2-Hexanone	<1.11		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Isopropylbenzene	<0.230		ug/L	7040230	7040230-BLK1	03/31/07 16:13

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Client	Parson's Engineering (14054)	Work Order:	NQC3393
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
7040230-BLK1						
Diisopropyl Ether	<0.210		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Methyl tert-Butyl Ether	<0.190		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Methylene Chloride	3.02	J	ug/L	7040230	7040230-BLK1	03/31/07 16:13
4-Methyl-2-pentanone	<1.53		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Styrene	<0.140		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,1,1,2-Tetrachloroethane	<0.220		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,1,2,2-Tetrachloroethane	<0.120		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Tetrachloroethene	<0.220		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Toluene	<0.220		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,2,4-Trichlorobenzene	<0.240		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,2,3-Trichlorobenzene	<0.210		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,1,2-Trichloroethane	<0.270		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,1,1-Trichloroethane	<0.160		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Trichloroethene	<0.170		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Trichlorofluoromethane	<0.110		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,2,3-Trichloropropane	<0.240		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,3,5-Trimethylbenzene	<0.240		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Vinyl chloride	<0.200		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Xylenes, total	<0.320		ug/L	7040230	7040230-BLK1	03/31/07 16:13
1,2,4-Trimethylbenzene	<0.180		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Naphthalene	<0.650		ug/L	7040230	7040230-BLK1	03/31/07 16:13
p-Isopropyltoluene	<0.140		ug/L	7040230	7040230-BLK1	03/31/07 16:13
n-Propylbenzene	<0.180		ug/L	7040230	7040230-BLK1	03/31/07 16:13
Surrogate: 1,2-Dichloroethane-d4	101%			7040230	7040230-BLK1	03/31/07 16:13
Surrogate: Dibromofluoromethane	98%			7040230	7040230-BLK1	03/31/07 16:13
Surrogate: Toluene-d8	101%			7040230	7040230-BLK1	03/31/07 16:13
Surrogate: 4-Bromofluorobenzene	106%			7040230	7040230-BLK1	03/31/07 16:13
Polyaromatic Hydrocarbons by EPA 8270C SIM						
7034535-BLK1						
Acenaphthene	<0.0420		ug/L	7034535	7034535-BLK1	04/01/07 11:05
Acenaphthylene	<0.0260		ug/L	7034535	7034535-BLK1	04/01/07 11:05
Anthracene	<0.0420		ug/L	7034535	7034535-BLK1	04/01/07 11:05
Benzo (a) anthracene	<0.0340		ug/L	7034535	7034535-BLK1	04/01/07 11:05
Benzo (a) pyrene	<0.0260		ug/L	7034535	7034535-BLK1	04/01/07 11:05
Benzo (b) fluoranthene	<0.0250		ug/L	7034535	7034535-BLK1	04/01/07 11:05
Benzo (g,h,i) perylene	<0.0250		ug/L	7034535	7034535-BLK1	04/01/07 11:05
Benzo (k) fluoranthene	<0.0250		ug/L	7034535	7034535-BLK1	04/01/07 11:05
Chrysene	<0.0350		ug/L	7034535	7034535-BLK1	04/01/07 11:05
Dibenz (a,h) anthracene	<0.0310		ug/L	7034535	7034535-BLK1	04/01/07 11:05
Fluoranthene	<0.0360		ug/L	7034535	7034535-BLK1	04/01/07 11:05

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	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM						
7034535-BLK1						
Fluorene	<0.0360		ug/L	7034535	7034535-BLK1	04/01/07 11:05
Indeno (1,2,3-cd) pyrene	<0.0250		ug/L	7034535	7034535-BLK1	04/01/07 11:05
1-Methylnaphthalene	<0.0430		ug/L	7034535	7034535-BLK1	04/01/07 11:05
2-Methylnaphthalene	<0.0810		ug/L	7034535	7034535-BLK1	04/01/07 11:05
Naphthalene	<0.0390		ug/L	7034535	7034535-BLK1	04/01/07 11:05
Phenanthrene	<0.0610		ug/L	7034535	7034535-BLK1	04/01/07 11:05
Pyrene	<0.0340		ug/L	7034535	7034535-BLK1	04/01/07 11:05
Surrogate: Nitrobenzene-d5	104%			7034535	7034535-BLK1	04/01/07 11:05
Surrogate: 2-Fluorobiphenyl	77%			7034535	7034535-BLK1	04/01/07 11:05
Surrogate: Terphenyl-d14	104%			7034535	7034535-BLK1	04/01/07 11:05
Extractable Petroleum Hydrocarbons						
7034732-BLK1						
Diesel	<37.0		ug/L	7034732	7034732-BLK1	03/27/07 15:25
Surrogate: o-Terphenyl	78%			7034732	7034732-BLK1	03/27/07 15:25
Purgeable Petroleum Hydrocarbons						
7035323-BLK1						
GRO as Gasoline	<43.0		ug/L	7035323	7035323-BLK1	03/30/07 03:10
Surrogate: a,a,a-Trifluorotoluene	100%			7035323	7035323-BLK1	03/30/07 03:10
Extractable Petroleum Hydrocarbons with Silica Gel Treatment						
7034528-BLK1						
Diesel	<37.0		ug/L	7034528	7034528-BLK1	03/28/07 14:48
Surrogate: o-Terphenyl	81%			7034528	7034528-BLK1	03/28/07 14:48

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	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
7040230-BS1								
Acetone	250	245		ug/L	98%	57 - 160	7040230	03/31/07 14:54
Benzene	50.0	52.3		ug/L	105%	79 - 123	7040230	03/31/07 14:54
Bromobenzene	50.0	55.3		ug/L	111%	71 - 139	7040230	03/31/07 14:54
Bromochloromethane	50.0	53.4		ug/L	107%	80 - 126	7040230	03/31/07 14:54
Bromodichloromethane	50.0	48.7		ug/L	97%	68 - 133	7040230	03/31/07 14:54
Bromoform	50.0	50.4		ug/L	101%	43 - 135	7040230	03/31/07 14:54
Bromomethane	50.0	52.4		ug/L	105%	36 - 171	7040230	03/31/07 14:54
2-Butanone	250	244		ug/L	98%	72 - 138	7040230	03/31/07 14:54
sec-Butylbenzene	50.0	50.1		ug/L	100%	12 - 180	7040230	03/31/07 14:54
n-Butylbenzene	50.0	50.0		ug/L	100%	67 - 139	7040230	03/31/07 14:54
tert-Butylbenzene	50.0	49.7		ug/L	99%	12 - 180	7040230	03/31/07 14:54
Carbon disulfide	50.0	59.7		ug/L	119%	64 - 134	7040230	03/31/07 14:54
Carbon Tetrachloride	50.0	47.2		ug/L	94%	67 - 138	7040230	03/31/07 14:54
Chlorobenzene	50.0	54.3		ug/L	109%	85 - 122	7040230	03/31/07 14:54
Chlorodibromomethane	50.0	51.0		ug/L	102%	68 - 134	7040230	03/31/07 14:54
Chloroethane	50.0	54.8		ug/L	110%	60 - 138	7040230	03/31/07 14:54
Chloroform	50.0	53.0		ug/L	106%	76 - 124	7040230	03/31/07 14:54
Chloromethane	50.0	47.6		ug/L	95%	12 - 180	7040230	03/31/07 14:54
4-Chlorotoluene	50.0	48.4		ug/L	97%	81 - 127	7040230	03/31/07 14:54
2-Chlorotoluene	50.0	57.6		ug/L	115%	81 - 129	7040230	03/31/07 14:54
1,2-Dibromo-3-chloropropane	50.0	52.4		ug/L	105%	56 - 131	7040230	03/31/07 14:54
1,2-Dibromoethane (EDB)	50.0	58.9		ug/L	118%	83 - 128	7040230	03/31/07 14:54
Dibromomethane	50.0	54.3		ug/L	109%	78 - 124	7040230	03/31/07 14:54
1,4-Dichlorobenzene	50.0	51.8		ug/L	104%	80 - 124	7040230	03/31/07 14:54
1,3-Dichlorobenzene	50.0	54.3		ug/L	109%	82 - 127	7040230	03/31/07 14:54
1,2-Dichlorobenzene	50.0	56.6		ug/L	113%	83 - 130	7040230	03/31/07 14:54
Dichlorodifluoromethane	50.0	53.8		ug/L	108%	12 - 149	7040230	03/31/07 14:54
1,2-Dichloroethane	50.0	52.9		ug/L	106%	71 - 132	7040230	03/31/07 14:54
1,1-Dichloroethane	50.0	53.7		ug/L	107%	77 - 127	7040230	03/31/07 14:54
cis-1,2-Dichloroethene	50.0	55.6		ug/L	111%	77 - 126	7040230	03/31/07 14:54
1,1-Dichloroethene	50.0	57.5		ug/L	115%	73 - 129	7040230	03/31/07 14:54
trans-1,2-Dichloroethene	50.0	55.6		ug/L	111%	76 - 129	7040230	03/31/07 14:54
2,2-Dichloropropane	50.0	49.0		ug/L	98%	45 - 139	7040230	03/31/07 14:54
1,3-Dichloropropane	50.0	56.2		ug/L	112%	79 - 130	7040230	03/31/07 14:54
1,2-Dichloropropane	50.0	51.7		ug/L	103%	72 - 124	7040230	03/31/07 14:54
trans-1,3-Dichloropropene	50.0	51.8		ug/L	104%	64 - 127	7040230	03/31/07 14:54
cis-1,3-Dichloropropene	50.0	52.4		ug/L	105%	70 - 130	7040230	03/31/07 14:54
1,1-Dichloropropene	50.0	47.8		ug/L	96%	80 - 133	7040230	03/31/07 14:54
Ethylbenzene	50.0	51.0		ug/L	102%	83 - 125	7040230	03/31/07 14:54
Hexachlorobutadiene	50.0	54.4		ug/L	109%	63 - 135	7040230	03/31/07 14:54
2-Hexanone	250	259		ug/L	104%	67 - 141	7040230	03/31/07 14:54

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQC3393
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
7040230-BS1								
Isopropylbenzene	50.0	47.6		ug/L	95%	73 - 126	7040230	03/31/07 14:54
Diisopropyl Ether	50.0	55.0		ug/L	110%	70 - 128	7040230	03/31/07 14:54
Methyl tert-Butyl Ether	50.0	45.5		ug/L	91%	64 - 129	7040230	03/31/07 14:54
Methylene Chloride	50.0	53.9		ug/L	108%	81 - 128	7040230	03/31/07 14:54
4-Methyl-2-pentanone	250	260		ug/L	104%	73 - 136	7040230	03/31/07 14:54
Styrene	50.0	55.4		ug/L	111%	82 - 136	7040230	03/31/07 14:54
1,1,1,2-Tetrachloroethane	50.0	50.6		ug/L	101%	79 - 130	7040230	03/31/07 14:54
1,1,2,2-Tetrachloroethane	50.0	55.3		ug/L	111%	70 - 137	7040230	03/31/07 14:54
Tetrachloroethene	50.0	54.2		ug/L	108%	76 - 127	7040230	03/31/07 14:54
Toluene	50.0	56.8		ug/L	114%	77 - 126	7040230	03/31/07 14:54
1,2,4-Trichlorobenzene	50.0	48.9		ug/L	98%	64 - 134	7040230	03/31/07 14:54
1,2,3-Trichlorobenzene	50.0	51.4		ug/L	103%	64 - 133	7040230	03/31/07 14:54
1,1,2-Trichloroethane	50.0	55.2		ug/L	110%	78 - 128	7040230	03/31/07 14:54
1,1,1-Trichloroethane	50.0	54.5		ug/L	109%	73 - 130	7040230	03/31/07 14:54
Trichloroethene	50.0	55.2		ug/L	110%	80 - 128	7040230	03/31/07 14:54
Trichlorofluoromethane	50.0	51.7		ug/L	103%	62 - 133	7040230	03/31/07 14:54
1,2,3-Trichloropropane	50.0	50.2		ug/L	100%	50 - 153	7040230	03/31/07 14:54
1,3,5-Trimethylbenzene	50.0	48.4		ug/L	97%	79 - 129	7040230	03/31/07 14:54
Vinyl chloride	50.0	56.6		ug/L	113%	61 - 131	7040230	03/31/07 14:54
Xylenes, total	150	150		ug/L	100%	78 - 130	7040230	03/31/07 14:54
1,2,4-Trimethylbenzene	50.0	49.8		ug/L	100%	78 - 130	7040230	03/31/07 14:54
Naphthalene	50.0	51.2		ug/L	102%	66 - 137	7040230	03/31/07 14:54
p-Isopropyltoluene	50.0	48.6		ug/L	97%	74 - 131	7040230	03/31/07 14:54
n-Propylbenzene	50.0	50.5		ug/L	101%	76 - 132	7040230	03/31/07 14:54
Surrogate: 1,2-Dichloroethane-d4	50.0	48.5			97%	62 - 142	7040230	03/31/07 14:54
Surrogate: Dibromofluoromethane	50.0	49.6			99%	78 - 123	7040230	03/31/07 14:54
Surrogate: Toluene-d8	50.0	50.5			101%	79 - 120	7040230	03/31/07 14:54
Surrogate: 4-Bromofluorobenzene	50.0	48.8			98%	75 - 133	7040230	03/31/07 14:54
Polyaromatic Hydrocarbons by EPA 8270C SIM								
7034535-BS1								
Acenaphthene	1.00	0.880	MNR1	ug/L	88%	48 - 133	7034535	04/01/07 11:31
Acenaphthylene	1.00	0.940	MNR1	ug/L	94%	49 - 139	7034535	04/01/07 11:31
Anthracene	1.00	1.35	MNR1	ug/L	135%	55 - 146	7034535	04/01/07 11:31
Benzo (a) anthracene	1.00	1.09	MNR1	ug/L	109%	54 - 143	7034535	04/01/07 11:31
Benzo (a) pyrene	1.00	1.04	MNR1	ug/L	104%	47 - 140	7034535	04/01/07 11:31
Benzo (b) fluoranthene	1.00	0.990	MNR1	ug/L	99%	56 - 142	7034535	04/01/07 11:31
Benzo (g,h,i) perylene	1.00	1.07	MNR1	ug/L	107%	39 - 142	7034535	04/01/07 11:31
Benzo (k) fluoranthene	1.00	0.990	MNR1	ug/L	99%	54 - 147	7034535	04/01/07 11:31
Chrysene	1.00	1.02	MNR1	ug/L	102%	60 - 145	7034535	04/01/07 11:31
Dibenz (a,h) anthracene	1.00	1.12	MNR1	ug/L	112%	35 - 146	7034535	04/01/07 11:31

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQC3393
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM								
7034535-BS1								
Fluoranthene	1.00	0.990	MNR1	ug/L	99%	56 - 135	7034535	04/01/07 11:31
Fluorene	1.00	0.920	MNR1	ug/L	92%	52 - 141	7034535	04/01/07 11:31
Indeno (1,2,3-cd) pyrene	1.00	1.03	MNR1	ug/L	103%	41 - 139	7034535	04/01/07 11:31
1-Methylnaphthalene	1.01	1.09	MNR1	ug/L	108%	42 - 130	7034535	04/01/07 11:31
2-Methylnaphthalene	1.00	1.09	MNR1	ug/L	109%	46 - 136	7034535	04/01/07 11:31
Naphthalene	1.00	1.13	MNR1	ug/L	113%	47 - 129	7034535	04/01/07 11:31
Phenanthrene	1.00	0.950	MNR1	ug/L	95%	50 - 133	7034535	04/01/07 11:31
Pyrene	1.00	1.11	MNR1	ug/L	111%	56 - 140	7034535	04/01/07 11:31
Surrogate: Nitrobenzene-d5	1.00	1.31	Z1		131%	24 - 125	7034535	04/01/07 11:31
Surrogate: 2-Fluorobiphenyl	1.00	0.700			70%	30 - 120	7034535	04/01/07 11:31
Surrogate: Terphenyl-d14	1.00	1.00			100%	29 - 149	7034535	04/01/07 11:31
Extractable Petroleum Hydrocarbons								
7034732-BS1								
Diesel	1000	834		ug/L	83%	38 - 123	7034732	03/27/07 15:43
Surrogate: o-Terphenyl	20.0	19.2			96%	33 - 147	7034732	03/27/07 15:43
Purgeable Petroleum Hydrocarbons								
7035323-BS1								
GRO as Gasoline	1000	958		ug/L	96%	58 - 138	7035323	03/30/07 08:46
Surrogate: a,a,a-Trifluorotoluene	30.0	35.0			117%	44 - 152	7035323	03/30/07 08:46
Extractable Petroleum Hydrocarbons with Silica Gel Treatment								
7034528-BS1								
Diesel	1000	780		ug/L	78%	38 - 123	7034528	03/28/07 15:05
Surrogate: o-Terphenyl	20.0	18.9			94%	33 - 147	7034528	03/28/07 15:05

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQC3393
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM												
7034535-BSD1												
Acenaphthene		0.880		ug/L	1.00	88%	48 - 133	0	32	7034535		04/01/07 11:58
Acenaphthylene		0.920		ug/L	1.00	92%	49 - 139	2	34	7034535		04/01/07 11:58
Anthracene		1.35		ug/L	1.00	135%	55 - 146	0	50	7034535		04/01/07 11:58
Benzo (a) anthracene		1.13		ug/L	1.00	113%	54 - 143	4	50	7034535		04/01/07 11:58
Benzo (a) pyrene		1.06		ug/L	1.00	106%	47 - 140	2	38	7034535		04/01/07 11:58
Benzo (b) fluoranthene		1.03		ug/L	1.00	103%	56 - 142	4	50	7034535		04/01/07 11:58
Benzo (g,h,i) perylene		1.11		ug/L	1.00	111%	39 - 142	4	50	7034535		04/01/07 11:58
Benzo (k) fluoranthene		1.01		ug/L	1.00	101%	54 - 147	2	50	7034535		04/01/07 11:58
Chrysene		1.05		ug/L	1.00	105%	60 - 145	3	50	7034535		04/01/07 11:58
Dibenz (a,h) anthracene		1.14		ug/L	1.00	114%	35 - 146	2	47	7034535		04/01/07 11:58
Fluoranthene		1.03		ug/L	1.00	103%	56 - 135	4	27	7034535		04/01/07 11:58
Fluorene		0.940		ug/L	1.00	94%	52 - 141	2	31	7034535		04/01/07 11:58
Indeno (1,2,3-cd) pyrene		1.06		ug/L	1.00	106%	41 - 139	3	50	7034535		04/01/07 11:58
1-Methylnaphthalene		1.06		ug/L	1.01	105%	42 - 130	3	50	7034535		04/01/07 11:58
2-Methylnaphthalene		1.06		ug/L	1.00	106%	46 - 136	3	38	7034535		04/01/07 11:58
Naphthalene		1.02		ug/L	1.00	102%	47 - 129	10	39	7034535		04/01/07 11:58
Phenanthrene		0.990		ug/L	1.00	99%	50 - 133	4	37	7034535		04/01/07 11:58
Pyrene		1.12		ug/L	1.00	112%	56 - 140	0.9	50	7034535		04/01/07 11:58
Surrogate: Nitrobenzene-d5		1.11		ug/L	1.00	111%	24 - 125			7034535		04/01/07 11:58
Surrogate: 2-Fluorobiphenyl		0.660		ug/L	1.00	66%	30 - 120			7034535		04/01/07 11:58
Surrogate: Terphenyl-d14		1.02		ug/L	1.00	102%	29 - 149			7034535		04/01/07 11:58

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQC3393
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B										
7040230-MS1										
Acetone	ND	258		ug/L	250	103%	46 - 155	7040230	NQC3125-22	04/01/07 01:24
Benzene	ND	52.4		ug/L	50.0	105%	72 - 139	7040230	NQC3125-22	04/01/07 01:24
Bromobenzene	ND	52.7		ug/L	50.0	105%	63 - 143	7040230	NQC3125-22	04/01/07 01:24
Bromochloromethane	ND	52.2		ug/L	50.0	104%	73 - 137	7040230	NQC3125-22	04/01/07 01:24
Bromodichloromethane	ND	46.8		ug/L	50.0	94%	61 - 146	7040230	NQC3125-22	04/01/07 01:24
Bromoform	ND	45.1		ug/L	50.0	90%	39 - 135	7040230	NQC3125-22	04/01/07 01:24
Bromomethane	ND	47.3		ug/L	50.0	95%	24 - 179	7040230	NQC3125-22	04/01/07 01:24
2-Butanone	ND	250		ug/L	250	100%	60 - 150	7040230	NQC3125-22	04/01/07 01:24
sec-Butylbenzene	ND	48.6		ug/L	50.0	97%	10 - 208	7040230	NQC3125-22	04/01/07 01:24
n-Butylbenzene	ND	46.9		ug/L	50.0	94%	51 - 159	7040230	NQC3125-22	04/01/07 01:24
tert-Butylbenzene	ND	48.2		ug/L	50.0	96%	10 - 208	7040230	NQC3125-22	04/01/07 01:24
Carbon disulfide	ND	58.7		ug/L	50.0	117%	39 - 152	7040230	NQC3125-22	04/01/07 01:24
Carbon Tetrachloride	ND	47.0		ug/L	50.0	94%	63 - 151	7040230	NQC3125-22	04/01/07 01:24
Chlorobenzene	ND	52.3		ug/L	50.0	105%	71 - 140	7040230	NQC3125-22	04/01/07 01:24
Chlorodibromomethane	ND	46.7		ug/L	50.0	93%	60 - 137	7040230	NQC3125-22	04/01/07 01:24
Chloroethane	ND	53.9		ug/L	50.0	108%	59 - 153	7040230	NQC3125-22	04/01/07 01:24
Chloroform	ND	52.2		ug/L	50.0	104%	71 - 137	7040230	NQC3125-22	04/01/07 01:24
Chloromethane	ND	41.0		ug/L	50.0	82%	10 - 208	7040230	NQC3125-22	04/01/07 01:24
4-Chlorotoluene	ND	47.6		ug/L	50.0	95%	68 - 143	7040230	NQC3125-22	04/01/07 01:24
2-Chlorotoluene	ND	55.1		ug/L	50.0	110%	66 - 148	7040230	NQC3125-22	04/01/07 01:24
1,2-Dibromo-3-chloropropane	ND	44.5		ug/L	50.0	89%	46 - 140	7040230	NQC3125-22	04/01/07 01:24
1,2-Dibromoethane (EDB)	ND	54.2		ug/L	50.0	108%	72 - 138	7040230	NQC3125-22	04/01/07 01:24
Dibromomethane	ND	53.1		ug/L	50.0	106%	71 - 135	7040230	NQC3125-22	04/01/07 01:24
1,4-Dichlorobenzene	ND	49.4		ug/L	50.0	99%	68 - 139	7040230	NQC3125-22	04/01/07 01:24
1,3-Dichlorobenzene	ND	51.4		ug/L	50.0	103%	68 - 142	7040230	NQC3125-22	04/01/07 01:24
1,2-Dichlorobenzene	ND	53.1		ug/L	50.0	106%	68 - 145	7040230	NQC3125-22	04/01/07 01:24
Dichlorodifluoromethane	ND	39.5		ug/L	50.0	79%	10 - 177	7040230	NQC3125-22	04/01/07 01:24
1,2-Dichloroethane	ND	53.9		ug/L	50.0	108%	59 - 149	7040230	NQC3125-22	04/01/07 01:24
1,1-Dichloroethane	ND	55.0		ug/L	50.0	110%	71 - 142	7040230	NQC3125-22	04/01/07 01:24
cis-1,2-Dichloroethene	ND	55.3		ug/L	50.0	111%	68 - 144	7040230	NQC3125-22	04/01/07 01:24
1,1-Dichloroethene	ND	56.9		ug/L	50.0	114%	62 - 151	7040230	NQC3125-22	04/01/07 01:24
trans-1,2-Dichloroethene	ND	55.7		ug/L	50.0	111%	68 - 147	7040230	NQC3125-22	04/01/07 01:24
2,2-Dichloropropane	ND	46.2		ug/L	50.0	92%	35 - 150	7040230	NQC3125-22	04/01/07 01:24
1,3-Dichloropropane	ND	53.5		ug/L	50.0	107%	66 - 144	7040230	NQC3125-22	04/01/07 01:24
1,2-Dichloropropane	ND	52.9		ug/L	50.0	106%	68 - 138	7040230	NQC3125-22	04/01/07 01:24
trans-1,3-Dichloropropene	ND	44.5		ug/L	50.0	89%	50 - 135	7040230	NQC3125-22	04/01/07 01:24
cis-1,3-Dichloropropene	ND	44.9		ug/L	50.0	90%	52 - 143	7040230	NQC3125-22	04/01/07 01:24

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQC3393
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B										
7040230-MS1										
1,1-Dichloropropene	ND	47.9		ug/L	50.0	96%	72 - 148	7040230	NQC3125-22	04/01/07 01:24
Ethylbenzene	ND	47.9		ug/L	50.0	96%	66 - 145	7040230	NQC3125-22	04/01/07 01:24
Hexachlorobutadiene	ND	44.5		ug/L	50.0	89%	41 - 151	7040230	NQC3125-22	04/01/07 01:24
2-Hexanone	ND	263		ug/L	250	105%	62 - 150	7040230	NQC3125-22	04/01/07 01:24
Isopropylbenzene	ND	48.1		ug/L	50.0	96%	59 - 151	7040230	NQC3125-22	04/01/07 01:24
Diisopropyl Ether	ND	55.9		ug/L	50.0	112%	64 - 144	7040230	NQC3125-22	04/01/07 01:24
Methyl tert-Butyl Ether	ND	47.2		ug/L	50.0	94%	54 - 143	7040230	NQC3125-22	04/01/07 01:24
Methylene Chloride	ND	49.3		ug/L	50.0	99%	69 - 142	7040230	NQC3125-22	04/01/07 01:24
4-Methyl-2-pentanone	ND	262		ug/L	250	105%	63 - 150	7040230	NQC3125-22	04/01/07 01:24
Styrene	ND	45.2		ug/L	50.0	90%	29 - 164	7040230	NQC3125-22	04/01/07 01:24
1,1,1,2-Tetrachloroethane	ND	46.5		ug/L	50.0	93%	66 - 146	7040230	NQC3125-22	04/01/07 01:24
1,1,2,2-Tetrachloroethane	ND	54.3		ug/L	50.0	109%	69 - 146	7040230	NQC3125-22	04/01/07 01:24
Tetrachloroethene	ND	52.1		ug/L	50.0	104%	67 - 145	7040230	NQC3125-22	04/01/07 01:24
Toluene	ND	53.3		ug/L	50.0	107%	63 - 146	7040230	NQC3125-22	04/01/07 01:24
1,2,4-Trichlorobenzene	ND	41.6		ug/L	50.0	83%	51 - 142	7040230	NQC3125-22	04/01/07 01:24
1,2,3-Trichlorobenzene	ND	46.9		ug/L	50.0	94%	49 - 142	7040230	NQC3125-22	04/01/07 01:24
1,1,2-Trichloroethane	ND	52.5		ug/L	50.0	105%	68 - 140	7040230	NQC3125-22	04/01/07 01:24
1,1,1-Trichloroethane	ND	54.5		ug/L	50.0	109%	69 - 146	7040230	NQC3125-22	04/01/07 01:24
Trichloroethene	ND	53.9		ug/L	50.0	108%	68 - 144	7040230	NQC3125-22	04/01/07 01:24
Trichlorofluoromethane	ND	53.0		ug/L	50.0	106%	59 - 153	7040230	NQC3125-22	04/01/07 01:24
1,2,3-Trichloropropane	ND	51.0		ug/L	50.0	102%	43 - 157	7040230	NQC3125-22	04/01/07 01:24
1,3,5-Trimethylbenzene	ND	46.8		ug/L	50.0	94%	41 - 155	7040230	NQC3125-22	04/01/07 01:24
Vinyl chloride	ND	52.7		ug/L	50.0	105%	55 - 150	7040230	NQC3125-22	04/01/07 01:24
Xylenes, total	ND	142		ug/L	150	95%	40 - 161	7040230	NQC3125-22	04/01/07 01:24
1,2,4-Trimethylbenzene	ND	48.0		ug/L	50.0	96%	36 - 158	7040230	NQC3125-22	04/01/07 01:24
Naphthalene	ND	47.3		ug/L	50.0	95%	43 - 152	7040230	NQC3125-22	04/01/07 01:24
p-Isopropyltoluene	ND	48.0		ug/L	50.0	96%	58 - 149	7040230	NQC3125-22	04/01/07 01:24
n-Propylbenzene	ND	49.9		ug/L	50.0	100%	62 - 151	7040230	NQC3125-22	04/01/07 01:24
Surrogate: 1,2-Dichloroethane-d4		50.4		ug/L	50.0	101%	62 - 142	7040230	NQC3125-22	04/01/07 01:24
Surrogate: Dibromofluoromethane		50.3		ug/L	50.0	101%	78 - 123	7040230	NQC3125-22	04/01/07 01:24
Surrogate: Toluene-d8		48.6		ug/L	50.0	97%	79 - 120	7040230	NQC3125-22	04/01/07 01:24
Surrogate: 4-Bromofluorobenzene		47.5		ug/L	50.0	95%	75 - 133	7040230	NQC3125-22	04/01/07 01:24
Purgeable Petroleum Hydrocarbons										
7035323-MS1										
GRO as Gasoline	5.62	1130		ug/L	1000	112%	34 - 201	7035323	NQC3393-02	03/30/07 11:16
Surrogate: a,a,a-Trifluorotoluene		33.4		ug/L	30.0	111%	44 - 152	7035323	NQC3393-02	03/30/07 11:16

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQC3393
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B												
7040230-MSD1												
Acetone	ND	237		ug/L	250	95%	46 - 155	8	30	7040230	NQC3125-22	04/01/07 01:50
Benzene	ND	53.9		ug/L	50.0	108%	72 - 139	3	25	7040230	NQC3125-22	04/01/07 01:50
Bromobenzene	ND	54.6		ug/L	50.0	109%	63 - 143	4	25	7040230	NQC3125-22	04/01/07 01:50
Bromochloromethane	ND	53.7		ug/L	50.0	107%	73 - 137	3	25	7040230	NQC3125-22	04/01/07 01:50
Bromodichloromethane	ND	48.3		ug/L	50.0	97%	61 - 146	3	28	7040230	NQC3125-22	04/01/07 01:50
Bromoform	ND	45.3		ug/L	50.0	91%	39 - 135	0.4	27	7040230	NQC3125-22	04/01/07 01:50
Bromomethane	ND	53.6		ug/L	50.0	107%	24 - 179	12	50	7040230	NQC3125-22	04/01/07 01:50
2-Butanone	ND	236		ug/L	250	94%	60 - 150	6	33	7040230	NQC3125-22	04/01/07 01:50
sec-Butylbenzene	ND	50.9		ug/L	50.0	102%	10 - 208	5	50	7040230	NQC3125-22	04/01/07 01:50
n-Butylbenzene	ND	49.2		ug/L	50.0	98%	51 - 159	5	36	7040230	NQC3125-22	04/01/07 01:50
tert-Butylbenzene	ND	51.1		ug/L	50.0	102%	10 - 208	6	50	7040230	NQC3125-22	04/01/07 01:50
Carbon disulfide	ND	61.4		ug/L	50.0	123%	39 - 152	4	49	7040230	NQC3125-22	04/01/07 01:50
Carbon Tetrachloride	ND	48.3		ug/L	50.0	97%	63 - 151	3	26	7040230	NQC3125-22	04/01/07 01:50
Chlorobenzene	ND	53.9		ug/L	50.0	108%	71 - 140	3	26	7040230	NQC3125-22	04/01/07 01:50
Chlorodibromomethane	ND	47.7		ug/L	50.0	95%	60 - 137	2	28	7040230	NQC3125-22	04/01/07 01:50
Chloroethane	ND	55.7		ug/L	50.0	111%	59 - 153	3	49	7040230	NQC3125-22	04/01/07 01:50
Chloroform	ND	54.0		ug/L	50.0	108%	71 - 137	3	25	7040230	NQC3125-22	04/01/07 01:50
Chloromethane	ND	43.2		ug/L	50.0	86%	10 - 208	5	50	7040230	NQC3125-22	04/01/07 01:50
4-Chlorotoluene	ND	49.9		ug/L	50.0	100%	68 - 143	5	24	7040230	NQC3125-22	04/01/07 01:50
2-Chlorotoluene	ND	57.4		ug/L	50.0	115%	66 - 148	4	24	7040230	NQC3125-22	04/01/07 01:50
1,2-Dibromo-3-chloropropane	ND	44.2		ug/L	50.0	88%	46 - 140	0.7	31	7040230	NQC3125-22	04/01/07 01:50
1,2-Dibromoethane (EDB)	ND	54.2		ug/L	50.0	108%	72 - 138	0	31	7040230	NQC3125-22	04/01/07 01:50
Dibromomethane	ND	53.0		ug/L	50.0	106%	71 - 135	0.2	28	7040230	NQC3125-22	04/01/07 01:50
1,4-Dichlorobenzene	ND	51.3		ug/L	50.0	103%	68 - 139	4	27	7040230	NQC3125-22	04/01/07 01:50
1,3-Dichlorobenzene	ND	53.9		ug/L	50.0	108%	68 - 142	5	27	7040230	NQC3125-22	04/01/07 01:50
1,2-Dichlorobenzene	ND	55.7		ug/L	50.0	111%	68 - 145	5	39	7040230	NQC3125-22	04/01/07 01:50
Dichlorodifluoromethane	ND	40.5		ug/L	50.0	81%	10 - 177	2	26	7040230	NQC3125-22	04/01/07 01:50
1,2-Dichloroethane	ND	53.9		ug/L	50.0	108%	59 - 149	0	28	7040230	NQC3125-22	04/01/07 01:50
1,1-Dichloroethane	ND	56.6		ug/L	50.0	113%	71 - 142	3	25	7040230	NQC3125-22	04/01/07 01:50
cis-1,2-Dichloroethene	ND	57.9		ug/L	50.0	116%	68 - 144	5	27	7040230	NQC3125-22	04/01/07 01:50
1,1-Dichloroethene	ND	59.1		ug/L	50.0	118%	62 - 151	4	35	7040230	NQC3125-22	04/01/07 01:50
trans-1,2-Dichloroethene	ND	57.5		ug/L	50.0	115%	68 - 147	3	26	7040230	NQC3125-22	04/01/07 01:50
2,2-Dichloropropane	ND	47.8		ug/L	50.0	96%	35 - 150	3	26	7040230	NQC3125-22	04/01/07 01:50
1,3-Dichloropropane	ND	53.6		ug/L	50.0	107%	66 - 144	0.2	28	7040230	NQC3125-22	04/01/07 01:50
1,2-Dichloropropane	ND	54.3		ug/L	50.0	109%	68 - 138	3	26	7040230	NQC3125-22	04/01/07 01:50
trans-1,3-Dichloropropene	ND	46.1		ug/L	50.0	92%	50 - 135	4	27	7040230	NQC3125-22	04/01/07 01:50
cis-1,3-Dichloropropene	ND	47.1		ug/L	50.0	94%	52 - 143	5	28	7040230	NQC3125-22	04/01/07 01:50
1,1-Dichloropropene	ND	49.5		ug/L	50.0	99%	72 - 148	3	25	7040230	NQC3125-22	04/01/07 01:50
Ethylbenzene	ND	49.9		ug/L	50.0	100%	66 - 145	4	27	7040230	NQC3125-22	04/01/07 01:50
Hexachlorobutadiene	ND	47.3		ug/L	50.0	95%	41 - 151	6	30	7040230	NQC3125-22	04/01/07 01:50
2-Hexanone	ND	248		ug/L	250	99%	62 - 150	6	33	7040230	NQC3125-22	04/01/07 01:50

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQC3393
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B												
7040230-MSD1												
Isopropylbenzene	ND	49.4		ug/L	50.0	99%	59 - 151	3	26	7040230	NQC3125-22	04/01/07 01:50
Diisopropyl Ether	ND	57.7		ug/L	50.0	115%	64 - 144	3	26	7040230	NQC3125-22	04/01/07 01:50
Methyl tert-Butyl Ether	ND	47.5		ug/L	50.0	95%	54 - 143	0.6	27	7040230	NQC3125-22	04/01/07 01:50
Methylene Chloride	ND	50.3		ug/L	50.0	101%	69 - 142	2	28	7040230	NQC3125-22	04/01/07 01:50
4-Methyl-2-pentanone	ND	250		ug/L	250	100%	63 - 150	5	31	7040230	NQC3125-22	04/01/07 01:50
Styrene	ND	46.7		ug/L	50.0	93%	29 - 164	3	49	7040230	NQC3125-22	04/01/07 01:50
1,1,1,2-Tetrachloroethane	ND	48.3		ug/L	50.0	97%	66 - 146	4	28	7040230	NQC3125-22	04/01/07 01:50
1,1,2,2-Tetrachloroethane	ND	53.1		ug/L	50.0	106%	69 - 146	2	25	7040230	NQC3125-22	04/01/07 01:50
Tetrachloroethene	ND	53.9		ug/L	50.0	108%	67 - 145	3	27	7040230	NQC3125-22	04/01/07 01:50
Toluene	ND	56.3		ug/L	50.0	113%	63 - 146	5	26	7040230	NQC3125-22	04/01/07 01:50
1,2,4-Trichlorobenzene	ND	46.0		ug/L	50.0	92%	51 - 142	10	31	7040230	NQC3125-22	04/01/07 01:50
1,2,3-Trichlorobenzene	ND	50.5		ug/L	50.0	101%	49 - 142	7	32	7040230	NQC3125-22	04/01/07 01:50
1,1,2-Trichloroethane	ND	52.1		ug/L	50.0	104%	68 - 140	0.8	27	7040230	NQC3125-22	04/01/07 01:50
1,1,1-Trichloroethane	ND	56.9		ug/L	50.0	114%	69 - 146	4	26	7040230	NQC3125-22	04/01/07 01:50
Trichloroethene	ND	56.5		ug/L	50.0	113%	68 - 144	5	25	7040230	NQC3125-22	04/01/07 01:50
Trichlorofluoromethane	ND	53.7		ug/L	50.0	107%	59 - 153	1	41	7040230	NQC3125-22	04/01/07 01:50
1,2,3-Trichloropropane	ND	50.0		ug/L	50.0	100%	43 - 157	2	26	7040230	NQC3125-22	04/01/07 01:50
1,3,5-Trimethylbenzene	ND	49.1		ug/L	50.0	98%	41 - 155	5	40	7040230	NQC3125-22	04/01/07 01:50
Vinyl chloride	ND	54.6		ug/L	50.0	109%	55 - 150	4	50	7040230	NQC3125-22	04/01/07 01:50
Xylenes, total	ND	147		ug/L	150	98%	40 - 161	3	50	7040230	NQC3125-22	04/01/07 01:50
1,2,4-Trimethylbenzene	ND	49.7		ug/L	50.0	99%	36 - 158	3	41	7040230	NQC3125-22	04/01/07 01:50
Naphthalene	ND	50.6		ug/L	50.0	101%	43 - 152	7	34	7040230	NQC3125-22	04/01/07 01:50
p-Isopropyltoluene	ND	50.0		ug/L	50.0	100%	58 - 149	4	50	7040230	NQC3125-22	04/01/07 01:50
n-Propylbenzene	ND	52.5		ug/L	50.0	105%	62 - 151	5	26	7040230	NQC3125-22	04/01/07 01:50
Surrogate: 1,2-Dichloroethane-d4		48.9		ug/L	50.0	98%	62 - 142			7040230	NQC3125-22	04/01/07 01:50
Surrogate: Dibromofluoromethane		50.1		ug/L	50.0	100%	78 - 123			7040230	NQC3125-22	04/01/07 01:50
Surrogate: Toluene-d8		48.8		ug/L	50.0	98%	79 - 120			7040230	NQC3125-22	04/01/07 01:50
Surrogate: 4-Bromofluorobenzene		48.0		ug/L	50.0	96%	75 - 133			7040230	NQC3125-22	04/01/07 01:50
Purgeable Petroleum Hydrocarbons												
7035323-MSD1												
GRO as Gasoline	5.62	1130		ug/L	1000	112%	34 - 201	0	28	7035323	NQC3393-02	03/30/07 11:46
Surrogate: a,a,a-Trifluorotoluene		37.9		ug/L	30.0	126%	44 - 152			7035323	NQC3393-02	03/30/07 11:46

TestAmerica
ANALYTICAL TESTING CORPORATION
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Client	Parson's Engineering (14054)	Work Order:	NQC3393
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

CERTIFICATION SUMMARY

TestAmerica - Nashville, TN

Method	Matrix	AIHA	Nelac	California
8015B Mod.	Water			
SW846 8015B	Water	N/A	X	X
SW846 8260B	Water	N/A	X	X
SW846 8270CSIM	Water	N/A	X	X

TestAmerica
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Client	Parson's Engineering (14054)	Work Order:	NQC3393
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

NELAC CERTIFICATION SUMMARY

TestAmerica Analytical - Nashville does not hold NELAC certifications for the following analytes included in this report

Method	Matrix	Analyte
8015B Mod.	Water	C10 - C40

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQC3393
	1150 Laurel Lane, Ste 190	Project Name:	Avila Beach Terminal
	San Luis Obispo, CA 93401	Project Number:	NWABN-00021-001
Attn	Satya Varadhi	Received:	03/24/07 08:00

DATA QUALIFIERS AND DEFINITIONS

A-01	C10-C25
A-01a	C25-C40
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
MNR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike.
QSG	Silica Gel clean-up performed on extracts.
Z1	Surrogate recovery was above acceptance limits.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica
ANALYTICAL TESTING CORPORATION

NQC3393

Nashville Division
COOLER RECEIPT FORM BC#

Cooler Received/Opened On: 3/24/2007 @ 8:00

Indicate the Airbill Tracking Number (last 4 digits for Fedex only) and Name of Courier below: 6750

Fed-Ex

2. Temperature of representative sample or temperature blank when opened: 1.8 **Degrees Celsius**
(indicate IR Gun ID#)

92171982

3. Were custody seals on outside of cooler?..... YES...(NO)...NA

a. If yes, how many and where:_____

4. Were the seals intact, signed, and dated correctly?..... YES....NO...(NA)

5. Were custody papers inside cooler?..... YES...NO...NA

I certify that I opened the cooler and answered questions 1-5 (intial)..... _____

6. Were custody seals on containers: YES (NO) and Intact YES NO (NA)

were these signed, and dated correctly?..... YES...NO...(NA)

7. What kind of packing material used? Bubblewrap Peanuts Vermiculite Foam Insert

Plastic bag Paper Other_____ None

8. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

9. Did all containers arrive in good condition (unbroken)?..... YES...NO...NA

10. Were all container labels complete (#, date, signed, pres., etc)?..... YES...NO...NA

11. Did all container labels and tags agree with custody papers?..... YES...NO...NA

12. a. Were VOA vials received?..... YES...NO...NA

b. Was there any observable head space present in any VOA vial?..... YES...NO...NA

I certify that I unloaded the cooler and answered questions 6-12 (intial)..... JR

13. a. On preserved bottles did the pH test strips suggest that preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used..... YES...NO...NA

If preservation in-house was needed, record standard ID of preservative used here_____

14. Was residual chlorine present?..... YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 13-14 (intial)..... JR

15. Were custody papers properly filled out (ink, signed, etc)?..... YES....NO...NA

16. Did you sign the custody papers in the appropriate place?..... YES....NO...NA

17. Were correct containers used for the analysis requested?..... YES...NO...NA

18. Was sufficient amount of sample sent in each container?..... YES...NO...NA

I certify that I entered this project into LIMS and answered questions 15-18 (intial)..... JR

I certify that I attached a label with the unique LIMS number to each container (intial)..... JR

19. Were there Non-Conformance issues at login YES (NO) Was a PIPE generated YES NO #_____

TB

BIS = Broken in shipment

Chevron Analysis Request/Chain of Custody

For Parsons use only
Date Results Received: _____ Requested TAT Met: Yes / No
Parsons PM Signature _____

For Laboratory use only
Acct. #: _____ Sample #: _____ SCR#: _____

PARSONS

Project Mgr.: Satya Varadhi
Project Name: Chevron Avila Terminal Cliff Springs, Avila Beach, CA
Project Charge Code: 442964.10081
Sampler: Alex Hurtig
Report To: Satya Varadhi, Parsons San Luis Obispo
State of Origin: California

Analyses Requested — List total number of containers in the box under each analysis.

Preservation Codes

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☑ J value reporting needed.
* Specify special detection limits/reporting lists below.
TPH = 50 ppb
PAHs = 0.5 ppb
Metals = 1.0 ppb
VOCs = 0.5 ppb
MTBE = 1.0 ppb

NQC3393
04/04/07 23:59

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (Potable ☐ NPDES ☐)	Matrix: Oil ☐ Air ☐	Total Number of Containers	VOCs (8260)	TPH-gas (C4-C10) – 8015M (GC/MS)	TPH-diesel (C10-C25) – 3510 (GC/MS)	TPH-crude (C25-C40) – 3510 (GC/MS)	Silica gel cleanup	PAHs (8270 SIM) HOLD	
TRIP BLANK	3/23/07		X					1	X					NQC 3393-1	
AT-CS-B	3/23/07	0800	X			X		9	X	X	X	X	X	X	2

Perform PAH analysis if TPH-crude or diesel is detected

Turnaround Time Requested (TAT) (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / CA Geotracker EDD
WIP (RWQCB) Standard Format
Disk _____ Other.

	Date	Time		Date	Time
Relinquished by: Field Sampler	3/23/07	1600	Received by:	3/24/07	
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS FedEx Other _____			Received by:		
Temperature Upon Receipt _____ C°			Custody Seals Intact? Yes No		

6/4/01

Chevron Project No: NWABNU0021001

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

May 09, 2007 5:06:21PM

Client: Parson's Engineering (14054)
999 Oakmont Plaza Drive, Suite 420
Westmont, IL 60559
Attn: Satya Varadhi

Work Order: NQD3265
Project Name: Avila Beach Terminal
Project Nbr: NWABN-U0021001
P/O Nbr:
Date Received: 04/26/07

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
Trip Blank	NQD3265-01	04/25/07 00:01
AT-CS-B	NQD3265-02	04/25/07 11:06

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.
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California Certification Number: 01168CA

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

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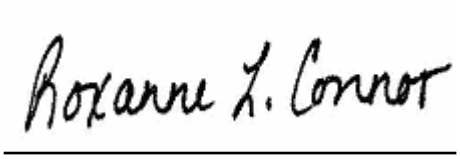
Estimated uncertainity is available upon request.

This report has been electronically signed.

Report Approved By:



Roxanne Connor

Program Manager - Conventional Accounts

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQD3265
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal
	Westmont, IL 60559	Project Number:	NWABN-U0021001
Attn	Satya Varadhi	Received:	04/26/07 07:50

ANALYTICAL REPORT

Sample ID: NQD3265-01 (Trip Blank - Water) Sampled: 04/25/07 00:01

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Acetone	ND		ug/L	3.96	50.0	1	05/08/07 00:18	SW846 8260B	7051032
Tert-Amyl Methyl Ether	ND		ug/L	0.200	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Benzene	ND		ug/L	0.170	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Ethyl tert-Butyl Ether	ND		ug/L	0.210	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Bromobenzene	ND		ug/L	0.350	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Diisopropyl Ether	ND		ug/L	0.210	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Bromochloromethane	ND		ug/L	0.400	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Methyl tert-Butyl Ether	ND		ug/L	0.190	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Bromodichloromethane	ND		ug/L	0.150	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Tertiary Butyl Alcohol	ND		ug/L	4.07	10.0	1	05/08/07 00:18	SW846 8260B	7051032
Bromoform	ND		ug/L	0.290	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Bromomethane	ND		ug/L	0.270	0.500	1	05/08/07 00:18	SW846 8260B	7051032
2-Butanone	ND		ug/L	2.76	50.0	1	05/08/07 00:18	SW846 8260B	7051032
sec-Butylbenzene	ND		ug/L	0.160	0.500	1	05/08/07 00:18	SW846 8260B	7051032
n-Butylbenzene	ND		ug/L	0.210	0.500	1	05/08/07 00:18	SW846 8260B	7051032
tert-Butylbenzene	ND		ug/L	0.220	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Carbon disulfide	ND		ug/L	0.180	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Carbon Tetrachloride	ND		ug/L	0.220	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Chlorobenzene	ND		ug/L	0.120	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Chlorodibromomethane	ND		ug/L	0.230	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Chloroethane	ND		ug/L	0.190	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Chloroform	ND		ug/L	0.270	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Chloromethane	ND		ug/L	0.260	0.500	1	05/08/07 00:18	SW846 8260B	7051032
4-Chlorotoluene	ND		ug/L	0.190	0.500	1	05/08/07 00:18	SW846 8260B	7051032
2-Chlorotoluene	ND		ug/L	0.130	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,2-Dibromo-3-chloropropane	ND		ug/L	0.880	1.00	1	05/08/07 00:18	SW846 8260B	7051032
1,2-Dibromoethane (EDB)	ND		ug/L	0.320	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Dibromomethane	ND		ug/L	0.230	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,4-Dichlorobenzene	ND		ug/L	0.150	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,3-Dichlorobenzene	ND		ug/L	0.160	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,2-Dichlorobenzene	ND		ug/L	0.150	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Dichlorodifluoromethane	ND		ug/L	0.140	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,2-Dichloroethane	ND		ug/L	0.370	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,1-Dichloroethane	ND		ug/L	0.130	0.500	1	05/08/07 00:18	SW846 8260B	7051032
cis-1,2-Dichloroethene	ND		ug/L	0.160	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,1-Dichloroethene	ND		ug/L	0.270	0.500	1	05/08/07 00:18	SW846 8260B	7051032
trans-1,2-Dichloroethene	ND		ug/L	0.200	0.500	1	05/08/07 00:18	SW846 8260B	7051032
2,2-Dichloropropane	ND		ug/L	0.190	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,3-Dichloropropane	ND		ug/L	0.100	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,2-Dichloropropane	ND		ug/L	0.200	0.500	1	05/08/07 00:18	SW846 8260B	7051032
trans-1,3-Dichloropropene	ND		ug/L	0.230	0.500	1	05/08/07 00:18	SW846 8260B	7051032
cis-1,3-Dichloropropene	ND		ug/L	0.270	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,1-Dichloropropene	ND		ug/L	0.160	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Ethylbenzene	ND		ug/L	0.230	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Hexachlorobutadiene	ND		ug/L	0.360	1.00	1	05/08/07 00:18	SW846 8260B	7051032

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQD3265
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal
	Westmont, IL 60559	Project Number:	NWABN-U0021001
Attn	Satya Varadhi	Received:	04/26/07 07:50

ANALYTICAL REPORT

Sample ID: NQD3265-01 (Trip Blank - Water) - cont. Sampled: 04/25/07 00:01

Volatile Organic Compounds by EPA Method 8260B - cont.

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
2-Hexanone	ND		ug/L	1.11	10.0	1	05/08/07 00:18	SW846 8260B	7051032
Isopropylbenzene	ND		ug/L	0.230	1.00	1	05/08/07 00:18	SW846 8260B	7051032
Diisopropyl Ether	ND		ug/L	0.210	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Methyl tert-Butyl Ether	ND		ug/L	0.190	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Methylene Chloride	ND		ug/L	0.330	5.00	1	05/08/07 00:18	SW846 8260B	7051032
4-Methyl-2-pentanone	ND		ug/L	1.53	10.0	1	05/08/07 00:18	SW846 8260B	7051032
Styrene	ND		ug/L	0.140	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,1,1,2-Tetrachloroethane	ND		ug/L	0.220	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,1,2,2-Tetrachloroethane	ND		ug/L	0.120	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Tetrachloroethene	ND		ug/L	0.220	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Toluene	ND		ug/L	0.220	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,2,4-Trichlorobenzene	ND		ug/L	0.240	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,2,3-Trichlorobenzene	ND		ug/L	0.210	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,1,2-Trichloroethane	ND		ug/L	0.270	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,1,1-Trichloroethane	ND		ug/L	0.160	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Trichloroethene	ND		ug/L	0.170	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Trichlorofluoromethane	ND		ug/L	0.110	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,2,3-Trichloropropane	ND		ug/L	0.240	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,3,5-Trimethylbenzene	ND		ug/L	0.240	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Vinyl chloride	ND		ug/L	0.200	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Xylenes, total	ND		ug/L	0.320	0.500	1	05/08/07 00:18	SW846 8260B	7051032
1,2,4-Trimethylbenzene	ND		ug/L	0.180	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Naphthalene	ND		ug/L	0.650	5.00	1	05/08/07 00:18	SW846 8260B	7051032
p-Isopropyltoluene	ND		ug/L	0.140	0.500	1	05/08/07 00:18	SW846 8260B	7051032
n-Propylbenzene	ND		ug/L	0.180	0.500	1	05/08/07 00:18	SW846 8260B	7051032
Surr: 1,2-Dichloroethane-d4 (62-142%)	*86 %*					*1*	*05/08/07 00:18*	*SW846 8260B*	*7051032*
Surr: Dibromofluoromethane (78-123%)	*90 %*					*1*	*05/08/07 00:18*	*SW846 8260B*	*7051032*
Surr: Toluene-d8 (79-120%)	*95 %*					*1*	*05/08/07 00:18*	*SW846 8260B*	*7051032*
Surr: 4-Bromofluorobenzene (75-133%)	*96 %*					*1*	*05/08/07 00:18*	*SW846 8260B*	*7051032*

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client Parson's Engineering (14054)
999 Oakmont Plaza Drive, Suite 420
Westmont, IL 60559
Attn Satya Varadhi

Work Order: NQD3265
Project Name: Avila Beach Terminal
Project Number: NWABN-U0021001
Received: 04/26/07 07:50

ANALYTICAL REPORT

Sample ID: NQD3265-02 (AT-CS-B - Water) Sampled: 04/25/07 11:06

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Acetone	ND		ug/L	3.96	50.0	1	05/08/07 00:44	SW846 8260B	7051032
Tert-Amyl Methyl Ether	ND		ug/L	0.200	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Benzene	ND		ug/L	0.170	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Ethyl tert-Butyl Ether	ND		ug/L	0.210	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Bromobenzene	ND		ug/L	0.350	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Diisopropyl Ether	ND		ug/L	0.210	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Bromochloromethane	ND		ug/L	0.400	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Methyl tert-Butyl Ether	ND		ug/L	0.190	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Bromodichloromethane	ND		ug/L	0.150	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Tertiary Butyl Alcohol	ND		ug/L	4.07	10.0	1	05/08/07 00:44	SW846 8260B	7051032
Bromoform	ND		ug/L	0.290	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Bromomethane	ND		ug/L	0.270	0.500	1	05/08/07 00:44	SW846 8260B	7051032
2-Butanone	ND		ug/L	2.76	50.0	1	05/08/07 00:44	SW846 8260B	7051032
sec-Butylbenzene	ND		ug/L	0.160	0.500	1	05/08/07 00:44	SW846 8260B	7051032
n-Butylbenzene	ND		ug/L	0.210	0.500	1	05/08/07 00:44	SW846 8260B	7051032
tert-Butylbenzene	ND		ug/L	0.220	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Carbon disulfide	ND		ug/L	0.180	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Carbon Tetrachloride	ND		ug/L	0.220	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Chlorobenzene	ND		ug/L	0.120	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Chlorodibromomethane	ND		ug/L	0.230	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Chloroethane	ND		ug/L	0.190	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Chloroform	ND		ug/L	0.270	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Chloromethane	ND		ug/L	0.260	0.500	1	05/08/07 00:44	SW846 8260B	7051032
4-Chlorotoluene	ND		ug/L	0.190	0.500	1	05/08/07 00:44	SW846 8260B	7051032
2-Chlorotoluene	ND		ug/L	0.130	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,2-Dibromo-3-chloropropane	ND		ug/L	0.880	1.00	1	05/08/07 00:44	SW846 8260B	7051032
1,2-Dibromoethane (EDB)	ND		ug/L	0.320	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Dibromomethane	ND		ug/L	0.230	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,4-Dichlorobenzene	ND		ug/L	0.150	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,3-Dichlorobenzene	ND		ug/L	0.160	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,2-Dichlorobenzene	ND		ug/L	0.150	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Dichlorodifluoromethane	ND		ug/L	0.140	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,2-Dichloroethane	ND		ug/L	0.370	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,1-Dichloroethane	ND		ug/L	0.130	0.500	1	05/08/07 00:44	SW846 8260B	7051032
cis-1,2-Dichloroethene	ND		ug/L	0.160	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,1-Dichloroethene	ND		ug/L	0.270	0.500	1	05/08/07 00:44	SW846 8260B	7051032
trans-1,2-Dichloroethene	ND		ug/L	0.200	0.500	1	05/08/07 00:44	SW846 8260B	7051032
2,2-Dichloropropane	ND		ug/L	0.190	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,3-Dichloropropane	ND		ug/L	0.100	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,2-Dichloropropane	ND		ug/L	0.200	0.500	1	05/08/07 00:44	SW846 8260B	7051032
trans-1,3-Dichloropropene	ND		ug/L	0.230	0.500	1	05/08/07 00:44	SW846 8260B	7051032
cis-1,3-Dichloropropene	ND		ug/L	0.270	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,1-Dichloropropene	ND		ug/L	0.160	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Ethylbenzene	ND		ug/L	0.230	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Hexachlorobutadiene	ND		ug/L	0.360	1.00	1	05/08/07 00:44	SW846 8260B	7051032

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQD3265
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal
	Westmont, IL 60559	Project Number:	NWABN-U0021001
Attn	Satya Varadhi	Received:	04/26/07 07:50

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NQD3265-02 (AT-CS-B - Water) - cont. Sampled: 04/25/07 11:06									
Volatile Organic Compounds by EPA Method 8260B - cont.									
2-Hexanone	ND		ug/L	1.11	10.0	1	05/08/07 00:44	SW846 8260B	7051032
Isopropylbenzene	ND		ug/L	0.230	1.00	1	05/08/07 00:44	SW846 8260B	7051032
Diisopropyl Ether	ND		ug/L	0.210	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Methyl tert-Butyl Ether	ND		ug/L	0.190	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Methylene Chloride	ND		ug/L	0.330	5.00	1	05/08/07 00:44	SW846 8260B	7051032
4-Methyl-2-pentanone	ND		ug/L	1.53	10.0	1	05/08/07 00:44	SW846 8260B	7051032
Styrene	ND		ug/L	0.140	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,1,1,2-Tetrachloroethane	ND		ug/L	0.220	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,1,2,2-Tetrachloroethane	ND		ug/L	0.120	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Tetrachloroethene	ND		ug/L	0.220	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Toluene	ND		ug/L	0.220	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,2,4-Trichlorobenzene	ND		ug/L	0.240	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,2,3-Trichlorobenzene	ND		ug/L	0.210	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,1,2-Trichloroethane	ND		ug/L	0.270	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,1,1-Trichloroethane	ND		ug/L	0.160	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Trichloroethene	ND		ug/L	0.170	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Trichlorofluoromethane	ND		ug/L	0.110	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,2,3-Trichloropropane	ND		ug/L	0.240	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,3,5-Trimethylbenzene	ND		ug/L	0.240	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Vinyl chloride	ND		ug/L	0.200	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Xylenes, total	ND		ug/L	0.320	0.500	1	05/08/07 00:44	SW846 8260B	7051032
1,2,4-Trimethylbenzene	ND		ug/L	0.180	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Naphthalene	ND		ug/L	0.650	5.00	1	05/08/07 00:44	SW846 8260B	7051032
p-Isopropyltoluene	ND		ug/L	0.140	0.500	1	05/08/07 00:44	SW846 8260B	7051032
n-Propylbenzene	ND		ug/L	0.180	0.500	1	05/08/07 00:44	SW846 8260B	7051032
Surr: 1,2-Dichloroethane-d4 (62-142%)	*85 %*					*1*	*05/08/07 00:44*	*SW846 8260B*	*7051032*
Surr: Dibromofluoromethane (78-123%)	*92 %*					*1*	*05/08/07 00:44*	*SW846 8260B*	*7051032*
Surr: Toluene-d8 (79-120%)	*96 %*					*1*	*05/08/07 00:44*	*SW846 8260B*	*7051032*
Surr: 4-Bromofluorobenzene (75-133%)	*98 %*					*1*	*05/08/07 00:44*	*SW846 8260B*	*7051032*
Polyaromatic Hydrocarbons by EPA 8270C SIM									
Acenaphthene	ND		ug/L	0.0400	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191
Acenaphthylene	ND		ug/L	0.0248	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191
Anthracene	ND		ug/L	0.0400	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191
Benzo (a) anthracene	ND		ug/L	0.0324	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191
Benzo (a) pyrene	ND		ug/L	0.0248	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191
Benzo (b) fluoranthene	ND		ug/L	0.0238	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191
Benzo (g,h,i) perylene	ND		ug/L	0.0238	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191
Benzo (k) fluoranthene	ND		ug/L	0.0238	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191
Chrysene	ND		ug/L	0.0333	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191
Dibenz (a,h) anthracene	ND		ug/L	0.0295	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191
Fluoranthene	ND		ug/L	0.0343	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191
Fluorene	ND		ug/L	0.0343	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191
Indeno (1,2,3-cd) pyrene	ND		ug/L	0.0238	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191
1-Methylnaphthalene	ND		ug/L	0.0410	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQD3265
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal
	Westmont, IL 60559	Project Number:	NWABN-U0021001
Attn	Satya Varadhi	Received:	04/26/07 07:50

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NQD3265-02 (AT-CS-B - Water) - cont. Sampled: 04/25/07 11:06									
Polyaromatic Hydrocarbons by EPA 8270C SIM - cont.									
2-Methylnaphthalene	ND		ug/L	0.0771	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191
Naphthalene	ND		ug/L	0.0371	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191
Phenanthrene	ND		ug/L	0.0581	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191
Pyrene	ND		ug/L	0.0324	0.0952	1	04/28/07 23:00	SW846 8270CSIM	7045191
Surr: Nitrobenzene-d5 (24-125%)	*102 %*					*1*	*04/28/07 23:00*	*SW846 8270CSIM*	*7045191*
Surr: 2-Fluorobiphenyl (30-120%)	*89 %*					*1*	*04/28/07 23:00*	*SW846 8270CSIM*	*7045191*
Surr: Terphenyl-d14 (29-149%)	*110 %*					*1*	*04/28/07 23:00*	*SW846 8270CSIM*	*7045191*
Extractable Petroleum Hydrocarbons									
Diesel	**462**	A-01	ug/L	35.2	95.2	1	04/29/07 07:15	SW846 8015B	7045193
TPH - Oil Range	**75.7**	A-01a, J	ug/L	31.4	95.2	1	04/29/07 07:15	SW846 8015B	7045193
Diesel	**300**	A-01, QSG	ug/L	35.1	94.8	1	05/01/07 14:58	SW846 8015B	7045472
TPH - Oil Range	**44.8**	A-01a, QSG, J	ug/L	31.3	94.8	1	05/01/07 14:58	SW846 8015B	7045472
Surr: o-Terphenyl (33-147%)	*116 %*					*1*	*04/29/07 07:15*	*SW846 8015B*	*7045193*
Surr: o-Terphenyl (33-147%)	*104 %*					*1*	*05/01/07 14:58*	*SW846 8015B*	*7045472*
Purgeable Petroleum Hydrocarbons									
GRO as Gasoline	ND		ug/L	43.0	50.0	1	05/01/07 22:28	SW846 8015B	7045581
Surr: a,a,a-Trifluorotoluene (44-152%)	*111 %*					*1*	*05/01/07 22:28*	*SW846 8015B*	*7045581*

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Client	Parson's Engineering (14054)	Work Order:	NQD3265
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal
	Westmont, IL 60559	Project Number:	NWABN-U0021001
Attn	Satya Varadhi	Received:	04/26/07 07:50

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Extractable Petroleum Hydrocarbons							
SW846 8015B	7045472	NQD3265-02	1055.00	1.00	04/30/07 08:45	TDS	EPA 3510C
SW846 8015B	7045193	NQD3265-02	1050.00	1.00	04/27/07 07:07	BJM	EPA 3510C
Polyaromatic Hydrocarbons by EPA 8270C SIM							
SW846 8270CSIM	7045191	NQD3265-02	1050.00	1.00	04/27/07 08:07	BJM	EPA 3510C

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	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal
	Westmont, IL 60559	Project Number:	NWABN-U0021001
Attn	Satya Varadhi	Received:	04/26/07 07:50

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
7051032-BLK1						
Acetone	<3.96		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Tert-Amyl Methyl Ether	<0.200		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Benzene	<0.170		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Ethyl tert-Butyl Ether	<0.210		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Bromobenzene	<0.350		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Diisopropyl Ether	<0.210		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Bromochloromethane	<0.400		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Methyl tert-Butyl Ether	<0.190		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Bromodichloromethane	<0.150		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Tertiary Butyl Alcohol	<4.07		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Bromoform	<0.290		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Bromomethane	<0.270		ug/L	7051032	7051032-BLK1	05/07/07 23:27
2-Butanone	<2.76		ug/L	7051032	7051032-BLK1	05/07/07 23:27
sec-Butylbenzene	<0.160		ug/L	7051032	7051032-BLK1	05/07/07 23:27
n-Butylbenzene	<0.210		ug/L	7051032	7051032-BLK1	05/07/07 23:27
tert-Butylbenzene	<0.220		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Carbon disulfide	<0.180		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Carbon Tetrachloride	<0.220		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Chlorobenzene	<0.120		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Chlorodibromomethane	<0.230		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Chloroethane	<0.190		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Chloroform	<0.270		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Chloromethane	<0.260		ug/L	7051032	7051032-BLK1	05/07/07 23:27
4-Chlorotoluene	<0.190		ug/L	7051032	7051032-BLK1	05/07/07 23:27
2-Chlorotoluene	<0.130		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,2-Dibromo-3-chloropropane	<0.880		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,2-Dibromoethane (EDB)	<0.320		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Dibromomethane	<0.230		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,4-Dichlorobenzene	<0.150		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,3-Dichlorobenzene	<0.160		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,2-Dichlorobenzene	<0.150		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Dichlorodifluoromethane	<0.140		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,2-Dichloroethane	<0.370		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,1-Dichloroethane	<0.130		ug/L	7051032	7051032-BLK1	05/07/07 23:27
cis-1,2-Dichloroethene	<0.160		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,1-Dichloroethene	<0.270		ug/L	7051032	7051032-BLK1	05/07/07 23:27
trans-1,2-Dichloroethene	<0.200		ug/L	7051032	7051032-BLK1	05/07/07 23:27
2,2-Dichloropropane	<0.190		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,3-Dichloropropane	<0.100		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,2-Dichloropropane	<0.200		ug/L	7051032	7051032-BLK1	05/07/07 23:27
trans-1,3-Dichloropropene	<0.230		ug/L	7051032	7051032-BLK1	05/07/07 23:27
cis-1,3-Dichloropropene	<0.270		ug/L	7051032	7051032-BLK1	05/07/07 23:27

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Client	Parson's Engineering (14054)	Work Order:	NQD3265
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal
	Westmont, IL 60559	Project Number:	NWABN-U0021001
Attn	Satya Varadhi	Received:	04/26/07 07:50

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
7051032-BLK1						
1,1-Dichloropropene	<0.160		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Ethylbenzene	<0.230		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Hexachlorobutadiene	<0.360		ug/L	7051032	7051032-BLK1	05/07/07 23:27
2-Hexanone	<1.11		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Isopropylbenzene	<0.230		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Diisopropyl Ether	<0.210		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Methyl tert-Butyl Ether	<0.190		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Methylene Chloride	<0.330		ug/L	7051032	7051032-BLK1	05/07/07 23:27
4-Methyl-2-pentanone	<1.53		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Styrene	<0.140		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,1,1,2-Tetrachloroethane	<0.220		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,1,2,2-Tetrachloroethane	<0.120		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Tetrachloroethene	<0.220		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Toluene	<0.220		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,2,4-Trichlorobenzene	<0.240		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,2,3-Trichlorobenzene	0.650		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,1,2-Trichloroethane	<0.270		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,1,1-Trichloroethane	<0.160		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Trichloroethene	<0.170		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Trichlorofluoromethane	<0.110		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,2,3-Trichloropropane	<0.240		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,3,5-Trimethylbenzene	<0.240		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Vinyl chloride	<0.200		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Xylenes, total	<0.320		ug/L	7051032	7051032-BLK1	05/07/07 23:27
1,2,4-Trimethylbenzene	<0.180		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Naphthalene	<0.650		ug/L	7051032	7051032-BLK1	05/07/07 23:27
p-Isopropyltoluene	<0.140		ug/L	7051032	7051032-BLK1	05/07/07 23:27
n-Propylbenzene	<0.180		ug/L	7051032	7051032-BLK1	05/07/07 23:27
Surrogate: 1,2-Dichloroethane-d4	86%			7051032	7051032-BLK1	05/07/07 23:27
Surrogate: Dibromofluoromethane	94%			7051032	7051032-BLK1	05/07/07 23:27
Surrogate: Toluene-d8	95%			7051032	7051032-BLK1	05/07/07 23:27
Surrogate: 4-Bromofluorobenzene	95%			7051032	7051032-BLK1	05/07/07 23:27
Polyaromatic Hydrocarbons by EPA 8270C SIM						
7045191-BLK1						
Acenaphthene	<0.0420		ug/L	7045191	7045191-BLK1	04/28/07 13:52
Acenaphthylene	<0.0260		ug/L	7045191	7045191-BLK1	04/28/07 13:52
Anthracene	<0.0420		ug/L	7045191	7045191-BLK1	04/28/07 13:52
Benzo (a) anthracene	<0.0340		ug/L	7045191	7045191-BLK1	04/28/07 13:52
Benzo (a) pyrene	<0.0260		ug/L	7045191	7045191-BLK1	04/28/07 13:52
Benzo (b) fluoranthene	<0.0250		ug/L	7045191	7045191-BLK1	04/28/07 13:52

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQD3265
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal
	Westmont, IL 60559	Project Number:	NWABN-U0021001
Attn	Satya Varadhi	Received:	04/26/07 07:50

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM						
7045191-BLK1						
Benzo (g,h,i) perylene	<0.0250		ug/L	7045191	7045191-BLK1	04/28/07 13:52
Benzo (k) fluoranthene	<0.0250		ug/L	7045191	7045191-BLK1	04/28/07 13:52
Chrysene	<0.0350		ug/L	7045191	7045191-BLK1	04/28/07 13:52
Dibenz (a,h) anthracene	<0.0310		ug/L	7045191	7045191-BLK1	04/28/07 13:52
Fluoranthene	<0.0360		ug/L	7045191	7045191-BLK1	04/28/07 13:52
Fluorene	<0.0360		ug/L	7045191	7045191-BLK1	04/28/07 13:52
Indeno (1,2,3-cd) pyrene	<0.0250		ug/L	7045191	7045191-BLK1	04/28/07 13:52
1-Methylnaphthalene	<0.0430		ug/L	7045191	7045191-BLK1	04/28/07 13:52
2-Methylnaphthalene	<0.0810		ug/L	7045191	7045191-BLK1	04/28/07 13:52
Naphthalene	<0.0390		ug/L	7045191	7045191-BLK1	04/28/07 13:52
Phenanthrene	<0.0610		ug/L	7045191	7045191-BLK1	04/28/07 13:52
Pyrene	<0.0340		ug/L	7045191	7045191-BLK1	04/28/07 13:52
Surrogate: Nitrobenzene-d5	116%			7045191	7045191-BLK1	04/28/07 13:52
Surrogate: 2-Fluorobiphenyl	114%			7045191	7045191-BLK1	04/28/07 13:52
Surrogate: Terphenyl-d14	136%			7045191	7045191-BLK1	04/28/07 13:52
Extractable Petroleum Hydrocarbons						
7045193-BLK1						
Diesel	<37.0		ug/L	7045193	7045193-BLK1	04/29/07 06:25
TPH - Oil Range	<33.0		ug/L	7045193	7045193-BLK1	04/29/07 06:25
Surrogate: o-Terphenyl	114%			7045193	7045193-BLK1	04/29/07 06:25
7045472-BLK1						
Diesel	<37.0		ug/L	7045472	7045472-BLK1	05/01/07 14:24
TPH - Oil Range	<33.0		ug/L	7045472	7045472-BLK1	05/01/07 14:24
Surrogate: o-Terphenyl	110%			7045472	7045472-BLK1	05/01/07 14:24
Purgeable Petroleum Hydrocarbons						
7045581-BLK1						
GRO as Gasoline	<43.0		ug/L	7045581	7045581-BLK1	05/01/07 12:15
Surrogate: a,a,a-Trifluorotoluene	109%			7045581	7045581-BLK1	05/01/07 12:15
7045581-BLK2						
GRO as Gasoline	<43.0		ug/L	7045581	7045581-BLK2	05/01/07 12:42
Surrogate: a,a,a-Trifluorotoluene	104%			7045581	7045581-BLK2	05/01/07 12:42

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Client	Parson's Engineering (14054)	Work Order:	NQD3265
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal
	Westmont, IL 60559	Project Number:	NWABN-U0021001
Attn	Satya Varadhi	Received:	04/26/07 07:50

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
7051032-BS1								
Acetone	250	274		ug/L	110%	57 - 160	7051032	05/07/07 22:11
Tert-Amyl Methyl Ether	50.0	54.4		ug/L	109%	68 - 134	7051032	05/07/07 22:11
Benzene	50.0	53.9		ug/L	108%	79 - 123	7051032	05/07/07 22:11
Ethyl tert-Butyl Ether	50.0	54.2		ug/L	108%	69 - 130	7051032	05/07/07 22:11
Bromobenzene	50.0	56.2		ug/L	112%	71 - 139	7051032	05/07/07 22:11
Diisopropyl Ether	50.0	52.0		ug/L	104%	70 - 128	7051032	05/07/07 22:11
Bromochloromethane	50.0	52.2		ug/L	104%	80 - 126	7051032	05/07/07 22:11
Methyl tert-Butyl Ether	50.0	49.3		ug/L	99%	64 - 129	7051032	05/07/07 22:11
Bromodichloromethane	50.0	53.8		ug/L	108%	68 - 133	7051032	05/07/07 22:11
Tertiary Butyl Alcohol	500	602		ug/L	120%	45 - 171	7051032	05/07/07 22:11
Bromoform	50.0	44.4		ug/L	89%	43 - 135	7051032	05/07/07 22:11
Bromomethane	50.0	45.9		ug/L	92%	36 - 171	7051032	05/07/07 22:11
2-Butanone	250	257		ug/L	103%	72 - 138	7051032	05/07/07 22:11
sec-Butylbenzene	50.0	54.1		ug/L	108%	12 - 180	7051032	05/07/07 22:11
n-Butylbenzene	50.0	54.9		ug/L	110%	67 - 139	7051032	05/07/07 22:11
tert-Butylbenzene	50.0	53.5		ug/L	107%	12 - 180	7051032	05/07/07 22:11
Carbon disulfide	50.0	55.0		ug/L	110%	64 - 134	7051032	05/07/07 22:11
Carbon Tetrachloride	50.0	47.5		ug/L	95%	67 - 138	7051032	05/07/07 22:11
Chlorobenzene	50.0	54.5		ug/L	109%	85 - 122	7051032	05/07/07 22:11
Chlorodibromomethane	50.0	46.8		ug/L	94%	68 - 134	7051032	05/07/07 22:11
Chloroethane	50.0	54.5		ug/L	109%	60 - 138	7051032	05/07/07 22:11
Chloroform	50.0	52.7		ug/L	105%	76 - 124	7051032	05/07/07 22:11
Chloromethane	50.0	49.1		ug/L	98%	12 - 180	7051032	05/07/07 22:11
4-Chlorotoluene	50.0	55.3		ug/L	111%	81 - 127	7051032	05/07/07 22:11
2-Chlorotoluene	50.0	57.0		ug/L	114%	81 - 129	7051032	05/07/07 22:11
1,2-Dibromo-3-chloropropane	50.0	50.3		ug/L	101%	56 - 131	7051032	05/07/07 22:11
1,2-Dibromoethane (EDB)	50.0	49.7		ug/L	99%	83 - 128	7051032	05/07/07 22:11
Dibromomethane	50.0	53.9		ug/L	108%	78 - 124	7051032	05/07/07 22:11
1,4-Dichlorobenzene	50.0	55.2		ug/L	110%	80 - 124	7051032	05/07/07 22:11
1,3-Dichlorobenzene	50.0	56.3		ug/L	113%	82 - 127	7051032	05/07/07 22:11
1,2-Dichlorobenzene	50.0	56.2		ug/L	112%	83 - 130	7051032	05/07/07 22:11
Dichlorodifluoromethane	50.0	35.3		ug/L	71%	12 - 149	7051032	05/07/07 22:11
1,2-Dichloroethane	50.0	50.3		ug/L	101%	71 - 132	7051032	05/07/07 22:11
1,1-Dichloroethane	50.0	52.6		ug/L	105%	77 - 127	7051032	05/07/07 22:11
cis-1,2-Dichloroethene	50.0	52.8		ug/L	106%	77 - 126	7051032	05/07/07 22:11
1,1-Dichloroethene	50.0	54.7		ug/L	109%	73 - 129	7051032	05/07/07 22:11
trans-1,2-Dichloroethene	50.0	52.6		ug/L	105%	76 - 129	7051032	05/07/07 22:11
2,2-Dichloropropane	50.0	51.3		ug/L	103%	45 - 139	7051032	05/07/07 22:11
1,3-Dichloropropane	50.0	55.5		ug/L	111%	79 - 130	7051032	05/07/07 22:11
1,2-Dichloropropane	50.0	51.6		ug/L	103%	72 - 124	7051032	05/07/07 22:11
trans-1,3-Dichloropropene	50.0	48.8		ug/L	98%	64 - 127	7051032	05/07/07 22:11

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQD3265
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal
	Westmont, IL 60559	Project Number:	NWABN-U0021001
Attn	Satya Varadhi	Received:	04/26/07 07:50

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
7051032-BS1								
cis-1,3-Dichloropropene	50.0	51.3		ug/L	103%	70 - 130	7051032	05/07/07 22:11
1,1-Dichloropropene	50.0	56.9		ug/L	114%	80 - 133	7051032	05/07/07 22:11
Ethylbenzene	50.0	55.6		ug/L	111%	83 - 125	7051032	05/07/07 22:11
Hexachlorobutadiene	50.0	50.8		ug/L	102%	63 - 135	7051032	05/07/07 22:11
2-Hexanone	250	256		ug/L	102%	67 - 141	7051032	05/07/07 22:11
Isopropylbenzene	50.0	53.7		ug/L	107%	73 - 126	7051032	05/07/07 22:11
Diisopropyl Ether	50.0	52.0		ug/L	104%	70 - 128	7051032	05/07/07 22:11
Methyl tert-Butyl Ether	50.0	49.3		ug/L	99%	64 - 129	7051032	05/07/07 22:11
Methylene Chloride	50.0	53.9		ug/L	108%	81 - 128	7051032	05/07/07 22:11
4-Methyl-2-pentanone	250	283		ug/L	113%	73 - 136	7051032	05/07/07 22:11
Styrene	50.0	57.2		ug/L	114%	82 - 136	7051032	05/07/07 22:11
1,1,1,2-Tetrachloroethane	50.0	47.3		ug/L	95%	79 - 130	7051032	05/07/07 22:11
1,1,2,2-Tetrachloroethane	50.0	54.2		ug/L	108%	70 - 137	7051032	05/07/07 22:11
Tetrachloroethene	50.0	48.8		ug/L	98%	76 - 127	7051032	05/07/07 22:11
Toluene	50.0	55.6		ug/L	111%	77 - 126	7051032	05/07/07 22:11
1,2,4-Trichlorobenzene	50.0	49.7		ug/L	99%	64 - 134	7051032	05/07/07 22:11
1,2,3-Trichlorobenzene	50.0	48.6	B	ug/L	97%	64 - 133	7051032	05/07/07 22:11
1,1,2-Trichloroethane	50.0	50.2		ug/L	100%	78 - 128	7051032	05/07/07 22:11
1,1,1-Trichloroethane	50.0	53.6		ug/L	107%	73 - 130	7051032	05/07/07 22:11
Trichloroethene	50.0	54.5		ug/L	109%	80 - 128	7051032	05/07/07 22:11
Trichlorofluoromethane	50.0	46.1		ug/L	92%	62 - 133	7051032	05/07/07 22:11
1,2,3-Trichloropropane	50.0	53.6		ug/L	107%	50 - 153	7051032	05/07/07 22:11
1,3,5-Trimethylbenzene	50.0	56.8		ug/L	114%	79 - 129	7051032	05/07/07 22:11
Vinyl chloride	50.0	52.6		ug/L	105%	61 - 131	7051032	05/07/07 22:11
Xylenes, total	150	164		ug/L	109%	78 - 130	7051032	05/07/07 22:11
1,2,4-Trimethylbenzene	50.0	56.1		ug/L	112%	78 - 130	7051032	05/07/07 22:11
Naphthalene	50.0	55.1		ug/L	110%	66 - 137	7051032	05/07/07 22:11
p-Isopropyltoluene	50.0	52.0		ug/L	104%	74 - 131	7051032	05/07/07 22:11
n-Propylbenzene	50.0	58.8		ug/L	118%	76 - 132	7051032	05/07/07 22:11
Surrogate: 1,2-Dichloroethane-d4	25.0	22.8			91%	62 - 142	7051032	05/07/07 22:11
Surrogate: Dibromofluoromethane	25.0	23.0			92%	78 - 123	7051032	05/07/07 22:11
Surrogate: Toluene-d8	25.0	24.0			96%	79 - 120	7051032	05/07/07 22:11
Surrogate: 4-Bromofluorobenzene	25.0	24.4			98%	75 - 133	7051032	05/07/07 22:11
Polyaromatic Hydrocarbons by EPA 8270C SIM								
7045191-BS1								
Acenaphthene	1.00	0.910		ug/L	91%	48 - 133	7045191	04/28/07 14:19
Acenaphthylene	1.00	0.900		ug/L	90%	49 - 139	7045191	04/28/07 14:19
Anthracene	1.00	1.24		ug/L	124%	55 - 146	7045191	04/28/07 14:19
Benzo (a) anthracene	1.00	1.20		ug/L	120%	54 - 143	7045191	04/28/07 14:19
Benzo (a) pyrene	1.00	1.17		ug/L	117%	47 - 140	7045191	04/28/07 14:19

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Client	Parson's Engineering (14054)	Work Order:	NQD3265
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal
	Westmont, IL 60559	Project Number:	NWABN-U0021001
Attn	Satya Varadhi	Received:	04/26/07 07:50

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM								
7045191-BS1								
Benzo (b) fluoranthene	1.00	1.41		ug/L	141%	56 - 142	7045191	04/28/07 14:19
Benzo (g,h,i) perylene	1.00	1.08		ug/L	108%	39 - 142	7045191	04/28/07 14:19
Benzo (k) fluoranthene	1.00	1.33		ug/L	133%	54 - 147	7045191	04/28/07 14:19
Chrysene	1.00	1.30		ug/L	130%	60 - 145	7045191	04/28/07 14:19
Dibenz (a,h) anthracene	1.00	1.14		ug/L	114%	35 - 146	7045191	04/28/07 14:19
Fluoranthene	1.00	1.35		ug/L	135%	56 - 135	7045191	04/28/07 14:19
Fluorene	1.00	0.950		ug/L	95%	52 - 141	7045191	04/28/07 14:19
Indeno (1,2,3-cd) pyrene	1.00	1.08		ug/L	108%	41 - 139	7045191	04/28/07 14:19
1-Methylnaphthalene	1.01	0.850		ug/L	84%	42 - 130	7045191	04/28/07 14:19
2-Methylnaphthalene	1.00	0.850		ug/L	85%	46 - 136	7045191	04/28/07 14:19
Naphthalene	1.00	0.880		ug/L	88%	47 - 129	7045191	04/28/07 14:19
Phenanthrene	1.00	1.12		ug/L	112%	50 - 133	7045191	04/28/07 14:19
Pyrene	1.00	1.23		ug/L	123%	56 - 140	7045191	04/28/07 14:19
Surrogate: Nitrobenzene-d5	1.00	0.880			88%	24 - 125	7045191	04/28/07 14:19
Surrogate: 2-Fluorobiphenyl	1.00	0.850			85%	30 - 120	7045191	04/28/07 14:19
Surrogate: Terphenyl-d14	1.00	1.31			131%	29 - 149	7045191	04/28/07 14:19
Extractable Petroleum Hydrocarbons								
7045193-BS1								
Diesel	1000	866		ug/L	87%	38 - 123	7045193	04/29/07 06:42
TPH - Oil Range	1000	866		ug/L	87%	49 - 118	7045193	04/29/07 06:42
Surrogate: o-Terphenyl	20.0	23.2			116%	33 - 147	7045193	04/29/07 06:42
7045472-BS1								
Diesel	1000	792		ug/L	79%	38 - 123	7045472	05/01/07 14:41
TPH - Oil Range	1000	792		ug/L	79%	49 - 118	7045472	05/01/07 14:41
Surrogate: o-Terphenyl	20.0	22.7			114%	33 - 147	7045472	05/01/07 14:41
Purgeable Petroleum Hydrocarbons								
7045581-BS3								
GRO as Gasoline	1000	920		ug/L	92%	58 - 138	7045581	05/02/07 01:33
Surrogate: a,a,a-Trifluorotoluene	30.0	22.2			74%	63 - 134	7045581	05/02/07 01:33
7045581-BS4								
GRO as Gasoline	1000	893		ug/L	89%	58 - 138	7045581	05/02/07 01:52
Surrogate: a,a,a-Trifluorotoluene	30.0	31.5			105%	63 - 134	7045581	05/02/07 01:52

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Client	Parson's Engineering (14054)	Work Order:	NQD3265
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal
	Westmont, IL 60559	Project Number:	NWABN-U0021001
Attn	Satya Varadhi	Received:	04/26/07 07:50

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM												
7045191-BSD1												
Acenaphthene		0.920		ug/L	1.00	92%	48 - 133	1	32	7045191		04/28/07 14:47
Acenaphthylene		0.910		ug/L	1.00	91%	49 - 139	1	34	7045191		04/28/07 14:47
Anthracene		1.17		ug/L	1.00	117%	55 - 146	6	50	7045191		04/28/07 14:47
Benzo (a) anthracene		1.17		ug/L	1.00	117%	54 - 143	3	50	7045191		04/28/07 14:47
Benzo (a) pyrene		1.11		ug/L	1.00	111%	47 - 140	5	38	7045191		04/28/07 14:47
Benzo (b) fluoranthene		1.33		ug/L	1.00	133%	56 - 142	6	50	7045191		04/28/07 14:47
Benzo (g,h,i) perylene		1.02		ug/L	1.00	102%	39 - 142	6	50	7045191		04/28/07 14:47
Benzo (k) fluoranthene		1.31		ug/L	1.00	131%	54 - 147	2	50	7045191		04/28/07 14:47
Chrysene		1.27		ug/L	1.00	127%	60 - 145	2	50	7045191		04/28/07 14:47
Dibenz (a,h) anthracene		1.06		ug/L	1.00	106%	35 - 146	7	47	7045191		04/28/07 14:47
Fluoranthene		1.28		ug/L	1.00	128%	56 - 135	5	27	7045191		04/28/07 14:47
Fluorene		0.970		ug/L	1.00	97%	52 - 141	2	31	7045191		04/28/07 14:47
Indeno (1,2,3-cd) pyrene		1.02		ug/L	1.00	102%	41 - 139	6	50	7045191		04/28/07 14:47
1-Methylnaphthalene		0.880		ug/L	1.01	87%	42 - 130	3	50	7045191		04/28/07 14:47
2-Methylnaphthalene		0.870		ug/L	1.00	87%	46 - 136	2	38	7045191		04/28/07 14:47
Naphthalene		0.910		ug/L	1.00	91%	47 - 129	3	39	7045191		04/28/07 14:47
Phenanthrene		1.08		ug/L	1.00	108%	50 - 133	4	37	7045191		04/28/07 14:47
Pyrene		1.18		ug/L	1.00	118%	56 - 140	4	50	7045191		04/28/07 14:47
Surrogate: Nitrobenzene-d5		0.890		ug/L	1.00	89%	24 - 125			7045191		04/28/07 14:47
Surrogate: 2-Fluorobiphenyl		0.880		ug/L	1.00	88%	30 - 120			7045191		04/28/07 14:47
Surrogate: Terphenyl-d14		1.28		ug/L	1.00	128%	29 - 149			7045191		04/28/07 14:47

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Client	Parson's Engineering (14054)	Work Order:	NQD3265
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal
	Westmont, IL 60559	Project Number:	NWABN-U0021001
Attn	Satya Varadhi	Received:	04/26/07 07:50

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM										
7045191-MS1										
Acenaphthene	ND	0.819		ug/L	0.952	86%	10 - 183	7045191	NQD3156-01	04/28/07 15:14
Acenaphthylene	ND	0.829		ug/L	0.952	87%	42 - 139	7045191	NQD3156-01	04/28/07 15:14
Anthracene	ND	1.07		ug/L	0.952	112%	26 - 152	7045191	NQD3156-01	04/28/07 15:14
Benzo (a) anthracene	ND	0.981		ug/L	0.952	103%	11 - 143	7045191	NQD3156-01	04/28/07 15:14
Benzo (a) pyrene	ND	0.676		ug/L	0.952	71%	10 - 140	7045191	NQD3156-01	04/28/07 15:14
Benzo (b) fluoranthene	ND	0.810		ug/L	0.952	85%	10 - 142	7045191	NQD3156-01	04/28/07 15:14
Benzo (g,h,i) perylene	ND	0.238		ug/L	0.952	25%	10 - 142	7045191	NQD3156-01	04/28/07 15:14
Benzo (k) fluoranthene	ND	0.838		ug/L	0.952	88%	10 - 147	7045191	NQD3156-01	04/28/07 15:14
Chrysene	ND	1.06		ug/L	0.952	111%	10 - 145	7045191	NQD3156-01	04/28/07 15:14
Dibenz (a,h) anthracene	ND	0.190		ug/L	0.952	20%	10 - 146	7045191	NQD3156-01	04/28/07 15:14
Fluoranthene	ND	1.16		ug/L	0.952	122%	34 - 135	7045191	NQD3156-01	04/28/07 15:14
Fluorene	ND	0.886		ug/L	0.952	93%	42 - 141	7045191	NQD3156-01	04/28/07 15:14
Indeno (1,2,3-cd) pyrene	ND	0.229		ug/L	0.952	24%	10 - 139	7045191	NQD3156-01	04/28/07 15:14
1-Methylnaphthalene	ND	0.800		ug/L	0.962	83%	13 - 131	7045191	NQD3156-01	04/28/07 15:14
2-Methylnaphthalene	ND	0.800		ug/L	0.952	84%	29 - 136	7045191	NQD3156-01	04/28/07 15:14
Naphthalene	ND	0.810		ug/L	0.952	85%	30 - 129	7045191	NQD3156-01	04/28/07 15:14
Phenanthrene	ND	1.01		ug/L	0.952	106%	25 - 139	7045191	NQD3156-01	04/28/07 15:14
Pyrene	ND	1.06		ug/L	0.952	111%	23 - 140	7045191	NQD3156-01	04/28/07 15:14
Surrogate: Nitrobenzene-d5		0.800		ug/L	0.952	84%	24 - 125	7045191	NQD3156-01	04/28/07 15:14
Surrogate: 2-Fluorobiphenyl		0.762		ug/L	0.952	80%	30 - 120	7045191	NQD3156-01	04/28/07 15:14
Surrogate: Terphenyl-d14		1.03		ug/L	0.952	108%	29 - 149	7045191	NQD3156-01	04/28/07 15:14

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Client	Parson's Engineering (14054)	Work Order:	NQD3265
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal
	Westmont, IL 60559	Project Number:	NWABN-U0021001
Attn	Satya Varadhi	Received:	04/26/07 07:50

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM												
7045191-MSD1												
Acenaphthene	ND	1.02		ug/L	0.952	107%	10 - 183	22	32	7045191	NQD3156-01	04/28/07 15:42
Acenaphthylene	ND	1.02		ug/L	0.952	107%	42 - 139	21	34	7045191	NQD3156-01	04/28/07 15:42
Anthracene	ND	1.30		ug/L	0.952	137%	26 - 152	19	50	7045191	NQD3156-01	04/28/07 15:42
Benzo (a) anthracene	ND	1.10		ug/L	0.952	116%	11 - 143	11	50	7045191	NQD3156-01	04/28/07 15:42
Benzo (a) pyrene	ND	0.810		ug/L	0.952	85%	10 - 140	18	38	7045191	NQD3156-01	04/28/07 15:42
Benzo (b) fluoranthene	ND	0.819		ug/L	0.952	86%	10 - 142	1	50	7045191	NQD3156-01	04/28/07 15:42
Benzo (g,h,i) perylene	ND	0.295		ug/L	0.952	31%	10 - 142	21	50	7045191	NQD3156-01	04/28/07 15:42
Benzo (k) fluoranthene	ND	0.971		ug/L	0.952	102%	10 - 147	15	50	7045191	NQD3156-01	04/28/07 15:42
Chrysene	ND	1.19		ug/L	0.952	125%	10 - 145	12	50	7045191	NQD3156-01	04/28/07 15:42
Dibenz (a,h) anthracene	ND	0.257		ug/L	0.952	27%	10 - 146	30	47	7045191	NQD3156-01	04/28/07 15:42
Fluoranthene	ND	1.32	M7	ug/L	0.952	139%	34 - 135	13	27	7045191	NQD3156-01	04/28/07 15:42
Fluorene	ND	1.10		ug/L	0.952	116%	42 - 141	22	31	7045191	NQD3156-01	04/28/07 15:42
Indeno (1,2,3-cd) pyrene	ND	0.295		ug/L	0.952	31%	10 - 139	25	50	7045191	NQD3156-01	04/28/07 15:42
1-Methylnaphthalene	ND	0.990		ug/L	0.962	103%	13 - 131	21	50	7045191	NQD3156-01	04/28/07 15:42
2-Methylnaphthalene	ND	0.990		ug/L	0.952	104%	29 - 136	21	38	7045191	NQD3156-01	04/28/07 15:42
Naphthalene	ND	1.02		ug/L	0.952	107%	30 - 129	23	39	7045191	NQD3156-01	04/28/07 15:42
Phenanthrene	ND	1.18		ug/L	0.952	124%	25 - 139	16	37	7045191	NQD3156-01	04/28/07 15:42
Pyrene	ND	1.21		ug/L	0.952	127%	23 - 140	13	50	7045191	NQD3156-01	04/28/07 15:42
Surrogate: Nitrobenzene-d5		1.10		ug/L	0.952	116%	24 - 125			7045191	NQD3156-01	04/28/07 15:42
Surrogate: 2-Fluorobiphenyl		0.943		ug/L	0.952	99%	30 - 120			7045191	NQD3156-01	04/28/07 15:42
Surrogate: Terphenyl-d14		1.19		ug/L	0.952	125%	29 - 149			7045191	NQD3156-01	04/28/07 15:42

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Client	Parson's Engineering (14054)	Work Order:	NQD3265
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal
	Westmont, IL 60559	Project Number:	NWABN-U0021001
Attn	Satya Varadhi	Received:	04/26/07 07:50

CERTIFICATION SUMMARY

TestAmerica - Nashville, TN

Method	Matrix	AIHA	Nelac	California
SW846 8015B	Water	N/A	X	X
SW846 8260B	Water	N/A	X	X
SW846 8270CSIM	Water	N/A	X	X

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQD3265
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal
	Westmont, IL 60559	Project Number:	NWABN-U0021001
Attn	Satya Varadhi	Received:	04/26/07 07:50

NELAC CERTIFICATION SUMMARY

TestAmerica Analytical - Nashville does not hold NELAC certifications for the following analytes included in this report

Method	Matrix	Analyte

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQD3265
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal
	Westmont, IL 60559	Project Number:	NWABN-U0021001
Attn	Satya Varadhi	Received:	04/26/07 07:50

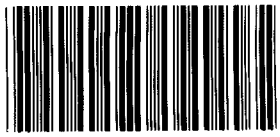
DATA QUALIFIERS AND DEFINITIONS

A-01	C10-C25
A-01a	C25-C40
B	Analyte was detected in the associated Method Blank.
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
QSG	Silica Gel clean-up performed on extracts.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica
ANALYTICAL TESTING CORPORATION
Nashville, TN

COOLER RECEIPT FORM



NQD3265

Cooler Received/Opened On 04/26/2007 @ 0750

1. Tracking # 6509 (last 4 digits, FedEx)

Courier: Fed-Ex IR Gun ID Raynger ST

2. Temperature of rep. sample or temp blank when opened: 0.9 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...(NA)

4. Were custody seals on outside of cooler? YES...(NO)...NA

If yes, how many and where: N/A

5. Were the seals intact, signed, and dated correctly? YES...NO...(NA)

6. Were custody papers inside cooler? (YES)...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) MJ

7. Were custody seals on containers: YES (NO) and Intact YES...NO...(NA)

Were these signed and dated correctly? YES...NO...(NA)

8. Packing mat'l used? (Bubblewrap) Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: (Ice) Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES)...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES)...NO...NA

12. Did all container labels and tags agree with custody papers? (YES)...NO...NA

13a. Were VOA vials received? (YES)...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...(NO)...NA

14. Was there a Trip Blank in this cooler? (YES)...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) MJ

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...(NA)

b. Did the bottle labels indicate that the correct preservatives were used (YES)...NO...NA

If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...(NO)...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) MJ

17. Were custody papers properly filled out (ink, signed, etc)? (YES)...NO...NA

18. Did you sign the custody papers in the appropriate place? (YES)...NO...NA

19. Were correct containers used for the analysis requested? (YES)...NO...NA

20. Was sufficient amount of sample sent in each container? (YES)...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) MJ

I certify that I attached a label with the unique LIMS number to each container (intial) MJ

21. Were there Non-Conformance issues at login? YES...(NO) Was a PIPE generated? YES...NO...#_____

Chevron Analysis Request/Chain of Custody

For Parsons use only
Date Results Received: _____ Requested TAT Met: Yes / No
Parsons PM Signature _____

For Laboratory use only
Acct. #: _____ Sample #: _____ SCR#: _____

PARSONS
Project Mgr.: Satya Varadhi
Project Name: Chevron Avila Terminal Cliff Springs, Avila Beach, CA
Project Charge Code: 442964.10081
Sampler: Alex
Report To: Satya Varadhi, Parsons San Luis Obispo
State of Origin: California

Analyses Requested — List total number of containers in the box under each analysis.

Preservation Codes

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☑ J value reporting needed.
* Specify special detection limits/reporting lists below.
TPH = 50 ppb
PAHs = 0.5 ppb
Metals = 1.0 ppb
VOCs = 0.5 ppb
MTBE = 1.0 ppb

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Oil ☐ Air ☐	Total Number of Containers	VOCs (8260)	TPH-gas (C4-C10) – 8015M (GC/MS)	TPH-diesel (C10-C25) – 3510 (GC/MS)	TPH-crude (C25-C40) – 3510 (GC/MS)	Silica gel cleanup	PAHs (8270 SIM) HOLD	Perform PAH analysis if TPH-crude or diesel is detected
-01 TRIP BLANK			X			X			XX	X	X	X			-C1
-02 AT-CS-B	4/25/07	1106	X			X		9	X	X	X	X	X	X	-C2

NQD3265
05/07/07 23:59

Turnaround Time Requested (TAT) (please circle)
(STD. TAT) 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / CA Geotracker EDD
WIP (RWQCB) Standard Format
Disk _____ Other.

	Date	Time		Date	Time
Relinquished by: Field Sampler Alex Hewitt	4/25/07	1300	Received by: FedEx	4/25/07	1300
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by Commercial Carrier: UPS (FedEx) Other 6509			Received by: [signature]	4/26/07	7:30

Temperature Upon Receipt 6-9 C°
Custody Seals Intact? Yes No

Chevron Project Number: NWABNU0021001

6/4/01

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

June 04, 2007 5:29:59PM

Client: Parson's Engineering (14054)
999 Oakmont Plaza Drive, Suite 420
Westmont, IL 60559
Attn: Satya Varadhi

Work Order: NQE3244
Project Name: Avila Beach Terminal - Cliff Springs
Project Nbr: NWABN-U0021001/442964.10081
P/O Nbr:
Date Received: 05/24/07

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
Trip Blank	NQE3244-01	05/23/07 00:01
AT-CS-B	NQE3244-02	05/23/07 09:30

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.
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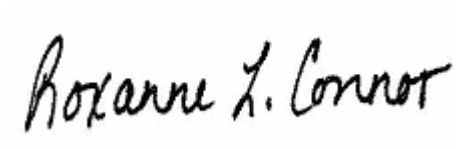
This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

California Certification Number: 01168CA

The Chain(s) of Custody, 3 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainity is available upon request.
This report has been electronically signed.
Report Approved By:



Roxanne Connor

Program Manager - Conventional Accounts

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQE3244
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal - Cliff Springs
	Westmont, IL 60559	Project Number:	NWABN-U0021001/442964.10081
Attn	Satya Varadhi	Received:	05/24/07 08:20

ANALYTICAL REPORT

Sample ID: NQE3244-01 (Trip Blank - Water) Sampled: 05/23/07 00:01

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Acetone	ND		ug/L	3.96	50.0	1	06/02/07 16:28	SW846 8260B	7055981
Benzene	ND		ug/L	0.170	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Bromobenzene	ND		ug/L	0.350	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Bromochloromethane	ND		ug/L	0.400	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Bromodichloromethane	ND		ug/L	0.150	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Bromoform	ND		ug/L	0.290	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Bromomethane	ND		ug/L	0.270	0.500	1	06/02/07 16:28	SW846 8260B	7055981
2-Butanone	ND		ug/L	2.76	50.0	1	06/02/07 16:28	SW846 8260B	7055981
sec-Butylbenzene	ND		ug/L	0.160	0.500	1	06/02/07 16:28	SW846 8260B	7055981
n-Butylbenzene	ND		ug/L	0.210	0.500	1	06/02/07 16:28	SW846 8260B	7055981
tert-Butylbenzene	ND		ug/L	0.220	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Carbon disulfide	ND		ug/L	0.180	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Carbon Tetrachloride	ND		ug/L	0.220	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Chlorobenzene	ND		ug/L	0.120	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Chlorodibromomethane	ND		ug/L	0.230	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Chloroethane	ND		ug/L	0.190	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Chloroform	ND		ug/L	0.270	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Chloromethane	ND		ug/L	0.260	0.500	1	06/02/07 16:28	SW846 8260B	7055981
4-Chlorotoluene	ND		ug/L	0.190	0.500	1	06/02/07 16:28	SW846 8260B	7055981
2-Chlorotoluene	ND		ug/L	0.130	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,2-Dibromo-3-chloropropane	ND		ug/L	0.880	1.00	1	06/02/07 16:28	SW846 8260B	7055981
1,2-Dibromoethane (EDB)	ND		ug/L	0.320	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Dibromomethane	ND		ug/L	0.230	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,4-Dichlorobenzene	ND		ug/L	0.150	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,3-Dichlorobenzene	ND		ug/L	0.160	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,2-Dichlorobenzene	ND		ug/L	0.150	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Dichlorodifluoromethane	ND		ug/L	0.140	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,2-Dichloroethane	ND		ug/L	0.370	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,1-Dichloroethane	ND		ug/L	0.130	0.500	1	06/02/07 16:28	SW846 8260B	7055981
cis-1,2-Dichloroethene	ND		ug/L	0.160	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,1-Dichloroethene	ND		ug/L	0.270	0.500	1	06/02/07 16:28	SW846 8260B	7055981
trans-1,2-Dichloroethene	ND		ug/L	0.200	0.500	1	06/02/07 16:28	SW846 8260B	7055981
2,2-Dichloropropane	ND		ug/L	0.190	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,3-Dichloropropane	ND		ug/L	0.100	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,2-Dichloropropane	ND		ug/L	0.200	0.500	1	06/02/07 16:28	SW846 8260B	7055981
trans-1,3-Dichloropropene	ND		ug/L	0.230	0.500	1	06/02/07 16:28	SW846 8260B	7055981
cis-1,3-Dichloropropene	ND		ug/L	0.270	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,1-Dichloropropene	ND		ug/L	0.160	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Ethylbenzene	ND		ug/L	0.230	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Hexachlorobutadiene	ND		ug/L	0.360	1.00	1	06/02/07 16:28	SW846 8260B	7055981
2-Hexanone	ND		ug/L	1.11	10.0	1	06/02/07 16:28	SW846 8260B	7055981
Isopropylbenzene	ND		ug/L	0.230	1.00	1	06/02/07 16:28	SW846 8260B	7055981
Diisopropyl Ether	ND		ug/L	0.210	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Methyl tert-Butyl Ether	ND		ug/L	0.190	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Methylene Chloride	ND		ug/L	0.330	5.00	1	06/02/07 16:28	SW846 8260B	7055981

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client Parson's Engineering (14054)
999 Oakmont Plaza Drive, Suite 420
Westmont, IL 60559
Attn Satya Varadhi

Work Order: NQE3244
Project Name: Avila Beach Terminal - Cliff Springs
Project Number: NWABN-U0021001/442964.10081
Received: 05/24/07 08:20

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NQE3244-01 (Trip Blank - Water) - cont. Sampled: 05/23/07 00:01									
Volatile Organic Compounds by EPA Method 8260B - cont.									
4-Methyl-2-pentanone	ND		ug/L	1.53	10.0	1	06/02/07 16:28	SW846 8260B	7055981
Styrene	ND		ug/L	0.140	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,1,1,2-Tetrachloroethane	ND		ug/L	0.220	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,1,2,2-Tetrachloroethane	ND		ug/L	0.120	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Tetrachloroethene	ND		ug/L	0.220	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Toluene	ND		ug/L	0.220	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,2,4-Trichlorobenzene	ND		ug/L	0.240	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,2,3-Trichlorobenzene	ND		ug/L	0.210	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,1,2-Trichloroethane	ND		ug/L	0.270	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,1,1-Trichloroethane	ND		ug/L	0.160	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Trichloroethene	ND		ug/L	0.170	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Trichlorofluoromethane	ND		ug/L	0.110	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,2,3-Trichloropropane	ND		ug/L	0.240	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,3,5-Trimethylbenzene	ND		ug/L	0.240	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Vinyl chloride	ND		ug/L	0.200	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Xylenes, total	ND		ug/L	0.320	0.500	1	06/02/07 16:28	SW846 8260B	7055981
1,2,4-Trimethylbenzene	ND		ug/L	0.180	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Naphthalene	ND		ug/L	0.650	5.00	1	06/02/07 16:28	SW846 8260B	7055981
p-Isopropyltoluene	ND		ug/L	0.140	0.500	1	06/02/07 16:28	SW846 8260B	7055981
n-Propylbenzene	ND		ug/L	0.180	0.500	1	06/02/07 16:28	SW846 8260B	7055981
Surr: 1,2-Dichloroethane-d4 (62-142%)	*92 %*					*1*	*06/02/07 16:28*	*SW846 8260B*	*7055981*
Surr: Dibromofluoromethane (78-123%)	*96 %*					*1*	*06/02/07 16:28*	*SW846 8260B*	*7055981*
Surr: Toluene-d8 (79-120%)	*93 %*					*1*	*06/02/07 16:28*	*SW846 8260B*	*7055981*
Surr: 4-Bromofluorobenzene (75-133%)	*99 %*					*1*	*06/02/07 16:28*	*SW846 8260B*	*7055981*
Sample ID: NQE3244-02 (AT-CS-B - Water) Sampled: 05/23/07 09:30									
Volatile Organic Compounds by EPA Method 8260B									
Acetone	ND		ug/L	3.96	50.0	1	06/02/07 18:59	SW846 8260B	7055981
Benzene	ND		ug/L	0.170	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Bromobenzene	ND		ug/L	0.350	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Bromochloromethane	ND		ug/L	0.400	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Bromodichloromethane	ND		ug/L	0.150	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Bromoform	ND		ug/L	0.290	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Bromomethane	ND		ug/L	0.270	0.500	1	06/02/07 18:59	SW846 8260B	7055981
2-Butanone	ND		ug/L	2.76	50.0	1	06/02/07 18:59	SW846 8260B	7055981
sec-Butylbenzene	ND		ug/L	0.160	0.500	1	06/02/07 18:59	SW846 8260B	7055981
n-Butylbenzene	ND		ug/L	0.210	0.500	1	06/02/07 18:59	SW846 8260B	7055981
tert-Butylbenzene	ND		ug/L	0.220	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Carbon disulfide	ND		ug/L	0.180	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Carbon Tetrachloride	ND		ug/L	0.220	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Chlorobenzene	ND		ug/L	0.120	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Chlorodibromomethane	ND		ug/L	0.230	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Chloroethane	ND		ug/L	0.190	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Chloroform	ND		ug/L	0.270	0.500	1	06/02/07 18:59	SW846 8260B	7055981

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQE3244
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal - Cliff Springs
	Westmont, IL 60559	Project Number:	NWABN-U0021001/442964.10081
Attn	Satya Varadhi	Received:	05/24/07 08:20

ANALYTICAL REPORT

Sample ID: NQE3244-02 (AT-CS-B - Water) - cont. Sampled: 05/23/07 09:30

Volatile Organic Compounds by EPA Method 8260B - cont.

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Chloromethane	ND		ug/L	0.260	0.500	1	06/02/07 18:59	SW846 8260B	7055981
4-Chlorotoluene	ND		ug/L	0.190	0.500	1	06/02/07 18:59	SW846 8260B	7055981
2-Chlorotoluene	ND		ug/L	0.130	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,2-Dibromo-3-chloropropane	ND		ug/L	0.880	1.00	1	06/02/07 18:59	SW846 8260B	7055981
1,2-Dibromoethane (EDB)	ND		ug/L	0.320	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Dibromomethane	ND		ug/L	0.230	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,4-Dichlorobenzene	ND		ug/L	0.150	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,3-Dichlorobenzene	ND		ug/L	0.160	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,2-Dichlorobenzene	ND		ug/L	0.150	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Dichlorodifluoromethane	ND		ug/L	0.140	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,2-Dichloroethane	ND		ug/L	0.370	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,1-Dichloroethane	ND		ug/L	0.130	0.500	1	06/02/07 18:59	SW846 8260B	7055981
cis-1,2-Dichloroethene	ND		ug/L	0.160	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,1-Dichloroethene	ND		ug/L	0.270	0.500	1	06/02/07 18:59	SW846 8260B	7055981
trans-1,2-Dichloroethene	ND		ug/L	0.200	0.500	1	06/02/07 18:59	SW846 8260B	7055981
2,2-Dichloropropane	ND		ug/L	0.190	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,3-Dichloropropane	ND		ug/L	0.100	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,2-Dichloropropane	ND		ug/L	0.200	0.500	1	06/02/07 18:59	SW846 8260B	7055981
trans-1,3-Dichloropropene	ND		ug/L	0.230	0.500	1	06/02/07 18:59	SW846 8260B	7055981
cis-1,3-Dichloropropene	ND		ug/L	0.270	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,1-Dichloropropene	ND		ug/L	0.160	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Ethylbenzene	ND		ug/L	0.230	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Hexachlorobutadiene	ND		ug/L	0.360	1.00	1	06/02/07 18:59	SW846 8260B	7055981
2-Hexanone	ND		ug/L	1.11	10.0	1	06/02/07 18:59	SW846 8260B	7055981
Isopropylbenzene	ND		ug/L	0.230	1.00	1	06/02/07 18:59	SW846 8260B	7055981
Diisopropyl Ether	ND		ug/L	0.210	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Methyl tert-Butyl Ether	ND		ug/L	0.190	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Methylene Chloride	ND		ug/L	0.330	5.00	1	06/02/07 18:59	SW846 8260B	7055981
4-Methyl-2-pentanone	ND		ug/L	1.53	10.0	1	06/02/07 18:59	SW846 8260B	7055981
Styrene	ND		ug/L	0.140	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,1,1,2-Tetrachloroethane	ND		ug/L	0.220	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,1,2,2-Tetrachloroethane	ND		ug/L	0.120	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Tetrachloroethene	ND		ug/L	0.220	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Toluene	ND		ug/L	0.220	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,2,4-Trichlorobenzene	ND		ug/L	0.240	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,2,3-Trichlorobenzene	ND		ug/L	0.210	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,1,2-Trichloroethane	ND		ug/L	0.270	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,1,1-Trichloroethane	ND		ug/L	0.160	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Trichloroethene	ND		ug/L	0.170	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Trichlorofluoromethane	ND		ug/L	0.110	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,2,3-Trichloropropane	ND		ug/L	0.240	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,3,5-Trimethylbenzene	ND		ug/L	0.240	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Vinyl chloride	ND		ug/L	0.200	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Xylenes, total	ND		ug/L	0.320	0.500	1	06/02/07 18:59	SW846 8260B	7055981
1,2,4-Trimethylbenzene	ND		ug/L	0.180	0.500	1	06/02/07 18:59	SW846 8260B	7055981

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Client	Parson's Engineering (14054)	Work Order:	NQE3244
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal - Cliff Springs
	Westmont, IL 60559	Project Number:	NWABN-U0021001/442964.10081
Attn	Satya Varadhi	Received:	05/24/07 08:20

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NQE3244-02 (AT-CS-B - Water) - cont. Sampled: 05/23/07 09:30									
Volatile Organic Compounds by EPA Method 8260B - cont.									
Naphthalene	ND		ug/L	0.650	5.00	1	06/02/07 18:59	SW846 8260B	7055981
p-Isopropyltoluene	ND		ug/L	0.140	0.500	1	06/02/07 18:59	SW846 8260B	7055981
n-Propylbenzene	ND		ug/L	0.180	0.500	1	06/02/07 18:59	SW846 8260B	7055981
Surr: 1,2-Dichloroethane-d4 (62-142%)	*92 %*					*1*	*06/02/07 18:59*	*SW846 8260B*	*7055981*
Surr: Dibromofluoromethane (78-123%)	*95 %*					*1*	*06/02/07 18:59*	*SW846 8260B*	*7055981*
Surr: Toluene-d8 (79-120%)	*94 %*					*1*	*06/02/07 18:59*	*SW846 8260B*	*7055981*
Surr: 4-Bromofluorobenzene (75-133%)	*98 %*					*1*	*06/02/07 18:59*	*SW846 8260B*	*7055981*
Polyaromatic Hydrocarbons by EPA 8270C SIM									
Acenaphthene	ND		ug/L	0.0394	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
Acenaphthylene	ND		ug/L	0.0244	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
Anthracene	ND		ug/L	0.0394	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
Benzo (a) anthracene	ND		ug/L	0.0319	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
Benzo (a) pyrene	ND		ug/L	0.0244	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
Benzo (b) fluoranthene	ND		ug/L	0.0235	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
Benzo (g,h,i) perylene	ND		ug/L	0.0235	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
Benzo (k) fluoranthene	ND		ug/L	0.0235	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
Chrysene	ND		ug/L	0.0329	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
Dibenz (a,h) anthracene	ND		ug/L	0.0291	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
Fluoranthene	ND		ug/L	0.0338	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
Fluorene	ND		ug/L	0.0338	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
Indeno (1,2,3-cd) pyrene	ND		ug/L	0.0235	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
1-Methylnaphthalene	ND		ug/L	0.0404	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
2-Methylnaphthalene	ND		ug/L	0.0761	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
Naphthalene	ND		ug/L	0.0366	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
Phenanthrene	**0.0845**	J, B	ug/L	0.0573	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
Pyrene	ND		ug/L	0.0319	0.0939	1	05/30/07 17:28	SW846 8270CSIM	7055219
Surr: Nitrobenzene-d5 (24-125%)	*71 %*					*1*	*05/30/07 17:28*	*SW846 8270CSIM*	*7055219*
Surr: 2-Fluorobiphenyl (30-120%)	*84 %*					*1*	*05/30/07 17:28*	*SW846 8270CSIM*	*7055219*
Surr: Terphenyl-d14 (29-149%)	*89 %*					*1*	*05/30/07 17:28*	*SW846 8270CSIM*	*7055219*
Extractable Petroleum Hydrocarbons									
Diesel	**249**	A-01	ug/L	35.2	95.2	1	05/31/07 03:51	SW846 8015B	7055222
TPH - Oil Range	**194**	A-01a	ug/L	31.4	95.2	1	05/31/07 03:51	SW846 8015B	7055222
Diesel	**343**	A-01, QSG	ug/L	35.2	95.2	1	05/29/07 14:38	SW846 8015B	7055230
TPH - Oil Range	**160**	A-01a, QSG	ug/L	31.4	95.2	1	05/29/07 14:38	SW846 8015B	7055230
Surr: o-Terphenyl (33-147%)	*57 %*					*1*	*05/31/07 03:51*	*SW846 8015B*	*7055222*
Surr: o-Terphenyl (33-147%)	*82 %*					*1*	*05/29/07 14:38*	*SW846 8015B*	*7055230*
Purgeable Petroleum Hydrocarbons									
GRO as Gasoline	ND		ug/L	43.0	50.0	1	05/26/07 09:13	SW846 8015B	7055178
Surr: a,a,a-Trifluorotoluene (44-152%)	*88 %*					*1*	*05/26/07 09:13*	*SW846 8015B*	*7055178*

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Client	Parson's Engineering (14054)	Work Order:	NQE3244
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal - Cliff Springs
	Westmont, IL 60559	Project Number:	NWABN-U0021001/442964.10081
Attn	Satya Varadhi	Received:	05/24/07 08:20

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Extractable Petroleum Hydrocarbons							
SW846 8015B	7055230	NQE3244-02	1050.00	1.00	05/26/07 13:50	BJM	EPA 3510C
SW846 8015B	7055222	NQE3244-02	1050.00	1.00	05/29/07 10:35	DXP	EPA 3510C
Polyaromatic Hydrocarbons by EPA 8270C SIM							
SW846 8270CSIM	7055219	NQE3244-02	1065.00	1.00	05/30/07 08:00	TDS	EPA 3510C

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	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal - Cliff Springs
	Westmont, IL 60559	Project Number:	NWABN-U0021001/442964.10081
Attn	Satya Varadhi	Received:	05/24/07 08:20

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
7055981-BLK1						
Acetone	<3.96		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Benzene	<0.170		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Bromobenzene	<0.350		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Bromochloromethane	<0.400		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Bromodichloromethane	<0.150		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Bromoform	<0.290		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Bromomethane	<0.270		ug/L	7055981	7055981-BLK1	06/02/07 13:06
2-Butanone	<2.76		ug/L	7055981	7055981-BLK1	06/02/07 13:06
sec-Butylbenzene	<0.160		ug/L	7055981	7055981-BLK1	06/02/07 13:06
n-Butylbenzene	<0.210		ug/L	7055981	7055981-BLK1	06/02/07 13:06
tert-Butylbenzene	<0.220		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Carbon disulfide	<0.180		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Carbon Tetrachloride	<0.220		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Chlorobenzene	<0.120		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Chlorodibromomethane	<0.230		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Chloroethane	<0.190		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Chloroform	<0.270		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Chloromethane	<0.260		ug/L	7055981	7055981-BLK1	06/02/07 13:06
4-Chlorotoluene	<0.190		ug/L	7055981	7055981-BLK1	06/02/07 13:06
2-Chlorotoluene	<0.130		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,2-Dibromo-3-chloropropane	<0.880		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,2-Dibromoethane (EDB)	<0.320		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Dibromomethane	<0.230		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,4-Dichlorobenzene	<0.150		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,3-Dichlorobenzene	<0.160		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,2-Dichlorobenzene	<0.150		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Dichlorodifluoromethane	<0.140		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,2-Dichloroethane	<0.370		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,1-Dichloroethane	<0.130		ug/L	7055981	7055981-BLK1	06/02/07 13:06
cis-1,2-Dichloroethene	<0.160		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,1-Dichloroethene	<0.270		ug/L	7055981	7055981-BLK1	06/02/07 13:06
trans-1,2-Dichloroethene	<0.200		ug/L	7055981	7055981-BLK1	06/02/07 13:06
2,2-Dichloropropane	<0.190		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,3-Dichloropropane	<0.100		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,2-Dichloropropane	<0.200		ug/L	7055981	7055981-BLK1	06/02/07 13:06
trans-1,3-Dichloropropene	<0.230		ug/L	7055981	7055981-BLK1	06/02/07 13:06
cis-1,3-Dichloropropene	<0.270		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,1-Dichloropropene	<0.160		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Ethylbenzene	<0.230		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Hexachlorobutadiene	0.590	J	ug/L	7055981	7055981-BLK1	06/02/07 13:06
2-Hexanone	<1.11		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Isopropylbenzene	<0.230		ug/L	7055981	7055981-BLK1	06/02/07 13:06

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Client	Parson's Engineering (14054)	Work Order:	NQE3244
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal - Cliff Springs
	Westmont, IL 60559	Project Number:	NWABN-U0021001/442964.10081
Attn	Satya Varadhi	Received:	05/24/07 08:20

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
7055981-BLK1						
Diisopropyl Ether	<0.210		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Methyl tert-Butyl Ether	<0.190		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Methylene Chloride	<0.330		ug/L	7055981	7055981-BLK1	06/02/07 13:06
4-Methyl-2-pentanone	<1.53		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Styrene	<0.140		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,1,1,2-Tetrachloroethane	<0.220		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,1,2,2-Tetrachloroethane	<0.120		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Tetrachloroethene	<0.220		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Toluene	<0.220		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,2,4-Trichlorobenzene	<0.240		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,2,3-Trichlorobenzene	<0.210		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,1,2-Trichloroethane	<0.270		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,1,1-Trichloroethane	<0.160		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Trichloroethene	<0.170		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Trichlorofluoromethane	<0.110		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,2,3-Trichloropropane	<0.240		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,3,5-Trimethylbenzene	<0.240		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Vinyl chloride	<0.200		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Xylenes, total	<0.320		ug/L	7055981	7055981-BLK1	06/02/07 13:06
1,2,4-Trimethylbenzene	<0.180		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Naphthalene	<0.650		ug/L	7055981	7055981-BLK1	06/02/07 13:06
p-Isopropyltoluene	<0.140		ug/L	7055981	7055981-BLK1	06/02/07 13:06
n-Propylbenzene	<0.180		ug/L	7055981	7055981-BLK1	06/02/07 13:06
Surrogate: 1,2-Dichloroethane-d4	92%			7055981	7055981-BLK1	06/02/07 13:06
Surrogate: Dibromofluoromethane	95%			7055981	7055981-BLK1	06/02/07 13:06
Surrogate: Toluene-d8	93%			7055981	7055981-BLK1	06/02/07 13:06
Surrogate: 4-Bromofluorobenzene	100%			7055981	7055981-BLK1	06/02/07 13:06
Polyaromatic Hydrocarbons by EPA 8270C SIM						
7055219-BLK1						
Acenaphthene	<0.0420		ug/L	7055219	7055219-BLK1	05/30/07 16:18
Acenaphthylene	<0.0260		ug/L	7055219	7055219-BLK1	05/30/07 16:18
Anthracene	<0.0420		ug/L	7055219	7055219-BLK1	05/30/07 16:18
Benzo (a) anthracene	<0.0340		ug/L	7055219	7055219-BLK1	05/30/07 16:18
Benzo (a) pyrene	<0.0260		ug/L	7055219	7055219-BLK1	05/30/07 16:18
Benzo (b) fluoranthene	<0.0250		ug/L	7055219	7055219-BLK1	05/30/07 16:18
Benzo (g,h,i) perylene	<0.0250		ug/L	7055219	7055219-BLK1	05/30/07 16:18
Benzo (k) fluoranthene	<0.0250		ug/L	7055219	7055219-BLK1	05/30/07 16:18
Chrysene	<0.0350		ug/L	7055219	7055219-BLK1	05/30/07 16:18
Dibenz (a,h) anthracene	<0.0310		ug/L	7055219	7055219-BLK1	05/30/07 16:18
Fluoranthene	<0.0360		ug/L	7055219	7055219-BLK1	05/30/07 16:18

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Client	Parson's Engineering (14054)	Work Order:	NQE3244
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal - Cliff Springs
	Westmont, IL 60559	Project Number:	NWABN-U0021001/442964.10081
Attn	Satya Varadhi	Received:	05/24/07 08:20

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM						
7055219-BLK1						
Fluorene	<0.0360		ug/L	7055219	7055219-BLK1	05/30/07 16:18
Indeno (1,2,3-cd) pyrene	<0.0250		ug/L	7055219	7055219-BLK1	05/30/07 16:18
1-Methylnaphthalene	<0.0430		ug/L	7055219	7055219-BLK1	05/30/07 16:18
2-Methylnaphthalene	<0.0810		ug/L	7055219	7055219-BLK1	05/30/07 16:18
Naphthalene	<0.0390		ug/L	7055219	7055219-BLK1	05/30/07 16:18
Phenanthrene	0.100	B	ug/L	7055219	7055219-BLK1	05/30/07 16:18
Pyrene	<0.0340		ug/L	7055219	7055219-BLK1	05/30/07 16:18
Surrogate: Nitrobenzene-d5	80%			7055219	7055219-BLK1	05/30/07 16:18
Surrogate: 2-Fluorobiphenyl	82%			7055219	7055219-BLK1	05/30/07 16:18
Surrogate: Terphenyl-d14	103%			7055219	7055219-BLK1	05/30/07 16:18
Extractable Petroleum Hydrocarbons						
7055222-BLK1						
Diesel	<37.0		ug/L	7055222	7055222-BLK1	05/31/07 09:51
TPH - Oil Range	62.5	J	ug/L	7055222	7055222-BLK1	05/31/07 09:51
Surrogate: o-Terphenyl	82%			7055222	7055222-BLK1	05/31/07 09:51
7055230-BLK1						
Diesel	<37.0		ug/L	7055230	7055230-BLK1	05/29/07 13:13
TPH - Oil Range	<33.0		ug/L	7055230	7055230-BLK1	05/29/07 13:13
Surrogate: o-Terphenyl	66%			7055230	7055230-BLK1	05/29/07 13:13
Purgeable Petroleum Hydrocarbons						
7055178-BLK1						
GRO as Gasoline	<43.0		ug/L	7055178	7055178-BLK1	05/25/07 20:17
Surrogate: a,a,a-Trifluorotoluene	89%			7055178	7055178-BLK1	05/25/07 20:17
7055178-BLK2						
GRO as Gasoline	<43.0		ug/L	7055178	7055178-BLK2	05/26/07 03:11
Surrogate: a,a,a-Trifluorotoluene	89%			7055178	7055178-BLK2	05/26/07 03:11

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Client	Parson's Engineering (14054)	Work Order:	NQE3244
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal - Cliff Springs
	Westmont, IL 60559	Project Number:	NWABN-U0021001/442964.10081
Attn	Satya Varadhi	Received:	05/24/07 08:20

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
7055981-BS1								
Acetone	250	315		ug/L	126%	57 - 160	7055981	06/02/07 11:50
Benzene	50.0	54.1		ug/L	108%	79 - 123	7055981	06/02/07 11:50
Bromobenzene	50.0	56.5		ug/L	113%	71 - 139	7055981	06/02/07 11:50
Bromochloromethane	50.0	54.8		ug/L	110%	80 - 126	7055981	06/02/07 11:50
Bromodichloromethane	50.0	56.8		ug/L	114%	68 - 133	7055981	06/02/07 11:50
Bromoform	50.0	47.5		ug/L	95%	43 - 135	7055981	06/02/07 11:50
Bromomethane	50.0	64.2		ug/L	128%	36 - 171	7055981	06/02/07 11:50
2-Butanone	250	290		ug/L	116%	72 - 138	7055981	06/02/07 11:50
sec-Butylbenzene	50.0	59.4		ug/L	119%	12 - 180	7055981	06/02/07 11:50
n-Butylbenzene	50.0	61.1		ug/L	122%	67 - 139	7055981	06/02/07 11:50
tert-Butylbenzene	50.0	57.9		ug/L	116%	12 - 180	7055981	06/02/07 11:50
Carbon disulfide	50.0	59.3		ug/L	119%	64 - 134	7055981	06/02/07 11:50
Carbon Tetrachloride	50.0	50.4		ug/L	101%	67 - 138	7055981	06/02/07 11:50
Chlorobenzene	50.0	52.7		ug/L	105%	85 - 122	7055981	06/02/07 11:50
Chlorodibromomethane	50.0	49.3		ug/L	99%	68 - 134	7055981	06/02/07 11:50
Chloroethane	50.0	53.8		ug/L	108%	60 - 138	7055981	06/02/07 11:50
Chloroform	50.0	53.6		ug/L	107%	76 - 124	7055981	06/02/07 11:50
Chloromethane	50.0	50.0		ug/L	100%	12 - 180	7055981	06/02/07 11:50
4-Chlorotoluene	50.0	55.1		ug/L	110%	81 - 127	7055981	06/02/07 11:50
2-Chlorotoluene	50.0	56.1		ug/L	112%	81 - 129	7055981	06/02/07 11:50
1,2-Dibromo-3-chloropropane	50.0	51.5		ug/L	103%	56 - 131	7055981	06/02/07 11:50
1,2-Dibromoethane (EDB)	50.0	55.2		ug/L	110%	83 - 128	7055981	06/02/07 11:50
Dibromomethane	50.0	53.1		ug/L	106%	78 - 124	7055981	06/02/07 11:50
1,4-Dichlorobenzene	50.0	53.9		ug/L	108%	80 - 124	7055981	06/02/07 11:50
1,3-Dichlorobenzene	50.0	54.7		ug/L	109%	82 - 127	7055981	06/02/07 11:50
1,2-Dichlorobenzene	50.0	53.7		ug/L	107%	83 - 130	7055981	06/02/07 11:50
Dichlorodifluoromethane	50.0	35.3		ug/L	71%	12 - 149	7055981	06/02/07 11:50
1,2-Dichloroethane	50.0	50.0		ug/L	100%	71 - 132	7055981	06/02/07 11:50
1,1-Dichloroethane	50.0	58.8		ug/L	118%	77 - 127	7055981	06/02/07 11:50
cis-1,2-Dichloroethene	50.0	56.4		ug/L	113%	77 - 126	7055981	06/02/07 11:50
1,1-Dichloroethene	50.0	57.8		ug/L	116%	73 - 129	7055981	06/02/07 11:50
trans-1,2-Dichloroethene	50.0	57.1		ug/L	114%	76 - 129	7055981	06/02/07 11:50
2,2-Dichloropropane	50.0	54.0		ug/L	108%	45 - 139	7055981	06/02/07 11:50
1,3-Dichloropropane	50.0	54.8		ug/L	110%	79 - 130	7055981	06/02/07 11:50
1,2-Dichloropropane	50.0	53.1		ug/L	106%	72 - 124	7055981	06/02/07 11:50
trans-1,3-Dichloropropene	50.0	50.3		ug/L	101%	64 - 127	7055981	06/02/07 11:50
cis-1,3-Dichloropropene	50.0	54.5		ug/L	109%	70 - 130	7055981	06/02/07 11:50
1,1-Dichloropropene	50.0	55.5		ug/L	111%	80 - 133	7055981	06/02/07 11:50
Ethylbenzene	50.0	52.6		ug/L	105%	83 - 125	7055981	06/02/07 11:50
Hexachlorobutadiene	50.0	56.9		ug/L	114%	63 - 135	7055981	06/02/07 11:50
2-Hexanone	250	294		ug/L	118%	67 - 141	7055981	06/02/07 11:50

Client	Parson's Engineering (14054)	Work Order:	NQE3244
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal - Cliff Springs
	Westmont, IL 60559	Project Number:	NWABN-U0021001/442964.10081
Attn	Satya Varadhi	Received:	05/24/07 08:20

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
7055981-BS1								
Isopropylbenzene	50.0	51.0		ug/L	102%	73 - 126	7055981	06/02/07 11:50
Diisopropyl Ether	50.0	52.2		ug/L	104%	70 - 128	7055981	06/02/07 11:50
Methyl tert-Butyl Ether	50.0	47.6		ug/L	95%	64 - 129	7055981	06/02/07 11:50
Methylene Chloride	50.0	60.2		ug/L	120%	81 - 128	7055981	06/02/07 11:50
4-Methyl-2-pentanone	250	279		ug/L	112%	73 - 136	7055981	06/02/07 11:50
Styrene	50.0	60.9		ug/L	122%	82 - 136	7055981	06/02/07 11:50
1,1,1,2-Tetrachloroethane	50.0	55.0		ug/L	110%	79 - 130	7055981	06/02/07 11:50
1,1,2,2-Tetrachloroethane	50.0	59.6		ug/L	119%	70 - 137	7055981	06/02/07 11:50
Tetrachloroethene	50.0	49.8		ug/L	100%	76 - 127	7055981	06/02/07 11:50
Toluene	50.0	53.6		ug/L	107%	77 - 126	7055981	06/02/07 11:50
1,2,4-Trichlorobenzene	50.0	54.3		ug/L	109%	64 - 134	7055981	06/02/07 11:50
1,2,3-Trichlorobenzene	50.0	50.4		ug/L	101%	64 - 133	7055981	06/02/07 11:50
1,1,2-Trichloroethane	50.0	53.1		ug/L	106%	78 - 128	7055981	06/02/07 11:50
1,1,1-Trichloroethane	50.0	53.8		ug/L	108%	73 - 130	7055981	06/02/07 11:50
Trichloroethene	50.0	53.0		ug/L	106%	80 - 128	7055981	06/02/07 11:50
Trichlorofluoromethane	50.0	49.4		ug/L	99%	62 - 133	7055981	06/02/07 11:50
1,2,3-Trichloropropane	50.0	52.9		ug/L	106%	50 - 153	7055981	06/02/07 11:50
1,3,5-Trimethylbenzene	50.0	55.7		ug/L	111%	79 - 129	7055981	06/02/07 11:50
Vinyl chloride	50.0	52.8		ug/L	106%	61 - 131	7055981	06/02/07 11:50
Xylenes, total	150	157		ug/L	105%	78 - 130	7055981	06/02/07 11:50
1,2,4-Trimethylbenzene	50.0	55.5		ug/L	111%	78 - 130	7055981	06/02/07 11:50
Naphthalene	50.0	58.0		ug/L	116%	66 - 137	7055981	06/02/07 11:50
p-Isopropyltoluene	50.0	56.5		ug/L	113%	74 - 131	7055981	06/02/07 11:50
n-Propylbenzene	50.0	58.4		ug/L	117%	76 - 132	7055981	06/02/07 11:50
Surrogate: 1,2-Dichloroethane-d4	25.0	21.4			86%	62 - 142	7055981	06/02/07 11:50
Surrogate: Dibromofluoromethane	25.0	23.0			92%	78 - 123	7055981	06/02/07 11:50
Surrogate: Toluene-d8	25.0	23.4			94%	79 - 120	7055981	06/02/07 11:50
Surrogate: 4-Bromofluorobenzene	25.0	25.3			101%	75 - 133	7055981	06/02/07 11:50
Polyaromatic Hydrocarbons by EPA 8270C SIM								
7055219-BS1								
Acenaphthene	1.00	0.890	MNR1	ug/L	89%	48 - 133	7055219	05/30/07 16:42
Acenaphthylene	1.00	0.920	MNR1	ug/L	92%	49 - 139	7055219	05/30/07 16:42
Anthracene	1.00	1.01	MNR1	ug/L	101%	55 - 146	7055219	05/30/07 16:42
Benzo (a) anthracene	1.00	0.990	MNR1	ug/L	99%	54 - 143	7055219	05/30/07 16:42
Benzo (a) pyrene	1.00	1.02	MNR1	ug/L	102%	47 - 140	7055219	05/30/07 16:42
Benzo (b) fluoranthene	1.00	1.03	MNR1	ug/L	103%	56 - 142	7055219	05/30/07 16:42
Benzo (g,h,i) perylene	1.00	1.00	MNR1	ug/L	100%	39 - 142	7055219	05/30/07 16:42
Benzo (k) fluoranthene	1.00	0.940	MNR1	ug/L	94%	54 - 147	7055219	05/30/07 16:42
Chrysene	1.00	1.05	MNR1	ug/L	105%	60 - 145	7055219	05/30/07 16:42
Dibenz (a,h) anthracene	1.00	1.02	MNR1	ug/L	102%	35 - 146	7055219	05/30/07 16:42

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQE3244
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal - Cliff Springs
	Westmont, IL 60559	Project Number:	NWABN-U0021001/442964.10081
Attn	Satya Varadhi	Received:	05/24/07 08:20

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM								
7055219-BS1								
Fluoranthene	1.00	1.00	MNR1	ug/L	100%	56 - 135	7055219	05/30/07 16:42
Fluorene	1.00	0.960	MNR1	ug/L	96%	52 - 141	7055219	05/30/07 16:42
Indeno (1,2,3-cd) pyrene	1.00	0.970	MNR1	ug/L	97%	41 - 139	7055219	05/30/07 16:42
1-Methylnaphthalene	1.01	0.820	MNR1	ug/L	81%	42 - 130	7055219	05/30/07 16:42
2-Methylnaphthalene	1.00	0.840	MNR1	ug/L	84%	46 - 136	7055219	05/30/07 16:42
Naphthalene	1.00	0.800	MNR1	ug/L	80%	47 - 129	7055219	05/30/07 16:42
Phenanthrene	1.00	0.960	MNR1, B	ug/L	96%	50 - 133	7055219	05/30/07 16:42
Pyrene	1.00	1.04	MNR1	ug/L	104%	56 - 140	7055219	05/30/07 16:42
Surrogate: Nitrobenzene-d5	1.00	0.800			80%	24 - 125	7055219	05/30/07 16:42
Surrogate: 2-Fluorobiphenyl	1.00	0.770			77%	30 - 120	7055219	05/30/07 16:42
Surrogate: Terphenyl-d14	1.00	1.05			105%	29 - 149	7055219	05/30/07 16:42
Extractable Petroleum Hydrocarbons								
7055222-BS1								
Diesel	1000	797		ug/L	80%	38 - 123	7055222	05/31/07 00:31
TPH - Oil Range	1000	797		ug/L	80%	49 - 118	7055222	05/31/07 00:31
Surrogate: o-Terphenyl	20.0	17.0			85%	33 - 147	7055222	05/31/07 00:31
7055230-BS1								
Diesel	1000	754		ug/L	75%	38 - 123	7055230	05/29/07 13:30
Surrogate: o-Terphenyl	20.0	18.7			94%	33 - 147	7055230	05/29/07 13:30
Purgeable Petroleum Hydrocarbons								
7055178-BS1								
GRO as Gasoline	1000	746		ug/L	75%	58 - 138	7055178	05/26/07 09:48
Surrogate: a,a,a-Trifluorotoluene	30.0	33.8			113%	44 - 152	7055178	05/26/07 09:48

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ANALYTICAL TESTING CORPORATION
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Client	Parson's Engineering (14054)	Work Order:	NQE3244
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal - Cliff Springs
	Westmont, IL 60559	Project Number:	NWABN-U0021001/442964.10081
Attn	Satya Varadhi	Received:	05/24/07 08:20

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Polyaromatic Hydrocarbons by EPA 8270C SIM												
7055219-BSD1												
Acenaphthene		0.840		ug/L	1.00	84%	48 - 133	6	32	7055219		05/30/07 17:05
Acenaphthylene		0.860		ug/L	1.00	86%	49 - 139	7	34	7055219		05/30/07 17:05
Anthracene		0.940		ug/L	1.00	94%	55 - 146	7	50	7055219		05/30/07 17:05
Benzo (a) anthracene		0.960		ug/L	1.00	96%	54 - 143	3	50	7055219		05/30/07 17:05
Benzo (a) pyrene		0.960		ug/L	1.00	96%	47 - 140	6	38	7055219		05/30/07 17:05
Benzo (b) fluoranthene		0.770		ug/L	1.00	77%	56 - 142	29	50	7055219		05/30/07 17:05
Benzo (g,h,i) perylene		0.940		ug/L	1.00	94%	39 - 142	6	50	7055219		05/30/07 17:05
Benzo (k) fluoranthene		0.910		ug/L	1.00	91%	54 - 147	3	50	7055219		05/30/07 17:05
Chrysene		0.920		ug/L	1.00	92%	60 - 145	13	50	7055219		05/30/07 17:05
Dibenz (a,h) anthracene		0.960		ug/L	1.00	96%	35 - 146	6	47	7055219		05/30/07 17:05
Fluoranthene		0.980		ug/L	1.00	98%	56 - 135	2	27	7055219		05/30/07 17:05
Fluorene		0.900		ug/L	1.00	90%	52 - 141	6	31	7055219		05/30/07 17:05
Indeno (1,2,3-cd) pyrene		0.920		ug/L	1.00	92%	41 - 139	5	50	7055219		05/30/07 17:05
1-Methylnaphthalene		0.780		ug/L	1.01	77%	42 - 130	5	50	7055219		05/30/07 17:05
2-Methylnaphthalene		0.790		ug/L	1.00	79%	46 - 136	6	38	7055219		05/30/07 17:05
Naphthalene		0.750		ug/L	1.00	75%	47 - 129	6	39	7055219		05/30/07 17:05
Phenanthrene		0.930	B	ug/L	1.00	93%	50 - 133	3	37	7055219		05/30/07 17:05
Pyrene		1.00		ug/L	1.00	100%	56 - 140	4	50	7055219		05/30/07 17:05
Surrogate: Nitrobenzene-d5		0.710		ug/L	1.00	71%	24 - 125			7055219		05/30/07 17:05
Surrogate: 2-Fluorobiphenyl		0.720		ug/L	1.00	72%	30 - 120			7055219		05/30/07 17:05
Surrogate: Terphenyl-d14		0.980		ug/L	1.00	98%	29 - 149			7055219		05/30/07 17:05
Purgeable Petroleum Hydrocarbons												
7055178-BSD1												
GRO as Gasoline		597		ug/L	1000	60%	58 - 138	22	28	7055178		05/26/07 10:23
Surrogate: a,a,a-Trifluorotoluene		32.8		ug/L	30.0	109%	44 - 152			7055178		05/26/07 10:23

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQE3244
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal - Cliff Springs
	Westmont, IL 60559	Project Number:	NWABN-U0021001/442964.10081
Attn	Satya Varadhi	Received:	05/24/07 08:20

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B										
7055981-MS1										
Acetone	ND	277		ug/L	250	111%	46 - 155	7055981	NQE3244-02	06/02/07 21:56
Benzene	ND	54.9		ug/L	50.0	110%	72 - 139	7055981	NQE3244-02	06/02/07 21:56
Bromobenzene	ND	56.2		ug/L	50.0	112%	63 - 143	7055981	NQE3244-02	06/02/07 21:56
Bromochloromethane	ND	57.1		ug/L	50.0	114%	73 - 137	7055981	NQE3244-02	06/02/07 21:56
Bromodichloromethane	ND	57.9		ug/L	50.0	116%	61 - 146	7055981	NQE3244-02	06/02/07 21:56
Bromoform	ND	45.4		ug/L	50.0	91%	39 - 135	7055981	NQE3244-02	06/02/07 21:56
Bromomethane	ND	63.4		ug/L	50.0	127%	24 - 179	7055981	NQE3244-02	06/02/07 21:56
2-Butanone	ND	268		ug/L	250	107%	60 - 150	7055981	NQE3244-02	06/02/07 21:56
sec-Butylbenzene	ND	59.9		ug/L	50.0	120%	10 - 208	7055981	NQE3244-02	06/02/07 21:56
n-Butylbenzene	ND	59.5		ug/L	50.0	119%	51 - 159	7055981	NQE3244-02	06/02/07 21:56
tert-Butylbenzene	ND	58.5		ug/L	50.0	117%	10 - 208	7055981	NQE3244-02	06/02/07 21:56
Carbon disulfide	ND	61.0		ug/L	50.0	122%	39 - 152	7055981	NQE3244-02	06/02/07 21:56
Carbon Tetrachloride	ND	54.4		ug/L	50.0	109%	63 - 151	7055981	NQE3244-02	06/02/07 21:56
Chlorobenzene	ND	52.5		ug/L	50.0	105%	71 - 140	7055981	NQE3244-02	06/02/07 21:56
Chlorodibromomethane	ND	48.2		ug/L	50.0	96%	60 - 137	7055981	NQE3244-02	06/02/07 21:56
Chloroethane	ND	59.7		ug/L	50.0	119%	59 - 153	7055981	NQE3244-02	06/02/07 21:56
Chloroform	ND	55.4		ug/L	50.0	111%	71 - 137	7055981	NQE3244-02	06/02/07 21:56
Chloromethane	ND	48.5		ug/L	50.0	97%	10 - 208	7055981	NQE3244-02	06/02/07 21:56
4-Chlorotoluene	ND	55.4		ug/L	50.0	111%	68 - 143	7055981	NQE3244-02	06/02/07 21:56
2-Chlorotoluene	ND	56.3		ug/L	50.0	113%	66 - 148	7055981	NQE3244-02	06/02/07 21:56
1,2-Dibromo-3-chloropropane	ND	49.2		ug/L	50.0	98%	46 - 140	7055981	NQE3244-02	06/02/07 21:56
1,2-Dibromoethane (EDB)	ND	53.6		ug/L	50.0	107%	72 - 138	7055981	NQE3244-02	06/02/07 21:56
Dibromomethane	ND	53.0		ug/L	50.0	106%	71 - 135	7055981	NQE3244-02	06/02/07 21:56
1,4-Dichlorobenzene	ND	51.9		ug/L	50.0	104%	68 - 139	7055981	NQE3244-02	06/02/07 21:56
1,3-Dichlorobenzene	ND	53.9		ug/L	50.0	108%	68 - 142	7055981	NQE3244-02	06/02/07 21:56
1,2-Dichlorobenzene	ND	52.9		ug/L	50.0	106%	68 - 145	7055981	NQE3244-02	06/02/07 21:56
Dichlorodifluoromethane	ND	44.4		ug/L	50.0	89%	10 - 177	7055981	NQE3244-02	06/02/07 21:56
1,2-Dichloroethane	ND	51.0		ug/L	50.0	102%	59 - 149	7055981	NQE3244-02	06/02/07 21:56
1,1-Dichloroethane	ND	59.8		ug/L	50.0	120%	71 - 142	7055981	NQE3244-02	06/02/07 21:56
cis-1,2-Dichloroethene	ND	58.0		ug/L	50.0	116%	68 - 144	7055981	NQE3244-02	06/02/07 21:56
1,1-Dichloroethene	ND	61.1		ug/L	50.0	122%	62 - 151	7055981	NQE3244-02	06/02/07 21:56
trans-1,2-Dichloroethene	ND	60.2		ug/L	50.0	120%	68 - 147	7055981	NQE3244-02	06/02/07 21:56
2,2-Dichloropropane	ND	54.1		ug/L	50.0	108%	35 - 150	7055981	NQE3244-02	06/02/07 21:56
1,3-Dichloropropane	ND	53.1		ug/L	50.0	106%	66 - 144	7055981	NQE3244-02	06/02/07 21:56
1,2-Dichloropropane	ND	54.0		ug/L	50.0	108%	68 - 138	7055981	NQE3244-02	06/02/07 21:56
trans-1,3-Dichloropropene	ND	49.3		ug/L	50.0	99%	50 - 135	7055981	NQE3244-02	06/02/07 21:56
cis-1,3-Dichloropropene	ND	52.7		ug/L	50.0	105%	52 - 143	7055981	NQE3244-02	06/02/07 21:56

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ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Parson's Engineering (14054)	Work Order:	NQE3244
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal - Cliff Springs
	Westmont, IL 60559	Project Number:	NWABN-U0021001/442964.10081
Attn	Satya Varadhi	Received:	05/24/07 08:20

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B										
7055981-MS1										
1,1-Dichloropropene	ND	59.0		ug/L	50.0	118%	72 - 148	7055981	NQE3244-02	06/02/07 21:56
Ethylbenzene	ND	53.3		ug/L	50.0	107%	66 - 145	7055981	NQE3244-02	06/02/07 21:56
Hexachlorobutadiene	ND	53.2		ug/L	50.0	106%	41 - 151	7055981	NQE3244-02	06/02/07 21:56
2-Hexanone	ND	282		ug/L	250	113%	62 - 150	7055981	NQE3244-02	06/02/07 21:56
Isopropylbenzene	ND	52.1		ug/L	50.0	104%	59 - 151	7055981	NQE3244-02	06/02/07 21:56
Diisopropyl Ether	ND	51.5		ug/L	50.0	103%	64 - 144	7055981	NQE3244-02	06/02/07 21:56
Methyl tert-Butyl Ether	ND	46.9		ug/L	50.0	94%	54 - 143	7055981	NQE3244-02	06/02/07 21:56
Methylene Chloride	ND	60.3		ug/L	50.0	121%	69 - 142	7055981	NQE3244-02	06/02/07 21:56
4-Methyl-2-pentanone	ND	279		ug/L	250	112%	63 - 150	7055981	NQE3244-02	06/02/07 21:56
Styrene	ND	60.8		ug/L	50.0	122%	29 - 164	7055981	NQE3244-02	06/02/07 21:56
1,1,1,2-Tetrachloroethane	ND	55.3		ug/L	50.0	111%	66 - 146	7055981	NQE3244-02	06/02/07 21:56
1,1,2,2-Tetrachloroethane	ND	57.5		ug/L	50.0	115%	69 - 146	7055981	NQE3244-02	06/02/07 21:56
Tetrachloroethene	ND	51.5		ug/L	50.0	103%	67 - 145	7055981	NQE3244-02	06/02/07 21:56
Toluene	ND	53.9		ug/L	50.0	108%	63 - 146	7055981	NQE3244-02	06/02/07 21:56
1,2,4-Trichlorobenzene	ND	49.8		ug/L	50.0	100%	51 - 142	7055981	NQE3244-02	06/02/07 21:56
1,2,3-Trichlorobenzene	ND	44.5		ug/L	50.0	89%	49 - 142	7055981	NQE3244-02	06/02/07 21:56
1,1,2-Trichloroethane	ND	51.1		ug/L	50.0	102%	68 - 140	7055981	NQE3244-02	06/02/07 21:56
1,1,1-Trichloroethane	ND	57.8		ug/L	50.0	116%	69 - 146	7055981	NQE3244-02	06/02/07 21:56
Trichloroethene	ND	54.7		ug/L	50.0	109%	68 - 144	7055981	NQE3244-02	06/02/07 21:56
Trichlorofluoromethane	ND	58.0		ug/L	50.0	116%	59 - 153	7055981	NQE3244-02	06/02/07 21:56
1,2,3-Trichloropropane	ND	50.9		ug/L	50.0	102%	43 - 157	7055981	NQE3244-02	06/02/07 21:56
1,3,5-Trimethylbenzene	ND	55.9		ug/L	50.0	112%	41 - 155	7055981	NQE3244-02	06/02/07 21:56
Vinyl chloride	ND	58.0		ug/L	50.0	116%	55 - 150	7055981	NQE3244-02	06/02/07 21:56
Xylenes, total	ND	159		ug/L	150	106%	40 - 161	7055981	NQE3244-02	06/02/07 21:56
1,2,4-Trimethylbenzene	ND	54.8		ug/L	50.0	110%	36 - 158	7055981	NQE3244-02	06/02/07 21:56
Naphthalene	ND	52.6		ug/L	50.0	105%	43 - 152	7055981	NQE3244-02	06/02/07 21:56
p-Isopropyltoluene	ND	56.2		ug/L	50.0	112%	58 - 149	7055981	NQE3244-02	06/02/07 21:56
n-Propylbenzene	ND	58.7		ug/L	50.0	117%	62 - 151	7055981	NQE3244-02	06/02/07 21:56
Surrogate: 1,2-Dichloroethane-d4		22.2		ug/L	25.0	89%	62 - 142	7055981	NQE3244-02	06/02/07 21:56
Surrogate: Dibromofluoromethane		23.5		ug/L	25.0	94%	78 - 123	7055981	NQE3244-02	06/02/07 21:56
Surrogate: Toluene-d8		23.3		ug/L	25.0	93%	79 - 120	7055981	NQE3244-02	06/02/07 21:56
Surrogate: 4-Bromofluorobenzene		25.0		ug/L	25.0	100%	75 - 133	7055981	NQE3244-02	06/02/07 21:56
Purgeable Petroleum Hydrocarbons										
7055178-MS1										
GRO as Gasoline	4.98	753		ug/L	1000	75%	34 - 201	7055178	NQE3085-08	05/26/07 12:06
Surrogate: a,a,a-Trifluorotoluene		34.5		ug/L	30.0	115%	44 - 152	7055178	NQE3085-08	05/26/07 12:06

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Client	Parson's Engineering (14054)	Work Order:	NQE3244
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal - Cliff Springs
	Westmont, IL 60559	Project Number:	NWABN-U0021001/442964.10081
Attn	Satya Varadhi	Received:	05/24/07 08:20

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B												
7055981-MSD1												
Acetone	ND	297		ug/L	250	119%	46 - 155	7	30	7055981	NQE3244-02	06/02/07 22:21
Benzene	ND	56.9		ug/L	50.0	114%	72 - 139	4	25	7055981	NQE3244-02	06/02/07 22:21
Bromobenzene	ND	58.9		ug/L	50.0	118%	63 - 143	5	25	7055981	NQE3244-02	06/02/07 22:21
Bromochloromethane	ND	61.7		ug/L	50.0	123%	73 - 137	8	25	7055981	NQE3244-02	06/02/07 22:21
Bromodichloromethane	ND	59.8		ug/L	50.0	120%	61 - 146	3	28	7055981	NQE3244-02	06/02/07 22:21
Bromoform	ND	48.5		ug/L	50.0	97%	39 - 135	7	27	7055981	NQE3244-02	06/02/07 22:21
Bromomethane	ND	68.7		ug/L	50.0	137%	24 - 179	8	50	7055981	NQE3244-02	06/02/07 22:21
2-Butanone	ND	283		ug/L	250	113%	60 - 150	5	33	7055981	NQE3244-02	06/02/07 22:21
sec-Butylbenzene	ND	63.6		ug/L	50.0	127%	10 - 208	6	50	7055981	NQE3244-02	06/02/07 22:21
n-Butylbenzene	ND	64.7		ug/L	50.0	129%	51 - 159	8	36	7055981	NQE3244-02	06/02/07 22:21
tert-Butylbenzene	ND	62.0		ug/L	50.0	124%	10 - 208	6	50	7055981	NQE3244-02	06/02/07 22:21
Carbon disulfide	ND	65.9		ug/L	50.0	132%	39 - 152	8	49	7055981	NQE3244-02	06/02/07 22:21
Carbon Tetrachloride	ND	56.8		ug/L	50.0	114%	63 - 151	4	26	7055981	NQE3244-02	06/02/07 22:21
Chlorobenzene	ND	56.6		ug/L	50.0	113%	71 - 140	8	26	7055981	NQE3244-02	06/02/07 22:21
Chlorodibromomethane	ND	51.4		ug/L	50.0	103%	60 - 137	6	28	7055981	NQE3244-02	06/02/07 22:21
Chloroethane	ND	64.0		ug/L	50.0	128%	59 - 153	7	49	7055981	NQE3244-02	06/02/07 22:21
Chloroform	ND	58.9		ug/L	50.0	118%	71 - 137	6	25	7055981	NQE3244-02	06/02/07 22:21
Chloromethane	ND	53.3		ug/L	50.0	107%	10 - 208	9	50	7055981	NQE3244-02	06/02/07 22:21
4-Chlorotoluene	ND	58.3		ug/L	50.0	117%	68 - 143	5	24	7055981	NQE3244-02	06/02/07 22:21
2-Chlorotoluene	ND	59.4		ug/L	50.0	119%	66 - 148	5	24	7055981	NQE3244-02	06/02/07 22:21
1,2-Dibromo-3-chloropropane	ND	49.3		ug/L	50.0	99%	46 - 140	0.2	31	7055981	NQE3244-02	06/02/07 22:21
1,2-Dibromoethane (EDB)	ND	58.3		ug/L	50.0	117%	72 - 138	8	31	7055981	NQE3244-02	06/02/07 22:21
Dibromomethane	ND	56.0		ug/L	50.0	112%	71 - 135	6	28	7055981	NQE3244-02	06/02/07 22:21
1,4-Dichlorobenzene	ND	55.0		ug/L	50.0	110%	68 - 139	6	27	7055981	NQE3244-02	06/02/07 22:21
1,3-Dichlorobenzene	ND	57.2		ug/L	50.0	114%	68 - 142	6	27	7055981	NQE3244-02	06/02/07 22:21
1,2-Dichlorobenzene	ND	56.7		ug/L	50.0	113%	68 - 145	7	39	7055981	NQE3244-02	06/02/07 22:21
Dichlorodifluoromethane	ND	46.2		ug/L	50.0	92%	10 - 177	4	26	7055981	NQE3244-02	06/02/07 22:21
1,2-Dichloroethane	ND	53.2		ug/L	50.0	106%	59 - 149	4	28	7055981	NQE3244-02	06/02/07 22:21
1,1-Dichloroethane	ND	62.5		ug/L	50.0	125%	71 - 142	4	25	7055981	NQE3244-02	06/02/07 22:21
cis-1,2-Dichloroethene	ND	62.3		ug/L	50.0	125%	68 - 144	7	27	7055981	NQE3244-02	06/02/07 22:21
1,1-Dichloroethene	ND	65.1		ug/L	50.0	130%	62 - 151	6	35	7055981	NQE3244-02	06/02/07 22:21
trans-1,2-Dichloroethene	ND	64.3		ug/L	50.0	129%	68 - 147	7	26	7055981	NQE3244-02	06/02/07 22:21
2,2-Dichloropropane	ND	59.0		ug/L	50.0	118%	35 - 150	9	26	7055981	NQE3244-02	06/02/07 22:21
1,3-Dichloropropane	ND	57.1		ug/L	50.0	114%	66 - 144	7	28	7055981	NQE3244-02	06/02/07 22:21
1,2-Dichloropropane	ND	56.3		ug/L	50.0	113%	68 - 138	4	26	7055981	NQE3244-02	06/02/07 22:21
trans-1,3-Dichloropropene	ND	52.2		ug/L	50.0	104%	50 - 135	6	27	7055981	NQE3244-02	06/02/07 22:21
cis-1,3-Dichloropropene	ND	56.0		ug/L	50.0	112%	52 - 143	6	28	7055981	NQE3244-02	06/02/07 22:21
1,1-Dichloropropene	ND	62.4		ug/L	50.0	125%	72 - 148	6	25	7055981	NQE3244-02	06/02/07 22:21
Ethylbenzene	ND	57.0		ug/L	50.0	114%	66 - 145	7	27	7055981	NQE3244-02	06/02/07 22:21
Hexachlorobutadiene	ND	60.0		ug/L	50.0	120%	41 - 151	12	30	7055981	NQE3244-02	06/02/07 22:21
2-Hexanone	ND	304		ug/L	250	122%	62 - 150	8	33	7055981	NQE3244-02	06/02/07 22:21

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Client	Parson's Engineering (14054)	Work Order:	NQE3244
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal - Cliff Springs
	Westmont, IL 60559	Project Number:	NWABN-U0021001/442964.10081
Attn	Satya Varadhi	Received:	05/24/07 08:20

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B												
7055981-MSD1												
Isopropylbenzene	ND	55.6		ug/L	50.0	111%	59 - 151	6	26	7055981	NQE3244-02	06/02/07 22:21
Diisopropyl Ether	ND	54.5		ug/L	50.0	109%	64 - 144	6	26	7055981	NQE3244-02	06/02/07 22:21
Methyl tert-Butyl Ether	ND	49.8		ug/L	50.0	100%	54 - 143	6	27	7055981	NQE3244-02	06/02/07 22:21
Methylene Chloride	ND	64.3		ug/L	50.0	129%	69 - 142	6	28	7055981	NQE3244-02	06/02/07 22:21
4-Methyl-2-pentanone	ND	295		ug/L	250	118%	63 - 150	6	31	7055981	NQE3244-02	06/02/07 22:21
Styrene	ND	65.2		ug/L	50.0	130%	29 - 164	7	49	7055981	NQE3244-02	06/02/07 22:21
1,1,1,2-Tetrachloroethane	ND	58.8		ug/L	50.0	118%	66 - 146	6	28	7055981	NQE3244-02	06/02/07 22:21
1,1,2,2-Tetrachloroethane	ND	61.7		ug/L	50.0	123%	69 - 146	7	25	7055981	NQE3244-02	06/02/07 22:21
Tetrachloroethene	ND	56.0		ug/L	50.0	112%	67 - 145	8	27	7055981	NQE3244-02	06/02/07 22:21
Toluene	ND	57.6		ug/L	50.0	115%	63 - 146	7	26	7055981	NQE3244-02	06/02/07 22:21
1,2,4-Trichlorobenzene	ND	56.3		ug/L	50.0	113%	51 - 142	12	31	7055981	NQE3244-02	06/02/07 22:21
1,2,3-Trichlorobenzene	ND	52.4		ug/L	50.0	105%	49 - 142	16	32	7055981	NQE3244-02	06/02/07 22:21
1,1,2-Trichloroethane	ND	54.7		ug/L	50.0	109%	68 - 140	7	27	7055981	NQE3244-02	06/02/07 22:21
1,1,1-Trichloroethane	ND	60.2		ug/L	50.0	120%	69 - 146	4	26	7055981	NQE3244-02	06/02/07 22:21
Trichloroethene	ND	57.1		ug/L	50.0	114%	68 - 144	4	25	7055981	NQE3244-02	06/02/07 22:21
Trichlorofluoromethane	ND	61.5		ug/L	50.0	123%	59 - 153	6	41	7055981	NQE3244-02	06/02/07 22:21
1,2,3-Trichloropropane	ND	54.4		ug/L	50.0	109%	43 - 157	7	26	7055981	NQE3244-02	06/02/07 22:21
1,3,5-Trimethylbenzene	ND	58.2		ug/L	50.0	116%	41 - 155	4	40	7055981	NQE3244-02	06/02/07 22:21
Vinyl chloride	ND	62.8		ug/L	50.0	126%	55 - 150	8	50	7055981	NQE3244-02	06/02/07 22:21
Xylenes, total	ND	168		ug/L	150	112%	40 - 161	6	50	7055981	NQE3244-02	06/02/07 22:21
1,2,4-Trimethylbenzene	ND	58.1		ug/L	50.0	116%	36 - 158	6	41	7055981	NQE3244-02	06/02/07 22:21
Naphthalene	ND	61.8		ug/L	50.0	124%	43 - 152	16	34	7055981	NQE3244-02	06/02/07 22:21
p-Isopropyltoluene	ND	60.0		ug/L	50.0	120%	58 - 149	7	50	7055981	NQE3244-02	06/02/07 22:21
n-Propylbenzene	ND	62.1		ug/L	50.0	124%	62 - 151	6	26	7055981	NQE3244-02	06/02/07 22:21
Surrogate: 1,2-Dichloroethane-d4		22.2		ug/L	25.0	89%	62 - 142			7055981	NQE3244-02	06/02/07 22:21
Surrogate: Dibromofluoromethane		23.4		ug/L	25.0	94%	78 - 123			7055981	NQE3244-02	06/02/07 22:21
Surrogate: Toluene-d8		23.6		ug/L	25.0	94%	79 - 120			7055981	NQE3244-02	06/02/07 22:21
Surrogate: 4-Bromofluorobenzene		24.9		ug/L	25.0	100%	75 - 133			7055981	NQE3244-02	06/02/07 22:21
Purgeable Petroleum Hydrocarbons												
7055178-MSD1												
GRO as Gasoline	4.98	763		ug/L	1000	76%	34 - 201	1	28	7055178	NQE3085-08	05/26/07 12:39
Surrogate: a,a,a-Trifluorotoluene		34.0		ug/L	30.0	113%	44 - 152			7055178	NQE3085-08	05/26/07 12:39

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Client	Parson's Engineering (14054)	Work Order:	NQE3244
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal - Cliff Springs
	Westmont, IL 60559	Project Number:	NWABN-U0021001/442964.10081
Attn	Satya Varadhi	Received:	05/24/07 08:20

CERTIFICATION SUMMARY

TestAmerica - Nashville, TN

Method	Matrix	AIHA	Nelac	California
SW846 8015B	Water	N/A	X	X
SW846 8260B	Water	N/A	X	X
SW846 8270CSIM	Water	N/A	X	X

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Attn	Satya Varadhi	Received:	05/24/07 08:20

NELAC CERTIFICATION SUMMARY

TestAmerica Analytical - Nashville does not hold NELAC certifications for the following analytes included in this report

Method	Matrix	Analyte

TestAmerica
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Client	Parson's Engineering (14054)	Work Order:	NQE3244
	999 Oakmont Plaza Drive, Suite 420	Project Name:	Avila Beach Terminal - Cliff Springs
	Westmont, IL 60559	Project Number:	NWABN-U0021001/442964.10081
Attn	Satya Varadhi	Received:	05/24/07 08:20

DATA QUALIFIERS AND DEFINITIONS

A-01	C10 - C25
A-01a	C25 - C40
B	Analyte was detected in the associated Method Blank.
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
MNR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike.
QSG	Silica Gel clean-up performed on extracts.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

Nashville, TN

COOLER RECEIPT FORM

NQE3244

Cooler Received/Opened On 05/2407 @ 08:00

1. Tracking # 2742 (last 4 digits, FedEx)

Courier: _____FED-EX IR Gun ID_A01124

2. Temperature of rep. sample or temp blank when opened: 0.2 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES NO NA

If yes, how many and where: _____

5. Were the seals intact, signed, and dated correctly? YES NO NA

6. Were custody papers inside cooler? YES NO NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES NO NA

Were these signed and dated correctly? YES NO NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES NO NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES NO NA

12. Did all container labels and tags agree with custody papers? YES NO NA

13a. Were VOA vials received? YES NO NA

b. Was there any observable headspace present in any VOA vial? YES NO NA

14. Was there a Trip Blank in this cooler? YES NO NA If multiple coolers, sequence # NA

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES NO NA

b. Did the bottle labels indicate that the correct preservatives were used YES NO NA

If preservation in-house was needed, record standard ID of preservative used here _____

16. Was residual chlorine present? YES NO NA ws 5/24/07

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) ws

17. Were custody papers properly filled out (ink, signed, etc)? YES NO NA

18. Did you sign the custody papers in the appropriate place? YES NO NA

19. Were correct containers used for the analysis requested? YES NO NA

20. Was sufficient amount of sample sent in each container? YES NO NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) ws

I certify that I attached a label with the unique LIMS number to each container (intial) ws

21. Were there Non-Conformance issues at login? YES NO Was a PIPE generated? YES NO #_____

ws 5/24/07 ws 5/24/07

CUC was free of different particulate

BIS = Broken in shipment

Cooler Receipt Form.doc

TestAmerica
ANALYTICAL TESTING CORPORATION
Nashville, TN

COOLER RECEIPT FORM

Cooler Received/Opened On__5/24/07 @ 16:44_

1. Tracking #__2731_____(last 4 digits, FedEx)

Courier: ____Fed-Ex_____ IR Gun ID__A00466___

2. Temperature of rep. sample or temp blank when opened:__4.5__*Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO..(NA)

4. Were custody seals on outside of cooler? YES..(NO)..NA

If yes, how many and where:_____

5. Were the seals intact, signed, and dated correctly? YES...NO..(NA)

6. Were custody papers inside cooler? (YES)..NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) (AW)

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO..NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

If preservation in-house was needed, record standard ID of preservative used here_____

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...#_____

COC only

No Samples for this project

Chevron Analysis Request/Chain of Custody

For Parsons use only
Date Results Received: _____ Requested TAT Met: Yes / No
Parsons PM Signature _____

For Laboratory use only
Acct. #: _____ Sample #: _____ SCR#: _____

PARSONS

Project Mgr.: Satya Varadhi
Project Name: Chevron Avila Terminal Cliff Springs, Avila Beach, CA
Project Charge Code: 442964.10081
Sampler: _____
Report To: Satya Varadhi, Parsons San Luis Obispo
State of Origin: California

Analyses Requested — List total number of containers in the box under each analysis.

Preservation Codes

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☑ J value reporting needed.
* Specify special detection limits/reporting lists below.
TPH = 50 ppb
PAHs = 0.5 ppb
Metals = 1.0 ppb
VOCs = 0.5 ppb
MTBE = 1.0 ppb

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water	Matrix: Oil ☐ Air ☐	Total Number of Containers	VOCs (8260)	TPH-gas (C4-C10) – 8015M (GC/MS)	TPH-diesel (C10-C25) – 3510 (GC/MS)	TPH-crude (C25-C40) – 3510 (GC/MS)	Silica gel cleanup	PAHs (8270 SIM) HOLD
-C1 TRIP BLANK	5/23/07	—			X			1	X	X	X	X		
-C2 AT-CS-B	5/23/07	0930	X			X		9	X	X	X	X	X	X

NQE3244
06/05/07 23:59

Perform PAH analysis if ~~TPH-crude or diesel is detected~~

Turnaround Time Requested (TAT) (please circle)
(STD. TAT) 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / CA Geotracker EDD
WIP (RWQCB) Standard Format
Disk _____ Other.

Relinquished by:	Date	Time	Received by:	Date	Time
Field Sampler	5/23/07	1430	FedEx	5/23/07	1430
Relinquished by Commercial Carrier: UPS (FedEx) Other _____					
Temperature Upon Receipt 6.2 C°			Custody Seals Intact? Yes No	5/24/07	8:40

Chevron Project Number: NWABNU0021001

6/4/01

ATTACHMENT 6

Human Health Risk Assessment Soil and Soil Gas Dataset

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	GS	SV-55-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
A	GS	SV-55-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0049	ug/L	0.0049	0	1
A	GS	SV-55-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0095	ug/L	0.0095	0	1
A	GS	SV-55-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	ug/L	0.0086	0	1
A	GS	SV-55-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
A	GS	SV-55-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.005	ug/L	0.005	0	1
A	GS	SV-55-15	15	18-Jul-07		1,2-Dichloroethane-d4	103	%		1	1
A	GS	SV-55-15	15	18-Jul-07	78-93-3	2-Butanone	0.0076	ug/L	0.0076	1	1
A	GS	SV-55-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.037	ug/L	0.037	0	1
A	GS	SV-55-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
A	GS	SV-55-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
A	GS	SV-55-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0058	ug/L	0.0058	0	1
A	GS	SV-55-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.0088	ug/L	0.0088	1	1
A	GS	SV-55-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0067	ug/L	0.0067	0	1
A	GS	SV-55-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
A	GS	SV-55-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
A	GS	SV-55-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0069	ug/L	0.0069	0	1
A	GS	SV-55-15	15	18-Jul-07	79-01-6	Trichloroethene	0.0066	ug/L	0.0066	0	1
A	GS	SV-55-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
A	GS	SV-55-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0057	ug/L	0.0057	0	1
A	GS	SV-55-15	15	18-Jul-07	74-83-9	Bromomethane	0.0048	ug/L	0.0048	0	1
A	GS	SV-55-15	15	18-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
A	GS	SV-55-15	15	18-Jul-07		4-Bromofluorobenzene	95	%		1	1
A	GS	SV-55-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.005	ug/L	0.005	0	1
A	GS	SV-55-15	15	18-Jul-07	67-64-1	Acetone	0.03	ug/L	0.03	1	1
A	GS	SV-55-15	15	18-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
A	GS	SV-55-15	15	18-Jul-07	71-43-2	Benzene	0.025	ug/L	0.025	1	1
A	GS	SV-55-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.0064	ug/L	0.0064	0	1
A	GS	SV-55-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0072	ug/L	0.0072	1	1
A	GS	SV-55-15	15	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
A	GS	SV-55-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
A	GS	SV-55-15	15	18-Jul-07		Carbon Dioxide	4.8	%		1	1
A	GS	SV-55-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	ug/L	0.0085	0	1
A	GS	SV-55-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	ug/L	0.0095	0	1
A	GS	SV-55-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0061	ug/L	0.0061	0	1
A	GS	SV-55-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0067	ug/L	0.0067	0	1
A	GS	SV-55-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	ug/L	0.034	0	1
A	GS	SV-55-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.005	ug/L	0.005	0	1
A	GS	SV-55-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0049	ug/L	0.0049	0	1
A	GS	SV-55-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.0083	ug/L	0.0083	0	1
A	GS	SV-55-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.0027	ug/L	0.0027	0	1
A	GS	SV-55-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
A	GS	SV-55-15	15	18-Jul-07	110-54-3	Hexane	0.1	ug/L	0.1	1	1
A	GS	SV-55-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.053	ug/L	0.053	0	1
A	GS	SV-55-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.0092	ug/L	0.0092	1	1
A	GS	SV-55-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
A	GS	SV-55-15	15	18-Jul-07		Ethene	0.0025	%		0	1
A	GS	SV-55-15	15	18-Jul-07	64-17-5	Ethanol	0.0093	ug/L	0.0093	0	1
A	GS	SV-55-15	15	18-Jul-07		Ethane	0.0025	%		0	1
A	GS	SV-55-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
A	GS	SV-55-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
A	GS	SV-55-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0061	ug/L	0.0061	0	1
A	GS	SV-55-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
A	GS	SV-55-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0049	ug/L		0	1
A	GS	SV-55-15	15	18-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
A	GS	SV-55-15	15	18-Jul-07	67-66-3	Chloroform	0.006	ug/L	0.006	0	1
A	GS	SV-55-15	15	18-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	GS	SV-55-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0057	ug/L	0.0057	0	1
A	GS	SV-55-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.0078	ug/L	0.0078	0	1
A	GS	SV-55-15	15	18-Jul-07		Carbon Monoxide	0.025	%		0	1
A	GS	SV-55-15	15	18-Jul-07		Toluene-d8	94	%		1	1
A	GS	SV-55-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.0081	ug/L	0.0081	1	1
A	GS	SV-55-15	15	18-Jul-07	110-82-7	Cyclohexane	0.0072	ug/L	0.0072	1	1
A	GS	SV-55-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.0061	ug/L	0.0061	0	1
A	GS	SV-55-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.0036	ug/L	0.0036	0	1
A	GS	SV-55-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.0084	ug/L	0.0084	0	1
A	GS	SV-55-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
A	GS	SV-55-15	15	18-Jul-07	100-42-5	Styrene	0.0053	ug/L	0.0053	0	1
A	GS	SV-55-15	15	18-Jul-07	108-88-3	Toluene	0.038	ug/L	0.038	1	1
A	GS	SV-55-15	15	18-Jul-07	95-47-6	o-Xylene	0.0084	ug/L	0.0084	1	1
A	GS	SV-55-15	15	18-Jul-07		Oxygen	17	%		1	1
A	GS	SV-55-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1
A	GS	SV-55-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.018	ug/L	0.018	1	1
A	GS	SV-55-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
A	GS	SV-55-15	15	18-Jul-07	74-82-8	Methane	0.00053	%		1	1
A	GS	SV-55-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0043	ug/L	0.0043	0	1
A	GS	SV-55-15	15	18-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
A	GS	SV-55-15	15	18-Jul-07	142-82-5	n-Heptane	0.04	ug/L	0.04	1	1
A	GS	SV-55-15	15	18-Jul-07		Nitrogen	78	%		1	1
A	GS	SV-55-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.0061	ug/L	0.0061	0	1
A	GS	SV-55-5	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
A	GS	SV-55-5	5	18-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
A	GS	SV-55-5	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
A	GS	SV-55-5	5	18-Jul-07	142-82-5	n-Heptane	0.0066	ug/L	0.0066	1	1
A	GS	SV-55-5	5	18-Jul-07		Nitrogen	78	%		1	1
A	GS	SV-55-5	5	18-Jul-07	103-65-1	n-Propylbenzene	0.0063	ug/L	0.0063	0	1
A	GS	SV-55-5	5	18-Jul-07		Oxygen	21	%		1	1
A	GS	SV-55-5	5	18-Jul-07	95-47-6	o-Xylene	0.0056	ug/L	0.0056	0	1
A	GS	SV-55-5	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.0063	ug/L	0.0063	0	1
A	GS	SV-55-5	5	18-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
A	GS	SV-55-5	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1
A	GS	SV-55-5	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0038	ug/L	0.0038	0	1
A	GS	SV-55-5	5	18-Jul-07	108-88-3	Toluene	0.011	ug/L	0.011	1	1
A	GS	SV-55-5	5	18-Jul-07		Toluene-d8	98	%		1	1
A	GS	SV-55-5	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
A	GS	SV-55-5	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
A	GS	SV-55-5	5	18-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
A	GS	SV-55-5	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
A	GS	SV-55-5	5	18-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
A	GS	SV-55-5	5	18-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
A	GS	SV-55-5	5	18-Jul-07	74-82-8	Methane	0.00026	%		0	1
A	GS	SV-55-5	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
A	GS	SV-55-5	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
A	GS	SV-55-5	5	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
A	GS	SV-55-5	5	18-Jul-07	67-64-1	Acetone	0.059	ug/L	0.059	1	1
A	GS	SV-55-5	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
A	GS	SV-55-5	5	18-Jul-07		4-Bromofluorobenzene	98	%		1	1
A	GS	SV-55-5	5	18-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
A	GS	SV-55-5	5	18-Jul-07	78-93-3	2-Butanone	0.018	ug/L	0.018	1	1
A	GS	SV-55-5	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.006	ug/L	0.006	0	1
A	GS	SV-55-5	5	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
A	GS	SV-55-5	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
A	GS	SV-55-5	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
A	GS	SV-55-5	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	GS	SV-55-5	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
A	GS	SV-55-5	5	18-Jul-07	71-43-2	Benzene	0.0062	ug/L	0.0062	1	1
A	GS	SV-55-5	5	18-Jul-07		1,2-Dichloroethane-d4	100	%		1	1
A	GS	SV-55-5	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
A	GS	SV-55-5	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
A	GS	SV-55-5	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
A	GS	SV-55-5	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
A	GS	SV-55-5	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
A	GS	SV-55-5	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
A	GS	SV-55-5	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
A	GS	SV-55-5	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
A	GS	SV-55-5	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
A	GS	SV-55-5	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
A	GS	SV-55-5	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
A	GS	SV-55-5	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
A	GS	SV-55-5	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.011	ug/L	0.011	1	1
A	GS	SV-55-5	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
A	GS	SV-55-5	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
A	GS	SV-55-5	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
A	GS	SV-55-5	5	18-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1
A	GS	SV-55-5	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
A	GS	SV-55-5	5	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
A	GS	SV-55-5	5	18-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
A	GS	SV-55-5	5	18-Jul-07	110-54-3	Hexane	0.0045	ug/L	0.0045	0	1
A	GS	SV-55-5	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
A	GS	SV-55-5	5	18-Jul-07	100-41-4	Ethylbenzene	0.0056	ug/L	0.0056	0	1
A	GS	SV-55-5	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
A	GS	SV-55-5	5	18-Jul-07		Ethene	0.0026	%		0	1
A	GS	SV-55-5	5	18-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
A	GS	SV-55-5	5	18-Jul-07		Ethane	0.0026	%		0	1
A	GS	SV-55-5	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
A	GS	SV-55-5	5	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
A	GS	SV-55-5	5	18-Jul-07	75-15-0	Carbon Disulfide	0.0061	ug/L	0.0061	1	1
A	GS	SV-55-5	5	18-Jul-07	110-82-7	Cyclohexane	0.008	ug/L	0.008	1	1
A	GS	SV-55-5	5	18-Jul-07	75-27-4	Bromodichloromethane	0.0086	ug/L	0.0086	0	1
A	GS	SV-55-5	5	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
A	GS	SV-55-5	5	18-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
A	GS	SV-55-5	5	18-Jul-07		Carbon Dioxide	0.88	%		1	1
A	GS	SV-55-5	5	18-Jul-07		Carbon Monoxide	0.026	%		0	1
A	GS	SV-55-5	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
A	GS	SV-55-5	5	18-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
A	GS	SV-55-5	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
A	GS	SV-55-5	5	18-Jul-07	67-66-3	Chloroform	0.016	ug/L	0.016	1	1
A	GS	SV-55-5	5	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
A	GS	SV-55-5	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
A	GS	SV-55-5	5	18-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
A	GS	SV-56-15	15	17-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
A	GS	SV-56-15	15	17-Jul-07		Ethene	0.0025	%		0	1
A	GS	SV-56-15	15	17-Jul-07	64-17-5	Ethanol	0.0093	ug/L	0.0093	0	1
A	GS	SV-56-15	15	17-Jul-07		Ethane	0.0025	%		0	1
A	GS	SV-56-15	15	17-Jul-07	75-71-8	Dichlorodifluoromethane	0.0061	ug/L	0.0061	0	1
A	GS	SV-56-15	15	17-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
A	GS	SV-56-15	15	17-Jul-07		Carbon Monoxide	0.025	%		0	1
A	GS	SV-56-15	15	17-Jul-07	110-82-7	Cyclohexane	0.014	ug/L	0.014	1	1
A	GS	SV-56-15	15	17-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
A	GS	SV-56-15	15	17-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0049	ug/L		0	1
A	GS	SV-56-15	15	17-Jul-07	56-23-5	Carbon tetrachloride	0.0078	ug/L	0.0078	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	GS	SV-56-15	15	17-Jul-07	108-90-7	Chlorobenzene	0.0057	ug/L	0.0057	0	1
A	GS	SV-56-15	15	17-Jul-07	100-41-4	Ethylbenzene	0.0054	ug/L	0.0054	0	1
A	GS	SV-56-15	15	17-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1
A	GS	SV-56-15	15	17-Jul-07	67-66-3	Chloroform	0.0075	ug/L	0.0075	1	1
A	GS	SV-56-15	15	17-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1
A	GS	SV-56-15	15	17-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
A	GS	SV-56-15	15	17-Jul-07	75-09-2	Methylene chloride	0.0043	ug/L	0.0043	0	1
A	GS	SV-56-15	15	17-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0067	ug/L	0.0067	0	1
A	GS	SV-56-15	15	17-Jul-07	75-15-0	Carbon Disulfide	0.034	ug/L	0.034	1	1
A	GS	SV-56-15	15	17-Jul-07	95-47-6	o-Xylene	0.0054	ug/L	0.0054	0	1
A	GS	SV-56-15	15	17-Jul-07	622-96-8	p-Ethyltoluene	0.0061	ug/L	0.0061	0	1
A	GS	SV-56-15	15	17-Jul-07		Oxygen	14	%		1	1
A	GS	SV-56-15	15	17-Jul-07	103-65-1	n-Propylbenzene	0.0061	ug/L	0.0061	0	1
A	GS	SV-56-15	15	17-Jul-07	179601-23-1	m,p-Xylenes	0.0082	ug/L	0.0082	1	1
A	GS	SV-56-15	15	17-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
A	GS	SV-56-15	15	17-Jul-07	87-68-3	Hexachlorobutadiene	0.053	ug/L	0.053	0	1
A	GS	SV-56-15	15	17-Jul-07	74-82-8	Methane	0.00025	%		0	1
A	GS	SV-56-15	15	17-Jul-07		Nitrogen	79	%		1	1
A	GS	SV-56-15	15	17-Jul-07	98-82-8	Isopropylbenzene	0.0061	ug/L	0.0061	0	1
A	GS	SV-56-15	15	17-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
A	GS	SV-56-15	15	17-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
A	GS	SV-56-15	15	17-Jul-07	110-54-3	Hexane	0.032	ug/L	0.032	1	1
A	GS	SV-56-15	15	17-Jul-07	142-82-5	n-Heptane	0.018	ug/L	0.018	1	1
A	GS	SV-56-15	15	17-Jul-07	75-34-3	1,1-Dichloroethane	0.005	ug/L	0.005	0	1
A	GS	SV-56-15	15	17-Jul-07		1,2-Dichloroethane-d4	101	%		1	1
A	GS	SV-56-15	15	17-Jul-07	107-06-2	1,2-Dichloroethane	0.005	ug/L	0.005	0	1
A	GS	SV-56-15	15	17-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
A	GS	SV-56-15	15	17-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	ug/L	0.0086	0	1
A	GS	SV-56-15	15	17-Jul-07	106-93-4	1,2-Dibromoethane	0.0095	ug/L	0.0095	0	1
A	GS	SV-56-15	15	17-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0061	ug/L	0.0061	0	1
A	GS	SV-56-15	15	17-Jul-07	75-35-4	1,1-Dichloroethene	0.0049	ug/L	0.0049	0	1
A	GS	SV-56-15	15	17-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
A	GS	SV-56-15	15	17-Jul-07	106-99-0	1,3-Butadiene	0.0027	ug/L	0.0027	0	1
A	GS	SV-56-15	15	17-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	ug/L	0.0095	0	1
A	GS	SV-56-15	15	17-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	ug/L	0.0085	0	1
A	GS	SV-56-15	15	17-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0067	ug/L	0.0067	0	1
A	GS	SV-56-15	15	17-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	ug/L	0.034	0	1
A	GS	SV-56-15	15	17-Jul-07	100-42-5	Styrene	0.0053	ug/L	0.0053	0	1
A	GS	SV-56-15	15	17-Jul-07	79-01-6	Trichloroethene	0.0066	ug/L	0.0066	0	1
A	GS	SV-56-15	15	17-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.037	ug/L	0.037	0	1
A	GS	SV-56-15	15	17-Jul-07		4-Bromofluorobenzene	99	%		1	1
A	GS	SV-56-15	15	17-Jul-07	74-83-9	Bromomethane	0.0048	ug/L	0.0048	0	1
A	GS	SV-56-15	15	17-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
A	GS	SV-56-15	15	17-Jul-07	75-27-4	Bromodichloromethane	0.0083	ug/L	0.0083	0	1
A	GS	SV-56-15	15	17-Jul-07	100-44-7	Benzyl chloride	0.0064	ug/L	0.0064	0	1
A	GS	SV-56-15	15	17-Jul-07	71-43-2	Benzene	0.0098	ug/L	0.0098	1	1
A	GS	SV-56-15	15	17-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
A	GS	SV-56-15	15	17-Jul-07	78-87-5	1,2-Dichloropropane	0.0057	ug/L	0.0057	0	1
A	GS	SV-56-15	15	17-Jul-07	108-10-1	4-Methyl-2-pentanone	0.005	ug/L	0.005	0	1
A	GS	SV-56-15	15	17-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0061	ug/L	0.0061	0	1
A	GS	SV-56-15	15	17-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
A	GS	SV-56-15	15	17-Jul-07	78-93-3	2-Butanone	0.025	ug/L	0.025	1	1
A	GS	SV-56-15	15	17-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0058	ug/L	0.0058	0	1
A	GS	SV-56-15	15	17-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
A	GS	SV-56-15	15	17-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
A	GS	SV-56-15	15	17-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
A	GS	SV-56-15	15	17-Jul-07		Carbon Dioxide	7.4	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	GS	SV-56-15	15	17-Jul-07	67-64-1	Acetone	0.032	ug/L	0.032	1	1
A	GS	SV-56-15	15	17-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
A	GS	SV-56-15	15	17-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
A	GS	SV-56-15	15	17-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
A	GS	SV-56-15	15	17-Jul-07	75-69-4	Trichlorofluoromethane	0.0069	ug/L	0.0069	0	1
A	GS	SV-56-15	15	17-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
A	GS	SV-56-15	15	17-Jul-07		Toluene-d8	95	%		1	1
A	GS	SV-56-15	15	17-Jul-07	108-88-3	Toluene	0.02	ug/L	0.02	1	1
A	GS	SV-56-15	15	17-Jul-07	109-99-9	Tetrahydrofuran	0.0036	ug/L	0.0036	0	1
A	GS	SV-56-15	15	17-Jul-07	127-18-4	Tetrachloroethene	0.0084	ug/L	0.0084	0	1
A	GS	SV-56-15	15	17-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
A	GS	SV-56-15	15	17-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0049	ug/L	0.0049	0	1
A	GS	SV-56-5	5	17-Jul-07	179601-23-1	m,p-Xylenes	0.29	ug/L	0.29	1	1
A	GS	SV-56-5	5	17-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
A	GS	SV-56-5	5	17-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
A	GS	SV-56-5	5	17-Jul-07	98-82-8	Isopropylbenzene	0.016	ug/L	0.016	1	1
A	GS	SV-56-5	5	17-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
A	GS	SV-56-5	5	17-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
A	GS	SV-56-5	5	17-Jul-07	110-54-3	Hexane	0.0044	ug/L	0.0044	0	1
A	GS	SV-56-5	5	17-Jul-07	87-68-3	Hexachlorobutadiene	0.053	ug/L	0.053	0	1
A	GS	SV-56-5	5	17-Jul-07	100-41-4	Ethylbenzene	0.2	ug/L	0.2	1	1
A	GS	SV-56-5	5	17-Jul-07		Ethene	0.0025	%		0	1
A	GS	SV-56-5	5	17-Jul-07	64-17-5	Ethanol	0.0093	ug/L	0.0093	0	1
A	GS	SV-56-5	5	17-Jul-07		Ethane	0.0025	%		0	1
A	GS	SV-56-5	5	17-Jul-07	75-71-8	Dichlorodifluoromethane	0.0061	ug/L	0.0061	0	1
A	GS	SV-56-5	5	17-Jul-07	74-82-8	Methane	0.00025	%		0	1
A	GS	SV-56-5	5	17-Jul-07	110-82-7	Cyclohexane	0.014	ug/L	0.014	1	1
A	GS	SV-56-5	5	17-Jul-07	79-01-6	Trichloroethene	0.0066	ug/L	0.0066	0	1
A	GS	SV-56-5	5	17-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0049	ug/L		0	1
A	GS	SV-56-5	5	17-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
A	GS	SV-56-5	5	17-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
A	GS	SV-56-5	5	17-Jul-07		Toluene-d8	95	%		1	1
A	GS	SV-56-5	5	17-Jul-07		Oxygen	20	%		1	1
A	GS	SV-56-5	5	17-Jul-07	95-47-6	o-Xylene	0.13	ug/L	0.13	1	1
A	GS	SV-56-5	5	17-Jul-07	622-96-8	p-Ethyltoluene	0.1	ug/L	0.1	1	1
A	GS	SV-56-5	5	17-Jul-07	100-42-5	Styrene	0.0053	ug/L	0.0053	0	1
A	GS	SV-56-5	5	17-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
A	GS	SV-56-5	5	17-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
A	GS	SV-56-5	5	17-Jul-07	127-18-4	Tetrachloroethene	0.0084	ug/L	0.0084	0	1
A	GS	SV-56-5	5	17-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
A	GS	SV-56-5	5	17-Jul-07	108-88-3	Toluene	0.36	ug/L	0.36	1	1
A	GS	SV-56-5	5	17-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1
A	GS	SV-56-5	5	17-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0049	ug/L	0.0049	0	1
A	GS	SV-56-5	5	17-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
A	GS	SV-56-5	5	17-Jul-07	142-82-5	n-Heptane	0.0059	ug/L	0.0059	1	1
A	GS	SV-56-5	5	17-Jul-07	75-69-4	Trichlorofluoromethane	0.0069	ug/L	0.0069	0	1
A	GS	SV-56-5	5	17-Jul-07	67-66-3	Chloroform	0.03	ug/L	0.03	1	1
A	GS	SV-56-5	5	17-Jul-07		Nitrogen	78	%		1	1
A	GS	SV-56-5	5	17-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
A	GS	SV-56-5	5	17-Jul-07	75-09-2	Methylene chloride	0.0043	ug/L	0.0043	0	1
A	GS	SV-56-5	5	17-Jul-07	109-99-9	Tetrahydrofuran	0.0044	ug/L	0.0044	1	1
A	GS	SV-56-5	5	17-Jul-07	75-35-4	1,1-Dichloroethene	0.0049	ug/L	0.0049	0	1
A	GS	SV-56-5	5	17-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.02	ug/L	0.02	1	1
A	GS	SV-56-5	5	17-Jul-07	78-87-5	1,2-Dichloropropane	0.0057	ug/L	0.0057	0	1
A	GS	SV-56-5	5	17-Jul-07		1,2-Dichloroethane-d4	95	%		1	1
A	GS	SV-56-5	5	17-Jul-07	107-06-2	1,2-Dichloroethane	0.005	ug/L	0.005	0	1
A	GS	SV-56-5	5	17-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0074	ug/L	0.0074	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	GS	SV-56-5	5	17-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	ug/L	0.0086	0	1
A	GS	SV-56-5	5	17-Jul-07	106-93-4	1,2-Dibromoethane	0.0095	ug/L	0.0095	0	1
A	GS	SV-56-5	5	17-Jul-07	106-99-0	1,3-Butadiene	0.0027	ug/L	0.0027	0	1
A	GS	SV-56-5	5	17-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.037	ug/L	0.037	0	1
A	GS	SV-56-5	5	17-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
A	GS	SV-56-5	5	17-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0067	ug/L	0.0067	0	1
A	GS	SV-56-5	5	17-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	ug/L	0.0095	0	1
A	GS	SV-56-5	5	17-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	ug/L	0.0085	0	1
A	GS	SV-56-5	5	17-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1
A	GS	SV-56-5	5	17-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
A	GS	SV-56-5	5	17-Jul-07	103-65-1	n-Propylbenzene	0.036	ug/L	0.036	1	1
A	GS	SV-56-5	5	17-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0067	ug/L	0.0067	0	1
A	GS	SV-56-5	5	17-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	ug/L	0.034	0	1
A	GS	SV-56-5	5	17-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.096	ug/L	0.096	1	1
A	GS	SV-56-5	5	17-Jul-07	75-27-4	Bromodichloromethane	0.01	ug/L	0.01	1	1
A	GS	SV-56-5	5	17-Jul-07		Carbon Monoxide	0.025	%		0	1
A	GS	SV-56-5	5	17-Jul-07	75-15-0	Carbon Disulfide	0.014	ug/L	0.014	1	1
A	GS	SV-56-5	5	17-Jul-07		Carbon Dioxide	1.5	%		1	1
A	GS	SV-56-5	5	17-Jul-07	56-23-5	Carbon tetrachloride	0.0078	ug/L	0.0078	0	1
A	GS	SV-56-5	5	17-Jul-07	75-34-3	1,1-Dichloroethane	0.005	ug/L	0.005	0	1
A	GS	SV-56-5	5	17-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
A	GS	SV-56-5	5	17-Jul-07	108-90-7	Chlorobenzene	0.0057	ug/L	0.0057	0	1
A	GS	SV-56-5	5	17-Jul-07	74-83-9	Bromomethane	0.0048	ug/L	0.0048	0	1
A	GS	SV-56-5	5	17-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
A	GS	SV-56-5	5	17-Jul-07	100-44-7	Benzyl chloride	0.0064	ug/L	0.0064	0	1
A	GS	SV-56-5	5	17-Jul-07	71-43-2	Benzene	0.041	ug/L	0.041	1	1
A	GS	SV-56-5	5	17-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
A	GS	SV-56-5	5	17-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
A	GS	SV-56-5	5	17-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
A	GS	SV-56-5	5	17-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0058	ug/L	0.0058	0	1
A	GS	SV-56-5	5	17-Jul-07	78-93-3	2-Butanone	0.03	ug/L	0.03	1	1
A	GS	SV-56-5	5	17-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
A	GS	SV-56-5	5	17-Jul-07		4-Bromofluorobenzene	93	%		1	1
A	GS	SV-56-5	5	17-Jul-07	108-10-1	4-Methyl-2-pentanone	0.005	ug/L	0.005	0	1
A	GS	SV-56-5	5	17-Jul-07	67-64-1	Acetone	0.11	ug/L	0.11	1	1
A	GS	SV-83-15'	15	20-Jun-12	71-43-2	Benzene	0.046	ug/L	0.046	1	1
A	GS	SV-83-15'	15	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
A	GS	SV-83-15'	15	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
A	GS	SV-83-15'	15	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-83-15'	15	20-Jun-12	141-78-6	Ethyl acetate	0.023	ug/L	0.023	1	1
A	GS	SV-83-15'	15	20-Jun-12	67-66-3	Chloroform	0.0026	ug/L	0.0026	1	1
A	GS	SV-83-15'	15	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
A	GS	SV-83-15'	15	20-Jun-12	109-99-9	Tetrahydrofuran	0.1	ug/L	0.1	1	1
A	GS	SV-83-15'	15	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-83-15'	15	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
A	GS	SV-83-15'	15	20-Jun-12	78-93-3	2-Butanone	0.2	ug/L	0.2	1	1
A	GS	SV-83-15'	15	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-83-15'	15	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
A	GS	SV-83-15'	15	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
A	GS	SV-83-15'	15	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
A	GS	SV-83-15'	15	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
A	GS	SV-83-15'	15	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-83-15'	15	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.067	ug/L	0.067	1	1
A	GS	SV-83-15'	15	20-Jun-12	142-82-5	n-Heptane	0.0084	ug/L	0.0084	1	1
A	GS	SV-83-15'	15	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
A	GS	SV-83-15'	15	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
A	GS	SV-83-15'	15	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	GS	SV-83-15'	15	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.087	ug/L	0.087	1	1
A	GS	SV-83-15'	15	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
A	GS	SV-83-15'	15	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0027	ug/L	0.0027	1	1
A	GS	SV-83-15'	15	20-Jun-12		Nitrogen	76	%		1	1
A	GS	SV-83-15'	15	20-Jun-12	74-82-8	Methane	0.01	%		0	1
A	GS	SV-83-15'	15	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
A	GS	SV-83-15'	15	20-Jun-12		TPHv (C5 - C11)	2.2	ug/L		1	1
A	GS	SV-83-15'	15	20-Jun-12	106-99-0	1,3-Butadiene	0.0055	ug/L	0.0055	1	1
A	GS	SV-83-15'	15	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.191	ug/L		1	0
A	GS	SV-83-15'	15	20-Jun-12	2037-26-5	Toluene-d8	0.201	ug/L		1	0
A	GS	SV-83-15'	15	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.378	ug/L		1	0
A	GS	SV-83-15'	15	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
A	GS	SV-83-15'	15	20-Jun-12	110-54-3	Hexane	0.022	ug/L	0.022	1	1
A	GS	SV-83-15'	15	20-Jun-12	64-17-5	Ethanol	0.031	ug/L	0.031	1	1
A	GS	SV-83-15'	15	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-83-15'	15	20-Jun-12	67-64-1	Acetone	0.079	ug/L	0.079	1	1
A	GS	SV-83-15'	15	20-Jun-12	67-63-0	Isopropyl alcohol	0.0074	ug/L	0.0074	1	1
A	GS	SV-83-15'	15	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
A	GS	SV-83-15'	15	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0013	ug/L	0.0013	1	1
A	GS	SV-83-15'	15	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
A	GS	SV-83-15'	15	20-Jun-12	75-09-2	Methylene Chloride	0.0033	ug/L	0.0033	1	1
A	GS	SV-83-15'	15	20-Jun-12	75-15-0	Carbon disulfide	0.028	ug/L	0.028	1	1
A	GS	SV-83-15'	15	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
A	GS	SV-83-15'	15	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
A	GS	SV-83-15'	15	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
A	GS	SV-83-15'	15	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
A	GS	SV-83-15'	15	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
A	GS	SV-83-15'	15	20-Jun-12	115-07-1	Propene	0.043	ug/L	0.043	1	1
A	GS	SV-83-15'	15	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
A	GS	SV-83-15'	15	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0044	ug/L	0.0044	1	1
A	GS	SV-83-15'	15	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
A	GS	SV-83-15'	15	20-Jun-12	98-06-6	tert-Butylbenzene	0.0024	ug/L	0.0024	1	1
A	GS	SV-83-15'	15	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0093	ug/L	0.0093	1	1
A	GS	SV-83-15'	15	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
A	GS	SV-83-15'	15	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
A	GS	SV-83-15'	15	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
A	GS	SV-83-15'	15	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
A	GS	SV-83-15'	15	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
A	GS	SV-83-15'	15	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
A	GS	SV-83-15'	15	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
A	GS	SV-83-15'	15	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
A	GS	SV-83-15'	15	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
A	GS	SV-83-15'	15	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	0	1
A	GS	SV-83-15'	15	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
A	GS	SV-83-15'	15	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
A	GS	SV-83-15'	15	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
A	GS	SV-83-15'	15	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	2	ug/L	2	1	1
A	GS	SV-83-15'	15	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	0.8	ug/L	0.8	1	1
A	GS	SV-83-15'	15	20-Jun-12		TPHv (C6 - C8) aromatic	0.17	ug/L		1	1
A	GS	SV-83-15'	15	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
A	GS	SV-83-15'	15	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
A	GS	SV-83-15'	15	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.044	ug/L	0.044	1	1
A	GS	SV-83-15'	15	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-83-15'	15	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
A	GS	SV-83-15'	15	20-Jun-12	108-88-3	Toluene	0.057	ug/L	0.057	1	1
A	GS	SV-83-15'	15	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
A	GS	SV-83-15'	15	20-Jun-12	591-78-6	2-Hexanone	0.0024	ug/L	0.0024	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	GS	SV-83-15'	15	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
A	GS	SV-83-15'	15	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0039	ug/L	0.0039	1	1
A	GS	SV-83-15'	15	20-Jun-12	127-18-4	Tetrachloroethene	0.0094	ug/L	0.0094	1	1
A	GS	SV-83-15'	15	20-Jun-12	103-65-1	n-Propylbenzene	0.0025	ug/L	0.0025	1	1
A	GS	SV-83-15'	15	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
A	GS	SV-83-15'	15	20-Jun-12		Carbon dioxide	2.2	%		1	1
A	GS	SV-83-15'	15	20-Jun-12	100-41-4	Ethylbenzene	0.013	ug/L	0.013	1	1
A	GS	SV-83-15'	15	20-Jun-12	179601-23-1	m,p-Xylenes	0.039	ug/L	0.039	1	1
A	GS	SV-83-15'	15	20-Jun-12	100-42-5	Styrene	0.0038	ug/L	0.0038	1	1
A	GS	SV-83-15'	15	20-Jun-12	95-47-6	o-Xylene	0.011	ug/L	0.011	1	1
A	GS	SV-83-15'	15	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
A	GS	SV-83-15'	15	20-Jun-12	74-87-3	Chloromethane	0.0015	ug/L	0.0015	1	1
A	GS	SV-83-15'	15	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
A	GS	SV-83-15'	15	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
A	GS	SV-83-15'	15	20-Jun-12	622-96-8	p-Ethyltoluene	0.0036	ug/L	0.0036	1	1
A	GS	SV-83-15'	15	20-Jun-12	98-82-8	Isopropylbenzene	0.032	ug/L	0.032	1	1
A	GS	SV-83-15'	15	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
A	GS	SV-83-15'	15	20-Jun-12		Oxygen	19	%		1	1
A	GS	SV-83-5'	5	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
A	GS	SV-83-5'	5	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
A	GS	SV-83-5'	5	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-83-5'	5	20-Jun-12	141-78-6	Ethyl acetate	0.018	ug/L	0.018	1	1
A	GS	SV-83-5'	5	20-Jun-12	67-66-3	Chloroform	0.0028	ug/L	0.0028	1	1
A	GS	SV-83-5'	5	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
A	GS	SV-83-5'	5	20-Jun-12	109-99-9	Tetrahydrofuran	0.05	ug/L	0.05	1	1
A	GS	SV-83-5'	5	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-83-5'	5	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
A	GS	SV-83-5'	5	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
A	GS	SV-83-5'	5	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.062	ug/L	0.062	1	1
A	GS	SV-83-5'	5	20-Jun-12	71-43-2	Benzene	0.0021	ug/L	0.0021	1	1
A	GS	SV-83-5'	5	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
A	GS	SV-83-5'	5	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
A	GS	SV-83-5'	5	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
A	GS	SV-83-5'	5	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-83-5'	5	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.0061	ug/L	0.0061	1	1
A	GS	SV-83-5'	5	20-Jun-12	142-82-5	n-Heptane	0.0041	ug/L	0.0041	0	1
A	GS	SV-83-5'	5	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
A	GS	SV-83-5'	5	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
A	GS	SV-83-5'	5	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
A	GS	SV-83-5'	5	20-Jun-12	115-07-1	Propene	0.0023	ug/L	0.0023	1	1
A	GS	SV-83-5'	5	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-83-5'	5	20-Jun-12	64-17-5	Ethanol	0.026	ug/L	0.026	1	1
A	GS	SV-83-5'	5	20-Jun-12		Carbon dioxide	2.5	%		1	1
A	GS	SV-83-5'	5	20-Jun-12		Oxygen	19	%		1	1
A	GS	SV-83-5'	5	20-Jun-12		Nitrogen	77	%		1	1
A	GS	SV-83-5'	5	20-Jun-12	74-82-8	Methane	0.01	%		0	1
A	GS	SV-83-5'	5	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
A	GS	SV-83-5'	5	20-Jun-12		TPHv (C5 - C11)	1.4	ug/L		1	1
A	GS	SV-83-5'	5	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
A	GS	SV-83-5'	5	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.185	ug/L		1	0
A	GS	SV-83-5'	5	20-Jun-12	2037-26-5	Toluene-d8	0.2	ug/L		1	0
A	GS	SV-83-5'	5	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.377	ug/L		1	0
A	GS	SV-83-5'	5	20-Jun-12	110-54-3	Hexane	0.0036	ug/L	0.0036	0	1
A	GS	SV-83-5'	5	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
A	GS	SV-83-5'	5	20-Jun-12	78-93-3	2-Butanone	0.11	ug/L	0.11	1	1
A	GS	SV-83-5'	5	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0024	ug/L	0.0024	1	1
A	GS	SV-83-5'	5	20-Jun-12	67-64-1	Acetone	0.055	ug/L	0.055	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	GS	SV-83-5'	5	20-Jun-12	67-63-0	Isopropyl alcohol	0.0072	ug/L	0.0072	1	1
A	GS	SV-83-5'	5	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0021	ug/L	0.0021	1	1
A	GS	SV-83-5'	5	20-Jun-12	75-09-2	Methylene Chloride	0.0022	ug/L	0.0022	1	1
A	GS	SV-83-5'	5	20-Jun-12	75-15-0	Carbon disulfide	0.0049	ug/L	0.0049	1	1
A	GS	SV-83-5'	5	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
A	GS	SV-83-5'	5	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
A	GS	SV-83-5'	5	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
A	GS	SV-83-5'	5	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.04	ug/L	0.04	1	1
A	GS	SV-83-5'	5	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
A	GS	SV-83-5'	5	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
A	GS	SV-83-5'	5	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
A	GS	SV-83-5'	5	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0022	ug/L	0.0022	1	1
A	GS	SV-83-5'	5	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
A	GS	SV-83-5'	5	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
A	GS	SV-83-5'	5	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0045	ug/L	0.0045	1	1
A	GS	SV-83-5'	5	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
A	GS	SV-83-5'	5	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
A	GS	SV-83-5'	5	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
A	GS	SV-83-5'	5	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
A	GS	SV-83-5'	5	20-Jun-12	103-65-1	n-Propylbenzene	0.005	ug/L	0.005	0	1
A	GS	SV-83-5'	5	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
A	GS	SV-83-5'	5	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
A	GS	SV-83-5'	5	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
A	GS	SV-83-5'	5	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
A	GS	SV-83-5'	5	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	0	1
A	GS	SV-83-5'	5	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
A	GS	SV-83-5'	5	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
A	GS	SV-83-5'	5	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
A	GS	SV-83-5'	5	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	0.87	ug/L	0.87	1	1
A	GS	SV-83-5'	5	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	0.71	ug/L	0.71	1	1
A	GS	SV-83-5'	5	20-Jun-12		TPHv (C6 - C8) aromatic	0.1	ug/L		0	1
A	GS	SV-83-5'	5	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
A	GS	SV-83-5'	5	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
A	GS	SV-83-5'	5	20-Jun-12	100-41-4	Ethylbenzene	0.0052	ug/L	0.0052	1	1
A	GS	SV-83-5'	5	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-83-5'	5	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
A	GS	SV-83-5'	5	20-Jun-12	108-88-3	Toluene	0.02	ug/L	0.02	1	1
A	GS	SV-83-5'	5	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
A	GS	SV-83-5'	5	20-Jun-12	591-78-6	2-Hexanone	0.0022	ug/L	0.0022	1	1
A	GS	SV-83-5'	5	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
A	GS	SV-83-5'	5	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0037	ug/L	0.0037	1	1
A	GS	SV-83-5'	5	20-Jun-12	127-18-4	Tetrachloroethene	0.0051	ug/L	0.0051	1	1
A	GS	SV-83-5'	5	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
A	GS	SV-83-5'	5	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
A	GS	SV-83-5'	5	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
A	GS	SV-83-5'	5	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-83-5'	5	20-Jun-12	179601-23-1	m,p-Xylenes	0.013	ug/L	0.013	1	1
A	GS	SV-83-5'	5	20-Jun-12	100-42-5	Styrene	0.0029	ug/L	0.0029	1	1
A	GS	SV-83-5'	5	20-Jun-12	95-47-6	o-Xylene	0.0043	ug/L	0.0043	1	1
A	GS	SV-83-5'	5	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
A	GS	SV-83-5'	5	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
A	GS	SV-83-5'	5	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
A	GS	SV-83-5'	5	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
A	GS	SV-83-5'	5	20-Jun-12	622-96-8	p-Ethyltoluene	0.005	ug/L	0.005	0	1
A	GS	SV-83-5'	5	20-Jun-12	98-82-8	Isopropylbenzene	0.031	ug/L	0.031	1	1
A	GS	SV-83-5'	5	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
A	GS	SV-83-5'	5	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	GS	SV-83-5'	5	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
A	GS	SV-84-15'	15	20-Jun-12	71-43-2	Benzene	0.0042	ug/L	0.0042	1	1
A	GS	SV-84-15'	15	20-Jun-12	78-93-3	2-Butanone	0.025	ug/L	0.025	1	1
A	GS	SV-84-15'	15	20-Jun-12	110-54-3	Hexane	0.022	ug/L	0.022	1	1
A	GS	SV-84-15'	15	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
A	GS	SV-84-15'	15	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-84-15'	15	20-Jun-12	141-78-6	Ethyl acetate	0.018	ug/L	0.018	0	1
A	GS	SV-84-15'	15	20-Jun-12	67-66-3	Chloroform	0.015	ug/L	0.015	1	1
A	GS	SV-84-15'	15	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
A	GS	SV-84-15'	15	20-Jun-12	109-99-9	Tetrahydrofuran	0.03	ug/L	0.03	0	1
A	GS	SV-84-15'	15	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-84-15'	15	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
A	GS	SV-84-15'	15	20-Jun-12		Carbon dioxide	7.1	%		1	1
A	GS	SV-84-15'	15	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-84-15'	15	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.011	ug/L	0.011	1	1
A	GS	SV-84-15'	15	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
A	GS	SV-84-15'	15	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
A	GS	SV-84-15'	15	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
A	GS	SV-84-15'	15	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.22	ug/L	0.22	1	1
A	GS	SV-84-15'	15	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
A	GS	SV-84-15'	15	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
A	GS	SV-84-15'	15	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
A	GS	SV-84-15'	15	20-Jun-12	115-07-1	Propene	0.0031	ug/L	0.0031	1	1
A	GS	SV-84-15'	15	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
A	GS	SV-84-15'	15	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
A	GS	SV-84-15'	15	20-Jun-12	64-17-5	Ethanol	0.052	ug/L	0.052	1	1
A	GS	SV-84-15'	15	20-Jun-12		Oxygen	12	%		1	1
A	GS	SV-84-15'	15	20-Jun-12		Nitrogen	81	%		1	1
A	GS	SV-84-15'	15	20-Jun-12	74-82-8	Methane	0.01	%		0	1
A	GS	SV-84-15'	15	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
A	GS	SV-84-15'	15	20-Jun-12		TPHv (C5 - C11)	2.5	ug/L		1	1
A	GS	SV-84-15'	15	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
A	GS	SV-84-15'	15	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.216	ug/L		1	0
A	GS	SV-84-15'	15	20-Jun-12	2037-26-5	Toluene-d8	0.207	ug/L		1	0
A	GS	SV-84-15'	15	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.386	ug/L		1	0
A	GS	SV-84-15'	15	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
A	GS	SV-84-15'	15	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
A	GS	SV-84-15'	15	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
A	GS	SV-84-15'	15	20-Jun-12	75-69-4	Trichlorofluoromethane	0.046	ug/L	0.046	1	1
A	GS	SV-84-15'	15	20-Jun-12	67-64-1	Acetone	0.077	ug/L	0.077	1	1
A	GS	SV-84-15'	15	20-Jun-12	67-63-0	Isopropyl alcohol	0.025	ug/L	0.025	0	1
A	GS	SV-84-15'	15	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
A	GS	SV-84-15'	15	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0061	ug/L	0.0061	0	1
A	GS	SV-84-15'	15	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
A	GS	SV-84-15'	15	20-Jun-12	75-09-2	Methylene Chloride	0.0035	ug/L	0.0035	0	1
A	GS	SV-84-15'	15	20-Jun-12	75-15-0	Carbon disulfide	0.0063	ug/L	0.0063	0	1
A	GS	SV-84-15'	15	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
A	GS	SV-84-15'	15	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-84-15'	15	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
A	GS	SV-84-15'	15	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
A	GS	SV-84-15'	15	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-84-15'	15	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0036	ug/L	0.0036	1	1
A	GS	SV-84-15'	15	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
A	GS	SV-84-15'	15	20-Jun-12	98-06-6	tert-Butylbenzene	0.0023	ug/L	0.0023	1	1
A	GS	SV-84-15'	15	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.018	ug/L	0.018	1	1
A	GS	SV-84-15'	15	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
A	GS	SV-84-15'	15	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	GS	SV-84-15'	15	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
A	GS	SV-84-15'	15	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
A	GS	SV-84-15'	15	20-Jun-12	103-65-1	n-Propylbenzene	0.0051	ug/L	0.0051	1	1
A	GS	SV-84-15'	15	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
A	GS	SV-84-15'	15	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
A	GS	SV-84-15'	15	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
A	GS	SV-84-15'	15	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
A	GS	SV-84-15'	15	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	0	1
A	GS	SV-84-15'	15	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
A	GS	SV-84-15'	15	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
A	GS	SV-84-15'	15	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
A	GS	SV-84-15'	15	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	3.5	ug/L	3.5	1	1
A	GS	SV-84-15'	15	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	0.29	ug/L	0.29	1	1
A	GS	SV-84-15'	15	20-Jun-12		TPHv (C6 - C8) aromatic	0.086	ug/L		1	1
A	GS	SV-84-15'	15	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.11	ug/L	0.11	1	1
A	GS	SV-84-15'	15	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
A	GS	SV-84-15'	15	20-Jun-12	100-41-4	Ethylbenzene	0.011	ug/L	0.011	1	1
A	GS	SV-84-15'	15	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-84-15'	15	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
A	GS	SV-84-15'	15	20-Jun-12	108-88-3	Toluene	0.017	ug/L	0.017	1	1
A	GS	SV-84-15'	15	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
A	GS	SV-84-15'	15	20-Jun-12	591-78-6	2-Hexanone	0.0083	ug/L	0.0083	0	1
A	GS	SV-84-15'	15	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
A	GS	SV-84-15'	15	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.01	ug/L	0.01	1	1
A	GS	SV-84-15'	15	20-Jun-12	127-18-4	Tetrachloroethene	0.0069	ug/L	0.0069	0	1
A	GS	SV-84-15'	15	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
A	GS	SV-84-15'	15	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
A	GS	SV-84-15'	15	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
A	GS	SV-84-15'	15	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.0083	ug/L	0.0083	0	1
A	GS	SV-84-15'	15	20-Jun-12	179601-23-1	m,p-Xylenes	0.042	ug/L	0.042	1	1
A	GS	SV-84-15'	15	20-Jun-12	100-42-5	Styrene	0.0043	ug/L	0.0043	0	1
A	GS	SV-84-15'	15	20-Jun-12	95-47-6	o-Xylene	0.012	ug/L	0.012	1	1
A	GS	SV-84-15'	15	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
A	GS	SV-84-15'	15	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
A	GS	SV-84-15'	15	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
A	GS	SV-84-15'	15	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
A	GS	SV-84-15'	15	20-Jun-12	622-96-8	p-Ethyltoluene	0.0039	ug/L	0.0039	1	1
A	GS	SV-84-15'	15	20-Jun-12	98-82-8	Isopropylbenzene	0.0045	ug/L	0.0045	1	1
A	GS	SV-84-15'	15	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
A	GS	SV-84-15'	15	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.005	ug/L	0.005	1	1
A	GS	SV-84-15'	15	20-Jun-12	142-82-5	n-Heptane	0.024	ug/L	0.024	1	1
A	GS	SV-84-5'	5	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
A	GS	SV-84-5'	5	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
A	GS	SV-84-5'	5	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
A	GS	SV-84-5'	5	20-Jun-12	95-47-6	o-Xylene	0.012	ug/L	0.012	1	1
A	GS	SV-84-5'	5	20-Jun-12	100-42-5	Styrene	0.0043	ug/L	0.0043	0	1
A	GS	SV-84-5'	5	20-Jun-12	179601-23-1	m,p-Xylenes	0.032	ug/L	0.032	1	1
A	GS	SV-84-5'	5	20-Jun-12	100-41-4	Ethylbenzene	0.01	ug/L	0.01	1	1
A	GS	SV-84-5'	5	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
A	GS	SV-84-5'	5	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.0054	ug/L	0.0054	1	1
A	GS	SV-84-5'	5	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
A	GS	SV-84-5'	5	20-Jun-12	127-18-4	Tetrachloroethene	0.007	ug/L	0.007	1	1
A	GS	SV-84-5'	5	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0072	ug/L	0.0072	1	1
A	GS	SV-84-5'	5	20-Jun-12	142-82-5	n-Heptane	0.0032	ug/L	0.0032	1	1
A	GS	SV-84-5'	5	20-Jun-12	591-78-6	2-Hexanone	0.0018	ug/L	0.0018	1	1
A	GS	SV-84-5'	5	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
A	GS	SV-84-5'	5	20-Jun-12	108-88-3	Toluene	0.03	ug/L	0.03	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	GS	SV-84-5'	5	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
A	GS	SV-84-5'	5	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-84-5'	5	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.0083	ug/L	0.0083	0	1
A	GS	SV-84-5'	5	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-84-5'	5	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
A	GS	SV-84-5'	5	20-Jun-12	115-07-1	Propene	0.0054	ug/L	0.0054	1	1
A	GS	SV-84-5'	5	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
A	GS	SV-84-5'	5	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
A	GS	SV-84-5'	5	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
A	GS	SV-84-5'	5	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
A	GS	SV-84-5'	5	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
A	GS	SV-84-5'	5	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.051	ug/L	0.051	1	1
A	GS	SV-84-5'	5	20-Jun-12		TPHv (C6 - C8) aromatic	0.093	ug/L		1	1
A	GS	SV-84-5'	5	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	0.53	ug/L	0.53	1	1
A	GS	SV-84-5'	5	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	1.1	ug/L	1.1	1	1
A	GS	SV-84-5'	5	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
A	GS	SV-84-5'	5	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
A	GS	SV-84-5'	5	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
A	GS	SV-84-5'	5	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	0	1
A	GS	SV-84-5'	5	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
A	GS	SV-84-5'	5	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
A	GS	SV-84-5'	5	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
A	GS	SV-84-5'	5	20-Jun-12	622-96-8	p-Ethyltoluene	0.0034	ug/L	0.0034	1	1
A	GS	SV-84-5'	5	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0024	ug/L	0.0024	1	1
A	GS	SV-84-5'	5	20-Jun-12	98-82-8	Isopropylbenzene	0.0026	ug/L	0.0026	1	1
A	GS	SV-84-5'	5	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
A	GS	SV-84-5'	5	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
A	GS	SV-84-5'	5	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
A	GS	SV-84-5'	5	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0088	ug/L	0.0088	1	1
A	GS	SV-84-5'	5	20-Jun-12	98-06-6	tert-Butylbenzene	0.0023	ug/L	0.0023	1	1
A	GS	SV-84-5'	5	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
A	GS	SV-84-5'	5	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0037	ug/L	0.0037	1	1
A	GS	SV-84-5'	5	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
A	GS	SV-84-5'	5	20-Jun-12	103-65-1	n-Propylbenzene	0.0023	ug/L	0.0023	1	1
A	GS	SV-84-5'	5	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
A	GS	SV-84-5'	5	20-Jun-12	74-87-3	Chloromethane	0.00093	ug/L	0.00093	1	1
A	GS	SV-84-5'	5	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
A	GS	SV-84-5'	5	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.376	ug/L		1	0
A	GS	SV-84-5'	5	20-Jun-12	75-09-2	Methylene Chloride	0.0018	ug/L	0.0018	1	1
A	GS	SV-84-5'	5	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
A	GS	SV-84-5'	5	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0016	ug/L	0.0016	1	1
A	GS	SV-84-5'	5	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
A	GS	SV-84-5'	5	20-Jun-12	67-63-0	Isopropyl alcohol	0.0023	ug/L	0.0023	1	1
A	GS	SV-84-5'	5	20-Jun-12	67-64-1	Acetone	0.053	ug/L	0.053	1	1
A	GS	SV-84-5'	5	20-Jun-12	75-69-4	Trichlorofluoromethane	0.023	ug/L	0.023	1	1
A	GS	SV-84-5'	5	20-Jun-12	64-17-5	Ethanol	0.026	ug/L	0.026	1	1
A	GS	SV-84-5'	5	20-Jun-12	75-15-0	Carbon disulfide	0.023	ug/L	0.023	1	1
A	GS	SV-84-5'	5	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
A	GS	SV-84-5'	5	20-Jun-12	2037-26-5	Toluene-d8	0.203	ug/L		1	0
A	GS	SV-84-5'	5	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.18	ug/L		1	0
A	GS	SV-84-5'	5	20-Jun-12		TPHv (C5 - C11)	1.3	ug/L		1	1
A	GS	SV-84-5'	5	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
A	GS	SV-84-5'	5	20-Jun-12	74-82-8	Methane	0.01	%		0	1
A	GS	SV-84-5'	5	20-Jun-12		Nitrogen	78	%		1	1
A	GS	SV-84-5'	5	20-Jun-12		Oxygen	16	%		1	1
A	GS	SV-84-5'	5	20-Jun-12		Carbon dioxide	4.7	%		1	1
A	GS	SV-84-5'	5	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.017	ug/L	0.017	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	GS	SV-84-5'	5	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
A	GS	SV-84-5'	5	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
A	GS	SV-84-5'	5	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
A	GS	SV-84-5'	5	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-84-5'	5	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
A	GS	SV-84-5'	5	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
A	GS	SV-84-5'	5	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
A	GS	SV-84-5'	5	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
A	GS	SV-84-5'	5	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
A	GS	SV-84-5'	5	20-Jun-12	71-43-2	Benzene	0.0091	ug/L	0.0091	1	1
A	GS	SV-84-5'	5	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
A	GS	SV-84-5'	5	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-84-5'	5	20-Jun-12	109-99-9	Tetrahydrofuran	0.03	ug/L	0.03	0	1
A	GS	SV-84-5'	5	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
A	GS	SV-84-5'	5	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
A	GS	SV-84-5'	5	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-84-5'	5	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
A	GS	SV-84-5'	5	20-Jun-12	67-66-3	Chloroform	0.015	ug/L	0.015	1	1
A	GS	SV-84-5'	5	20-Jun-12	110-54-3	Hexane	0.0053	ug/L	0.0053	1	1
A	GS	SV-84-5'	5	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
A	GS	SV-84-5'	5	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
A	GS	SV-84-5'	5	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-84-5'	5	20-Jun-12	141-78-6	Ethyl acetate	0.0078	ug/L	0.0078	1	1
A	GS	SV-84-5'	5	20-Jun-12	78-93-3	2-Butanone	0.012	ug/L	0.012	1	1
A	GS	SV-85-15'	15	20-Jun-12	142-82-5	n-Heptane	0.0041	ug/L	0.0041	0	1
A	GS	SV-85-15'	15	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
A	GS	SV-85-15'	15	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
A	GS	SV-85-15'	15	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.0063	ug/L	0.0063	1	1
A	GS	SV-85-15'	15	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
A	GS	SV-85-15'	15	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-85-15'	15	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-85-15'	15	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
A	GS	SV-85-15'	15	20-Jun-12	71-43-2	Benzene	0.0019	ug/L	0.0019	1	1
A	GS	SV-85-15'	15	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
A	GS	SV-85-15'	15	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
A	GS	SV-85-15'	15	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0029	ug/L	0.0029	1	1
A	GS	SV-85-15'	15	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-85-15'	15	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
A	GS	SV-85-15'	15	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
A	GS	SV-85-15'	15	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
A	GS	SV-85-15'	15	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
A	GS	SV-85-15'	15	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
A	GS	SV-85-15'	15	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
A	GS	SV-85-15'	15	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
A	GS	SV-85-15'	15	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-85-15'	15	20-Jun-12	591-78-6	2-Hexanone	0.0083	ug/L	0.0083	0	1
A	GS	SV-85-15'	15	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
A	GS	SV-85-15'	15	20-Jun-12	115-07-1	Propene	0.0055	ug/L	0.0055	1	1
A	GS	SV-85-15'	15	20-Jun-12	108-88-3	Toluene	0.022	ug/L	0.022	1	1
A	GS	SV-85-15'	15	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
A	GS	SV-85-15'	15	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-85-15'	15	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.034	ug/L	0.034	1	1
A	GS	SV-85-15'	15	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-85-15'	15	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
A	GS	SV-85-15'	15	20-Jun-12	127-18-4	Tetrachloroethene	0.0069	ug/L	0.0069	0	1
A	GS	SV-85-15'	15	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
A	GS	SV-85-15'	15	20-Jun-12	110-54-3	Hexane	0.0036	ug/L	0.0036	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	GS	SV-85-15'	15	20-Jun-12	67-64-1	Acetone	0.043	ug/L	0.043	1	1
A	GS	SV-85-15'	15	20-Jun-12	67-63-0	Isopropyl alcohol	0.0065	ug/L	0.0065	1	1
A	GS	SV-85-15'	15	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
A	GS	SV-85-15'	15	20-Jun-12	78-93-3	2-Butanone	0.078	ug/L	0.078	1	1
A	GS	SV-85-15'	15	20-Jun-12	64-17-5	Ethanol	0.047	ug/L	0.047	1	1
A	GS	SV-85-15'	15	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
A	GS	SV-85-15'	15	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
A	GS	SV-85-15'	15	20-Jun-12	75-15-0	Carbon disulfide	0.0027	ug/L	0.0027	1	1
A	GS	SV-85-15'	15	20-Jun-12	75-09-2	Methylene Chloride	0.0022	ug/L	0.0022	1	1
A	GS	SV-85-15'	15	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
A	GS	SV-85-15'	15	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0061	ug/L	0.0061	0	1
A	GS	SV-85-15'	15	20-Jun-12	100-41-4	Ethylbenzene	0.0056	ug/L	0.0056	1	1
A	GS	SV-85-15'	15	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
A	GS	SV-85-15'	15	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
A	GS	SV-85-15'	15	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
A	GS	SV-85-15'	15	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
A	GS	SV-85-15'	15	20-Jun-12	67-66-3	Chloroform	0.0024	ug/L	0.0024	1	1
A	GS	SV-85-15'	15	20-Jun-12	141-78-6	Ethyl acetate	0.01	ug/L	0.01	1	1
A	GS	SV-85-15'	15	20-Jun-12		Carbon dioxide	5.5	%		1	1
A	GS	SV-85-15'	15	20-Jun-12		Oxygen	17	%		1	1
A	GS	SV-85-15'	15	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0056	ug/L	0.0056	0	1
A	GS	SV-85-15'	15	20-Jun-12	74-82-8	Methane	0.01	%		0	1
A	GS	SV-85-15'	15	20-Jun-12	109-99-9	Tetrahydrofuran	0.021	ug/L	0.021	1	1
A	GS	SV-85-15'	15	20-Jun-12		TPHv (C5 - C11)	1.5	ug/L		1	1
A	GS	SV-85-15'	15	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
A	GS	SV-85-15'	15	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.21	ug/L		1	0
A	GS	SV-85-15'	15	20-Jun-12	2037-26-5	Toluene-d8	0.197	ug/L		1	0
A	GS	SV-85-15'	15	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.396	ug/L		1	0
A	GS	SV-85-15'	15	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
A	GS	SV-85-15'	15	20-Jun-12		Nitrogen	77	%		1	1
A	GS	SV-85-15'	15	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
A	GS	SV-85-15'	15	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
A	GS	SV-85-15'	15	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
A	GS	SV-85-15'	15	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
A	GS	SV-85-15'	15	20-Jun-12	622-96-8	p-Ethyltoluene	0.0016	ug/L	0.0016	1	1
A	GS	SV-85-15'	15	20-Jun-12	98-82-8	Isopropylbenzene	0.026	ug/L	0.026	1	1
A	GS	SV-85-15'	15	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
A	GS	SV-85-15'	15	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
A	GS	SV-85-15'	15	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.005	ug/L	0.005	0	1
A	GS	SV-85-15'	15	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
A	GS	SV-85-15'	15	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
A	GS	SV-85-15'	15	20-Jun-12	103-65-1	n-Propylbenzene	0.005	ug/L	0.005	0	1
A	GS	SV-85-15'	15	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
A	GS	SV-85-15'	15	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0022	ug/L	0.0022	1	1
A	GS	SV-85-15'	15	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
A	GS	SV-85-15'	15	20-Jun-12	179601-23-1	m,p-Xylenes	0.017	ug/L	0.017	1	1
A	GS	SV-85-15'	15	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
A	GS	SV-85-15'	15	20-Jun-12	95-47-6	o-Xylene	0.0061	ug/L	0.0061	1	1
A	GS	SV-85-15'	15	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
A	GS	SV-85-15'	15	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	0.71	ug/L	0.71	1	1
A	GS	SV-85-15'	15	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	1.1	ug/L	1.1	1	1
A	GS	SV-85-15'	15	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
A	GS	SV-85-15'	15	20-Jun-12	100-42-5	Styrene	0.0043	ug/L	0.0043	0	1
A	GS	SV-85-15'	15	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
A	GS	SV-85-15'	15	20-Jun-12		TPHv (C6 - C8) aromatic	0.053	ug/L		1	1
A	GS	SV-85-15'	15	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
A	GS	SV-85-15'	15	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	GS	SV-85-15'	15	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
A	GS	SV-85-15'	15	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
A	GS	SV-85-15'	15	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	0	1
A	GS	SV-85-15'	15	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
A	GS	SV-85-15'	15	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.068	ug/L	0.068	1	1
A	GS	SV-85-15'	15	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
A	GS	SV-85-15'	15	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
A	GS	SV-85-5'	5	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
A	GS	SV-85-5'	5	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
A	GS	SV-85-5'	5	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
A	GS	SV-85-5'	5	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
A	GS	SV-85-5'	5	20-Jun-12	95-47-6	o-Xylene	0.012	ug/L	0.012	1	1
A	GS	SV-85-5'	5	20-Jun-12	100-42-5	Styrene	0.0043	ug/L	0.0043	0	1
A	GS	SV-85-5'	5	20-Jun-12	179601-23-1	m,p-Xylenes	0.038	ug/L	0.038	1	1
A	GS	SV-85-5'	5	20-Jun-12	100-41-4	Ethylbenzene	0.011	ug/L	0.011	1	1
A	GS	SV-85-5'	5	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
A	GS	SV-85-5'	5	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
A	GS	SV-85-5'	5	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
A	GS	SV-85-5'	5	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
A	GS	SV-85-5'	5	20-Jun-12	591-78-6	2-Hexanone	0.0083	ug/L	0.0083	0	1
A	GS	SV-85-5'	5	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0029	ug/L	0.0029	1	1
A	GS	SV-85-5'	5	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.027	ug/L	0.027	1	1
A	GS	SV-85-5'	5	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
A	GS	SV-85-5'	5	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
A	GS	SV-85-5'	5	20-Jun-12	115-07-1	Propene	0.0033	ug/L	0.0033	1	1
A	GS	SV-85-5'	5	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
A	GS	SV-85-5'	5	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
A	GS	SV-85-5'	5	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-85-5'	5	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.012	ug/L	0.012	1	1
A	GS	SV-85-5'	5	20-Jun-12	108-88-3	Toluene	0.046	ug/L	0.046	1	1
A	GS	SV-85-5'	5	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
A	GS	SV-85-5'	5	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-85-5'	5	20-Jun-12	127-18-4	Tetrachloroethene	0.0069	ug/L	0.0069	0	1
A	GS	SV-85-5'	5	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
A	GS	SV-85-5'	5	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.088	ug/L	0.088	1	1
A	GS	SV-85-5'	5	20-Jun-12		TPHv (C6 - C8) aromatic	0.11	ug/L		1	1
A	GS	SV-85-5'	5	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	0.74	ug/L	0.74	1	1
A	GS	SV-85-5'	5	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	0.94	ug/L	0.94	1	1
A	GS	SV-85-5'	5	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
A	GS	SV-85-5'	5	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
A	GS	SV-85-5'	5	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
A	GS	SV-85-5'	5	20-Jun-12	91-20-3	Naphthalene	0.0038	ug/L	0.0038	1	1
A	GS	SV-85-5'	5	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
A	GS	SV-85-5'	5	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
A	GS	SV-85-5'	5	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
A	GS	SV-85-5'	5	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
A	GS	SV-85-5'	5	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
A	GS	SV-85-5'	5	20-Jun-12	622-96-8	p-Ethyltoluene	0.0025	ug/L	0.0025	1	1
A	GS	SV-85-5'	5	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
A	GS	SV-85-5'	5	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
A	GS	SV-85-5'	5	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
A	GS	SV-85-5'	5	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
A	GS	SV-85-5'	5	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
A	GS	SV-85-5'	5	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
A	GS	SV-85-5'	5	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0032	ug/L	0.0032	1	1
A	GS	SV-85-5'	5	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
A	GS	SV-85-5'	5	20-Jun-12	103-65-1	n-Propylbenzene	0.005	ug/L	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	GS	SV-85-5'	5	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
A	GS	SV-85-5'	5	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
A	GS	SV-85-5'	5	20-Jun-12	98-82-8	Isopropylbenzene	0.019	ug/L	0.019	1	1
A	GS	SV-85-5'	5	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
A	GS	SV-85-5'	5	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.393	ug/L		1	0
A	GS	SV-85-5'	5	20-Jun-12	75-09-2	Methylene Chloride	0.0069	ug/L	0.0069	1	1
A	GS	SV-85-5'	5	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
A	GS	SV-85-5'	5	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0023	ug/L	0.0023	1	1
A	GS	SV-85-5'	5	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
A	GS	SV-85-5'	5	20-Jun-12	67-63-0	Isopropyl alcohol	0.0084	ug/L	0.0084	1	1
A	GS	SV-85-5'	5	20-Jun-12	67-64-1	Acetone	0.062	ug/L	0.062	1	1
A	GS	SV-85-5'	5	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0056	ug/L	0.0056	0	1
A	GS	SV-85-5'	5	20-Jun-12	64-17-5	Ethanol	0.15	ug/L	0.15	1	1
A	GS	SV-85-5'	5	20-Jun-12	75-15-0	Carbon disulfide	0.0063	ug/L	0.0063	0	1
A	GS	SV-85-5'	5	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
A	GS	SV-85-5'	5	20-Jun-12		Nitrogen	76	%		1	1
A	GS	SV-85-5'	5	20-Jun-12	2037-26-5	Toluene-d8	0.2	ug/L		1	0
A	GS	SV-85-5'	5	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.218	ug/L		1	0
A	GS	SV-85-5'	5	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
A	GS	SV-85-5'	5	20-Jun-12		TPHv (C5 - C11)	1.4	ug/L		1	1
A	GS	SV-85-5'	5	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
A	GS	SV-85-5'	5	20-Jun-12	74-82-8	Methane	0.01	%		0	1
A	GS	SV-85-5'	5	20-Jun-12	142-82-5	n-Heptane	0.0041	ug/L	0.0041	1	1
A	GS	SV-85-5'	5	20-Jun-12		Oxygen	20	%		1	1
A	GS	SV-85-5'	5	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-85-5'	5	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
A	GS	SV-85-5'	5	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
A	GS	SV-85-5'	5	20-Jun-12		Carbon dioxide	1.1	%		1	1
A	GS	SV-85-5'	5	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
A	GS	SV-85-5'	5	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.034	ug/L	0.034	1	1
A	GS	SV-85-5'	5	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
A	GS	SV-85-5'	5	20-Jun-12	71-43-2	Benzene	0.0047	ug/L	0.0047	1	1
A	GS	SV-85-5'	5	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
A	GS	SV-85-5'	5	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
A	GS	SV-85-5'	5	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
A	GS	SV-85-5'	5	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-85-5'	5	20-Jun-12	109-99-9	Tetrahydrofuran	0.016	ug/L	0.016	1	1
A	GS	SV-85-5'	5	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
A	GS	SV-85-5'	5	20-Jun-12	67-66-3	Chloroform	0.0051	ug/L	0.0051	1	1
A	GS	SV-85-5'	5	20-Jun-12	141-78-6	Ethyl acetate	0.018	ug/L	0.018	0	1
A	GS	SV-85-5'	5	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
A	GS	SV-85-5'	5	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
A	GS	SV-85-5'	5	20-Jun-12	110-54-3	Hexane	0.0032	ug/L	0.0032	1	1
A	GS	SV-85-5'	5	20-Jun-12	78-93-3	2-Butanone	0.05	ug/L	0.05	1	1
A	GS	SV-85-5'	5	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0064	ug/L	0.0064	1	1
A	GS	SV-85-5'	5	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
A	GS	SV-85-5'	5	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
A	Soil	B-143-5	5		64742-47-8	TPHm			10	0	1
A	Soil	B-143-5	5		68476-30-2	TPHd			10	0	1
A	Soil	B-143-5	5		8006-61-9	TPHg			10	0	1
A	Soil	B-144-10	10		64742-47-8	TPHm			10	0	1
A	Soil	B-144-10	10		68476-30-2	TPHd			10	0	1
A	Soil	B-144-10	10		8006-61-9	TPHg			10	0	1
A	Soil	B-144-5	5		68476-30-2	TPHd			10	0	1
A	Soil	B-144-5	5		64742-47-8	TPHm			10	0	1
A	Soil	B-144-5	5		8006-61-9	TPHg			10	0	1
A	Soil	S-48-01	1		BaP TEQ	BaP TEQ			0.0041595	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	S-48-01	1		68476-30-2	TPHd			5	0	1
A	Soil	S-48-01	1		64742-47-8	TPHm			5	0	1
A	Soil	S-48-01	1		8006-61-9	TPHg			0.4	0	1
A	Soil	S-48-05	5		BaP TEQ	BaP TEQ			0.003807	0	1
A	Soil	S-48-05	5		64742-47-8	TPHm			5	0	1
A	Soil	S-48-05	5		8006-61-9	TPHg			0.4	0	1
A	Soil	S-48-05	5		68476-30-2	TPHd			5	0	1
A	Soil	S-48-10	10		BaP TEQ	BaP TEQ			0.0040185	0	1
A	Soil	S-48-10	10		8006-61-9	TPHg			0.41	0	1
A	Soil	S-48-10	10		64742-47-8	TPHm			5	0	1
A	Soil	S-48-10	10		68476-30-2	TPHd			5	0	1
A	Soil	S-49-01	1		BaP TEQ	BaP TEQ			0.003807	0	1
A	Soil	S-49-01	1		64742-47-8	TPHm			5	0	1
A	Soil	S-49-01	1		8006-61-9	TPHg			0.4	0	1
A	Soil	S-49-01	1		68476-30-2	TPHd			5	0	1
A	Soil	S-49-05	5		BaP TEQ	BaP TEQ			0.004089	0	1
A	Soil	S-49-05	5		68476-30-2	TPHd			5	0	1
A	Soil	S-49-05	5		8006-61-9	TPHg			0.37	0	1
A	Soil	S-49-05	5		64742-47-8	TPHm			5	0	1
A	Soil	S-49-10	10		BaP TEQ	BaP TEQ			0.00423	0	1
A	Soil	S-49-10	10		64742-47-8	TPHm			5	0	1
A	Soil	S-49-10	10		8006-61-9	TPHg			0.39	0	1
A	Soil	S-49-10	10		68476-30-2	TPHd			5	0	1
A	Soil	SV-55-01	1		BaP TEQ	BaP TEQ			0.004089	0	1
A	Soil	SV-55-01	1		64742-47-8	TPHm			36	1	1
A	Soil	SV-55-01	1		8006-61-9	TPHg			0.4	0	1
A	Soil	SV-55-01	1		68476-30-2	TPHd			11	1	1
A	Soil	SV-55-05	5		BaP TEQ	BaP TEQ			0.003837	1	1
A	Soil	SV-55-05	5		64742-47-8	TPHm			18	1	1
A	Soil	SV-55-05	5		8006-61-9	TPHg			0.41	0	1
A	Soil	SV-55-05	5		68476-30-2	TPHd			5	0	1
A	Soil	SV-55-10	10		BaP TEQ	BaP TEQ			0.0043005	0	1
A	Soil	SV-55-10	10		8006-61-9	TPHg			0.4	0	1
A	Soil	SV-55-10	10		64742-47-8	TPHm			5	0	1
A	Soil	SV-55-10	10		68476-30-2	TPHd			5	0	1
A	Soil	SV-56-01	1		BaP TEQ	BaP TEQ			0.0997	1	1
A	Soil	SV-56-01	1		8006-61-9	TPHg			0.4	0	1
A	Soil	SV-56-01	1		64742-47-8	TPHm			12	1	1
A	Soil	SV-56-01	1		68476-30-2	TPHd			10	0	1
A	Soil	SV-56-05	5		BaP TEQ	BaP TEQ			0.0044415	0	1
A	Soil	SV-56-05	5		68476-30-2	TPHd			5	0	1
A	Soil	SV-56-05	5		8006-61-9	TPHg			0.41	0	1
A	Soil	SV-56-05	5		64742-47-8	TPHm			5	0	1
A	Soil	SV-56-10	10		BaP TEQ	BaP TEQ			0.00423	0	1
A	Soil	SV-56-10	10		8006-61-9	TPHg			0.41	0	1
A	Soil	SV-56-10	10		68476-30-2	TPHd			5	0	1
A	Soil	SV-56-10	10		64742-47-8	TPHm			5	0	1
A	Soil	B-143-5	5	27-Oct-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
A	Soil	B-143-5	5	27-Oct-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
A	Soil	B-143-5	5	27-Oct-97	78-00-2	Tetraethyl Lead	1	mg/K	1	0	1
A	Soil	B-143-5	5	27-Oct-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
A	Soil	B-143-5	5	27-Oct-97		C25-C40	10	mg/K	10	0	1
A	Soil	B-143-5	5	27-Oct-97		C1-C40	10	mg/K	10	0	1
A	Soil	B-143-5	5	27-Oct-97		C10-C25	10	mg/K	10	0	1
A	Soil	B-143-5	5	27-Oct-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
A	Soil	B-143-5	5	27-Oct-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
A	Soil	B-143-5	5	27-Oct-97		C4-C10	10	mg/K	10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	B-144-10	10	28-Oct-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
A	Soil	B-144-10	10	28-Oct-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
A	Soil	B-144-10	10	28-Oct-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
A	Soil	B-144-10	10	28-Oct-97		C4-C10	10	mg/K	10	0	1
A	Soil	B-144-10	10	28-Oct-97		C25-C40	10	mg/K	10	0	1
A	Soil	B-144-10	10	28-Oct-97		C10-C25	10	mg/K	10	0	1
A	Soil	B-144-10	10	28-Oct-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
A	Soil	B-144-10	10	28-Oct-97		C1-C40	10	mg/K	10	0	1
A	Soil	B-144-10	10	28-Oct-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
A	Soil	B-144-5	5	28-Oct-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
A	Soil	B-144-5	5	28-Oct-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
A	Soil	B-144-5	5	28-Oct-97	78-00-2	Tetraethyl Lead	1	mg/K	1	0	1
A	Soil	B-144-5	5	28-Oct-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
A	Soil	B-144-5	5	28-Oct-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
A	Soil	B-144-5	5	28-Oct-97		C4-C10	10	mg/K	10	0	1
A	Soil	B-144-5	5	28-Oct-97		C25-C40	10	mg/K	10	0	1
A	Soil	B-144-5	5	28-Oct-97		C10-C25	10	mg/K	10	0	1
A	Soil	B-144-5	5	28-Oct-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
A	Soil	B-144-5	5	28-Oct-97		C1-C40	10	mg/K	10	0	1
A	Soil	S-48-01	1	10-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
A	Soil	S-48-01	1	10-Jul-07	7440-50-8	Copper	2.3	mg/k	2.3	1	1
A	Soil	S-48-01	1	10-Jul-07	7440-48-4	Cobalt	1	mg/k	1	0	1
A	Soil	S-48-01	1	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	218-01-9	Chrysene	5.9	ug/kg	0.0059	0	1
A	Soil	S-48-01	1	10-Jul-07	7440-47-3	Chromium	3.7	mg/k	3.7	1	1
A	Soil	S-48-01	1	10-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
A	Soil	S-48-01	1	10-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07		Dibromofluoromethane	49.6	ug/kg	0.0496	1	1
A	Soil	S-48-01	1	10-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
A	Soil	S-48-01	1	10-Jul-07		C8-C40	5	mg/k	5	0	1
A	Soil	S-48-01	1	10-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
A	Soil	S-48-01	1	10-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
A	Soil	S-48-01	1	10-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
A	Soil	S-48-01	1	10-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
A	Soil	S-48-01	1	10-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
A	Soil	S-48-01	1	10-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
A	Soil	S-48-01	1	10-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
A	Soil	S-48-01	1	10-Jul-07		n-Octacosane	5.36	mg/k	5.36	1	1
A	Soil	S-48-01	1	10-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07		Nitrobenzene-d5	1200	ug/kg	1.2	1	1
A	Soil	S-48-01	1	10-Jul-07	7440-02-0	Nickel	2.6	mg/k	2.6	1	1
A	Soil	S-48-01	1	10-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	91-20-3	Naphthalene	5.9	ug/kg	0.0059	0	0
A	Soil	S-48-01	1	10-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
A	Soil	S-48-01	1	10-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
A	Soil	S-48-01	1	10-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	7439-97-6	Mercury	0.027	mg/k	0.027	1	1
A	Soil	S-48-01	1	10-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.9	ug/kg	0.0059	0	1
A	Soil	S-48-01	1	10-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	S-48-01	1	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.9	ug/kg	0.0059	0	1
A	Soil	S-48-01	1	10-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	86-73-7	Fluorene	5.9	ug/kg	0.0059	0	1
A	Soil	S-48-01	1	10-Jul-07	206-44-0	Fluoranthene	5.9	ug/kg	0.0059	0	1
A	Soil	S-48-01	1	10-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
A	Soil	S-48-01	1	10-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
A	Soil	S-48-01	1	10-Jul-07	7439-92-1	Lead	7.3	mg/k	7.3	1	1
A	Soil	S-48-01	1	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	90-12-0	1-Methylnaphthalene	5.9	ug/kg	0.0059	0	1
A	Soil	S-48-01	1	10-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
A	Soil	S-48-01	1	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	91-57-6	2-Methylnaphthalene	5.9	ug/kg	0.0059	0	1
A	Soil	S-48-01	1	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
A	Soil	S-48-01	1	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
A	Soil	S-48-01	1	10-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
A	Soil	S-48-01	1	10-Jul-07	207-08-9	Benzo(k)fluoranthene	5.9	ug/kg	0.0059	0	1
A	Soil	S-48-01	1	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.9	ug/kg	0.0059	0	1
A	Soil	S-48-01	1	10-Jul-07	205-99-2	Benzo(b)fluoranthene	5.9	ug/kg	0.0059	0	1
A	Soil	S-48-01	1	10-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	56-55-3	Benzo(a)anthracene	5.9	ug/kg	0.0059	0	1
A	Soil	S-48-01	1	10-Jul-07		2-Fluorobiphenyl	1000	ug/kg	1	1	1
A	Soil	S-48-01	1	10-Jul-07	7440-39-3	Barium	29	mg/k	29	1	1
A	Soil	S-48-01	1	10-Jul-07	7440-38-2	Arsenic	1.1	mg/k	1.1	1	1
A	Soil	S-48-01	1	10-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
A	Soil	S-48-01	1	10-Jul-07	120-12-7	Anthracene	5.9	ug/kg	0.0059	0	1
A	Soil	S-48-01	1	10-Jul-07	208-96-8	Acenaphthylene	5.9	ug/kg	0.0059	0	1
A	Soil	S-48-01	1	10-Jul-07	83-32-9	Acenaphthene	5.9	ug/kg	0.0059	0	1
A	Soil	S-48-01	1	10-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07		4-Bromofluorobenzene	38	ug/kg	0.038	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	S-48-01	1	10-Jul-07		4-Bromofluorobenzene	0.0163	mg/k	0.0163	1	0
A	Soil	S-48-01	1	10-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
A	Soil	S-48-01	1	10-Jul-07	50-32-8	Benzo(a)pyrene	5.9	ug/kg	0.0059	0	1
A	Soil	S-48-01	1	10-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
A	Soil	S-48-01	1	10-Jul-07	7440-66-6	Zinc	5	mg/k	5	0	1
A	Soil	S-48-01	1	10-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
A	Soil	S-48-01	1	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
A	Soil	S-48-01	1	10-Jul-07	7440-62-2	Vanadium	3	mg/k	3	1	1
A	Soil	S-48-01	1	10-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07		Toluene-d8	51.3	ug/kg	0.0513	1	1
A	Soil	S-48-01	1	10-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
A	Soil	S-48-01	1	10-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	129-00-0	Pyrene	5.9	ug/kg	0.0059	0	1
A	Soil	S-48-01	1	10-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
A	Soil	S-48-01	1	10-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
A	Soil	S-48-01	1	10-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
A	Soil	S-48-01	1	10-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
A	Soil	S-48-01	1	10-Jul-07		Terphenyl-d14	1300	ug/kg	1.3	1	1
A	Soil	S-48-01	1	10-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
A	Soil	S-48-01	1	10-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
A	Soil	S-48-01	1	10-Jul-07	85-01-8	Phenanthrene	5.9	ug/kg	0.0059	0	1
A	Soil	S-48-05	5	10-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
A	Soil	S-48-05	5	10-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
A	Soil	S-48-05	5	10-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
A	Soil	S-48-05	5	10-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
A	Soil	S-48-05	5	10-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
A	Soil	S-48-05	5	10-Jul-07	74-83-9	Bromomethane	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	74-97-5	Bromochloromethane	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	108-86-1	Bromobenzene	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
A	Soil	S-48-05	5	10-Jul-07	207-08-9	Benzo(k)fluoranthene	5.4	ug/kg	0.0054	0	1
A	Soil	S-48-05	5	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.4	ug/kg	0.0054	0	1
A	Soil	S-48-05	5	10-Jul-07	50-32-8	Benzo(a)pyrene	5.4	ug/kg	0.0054	0	1
A	Soil	S-48-05	5	10-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
A	Soil	S-48-05	5	10-Jul-07	218-01-9	Chrysene	5.4	ug/kg	0.0054	0	1
A	Soil	S-48-05	5	10-Jul-07	205-99-2	Benzo(b)fluoranthene	5.4	ug/kg	0.0054	0	1
A	Soil	S-48-05	5	10-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
A	Soil	S-48-05	5	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	75-25-2	Bromoform	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	7440-47-3	Chromium	1.6	mg/k	1.6	1	1
A	Soil	S-48-05	5	10-Jul-07	56-55-3	Benzo(a)anthracene	5.4	ug/kg	0.0054	0	1
A	Soil	S-48-05	5	10-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	75-00-3	Chloroethane	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	74-87-3	Chloromethane	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	56-23-5	Carbon tetrachloride	4.9	ug/kg	0.0049	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	S-48-05	5	10-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
A	Soil	S-48-05	5	10-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
A	Soil	S-48-05	5	10-Jul-07		C8-C40	5	mg/k	5	0	1
A	Soil	S-48-05	5	10-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
A	Soil	S-48-05	5	10-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
A	Soil	S-48-05	5	10-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
A	Soil	S-48-05	5	10-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
A	Soil	S-48-05	5	10-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
A	Soil	S-48-05	5	10-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	75-35-4	1,1-Dichloroethene	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1
A	Soil	S-48-05	5	10-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
A	Soil	S-48-05	5	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07		4-Bromofluorobenzene	43.9	ug/kg	0.0439	1	1
A	Soil	S-48-05	5	10-Jul-07	7440-39-3	Barium	5.9	mg/k	5.9	1	1
A	Soil	S-48-05	5	10-Jul-07	7440-38-2	Arsenic	0.5	mg/k	0.5	0	1
A	Soil	S-48-05	5	10-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
A	Soil	S-48-05	5	10-Jul-07	120-12-7	Anthracene	5.4	ug/kg	0.0054	0	1
A	Soil	S-48-05	5	10-Jul-07	208-96-8	Acenaphthylene	5.4	ug/kg	0.0054	0	1
A	Soil	S-48-05	5	10-Jul-07	106-43-4	4-Chlorotoluene	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07		4-Bromofluorobenzene	0.023	mg/k	0.023	1	0
A	Soil	S-48-05	5	10-Jul-07	95-49-8	2-Chlorotoluene	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	91-57-6	2-Methylnaphthalene	5.4	ug/kg	0.0054	0	1
A	Soil	S-48-05	5	10-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	90-12-0	1-Methylnaphthalene	5.4	ug/kg	0.0054	0	1
A	Soil	S-48-05	5	10-Jul-07		2-Fluorobiphenyl	880	ug/kg	0.88	1	1
A	Soil	S-48-05	5	10-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	83-32-9	Acenaphthene	5.4	ug/kg	0.0054	0	1
A	Soil	S-48-05	5	10-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
A	Soil	S-48-05	5	10-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
A	Soil	S-48-05	5	10-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	85-01-8	Phenanthrene	5.4	ug/kg	0.0054	0	1
A	Soil	S-48-05	5	10-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	129-00-0	Pyrene	5.4	ug/kg	0.0054	0	1
A	Soil	S-48-05	5	10-Jul-07	135-98-8	sec-Butylbenzene	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
A	Soil	S-48-05	5	10-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
A	Soil	S-48-05	5	10-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07		Terphenyl-d14	1100	ug/kg	1.1	1	1
A	Soil	S-48-05	5	10-Jul-07	994-05-8	Tert-amyl methyl ether	4.9	ug/kg	0.0049	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	S-48-05	5	10-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	98-06-6	tert-Butylbenzene	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07		Toluene-d8	52.7	ug/kg	0.0527	1	1
A	Soil	S-48-05	5	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	75-69-4	Trichlorofluoromethane	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	7440-62-2	Vanadium	1.2	mg/k	1.2	1	1
A	Soil	S-48-05	5	10-Jul-07	75-01-4	Vinyl chloride	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
A	Soil	S-48-05	5	10-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
A	Soil	S-48-05	5	10-Jul-07	7440-66-6	Zinc	5	mg/k	5	0	1
A	Soil	S-48-05	5	10-Jul-07	7440-48-4	Cobalt	1	mg/k	1	0	1
A	Soil	S-48-05	5	10-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
A	Soil	S-48-05	5	10-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07		n-Octacosane	4.56	mg/k	4.56	1	1
A	Soil	S-48-05	5	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.4	ug/kg	0.0054	0	1
A	Soil	S-48-05	5	10-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07		Dibromofluoromethane	53.6	ug/kg	0.0536	1	1
A	Soil	S-48-05	5	10-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	75-71-8	Dichlorodifluoromethane	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	637-92-3	Ethyl tert butyl ether	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	7440-50-8	Copper	2	mg/k	2	0	1
A	Soil	S-48-05	5	10-Jul-07	206-44-0	Fluoranthene	5.4	ug/kg	0.0054	0	1
A	Soil	S-48-05	5	10-Jul-07	86-73-7	Fluorene	5.4	ug/kg	0.0054	0	1
A	Soil	S-48-05	5	10-Jul-07	87-68-3	Hexachlorobutadiene	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.4	ug/kg	0.0054	0	1
A	Soil	S-48-05	5	10-Jul-07	104-51-8	n-Butylbenzene	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07		Nitrobenzene-d5	330	ug/kg	0.33	1	1
A	Soil	S-48-05	5	10-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
A	Soil	S-48-05	5	10-Jul-07	7440-02-0	Nickel	2	mg/k	2	0	1
A	Soil	S-48-05	5	10-Jul-07	108-20-3	Isopropyl ether	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	91-20-3	Naphthalene	5.4	ug/kg	0.0054	0	0
A	Soil	S-48-05	5	10-Jul-07	91-20-3	Naphthalene	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
A	Soil	S-48-05	5	10-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
A	Soil	S-48-05	5	10-Jul-07	1634-04-4	Methyl tert-butyl ether	4.9	ug/kg	0.0049	0	1
A	Soil	S-48-05	5	10-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
A	Soil	S-48-05	5	10-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
A	Soil	S-48-05	5	10-Jul-07	7439-92-1	Lead	2.3	mg/k	2.3	1	1
A	Soil	S-48-05	5	10-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
A	Soil	S-48-10	10	10-Jul-07	1634-04-4	Methyl tert-butyl ether	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	206-44-0	Fluoranthene	5.7	ug/kg	0.0057	0	1
A	Soil	S-48-10	10	10-Jul-07	86-73-7	Fluorene	5.7	ug/kg	0.0057	0	1
A	Soil	S-48-10	10	10-Jul-07	87-68-3	Hexachlorobutadiene	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.7	ug/kg	0.0057	0	1
A	Soil	S-48-10	10	10-Jul-07	108-20-3	Isopropyl ether	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	98-82-8	Isopropylbenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	7439-92-1	Lead	2.9	mg/k	2.9	1	1
A	Soil	S-48-10	10	10-Jul-07	7439-98-7	Molybdenum	5.7	mg/k	5.7	1	1
A	Soil	S-48-10	10	10-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
A	Soil	S-48-10	10	10-Jul-07	100-41-4	Ethylbenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	75-09-2	Methylene chloride	19	ug/kg	0.019	0	1
A	Soil	S-48-10	10	10-Jul-07	91-20-3	Naphthalene	5.7	ug/kg	0.0057	0	0
A	Soil	S-48-10	10	10-Jul-07	91-20-3	Naphthalene	4.7	ug/kg	0.0047	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	S-48-10	10	10-Jul-07	179601-23-1	m,p-Xylenes	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	7440-50-8	Copper	2	mg/k	2	0	1
A	Soil	S-48-10	10	10-Jul-07	1330-20-7	Xylenes (total)	3.8	ug/kg	0.0038	0	1
A	Soil	S-48-10	10	10-Jul-07	104-51-8	n-Butylbenzene	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	75-00-3	Chloroethane	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	7440-47-3	Chromium	3.4	mg/k	3.4	1	1
A	Soil	S-48-10	10	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	67-66-3	Chloroform	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	7440-48-4	Cobalt	1	mg/k	1	0	1
A	Soil	S-48-10	10	10-Jul-07	637-92-3	Ethyl tert butyl ether	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.7	ug/kg	0.0057	0	1
A	Soil	S-48-10	10	10-Jul-07	124-48-1	Dibromochloromethane	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07		Dibromofluoromethane	52.8	ug/kg	0.0528	1	1
A	Soil	S-48-10	10	10-Jul-07	74-95-3	Dibromomethane	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	75-71-8	Dichlorodifluoromethane	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
A	Soil	S-48-10	10	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	994-05-8	Tert-amyl methyl ether	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	7440-66-6	Zinc	5	mg/k	5	0	1
A	Soil	S-48-10	10	10-Jul-07	74-87-3	Chloromethane	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
A	Soil	S-48-10	10	10-Jul-07	108-90-7	Chlorobenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	7440-62-2	Vanadium	4.1	mg/k	4.1	1	1
A	Soil	S-48-10	10	10-Jul-07	75-69-4	Trichlorofluoromethane	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	79-01-6	Trichloroethene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07		Toluene-d8	49.9	ug/kg	0.0499	1	1
A	Soil	S-48-10	10	10-Jul-07	108-88-3	Toluene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
A	Soil	S-48-10	10	10-Jul-07	127-18-4	Tetrachloroethene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	75-01-4	Vinyl chloride	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	129-00-0	Pyrene	5.7	ug/kg	0.0057	0	1
A	Soil	S-48-10	10	10-Jul-07		Nitrobenzene-d5	830	ug/kg	0.83	1	1
A	Soil	S-48-10	10	10-Jul-07		n-Octacosane	4.82	mg/k	4.82	1	1
A	Soil	S-48-10	10	10-Jul-07	103-65-1	n-Propylbenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
A	Soil	S-48-10	10	10-Jul-07	95-47-6	o-Xylene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	98-06-6	tert-Butylbenzene	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	99-87-6	p-Isopropyltoluene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	75-65-0	tert-Butyl alcohol	94	ug/kg	0.094	0	1
A	Soil	S-48-10	10	10-Jul-07	135-98-8	sec-Butylbenzene	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
A	Soil	S-48-10	10	10-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
A	Soil	S-48-10	10	10-Jul-07	100-42-5	Styrene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07		Terphenyl-d14	1200	ug/kg	1.2	1	1
A	Soil	S-48-10	10	10-Jul-07	7440-02-0	Nickel	2	mg/k	2	0	1
A	Soil	S-48-10	10	10-Jul-07	85-01-8	Phenanthrene	5.7	ug/kg	0.0057	0	1
A	Soil	S-48-10	10	10-Jul-07	91-57-6	2-Methylnaphthalene	5.7	ug/kg	0.0057	0	1
A	Soil	S-48-10	10	10-Jul-07	541-73-1	1,3-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	142-28-9	1,3-Dichloropropane	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	106-46-7	1,4-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	90-12-0	1-Methylnaphthalene	5.7	ug/kg	0.0057	0	1
A	Soil	S-48-10	10	10-Jul-07	594-20-7	2,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
A	Soil	S-48-10	10	10-Jul-07		2-Fluorobiphenyl	1200	ug/kg	1.2	1	1
A	Soil	S-48-10	10	10-Jul-07	107-06-2	1,2-Dichloroethane	1.9	ug/kg	0.0019	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	S-48-10	10	10-Jul-07		4-Bromofluorobenzene	0.0173	mg/k	0.0173	1	0
A	Soil	S-48-10	10	10-Jul-07		4-Bromofluorobenzene	43.1	ug/kg	0.0431	1	1
A	Soil	S-48-10	10	10-Jul-07	106-43-4	4-Chlorotoluene	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	83-32-9	Acenaphthene	5.7	ug/kg	0.0057	0	1
A	Soil	S-48-10	10	10-Jul-07	208-96-8	Acenaphthylene	5.7	ug/kg	0.0057	0	1
A	Soil	S-48-10	10	10-Jul-07	120-12-7	Anthracene	5.7	ug/kg	0.0057	0	1
A	Soil	S-48-10	10	10-Jul-07	95-49-8	2-Chlorotoluene	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	96-18-4	1,2,3-Trichloropropane	9.4	ug/kg	0.0094	0	1
A	Soil	S-48-10	10	10-Jul-07	218-01-9	Chrysene	5.7	ug/kg	0.0057	0	1
A	Soil	S-48-10	10	10-Jul-07	71-55-6	1,1,1-Trichloroethane	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	56-23-5	Carbon tetrachloride	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	79-00-5	1,1,2-Trichloroethane	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	75-34-3	1,1-Dichloroethane	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	75-35-4	1,1-Dichloroethene	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	78-87-5	1,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	106-93-4	1,2-Dibromoethane	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	95-50-1	1,2-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	563-58-6	1,1-Dichloropropene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
A	Soil	S-48-10	10	10-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
A	Soil	S-48-10	10	10-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
A	Soil	S-48-10	10	10-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
A	Soil	S-48-10	10	10-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
A	Soil	S-48-10	10	10-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
A	Soil	S-48-10	10	10-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
A	Soil	S-48-10	10	10-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
A	Soil	S-48-10	10	10-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
A	Soil	S-48-10	10	10-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
A	Soil	S-48-10	10	10-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
A	Soil	S-48-10	10	10-Jul-07		C8-C40	5	mg/k	5	0	1
A	Soil	S-48-10	10	10-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
A	Soil	S-48-10	10	10-Jul-07	7440-38-2	Arsenic	3.2	mg/k	3.2	1	1
A	Soil	S-48-10	10	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
A	Soil	S-48-10	10	10-Jul-07	50-32-8	Benzo(a)pyrene	5.7	ug/kg	0.0057	0	1
A	Soil	S-48-10	10	10-Jul-07	7440-39-3	Barium	7.2	mg/k	7.2	1	1
A	Soil	S-48-10	10	10-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
A	Soil	S-48-10	10	10-Jul-07	71-43-2	Benzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	56-55-3	Benzo(a)anthracene	5.7	ug/kg	0.0057	0	1
A	Soil	S-48-10	10	10-Jul-07	205-99-2	Benzo(b)fluoranthene	5.7	ug/kg	0.0057	0	1
A	Soil	S-48-10	10	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.7	ug/kg	0.0057	0	1
A	Soil	S-48-10	10	10-Jul-07	207-08-9	Benzo(k)fluoranthene	5.7	ug/kg	0.0057	0	1
A	Soil	S-48-10	10	10-Jul-07	108-86-1	Bromobenzene	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	74-97-5	Bromochloromethane	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
A	Soil	S-48-10	10	10-Jul-07	75-27-4	Bromodichloromethane	1.9	ug/kg	0.0019	0	1
A	Soil	S-48-10	10	10-Jul-07	75-25-2	Bromoform	4.7	ug/kg	0.0047	0	1
A	Soil	S-48-10	10	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
A	Soil	S-48-10	10	10-Jul-07	74-83-9	Bromomethane	4.7	ug/kg	0.0047	0	1
A	Soil	S-49-01	1	10-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
A	Soil	S-49-01	1	10-Jul-07	206-44-0	Fluoranthene	5.4	ug/kg	0.0054	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	S-49-01	1	10-Jul-07	86-73-7	Fluorene	5.4	ug/kg	0.0054	0	1
A	Soil	S-49-01	1	10-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.4	ug/kg	0.0054	0	1
A	Soil	S-49-01	1	10-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
A	Soil	S-49-01	1	10-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.4	ug/kg	0.0054	0	1
A	Soil	S-49-01	1	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
A	Soil	S-49-01	1	10-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	7439-92-1	Lead	3.9	mg/k	3.9	1	1
A	Soil	S-49-01	1	10-Jul-07	7440-50-8	Copper	5	mg/k	5	1	1
A	Soil	S-49-01	1	10-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
A	Soil	S-49-01	1	10-Jul-07	91-20-3	Naphthalene	5.4	ug/kg	0.0054	0	0
A	Soil	S-49-01	1	10-Jul-07	218-01-9	Chrysene	5.4	ug/kg	0.0054	0	1
A	Soil	S-49-01	1	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07		Dibromofluoromethane	48.7	ug/kg	0.0487	1	1
A	Soil	S-49-01	1	10-Jul-07	7440-48-4	Cobalt	2.4	mg/k	2.4	1	1
A	Soil	S-49-01	1	10-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	7440-47-3	Chromium	17	mg/k	17	1	1
A	Soil	S-49-01	1	10-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
A	Soil	S-49-01	1	10-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	7440-62-2	Vanadium	13	mg/k	13	1	1
A	Soil	S-49-01	1	10-Jul-07		Terphenyl-d14	1300	ug/kg	1.3	1	1
A	Soil	S-49-01	1	10-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07		Toluene-d8	51.7	ug/kg	0.0517	1	1
A	Soil	S-49-01	1	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
A	Soil	S-49-01	1	10-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
A	Soil	S-49-01	1	10-Jul-07	7440-66-6	Zinc	12	mg/k	12	1	1
A	Soil	S-49-01	1	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	7440-02-0	Nickel	9.8	mg/k	9.8	1	1
A	Soil	S-49-01	1	10-Jul-07		Nitrobenzene-d5	1200	ug/kg	1.2	1	1
A	Soil	S-49-01	1	10-Jul-07		n-Octacosane	4.55	mg/k	4.55	1	1
A	Soil	S-49-01	1	10-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
A	Soil	S-49-01	1	10-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
A	Soil	S-49-01	1	10-Jul-07	85-01-8	Phenanthrene	5.4	ug/kg	0.0054	0	1
A	Soil	S-49-01	1	10-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	129-00-0	Pyrene	5.4	ug/kg	0.0054	0	1
A	Soil	S-49-01	1	10-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	S-49-01	1	10-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
A	Soil	S-49-01	1	10-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	91-57-6	2-Methylnaphthalene	5.4	ug/kg	0.0054	0	1
A	Soil	S-49-01	1	10-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
A	Soil	S-49-01	1	10-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	90-12-0	1-Methylnaphthalene	5.4	ug/kg	0.0054	0	1
A	Soil	S-49-01	1	10-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07		2-Fluorobiphenyl	1000	ug/kg	1	1	1
A	Soil	S-49-01	1	10-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07		4-Bromofluorobenzene	0.0132	mg/k	0.0132	1	0
A	Soil	S-49-01	1	10-Jul-07		4-Bromofluorobenzene	38.6	ug/kg	0.0386	1	1
A	Soil	S-49-01	1	10-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	83-32-9	Acenaphthene	5.4	ug/kg	0.0054	0	1
A	Soil	S-49-01	1	10-Jul-07	208-96-8	Acenaphthylene	5.4	ug/kg	0.0054	0	1
A	Soil	S-49-01	1	10-Jul-07	120-12-7	Anthracene	5.4	ug/kg	0.0054	0	1
A	Soil	S-49-01	1	10-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
A	Soil	S-49-01	1	10-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
A	Soil	S-49-01	1	10-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
A	Soil	S-49-01	1	10-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
A	Soil	S-49-01	1	10-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
A	Soil	S-49-01	1	10-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
A	Soil	S-49-01	1	10-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
A	Soil	S-49-01	1	10-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
A	Soil	S-49-01	1	10-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
A	Soil	S-49-01	1	10-Jul-07	7440-43-9	Cadmium	0.53	mg/k	0.53	1	1
A	Soil	S-49-01	1	10-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
A	Soil	S-49-01	1	10-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
A	Soil	S-49-01	1	10-Jul-07		C8-C40	5	mg/k	5	0	1
A	Soil	S-49-01	1	10-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
A	Soil	S-49-01	1	10-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	7440-38-2	Arsenic	2.3	mg/k	2.3	1	1
A	Soil	S-49-01	1	10-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
A	Soil	S-49-01	1	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.4	ug/kg	0.0054	0	1
A	Soil	S-49-01	1	10-Jul-07	7440-39-3	Barium	95	mg/k	95	1	1
A	Soil	S-49-01	1	10-Jul-07	56-55-3	Benzo(a)anthracene	5.4	ug/kg	0.0054	0	1
A	Soil	S-49-01	1	10-Jul-07	50-32-8	Benzo(a)pyrene	5.4	ug/kg	0.0054	0	1
A	Soil	S-49-01	1	10-Jul-07		C12-C13	3.5	mg/k	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	S-49-01	1	10-Jul-07	205-99-2	Benzo(b)fluoranthene	5.4	ug/kg	0.0054	0	1
A	Soil	S-49-01	1	10-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	207-08-9	Benzo(k)fluoranthene	5.4	ug/kg	0.0054	0	1
A	Soil	S-49-01	1	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
A	Soil	S-49-01	1	10-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
A	Soil	S-49-01	1	10-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
A	Soil	S-49-01	1	10-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
A	Soil	S-49-05	5	10-Jul-07	86-73-7	Fluorene	5.8	ug/kg	0.0058	0	1
A	Soil	S-49-05	5	10-Jul-07	87-68-3	Hexachlorobutadiene	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.8	ug/kg	0.0058	0	1
A	Soil	S-49-05	5	10-Jul-07	108-20-3	Isopropyl ether	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	98-82-8	Isopropylbenzene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	206-44-0	Fluoranthene	5.8	ug/kg	0.0058	0	1
A	Soil	S-49-05	5	10-Jul-07	7439-92-1	Lead	4.9	mg/k	4.9	1	1
A	Soil	S-49-05	5	10-Jul-07	179601-23-1	m,p-Xylenes	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
A	Soil	S-49-05	5	10-Jul-07	1634-04-4	Methyl tert-butyl ether	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	75-09-2	Methylene chloride	21	ug/kg	0.021	0	1
A	Soil	S-49-05	5	10-Jul-07	91-20-3	Naphthalene	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	7440-48-4	Cobalt	6.8	mg/k	6.8	1	1
A	Soil	S-49-05	5	10-Jul-07	91-20-3	Naphthalene	5.8	ug/kg	0.0058	0	0
A	Soil	S-49-05	5	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
A	Soil	S-49-05	5	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	75-00-3	Chloroethane	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	98-06-6	tert-Butylbenzene	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	104-51-8	n-Butylbenzene	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	74-87-3	Chloromethane	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	7440-47-3	Chromium	25	mg/k	25	1	1
A	Soil	S-49-05	5	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.8	ug/kg	0.0058	0	1
A	Soil	S-49-05	5	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	100-41-4	Ethylbenzene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	7440-50-8	Copper	6.7	mg/k	6.7	1	1
A	Soil	S-49-05	5	10-Jul-07	67-66-3	Chloroform	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	124-48-1	Dibromochloromethane	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07		Dibromofluoromethane	54	ug/kg	0.054	1	1
A	Soil	S-49-05	5	10-Jul-07	74-95-3	Dibromomethane	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
A	Soil	S-49-05	5	10-Jul-07	218-01-9	Chrysene	5.8	ug/kg	0.0058	0	1
A	Soil	S-49-05	5	10-Jul-07	75-71-8	Dichlorodifluoromethane	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	108-90-7	Chlorobenzene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	7440-66-6	Zinc	24	mg/k	24	1	1
A	Soil	S-49-05	5	10-Jul-07	1330-20-7	Xylenes (total)	4.2	ug/kg	0.0042	0	1
A	Soil	S-49-05	5	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.37	mg/k	0.37	0	1
A	Soil	S-49-05	5	10-Jul-07	75-01-4	Vinyl chloride	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	7440-62-2	Vanadium	17	mg/k	17	1	1
A	Soil	S-49-05	5	10-Jul-07	75-69-4	Trichlorofluoromethane	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	79-01-6	Trichloroethene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07		Toluene-d8	53.5	ug/kg	0.0535	1	1
A	Soil	S-49-05	5	10-Jul-07	108-88-3	Toluene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
A	Soil	S-49-05	5	10-Jul-07	994-05-8	Tert-amyl methyl ether	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	129-00-0	Pyrene	5.8	ug/kg	0.0058	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	S-49-05	5	10-Jul-07		Nitrobenzene-d5	1400	ug/kg	1.4	1	1
A	Soil	S-49-05	5	10-Jul-07		n-Octacosane	5.05	mg/k	5.05	1	1
A	Soil	S-49-05	5	10-Jul-07	103-65-1	n-Propylbenzene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
A	Soil	S-49-05	5	10-Jul-07	95-47-6	o-Xylene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	127-18-4	Tetrachloroethene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	99-87-6	p-Isopropyltoluene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
A	Soil	S-49-05	5	10-Jul-07	135-98-8	sec-Butylbenzene	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
A	Soil	S-49-05	5	10-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
A	Soil	S-49-05	5	10-Jul-07	100-42-5	Styrene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07		Terphenyl-d14	1500	ug/kg	1.5	1	1
A	Soil	S-49-05	5	10-Jul-07	7440-02-0	Nickel	21	mg/k	21	1	1
A	Soil	S-49-05	5	10-Jul-07	85-01-8	Phenanthrene	5.8	ug/kg	0.0058	0	1
A	Soil	S-49-05	5	10-Jul-07		4-Bromofluorobenzene	0.0174	mg/k	0.0174	1	0
A	Soil	S-49-05	5	10-Jul-07	7440-38-2	Arsenic	1.3	mg/k	1.3	1	1
A	Soil	S-49-05	5	10-Jul-07	106-46-7	1,4-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	90-12-0	1-Methylnaphthalene	5.8	ug/kg	0.0058	0	1
A	Soil	S-49-05	5	10-Jul-07	594-20-7	2,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	95-49-8	2-Chlorotoluene	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	541-73-1	1,3-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	91-57-6	2-Methylnaphthalene	5.8	ug/kg	0.0058	0	1
A	Soil	S-49-05	5	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07		4-Bromofluorobenzene	45.1	ug/kg	0.0451	1	1
A	Soil	S-49-05	5	10-Jul-07	106-43-4	4-Chlorotoluene	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	83-32-9	Acenaphthene	5.8	ug/kg	0.0058	0	1
A	Soil	S-49-05	5	10-Jul-07	208-96-8	Acenaphthylene	5.8	ug/kg	0.0058	0	1
A	Soil	S-49-05	5	10-Jul-07	120-12-7	Anthracene	5.8	ug/kg	0.0058	0	1
A	Soil	S-49-05	5	10-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
A	Soil	S-49-05	5	10-Jul-07		2-Fluorobiphenyl	1100	ug/kg	1.1	1	1
A	Soil	S-49-05	5	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	71-55-6	1,1,1-Trichloroethane	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	79-00-5	1,1,2-Trichloroethane	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	75-34-3	1,1-Dichloroethane	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	75-35-4	1,1-Dichloroethene	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	563-58-6	1,1-Dichloropropene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	142-28-9	1,3-Dichloropropane	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
A	Soil	S-49-05	5	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	106-93-4	1,2-Dibromoethane	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	95-50-1	1,2-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	107-06-2	1,2-Dichloroethane	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	78-87-5	1,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	7440-39-3	Barium	71	mg/k	71	1	1
A	Soil	S-49-05	5	10-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
A	Soil	S-49-05	5	10-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
A	Soil	S-49-05	5	10-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
A	Soil	S-49-05	5	10-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
A	Soil	S-49-05	5	10-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
A	Soil	S-49-05	5	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
A	Soil	S-49-05	5	10-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
A	Soil	S-49-05	5	10-Jul-07		C30-C31	3.5	mg/k	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	S-49-05	5	10-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
A	Soil	S-49-05	5	10-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
A	Soil	S-49-05	5	10-Jul-07		C8-C40	5	mg/k	5	0	1
A	Soil	S-49-05	5	10-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
A	Soil	S-49-05	5	10-Jul-07	56-23-5	Carbon tetrachloride	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
A	Soil	S-49-05	5	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.8	ug/kg	0.0058	0	1
A	Soil	S-49-05	5	10-Jul-07	71-43-2	Benzene	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
A	Soil	S-49-05	5	10-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
A	Soil	S-49-05	5	10-Jul-07	56-55-3	Benzo(a)anthracene	5.8	ug/kg	0.0058	0	1
A	Soil	S-49-05	5	10-Jul-07	205-99-2	Benzo(b)fluoranthene	5.8	ug/kg	0.0058	0	1
A	Soil	S-49-05	5	10-Jul-07	207-08-9	Benzo(k)fluoranthene	5.8	ug/kg	0.0058	0	1
A	Soil	S-49-05	5	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
A	Soil	S-49-05	5	10-Jul-07	108-86-1	Bromobenzene	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	74-97-5	Bromochloromethane	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	75-27-4	Bromodichloromethane	2.1	ug/kg	0.0021	0	1
A	Soil	S-49-05	5	10-Jul-07	75-25-2	Bromoform	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	74-83-9	Bromomethane	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
A	Soil	S-49-05	5	10-Jul-07	637-92-3	Ethyl tert butyl ether	5.2	ug/kg	0.0052	0	1
A	Soil	S-49-05	5	10-Jul-07	50-32-8	Benzo(a)pyrene	5.8	ug/kg	0.0058	0	1
A	Soil	S-49-10	10	10-Jul-07	91-20-3	Naphthalene	6	ug/kg	0.006	0	0
A	Soil	S-49-10	10	10-Jul-07	108-20-3	Isopropyl ether	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	206-44-0	Fluoranthene	6	ug/kg	0.006	0	1
A	Soil	S-49-10	10	10-Jul-07	86-73-7	Fluorene	6	ug/kg	0.006	0	1
A	Soil	S-49-10	10	10-Jul-07	87-68-3	Hexachlorobutadiene	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6	ug/kg	0.006	0	1
A	Soil	S-49-10	10	10-Jul-07	98-82-8	Isopropylbenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	7439-92-1	Lead	17	mg/k	17	1	1
A	Soil	S-49-10	10	10-Jul-07	179601-23-1	m,p-Xylenes	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
A	Soil	S-49-10	10	10-Jul-07	1634-04-4	Methyl tert-butyl ether	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	75-09-2	Methylene chloride	19	ug/kg	0.019	0	1
A	Soil	S-49-10	10	10-Jul-07	91-20-3	Naphthalene	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	7439-98-7	Molybdenum	2.9	mg/k	2.9	1	1
A	Soil	S-49-10	10	10-Jul-07	7440-48-4	Cobalt	1.3	mg/k	1.3	1	1
A	Soil	S-49-10	10	10-Jul-07	98-06-6	tert-Butylbenzene	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	75-00-3	Chloroethane	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	104-51-8	n-Butylbenzene	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	74-87-3	Chloromethane	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	7440-47-3	Chromium	13	mg/k	13	1	1
A	Soil	S-49-10	10	10-Jul-07	218-01-9	Chrysene	6	ug/kg	0.006	0	1
A	Soil	S-49-10	10	10-Jul-07	67-66-3	Chloroform	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	100-41-4	Ethylbenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	7440-50-8	Copper	8.3	mg/k	8.3	1	1
A	Soil	S-49-10	10	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	6	ug/kg	0.006	0	1
A	Soil	S-49-10	10	10-Jul-07		Dibromofluoromethane	51.7	ug/kg	0.0517	1	1
A	Soil	S-49-10	10	10-Jul-07	75-71-8	Dichlorodifluoromethane	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
A	Soil	S-49-10	10	10-Jul-07	637-92-3	Ethyl tert butyl ether	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	75-65-0	tert-Butyl alcohol	93	ug/kg	0.093	0	1
A	Soil	S-49-10	10	10-Jul-07	124-48-1	Dibromochloromethane	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	108-90-7	Chlorobenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	7440-66-6	Zinc	21	mg/k	21	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	S-49-10	10	10-Jul-07	1330-20-7	Xylenes (total)	3.7	ug/kg	0.0037	0	1
A	Soil	S-49-10	10	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.39	mg/k	0.39	0	1
A	Soil	S-49-10	10	10-Jul-07	75-01-4	Vinyl chloride	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	7440-62-2	Vanadium	9.7	mg/k	9.7	1	1
A	Soil	S-49-10	10	10-Jul-07	75-69-4	Trichlorofluoromethane	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	79-01-6	Trichloroethene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07		Toluene-d8	49	ug/kg	0.049	1	1
A	Soil	S-49-10	10	10-Jul-07	108-88-3	Toluene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	994-05-8	Tert-amyl methyl ether	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	129-00-0	Pyrene	6	ug/kg	0.006	0	1
A	Soil	S-49-10	10	10-Jul-07		Nitrobenzene-d5	1300	ug/kg	1.3	1	1
A	Soil	S-49-10	10	10-Jul-07		n-Octacosane	4.46	mg/k	4.46	1	1
A	Soil	S-49-10	10	10-Jul-07	103-65-1	n-Propylbenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
A	Soil	S-49-10	10	10-Jul-07	95-47-6	o-Xylene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
A	Soil	S-49-10	10	10-Jul-07	99-87-6	p-Isopropyltoluene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	127-18-4	Tetrachloroethene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	135-98-8	sec-Butylbenzene	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
A	Soil	S-49-10	10	10-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
A	Soil	S-49-10	10	10-Jul-07	100-42-5	Styrene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07		Terphenyl-d14	1100	ug/kg	1.1	1	1
A	Soil	S-49-10	10	10-Jul-07	7440-02-0	Nickel	8.7	mg/k	8.7	1	1
A	Soil	S-49-10	10	10-Jul-07	85-01-8	Phenanthrene	6	ug/kg	0.006	0	1
A	Soil	S-49-10	10	10-Jul-07	91-57-6	2-Methylnaphthalene	6	ug/kg	0.006	0	1
A	Soil	S-49-10	10	10-Jul-07	541-73-1	1,3-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	142-28-9	1,3-Dichloropropane	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	106-46-7	1,4-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	90-12-0	1-Methylnaphthalene	6	ug/kg	0.006	0	1
A	Soil	S-49-10	10	10-Jul-07	594-20-7	2,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
A	Soil	S-49-10	10	10-Jul-07		2-Fluorobiphenyl	1300	ug/kg	1.3	1	1
A	Soil	S-49-10	10	10-Jul-07	107-06-2	1,2-Dichloroethane	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07		4-Bromofluorobenzene	0.0165	mg/k	0.0165	1	0
A	Soil	S-49-10	10	10-Jul-07		4-Bromofluorobenzene	40.5	ug/kg	0.0405	1	1
A	Soil	S-49-10	10	10-Jul-07	106-43-4	4-Chlorotoluene	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	83-32-9	Acenaphthene	6	ug/kg	0.006	0	1
A	Soil	S-49-10	10	10-Jul-07	208-96-8	Acenaphthylene	6	ug/kg	0.006	0	1
A	Soil	S-49-10	10	10-Jul-07	120-12-7	Anthracene	6	ug/kg	0.006	0	1
A	Soil	S-49-10	10	10-Jul-07	95-49-8	2-Chlorotoluene	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	563-58-6	1,1-Dichloropropene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	74-95-3	Dibromomethane	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	56-23-5	Carbon tetrachloride	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	71-55-6	1,1,1-Trichloroethane	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	79-00-5	1,1,2-Trichloroethane	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	75-35-4	1,1-Dichloroethene	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	78-87-5	1,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	106-93-4	1,2-Dibromoethane	1.9	ug/kg	0.0019	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	S-49-10	10	10-Jul-07	95-50-1	1,2-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	75-34-3	1,1-Dichloroethane	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
A	Soil	S-49-10	10	10-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
A	Soil	S-49-10	10	10-Jul-07	7440-38-2	Arsenic	3.9	mg/k	3.9	1	1
A	Soil	S-49-10	10	10-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
A	Soil	S-49-10	10	10-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
A	Soil	S-49-10	10	10-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
A	Soil	S-49-10	10	10-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
A	Soil	S-49-10	10	10-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
A	Soil	S-49-10	10	10-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
A	Soil	S-49-10	10	10-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
A	Soil	S-49-10	10	10-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
A	Soil	S-49-10	10	10-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
A	Soil	S-49-10	10	10-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
A	Soil	S-49-10	10	10-Jul-07		C8-C40	5	mg/k	5	0	1
A	Soil	S-49-10	10	10-Jul-07	96-18-4	1,2,3-Trichloropropane	9.3	ug/kg	0.0093	0	1
A	Soil	S-49-10	10	10-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
A	Soil	S-49-10	10	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
A	Soil	S-49-10	10	10-Jul-07	7440-39-3	Barium	63	mg/k	63	1	1
A	Soil	S-49-10	10	10-Jul-07	71-43-2	Benzene	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	56-55-3	Benzo(a)anthracene	6	ug/kg	0.006	0	1
A	Soil	S-49-10	10	10-Jul-07	50-32-8	Benzo(a)pyrene	6	ug/kg	0.006	0	1
A	Soil	S-49-10	10	10-Jul-07	205-99-2	Benzo(b)fluoranthene	6	ug/kg	0.006	0	1
A	Soil	S-49-10	10	10-Jul-07	207-08-9	Benzo(k)fluoranthene	6	ug/kg	0.006	0	1
A	Soil	S-49-10	10	10-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
A	Soil	S-49-10	10	10-Jul-07	108-86-1	Bromobenzene	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	74-97-5	Bromochloromethane	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	75-27-4	Bromodichloromethane	1.9	ug/kg	0.0019	0	1
A	Soil	S-49-10	10	10-Jul-07	75-25-2	Bromoform	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07	74-83-9	Bromomethane	4.6	ug/kg	0.0046	0	1
A	Soil	S-49-10	10	10-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
A	Soil	S-49-10	10	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	6	ug/kg	0.006	0	1
A	Soil	SV-55-01	1	10-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
A	Soil	SV-55-01	1	10-Jul-07	7439-92-1	Lead	19	mg/k	19	1	1
A	Soil	SV-55-01	1	10-Jul-07	91-20-3	Naphthalene	5.8	ug/kg	0.0058	0	0
A	Soil	SV-55-01	1	10-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	7440-02-0	Nickel	8.9	mg/k	8.9	1	1
A	Soil	SV-55-01	1	10-Jul-07		Nitrobenzene-d5	1300	ug/kg	1.3	1	1
A	Soil	SV-55-01	1	10-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	1	1
A	Soil	SV-55-01	1	10-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
A	Soil	SV-55-01	1	10-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.8	ug/kg	0.0058	0	1
A	Soil	SV-55-01	1	10-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	86-73-7	Fluorene	5.8	ug/kg	0.0058	0	1
A	Soil	SV-55-01	1	10-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07		DRO (C10-C24)	11	mg/k	11	1	1
A	Soil	SV-55-01	1	10-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07		Dibromofluoromethane	51.1	ug/kg	0.0511	1	1
A	Soil	SV-55-01	1	10-Jul-07		n-Octacosane	5.91	mg/k	5.91	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	SV-55-01	1	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.8	ug/kg	0.0058	0	1
A	Soil	SV-55-01	1	10-Jul-07	206-44-0	Fluoranthene	5.8	ug/kg	0.0058	0	1
A	Soil	SV-55-01	1	10-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	7440-38-2	Arsenic	2.2	mg/k	2.2	1	1
A	Soil	SV-55-01	1	10-Jul-07	7440-50-8	Copper	9.1	mg/k	9.1	1	1
A	Soil	SV-55-01	1	10-Jul-07	7440-66-6	Zinc	21	mg/k	21	1	1
A	Soil	SV-55-01	1	10-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
A	Soil	SV-55-01	1	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
A	Soil	SV-55-01	1	10-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	7440-62-2	Vanadium	16	mg/k	16	1	1
A	Soil	SV-55-01	1	10-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07		Toluene-d8	50.7	ug/kg	0.0507	1	1
A	Soil	SV-55-01	1	10-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
A	Soil	SV-55-01	1	10-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07		Terphenyl-d14	1200	ug/kg	1.2	1	1
A	Soil	SV-55-01	1	10-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
A	Soil	SV-55-01	1	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
A	Soil	SV-55-01	1	10-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	129-00-0	Pyrene	5.8	ug/kg	0.0058	0	1
A	Soil	SV-55-01	1	10-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	85-01-8	Phenanthrene	5.8	ug/kg	0.0058	0	1
A	Soil	SV-55-01	1	10-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07		ORO (C25-C40)	36	mg/k	36	1	1
A	Soil	SV-55-01	1	10-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
A	Soil	SV-55-01	1	10-Jul-07		4-Bromofluorobenzene	0.0129	mg/k	0.0129	1	0
A	Soil	SV-55-01	1	10-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	90-12-0	1-Methylnaphthalene	5.8	ug/kg	0.0058	0	1
A	Soil	SV-55-01	1	10-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	7440-39-3	Barium	43	mg/k	43	1	1
A	Soil	SV-55-01	1	10-Jul-07	91-57-6	2-Methylnaphthalene	5.8	ug/kg	0.0058	0	1
A	Soil	SV-55-01	1	10-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07		4-Bromofluorobenzene	32.6	ug/kg	0.0326	1	1
A	Soil	SV-55-01	1	10-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	83-32-9	Acenaphthene	5.8	ug/kg	0.0058	0	1
A	Soil	SV-55-01	1	10-Jul-07	208-96-8	Acenaphthylene	5.8	ug/kg	0.0058	0	1
A	Soil	SV-55-01	1	10-Jul-07	120-12-7	Anthracene	5.8	ug/kg	0.0058	0	1
A	Soil	SV-55-01	1	10-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07		2-Fluorobiphenyl	1100	ug/kg	1.1	1	1
A	Soil	SV-55-01	1	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
A	Soil	SV-55-01	1	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	SV-55-01	1	10-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1
A	Soil	SV-55-01	1	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	56-55-3	Benzo(a)anthracene	5.8	ug/kg	0.0058	0	1
A	Soil	SV-55-01	1	10-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07		C26-C27	7	mg/k	7	0	1
A	Soil	SV-55-01	1	10-Jul-07		C28-C29	7	mg/k	7	0	1
A	Soil	SV-55-01	1	10-Jul-07		C30-C31	7.9	mg/k	7.9	1	1
A	Soil	SV-55-01	1	10-Jul-07		C32-C35	9.9	mg/k	9.9	1	1
A	Soil	SV-55-01	1	10-Jul-07		C36-C40	7	mg/k	7	0	1
A	Soil	SV-55-01	1	10-Jul-07		C8-C9	7	mg/k	7	0	1
A	Soil	SV-55-01	1	10-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
A	Soil	SV-55-01	1	10-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07		C20-C21	7	mg/k	7	0	1
A	Soil	SV-55-01	1	10-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	7440-47-3	Chromium	13	mg/k	13	1	1
A	Soil	SV-55-01	1	10-Jul-07	218-01-9	Chrysene	5.8	ug/kg	0.0058	0	1
A	Soil	SV-55-01	1	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07	50-32-8	Benzo(a)pyrene	5.8	ug/kg	0.0058	0	1
A	Soil	SV-55-01	1	10-Jul-07	205-99-2	Benzo(b)fluoranthene	5.8	ug/kg	0.0058	0	1
A	Soil	SV-55-01	1	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.8	ug/kg	0.0058	0	1
A	Soil	SV-55-01	1	10-Jul-07	207-08-9	Benzo(k)fluoranthene	5.8	ug/kg	0.0058	0	1
A	Soil	SV-55-01	1	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
A	Soil	SV-55-01	1	10-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07		C24-C25	7	mg/k	7	0	1
A	Soil	SV-55-01	1	10-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-01	1	10-Jul-07		C22-C23	7	mg/k	7	0	1
A	Soil	SV-55-01	1	10-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07		C10-C11	7	mg/k	7	0	1
A	Soil	SV-55-01	1	10-Jul-07		C12-C13	7	mg/k	7	0	1
A	Soil	SV-55-01	1	10-Jul-07		C14-C15	7	mg/k	7	0	1
A	Soil	SV-55-01	1	10-Jul-07		C16-C17	7	mg/k	7	0	1
A	Soil	SV-55-01	1	10-Jul-07		C18-C19	7	mg/k	7	0	1
A	Soil	SV-55-01	1	10-Jul-07	7440-48-4	Cobalt	2	mg/k	2	1	1
A	Soil	SV-55-01	1	10-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
A	Soil	SV-55-01	1	10-Jul-07		C8-C40	48	mg/k	48	1	1
A	Soil	SV-55-05	5	10-Jul-07	95-47-6	o-Xylene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
A	Soil	SV-55-05	5	10-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
A	Soil	SV-55-05	5	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
A	Soil	SV-55-05	5	10-Jul-07	135-98-8	sec-Butylbenzene	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	129-00-0	Pyrene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-55-05	5	10-Jul-07		Terphenyl-d14	1000	ug/kg	1	1	1
A	Soil	SV-55-05	5	10-Jul-07	85-01-8	Phenanthrene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-55-05	5	10-Jul-07	994-05-8	Tert-amyl methyl ether	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07		ORO (C25-C40)	18	mg/k	18	1	1
A	Soil	SV-55-05	5	10-Jul-07	103-65-1	n-Propylbenzene	2.2	ug/kg	0.0022	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	SV-55-05	5	10-Jul-07		n-Octacosane	5.28	mg/k	5.28	1	1
A	Soil	SV-55-05	5	10-Jul-07		Nitrobenzene-d5	1200	ug/kg	1.2	1	1
A	Soil	SV-55-05	5	10-Jul-07	7440-02-0	Nickel	4.5	mg/k	4.5	1	1
A	Soil	SV-55-05	5	10-Jul-07	104-51-8	n-Butylbenzene	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	99-87-6	p-Isopropyltoluene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	7440-66-6	Zinc	7.7	mg/k	7.7	1	1
A	Soil	SV-55-05	5	10-Jul-07	1330-20-7	Xylenes (total)	4.4	ug/kg	0.0044	0	1
A	Soil	SV-55-05	5	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
A	Soil	SV-55-05	5	10-Jul-07	75-01-4	Vinyl chloride	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	7440-62-2	Vanadium	6.9	mg/k	6.9	1	1
A	Soil	SV-55-05	5	10-Jul-07	75-69-4	Trichlorofluoromethane	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	100-42-5	Styrene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
A	Soil	SV-55-05	5	10-Jul-07		Toluene-d8	59.2	ug/kg	0.0592	1	1
A	Soil	SV-55-05	5	10-Jul-07	108-88-3	Toluene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
A	Soil	SV-55-05	5	10-Jul-07	127-18-4	Tetrachloroethene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	98-06-6	tert-Butylbenzene	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	75-65-0	tert-Butyl alcohol	110	ug/kg	0.11	0	1
A	Soil	SV-55-05	5	10-Jul-07	79-01-6	Trichloroethene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	7440-47-3	Chromium	8.1	mg/k	8.1	1	1
A	Soil	SV-55-05	5	10-Jul-07	124-48-1	Dibromochloromethane	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-55-05	5	10-Jul-07	7440-50-8	Copper	2.9	mg/k	2.9	1	1
A	Soil	SV-55-05	5	10-Jul-07	7440-48-4	Cobalt	1	mg/k	1	0	1
A	Soil	SV-55-05	5	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	91-20-3	Naphthalene	5.5	ug/kg	0.0055	0	0
A	Soil	SV-55-05	5	10-Jul-07	218-01-9	Chrysene	5.7	ug/kg	0.0057	1	1
A	Soil	SV-55-05	5	10-Jul-07	75-71-8	Dichlorodifluoromethane	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	74-87-3	Chloromethane	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	67-66-3	Chloroform	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	75-00-3	Chloroethane	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	108-90-7	Chlorobenzene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	56-23-5	Carbon tetrachloride	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
A	Soil	SV-55-05	5	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07		C8-C40	23	mg/k	23	1	1
A	Soil	SV-55-05	5	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-55-05	5	10-Jul-07	75-09-2	Methylene chloride	22	ug/kg	0.022	0	1
A	Soil	SV-55-05	5	10-Jul-07	1634-04-4	Methyl tert-butyl ether	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
A	Soil	SV-55-05	5	10-Jul-07	179601-23-1	m,p-Xylenes	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	7439-92-1	Lead	6.2	mg/k	6.2	1	1
A	Soil	SV-55-05	5	10-Jul-07		Dibromofluoromethane	59.4	ug/kg	0.0594	1	1
A	Soil	SV-55-05	5	10-Jul-07	108-20-3	Isopropyl ether	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	74-95-3	Dibromomethane	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	87-68-3	Hexachlorobutadiene	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	206-44-0	Fluoranthene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-55-05	5	10-Jul-07	100-41-4	Ethylbenzene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	637-92-3	Ethyl tert butyl ether	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
A	Soil	SV-55-05	5	10-Jul-07	91-20-3	Naphthalene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-55-05	5	10-Jul-07	98-82-8	Isopropylbenzene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	95-50-1	1,2-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	106-43-4	4-Chlorotoluene	5.5	ug/kg	0.0055	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	SV-55-05	5	10-Jul-07		4-Bromofluorobenzene	47.2	ug/kg	0.0472	1	1
A	Soil	SV-55-05	5	10-Jul-07		4-Bromofluorobenzene	0.0219	mg/k	0.0219	1	0
A	Soil	SV-55-05	5	10-Jul-07	91-57-6	2-Methylnaphthalene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-55-05	5	10-Jul-07		2-Fluorobiphenyl	860	ug/kg	0.86	1	1
A	Soil	SV-55-05	5	10-Jul-07	95-49-8	2-Chlorotoluene	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	594-20-7	2,2-Dichloropropane	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	90-12-0	1-Methylnaphthalene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-55-05	5	10-Jul-07	106-46-7	1,4-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	142-28-9	1,3-Dichloropropane	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	541-73-1	1,3-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	107-06-2	1,2-Dichloroethane	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	120-12-7	Anthracene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-55-05	5	10-Jul-07	106-93-4	1,2-Dibromoethane	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	96-18-4	1,2,3-Trichloropropane	11	ug/kg	0.011	0	1
A	Soil	SV-55-05	5	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	563-58-6	1,1-Dichloropropene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	75-35-4	1,1-Dichloroethene	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	75-34-3	1,1-Dichloroethane	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	79-00-5	1,1,2-Trichloroethane	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	71-55-6	1,1,1-Trichloroethane	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	78-87-5	1,2-Dichloropropane	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	74-83-9	Bromomethane	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	86-73-7	Fluorene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-55-05	5	10-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
A	Soil	SV-55-05	5	10-Jul-07		C32-C35	5.5	mg/k	5.5	1	1
A	Soil	SV-55-05	5	10-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
A	Soil	SV-55-05	5	10-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
A	Soil	SV-55-05	5	10-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
A	Soil	SV-55-05	5	10-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
A	Soil	SV-55-05	5	10-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
A	Soil	SV-55-05	5	10-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
A	Soil	SV-55-05	5	10-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
A	Soil	SV-55-05	5	10-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
A	Soil	SV-55-05	5	10-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
A	Soil	SV-55-05	5	10-Jul-07	83-32-9	Acenaphthene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-55-05	5	10-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
A	Soil	SV-55-05	5	10-Jul-07	208-96-8	Acenaphthylene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-55-05	5	10-Jul-07	75-25-2	Bromoform	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	75-27-4	Bromodichloromethane	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	74-97-5	Bromochloromethane	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	108-86-1	Bromobenzene	5.5	ug/kg	0.0055	0	1
A	Soil	SV-55-05	5	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
A	Soil	SV-55-05	5	10-Jul-07	207-08-9	Benzo(k)fluoranthene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-55-05	5	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-55-05	5	10-Jul-07	50-32-8	Benzo(a)pyrene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-55-05	5	10-Jul-07	71-43-2	Benzene	2.2	ug/kg	0.0022	0	1
A	Soil	SV-55-05	5	10-Jul-07	7440-39-3	Barium	25	mg/k	25	1	1
A	Soil	SV-55-05	5	10-Jul-07	7440-38-2	Arsenic	2.2	mg/k	2.2	1	1
A	Soil	SV-55-05	5	10-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
A	Soil	SV-55-05	5	10-Jul-07	56-55-3	Benzo(a)anthracene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-55-05	5	10-Jul-07		C12-C13	3.5	mg/k	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	SV-55-05	5	10-Jul-07	205-99-2	Benzo(b)fluoranthene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-55-10	10	10-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
A	Soil	SV-55-10	10	10-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
A	Soil	SV-55-10	10	10-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
A	Soil	SV-55-10	10	10-Jul-07		C8-C40	5	mg/k	5	0	1
A	Soil	SV-55-10	10	10-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
A	Soil	SV-55-10	10	10-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
A	Soil	SV-55-10	10	10-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
A	Soil	SV-55-10	10	10-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
A	Soil	SV-55-10	10	10-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
A	Soil	SV-55-10	10	10-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
A	Soil	SV-55-10	10	10-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
A	Soil	SV-55-10	10	10-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
A	Soil	SV-55-10	10	10-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
A	Soil	SV-55-10	10	10-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
A	Soil	SV-55-10	10	10-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
A	Soil	SV-55-10	10	10-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
A	Soil	SV-55-10	10	10-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	7439-92-1	Lead	5.3	mg/k	5.3	1	1
A	Soil	SV-55-10	10	10-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.1	ug/kg	0.0061	0	1
A	Soil	SV-55-10	10	10-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	86-73-7	Fluorene	6.1	ug/kg	0.0061	0	1
A	Soil	SV-55-10	10	10-Jul-07	206-44-0	Fluoranthene	6.1	ug/kg	0.0061	0	1
A	Soil	SV-55-10	10	10-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07		Dibromofluoromethane	48.7	ug/kg	0.0487	1	1
A	Soil	SV-55-10	10	10-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.1	ug/kg	0.0061	0	1
A	Soil	SV-55-10	10	10-Jul-07	7440-50-8	Copper	2	mg/k	2	0	1
A	Soil	SV-55-10	10	10-Jul-07	7440-48-4	Cobalt	1	mg/k	1	0	1
A	Soil	SV-55-10	10	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	218-01-9	Chrysene	6.1	ug/kg	0.0061	0	1
A	Soil	SV-55-10	10	10-Jul-07	7440-47-3	Chromium	5.6	mg/k	5.6	1	1
A	Soil	SV-55-10	10	10-Jul-07	207-08-9	Benzo(k)fluoranthene	6.1	ug/kg	0.0061	0	1
A	Soil	SV-55-10	10	10-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
A	Soil	SV-55-10	10	10-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	SV-55-10	10	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	7440-62-2	Vanadium	2.9	mg/k	2.9	1	1
A	Soil	SV-55-10	10	10-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
A	Soil	SV-55-10	10	10-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
A	Soil	SV-55-10	10	10-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	205-99-2	Benzo(b)fluoranthene	6.1	ug/kg	0.0061	0	1
A	Soil	SV-55-10	10	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.1	ug/kg	0.0061	0	1
A	Soil	SV-55-10	10	10-Jul-07	7440-66-6	Zinc	6.2	mg/k	6.2	1	1
A	Soil	SV-55-10	10	10-Jul-07	50-32-8	Benzo(a)pyrene	6.1	ug/kg	0.0061	0	1
A	Soil	SV-55-10	10	10-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	7440-39-3	Barium	19	mg/k	19	1	1
A	Soil	SV-55-10	10	10-Jul-07	7440-38-2	Arsenic	1.7	mg/k	1.7	1	1
A	Soil	SV-55-10	10	10-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
A	Soil	SV-55-10	10	10-Jul-07	120-12-7	Anthracene	6.1	ug/kg	0.0061	0	1
A	Soil	SV-55-10	10	10-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	83-32-9	Acenaphthene	6.1	ug/kg	0.0061	0	1
A	Soil	SV-55-10	10	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
A	Soil	SV-55-10	10	10-Jul-07		4-Bromofluorobenzene	43	ug/kg	0.043	1	1
A	Soil	SV-55-10	10	10-Jul-07		4-Bromofluorobenzene	0.02	mg/k	0.02	1	0
A	Soil	SV-55-10	10	10-Jul-07	91-57-6	2-Methylnaphthalene	6.1	ug/kg	0.0061	0	1
A	Soil	SV-55-10	10	10-Jul-07		2-Fluorobiphenyl	1000	ug/kg	1	1	1
A	Soil	SV-55-10	10	10-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	90-12-0	1-Methylnaphthalene	6.1	ug/kg	0.0061	0	1
A	Soil	SV-55-10	10	10-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	208-96-8	Acenaphthylene	6.1	ug/kg	0.0061	0	1
A	Soil	SV-55-10	10	10-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	56-55-3	Benzo(a)anthracene	6.1	ug/kg	0.0061	0	1
A	Soil	SV-55-10	10	10-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
A	Soil	SV-55-10	10	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07		Toluene-d8	51.2	ug/kg	0.0512	1	1
A	Soil	SV-55-10	10	10-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
A	Soil	SV-55-10	10	10-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
A	Soil	SV-55-10	10	10-Jul-07		Terphenyl-d14	1300	ug/kg	1.3	1	1
A	Soil	SV-55-10	10	10-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
A	Soil	SV-55-10	10	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
A	Soil	SV-55-10	10	10-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	129-00-0	Pyrene	6.1	ug/kg	0.0061	0	1
A	Soil	SV-55-10	10	10-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	SV-55-10	10	10-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
A	Soil	SV-55-10	10	10-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
A	Soil	SV-55-10	10	10-Jul-07	91-20-3	Naphthalene	6.1	ug/kg	0.0061	0	0
A	Soil	SV-55-10	10	10-Jul-07	7440-02-0	Nickel	8.2	mg/k	8.2	1	1
A	Soil	SV-55-10	10	10-Jul-07		Nitrobenzene-d5	1300	ug/kg	1.3	1	1
A	Soil	SV-55-10	10	10-Jul-07		n-Octacosane	4.88	mg/k	4.88	1	1
A	Soil	SV-55-10	10	10-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
A	Soil	SV-55-10	10	10-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
A	Soil	SV-55-10	10	10-Jul-07	85-01-8	Phenanthrene	6.1	ug/kg	0.0061	0	1
A	Soil	SV-55-10	10	10-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	7440-48-4	Cobalt	1	mg/k	1	0	1
A	Soil	SV-56-01	1	10-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07		DRO (C10-C24)	10	mg/k	10	0	1
A	Soil	SV-56-01	1	10-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07		Dibromofluoromethane	59.6	ug/kg	0.0596	1	1
A	Soil	SV-56-01	1	10-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	7440-50-8	Copper	2.1	mg/k	2.1	1	1
A	Soil	SV-56-01	1	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	19	ug/kg	0.019	1	1
A	Soil	SV-56-01	1	10-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
A	Soil	SV-56-01	1	10-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
A	Soil	SV-56-01	1	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07		C30-C31	7	mg/k	7	0	1
A	Soil	SV-56-01	1	10-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07		C36-C40	7	mg/k	7	0	1
A	Soil	SV-56-01	1	10-Jul-07		C22-C23	7	mg/k	7	0	1
A	Soil	SV-56-01	1	10-Jul-07		C20-C21	7	mg/k	7	0	1
A	Soil	SV-56-01	1	10-Jul-07		C18-C19	7	mg/k	7	0	1
A	Soil	SV-56-01	1	10-Jul-07		C16-C17	7	mg/k	7	0	1
A	Soil	SV-56-01	1	10-Jul-07		C26-C27	7	mg/k	7	0	1
A	Soil	SV-56-01	1	10-Jul-07		C12-C13	7	mg/k	7	0	1
A	Soil	SV-56-01	1	10-Jul-07		C28-C29	7	mg/k	7	0	1
A	Soil	SV-56-01	1	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	21	ug/kg	0.021	1	1
A	Soil	SV-56-01	1	10-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	86-73-7	Fluorene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-56-01	1	10-Jul-07	206-44-0	Fluoranthene	27	ug/kg	0.027	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	SV-56-01	1	10-Jul-07		C10-C11	7	mg/k	7	0	1
A	Soil	SV-56-01	1	10-Jul-07		C14-C15	7	mg/k	7	0	1
A	Soil	SV-56-01	1	10-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	218-01-9	Chrysene	110	ug/kg	0.11	1	1
A	Soil	SV-56-01	1	10-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	7440-47-3	Chromium	3.6	mg/k	3.6	1	1
A	Soil	SV-56-01	1	10-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07		C24-C25	7	mg/k	7	0	1
A	Soil	SV-56-01	1	10-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
A	Soil	SV-56-01	1	10-Jul-07		C8-C9	7	mg/k	7	0	1
A	Soil	SV-56-01	1	10-Jul-07		C8-C40	19	mg/k	19	1	1
A	Soil	SV-56-01	1	10-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07		C32-C35	7	mg/k	7	0	1
A	Soil	SV-56-01	1	10-Jul-07		n-Octacosane	5.31	mg/k	5.31	1	1
A	Soil	SV-56-01	1	10-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	7440-02-0	Nickel	2.6	mg/k	2.6	1	1
A	Soil	SV-56-01	1	10-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	90-12-0	1-Methylnaphthalene	8	ug/kg	0.008	1	1
A	Soil	SV-56-01	1	10-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	7440-66-6	Zinc	7.3	mg/k	7.3	1	1
A	Soil	SV-56-01	1	10-Jul-07		2-Fluorobiphenyl	1000	ug/kg	1	1	1
A	Soil	SV-56-01	1	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
A	Soil	SV-56-01	1	10-Jul-07	91-57-6	2-Methylnaphthalene	16	ug/kg	0.016	1	1
A	Soil	SV-56-01	1	10-Jul-07	207-08-9	Benzo(k)fluoranthene	12	ug/kg	0.012	1	1
A	Soil	SV-56-01	1	10-Jul-07	7440-62-2	Vanadium	3.1	mg/k	3.1	1	1
A	Soil	SV-56-01	1	10-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
A	Soil	SV-56-01	1	10-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
A	Soil	SV-56-01	1	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	46	ug/kg	0.046	1	1
A	Soil	SV-56-01	1	10-Jul-07	205-99-2	Benzo(b)fluoranthene	59	ug/kg	0.059	1	1
A	Soil	SV-56-01	1	10-Jul-07	50-32-8	Benzo(a)pyrene	87	ug/kg	0.087	1	1
A	Soil	SV-56-01	1	10-Jul-07	56-55-3	Benzo(a)anthracene	24	ug/kg	0.024	1	1
A	Soil	SV-56-01	1	10-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	7440-38-2	Arsenic	7.3	mg/k	7.3	1	1
A	Soil	SV-56-01	1	10-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
A	Soil	SV-56-01	1	10-Jul-07	120-12-7	Anthracene	9.2	ug/kg	0.0092	1	1
A	Soil	SV-56-01	1	10-Jul-07	208-96-8	Acenaphthylene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-56-01	1	10-Jul-07	83-32-9	Acenaphthene	5.4	ug/kg	0.0054	0	1
A	Soil	SV-56-01	1	10-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07		4-Bromofluorobenzene	33.2	ug/kg	0.0332	1	1
A	Soil	SV-56-01	1	10-Jul-07		4-Bromofluorobenzene	0.0142	mg/k	0.0142	1	0
A	Soil	SV-56-01	1	10-Jul-07	7440-39-3	Barium	270	mg/k	270	1	1
A	Soil	SV-56-01	1	10-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
A	Soil	SV-56-01	1	10-Jul-07		Nitrobenzene-d5	1200	ug/kg	1.2	1	1
A	Soil	SV-56-01	1	10-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	91-20-3	Naphthalene	8.2	ug/kg	0.0082	1	1
A	Soil	SV-56-01	1	10-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	0
A	Soil	SV-56-01	1	10-Jul-07		Toluene-d8	46.1	ug/kg	0.0461	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	SV-56-01	1	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
A	Soil	SV-56-01	1	10-Jul-07		ORO (C25-C40)	12	mg/k	12	1	1
A	Soil	SV-56-01	1	10-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
A	Soil	SV-56-01	1	10-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	7439-92-1	Lead	7.7	mg/k	7.7	1	1
A	Soil	SV-56-01	1	10-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
A	Soil	SV-56-01	1	10-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
A	Soil	SV-56-01	1	10-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07		Terphenyl-d14	1100	ug/kg	1.1	1	1
A	Soil	SV-56-01	1	10-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
A	Soil	SV-56-01	1	10-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
A	Soil	SV-56-01	1	10-Jul-07	129-00-0	Pyrene	46	ug/kg	0.046	1	1
A	Soil	SV-56-01	1	10-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	85-01-8	Phenanthrene	7.1	ug/kg	0.0071	1	1
A	Soil	SV-56-01	1	10-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
A	Soil	SV-56-01	1	10-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	120-12-7	Anthracene	6.3	ug/kg	0.0063	0	1
A	Soil	SV-56-05	5	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	7440-38-2	Arsenic	54	mg/k	54	1	1
A	Soil	SV-56-05	5	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
A	Soil	SV-56-05	5	10-Jul-07	7440-39-3	Barium	230	mg/k	230	1	1
A	Soil	SV-56-05	5	10-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
A	Soil	SV-56-05	5	10-Jul-07	207-08-9	Benzo(k)fluoranthene	6.3	ug/kg	0.0063	0	1
A	Soil	SV-56-05	5	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.3	ug/kg	0.0063	0	1
A	Soil	SV-56-05	5	10-Jul-07	205-99-2	Benzo(b)fluoranthene	6.3	ug/kg	0.0063	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	SV-56-05	5	10-Jul-07	50-32-8	Benzo(a)pyrene	6.3	ug/kg	0.0063	0	1
A	Soil	SV-56-05	5	10-Jul-07	90-12-0	1-Methylnaphthalene	6.3	ug/kg	0.0063	0	1
A	Soil	SV-56-05	5	10-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
A	Soil	SV-56-05	5	10-Jul-07	208-96-8	Acenaphthylene	6.3	ug/kg	0.0063	0	1
A	Soil	SV-56-05	5	10-Jul-07	83-32-9	Acenaphthene	6.3	ug/kg	0.0063	0	1
A	Soil	SV-56-05	5	10-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07		4-Bromofluorobenzene	45	ug/kg	0.045	1	1
A	Soil	SV-56-05	5	10-Jul-07		4-Bromofluorobenzene	0.0175	mg/k	0.0175	1	0
A	Soil	SV-56-05	5	10-Jul-07	91-57-6	2-Methylnaphthalene	6.3	ug/kg	0.0063	0	1
A	Soil	SV-56-05	5	10-Jul-07		2-Fluorobiphenyl	980	ug/kg	0.98	1	1
A	Soil	SV-56-05	5	10-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	56-55-3	Benzo(a)anthracene	6.3	ug/kg	0.0063	0	1
A	Soil	SV-56-05	5	10-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	7440-47-3	Chromium	2.7	mg/k	2.7	1	1
A	Soil	SV-56-05	5	10-Jul-07	218-01-9	Chrysene	6.3	ug/kg	0.0063	0	1
A	Soil	SV-56-05	5	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.3	ug/kg	0.0063	0	1
A	Soil	SV-56-05	5	10-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
A	Soil	SV-56-05	5	10-Jul-07		Dibromofluoromethane	53.7	ug/kg	0.0537	1	1
A	Soil	SV-56-05	5	10-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
A	Soil	SV-56-05	5	10-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	206-44-0	Fluoranthene	6.3	ug/kg	0.0063	0	1
A	Soil	SV-56-05	5	10-Jul-07	86-73-7	Fluorene	6.3	ug/kg	0.0063	0	1
A	Soil	SV-56-05	5	10-Jul-07	7440-50-8	Copper	3.2	mg/k	3.2	1	1
A	Soil	SV-56-05	5	10-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
A	Soil	SV-56-05	5	10-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
A	Soil	SV-56-05	5	10-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
A	Soil	SV-56-05	5	10-Jul-07	7440-66-6	Zinc	5	mg/k	5	0	1
A	Soil	SV-56-05	5	10-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
A	Soil	SV-56-05	5	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
A	Soil	SV-56-05	5	10-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	7440-62-2	Vanadium	2.8	mg/k	2.8	1	1
A	Soil	SV-56-05	5	10-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	7440-48-4	Cobalt	1	mg/k	1	0	1
A	Soil	SV-56-05	5	10-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
A	Soil	SV-56-05	5	10-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
A	Soil	SV-56-05	5	10-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
A	Soil	SV-56-05	5	10-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
A	Soil	SV-56-05	5	10-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
A	Soil	SV-56-05	5	10-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
A	Soil	SV-56-05	5	10-Jul-07		C8-C40	5	mg/k	5	0	1
A	Soil	SV-56-05	5	10-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
A	Soil	SV-56-05	5	10-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.3	ug/kg	0.0063	0	1
A	Soil	SV-56-05	5	10-Jul-07	129-00-0	Pyrene	6.3	ug/kg	0.0063	0	1
A	Soil	SV-56-05	5	10-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	SV-56-05	5	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
A	Soil	SV-56-05	5	10-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
A	Soil	SV-56-05	5	10-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07		Terphenyl-d14	1200	ug/kg	1.2	1	1
A	Soil	SV-56-05	5	10-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
A	Soil	SV-56-05	5	10-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
A	Soil	SV-56-05	5	10-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
A	Soil	SV-56-05	5	10-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
A	Soil	SV-56-05	5	10-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
A	Soil	SV-56-05	5	10-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
A	Soil	SV-56-05	5	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07		Toluene-d8	54.2	ug/kg	0.0542	1	1
A	Soil	SV-56-05	5	10-Jul-07	85-01-8	Phenanthrene	6.3	ug/kg	0.0063	0	1
A	Soil	SV-56-05	5	10-Jul-07	7439-92-1	Lead	7.8	mg/k	7.8	1	1
A	Soil	SV-56-05	5	10-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
A	Soil	SV-56-05	5	10-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
A	Soil	SV-56-05	5	10-Jul-07	7439-98-7	Molybdenum	3.6	mg/k	3.6	1	1
A	Soil	SV-56-05	5	10-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	91-20-3	Naphthalene	6.3	ug/kg	0.0063	0	0
A	Soil	SV-56-05	5	10-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07	7440-02-0	Nickel	2.4	mg/k	2.4	1	1
A	Soil	SV-56-05	5	10-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07		Nitrobenzene-d5	1400	ug/kg	1.4	1	1
A	Soil	SV-56-05	5	10-Jul-07		n-Octacosane	4.91	mg/k	4.91	1	1
A	Soil	SV-56-05	5	10-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
A	Soil	SV-56-05	5	10-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
A	Soil	SV-56-05	5	10-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
A	Soil	SV-56-10	10	10-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	7440-66-6	Zinc	8.7	mg/k	8.7	1	1
A	Soil	SV-56-10	10	10-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
A	Soil	SV-56-10	10	10-Jul-07	75-01-4	Vinyl chloride	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	7440-62-2	Vanadium	1.1	mg/k	1.1	1	1
A	Soil	SV-56-10	10	10-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	75-69-4	Trichlorofluoromethane	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
A	Soil	SV-56-10	10	10-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1
A	Soil	SV-56-10	10	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	SV-56-10	10	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
A	Soil	SV-56-10	10	10-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	75-35-4	1,1-Dichloroethene	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
A	Soil	SV-56-10	10	10-Jul-07	7440-47-3	Chromium	3.7	mg/k	3.7	1	1
A	Soil	SV-56-10	10	10-Jul-07		2-Fluorobiphenyl	1200	ug/kg	1.2	1	1
A	Soil	SV-56-10	10	10-Jul-07	95-49-8	2-Chlorotoluene	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	90-12-0	1-Methylnaphthalene	6	ug/kg	0.006	0	1
A	Soil	SV-56-10	10	10-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
A	Soil	SV-56-10	10	10-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
A	Soil	SV-56-10	10	10-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
A	Soil	SV-56-10	10	10-Jul-07		4-Bromofluorobenzene	0.0168	mg/k	0.0168	1	0
A	Soil	SV-56-10	10	10-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
A	Soil	SV-56-10	10	10-Jul-07		4-Bromofluorobenzene	43.5	ug/kg	0.0435	1	1
A	Soil	SV-56-10	10	10-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
A	Soil	SV-56-10	10	10-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
A	Soil	SV-56-10	10	10-Jul-07		C8-C40	5	mg/k	5	0	1
A	Soil	SV-56-10	10	10-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
A	Soil	SV-56-10	10	10-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
A	Soil	SV-56-10	10	10-Jul-07	56-23-5	Carbon tetrachloride	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	75-00-3	Chloroethane	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07		Toluene-d8	52.1	ug/kg	0.0521	1	1
A	Soil	SV-56-10	10	10-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
A	Soil	SV-56-10	10	10-Jul-07	205-99-2	Benzo(b)fluoranthene	6	ug/kg	0.006	0	1
A	Soil	SV-56-10	10	10-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
A	Soil	SV-56-10	10	10-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
A	Soil	SV-56-10	10	10-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
A	Soil	SV-56-10	10	10-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
A	Soil	SV-56-10	10	10-Jul-07	74-83-9	Bromomethane	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	75-25-2	Bromoform	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	74-97-5	Bromochloromethane	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	108-86-1	Bromobenzene	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
A	Soil	SV-56-10	10	10-Jul-07	91-57-6	2-Methylnaphthalene	6	ug/kg	0.006	0	1
A	Soil	SV-56-10	10	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	6	ug/kg	0.006	0	1
A	Soil	SV-56-10	10	10-Jul-07	218-01-9	Chrysene	6	ug/kg	0.006	0	1
A	Soil	SV-56-10	10	10-Jul-07	50-32-8	Benzo(a)pyrene	6	ug/kg	0.006	0	1
A	Soil	SV-56-10	10	10-Jul-07	56-55-3	Benzo(a)anthracene	6	ug/kg	0.006	0	1
A	Soil	SV-56-10	10	10-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	7440-39-3	Barium	9.6	mg/k	9.6	1	1
A	Soil	SV-56-10	10	10-Jul-07	7440-38-2	Arsenic	2.4	mg/k	2.4	1	1
A	Soil	SV-56-10	10	10-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
A	Soil	SV-56-10	10	10-Jul-07	120-12-7	Anthracene	6	ug/kg	0.006	0	1
A	Soil	SV-56-10	10	10-Jul-07	208-96-8	Acenaphthylene	6	ug/kg	0.006	0	1
A	Soil	SV-56-10	10	10-Jul-07	83-32-9	Acenaphthene	6	ug/kg	0.006	0	1
A	Soil	SV-56-10	10	10-Jul-07	106-43-4	4-Chlorotoluene	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	207-08-9	Benzo(k)fluoranthene	6	ug/kg	0.006	0	1
A	Soil	SV-56-10	10	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
A	Soil	SV-56-10	10	10-Jul-07	91-20-3	Naphthalene	6	ug/kg	0.006	0	0
A	Soil	SV-56-10	10	10-Jul-07	104-51-8	n-Butylbenzene	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	7440-02-0	Nickel	3.1	mg/k	3.1	1	1
A	Soil	SV-56-10	10	10-Jul-07		Nitrobenzene-d5	1400	ug/kg	1.4	1	1
A	Soil	SV-56-10	10	10-Jul-07		n-Octacosane	4.73	mg/k	4.73	1	1
A	Soil	SV-56-10	10	10-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
A	Soil	SV-56-10	10	10-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	85-01-8	Phenanthrene	6	ug/kg	0.006	0	1
A	Soil	SV-56-10	10	10-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	74-87-3	Chloromethane	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	135-98-8	sec-Butylbenzene	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
A	Soil	SV-56-10	10	10-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
A	Soil	SV-56-10	10	10-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07		Terphenyl-d14	1700	ug/kg	1.7	1	1
A	Soil	SV-56-10	10	10-Jul-07	994-05-8	Tert-amyl methyl ether	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
A	Soil	SV-56-10	10	10-Jul-07	98-06-6	tert-Butylbenzene	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
A	Soil	SV-56-10	10	10-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	129-00-0	Pyrene	6	ug/kg	0.006	0	1
A	Soil	SV-56-10	10	10-Jul-07	206-44-0	Fluoranthene	6	ug/kg	0.006	0	1
A	Soil	SV-56-10	10	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	7440-48-4	Cobalt	1	mg/k	1	0	1
A	Soil	SV-56-10	10	10-Jul-07	7440-50-8	Copper	2.4	mg/k	2.4	1	1
A	Soil	SV-56-10	10	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	6	ug/kg	0.006	0	1
A	Soil	SV-56-10	10	10-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07		Dibromofluoromethane	55.5	ug/kg	0.0555	1	1
A	Soil	SV-56-10	10	10-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	75-71-8	Dichlorodifluoromethane	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
A	Soil	SV-56-10	10	10-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	91-20-3	Naphthalene	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	86-73-7	Fluorene	6	ug/kg	0.006	0	1
A	Soil	SV-56-10	10	10-Jul-07	87-68-3	Hexachlorobutadiene	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6	ug/kg	0.006	0	1
A	Soil	SV-56-10	10	10-Jul-07	108-20-3	Isopropyl ether	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	7439-92-1	Lead	3.4	mg/k	3.4	1	1
A	Soil	SV-56-10	10	10-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
A	Soil	SV-56-10	10	10-Jul-07	1634-04-4	Methyl tert-butyl ether	4.9	ug/kg	0.0049	0	1
A	Soil	SV-56-10	10	10-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
A	Soil	SV-56-10	10	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
A	Soil	SV-56-10	10	10-Jul-07	637-92-3	Ethyl tert butyl ether	4.9	ug/kg	0.0049	0	1
C	GS	SP-1-6	6	18-Oct-01		Propene	0.1	ppmv		0	1
C	GS	SP-1-6	6	18-Oct-01		propane	0.23	ppmv		1	1
C	GS	SP-1-6	6	18-Oct-01		n-pentane	0.37	ppmv		1	1
C	GS	SP-1-6	6	18-Oct-01		i-pentane	0.1	ppmv		0	1
C	GS	SP-1-6	6	18-Oct-01	74-82-8	Methane	2.71	ppmv		1	1
C	GS	SP-1-6	6	18-Oct-01		1-butene	6.83	ppmv		1	1
C	GS	SP-1-6	6	18-Oct-01		Ethene	0.1	ppmv		0	1
C	GS	SP-1-6	6	18-Oct-01		Ethane	0.29	ppmv		1	1

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SP-1-6	6	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
C	GS	SP-1-6	6	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
C	GS	SP-1-6	6	18-Oct-01		1-pentene	0.47	ppmv		1	1
C	GS	SP-1-6	6	18-Oct-01		i-butane	0.16	ppmv		1	1
C	GS	SP-1-6	6	18-Oct-01		n-butane	0.1	ppmv		0	1
C	GS	SP-1-6	6	09-Apr-02		propane	0.1	ppmv		0	1
C	GS	SP-1-6	6	10-Apr-02		C1	33	ppmv		1	1
C	GS	SP-1-6	6	10-Apr-02		C2	10	ppmv		0	1
C	GS	SP-1-6	6	10-Apr-02		C3	10	ppmv		0	1
C	GS	SP-1-6	6	09-Apr-02		n-butane	0.1	ppmv		0	1
C	GS	SP-1-6	6	10-Apr-02		i-C5	10	ppmv		0	1
C	GS	SP-1-6	6	09-Apr-02		n-pentane	0.1	ppmv		0	1
C	GS	SP-1-6	6	10-Apr-02		n-C4	10	ppmv		0	1
C	GS	SP-1-6	6	10-Apr-02		n-C5	10	ppmv		0	1
C	GS	SP-1-6	6	10-Apr-02		i-C4	10	ppmv		0	1
C	GS	SP-1-6	6	09-Apr-02		1-butene	0.1	ppmv		0	1
C	GS	SP-1-6	6	09-Apr-02		i-pentane	0.1	ppmv		0	1
C	GS	SP-1-6	6	09-Apr-02		i-butane	0.1	ppmv		0	1
C	GS	SP-1-6	6	09-Apr-02		Ethene	0.1	ppmv		0	1
C	GS	SP-1-6	6	09-Apr-02		Ethane	0.1	ppmv		0	1
C	GS	SP-1-6	6	09-Apr-02		2,2-dimethyl propane	0.1	ppmv		0	1
C	GS	SP-1-6	6	09-Apr-02		1-pentene	0.1	ppmv		0	1
C	GS	SP-1-6	6	09-Apr-02		Propene	0.1	ppmv		0	1
C	GS	SP-1-6	6	09-Apr-02	74-82-8	Methane	2.97	ppmv		1	1
C	GS	SP-1-6	6	24-Sep-02		n-butane	0.1	ppmv		0	1
C	GS	SP-1-6	6	24-Sep-02	74-82-8	Methane	52.57	ppmv		1	1
C	GS	SP-1-6	6	24-Sep-02		i-pentane	0.1	ppmv		0	1
C	GS	SP-1-6	6	24-Sep-02		n-pentane	0.73	ppmv		1	1
C	GS	SP-1-6	6	24-Sep-02		Ethene	0.1	ppmv		0	1
C	GS	SP-1-6	6	24-Sep-02		Ethane	0.1	ppmv		0	1
C	GS	SP-1-6	6	24-Sep-02		i-butane	0.1	ppmv		0	1
C	GS	SP-1-6	6	24-Sep-02		propane	0.1	ppmv		0	1
C	GS	SP-1-6	6	24-Sep-02		Propene	0.1	ppmv		0	1
C	GS	SP-1-6	6	24-Sep-02		2,2-dimethyl propane	0.1	ppmv		0	1
C	GS	SP-1-6	6	24-Sep-02		1-butene	0.1	ppmv		0	1
C	GS	SP-1-6	6	24-Sep-02		1-pentene	0.1	ppmv		0	1
C	GS	SP-1-6	6	14-Jan-04	10061-01-5	cis-1,3-Dichloropropene	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	1330-20-7	Xylenes (total)	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	75-09-2	Methylene Chloride	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	108-90-7	Chlorobenzene	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	71-55-6	1,1,1-Trichloroethane	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	67-66-3	Chloroform	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	156-59-2	cis-1,2-Dichloroethene	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	75-01-4	Vinyl Chloride	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	75-71-8	Dichlorodifluoromethane	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	56-23-5	Carbon Tetrachloride	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	87-68-3	Hexachlorobutadiene	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	75-00-3	Chloroethane	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	100-42-5	Styrene	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	127-18-4	Tetrachloroethene	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	108-88-3	Toluene	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	10061-02-6	trans-1,3-Dichloropropene	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	79-01-6	Trichloroethene	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	75-69-4	Trichlorofluoromethane	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	100-41-4	Ethylbenzene	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	75-35-4	1,1-Dichloroethene	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	79-34-5	1,1,2,2-Tetrachloroethane	0.5	ppbv		0	1

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SP-1-6	6	14-Jan-04	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	74-87-3	Chloromethane	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	75-34-3	1,1-Dichloroethane	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	74-83-9	Bromomethane	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	120-82-1	1,2,4-Trichlorobenzene	1	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	95-63-6	1,2,4-Trimethylbenzene	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	106-93-4	1,2-Dibromoethane	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	71-43-2	Benzene	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	95-50-1	1,2-Dichlorobenzene	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	107-06-2	1,2-Dichloroethane	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	78-87-5	1,2-Dichloropropane	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	108-67-8	1,3,5-Trimethylbenzene	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	541-73-1	1,3-Dichlorobenzene	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	106-46-7	1,4-Dichlorobenzene	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.5	ppbv		0	1
C	GS	SP-1-6	6	14-Jan-04	79-00-5	1,1,2-Trichloroethane	0.5	ppbv		0	1
C	GS	SV-41-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
C	GS	SV-41-05	5	19-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
C	GS	SV-41-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.006	ug/L	0.006	0	1
C	GS	SV-41-05	5	19-Jul-07	78-93-3	2-Butanone	0.022	ug/L	0.022	1	1
C	GS	SV-41-05	5	19-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
C	GS	SV-41-05	5	19-Jul-07		4-Bromofluorobenzene	93	%		1	1
C	GS	SV-41-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
C	GS	SV-41-05	5	19-Jul-07	67-64-1	Acetone	0.056	ug/L	0.056	1	1
C	GS	SV-41-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
C	GS	SV-41-05	5	19-Jul-07	71-43-2	Benzene	0.087	ug/L	0.087	1	1
C	GS	SV-41-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
C	GS	SV-41-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.017	ug/L	0.017	1	1
C	GS	SV-41-05	5	19-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
C	GS	SV-41-05	5	19-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
C	GS	SV-41-05	5	19-Jul-07		Carbon Dioxide	0.65	%		1	1
C	GS	SV-41-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.02	ug/L	0.02	1	1
C	GS	SV-41-05	5	19-Jul-07		Carbon Monoxide	0.026	%		0	1
C	GS	SV-41-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
C	GS	SV-41-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
C	GS	SV-41-05	5	19-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
C	GS	SV-41-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
C	GS	SV-41-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
C	GS	SV-41-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
C	GS	SV-41-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
C	GS	SV-41-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
C	GS	SV-41-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
C	GS	SV-41-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
C	GS	SV-41-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
C	GS	SV-41-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
C	GS	SV-41-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
C	GS	SV-41-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
C	GS	SV-41-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
C	GS	SV-41-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
C	GS	SV-41-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
C	GS	SV-41-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
C	GS	SV-41-05	5	19-Jul-07		1,2-Dichloroethane-d4	96	%		1	1
C	GS	SV-41-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
C	GS	SV-41-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
C	GS	SV-41-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
C	GS	SV-41-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
C	GS	SV-41-05	5	19-Jul-07	67-66-3	Chloroform	0.07	ug/L	0.07	1	1

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-41-05	5	19-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
C	GS	SV-41-05	5	19-Jul-07	142-82-5	n-Heptane	0.0073	ug/L	0.0073	1	1
C	GS	SV-41-05	5	19-Jul-07		Nitrogen	80	%		1	1
C	GS	SV-41-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.0063	ug/L	0.0063	0	1
C	GS	SV-41-05	5	19-Jul-07		Oxygen	19	%		1	1
C	GS	SV-41-05	5	19-Jul-07	95-47-6	o-Xylene	0.0056	ug/L	0.0056	0	1
C	GS	SV-41-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.0063	ug/L	0.0063	0	1
C	GS	SV-41-05	5	19-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
C	GS	SV-41-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-41-05	5	19-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
C	GS	SV-41-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1
C	GS	SV-41-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.0038	ug/L	0.0038	0	1
C	GS	SV-41-05	5	19-Jul-07	108-88-3	Toluene	0.016	ug/L	0.016	1	1
C	GS	SV-41-05	5	19-Jul-07		Toluene-d8	96	%		1	1
C	GS	SV-41-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
C	GS	SV-41-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
C	GS	SV-41-05	5	19-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
C	GS	SV-41-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-41-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
C	GS	SV-41-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
C	GS	SV-41-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
C	GS	SV-41-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
C	GS	SV-41-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
C	GS	SV-41-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
C	GS	SV-41-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
C	GS	SV-41-05	5	19-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
C	GS	SV-41-05	5	19-Jul-07		Ethane	0.0026	%		0	1
C	GS	SV-41-05	5	19-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
C	GS	SV-41-05	5	19-Jul-07		Ethene	0.0026	%		0	1
C	GS	SV-41-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.0056	ug/L	0.0056	0	1
C	GS	SV-41-05	5	19-Jul-07	110-82-7	Cyclohexane	0.017	ug/L	0.017	1	1
C	GS	SV-41-05	5	19-Jul-07	74-82-8	Methane	0.00026	%		0	1
C	GS	SV-41-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-41-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1
C	GS	SV-41-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-41-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
C	GS	SV-41-05	5	19-Jul-07	110-54-3	Hexane	0.0045	ug/L	0.0045	0	1
C	GS	SV-41-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
C	GS	SV-41-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.0056	ug/L	0.0056	0	1
C	GS	SV-41-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	0.056	ug/L	0.056	0	1
C	GS	SV-41-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
C	GS	SV-41-15	15	19-Jul-07	74-82-8	Methane	0.00027	%		1	1
C	GS	SV-41-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	0.0057	ug/L	0.0057	0	1
C	GS	SV-41-15	15	19-Jul-07	98-82-8	Isopropylbenzene	0.0065	ug/L	0.0065	0	1
C	GS	SV-41-15	15	19-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-41-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
C	GS	SV-41-15	15	19-Jul-07	110-54-3	Hexane	0.034	ug/L	0.034	1	1
C	GS	SV-41-15	15	19-Jul-07	75-09-2	Methylene chloride	0.0046	ug/L	0.0046	0	1
C	GS	SV-41-15	15	19-Jul-07	100-41-4	Ethylbenzene	0.0057	ug/L	0.0057	0	1
C	GS	SV-41-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-41-15	15	19-Jul-07		Ethene	0.0026	%		0	1
C	GS	SV-41-15	15	19-Jul-07	64-17-5	Ethanol	0.0099	ug/L	0.0099	0	1
C	GS	SV-41-15	15	19-Jul-07		Ethane	0.0026	%		0	1
C	GS	SV-41-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0065	ug/L	0.0065	0	1
C	GS	SV-41-15	15	19-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
C	GS	SV-41-15	15	19-Jul-07	110-82-7	Cyclohexane	0.022	ug/L	0.022	1	1
C	GS	SV-41-15	15	19-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-41-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
C	GS	SV-41-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
C	GS	SV-41-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
C	GS	SV-41-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-41-15	15	19-Jul-07	79-01-6	Trichloroethene	0.0071	ug/L	0.0071	0	1
C	GS	SV-41-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
C	GS	SV-41-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0052	ug/L	0.0052	0	1
C	GS	SV-41-15	15	19-Jul-07		Toluene-d8	96	%		1	1
C	GS	SV-41-15	15	19-Jul-07	108-88-3	Toluene	0.013	ug/L	0.013	1	1
C	GS	SV-41-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0074	ug/L	0.0074	0	1
C	GS	SV-41-15	15	19-Jul-07	127-18-4	Tetrachloroethene	0.009	ug/L	0.009	0	1
C	GS	SV-41-15	15	19-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
C	GS	SV-41-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-41-15	15	19-Jul-07	100-42-5	Styrene	0.0056	ug/L	0.0056	0	1
C	GS	SV-41-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	0.0065	ug/L	0.0065	0	1
C	GS	SV-41-15	15	19-Jul-07	95-47-6	o-Xylene	0.0057	ug/L	0.0057	0	1
C	GS	SV-41-15	15	19-Jul-07		Oxygen	18	%		1	1
C	GS	SV-41-15	15	19-Jul-07	103-65-1	n-Propylbenzene	0.0065	ug/L	0.0065	0	1
C	GS	SV-41-15	15	19-Jul-07		Nitrogen	80	%		1	1
C	GS	SV-41-15	15	19-Jul-07	142-82-5	n-Heptane	0.013	ug/L	0.013	1	1
C	GS	SV-41-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	0.0039	ug/L	0.0039	0	1
C	GS	SV-41-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
C	GS	SV-41-15	15	19-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
C	GS	SV-41-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0061	ug/L	0.0061	0	1
C	GS	SV-41-15	15	19-Jul-07		1,2-Dichloroethane-d4	98	%		1	1
C	GS	SV-41-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0053	ug/L	0.0053	0	1
C	GS	SV-41-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
C	GS	SV-41-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0092	ug/L	0.0092	0	1
C	GS	SV-41-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
C	GS	SV-41-15	15	19-Jul-07	106-99-0	1,3-Butadiene	0.0029	ug/L	0.0029	0	1
C	GS	SV-41-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.039	ug/L	0.039	0	1
C	GS	SV-41-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
C	GS	SV-41-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0052	ug/L	0.0052	0	1
C	GS	SV-41-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0053	ug/L	0.0053	0	1
C	GS	SV-41-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0072	ug/L	0.0072	0	1
C	GS	SV-41-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
C	GS	SV-41-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0091	ug/L	0.0091	0	1
C	GS	SV-41-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0072	ug/L	0.0072	0	1
C	GS	SV-41-15	15	19-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
C	GS	SV-41-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0052	ug/L		0	1
C	GS	SV-41-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
C	GS	SV-41-15	15	19-Jul-07	71-43-2	Benzene	0.038	ug/L	0.038	1	1
C	GS	SV-41-15	15	19-Jul-07	108-90-7	Chlorobenzene	0.0061	ug/L	0.0061	0	1
C	GS	SV-41-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	0.0083	ug/L	0.0083	0	1
C	GS	SV-41-15	15	19-Jul-07		Carbon Monoxide	0.026	%		0	1
C	GS	SV-41-15	15	19-Jul-07	75-15-0	Carbon Disulfide	0.034	ug/L	0.034	1	1
C	GS	SV-41-15	15	19-Jul-07		Carbon Dioxide	1.6	%		1	1
C	GS	SV-41-15	15	19-Jul-07	74-83-9	Bromomethane	0.0051	ug/L	0.0051	0	1
C	GS	SV-41-15	15	19-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
C	GS	SV-41-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
C	GS	SV-41-15	15	19-Jul-07	100-44-7	Benzyl chloride	0.0068	ug/L	0.0068	0	1
C	GS	SV-41-15	15	19-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
C	GS	SV-41-15	15	19-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
C	GS	SV-41-15	15	19-Jul-07	67-64-1	Acetone	0.044	ug/L	0.044	1	1
C	GS	SV-41-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0054	ug/L	0.0054	0	1
C	GS	SV-41-15	15	19-Jul-07		4-Bromofluorobenzene	95	%		1	1
C	GS	SV-41-15	15	19-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-41-15	15	19-Jul-07	78-93-3	2-Butanone	0.028	ug/L	0.028	1	1
C	GS	SV-41-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0062	ug/L	0.0062	0	1
C	GS	SV-41-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.036	ug/L	0.036	0	1
C	GS	SV-41-15	15	19-Jul-07	75-27-4	Bromodichloromethane	0.0088	ug/L	0.0088	0	1
C	GS	SV-41-15	15	19-Jul-07	67-66-3	Chloroform	0.01	ug/L	0.01	1	1
C	GS	SV-42-05	5	20-Jul-07	75-27-4	Bromodichloromethane	0.0086	ug/L	0.0086	0	1
C	GS	SV-42-05	5	20-Jul-07	67-66-3	Chloroform	0.009	ug/L	0.009	1	1
C	GS	SV-42-05	5	20-Jul-07	78-93-3	2-Butanone	0.0086	ug/L	0.0086	1	1
C	GS	SV-42-05	5	20-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
C	GS	SV-42-05	5	20-Jul-07		4-Bromofluorobenzene	90	%		1	1
C	GS	SV-42-05	5	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
C	GS	SV-42-05	5	20-Jul-07	67-64-1	Acetone	0.043	ug/L	0.043	1	1
C	GS	SV-42-05	5	20-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
C	GS	SV-42-05	5	20-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
C	GS	SV-42-05	5	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
C	GS	SV-42-05	5	20-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
C	GS	SV-42-05	5	20-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
C	GS	SV-42-05	5	20-Jul-07		Carbon Dioxide	1.3	%		1	1
C	GS	SV-42-05	5	20-Jul-07	75-15-0	Carbon Disulfide	0.018	ug/L	0.018	1	1
C	GS	SV-42-05	5	20-Jul-07		Carbon Monoxide	0.026	%		0	1
C	GS	SV-42-05	5	20-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
C	GS	SV-42-05	5	20-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
C	GS	SV-42-05	5	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
C	GS	SV-42-05	5	20-Jul-07	71-43-2	Benzene	0.014	ug/L	0.014	1	1
C	GS	SV-42-05	5	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
C	GS	SV-42-05	5	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-42-05	5	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
C	GS	SV-42-05	5	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
C	GS	SV-42-05	5	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
C	GS	SV-42-05	5	20-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
C	GS	SV-42-05	5	20-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
C	GS	SV-42-05	5	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
C	GS	SV-42-05	5	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.006	ug/L	0.006	0	1
C	GS	SV-42-05	5	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
C	GS	SV-42-05	5	20-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
C	GS	SV-42-05	5	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
C	GS	SV-42-05	5	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
C	GS	SV-42-05	5	20-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
C	GS	SV-42-05	5	20-Jul-07		1,2-Dichloroethane-d4	106	%		1	1
C	GS	SV-42-05	5	20-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
C	GS	SV-42-05	5	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
C	GS	SV-42-05	5	20-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
C	GS	SV-42-05	5	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
C	GS	SV-42-05	5	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
C	GS	SV-42-05	5	20-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
C	GS	SV-42-05	5	20-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
C	GS	SV-42-05	5	20-Jul-07	142-82-5	n-Heptane	0.0053	ug/L	0.0053	0	1
C	GS	SV-42-05	5	20-Jul-07		Nitrogen	79	%		1	1
C	GS	SV-42-05	5	20-Jul-07	103-65-1	n-Propylbenzene	0.0063	ug/L	0.0063	0	1
C	GS	SV-42-05	5	20-Jul-07		Oxygen	20	%		1	1
C	GS	SV-42-05	5	20-Jul-07	95-47-6	o-Xylene	0.0056	ug/L	0.0056	0	1
C	GS	SV-42-05	5	20-Jul-07	622-96-8	p-Ethyltoluene	0.0063	ug/L	0.0063	0	1
C	GS	SV-42-05	5	20-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
C	GS	SV-42-05	5	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-42-05	5	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
C	GS	SV-42-05	5	20-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1
C	GS	SV-42-05	5	20-Jul-07	109-99-9	Tetrahydrofuran	0.0038	ug/L	0.0038	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-42-05	5	20-Jul-07	108-88-3	Toluene	0.0066	ug/L	0.0066	1	1
C	GS	SV-42-05	5	20-Jul-07		Toluene-d8	91	%		1	1
C	GS	SV-42-05	5	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
C	GS	SV-42-05	5	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
C	GS	SV-42-05	5	20-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
C	GS	SV-42-05	5	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
C	GS	SV-42-05	5	20-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
C	GS	SV-42-05	5	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-42-05	5	20-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
C	GS	SV-42-05	5	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
C	GS	SV-42-05	5	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
C	GS	SV-42-05	5	20-Jul-07	110-82-7	Cyclohexane	0.01	ug/L	0.01	1	1
C	GS	SV-42-05	5	20-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
C	GS	SV-42-05	5	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
C	GS	SV-42-05	5	20-Jul-07		Ethane	0.0026	%		0	1
C	GS	SV-42-05	5	20-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
C	GS	SV-42-05	5	20-Jul-07		Ethene	0.0026	%		0	1
C	GS	SV-42-05	5	20-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
C	GS	SV-42-05	5	20-Jul-07	100-41-4	Ethylbenzene	0.0056	ug/L	0.0056	0	1
C	GS	SV-42-05	5	20-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
C	GS	SV-42-05	5	20-Jul-07	110-54-3	Hexane	0.0078	ug/L	0.0078	1	1
C	GS	SV-42-05	5	20-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
C	GS	SV-42-05	5	20-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-42-05	5	20-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1
C	GS	SV-42-05	5	20-Jul-07	179601-23-1	m,p-Xylenes	0.0056	ug/L	0.0056	0	1
C	GS	SV-42-05	5	20-Jul-07	74-82-8	Methane	0.00026	%		0	1
C	GS	SV-42-05	5	20-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
C	GS	SV-42-05	5	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
C	GS	SV-42-15	15	20-Jul-07		Ethene	0.0025	%		0	1
C	GS	SV-42-15	15	20-Jul-07	74-82-8	Methane	0.0029	%		1	1
C	GS	SV-42-15	15	20-Jul-07	179601-23-1	m,p-Xylenes	0.097	ug/L	0.097	1	1
C	GS	SV-42-15	15	20-Jul-07	98-82-8	Isopropylbenzene	0.008	ug/L	0.008	1	1
C	GS	SV-42-15	15	20-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
C	GS	SV-42-15	15	20-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
C	GS	SV-42-15	15	20-Jul-07	110-54-3	Hexane	0.052	ug/L	0.052	1	1
C	GS	SV-42-15	15	20-Jul-07	87-68-3	Hexachlorobutadiene	0.053	ug/L	0.053	0	1
C	GS	SV-42-15	15	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-42-15	15	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
C	GS	SV-42-15	15	20-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
C	GS	SV-42-15	15	20-Jul-07	64-17-5	Ethanol	0.0093	ug/L	0.0093	0	1
C	GS	SV-42-15	15	20-Jul-07		Ethane	0.0025	%		0	1
C	GS	SV-42-15	15	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.0061	ug/L	0.0061	0	1
C	GS	SV-42-15	15	20-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
C	GS	SV-42-15	15	20-Jul-07	110-82-7	Cyclohexane	0.065	ug/L	0.065	1	1
C	GS	SV-42-15	15	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
C	GS	SV-42-15	15	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0049	ug/L		0	1
C	GS	SV-42-15	15	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	ug/L	0.034	0	1
C	GS	SV-42-15	15	20-Jul-07	100-41-4	Ethylbenzene	0.042	ug/L	0.042	1	1
C	GS	SV-42-15	15	20-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
C	GS	SV-42-15	15	20-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
C	GS	SV-42-15	15	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0069	ug/L	0.0069	0	1
C	GS	SV-42-15	15	20-Jul-07	79-01-6	Trichloroethene	0.0066	ug/L	0.0066	0	1
C	GS	SV-42-15	15	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
C	GS	SV-42-15	15	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0049	ug/L	0.0049	0	1
C	GS	SV-42-15	15	20-Jul-07		Toluene-d8	93	%		1	1
C	GS	SV-42-15	15	20-Jul-07	108-88-3	Toluene	0.0083	ug/L	0.0083	1	1
C	GS	SV-42-15	15	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-42-15	15	20-Jul-07	127-18-4	Tetrachloroethene	0.0084	ug/L	0.0084	0	1
C	GS	SV-42-15	15	20-Jul-07	75-09-2	Methylene chloride	0.0043	ug/L	0.0043	0	1
C	GS	SV-42-15	15	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
C	GS	SV-42-15	15	20-Jul-07	100-42-5	Styrene	0.0053	ug/L	0.0053	0	1
C	GS	SV-42-15	15	20-Jul-07	622-96-8	p-Ethyltoluene	0.016	ug/L	0.016	1	1
C	GS	SV-42-15	15	20-Jul-07	95-47-6	o-Xylene	0.038	ug/L	0.038	1	1
C	GS	SV-42-15	15	20-Jul-07		Oxygen	16	%		1	1
C	GS	SV-42-15	15	20-Jul-07	103-65-1	n-Propylbenzene	0.0082	ug/L	0.0082	1	1
C	GS	SV-42-15	15	20-Jul-07		Nitrogen	81	%		1	1
C	GS	SV-42-15	15	20-Jul-07	142-82-5	n-Heptane	0.048	ug/L	0.048	1	1
C	GS	SV-42-15	15	20-Jul-07	109-99-9	Tetrahydrofuran	0.0036	ug/L	0.0036	0	1
C	GS	SV-42-15	15	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.014	ug/L	0.014	1	1
C	GS	SV-42-15	15	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
C	GS	SV-42-15	15	20-Jul-07	106-99-0	1,3-Butadiene	0.0027	ug/L	0.0027	0	1
C	GS	SV-42-15	15	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0061	ug/L	0.0061	0	1
C	GS	SV-42-15	15	20-Jul-07	78-87-5	1,2-Dichloropropane	0.0057	ug/L	0.0057	0	1
C	GS	SV-42-15	15	20-Jul-07		1,2-Dichloroethane-d4	108	%		1	1
C	GS	SV-42-15	15	20-Jul-07	107-06-2	1,2-Dichloroethane	0.005	ug/L	0.005	0	1
C	GS	SV-42-15	15	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
C	GS	SV-42-15	15	20-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
C	GS	SV-42-15	15	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0095	ug/L	0.0095	0	1
C	GS	SV-42-15	15	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0058	ug/L	0.0058	0	1
C	GS	SV-42-15	15	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.037	ug/L	0.037	0	1
C	GS	SV-42-15	15	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
C	GS	SV-42-15	15	20-Jul-07	75-35-4	1,1-Dichloroethene	0.0049	ug/L	0.0049	0	1
C	GS	SV-42-15	15	20-Jul-07	75-34-3	1,1-Dichloroethane	0.005	ug/L	0.005	0	1
C	GS	SV-42-15	15	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0067	ug/L	0.0067	0	1
C	GS	SV-42-15	15	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	ug/L	0.0095	0	1
C	GS	SV-42-15	15	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	ug/L	0.0085	0	1
C	GS	SV-42-15	15	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0067	ug/L	0.0067	0	1
C	GS	SV-42-15	15	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	ug/L	0.0086	0	1
C	GS	SV-42-15	15	20-Jul-07	100-44-7	Benzyl chloride	0.0064	ug/L	0.0064	0	1
C	GS	SV-42-15	15	20-Jul-07	67-66-3	Chloroform	0.018	ug/L	0.018	1	1
C	GS	SV-42-15	15	20-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1
C	GS	SV-42-15	15	20-Jul-07	108-90-7	Chlorobenzene	0.0057	ug/L	0.0057	0	1
C	GS	SV-42-15	15	20-Jul-07	56-23-5	Carbon tetrachloride	0.0078	ug/L	0.0078	0	1
C	GS	SV-42-15	15	20-Jul-07		Carbon Monoxide	0.025	%		0	1
C	GS	SV-42-15	15	20-Jul-07	75-15-0	Carbon Disulfide	0.036	ug/L	0.036	1	1
C	GS	SV-42-15	15	20-Jul-07		Carbon Dioxide	3.1	%		1	1
C	GS	SV-42-15	15	20-Jul-07	74-83-9	Bromomethane	0.0048	ug/L	0.0048	0	1
C	GS	SV-42-15	15	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
C	GS	SV-42-15	15	20-Jul-07	75-27-4	Bromodichloromethane	0.0083	ug/L	0.0083	0	1
C	GS	SV-42-15	15	20-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
C	GS	SV-42-15	15	20-Jul-07	71-43-2	Benzene	0.027	ug/L	0.027	1	1
C	GS	SV-42-15	15	20-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
C	GS	SV-42-15	15	20-Jul-07	67-64-1	Acetone	0.019	ug/L	0.019	1	1
C	GS	SV-42-15	15	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.005	ug/L	0.005	0	1
C	GS	SV-42-15	15	20-Jul-07		4-Bromofluorobenzene	90	%		1	1
C	GS	SV-42-15	15	20-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
C	GS	SV-42-15	15	20-Jul-07	78-93-3	2-Butanone	0.0036	ug/L	0.0036	0	1
C	GS	SV-42-15	15	20-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
C	GS	SV-44-05	5	19-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
C	GS	SV-44-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.0068	ug/L	0.0068	0	1
C	GS	SV-44-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
C	GS	SV-44-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0062	ug/L	0.0062	0	1
C	GS	SV-44-05	5	19-Jul-07	78-93-3	2-Butanone	0.013	ug/L	0.013	1	1
C	GS	SV-44-05	5	19-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-44-05	5	19-Jul-07		4-Bromofluorobenzene	100	%		1	1
C	GS	SV-44-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0054	ug/L	0.0054	0	1
C	GS	SV-44-05	5	19-Jul-07	67-64-1	Acetone	0.06	ug/L	0.06	1	1
C	GS	SV-44-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.0061	ug/L	0.0061	0	1
C	GS	SV-44-05	5	19-Jul-07	71-43-2	Benzene	0.048	ug/L	0.048	1	1
C	GS	SV-44-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.0029	ug/L	0.0029	0	1
C	GS	SV-44-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.013	ug/L	0.013	1	1
C	GS	SV-44-05	5	19-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
C	GS	SV-44-05	5	19-Jul-07	74-83-9	Bromomethane	0.0051	ug/L	0.0051	0	1
C	GS	SV-44-05	5	19-Jul-07		Carbon Dioxide	0.86	%		1	1
C	GS	SV-44-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.028	ug/L	0.028	1	1
C	GS	SV-44-05	5	19-Jul-07		Carbon Monoxide	0.026	%		0	1
C	GS	SV-44-05	5	19-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
C	GS	SV-44-05	5	19-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
C	GS	SV-44-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
C	GS	SV-44-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.036	ug/L	0.036	0	1
C	GS	SV-44-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0072	ug/L	0.0072	0	1
C	GS	SV-44-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0091	ug/L	0.0091	0	1
C	GS	SV-44-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
C	GS	SV-44-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0072	ug/L	0.0072	0	1
C	GS	SV-44-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0053	ug/L	0.0053	0	1
C	GS	SV-44-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0052	ug/L	0.0052	0	1
C	GS	SV-44-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
C	GS	SV-44-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.039	ug/L	0.039	0	1
C	GS	SV-44-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
C	GS	SV-44-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
C	GS	SV-44-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0092	ug/L	0.0092	0	1
C	GS	SV-44-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
C	GS	SV-44-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0053	ug/L	0.0053	0	1
C	GS	SV-44-05	5	19-Jul-07		1,2-Dichloroethane-d4	95	%		1	1
C	GS	SV-44-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0061	ug/L	0.0061	0	1
C	GS	SV-44-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
C	GS	SV-44-05	5	19-Jul-07	67-66-3	Chloroform	0.06	ug/L	0.06	1	1
C	GS	SV-44-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
C	GS	SV-44-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.009	ug/L	0.009	0	1
C	GS	SV-44-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.0083	ug/L	0.0083	0	1
C	GS	SV-44-05	5	19-Jul-07		Nitrogen	78	%		1	1
C	GS	SV-44-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.0065	ug/L	0.0065	0	1
C	GS	SV-44-05	5	19-Jul-07		Oxygen	21	%		1	1
C	GS	SV-44-05	5	19-Jul-07	95-47-6	o-Xylene	0.0057	ug/L	0.0057	0	1
C	GS	SV-44-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.0065	ug/L	0.0065	0	1
C	GS	SV-44-05	5	19-Jul-07	100-42-5	Styrene	0.0056	ug/L	0.0056	0	1
C	GS	SV-44-05	5	19-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
C	GS	SV-44-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
C	GS	SV-44-05	5	19-Jul-07	75-09-2	Methylene chloride	0.0046	ug/L	0.0046	0	1
C	GS	SV-44-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.0039	ug/L	0.0039	0	1
C	GS	SV-44-05	5	19-Jul-07	108-88-3	Toluene	0.026	ug/L	0.026	1	1
C	GS	SV-44-05	5	19-Jul-07		Toluene-d8	94	%		1	1
C	GS	SV-44-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0052	ug/L	0.0052	0	1
C	GS	SV-44-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
C	GS	SV-44-05	5	19-Jul-07	79-01-6	Trichloroethene	0.0071	ug/L	0.0071	0	1
C	GS	SV-44-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0074	ug/L	0.0074	0	1
C	GS	SV-44-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-44-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-44-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.0057	ug/L	0.0057	0	1
C	GS	SV-44-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0052	ug/L		0	1
C	GS	SV-44-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.006	ug/L	0.006	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-44-05	5	19-Jul-07	110-82-7	Cyclohexane	0.022	ug/L	0.022	1	1
C	GS	SV-44-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
C	GS	SV-44-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0065	ug/L	0.0065	0	1
C	GS	SV-44-05	5	19-Jul-07		Ethane	0.0026	%		0	1
C	GS	SV-44-05	5	19-Jul-07	64-17-5	Ethanol	0.0099	ug/L	0.0099	0	1
C	GS	SV-44-05	5	19-Jul-07	142-82-5	n-Heptane	0.007	ug/L	0.007	1	1
C	GS	SV-44-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-44-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
C	GS	SV-44-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.056	ug/L	0.056	0	1
C	GS	SV-44-05	5	19-Jul-07	110-54-3	Hexane	0.016	ug/L	0.016	1	1
C	GS	SV-44-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
C	GS	SV-44-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-44-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.0065	ug/L	0.0065	0	1
C	GS	SV-44-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.0062	ug/L	0.0062	1	1
C	GS	SV-44-05	5	19-Jul-07	74-82-8	Methane	0.00026	%		0	1
C	GS	SV-44-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
C	GS	SV-44-05	5	19-Jul-07		Ethene	0.0026	%		0	1
C	GS	SV-44-15	15	19-Jul-07	108-90-7	Chlorobenzene	0.0053	ug/L	0.0053	0	1
C	GS	SV-44-15	15	19-Jul-07	75-27-4	Bromodichloromethane	0.0088	ug/L	0.0088	1	1
C	GS	SV-44-15	15	19-Jul-07	123-91-1	1,4-Dioxane	0.016	ug/L	0.016	0	1
C	GS	SV-44-15	15	19-Jul-07	78-93-3	2-Butanone	0.045	ug/L	0.045	1	1
C	GS	SV-44-15	15	19-Jul-07	591-78-6	2-Hexanone	0.019	ug/L	0.019	0	1
C	GS	SV-44-15	15	19-Jul-07		4-Bromofluorobenzene	95	%		1	1
C	GS	SV-44-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0047	ug/L	0.0047	0	1
C	GS	SV-44-15	15	19-Jul-07	67-64-1	Acetone	0.095	ug/L	0.095	1	1
C	GS	SV-44-15	15	19-Jul-07	107-05-1	Allyl chloride	0.014	ug/L	0.014	0	1
C	GS	SV-44-15	15	19-Jul-07	67-66-3	Chloroform	0.028	ug/L	0.028	1	1
C	GS	SV-44-15	15	19-Jul-07	100-44-7	Benzyl chloride	0.0059	ug/L	0.0059	0	1
C	GS	SV-44-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0056	ug/L	0.0056	0	1
C	GS	SV-44-15	15	19-Jul-07	75-25-2	Bromoform	0.012	ug/L	0.012	0	1
C	GS	SV-44-15	15	19-Jul-07	74-83-9	Bromomethane	0.0044	ug/L	0.0044	0	1
C	GS	SV-44-15	15	19-Jul-07		Carbon Dioxide	2.8	%		1	1
C	GS	SV-44-15	15	19-Jul-07	75-15-0	Carbon Disulfide	0.11	ug/L	0.11	1	1
C	GS	SV-44-15	15	19-Jul-07		Carbon Monoxide	0.023	%		0	1
C	GS	SV-44-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	0.0072	ug/L	0.0072	0	1
C	GS	SV-44-15	15	19-Jul-07	75-00-3	Chloroethane	0.003	ug/L	0.003	0	1
C	GS	SV-44-15	15	19-Jul-07	71-43-2	Benzene	0.036	ug/L	0.036	1	1
C	GS	SV-44-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.034	ug/L	0.034	0	1
C	GS	SV-44-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.031	ug/L	0.031	0	1
C	GS	SV-44-15	15	19-Jul-07	75-01-4	Vinyl chloride	0.0029	ug/L	0.0029	0	1
C	GS	SV-44-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0062	ug/L	0.0062	0	1
C	GS	SV-44-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0079	ug/L	0.0079	0	1
C	GS	SV-44-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0088	ug/L	0.0088	0	1
C	GS	SV-44-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0062	ug/L	0.0062	0	1
C	GS	SV-44-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0046	ug/L	0.0046	0	1
C	GS	SV-44-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0069	ug/L	0.0069	0	1
C	GS	SV-44-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.028	ug/L	0.028	0	1
C	GS	SV-44-15	15	19-Jul-07	106-99-0	1,3-Butadiene	0.0025	ug/L	0.0025	0	1
C	GS	SV-44-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0056	ug/L	0.0056	0	1
C	GS	SV-44-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	0.0088	ug/L	0.0088	0	1
C	GS	SV-44-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.008	ug/L	0.008	0	1
C	GS	SV-44-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0069	ug/L	0.0069	0	1
C	GS	SV-44-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0046	ug/L	0.0046	0	1
C	GS	SV-44-15	15	19-Jul-07		1,2-Dichloroethane-d4	101	%		1	1
C	GS	SV-44-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0053	ug/L	0.0053	0	1
C	GS	SV-44-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0053	ug/L	0.0053	0	1
C	GS	SV-44-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0045	ug/L	0.0045	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-44-15	15	19-Jul-07	127-18-4	Tetrachloroethene	0.0078	ug/L	0.0078	0	1
C	GS	SV-44-15	15	19-Jul-07	91-20-3	Naphthalene	0.024	ug/L	0.024	0	1
C	GS	SV-44-15	15	19-Jul-07	142-82-5	n-Heptane	0.046	ug/L	0.046	1	1
C	GS	SV-44-15	15	19-Jul-07		Nitrogen	79	%		1	1
C	GS	SV-44-15	15	19-Jul-07	103-65-1	n-Propylbenzene	0.0056	ug/L	0.0056	0	1
C	GS	SV-44-15	15	19-Jul-07		Oxygen	18	%		1	1
C	GS	SV-44-15	15	19-Jul-07	95-47-6	o-Xylene	0.0062	ug/L	0.0062	1	1
C	GS	SV-44-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	0.0056	ug/L	0.0056	0	1
C	GS	SV-44-15	15	19-Jul-07	100-42-5	Styrene	0.0049	ug/L	0.0049	0	1
C	GS	SV-44-15	15	19-Jul-07	75-09-2	Methylene chloride	0.004	ug/L	0.004	0	1
C	GS	SV-44-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	0.014	ug/L	0.014	0	1
C	GS	SV-44-15	15	19-Jul-07	79-01-6	Trichloroethene	0.0062	ug/L	0.0062	0	1
C	GS	SV-44-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	0.0034	ug/L	0.0034	0	1
C	GS	SV-44-15	15	19-Jul-07	108-88-3	Toluene	0.038	ug/L	0.038	1	1
C	GS	SV-44-15	15	19-Jul-07		Toluene-d8	92	%		1	1
C	GS	SV-44-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0045	ug/L	0.0045	0	1
C	GS	SV-44-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0052	ug/L	0.0052	0	1
C	GS	SV-44-15	15	19-Jul-07	74-87-3	Chloromethane	0.0094	ug/L	0.0094	0	1
C	GS	SV-44-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0064	ug/L	0.0064	0	1
C	GS	SV-44-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0069	ug/L	0.0069	0	1
C	GS	SV-44-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-44-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.019	ug/L	0.019	0	1
C	GS	SV-44-15	15	19-Jul-07		Ethene	0.0023	%		0	1
C	GS	SV-44-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0045	ug/L		0	1
C	GS	SV-44-15	15	19-Jul-07	110-82-7	Cyclohexane	0.045	ug/L	0.045	1	1
C	GS	SV-44-15	15	19-Jul-07	124-48-1	Dibromochloromethane	0.0098	ug/L	0.0098	0	1
C	GS	SV-44-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0057	ug/L	0.0057	0	1
C	GS	SV-44-15	15	19-Jul-07	64-17-5	Ethanol	0.0086	ug/L	0.0086	0	1
C	GS	SV-44-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0052	ug/L	0.0052	0	1
C	GS	SV-44-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.019	ug/L	0.019	0	1
C	GS	SV-44-15	15	19-Jul-07	100-41-4	Ethylbenzene	0.0096	ug/L	0.0096	1	1
C	GS	SV-44-15	15	19-Jul-07	110-54-3	Hexane	0.21	ug/L	0.21	1	1
C	GS	SV-44-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	0.011	ug/L	0.011	0	1
C	GS	SV-44-15	15	19-Jul-07	108-20-3	Isopropyl ether	0.019	ug/L	0.019	0	1
C	GS	SV-44-15	15	19-Jul-07	98-82-8	Isopropylbenzene	0.0056	ug/L	0.0056	0	1
C	GS	SV-44-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	0.014	ug/L	0.014	1	1
C	GS	SV-44-15	15	19-Jul-07	74-82-8	Methane	0.007	%		1	1
C	GS	SV-44-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	0.049	ug/L	0.049	0	1
C	GS	SV-44-15	15	19-Jul-07		Ethane	0.0023	%		0	1
C	GS	SV-44-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0041	ug/L	0.0041	0	1
C	GS	SV-45-05	5	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.014	ug/L	0.014	0	1
C	GS	SV-45-05	5	20-Jul-07	87-68-3	Hexachlorobutadiene	0.17	ug/L	0.17	0	1
C	GS	SV-45-05	5	20-Jul-07	110-54-3	Hexane	0.035	ug/L	0.035	1	1
C	GS	SV-45-05	5	20-Jul-07	67-63-0	Isopropyl alcohol	0.22	ug/L	0.22	1	1
C	GS	SV-45-05	5	20-Jul-07	108-20-3	Isopropyl ether	0.068	ug/L	0.068	0	1
C	GS	SV-45-05	5	20-Jul-07	98-82-8	Isopropylbenzene	0.02	ug/L	0.02	0	1
C	GS	SV-45-05	5	20-Jul-07	74-82-8	Methane	0.00081	%		0	1
C	GS	SV-45-05	5	20-Jul-07	100-41-4	Ethylbenzene	0.025	ug/L	0.025	1	1
C	GS	SV-45-05	5	20-Jul-07	179601-23-1	m,p-Xylenes	0.068	ug/L	0.068	1	1
C	GS	SV-45-05	5	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.068	ug/L	0.068	0	1
C	GS	SV-45-05	5	20-Jul-07		Ethene	0.0081	%		0	1
C	GS	SV-45-05	5	20-Jul-07	64-17-5	Ethanol	0.3	ug/L	0.3	1	1
C	GS	SV-45-05	5	20-Jul-07		Ethane	0.0081	%		0	1
C	GS	SV-45-05	5	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.02	ug/L	0.02	0	1
C	GS	SV-45-05	5	20-Jul-07	124-48-1	Dibromochloromethane	0.062	ug/L	0.062	1	1
C	GS	SV-45-05	5	20-Jul-07	75-09-2	Methylene chloride	0.016	ug/L	0.016	1	1
C	GS	SV-45-05	5	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.018	ug/L	0.018	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-45-05	5	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.068	ug/L	0.068	0	1
C	GS	SV-45-05	5	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.016	ug/L		0	1
C	GS	SV-45-05	5	20-Jul-07	110-82-7	Cyclohexane	0.41	ug/L	0.41	1	1
C	GS	SV-45-05	5	20-Jul-07	75-65-0	tert-Butyl alcohol	1.3	ug/L	1.3	1	1
C	GS	SV-45-05	5	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-45-05	5	20-Jul-07	75-01-4	Vinyl chloride	0.01	ug/L	0.01	0	1
C	GS	SV-45-05	5	20-Jul-07	79-01-6	Trichloroethene	0.056	ug/L	0.056	1	1
C	GS	SV-45-05	5	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.018	ug/L	0.018	0	1
C	GS	SV-45-05	5	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.016	ug/L	0.016	0	1
C	GS	SV-45-05	5	20-Jul-07		Toluene-d8	93	%		1	1
C	GS	SV-45-05	5	20-Jul-07	108-88-3	Toluene	0.051	ug/L	0.051	1	1
C	GS	SV-45-05	5	20-Jul-07	622-96-8	p-Ethyltoluene	0.031	ug/L	0.031	1	1
C	GS	SV-45-05	5	20-Jul-07	127-18-4	Tetrachloroethene	0.24	ug/L	0.24	1	1
C	GS	SV-45-05	5	20-Jul-07	91-20-3	Naphthalene	0.085	ug/L	0.085	0	1
C	GS	SV-45-05	5	20-Jul-07	74-87-3	Chloromethane	0.033	ug/L	0.033	0	1
C	GS	SV-45-05	5	20-Jul-07	100-42-5	Styrene	0.017	ug/L	0.017	0	1
C	GS	SV-45-05	5	20-Jul-07	75-69-4	Trichlorofluoromethane	0.023	ug/L	0.023	0	1
C	GS	SV-45-05	5	20-Jul-07	95-47-6	o-Xylene	0.032	ug/L	0.032	1	1
C	GS	SV-45-05	5	20-Jul-07		Oxygen	15	%		1	1
C	GS	SV-45-05	5	20-Jul-07	103-65-1	n-Propylbenzene	0.02	ug/L	0.02	0	1
C	GS	SV-45-05	5	20-Jul-07		Nitrogen	84	%		1	1
C	GS	SV-45-05	5	20-Jul-07	142-82-5	n-Heptane	0.03	ug/L	0.03	1	1
C	GS	SV-45-05	5	20-Jul-07	109-99-9	Tetrahydrofuran	0.031	ug/L	0.031	1	1
C	GS	SV-45-05	5	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.12	ug/L	0.12	0	1
C	GS	SV-45-05	5	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.024	ug/L	0.024	0	1
C	GS	SV-45-05	5	20-Jul-07	106-99-0	1,3-Butadiene	0.0089	ug/L	0.0089	0	1
C	GS	SV-45-05	5	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.02	ug/L	0.02	0	1
C	GS	SV-45-05	5	20-Jul-07	78-87-5	1,2-Dichloropropane	0.019	ug/L	0.019	0	1
C	GS	SV-45-05	5	20-Jul-07		1,2-Dichloroethane-d4	105	%		1	1
C	GS	SV-45-05	5	20-Jul-07	107-06-2	1,2-Dichloroethane	0.016	ug/L	0.016	0	1
C	GS	SV-45-05	5	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.024	ug/L	0.024	0	1
C	GS	SV-45-05	5	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.024	ug/L	0.024	0	1
C	GS	SV-45-05	5	20-Jul-07	106-93-4	1,2-Dibromoethane	0.031	ug/L	0.031	0	1
C	GS	SV-45-05	5	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.028	ug/L	0.028	0	1
C	GS	SV-45-05	5	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.097	ug/L	0.097	0	1
C	GS	SV-45-05	5	20-Jul-07	75-35-4	1,1-Dichloroethene	0.016	ug/L	0.016	0	1
C	GS	SV-45-05	5	20-Jul-07	75-34-3	1,1-Dichloroethane	0.016	ug/L	0.016	0	1
C	GS	SV-45-05	5	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.022	ug/L	0.022	0	1
C	GS	SV-45-05	5	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.031	ug/L	0.031	0	1
C	GS	SV-45-05	5	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.028	ug/L	0.028	0	1
C	GS	SV-45-05	5	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.022	ug/L	0.022	0	1
C	GS	SV-45-05	5	20-Jul-07	67-66-3	Chloroform	3.5	ug/L	3.5	1	1
C	GS	SV-45-05	5	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.11	ug/L	0.11	0	1
C	GS	SV-45-05	5	20-Jul-07	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
C	GS	SV-45-05	5	20-Jul-07	75-00-3	Chloroethane	0.016	ug/L	0.016	1	1
C	GS	SV-45-05	5	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.046	ug/L	0.046	1	1
C	GS	SV-45-05	5	20-Jul-07	123-91-1	1,4-Dioxane	0.058	ug/L	0.058	0	1
C	GS	SV-45-05	5	20-Jul-07	56-23-5	Carbon tetrachloride	0.068	ug/L	0.068	1	1
C	GS	SV-45-05	5	20-Jul-07		Carbon Monoxide	0.081	%		0	1
C	GS	SV-45-05	5	20-Jul-07		Carbon Dioxide	0.66	%		1	1
C	GS	SV-45-05	5	20-Jul-07	108-90-7	Chlorobenzene	0.058	ug/L	0.058	1	1
C	GS	SV-45-05	5	20-Jul-07	75-25-2	Bromoform	0.077	ug/L	0.077	1	1
C	GS	SV-45-05	5	20-Jul-07	75-27-4	Bromodichloromethane	0.1	ug/L	0.1	1	1
C	GS	SV-45-05	5	20-Jul-07	591-78-6	2-Hexanone	0.11	ug/L	0.11	1	1
C	GS	SV-45-05	5	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.019	ug/L	0.019	0	1
C	GS	SV-45-05	5	20-Jul-07	75-15-0	Carbon Disulfide	0.074	ug/L	0.074	1	1
C	GS	SV-45-05	5	20-Jul-07	78-93-3	2-Butanone	1.1	ug/L	1.1	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-45-05	5	20-Jul-07		4-Bromofluorobenzene	93	%		1	1
C	GS	SV-45-05	5	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.016	ug/L	0.016	0	1
C	GS	SV-45-05	5	20-Jul-07	67-64-1	Acetone	7	ug/L	7	1	1
C	GS	SV-45-05	5	20-Jul-07	107-05-1	Allyl chloride	0.05	ug/L	0.05	0	1
C	GS	SV-45-05	5	20-Jul-07	71-43-2	Benzene	0.1	ug/L	0.1	1	1
C	GS	SV-45-05	5	20-Jul-07	100-44-7	Benzyl chloride	0.021	ug/L	0.021	0	1
C	GS	SV-45-15	15	20-Jul-07	87-68-3	Hexachlorobutadiene	0.43	ug/L	0.43	0	1
C	GS	SV-45-15	15	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.28	ug/L	0.28	0	1
C	GS	SV-45-15	15	20-Jul-07	179601-23-1	m,p-Xylenes	0.05	ug/L	0.05	1	1
C	GS	SV-45-15	15	20-Jul-07	98-82-8	Isopropylbenzene	0.05	ug/L	0.05	0	1
C	GS	SV-45-15	15	20-Jul-07	108-20-3	Isopropyl ether	0.17	ug/L	0.17	0	1
C	GS	SV-45-15	15	20-Jul-07	67-63-0	Isopropyl alcohol	0.46	ug/L	0.46	1	1
C	GS	SV-45-15	15	20-Jul-07	110-54-3	Hexane	0.049	ug/L	0.049	1	1
C	GS	SV-45-15	15	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.036	ug/L	0.036	0	1
C	GS	SV-45-15	15	20-Jul-07	100-41-4	Ethylbenzene	0.044	ug/L	0.044	0	1
C	GS	SV-45-15	15	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.17	ug/L	0.17	0	1
C	GS	SV-45-15	15	20-Jul-07		Ethene	0.02	%		0	1
C	GS	SV-45-15	15	20-Jul-07	64-17-5	Ethanol	0.34	ug/L	0.34	1	1
C	GS	SV-45-15	15	20-Jul-07		Ethane	0.02	%		0	1
C	GS	SV-45-15	15	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.05	ug/L	0.05	0	1
C	GS	SV-45-15	15	20-Jul-07	124-48-1	Dibromochloromethane	0.086	ug/L	0.086	0	1
C	GS	SV-45-15	15	20-Jul-07	110-82-7	Cyclohexane	0.25	ug/L	0.25	1	1
C	GS	SV-45-15	15	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.04	ug/L		0	1
C	GS	SV-45-15	15	20-Jul-07	91-20-3	Naphthalene	0.21	ug/L	0.21	0	1
C	GS	SV-45-15	15	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.046	ug/L	0.046	0	1
C	GS	SV-45-15	15	20-Jul-07	127-18-4	Tetrachloroethene	0.068	ug/L	0.068	0	1
C	GS	SV-45-15	15	20-Jul-07	74-82-8	Methane	0.002	%		0	1
C	GS	SV-45-15	15	20-Jul-07	75-01-4	Vinyl chloride	0.026	ug/L	0.026	0	1
C	GS	SV-45-15	15	20-Jul-07	74-87-3	Chloromethane	0.083	ug/L	0.083	0	1
C	GS	SV-45-15	15	20-Jul-07	75-69-4	Trichlorofluoromethane	0.057	ug/L	0.057	0	1
C	GS	SV-45-15	15	20-Jul-07	79-01-6	Trichloroethene	0.054	ug/L	0.054	0	1
C	GS	SV-45-15	15	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.046	ug/L	0.046	0	1
C	GS	SV-45-15	15	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.04	ug/L	0.04	0	1
C	GS	SV-45-15	15	20-Jul-07		Toluene-d8	94	%		1	1
C	GS	SV-45-15	15	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-45-15	15	20-Jul-07	109-99-9	Tetrahydrofuran	0.061	ug/L	0.061	1	1
C	GS	SV-45-15	15	20-Jul-07	142-82-5	n-Heptane	0.092	ug/L	0.092	1	1
C	GS	SV-45-15	15	20-Jul-07	75-65-0	tert-Butyl alcohol	2.5	ug/L	2.5	1	1
C	GS	SV-45-15	15	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.17	ug/L	0.17	0	1
C	GS	SV-45-15	15	20-Jul-07	100-42-5	Styrene	0.043	ug/L	0.043	0	1
C	GS	SV-45-15	15	20-Jul-07	622-96-8	p-Ethyltoluene	0.05	ug/L	0.05	0	1
C	GS	SV-45-15	15	20-Jul-07	95-47-6	o-Xylene	0.044	ug/L	0.044	0	1
C	GS	SV-45-15	15	20-Jul-07		Oxygen	7.4	%		1	1
C	GS	SV-45-15	15	20-Jul-07	103-65-1	n-Propylbenzene	0.05	ug/L	0.05	0	1
C	GS	SV-45-15	15	20-Jul-07		Nitrogen	93	%		1	1
C	GS	SV-45-15	15	20-Jul-07	108-88-3	Toluene	0.086	ug/L	0.086	1	1
C	GS	SV-45-15	15	20-Jul-07	67-66-3	Chloroform	0.25	ug/L	0.25	1	1
C	GS	SV-45-15	15	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.061	ug/L	0.061	0	1
C	GS	SV-45-15	15	20-Jul-07	106-99-0	1,3-Butadiene	0.022	ug/L	0.022	0	1
C	GS	SV-45-15	15	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.05	ug/L	0.05	0	1
C	GS	SV-45-15	15	20-Jul-07	78-87-5	1,2-Dichloropropane	0.047	ug/L	0.047	0	1
C	GS	SV-45-15	15	20-Jul-07		1,2-Dichloroethane-d4	109	%		1	1
C	GS	SV-45-15	15	20-Jul-07	107-06-2	1,2-Dichloroethane	0.041	ug/L	0.041	0	1
C	GS	SV-45-15	15	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.061	ug/L	0.061	0	1
C	GS	SV-45-15	15	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.061	ug/L	0.061	0	1
C	GS	SV-45-15	15	20-Jul-07	106-93-4	1,2-Dibromoethane	0.078	ug/L	0.078	0	1
C	GS	SV-45-15	15	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.071	ug/L	0.071	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-45-15	15	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.3	ug/L	0.3	0	1
C	GS	SV-45-15	15	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.24	ug/L	0.24	0	1
C	GS	SV-45-15	15	20-Jul-07	75-35-4	1,1-Dichloroethene	0.04	ug/L	0.04	0	1
C	GS	SV-45-15	15	20-Jul-07	75-34-3	1,1-Dichloroethane	0.041	ug/L	0.041	0	1
C	GS	SV-45-15	15	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.055	ug/L	0.055	0	1
C	GS	SV-45-15	15	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.077	ug/L	0.077	0	1
C	GS	SV-45-15	15	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.069	ug/L	0.069	0	1
C	GS	SV-45-15	15	20-Jul-07	75-09-2	Methylene chloride	0.035	ug/L	0.035	0	1
C	GS	SV-45-15	15	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.055	ug/L	0.055	0	1
C	GS	SV-45-15	15	20-Jul-07		Carbon Dioxide	0.2	%		0	1
C	GS	SV-45-15	15	20-Jul-07	75-00-3	Chloroethane	0.04	ug/L	0.04	1	1
C	GS	SV-45-15	15	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.05	ug/L	0.05	0	1
C	GS	SV-45-15	15	20-Jul-07	123-91-1	1,4-Dioxane	0.14	ug/L	0.14	0	1
C	GS	SV-45-15	15	20-Jul-07	108-90-7	Chlorobenzene	0.065	ug/L	0.065	1	1
C	GS	SV-45-15	15	20-Jul-07	56-23-5	Carbon tetrachloride	0.064	ug/L	0.064	0	1
C	GS	SV-45-15	15	20-Jul-07	75-15-0	Carbon Disulfide	0.031	ug/L	0.031	0	1
C	GS	SV-45-15	15	20-Jul-07	74-83-9	Bromomethane	0.039	ug/L	0.039	0	1
C	GS	SV-45-15	15	20-Jul-07	75-25-2	Bromoform	0.1	ug/L	0.1	0	1
C	GS	SV-45-15	15	20-Jul-07	75-27-4	Bromodichloromethane	0.068	ug/L	0.068	0	1
C	GS	SV-45-15	15	20-Jul-07	591-78-6	2-Hexanone	0.16	ug/L	0.16	0	1
C	GS	SV-45-15	15	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.047	ug/L	0.047	0	1
C	GS	SV-45-15	15	20-Jul-07		Carbon Monoxide	0.2	%		0	1
C	GS	SV-45-15	15	20-Jul-07	78-93-3	2-Butanone	1.8	ug/L	1.8	1	1
C	GS	SV-45-15	15	20-Jul-07	100-44-7	Benzyl chloride	0.052	ug/L	0.052	0	1
C	GS	SV-45-15	15	20-Jul-07		4-Bromofluorobenzene	88	%		1	1
C	GS	SV-45-15	15	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.041	ug/L	0.041	0	1
C	GS	SV-45-15	15	20-Jul-07	67-64-1	Acetone	12	ug/L	12	1	1
C	GS	SV-45-15	15	20-Jul-07	107-05-1	Allyl chloride	0.13	ug/L	0.13	0	1
C	GS	SV-45-15	15	20-Jul-07	71-43-2	Benzene	0.14	ug/L	0.14	1	1
C	GS	SV-46-05	5	20-Jul-07	87-68-3	Hexachlorobutadiene	0.054	ug/L	0.054	0	1
C	GS	SV-46-05	5	20-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
C	GS	SV-46-05	5	20-Jul-07	179601-23-1	m,p-Xylenes	0.019	ug/L	0.019	1	1
C	GS	SV-46-05	5	20-Jul-07	98-82-8	Isopropylbenzene	0.0062	ug/L	0.0062	0	1
C	GS	SV-46-05	5	20-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
C	GS	SV-46-05	5	20-Jul-07	67-63-0	Isopropyl alcohol	0.094	ug/L	0.094	1	1
C	GS	SV-46-05	5	20-Jul-07	110-54-3	Hexane	0.01	ug/L	0.01	1	1
C	GS	SV-46-05	5	20-Jul-07	74-82-8	Methane	0.00026	%		1	1
C	GS	SV-46-05	5	20-Jul-07	100-41-4	Ethylbenzene	0.007	ug/L	0.007	1	1
C	GS	SV-46-05	5	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
C	GS	SV-46-05	5	20-Jul-07		Ethene	0.0025	%		0	1
C	GS	SV-46-05	5	20-Jul-07	64-17-5	Ethanol	0.0095	ug/L	0.0095	0	1
C	GS	SV-46-05	5	20-Jul-07		Ethane	0.0025	%		0	1
C	GS	SV-46-05	5	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.0062	ug/L	0.0062	0	1
C	GS	SV-46-05	5	20-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
C	GS	SV-46-05	5	20-Jul-07	110-82-7	Cyclohexane	0.022	ug/L	0.022	1	1
C	GS	SV-46-05	5	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.005	ug/L		0	1
C	GS	SV-46-05	5	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
C	GS	SV-46-05	5	20-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
C	GS	SV-46-05	5	20-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
C	GS	SV-46-05	5	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-46-05	5	20-Jul-07	67-66-3	Chloroform	0.043	ug/L	0.043	1	1
C	GS	SV-46-05	5	20-Jul-07	79-01-6	Trichloroethene	0.0068	ug/L	0.0068	0	1
C	GS	SV-46-05	5	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
C	GS	SV-46-05	5	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.005	ug/L	0.005	0	1
C	GS	SV-46-05	5	20-Jul-07		Toluene-d8	92	%		1	1
C	GS	SV-46-05	5	20-Jul-07	108-88-3	Toluene	0.023	ug/L	0.023	1	1
C	GS	SV-46-05	5	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0071	ug/L	0.0071	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-46-05	5	20-Jul-07	127-18-4	Tetrachloroethene	0.0086	ug/L	0.0086	0	1
C	GS	SV-46-05	5	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
C	GS	SV-46-05	5	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
C	GS	SV-46-05	5	20-Jul-07	100-42-5	Styrene	0.0054	ug/L	0.0054	0	1
C	GS	SV-46-05	5	20-Jul-07	622-96-8	p-Ethyltoluene	0.0076	ug/L	0.0076	1	1
C	GS	SV-46-05	5	20-Jul-07	95-47-6	o-Xylene	0.0057	ug/L	0.0057	1	1
C	GS	SV-46-05	5	20-Jul-07		Oxygen	21	%		1	1
C	GS	SV-46-05	5	20-Jul-07		Nitrogen	78	%		1	1
C	GS	SV-46-05	5	20-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
C	GS	SV-46-05	5	20-Jul-07	75-09-2	Methylene chloride	0.0044	ug/L	0.0044	0	1
C	GS	SV-46-05	5	20-Jul-07	109-99-9	Tetrahydrofuran	0.0037	ug/L	0.0037	0	1
C	GS	SV-46-05	5	20-Jul-07	75-35-4	1,1-Dichloroethene	0.005	ug/L	0.005	0	1
C	GS	SV-46-05	5	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
C	GS	SV-46-05	5	20-Jul-07		1,2-Dichloroethane-d4	109	%		1	1
C	GS	SV-46-05	5	20-Jul-07	107-06-2	1,2-Dichloroethane	0.0051	ug/L	0.0051	0	1
C	GS	SV-46-05	5	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
C	GS	SV-46-05	5	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	ug/L	0.0088	0	1
C	GS	SV-46-05	5	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0097	ug/L	0.0097	0	1
C	GS	SV-46-05	5	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.014	ug/L	0.014	1	1
C	GS	SV-46-05	5	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0062	ug/L	0.0062	0	1
C	GS	SV-46-05	5	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
C	GS	SV-46-05	5	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
C	GS	SV-46-05	5	20-Jul-07	75-34-3	1,1-Dichloroethane	0.0051	ug/L	0.0051	0	1
C	GS	SV-46-05	5	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0069	ug/L	0.0069	0	1
C	GS	SV-46-05	5	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	ug/L	0.0097	0	1
C	GS	SV-46-05	5	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	ug/L	0.0087	0	1
C	GS	SV-46-05	5	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0069	ug/L	0.0069	0	1
C	GS	SV-46-05	5	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
C	GS	SV-46-05	5	20-Jul-07	103-65-1	n-Propylbenzene	0.0062	ug/L	0.0062	0	1
C	GS	SV-46-05	5	20-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
C	GS	SV-46-05	5	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
C	GS	SV-46-05	5	20-Jul-07	71-43-2	Benzene	0.0087	ug/L	0.0087	1	1
C	GS	SV-46-05	5	20-Jul-07	108-90-7	Chlorobenzene	0.0058	ug/L	0.0058	0	1
C	GS	SV-46-05	5	20-Jul-07	56-23-5	Carbon tetrachloride	0.008	ug/L	0.008	0	1
C	GS	SV-46-05	5	20-Jul-07		Carbon Monoxide	0.025	%		0	1
C	GS	SV-46-05	5	20-Jul-07	75-15-0	Carbon Disulfide	0.23	ug/L	0.23	1	1
C	GS	SV-46-05	5	20-Jul-07		Carbon Dioxide	0.96	%		1	1
C	GS	SV-46-05	5	20-Jul-07	74-83-9	Bromomethane	0.0049	ug/L	0.0049	0	1
C	GS	SV-46-05	5	20-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
C	GS	SV-46-05	5	20-Jul-07	78-87-5	1,2-Dichloropropane	0.0058	ug/L	0.0058	0	1
C	GS	SV-46-05	5	20-Jul-07	100-44-7	Benzyl chloride	0.0065	ug/L	0.0065	0	1
C	GS	SV-46-05	5	20-Jul-07	75-00-3	Chloroethane	0.0033	ug/L	0.0033	0	1
C	GS	SV-46-05	5	20-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
C	GS	SV-46-05	5	20-Jul-07	67-64-1	Acetone	0.034	ug/L	0.034	1	1
C	GS	SV-46-05	5	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0052	ug/L	0.0052	0	1
C	GS	SV-46-05	5	20-Jul-07		4-Bromofluorobenzene	90	%		1	1
C	GS	SV-46-05	5	20-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
C	GS	SV-46-05	5	20-Jul-07	78-93-3	2-Butanone	0.01	ug/L	0.01	1	1
C	GS	SV-46-05	5	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0059	ug/L	0.0059	0	1
C	GS	SV-46-05	5	20-Jul-07	123-91-1	1,4-Dioxane	0.024	ug/L	0.024	1	1
C	GS	SV-46-05	5	20-Jul-07	75-27-4	Bromodichloromethane	0.015	ug/L	0.015	1	1
C	GS	SV-46-05	5	20-Jul-07	142-82-5	n-Heptane	0.01	ug/L	0.01	1	1
C	GS	SV-46-15	15	20-Jul-07	64-17-5	Ethanol	0.009	ug/L	0.009	0	1
C	GS	SV-46-15	15	20-Jul-07	74-82-8	Methane	0.0018	%		1	1
C	GS	SV-46-15	15	20-Jul-07	179601-23-1	m,p-Xylenes	0.17	ug/L	0.17	1	1
C	GS	SV-46-15	15	20-Jul-07	98-82-8	Isopropylbenzene	0.023	ug/L	0.023	1	1
C	GS	SV-46-15	15	20-Jul-07	108-20-3	Isopropyl ether	0.02	ug/L	0.02	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-46-15	15	20-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
C	GS	SV-46-15	15	20-Jul-07	110-54-3	Hexane	0.062	ug/L	0.062	1	1
C	GS	SV-46-15	15	20-Jul-07	87-68-3	Hexachlorobutadiene	0.051	ug/L	0.051	0	1
C	GS	SV-46-15	15	20-Jul-07	100-41-4	Ethylbenzene	0.076	ug/L	0.076	1	1
C	GS	SV-46-15	15	20-Jul-07	67-66-3	Chloroform	0.0058	ug/L	0.0058	0	1
C	GS	SV-46-15	15	20-Jul-07		Ethene	0.0024	%		0	1
C	GS	SV-46-15	15	20-Jul-07		Nitrogen	79	%		1	1
C	GS	SV-46-15	15	20-Jul-07		Ethane	0.0024	%		0	1
C	GS	SV-46-15	15	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.0059	ug/L	0.0059	0	1
C	GS	SV-46-15	15	20-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
C	GS	SV-46-15	15	20-Jul-07	110-82-7	Cyclohexane	0.096	ug/L	0.096	1	1
C	GS	SV-46-15	15	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0054	ug/L	0.0054	0	1
C	GS	SV-46-15	15	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0047	ug/L		0	1
C	GS	SV-46-15	15	20-Jul-07	74-87-3	Chloromethane	0.0098	ug/L	0.0098	0	1
C	GS	SV-46-15	15	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.02	ug/L	0.02	0	1
C	GS	SV-46-15	15	20-Jul-07	127-18-4	Tetrachloroethene	0.0081	ug/L	0.0081	0	1
C	GS	SV-46-15	15	20-Jul-07	75-01-4	Vinyl chloride	0.003	ug/L	0.003	0	1
C	GS	SV-46-15	15	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-46-15	15	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0067	ug/L	0.0067	0	1
C	GS	SV-46-15	15	20-Jul-07	79-01-6	Trichloroethene	0.0064	ug/L	0.0064	0	1
C	GS	SV-46-15	15	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0054	ug/L	0.0054	0	1
C	GS	SV-46-15	15	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0047	ug/L	0.0047	0	1
C	GS	SV-46-15	15	20-Jul-07		Toluene-d8	96	%		1	1
C	GS	SV-46-15	15	20-Jul-07	75-09-2	Methylene chloride	0.0041	ug/L	0.0041	0	1
C	GS	SV-46-15	15	20-Jul-07	109-99-9	Tetrahydrofuran	0.0035	ug/L	0.0035	0	1
C	GS	SV-46-15	15	20-Jul-07	142-82-5	n-Heptane	0.075	ug/L	0.075	1	1
C	GS	SV-46-15	15	20-Jul-07	75-65-0	tert-Butyl alcohol	0.014	ug/L	0.014	0	1
C	GS	SV-46-15	15	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.02	ug/L	0.02	0	1
C	GS	SV-46-15	15	20-Jul-07	100-42-5	Styrene	0.0051	ug/L	0.0051	0	1
C	GS	SV-46-15	15	20-Jul-07	622-96-8	p-Ethyltoluene	0.063	ug/L	0.063	1	1
C	GS	SV-46-15	15	20-Jul-07	95-47-6	o-Xylene	0.065	ug/L	0.065	1	1
C	GS	SV-46-15	15	20-Jul-07		Oxygen	17	%		1	1
C	GS	SV-46-15	15	20-Jul-07	103-65-1	n-Propylbenzene	0.037	ug/L	0.037	1	1
C	GS	SV-46-15	15	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0043	ug/L	0.0043	0	1
C	GS	SV-46-15	15	20-Jul-07	108-88-3	Toluene	0.0098	ug/L	0.0098	1	1
C	GS	SV-46-15	15	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.029	ug/L	0.029	0	1
C	GS	SV-46-15	15	20-Jul-07	106-99-0	1,3-Butadiene	0.0026	ug/L	0.0026	0	1
C	GS	SV-46-15	15	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.031	ug/L	0.031	1	1
C	GS	SV-46-15	15	20-Jul-07	78-87-5	1,2-Dichloropropane	0.0055	ug/L	0.0055	0	1
C	GS	SV-46-15	15	20-Jul-07		1,2-Dichloroethane-d4	113	%		1	1
C	GS	SV-46-15	15	20-Jul-07	107-06-2	1,2-Dichloroethane	0.0048	ug/L	0.0048	0	1
C	GS	SV-46-15	15	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0072	ug/L	0.0072	0	1
C	GS	SV-46-15	15	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0083	ug/L	0.0083	0	1
C	GS	SV-46-15	15	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0091	ug/L	0.0091	0	1
C	GS	SV-46-15	15	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0072	ug/L	0.0072	0	1
C	GS	SV-46-15	15	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.035	ug/L	0.035	0	1
C	GS	SV-46-15	15	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0065	ug/L	0.0065	0	1
C	GS	SV-46-15	15	20-Jul-07	75-35-4	1,1-Dichloroethene	0.0047	ug/L	0.0047	0	1
C	GS	SV-46-15	15	20-Jul-07	75-34-3	1,1-Dichloroethane	0.0048	ug/L	0.0048	0	1
C	GS	SV-46-15	15	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0065	ug/L	0.0065	0	1
C	GS	SV-46-15	15	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0091	ug/L	0.0091	0	1
C	GS	SV-46-15	15	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0082	ug/L	0.0082	0	1
C	GS	SV-46-15	15	20-Jul-07	75-00-3	Chloroethane	0.0031	ug/L	0.0031	0	1
C	GS	SV-46-15	15	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.033	ug/L	0.033	0	1
C	GS	SV-46-15	15	20-Jul-07	91-20-3	Naphthalene	0.025	ug/L	0.025	0	1
C	GS	SV-46-15	15	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.099	ug/L	0.099	1	1
C	GS	SV-46-15	15	20-Jul-07		Carbon Monoxide	0.024	%		0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-46-15	15	20-Jul-07	56-23-5	Carbon tetrachloride	0.0075	ug/L	0.0075	0	1
C	GS	SV-46-15	15	20-Jul-07	75-15-0	Carbon Disulfide	0.06	ug/L	0.06	1	1
C	GS	SV-46-15	15	20-Jul-07		Carbon Dioxide	3.5	%		1	1
C	GS	SV-46-15	15	20-Jul-07	74-83-9	Bromomethane	0.0046	ug/L	0.0046	0	1
C	GS	SV-46-15	15	20-Jul-07	75-25-2	Bromoform	0.012	ug/L	0.012	0	1
C	GS	SV-46-15	15	20-Jul-07	75-27-4	Bromodichloromethane	0.008	ug/L	0.008	0	1
C	GS	SV-46-15	15	20-Jul-07	100-44-7	Benzyl chloride	0.0062	ug/L	0.0062	0	1
C	GS	SV-46-15	15	20-Jul-07	71-43-2	Benzene	0.057	ug/L	0.057	1	1
C	GS	SV-46-15	15	20-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
C	GS	SV-46-15	15	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0072	ug/L	0.0072	0	1
C	GS	SV-46-15	15	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0049	ug/L	0.0049	0	1
C	GS	SV-46-15	15	20-Jul-07		4-Bromofluorobenzene	91	%		1	1
C	GS	SV-46-15	15	20-Jul-07	591-78-6	2-Hexanone	0.019	ug/L	0.019	0	1
C	GS	SV-46-15	15	20-Jul-07	78-93-3	2-Butanone	0.02	ug/L	0.02	1	1
C	GS	SV-46-15	15	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0056	ug/L	0.0056	0	1
C	GS	SV-46-15	15	20-Jul-07	123-91-1	1,4-Dioxane	0.017	ug/L	0.017	0	1
C	GS	SV-46-15	15	20-Jul-07	108-90-7	Chlorobenzene	0.0055	ug/L	0.0055	0	1
C	GS	SV-46-15	15	20-Jul-07	67-64-1	Acetone	0.035	ug/L	0.035	1	1
C	GS	SV-47-05	5	20-Jul-07	87-68-3	Hexachlorobutadiene	0.053	ug/L	0.053	0	1
C	GS	SV-47-05	5	20-Jul-07	110-54-3	Hexane	0.058	ug/L	0.058	1	1
C	GS	SV-47-05	5	20-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
C	GS	SV-47-05	5	20-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
C	GS	SV-47-05	5	20-Jul-07	98-82-8	Isopropylbenzene	0.027	ug/L	0.027	1	1
C	GS	SV-47-05	5	20-Jul-07	100-41-4	Ethylbenzene	0.088	ug/L	0.088	1	1
C	GS	SV-47-05	5	20-Jul-07	74-82-8	Methane	0.0014	%		1	1
C	GS	SV-47-05	5	20-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
C	GS	SV-47-05	5	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1
C	GS	SV-47-05	5	20-Jul-07	179601-23-1	m,p-Xylenes	0.2	ug/L	0.2	1	1
C	GS	SV-47-05	5	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
C	GS	SV-47-05	5	20-Jul-07		Ethene	0.0025	%		0	1
C	GS	SV-47-05	5	20-Jul-07	64-17-5	Ethanol	0.0093	ug/L	0.0093	0	1
C	GS	SV-47-05	5	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.0061	ug/L	0.0061	0	1
C	GS	SV-47-05	5	20-Jul-07	110-82-7	Cyclohexane	0.088	ug/L	0.088	1	1
C	GS	SV-47-05	5	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
C	GS	SV-47-05	5	20-Jul-07	75-09-2	Methylene chloride	0.0043	ug/L	0.0043	0	1
C	GS	SV-47-05	5	20-Jul-07	127-18-4	Tetrachloroethene	0.0084	ug/L	0.0084	0	1
C	GS	SV-47-05	5	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0049	ug/L		0	1
C	GS	SV-47-05	5	20-Jul-07		Ethane	0.0025	%		0	1
C	GS	SV-47-05	5	20-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
C	GS	SV-47-05	5	20-Jul-07	107-06-2	1,2-Dichloroethane	0.005	ug/L	0.005	0	1
C	GS	SV-47-05	5	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-47-05	5	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0069	ug/L	0.0069	0	1
C	GS	SV-47-05	5	20-Jul-07	79-01-6	Trichloroethene	0.0066	ug/L	0.0066	0	1
C	GS	SV-47-05	5	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
C	GS	SV-47-05	5	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0049	ug/L	0.0049	0	1
C	GS	SV-47-05	5	20-Jul-07		Toluene-d8	94	%		1	1
C	GS	SV-47-05	5	20-Jul-07	108-88-3	Toluene	0.013	ug/L	0.013	1	1
C	GS	SV-47-05	5	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
C	GS	SV-47-05	5	20-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
C	GS	SV-47-05	5	20-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
C	GS	SV-47-05	5	20-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
C	GS	SV-47-05	5	20-Jul-07	100-42-5	Styrene	0.0053	ug/L	0.0053	0	1
C	GS	SV-47-05	5	20-Jul-07	622-96-8	p-Ethyltoluene	0.076	ug/L	0.076	1	1
C	GS	SV-47-05	5	20-Jul-07	95-47-6	o-Xylene	0.076	ug/L	0.076	1	1
C	GS	SV-47-05	5	20-Jul-07		Oxygen	21	%		1	1
C	GS	SV-47-05	5	20-Jul-07	103-65-1	n-Propylbenzene	0.042	ug/L	0.042	1	1
C	GS	SV-47-05	5	20-Jul-07		Nitrogen	79	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-47-05	5	20-Jul-07	142-82-5	n-Heptane	0.079	ug/L	0.079	1	1
C	GS	SV-47-05	5	20-Jul-07	109-99-9	Tetrahydrofuran	0.0036	ug/L	0.0036	0	1
C	GS	SV-47-05	5	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
C	GS	SV-47-05	5	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
C	GS	SV-47-05	5	20-Jul-07	106-99-0	1,3-Butadiene	0.0027	ug/L	0.0027	0	1
C	GS	SV-47-05	5	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.035	ug/L	0.035	1	1
C	GS	SV-47-05	5	20-Jul-07		1,2-Dichloroethane-d4	111	%		1	1
C	GS	SV-47-05	5	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
C	GS	SV-47-05	5	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	ug/L	0.0086	0	1
C	GS	SV-47-05	5	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0095	ug/L	0.0095	0	1
C	GS	SV-47-05	5	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
C	GS	SV-47-05	5	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.037	ug/L	0.037	0	1
C	GS	SV-47-05	5	20-Jul-07	75-34-3	1,1-Dichloroethane	0.005	ug/L	0.005	0	1
C	GS	SV-47-05	5	20-Jul-07	75-35-4	1,1-Dichloroethene	0.0049	ug/L	0.0049	0	1
C	GS	SV-47-05	5	20-Jul-07	67-66-3	Chloroform	0.55	ug/L	0.55	1	1
C	GS	SV-47-05	5	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0067	ug/L	0.0067	0	1
C	GS	SV-47-05	5	20-Jul-07	78-87-5	1,2-Dichloropropane	0.0057	ug/L	0.0057	0	1
C	GS	SV-47-05	5	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	ug/L	0.0085	0	1
C	GS	SV-47-05	5	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0067	ug/L	0.0067	0	1
C	GS	SV-47-05	5	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	ug/L	0.034	0	1
C	GS	SV-47-05	5	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.12	ug/L	0.12	1	1
C	GS	SV-47-05	5	20-Jul-07		Carbon Monoxide	0.025	%		0	1
C	GS	SV-47-05	5	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	ug/L	0.0095	0	1
C	GS	SV-47-05	5	20-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
C	GS	SV-47-05	5	20-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1
C	GS	SV-47-05	5	20-Jul-07	56-23-5	Carbon tetrachloride	0.0078	ug/L	0.0078	0	1
C	GS	SV-47-05	5	20-Jul-07	75-15-0	Carbon Disulfide	0.086	ug/L	0.086	1	1
C	GS	SV-47-05	5	20-Jul-07		Carbon Dioxide	0.25	%		1	1
C	GS	SV-47-05	5	20-Jul-07	74-83-9	Bromomethane	0.0048	ug/L	0.0048	0	1
C	GS	SV-47-05	5	20-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
C	GS	SV-47-05	5	20-Jul-07	75-27-4	Bromodichloromethane	0.0083	ug/L	0.0083	0	1
C	GS	SV-47-05	5	20-Jul-07	100-44-7	Benzyl chloride	0.0064	ug/L	0.0064	0	1
C	GS	SV-47-05	5	20-Jul-07		4-Bromofluorobenzene	93	%		1	1
C	GS	SV-47-05	5	20-Jul-07	78-93-3	2-Butanone	0.01	ug/L	0.01	1	1
C	GS	SV-47-05	5	20-Jul-07	108-90-7	Chlorobenzene	0.0057	ug/L	0.0057	0	1
C	GS	SV-47-05	5	20-Jul-07	71-43-2	Benzene	0.044	ug/L	0.044	1	1
C	GS	SV-47-05	5	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0058	ug/L	0.0058	0	1
C	GS	SV-47-05	5	20-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
C	GS	SV-47-05	5	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.005	ug/L	0.005	0	1
C	GS	SV-47-05	5	20-Jul-07	67-64-1	Acetone	0.029	ug/L	0.029	1	1
C	GS	SV-47-05	5	20-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
C	GS	SV-47-15	15	20-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
C	GS	SV-47-15	15	20-Jul-07	71-43-2	Benzene	0.027	ug/L	0.027	1	1
C	GS	SV-47-15	15	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
C	GS	SV-47-15	15	20-Jul-07	78-93-3	2-Butanone	0.028	ug/L	0.028	1	1
C	GS	SV-47-15	15	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
C	GS	SV-47-15	15	20-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
C	GS	SV-47-15	15	20-Jul-07		4-Bromofluorobenzene	89	%		1	1
C	GS	SV-47-15	15	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.015	ug/L	0.015	1	1
C	GS	SV-47-15	15	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
C	GS	SV-47-15	15	20-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
C	GS	SV-47-15	15	20-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
C	GS	SV-47-15	15	20-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
C	GS	SV-47-15	15	20-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
C	GS	SV-47-15	15	20-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
C	GS	SV-47-15	15	20-Jul-07	75-27-4	Bromodichloromethane	0.0086	ug/L	0.0086	0	1
C	GS	SV-47-15	15	20-Jul-07	67-64-1	Acetone	0.038	ug/L	0.038	1	1

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-47-15	15	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
C	GS	SV-47-15	15	20-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
C	GS	SV-47-15	15	20-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
C	GS	SV-47-15	15	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
C	GS	SV-47-15	15	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
C	GS	SV-47-15	15	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
C	GS	SV-47-15	15	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
C	GS	SV-47-15	15	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
C	GS	SV-47-15	15	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
C	GS	SV-47-15	15	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
C	GS	SV-47-15	15	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
C	GS	SV-47-15	15	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
C	GS	SV-47-15	15	20-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
C	GS	SV-47-15	15	20-Jul-07		1,2-Dichloroethane-d4	106	%		1	1
C	GS	SV-47-15	15	20-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
C	GS	SV-47-15	15	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
C	GS	SV-47-15	15	20-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
C	GS	SV-47-15	15	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
C	GS	SV-47-15	15	20-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
C	GS	SV-47-15	15	20-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
C	GS	SV-47-15	15	20-Jul-07	142-82-5	n-Heptane	0.021	ug/L	0.021	1	1
C	GS	SV-47-15	15	20-Jul-07		Nitrogen	79	%		1	1
C	GS	SV-47-15	15	20-Jul-07	103-65-1	n-Propylbenzene	0.0063	ug/L	0.0063	0	1
C	GS	SV-47-15	15	20-Jul-07		Oxygen	21	%		1	1
C	GS	SV-47-15	15	20-Jul-07	95-47-6	o-Xylene	0.0056	ug/L	0.0056	0	1
C	GS	SV-47-15	15	20-Jul-07	622-96-8	p-Ethyltoluene	0.0063	ug/L	0.0063	0	1
C	GS	SV-47-15	15	20-Jul-07	74-82-8	Methane	0.01	%		1	1
C	GS	SV-47-15	15	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-47-15	15	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
C	GS	SV-47-15	15	20-Jul-07	127-18-4	Tetrachloroethene	0.011	ug/L	0.011	1	1
C	GS	SV-47-15	15	20-Jul-07	109-99-9	Tetrahydrofuran	0.0038	ug/L	0.0038	0	1
C	GS	SV-47-15	15	20-Jul-07	108-88-3	Toluene	0.017	ug/L	0.017	1	1
C	GS	SV-47-15	15	20-Jul-07		Toluene-d8	95	%		1	1
C	GS	SV-47-15	15	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
C	GS	SV-47-15	15	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
C	GS	SV-47-15	15	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-47-15	15	20-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
C	GS	SV-47-15	15	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
C	GS	SV-47-15	15	20-Jul-07		Carbon Dioxide	0.14	%		1	1
C	GS	SV-47-15	15	20-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
C	GS	SV-47-15	15	20-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
C	GS	SV-47-15	15	20-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
C	GS	SV-47-15	15	20-Jul-07	179601-23-1	m,p-Xylenes	0.0067	ug/L	0.0067	1	1
C	GS	SV-47-15	15	20-Jul-07	75-15-0	Carbon Disulfide	0.036	ug/L	0.036	1	1
C	GS	SV-47-15	15	20-Jul-07		Carbon Monoxide	0.026	%		0	1
C	GS	SV-47-15	15	20-Jul-07	56-23-5	Carbon tetrachloride	0.035	ug/L	0.035	1	1
C	GS	SV-47-15	15	20-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
C	GS	SV-47-15	15	20-Jul-07	67-66-3	Chloroform	2.3	ug/L	2.3	1	1
C	GS	SV-47-15	15	20-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
C	GS	SV-47-15	15	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
C	GS	SV-47-15	15	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
C	GS	SV-47-15	15	20-Jul-07	110-82-7	Cyclohexane	0.038	ug/L	0.038	1	1
C	GS	SV-47-15	15	20-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
C	GS	SV-47-15	15	20-Jul-07	110-54-3	Hexane	0.054	ug/L	0.054	1	1
C	GS	SV-47-15	15	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
C	GS	SV-47-15	15	20-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1
C	GS	SV-47-15	15	20-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-47-15	15	20-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-47-15	15	20-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
C	GS	SV-47-15	15	20-Jul-07	100-41-4	Ethylbenzene	0.0056	ug/L	0.0056	0	1
C	GS	SV-47-15	15	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-47-15	15	20-Jul-07		Ethene	0.0026	%		0	1
C	GS	SV-47-15	15	20-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
C	GS	SV-47-15	15	20-Jul-07		Ethane	0.0026	%		0	1
C	GS	SV-48-05	5	20-Jul-07	74-82-8	Methane	0.00024	%		0	1
C	GS	SV-48-05	5	20-Jul-07	179601-23-1	m,p-Xylenes	0.0052	ug/L	0.0052	0	1
C	GS	SV-48-05	5	20-Jul-07	108-20-3	Isopropyl ether	0.02	ug/L	0.02	0	1
C	GS	SV-48-05	5	20-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
C	GS	SV-48-05	5	20-Jul-07	110-54-3	Hexane	0.014	ug/L	0.014	1	1
C	GS	SV-48-05	5	20-Jul-07	87-68-3	Hexachlorobutadiene	0.052	ug/L	0.052	0	1
C	GS	SV-48-05	5	20-Jul-07	100-41-4	Ethylbenzene	0.0052	ug/L	0.0052	0	1
C	GS	SV-48-05	5	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.02	ug/L	0.02	0	1
C	GS	SV-48-05	5	20-Jul-07	98-82-8	Isopropylbenzene	0.0059	ug/L	0.0059	0	1
C	GS	SV-48-05	5	20-Jul-07		Ethene	0.0024	%		0	1
C	GS	SV-48-05	5	20-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
C	GS	SV-48-05	5	20-Jul-07	64-17-5	Ethanol	0.0091	ug/L	0.0091	0	1
C	GS	SV-48-05	5	20-Jul-07	110-82-7	Cyclohexane	0.017	ug/L	0.017	1	1
C	GS	SV-48-05	5	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.006	ug/L	0.006	0	1
C	GS	SV-48-05	5	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0048	ug/L		0	1
C	GS	SV-48-05	5	20-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
C	GS	SV-48-05	5	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1
C	GS	SV-48-05	5	20-Jul-07	109-99-9	Tetrahydrofuran	0.0036	ug/L	0.0036	0	1
C	GS	SV-48-05	5	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0055	ug/L	0.0055	0	1
C	GS	SV-48-05	5	20-Jul-07		Ethane	0.0024	%		0	1
C	GS	SV-48-05	5	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.02	ug/L	0.02	0	1
C	GS	SV-48-05	5	20-Jul-07	75-01-4	Vinyl chloride	0.0031	ug/L	0.0031	0	1
C	GS	SV-48-05	5	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-48-05	5	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0048	ug/L	0.0048	0	1
C	GS	SV-48-05	5	20-Jul-07	67-66-3	Chloroform	0.019	ug/L	0.019	1	1
C	GS	SV-48-05	5	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0068	ug/L	0.0068	0	1
C	GS	SV-48-05	5	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0055	ug/L	0.0055	0	1
C	GS	SV-48-05	5	20-Jul-07		Toluene-d8	95	%		1	1
C	GS	SV-48-05	5	20-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
C	GS	SV-48-05	5	20-Jul-07	127-18-4	Tetrachloroethene	0.0082	ug/L	0.0082	0	1
C	GS	SV-48-05	5	20-Jul-07	75-09-2	Methylene chloride	0.0042	ug/L	0.0042	0	1
C	GS	SV-48-05	5	20-Jul-07	100-42-5	Styrene	0.0052	ug/L	0.0052	0	1
C	GS	SV-48-05	5	20-Jul-07	622-96-8	p-Ethyltoluene	0.0059	ug/L	0.0059	0	1
C	GS	SV-48-05	5	20-Jul-07	95-47-6	o-Xylene	0.0052	ug/L	0.0052	0	1
C	GS	SV-48-05	5	20-Jul-07		Oxygen	20	%		1	1
C	GS	SV-48-05	5	20-Jul-07	103-65-1	n-Propylbenzene	0.0059	ug/L	0.0059	0	1
C	GS	SV-48-05	5	20-Jul-07		Nitrogen	79	%		1	1
C	GS	SV-48-05	5	20-Jul-07	142-82-5	n-Heptane	0.0078	ug/L	0.0078	1	1
C	GS	SV-48-05	5	20-Jul-07	91-20-3	Naphthalene	0.025	ug/L	0.025	0	1
C	GS	SV-48-05	5	20-Jul-07	108-88-3	Toluene	0.0076	ug/L	0.0076	1	1
C	GS	SV-48-05	5	20-Jul-07	75-35-4	1,1-Dichloroethene	0.0048	ug/L	0.0048	0	1
C	GS	SV-48-05	5	20-Jul-07	106-99-0	1,3-Butadiene	0.0027	ug/L	0.0027	0	1
C	GS	SV-48-05	5	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0059	ug/L	0.0059	0	1
C	GS	SV-48-05	5	20-Jul-07	78-87-5	1,2-Dichloropropane	0.0056	ug/L	0.0056	0	1
C	GS	SV-48-05	5	20-Jul-07		1,2-Dichloroethane-d4	104	%		1	1
C	GS	SV-48-05	5	20-Jul-07	107-06-2	1,2-Dichloroethane	0.0049	ug/L	0.0049	0	1
C	GS	SV-48-05	5	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0073	ug/L	0.0073	0	1
C	GS	SV-48-05	5	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0084	ug/L	0.0084	0	1
C	GS	SV-48-05	5	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0073	ug/L	0.0073	0	1
C	GS	SV-48-05	5	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.029	ug/L	0.029	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-48-05	5	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0093	ug/L	0.0093	0	1
C	GS	SV-48-05	5	20-Jul-07	75-34-3	1,1-Dichloroethane	0.0049	ug/L	0.0049	0	1
C	GS	SV-48-05	5	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0066	ug/L	0.0066	0	1
C	GS	SV-48-05	5	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0093	ug/L	0.0093	0	1
C	GS	SV-48-05	5	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0083	ug/L	0.0083	0	1
C	GS	SV-48-05	5	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0066	ug/L	0.0066	0	1
C	GS	SV-48-05	5	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.033	ug/L	0.033	0	1
C	GS	SV-48-05	5	20-Jul-07	79-01-6	Trichloroethene	0.0065	ug/L	0.0065	0	1
C	GS	SV-48-05	5	20-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1
C	GS	SV-48-05	5	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0059	ug/L	0.0059	0	1
C	GS	SV-48-05	5	20-Jul-07		Carbon Monoxide	0.024	%		0	1
C	GS	SV-48-05	5	20-Jul-07	108-90-7	Chlorobenzene	0.0056	ug/L	0.0056	0	1
C	GS	SV-48-05	5	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.036	ug/L	0.036	0	1
C	GS	SV-48-05	5	20-Jul-07	56-23-5	Carbon tetrachloride	0.0076	ug/L	0.0076	0	1
C	GS	SV-48-05	5	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0073	ug/L	0.0073	0	1
C	GS	SV-48-05	5	20-Jul-07	75-15-0	Carbon Disulfide	0.021	ug/L	0.021	1	1
C	GS	SV-48-05	5	20-Jul-07		Carbon Dioxide	1.3	%		1	1
C	GS	SV-48-05	5	20-Jul-07	74-83-9	Bromomethane	0.0047	ug/L	0.0047	0	1
C	GS	SV-48-05	5	20-Jul-07	75-25-2	Bromoform	0.012	ug/L	0.012	0	1
C	GS	SV-48-05	5	20-Jul-07	75-27-4	Bromodichloromethane	0.0081	ug/L	0.0081	0	1
C	GS	SV-48-05	5	20-Jul-07	100-44-7	Benzyl chloride	0.0063	ug/L	0.0063	0	1
C	GS	SV-48-05	5	20-Jul-07	78-93-3	2-Butanone	0.009	ug/L	0.009	1	1
C	GS	SV-48-05	5	20-Jul-07	71-43-2	Benzene	0.014	ug/L	0.014	1	1
C	GS	SV-48-05	5	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0056	ug/L	0.0056	0	1
C	GS	SV-48-05	5	20-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
C	GS	SV-48-05	5	20-Jul-07		4-Bromofluorobenzene	89	%		1	1
C	GS	SV-48-05	5	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.005	ug/L	0.005	0	1
C	GS	SV-48-05	5	20-Jul-07	67-64-1	Acetone	0.012	ug/L	0.012	1	1
C	GS	SV-48-05	5	20-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
C	GS	SV-48-05	5	20-Jul-07	123-91-1	1,4-Dioxane	0.017	ug/L	0.017	0	1
C	GS	SV-48-15	15	20-Jul-07	179601-23-1	m,p-Xylenes	0.19	ug/L	0.19	1	1
C	GS	SV-48-15	15	20-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
C	GS	SV-48-15	15	20-Jul-07	100-41-4	Ethylbenzene	0.084	ug/L	0.084	1	1
C	GS	SV-48-15	15	20-Jul-07	98-82-8	Isopropylbenzene	0.027	ug/L	0.027	1	1
C	GS	SV-48-15	15	20-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
C	GS	SV-48-15	15	20-Jul-07	74-82-8	Methane	0.0011	%		1	1
C	GS	SV-48-15	15	20-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
C	GS	SV-48-15	15	20-Jul-07	110-54-3	Hexane	0.047	ug/L	0.047	1	1
C	GS	SV-48-15	15	20-Jul-07	87-68-3	Hexachlorobutadiene	0.054	ug/L	0.054	0	1
C	GS	SV-48-15	15	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
C	GS	SV-48-15	15	20-Jul-07		Ethene	0.0025	%		0	1
C	GS	SV-48-15	15	20-Jul-07	64-17-5	Ethanol	0.0095	ug/L	0.0095	0	1
C	GS	SV-48-15	15	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.005	ug/L		0	1
C	GS	SV-48-15	15	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.0062	ug/L	0.0062	0	1
C	GS	SV-48-15	15	20-Jul-07	110-82-7	Cyclohexane	0.078	ug/L	0.078	1	1
C	GS	SV-48-15	15	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
C	GS	SV-48-15	15	20-Jul-07	95-47-6	o-Xylene	0.074	ug/L	0.074	1	1
C	GS	SV-48-15	15	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
C	GS	SV-48-15	15	20-Jul-07		Ethane	0.0025	%		0	1
C	GS	SV-48-15	15	20-Jul-07	127-18-4	Tetrachloroethene	0.0086	ug/L	0.0086	0	1
C	GS	SV-48-15	15	20-Jul-07	75-00-3	Chloroethane	0.0033	ug/L	0.0033	0	1
C	GS	SV-48-15	15	20-Jul-07		Oxygen	18	%		1	1
C	GS	SV-48-15	15	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-48-15	15	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0071	ug/L	0.0071	0	1
C	GS	SV-48-15	15	20-Jul-07	79-01-6	Trichloroethene	0.0068	ug/L	0.0068	0	1
C	GS	SV-48-15	15	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
C	GS	SV-48-15	15	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.005	ug/L	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-48-15	15	20-Jul-07		Toluene-d8	93	%		1	1
C	GS	SV-48-15	15	20-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
C	GS	SV-48-15	15	20-Jul-07	109-99-9	Tetrahydrofuran	0.0037	ug/L	0.0037	0	1
C	GS	SV-48-15	15	20-Jul-07	75-09-2	Methylene chloride	0.0044	ug/L	0.0044	0	1
C	GS	SV-48-15	15	20-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
C	GS	SV-48-15	15	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
C	GS	SV-48-15	15	20-Jul-07	100-42-5	Styrene	0.0054	ug/L	0.0054	0	1
C	GS	SV-48-15	15	20-Jul-07	622-96-8	p-Ethyltoluene	0.073	ug/L	0.073	1	1
C	GS	SV-48-15	15	20-Jul-07	103-65-1	n-Propylbenzene	0.043	ug/L	0.043	1	1
C	GS	SV-48-15	15	20-Jul-07		Nitrogen	79	%		1	1
C	GS	SV-48-15	15	20-Jul-07	142-82-5	n-Heptane	0.072	ug/L	0.072	1	1
C	GS	SV-48-15	15	20-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
C	GS	SV-48-15	15	20-Jul-07	108-88-3	Toluene	0.0081	ug/L	0.0081	1	1
C	GS	SV-48-15	15	20-Jul-07	75-35-4	1,1-Dichloroethene	0.005	ug/L	0.005	0	1
C	GS	SV-48-15	15	20-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
C	GS	SV-48-15	15	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.035	ug/L	0.035	1	1
C	GS	SV-48-15	15	20-Jul-07	78-87-5	1,2-Dichloropropane	0.0058	ug/L	0.0058	0	1
C	GS	SV-48-15	15	20-Jul-07		1,2-Dichloroethane-d4	114	%		1	1
C	GS	SV-48-15	15	20-Jul-07	107-06-2	1,2-Dichloroethane	0.0051	ug/L	0.0051	0	1
C	GS	SV-48-15	15	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
C	GS	SV-48-15	15	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	ug/L	0.0088	0	1
C	GS	SV-48-15	15	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
C	GS	SV-48-15	15	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
C	GS	SV-48-15	15	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.11	ug/L	0.11	1	1
C	GS	SV-48-15	15	20-Jul-07	75-34-3	1,1-Dichloroethane	0.0051	ug/L	0.0051	0	1
C	GS	SV-48-15	15	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0069	ug/L	0.0069	0	1
C	GS	SV-48-15	15	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	ug/L	0.0097	0	1
C	GS	SV-48-15	15	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	ug/L	0.0087	0	1
C	GS	SV-48-15	15	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0069	ug/L	0.0069	0	1
C	GS	SV-48-15	15	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
C	GS	SV-48-15	15	20-Jul-07	67-66-3	Chloroform	0.0062	ug/L	0.0062	0	1
C	GS	SV-48-15	15	20-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
C	GS	SV-48-15	15	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0097	ug/L	0.0097	0	1
C	GS	SV-48-15	15	20-Jul-07	56-23-5	Carbon tetrachloride	0.008	ug/L	0.008	0	1
C	GS	SV-48-15	15	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
C	GS	SV-48-15	15	20-Jul-07	108-90-7	Chlorobenzene	0.0058	ug/L	0.0058	0	1
C	GS	SV-48-15	15	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
C	GS	SV-48-15	15	20-Jul-07		Carbon Monoxide	0.025	%		0	1
C	GS	SV-48-15	15	20-Jul-07	75-15-0	Carbon Disulfide	0.0068	ug/L	0.0068	1	1
C	GS	SV-48-15	15	20-Jul-07		Carbon Dioxide	3	%		1	1
C	GS	SV-48-15	15	20-Jul-07	74-83-9	Bromomethane	0.0049	ug/L	0.0049	0	1
C	GS	SV-48-15	15	20-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
C	GS	SV-48-15	15	20-Jul-07	75-27-4	Bromodichloromethane	0.0085	ug/L	0.0085	0	1
C	GS	SV-48-15	15	20-Jul-07	100-44-7	Benzyl chloride	0.0065	ug/L	0.0065	0	1
C	GS	SV-48-15	15	20-Jul-07	78-93-3	2-Butanone	0.019	ug/L	0.019	1	1
C	GS	SV-48-15	15	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0059	ug/L	0.0059	0	1
C	GS	SV-48-15	15	20-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
C	GS	SV-48-15	15	20-Jul-07		4-Bromofluorobenzene	91	%		1	1
C	GS	SV-48-15	15	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0052	ug/L	0.0052	0	1
C	GS	SV-48-15	15	20-Jul-07	67-64-1	Acetone	0.023	ug/L	0.023	1	1
C	GS	SV-48-15	15	20-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
C	GS	SV-48-15	15	20-Jul-07	71-43-2	Benzene	0.029	ug/L	0.029	1	1
C	GS	SV-48-15	15	20-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
C	GS	SV-49-05	5	20-Jul-07	74-82-8	Methane	0.0029	%		1	1
C	GS	SV-49-05	5	20-Jul-07	110-82-7	Cyclohexane	0.075	ug/L	0.075	1	1
C	GS	SV-49-05	5	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-49-05	5	20-Jul-07	179601-23-1	m,p-Xylenes	0.15	ug/L	0.15	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-49-05	5	20-Jul-07	98-82-8	Isopropylbenzene	0.02	ug/L	0.02	1	1
C	GS	SV-49-05	5	20-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-49-05	5	20-Jul-07	67-63-0	Isopropyl alcohol	0.096	ug/L	0.096	1	1
C	GS	SV-49-05	5	20-Jul-07	110-54-3	Hexane	0.053	ug/L	0.053	1	1
C	GS	SV-49-05	5	20-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
C	GS	SV-49-05	5	20-Jul-07	100-41-4	Ethylbenzene	0.065	ug/L	0.065	1	1
C	GS	SV-49-05	5	20-Jul-07		Ethene	0.0026	%		0	1
C	GS	SV-49-05	5	20-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
C	GS	SV-49-05	5	20-Jul-07		Ethane	0.0026	%		0	1
C	GS	SV-49-05	5	20-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
C	GS	SV-49-05	5	20-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
C	GS	SV-49-05	5	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
C	GS	SV-49-05	5	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
C	GS	SV-49-05	5	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
C	GS	SV-49-05	5	20-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
C	GS	SV-49-05	5	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
C	GS	SV-49-05	5	20-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1
C	GS	SV-49-05	5	20-Jul-07	67-66-3	Chloroform	0.02	ug/L	0.02	1	1
C	GS	SV-49-05	5	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-49-05	5	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
C	GS	SV-49-05	5	20-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
C	GS	SV-49-05	5	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
C	GS	SV-49-05	5	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
C	GS	SV-49-05	5	20-Jul-07		Toluene-d8	93	%		1	1
C	GS	SV-49-05	5	20-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
C	GS	SV-49-05	5	20-Jul-07	109-99-9	Tetrahydrofuran	0.0038	ug/L	0.0038	0	1
C	GS	SV-49-05	5	20-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
C	GS	SV-49-05	5	20-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
C	GS	SV-49-05	5	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-49-05	5	20-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
C	GS	SV-49-05	5	20-Jul-07	622-96-8	p-Ethyltoluene	0.057	ug/L	0.057	1	1
C	GS	SV-49-05	5	20-Jul-07	95-47-6	o-Xylene	0.057	ug/L	0.057	1	1
C	GS	SV-49-05	5	20-Jul-07		Oxygen	21	%		1	1
C	GS	SV-49-05	5	20-Jul-07	103-65-1	n-Propylbenzene	0.032	ug/L	0.032	1	1
C	GS	SV-49-05	5	20-Jul-07	142-82-5	n-Heptane	0.061	ug/L	0.061	1	1
C	GS	SV-49-05	5	20-Jul-07	108-88-3	Toluene	0.0083	ug/L	0.0083	1	1
C	GS	SV-49-05	5	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
C	GS	SV-49-05	5	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
C	GS	SV-49-05	5	20-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
C	GS	SV-49-05	5	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
C	GS	SV-49-05	5	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.027	ug/L	0.027	1	1
C	GS	SV-49-05	5	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
C	GS	SV-49-05	5	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
C	GS	SV-49-05	5	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
C	GS	SV-49-05	5	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
C	GS	SV-49-05	5	20-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
C	GS	SV-49-05	5	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
C	GS	SV-49-05	5	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.089	ug/L	0.089	1	1
C	GS	SV-49-05	5	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
C	GS	SV-49-05	5	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
C	GS	SV-49-05	5	20-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
C	GS	SV-49-05	5	20-Jul-07		1,2-Dichloroethane-d4	111	%		1	1
C	GS	SV-49-05	5	20-Jul-07		Nitrogen	79	%		1	1
C	GS	SV-49-05	5	20-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
C	GS	SV-49-05	5	20-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
C	GS	SV-49-05	5	20-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
C	GS	SV-49-05	5	20-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-49-05	5	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
C	GS	SV-49-05	5	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
C	GS	SV-49-05	5	20-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
C	GS	SV-49-05	5	20-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
C	GS	SV-49-05	5	20-Jul-07		Carbon Monoxide	0.026	%		0	1
C	GS	SV-49-05	5	20-Jul-07	75-15-0	Carbon Disulfide	0.042	ug/L	0.042	1	1
C	GS	SV-49-05	5	20-Jul-07		Carbon Dioxide	0.16	%		1	1
C	GS	SV-49-05	5	20-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
C	GS	SV-49-05	5	20-Jul-07	75-27-4	Bromodichloromethane	0.0086	ug/L	0.0086	0	1
C	GS	SV-49-05	5	20-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
C	GS	SV-49-05	5	20-Jul-07	71-43-2	Benzene	0.041	ug/L	0.041	1	1
C	GS	SV-49-05	5	20-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
C	GS	SV-49-05	5	20-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
C	GS	SV-49-05	5	20-Jul-07	78-93-3	2-Butanone	0.0093	ug/L	0.0093	1	1
C	GS	SV-49-05	5	20-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
C	GS	SV-49-05	5	20-Jul-07		4-Bromofluorobenzene	91	%		1	1
C	GS	SV-49-05	5	20-Jul-07	67-64-1	Acetone	0.042	ug/L	0.042	1	1
C	GS	SV-49-05	5	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
C	GS	SV-49-05	5	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.006	ug/L	0.006	0	1
C	GS	SV-49-15	15	20-Jul-07	123-91-1	1,4-Dioxane	0.017	ug/L	0.017	0	1
C	GS	SV-49-15	15	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0056	ug/L	0.0056	0	1
C	GS	SV-49-15	15	20-Jul-07	78-93-3	2-Butanone	0.017	ug/L	0.017	1	1
C	GS	SV-49-15	15	20-Jul-07	591-78-6	2-Hexanone	0.019	ug/L	0.019	0	1
C	GS	SV-49-15	15	20-Jul-07		4-Bromofluorobenzene	91	%		1	1
C	GS	SV-49-15	15	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0049	ug/L	0.0049	0	1
C	GS	SV-49-15	15	20-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
C	GS	SV-49-15	15	20-Jul-07	75-27-4	Bromodichloromethane	0.008	ug/L	0.008	0	1
C	GS	SV-49-15	15	20-Jul-07	71-43-2	Benzene	0.032	ug/L	0.032	1	1
C	GS	SV-49-15	15	20-Jul-07	100-44-7	Benzyl chloride	0.0062	ug/L	0.0062	0	1
C	GS	SV-49-15	15	20-Jul-07	74-83-9	Bromomethane	0.0046	ug/L	0.0046	0	1
C	GS	SV-49-15	15	20-Jul-07	75-25-2	Bromoform	0.012	ug/L	0.012	0	1
C	GS	SV-49-15	15	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.029	ug/L	0.029	0	1
C	GS	SV-49-15	15	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0072	ug/L	0.0072	0	1
C	GS	SV-49-15	15	20-Jul-07	67-64-1	Acetone	0.04	ug/L	0.04	1	1
C	GS	SV-49-15	15	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0083	ug/L	0.0083	0	1
C	GS	SV-49-15	15	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0065	ug/L	0.0065	0	1
C	GS	SV-49-15	15	20-Jul-07	75-34-3	1,1-Dichloroethane	0.0048	ug/L	0.0048	0	1
C	GS	SV-49-15	15	20-Jul-07	75-35-4	1,1-Dichloroethene	0.0047	ug/L	0.0047	0	1
C	GS	SV-49-15	15	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.02	ug/L	0.02	0	1
C	GS	SV-49-15	15	20-Jul-07	75-15-0	Carbon Disulfide	0.021	ug/L	0.021	1	1
C	GS	SV-49-15	15	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0058	ug/L	0.0058	0	1
C	GS	SV-49-15	15	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0091	ug/L	0.0091	0	1
C	GS	SV-49-15	15	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0072	ug/L	0.0072	0	1
C	GS	SV-49-15	15	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0072	ug/L	0.0072	0	1
C	GS	SV-49-15	15	20-Jul-07	107-06-2	1,2-Dichloroethane	0.0048	ug/L	0.0048	0	1
C	GS	SV-49-15	15	20-Jul-07		1,2-Dichloroethane-d4	108	%		1	1
C	GS	SV-49-15	15	20-Jul-07	78-87-5	1,2-Dichloropropane	0.0055	ug/L	0.0055	0	1
C	GS	SV-49-15	15	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0058	ug/L	0.0058	0	1
C	GS	SV-49-15	15	20-Jul-07	106-99-0	1,3-Butadiene	0.0026	ug/L	0.0026	0	1
C	GS	SV-49-15	15	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.035	ug/L	0.035	0	1
C	GS	SV-49-15	15	20-Jul-07	127-18-4	Tetrachloroethene	0.0081	ug/L	0.0081	0	1
C	GS	SV-49-15	15	20-Jul-07	91-20-3	Naphthalene	0.025	ug/L	0.025	0	1
C	GS	SV-49-15	15	20-Jul-07	142-82-5	n-Heptane	0.0087	ug/L	0.0087	1	1
C	GS	SV-49-15	15	20-Jul-07		Nitrogen	79	%		1	1
C	GS	SV-49-15	15	20-Jul-07	103-65-1	n-Propylbenzene	0.0058	ug/L	0.0058	0	1
C	GS	SV-49-15	15	20-Jul-07		Oxygen	20	%		1	1
C	GS	SV-49-15	15	20-Jul-07	95-47-6	o-Xylene	0.0052	ug/L	0.0052	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-49-15	15	20-Jul-07	622-96-8	p-Ethyltoluene	0.0058	ug/L	0.0058	0	1
C	GS	SV-49-15	15	20-Jul-07	100-42-5	Styrene	0.0051	ug/L	0.0051	0	1
C	GS	SV-49-15	15	20-Jul-07	64-17-5	Ethanol	0.009	ug/L	0.009	0	1
C	GS	SV-49-15	15	20-Jul-07	75-65-0	tert-Butyl alcohol	0.014	ug/L	0.014	0	1
C	GS	SV-49-15	15	20-Jul-07	74-82-8	Methane	0.0035	%		1	1
C	GS	SV-49-15	15	20-Jul-07	109-99-9	Tetrahydrofuran	0.0035	ug/L	0.0035	0	1
C	GS	SV-49-15	15	20-Jul-07	108-88-3	Toluene	0.0091	ug/L	0.0091	1	1
C	GS	SV-49-15	15	20-Jul-07		Toluene-d8	92	%		1	1
C	GS	SV-49-15	15	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0047	ug/L	0.0047	0	1
C	GS	SV-49-15	15	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0054	ug/L	0.0054	0	1
C	GS	SV-49-15	15	20-Jul-07	79-01-6	Trichloroethene	0.0064	ug/L	0.0064	0	1
C	GS	SV-49-15	15	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0067	ug/L	0.0067	0	1
C	GS	SV-49-15	15	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-49-15	15	20-Jul-07	75-01-4	Vinyl chloride	0.003	ug/L	0.003	0	1
C	GS	SV-49-15	15	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.02	ug/L	0.02	0	1
C	GS	SV-49-15	15	20-Jul-07		Ethene	0.0024	%		0	1
C	GS	SV-49-15	15	20-Jul-07	108-90-7	Chlorobenzene	0.0055	ug/L	0.0055	0	1
C	GS	SV-49-15	15	20-Jul-07	75-00-3	Chloroethane	0.0031	ug/L	0.0031	0	1
C	GS	SV-49-15	15	20-Jul-07	67-66-3	Chloroform	0.0099	ug/L	0.0099	1	1
C	GS	SV-49-15	15	20-Jul-07	74-87-3	Chloromethane	0.0098	ug/L	0.0098	0	1
C	GS	SV-49-15	15	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0047	ug/L		0	1
C	GS	SV-49-15	15	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0054	ug/L	0.0054	0	1
C	GS	SV-49-15	15	20-Jul-07	110-82-7	Cyclohexane	0.014	ug/L	0.014	1	1
C	GS	SV-49-15	15	20-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
C	GS	SV-49-15	15	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.0059	ug/L	0.0059	0	1
C	GS	SV-49-15	15	20-Jul-07	75-09-2	Methylene chloride	0.0041	ug/L	0.0041	0	1
C	GS	SV-49-15	15	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0091	ug/L	0.0091	0	1
C	GS	SV-49-15	15	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0043	ug/L	0.0043	0	1
C	GS	SV-49-15	15	20-Jul-07		Carbon Dioxide	0.86	%		1	1
C	GS	SV-49-15	15	20-Jul-07	100-41-4	Ethylbenzene	0.0052	ug/L	0.0052	0	1
C	GS	SV-49-15	15	20-Jul-07	87-68-3	Hexachlorobutadiene	0.051	ug/L	0.051	0	1
C	GS	SV-49-15	15	20-Jul-07	110-54-3	Hexane	0.016	ug/L	0.016	1	1
C	GS	SV-49-15	15	20-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
C	GS	SV-49-15	15	20-Jul-07	108-20-3	Isopropyl ether	0.02	ug/L	0.02	0	1
C	GS	SV-49-15	15	20-Jul-07	98-82-8	Isopropylbenzene	0.0058	ug/L	0.0058	0	1
C	GS	SV-49-15	15	20-Jul-07	179601-23-1	m,p-Xylenes	0.0056	ug/L	0.0056	1	1
C	GS	SV-49-15	15	20-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	1	1
C	GS	SV-49-15	15	20-Jul-07		Ethane	0.0024	%		0	1
C	GS	SV-49-15	15	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0065	ug/L	0.0065	0	1
C	GS	SV-49-15	15	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.033	ug/L	0.033	0	1
C	GS	SV-49-15	15	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0082	ug/L	0.0082	0	1
C	GS	SV-49-15	15	20-Jul-07		Carbon Monoxide	0.024	%		0	1
C	GS	SV-50-05	5	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.007	UG/L	0.007	0	1
C	GS	SV-50-05	5	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.028	UG/L	0.028	0	1
C	GS	SV-50-05	5	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.034	UG/L	0.034	0	1
C	GS	SV-50-05	5	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.0057	UG/L	0.0057	0	1
C	GS	SV-50-05	5	12-Sep-07	106-93-4	1,2-Dibromoethane	0.009	UG/L	0.009	0	1
C	GS	SV-50-05	5	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0081	UG/L	0.0081	0	1
C	GS	SV-50-05	5	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.007	UG/L	0.007	0	1
C	GS	SV-50-05	5	12-Sep-07	107-06-2	1,2-Dichloroethane	0.0047	UG/L	0.0047	0	1
C	GS	SV-50-05	5	12-Sep-07		1,2-Dichloroethane-d4	104	%		1	1
C	GS	SV-50-05	5	12-Sep-07	78-87-5	1,2-Dichloropropane	0.0054	UG/L	0.0054	0	1
C	GS	SV-50-05	5	12-Sep-07	75-35-4	1,1-Dichloroethene	0.0046	UG/L	0.0046	0	1
C	GS	SV-50-05	5	12-Sep-07	106-99-0	1,3-Butadiene	0.0026	UG/L	0.0026	0	1
C	GS	SV-50-05	5	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0089	UG/L	0.0089	0	1
C	GS	SV-50-05	5	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.007	UG/L	0.007	0	1
C	GS	SV-50-05	5	12-Sep-07	123-91-1	1,4-Dioxane	0.017	UG/L	0.017	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-50-05	5	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.0054	UG/L	0.0054	0	1
C	GS	SV-50-05	5	12-Sep-07	78-93-3	2-Butanone	0.0034	UG/L	0.0034	0	1
C	GS	SV-50-05	5	12-Sep-07	591-78-6	2-Hexanone	0.019	UG/L	0.019	0	1
C	GS	SV-50-05	5	12-Sep-07		4-Bromofluorobenzene	88	%		1	1
C	GS	SV-50-05	5	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.0048	UG/L	0.0048	0	1
C	GS	SV-50-05	5	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.0042	UG/L	0.0042	0	1
C	GS	SV-50-05	5	12-Sep-07	98-82-8	Isopropylbenzene	0.0057	UG/L	0.0057	0	1
C	GS	SV-50-05	5	12-Sep-07	108-20-3	Isopropyl ether	0.019	UG/L	0.019	0	1
C	GS	SV-50-05	5	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.0057	UG/L	0.0057	0	1
C	GS	SV-50-05	5	12-Sep-07		Toluene-d8	100	%		1	1
C	GS	SV-50-05	5	12-Sep-07	91-20-3	Naphthalene	0.024	UG/L	0.024	0	1
C	GS	SV-50-05	5	12-Sep-07	142-82-5	n-Heptane	0.0048	UG/L	0.0048	0	1
C	GS	SV-50-05	5	12-Sep-07	103-65-1	n-Propylbenzene	0.0057	UG/L	0.0057	0	1
C	GS	SV-50-05	5	12-Sep-07	95-47-6	o-Xylene	0.005	UG/L	0.005	0	1
C	GS	SV-50-05	5	12-Sep-07	622-96-8	p-Ethyltoluene	0.0057	UG/L	0.0057	0	1
C	GS	SV-50-05	5	12-Sep-07	100-42-5	Styrene	0.005	UG/L	0.005	0	1
C	GS	SV-50-05	5	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.019	UG/L	0.019	0	1
C	GS	SV-50-05	5	12-Sep-07	75-65-0	tert-Butyl alcohol	0.014	UG/L	0.014	0	1
C	GS	SV-50-05	5	12-Sep-07	127-18-4	Tetrachloroethene	0.0079	UG/L	0.0079	0	1
C	GS	SV-50-05	5	12-Sep-07	75-34-3	1,1-Dichloroethane	0.0047	UG/L	0.0047	0	1
C	GS	SV-50-05	5	12-Sep-07	108-88-3	Toluene	0.0044	UG/L	0.0044	0	1
C	GS	SV-50-05	5	12-Sep-07	75-01-4	Vinyl Chloride	0.003	UG/L	0.003	0	1
C	GS	SV-50-05	5	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.0046	UG/L	0.0046	0	1
C	GS	SV-50-05	5	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.0053	UG/L	0.0053	0	1
C	GS	SV-50-05	5	12-Sep-07	79-01-6	Trichloroethene	0.0063	UG/L	0.0063	0	1
C	GS	SV-50-05	5	12-Sep-07	75-69-4	Trichlorofluoromethane	0.0065	UG/L	0.0065	0	1
C	GS	SV-50-05	5	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
C	GS	SV-50-05	5	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	0.032	UG/L	0.032	0	1
C	GS	SV-50-05	5	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.0064	UG/L	0.0064	0	1
C	GS	SV-50-05	5	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.008	UG/L	0.008	0	1
C	GS	SV-50-05	5	12-Sep-07	179601-23-1	m,p-Xylenes	0.005	UG/L	0.005	0	1
C	GS	SV-50-05	5	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.0064	UG/L	0.0064	0	1
C	GS	SV-50-05	5	12-Sep-07	109-99-9	Tetrahydrofuran	0.0034	UG/L	0.0034	0	1
C	GS	SV-50-05	5	12-Sep-07	75-00-3	Chloroethane	0.0031	UG/L	0.0031	0	1
C	GS	SV-50-05	5	12-Sep-07	110-54-3	Hexane	0.0041	UG/L	0.0041	0	1
C	GS	SV-50-05	5	12-Sep-07	87-68-3	Hexachlorobutadiene	0.05	UG/L	0.05	0	1
C	GS	SV-50-05	5	12-Sep-07	100-41-4	Ethylbenzene	0.005	UG/L	0.005	0	1
C	GS	SV-50-05	5	12-Sep-07	64-17-5	Ethanol	0.0088	UG/L	0.0088	0	1
C	GS	SV-50-05	5	12-Sep-07	75-09-2	Methylene Chloride	0.004	UG/L	0.004	0	1
C	GS	SV-50-05	5	12-Sep-07	124-48-1	Dibromochloromethane	0.0099	UG/L	0.0099	0	1
C	GS	SV-50-05	5	12-Sep-07	110-82-7	Cyclohexane	0.0054	UG/L	0.0054	1	1
C	GS	SV-50-05	5	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.0053	UG/L	0.0053	0	1
C	GS	SV-50-05	5	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.0046	UG/L		0	1
C	GS	SV-50-05	5	12-Sep-07	67-63-0	Isopropyl alcohol	0.013	UG/L	0.013	1	1
C	GS	SV-50-05	5	12-Sep-07	67-66-3	Chloroform	0.0057	UG/L	0.0057	0	1
C	GS	SV-50-05	5	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.019	UG/L	0.019	0	1
C	GS	SV-50-05	5	12-Sep-07	108-90-7	Chlorobenzene	0.0054	UG/L	0.0054	0	1
C	GS	SV-50-05	5	12-Sep-07	56-23-5	Carbon Tetrachloride	0.0073	UG/L	0.0073	0	1
C	GS	SV-50-05	5	12-Sep-07	75-15-0	Carbon Disulfide	0.0036	UG/L	0.0036	0	1
C	GS	SV-50-05	5	12-Sep-07	74-83-9	Bromomethane	0.0045	UG/L	0.0045	0	1
C	GS	SV-50-05	5	12-Sep-07	75-25-2	Bromoform	0.012	UG/L	0.012	0	1
C	GS	SV-50-05	5	12-Sep-07	75-27-4	Bromodichloromethane	0.0078	UG/L	0.0078	0	1
C	GS	SV-50-05	5	12-Sep-07	100-44-7	Benzyl chloride	0.006	UG/L	0.006	0	1
C	GS	SV-50-05	5	12-Sep-07	71-43-2	Benzene	0.0037	UG/L	0.0037	0	1
C	GS	SV-50-05	5	12-Sep-07	107-05-1	Allyl chloride	0.014	UG/L	0.014	0	1
C	GS	SV-50-05	5	12-Sep-07	67-64-1	Acetone	0.011	UG/L	0.011	0	1
C	GS	SV-50-05	5	12-Sep-07	74-87-3	Chloromethane	0.0096	UG/L	0.0096	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-50-05	5	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.0058	UG/L	0.0058	0	1
C	GS	SV-50-15	15	12-Sep-07	75-01-4	Vinyl Chloride	0.0029	UG/L	0.0029	0	1
C	GS	SV-50-15	15	12-Sep-07	108-88-3	Toluene	0.0042	UG/L	0.0042	0	1
C	GS	SV-50-15	15	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
C	GS	SV-50-15	15	12-Sep-07	75-69-4	Trichlorofluoromethane	0.0063	UG/L	0.0063	0	1
C	GS	SV-50-15	15	12-Sep-07	79-01-6	Trichloroethene	0.006	UG/L	0.006	0	1
C	GS	SV-50-15	15	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.0051	UG/L	0.0051	0	1
C	GS	SV-50-15	15	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.0044	UG/L	0.0044	0	1
C	GS	SV-50-15	15	12-Sep-07		Toluene-d8	99	%		1	1
C	GS	SV-50-15	15	12-Sep-07	106-99-0	1,3-Butadiene	0.0025	UG/L	0.0025	0	1
C	GS	SV-50-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.04	ug/L	0.04	0	1
C	GS	SV-50-15	15	12-Sep-07	67-64-1	Acetone	0.011	UG/L	0.011	0	1
C	GS	SV-50-15	15	12-Sep-07	78-93-3	2-Butanone	0.0033	UG/L	0.0033	0	1
C	GS	SV-50-15	15	12-Sep-07	591-78-6	2-Hexanone	0.018	UG/L	0.018	0	1
C	GS	SV-50-15	15	12-Sep-07		4-Bromofluorobenzene	89	%		1	1
C	GS	SV-50-15	15	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.0052	UG/L	0.0052	0	1
C	GS	SV-50-15	15	12-Sep-07	123-91-1	1,4-Dioxane	0.016	UG/L	0.016	0	1
C	GS	SV-50-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
C	GS	SV-50-15	15	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.0067	UG/L	0.0067	0	1
C	GS	SV-50-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0066	ug/L	0.0066	0	1
C	GS	SV-50-15	15	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.0055	UG/L	0.0055	0	1
C	GS	SV-50-15	15	12-Sep-07	78-87-5	1,2-Dichloropropane	0.0052	UG/L	0.0052	0	1
C	GS	SV-50-15	15	12-Sep-07	87-68-3	Hexachlorobutadiene	0.048	UG/L	0.048	0	1
C	GS	SV-50-15	15	12-Sep-07		1,2-Dichloroethane-d4	102	%		1	1
C	GS	SV-50-15	15	12-Sep-07	110-54-3	Hexane	0.0039	UG/L	0.0039	0	1
C	GS	SV-50-15	15	12-Sep-07	107-06-2	1,2-Dichloroethane	0.0045	UG/L	0.0045	0	1
C	GS	SV-50-15	15	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.0067	UG/L	0.0067	0	1
C	GS	SV-50-15	15	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0078	UG/L	0.0078	0	1
C	GS	SV-50-15	15	12-Sep-07	106-93-4	1,2-Dibromoethane	0.0086	UG/L	0.0086	0	1
C	GS	SV-50-15	15	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.0067	UG/L	0.0067	0	1
C	GS	SV-50-15	15	12-Sep-07	75-00-3	Chloroethane	0.003	UG/L	0.003	0	1
C	GS	SV-50-15	15	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.0055	UG/L	0.0055	0	1
C	GS	SV-50-15	15	12-Sep-07	64-17-5	Ethanol	0.0084	UG/L	0.0084	0	1
C	GS	SV-50-15	15	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.019	UG/L	0.019	0	1
C	GS	SV-50-15	15	12-Sep-07	100-41-4	Ethylbenzene	0.0049	UG/L	0.0049	0	1
C	GS	SV-50-15	15	12-Sep-07	110-82-7	Cyclohexane	0.005	UG/L	0.005	1	1
C	GS	SV-50-15	15	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.0051	UG/L	0.0051	0	1
C	GS	SV-50-15	15	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.0044	UG/L		0	1
C	GS	SV-50-15	15	12-Sep-07	74-87-3	Chloromethane	0.0092	UG/L	0.0092	0	1
C	GS	SV-50-15	15	12-Sep-07	107-05-1	Allyl chloride	0.014	UG/L	0.014	0	1
C	GS	SV-50-15	15	12-Sep-07	67-66-3	Chloroform	0.064	UG/L	0.064	1	1
C	GS	SV-50-15	15	12-Sep-07	124-48-1	Dibromochloromethane	0.0095	UG/L	0.0095	0	1
C	GS	SV-50-15	15	12-Sep-07	108-90-7	Chlorobenzene	0.0052	UG/L	0.0052	0	1
C	GS	SV-50-15	15	12-Sep-07	56-23-5	Carbon Tetrachloride	0.007	UG/L	0.007	0	1
C	GS	SV-50-15	15	12-Sep-07	75-15-0	Carbon Disulfide	0.016	UG/L	0.016	1	1
C	GS	SV-50-15	15	12-Sep-07	74-83-9	Bromomethane	0.0043	UG/L	0.0043	0	1
C	GS	SV-50-15	15	12-Sep-07	75-25-2	Bromoform	0.012	UG/L	0.012	0	1
C	GS	SV-50-15	15	12-Sep-07	75-27-4	Bromodichloromethane	0.0075	UG/L	0.0075	0	1
C	GS	SV-50-15	15	12-Sep-07	100-44-7	Benzyl chloride	0.0058	UG/L	0.0058	0	1
C	GS	SV-50-15	15	12-Sep-07	71-43-2	Benzene	0.0036	UG/L	0.0036	0	1
C	GS	SV-50-15	15	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.0055	UG/L	0.0055	0	1
C	GS	SV-50-15	15	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.0046	UG/L	0.0046	0	1
C	GS	SV-50-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0066	ug/L	0.0066	0	1
C	GS	SV-50-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0054	ug/L	0.0054	0	1
C	GS	SV-50-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0073	ug/L	0.0073	0	1
C	GS	SV-50-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
C	GS	SV-50-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0092	ug/L	0.0092	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-50-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0073	ug/L	0.0073	0	1
C	GS	SV-50-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.037	ug/L	0.037	0	1
C	GS	SV-50-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0062	ug/L	0.0062	0	1
C	GS	SV-50-15	15	18-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
C	GS	SV-50-15	15	18-Jul-07	67-66-3	Chloroform	0.032	ug/L	0.032	1	1
C	GS	SV-50-15	15	18-Jul-07	74-87-3	Chloromethane	0.048	ug/L	0.048	1	1
C	GS	SV-50-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0053	ug/L		0	1
C	GS	SV-50-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0061	ug/L	0.0061	0	1
C	GS	SV-50-15	15	18-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
C	GS	SV-50-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
C	GS	SV-50-15	15	18-Jul-07	74-82-8	Methane	0.0027	%		1	1
C	GS	SV-50-15	15	18-Jul-07		Ethane	0.0027	%		0	1
C	GS	SV-50-15	15	18-Jul-07	64-17-5	Ethanol	0.01	ug/L	0.01	0	1
C	GS	SV-50-15	15	18-Jul-07		Ethene	0.0027	%		0	1
C	GS	SV-50-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-50-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.0058	ug/L	0.0058	0	1
C	GS	SV-50-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.057	ug/L	0.057	0	1
C	GS	SV-50-15	15	12-Sep-07	67-63-0	Isopropyl alcohol	0.011	UG/L	0.011	0	1
C	GS	SV-50-15	15	18-Jul-07	110-54-3	Hexane	0.012	ug/L	0.012	1	1
C	GS	SV-50-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0062	ug/L	0.0062	0	1
C	GS	SV-50-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
C	GS	SV-50-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-50-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.0066	ug/L	0.0066	0	1
C	GS	SV-50-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.0058	ug/L	0.0058	0	1
C	GS	SV-50-15	15	18-Jul-07	110-82-7	Cyclohexane	0.011	ug/L	0.011	1	1
C	GS	SV-50-15	15	18-Jul-07	108-88-3	Toluene	0.0069	ug/L	0.0069	1	1
C	GS	SV-50-15	15	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.027	UG/L	0.027	0	1
C	GS	SV-50-15	15	12-Sep-07	75-35-4	1,1-Dichloroethene	0.0044	UG/L	0.0044	0	1
C	GS	SV-50-15	15	12-Sep-07	75-34-3	1,1-Dichloroethane	0.0045	UG/L	0.0045	0	1
C	GS	SV-50-15	15	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.0061	UG/L	0.0061	0	1
C	GS	SV-50-15	15	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0086	UG/L	0.0086	0	1
C	GS	SV-50-15	15	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0077	UG/L	0.0077	0	1
C	GS	SV-50-15	15	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.0061	UG/L	0.0061	0	1
C	GS	SV-50-15	15	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	0.031	UG/L	0.031	0	1
C	GS	SV-50-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
C	GS	SV-50-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-50-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0076	ug/L	0.0076	0	1
C	GS	SV-50-15	15	18-Jul-07	79-01-6	Trichloroethene	0.0072	ug/L	0.0072	0	1
C	GS	SV-50-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0061	ug/L	0.0061	0	1
C	GS	SV-50-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0053	ug/L	0.0053	0	1
C	GS	SV-50-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.0066	ug/L	0.0066	0	1
C	GS	SV-50-15	15	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.033	UG/L	0.033	0	1
C	GS	SV-50-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0047	ug/L	0.0047	0	1
C	GS	SV-50-15	15	18-Jul-07	142-82-5	n-Heptane	0.0055	ug/L	0.0055	0	1
C	GS	SV-50-15	15	18-Jul-07		Nitrogen	82	%		1	1
C	GS	SV-50-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.0066	ug/L	0.0066	0	1
C	GS	SV-50-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0053	ug/L	0.0053	0	1
C	GS	SV-50-15	15	18-Jul-07	95-47-6	o-Xylene	0.0058	ug/L	0.0058	0	1
C	GS	SV-50-15	15	18-Jul-07		Toluene-d8	97	%		1	1
C	GS	SV-50-15	15	18-Jul-07	100-42-5	Styrene	0.0057	ug/L	0.0057	0	1
C	GS	SV-50-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
C	GS	SV-50-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
C	GS	SV-50-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.0091	ug/L	0.0091	0	1
C	GS	SV-50-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.004	ug/L	0.004	0	1
C	GS	SV-50-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
C	GS	SV-50-15	15	18-Jul-07		Oxygen	16	%		1	1
C	GS	SV-50-15	15	18-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-50-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.0085	ug/L	0.0085	0	1
C	GS	SV-50-15	15	18-Jul-07		Carbon Monoxide	0.027	%		0	1
C	GS	SV-50-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.018	ug/L	0.018	1	1
C	GS	SV-50-15	15	12-Sep-07	108-20-3	Isopropyl ether	0.019	UG/L	0.019	0	1
C	GS	SV-50-15	15	18-Jul-07	74-83-9	Bromomethane	0.0052	ug/L	0.0052	0	1
C	GS	SV-50-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.003	ug/L	0.003	0	1
C	GS	SV-50-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.009	ug/L	0.009	0	1
C	GS	SV-50-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.007	ug/L	0.007	0	1
C	GS	SV-50-15	15	18-Jul-07	71-43-2	Benzene	0.02	ug/L	0.02	1	1
C	GS	SV-50-15	15	18-Jul-07	107-05-1	Allyl chloride	0.017	ug/L	0.017	0	1
C	GS	SV-50-15	15	18-Jul-07	67-64-1	Acetone	0.036	ug/L	0.036	1	1
C	GS	SV-50-15	15	12-Sep-07	109-99-9	Tetrahydrofuran	0.0033	UG/L	0.0033	0	1
C	GS	SV-50-15	15	18-Jul-07		4-Bromofluorobenzene	101	%		1	1
C	GS	SV-50-15	15	18-Jul-07		Carbon Dioxide	1.7	%		1	1
C	GS	SV-50-15	15	18-Jul-07	78-93-3	2-Butanone	0.018	ug/L	0.018	1	1
C	GS	SV-50-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0063	ug/L	0.0063	0	1
C	GS	SV-50-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
C	GS	SV-50-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
C	GS	SV-50-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
C	GS	SV-50-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0066	ug/L	0.0066	0	1
C	GS	SV-50-15	15	18-Jul-07		1,2-Dichloroethane-d4	108	%		1	1
C	GS	SV-50-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0054	ug/L	0.0054	0	1
C	GS	SV-50-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
C	GS	SV-50-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
C	GS	SV-50-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0094	ug/L	0.0094	0	1
C	GS	SV-50-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0055	ug/L	0.0055	0	1
C	GS	SV-50-15	15	12-Sep-07	95-47-6	o-Xylene	0.0049	UG/L	0.0049	0	1
C	GS	SV-50-15	15	12-Sep-07	98-82-8	Isopropylbenzene	0.0055	UG/L	0.0055	0	1
C	GS	SV-50-15	15	12-Sep-07	179601-23-1	m,p-Xylenes	0.0049	UG/L	0.0049	0	1
C	GS	SV-50-15	15	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.004	UG/L	0.004	0	1
C	GS	SV-50-15	15	12-Sep-07	75-09-2	Methylene Chloride	0.0039	UG/L	0.0039	0	1
C	GS	SV-50-15	15	12-Sep-07	91-20-3	Naphthalene	0.023	UG/L	0.023	0	1
C	GS	SV-50-15	15	12-Sep-07	142-82-5	n-Heptane	0.0046	UG/L	0.0046	0	1
C	GS	SV-50-15	15	18-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
C	GS	SV-50-15	15	12-Sep-07	103-65-1	n-Propylbenzene	0.0055	UG/L	0.0055	0	1
C	GS	SV-50-15	15	12-Sep-07	622-96-8	p-Ethyltoluene	0.0055	UG/L	0.0055	0	1
C	GS	SV-50-15	15	12-Sep-07	100-42-5	Styrene	0.0048	UG/L	0.0048	0	1
C	GS	SV-50-15	15	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.019	UG/L	0.019	0	1
C	GS	SV-50-15	15	12-Sep-07	75-65-0	tert-Butyl alcohol	0.014	UG/L	0.014	0	1
C	GS	SV-50-15	15	12-Sep-07	127-18-4	Tetrachloroethene	0.0076	UG/L	0.0076	0	1
C	GS	SV-50-5	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.008	ug/L	0.008	0	1
C	GS	SV-50-5	5	18-Jul-07	75-27-4	Bromodichloromethane	0.0085	ug/L	0.0085	0	1
C	GS	SV-50-5	5	18-Jul-07		4-Bromofluorobenzene	101	%		1	1
C	GS	SV-50-5	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0052	ug/L	0.0052	0	1
C	GS	SV-50-5	5	18-Jul-07	67-64-1	Acetone	0.04	ug/L	0.04	1	1
C	GS	SV-50-5	5	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
C	GS	SV-50-5	5	18-Jul-07	71-43-2	Benzene	0.004	ug/L	0.004	0	1
C	GS	SV-50-5	5	18-Jul-07	100-44-7	Benzyl chloride	0.0065	ug/L	0.0065	0	1
C	GS	SV-50-5	5	18-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
C	GS	SV-50-5	5	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
C	GS	SV-50-5	5	18-Jul-07	74-83-9	Bromomethane	0.0049	ug/L	0.0049	0	1
C	GS	SV-50-5	5	18-Jul-07		Carbon Dioxide	3.1	%		1	1
C	GS	SV-50-5	5	18-Jul-07	78-93-3	2-Butanone	0.0037	ug/L	0.0037	0	1
C	GS	SV-50-5	5	18-Jul-07		Carbon Monoxide	0.025	%		0	1
C	GS	SV-50-5	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
C	GS	SV-50-5	5	18-Jul-07	108-90-7	Chlorobenzene	0.0058	ug/L	0.0058	0	1
C	GS	SV-50-5	5	18-Jul-07	67-66-3	Chloroform	0.0062	ug/L	0.0062	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-50-5	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.005	ug/L		0	1
C	GS	SV-50-5	5	18-Jul-07	75-15-0	Carbon Disulfide	0.068	ug/L	0.068	1	1
C	GS	SV-50-5	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0051	ug/L	0.0051	0	1
C	GS	SV-50-5	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0069	ug/L	0.0069	0	1
C	GS	SV-50-5	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0051	ug/L	0.0051	0	1
C	GS	SV-50-5	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.005	ug/L	0.005	0	1
C	GS	SV-50-5	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
C	GS	SV-50-5	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
C	GS	SV-50-5	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0062	ug/L	0.0062	0	1
C	GS	SV-50-5	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0097	ug/L	0.0097	0	1
C	GS	SV-50-5	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
C	GS	SV-50-5	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
C	GS	SV-50-5	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0059	ug/L	0.0059	0	1
C	GS	SV-50-5	5	18-Jul-07		1,2-Dichloroethane-d4	111	%		1	1
C	GS	SV-50-5	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0058	ug/L	0.0058	0	1
C	GS	SV-50-5	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0062	ug/L	0.0062	0	1
C	GS	SV-50-5	5	18-Jul-07	64-17-5	Ethanol	0.024	ug/L	0.024	1	1
C	GS	SV-50-5	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
C	GS	SV-50-5	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
C	GS	SV-50-5	5	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
C	GS	SV-50-5	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	ug/L	0.0088	0	1
C	GS	SV-50-5	5	18-Jul-07	108-88-3	Toluene	0.0048	ug/L	0.0048	0	1
C	GS	SV-50-5	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0062	ug/L	0.0062	0	1
C	GS	SV-50-5	5	18-Jul-07		Oxygen	18	%		1	1
C	GS	SV-50-5	5	18-Jul-07	95-47-6	o-Xylene	0.0055	ug/L	0.0055	0	1
C	GS	SV-50-5	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.0062	ug/L	0.0062	0	1
C	GS	SV-50-5	5	18-Jul-07	100-42-5	Styrene	0.0054	ug/L	0.0054	0	1
C	GS	SV-50-5	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
C	GS	SV-50-5	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
C	GS	SV-50-5	5	18-Jul-07		Nitrogen	79	%		1	1
C	GS	SV-50-5	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0037	ug/L	0.0037	0	1
C	GS	SV-50-5	5	18-Jul-07	142-82-5	n-Heptane	0.0052	ug/L	0.0052	0	1
C	GS	SV-50-5	5	18-Jul-07		Toluene-d8	100	%		1	1
C	GS	SV-50-5	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.005	ug/L	0.005	0	1
C	GS	SV-50-5	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
C	GS	SV-50-5	5	18-Jul-07	79-01-6	Trichloroethene	0.0068	ug/L	0.0068	0	1
C	GS	SV-50-5	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0071	ug/L	0.0071	0	1
C	GS	SV-50-5	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-50-5	5	18-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
C	GS	SV-50-5	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0086	ug/L	0.0086	0	1
C	GS	SV-50-5	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
C	GS	SV-50-5	5	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
C	GS	SV-50-5	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	ug/L	0.0097	0	1
C	GS	SV-50-5	5	18-Jul-07		Ethane	0.0025	%		0	1
C	GS	SV-50-5	5	18-Jul-07	75-00-3	Chloroethane	0.0033	ug/L	0.0033	0	1
C	GS	SV-50-5	5	18-Jul-07		Ethene	0.0025	%		0	1
C	GS	SV-50-5	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
C	GS	SV-50-5	5	18-Jul-07	100-41-4	Ethylbenzene	0.0055	ug/L	0.0055	0	1
C	GS	SV-50-5	5	18-Jul-07	103-65-1	n-Propylbenzene	0.0062	ug/L	0.0062	0	1
C	GS	SV-50-5	5	18-Jul-07	110-54-3	Hexane	0.0063	ug/L	0.0063	1	1
C	GS	SV-50-5	5	18-Jul-07	110-82-7	Cyclohexane	0.0044	ug/L	0.0044	0	1
C	GS	SV-50-5	5	18-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
C	GS	SV-50-5	5	18-Jul-07	98-82-8	Isopropylbenzene	0.0062	ug/L	0.0062	0	1
C	GS	SV-50-5	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.0055	ug/L	0.0055	0	1
C	GS	SV-50-5	5	18-Jul-07	74-82-8	Methane	0.00025	%		0	1
C	GS	SV-50-5	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
C	GS	SV-50-5	5	18-Jul-07	75-09-2	Methylene chloride	0.12	ug/L	0.12	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-50-5	5	18-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
C	GS	SV-50-5	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.054	ug/L	0.054	0	1
C	GS	SV-50-5	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0069	ug/L	0.0069	0	1
C	GS	SV-50-5	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
C	GS	SV-50-5	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	ug/L	0.0087	0	1
C	GS	SV-50-5	5	18-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
C	GS	SV-51-05	5	19-Jul-07		Ethane	0.0023	%		0	1
C	GS	SV-51-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.0086	ug/L	0.0086	1	1
C	GS	SV-51-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.0057	ug/L	0.0057	0	1
C	GS	SV-51-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.019	ug/L	0.019	0	1
C	GS	SV-51-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.011	ug/L	0.011	0	1
C	GS	SV-51-05	5	19-Jul-07	110-54-3	Hexane	0.0052	ug/L	0.0052	1	1
C	GS	SV-51-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.05	ug/L	0.05	0	1
C	GS	SV-51-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.005	ug/L	0.005	0	1
C	GS	SV-51-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.019	ug/L	0.019	0	1
C	GS	SV-51-05	5	19-Jul-07	64-17-5	Ethanol	0.0088	ug/L	0.0088	0	1
C	GS	SV-51-05	5	19-Jul-07	91-20-3	Naphthalene	0.024	ug/L	0.024	0	1
C	GS	SV-51-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0058	ug/L	0.0058	0	1
C	GS	SV-51-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.0099	ug/L	0.0099	0	1
C	GS	SV-51-05	5	19-Jul-07	110-82-7	Cyclohexane	0.0096	ug/L	0.0096	1	1
C	GS	SV-51-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0053	ug/L	0.0053	0	1
C	GS	SV-51-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0046	ug/L		0	1
C	GS	SV-51-05	5	19-Jul-07	74-87-3	Chloromethane	0.0096	ug/L	0.0096	0	1
C	GS	SV-51-05	5	19-Jul-07		Ethene	0.0023	%		0	1
C	GS	SV-51-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.0057	ug/L	0.0057	0	1
C	GS	SV-51-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0053	ug/L	0.0053	0	1
C	GS	SV-51-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0046	ug/L	0.0046	0	1
C	GS	SV-51-05	5	19-Jul-07		Toluene-d8	96	%		1	1
C	GS	SV-51-05	5	19-Jul-07	108-88-3	Toluene	0.0045	ug/L	0.0045	1	1
C	GS	SV-51-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.0034	ug/L	0.0034	0	1
C	GS	SV-51-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.0079	ug/L	0.0079	0	1
C	GS	SV-51-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.014	ug/L	0.014	0	1
C	GS	SV-51-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0042	ug/L	0.0042	0	1
C	GS	SV-51-05	5	19-Jul-07	100-42-5	Styrene	0.005	ug/L	0.005	0	1
C	GS	SV-51-05	5	19-Jul-07	74-82-8	Methane	0.00023	%		0	1
C	GS	SV-51-05	5	19-Jul-07	95-47-6	o-Xylene	0.0052	ug/L	0.0052	1	1
C	GS	SV-51-05	5	19-Jul-07		Oxygen	19	%		1	1
C	GS	SV-51-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.0057	ug/L	0.0057	0	1
C	GS	SV-51-05	5	19-Jul-07		Nitrogen	78	%		1	1
C	GS	SV-51-05	5	19-Jul-07	142-82-5	n-Heptane	0.0074	ug/L	0.0074	1	1
C	GS	SV-51-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.0054	ug/L	0.0054	0	1
C	GS	SV-51-05	5	19-Jul-07	75-09-2	Methylene chloride	0.004	ug/L	0.004	0	1
C	GS	SV-51-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.019	ug/L	0.019	0	1
C	GS	SV-51-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.034	ug/L	0.034	0	1
C	GS	SV-51-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.0026	ug/L	0.0026	0	1
C	GS	SV-51-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0057	ug/L	0.0057	0	1
C	GS	SV-51-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0054	ug/L	0.0054	0	1
C	GS	SV-51-05	5	19-Jul-07		1,2-Dichloroethane-d4	109	%		1	1
C	GS	SV-51-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0047	ug/L	0.0047	0	1
C	GS	SV-51-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.007	ug/L	0.007	0	1
C	GS	SV-51-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0081	ug/L	0.0081	0	1
C	GS	SV-51-05	5	19-Jul-07	67-66-3	Chloroform	0.0057	ug/L	0.0057	0	1
C	GS	SV-51-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0059	ug/L	0.0059	1	1
C	GS	SV-51-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.017	ug/L	0.017	0	1
C	GS	SV-51-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.028	ug/L	0.028	0	1
C	GS	SV-51-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0046	ug/L	0.0046	0	1
C	GS	SV-51-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0047	ug/L	0.0047	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-51-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0064	ug/L	0.0064	0	1
C	GS	SV-51-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0089	ug/L	0.0089	0	1
C	GS	SV-51-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.008	ug/L	0.008	0	1
C	GS	SV-51-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0064	ug/L	0.0064	0	1
C	GS	SV-51-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.009	ug/L	0.009	0	1
C	GS	SV-51-05	5	19-Jul-07	71-43-2	Benzene	0.01	ug/L	0.01	1	1
C	GS	SV-51-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-51-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.0073	ug/L	0.0073	0	1
C	GS	SV-51-05	5	19-Jul-07		Carbon Monoxide	0.023	%		0	1
C	GS	SV-51-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.0036	ug/L	0.0036	0	1
C	GS	SV-51-05	5	19-Jul-07		Carbon Dioxide	3.2	%		1	1
C	GS	SV-51-05	5	19-Jul-07	74-83-9	Bromomethane	0.0045	ug/L	0.0045	0	1
C	GS	SV-51-05	5	19-Jul-07	75-25-2	Bromoform	0.012	ug/L	0.012	0	1
C	GS	SV-51-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.007	ug/L	0.007	0	1
C	GS	SV-51-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.006	ug/L	0.006	0	1
C	GS	SV-51-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.007	ug/L	0.007	0	1
C	GS	SV-51-05	5	19-Jul-07	107-05-1	Allyl chloride	0.014	ug/L	0.014	0	1
C	GS	SV-51-05	5	19-Jul-07	67-64-1	Acetone	0.014	ug/L	0.014	1	1
C	GS	SV-51-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0048	ug/L	0.0048	0	1
C	GS	SV-51-05	5	19-Jul-07		4-Bromofluorobenzene	101	%		1	1
C	GS	SV-51-05	5	19-Jul-07	591-78-6	2-Hexanone	0.019	ug/L	0.019	0	1
C	GS	SV-51-05	5	19-Jul-07	78-93-3	2-Butanone	0.0078	ug/L	0.0078	1	1
C	GS	SV-51-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0054	ug/L	0.0054	0	1
C	GS	SV-51-05	5	19-Jul-07	75-00-3	Chloroethane	0.0031	ug/L	0.0031	0	1
C	GS	SV-51-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.0078	ug/L	0.0078	0	1
C	GS	SV-51-05	5	12-Sep-07	100-44-7	Benzyl chloride	0.0058	UG/L	0.0058	0	1
C	GS	SV-51-05	5	12-Sep-07	108-90-7	Chlorobenzene	0.0052	UG/L	0.0052	0	1
C	GS	SV-51-05	5	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.0052	UG/L	0.0052	0	1
C	GS	SV-51-05	5	12-Sep-07	78-93-3	2-Butanone	0.0033	UG/L	0.0033	0	1
C	GS	SV-51-05	5	12-Sep-07	591-78-6	2-Hexanone	0.018	UG/L	0.018	0	1
C	GS	SV-51-05	5	12-Sep-07		4-Bromofluorobenzene	90	%		1	1
C	GS	SV-51-05	5	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.0046	UG/L	0.0046	0	1
C	GS	SV-51-05	5	12-Sep-07	67-64-1	Acetone	0.019	UG/L	0.019	1	1
C	GS	SV-51-05	5	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.0067	UG/L	0.0067	0	1
C	GS	SV-51-05	5	12-Sep-07	71-43-2	Benzene	0.0036	UG/L	0.0036	0	1
C	GS	SV-51-05	5	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.0067	UG/L	0.0067	0	1
C	GS	SV-51-05	5	12-Sep-07	75-27-4	Bromodichloromethane	0.0075	UG/L	0.0075	0	1
C	GS	SV-51-05	5	12-Sep-07	75-25-2	Bromoform	0.012	UG/L	0.012	0	1
C	GS	SV-51-05	5	12-Sep-07	74-83-9	Bromomethane	0.0043	UG/L	0.0043	0	1
C	GS	SV-51-05	5	12-Sep-07		1,2-Dichloroethane-d4	105	%		1	1
C	GS	SV-51-05	5	12-Sep-07	75-15-0	Carbon Disulfide	0.0035	UG/L	0.0035	0	1
C	GS	SV-51-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.032	ug/L	0.032	0	1
C	GS	SV-51-05	5	19-Jul-07	79-01-6	Trichloroethene	0.0063	ug/L	0.0063	0	1
C	GS	SV-51-05	5	12-Sep-07	107-05-1	Allyl chloride	0.014	UG/L	0.014	0	1
C	GS	SV-51-05	5	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.033	UG/L	0.033	0	1
C	GS	SV-51-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.003	ug/L	0.003	0	1
C	GS	SV-51-05	5	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	0.031	UG/L	0.031	0	1
C	GS	SV-51-05	5	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.0061	UG/L	0.0061	0	1
C	GS	SV-51-05	5	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0077	UG/L	0.0077	0	1
C	GS	SV-51-05	5	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0086	UG/L	0.0086	0	1
C	GS	SV-51-05	5	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.0061	UG/L	0.0061	0	1
C	GS	SV-51-05	5	12-Sep-07	75-34-3	1,1-Dichloroethane	0.0045	UG/L	0.0045	0	1
C	GS	SV-51-05	5	12-Sep-07	123-91-1	1,4-Dioxane	0.016	UG/L	0.016	0	1
C	GS	SV-51-05	5	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.027	UG/L	0.027	0	1
C	GS	SV-51-05	5	12-Sep-07	75-00-3	Chloroethane	0.003	UG/L	0.003	0	1
C	GS	SV-51-05	5	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.0055	UG/L	0.0055	0	1
C	GS	SV-51-05	5	12-Sep-07	106-93-4	1,2-Dibromoethane	0.0086	UG/L	0.0086	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-51-05	5	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0078	UG/L	0.0078	0	1
C	GS	SV-51-05	5	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.0067	UG/L	0.0067	0	1
C	GS	SV-51-05	5	12-Sep-07	107-06-2	1,2-Dichloroethane	0.0045	UG/L	0.0045	0	1
C	GS	SV-51-05	5	12-Sep-07	78-87-5	1,2-Dichloropropane	0.0052	UG/L	0.0052	0	1
C	GS	SV-51-05	5	12-Sep-07	106-99-0	1,3-Butadiene	0.0025	UG/L	0.0025	0	1
C	GS	SV-51-05	5	12-Sep-07	75-35-4	1,1-Dichloroethene	0.0044	UG/L	0.0044	0	1
C	GS	SV-51-05	5	12-Sep-07	108-88-3	Toluene	0.0042	UG/L	0.0042	0	1
C	GS	SV-51-05	5	12-Sep-07	56-23-5	Carbon Tetrachloride	0.007	UG/L	0.007	0	1
C	GS	SV-51-05	5	12-Sep-07	103-65-1	n-Propylbenzene	0.0055	UG/L	0.0055	0	1
C	GS	SV-51-05	5	12-Sep-07	95-47-6	o-Xylene	0.0049	UG/L	0.0049	0	1
C	GS	SV-51-05	5	12-Sep-07	622-96-8	p-Ethyltoluene	0.0055	UG/L	0.0055	0	1
C	GS	SV-51-05	5	12-Sep-07	100-42-5	Styrene	0.0048	UG/L	0.0048	0	1
C	GS	SV-51-05	5	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.019	UG/L	0.019	0	1
C	GS	SV-51-05	5	12-Sep-07	75-65-0	tert-Butyl alcohol	0.014	UG/L	0.014	0	1
C	GS	SV-51-05	5	12-Sep-07	91-20-3	Naphthalene	0.023	UG/L	0.023	0	1
C	GS	SV-51-05	5	12-Sep-07	109-99-9	Tetrahydrofuran	0.0033	UG/L	0.0033	0	1
C	GS	SV-51-05	5	12-Sep-07	75-09-2	Methylene Chloride	0.0039	UG/L	0.0039	0	1
C	GS	SV-51-05	5	12-Sep-07		Toluene-d8	99	%		1	1
C	GS	SV-51-05	5	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.0044	UG/L	0.0044	0	1
C	GS	SV-51-05	5	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.0051	UG/L	0.0051	0	1
C	GS	SV-51-05	5	12-Sep-07	79-01-6	Trichloroethene	0.006	UG/L	0.006	0	1
C	GS	SV-51-05	5	12-Sep-07	75-69-4	Trichlorofluoromethane	0.0063	UG/L	0.0063	0	1
C	GS	SV-51-05	5	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
C	GS	SV-51-05	5	12-Sep-07	75-01-4	Vinyl Chloride	0.0029	UG/L	0.0029	0	1
C	GS	SV-51-05	5	12-Sep-07	127-18-4	Tetrachloroethene	0.0076	UG/L	0.0076	0	1
C	GS	SV-51-05	5	12-Sep-07	100-41-4	Ethylbenzene	0.0049	UG/L	0.0049	0	1
C	GS	SV-51-05	5	12-Sep-07	67-66-3	Chloroform	0.0055	UG/L	0.0055	0	1
C	GS	SV-51-05	5	12-Sep-07	74-87-3	Chloromethane	0.0092	UG/L	0.0092	0	1
C	GS	SV-51-05	5	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.0044	UG/L		0	1
C	GS	SV-51-05	5	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.0051	UG/L	0.0051	0	1
C	GS	SV-51-05	5	12-Sep-07	110-82-7	Cyclohexane	0.03	UG/L	0.03	1	1
C	GS	SV-51-05	5	12-Sep-07	124-48-1	Dibromochloromethane	0.0095	UG/L	0.0095	0	1
C	GS	SV-51-05	5	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.0055	UG/L	0.0055	0	1
C	GS	SV-51-05	5	12-Sep-07	142-82-5	n-Heptane	0.0046	UG/L	0.0046	0	1
C	GS	SV-51-05	5	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.019	UG/L	0.019	0	1
C	GS	SV-51-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0065	ug/L	0.0065	0	1
C	GS	SV-51-05	5	12-Sep-07	87-68-3	Hexachlorobutadiene	0.048	UG/L	0.048	0	1
C	GS	SV-51-05	5	12-Sep-07	110-54-3	Hexane	0.0039	UG/L	0.0039	0	1
C	GS	SV-51-05	5	12-Sep-07	67-63-0	Isopropyl alcohol	0.019	UG/L	0.019	1	1
C	GS	SV-51-05	5	12-Sep-07	108-20-3	Isopropyl ether	0.019	UG/L	0.019	0	1
C	GS	SV-51-05	5	12-Sep-07	98-82-8	Isopropylbenzene	0.0055	UG/L	0.0055	0	1
C	GS	SV-51-05	5	12-Sep-07	179601-23-1	m,p-Xylenes	0.0049	UG/L	0.0049	0	1
C	GS	SV-51-05	5	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.004	UG/L	0.004	0	1
C	GS	SV-51-05	5	12-Sep-07	64-17-5	Ethanol	0.0084	UG/L	0.0084	0	1
C	GS	SV-51-05	5	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.0055	UG/L	0.0055	0	1
C	GS	SV-51-15	15	19-Jul-07	64-17-5	Ethanol	0.0088	ug/L	0.0088	0	1
C	GS	SV-51-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	0.1	ug/L	0.1	1	1
C	GS	SV-51-15	15	19-Jul-07	98-82-8	Isopropylbenzene	0.0057	ug/L	0.0057	0	1
C	GS	SV-51-15	15	19-Jul-07	108-20-3	Isopropyl ether	0.019	ug/L	0.019	0	1
C	GS	SV-51-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	0.011	ug/L	0.011	0	1
C	GS	SV-51-15	15	19-Jul-07	110-54-3	Hexane	0.0041	ug/L	0.0041	0	1
C	GS	SV-51-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	0.05	ug/L	0.05	0	1
C	GS	SV-51-15	15	19-Jul-07	100-41-4	Ethylbenzene	0.022	ug/L	0.022	1	1
C	GS	SV-51-15	15	19-Jul-07	79-01-6	Trichloroethene	0.0063	ug/L	0.0063	0	1
C	GS	SV-51-15	15	19-Jul-07		Ethene	0.0023	%		0	1
C	GS	SV-51-15	15	19-Jul-07	75-09-2	Methylene chloride	0.004	ug/L	0.004	0	1
C	GS	SV-51-15	15	19-Jul-07		Ethane	0.0023	%		0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-51-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0058	ug/L	0.0058	0	1
C	GS	SV-51-15	15	19-Jul-07	124-48-1	Dibromochloromethane	0.0099	ug/L	0.0099	0	1
C	GS	SV-51-15	15	19-Jul-07	110-82-7	Cyclohexane	0.028	ug/L	0.028	1	1
C	GS	SV-51-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0053	ug/L	0.0053	0	1
C	GS	SV-51-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0046	ug/L		0	1
C	GS	SV-51-15	15	19-Jul-07	74-87-3	Chloromethane	0.0096	ug/L	0.0096	0	1
C	GS	SV-51-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.019	ug/L	0.019	0	1
C	GS	SV-51-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	0.037	ug/L	0.037	1	1
C	GS	SV-51-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0053	ug/L	0.0053	0	1
C	GS	SV-51-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0046	ug/L	0.0046	0	1
C	GS	SV-51-15	15	19-Jul-07		Toluene-d8	99	%		1	1
C	GS	SV-51-15	15	19-Jul-07	108-88-3	Toluene	0.086	ug/L	0.086	1	1
C	GS	SV-51-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	0.0073	ug/L	0.0073	1	1
C	GS	SV-51-15	15	19-Jul-07	127-18-4	Tetrachloroethene	0.0079	ug/L	0.0079	0	1
C	GS	SV-51-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	0.014	ug/L	0.014	0	1
C	GS	SV-51-15	15	19-Jul-07	74-82-8	Methane	0.00023	%		0	1
C	GS	SV-51-15	15	19-Jul-07	100-42-5	Styrene	0.005	ug/L	0.005	0	1
C	GS	SV-51-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0042	ug/L	0.0042	0	1
C	GS	SV-51-15	15	19-Jul-07	95-47-6	o-Xylene	0.034	ug/L	0.034	1	1
C	GS	SV-51-15	15	19-Jul-07		Oxygen	12	%		1	1
C	GS	SV-51-15	15	19-Jul-07	103-65-1	n-Propylbenzene	0.009	ug/L	0.009	1	1
C	GS	SV-51-15	15	19-Jul-07		Nitrogen	76	%		1	1
C	GS	SV-51-15	15	19-Jul-07	142-82-5	n-Heptane	0.0052	ug/L	0.0052	1	1
C	GS	SV-51-15	15	19-Jul-07	91-20-3	Naphthalene	0.024	ug/L	0.024	0	1
C	GS	SV-51-15	15	19-Jul-07	108-90-7	Chlorobenzene	0.0054	ug/L	0.0054	0	1
C	GS	SV-51-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.019	ug/L	0.019	0	1
C	GS	SV-51-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.039	ug/L	0.039	1	1
C	GS	SV-51-15	15	19-Jul-07	67-66-3	Chloroform	0.012	ug/L	0.012	1	1
C	GS	SV-51-15	15	19-Jul-07	106-99-0	1,3-Butadiene	0.0058	ug/L	0.0058	1	1
C	GS	SV-51-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.013	ug/L	0.013	1	1
C	GS	SV-51-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0054	ug/L	0.0054	0	1
C	GS	SV-51-15	15	19-Jul-07		1,2-Dichloroethane-d4	101	%		1	1
C	GS	SV-51-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0047	ug/L	0.0047	0	1
C	GS	SV-51-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.007	ug/L	0.007	0	1
C	GS	SV-51-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.007	ug/L	0.007	0	1
C	GS	SV-51-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	0.009	ug/L	0.009	0	1
C	GS	SV-51-15	15	19-Jul-07	123-91-1	1,4-Dioxane	0.017	ug/L	0.017	0	1
C	GS	SV-51-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.034	ug/L	0.034	0	1
C	GS	SV-51-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.028	ug/L	0.028	0	1
C	GS	SV-51-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0047	ug/L	0.0047	0	1
C	GS	SV-51-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0089	ug/L	0.0089	0	1
C	GS	SV-51-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.008	ug/L	0.008	0	1
C	GS	SV-51-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0064	ug/L	0.0064	0	1
C	GS	SV-51-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.032	ug/L	0.032	0	1
C	GS	SV-51-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0081	ug/L	0.0081	0	1
C	GS	SV-51-15	15	19-Jul-07	71-43-2	Benzene	0.019	ug/L	0.019	1	1
C	GS	SV-51-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0046	ug/L	0.0046	0	1
C	GS	SV-51-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	0.0073	ug/L	0.0073	0	1
C	GS	SV-51-15	15	19-Jul-07		Carbon Monoxide	0.023	%		0	1
C	GS	SV-51-15	15	19-Jul-07	75-15-0	Carbon Disulfide	0.093	ug/L	0.093	1	1
C	GS	SV-51-15	15	19-Jul-07		Carbon Dioxide	12	%		1	1
C	GS	SV-51-15	15	19-Jul-07	74-83-9	Bromomethane	0.0045	ug/L	0.0045	0	1
C	GS	SV-51-15	15	19-Jul-07	75-25-2	Bromoform	0.012	ug/L	0.012	0	1
C	GS	SV-51-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.007	ug/L	0.007	0	1
C	GS	SV-51-15	15	19-Jul-07	100-44-7	Benzyl chloride	0.006	ug/L	0.006	0	1
C	GS	SV-51-15	15	19-Jul-07	75-00-3	Chloroethane	0.0031	ug/L	0.0031	0	1
C	GS	SV-51-15	15	19-Jul-07	107-05-1	Allyl chloride	0.014	ug/L	0.014	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-51-15	15	19-Jul-07	67-64-1	Acetone	0.091	ug/L	0.091	1	1
C	GS	SV-51-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0048	ug/L	0.0048	0	1
C	GS	SV-51-15	15	19-Jul-07		4-Bromofluorobenzene	96	%		1	1
C	GS	SV-51-15	15	19-Jul-07	591-78-6	2-Hexanone	0.019	ug/L	0.019	0	1
C	GS	SV-51-15	15	19-Jul-07	78-93-3	2-Butanone	0.1	ug/L	0.1	1	1
C	GS	SV-51-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0054	ug/L	0.0054	0	1
C	GS	SV-51-15	15	19-Jul-07	75-27-4	Bromodichloromethane	0.0078	ug/L	0.0078	0	1
C	GS	SV-51-15	15	12-Sep-07	64-17-5	Ethanol	0.0088	UG/L	0.0088	0	1
C	GS	SV-51-15	15	12-Sep-07	75-00-3	Chloroethane	0.0031	UG/L	0.0031	0	1
C	GS	SV-51-15	15	12-Sep-07	179601-23-1	m,p-Xylenes	0.018	UG/L	0.018	1	1
C	GS	SV-51-15	15	12-Sep-07	98-82-8	Isopropylbenzene	0.0057	UG/L	0.0057	0	1
C	GS	SV-51-15	15	12-Sep-07	108-20-3	Isopropyl ether	0.019	UG/L	0.019	0	1
C	GS	SV-51-15	15	12-Sep-07	67-63-0	Isopropyl alcohol	0.024	UG/L	0.024	1	1
C	GS	SV-51-15	15	12-Sep-07	110-54-3	Hexane	0.0041	UG/L	0.0041	0	1
C	GS	SV-51-15	15	12-Sep-07	87-68-3	Hexachlorobutadiene	0.05	UG/L	0.05	0	1
C	GS	SV-51-15	15	12-Sep-07	75-09-2	Methylene Chloride	0.004	UG/L	0.004	0	1
C	GS	SV-51-15	15	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.019	UG/L	0.019	0	1
C	GS	SV-51-15	15	12-Sep-07	91-20-3	Naphthalene	0.024	UG/L	0.024	0	1
C	GS	SV-51-15	15	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.0058	UG/L	0.0058	0	1
C	GS	SV-51-15	15	12-Sep-07	124-48-1	Dibromochloromethane	0.0099	UG/L	0.0099	0	1
C	GS	SV-51-15	15	12-Sep-07	110-82-7	Cyclohexane	0.012	UG/L	0.012	1	1
C	GS	SV-51-15	15	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.0053	UG/L	0.0053	0	1
C	GS	SV-51-15	15	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.0046	UG/L		0	1
C	GS	SV-51-15	15	12-Sep-07	74-87-3	Chloromethane	0.0096	UG/L	0.0096	0	1
C	GS	SV-51-15	15	12-Sep-07	67-66-3	Chloroform	0.012	UG/L	0.012	1	1
C	GS	SV-51-15	15	12-Sep-07	100-41-4	Ethylbenzene	0.005	UG/L	0.005	0	1
C	GS	SV-51-15	15	12-Sep-07	127-18-4	Tetrachloroethene	0.0079	UG/L	0.0079	0	1
C	GS	SV-51-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0064	ug/L	0.0064	0	1
C	GS	SV-51-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0065	ug/L	0.0065	0	1
C	GS	SV-51-15	15	12-Sep-07	75-01-4	Vinyl Chloride	0.003	UG/L	0.003	0	1
C	GS	SV-51-15	15	12-Sep-07	75-69-4	Trichlorofluoromethane	0.0065	UG/L	0.0065	0	1
C	GS	SV-51-15	15	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.0053	UG/L	0.0053	0	1
C	GS	SV-51-15	15	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.0046	UG/L	0.0046	0	1
C	GS	SV-51-15	15	12-Sep-07		Toluene-d8	99	%		1	1
C	GS	SV-51-15	15	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.0042	UG/L	0.0042	0	1
C	GS	SV-51-15	15	12-Sep-07	109-99-9	Tetrahydrofuran	0.0034	UG/L	0.0034	0	1
C	GS	SV-51-15	15	12-Sep-07	79-01-6	Trichloroethene	0.0063	UG/L	0.0063	0	1
C	GS	SV-51-15	15	12-Sep-07	75-65-0	tert-Butyl alcohol	0.014	UG/L	0.014	0	1
C	GS	SV-51-15	15	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.019	UG/L	0.019	0	1
C	GS	SV-51-15	15	12-Sep-07	100-42-5	Styrene	0.005	UG/L	0.005	0	1
C	GS	SV-51-15	15	12-Sep-07	622-96-8	p-Ethyltoluene	0.013	UG/L	0.013	1	1
C	GS	SV-51-15	15	12-Sep-07	95-47-6	o-Xylene	0.008	UG/L	0.008	1	1
C	GS	SV-51-15	15	12-Sep-07	103-65-1	n-Propylbenzene	0.0057	UG/L	0.0057	0	1
C	GS	SV-51-15	15	12-Sep-07	142-82-5	n-Heptane	0.0048	UG/L	0.0048	0	1
C	GS	SV-51-15	15	12-Sep-07	108-88-3	Toluene	0.0049	UG/L	0.0049	1	1
C	GS	SV-51-15	15	12-Sep-07	75-34-3	1,1-Dichloroethane	0.0047	UG/L	0.0047	0	1
C	GS	SV-51-15	15	12-Sep-07		1,2-Dichloroethane-d4	109	%		1	1
C	GS	SV-51-15	15	12-Sep-07	107-06-2	1,2-Dichloroethane	0.0047	UG/L	0.0047	0	1
C	GS	SV-51-15	15	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.007	UG/L	0.007	0	1
C	GS	SV-51-15	15	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0081	UG/L	0.0081	0	1
C	GS	SV-51-15	15	12-Sep-07	106-93-4	1,2-Dibromoethane	0.009	UG/L	0.009	0	1
C	GS	SV-51-15	15	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.02	UG/L	0.02	1	1
C	GS	SV-51-15	15	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.034	UG/L	0.034	0	1
C	GS	SV-51-15	15	12-Sep-07	78-87-5	1,2-Dichloropropane	0.0054	UG/L	0.0054	0	1
C	GS	SV-51-15	15	12-Sep-07	75-35-4	1,1-Dichloroethene	0.0046	UG/L	0.0046	0	1
C	GS	SV-51-15	15	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.0064	UG/L	0.0064	0	1
C	GS	SV-51-15	15	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.0064	UG/L	0.0064	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-51-15	15	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0089	UG/L	0.0089	0	1
C	GS	SV-51-15	15	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.008	UG/L	0.008	0	1
C	GS	SV-51-15	15	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	0.032	UG/L	0.032	0	1
C	GS	SV-51-15	15	12-Sep-07	108-90-7	Chlorobenzene	0.0054	UG/L	0.0054	0	1
C	GS	SV-51-15	15	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
C	GS	SV-51-15	15	19-Jul-07	75-01-4	Vinyl chloride	0.003	ug/L	0.003	0	1
C	GS	SV-51-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
C	GS	SV-51-15	15	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.028	UG/L	0.028	0	1
C	GS	SV-51-15	15	12-Sep-07	71-43-2	Benzene	0.0037	UG/L	0.0037	0	1
C	GS	SV-51-15	15	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.0057	UG/L	0.0057	0	1
C	GS	SV-51-15	15	12-Sep-07	75-25-2	Bromoform	0.012	UG/L	0.012	0	1
C	GS	SV-51-15	15	12-Sep-07	74-83-9	Bromomethane	0.0045	UG/L	0.0045	0	1
C	GS	SV-51-15	15	12-Sep-07	75-15-0	Carbon Disulfide	0.11	UG/L	0.11	1	1
C	GS	SV-51-15	15	12-Sep-07	56-23-5	Carbon Tetrachloride	0.0073	UG/L	0.0073	0	1
C	GS	SV-51-15	15	12-Sep-07	75-27-4	Bromodichloromethane	0.0078	UG/L	0.0078	0	1
C	GS	SV-51-15	15	12-Sep-07	107-05-1	Allyl chloride	0.014	UG/L	0.014	0	1
C	GS	SV-51-15	15	12-Sep-07	67-64-1	Acetone	0.011	UG/L	0.011	0	1
C	GS	SV-51-15	15	12-Sep-07	123-91-1	1,4-Dioxane	0.017	UG/L	0.017	0	1
C	GS	SV-51-15	15	12-Sep-07	106-99-0	1,3-Butadiene	0.0026	UG/L	0.0026	0	1
C	GS	SV-51-15	15	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.007	UG/L	0.007	0	1
C	GS	SV-51-15	15	12-Sep-07	100-44-7	Benzyl chloride	0.006	UG/L	0.006	0	1
C	GS	SV-51-15	15	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.007	UG/L	0.007	0	1
C	GS	SV-51-15	15	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.0048	UG/L	0.0048	0	1
C	GS	SV-51-15	15	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.0054	UG/L	0.0054	0	1
C	GS	SV-51-15	15	12-Sep-07	78-93-3	2-Butanone	0.0034	UG/L	0.0034	0	1
C	GS	SV-51-15	15	12-Sep-07	591-78-6	2-Hexanone	0.019	UG/L	0.019	0	1
C	GS	SV-51-15	15	12-Sep-07		4-Bromofluorobenzene	92	%		1	1
C	GS	SV-41-05	5	17-Nov-07	91-20-3	Naphthalene	0.026	UG/L	0.026	0	1
C	GS	SV-41-05	5	17-Nov-07	127-18-4	Tetrachloroethene	0.0086	UG/L	0.0086	0	1
C	GS	SV-41-05	5	17-Nov-07	75-65-0	tert-Butyl alcohol	0.015	UG/L	0.015	0	1
C	GS	SV-41-05	5	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.021	UG/L	0.021	0	1
C	GS	SV-41-05	5	17-Nov-07	100-42-5	Styrene	0.0054	UG/L	0.0054	0	1
C	GS	SV-41-05	5	17-Nov-07	622-96-8	p-Ethyltoluene	0.0062	UG/L	0.0062	0	1
C	GS	SV-41-05	5	17-Nov-07	95-47-6	o-Xylene	0.0055	UG/L	0.0055	0	1
C	GS	SV-41-05	5	17-Nov-07	87-68-3	Hexachlorobutadiene	0.054	UG/L	0.054	0	1
C	GS	SV-41-05	5	17-Nov-07	142-82-5	n-Heptane	0.0052	UG/L	0.0052	0	1
C	GS	SV-41-05	5	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.03	UG/L	0.03	0	1
C	GS	SV-41-05	5	17-Nov-07	75-09-2	Methylene Chloride	0.0044	UG/L	0.0044	0	1
C	GS	SV-41-05	5	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0046	UG/L	0.0046	0	1
C	GS	SV-41-05	5	17-Nov-07	179601-23-1	m,p-Xylenes	0.0055	UG/L	0.0055	0	1
C	GS	SV-41-05	5	17-Nov-07	98-82-8	Isopropylbenzene	0.0062	UG/L	0.0062	0	1
C	GS	SV-41-05	5	17-Nov-07	108-20-3	Isopropyl ether	0.021	UG/L	0.021	0	1
C	GS	SV-41-05	5	17-Nov-07	67-63-0	Isopropyl alcohol	0.012	UG/L	0.012	0	1
C	GS	SV-41-05	5	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0069	UG/L	0.0069	0	1
C	GS	SV-41-05	5	17-Nov-07	103-65-1	n-Propylbenzene	0.0062	UG/L	0.0062	0	1
C	GS	SV-41-05	5	17-Nov-07		Toluene-d8	95	%		1	1
C	GS	SV-41-05	5	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	UG/L	0.035	0	1
C	GS	SV-41-05	5	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0059	UG/L	0.0059	0	1
C	GS	SV-41-05	5	17-Nov-07	591-78-6	2-Hexanone	0.021	UG/L	0.021	0	1
C	GS	SV-41-05	5	17-Nov-07	75-01-4	Vinyl Chloride	0.0032	UG/L	0.0032	0	1
C	GS	SV-41-05	5	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
C	GS	SV-41-05	5	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0071	UG/L	0.0071	0	1
C	GS	SV-41-05	5	17-Nov-07	79-01-6	Trichloroethene	0.0068	UG/L	0.0068	0	1
C	GS	SV-41-05	5	17-Nov-07	109-99-9	Tetrahydrofuran	0.0037	UG/L	0.0037	0	1
C	GS	SV-41-05	5	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.005	UG/L	0.005	0	1
C	GS	SV-41-05	5	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.038	UG/L	0.038	0	1
C	GS	SV-41-05	5	17-Nov-07	108-88-3	Toluene	0.0048	UG/L	0.0048	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-41-05	5	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	UG/L	0.0087	0	1
C	GS	SV-41-05	5	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	UG/L	0.0097	0	1
C	GS	SV-41-05	5	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0069	UG/L	0.0069	0	1
C	GS	SV-41-05	5	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0051	UG/L	0.0051	0	1
C	GS	SV-41-05	5	17-Nov-07	75-35-4	1,1-Dichloroethene	0.005	UG/L	0.005	0	1
C	GS	SV-41-05	5	17-Nov-07		4-Bromofluorobenzene	96	%		1	1
C	GS	SV-41-05	5	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	UG/L	0.0057	0	1
C	GS	SV-41-05	5	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0062	UG/L	0.0062	0	1
C	GS	SV-41-05	5	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0062	UG/L	0.0062	0	1
C	GS	SV-41-05	5	17-Nov-07	106-99-0	1,3-Butadiene	0.0028	UG/L	0.0028	0	1
C	GS	SV-41-05	5	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
C	GS	SV-41-05	5	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
C	GS	SV-41-05	5	17-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
C	GS	SV-41-05	5	17-Nov-07	100-41-4	Ethylbenzene	0.0055	UG/L	0.0055	0	1
C	GS	SV-41-05	5	17-Nov-07	110-54-3	Hexane	0.0044	UG/L	0.0044	0	1
C	GS	SV-41-05	5	17-Nov-07	64-17-5	Ethanol	0.0095	UG/L	0.0095	0	1
C	GS	SV-41-05	5	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0051	UG/L	0.0051	0	1
C	GS	SV-41-05	5	17-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	1
C	GS	SV-41-05	5	17-Nov-07	110-82-7	Cyclohexane	0.0044	UG/L	0.0044	0	1
C	GS	SV-41-05	5	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	UG/L	0.0057	0	1
C	GS	SV-41-05	5	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.005	UG/L		0	1
C	GS	SV-41-05	5	17-Nov-07	74-87-3	Chloromethane	0.01	UG/L	0.01	0	1
C	GS	SV-41-05	5	17-Nov-07	67-66-3	Chloroform	0.0062	UG/L	0.0062	0	1
C	GS	SV-41-05	5	17-Nov-07	75-00-3	Chloroethane	0.0033	UG/L	0.0033	0	1
C	GS	SV-41-05	5	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.021	UG/L	0.021	0	1
C	GS	SV-41-05	5	17-Nov-07	74-83-9	Bromomethane	0.0049	UG/L	0.0049	0	1
C	GS	SV-41-05	5	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0052	UG/L	0.0052	0	1
C	GS	SV-41-05	5	17-Nov-07	67-64-1	Acetone	0.021	UG/L	0.021	1	1
C	GS	SV-41-05	5	17-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	1
C	GS	SV-41-05	5	17-Nov-07	71-43-2	Benzene	0.004	UG/L	0.004	0	1
C	GS	SV-41-05	5	17-Nov-07	100-44-7	Benzyl chloride	0.0065	UG/L	0.0065	0	1
C	GS	SV-41-05	5	17-Nov-07	78-93-3	2-Butanone	0.0044	UG/L	0.0044	1	1
C	GS	SV-41-05	5	17-Nov-07	78-87-5	1,2-Dichloropropane	0.0058	UG/L	0.0058	0	1
C	GS	SV-41-05	5	17-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
C	GS	SV-41-05	5	17-Nov-07		1,2-Dichloroethane-d4	98	%		1	1
C	GS	SV-41-05	5	17-Nov-07	75-15-0	Carbon Disulfide	0.0039	UG/L	0.0039	0	1
C	GS	SV-41-05	5	17-Nov-07	56-23-5	Carbon Tetrachloride	0.008	UG/L	0.008	0	1
C	GS	SV-41-05	5	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0062	UG/L	0.0062	0	1
C	GS	SV-41-05	5	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0097	UG/L	0.0097	0	1
C	GS	SV-41-05	5	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	UG/L	0.0088	0	1
C	GS	SV-41-05	5	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
C	GS	SV-41-05	5	17-Nov-07	108-90-7	Chlorobenzene	0.0058	UG/L	0.0058	0	1
C	GS	SV-41-05	5	17-Nov-07	75-27-4	Bromodichloromethane	0.0085	UG/L	0.0085	0	1
C	GS	SV-41-15	15	17-Nov-07	67-66-3	Chloroform	0.006	UG/L	0.006	0	1
C	GS	SV-41-15	15	17-Nov-07		4-Bromofluorobenzene	94	%		1	1
C	GS	SV-41-15	15	17-Nov-07	74-83-9	Bromomethane	0.0048	UG/L	0.0048	0	1
C	GS	SV-41-15	15	17-Nov-07	106-99-0	1,3-Butadiene	0.0027	UG/L	0.0027	0	1
C	GS	SV-41-15	15	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
C	GS	SV-41-15	15	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
C	GS	SV-41-15	15	17-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
C	GS	SV-41-15	15	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0058	UG/L	0.0058	0	1
C	GS	SV-41-15	15	17-Nov-07	78-87-5	1,2-Dichloropropane	0.0057	UG/L	0.0057	0	1
C	GS	SV-41-15	15	17-Nov-07	591-78-6	2-Hexanone	0.02	UG/L	0.02	0	1
C	GS	SV-41-15	15	17-Nov-07		1,2-Dichloroethane-d4	100	%		1	1
C	GS	SV-41-15	15	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.005	UG/L	0.005	0	1
C	GS	SV-41-15	15	17-Nov-07	67-64-1	Acetone	0.012	UG/L	0.012	1	1
C	GS	SV-41-15	15	17-Nov-07	107-05-1	Allyl chloride	0.015	UG/L	0.015	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-41-15	15	17-Nov-07	71-43-2	Benzene	0.0039	UG/L	0.0039	0	1
C	GS	SV-41-15	15	17-Nov-07	100-44-7	Benzyl chloride	0.0064	UG/L	0.0064	0	1
C	GS	SV-41-15	15	17-Nov-07	75-27-4	Bromodichloromethane	0.0083	UG/L	0.0083	0	1
C	GS	SV-41-15	15	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0049	UG/L		0	1
C	GS	SV-41-15	15	17-Nov-07	78-93-3	2-Butanone	0.0036	UG/L	0.0036	0	1
C	GS	SV-41-15	15	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0049	UG/L	0.0049	0	1
C	GS	SV-41-15	15	17-Nov-07	75-09-2	Methylene Chloride	0.0043	UG/L	0.0043	0	1
C	GS	SV-41-15	15	17-Nov-07	91-20-3	Naphthalene	0.026	UG/L	0.026	0	1
C	GS	SV-41-15	15	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	UG/L	0.034	0	1
C	GS	SV-41-15	15	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0067	UG/L	0.0067	0	1
C	GS	SV-41-15	15	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	UG/L	0.0085	0	1
C	GS	SV-41-15	15	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	UG/L	0.0095	0	1
C	GS	SV-41-15	15	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0061	UG/L	0.0061	0	1
C	GS	SV-41-15	15	17-Nov-07	75-34-3	1,1-Dichloroethane	0.005	UG/L	0.005	0	1
C	GS	SV-41-15	15	17-Nov-07	75-15-0	Carbon Disulfide	0.0054	UG/L	0.0054	1	1
C	GS	SV-41-15	15	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.03	UG/L	0.03	0	1
C	GS	SV-41-15	15	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.037	UG/L	0.037	0	1
C	GS	SV-41-15	15	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0061	UG/L	0.0061	0	1
C	GS	SV-41-15	15	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0095	UG/L	0.0095	0	1
C	GS	SV-41-15	15	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	UG/L	0.0086	0	1
C	GS	SV-41-15	15	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
C	GS	SV-41-15	15	17-Nov-07	107-06-2	1,2-Dichloroethane	0.005	UG/L	0.005	0	1
C	GS	SV-41-15	15	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0067	UG/L	0.0067	0	1
C	GS	SV-41-15	15	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
C	GS	SV-41-15	15	17-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
C	GS	SV-41-15	15	17-Nov-07	109-99-9	Tetrahydrofuran	0.0036	UG/L	0.0036	0	1
C	GS	SV-41-15	15	17-Nov-07	108-88-3	Toluene	0.0046	UG/L	0.0046	0	1
C	GS	SV-41-15	15	17-Nov-07		Toluene-d8	94	%		1	1
C	GS	SV-41-15	15	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0049	UG/L	0.0049	0	1
C	GS	SV-41-15	15	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	UG/L	0.0056	0	1
C	GS	SV-41-15	15	17-Nov-07	75-65-0	tert-Butyl alcohol	0.015	UG/L	0.015	0	1
C	GS	SV-41-15	15	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0069	UG/L	0.0069	0	1
C	GS	SV-41-15	15	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.021	UG/L	0.021	0	1
C	GS	SV-41-15	15	17-Nov-07	75-01-4	Vinyl Chloride	0.0032	UG/L	0.0032	0	1
C	GS	SV-41-15	15	17-Nov-07	87-68-3	Hexachlorobutadiene	0.053	UG/L	0.053	0	1
C	GS	SV-41-15	15	17-Nov-07	110-54-3	Hexane	0.0044	UG/L	0.0044	0	1
C	GS	SV-41-15	15	17-Nov-07	67-63-0	Isopropyl alcohol	0.012	UG/L	0.012	0	1
C	GS	SV-41-15	15	17-Nov-07	108-20-3	Isopropyl ether	0.021	UG/L	0.021	0	1
C	GS	SV-41-15	15	17-Nov-07	98-82-8	Isopropylbenzene	0.0061	UG/L	0.0061	0	1
C	GS	SV-41-15	15	17-Nov-07	179601-23-1	m,p-Xylenes	0.0054	UG/L	0.0054	0	1
C	GS	SV-41-15	15	17-Nov-07	79-01-6	Trichloroethene	0.0066	UG/L	0.0066	0	1
C	GS	SV-41-15	15	17-Nov-07	64-17-5	Ethanol	0.0093	UG/L	0.0093	0	1
C	GS	SV-41-15	15	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0078	UG/L	0.0078	0	1
C	GS	SV-41-15	15	17-Nov-07	108-90-7	Chlorobenzene	0.0057	UG/L	0.0057	0	1
C	GS	SV-41-15	15	17-Nov-07	75-00-3	Chloroethane	0.0032	UG/L	0.0032	0	1
C	GS	SV-41-15	15	17-Nov-07	74-87-3	Chloromethane	0.01	UG/L	0.01	0	1
C	GS	SV-41-15	15	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	UG/L	0.0056	0	1
C	GS	SV-41-15	15	17-Nov-07	110-82-7	Cyclohexane	0.0072	UG/L	0.0072	1	1
C	GS	SV-41-15	15	17-Nov-07	127-18-4	Tetrachloroethene	0.0084	UG/L	0.0084	0	1
C	GS	SV-41-15	15	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0061	UG/L	0.0061	0	1
C	GS	SV-41-15	15	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0044	UG/L	0.0044	0	1
C	GS	SV-41-15	15	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.021	UG/L	0.021	0	1
C	GS	SV-41-15	15	17-Nov-07	100-41-4	Ethylbenzene	0.0054	UG/L	0.0054	0	1
C	GS	SV-41-15	15	17-Nov-07	142-82-5	n-Heptane	0.0051	UG/L	0.0051	0	1
C	GS	SV-41-15	15	17-Nov-07	103-65-1	n-Propylbenzene	0.0061	UG/L	0.0061	0	1
C	GS	SV-41-15	15	17-Nov-07	95-47-6	o-Xylene	0.0054	UG/L	0.0054	0	1
C	GS	SV-41-15	15	17-Nov-07	622-96-8	p-Ethyltoluene	0.0061	UG/L	0.0061	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-41-15	15	17-Nov-07	100-42-5	Styrene	0.0053	UG/L	0.0053	0	1
C	GS	SV-41-15	15	17-Nov-07	124-48-1	Dibromochloromethane	0.01	UG/L	0.01	0	1
C	GS	SV-45-05	5	17-Nov-07	142-82-5	n-Heptane	0.036	UG/L	0.036	1	1
C	GS	SV-45-05	5	17-Nov-07	106-99-0	1,3-Butadiene	0.0028	UG/L	0.0028	0	1
C	GS	SV-45-05	5	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.038	UG/L	0.038	0	1
C	GS	SV-45-05	5	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0053	UG/L	0.0053	0	1
C	GS	SV-45-05	5	17-Nov-07		4-Bromofluorobenzene	101	%		1	1
C	GS	SV-45-05	5	17-Nov-07	591-78-6	2-Hexanone	0.021	UG/L	0.021	0	1
C	GS	SV-45-05	5	17-Nov-07	78-93-3	2-Butanone	0.0038	UG/L	0.0038	0	1
C	GS	SV-45-05	5	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.006	UG/L	0.006	0	1
C	GS	SV-45-05	5	17-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
C	GS	SV-45-05	5	17-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	1
C	GS	SV-45-05	5	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0078	UG/L	0.0078	0	1
C	GS	SV-45-05	5	17-Nov-07	71-43-2	Benzene	0.0041	UG/L	0.0041	0	1
C	GS	SV-45-05	5	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.15	UG/L	0.15	1	1
C	GS	SV-45-05	5	17-Nov-07	78-87-5	1,2-Dichloropropane	0.006	UG/L	0.006	0	1
C	GS	SV-45-05	5	17-Nov-07		1,2-Dichloroethane-d4	99	%		1	1
C	GS	SV-45-05	5	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0052	UG/L	0.0052	0	1
C	GS	SV-45-05	5	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0078	UG/L	0.0078	0	1
C	GS	SV-45-05	5	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	UG/L	0.009	0	1
C	GS	SV-45-05	5	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0099	UG/L	0.0099	0	1
C	GS	SV-45-05	5	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.49	UG/L	0.49	1	1
C	GS	SV-45-05	5	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0078	UG/L	0.0078	0	1
C	GS	SV-45-05	5	17-Nov-07	67-66-3	Chloroform	0.0063	UG/L	0.0063	0	1
C	GS	SV-45-05	5	17-Nov-07	91-20-3	Naphthalene	0.027	UG/L	0.027	0	1
C	GS	SV-45-05	5	17-Nov-07	75-09-2	Methylene Chloride	0.0045	UG/L	0.0045	0	1
C	GS	SV-45-05	5	17-Nov-07	100-41-4	Ethylbenzene	0.11	UG/L	0.11	1	1
C	GS	SV-45-05	5	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.022	UG/L	0.022	0	1
C	GS	SV-45-05	5	17-Nov-07	64-17-5	Ethanol	0.0097	UG/L	0.0097	0	1
C	GS	SV-45-05	5	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0064	UG/L	0.0064	0	1
C	GS	SV-45-05	5	17-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	1
C	GS	SV-45-05	5	17-Nov-07	67-64-1	Acetone	0.015	UG/L	0.015	1	1
C	GS	SV-45-05	5	17-Nov-07	74-87-3	Chloromethane	0.011	UG/L	0.011	0	1
C	GS	SV-45-05	5	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0051	UG/L		0	1
C	GS	SV-45-05	5	17-Nov-07	75-00-3	Chloroethane	0.0034	UG/L	0.0034	0	1
C	GS	SV-45-05	5	17-Nov-07	108-90-7	Chlorobenzene	0.0059	UG/L	0.0059	0	1
C	GS	SV-45-05	5	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0081	UG/L	0.0081	0	1
C	GS	SV-45-05	5	17-Nov-07	75-15-0	Carbon Disulfide	0.03	UG/L	0.03	1	1
C	GS	SV-45-05	5	17-Nov-07	74-83-9	Bromomethane	0.005	UG/L	0.005	0	1
C	GS	SV-45-05	5	17-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
C	GS	SV-45-05	5	17-Nov-07	75-27-4	Bromodichloromethane	0.0086	UG/L	0.0086	0	1
C	GS	SV-45-05	5	17-Nov-07	100-44-7	Benzyl chloride	0.0067	UG/L	0.0067	0	1
C	GS	SV-45-05	5	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	UG/L	0.0058	0	1
C	GS	SV-45-05	5	17-Nov-07	103-65-1	n-Propylbenzene	0.16	UG/L	0.16	1	1
C	GS	SV-45-05	5	17-Nov-07		Toluene-d8	102	%		1	1
C	GS	SV-45-05	5	17-Nov-07	108-88-3	Toluene	0.0049	UG/L	0.0049	0	1
C	GS	SV-45-05	5	17-Nov-07	109-99-9	Tetrahydrofuran	0.0038	UG/L	0.0038	0	1
C	GS	SV-45-05	5	17-Nov-07	127-18-4	Tetrachloroethene	0.0088	UG/L	0.0088	0	1
C	GS	SV-45-05	5	17-Nov-07	75-65-0	tert-Butyl alcohol	0.016	UG/L	0.016	0	1
C	GS	SV-45-05	5	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.022	UG/L	0.022	0	1
C	GS	SV-45-05	5	17-Nov-07	100-42-5	Styrene	0.0055	UG/L	0.0055	0	1
C	GS	SV-45-05	5	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0051	UG/L	0.0051	0	1
C	GS	SV-45-05	5	17-Nov-07	95-47-6	o-Xylene	0.0056	UG/L	0.0056	0	1
C	GS	SV-45-05	5	17-Nov-07	87-68-3	Hexachlorobutadiene	0.055	UG/L	0.055	0	1
C	GS	SV-45-05	5	17-Nov-07	110-54-3	Hexane	0.0065	UG/L	0.0065	1	1
C	GS	SV-45-05	5	17-Nov-07	67-63-0	Isopropyl alcohol	0.013	UG/L	0.013	0	1
C	GS	SV-45-05	5	17-Nov-07	108-20-3	Isopropyl ether	0.022	UG/L	0.022	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-45-05	5	17-Nov-07	98-82-8	Isopropylbenzene	0.067	UG/L	0.067	1	1
C	GS	SV-45-05	5	17-Nov-07	179601-23-1	m,p-Xylenes	0.084	UG/L	0.084	1	1
C	GS	SV-45-05	5	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0046	UG/L	0.0046	0	1
C	GS	SV-45-05	5	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.031	UG/L	0.031	0	1
C	GS	SV-45-05	5	17-Nov-07	110-82-7	Cyclohexane	0.11	UG/L	0.11	1	1
C	GS	SV-45-05	5	17-Nov-07	622-96-8	p-Ethyltoluene	0.16	UG/L	0.16	1	1
C	GS	SV-45-05	5	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0052	UG/L	0.0052	0	1
C	GS	SV-45-05	5	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.007	UG/L	0.007	0	1
C	GS	SV-45-05	5	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	UG/L	0.0088	0	1
C	GS	SV-45-05	5	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	UG/L	0.0099	0	1
C	GS	SV-45-05	5	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0051	UG/L	0.0051	0	1
C	GS	SV-45-05	5	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	UG/L	0.035	0	1
C	GS	SV-45-05	5	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	UG/L	0.0058	0	1
C	GS	SV-45-05	5	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.007	UG/L	0.007	0	1
C	GS	SV-45-05	5	17-Nov-07	75-01-4	Vinyl Chloride	0.0033	UG/L	0.0033	0	1
C	GS	SV-45-05	5	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
C	GS	SV-45-05	5	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0072	UG/L	0.0072	0	1
C	GS	SV-45-05	5	17-Nov-07	79-01-6	Trichloroethene	0.0069	UG/L	0.0069	0	1
C	GS	SV-45-15	15	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.02	UG/L	0.02	0	1
C	GS	SV-45-15	15	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0047	UG/L	0.0047	0	1
C	GS	SV-45-15	15	17-Nov-07	79-01-6	Trichloroethene	0.0064	UG/L	0.0064	0	1
C	GS	SV-45-15	15	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0067	UG/L	0.0067	0	1
C	GS	SV-45-15	15	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0054	UG/L	0.0054	0	1
C	GS	SV-45-15	15	17-Nov-07		Toluene-d8	96	%		1	1
C	GS	SV-45-15	15	17-Nov-07	75-01-4	Vinyl Chloride	0.003	UG/L	0.003	0	1
C	GS	SV-45-15	15	17-Nov-07	100-42-5	Styrene	0.0051	UG/L	0.0051	0	1
C	GS	SV-45-15	15	17-Nov-07	64-17-5	Ethanol	0.009	UG/L	0.009	0	1
C	GS	SV-45-15	15	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0059	UG/L	0.0059	0	1
C	GS	SV-45-15	15	17-Nov-07	124-48-1	Dibromochloromethane	0.01	UG/L	0.01	0	1
C	GS	SV-45-15	15	17-Nov-07	110-82-7	Cyclohexane	0.12	UG/L	0.12	1	1
C	GS	SV-45-15	15	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0054	UG/L	0.0054	0	1
C	GS	SV-45-15	15	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0047	UG/L		0	1
C	GS	SV-45-15	15	17-Nov-07	74-87-3	Chloromethane	0.0098	UG/L	0.0098	0	1
C	GS	SV-45-15	15	17-Nov-07	67-66-3	Chloroform	0.011	UG/L	0.011	1	1
C	GS	SV-45-15	15	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
C	GS	SV-45-15	15	17-Nov-07	87-68-3	Hexachlorobutadiene	0.051	UG/L	0.051	0	1
C	GS	SV-45-15	15	17-Nov-07	75-09-2	Methylene Chloride	0.0041	UG/L	0.0041	0	1
C	GS	SV-45-15	15	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0043	UG/L	0.0043	0	1
C	GS	SV-45-15	15	17-Nov-07	179601-23-1	m,p-Xylenes	0.0083	UG/L	0.0083	1	1
C	GS	SV-45-15	15	17-Nov-07	98-82-8	Isopropylbenzene	0.0058	UG/L	0.0058	0	1
C	GS	SV-45-15	15	17-Nov-07	108-20-3	Isopropyl ether	0.02	UG/L	0.02	0	1
C	GS	SV-45-15	15	17-Nov-07	67-63-0	Isopropyl alcohol	0.012	UG/L	0.012	0	1
C	GS	SV-45-15	15	17-Nov-07	110-54-3	Hexane	0.0079	UG/L	0.0079	1	1
C	GS	SV-45-15	15	17-Nov-07	75-65-0	tert-Butyl alcohol	0.014	UG/L	0.014	0	1
C	GS	SV-45-15	15	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0072	UG/L	0.0072	0	1
C	GS	SV-45-15	15	17-Nov-07	108-88-3	Toluene	0.0045	UG/L	0.0045	0	1
C	GS	SV-45-15	15	17-Nov-07	75-00-3	Chloroethane	0.0031	UG/L	0.0031	0	1
C	GS	SV-45-15	15	17-Nov-07	103-65-1	n-Propylbenzene	0.0058	UG/L	0.0058	0	1
C	GS	SV-45-15	15	17-Nov-07	95-47-6	o-Xylene	0.0052	UG/L	0.0052	0	1
C	GS	SV-45-15	15	17-Nov-07	622-96-8	p-Ethyltoluene	0.0058	UG/L	0.0058	0	1
C	GS	SV-45-15	15	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.02	UG/L	0.02	0	1
C	GS	SV-45-15	15	17-Nov-07	142-82-5	n-Heptane	0.036	UG/L	0.036	1	1
C	GS	SV-45-15	15	17-Nov-07	127-18-4	Tetrachloroethene	0.0081	UG/L	0.0081	0	1
C	GS	SV-45-15	15	17-Nov-07	109-99-9	Tetrahydrofuran	0.0035	UG/L	0.0035	0	1
C	GS	SV-45-15	15	17-Nov-07	91-20-3	Naphthalene	0.025	UG/L	0.025	0	1
C	GS	SV-45-15	15	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.033	UG/L	0.033	0	1
C	GS	SV-45-15	15	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0056	UG/L	0.0056	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-45-15	15	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0048	UG/L	0.0048	0	1
C	GS	SV-45-15	15	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0072	UG/L	0.0072	0	1
C	GS	SV-45-15	15	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0083	UG/L	0.0083	0	1
C	GS	SV-45-15	15	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0091	UG/L	0.0091	0	1
C	GS	SV-45-15	15	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0076	UG/L	0.0076	1	1
C	GS	SV-45-15	15	17-Nov-07	78-87-5	1,2-Dichloropropane	0.0055	UG/L	0.0055	0	1
C	GS	SV-45-15	15	17-Nov-07	100-41-4	Ethylbenzene	0.014	UG/L	0.014	1	1
C	GS	SV-45-15	15	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0058	UG/L	0.0058	0	1
C	GS	SV-45-15	15	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0065	UG/L	0.0065	0	1
C	GS	SV-45-15	15	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0082	UG/L	0.0082	0	1
C	GS	SV-45-15	15	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0091	UG/L	0.0091	0	1
C	GS	SV-45-15	15	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0065	UG/L	0.0065	0	1
C	GS	SV-45-15	15	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0048	UG/L	0.0048	0	1
C	GS	SV-45-15	15	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0047	UG/L	0.0047	0	1
C	GS	SV-45-15	15	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.029	UG/L	0.029	0	1
C	GS	SV-45-15	15	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.035	UG/L	0.035	0	1
C	GS	SV-45-15	15	17-Nov-07	107-05-1	Allyl chloride	0.015	UG/L	0.015	0	1
C	GS	SV-45-15	15	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0075	UG/L	0.0075	0	1
C	GS	SV-45-15	15	17-Nov-07	75-15-0	Carbon Disulfide	0.0085	UG/L	0.0085	1	1
C	GS	SV-45-15	15	17-Nov-07	74-83-9	Bromomethane	0.0046	UG/L	0.0046	0	1
C	GS	SV-45-15	15	17-Nov-07	75-25-2	Bromoform	0.012	UG/L	0.012	0	1
C	GS	SV-45-15	15	17-Nov-07	75-27-4	Bromodichloromethane	0.008	UG/L	0.008	0	1
C	GS	SV-45-15	15	17-Nov-07	100-44-7	Benzyl chloride	0.0062	UG/L	0.0062	0	1
C	GS	SV-45-15	15	17-Nov-07		1,2-Dichloroethane-d4	99	%		1	1
C	GS	SV-45-15	15	17-Nov-07	71-43-2	Benzene	0.0038	UG/L	0.0038	0	1
C	GS	SV-45-15	15	17-Nov-07	108-90-7	Chlorobenzene	0.0055	UG/L	0.0055	0	1
C	GS	SV-45-15	15	17-Nov-07	67-64-1	Acetone	0.016	UG/L	0.016	1	1
C	GS	SV-45-15	15	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0049	UG/L	0.0049	0	1
C	GS	SV-45-15	15	17-Nov-07		4-Bromofluorobenzene	97	%		1	1
C	GS	SV-45-15	15	17-Nov-07	591-78-6	2-Hexanone	0.019	UG/L	0.019	0	1
C	GS	SV-45-15	15	17-Nov-07	78-93-3	2-Butanone	0.0038	UG/L	0.0038	1	1
C	GS	SV-45-15	15	17-Nov-07	123-91-1	1,4-Dioxane	0.017	UG/L	0.017	0	1
C	GS	SV-45-15	15	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0072	UG/L	0.0072	0	1
C	GS	SV-45-15	15	17-Nov-07	106-99-0	1,3-Butadiene	0.0026	UG/L	0.0026	0	1
C	GS	SV-50-05	5	17-Nov-07	75-00-3	Chloroethane	0.0033	UG/L	0.0033	0	1
C	GS	SV-50-05	5	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	UG/L	0.0088	0	1
C	GS	SV-50-05	5	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0052	UG/L	0.0052	0	1
C	GS	SV-50-05	5	17-Nov-07	75-09-2	Methylene Chloride	0.0044	UG/L	0.0044	0	1
C	GS	SV-50-05	5	17-Nov-07	75-65-0	tert-Butyl alcohol	0.015	UG/L	0.015	0	1
C	GS	SV-50-05	5	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.021	UG/L	0.021	0	1
C	GS	SV-50-05	5	17-Nov-07	100-42-5	Styrene	0.0054	UG/L	0.0054	0	1
C	GS	SV-50-05	5	17-Nov-07	622-96-8	p-Ethyltoluene	0.0062	UG/L	0.0062	0	1
C	GS	SV-50-05	5	17-Nov-07	95-47-6	o-Xylene	0.0055	UG/L	0.0055	0	1
C	GS	SV-50-05	5	17-Nov-07	109-99-9	Tetrahydrofuran	0.0037	UG/L	0.0037	0	1
C	GS	SV-50-05	5	17-Nov-07	67-64-1	Acetone	0.018	UG/L	0.018	1	1
C	GS	SV-50-05	5	17-Nov-07	108-88-3	Toluene	0.0048	UG/L	0.0048	0	1
C	GS	SV-50-05	5	17-Nov-07		4-Bromofluorobenzene	94	%		1	1
C	GS	SV-50-05	5	17-Nov-07	591-78-6	2-Hexanone	0.021	UG/L	0.021	0	1
C	GS	SV-50-05	5	17-Nov-07	78-93-3	2-Butanone	0.0037	UG/L	0.0037	0	1
C	GS	SV-50-05	5	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0059	UG/L	0.0059	0	1
C	GS	SV-50-05	5	17-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
C	GS	SV-50-05	5	17-Nov-07	142-82-5	n-Heptane	0.0052	UG/L	0.0052	0	1
C	GS	SV-50-05	5	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0062	UG/L	0.0062	0	1
C	GS	SV-50-05	5	17-Nov-07	103-65-1	n-Propylbenzene	0.0062	UG/L	0.0062	0	1
C	GS	SV-50-05	5	17-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	1
C	GS	SV-50-05	5	17-Nov-07	108-90-7	Chlorobenzene	0.0058	UG/L	0.0058	0	1
C	GS	SV-50-05	5	17-Nov-07	56-23-5	Carbon Tetrachloride	0.008	UG/L	0.008	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-50-05	5	17-Nov-07	75-15-0	Carbon Disulfide	0.0039	UG/L	0.0039	0	1
C	GS	SV-50-05	5	17-Nov-07	74-83-9	Bromomethane	0.0049	UG/L	0.0049	0	1
C	GS	SV-50-05	5	17-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
C	GS	SV-50-05	5	17-Nov-07	75-27-4	Bromodichloromethane	0.0085	UG/L	0.0085	0	1
C	GS	SV-50-05	5	17-Nov-07	127-18-4	Tetrachloroethene	0.0086	UG/L	0.0086	0	1
C	GS	SV-50-05	5	17-Nov-07	71-43-2	Benzene	0.004	UG/L	0.004	0	1
C	GS	SV-50-05	5	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0046	UG/L	0.0046	0	1
C	GS	SV-50-05	5	17-Nov-07	75-01-4	Vinyl Chloride	0.0032	UG/L	0.0032	0	1
C	GS	SV-50-05	5	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
C	GS	SV-50-05	5	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0071	UG/L	0.0071	0	1
C	GS	SV-50-05	5	17-Nov-07	79-01-6	Trichloroethene	0.0068	UG/L	0.0068	0	1
C	GS	SV-50-05	5	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	UG/L	0.0057	0	1
C	GS	SV-50-05	5	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.005	UG/L	0.005	0	1
C	GS	SV-50-05	5	17-Nov-07		Toluene-d8	100	%		1	1
C	GS	SV-50-05	5	17-Nov-07	100-44-7	Benzyl chloride	0.0065	UG/L	0.0065	0	1
C	GS	SV-50-05	5	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.03	UG/L	0.03	0	1
C	GS	SV-50-05	5	17-Nov-07	91-20-3	Naphthalene	0.026	UG/L	0.026	0	1
C	GS	SV-50-05	5	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0062	UG/L	0.0062	0	1
C	GS	SV-50-05	5	17-Nov-07	78-87-5	1,2-Dichloropropane	0.0058	UG/L	0.0058	0	1
C	GS	SV-50-05	5	17-Nov-07		1,2-Dichloroethane-d4	97	%		1	1
C	GS	SV-50-05	5	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0051	UG/L	0.0051	0	1
C	GS	SV-50-05	5	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
C	GS	SV-50-05	5	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
C	GS	SV-50-05	5	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.038	UG/L	0.038	0	1
C	GS	SV-50-05	5	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
C	GS	SV-50-05	5	17-Nov-07	75-35-4	1,1-Dichloroethene	0.005	UG/L	0.005	0	1
C	GS	SV-50-05	5	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0051	UG/L	0.0051	0	1
C	GS	SV-50-05	5	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0069	UG/L	0.0069	0	1
C	GS	SV-50-05	5	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	UG/L	0.0097	0	1
C	GS	SV-50-05	5	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	UG/L	0.0087	0	1
C	GS	SV-50-05	5	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0069	UG/L	0.0069	0	1
C	GS	SV-50-05	5	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0097	UG/L	0.0097	0	1
C	GS	SV-50-05	5	17-Nov-07	64-17-5	Ethanol	0.0095	UG/L	0.0095	0	1
C	GS	SV-50-05	5	17-Nov-07	179601-23-1	m,p-Xylenes	0.0055	UG/L	0.0055	0	1
C	GS	SV-50-05	5	17-Nov-07	98-82-8	Isopropylbenzene	0.0062	UG/L	0.0062	0	1
C	GS	SV-50-05	5	17-Nov-07	108-20-3	Isopropyl ether	0.021	UG/L	0.021	0	1
C	GS	SV-50-05	5	17-Nov-07	67-63-0	Isopropyl alcohol	0.012	UG/L	0.012	0	1
C	GS	SV-50-05	5	17-Nov-07	110-54-3	Hexane	0.0044	UG/L	0.0044	0	1
C	GS	SV-50-05	5	17-Nov-07	87-68-3	Hexachlorobutadiene	0.054	UG/L	0.054	0	1
C	GS	SV-50-05	5	17-Nov-07	100-41-4	Ethylbenzene	0.0055	UG/L	0.0055	0	1
C	GS	SV-50-05	5	17-Nov-07	106-99-0	1,3-Butadiene	0.0028	UG/L	0.0028	0	1
C	GS	SV-50-05	5	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.021	UG/L	0.021	0	1
C	GS	SV-50-05	5	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	UG/L	0.035	0	1
C	GS	SV-50-05	5	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0062	UG/L	0.0062	0	1
C	GS	SV-50-05	5	17-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	1
C	GS	SV-50-05	5	17-Nov-07	110-82-7	Cyclohexane	0.0044	UG/L	0.0044	0	1
C	GS	SV-50-05	5	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	UG/L	0.0057	0	1
C	GS	SV-50-05	5	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.005	UG/L		0	1
C	GS	SV-50-05	5	17-Nov-07	74-87-3	Chloromethane	0.01	UG/L	0.01	0	1
C	GS	SV-50-05	5	17-Nov-07	67-66-3	Chloroform	0.0062	UG/L	0.0062	0	1
C	GS	SV-50-15	15	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0053	UG/L	0.0053	0	1
C	GS	SV-50-15	15	17-Nov-07	75-01-4	Vinyl Chloride	0.0029	UG/L	0.0029	0	1
C	GS	SV-50-15	15	17-Nov-07	591-78-6	2-Hexanone	0.019	UG/L	0.019	0	1
C	GS	SV-50-15	15	17-Nov-07		4-Bromofluorobenzene	96	%		1	1
C	GS	SV-50-15	15	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0047	UG/L	0.0047	0	1
C	GS	SV-50-15	15	17-Nov-07	67-64-1	Acetone	0.011	UG/L	0.011	0	1
C	GS	SV-50-15	15	17-Nov-07	78-93-3	2-Butanone	0.0034	UG/L	0.0034	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-50-15	15	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
C	GS	SV-50-15	15	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0064	UG/L	0.0064	0	1
C	GS	SV-50-15	15	17-Nov-07	79-01-6	Trichloroethene	0.0062	UG/L	0.0062	0	1
C	GS	SV-50-15	15	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0052	UG/L	0.0052	0	1
C	GS	SV-50-15	15	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0045	UG/L	0.0045	0	1
C	GS	SV-50-15	15	17-Nov-07		Toluene-d8	98	%		1	1
C	GS	SV-50-15	15	17-Nov-07	109-99-9	Tetrahydrofuran	0.0034	UG/L	0.0034	0	1
C	GS	SV-50-15	15	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0046	UG/L	0.0046	0	1
C	GS	SV-50-15	15	17-Nov-07	127-18-4	Tetrachloroethene	0.014	UG/L	0.014	1	1
C	GS	SV-50-15	15	17-Nov-07	108-88-3	Toluene	0.0043	UG/L	0.0043	0	1
C	GS	SV-50-15	15	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0088	UG/L	0.0088	0	1
C	GS	SV-50-15	15	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0079	UG/L	0.0079	0	1
C	GS	SV-50-15	15	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0088	UG/L	0.0088	0	1
C	GS	SV-50-15	15	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0062	UG/L	0.0062	0	1
C	GS	SV-50-15	15	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.019	UG/L	0.019	0	1
C	GS	SV-50-15	15	17-Nov-07	75-65-0	tert-Butyl alcohol	0.014	UG/L	0.014	0	1
C	GS	SV-50-15	15	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0045	UG/L	0.0045	0	1
C	GS	SV-50-15	15	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.028	UG/L	0.028	0	1
C	GS	SV-50-15	15	17-Nov-07	78-87-5	1,2-Dichloropropane	0.0053	UG/L	0.0053	0	1
C	GS	SV-50-15	15	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0056	UG/L	0.0056	0	1
C	GS	SV-50-15	15	17-Nov-07	123-91-1	1,4-Dioxane	0.016	UG/L	0.016	0	1
C	GS	SV-50-15	15	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.008	UG/L	0.008	0	1
C	GS	SV-50-15	15	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0069	UG/L	0.0069	0	1
C	GS	SV-50-15	15	17-Nov-07		1,2-Dichloroethane-d4	99	%		1	1
C	GS	SV-50-15	15	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0046	UG/L	0.0046	0	1
C	GS	SV-50-15	15	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0056	UG/L	0.0056	0	1
C	GS	SV-50-15	15	17-Nov-07	106-99-0	1,3-Butadiene	0.0025	UG/L	0.0025	0	1
C	GS	SV-50-15	15	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0069	UG/L	0.0069	0	1
C	GS	SV-50-15	15	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0069	UG/L	0.0069	0	1
C	GS	SV-50-15	15	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.034	UG/L	0.034	0	1
C	GS	SV-50-15	15	17-Nov-07	108-90-7	Chlorobenzene	0.0053	UG/L	0.0053	0	1
C	GS	SV-50-15	15	17-Nov-07	87-68-3	Hexachlorobutadiene	0.049	UG/L	0.049	0	1
C	GS	SV-50-15	15	17-Nov-07	110-82-7	Cyclohexane	0.0076	UG/L	0.0076	1	1
C	GS	SV-50-15	15	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0052	UG/L	0.0052	0	1
C	GS	SV-50-15	15	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.031	UG/L	0.031	0	1
C	GS	SV-50-15	15	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0045	UG/L		0	1
C	GS	SV-50-15	15	17-Nov-07	74-87-3	Chloromethane	0.0094	UG/L	0.0094	0	1
C	GS	SV-50-15	15	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0057	UG/L	0.0057	0	1
C	GS	SV-50-15	15	17-Nov-07	75-00-3	Chloroethane	0.003	UG/L	0.003	0	1
C	GS	SV-50-15	15	17-Nov-07	64-17-5	Ethanol	0.0086	UG/L	0.0086	0	1
C	GS	SV-50-15	15	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0072	UG/L	0.0072	0	1
C	GS	SV-50-15	15	17-Nov-07	75-15-0	Carbon Disulfide	0.0068	UG/L	0.0068	1	1
C	GS	SV-50-15	15	17-Nov-07	74-83-9	Bromomethane	0.0044	UG/L	0.0044	0	1
C	GS	SV-50-15	15	17-Nov-07	75-25-2	Bromoform	0.012	UG/L	0.012	0	1
C	GS	SV-50-15	15	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0062	UG/L	0.0062	0	1
C	GS	SV-50-15	15	17-Nov-07	100-44-7	Benzyl chloride	0.0059	UG/L	0.0059	0	1
C	GS	SV-50-15	15	17-Nov-07	75-27-4	Bromodichloromethane	0.0077	UG/L	0.0077	0	1
C	GS	SV-50-15	15	17-Nov-07	67-66-3	Chloroform	0.044	UG/L	0.044	1	1
C	GS	SV-50-15	15	17-Nov-07	75-09-2	Methylene Chloride	0.004	UG/L	0.004	0	1
C	GS	SV-50-15	15	17-Nov-07	100-42-5	Styrene	0.0049	UG/L	0.0049	0	1
C	GS	SV-50-15	15	17-Nov-07	622-96-8	p-Ethyltoluene	0.0056	UG/L	0.0056	0	1
C	GS	SV-50-15	15	17-Nov-07	95-47-6	o-Xylene	0.005	UG/L	0.005	0	1
C	GS	SV-50-15	15	17-Nov-07	107-05-1	Allyl chloride	0.014	UG/L	0.014	0	1
C	GS	SV-50-15	15	17-Nov-07	103-65-1	n-Propylbenzene	0.0056	UG/L	0.0056	0	1
C	GS	SV-50-15	15	17-Nov-07	71-43-2	Benzene	0.0036	UG/L	0.0036	0	1
C	GS	SV-50-15	15	17-Nov-07	124-48-1	Dibromochloromethane	0.0098	UG/L	0.0098	0	1
C	GS	SV-50-15	15	17-Nov-07	91-20-3	Naphthalene	0.024	UG/L	0.024	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-50-15	15	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.019	UG/L	0.019	0	1
C	GS	SV-50-15	15	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0041	UG/L	0.0041	0	1
C	GS	SV-50-15	15	17-Nov-07	179601-23-1	m,p-Xylenes	0.005	UG/L	0.005	0	1
C	GS	SV-50-15	15	17-Nov-07	98-82-8	Isopropylbenzene	0.0056	UG/L	0.0056	0	1
C	GS	SV-50-15	15	17-Nov-07	108-20-3	Isopropyl ether	0.019	UG/L	0.019	0	1
C	GS	SV-50-15	15	17-Nov-07	67-63-0	Isopropyl alcohol	0.011	UG/L	0.011	0	1
C	GS	SV-50-15	15	17-Nov-07	110-54-3	Hexane	0.004	UG/L	0.004	0	1
C	GS	SV-50-15	15	17-Nov-07	100-41-4	Ethylbenzene	0.005	UG/L	0.005	0	1
C	GS	SV-50-15	15	17-Nov-07	142-82-5	n-Heptane	0.0047	UG/L	0.0047	0	1
C	GS	SV-51-05	5	16-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0049	UG/L		0	1
C	GS	SV-51-05	5	16-Nov-07	637-92-3	Ethyl tert butyl ether	0.021	UG/L	0.021	0	1
C	GS	SV-51-05	5	16-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0044	UG/L	0.0044	0	1
C	GS	SV-51-05	5	16-Nov-07	179601-23-1	m,p-Xylenes	0.0054	UG/L	0.0054	0	1
C	GS	SV-51-05	5	16-Nov-07	98-82-8	Isopropylbenzene	0.0061	UG/L	0.0061	0	1
C	GS	SV-51-05	5	16-Nov-07	108-20-3	Isopropyl ether	0.021	UG/L	0.021	0	1
C	GS	SV-51-05	5	16-Nov-07	67-63-0	Isopropyl alcohol	0.012	UG/L	0.012	0	1
C	GS	SV-51-05	5	16-Nov-07	110-54-3	Hexane	0.0044	UG/L	0.0044	0	1
C	GS	SV-51-05	5	16-Nov-07	67-66-3	Chloroform	0.006	UG/L	0.006	1	1
C	GS	SV-51-05	5	16-Nov-07	100-41-4	Ethylbenzene	0.0054	UG/L	0.0054	0	1
C	GS	SV-51-05	5	16-Nov-07	142-82-5	n-Heptane	0.0051	UG/L	0.0051	0	1
C	GS	SV-51-05	5	16-Nov-07	64-17-5	Ethanol	0.0093	UG/L	0.0093	0	1
C	GS	SV-51-05	5	16-Nov-07	75-71-8	Dichlorodifluoromethane	0.0061	UG/L	0.0061	0	1
C	GS	SV-51-05	5	16-Nov-07	124-48-1	Dibromochloromethane	0.01	UG/L	0.01	0	1
C	GS	SV-51-05	5	16-Nov-07	110-82-7	Cyclohexane	0.012	UG/L	0.012	1	1
C	GS	SV-51-05	5	16-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	UG/L	0.0056	0	1
C	GS	SV-51-05	5	16-Nov-07	74-87-3	Chloromethane	0.01	UG/L	0.01	0	1
C	GS	SV-51-05	5	16-Nov-07	87-68-3	Hexachlorobutadiene	0.053	UG/L	0.053	0	1
C	GS	SV-51-05	5	16-Nov-07	108-88-3	Toluene	0.0055	UG/L	0.0055	1	1
C	GS	SV-51-05	5	16-Nov-07	994-05-8	tert-Amyl methyl ether	0.021	UG/L	0.021	0	1
C	GS	SV-51-05	5	16-Nov-07	75-01-4	Vinyl Chloride	0.0032	UG/L	0.0032	0	1
C	GS	SV-51-05	5	16-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
C	GS	SV-51-05	5	16-Nov-07	75-69-4	Trichlorofluoromethane	0.0069	UG/L	0.0069	0	1
C	GS	SV-51-05	5	16-Nov-07	79-01-6	Trichloroethene	0.0066	UG/L	0.0066	0	1
C	GS	SV-51-05	5	16-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	UG/L	0.0056	0	1
C	GS	SV-51-05	5	16-Nov-07	75-09-2	Methylene Chloride	0.0043	UG/L	0.0043	0	1
C	GS	SV-51-05	5	16-Nov-07		Toluene-d8	100	%		1	1
C	GS	SV-51-05	5	16-Nov-07	91-20-3	Naphthalene	0.026	UG/L	0.026	0	1
C	GS	SV-51-05	5	16-Nov-07	109-99-9	Tetrahydrofuran	0.0036	UG/L	0.0036	0	1
C	GS	SV-51-05	5	16-Nov-07	75-65-0	tert-Butyl alcohol	0.015	UG/L	0.015	0	1
C	GS	SV-51-05	5	16-Nov-07	100-42-5	Styrene	0.0053	UG/L	0.0053	0	1
C	GS	SV-51-05	5	16-Nov-07	622-96-8	p-Ethyltoluene	0.0061	UG/L	0.0061	0	1
C	GS	SV-51-05	5	16-Nov-07	95-47-6	o-Xylene	0.0054	UG/L	0.0054	0	1
C	GS	SV-51-05	5	16-Nov-07	103-65-1	n-Propylbenzene	0.0061	UG/L	0.0061	0	1
C	GS	SV-51-05	5	16-Nov-07	56-23-5	Carbon Tetrachloride	0.0078	UG/L	0.0078	0	1
C	GS	SV-51-05	5	16-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0049	UG/L	0.0049	0	1
C	GS	SV-51-05	5	16-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.037	UG/L	0.037	0	1
C	GS	SV-51-05	5	16-Nov-07	75-00-3	Chloroethane	0.0032	UG/L	0.0032	0	1
C	GS	SV-51-05	5	16-Nov-07	78-87-5	1,2-Dichloropropane	0.0057	UG/L	0.0057	0	1
C	GS	SV-51-05	5	16-Nov-07		1,2-Dichloroethane-d4	102	%		1	1
C	GS	SV-51-05	5	16-Nov-07	107-06-2	1,2-Dichloroethane	0.005	UG/L	0.005	0	1
C	GS	SV-51-05	5	16-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
C	GS	SV-51-05	5	16-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	UG/L	0.0086	0	1
C	GS	SV-51-05	5	16-Nov-07	106-99-0	1,3-Butadiene	0.0027	UG/L	0.0027	0	1
C	GS	SV-51-05	5	16-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0061	UG/L	0.0061	0	1
C	GS	SV-51-05	5	16-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
C	GS	SV-51-05	5	16-Nov-07	96-18-4	1,2,3-Trichloropropane	0.03	UG/L	0.03	0	1
C	GS	SV-51-05	5	16-Nov-07	75-35-4	1,1-Dichloroethene	0.0049	UG/L	0.0049	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-51-05	5	16-Nov-07	75-34-3	1,1-Dichloroethane	0.005	UG/L	0.005	0	1
C	GS	SV-51-05	5	16-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0067	UG/L	0.0067	0	1
C	GS	SV-51-05	5	16-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	UG/L	0.0095	0	1
C	GS	SV-51-05	5	16-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	UG/L	0.0085	0	1
C	GS	SV-51-05	5	16-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0067	UG/L	0.0067	0	1
C	GS	SV-51-05	5	16-Nov-07	106-93-4	1,2-Dibromoethane	0.0095	UG/L	0.0095	0	1
C	GS	SV-51-05	5	16-Nov-07	67-64-1	Acetone	0.012	UG/L	0.012	0	1
C	GS	SV-51-05	5	16-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	UG/L	0.034	0	1
C	GS	SV-51-05	5	16-Nov-07	75-15-0	Carbon Disulfide	0.0038	UG/L	0.0038	0	1
C	GS	SV-51-05	5	16-Nov-07	74-83-9	Bromomethane	0.0048	UG/L	0.0048	0	1
C	GS	SV-51-05	5	16-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
C	GS	SV-51-05	5	16-Nov-07	75-27-4	Bromodichloromethane	0.0083	UG/L	0.0083	0	1
C	GS	SV-51-05	5	16-Nov-07	100-44-7	Benzyl chloride	0.0064	UG/L	0.0064	0	1
C	GS	SV-51-05	5	16-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0061	UG/L	0.0061	0	1
C	GS	SV-51-05	5	16-Nov-07	107-05-1	Allyl chloride	0.015	UG/L	0.015	0	1
C	GS	SV-51-05	5	16-Nov-07	108-90-7	Chlorobenzene	0.0057	UG/L	0.0057	0	1
C	GS	SV-51-05	5	16-Nov-07	108-10-1	4-Methyl-2-pentanone	0.005	UG/L	0.005	0	1
C	GS	SV-51-05	5	16-Nov-07		4-Bromofluorobenzene	96	%		1	1
C	GS	SV-51-05	5	16-Nov-07	591-78-6	2-Hexanone	0.02	UG/L	0.02	0	1
C	GS	SV-51-05	5	16-Nov-07	78-93-3	2-Butanone	0.0036	UG/L	0.0036	0	1
C	GS	SV-51-05	5	16-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0058	UG/L	0.0058	0	1
C	GS	SV-51-05	5	16-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
C	GS	SV-51-05	5	16-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
C	GS	SV-51-05	5	16-Nov-07	71-43-2	Benzene	0.0039	UG/L	0.0039	0	1
C	GS	SV-51-05	5	16-Nov-07	127-18-4	Tetrachloroethene	0.0084	UG/L	0.0084	0	1
C	GS	SV-51-15	15	16-Nov-07	100-44-7	Benzyl chloride	0.0067	UG/L	0.0067	0	1
C	GS	SV-51-15	15	16-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
C	GS	SV-51-15	15	16-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.006	UG/L	0.006	0	1
C	GS	SV-51-15	15	16-Nov-07	78-93-3	2-Butanone	0.0038	UG/L	0.0038	0	1
C	GS	SV-51-15	15	16-Nov-07	591-78-6	2-Hexanone	0.021	UG/L	0.021	0	1
C	GS	SV-51-15	15	16-Nov-07		4-Bromofluorobenzene	97	%		1	1
C	GS	SV-51-15	15	16-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0053	UG/L	0.0053	0	1
C	GS	SV-51-15	15	16-Nov-07	67-64-1	Acetone	0.014	UG/L	0.014	1	1
C	GS	SV-51-15	15	16-Nov-07	75-00-3	Chloroethane	0.0034	UG/L	0.0034	0	1
C	GS	SV-51-15	15	16-Nov-07	71-43-2	Benzene	0.0041	UG/L	0.0041	0	1
C	GS	SV-51-15	15	16-Nov-07	106-99-0	1,3-Butadiene	0.0028	UG/L	0.0028	0	1
C	GS	SV-51-15	15	16-Nov-07	75-27-4	Bromodichloromethane	0.0086	UG/L	0.0086	0	1
C	GS	SV-51-15	15	16-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
C	GS	SV-51-15	15	16-Nov-07	74-83-9	Bromomethane	0.005	UG/L	0.005	0	1
C	GS	SV-51-15	15	16-Nov-07	75-15-0	Carbon Disulfide	0.092	UG/L	0.092	1	1
C	GS	SV-51-15	15	16-Nov-07	56-23-5	Carbon Tetrachloride	0.0081	UG/L	0.0081	0	1
C	GS	SV-51-15	15	16-Nov-07	108-90-7	Chlorobenzene	0.0059	UG/L	0.0059	0	1
C	GS	SV-51-15	15	16-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	1
C	GS	SV-51-15	15	16-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.038	UG/L	0.038	0	1
C	GS	SV-51-15	15	16-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	UG/L	0.035	0	1
C	GS	SV-51-15	15	16-Nov-07	71-55-6	1,1,1-Trichloroethane	0.007	UG/L	0.007	0	1
C	GS	SV-51-15	15	16-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	UG/L	0.0088	0	1
C	GS	SV-51-15	15	16-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	UG/L	0.0099	0	1
C	GS	SV-51-15	15	16-Nov-07	79-00-5	1,1,2-Trichloroethane	0.007	UG/L	0.007	0	1
C	GS	SV-51-15	15	16-Nov-07	75-34-3	1,1-Dichloroethane	0.0052	UG/L	0.0052	0	1
C	GS	SV-51-15	15	16-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0078	UG/L	0.0078	0	1
C	GS	SV-51-15	15	16-Nov-07	96-18-4	1,2,3-Trichloropropane	0.031	UG/L	0.031	0	1
C	GS	SV-51-15	15	16-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0078	UG/L	0.0078	0	1
C	GS	SV-51-15	15	16-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0075	UG/L	0.0075	1	1
C	GS	SV-51-15	15	16-Nov-07	106-93-4	1,2-Dibromoethane	0.0099	UG/L	0.0099	0	1
C	GS	SV-51-15	15	16-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	UG/L	0.009	0	1
C	GS	SV-51-15	15	16-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0078	UG/L	0.0078	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	GS	SV-51-15	15	16-Nov-07		1,2-Dichloroethane-d4	99	%		1	1
C	GS	SV-51-15	15	16-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	UG/L	0.0063	0	1
C	GS	SV-51-15	15	16-Nov-07	78-87-5	1,2-Dichloropropane	0.006	UG/L	0.006	0	1
C	GS	SV-51-15	15	16-Nov-07	75-35-4	1,1-Dichloroethene	0.0051	UG/L	0.0051	0	1
C	GS	SV-51-15	15	16-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0051	UG/L	0.0051	0	1
C	GS	SV-51-15	15	16-Nov-07	103-65-1	n-Propylbenzene	0.0063	UG/L	0.0063	0	1
C	GS	SV-51-15	15	16-Nov-07	95-47-6	o-Xylene	0.0056	UG/L	0.0056	0	1
C	GS	SV-51-15	15	16-Nov-07	622-96-8	p-Ethyltoluene	0.0063	UG/L	0.0063	0	1
C	GS	SV-51-15	15	16-Nov-07	100-42-5	Styrene	0.0055	UG/L	0.0055	0	1
C	GS	SV-51-15	15	16-Nov-07	994-05-8	tert-Amyl methyl ether	0.022	UG/L	0.022	0	1
C	GS	SV-51-15	15	16-Nov-07	75-65-0	tert-Butyl alcohol	0.016	UG/L	0.016	0	1
C	GS	SV-51-15	15	16-Nov-07	142-82-5	n-Heptane	0.0053	UG/L	0.0053	0	1
C	GS	SV-51-15	15	16-Nov-07	108-88-3	Toluene	0.0049	UG/L	0.0049	0	1
C	GS	SV-51-15	15	16-Nov-07	109-99-9	Tetrahydrofuran	0.0038	UG/L	0.0038	0	1
C	GS	SV-51-15	15	16-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	UG/L	0.0058	0	1
C	GS	SV-51-15	15	16-Nov-07	79-01-6	Trichloroethene	0.0069	UG/L	0.0069	0	1
C	GS	SV-51-15	15	16-Nov-07	75-69-4	Trichlorofluoromethane	0.0072	UG/L	0.0072	0	1
C	GS	SV-51-15	15	16-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
C	GS	SV-51-15	15	16-Nov-07	75-01-4	Vinyl Chloride	0.0033	UG/L	0.0033	0	1
C	GS	SV-51-15	15	16-Nov-07	67-66-3	Chloroform	0.01	UG/L	0.01	1	1
C	GS	SV-51-15	15	16-Nov-07	107-06-2	1,2-Dichloroethane	0.0052	UG/L	0.0052	0	1
C	GS	SV-51-15	15	16-Nov-07	127-18-4	Tetrachloroethene	0.0088	UG/L	0.0088	0	1
C	GS	SV-51-15	15	16-Nov-07	637-92-3	Ethyl tert butyl ether	0.022	UG/L	0.022	0	1
C	GS	SV-51-15	15	16-Nov-07	74-87-3	Chloromethane	0.011	UG/L	0.011	0	1
C	GS	SV-51-15	15	16-Nov-07		Toluene-d8	96	%		1	1
C	GS	SV-51-15	15	16-Nov-07	91-20-3	Naphthalene	0.027	UG/L	0.027	0	1
C	GS	SV-51-15	15	16-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	UG/L	0.0058	0	1
C	GS	SV-51-15	15	16-Nov-07	110-82-7	Cyclohexane	0.013	UG/L	0.013	1	1
C	GS	SV-51-15	15	16-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	1
C	GS	SV-51-15	15	16-Nov-07	64-17-5	Ethanol	0.0097	UG/L	0.0097	0	1
C	GS	SV-51-15	15	16-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0051	UG/L		0	1
C	GS	SV-51-15	15	16-Nov-07	100-41-4	Ethylbenzene	0.0056	UG/L	0.0056	0	1
C	GS	SV-51-15	15	16-Nov-07	179601-23-1	m,p-Xylenes	0.0056	UG/L	0.0056	0	1
C	GS	SV-51-15	15	16-Nov-07	110-54-3	Hexane	0.0045	UG/L	0.0045	0	1
C	GS	SV-51-15	15	16-Nov-07	67-63-0	Isopropyl alcohol	0.012	UG/L	0.012	1	1
C	GS	SV-51-15	15	16-Nov-07	108-20-3	Isopropyl ether	0.022	UG/L	0.022	0	1
C	GS	SV-51-15	15	16-Nov-07	98-82-8	Isopropylbenzene	0.0063	UG/L	0.0063	0	1
C	GS	SV-51-15	15	16-Nov-07	87-68-3	Hexachlorobutadiene	0.055	UG/L	0.055	0	1
C	GS	SV-51-15	15	16-Nov-07	75-09-2	Methylene Chloride	0.0045	UG/L	0.0045	0	1
C	GS	SV-51-15	15	16-Nov-07	75-71-8	Dichlorodifluoromethane	0.0064	UG/L	0.0064	0	1
C	GS	SV-51-15	15	16-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0046	UG/L	0.0046	0	1
C	Soil	B-10-10	10		64742-47-8	TPHm			10	0	1
C	Soil	B-10-10	10		68476-30-2	TPHd			10	0	1
C	Soil	B-10-10	10		8006-61-9	TPHg			10	0	1
C	Soil	B-1-10	10		64742-47-8	TPHm			10	0	1
C	Soil	B-1-10	10		8006-61-9	TPHg			10	0	1
C	Soil	B-1-10	10		68476-30-2	TPHd			10	0	1
C	Soil	B-11-10	10		64742-47-8	TPHm			10	0	1
C	Soil	B-11-10	10		8006-61-9	TPHg			10	0	1
C	Soil	B-11-10	10		68476-30-2	TPHd			10	0	1
C	Soil	B-11-5	5		64742-47-8	TPHm			10	0	1
C	Soil	B-11-5	5		8006-61-9	TPHg			10	0	1
C	Soil	B-11-5	5		68476-30-2	TPHd			10	0	1
C	Soil	B-153-5	5		64742-47-8	TPHm			10	0	1
C	Soil	B-153-5	5		8006-61-9	TPHg			10	0	1
C	Soil	B-153-5	5		68476-30-2	TPHd			10	0	1
C	Soil	B-181-5	5		64742-47-8	TPHm			10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	B-181-5	5		8006-61-9	TPHg			10	0	1
C	Soil	B-181-5	5		68476-30-2	TPHd			10	0	1
C	Soil	B-185-10	10		64742-47-8	TPHm			10	0	1
C	Soil	B-185-10	10		68476-30-2	TPHd			10	0	1
C	Soil	B-185-10	10		8006-61-9	TPHg			10	0	1
C	Soil	B-194-5	5		68476-30-2	TPHd			10	0	1
C	Soil	B-194-5	5		8006-61-9	TPHg			10	0	1
C	Soil	B-194-5	5		64742-47-8	TPHm			10	0	1
C	Soil	B-195-5	5		64742-47-8	TPHm			10	0	1
C	Soil	B-195-5	5		68476-30-2	TPHd			10	0	1
C	Soil	B-195-5	5		8006-61-9	TPHg			10	0	1
C	Soil	B-208-10	10		64742-47-8	TPHm			12	1	1
C	Soil	B-208-10	10		8006-61-9	TPHg			10	0	1
C	Soil	B-208-10	10		68476-30-2	TPHd			10	0	1
C	Soil	B-2-10	10		64742-47-8	TPHm			10	0	1
C	Soil	B-2-10	10		68476-30-2	TPHd			10	0	1
C	Soil	B-2-10	10		8006-61-9	TPHg			10	0	1
C	Soil	B-3-5	5		8006-61-9	TPHg			10	0	1
C	Soil	B-3-5	5		64742-47-8	TPHm			10	0	1
C	Soil	B-3-5	5		68476-30-2	TPHd			10	0	1
C	Soil	B-7-5	5		64742-47-8	TPHm			10	0	1
C	Soil	B-7-5	5		8006-61-9	TPHg			10	0	1
C	Soil	B-7-5	5		68476-30-2	TPHd			10	0	1
C	Soil	B-9-10	10		68476-30-2	TPHd			10	0	1
C	Soil	B-9-10	10		64742-47-8	TPHm			10	0	1
C	Soil	B-9-10	10		8006-61-9	TPHg			10	0	1
C	Soil	S-13-0.5	0.5		68476-30-2	TPHd			20	0	1
C	Soil	S-13-0.5	0.5		64742-47-8	TPHm			280	1	1
C	Soil	S-13-0.5	0.5		BaP TEQ	BaP TEQ			0.0822	1	1
C	Soil	S-13-0.5	0.5		8006-61-9	TPHg			10	0	1
C	Soil	S-13-2.5	2.5		68476-30-2	TPHd			10	0	1
C	Soil	S-13-2.5	2.5		8006-61-9	TPHg			10	0	1
C	Soil	S-13-2.5	2.5		64742-47-8	TPHm			10	0	1
C	Soil	S-2-0.5	0.5		BaP TEQ	BaP TEQ			0.00414	1	1
C	Soil	S-2-0.5	0.5		64742-47-8	TPHm			170	1	1
C	Soil	S-2-0.5	0.5		8006-61-9	TPHg			10	0	1
C	Soil	S-2-0.5	0.5		68476-30-2	TPHd			42	1	1
C	Soil	S-2-2.5	2.5		68476-30-2	TPHd			10	0	1
C	Soil	S-2-2.5	2.5		8006-61-9	TPHg			10	0	1
C	Soil	S-2-2.5	2.5		64742-47-8	TPHm			10	0	1
C	Soil	S-3-0.5	0.5		68476-30-2	TPHd			10	0	1
C	Soil	S-3-0.5	0.5		8006-61-9	TPHg			10	0	1
C	Soil	S-3-0.5	0.5		64742-47-8	TPHm			11	1	1
C	Soil	S-3-2.5	2.5		BaP TEQ	BaP TEQ			0.00398	1	1
C	Soil	S-3-2.5	2.5		68476-30-2	TPHd			25	1	1
C	Soil	S-3-2.5	2.5		8006-61-9	TPHg			10	0	1
C	Soil	S-3-2.5	2.5		64742-47-8	TPHm			130	1	1
C	Soil	S-4-0.5	0.5		BaP TEQ	BaP TEQ			0.0931	1	1
C	Soil	S-4-0.5	0.5		64742-47-8	TPHm			1700	1	1
C	Soil	S-4-0.5	0.5		8006-61-9	TPHg			10	0	1
C	Soil	S-4-0.5	0.5		68476-30-2	TPHd			170	1	1
C	Soil	S-4-2.5	2.5		64742-47-8	TPHm			21	1	1
C	Soil	S-4-2.5	2.5		8006-61-9	TPHg			10	0	1
C	Soil	S-4-2.5	2.5		68476-30-2	TPHd			10	0	1
C	Soil	S-6-0.5	0.5		BaP TEQ	BaP TEQ			0.0283	1	1
C	Soil	S-6-0.5	0.5		64742-47-8	TPHm			1200	1	1
C	Soil	S-6-0.5	0.5		8006-61-9	TPHg			10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	S-6-0.5	0.5		68476-30-2	TPHd			390	1	1
C	Soil	S-6-2.5	2.5		BaP TEQ	BaP TEQ			0.1652	1	1
C	Soil	S-6-2.5	2.5		68476-30-2	TPHd			360	1	1
C	Soil	S-6-2.5	2.5		8006-61-9	TPHg			10	0	1
C	Soil	S-6-2.5	2.5		64742-47-8	TPHm			1300	1	1
C	Soil	SV-41-01	1		BaP TEQ	BaP TEQ			0.00534	1	1
C	Soil	SV-41-01	1		68476-30-2	TPHd			35	1	1
C	Soil	SV-41-01	1		64742-47-8	TPHm			110	1	1
C	Soil	SV-41-01	1		8006-61-9	TPHg			0.39	0	1
C	Soil	SV-41-05	5		BaP TEQ	BaP TEQ			0.0043005	0	1
C	Soil	SV-41-05	5		8006-61-9	TPHg			0.4	0	1
C	Soil	SV-41-05	5		68476-30-2	TPHd			5	0	1
C	Soil	SV-41-05	5		64742-47-8	TPHm			5	0	1
C	Soil	SV-45-01	1		BaP TEQ	BaP TEQ			0.0056885	1	1
C	Soil	SV-45-01	1		64742-47-8	TPHm			5	0	1
C	Soil	SV-45-01	1		68476-30-2	TPHd			5	0	1
C	Soil	SV-45-01	1		8006-61-9	TPHg			0.38	0	1
C	Soil	SV-45-05	5		BaP TEQ	BaP TEQ			0.0047235	0	1
C	Soil	SV-45-05	5		68476-30-2	TPHd			45	1	1
C	Soil	SV-45-05	5		8006-61-9	TPHg			0.41	0	1
C	Soil	SV-45-05	5		64742-47-8	TPHm			120	1	1
C	Soil	SV-50-01	1		BaP TEQ	BaP TEQ			0.0058125	1	1
C	Soil	SV-50-01	1		64742-47-8	TPHm			440	1	1
C	Soil	SV-50-01	1		68476-30-2	TPHd			150	1	1
C	Soil	SV-50-01	1		8006-61-9	TPHg			0.41	0	1
C	Soil	SV-50-05	5		BaP TEQ	BaP TEQ			0.019431	1	1
C	Soil	SV-50-05	5		8006-61-9	TPHg			0.4	0	1
C	Soil	SV-50-05	5		64742-47-8	TPHm			54	1	1
C	Soil	SV-50-05	5		68476-30-2	TPHd			14	1	1
C	Soil	SV-51-01	1		BaP TEQ	BaP TEQ			0.03925	1	1
C	Soil	SV-51-01	1		8006-61-9	TPHg				0	1
C	Soil	SV-51-01	1		64742-47-8	TPHm			27	1	1
C	Soil	SV-51-01	1		68476-30-2	TPHd			6	1	1
C	Soil	SV-51-05	5		BaP TEQ	BaP TEQ			0.004794	0	1
C	Soil	SV-51-05	5		68476-30-2	TPHd			5	0	1
C	Soil	SV-51-05	5		64742-47-8	TPHm			5	0	1
C	Soil	SV-51-05	5		8006-61-9	TPHg			0.41	0	1
C	Soil	B-10-10	10	09-Sep-97		C1-C40	10	mg/K	10	0	1
C	Soil	B-10-10	10	09-Sep-97		C25-C40	10	mg/K	10	0	1
C	Soil	B-10-10	10	09-Sep-97		C4-C10	10	mg/K	10	0	1
C	Soil	B-10-10	10	09-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
C	Soil	B-10-10	10	09-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
C	Soil	B-10-10	10	09-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
C	Soil	B-10-10	10	09-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
C	Soil	B-10-10	10	09-Sep-97		C10-C25	10	mg/K	10	0	1
C	Soil	B-1-1	1	21-Sep-97	7439-92-1	Lead	15	mg/K	15	1	1
C	Soil	B-1-10	10	21-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
C	Soil	B-1-10	10	21-Sep-97		C10-C25	10	mg/K	10	0	1
C	Soil	B-1-10	10	21-Sep-97		C1-C40	10	mg/K	10	0	1
C	Soil	B-1-10	10	21-Sep-97		C4-C10	10	mg/K	10	0	1
C	Soil	B-1-10	10	21-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
C	Soil	B-1-10	10	21-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
C	Soil	B-1-10	10	21-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
C	Soil	B-1-10	10	21-Sep-97		C25-C40	10	mg/K	10	0	1
C	Soil	B-11-10	10	09-Sep-97		C4-C10	10	mg/K	10	0	1
C	Soil	B-11-10	10	09-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
C	Soil	B-11-10	10	09-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	B-11-10	10	09-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
C	Soil	B-11-10	10	09-Sep-97		C25-C40	10	mg/K	10	0	1
C	Soil	B-11-10	10	09-Sep-97		C1-C40	10	mg/K	10	0	1
C	Soil	B-11-10	10	09-Sep-97		C10-C25	10	mg/K	10	0	1
C	Soil	B-11-10	10	09-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
C	Soil	B-11-5	5	09-Sep-97		C4-C10	10	mg/K	10	0	1
C	Soil	B-11-5	5	09-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
C	Soil	B-11-5	5	09-Sep-97		C10-C25	10	mg/K	10	0	1
C	Soil	B-11-5	5	09-Sep-97		C25-C40	10	mg/K	10	0	1
C	Soil	B-11-5	5	09-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
C	Soil	B-11-5	5	09-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
C	Soil	B-11-5	5	09-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
C	Soil	B-11-5	5	09-Sep-97		C1-C40	10	mg/K	10	0	1
C	Soil	B-2-1	1	21-Sep-97	7439-92-1	Lead	8.2	mg/K	8.2	1	1
C	Soil	B-2-10	10	21-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
C	Soil	B-2-10	10	21-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
C	Soil	B-2-10	10	21-Sep-97		C10-C25	10	mg/K	10	0	1
C	Soil	B-2-10	10	21-Sep-97		C1-C40	10	mg/K	10	0	1
C	Soil	B-2-10	10	21-Sep-97		C25-C40	10	mg/K	10	0	1
C	Soil	B-2-10	10	21-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
C	Soil	B-2-10	10	21-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
C	Soil	B-2-10	10	21-Sep-97		C4-C10	10	mg/K	10	0	1
C	Soil	B-3-1	1	21-Sep-97	7439-92-1	Lead	37	mg/K	37	1	1
C	Soil	B-3-5	5	21-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
C	Soil	B-3-5	5	21-Sep-97		C1-C40	10	mg/K	10	0	1
C	Soil	B-3-5	5	21-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
C	Soil	B-3-5	5	21-Sep-97		C4-C10	10	mg/K	10	0	1
C	Soil	B-3-5	5	21-Sep-97		C10-C25	10	mg/K	10	0	1
C	Soil	B-3-5	5	21-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
C	Soil	B-3-5	5	21-Sep-97		C25-C40	10	mg/K	10	0	1
C	Soil	B-3-5	5	21-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
C	Soil	B-7-5	5	21-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
C	Soil	B-7-5	5	21-Sep-97		C10-C25	10	mg/K	10	0	1
C	Soil	B-7-5	5	21-Sep-97		C1-C40	10	mg/K	10	0	1
C	Soil	B-7-5	5	21-Sep-97		C25-C40	10	mg/K	10	0	1
C	Soil	B-7-5	5	21-Sep-97		C4-C10	10	mg/K	10	0	1
C	Soil	B-7-5	5	21-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
C	Soil	B-7-5	5	21-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
C	Soil	B-7-5	5	21-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
C	Soil	B-9-10	10	09-Sep-97		C25-C40	10	mg/K	10	0	1
C	Soil	B-9-10	10	09-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
C	Soil	B-9-10	10	09-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
C	Soil	B-9-10	10	09-Sep-97		C4-C10	10	mg/K	10	0	1
C	Soil	B-9-10	10	09-Sep-97		C1-C40	10	mg/K	10	0	1
C	Soil	B-9-10	10	09-Sep-97		C10-C25	10	mg/K	10	0	1
C	Soil	B-9-10	10	09-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
C	Soil	B-9-10	10	09-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
C	Soil	B-153-5	5	26-Nov-97		C25-C40	10	mg/K	10	0	1
C	Soil	B-153-5	5	26-Nov-97		C1-C40	10	mg/K	10	0	1
C	Soil	B-153-5	5	26-Nov-97		C10-C25	10	mg/K	10	0	1
C	Soil	B-153-5	5	26-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
C	Soil	B-153-5	5	26-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
C	Soil	B-153-5	5	26-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
C	Soil	B-153-5	5	26-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
C	Soil	B-153-5	5	26-Nov-97		C4-C10	10	mg/K	10	0	1
C	Soil	B-181-5	5	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
C	Soil	B-181-5	5	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	B-181-5	5	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
C	Soil	B-181-5	5	01-Jul-99		C1-C40	10	mg/K	10	0	1
C	Soil	B-181-5	5	01-Jul-99		C4-C10	10	mg/K	10	0	1
C	Soil	B-181-5	5	01-Jul-99		C25-C40	10	mg/K	10	0	1
C	Soil	B-181-5	5	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
C	Soil	B-181-5	5	01-Jul-99		C10-C25	10	mg/K	10	0	1
C	Soil	B-185-10	10	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
C	Soil	B-185-10	10	01-Jul-99		C10-C25	10	mg/K	10	0	1
C	Soil	B-185-10	10	01-Jul-99		C1-C40	10	mg/K	10	0	1
C	Soil	B-185-10	10	01-Jul-99		C25-C40	10	mg/K	10	0	1
C	Soil	B-185-10	10	01-Jul-99		C4-C10	10	mg/K	10	0	1
C	Soil	B-185-10	10	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
C	Soil	B-185-10	10	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
C	Soil	B-185-10	10	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
C	Soil	B-194-5	5	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
C	Soil	B-194-5	5	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
C	Soil	B-194-5	5	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
C	Soil	B-194-5	5	01-Jul-99		C4-C10	10	mg/K	10	0	1
C	Soil	B-194-5	5	01-Jul-99		C25-C40	10	mg/K	10	0	1
C	Soil	B-194-5	5	01-Jul-99		C1-C40	10	mg/K	10	0	1
C	Soil	B-194-5	5	01-Jul-99		C10-C25	10	mg/K	10	0	1
C	Soil	B-194-5	5	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
C	Soil	B-195-5	5	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
C	Soil	B-195-5	5	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
C	Soil	B-195-5	5	01-Jul-99		C4-C10	10	mg/K	10	0	1
C	Soil	B-195-5	5	01-Jul-99		C25-C40	10	mg/K	10	0	1
C	Soil	B-195-5	5	01-Jul-99		C1-C40	10	mg/K	10	0	1
C	Soil	B-195-5	5	01-Jul-99		C10-C25	10	mg/K	10	0	1
C	Soil	B-195-5	5	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
C	Soil	B-195-5	5	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
C	Soil	B-208-10	10	01-Mar-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
C	Soil	B-208-10	10	01-Mar-01		C1-C40	12	mg/K	12	1	1
C	Soil	B-208-10	10	01-Mar-01		C25-C40	12	mg/k	12	1	1
C	Soil	B-208-10	10	01-Mar-01		C4-C10	10	mg/k	10	0	1
C	Soil	B-208-10	10	01-Mar-01	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	B-208-10	10	01-Mar-01	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
C	Soil	B-208-10	10	01-Mar-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
C	Soil	B-208-10	10	01-Mar-01		C10-C25	10	mg/k	10	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	7439-92-1	Lead	12	mg/k	12	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.03	mg/k	0.03	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.01	mg/k	0.01	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.095	mg/k	0.095	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.011	mg/k	0.011	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	7440-50-8	Copper	18	mg/k	18	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	3.3	mg/k	3.3	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.12	mg/k	0.12	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	S-13-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.1	mg/k	0.1	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	7440-47-3	Chromium	24	mg/k	24	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	19	mg/k	19	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.031	mg/k	0.031	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	7440-02-0	Nickel	21	mg/k	21	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.01	mg/k	0.01	0	0
C	Soil	S-13-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.032	mg/k	0.032	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03		C25-C40	280	mg/k	280	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03		C10-C25	20	mg/k	20	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	S-13-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	7440-66-6	Zinc	39	mg/k	39	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.05	mg/k	0.05	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.07	mg/k	0.07	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.059	mg/k	0.059	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.07	mg/k	0.07	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	7440-39-3	Barium	43	mg/k	43	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	4.3	mg/k	4.3	1	1
C	Soil	S-13-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.01	mg/k	0.01	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.01	mg/k	0.01	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.01	mg/k	0.01	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
C	Soil	S-13-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	7440-50-8	Copper	2.3	mg/k	2.3	1	1
C	Soil	S-13-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	7440-47-3	Chromium	12	mg/k	12	1	1
C	Soil	S-13-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03		C25-C40	10	mg/k	10	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	7440-02-0	Nickel	4.6	mg/k	4.6	1	1
C	Soil	S-13-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	7439-92-1	Lead	5	mg/k	5	1	1
C	Soil	S-13-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	S-13-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03		C10-C25	10	mg/k	10	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	2.8	mg/k	2.8	1	1
C	Soil	S-13-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	7440-39-3	Barium	34	mg/k	34	1	1
C	Soil	S-13-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	7440-66-6	Zinc	16	mg/k	16	1	1
C	Soil	S-13-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	6.3	mg/k	6.3	1	1
C	Soil	S-13-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-13-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	S-2-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03		C25-C40	170	mg/k	170	1	1
C	Soil	S-2-0.5	0.5	04-Jun-03		C10-C25	42	mg/k	42	1	1
C	Soil	S-2-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.007	mg/k	0.007	1	1
C	Soil	S-2-0.5	0.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	7440-39-3	Barium	81	mg/k	81	1	1
C	Soil	S-2-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	2.4	mg/k	2.4	1	1
C	Soil	S-2-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	13	mg/k	13	1	1
C	Soil	S-2-0.5	0.5	04-Jun-03	7440-02-0	Nickel	15	mg/k	15	1	1
C	Soil	S-2-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	85-01-8	Phenanthrene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	129-00-0	Pyrene	0.007	mg/k	0.007	1	1
C	Soil	S-2-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	7440-66-6	Zinc	15	mg/k	15	1	1
C	Soil	S-2-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	S-2-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	7440-47-3	Chromium	17	mg/k	17	1	1
C	Soil	S-2-0.5	0.5	04-Jun-03	218-01-9	Chrysene	0.019	mg/k	0.019	1	1
C	Soil	S-2-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	7440-50-8	Copper	4	mg/k	4	1	1
C	Soil	S-2-0.5	0.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	206-44-0	Fluoranthene	0.006	mg/k	0.006	1	1
C	Soil	S-2-0.5	0.5	04-Jun-03	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	7439-92-1	Lead	5.2	mg/k	5.2	1	1
C	Soil	S-2-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	7439-92-1	Lead	4.2	mg/k	4.2	1	1
C	Soil	S-2-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	7440-50-8	Copper	4.3	mg/k	4.3	1	1
C	Soil	S-2-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	7440-47-3	Chromium	34	mg/k	34	1	1
C	Soil	S-2-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	24	mg/k	24	1	1
C	Soil	S-2-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	S-2-2.5	2.5	04-Jun-03	7440-02-0	Nickel	16	mg/k	16	1	1
C	Soil	S-2-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03		C25-C40	10	mg/k	10	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	7440-66-6	Zinc	17	mg/k	17	1	1
C	Soil	S-2-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	1.2	mg/k	1.2	1	1
C	Soil	S-2-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	7440-39-3	Barium	70	mg/k	70	1	1
C	Soil	S-2-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	4.1	mg/k	4.1	1	1
C	Soil	S-2-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
C	Soil	S-2-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	4	mg/k	4	1	1
C	Soil	S-3-0.5	0.5	04-Jun-03	7440-39-3	Barium	31	mg/k	31	1	1
C	Soil	S-3-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	S-3-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03		C25-C40	11	mg/k	11	1	1
C	Soil	S-3-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	7440-02-0	Nickel	7.1	mg/k	7.1	1	1
C	Soil	S-3-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	8.2	mg/k	8.2	1	1
C	Soil	S-3-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	7440-66-6	Zinc	13	mg/k	13	1	1
C	Soil	S-3-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	7440-47-3	Chromium	14	mg/k	14	1	1
C	Soil	S-3-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	7440-50-8	Copper	1	mg/k	1	1	1
C	Soil	S-3-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	S-3-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	7439-92-1	Lead	1	mg/k	1	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	11	mg/k	11	1	1
C	Soil	S-3-2.5	2.5	04-Jun-03	7440-39-3	Barium	44	mg/k	44	1	1
C	Soil	S-3-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.006	mg/k	0.006	1	1
C	Soil	S-3-2.5	2.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03		C10-C12	1	mg/k	1	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03		C10-C25	25	mg/k	25	1	1
C	Soil	S-3-2.5	2.5	04-Jun-03		C12-C16	2	mg/k	2	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03		C16-C21	2	mg/k	2	1	1
C	Soil	S-3-2.5	2.5	04-Jun-03		C16-C21	2	mg/k	2	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03		C21-C40	10	mg/k	10	1	0
C	Soil	S-3-2.5	2.5	04-Jun-03		C21-C40	33	mg/k	33	1	1
C	Soil	S-3-2.5	2.5	04-Jun-03		C25-C40	130	mg/k	130	1	1
C	Soil	S-3-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	S-3-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	7440-02-0	Nickel	11	mg/k	11	1	1
C	Soil	S-3-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	85-01-8	Phenanthrene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	129-00-0	Pyrene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	8.7	mg/k	8.7	1	1
C	Soil	S-3-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	7440-66-6	Zinc	19	mg/k	19	1	1
C	Soil	S-3-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	218-01-9	Chrysene	0.013	mg/k	0.013	1	1
C	Soil	S-3-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	7440-47-3	Chromium	17	mg/k	17	1	1
C	Soil	S-3-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	7440-50-8	Copper	1.8	mg/k	1.8	1	1
C	Soil	S-3-2.5	2.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	206-44-0	Fluoranthene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	7439-92-1	Lead	12	mg/k	12	1	1
C	Soil	S-3-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-3-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	S-4-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	206-44-0	Fluoranthene	0.04	mg/k	0.04	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.04	mg/k	0.04	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	86-73-7	Fluorene	0.04	mg/k	0.04	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	7439-92-1	Lead	68	mg/k	68	1	1
C	Soil	S-4-0.5	0.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.04	mg/k	0.04	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	7440-50-8	Copper	3.3	mg/k	3.3	1	1
C	Soil	S-4-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	7440-47-3	Chromium	8.1	mg/k	8.1	1	1
C	Soil	S-4-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	218-01-9	Chrysene	0.13	mg/k	0.13	1	1
C	Soil	S-4-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	85-01-8	Phenanthrene	0.04	mg/k	0.04	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	2.8	mg/k	2.8	1	1
C	Soil	S-4-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	129-00-0	Pyrene	0.04	mg/k	0.04	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	13	mg/k	13	1	1
C	Soil	S-4-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	7440-66-6	Zinc	140	mg/k	140	1	1
C	Soil	S-4-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.04	mg/k	0.04	0	0
C	Soil	S-4-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1.7	mg/k	1.7	1	1
C	Soil	S-4-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	S-4-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	83-32-9	Acenaphthene	0.04	mg/k	0.04	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	7440-02-0	Nickel	12	mg/k	12	1	1
C	Soil	S-4-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03		C25-C40	1700	mg/k	1700	1	1
C	Soil	S-4-0.5	0.5	04-Jun-03		C21-C40	730	mg/k	730	1	1
C	Soil	S-4-0.5	0.5	04-Jun-03		C21-C40	510	mg/k	510	1	0
C	Soil	S-4-0.5	0.5	04-Jun-03		C16-C21	8	mg/k	8	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03		C12-C16	8	mg/k	8	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03		C10-C25	170	mg/k	170	1	1
C	Soil	S-4-0.5	0.5	04-Jun-03		C10-C12	4	mg/k	4	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.04	mg/k	0.04	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.04	mg/k	0.04	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.078	mg/k	0.078	1	1
C	Soil	S-4-0.5	0.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.078	mg/k	0.078	1	1
C	Soil	S-4-0.5	0.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.04	mg/k	0.04	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	7440-39-3	Barium	34	mg/k	34	1	1
C	Soil	S-4-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	2.6	mg/k	2.6	1	1
C	Soil	S-4-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	120-12-7	Anthracene	0.04	mg/k	0.04	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	208-96-8	Acenaphthylene	0.04	mg/k	0.04	0	1
C	Soil	S-4-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	7439-92-1	Lead	1.2	mg/k	1.2	1	1
C	Soil	S-4-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	7440-02-0	Nickel	8.6	mg/k	8.6	1	1
C	Soil	S-4-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	S-4-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	7440-50-8	Copper	2	mg/k	2	1	1
C	Soil	S-4-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	7440-47-3	Chromium	18	mg/k	18	1	1
C	Soil	S-4-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	7440-66-6	Zinc	16	mg/k	16	1	1
C	Soil	S-4-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	10	mg/k	10	1	1
C	Soil	S-4-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03		C25-C40	21	mg/k	21	1	1
C	Soil	S-4-2.5	2.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	S-4-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	7440-39-3	Barium	48	mg/k	48	1	1
C	Soil	S-4-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	4.6	mg/k	4.6	1	1
C	Soil	S-4-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
C	Soil	S-4-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	17	mg/k	17	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	7440-66-6	Zinc	64	mg/k	64	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.043	mg/k	0.043	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.015	mg/k	0.015	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	7440-39-3	Barium	61	mg/k	61	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.023	mg/k	0.023	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.06	mg/k	0.06	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.015	mg/k	0.015	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03		C10-C25	390	mg/k	390	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03		C25-C40	1200	mg/k	1200	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.017	mg/k	0.017	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.015	mg/k	0.015	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	9.5	mg/k	9.5	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	S-6-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	7439-92-1	Lead	59	mg/k	59	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.2	mg/k	0.2	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.015	mg/k	0.015	0	0
C	Soil	S-6-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	7440-02-0	Nickel	14	mg/k	14	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.015	mg/k	0.015	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.047	mg/k	0.047	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.015	mg/k	0.015	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.015	mg/k	0.015	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	7440-47-3	Chromium	16	mg/k	16	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.15	mg/k	0.15	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	2.8	mg/k	2.8	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.018	mg/k	0.018	1	1
C	Soil	S-6-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.015	mg/k	0.015	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.015	mg/k	0.015	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
C	Soil	S-6-0.5	0.5	05-Jun-03	7440-50-8	Copper	4.5	mg/k	4.5	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.03	mg/k	0.03	0	0
C	Soil	S-6-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.03	mg/k	0.03	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	85-01-8	Phenanthrene	0.03	mg/k	0.03	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	7440-02-0	Nickel	13	mg/k	13	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	S-6-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.2	mg/k	0.2	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	86-73-7	Fluorene	0.03	mg/k	0.03	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	206-44-0	Fluoranthene	0.039	mg/k	0.039	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	7439-92-1	Lead	48	mg/k	48	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	7440-66-6	Zinc	49	mg/k	49	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	16	mg/k	16	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	129-00-0	Pyrene	0.076	mg/k	0.076	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	208-96-8	Acenaphthylene	0.03	mg/k	0.03	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.055	mg/k	0.055	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03	83-32-9	Acenaphthene	0.03	mg/k	0.03	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	120-12-7	Anthracene	0.03	mg/k	0.03	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	8.4	mg/k	8.4	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03	7440-39-3	Barium	66	mg/k	66	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.041	mg/k	0.041	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.15	mg/k	0.15	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03		C12-C16	6	mg/k	6	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03		C21-C40	340	mg/k	340	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03		C21-C40	240	mg/k	240	1	0
C	Soil	S-6-2.5	2.5	05-Jun-03		C16-C21	37	mg/k	37	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	S-6-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03		C10-C25	360	mg/k	360	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03		C10-C12	3	mg/k	3	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03		C25-C40	1300	mg/k	1300	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.058	mg/k	0.058	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03		C16-C21	16	mg/k	16	1	0
C	Soil	S-6-2.5	2.5	05-Jun-03	218-01-9	Chrysene	0.26	mg/k	0.26	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.03	mg/k	0.03	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	7440-50-8	Copper	4.1	mg/k	4.1	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	3.7	mg/k	3.7	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	7440-47-3	Chromium	14	mg/k	14	1	1
C	Soil	S-6-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.03	mg/k	0.03	0	1
C	Soil	S-6-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	205-99-2	Benzo(b)fluoranthene	6.8	ug/kg	0.0068	1	1
C	Soil	SV-41-01	1	13-Jul-07		DRO (C10-C24)	35	mg/k	35	1	1
C	Soil	SV-41-01	1	13-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
C	Soil	SV-41-01	1	13-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
C	Soil	SV-41-01	1	13-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	7439-97-6	Mercury	0.046	mg/k	0.046	1	1
C	Soil	SV-41-01	1	13-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	7439-92-1	Lead	16	mg/k	16	1	1
C	Soil	SV-41-01	1	13-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	11	ug/kg	0.011	1	1
C	Soil	SV-41-01	1	13-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	86-73-7	Fluorene	5.7	ug/kg	0.0057	0	1
C	Soil	SV-41-01	1	13-Jul-07	206-44-0	Fluoranthene	5.7	ug/kg	0.0057	0	1
C	Soil	SV-41-01	1	13-Jul-07	56-55-3	Benzo(a)anthracene	5.7	ug/kg	0.0057	0	1
C	Soil	SV-41-01	1	13-Jul-07	7440-50-8	Copper	5.7	mg/k	5.7	1	1
C	Soil	SV-41-01	1	13-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	7440-47-3	Chromium	34	mg/k	34	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-41-01	1	13-Jul-07	218-01-9	Chrysene	14	ug/kg	0.014	1	1
C	Soil	SV-41-01	1	13-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	7440-48-4	Cobalt	2.3	mg/k	2.3	1	1
C	Soil	SV-41-01	1	13-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.7	ug/kg	0.0057	0	1
C	Soil	SV-41-01	1	13-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07		Dibromofluoromethane	55.7	ug/kg	0.0557	1	1
C	Soil	SV-41-01	1	13-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	7440-02-0	Nickel	15	mg/k	15	1	1
C	Soil	SV-41-01	1	13-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07		Toluene-d8	42.1	ug/kg	0.0421	1	1
C	Soil	SV-41-01	1	13-Jul-07	91-20-3	Naphthalene	5.7	ug/kg	0.0057	0	0
C	Soil	SV-41-01	1	13-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	7440-62-2	Vanadium	31	mg/k	31	1	1
C	Soil	SV-41-01	1	13-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
C	Soil	SV-41-01	1	13-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	7440-66-6	Zinc	32	mg/k	32	1	1
C	Soil	SV-41-01	1	13-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
C	Soil	SV-41-01	1	13-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
C	Soil	SV-41-01	1	13-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	85-01-8	Phenanthrene	5.7	ug/kg	0.0057	0	1
C	Soil	SV-41-01	1	13-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07		Nitrobenzene-d5	600	ug/kg	0.6	1	1
C	Soil	SV-41-01	1	13-Jul-07		n-Octacosane	5.01	mg/k	5.01	1	0
C	Soil	SV-41-01	1	13-Jul-07		n-Octacosane	5.07	mg/k	5.07	1	1
C	Soil	SV-41-01	1	13-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.39	mg/k	0.39	0	1
C	Soil	SV-41-01	1	13-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	129-00-0	Pyrene	8.2	ug/kg	0.0082	1	1
C	Soil	SV-41-01	1	13-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
C	Soil	SV-41-01	1	13-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
C	Soil	SV-41-01	1	13-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07		ORO (C25-C40)	110	mg/k	110	1	1
C	Soil	SV-41-01	1	13-Jul-07		2-Fluorobiphenyl	870	ug/kg	0.87	1	1
C	Soil	SV-41-01	1	13-Jul-07	120-12-7	Anthracene	5.7	ug/kg	0.0057	0	1
C	Soil	SV-41-01	1	13-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	90-12-0	1-Methylnaphthalene	5.7	ug/kg	0.0057	0	1
C	Soil	SV-41-01	1	13-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	91-57-6	2-Methylnaphthalene	5.7	ug/kg	0.0057	0	1
C	Soil	SV-41-01	1	13-Jul-07		4-Bromofluorobenzene	0.0149	mg/k	0.0149	1	0
C	Soil	SV-41-01	1	13-Jul-07		4-Bromofluorobenzene	31.5	ug/kg	0.0315	1	1
C	Soil	SV-41-01	1	13-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-41-01	1	13-Jul-07	83-32-9	Acenaphthene	5.7	ug/kg	0.0057	0	1
C	Soil	SV-41-01	1	13-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
C	Soil	SV-41-01	1	13-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
C	Soil	SV-41-01	1	13-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
C	Soil	SV-41-01	1	13-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
C	Soil	SV-41-01	1	13-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
C	Soil	SV-41-01	1	13-Jul-07		C8-C40	150	mg/k	150	1	1
C	Soil	SV-41-01	1	13-Jul-07		C36-C40	16	mg/k	16	1	1
C	Soil	SV-41-01	1	13-Jul-07		C32-C35	31	mg/k	31	1	1
C	Soil	SV-41-01	1	13-Jul-07		C30-C31	18	mg/k	18	1	1
C	Soil	SV-41-01	1	13-Jul-07		C28-C29	19	mg/k	19	1	1
C	Soil	SV-41-01	1	13-Jul-07		C26-C27	21	mg/k	21	1	1
C	Soil	SV-41-01	1	13-Jul-07		C24-C25	16	mg/k	16	1	1
C	Soil	SV-41-01	1	13-Jul-07		C22-C23	11	mg/k	11	1	1
C	Soil	SV-41-01	1	13-Jul-07		C20-C21	8.4	mg/k	8.4	1	1
C	Soil	SV-41-01	1	13-Jul-07		C18-C19	4.3	mg/k	4.3	1	1
C	Soil	SV-41-01	1	13-Jul-07	208-96-8	Acenaphthylene	5.7	ug/kg	0.0057	0	1
C	Soil	SV-41-01	1	13-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
C	Soil	SV-41-01	1	13-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
C	Soil	SV-41-01	1	13-Jul-07	7440-38-2	Arsenic	21	mg/k	21	1	1
C	Soil	SV-41-01	1	13-Jul-07	7440-39-3	Barium	52	mg/k	52	1	1
C	Soil	SV-41-01	1	13-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	50-32-8	Benzo(a)pyrene	5.7	ug/kg	0.0057	0	1
C	Soil	SV-41-01	1	13-Jul-07		Terphenyl-d14	1500	ug/kg	1.5	1	1
C	Soil	SV-41-01	1	13-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
C	Soil	SV-41-01	1	13-Jul-07	207-08-9	Benzo(k)fluoranthene	5.7	ug/kg	0.0057	0	1
C	Soil	SV-41-01	1	13-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
C	Soil	SV-41-01	1	13-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
C	Soil	SV-41-01	1	13-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
C	Soil	SV-41-01	1	13-Jul-07	191-24-2	Benzo(g,h,i)perylene	33	ug/kg	0.033	1	1
C	Soil	SV-41-05	5	13-Jul-07	7440-50-8	Copper	4.5	mg/k	4.5	1	1
C	Soil	SV-41-05	5	13-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
C	Soil	SV-41-05	5	13-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
C	Soil	SV-41-05	5	13-Jul-07	7440-38-2	Arsenic	6	mg/k	6	1	1
C	Soil	SV-41-05	5	13-Jul-07	7440-39-3	Barium	44	mg/k	44	1	1
C	Soil	SV-41-05	5	13-Jul-07	71-43-2	Benzene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	56-55-3	Benzo(a)anthracene	6.1	ug/kg	0.0061	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-41-05	5	13-Jul-07	50-32-8	Benzo(a)pyrene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-41-05	5	13-Jul-07	205-99-2	Benzo(b)fluoranthene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-41-05	5	13-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-41-05	5	13-Jul-07	207-08-9	Benzo(k)fluoranthene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-41-05	5	13-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
C	Soil	SV-41-05	5	13-Jul-07	108-86-1	Bromobenzene	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	74-97-5	Bromochloromethane	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	75-27-4	Bromodichloromethane	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	120-12-7	Anthracene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-41-05	5	13-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
C	Soil	SV-41-05	5	13-Jul-07		C8-C40	5	mg/k	5	0	1
C	Soil	SV-41-05	5	13-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
C	Soil	SV-41-05	5	13-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
C	Soil	SV-41-05	5	13-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
C	Soil	SV-41-05	5	13-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
C	Soil	SV-41-05	5	13-Jul-07	75-25-2	Bromoform	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
C	Soil	SV-41-05	5	13-Jul-07	74-83-9	Bromomethane	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
C	Soil	SV-41-05	5	13-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
C	Soil	SV-41-05	5	13-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
C	Soil	SV-41-05	5	13-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
C	Soil	SV-41-05	5	13-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
C	Soil	SV-41-05	5	13-Jul-07	208-96-8	Acenaphthylene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-41-05	5	13-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
C	Soil	SV-41-05	5	13-Jul-07	78-87-5	1,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	71-55-6	1,1,1-Trichloroethane	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	79-00-5	1,1,2-Trichloroethane	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	75-34-3	1,1-Dichloroethane	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	75-35-4	1,1-Dichloroethene	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	563-58-6	1,1-Dichloropropene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
C	Soil	SV-41-05	5	13-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	106-93-4	1,2-Dibromoethane	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
C	Soil	SV-41-05	5	13-Jul-07	594-20-7	2,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	83-32-9	Acenaphthene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-41-05	5	13-Jul-07	106-43-4	4-Chlorotoluene	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07		4-Bromofluorobenzene	51.3	ug/kg	0.0513	1	1
C	Soil	SV-41-05	5	13-Jul-07		4-Bromofluorobenzene	0.0162	mg/k	0.0162	1	0
C	Soil	SV-41-05	5	13-Jul-07	91-57-6	2-Methylnaphthalene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-41-05	5	13-Jul-07	95-50-1	1,2-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	95-49-8	2-Chlorotoluene	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	107-06-2	1,2-Dichloroethane	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	90-12-0	1-Methylnaphthalene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-41-05	5	13-Jul-07	106-46-7	1,4-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	142-28-9	1,3-Dichloropropane	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	541-73-1	1,3-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	56-23-5	Carbon tetrachloride	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07		2-Fluorobiphenyl	1100	ug/kg	1.1	1	1
C	Soil	SV-41-05	5	13-Jul-07	85-01-8	Phenanthrene	6.1	ug/kg	0.0061	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-41-05	5	13-Jul-07	104-51-8	n-Butylbenzene	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	100-42-5	Styrene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
C	Soil	SV-41-05	5	13-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
C	Soil	SV-41-05	5	13-Jul-07	135-98-8	sec-Butylbenzene	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	994-05-8	Tert-amyl methyl ether	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	99-87-6	p-Isopropyltoluene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
C	Soil	SV-41-05	5	13-Jul-07	95-47-6	o-Xylene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
C	Soil	SV-41-05	5	13-Jul-07	103-65-1	n-Propylbenzene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07		n-Octacosane	4.49	mg/k	4.49	1	1
C	Soil	SV-41-05	5	13-Jul-07		Nitrobenzene-d5	1300	ug/kg	1.3	1	1
C	Soil	SV-41-05	5	13-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
C	Soil	SV-41-05	5	13-Jul-07	129-00-0	Pyrene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-41-05	5	13-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	7440-66-6	Zinc	18	mg/k	18	1	1
C	Soil	SV-41-05	5	13-Jul-07	1330-20-7	Xylenes (total)	4.1	ug/kg	0.0041	0	1
C	Soil	SV-41-05	5	13-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
C	Soil	SV-41-05	5	13-Jul-07	75-01-4	Vinyl chloride	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	7440-62-2	Vanadium	22	mg/k	22	1	1
C	Soil	SV-41-05	5	13-Jul-07		Terphenyl-d14	1800	ug/kg	1.8	1	1
C	Soil	SV-41-05	5	13-Jul-07	79-01-6	Trichloroethene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	91-20-3	Naphthalene	6.1	ug/kg	0.0061	0	0
C	Soil	SV-41-05	5	13-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07		Toluene-d8	56.2	ug/kg	0.0562	1	1
C	Soil	SV-41-05	5	13-Jul-07	108-88-3	Toluene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
C	Soil	SV-41-05	5	13-Jul-07	127-18-4	Tetrachloroethene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	98-06-6	tert-Butylbenzene	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	75-69-4	Trichlorofluoromethane	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	637-92-3	Ethyl tert butyl ether	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	108-90-7	Chlorobenzene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	75-00-3	Chloroethane	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	67-66-3	Chloroform	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	74-87-3	Chloromethane	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	7440-47-3	Chromium	30	mg/k	30	1	1
C	Soil	SV-41-05	5	13-Jul-07	218-01-9	Chrysene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-41-05	5	13-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	7440-48-4	Cobalt	1.5	mg/k	1.5	1	1
C	Soil	SV-41-05	5	13-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-41-05	5	13-Jul-07	124-48-1	Dibromochloromethane	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07		Dibromofluoromethane	53.3	ug/kg	0.0533	1	1
C	Soil	SV-41-05	5	13-Jul-07	74-95-3	Dibromomethane	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	7440-02-0	Nickel	9	mg/k	9	1	1
C	Soil	SV-41-05	5	13-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
C	Soil	SV-41-05	5	13-Jul-07	98-82-8	Isopropylbenzene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	91-20-3	Naphthalene	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
C	Soil	SV-41-05	5	13-Jul-07	75-09-2	Methylene chloride	21	ug/kg	0.021	0	1
C	Soil	SV-41-05	5	13-Jul-07	1634-04-4	Methyl tert-butyl ether	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
C	Soil	SV-41-05	5	13-Jul-07	75-71-8	Dichlorodifluoromethane	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	7439-92-1	Lead	3.9	mg/k	3.9	1	1
C	Soil	SV-41-05	5	13-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	108-20-3	Isopropyl ether	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.1	ug/kg	0.0061	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-41-05	5	13-Jul-07	87-68-3	Hexachlorobutadiene	5.2	ug/kg	0.0052	0	1
C	Soil	SV-41-05	5	13-Jul-07	86-73-7	Fluorene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-41-05	5	13-Jul-07	206-44-0	Fluoranthene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-41-05	5	13-Jul-07	100-41-4	Ethylbenzene	2.1	ug/kg	0.0021	0	1
C	Soil	SV-41-05	5	13-Jul-07	179601-23-1	m,p-Xylenes	2.1	ug/kg	0.0021	0	1
C	Soil	SV-45-01	1	12-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
C	Soil	SV-45-01	1	12-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
C	Soil	SV-45-01	1	12-Jul-07	7440-39-3	Barium	41	mg/k	41	1	1
C	Soil	SV-45-01	1	12-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	56-55-3	Benzo(a)anthracene	13	ug/kg	0.013	1	1
C	Soil	SV-45-01	1	12-Jul-07	50-32-8	Benzo(a)pyrene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-01	1	12-Jul-07	205-99-2	Benzo(b)fluoranthene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-01	1	12-Jul-07	191-24-2	Benzo(g,h,i)perylene	11	ug/kg	0.011	1	1
C	Soil	SV-45-01	1	12-Jul-07	207-08-9	Benzo(k)fluoranthene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-01	1	12-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
C	Soil	SV-45-01	1	12-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
C	Soil	SV-45-01	1	12-Jul-07	7440-66-6	Zinc	25	mg/k	25	1	1
C	Soil	SV-45-01	1	12-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
C	Soil	SV-45-01	1	12-Jul-07		C8-C40	5.3	mg/k	5.3	1	1
C	Soil	SV-45-01	1	12-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
C	Soil	SV-45-01	1	12-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
C	Soil	SV-45-01	1	12-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
C	Soil	SV-45-01	1	12-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
C	Soil	SV-45-01	1	12-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
C	Soil	SV-45-01	1	12-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
C	Soil	SV-45-01	1	12-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
C	Soil	SV-45-01	1	12-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
C	Soil	SV-45-01	1	12-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
C	Soil	SV-45-01	1	12-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
C	Soil	SV-45-01	1	12-Jul-07	120-12-7	Anthracene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-01	1	12-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
C	Soil	SV-45-01	1	12-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	7440-38-2	Arsenic	2.4	mg/k	2.4	1	1
C	Soil	SV-45-01	1	12-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1
C	Soil	SV-45-01	1	12-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07		2-Fluorobiphenyl	1200	ug/kg	1.2	1	1
C	Soil	SV-45-01	1	12-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	208-96-8	Acenaphthylene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-01	1	12-Jul-07	83-32-9	Acenaphthene	6.7	ug/kg	0.0067	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-45-01	1	12-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07		4-Bromofluorobenzene	37.8	ug/kg	0.0378	1	1
C	Soil	SV-45-01	1	12-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	91-57-6	2-Methylnaphthalene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-01	1	12-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
C	Soil	SV-45-01	1	12-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	90-12-0	1-Methylnaphthalene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-01	1	12-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07		4-Bromofluorobenzene	0.0154	mg/k	0.0154	1	0
C	Soil	SV-45-01	1	12-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
C	Soil	SV-45-01	1	12-Jul-07		Nitrobenzene-d5	950	ug/kg	0.95	1	1
C	Soil	SV-45-01	1	12-Jul-07		n-Octacosane	5.07	mg/k	5.07	1	0
C	Soil	SV-45-01	1	12-Jul-07		n-Octacosane	5.12	mg/k	5.12	1	1
C	Soil	SV-45-01	1	12-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
C	Soil	SV-45-01	1	12-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	85-01-8	Phenanthrene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-01	1	12-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	129-00-0	Pyrene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-01	1	12-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
C	Soil	SV-45-01	1	12-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
C	Soil	SV-45-01	1	12-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07		Toluene-d8	45.4	ug/kg	0.0454	1	1
C	Soil	SV-45-01	1	12-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.38	mg/k	0.38	0	1
C	Soil	SV-45-01	1	12-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	7440-62-2	Vanadium	24	mg/k	24	1	1
C	Soil	SV-45-01	1	12-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07		Terphenyl-d14	1700	ug/kg	1.7	1	1
C	Soil	SV-45-01	1	12-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
C	Soil	SV-45-01	1	12-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
C	Soil	SV-45-01	1	12-Jul-07	91-20-3	Naphthalene	6.7	ug/kg	0.0067	0	0
C	Soil	SV-45-01	1	12-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	7440-02-0	Nickel	15	mg/k	15	1	1
C	Soil	SV-45-01	1	12-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07		Dibromofluoromethane	50.4	ug/kg	0.0504	1	1
C	Soil	SV-45-01	1	12-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-01	1	12-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
C	Soil	SV-45-01	1	12-Jul-07	7440-48-4	Cobalt	3.1	mg/k	3.1	1	1
C	Soil	SV-45-01	1	12-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	218-01-9	Chrysene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-01	1	12-Jul-07	7440-47-3	Chromium	31	mg/k	31	1	1
C	Soil	SV-45-01	1	12-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-45-01	1	12-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	7440-50-8	Copper	5.8	mg/k	5.8	1	1
C	Soil	SV-45-01	1	12-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
C	Soil	SV-45-01	1	12-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
C	Soil	SV-45-01	1	12-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	7439-97-6	Mercury	0.037	mg/k	0.037	1	1
C	Soil	SV-45-01	1	12-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	7439-92-1	Lead	2.8	mg/k	2.8	1	1
C	Soil	SV-45-01	1	12-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-01	1	12-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
C	Soil	SV-45-01	1	12-Jul-07	86-73-7	Fluorene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-01	1	12-Jul-07	206-44-0	Fluoranthene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-01	1	12-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-45-01	1	12-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
C	Soil	SV-45-05	5	12-Jul-07	91-57-6	2-Methylnaphthalene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-05	5	12-Jul-07		C20-C21	14	mg/k	14	1	1
C	Soil	SV-45-05	5	12-Jul-07	67-66-3	Chloroform	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	205-99-2	Benzo(b)fluoranthene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-05	5	12-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-05	5	12-Jul-07	207-08-9	Benzo(k)fluoranthene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-05	5	12-Jul-07	7440-41-7	Beryllium	0.84	mg/k	0.84	1	1
C	Soil	SV-45-05	5	12-Jul-07	108-86-1	Bromobenzene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	74-97-5	Bromochloromethane	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	75-27-4	Bromodichloromethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	75-25-2	Bromoform	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	74-83-9	Bromomethane	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
C	Soil	SV-45-05	5	12-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
C	Soil	SV-45-05	5	12-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
C	Soil	SV-45-05	5	12-Jul-07	56-55-3	Benzo(a)anthracene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-05	5	12-Jul-07		C32-C35	31	mg/k	31	1	1
C	Soil	SV-45-05	5	12-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	108-90-7	Chlorobenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	56-23-5	Carbon tetrachloride	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
C	Soil	SV-45-05	5	12-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
C	Soil	SV-45-05	5	12-Jul-07		C16-C17	4.2	mg/k	4.2	1	1
C	Soil	SV-45-05	5	12-Jul-07		C36-C40	18	mg/k	18	1	1
C	Soil	SV-45-05	5	12-Jul-07		C18-C19	5.4	mg/k	5.4	1	1
C	Soil	SV-45-05	5	12-Jul-07		C30-C31	21	mg/k	21	1	1
C	Soil	SV-45-05	5	12-Jul-07		C28-C29	20	mg/k	20	1	1
C	Soil	SV-45-05	5	12-Jul-07		C26-C27	19	mg/k	19	1	1
C	Soil	SV-45-05	5	12-Jul-07		C24-C25	17	mg/k	17	1	1
C	Soil	SV-45-05	5	12-Jul-07		C22-C23	13	mg/k	13	1	1
C	Soil	SV-45-05	5	12-Jul-07	71-43-2	Benzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07		C8-C40	160	mg/k	160	1	1
C	Soil	SV-45-05	5	12-Jul-07	108-67-8	1,3,5-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	71-55-6	1,1,1-Trichloroethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	79-00-5	1,1,2-Trichloroethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	75-34-3	1,1-Dichloroethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	75-35-4	1,1-Dichloroethene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	563-58-6	1,1-Dichloropropene	1.9	ug/kg	0.0019	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-45-05	5	12-Jul-07	87-61-6	1,2,3-Trichlorobenzene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	96-18-4	1,2,3-Trichloropropane	9.6	ug/kg	0.0096	0	1
C	Soil	SV-45-05	5	12-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	95-63-6	1,2,4-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	106-93-4	1,2-Dibromoethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	95-50-1	1,2-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	50-32-8	Benzo(a)pyrene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-05	5	12-Jul-07		2-Fluorobiphenyl	1200	ug/kg	1.2	1	1
C	Soil	SV-45-05	5	12-Jul-07	7440-39-3	Barium	59	mg/k	59	1	1
C	Soil	SV-45-05	5	12-Jul-07	7440-38-2	Arsenic	4.2	mg/k	4.2	1	1
C	Soil	SV-45-05	5	12-Jul-07	120-12-7	Anthracene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-05	5	12-Jul-07	83-32-9	Acenaphthene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-05	5	12-Jul-07	106-43-4	4-Chlorotoluene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	107-06-2	1,2-Dichloroethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07		4-Bromofluorobenzene	0.0147	mg/k	0.0147	1	0
C	Soil	SV-45-05	5	12-Jul-07	78-87-5	1,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	594-20-7	2,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	90-12-0	1-Methylnaphthalene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-05	5	12-Jul-07	106-46-7	1,4-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	142-28-9	1,3-Dichloropropane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	541-73-1	1,3-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	74-87-3	Chloromethane	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07		4-Bromofluorobenzene	45.2	ug/kg	0.0452	1	1
C	Soil	SV-45-05	5	12-Jul-07	98-06-6	tert-Butylbenzene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	75-00-3	Chloroethane	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07		n-Octacosane	8.12	mg/k	8.12	1	1
C	Soil	SV-45-05	5	12-Jul-07	103-65-1	n-Propylbenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07		ORO (C25-C40)	120	mg/k	120	1	1
C	Soil	SV-45-05	5	12-Jul-07	95-47-6	o-Xylene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	85-01-8	Phenanthrene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-05	5	12-Jul-07	99-87-6	p-Isopropyltoluene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	129-00-0	Pyrene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-05	5	12-Jul-07	135-98-8	sec-Butylbenzene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
C	Soil	SV-45-05	5	12-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
C	Soil	SV-45-05	5	12-Jul-07	100-42-5	Styrene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07		Terphenyl-d14	1800	ug/kg	1.8	1	1
C	Soil	SV-45-05	5	12-Jul-07		Nitrobenzene-d5	990	ug/kg	0.99	1	1
C	Soil	SV-45-05	5	12-Jul-07	10061-02-6	trans-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	7440-66-6	Zinc	29	mg/k	29	1	1
C	Soil	SV-45-05	5	12-Jul-07	1330-20-7	Xylenes (total)	3.8	ug/kg	0.0038	0	1
C	Soil	SV-45-05	5	12-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
C	Soil	SV-45-05	5	12-Jul-07	75-01-4	Vinyl chloride	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	7440-62-2	Vanadium	22	mg/k	22	1	1
C	Soil	SV-45-05	5	12-Jul-07	994-05-8	Tert-amyl methyl ether	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	79-01-6	Trichloroethene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	75-65-0	tert-Butyl alcohol	96	ug/kg	0.096	0	1
C	Soil	SV-45-05	5	12-Jul-07	156-60-5	trans-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07		Toluene-d8	50.9	ug/kg	0.0509	1	1
C	Soil	SV-45-05	5	12-Jul-07	108-88-3	Toluene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
C	Soil	SV-45-05	5	12-Jul-07	127-18-4	Tetrachloroethene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	7440-02-0	Nickel	13	mg/k	13	1	1
C	Soil	SV-45-05	5	12-Jul-07	75-69-4	Trichlorofluoromethane	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	86-73-7	Fluorene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-05	5	12-Jul-07	7440-47-3	Chromium	28	mg/k	28	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-45-05	5	12-Jul-07	218-01-9	Chrysene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-05	5	12-Jul-07	156-59-2	cis-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	10061-01-5	cis-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	7440-48-4	Cobalt	3.8	mg/k	3.8	1	1
C	Soil	SV-45-05	5	12-Jul-07	7440-50-8	Copper	7.2	mg/k	7.2	1	1
C	Soil	SV-45-05	5	12-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-05	5	12-Jul-07	124-48-1	Dibromochloromethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07		Dibromofluoromethane	49.2	ug/kg	0.0492	1	1
C	Soil	SV-45-05	5	12-Jul-07	74-95-3	Dibromomethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	75-71-8	Dichlorodifluoromethane	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07		DRO (C10-C24)	45	mg/k	45	1	1
C	Soil	SV-45-05	5	12-Jul-07	637-92-3	Ethyl tert butyl ether	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07		n-Octacosane	7.69	mg/k	7.69	1	0
C	Soil	SV-45-05	5	12-Jul-07	179601-23-1	m,p-Xylenes	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	104-51-8	n-Butylbenzene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	91-20-3	Naphthalene	6.7	ug/kg	0.0067	0	0
C	Soil	SV-45-05	5	12-Jul-07	91-20-3	Naphthalene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	7439-98-7	Molybdenum	2.5	mg/k	2.5	1	1
C	Soil	SV-45-05	5	12-Jul-07	75-09-2	Methylene chloride	19	ug/kg	0.019	0	1
C	Soil	SV-45-05	5	12-Jul-07	100-41-4	Ethylbenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	7439-97-6	Mercury	0.026	mg/k	0.026	1	1
C	Soil	SV-45-05	5	12-Jul-07	206-44-0	Fluoranthene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-05	5	12-Jul-07	7439-92-1	Lead	4.6	mg/k	4.6	1	1
C	Soil	SV-45-05	5	12-Jul-07	98-82-8	Isopropylbenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-45-05	5	12-Jul-07	108-20-3	Isopropyl ether	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-05	5	12-Jul-07	87-68-3	Hexachlorobutadiene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	208-96-8	Acenaphthylene	6.7	ug/kg	0.0067	0	1
C	Soil	SV-45-05	5	12-Jul-07	1634-04-4	Methyl tert-butyl ether	4.8	ug/kg	0.0048	0	1
C	Soil	SV-45-05	5	12-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
C	Soil	SV-45-05	5	12-Jul-07	95-49-8	2-Chlorotoluene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-01	1	12-Jul-07	50-32-8	Benzo(a)pyrene	5.5	ug/kg	0.0055	0	1
C	Soil	SV-50-01	1	12-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
C	Soil	SV-50-01	1	12-Jul-07	207-08-9	Benzo(k)fluoranthene	8	ug/kg	0.008	1	1
C	Soil	SV-50-01	1	12-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
C	Soil	SV-50-01	1	12-Jul-07	205-99-2	Benzo(b)fluoranthene	5.6	ug/kg	0.0056	1	1
C	Soil	SV-50-01	1	12-Jul-07		C10-C11	7	mg/k	7	0	1
C	Soil	SV-50-01	1	12-Jul-07	56-55-3	Benzo(a)anthracene	14	ug/kg	0.014	1	1
C	Soil	SV-50-01	1	12-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	7440-39-3	Barium	48	mg/k	48	1	1
C	Soil	SV-50-01	1	12-Jul-07	7440-38-2	Arsenic	11	mg/k	11	1	1
C	Soil	SV-50-01	1	12-Jul-07	191-24-2	Benzo(g,h,i)perylene	9.3	ug/kg	0.0093	1	1
C	Soil	SV-50-01	1	12-Jul-07		C22-C23	49	mg/k	49	1	1
C	Soil	SV-50-01	1	12-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
C	Soil	SV-50-01	1	12-Jul-07		C8-C9	7	mg/k	7	0	1
C	Soil	SV-50-01	1	12-Jul-07		C8-C40	590	mg/k	590	1	1
C	Soil	SV-50-01	1	12-Jul-07		C36-C40	44	mg/k	44	1	1
C	Soil	SV-50-01	1	12-Jul-07		C32-C35	110	mg/k	110	1	1
C	Soil	SV-50-01	1	12-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07		C26-C27	100	mg/k	100	1	1
C	Soil	SV-50-01	1	12-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07		C20-C21	32	mg/k	32	1	1
C	Soil	SV-50-01	1	12-Jul-07		C18-C19	16	mg/k	16	1	1
C	Soil	SV-50-01	1	12-Jul-07		C16-C17	8.2	mg/k	8.2	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-50-01	1	12-Jul-07		C14-C15	7	mg/k	7	0	1
C	Soil	SV-50-01	1	12-Jul-07		C12-C13	7	mg/k	7	0	1
C	Soil	SV-50-01	1	12-Jul-07	208-96-8	Acenaphthylene	5.5	ug/kg	0.0055	0	1
C	Soil	SV-50-01	1	12-Jul-07		C30-C31	86	mg/k	86	1	1
C	Soil	SV-50-01	1	12-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
C	Soil	SV-50-01	1	12-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
C	Soil	SV-50-01	1	12-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07		C28-C29	70	mg/k	70	1	1
C	Soil	SV-50-01	1	12-Jul-07	83-32-9	Acenaphthene	5.5	ug/kg	0.0055	0	1
C	Soil	SV-50-01	1	12-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07		4-Bromofluorobenzene	38.9	ug/kg	0.0389	1	1
C	Soil	SV-50-01	1	12-Jul-07		4-Bromofluorobenzene	0.0135	mg/k	0.0135	1	0
C	Soil	SV-50-01	1	12-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07		2-Fluorobiphenyl	1200	ug/kg	1.2	1	1
C	Soil	SV-50-01	1	12-Jul-07	120-12-7	Anthracene	5.5	ug/kg	0.0055	0	1
C	Soil	SV-50-01	1	12-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	90-12-0	1-Methylnaphthalene	5.5	ug/kg	0.0055	0	1
C	Soil	SV-50-01	1	12-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	91-57-6	2-Methylnaphthalene	5.5	ug/kg	0.0055	0	1
C	Soil	SV-50-01	1	12-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07		Terphenyl-d14	1800	ug/kg	1.8	1	1
C	Soil	SV-50-01	1	12-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
C	Soil	SV-50-01	1	12-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
C	Soil	SV-50-01	1	12-Jul-07		Nitrobenzene-d5	890	ug/kg	0.89	1	1
C	Soil	SV-50-01	1	12-Jul-07		C24-C25	65	mg/k	65	1	1
C	Soil	SV-50-01	1	12-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07		ORO (C25-C40)	440	mg/k	440	1	1
C	Soil	SV-50-01	1	12-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07		n-Octacosane	15.2	mg/k	15.2	1	1
C	Soil	SV-50-01	1	12-Jul-07		n-Octacosane	15.1	mg/k	15.1	1	0
C	Soil	SV-50-01	1	12-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
C	Soil	SV-50-01	1	12-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	7440-66-6	Zinc	20	mg/k	20	1	1
C	Soil	SV-50-01	1	12-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-50-01	1	12-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
C	Soil	SV-50-01	1	12-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
C	Soil	SV-50-01	1	12-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07		Toluene-d8	47.9	ug/kg	0.0479	1	1
C	Soil	SV-50-01	1	12-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
C	Soil	SV-50-01	1	12-Jul-07	85-01-8	Phenanthrene	5.5	ug/kg	0.0055	0	1
C	Soil	SV-50-01	1	12-Jul-07	7440-62-2	Vanadium	29	mg/k	29	1	1
C	Soil	SV-50-01	1	12-Jul-07	218-01-9	Chrysene	5.5	ug/kg	0.0055	0	1
C	Soil	SV-50-01	1	12-Jul-07		Dibromofluoromethane	49.7	ug/kg	0.0497	1	1
C	Soil	SV-50-01	1	12-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	7440-50-8	Copper	5.9	mg/k	5.9	1	1
C	Soil	SV-50-01	1	12-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	129-00-0	Pyrene	5.5	ug/kg	0.0055	0	1
C	Soil	SV-50-01	1	12-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.5	ug/kg	0.0055	0	1
C	Soil	SV-50-01	1	12-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	7440-47-3	Chromium	25	mg/k	25	1	1
C	Soil	SV-50-01	1	12-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	7440-02-0	Nickel	18	mg/k	18	1	1
C	Soil	SV-50-01	1	12-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	91-20-3	Naphthalene	5.5	ug/kg	0.0055	0	0
C	Soil	SV-50-01	1	12-Jul-07	7439-97-6	Mercury	0.029	mg/k	0.029	1	1
C	Soil	SV-50-01	1	12-Jul-07	7440-48-4	Cobalt	1.8	mg/k	1.8	1	1
C	Soil	SV-50-01	1	12-Jul-07	7439-92-1	Lead	12	mg/k	12	1	1
C	Soil	SV-50-01	1	12-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.5	ug/kg	0.0055	0	1
C	Soil	SV-50-01	1	12-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07	86-73-7	Fluorene	5.5	ug/kg	0.0055	0	1
C	Soil	SV-50-01	1	12-Jul-07	206-44-0	Fluoranthene	5.5	ug/kg	0.0055	0	1
C	Soil	SV-50-01	1	12-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-50-01	1	12-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-50-01	1	12-Jul-07		DRO (C10-C24)	150	mg/k	150	1	1
C	Soil	SV-50-01	1	12-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
C	Soil	SV-50-05	5	12-Jul-07	75-65-0	tert-Butyl alcohol	96	ug/kg	0.096	0	1
C	Soil	SV-50-05	5	12-Jul-07	10061-02-6	trans-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	98-06-6	tert-Butylbenzene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	127-18-4	Tetrachloroethene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
C	Soil	SV-50-05	5	12-Jul-07	108-88-3	Toluene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07		Toluene-d8	51.6	ug/kg	0.0516	1	1
C	Soil	SV-50-05	5	12-Jul-07	156-60-5	trans-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	79-01-6	Trichloroethene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	75-69-4	Trichlorofluoromethane	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	7440-62-2	Vanadium	34	mg/k	34	1	1
C	Soil	SV-50-05	5	12-Jul-07	75-01-4	Vinyl chloride	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-50-05	5	12-Jul-07	1330-20-7	Xylenes (total)	3.9	ug/kg	0.0039	0	1
C	Soil	SV-50-05	5	12-Jul-07	7440-66-6	Zinc	25	mg/k	25	1	1
C	Soil	SV-50-05	5	12-Jul-07	994-05-8	Tert-amyl methyl ether	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	75-09-2	Methylene chloride	19	ug/kg	0.019	0	1
C	Soil	SV-50-05	5	12-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
C	Soil	SV-50-05	5	12-Jul-07	91-20-3	Naphthalene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	208-96-8	Acenaphthylene	6.2	ug/kg	0.0062	0	1
C	Soil	SV-50-05	5	12-Jul-07		C36-C40	13	mg/k	13	1	1
C	Soil	SV-50-05	5	12-Jul-07	120-12-7	Anthracene	6.2	ug/kg	0.0062	0	1
C	Soil	SV-50-05	5	12-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
C	Soil	SV-50-05	5	12-Jul-07	7440-38-2	Arsenic	6	mg/k	6	1	1
C	Soil	SV-50-05	5	12-Jul-07	7440-39-3	Barium	75	mg/k	75	1	1
C	Soil	SV-50-05	5	12-Jul-07	71-43-2	Benzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	56-55-3	Benzo(a)anthracene	31	ug/kg	0.031	1	1
C	Soil	SV-50-05	5	12-Jul-07	50-32-8	Benzo(a)pyrene	14	ug/kg	0.014	1	1
C	Soil	SV-50-05	5	12-Jul-07	205-99-2	Benzo(b)fluoranthene	11	ug/kg	0.011	1	1
C	Soil	SV-50-05	5	12-Jul-07	106-43-4	4-Chlorotoluene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	207-08-9	Benzo(k)fluoranthene	6.2	ug/kg	0.0062	0	1
C	Soil	SV-50-05	5	12-Jul-07		4-Bromofluorobenzene	45.1	ug/kg	0.0451	1	1
C	Soil	SV-50-05	5	12-Jul-07	108-86-1	Bromobenzene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	74-97-5	Bromochloromethane	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	75-27-4	Bromodichloromethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	75-25-2	Bromoform	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	74-83-9	Bromomethane	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
C	Soil	SV-50-05	5	12-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
C	Soil	SV-50-05	5	12-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
C	Soil	SV-50-05	5	12-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
C	Soil	SV-50-05	5	12-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
C	Soil	SV-50-05	5	12-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
C	Soil	SV-50-05	5	12-Jul-07	191-24-2	Benzo(g,h,i)perylene	16	ug/kg	0.016	1	1
C	Soil	SV-50-05	5	12-Jul-07	107-06-2	1,2-Dichloroethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	71-55-6	1,1,1-Trichloroethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	79-00-5	1,1,2-Trichloroethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	75-34-3	1,1-Dichloroethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	75-35-4	1,1-Dichloroethene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	563-58-6	1,1-Dichloropropene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	87-61-6	1,2,3-Trichlorobenzene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	96-18-4	1,2,3-Trichloropropane	9.6	ug/kg	0.0096	0	1
C	Soil	SV-50-05	5	12-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	95-63-6	1,2,4-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	83-32-9	Acenaphthene	6.2	ug/kg	0.0062	0	1
C	Soil	SV-50-05	5	12-Jul-07	95-50-1	1,2-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07		C26-C27	7	mg/k	7	1	1
C	Soil	SV-50-05	5	12-Jul-07	78-87-5	1,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	108-67-8	1,3,5-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	541-73-1	1,3-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	142-28-9	1,3-Dichloropropane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	106-46-7	1,4-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	90-12-0	1-Methylnaphthalene	6.2	ug/kg	0.0062	0	1
C	Soil	SV-50-05	5	12-Jul-07	594-20-7	2,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	95-49-8	2-Chlorotoluene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07		2-Fluorobiphenyl	980	ug/kg	0.98	1	1
C	Soil	SV-50-05	5	12-Jul-07	91-57-6	2-Methylnaphthalene	6.2	ug/kg	0.0062	0	1
C	Soil	SV-50-05	5	12-Jul-07		4-Bromofluorobenzene	0.0155	mg/k	0.0155	1	0

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-50-05	5	12-Jul-07	106-93-4	1,2-Dibromoethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07		n-Octacosane	5.98	mg/k	5.98	1	0
C	Soil	SV-50-05	5	12-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	8.9	ug/kg	0.0089	1	1
C	Soil	SV-50-05	5	12-Jul-07	108-20-3	Isopropyl ether	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	98-82-8	Isopropylbenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	7439-92-1	Lead	5.5	mg/k	5.5	1	1
C	Soil	SV-50-05	5	12-Jul-07	179601-23-1	m,p-Xylenes	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	7439-97-6	Mercury	0.023	mg/k	0.023	1	1
C	Soil	SV-50-05	5	12-Jul-07	1634-04-4	Methyl tert-butyl ether	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
C	Soil	SV-50-05	5	12-Jul-07	91-20-3	Naphthalene	6.2	ug/kg	0.0062	0	0
C	Soil	SV-50-05	5	12-Jul-07	104-51-8	n-Butylbenzene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07		C22-C23	4.6	mg/k	4.6	1	1
C	Soil	SV-50-05	5	12-Jul-07		Nitrobenzene-d5	740	ug/kg	0.74	1	1
C	Soil	SV-50-05	5	12-Jul-07	206-44-0	Fluoranthene	6.2	ug/kg	0.0062	0	1
C	Soil	SV-50-05	5	12-Jul-07		n-Octacosane	6	mg/k	6	1	1
C	Soil	SV-50-05	5	12-Jul-07	103-65-1	n-Propylbenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07		ORO (C25-C40)	54	mg/k	54	1	1
C	Soil	SV-50-05	5	12-Jul-07	95-47-6	o-Xylene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	85-01-8	Phenanthrene	6.2	ug/kg	0.0062	0	1
C	Soil	SV-50-05	5	12-Jul-07	99-87-6	p-Isopropyltoluene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	129-00-0	Pyrene	10	ug/kg	0.01	1	1
C	Soil	SV-50-05	5	12-Jul-07	135-98-8	sec-Butylbenzene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
C	Soil	SV-50-05	5	12-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
C	Soil	SV-50-05	5	12-Jul-07	100-42-5	Styrene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	7440-02-0	Nickel	19	mg/k	19	1	1
C	Soil	SV-50-05	5	12-Jul-07	156-59-2	cis-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07		Terphenyl-d14	1400	ug/kg	1.4	1	1
C	Soil	SV-50-05	5	12-Jul-07		C28-C29	6.8	mg/k	6.8	1	1
C	Soil	SV-50-05	5	12-Jul-07		C30-C31	7.5	mg/k	7.5	1	1
C	Soil	SV-50-05	5	12-Jul-07		C32-C35	15	mg/k	15	1	1
C	Soil	SV-50-05	5	12-Jul-07		C8-C40	69	mg/k	69	1	1
C	Soil	SV-50-05	5	12-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
C	Soil	SV-50-05	5	12-Jul-07	56-23-5	Carbon tetrachloride	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	108-90-7	Chlorobenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	75-00-3	Chloroethane	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	67-66-3	Chloroform	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	74-87-3	Chloromethane	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	87-68-3	Hexachlorobutadiene	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	218-01-9	Chrysene	6.2	ug/kg	0.0062	0	1
C	Soil	SV-50-05	5	12-Jul-07	86-73-7	Fluorene	6.2	ug/kg	0.0062	0	1
C	Soil	SV-50-05	5	12-Jul-07	10061-01-5	cis-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	7440-48-4	Cobalt	2.8	mg/k	2.8	1	1
C	Soil	SV-50-05	5	12-Jul-07	7440-50-8	Copper	6.9	mg/k	6.9	1	1
C	Soil	SV-50-05	5	12-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.2	ug/kg	0.0062	1	1
C	Soil	SV-50-05	5	12-Jul-07	124-48-1	Dibromochloromethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07		Dibromofluoromethane	54.5	ug/kg	0.0545	1	1
C	Soil	SV-50-05	5	12-Jul-07	74-95-3	Dibromomethane	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07	75-71-8	Dichlorodifluoromethane	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07		DRO (C10-C24)	14	mg/k	14	1	1
C	Soil	SV-50-05	5	12-Jul-07	637-92-3	Ethyl tert butyl ether	4.8	ug/kg	0.0048	0	1
C	Soil	SV-50-05	5	12-Jul-07	100-41-4	Ethylbenzene	1.9	ug/kg	0.0019	0	1
C	Soil	SV-50-05	5	12-Jul-07		C24-C25	9.6	mg/k	9.6	1	1
C	Soil	SV-50-05	5	12-Jul-07	7440-47-3	Chromium	39	mg/k	39	1	1
C	Soil	SV-50-05	5	12-Jul-07		C8-C9	3.5	mg/k	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-51-01	1	09-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
C	Soil	SV-51-01	1	09-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07		Terphenyl-d14	1500	ug/kg	1.5	1	1
C	Soil	SV-51-01	1	09-Jul-07	129-00-0	Pyrene	98	ug/kg	0.098	1	1
C	Soil	SV-51-01	1	09-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
C	Soil	SV-51-01	1	09-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
C	Soil	SV-51-01	1	09-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
C	Soil	SV-51-01	1	09-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07		Toluene-d8	52.1	ug/kg	0.0521	1	1
C	Soil	SV-51-01	1	09-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	99-87-6	p-Isopropyltoluene	11	ug/kg	0.011	1	1
C	Soil	SV-51-01	1	09-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k		0	1
C	Soil	SV-51-01	1	09-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
C	Soil	SV-51-01	1	09-Jul-07	7440-62-2	Vanadium	13	mg/k	13	1	1
C	Soil	SV-51-01	1	09-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
C	Soil	SV-51-01	1	09-Jul-07	7440-02-0	Nickel	9.1	mg/k	9.1	1	1
C	Soil	SV-51-01	1	09-Jul-07	7440-66-6	Zinc	39	mg/k	39	1	1
C	Soil	SV-51-01	1	09-Jul-07	206-44-0	Fluoranthene	65	ug/kg	0.065	1	1
C	Soil	SV-51-01	1	09-Jul-07	86-73-7	Fluorene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-51-01	1	09-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	11	ug/kg	0.011	1	1
C	Soil	SV-51-01	1	09-Jul-07	98-82-8	Isopropylbenzene	43	ug/kg	0.043	1	1
C	Soil	SV-51-01	1	09-Jul-07	7439-92-1	Lead	23	mg/k	23	1	1
C	Soil	SV-51-01	1	09-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	7439-97-6	Mercury	0.029	mg/k	0.029	1	1
C	Soil	SV-51-01	1	09-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
C	Soil	SV-51-01	1	09-Jul-07	85-01-8	Phenanthrene	47	ug/kg	0.047	1	1
C	Soil	SV-51-01	1	09-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07		Nitrobenzene-d5	1200	ug/kg	1.2	1	1
C	Soil	SV-51-01	1	09-Jul-07		n-Octacosane	4.89	mg/k	4.89	1	0
C	Soil	SV-51-01	1	09-Jul-07		n-Octacosane	4.9	mg/k	4.9	1	1
C	Soil	SV-51-01	1	09-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07		ORO (C25-C40)	27	mg/k	27	1	1
C	Soil	SV-51-01	1	09-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
C	Soil	SV-51-01	1	09-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
C	Soil	SV-51-01	1	09-Jul-07		C32-C35	8.9	mg/k	8.9	1	1
C	Soil	SV-51-01	1	09-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
C	Soil	SV-51-01	1	09-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
C	Soil	SV-51-01	1	09-Jul-07		C26-C27	3.6	mg/k	3.6	1	1
C	Soil	SV-51-01	1	09-Jul-07		C24-C25	3.6	mg/k	3.6	1	1
C	Soil	SV-51-01	1	09-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
C	Soil	SV-51-01	1	09-Jul-07		C8-C40	34	mg/k	34	1	1
C	Soil	SV-51-01	1	09-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
C	Soil	SV-51-01	1	09-Jul-07		C8-C9	3.5	mg/k	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-51-01	1	09-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
C	Soil	SV-51-01	1	09-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
C	Soil	SV-51-01	1	09-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
C	Soil	SV-51-01	1	09-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
C	Soil	SV-51-01	1	09-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07		DRO (C10-C24)	6	mg/k	6	1	1
C	Soil	SV-51-01	1	09-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07		Dibromofluoromethane	50.9	ug/kg	0.0509	1	1
C	Soil	SV-51-01	1	09-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-51-01	1	09-Jul-07	7440-50-8	Copper	6.6	mg/k	6.6	1	1
C	Soil	SV-51-01	1	09-Jul-07		C36-C40	6.1	mg/k	6.1	1	1
C	Soil	SV-51-01	1	09-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	207-08-9	Benzo(k)fluoranthene	13	ug/kg	0.013	1	1
C	Soil	SV-51-01	1	09-Jul-07	218-01-9	Chrysene	45	ug/kg	0.045	1	1
C	Soil	SV-51-01	1	09-Jul-07	7440-47-3	Chromium	15	mg/k	15	1	1
C	Soil	SV-51-01	1	09-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
C	Soil	SV-51-01	1	09-Jul-07	7440-48-4	Cobalt	2	mg/k	2	1	1
C	Soil	SV-51-01	1	09-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
C	Soil	SV-51-01	1	09-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	208-96-8	Acenaphthylene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-51-01	1	09-Jul-07	191-24-2	Benzo(g,h,i)perylene	16	ug/kg	0.016	1	1
C	Soil	SV-51-01	1	09-Jul-07	205-99-2	Benzo(b)fluoranthene	26	ug/kg	0.026	1	1
C	Soil	SV-51-01	1	09-Jul-07	50-32-8	Benzo(a)pyrene	30	ug/kg	0.03	1	1
C	Soil	SV-51-01	1	09-Jul-07	56-55-3	Benzo(a)anthracene	38	ug/kg	0.038	1	1
C	Soil	SV-51-01	1	09-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	7440-39-3	Barium	64	mg/k	64	1	1
C	Soil	SV-51-01	1	09-Jul-07	7440-38-2	Arsenic	2.3	mg/k	2.3	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-51-01	1	09-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	120-12-7	Anthracene	6.2	ug/kg	0.0062	1	1
C	Soil	SV-51-01	1	09-Jul-07	83-32-9	Acenaphthene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-51-01	1	09-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	91-20-3	Naphthalene	6.1	ug/kg	0.0061	0	0
C	Soil	SV-51-01	1	09-Jul-07		4-Bromofluorobenzene	0.0236	mg/k	0.0236	1	0
C	Soil	SV-51-01	1	09-Jul-07	91-57-6	2-Methylnaphthalene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-51-01	1	09-Jul-07		2-Fluorobiphenyl	920	ug/kg	0.92	1	1
C	Soil	SV-51-01	1	09-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
C	Soil	SV-51-01	1	09-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
C	Soil	SV-51-01	1	09-Jul-07	90-12-0	1-Methylnaphthalene	6.1	ug/kg	0.0061	0	1
C	Soil	SV-51-01	1	09-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
C	Soil	SV-51-01	1	09-Jul-07		4-Bromofluorobenzene	40.9	ug/kg	0.0409	1	1
C	Soil	SV-51-05	5	09-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
C	Soil	SV-51-05	5	09-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
C	Soil	SV-51-05	5	09-Jul-07		4-Bromofluorobenzene	0.0164	mg/k	0.0164	1	0
C	Soil	SV-51-05	5	09-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
C	Soil	SV-51-05	5	09-Jul-07	207-08-9	Benzo(k)fluoranthene	6.8	ug/kg	0.0068	0	1
C	Soil	SV-51-05	5	09-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
C	Soil	SV-51-05	5	09-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
C	Soil	SV-51-05	5	09-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
C	Soil	SV-51-05	5	09-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
C	Soil	SV-51-05	5	09-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
C	Soil	SV-51-05	5	09-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
C	Soil	SV-51-05	5	09-Jul-07	7440-39-3	Barium	48	mg/k	48	1	1
C	Soil	SV-51-05	5	09-Jul-07		4-Bromofluorobenzene	46.8	ug/kg	0.0468	1	1
C	Soil	SV-51-05	5	09-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	83-32-9	Acenaphthene	6.8	ug/kg	0.0068	0	1
C	Soil	SV-51-05	5	09-Jul-07	208-96-8	Acenaphthylene	6.8	ug/kg	0.0068	0	1
C	Soil	SV-51-05	5	09-Jul-07	120-12-7	Anthracene	6.8	ug/kg	0.0068	0	1
C	Soil	SV-51-05	5	09-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	7440-38-2	Arsenic	3.2	mg/k	3.2	1	1
C	Soil	SV-51-05	5	09-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
C	Soil	SV-51-05	5	09-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	56-55-3	Benzo(a)anthracene	6.8	ug/kg	0.0068	0	1
C	Soil	SV-51-05	5	09-Jul-07	50-32-8	Benzo(a)pyrene	6.8	ug/kg	0.0068	0	1
C	Soil	SV-51-05	5	09-Jul-07	205-99-2	Benzo(b)fluoranthene	6.8	ug/kg	0.0068	0	1
C	Soil	SV-51-05	5	09-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.8	ug/kg	0.0068	0	1
C	Soil	SV-51-05	5	09-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
C	Soil	SV-51-05	5	09-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
C	Soil	SV-51-05	5	09-Jul-07	206-44-0	Fluoranthene	6.8	ug/kg	0.0068	0	1
C	Soil	SV-51-05	5	09-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
C	Soil	SV-51-05	5	09-Jul-07		Dibromofluoromethane	48.9	ug/kg	0.0489	1	1
C	Soil	SV-51-05	5	09-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
C	Soil	SV-51-05	5	09-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.8	ug/kg	0.0068	0	1
C	Soil	SV-51-05	5	09-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	7440-50-8	Copper	5.7	mg/k	5.7	1	1
C	Soil	SV-51-05	5	09-Jul-07	86-73-7	Fluorene	6.8	ug/kg	0.0068	0	1
C	Soil	SV-51-05	5	09-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.8	ug/kg	0.0068	0	1
C	Soil	SV-51-05	5	09-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-51-05	5	09-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
C	Soil	SV-51-05	5	09-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
C	Soil	SV-51-05	5	09-Jul-07	7439-92-1	Lead	3.5	mg/k	3.5	1	1
C	Soil	SV-51-05	5	09-Jul-07		C8-C40	5	mg/k	5	0	1
C	Soil	SV-51-05	5	09-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
C	Soil	SV-51-05	5	09-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
C	Soil	SV-51-05	5	09-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	7440-47-3	Chromium	17	mg/k	17	1	1
C	Soil	SV-51-05	5	09-Jul-07	218-01-9	Chrysene	6.8	ug/kg	0.0068	0	1
C	Soil	SV-51-05	5	09-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	7440-48-4	Cobalt	2	mg/k	2	1	1
C	Soil	SV-51-05	5	09-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	129-00-0	Pyrene	6.8	ug/kg	0.0068	0	1
C	Soil	SV-51-05	5	09-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
C	Soil	SV-51-05	5	09-Jul-07		n-Octacosane	5.73	mg/k	5.73	1	1
C	Soil	SV-51-05	5	09-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
C	Soil	SV-51-05	5	09-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
C	Soil	SV-51-05	5	09-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
C	Soil	SV-51-05	5	09-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07		Terphenyl-d14	1300	ug/kg	1.3	1	1
C	Soil	SV-51-05	5	09-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	85-01-8	Phenanthrene	6.8	ug/kg	0.0068	0	1
C	Soil	SV-51-05	5	09-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	91-57-6	2-Methylnaphthalene	6.8	ug/kg	0.0068	0	1
C	Soil	SV-51-05	5	09-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07		Nitrobenzene-d5	1400	ug/kg	1.4	1	1
C	Soil	SV-51-05	5	09-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	7440-02-0	Nickel	8.6	mg/k	8.6	1	1
C	Soil	SV-51-05	5	09-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	7439-97-6	Mercury	0.035	mg/k	0.035	1	1
C	Soil	SV-51-05	5	09-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
C	Soil	SV-51-05	5	09-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
C	Soil	SV-51-05	5	09-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
C	Soil	SV-51-05	5	09-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	7440-66-6	Zinc	18	mg/k	18	1	1
C	Soil	SV-51-05	5	09-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	91-20-3	Naphthalene	6.8	ug/kg	0.0068	0	0
C	Soil	SV-51-05	5	09-Jul-07	90-12-0	1-Methylnaphthalene	6.8	ug/kg	0.0068	0	1
C	Soil	SV-51-05	5	09-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07		2-Fluorobiphenyl	1000	ug/kg	1	1	1
C	Soil	SV-51-05	5	09-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07		Toluene-d8	52.5	ug/kg	0.0525	1	1
C	Soil	SV-51-05	5	09-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
C	Soil	SV-51-05	5	09-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1
C	Soil	SV-51-05	5	09-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
C	Soil	SV-51-05	5	09-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	7440-62-2	Vanadium	12	mg/k	12	1	1
C	Soil	SV-51-05	5	09-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
C	Soil	SV-51-05	5	09-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
C	Soil	SV-51-05	5	09-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
C/NativeGardens	Soil	B-152-5	5		64742-47-8	TPHm			10	0	1
C/NativeGardens	Soil	B-152-5	5		8006-61-9	TPHg			10	0	1
C/NativeGardens	Soil	B-152-5	5		68476-30-2	TPHd			10	0	1
C/NativeGardens	Soil	SP-1-5	5		8006-61-9	TPHg			10	0	1
C/NativeGardens	Soil	SP-1-5	5		68476-30-2	TPHd			10	0	1
C/NativeGardens	Soil	SP-1-5	5		64742-47-8	TPHm			10	0	1
C/NativeGardens	Soil	B-152-5	5	23-Nov-97		C10-C25	10	mg/K	10	0	1
C/NativeGardens	Soil	B-152-5	5	23-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
C/NativeGardens	Soil	B-152-5	5	23-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
C/NativeGardens	Soil	B-152-5	5	23-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
C/NativeGardens	Soil	B-152-5	5	23-Nov-97		C4-C10	10	mg/K	10	0	1
C/NativeGardens	Soil	B-152-5	5	23-Nov-97		C1-C40	10	mg/K	10	0	1
C/NativeGardens	Soil	B-152-5	5	23-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
C/NativeGardens	Soil	B-152-5	5	23-Nov-97		C25-C40	10	mg/K	10	0	1
C/NativeGardens	Soil	SP-1-5	5	03-Mar-01	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
C/NativeGardens	Soil	SP-1-5	5	03-Mar-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
C/NativeGardens	Soil	SP-1-5	5	03-Mar-01		C4-C10	10	mg/k	10	0	1
C/NativeGardens	Soil	SP-1-5	5	03-Mar-01		C25-C40	10	mg/k	10	0	1
C/NativeGardens	Soil	SP-1-5	5	03-Mar-01		C1-C40	10	mg/K	10	0	1
C/NativeGardens	Soil	SP-1-5	5	03-Mar-01		C10-C25	10	mg/k	10	0	1
C/NativeGardens	Soil	SP-1-5	5	03-Mar-01	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
C/NativeGardens	Soil	SP-1-5	5	03-Mar-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
D	GS	SP-4-10	10	01-May-01		i-butane	3.94	ppmv		1	1
D	GS	SP-4-10	10	01-May-01		i-pentane	8.63	ppmv		1	1
D	GS	SP-4-10	10	01-May-01		n-pentane	1.34	ppmv		1	1
D	GS	SP-4-10	10	01-May-01		Propene	0.26	ppmv		1	1
D	GS	SP-4-10	10	01-May-01		n-butane	2.46	ppmv		1	1
D	GS	SP-4-10	10	01-May-01		Ethene	1.28	ppmv		1	1
D	GS	SP-4-10	10	01-May-01		propane	0.78	ppmv		1	1
D	GS	SP-4-10	10	01-May-01		1-butene	10	ppmv		0	1
D	GS	SP-4-10	10	01-May-01		1-pentene	0.4	ppmv		1	1
D	GS	SP-4-10	10	01-May-01		2,2-dimethyl propane	2.03	ppmv		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	GS	SP-4-10	10	01-May-01		Ethane	6.23	ppmv		1	1
D	GS	SP-4-15	15	01-May-01		1-butene	1.55	ppmv		1	1
D	GS	SP-4-15	15	01-May-01		n-butane	3.72	ppmv		1	1
D	GS	SP-4-15	15	01-May-01		1-pentene	0.33	ppmv		1	1
D	GS	SP-4-15	15	01-May-01		Ethane	7.89	ppmv		1	1
D	GS	SP-4-15	15	01-May-01		Ethene	1.62	ppmv		1	1
D	GS	SP-4-15	15	01-May-01		i-pentane	17.36	ppmv		1	1
D	GS	SP-4-15	15	01-May-01		n-pentane	1.31	ppmv		1	1
D	GS	SP-4-15	15	01-May-01		propane	0.93	ppmv		1	1
D	GS	SP-4-15	15	01-May-01		Propene	0.26	ppmv		1	1
D	GS	SP-4-15	15	01-May-01		i-butane	7.65	ppmv		1	1
D	GS	SP-4-15	15	01-May-01		2,2-dimethyl propane	2.82	ppmv		1	1
D	GS	SP-4-6	6	01-May-01		Ethane	0.2	ppmv		1	1
D	GS	SP-4-6	6	01-May-01		1-butene	10	ppmv		0	1
D	GS	SP-4-6	6	01-May-01		2,2-dimethyl propane	1.81	ppmv		1	1
D	GS	SP-4-6	6	01-May-01		Ethene	10	ppmv		0	1
D	GS	SP-4-6	6	01-May-01		i-butane	0.22	ppmv		1	1
D	GS	SP-4-6	6	01-May-01		i-pentane	0.94	ppmv		1	1
D	GS	SP-4-6	6	01-May-01	74-82-8	Methane	783.91	ppmv		1	1
D	GS	SP-4-6	6	01-May-01		n-butane	0.42	ppmv		1	1
D	GS	SP-4-6	6	01-May-01		n-pentane	0.54	ppmv		1	1
D	GS	SP-4-6	6	01-May-01		propane	0.11	ppmv		1	1
D	GS	SP-4-6	6	01-May-01		Propene	0.1	ppmv		1	1
D	GS	SP-4-6	6	01-May-01		1-pentene	0.34	ppmv		1	1
D	GS	SP-4-10	10	18-Oct-01		Propene	0.1	ppmv		0	1
D	GS	SP-4-10	10	18-Oct-01		C3	10	ppmv		0	1
D	GS	SP-4-10	10	18-Oct-01		Ethane	5.32	ppmv		1	1
D	GS	SP-4-10	10	18-Oct-01		Ethene	0.86	ppmv		1	1
D	GS	SP-4-10	10	18-Oct-01		i-butane	1.42	ppmv		1	1
D	GS	SP-4-10	10	18-Oct-01		i-C4	10	ppmv		0	1
D	GS	SP-4-10	10	18-Oct-01		i-C5	74.3	ppmv		1	1
D	GS	SP-4-10	10	18-Oct-01		C2	10	ppmv		0	1
D	GS	SP-4-10	10	18-Oct-01		n-butane	1.07	ppmv		1	1
D	GS	SP-4-10	10	18-Oct-01		1-butene	9.13	ppmv		1	1
D	GS	SP-4-10	10	18-Oct-01		propane	0.66	ppmv		1	1
D	GS	SP-4-10	10	18-Oct-01		n-pentane	0.1	ppmv		0	1
D	GS	SP-4-10	10	18-Oct-01		n-C5	81.4	ppmv		1	1
D	GS	SP-4-10	10	18-Oct-01		i-pentane	4.55	ppmv		1	1
D	GS	SP-4-10	10	18-Oct-01		C1	66400	ppmv		1	1
D	GS	SP-4-10	10	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
D	GS	SP-4-10	10	18-Oct-01		1-pentene	0.35	ppmv		1	1
D	GS	SP-4-10	10	18-Oct-01		n-C4	41.4	ppmv		1	1
D	GS	SP-4-10	10	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
D	GS	SP-4-15	15	18-Oct-01		i-pentane	3.15	ppmv		1	1
D	GS	SP-4-15	15	18-Oct-01		Ethene	0.65	ppmv		1	1
D	GS	SP-4-15	15	18-Oct-01		Ethane	9	ppmv		1	1
D	GS	SP-4-15	15	18-Oct-01	71-43-2	Benzene	0.58	ppmv		1	1
D	GS	SP-4-15	15	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
D	GS	SP-4-15	15	18-Oct-01		1-pentene	0.43	ppmv		1	1
D	GS	SP-4-15	15	18-Oct-01		1-butene	8.86	ppmv		1	1
D	GS	SP-4-15	15	18-Oct-01		i-butane	2.14	ppmv		1	1
D	GS	SP-4-15	15	18-Oct-01		n-pentane	0.26	ppmv		1	1
D	GS	SP-4-15	15	18-Oct-01		propane	0.58	ppmv		1	1
D	GS	SP-4-15	15	18-Oct-01		Propene	0.81	ppmv		1	1
D	GS	SP-4-15	15	18-Oct-01		n-butane	1.14	ppmv		1	1
D	GS	SP-4-6	6	18-Oct-01		i-pentane	0.73	ppmv		1	1
D	GS	SP-4-6	6	18-Oct-01		i-butane	0.54	ppmv		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	GS	SP-4-6	6	18-Oct-01		1-butene	6.33	ppmv		1	1
D	GS	SP-4-6	6	18-Oct-01		Ethene	0.1	ppmv		0	1
D	GS	SP-4-6	6	18-Oct-01		propane	0.25	ppmv		1	1
D	GS	SP-4-6	6	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
D	GS	SP-4-6	6	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
D	GS	SP-4-6	6	18-Oct-01		n-butane	0.44	ppmv		1	1
D	GS	SP-4-6	6	18-Oct-01		Propene	0.35	ppmv		1	1
D	GS	SP-4-6	6	18-Oct-01		1-pentene	0.47	ppmv		1	1
D	GS	SP-4-6	6	18-Oct-01		n-pentane	0.5	ppmv		1	1
D	GS	SP-4-6	6	18-Oct-01		Ethane	0.54	ppmv		1	1
D	GS	SP-4-10	10	09-Apr-02		i-C5	46	ppmv		1	1
D	GS	SP-4-10	10	09-Apr-02		propane	0.31	ppmv		1	1
D	GS	SP-4-10	10	09-Apr-02		i-butane	0.53	ppmv		1	1
D	GS	SP-4-10	10	09-Apr-02		1-butene	0.1	ppmv		0	1
D	GS	SP-4-10	10	09-Apr-02		Propene	0.1	ppmv		0	1
D	GS	SP-4-10	10	09-Apr-02		n-pentane	0.11	ppmv		1	1
D	GS	SP-4-10	10	09-Apr-02		n-C5	65	ppmv		1	1
D	GS	SP-4-10	10	09-Apr-02		n-C4	31	ppmv		1	1
D	GS	SP-4-10	10	09-Apr-02		n-butane	0.42	ppmv		1	1
D	GS	SP-4-10	10	09-Apr-02		i-pentane	1.06	ppmv		1	1
D	GS	SP-4-10	10	09-Apr-02		1-pentene	0.1	ppmv		0	1
D	GS	SP-4-10	10	09-Apr-02		Ethene	0.43	ppmv		1	1
D	GS	SP-4-10	10	09-Apr-02		Ethane	4.98	ppmv		1	1
D	GS	SP-4-10	10	09-Apr-02		C3	10	ppmv		0	1
D	GS	SP-4-10	10	09-Apr-02		C2	10	ppmv		0	1
D	GS	SP-4-10	10	09-Apr-02		C1	940	ppmv		1	1
D	GS	SP-4-10	10	09-Apr-02		2,2-dimethyl propane	1.17	ppmv		1	1
D	GS	SP-4-10	10	09-Apr-02		i-C4	10	ppmv		0	1
D	GS	SP-4-15	15	09-Apr-02		propane	0.58	ppmv		1	1
D	GS	SP-4-15	15	09-Apr-02		n-pentane	0.1	ppmv		0	1
D	GS	SP-4-15	15	09-Apr-02		n-butane	0.83	ppmv		1	1
D	GS	SP-4-15	15	09-Apr-02		i-pentane	1.87	ppmv		1	1
D	GS	SP-4-15	15	09-Apr-02		i-butane	1.01	ppmv		1	1
D	GS	SP-4-15	15	09-Apr-02		Ethene	0.6	ppmv		1	1
D	GS	SP-4-15	15	09-Apr-02		Ethane	7.85	ppmv		1	1
D	GS	SP-4-15	15	09-Apr-02		2,2-dimethyl propane	1.79	ppmv		1	1
D	GS	SP-4-15	15	09-Apr-02		1-pentene	0.1	ppmv		0	1
D	GS	SP-4-15	15	09-Apr-02		1-butene	0.1	ppmv		0	1
D	GS	SP-4-15	15	09-Apr-02		Propene	0.1	ppmv		1	1
D	GS	SP-4-6	6	09-Apr-02		i-butane	0.1	ppmv		0	1
D	GS	SP-4-6	6	09-Apr-02		Propene	0.1	ppmv		0	1
D	GS	SP-4-6	6	09-Apr-02		1-butene	0.1	ppmv		0	1
D	GS	SP-4-6	6	09-Apr-02		1-pentene	0.1	ppmv		0	1
D	GS	SP-4-6	6	09-Apr-02		2,2-dimethyl propane	0.19	ppmv		1	1
D	GS	SP-4-6	6	09-Apr-02		Ethene	0.1	ppmv		0	1
D	GS	SP-4-6	6	09-Apr-02		i-pentane	0.1	ppmv		0	1
D	GS	SP-4-6	6	09-Apr-02		n-butane	0.1	ppmv		0	1
D	GS	SP-4-6	6	09-Apr-02		n-pentane	0.1	ppmv		0	1
D	GS	SP-4-6	6	09-Apr-02		propane	0.1	ppmv		0	1
D	GS	SP-4-6	6	09-Apr-02		Ethane	0.47	ppmv		1	1
D	GS	SP-4-10	10	24-Sep-02		Ethane	5.79	ppmv		1	1
D	GS	SP-4-10	10	24-Sep-02		Propene	0.13	ppmv		1	1
D	GS	SP-4-10	10	24-Sep-02		propane	0.35	ppmv		1	1
D	GS	SP-4-10	10	24-Sep-02		n-pentane	1.82	ppmv		1	1
D	GS	SP-4-10	10	24-Sep-02		n-butane	0.49	ppmv		1	1
D	GS	SP-4-10	10	24-Sep-02		i-pentane	0.72	ppmv		1	1
D	GS	SP-4-10	10	24-Sep-02		1-butene	0.1	ppmv		0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	GS	SP-4-10	10	24-Sep-02		Ethene	0.23	ppmv		1	1
D	GS	SP-4-10	10	24-Sep-02		2,2-dimethyl propane	1.58	ppmv		1	1
D	GS	SP-4-10	10	24-Sep-02		1-pentene	0.1	ppmv		0	1
D	GS	SP-4-10	10	24-Sep-02		i-butane	0.62	ppmv		1	1
D	GS	SP-4-15	15	24-Sep-02		propane	0.65	ppmv		1	1
D	GS	SP-4-15	15	24-Sep-02		n-pentane	1.86	ppmv		1	1
D	GS	SP-4-15	15	24-Sep-02		n-butane	0.87	ppmv		1	1
D	GS	SP-4-15	15	24-Sep-02		i-pentane	1.29	ppmv		1	1
D	GS	SP-4-15	15	24-Sep-02		i-butane	1.15	ppmv		1	1
D	GS	SP-4-15	15	24-Sep-02		Ethene	0.36	ppmv		1	1
D	GS	SP-4-15	15	24-Sep-02		Ethane	8.67	ppmv		1	1
D	GS	SP-4-15	15	24-Sep-02		2,2-dimethyl propane	2.06	ppmv		1	1
D	GS	SP-4-15	15	24-Sep-02		1-pentene	0.1	ppmv		0	1
D	GS	SP-4-15	15	24-Sep-02		1-butene	0.1	ppmv		0	1
D	GS	SP-4-15	15	24-Sep-02		Propene	0.16	ppmv		1	1
D	GS	SP-4-6	6	24-Sep-02		Ethene	0.14	ppmv		1	1
D	GS	SP-4-6	6	24-Sep-02		Propene	0.1	ppmv		0	1
D	GS	SP-4-6	6	24-Sep-02		propane	0.16	ppmv		1	1
D	GS	SP-4-6	6	24-Sep-02		n-pentane	1.8	ppmv		1	1
D	GS	SP-4-6	6	24-Sep-02		n-butane	0.2	ppmv		1	1
D	GS	SP-4-6	6	24-Sep-02		i-butane	0.27	ppmv		1	1
D	GS	SP-4-6	6	24-Sep-02		Ethane	1.4	ppmv		1	1
D	GS	SP-4-6	6	24-Sep-02		2,2-dimethyl propane	0.68	ppmv		1	1
D	GS	SP-4-6	6	24-Sep-02		1-pentene	0.1	ppmv		0	1
D	GS	SP-4-6	6	24-Sep-02		1-butene	0.1	ppmv		0	1
D	GS	SP-4-6	6	24-Sep-02		i-pentane	0.2	ppmv		1	1
D	GS	SP-4-6	6	13-Jan-04	74-83-9	Bromomethane	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	95-63-6	1,2,4-Trimethylbenzene	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	106-46-7	1,4-Dichlorobenzene	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	541-73-1	1,3-Dichlorobenzene	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	156-59-2	cis-1,2-Dichloroethene	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	78-87-5	1,2-Dichloropropane	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	108-90-7	Chlorobenzene	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	95-50-1	1,2-Dichlorobenzene	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	71-43-2	Benzene	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	106-93-4	1,2-Dibromoethane	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	108-67-8	1,3,5-Trimethylbenzene	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	120-82-1	1,2,4-Trichlorobenzene	10	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	75-35-4	1,1-Dichloroethene	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	75-34-3	1,1-Dichloroethane	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	79-00-5	1,1,2-Trichloroethane	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	79-34-5	1,1,2,2-Tetrachloroethane	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	71-55-6	1,1,1-Trichloroethane	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	10061-02-6	trans-1,3-Dichloropropene	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	1330-20-7	Xylenes (total)	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	75-01-4	Vinyl Chloride	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	107-06-2	1,2-Dichloroethane	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	79-01-6	Trichloroethene	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	56-23-5	Carbon Tetrachloride	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	108-88-3	Toluene	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	127-18-4	Tetrachloroethene	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	100-42-5	Styrene	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	75-09-2	Methylene Chloride	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	100-41-4	Ethylbenzene	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	75-71-8	Dichlorodifluoromethane	5	ppbv		0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	GS	SP-4-6	6	13-Jan-04	10061-01-5	cis-1,3-Dichloropropene	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	74-87-3	Chloromethane	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	67-66-3	Chloroform	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	75-00-3	Chloroethane	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	87-68-3	Hexachlorobutadiene	5	ppbv		0	1
D	GS	SP-4-6	6	13-Jan-04	75-69-4	Trichlorofluoromethane	5	ppbv		0	1
D	GS	SV-40-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
D	GS	SV-40-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
D	GS	SV-40-05	5	19-Jul-07	74-82-8	Methane	0.00026	%		0	1
D	GS	SV-40-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.0057	ug/L	0.0057	0	1
D	GS	SV-40-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.0065	ug/L	0.0065	0	1
D	GS	SV-40-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
D	GS	SV-40-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
D	GS	SV-40-05	5	19-Jul-07	110-54-3	Hexane	0.0046	ug/L	0.0046	0	1
D	GS	SV-40-05	5	19-Jul-07	75-09-2	Methylene chloride	0.0046	ug/L	0.0046	0	1
D	GS	SV-40-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.0057	ug/L	0.0057	0	1
D	GS	SV-40-05	5	19-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
D	GS	SV-40-05	5	19-Jul-07		Ethene	0.0026	%		0	1
D	GS	SV-40-05	5	19-Jul-07	64-17-5	Ethanol	0.015	ug/L	0.015	1	1
D	GS	SV-40-05	5	19-Jul-07		Ethane	0.0026	%		0	1
D	GS	SV-40-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0065	ug/L	0.0065	0	1
D	GS	SV-40-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
D	GS	SV-40-05	5	19-Jul-07	110-82-7	Cyclohexane	0.014	ug/L	0.014	1	1
D	GS	SV-40-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
D	GS	SV-40-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.056	ug/L	0.056	0	1
D	GS	SV-40-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.027	ug/L	0.027	1	1
D	GS	SV-40-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
D	GS	SV-40-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0074	ug/L	0.0074	0	1
D	GS	SV-40-05	5	19-Jul-07	79-01-6	Trichloroethene	0.0071	ug/L	0.0071	0	1
D	GS	SV-40-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
D	GS	SV-40-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0052	ug/L	0.0052	0	1
D	GS	SV-40-05	5	19-Jul-07		Toluene-d8	96	%		1	1
D	GS	SV-40-05	5	19-Jul-07	108-88-3	Toluene	0.005	ug/L	0.005	0	1
D	GS	SV-40-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
D	GS	SV-40-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.009	ug/L	0.009	0	1
D	GS	SV-40-05	5	19-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
D	GS	SV-40-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
D	GS	SV-40-05	5	19-Jul-07	100-42-5	Styrene	0.0056	ug/L	0.0056	0	1
D	GS	SV-40-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.0065	ug/L	0.0065	0	1
D	GS	SV-40-05	5	19-Jul-07	95-47-6	o-Xylene	0.0057	ug/L	0.0057	0	1
D	GS	SV-40-05	5	19-Jul-07		Oxygen	19	%		1	1
D	GS	SV-40-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.0065	ug/L	0.0065	0	1
D	GS	SV-40-05	5	19-Jul-07		Nitrogen	79	%		1	1
D	GS	SV-40-05	5	19-Jul-07	142-82-5	n-Heptane	0.0054	ug/L	0.0054	0	1
D	GS	SV-40-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.0039	ug/L	0.0039	0	1
D	GS	SV-40-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.039	ug/L	0.039	0	1
D	GS	SV-40-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0052	ug/L		0	1
D	GS	SV-40-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
D	GS	SV-40-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0061	ug/L	0.0061	0	1
D	GS	SV-40-05	5	19-Jul-07		1,2-Dichloroethane-d4	106	%		1	1
D	GS	SV-40-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0053	ug/L	0.0053	0	1
D	GS	SV-40-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
D	GS	SV-40-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0092	ug/L	0.0092	0	1
D	GS	SV-40-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
D	GS	SV-40-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
D	GS	SV-40-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
D	GS	SV-40-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	GS	SV-40-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0052	ug/L	0.0052	0	1
D	GS	SV-40-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0053	ug/L	0.0053	0	1
D	GS	SV-40-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0072	ug/L	0.0072	0	1
D	GS	SV-40-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
D	GS	SV-40-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0091	ug/L	0.0091	0	1
D	GS	SV-40-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0072	ug/L	0.0072	0	1
D	GS	SV-40-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.036	ug/L	0.036	0	1
D	GS	SV-40-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
D	GS	SV-40-05	5	19-Jul-07	71-43-2	Benzene	0.0042	ug/L	0.0042	0	1
D	GS	SV-40-05	5	19-Jul-07	67-66-3	Chloroform	0.0081	ug/L	0.0081	1	1
D	GS	SV-40-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.0083	ug/L	0.0083	0	1
D	GS	SV-40-05	5	19-Jul-07		Carbon Monoxide	0.026	%		0	1
D	GS	SV-40-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.0042	ug/L	0.0042	1	1
D	GS	SV-40-05	5	19-Jul-07		Carbon Dioxide	1.9	%		1	1
D	GS	SV-40-05	5	19-Jul-07	74-83-9	Bromomethane	0.0051	ug/L	0.0051	0	1
D	GS	SV-40-05	5	19-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
D	GS	SV-40-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.0029	ug/L	0.0029	0	1
D	GS	SV-40-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.0068	ug/L	0.0068	0	1
D	GS	SV-40-05	5	19-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
D	GS	SV-40-05	5	19-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
D	GS	SV-40-05	5	19-Jul-07	67-64-1	Acetone	0.052	ug/L	0.052	1	1
D	GS	SV-40-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0054	ug/L	0.0054	0	1
D	GS	SV-40-05	5	19-Jul-07		4-Bromofluorobenzene	104	%		1	1
D	GS	SV-40-05	5	19-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1
D	GS	SV-40-05	5	19-Jul-07	78-93-3	2-Butanone	0.016	ug/L	0.016	1	1
D	GS	SV-40-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0062	ug/L	0.0062	0	1
D	GS	SV-40-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
D	GS	SV-40-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.0088	ug/L	0.0088	0	1
D	GS	SV-40-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.0061	ug/L	0.0061	0	1
D	GS	SV-40-14	14	19-Jul-07		Ethene	0.0054	%		0	1
D	GS	SV-40-14	14	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
D	GS	SV-40-14	14	19-Jul-07	74-82-8	Methane	0.00054	%		0	1
D	GS	SV-40-14	14	19-Jul-07	179601-23-1	m,p-Xylenes	0.015	ug/L	0.015	1	1
D	GS	SV-40-14	14	19-Jul-07	98-82-8	Isopropylbenzene	0.0066	ug/L	0.0066	0	1
D	GS	SV-40-14	14	19-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
D	GS	SV-40-14	14	19-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
D	GS	SV-40-14	14	19-Jul-07	110-54-3	Hexane	0.046	ug/L	0.046	1	1
D	GS	SV-40-14	14	19-Jul-07	87-68-3	Hexachlorobutadiene	0.057	ug/L	0.057	0	1
D	GS	SV-40-14	14	19-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
D	GS	SV-40-14	14	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
D	GS	SV-40-14	14	19-Jul-07	142-82-5	n-Heptane	0.014	ug/L	0.014	1	1
D	GS	SV-40-14	14	19-Jul-07	64-17-5	Ethanol	0.01	ug/L	0.01	0	1
D	GS	SV-40-14	14	19-Jul-07		Ethane	0.0054	%		0	1
D	GS	SV-40-14	14	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0066	ug/L	0.0066	0	1
D	GS	SV-40-14	14	19-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
D	GS	SV-40-14	14	19-Jul-07	110-82-7	Cyclohexane	0.17	ug/L	0.17	1	1
D	GS	SV-40-14	14	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0061	ug/L	0.0061	0	1
D	GS	SV-40-14	14	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0053	ug/L		0	1
D	GS	SV-40-14	14	19-Jul-07	100-41-4	Ethylbenzene	0.0066	ug/L	0.0066	1	1
D	GS	SV-40-14	14	19-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
D	GS	SV-40-14	14	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
D	GS	SV-40-14	14	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0076	ug/L	0.0076	0	1
D	GS	SV-40-14	14	19-Jul-07	79-01-6	Trichloroethene	0.0072	ug/L	0.0072	0	1
D	GS	SV-40-14	14	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0061	ug/L	0.0061	0	1
D	GS	SV-40-14	14	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0053	ug/L	0.0053	0	1
D	GS	SV-40-14	14	19-Jul-07		Toluene-d8	96	%		1	1
D	GS	SV-40-14	14	19-Jul-07	108-88-3	Toluene	0.017	ug/L	0.017	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	GS	SV-40-14	14	19-Jul-07	75-09-2	Methylene chloride	0.0068	ug/L	0.0068	1	1
D	GS	SV-40-14	14	19-Jul-07	127-18-4	Tetrachloroethene	0.0091	ug/L	0.0091	0	1
D	GS	SV-40-14	14	19-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
D	GS	SV-40-14	14	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
D	GS	SV-40-14	14	19-Jul-07	100-42-5	Styrene	0.0057	ug/L	0.0057	0	1
D	GS	SV-40-14	14	19-Jul-07	622-96-8	p-Ethyltoluene	0.011	ug/L	0.011	1	1
D	GS	SV-40-14	14	19-Jul-07	95-47-6	o-Xylene	0.0083	ug/L	0.0083	1	1
D	GS	SV-40-14	14	19-Jul-07		Oxygen	16	%		1	1
D	GS	SV-40-14	14	19-Jul-07	103-65-1	n-Propylbenzene	0.0066	ug/L	0.0066	0	1
D	GS	SV-40-14	14	19-Jul-07		Nitrogen	80	%		1	1
D	GS	SV-40-14	14	19-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
D	GS	SV-40-14	14	19-Jul-07	109-99-9	Tetrahydrofuran	0.007	ug/L	0.007	1	1
D	GS	SV-40-14	14	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0066	ug/L	0.0066	0	1
D	GS	SV-40-14	14	19-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
D	GS	SV-40-14	14	19-Jul-07	106-99-0	1,3-Butadiene	0.036	ug/L	0.036	1	1
D	GS	SV-40-14	14	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0066	ug/L	0.0066	0	1
D	GS	SV-40-14	14	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0062	ug/L	0.0062	0	1
D	GS	SV-40-14	14	19-Jul-07		1,2-Dichloroethane-d4	94	%		1	1
D	GS	SV-40-14	14	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0054	ug/L	0.0054	0	1
D	GS	SV-40-14	14	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
D	GS	SV-40-14	14	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
D	GS	SV-40-14	14	19-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
D	GS	SV-40-14	14	19-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
D	GS	SV-40-14	14	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.04	ug/L	0.04	0	1
D	GS	SV-40-14	14	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
D	GS	SV-40-14	14	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0053	ug/L	0.0053	0	1
D	GS	SV-40-14	14	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0054	ug/L	0.0054	0	1
D	GS	SV-40-14	14	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0073	ug/L	0.0073	0	1
D	GS	SV-40-14	14	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
D	GS	SV-40-14	14	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0092	ug/L	0.0092	0	1
D	GS	SV-40-14	14	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.037	ug/L	0.037	0	1
D	GS	SV-40-14	14	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0094	ug/L	0.0094	0	1
D	GS	SV-40-14	14	19-Jul-07	100-44-7	Benzyl chloride	0.007	ug/L	0.007	0	1
D	GS	SV-40-14	14	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0073	ug/L	0.0073	0	1
D	GS	SV-40-14	14	19-Jul-07	108-90-7	Chlorobenzene	0.0062	ug/L	0.0062	0	1
D	GS	SV-40-14	14	19-Jul-07	56-23-5	Carbon tetrachloride	0.0085	ug/L	0.0085	0	1
D	GS	SV-40-14	14	19-Jul-07		Carbon Monoxide	0.054	%		0	1
D	GS	SV-40-14	14	19-Jul-07	75-15-0	Carbon Disulfide	0.085	ug/L	0.085	1	1
D	GS	SV-40-14	14	19-Jul-07		Carbon Dioxide	4	%		1	1
D	GS	SV-40-14	14	19-Jul-07	74-83-9	Bromomethane	0.0052	ug/L	0.0052	0	1
D	GS	SV-40-14	14	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
D	GS	SV-40-14	14	19-Jul-07	75-27-4	Bromodichloromethane	0.0093	ug/L	0.0093	1	1
D	GS	SV-40-14	14	19-Jul-07	67-66-3	Chloroform	0.066	ug/L	0.066	1	1
D	GS	SV-40-14	14	19-Jul-07	71-43-2	Benzene	0.017	ug/L	0.017	1	1
D	GS	SV-40-14	14	19-Jul-07	107-05-1	Allyl chloride	0.017	ug/L	0.017	0	1
D	GS	SV-40-14	14	19-Jul-07	67-64-1	Acetone	0.065	ug/L	0.065	1	1
D	GS	SV-40-14	14	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0055	ug/L	0.0055	0	1
D	GS	SV-40-14	14	19-Jul-07		4-Bromofluorobenzene	96	%		1	1
D	GS	SV-40-14	14	19-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1
D	GS	SV-40-14	14	19-Jul-07	78-93-3	2-Butanone	0.044	ug/L	0.044	1	1
D	GS	SV-40-14	14	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0063	ug/L	0.0063	0	1
D	GS	SV-40-14	14	19-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
D	GS	SV-58-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0063	ug/L	0.0063	0	1
D	GS	SV-58-05	5	19-Jul-07		Ethene	0.0028	%		0	1
D	GS	SV-58-05	5	19-Jul-07	74-82-8	Methane	0.00028	%		0	1
D	GS	SV-58-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.0061	ug/L	0.0061	1	1
D	GS	SV-58-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.0068	ug/L	0.0068	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	GS	SV-58-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.023	ug/L	0.023	0	1
D	GS	SV-58-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.014	ug/L	0.014	0	1
D	GS	SV-58-05	5	19-Jul-07	110-54-3	Hexane	0.0049	ug/L	0.0049	0	1
D	GS	SV-58-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.059	ug/L	0.059	0	1
D	GS	SV-58-05	5	19-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
D	GS	SV-58-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.023	ug/L	0.023	0	1
D	GS	SV-58-05	5	19-Jul-07	91-20-3	Naphthalene	0.029	ug/L	0.029	0	1
D	GS	SV-58-05	5	19-Jul-07	64-17-5	Ethanol	0.01	ug/L	0.01	0	1
D	GS	SV-58-05	5	19-Jul-07		Ethane	0.0028	%		0	1
D	GS	SV-58-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0068	ug/L	0.0068	0	1
D	GS	SV-58-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.012	ug/L	0.012	0	1
D	GS	SV-58-05	5	19-Jul-07	110-82-7	Cyclohexane	0.039	ug/L	0.039	1	1
D	GS	SV-58-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0063	ug/L	0.0063	0	1
D	GS	SV-58-05	5	19-Jul-07		Toluene-d8	96	%		1	1
D	GS	SV-58-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.006	ug/L	0.006	0	1
D	GS	SV-58-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.023	ug/L	0.023	0	1
D	GS	SV-58-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.0035	ug/L	0.0035	0	1
D	GS	SV-58-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
D	GS	SV-58-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0078	ug/L	0.0078	0	1
D	GS	SV-58-05	5	19-Jul-07	79-01-6	Trichloroethene	0.0074	ug/L	0.0074	0	1
D	GS	SV-58-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0055	ug/L	0.0055	0	1
D	GS	SV-58-05	5	19-Jul-07	108-88-3	Toluene	0.0052	ug/L	0.0052	0	1
D	GS	SV-58-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.0041	ug/L	0.0041	0	1
D	GS	SV-58-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.005	ug/L	0.005	0	1
D	GS	SV-58-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.017	ug/L	0.017	0	1
D	GS	SV-58-05	5	19-Jul-07	75-09-2	Methylene chloride	0.0048	ug/L	0.0048	0	1
D	GS	SV-58-05	5	19-Jul-07	100-42-5	Styrene	0.0059	ug/L	0.0059	0	1
D	GS	SV-58-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.0076	ug/L	0.0076	1	1
D	GS	SV-58-05	5	19-Jul-07	95-47-6	o-Xylene	0.006	ug/L	0.006	0	1
D	GS	SV-58-05	5	19-Jul-07		Oxygen	17	%		1	1
D	GS	SV-58-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.0099	ug/L	0.0099	1	1
D	GS	SV-58-05	5	19-Jul-07		Nitrogen	80	%		1	1
D	GS	SV-58-05	5	19-Jul-07	142-82-5	n-Heptane	0.0056	ug/L	0.0056	0	1
D	GS	SV-58-05	5	19-Jul-07	67-66-3	Chloroform	0.0067	ug/L	0.0067	0	1
D	GS	SV-58-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.0094	ug/L	0.0094	0	1
D	GS	SV-58-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0068	ug/L	0.0068	0	1
D	GS	SV-58-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0055	ug/L		0	1
D	GS	SV-58-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.003	ug/L	0.003	0	1
D	GS	SV-58-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0068	ug/L	0.0068	0	1
D	GS	SV-58-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0064	ug/L	0.0064	0	1
D	GS	SV-58-05	5	19-Jul-07		1,2-Dichloroethane-d4	108	%		1	1
D	GS	SV-58-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0056	ug/L	0.0056	0	1
D	GS	SV-58-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0083	ug/L	0.0083	0	1
D	GS	SV-58-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0083	ug/L	0.0083	0	1
D	GS	SV-58-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.011	ug/L	0.011	0	1
D	GS	SV-58-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.02	ug/L	0.02	0	1
D	GS	SV-58-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.041	ug/L	0.041	0	1
D	GS	SV-58-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.033	ug/L	0.033	0	1
D	GS	SV-58-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0055	ug/L	0.0055	0	1
D	GS	SV-58-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0056	ug/L	0.0056	0	1
D	GS	SV-58-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0075	ug/L	0.0075	0	1
D	GS	SV-58-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
D	GS	SV-58-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0095	ug/L	0.0095	0	1
D	GS	SV-58-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0075	ug/L	0.0075	0	1
D	GS	SV-58-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0096	ug/L	0.0096	0	1
D	GS	SV-58-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.0071	ug/L	0.0071	0	1
D	GS	SV-58-05	5	19-Jul-07	75-00-3	Chloroethane	0.0036	ug/L	0.0036	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	GS	SV-58-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.0064	ug/L	0.0064	0	1
D	GS	SV-58-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.0087	ug/L	0.0087	0	1
D	GS	SV-58-05	5	19-Jul-07		Carbon Monoxide	0.028	%		0	1
D	GS	SV-58-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.0049	ug/L	0.0049	1	1
D	GS	SV-58-05	5	19-Jul-07		Carbon Dioxide	3.2	%		1	1
D	GS	SV-58-05	5	19-Jul-07	74-83-9	Bromomethane	0.0054	ug/L	0.0054	0	1
D	GS	SV-58-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0083	ug/L	0.0083	0	1
D	GS	SV-58-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.0092	ug/L	0.0092	0	1
D	GS	SV-58-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.038	ug/L	0.038	0	1
D	GS	SV-58-05	5	19-Jul-07	71-43-2	Benzene	0.0044	ug/L	0.0044	0	1
D	GS	SV-58-05	5	19-Jul-07	107-05-1	Allyl chloride	0.017	ug/L	0.017	0	1
D	GS	SV-58-05	5	19-Jul-07	67-64-1	Acetone	0.046	ug/L	0.046	1	1
D	GS	SV-58-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0056	ug/L	0.0056	0	1
D	GS	SV-58-05	5	19-Jul-07		4-Bromofluorobenzene	104	%		1	1
D	GS	SV-58-05	5	19-Jul-07	591-78-6	2-Hexanone	0.023	ug/L	0.023	0	1
D	GS	SV-58-05	5	19-Jul-07	78-93-3	2-Butanone	0.013	ug/L	0.013	1	1
D	GS	SV-58-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0064	ug/L	0.0064	0	1
D	GS	SV-58-05	5	19-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
D	GS	SV-58-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	27	ug/L	27	0	1
D	GS	SV-58-15	15	19-Jul-07		Ethene	0.0064	%		0	1
D	GS	SV-58-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	2.3	ug/L	2.3	0	1
D	GS	SV-58-15	15	19-Jul-07	74-82-8	Methane	12	%		1	1
D	GS	SV-58-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	9.1	ug/L	9.1	1	1
D	GS	SV-58-15	15	19-Jul-07	98-82-8	Isopropylbenzene	32	ug/L	32	1	1
D	GS	SV-58-15	15	19-Jul-07	108-20-3	Isopropyl ether	11	ug/L	11	0	1
D	GS	SV-58-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	6.3	ug/L	6.3	0	1
D	GS	SV-58-15	15	19-Jul-07	110-54-3	Hexane	2.2	ug/L	2.2	0	1
D	GS	SV-58-15	15	19-Jul-07	74-87-3	Chloromethane	5.3	ug/L	5.3	0	1
D	GS	SV-58-15	15	19-Jul-07	100-41-4	Ethylbenzene	11	ug/L	11	1	1
D	GS	SV-58-15	15	19-Jul-07	103-65-1	n-Propylbenzene	30	ug/L	30	1	1
D	GS	SV-58-15	15	19-Jul-07	64-17-5	Ethanol	4.8	ug/L	4.8	0	1
D	GS	SV-58-15	15	19-Jul-07		Ethane	0.0064	%		0	1
D	GS	SV-58-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	3.2	ug/L	3.2	0	1
D	GS	SV-58-15	15	19-Jul-07	124-48-1	Dibromochloromethane	5.4	ug/L	5.4	0	1
D	GS	SV-58-15	15	19-Jul-07	110-82-7	Cyclohexane	400	ug/L	400	1	1
D	GS	SV-58-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.9	ug/L	2.9	0	1
D	GS	SV-58-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.5	ug/L		0	1
D	GS	SV-58-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	11	ug/L	11	0	1
D	GS	SV-58-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	1.9	ug/L	1.9	0	1
D	GS	SV-58-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	18	ug/L	18	0	1
D	GS	SV-58-15	15	19-Jul-07	75-01-4	Vinyl chloride	1.6	ug/L	1.6	0	1
D	GS	SV-58-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
D	GS	SV-58-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	3.6	ug/L	3.6	0	1
D	GS	SV-58-15	15	19-Jul-07	79-01-6	Trichloroethene	3.4	ug/L	3.4	0	1
D	GS	SV-58-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.9	ug/L	2.9	0	1
D	GS	SV-58-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.5	ug/L	2.5	0	1
D	GS	SV-58-15	15	19-Jul-07	91-20-3	Naphthalene	13	ug/L	13	0	1
D	GS	SV-58-15	15	19-Jul-07	108-88-3	Toluene	2.4	ug/L	2.4	0	1
D	GS	SV-58-15	15	19-Jul-07		Nitrogen	58	%		1	1
D	GS	SV-58-15	15	19-Jul-07	127-18-4	Tetrachloroethene	4.3	ug/L	4.3	0	1
D	GS	SV-58-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	7.8	ug/L	7.8	0	1
D	GS	SV-58-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	11	ug/L	11	0	1
D	GS	SV-58-15	15	19-Jul-07	100-42-5	Styrene	2.7	ug/L	2.7	0	1
D	GS	SV-58-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	4.9	ug/L	4.9	1	1
D	GS	SV-58-15	15	19-Jul-07	95-47-6	o-Xylene	2.8	ug/L	2.8	0	1
D	GS	SV-58-15	15	19-Jul-07		Oxygen	1.4	%		1	1
D	GS	SV-58-15	15	19-Jul-07	75-09-2	Methylene chloride	2.2	ug/L	2.2	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	GS	SV-58-15	15	19-Jul-07		Toluene-d8	92	%		1	1
D	GS	SV-58-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	19	ug/L	19	0	1
D	GS	SV-58-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	3.8	ug/L	3.8	0	1
D	GS	SV-58-15	15	19-Jul-07	106-99-0	1,3-Butadiene	1.4	ug/L	1.4	0	1
D	GS	SV-58-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	9.6	ug/L	9.6	1	1
D	GS	SV-58-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	3	ug/L	3	0	1
D	GS	SV-58-15	15	19-Jul-07		1,2-Dichloroethane-d4	155	%		1	1
D	GS	SV-58-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	4.4	ug/L	4.4	0	1
D	GS	SV-58-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	3.8	ug/L	3.8	0	1
D	GS	SV-58-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	3.8	ug/L	3.8	0	1
D	GS	SV-58-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	14	ug/L	14	1	1
D	GS	SV-58-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	2.6	ug/L	2.6	0	1
D	GS	SV-58-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	15	ug/L	15	0	1
D	GS	SV-58-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	2.5	ug/L	2.5	0	1
D	GS	SV-58-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	2.6	ug/L	2.6	0	1
D	GS	SV-58-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	3.5	ug/L	3.5	0	1
D	GS	SV-58-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.9	ug/L	4.9	0	1
D	GS	SV-58-15	15	19-Jul-07	67-66-3	Chloroform	3.1	ug/L	3.1	0	1
D	GS	SV-58-15	15	19-Jul-07	142-82-5	n-Heptane	2.6	ug/L	2.6	0	1
D	GS	SV-58-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	3.5	ug/L	3.5	0	1
D	GS	SV-58-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	4.9	ug/L	4.9	0	1
D	GS	SV-58-15	15	19-Jul-07		Carbon Monoxide	0.064	%		0	1
D	GS	SV-58-15	15	19-Jul-07	75-00-3	Chloroethane	1.7	ug/L	1.7	0	1
D	GS	SV-58-15	15	19-Jul-07	108-90-7	Chlorobenzene	2.9	ug/L	2.9	0	1
D	GS	SV-58-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	4.5	ug/L	4.5	0	1
D	GS	SV-58-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	4	ug/L	4	0	1
D	GS	SV-58-15	15	19-Jul-07	123-91-1	1,4-Dioxane	9.2	ug/L	9.2	0	1
D	GS	SV-58-15	15	19-Jul-07	75-15-0	Carbon Disulfide	7.2	ug/L	7.2	1	1
D	GS	SV-58-15	15	19-Jul-07		Carbon Dioxide	28	%		1	1
D	GS	SV-58-15	15	19-Jul-07	74-83-9	Bromomethane	2.5	ug/L	2.5	0	1
D	GS	SV-58-15	15	19-Jul-07	75-25-2	Bromoform	6.6	ug/L	6.6	0	1
D	GS	SV-58-15	15	19-Jul-07	75-27-4	Bromodichloromethane	4.3	ug/L	4.3	0	1
D	GS	SV-58-15	15	19-Jul-07	100-44-7	Benzyl chloride	3.3	ug/L	3.3	0	1
D	GS	SV-58-15	15	19-Jul-07	78-93-3	2-Butanone	1.9	ug/L	1.9	0	1
D	GS	SV-58-15	15	19-Jul-07	71-43-2	Benzene	2	ug/L	2	0	1
D	GS	SV-58-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	3	ug/L	3	0	1
D	GS	SV-58-15	15	19-Jul-07	591-78-6	2-Hexanone	10	ug/L	10	0	1
D	GS	SV-58-15	15	19-Jul-07		4-Bromofluorobenzene	88	%		1	1
D	GS	SV-58-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	2.6	ug/L	2.6	0	1
D	GS	SV-58-15	15	19-Jul-07	67-64-1	Acetone	6.1	ug/L	6.1	0	1
D	GS	SV-58-15	15	19-Jul-07	107-05-1	Allyl chloride	8	ug/L	8	0	1
D	GS	SV-58A-05	5	20-Jul-07	64-17-5	Ethanol	0.24	ug/L	0.24	0	1
D	GS	SV-58A-05	5	20-Jul-07	67-63-0	Isopropyl alcohol	0.32	ug/L	0.32	0	1
D	GS	SV-58A-05	5	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.12	ug/L	0.12	0	1
D	GS	SV-58A-05	5	20-Jul-07	74-82-8	Methane	0.054	%		1	1
D	GS	SV-58A-05	5	20-Jul-07	75-09-2	Methylene chloride	0.11	ug/L	0.11	0	1
D	GS	SV-58A-05	5	20-Jul-07	179601-23-1	m,p-Xylenes	1.3	ug/L	1.3	1	1
D	GS	SV-58A-05	5	20-Jul-07	98-82-8	Isopropylbenzene	1	ug/L	1	1	1
D	GS	SV-58A-05	5	20-Jul-07	108-20-3	Isopropyl ether	0.54	ug/L	0.54	0	1
D	GS	SV-58A-05	5	20-Jul-07	110-82-7	Cyclohexane	22	ug/L	22	1	1
D	GS	SV-58A-05	5	20-Jul-07	110-54-3	Hexane	2.8	ug/L	2.8	1	1
D	GS	SV-58A-05	5	20-Jul-07	87-68-3	Hexachlorobutadiene	1.4	ug/L	1.4	0	1
D	GS	SV-58A-05	5	20-Jul-07	100-41-4	Ethylbenzene	2.1	ug/L	2.1	1	1
D	GS	SV-58A-05	5	20-Jul-07	124-48-1	Dibromochloromethane	0.27	ug/L	0.27	0	1
D	GS	SV-58A-05	5	20-Jul-07		Ethene	0.0026	%		0	1
D	GS	SV-58A-05	5	20-Jul-07		Ethane	0.0026	%		0	1
D	GS	SV-58A-05	5	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.16	ug/L	0.16	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	GS	SV-58A-05	5	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.15	ug/L	0.15	0	1
D	GS	SV-58A-05	5	20-Jul-07	91-20-3	Naphthalene	0.68	ug/L	0.68	0	1
D	GS	SV-58A-05	5	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.54	ug/L	0.54	0	1
D	GS	SV-58A-05	5	20-Jul-07	127-18-4	Tetrachloroethene	0.22	ug/L	0.22	0	1
D	GS	SV-58A-05	5	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.19	ug/L	0.19	0	1
D	GS	SV-58A-05	5	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.13	ug/L		0	1
D	GS	SV-58A-05	5	20-Jul-07	75-01-4	Vinyl chloride	0.082	ug/L	0.082	0	1
D	GS	SV-58A-05	5	20-Jul-07	75-69-4	Trichlorofluoromethane	0.18	ug/L	0.18	0	1
D	GS	SV-58A-05	5	20-Jul-07	79-01-6	Trichloroethene	0.17	ug/L	0.17	0	1
D	GS	SV-58A-05	5	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.15	ug/L	0.15	0	1
D	GS	SV-58A-05	5	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.13	ug/L	0.13	0	1
D	GS	SV-58A-05	5	20-Jul-07		Toluene-d8	89	%		1	1
D	GS	SV-58A-05	5	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
D	GS	SV-58A-05	5	20-Jul-07	109-99-9	Tetrahydrofuran	0.095	ug/L	0.095	0	1
D	GS	SV-58A-05	5	20-Jul-07	142-82-5	n-Heptane	4.9	ug/L	4.9	1	1
D	GS	SV-58A-05	5	20-Jul-07	75-65-0	tert-Butyl alcohol	0.39	ug/L	0.39	0	1
D	GS	SV-58A-05	5	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.54	ug/L	0.54	0	1
D	GS	SV-58A-05	5	20-Jul-07	100-42-5	Styrene	0.14	ug/L	0.14	0	1
D	GS	SV-58A-05	5	20-Jul-07	622-96-8	p-Ethyltoluene	1.3	ug/L	1.3	1	1
D	GS	SV-58A-05	5	20-Jul-07	95-47-6	o-Xylene	0.18	ug/L	0.18	1	1
D	GS	SV-58A-05	5	20-Jul-07		Oxygen	16	%		1	1
D	GS	SV-58A-05	5	20-Jul-07	103-65-1	n-Propylbenzene	1.4	ug/L	1.4	1	1
D	GS	SV-58A-05	5	20-Jul-07		Nitrogen	84	%		1	1
D	GS	SV-58A-05	5	20-Jul-07	108-88-3	Toluene	0.12	ug/L	0.12	0	1
D	GS	SV-58A-05	5	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.78	ug/L	0.78	0	1
D	GS	SV-58A-05	5	20-Jul-07	106-99-0	1,3-Butadiene	0.071	ug/L	0.071	0	1
D	GS	SV-58A-05	5	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	1.1	ug/L	1.1	1	1
D	GS	SV-58A-05	5	20-Jul-07	78-87-5	1,2-Dichloropropane	0.15	ug/L	0.15	0	1
D	GS	SV-58A-05	5	20-Jul-07		1,2-Dichloroethane-d4	121	%		1	1
D	GS	SV-58A-05	5	20-Jul-07	107-06-2	1,2-Dichloroethane	0.13	ug/L	0.13	0	1
D	GS	SV-58A-05	5	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.19	ug/L	0.19	0	1
D	GS	SV-58A-05	5	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.22	ug/L	0.22	0	1
D	GS	SV-58A-05	5	20-Jul-07	106-93-4	1,2-Dibromoethane	0.25	ug/L	0.25	0	1
D	GS	SV-58A-05	5	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.19	ug/L	0.19	0	1
D	GS	SV-58A-05	5	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.96	ug/L	0.96	0	1
D	GS	SV-58A-05	5	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.18	ug/L	0.18	0	1
D	GS	SV-58A-05	5	20-Jul-07	75-35-4	1,1-Dichloroethene	0.13	ug/L	0.13	0	1
D	GS	SV-58A-05	5	20-Jul-07	75-34-3	1,1-Dichloroethane	0.13	ug/L	0.13	0	1
D	GS	SV-58A-05	5	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.18	ug/L	0.18	0	1
D	GS	SV-58A-05	5	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.25	ug/L	0.25	0	1
D	GS	SV-58A-05	5	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.22	ug/L	0.22	0	1
D	GS	SV-58A-05	5	20-Jul-07	74-87-3	Chloromethane	0.27	ug/L	0.27	0	1
D	GS	SV-58A-05	5	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.88	ug/L	0.88	0	1
D	GS	SV-58A-05	5	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.15	ug/L	0.15	0	1
D	GS	SV-58A-05	5	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.1	ug/L	2.1	1	1
D	GS	SV-58A-05	5	20-Jul-07	75-00-3	Chloroethane	0.085	ug/L	0.085	0	1
D	GS	SV-58A-05	5	20-Jul-07	67-66-3	Chloroform	0.16	ug/L	0.16	0	1
D	GS	SV-58A-05	5	20-Jul-07	108-90-7	Chlorobenzene	0.15	ug/L	0.15	0	1
D	GS	SV-58A-05	5	20-Jul-07	56-23-5	Carbon tetrachloride	0.2	ug/L	0.2	0	1
D	GS	SV-58A-05	5	20-Jul-07		Carbon Monoxide	0.026	%		0	1
D	GS	SV-58A-05	5	20-Jul-07	75-15-0	Carbon Disulfide	0.1	ug/L	0.1	0	1
D	GS	SV-58A-05	5	20-Jul-07		Carbon Dioxide	0.36	%		1	1
D	GS	SV-58A-05	5	20-Jul-07	74-83-9	Bromomethane	0.12	ug/L	0.12	0	1
D	GS	SV-58A-05	5	20-Jul-07	75-25-2	Bromoform	0.33	ug/L	0.33	0	1
D	GS	SV-58A-05	5	20-Jul-07	75-27-4	Bromodichloromethane	0.22	ug/L	0.22	0	1
D	GS	SV-58A-05	5	20-Jul-07	123-91-1	1,4-Dioxane	0.46	ug/L	0.46	0	1
D	GS	SV-58A-05	5	20-Jul-07	71-43-2	Benzene	0.1	ug/L	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	GS	SV-58A-05	5	20-Jul-07	107-05-1	Allyl chloride	0.4	ug/L	0.4	0	1
D	GS	SV-58A-05	5	20-Jul-07	67-64-1	Acetone	0.31	ug/L	0.31	0	1
D	GS	SV-58A-05	5	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.13	ug/L	0.13	0	1
D	GS	SV-58A-05	5	20-Jul-07		4-Bromofluorobenzene	91	%		1	1
D	GS	SV-58A-05	5	20-Jul-07	591-78-6	2-Hexanone	0.53	ug/L	0.53	0	1
D	GS	SV-58A-05	5	20-Jul-07	78-93-3	2-Butanone	0.095	ug/L	0.095	0	1
D	GS	SV-58A-05	5	20-Jul-07	100-44-7	Benzyl chloride	0.17	ug/L	0.17	0	1
D	GS	SV-58A-15	15	20-Jul-07	87-68-3	Hexachlorobutadiene	18	ug/L	18	0	1
D	GS	SV-58A-15	15	20-Jul-07	110-54-3	Hexane	61	ug/L	61	1	1
D	GS	SV-58A-15	15	20-Jul-07	67-63-0	Isopropyl alcohol	4	ug/L	4	0	1
D	GS	SV-58A-15	15	20-Jul-07	108-20-3	Isopropyl ether	6.9	ug/L	6.9	0	1
D	GS	SV-58A-15	15	20-Jul-07	98-82-8	Isopropylbenzene	12	ug/L	12	1	1
D	GS	SV-58A-15	15	20-Jul-07	100-41-4	Ethylbenzene	49	ug/L	49	1	1
D	GS	SV-58A-15	15	20-Jul-07	74-82-8	Methane	29	%		1	1
D	GS	SV-58A-15	15	20-Jul-07	124-48-1	Dibromochloromethane	3.5	ug/L	3.5	0	1
D	GS	SV-58A-15	15	20-Jul-07	179601-23-1	m,p-Xylenes	25	ug/L	25	1	1
D	GS	SV-58A-15	15	20-Jul-07	637-92-3	Ethyl tert butyl ether	6.9	ug/L	6.9	0	1
D	GS	SV-58A-15	15	20-Jul-07		Ethene	0.0025	%		0	1
D	GS	SV-58A-15	15	20-Jul-07	64-17-5	Ethanol	3.1	ug/L	3.1	0	1
D	GS	SV-58A-15	15	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	1.6	ug/L		0	1
D	GS	SV-58A-15	15	20-Jul-07	75-71-8	Dichlorodifluoromethane	2	ug/L	2	0	1
D	GS	SV-58A-15	15	20-Jul-07	110-82-7	Cyclohexane	510	ug/L	510	1	1
D	GS	SV-58A-15	15	20-Jul-07	75-01-4	Vinyl chloride	1	ug/L	1	0	1
D	GS	SV-58A-15	15	20-Jul-07	1634-04-4	Methyl tert-butyl ether	1.5	ug/L	1.5	0	1
D	GS	SV-58A-15	15	20-Jul-07	75-65-0	tert-Butyl alcohol	17	ug/L	17	1	1
D	GS	SV-58A-15	15	20-Jul-07		Ethane	0.0025	%		0	1
D	GS	SV-58A-15	15	20-Jul-07	994-05-8	Tert-amyl methyl ether	6.9	ug/L	6.9	0	1
D	GS	SV-58A-15	15	20-Jul-07	75-69-4	Trichlorofluoromethane	2.3	ug/L	2.3	0	1
D	GS	SV-58A-15	15	20-Jul-07	79-01-6	Trichloroethene	2.2	ug/L	2.2	0	1
D	GS	SV-58A-15	15	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	1.9	ug/L	1.9	0	1
D	GS	SV-58A-15	15	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	1.6	ug/L	1.6	0	1
D	GS	SV-58A-15	15	20-Jul-07		Toluene-d8	89	%		1	1
D	GS	SV-58A-15	15	20-Jul-07	108-88-3	Toluene	1.6	ug/L	1.6	0	1
D	GS	SV-58A-15	15	20-Jul-07	109-99-9	Tetrahydrofuran	1.2	ug/L	1.2	0	1
D	GS	SV-58A-15	15	20-Jul-07	100-42-5	Styrene	1.8	ug/L	1.8	0	1
D	GS	SV-58A-15	15	20-Jul-07	74-87-3	Chloromethane	3.4	ug/L	3.4	0	1
D	GS	SV-58A-15	15	20-Jul-07	75-09-2	Methylene chloride	1.4	ug/L	1.4	0	1
D	GS	SV-58A-15	15	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
D	GS	SV-58A-15	15	20-Jul-07	622-96-8	p-Ethyltoluene	11	ug/L	11	1	1
D	GS	SV-58A-15	15	20-Jul-07	95-47-6	o-Xylene	1.8	ug/L	1.8	0	1
D	GS	SV-58A-15	15	20-Jul-07		Oxygen	0.83	%		1	1
D	GS	SV-58A-15	15	20-Jul-07	103-65-1	n-Propylbenzene	12	ug/L	12	1	1
D	GS	SV-58A-15	15	20-Jul-07		Nitrogen	35	%		1	1
D	GS	SV-58A-15	15	20-Jul-07	142-82-5	n-Heptane	110	ug/L	110	1	1
D	GS	SV-58A-15	15	20-Jul-07	91-20-3	Naphthalene	8.6	ug/L	8.6	0	1
D	GS	SV-58A-15	15	20-Jul-07	127-18-4	Tetrachloroethene	2.8	ug/L	2.8	0	1
D	GS	SV-58A-15	15	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	12	ug/L	12	0	1
D	GS	SV-58A-15	15	20-Jul-07	106-99-0	1,3-Butadiene	0.91	ug/L	0.91	0	1
D	GS	SV-58A-15	15	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	6.5	ug/L	6.5	1	1
D	GS	SV-58A-15	15	20-Jul-07	78-87-5	1,2-Dichloropropane	1.9	ug/L	1.9	0	1
D	GS	SV-58A-15	15	20-Jul-07		1,2-Dichloroethane-d4	154	%		1	1
D	GS	SV-58A-15	15	20-Jul-07	107-06-2	1,2-Dichloroethane	1.7	ug/L	1.7	0	1
D	GS	SV-58A-15	15	20-Jul-07	95-50-1	1,2-Dichlorobenzene	2.5	ug/L	2.5	0	1
D	GS	SV-58A-15	15	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	11	ug/L	11	0	1
D	GS	SV-58A-15	15	20-Jul-07	541-73-1	1,3-Dichlorobenzene	2.5	ug/L	2.5	0	1
D	GS	SV-58A-15	15	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	1.9	ug/L	1.9	0	1
D	GS	SV-58A-15	15	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	2.9	ug/L	2.9	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	GS	SV-58A-15	15	20-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/L	9.9	0	1
D	GS	SV-58A-15	15	20-Jul-07	75-35-4	1,1-Dichloroethene	1.6	ug/L	1.6	0	1
D	GS	SV-58A-15	15	20-Jul-07	75-34-3	1,1-Dichloroethane	1.7	ug/L	1.7	0	1
D	GS	SV-58A-15	15	20-Jul-07	79-00-5	1,1,2-Trichloroethane	2.2	ug/L	2.2	0	1
D	GS	SV-58A-15	15	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	ug/L	3.2	0	1
D	GS	SV-58A-15	15	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.8	ug/L	2.8	0	1
D	GS	SV-58A-15	15	20-Jul-07	71-55-6	1,1,1-Trichloroethane	2.2	ug/L	2.2	0	1
D	GS	SV-58A-15	15	20-Jul-07	67-66-3	Chloroform	2	ug/L	2	0	1
D	GS	SV-58A-15	15	20-Jul-07	106-93-4	1,2-Dibromoethane	3.2	ug/L	3.2	0	1
D	GS	SV-58A-15	15	20-Jul-07	74-83-9	Bromomethane	1.6	ug/L	1.6	0	1
D	GS	SV-58A-15	15	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	12	ug/L	12	1	1
D	GS	SV-58A-15	15	20-Jul-07	75-00-3	Chloroethane	1.1	ug/L	1.1	0	1
D	GS	SV-58A-15	15	20-Jul-07	106-46-7	1,4-Dichlorobenzene	2.5	ug/L	2.5	0	1
D	GS	SV-58A-15	15	20-Jul-07	56-23-5	Carbon tetrachloride	2.6	ug/L	2.6	0	1
D	GS	SV-58A-15	15	20-Jul-07		Carbon Monoxide	0.025	%		0	1
D	GS	SV-58A-15	15	20-Jul-07		Carbon Dioxide	35	%		1	1
D	GS	SV-58A-15	15	20-Jul-07	108-90-7	Chlorobenzene	1.9	ug/L	1.9	0	1
D	GS	SV-58A-15	15	20-Jul-07	75-25-2	Bromoform	4.2	ug/L	4.2	0	1
D	GS	SV-58A-15	15	20-Jul-07	75-27-4	Bromodichloromethane	2.8	ug/L	2.8	0	1
D	GS	SV-58A-15	15	20-Jul-07	78-93-3	2-Butanone	1.2	ug/L	1.2	0	1
D	GS	SV-58A-15	15	20-Jul-07	75-15-0	Carbon Disulfide	1.3	ug/L	1.3	0	1
D	GS	SV-58A-15	15	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	1.9	ug/L	1.9	0	1
D	GS	SV-58A-15	15	20-Jul-07	100-44-7	Benzyl chloride	2.1	ug/L	2.1	0	1
D	GS	SV-58A-15	15	20-Jul-07	591-78-6	2-Hexanone	6.7	ug/L	6.7	0	1
D	GS	SV-58A-15	15	20-Jul-07		4-Bromofluorobenzene	90	%		1	1
D	GS	SV-58A-15	15	20-Jul-07	108-10-1	4-Methyl-2-pentanone	1.7	ug/L	1.7	0	1
D	GS	SV-58A-15	15	20-Jul-07	67-64-1	Acetone	15	ug/L	15	1	1
D	GS	SV-58A-15	15	20-Jul-07	107-05-1	Allyl chloride	5.2	ug/L	5.2	0	1
D	GS	SV-58A-15	15	20-Jul-07	71-43-2	Benzene	2.2	ug/L	2.2	1	1
D	GS	SV-58A-15	15	20-Jul-07	123-91-1	1,4-Dioxane	5.9	ug/L	5.9	0	1
D	GS	SV-59-05	5	20-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
D	GS	SV-59-05	5	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
D	GS	SV-59-05	5	20-Jul-07	74-82-8	Methane	0.00026	%		0	1
D	GS	SV-59-05	5	20-Jul-07	179601-23-1	m,p-Xylenes	0.0056	ug/L	0.0056	0	1
D	GS	SV-59-05	5	20-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1
D	GS	SV-59-05	5	20-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
D	GS	SV-59-05	5	20-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
D	GS	SV-59-05	5	20-Jul-07	110-54-3	Hexane	0.0045	ug/L	0.0045	0	1
D	GS	SV-59-05	5	20-Jul-07	100-41-4	Ethylbenzene	0.0056	ug/L	0.0056	0	1
D	GS	SV-59-05	5	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
D	GS	SV-59-05	5	20-Jul-07		Ethene	0.0026	%		0	1
D	GS	SV-59-05	5	20-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
D	GS	SV-59-05	5	20-Jul-07		Ethane	0.0026	%		0	1
D	GS	SV-59-05	5	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
D	GS	SV-59-05	5	20-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
D	GS	SV-59-05	5	20-Jul-07	110-82-7	Cyclohexane	0.0083	ug/L	0.0083	1	1
D	GS	SV-59-05	5	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
D	GS	SV-59-05	5	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
D	GS	SV-59-05	5	20-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1
D	GS	SV-59-05	5	20-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
D	GS	SV-59-05	5	20-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
D	GS	SV-59-05	5	20-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
D	GS	SV-59-05	5	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
D	GS	SV-59-05	5	20-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
D	GS	SV-59-05	5	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
D	GS	SV-59-05	5	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
D	GS	SV-59-05	5	20-Jul-07		Toluene-d8	94	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	GS	SV-59-05	5	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
D	GS	SV-59-05	5	20-Jul-07	109-99-9	Tetrahydrofuran	0.0052	ug/L	0.0052	1	1
D	GS	SV-59-05	5	20-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
D	GS	SV-59-05	5	20-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
D	GS	SV-59-05	5	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
D	GS	SV-59-05	5	20-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
D	GS	SV-59-05	5	20-Jul-07	622-96-8	p-Ethyltoluene	0.0063	ug/L	0.0063	0	1
D	GS	SV-59-05	5	20-Jul-07	95-47-6	o-Xylene	0.0056	ug/L	0.0056	0	1
D	GS	SV-59-05	5	20-Jul-07		Oxygen	19	%		1	1
D	GS	SV-59-05	5	20-Jul-07	103-65-1	n-Propylbenzene	0.0063	ug/L	0.0063	0	1
D	GS	SV-59-05	5	20-Jul-07		Nitrogen	80	%		1	1
D	GS	SV-59-05	5	20-Jul-07	108-88-3	Toluene	0.0049	ug/L	0.0049	0	1
D	GS	SV-59-05	5	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
D	GS	SV-59-05	5	20-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
D	GS	SV-59-05	5	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
D	GS	SV-59-05	5	20-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
D	GS	SV-59-05	5	20-Jul-07		1,2-Dichloroethane-d4	107	%		1	1
D	GS	SV-59-05	5	20-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
D	GS	SV-59-05	5	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
D	GS	SV-59-05	5	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
D	GS	SV-59-05	5	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
D	GS	SV-59-05	5	20-Jul-07	67-66-3	Chloroform	0.0063	ug/L	0.0063	0	1
D	GS	SV-59-05	5	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
D	GS	SV-59-05	5	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
D	GS	SV-59-05	5	20-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
D	GS	SV-59-05	5	20-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
D	GS	SV-59-05	5	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
D	GS	SV-59-05	5	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
D	GS	SV-59-05	5	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
D	GS	SV-59-05	5	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
D	GS	SV-59-05	5	20-Jul-07	142-82-5	n-Heptane	0.0053	ug/L	0.0053	0	1
D	GS	SV-59-05	5	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
D	GS	SV-59-05	5	20-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
D	GS	SV-59-05	5	20-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
D	GS	SV-59-05	5	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
D	GS	SV-59-05	5	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
D	GS	SV-59-05	5	20-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
D	GS	SV-59-05	5	20-Jul-07		Carbon Monoxide	0.026	%		0	1
D	GS	SV-59-05	5	20-Jul-07		Carbon Dioxide	1.5	%		1	1
D	GS	SV-59-05	5	20-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
D	GS	SV-59-05	5	20-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
D	GS	SV-59-05	5	20-Jul-07	75-27-4	Bromodichloromethane	0.0086	ug/L	0.0086	0	1
D	GS	SV-59-05	5	20-Jul-07	78-93-3	2-Butanone	0.021	ug/L	0.021	1	1
D	GS	SV-59-05	5	20-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
D	GS	SV-59-05	5	20-Jul-07	75-15-0	Carbon Disulfide	0.024	ug/L	0.024	1	1
D	GS	SV-59-05	5	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.006	ug/L	0.006	0	1
D	GS	SV-59-05	5	20-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
D	GS	SV-59-05	5	20-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
D	GS	SV-59-05	5	20-Jul-07		4-Bromofluorobenzene	89	%		1	1
D	GS	SV-59-05	5	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
D	GS	SV-59-05	5	20-Jul-07	67-64-1	Acetone	0.03	ug/L	0.03	1	1
D	GS	SV-59-05	5	20-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
D	GS	SV-59-05	5	20-Jul-07	71-43-2	Benzene	0.0063	ug/L	0.0063	1	1
D	GS	SV-59-15	15	20-Jul-07	110-54-3	Hexane	0.061	ug/L	0.061	1	1
D	GS	SV-59-15	15	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
D	GS	SV-59-15	15	20-Jul-07	74-82-8	Methane	0.021	%		1	1
D	GS	SV-59-15	15	20-Jul-07	179601-23-1	m,p-Xylenes	0.2	ug/L	0.2	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	GS	SV-59-15	15	20-Jul-07	98-82-8	Isopropylbenzene	0.028	ug/L	0.028	1	1
D	GS	SV-59-15	15	20-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
D	GS	SV-59-15	15	20-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
D	GS	SV-59-15	15	20-Jul-07	75-09-2	Methylene chloride	0.0047	ug/L	0.0047	0	1
D	GS	SV-59-15	15	20-Jul-07	87-68-3	Hexachlorobutadiene	0.057	ug/L	0.057	0	1
D	GS	SV-59-15	15	20-Jul-07	100-41-4	Ethylbenzene	0.093	ug/L	0.093	1	1
D	GS	SV-59-15	15	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
D	GS	SV-59-15	15	20-Jul-07		Ethene	0.0027	%		0	1
D	GS	SV-59-15	15	20-Jul-07	64-17-5	Ethanol	0.01	ug/L	0.01	0	1
D	GS	SV-59-15	15	20-Jul-07		Ethane	0.0027	%		0	1
D	GS	SV-59-15	15	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.0066	ug/L	0.0066	0	1
D	GS	SV-59-15	15	20-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
D	GS	SV-59-15	15	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0061	ug/L	0.0061	0	1
D	GS	SV-59-15	15	20-Jul-07	110-82-7	Cyclohexane	0.08	ug/L	0.08	1	1
D	GS	SV-59-15	15	20-Jul-07	127-18-4	Tetrachloroethene	0.0091	ug/L	0.0091	0	1
D	GS	SV-59-15	15	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
D	GS	SV-59-15	15	20-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
D	GS	SV-59-15	15	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0053	ug/L		0	1
D	GS	SV-59-15	15	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0076	ug/L	0.0076	0	1
D	GS	SV-59-15	15	20-Jul-07	79-01-6	Trichloroethene	0.0072	ug/L	0.0072	0	1
D	GS	SV-59-15	15	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0061	ug/L	0.0061	0	1
D	GS	SV-59-15	15	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0053	ug/L	0.0053	0	1
D	GS	SV-59-15	15	20-Jul-07		Toluene-d8	93	%		1	1
D	GS	SV-59-15	15	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
D	GS	SV-59-15	15	20-Jul-07	109-99-9	Tetrahydrofuran	0.004	ug/L	0.004	0	1
D	GS	SV-59-15	15	20-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
D	GS	SV-59-15	15	20-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
D	GS	SV-59-15	15	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
D	GS	SV-59-15	15	20-Jul-07	100-42-5	Styrene	0.0057	ug/L	0.0057	0	1
D	GS	SV-59-15	15	20-Jul-07	622-96-8	p-Ethyltoluene	0.077	ug/L	0.077	1	1
D	GS	SV-59-15	15	20-Jul-07	95-47-6	o-Xylene	0.079	ug/L	0.079	1	1
D	GS	SV-59-15	15	20-Jul-07		Oxygen	15	%		1	1
D	GS	SV-59-15	15	20-Jul-07	103-65-1	n-Propylbenzene	0.045	ug/L	0.045	1	1
D	GS	SV-59-15	15	20-Jul-07		Nitrogen	82	%		1	1
D	GS	SV-59-15	15	20-Jul-07	142-82-5	n-Heptane	0.076	ug/L	0.076	1	1
D	GS	SV-59-15	15	20-Jul-07	108-88-3	Toluene	0.01	ug/L	0.01	1	1
D	GS	SV-59-15	15	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.04	ug/L	0.04	0	1
D	GS	SV-59-15	15	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0063	ug/L	0.0063	0	1
D	GS	SV-59-15	15	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.04	ug/L	0.04	1	1
D	GS	SV-59-15	15	20-Jul-07	78-87-5	1,2-Dichloropropane	0.0062	ug/L	0.0062	0	1
D	GS	SV-59-15	15	20-Jul-07		1,2-Dichloroethane-d4	108	%		1	1
D	GS	SV-59-15	15	20-Jul-07	107-06-2	1,2-Dichloroethane	0.0054	ug/L	0.0054	0	1
D	GS	SV-59-15	15	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
D	GS	SV-59-15	15	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0094	ug/L	0.0094	0	1
D	GS	SV-59-15	15	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
D	GS	SV-59-15	15	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.13	ug/L	0.13	1	1
D	GS	SV-59-15	15	20-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
D	GS	SV-59-15	15	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
D	GS	SV-59-15	15	20-Jul-07	75-35-4	1,1-Dichloroethene	0.0053	ug/L	0.0053	0	1
D	GS	SV-59-15	15	20-Jul-07	75-34-3	1,1-Dichloroethane	0.0054	ug/L	0.0054	0	1
D	GS	SV-59-15	15	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0073	ug/L	0.0073	0	1
D	GS	SV-59-15	15	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
D	GS	SV-59-15	15	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0092	ug/L	0.0092	0	1
D	GS	SV-59-15	15	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0073	ug/L	0.0073	0	1
D	GS	SV-59-15	15	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.037	ug/L	0.037	0	1
D	GS	SV-59-15	15	20-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
D	GS	SV-59-15	15	20-Jul-07	75-27-4	Bromodichloromethane	0.009	ug/L	0.009	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	GS	SV-59-15	15	20-Jul-07	67-66-3	Chloroform	0.014	ug/L	0.014	1	1
D	GS	SV-59-15	15	20-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
D	GS	SV-59-15	15	20-Jul-07	108-90-7	Chlorobenzene	0.0062	ug/L	0.0062	0	1
D	GS	SV-59-15	15	20-Jul-07	56-23-5	Carbon tetrachloride	0.0085	ug/L	0.0085	0	1
D	GS	SV-59-15	15	20-Jul-07		Carbon Monoxide	0.027	%		0	1
D	GS	SV-59-15	15	20-Jul-07	75-15-0	Carbon Disulfide	0.054	ug/L	0.054	1	1
D	GS	SV-59-15	15	20-Jul-07		Carbon Dioxide	3.4	%		1	1
D	GS	SV-59-15	15	20-Jul-07	106-99-0	1,3-Butadiene	0.003	ug/L	0.003	0	1
D	GS	SV-59-15	15	20-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
D	GS	SV-59-15	15	20-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
D	GS	SV-59-15	15	20-Jul-07	100-44-7	Benzyl chloride	0.007	ug/L	0.007	0	1
D	GS	SV-59-15	15	20-Jul-07	71-43-2	Benzene	0.038	ug/L	0.038	1	1
D	GS	SV-59-15	15	20-Jul-07	107-05-1	Allyl chloride	0.017	ug/L	0.017	0	1
D	GS	SV-59-15	15	20-Jul-07	67-64-1	Acetone	0.031	ug/L	0.031	1	1
D	GS	SV-59-15	15	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0055	ug/L	0.0055	0	1
D	GS	SV-59-15	15	20-Jul-07		4-Bromofluorobenzene	92	%		1	1
D	GS	SV-59-15	15	20-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1
D	GS	SV-59-15	15	20-Jul-07	78-93-3	2-Butanone	0.026	ug/L	0.026	1	1
D	GS	SV-59-15	15	20-Jul-07	74-83-9	Bromomethane	0.0052	ug/L	0.0052	0	1
D	Soil	B-141-5	5		68476-30-2	TPHd			10	0	1
D	Soil	B-141-5	5		64742-47-8	TPHm			10	0	1
D	Soil	B-141-5	5		8006-61-9	TPHg			10	0	1
D	Soil	B-142-5	5		BaP TEQ	BaP TEQ			0.03525	0	1
D	Soil	B-142-5	5		68476-30-2	TPHd			330	1	1
D	Soil	B-142-5	5		8006-61-9	TPHg			10	0	1
D	Soil	B-142-5	5		64742-47-8	TPHm			820	1	1
D	Soil	B-154-5	5		8006-61-9	TPHg			10	0	1
D	Soil	B-154-5	5		68476-30-2	TPHd			10	0	1
D	Soil	B-154-5	5		64742-47-8	TPHm			10	0	1
D	Soil	B-155-5	5		8006-61-9	TPHg			10	0	1
D	Soil	B-155-5	5		64742-47-8	TPHm			83	1	1
D	Soil	B-155-5	5		68476-30-2	TPHd			19	1	1
D	Soil	B-156-5	5		68476-30-2	TPHd			10	0	1
D	Soil	B-156-5	5		8006-61-9	TPHg			10	0	1
D	Soil	B-156-5	5		64742-47-8	TPHm			10	0	1
D	Soil	B-157-10	10		8006-61-9	TPHg			10	0	1
D	Soil	B-157-10	10		64742-47-8	TPHm			10	0	1
D	Soil	B-157-10	10		68476-30-2	TPHd			10	0	1
D	Soil	B-158-1	1		BaP TEQ	BaP TEQ			14.1	0	1
D	Soil	B-158-1	1		8006-61-9	TPHg			10	0	1
D	Soil	B-158-1	1		64742-47-8	TPHm			13000	1	1
D	Soil	B-158-1	1		68476-30-2	TPHd			11000	1	1
D	Soil	B-158-2.5	2.5		68476-30-2	TPHd			890	1	1
D	Soil	B-158-2.5	2.5		8006-61-9	TPHg			10	0	1
D	Soil	B-158-2.5	2.5		64742-47-8	TPHm			1800	1	1
D	Soil	B-158-4.5	4.5		BaP TEQ	BaP TEQ			2.82	0	1
D	Soil	B-158-4.5	4.5		68476-30-2	TPHd			1500	1	1
D	Soil	B-158-4.5	4.5		8006-61-9	TPHg			10	0	1
D	Soil	B-158-4.5	4.5		64742-47-8	TPHm			2000	1	1
D	Soil	B-159-10	10		68476-30-2	TPHd			10	0	1
D	Soil	B-159-10	10		8006-61-9	TPHg			10	0	1
D	Soil	B-159-10	10		64742-47-8	TPHm			10	0	1
D	Soil	B-160-10	10		68476-30-2	TPHd			17	1	1
D	Soil	B-160-10	10		8006-61-9	TPHg			10	0	1
D	Soil	B-160-10	10		64742-47-8	TPHm			10	0	1
D	Soil	B-161-5	5		68476-30-2	TPHd			10	0	1
D	Soil	B-161-5	5		8006-61-9	TPHg			10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	B-161-5	5		64742-47-8	TPHm			10	0	1
D	Soil	B-163-10	10		68476-30-2	TPHd			1200	1	1
D	Soil	B-163-10	10		8006-61-9	TPHg			77	1	1
D	Soil	B-163-10	10		64742-47-8	TPHm			110	1	1
D	Soil	B-163-5	5		BaP TEQ	BaP TEQ			0.003525	0	1
D	Soil	B-163-5	5		68476-30-2	TPHd			16	1	1
D	Soil	B-163-5	5		64742-47-8	TPHm			10	0	1
D	Soil	B-163-5	5		8006-61-9	TPHg			10	0	1
D	Soil	B-164-5	5		8006-61-9	TPHg			10	0	1
D	Soil	B-164-5	5		64742-47-8	TPHm			10	0	1
D	Soil	B-164-5	5		68476-30-2	TPHd			10	0	1
D	Soil	B-166-5.5	5.5		68476-30-2	TPHd			110	1	1
D	Soil	B-166-5.5	5.5		8006-61-9	TPHg			10	0	1
D	Soil	B-166-5.5	5.5		64742-47-8	TPHm			97	1	1
D	Soil	B-175-5	5		64742-47-8	TPHm			10	0	1
D	Soil	B-175-5	5		68476-30-2	TPHd			10	0	1
D	Soil	B-175-5	5		8006-61-9	TPHg			10	0	1
D	Soil	B-176-5	5		8006-61-9	TPHg			10	0	1
D	Soil	B-176-5	5		64742-47-8	TPHm			31	1	1
D	Soil	B-176-5	5		68476-30-2	TPHd			29	1	1
D	Soil	B-177-10	10		68476-30-2	TPHd			10	0	1
D	Soil	B-177-10	10		8006-61-9	TPHg			10	0	1
D	Soil	B-177-10	10		64742-47-8	TPHm			10	0	1
D	Soil	B-178-10	10		68476-30-2	TPHd			10	0	1
D	Soil	B-178-10	10		8006-61-9	TPHg			10	0	1
D	Soil	B-178-10	10		64742-47-8	TPHm			10	0	1
D	Soil	B-179-10	10		68476-30-2	TPHd			10	0	1
D	Soil	B-179-10	10		64742-47-8	TPHm			10	0	1
D	Soil	B-179-10	10		8006-61-9	TPHg			10	0	1
D	Soil	B-180-10	10		68476-30-2	TPHd			10	0	1
D	Soil	B-180-10	10		8006-61-9	TPHg			10	0	1
D	Soil	B-180-10	10		64742-47-8	TPHm			10	0	1
D	Soil	B-182-10	10		68476-30-2	TPHd			10	0	1
D	Soil	B-182-10	10		8006-61-9	TPHg			10	0	1
D	Soil	B-182-10	10		64742-47-8	TPHm			10	0	1
D	Soil	B-184-5	5		68476-30-2	TPHd			150	1	1
D	Soil	B-184-5	5		64742-47-8	TPHm			560	1	1
D	Soil	B-184-5	5		8006-61-9	TPHg			10	0	1
D	Soil	B-18-5	5		68476-30-2	TPHd			10	0	1
D	Soil	B-18-5	5		8006-61-9	TPHg			10	0	1
D	Soil	B-18-5	5		64742-47-8	TPHm			10	0	1
D	Soil	B-19-5	5		64742-47-8	TPHm			10	0	1
D	Soil	B-19-5	5		8006-61-9	TPHg			10	0	1
D	Soil	B-19-5	5		68476-30-2	TPHd			10	0	1
D	Soil	S-17-0.5	0.5		BaP TEQ	BaP TEQ			0.03282	1	1
D	Soil	S-17-0.5	0.5		64742-47-8	TPHm			170	1	1
D	Soil	S-17-0.5	0.5		8006-61-9	TPHg			10	0	1
D	Soil	S-17-0.5	0.5		68476-30-2	TPHd			30	1	1
D	Soil	S-17-2.5	2.5		68476-30-2	TPHd			10	0	1
D	Soil	S-17-2.5	2.5		8006-61-9	TPHg			10	0	1
D	Soil	S-17-2.5	2.5		64742-47-8	TPHm			33	1	1
D	Soil	S-7-0.5	0.5		BaP TEQ	BaP TEQ			0.04135	1	1
D	Soil	S-7-0.5	0.5		64742-47-8	TPHm			330	1	1
D	Soil	S-7-0.5	0.5		68476-30-2	TPHd			53	1	1
D	Soil	S-7-0.5	0.5		8006-61-9	TPHg			10	0	1
D	Soil	S-7-2.5	2.5		64742-47-8	TPHm			57	1	1
D	Soil	S-7-2.5	2.5		68476-30-2	TPHd			10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	S-7-2.5	2.5		8006-61-9	TPHg			10	0	1
D	Soil	S-8-0.5	0.5		BaP TEQ	BaP TEQ			0.1154	1	1
D	Soil	S-8-0.5	0.5		68476-30-2	TPHd			240	1	1
D	Soil	S-8-0.5	0.5		64742-47-8	TPHm			1300	1	1
D	Soil	S-8-0.5	0.5		8006-61-9	TPHg			10	0	1
D	Soil	S-8-2.5	2.5		68476-30-2	TPHd			10	0	1
D	Soil	S-8-2.5	2.5		64742-47-8	TPHm			10	0	1
D	Soil	S-8-2.5	2.5		8006-61-9	TPHg			10	0	1
D	Soil	SP-4-5	5		64742-47-8	TPHm			10	0	1
D	Soil	SP-4-5	5		8006-61-9	TPHg			10	0	1
D	Soil	SP-4-5	5		68476-30-2	TPHd			10	0	1
D	Soil	SV-58-02	2		BaP TEQ	BaP TEQ			0.00562	1	1
D	Soil	SV-58-02	2		64742-47-8	TPHm			150	1	1
D	Soil	SV-58-02	2		8006-61-9	TPHg			0.41	0	1
D	Soil	SV-58-02	2		68476-30-2	TPHd			81	1	1
D	Soil	SV-58-05	5		BaP TEQ	BaP TEQ			0.004089	0	1
D	Soil	SV-58-05	5		64742-47-8	TPHm			260	1	1
D	Soil	SV-58-05	5		8006-61-9	TPHg			0.41	0	1
D	Soil	SV-58-05	5		68476-30-2	TPHd			65	1	1
D	Soil	T1A-1	1		64742-47-8	TPHm			180	1	1
D	Soil	T1A-1	1		8006-61-9	TPHg			0.49	0	1
D	Soil	T1A-1	1		68476-30-2	TPHd			24	1	1
D	Soil	T1A-2	2		64742-47-8	TPHm			38	1	1
D	Soil	T1A-2	2		68476-30-2	TPHd			11	1	1
D	Soil	T1A-2	2		8006-61-9	TPHg			0.5	0	1
D	Soil	T1A-3	3		8006-61-9	TPHg			0.49	0	1
D	Soil	T1A-3	3		64742-47-8	TPHm			50	0	1
D	Soil	T1A-3	3		68476-30-2	TPHd			9.6	1	1
D	Soil	T1A-4	4		64742-47-8	TPHm			50	0	1
D	Soil	T1A-4	4		8006-61-9	TPHg			0.5	0	1
D	Soil	T1A-4	4		68476-30-2	TPHd			10	0	1
D	Soil	T1A-5	5		64742-47-8	TPHm			50	0	1
D	Soil	T1A-5	5		8006-61-9	TPHg			0.5	0	1
D	Soil	T1A-5	5		68476-30-2	TPHd			10	0	1
D	Soil	T1A-6	6		68476-30-2	TPHd			10	0	1
D	Soil	T1A-6	6		8006-61-9	TPHg			0.49	0	1
D	Soil	T1A-6	6		64742-47-8	TPHm			50	0	1
D	Soil	T1B-1	1		64742-47-8	TPHm			370	1	1
D	Soil	T1B-1	1		68476-30-2	TPHd			41	1	1
D	Soil	T1B-1	1		8006-61-9	TPHg			0.5	0	1
D	Soil	T1B-2	2		8006-61-9	TPHg			0.49	0	1
D	Soil	T1B-2	2		64742-47-8	TPHm			350	1	1
D	Soil	T1B-2	2		68476-30-2	TPHd			69	1	1
D	Soil	T1B-3	3		68476-30-2	TPHd			13	1	1
D	Soil	T1B-3	3		8006-61-9	TPHg			0.5	0	1
D	Soil	T1B-3	3		64742-47-8	TPHm			78	1	1
D	Soil	T1B-4	4		64742-47-8	TPHm			50	0	1
D	Soil	T1B-4	4		68476-30-2	TPHd			10	0	1
D	Soil	T1B-4	4		8006-61-9	TPHg			0.5	0	1
D	Soil	T1B-5	5		8006-61-9	TPHg			0.5	0	1
D	Soil	T1B-5	5		64742-47-8	TPHm			16	1	1
D	Soil	T1B-5	5		68476-30-2	TPHd			10	0	1
D	Soil	T1B-6	6		BaP TEQ	BaP TEQ			0.003525	0	1
D	Soil	T1B-6	6		68476-30-2	TPHd			114	1	1
D	Soil	T1B-6	6		8006-61-9	TPHg			0.49	0	1
D	Soil	T1B-6	6		64742-47-8	TPHm			146	1	1
D	Soil	T1C-1	1		68476-30-2	TPHd			170	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	T1C-1	1		8006-61-9	TPHg			0.5	0	1
D	Soil	T1C-1	1		64742-47-8	TPHm			1700	1	1
D	Soil	T1C-2	2		68476-30-2	TPHd			17	1	1
D	Soil	T1C-2	2		8006-61-9	TPHg			0.49	0	1
D	Soil	T1C-2	2		64742-47-8	TPHm			62	1	1
D	Soil	T1C-3	3		68476-30-2	TPHd			24	1	1
D	Soil	T1C-3	3		8006-61-9	TPHg			0.5	0	1
D	Soil	T1C-3	3		64742-47-8	TPHm			140	1	1
D	Soil	T1C-4	4		68476-30-2	TPHd			10	0	1
D	Soil	T1C-4	4		8006-61-9	TPHg			0.5	0	1
D	Soil	T1C-4	4		64742-47-8	TPHm			30	1	1
D	Soil	T1C-5	5		8006-61-9	TPHg			0.5	0	1
D	Soil	T1C-5	5		68476-30-2	TPHd			10	0	1
D	Soil	T1C-5	5		64742-47-8	TPHm			20	1	1
D	Soil	T1C-6	6		64742-47-8	TPHm			21	1	1
D	Soil	T1C-6	6		8006-61-9	TPHg			0.5	0	1
D	Soil	T1C-6	6		68476-30-2	TPHd			22	1	1
D	Soil	B-141-5	5	26-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
D	Soil	B-141-5	5	26-Sep-97	7440-02-0	Nickel	5.2	mg/K	5.2	1	1
D	Soil	B-141-5	5	26-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
D	Soil	B-141-5	5	26-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
D	Soil	B-141-5	5	26-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
D	Soil	B-141-5	5	26-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
D	Soil	B-141-5	5	26-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-141-5	5	26-Sep-97	7440-62-2	Vanadium	11	mg/K	11	1	1
D	Soil	B-141-5	5	26-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-141-5	5	26-Sep-97		C10-C25	10	mg/K	10	0	1
D	Soil	B-141-5	5	26-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
D	Soil	B-141-5	5	26-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
D	Soil	B-141-5	5	26-Sep-97	7440-66-6	Zinc	14	mg/K	14	1	1
D	Soil	B-141-5	5	26-Sep-97	7439-92-1	Lead	3.1	mg/K	3.1	1	1
D	Soil	B-141-5	5	26-Sep-97	7440-39-3	Barium	48	mg/K	48	1	1
D	Soil	B-141-5	5	26-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
D	Soil	B-141-5	5	26-Sep-97		C1-C40	10	mg/K	10	0	1
D	Soil	B-141-5	5	26-Sep-97	7440-47-3	Chromium	15	mg/K	15	1	1
D	Soil	B-141-5	5	26-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-141-5	5	26-Sep-97	7440-50-8	Copper	3.8	mg/K	3.8	1	1
D	Soil	B-141-5	5	26-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-141-5	5	26-Sep-97	7440-48-4	Cobalt	1.1	mg/K	1.1	1	1
D	Soil	B-141-5	5	26-Sep-97		C25-C40	10	mg/K	10	0	1
D	Soil	B-141-5	5	26-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
D	Soil	B-141-5	5	26-Sep-97		C4-C10	10	mg/K	10	0	1
D	Soil	B-142-5	5	26-Sep-97	74-95-3	Dibromomethane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	75-00-3	Chloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	34077-87-7	Dichlorotrifluoroethane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	87-68-3	Hexachlorobutadiene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	86-73-7	Fluorene	0.05	mg/K	0.05	0	1
D	Soil	B-142-5	5	26-Sep-97	75-71-8	Dichlorodifluoromethane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	206-44-0	Fluoranthene	0.05	mg/K	0.05	0	1
D	Soil	B-142-5	5	26-Sep-97	124-48-1	Dibromochloromethane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.05	mg/K	0.05	0	1
D	Soil	B-142-5	5	26-Sep-97	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	156-59-2	cis-1,2-Dichloroethene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	218-01-9	Chrysene	0.05	mg/K	0.05	0	1
D	Soil	B-142-5	5	26-Sep-97	67-66-3	Chloroform	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/K	0.05	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	B-142-5	5	26-Sep-97	75-69-4	Trichlorofluoromethane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	74-87-3	Chloromethane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	129-00-0	Pyrene	0.05	mg/K	0.05	0	1
D	Soil	B-142-5	5	26-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	75-01-4	Vinyl chloride	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	56-55-3	Benzo(a)anthracene	0.05	mg/K	0.05	0	1
D	Soil	B-142-5	5	26-Sep-97	79-01-6	Trichloroethene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	108-90-7	Chlorobenzene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	127-18-4	Tetrachloroethene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	98-06-6	tert-Butylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	156-60-5	trans-1,2-Dichloroethene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	135-98-8	sec-Butylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	98-82-8	Isopropylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	99-87-6	p-Isopropyltoluene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	85-01-8	Phenanthrene	0.05	mg/K	0.05	0	1
D	Soil	B-142-5	5	26-Sep-97	103-65-1	n-Propylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	104-51-8	n-Butylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	91-20-3	Naphthalene	0.05	mg/K	0.05	0	0
D	Soil	B-142-5	5	26-Sep-97	91-20-3	Naphthalene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	75-09-2	Methylene chloride	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	100-42-5	Styrene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	96-18-4	1,2,3-Trichloropropane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	142-28-9	1,3-Dichloropropane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	541-73-1	1,3-Dichlorobenzene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	78-87-5	1,2-Dichloropropane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	107-06-2	1,2-Dichloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	95-50-1	1,2-Dichlorobenzene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	106-93-4	1,2-Dibromoethane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/K	0.01	0	1
D	Soil	B-142-5	5	26-Sep-97	205-99-2	Benzo(b)fluoranthene	0.05	mg/K	0.05	0	1
D	Soil	B-142-5	5	26-Sep-97	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/K	0.01	0	1
D	Soil	B-142-5	5	26-Sep-97	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/K	0.01	0	1
D	Soil	B-142-5	5	26-Sep-97	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/K	0.01	0	1
D	Soil	B-142-5	5	26-Sep-97	563-58-6	1,1-Dichloropropene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	75-35-4	1,1-Dichloroethene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	75-34-3	1,1-Dichloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	79-00-5	1,1,2-Trichloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	71-55-6	1,1,1-Trichloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.05	mg/K	0.05	0	1
D	Soil	B-142-5	5	26-Sep-97		C4-C10	10	mg/K	10	0	1
D	Soil	B-142-5	5	26-Sep-97		C25-C40	820	mg/K	820	1	1
D	Soil	B-142-5	5	26-Sep-97		C1-C40	1150	mg/K	1150	1	1
D	Soil	B-142-5	5	26-Sep-97		C10-C25	330	mg/K	330	1	1
D	Soil	B-142-5	5	26-Sep-97	74-83-9	Bromomethane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	75-25-2	Bromoform	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	75-27-4	Bromodichloromethane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	74-97-5	Bromochloromethane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	106-46-7	1,4-Dichlorobenzene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	207-08-9	Benzo(k)fluoranthene	0.05	mg/K	0.05	0	1
D	Soil	B-142-5	5	26-Sep-97	594-20-7	2,2-Dichloropropane	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	50-32-8	Benzo(a)pyrene	0.05	mg/K	0.05	0	1
D	Soil	B-142-5	5	26-Sep-97	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	B-142-5	5	26-Sep-97	120-12-7	Anthracene	0.05	mg/K	0.05	0	1
D	Soil	B-142-5	5	26-Sep-97	208-96-8	Acenaphthylene	0.05	mg/K	0.05	0	1
D	Soil	B-142-5	5	26-Sep-97	83-32-9	Acenaphthene	0.05	mg/K	0.05	0	1
D	Soil	B-142-5	5	26-Sep-97	106-43-4	4-Chlorotoluene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	95-49-8	2-Chlorotoluene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	56-23-5	Carbon tetrachloride	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	108-86-1	Bromobenzene	0.005	mg/K	0.005	0	1
D	Soil	B-142-5	5	26-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-18-5	5	26-Sep-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
D	Soil	B-18-5	5	26-Sep-97		C4-C10	10	mg/K	10	0	1
D	Soil	B-18-5	5	26-Sep-97		C25-C40	10	mg/K	10	0	1
D	Soil	B-18-5	5	26-Sep-97		C1-C40	10	mg/K	10	0	1
D	Soil	B-18-5	5	26-Sep-97		C10-C25	10	mg/K	10	0	1
D	Soil	B-18-5	5	26-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
D	Soil	B-18-5	5	26-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-18-5	5	26-Sep-97	7440-39-3	Barium	25	mg/K	25	1	1
D	Soil	B-18-5	5	26-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
D	Soil	B-18-5	5	26-Sep-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
D	Soil	B-18-5	5	26-Sep-97	7439-92-1	Lead	2.5	mg/K	2.5	1	1
D	Soil	B-18-5	5	26-Sep-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
D	Soil	B-18-5	5	26-Sep-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
D	Soil	B-18-5	5	26-Sep-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
D	Soil	B-18-5	5	26-Sep-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
D	Soil	B-18-5	5	26-Sep-97	7440-38-2	Arsenic	6.8	mg/K	6.8	1	1
D	Soil	B-18-5	5	26-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
D	Soil	B-18-5	5	26-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
D	Soil	B-18-5	5	26-Sep-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
D	Soil	B-18-5	5	26-Sep-97	7440-66-6	Zinc	28	mg/K	28	1	1
D	Soil	B-18-5	5	26-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-18-5	5	26-Sep-97	7440-62-2	Vanadium	22	mg/K	22	1	1
D	Soil	B-18-5	5	26-Sep-97	7440-50-8	Copper	9.1	mg/K	9.1	1	1
D	Soil	B-18-5	5	26-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
D	Soil	B-18-5	5	26-Sep-97	7440-47-3	Chromium	22	mg/K	22	1	1
D	Soil	B-18-5	5	26-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
D	Soil	B-18-5	5	26-Sep-97	7440-02-0	Nickel	7.1	mg/K	7.1	1	1
D	Soil	B-18-5	5	26-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
D	Soil	B-18-5	5	26-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
D	Soil	B-18-5	5	26-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-18-5	5	26-Sep-97	7440-48-4	Cobalt	1.5	mg/K	1.5	1	1
D	Soil	B-18-5	5	26-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-19-5	5	25-Sep-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
D	Soil	B-19-5	5	25-Sep-97	7440-47-3	Chromium	8.2	mg/K	8.2	1	1
D	Soil	B-19-5	5	25-Sep-97		C4-C10	10	mg/K	10	0	1
D	Soil	B-19-5	5	25-Sep-97		C25-C40	10	mg/K	10	0	1
D	Soil	B-19-5	5	25-Sep-97		C1-C40	10	mg/K	10	0	1
D	Soil	B-19-5	5	25-Sep-97		C10-C25	10	mg/K	10	0	1
D	Soil	B-19-5	5	25-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
D	Soil	B-19-5	5	25-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-19-5	5	25-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
D	Soil	B-19-5	5	25-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
D	Soil	B-19-5	5	25-Sep-97	7440-48-4	Cobalt	1	mg/K	1	0	1
D	Soil	B-19-5	5	25-Sep-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
D	Soil	B-19-5	5	25-Sep-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
D	Soil	B-19-5	5	25-Sep-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
D	Soil	B-19-5	5	25-Sep-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
D	Soil	B-19-5	5	25-Sep-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
D	Soil	B-19-5	5	25-Sep-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	B-19-5	5	25-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
D	Soil	B-19-5	5	25-Sep-97	7440-39-3	Barium	33	mg/K	33	1	1
D	Soil	B-19-5	5	25-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
D	Soil	B-19-5	5	25-Sep-97	7440-66-6	Zinc	31	mg/K	31	1	1
D	Soil	B-19-5	5	25-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-19-5	5	25-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
D	Soil	B-19-5	5	25-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-19-5	5	25-Sep-97	7440-50-8	Copper	7.5	mg/K	7.5	1	1
D	Soil	B-19-5	5	25-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
D	Soil	B-19-5	5	25-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
D	Soil	B-19-5	5	25-Sep-97	7440-02-0	Nickel	2.8	mg/K	2.8	1	1
D	Soil	B-19-5	5	25-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
D	Soil	B-19-5	5	25-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
D	Soil	B-19-5	5	25-Sep-97	7439-92-1	Lead	2	mg/K	2	1	1
D	Soil	B-19-5	5	25-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-19-5	5	25-Sep-97	7440-62-2	Vanadium	7.5	mg/K	7.5	1	1
D	Soil	B-154-5	5	26-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-154-5	5	26-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-154-5	5	26-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-154-5	5	26-Nov-97		C4-C10	10	mg/K	10	0	1
D	Soil	B-154-5	5	26-Nov-97		C25-C40	10	mg/K	10	0	1
D	Soil	B-154-5	5	26-Nov-97		C1-C40	10	mg/K	10	0	1
D	Soil	B-154-5	5	26-Nov-97		C10-C25	10	mg/K	10	0	1
D	Soil	B-154-5	5	26-Nov-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
D	Soil	B-154-5	5	26-Nov-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
D	Soil	B-154-5	5	26-Nov-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
D	Soil	B-154-5	5	26-Nov-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
D	Soil	B-154-5	5	26-Nov-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
D	Soil	B-154-5	5	26-Nov-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
D	Soil	B-154-5	5	26-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-154-5	5	26-Nov-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
D	Soil	B-155-5	5	26-Nov-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
D	Soil	B-155-5	5	26-Nov-97		C4-C10	10	mg/K	10	0	1
D	Soil	B-155-5	5	26-Nov-97		C25-C40	83	mg/K	83	1	1
D	Soil	B-155-5	5	26-Nov-97		C1-C40	102	mg/K	102	1	1
D	Soil	B-155-5	5	26-Nov-97		C10-C25	19	mg/K	19	1	1
D	Soil	B-155-5	5	26-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-155-5	5	26-Nov-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
D	Soil	B-155-5	5	26-Nov-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
D	Soil	B-155-5	5	26-Nov-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
D	Soil	B-155-5	5	26-Nov-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
D	Soil	B-155-5	5	26-Nov-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
D	Soil	B-155-5	5	26-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-155-5	5	26-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-155-5	5	26-Nov-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
D	Soil	B-155-5	5	26-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-156-5	5	26-Nov-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
D	Soil	B-156-5	5	26-Nov-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
D	Soil	B-156-5	5	26-Nov-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
D	Soil	B-156-5	5	26-Nov-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
D	Soil	B-156-5	5	26-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-156-5	5	26-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-156-5	5	26-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-156-5	5	26-Nov-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
D	Soil	B-156-5	5	26-Nov-97		C25-C40	10	mg/K	10	0	1
D	Soil	B-156-5	5	26-Nov-97		C1-C40	10	mg/K	10	0	1
D	Soil	B-156-5	5	26-Nov-97		C10-C25	10	mg/K	10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	B-156-5	5	26-Nov-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
D	Soil	B-156-5	5	26-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-156-5	5	26-Nov-97		C4-C10	10	mg/K	10	0	1
D	Soil	B-156-5	5	26-Nov-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
D	Soil	B-163-10	10	20-Nov-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
D	Soil	B-163-10	10	20-Nov-97		C1-C40	1387	mg/K	1387	1	1
D	Soil	B-163-10	10	20-Nov-97		C25-C40	110	mg/K	110	1	1
D	Soil	B-163-10	10	20-Nov-97		C4-C10	77	mg/K	77	1	1
D	Soil	B-163-10	10	20-Nov-97	100-41-4	Ethylbenzene	0.1	mg/K	0.1	0	1
D	Soil	B-163-10	10	20-Nov-97	1330-20-7	Xylenes (total)	0.1	mg/K	0.1	0	1
D	Soil	B-163-10	10	20-Nov-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
D	Soil	B-163-10	10	20-Nov-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
D	Soil	B-163-10	10	20-Nov-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
D	Soil	B-163-10	10	20-Nov-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
D	Soil	B-163-10	10	20-Nov-97		C10-C25	1200	mg/K	1200	1	1
D	Soil	B-163-10	10	20-Nov-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
D	Soil	B-163-10	10	20-Nov-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
D	Soil	B-163-10	10	20-Nov-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
D	Soil	B-163-10	10	20-Nov-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
D	Soil	B-163-5	5	20-Nov-97	124-48-1	Dibromochloromethane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	103-65-1	n-Propylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	7440-47-3	Chromium	13	mg/K	13	1	1
D	Soil	B-163-5	5	20-Nov-97	156-59-2	cis-1,2-Dichloroethene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	7440-48-4	Cobalt	1.6	mg/K	1.6	1	1
D	Soil	B-163-5	5	20-Nov-97	7440-02-0	Nickel	6.5	mg/K	6.5	1	1
D	Soil	B-163-5	5	20-Nov-97	53-70-3	Dibenz(a,h)anthracene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	86-73-7	Fluorene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	74-95-3	Dibromomethane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	75-71-8	Dichlorodifluoromethane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	34077-87-7	Dichlorotrifluoroethane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	7440-50-8	Copper	5.1	mg/K	5.1	1	1
D	Soil	B-163-5	5	20-Nov-97	67-66-3	Chloroform	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	206-44-0	Fluoranthene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	104-51-8	n-Butylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	91-20-3	Naphthalene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
D	Soil	B-163-5	5	20-Nov-97	75-09-2	Methylene chloride	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	87-68-3	Hexachlorobutadiene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	98-82-8	Isopropylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	7439-92-1	Lead	2	mg/K	2	1	1
D	Soil	B-163-5	5	20-Nov-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
D	Soil	B-163-5	5	20-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	56-23-5	Carbon tetrachloride	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	106-93-4	1,2-Dibromoethane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	75-00-3	Chloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	208-96-8	Acenaphthylene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	83-32-9	Acenaphthene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	106-43-4	4-Chlorotoluene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	95-49-8	2-Chlorotoluene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/K	0.01	0	1
D	Soil	B-163-5	5	20-Nov-97	594-20-7	2,2-Dichloropropane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	106-46-7	1,4-Dichlorobenzene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	142-28-9	1,3-Dichloropropane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	541-73-1	1,3-Dichlorobenzene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/K	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	B-163-5	5	20-Nov-97	78-87-5	1,2-Dichloropropane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	7440-36-0	Antimony	5	mg/K	5	0	1
D	Soil	B-163-5	5	20-Nov-97	95-50-1	1,2-Dichlorobenzene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
D	Soil	B-163-5	5	20-Nov-97	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/K	0.01	0	1
D	Soil	B-163-5	5	20-Nov-97	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/K	0.01	0	1
D	Soil	B-163-5	5	20-Nov-97	96-18-4	1,2,3-Trichloropropane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/K	0.01	0	1
D	Soil	B-163-5	5	20-Nov-97	563-58-6	1,1-Dichloropropene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	71-55-6	1,1,1-Trichloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	79-00-5	1,1,2-Trichloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	75-34-3	1,1-Dichloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	75-35-4	1,1-Dichloroethene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	107-06-2	1,2-Dichloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	191-24-2	Benzo(g,h,i)perylene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	108-90-7	Chlorobenzene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	218-01-9	Chrysene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	7440-43-9	Cadmium	1	mg/K	1	0	1
D	Soil	B-163-5	5	20-Nov-97		C4-C10	10	mg/K	10	0	1
D	Soil	B-163-5	5	20-Nov-97		C25-C40	10	mg/K	10	0	1
D	Soil	B-163-5	5	20-Nov-97		C1-C40	16	mg/K	16	1	1
D	Soil	B-163-5	5	20-Nov-97		C10-C25	16	mg/K	16	1	1
D	Soil	B-163-5	5	20-Nov-97	74-83-9	Bromomethane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	75-25-2	Bromoform	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	75-27-4	Bromodichloromethane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	74-97-5	Bromochloromethane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	108-86-1	Bromobenzene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	120-12-7	Anthracene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	207-08-9	Benzo(k)fluoranthene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	78-00-2	Tetraethyl Lead	1	mg/K	1	0	1
D	Soil	B-163-5	5	20-Nov-97	205-99-2	Benzo(b)fluoranthene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	50-32-8	Benzo(a)pyrene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	56-55-3	Benzo(a)anthracene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	7440-39-3	Barium	77	mg/K	77	1	1
D	Soil	B-163-5	5	20-Nov-97	7440-38-2	Arsenic	5	mg/K	5	0	1
D	Soil	B-163-5	5	20-Nov-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
D	Soil	B-163-5	5	20-Nov-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
D	Soil	B-163-5	5	20-Nov-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
D	Soil	B-163-5	5	20-Nov-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
D	Soil	B-163-5	5	20-Nov-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
D	Soil	B-163-5	5	20-Nov-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
D	Soil	B-163-5	5	20-Nov-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
D	Soil	B-163-5	5	20-Nov-97	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	85-01-8	Phenanthrene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	74-87-3	Chloromethane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	7440-66-6	Zinc	12	mg/K	12	1	1
D	Soil	B-163-5	5	20-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	75-01-4	Vinyl chloride	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	7440-62-2	Vanadium	11	mg/K	11	1	1
D	Soil	B-163-5	5	20-Nov-97	79-01-6	Trichloroethene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	156-60-5	trans-1,2-Dichloroethene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	7782-49-2	Selenium	5	mg/K	5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	B-163-5	5	20-Nov-97	99-87-6	p-Isopropyltoluene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	75-69-4	Trichlorofluoromethane	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	135-98-8	sec-Butylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	7440-28-0	Thallium	5	mg/K	5	0	1
D	Soil	B-163-5	5	20-Nov-97	7440-22-4	Silver	1	mg/K	1	0	1
D	Soil	B-163-5	5	20-Nov-97	100-42-5	Styrene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	98-06-6	tert-Butylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	127-18-4	Tetrachloroethene	0.005	mg/K	0.005	0	1
D	Soil	B-163-5	5	20-Nov-97	129-00-0	Pyrene	0.005	mg/K	0.005	0	1
D	Soil	B-164-5	5	26-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-164-5	5	26-Nov-97		C4-C10	10	mg/K	10	0	1
D	Soil	B-164-5	5	26-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-164-5	5	26-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-164-5	5	26-Nov-97		C25-C40	10	mg/K	10	0	1
D	Soil	B-164-5	5	26-Nov-97		C1-C40	10	mg/K	10	0	1
D	Soil	B-164-5	5	26-Nov-97		C10-C25	10	mg/K	10	0	1
D	Soil	B-164-5	5	26-Nov-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
D	Soil	B-164-5	5	26-Nov-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
D	Soil	B-164-5	5	26-Nov-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
D	Soil	B-164-5	5	26-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-164-5	5	26-Nov-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
D	Soil	B-164-5	5	26-Nov-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
D	Soil	B-164-5	5	26-Nov-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
D	Soil	B-164-5	5	26-Nov-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
D	Soil	B-166-5.5	5.5	26-Nov-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
D	Soil	B-166-5.5	5.5	26-Nov-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
D	Soil	B-166-5.5	5.5	26-Nov-97		C10-C25	110	mg/K	110	1	1
D	Soil	B-166-5.5	5.5	26-Nov-97		C1-C40	207	mg/K	207	1	1
D	Soil	B-166-5.5	5.5	26-Nov-97	1330-20-7	Xylenes (total)	0.19	mg/K	0.19	1	1
D	Soil	B-166-5.5	5.5	26-Nov-97		C25-C40	97	mg/K	97	1	1
D	Soil	B-166-5.5	5.5	26-Nov-97		C4-C10	10	mg/K	10	0	1
D	Soil	B-166-5.5	5.5	26-Nov-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
D	Soil	B-166-5.5	5.5	26-Nov-97	71-43-2	Benzene	0.023	mg/K	0.023	1	1
D	Soil	B-166-5.5	5.5	26-Nov-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
D	Soil	B-166-5.5	5.5	26-Nov-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
D	Soil	B-166-5.5	5.5	26-Nov-97	100-41-4	Ethylbenzene	0.059	mg/K	0.059	1	1
D	Soil	B-166-5.5	5.5	26-Nov-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
D	Soil	B-166-5.5	5.5	26-Nov-97	108-88-3	Toluene	0.044	mg/K	0.044	1	1
D	Soil	B-166-5.5	5.5	26-Nov-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
D	Soil	B-157-10	10	01-Jul-99	74-87-3	Chloromethane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	156-59-2	cis-1,2-Dichloroethene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	75-71-8	Dichlorodifluoromethane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	108-90-7	Chlorobenzene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	34077-87-7	Dichlorotrifluoroethane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	124-48-1	Dibromochloromethane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	75-00-3	Chloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99		C10-C25	10	mg/K	10	0	1
D	Soil	B-157-10	10	01-Jul-99	56-23-5	Carbon tetrachloride	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99		C4-C10	10	mg/K	10	0	1
D	Soil	B-157-10	10	01-Jul-99		C25-C40	10	mg/K	10	0	1
D	Soil	B-157-10	10	01-Jul-99		C1-C40	30	mg/K	30	0	1
D	Soil	B-157-10	10	01-Jul-99	87-68-3	Hexachlorobutadiene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	74-83-9	Bromomethane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	67-66-3	Chloroform	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	98-06-6	tert-Butylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	B-157-10	10	01-Jul-99	75-01-4	Vinyl chloride	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	75-69-4	Trichlorofluoromethane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	75-25-2	Bromoform	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	156-60-5	trans-1,2-Dichloroethene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	79-01-6	Trichloroethene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	127-18-4	Tetrachloroethene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	98-82-8	Isopropylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	100-42-5	Styrene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	135-98-8	sec-Butylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	99-87-6	p-Isopropyltoluene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	103-65-1	n-Propylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	104-51-8	n-Butylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	91-20-3	Naphthalene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	75-09-2	Methylene chloride	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/K	0.01	0	1
D	Soil	B-157-10	10	01-Jul-99	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	71-55-6	1,1,1-Trichloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	75-27-4	Bromodichloromethane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	74-95-3	Dibromomethane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	79-00-5	1,1,2-Trichloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	75-34-3	1,1-Dichloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	563-58-6	1,1-Dichloropropene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	96-18-4	1,2,3-Trichloropropane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/K	0.01	0	1
D	Soil	B-157-10	10	01-Jul-99	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/K	0.01	0	1
D	Soil	B-157-10	10	01-Jul-99	106-93-4	1,2-Dibromoethane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	594-20-7	2,2-Dichloropropane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	108-86-1	Bromobenzene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	75-35-4	1,1-Dichloroethene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	74-97-5	Bromochloromethane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	95-50-1	1,2-Dichlorobenzene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	95-49-8	2-Chlorotoluene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/K	0.01	0	1
D	Soil	B-157-10	10	01-Jul-99	106-43-4	4-Chlorotoluene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	106-46-7	1,4-Dichlorobenzene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	142-28-9	1,3-Dichloropropane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	541-73-1	1,3-Dichlorobenzene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	78-87-5	1,2-Dichloropropane	0.005	mg/K	0.005	0	1
D	Soil	B-157-10	10	01-Jul-99	107-06-2	1,2-Dichloroethane	0.005	mg/K	0.005	0	1
D	Soil	B-157-5	5	01-Jul-99	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
D	Soil	B-157-5	5	01-Jul-99	7440-39-3	Barium	56	mg/K	56	1	1
D	Soil	B-157-5	5	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1
D	Soil	B-157-5	5	01-Jul-99	7440-38-2	Arsenic	1.9	mg/K	1.9	1	1
D	Soil	B-157-5	5	01-Jul-99	7440-43-9	Cadmium	1	mg/K	1	0	1
D	Soil	B-157-5	5	01-Jul-99	7440-47-3	Chromium	21	mg/K	21	1	1
D	Soil	B-157-5	5	01-Jul-99	7440-48-4	Cobalt	3.5	mg/K	3.5	1	1
D	Soil	B-157-5	5	01-Jul-99	7440-50-8	Copper	43	mg/K	43	1	1
D	Soil	B-157-5	5	01-Jul-99	7439-98-7	Molybdenum	1	mg/K	1	0	1
D	Soil	B-157-5	5	01-Jul-99	7440-02-0	Nickel	140	mg/K	140	1	1
D	Soil	B-157-5	5	01-Jul-99	7440-66-6	Zinc	150	mg/K	150	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	B-157-5	5	01-Jul-99	7439-97-6	Mercury	0.3	mg/K	0.3	1	1
D	Soil	B-157-5	5	01-Jul-99	7439-92-1	Lead	7.9	mg/K	7.9	1	1
D	Soil	B-157-5	5	01-Jul-99	7440-62-2	Vanadium	180	mg/K	180	1	1
D	Soil	B-157-5	5	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1
D	Soil	B-157-5	5	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
D	Soil	B-157-5	5	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
D	Soil	B-158-1	1	01-Jul-99	193-39-5	Indeno(1,2,3-cd)pyrene	20	mg/K	20	0	1
D	Soil	B-158-1	1	01-Jul-99	86-73-7	Fluorene	20	mg/K	20	0	1
D	Soil	B-158-1	1	01-Jul-99	206-44-0	Fluoranthene	20	mg/K	20	0	1
D	Soil	B-158-1	1	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-158-1	1	01-Jul-99	53-70-3	Dibenz(a,h)anthracene	20	mg/K	20	0	1
D	Soil	B-158-1	1	01-Jul-99	7439-92-1	Lead	64	mg/K	64	1	1
D	Soil	B-158-1	1	01-Jul-99	7440-48-4	Cobalt	3.4	mg/K	3.4	1	1
D	Soil	B-158-1	1	01-Jul-99	91-20-3	Naphthalene	20	mg/K	20	0	1
D	Soil	B-158-1	1	01-Jul-99	7440-47-3	Chromium	17	mg/K	17	1	1
D	Soil	B-158-1	1	01-Jul-99	7440-43-9	Cadmium	1	mg/K	1	1	1
D	Soil	B-158-1	1	01-Jul-99		C4-C10	10	mg/K	10	0	1
D	Soil	B-158-1	1	01-Jul-99	208-96-8	Acenaphthylene	20	mg/K	20	0	1
D	Soil	B-158-1	1	01-Jul-99		C25-C40	13000	mg/K	13000	1	1
D	Soil	B-158-1	1	01-Jul-99	7439-98-7	Molybdenum	1.3	mg/K	1.3	1	1
D	Soil	B-158-1	1	01-Jul-99	218-01-9	Chrysene	20	mg/K	20	0	1
D	Soil	B-158-1	1	01-Jul-99	7440-02-0	Nickel	23	mg/K	23	1	1
D	Soil	B-158-1	1	01-Jul-99	85-01-8	Phenanthrene	20	mg/K	20	0	1
D	Soil	B-158-1	1	01-Jul-99	129-00-0	Pyrene	20	mg/K	20	0	1
D	Soil	B-158-1	1	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
D	Soil	B-158-1	1	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
D	Soil	B-158-1	1	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1
D	Soil	B-158-1	1	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-158-1	1	01-Jul-99	7440-62-2	Vanadium	37	mg/K	37	1	1
D	Soil	B-158-1	1	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-158-1	1	01-Jul-99	7440-66-6	Zinc	150	mg/K	150	1	1
D	Soil	B-158-1	1	01-Jul-99	7439-97-6	Mercury	0.2	mg/K	0.2	1	1
D	Soil	B-158-1	1	01-Jul-99	7440-38-2	Arsenic	9.6	mg/K	9.6	1	1
D	Soil	B-158-1	1	01-Jul-99	7440-50-8	Copper	23	mg/K	23	1	1
D	Soil	B-158-1	1	01-Jul-99		C1-C40	24000	mg/K	24000	1	1
D	Soil	B-158-1	1	01-Jul-99	83-32-9	Acenaphthene	20	mg/K	20	0	1
D	Soil	B-158-1	1	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1
D	Soil	B-158-1	1	01-Jul-99	120-12-7	Anthracene	20	mg/K	20	0	1
D	Soil	B-158-1	1	01-Jul-99	7440-39-3	Barium	500	mg/K	500	1	1
D	Soil	B-158-1	1	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-158-1	1	01-Jul-99	56-55-3	Benzo(a)anthracene	20	mg/K	20	0	1
D	Soil	B-158-1	1	01-Jul-99	50-32-8	Benzo(a)pyrene	20	mg/K	20	0	1
D	Soil	B-158-1	1	01-Jul-99	205-99-2	Benzo(b)fluoranthene	20	mg/K	20	0	1
D	Soil	B-158-1	1	01-Jul-99	191-24-2	Benzo(g,h,i)perylene	20	mg/K	20	0	1
D	Soil	B-158-1	1	01-Jul-99	207-08-9	Benzo(k)fluoranthene	20	mg/K	20	0	1
D	Soil	B-158-1	1	01-Jul-99	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
D	Soil	B-158-1	1	01-Jul-99		C10-C25	11000	mg/K	11000	1	1
D	Soil	B-158-2.5	2.5	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-158-2.5	2.5	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-158-2.5	2.5	01-Jul-99		C1-C40	2690	mg/K	2690	1	1
D	Soil	B-158-2.5	2.5	01-Jul-99		C25-C40	1800	mg/K	1800	1	1
D	Soil	B-158-2.5	2.5	01-Jul-99		C4-C10	10	mg/K	10	0	1
D	Soil	B-158-2.5	2.5	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-158-2.5	2.5	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-158-2.5	2.5	01-Jul-99		C10-C25	890	mg/K	890	1	1
D	Soil	B-158-4.5	4.5	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99		C1-C40	3500	mg/K	3500	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	B-158-4.5	4.5	01-Jul-99	207-08-9	Benzo(k)fluoranthene	4	mg/K	4	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99	86-73-7	Fluorene	4	mg/K	4	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99	191-24-2	Benzo(g,h,i)perylene	4	mg/K	4	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99		C10-C25	1500	mg/K	1500	1	1
D	Soil	B-158-4.5	4.5	01-Jul-99	205-99-2	Benzo(b)fluoranthene	4	mg/K	4	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99		C25-C40	2000	mg/K	2000	1	1
D	Soil	B-158-4.5	4.5	01-Jul-99	53-70-3	Dibenz(a,h)anthracene	4	mg/K	4	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99	206-44-0	Fluoranthene	4	mg/K	4	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99	193-39-5	Indeno(1,2,3-cd)pyrene	4	mg/K	4	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99	91-20-3	Naphthalene	4	mg/K	4	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99	85-01-8	Phenanthrene	4	mg/K	4	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99	129-00-0	Pyrene	4	mg/K	4	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99		C4-C10	10	mg/K	10	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99	218-01-9	Chrysene	4	mg/K	4	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99	56-55-3	Benzo(a)anthracene	4	mg/K	4	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99	120-12-7	Anthracene	4	mg/K	4	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99	208-96-8	Acenaphthylene	4	mg/K	4	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99	83-32-9	Acenaphthene	4	mg/K	4	0	1
D	Soil	B-158-4.5	4.5	01-Jul-99	50-32-8	Benzo(a)pyrene	4	mg/K	4	0	1
D	Soil	B-159-10	10	01-Jul-99		C10-C25	10	mg/K	10	0	1
D	Soil	B-159-10	10	01-Jul-99		C1-C40	30	mg/K	30	0	1
D	Soil	B-159-10	10	01-Jul-99		C25-C40	10	mg/K	10	0	1
D	Soil	B-159-10	10	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-159-10	10	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-159-10	10	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-159-10	10	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-159-10	10	01-Jul-99		C4-C10	10	mg/K	10	0	1
D	Soil	B-159-5	5	01-Jul-99	7440-47-3	Chromium	14	mg/K	14	1	1
D	Soil	B-159-5	5	01-Jul-99	7440-02-0	Nickel	14	mg/K	14	1	1
D	Soil	B-159-5	5	01-Jul-99	7440-43-9	Cadmium	1	mg/K	1	0	1
D	Soil	B-159-5	5	01-Jul-99	7440-48-4	Cobalt	2.4	mg/K	2.4	1	1
D	Soil	B-159-5	5	01-Jul-99	7440-50-8	Copper	7.6	mg/K	7.6	1	1
D	Soil	B-159-5	5	01-Jul-99	7439-92-1	Lead	12	mg/K	12	1	1
D	Soil	B-159-5	5	01-Jul-99	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
D	Soil	B-159-5	5	01-Jul-99	7439-98-7	Molybdenum	1.1	mg/K	1.1	1	1
D	Soil	B-159-5	5	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
D	Soil	B-159-5	5	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
D	Soil	B-159-5	5	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1
D	Soil	B-159-5	5	01-Jul-99	7440-62-2	Vanadium	19	mg/K	19	1	1
D	Soil	B-159-5	5	01-Jul-99	7440-66-6	Zinc	38	mg/K	38	1	1
D	Soil	B-159-5	5	01-Jul-99	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
D	Soil	B-159-5	5	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1
D	Soil	B-159-5	5	01-Jul-99	7440-39-3	Barium	54	mg/K	54	1	1
D	Soil	B-159-5	5	01-Jul-99	7440-38-2	Arsenic	1.6	mg/K	1.6	1	1
D	Soil	B-160-10	10	01-Jul-99		C10-C25	17	mg/K	17	1	1
D	Soil	B-160-10	10	01-Jul-99		C1-C40	17	mg/K	17	1	1
D	Soil	B-160-10	10	01-Jul-99		C25-C40	10	mg/K	10	0	1
D	Soil	B-160-10	10	01-Jul-99		C4-C10	10	mg/K	10	0	1
D	Soil	B-160-10	10	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-160-10	10	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-160-10	10	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-160-10	10	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-160-5	5	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
D	Soil	B-160-5	5	01-Jul-99	7440-48-4	Cobalt	2.6	mg/K	2.6	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	B-160-5	5	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1
D	Soil	B-160-5	5	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
D	Soil	B-160-5	5	01-Jul-99	7440-02-0	Nickel	50	mg/K	50	1	1
D	Soil	B-160-5	5	01-Jul-99	7439-98-7	Molybdenum	7.8	mg/K	7.8	1	1
D	Soil	B-160-5	5	01-Jul-99	7439-97-6	Mercury	0.3	mg/K	0.3	1	1
D	Soil	B-160-5	5	01-Jul-99	7439-92-1	Lead	58	mg/K	58	1	1
D	Soil	B-160-5	5	01-Jul-99	7440-50-8	Copper	24	mg/K	24	1	1
D	Soil	B-160-5	5	01-Jul-99	7440-62-2	Vanadium	83	mg/K	83	1	1
D	Soil	B-160-5	5	01-Jul-99	7440-47-3	Chromium	39	mg/K	39	1	1
D	Soil	B-160-5	5	01-Jul-99	7440-66-6	Zinc	210	mg/K	210	1	1
D	Soil	B-160-5	5	01-Jul-99	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
D	Soil	B-160-5	5	01-Jul-99	7440-39-3	Barium	55	mg/K	55	1	1
D	Soil	B-160-5	5	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1
D	Soil	B-160-5	5	01-Jul-99	7440-43-9	Cadmium	4.3	mg/K	4.3	1	1
D	Soil	B-160-5	5	01-Jul-99	7440-38-2	Arsenic	4	mg/K	4	1	1
D	Soil	B-161-5	5	01-Jul-99		C4-C10	10	mg/K	10	0	1
D	Soil	B-161-5	5	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
D	Soil	B-161-5	5	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1
D	Soil	B-161-5	5	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-161-5	5	01-Jul-99	7440-66-6	Zinc	22	mg/K	22	1	1
D	Soil	B-161-5	5	01-Jul-99	7440-62-2	Vanadium	13	mg/K	13	1	1
D	Soil	B-161-5	5	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-161-5	5	01-Jul-99	7440-38-2	Arsenic	3.4	mg/K	3.4	1	1
D	Soil	B-161-5	5	01-Jul-99	7440-39-3	Barium	46	mg/K	46	1	1
D	Soil	B-161-5	5	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-161-5	5	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
D	Soil	B-161-5	5	01-Jul-99		C25-C40	10	mg/K	10	0	1
D	Soil	B-161-5	5	01-Jul-99	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
D	Soil	B-161-5	5	01-Jul-99	7440-43-9	Cadmium	1	mg/K	1	0	1
D	Soil	B-161-5	5	01-Jul-99	7440-47-3	Chromium	15	mg/K	15	1	1
D	Soil	B-161-5	5	01-Jul-99	7440-48-4	Cobalt	1.4	mg/K	1.4	1	1
D	Soil	B-161-5	5	01-Jul-99	7440-50-8	Copper	3.4	mg/K	3.4	1	1
D	Soil	B-161-5	5	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-161-5	5	01-Jul-99	7439-92-1	Lead	3.1	mg/K	3.1	1	1
D	Soil	B-161-5	5	01-Jul-99	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
D	Soil	B-161-5	5	01-Jul-99	7439-98-7	Molybdenum	1	mg/K	1	0	1
D	Soil	B-161-5	5	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1
D	Soil	B-161-5	5	01-Jul-99		C10-C25	10	mg/K	10	0	1
D	Soil	B-161-5	5	01-Jul-99	7440-02-0	Nickel	5.9	mg/K	5.9	1	1
D	Soil	B-161-5	5	01-Jul-99		C1-C40	30	mg/K	30	0	1
D	Soil	B-175-5	5	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-175-5	5	01-Jul-99	7440-39-3	Barium	39	mg/K	39	1	1
D	Soil	B-175-5	5	01-Jul-99	7440-62-2	Vanadium	23	mg/K	23	1	1
D	Soil	B-175-5	5	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-175-5	5	01-Jul-99	7440-66-6	Zinc	31	mg/K	31	1	1
D	Soil	B-175-5	5	01-Jul-99		C1-C40	10	mg/K	10	0	1
D	Soil	B-175-5	5	01-Jul-99	7440-38-2	Arsenic	9.6	mg/K	9.6	1	1
D	Soil	B-175-5	5	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1
D	Soil	B-175-5	5	01-Jul-99	7440-47-3	Chromium	20	mg/K	20	1	1
D	Soil	B-175-5	5	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1
D	Soil	B-175-5	5	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-175-5	5	01-Jul-99		C4-C10	10	mg/K	10	0	1
D	Soil	B-175-5	5	01-Jul-99	7440-43-9	Cadmium	1	mg/K	1	0	1
D	Soil	B-175-5	5	01-Jul-99	7440-48-4	Cobalt	2.3	mg/K	2.3	1	1
D	Soil	B-175-5	5	01-Jul-99	7440-50-8	Copper	5.9	mg/K	5.9	1	1
D	Soil	B-175-5	5	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-175-5	5	01-Jul-99	7439-92-1	Lead	7	mg/K	7	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	B-175-5	5	01-Jul-99	7439-98-7	Molybdenum	2.7	mg/K	2.7	1	1
D	Soil	B-175-5	5	01-Jul-99	7440-02-0	Nickel	10	mg/K	10	1	1
D	Soil	B-175-5	5	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
D	Soil	B-175-5	5	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
D	Soil	B-175-5	5	01-Jul-99		C25-C40	10	mg/K	10	0	1
D	Soil	B-175-5	5	01-Jul-99	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
D	Soil	B-175-5	5	01-Jul-99	7440-41-7	Beryllium	0.5	mg/K	0.5	1	1
D	Soil	B-175-5	5	01-Jul-99		C10-C25	10	mg/K	10	0	1
D	Soil	B-176-5	5	01-Jul-99	7440-62-2	Vanadium	32	mg/K	32	1	1
D	Soil	B-176-5	5	01-Jul-99	7439-92-1	Lead	6.9	mg/K	6.9	1	1
D	Soil	B-176-5	5	01-Jul-99	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
D	Soil	B-176-5	5	01-Jul-99	7439-98-7	Molybdenum	2.8	mg/K	2.8	1	1
D	Soil	B-176-5	5	01-Jul-99	7440-02-0	Nickel	18	mg/K	18	1	1
D	Soil	B-176-5	5	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
D	Soil	B-176-5	5	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
D	Soil	B-176-5	5	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-176-5	5	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-176-5	5	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-176-5	5	01-Jul-99		C1-C40	60	mg/K	60	1	1
D	Soil	B-176-5	5	01-Jul-99	7440-66-6	Zinc	31	mg/K	31	1	1
D	Soil	B-176-5	5	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1
D	Soil	B-176-5	5	01-Jul-99	7440-39-3	Barium	52	mg/K	52	1	1
D	Soil	B-176-5	5	01-Jul-99		C4-C10	10	mg/K	10	0	1
D	Soil	B-176-5	5	01-Jul-99	7440-38-2	Arsenic	6.5	mg/K	6.5	1	1
D	Soil	B-176-5	5	01-Jul-99	7440-50-8	Copper	6.5	mg/K	6.5	1	1
D	Soil	B-176-5	5	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-176-5	5	01-Jul-99	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
D	Soil	B-176-5	5	01-Jul-99		C10-C25	29	mg/K	29	1	1
D	Soil	B-176-5	5	01-Jul-99		C25-C40	31	mg/K	31	1	1
D	Soil	B-176-5	5	01-Jul-99	7440-43-9	Cadmium	1	mg/K	1	0	1
D	Soil	B-176-5	5	01-Jul-99	7440-47-3	Chromium	31	mg/K	31	1	1
D	Soil	B-176-5	5	01-Jul-99	7440-48-4	Cobalt	2.6	mg/K	2.6	1	1
D	Soil	B-176-5	5	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1
D	Soil	B-177-10	10	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-177-10	10	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-177-10	10	01-Jul-99		C10-C25	10	mg/K	10	0	1
D	Soil	B-177-10	10	01-Jul-99		C1-C40	10	mg/K	10	0	1
D	Soil	B-177-10	10	01-Jul-99		C25-C40	10	mg/K	10	0	1
D	Soil	B-177-10	10	01-Jul-99		C4-C10	10	mg/K	10	0	1
D	Soil	B-177-10	10	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-177-10	10	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-178-10	10	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-178-10	10	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-178-10	10	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-178-10	10	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-178-10	10	01-Jul-99		C4-C10	10	mg/K	10	0	1
D	Soil	B-178-10	10	01-Jul-99		C25-C40	10	mg/K	10	0	1
D	Soil	B-178-10	10	01-Jul-99		C1-C40	10	mg/K	10	0	1
D	Soil	B-178-10	10	01-Jul-99		C10-C25	10	mg/K	10	0	1
D	Soil	B-178-5	5	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1
D	Soil	B-178-5	5	01-Jul-99	7440-62-2	Vanadium	29	mg/K	29	1	1
D	Soil	B-178-5	5	01-Jul-99	7440-50-8	Copper	3.4	mg/K	3.4	1	1
D	Soil	B-178-5	5	01-Jul-99	7440-39-3	Barium	22	mg/K	22	1	1
D	Soil	B-178-5	5	01-Jul-99	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
D	Soil	B-178-5	5	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
D	Soil	B-178-5	5	01-Jul-99	7440-47-3	Chromium	31	mg/K	31	1	1
D	Soil	B-178-5	5	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	B-178-5	5	01-Jul-99	7440-43-9	Cadmium	1	mg/K	1	0	1
D	Soil	B-178-5	5	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
D	Soil	B-178-5	5	01-Jul-99	7440-02-0	Nickel	8.7	mg/K	8.7	1	1
D	Soil	B-178-5	5	01-Jul-99	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
D	Soil	B-178-5	5	01-Jul-99	7440-66-6	Zinc	18	mg/K	18	1	1
D	Soil	B-178-5	5	01-Jul-99	7439-92-1	Lead	2.4	mg/K	2.4	1	1
D	Soil	B-178-5	5	01-Jul-99	7440-38-2	Arsenic	3.5	mg/K	3.5	1	1
D	Soil	B-178-5	5	01-Jul-99	7440-48-4	Cobalt	2	mg/K	2	1	1
D	Soil	B-178-5	5	01-Jul-99	7439-98-7	Molybdenum	1.4	mg/K	1.4	1	1
D	Soil	B-179-10	10	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-179-10	10	01-Jul-99		C25-C40	10	mg/K	10	0	1
D	Soil	B-179-10	10	01-Jul-99		C10-C25	10	mg/K	10	0	1
D	Soil	B-179-10	10	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-179-10	10	01-Jul-99		C1-C40	10	mg/K	10	0	1
D	Soil	B-179-10	10	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-179-10	10	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-179-10	10	01-Jul-99		C4-C10	10	mg/K	10	0	1
D	Soil	B-179-5	5	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1
D	Soil	B-179-5	5	01-Jul-99	7440-48-4	Cobalt	4.4	mg/K	4.4	1	1
D	Soil	B-179-5	5	01-Jul-99	7440-50-8	Copper	27	mg/K	27	1	1
D	Soil	B-179-5	5	01-Jul-99	7439-92-1	Lead	13	mg/K	13	1	1
D	Soil	B-179-5	5	01-Jul-99	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
D	Soil	B-179-5	5	01-Jul-99	7439-98-7	Molybdenum	1.1	mg/K	1.1	1	1
D	Soil	B-179-5	5	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1
D	Soil	B-179-5	5	01-Jul-99	7440-38-2	Arsenic	8.6	mg/K	8.6	1	1
D	Soil	B-179-5	5	01-Jul-99	7440-02-0	Nickel	13	mg/K	13	1	1
D	Soil	B-179-5	5	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
D	Soil	B-179-5	5	01-Jul-99	7440-62-2	Vanadium	29	mg/K	29	1	1
D	Soil	B-179-5	5	01-Jul-99	7440-66-6	Zinc	29	mg/K	29	1	1
D	Soil	B-179-5	5	01-Jul-99	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
D	Soil	B-179-5	5	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
D	Soil	B-179-5	5	01-Jul-99	7440-39-3	Barium	68	mg/K	68	1	1
D	Soil	B-179-5	5	01-Jul-99	7440-43-9	Cadmium	1	mg/K	1	0	1
D	Soil	B-179-5	5	01-Jul-99	7440-47-3	Chromium	23	mg/K	23	1	1
D	Soil	B-180-10	10	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-180-10	10	01-Jul-99		C10-C25	10	mg/K	10	0	1
D	Soil	B-180-10	10	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-180-10	10	01-Jul-99		C25-C40	10	mg/K	10	0	1
D	Soil	B-180-10	10	01-Jul-99		C4-C10	10	mg/K	10	0	1
D	Soil	B-180-10	10	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-180-10	10	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-180-10	10	01-Jul-99		C1-C40	10	mg/K	10	0	1
D	Soil	B-182-10	10	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-182-10	10	01-Jul-99		C10-C25	10	mg/K	10	0	1
D	Soil	B-182-10	10	01-Jul-99		C1-C40	10	mg/K	10	0	1
D	Soil	B-182-10	10	01-Jul-99		C25-C40	10	mg/K	10	0	1
D	Soil	B-182-10	10	01-Jul-99		C4-C10	10	mg/K	10	0	1
D	Soil	B-182-10	10	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-182-10	10	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-182-10	10	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-184-5	5	01-Jul-99		C4-C10	10	mg/K	10	0	1
D	Soil	B-184-5	5	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
D	Soil	B-184-5	5	01-Jul-99	7440-66-6	Zinc	31	mg/K	31	1	1
D	Soil	B-184-5	5	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
D	Soil	B-184-5	5	01-Jul-99	7440-62-2	Vanadium	17	mg/K	17	1	1
D	Soil	B-184-5	5	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
D	Soil	B-184-5	5	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	B-184-5	5	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
D	Soil	B-184-5	5	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
D	Soil	B-184-5	5	01-Jul-99	7440-02-0	Nickel	8.7	mg/K	8.7	1	1
D	Soil	B-184-5	5	01-Jul-99	7439-98-7	Molybdenum	1	mg/K	1	0	1
D	Soil	B-184-5	5	01-Jul-99		C1-C40	710	mg/K	710	1	1
D	Soil	B-184-5	5	01-Jul-99	7439-92-1	Lead	16	mg/K	16	1	1
D	Soil	B-184-5	5	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1
D	Soil	B-184-5	5	01-Jul-99	7440-50-8	Copper	6.3	mg/K	6.3	1	1
D	Soil	B-184-5	5	01-Jul-99	7440-48-4	Cobalt	1.7	mg/K	1.7	1	1
D	Soil	B-184-5	5	01-Jul-99	7440-47-3	Chromium	20	mg/K	20	1	1
D	Soil	B-184-5	5	01-Jul-99	7440-43-9	Cadmium	1	mg/K	1	0	1
D	Soil	B-184-5	5	01-Jul-99	7440-38-2	Arsenic	13	mg/K	13	1	1
D	Soil	B-184-5	5	01-Jul-99		C25-C40	560	mg/K	560	1	1
D	Soil	B-184-5	5	01-Jul-99		C10-C25	150	mg/K	150	1	1
D	Soil	B-184-5	5	01-Jul-99	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
D	Soil	B-184-5	5	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
D	Soil	B-184-5	5	01-Jul-99	7440-39-3	Barium	51	mg/K	51	1	1
D	Soil	B-184-5	5	01-Jul-99	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
D	Soil	SP-4-5	5	02-Mar-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
D	Soil	SP-4-5	5	02-Mar-01	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
D	Soil	SP-4-5	5	02-Mar-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
D	Soil	SP-4-5	5	02-Mar-01	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	SP-4-5	5	02-Mar-01		C4-C10	10	mg/k	10	0	1
D	Soil	SP-4-5	5	02-Mar-01		C25-C40	10	mg/k	10	0	1
D	Soil	SP-4-5	5	02-Mar-01		C10-C25	10	mg/k	10	0	1
D	Soil	SP-4-5	5	02-Mar-01		C1-C40	10	mg/K	10	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.031	mg/k	0.031	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.019	mg/k	0.019	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	7440-02-0	Nickel	5.2	mg/k	5.2	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	7439-92-1	Lead	19	mg/k	19	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.025	mg/k	0.025	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	S-17-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	7440-66-6	Zinc	28	mg/k	28	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	9.5	mg/k	9.5	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.029	mg/k	0.029	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.026	mg/k	0.026	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.021	mg/k	0.021	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	7440-39-3	Barium	51	mg/k	51	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	2.1	mg/k	2.1	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.012	mg/k	0.012	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.006	mg/k	0.006	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	7440-50-8	Copper	4.9	mg/k	4.9	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.037	mg/k	0.037	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	7440-47-3	Chromium	12	mg/k	12	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.022	mg/k	0.022	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03		C25-C40	170	mg/k	170	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	S-17-0.5	0.5	05-Jun-03		C10-C25	30	mg/k	30	1	1
D	Soil	S-17-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	7440-66-6	Zinc	23	mg/k	23	1	1
D	Soil	S-17-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	1.6	mg/k	1.6	1	1
D	Soil	S-17-2.5	2.5	05-Jun-03	7440-39-3	Barium	56	mg/k	56	1	1
D	Soil	S-17-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03		C10-C25	10	mg/k	10	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03		C25-C40	33	mg/k	33	1	1
D	Soil	S-17-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	7440-02-0	Nickel	6.2	mg/k	6.2	1	1
D	Soil	S-17-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	S-17-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	11	mg/k	11	1	1
D	Soil	S-17-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	7440-47-3	Chromium	15	mg/k	15	1	1
D	Soil	S-17-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	7439-92-1	Lead	14	mg/k	14	1	1
D	Soil	S-17-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
D	Soil	S-17-2.5	2.5	05-Jun-03	7440-50-8	Copper	3.7	mg/k	3.7	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	7440-66-6	Zinc	44	mg/k	44	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.027	mg/k	0.027	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	83-32-9	Acenaphthene	0.01	mg/k	0.01	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	208-96-8	Acenaphthylene	0.013	mg/k	0.013	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	120-12-7	Anthracene	0.01	mg/k	0.01	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	5.3	mg/k	5.3	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	7440-39-3	Barium	47	mg/k	47	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.015	mg/k	0.015	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.037	mg/k	0.037	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.023	mg/k	0.023	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03		C25-C40	330	mg/k	330	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03		C10-C25	53	mg/k	53	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.032	mg/k	0.032	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	S-7-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.01	mg/k	0.01	0	0
D	Soil	S-7-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	7440-02-0	Nickel	26	mg/k	26	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	85-01-8	Phenanthrene	0.012	mg/k	0.012	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	129-00-0	Pyrene	0.034	mg/k	0.034	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	7439-92-1	Lead	9.7	mg/k	9.7	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	7440-47-3	Chromium	29	mg/k	29	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	218-01-9	Chrysene	0.035	mg/k	0.035	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	5	mg/k	5	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.01	mg/k	0.01	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	S-7-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	206-44-0	Fluoranthene	0.033	mg/k	0.033	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	86-73-7	Fluorene	0.01	mg/k	0.01	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.015	mg/k	0.015	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	25	mg/k	25	1	1
D	Soil	S-7-0.5	0.5	04-Jun-03	7440-50-8	Copper	22	mg/k	22	1	1
D	Soil	S-7-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	7440-50-8	Copper	3.3	mg/k	3.3	1	1
D	Soil	S-7-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	7440-47-3	Chromium	43	mg/k	43	1	1
D	Soil	S-7-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	7439-92-1	Lead	7.3	mg/k	7.3	1	1
D	Soil	S-7-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	7440-02-0	Nickel	13	mg/k	13	1	1
D	Soil	S-7-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	36	mg/k	36	1	1
D	Soil	S-7-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03		C25-C40	57	mg/k	57	1	1
D	Soil	S-7-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	S-7-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	10	mg/k	10	1	1
D	Soil	S-7-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	7440-39-3	Barium	68	mg/k	68	1	1
D	Soil	S-7-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
D	Soil	S-7-2.5	2.5	04-Jun-03	7440-66-6	Zinc	21	mg/k	21	1	1
D	Soil	S-7-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	7439-92-1	Lead	100	mg/k	100	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	206-44-0	Fluoranthene	0.18	mg/k	0.18	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	86-73-7	Fluorene	0.03	mg/k	0.03	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.042	mg/k	0.042	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.03	mg/k	0.03	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	7440-50-8	Copper	80	mg/k	80	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.5	mg/k	0.5	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	7440-02-0	Nickel	68	mg/k	68	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	S-8-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	7440-66-6	Zinc	180	mg/k	180	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	67	mg/k	67	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.03	mg/k	0.03	0	0
D	Soil	S-8-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	85-01-8	Phenanthrene	0.072	mg/k	0.072	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	129-00-0	Pyrene	0.19	mg/k	0.19	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1.6	mg/k	1.6	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03		C21-C40	330	mg/k	330	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03		C25-C40	1300	mg/k	1300	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	2.7	mg/k	2.7	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	7440-47-3	Chromium	61	mg/k	61	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03		C21-C40	83	mg/k	83	1	0
D	Soil	S-8-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	16	mg/k	16	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	218-01-9	Chrysene	0.12	mg/k	0.12	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	4.3	mg/k	4.3	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	S-8-0.5	0.5	04-Jun-03	83-32-9	Acenaphthene	0.03	mg/k	0.03	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03		C16-C21	49	mg/k	49	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	208-96-8	Acenaphthylene	0.03	mg/k	0.03	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	7440-39-3	Barium	81	mg/k	81	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.082	mg/k	0.082	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.084	mg/k	0.084	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.1	mg/k	0.1	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.075	mg/k	0.075	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03		C10-C12	3	mg/k	3	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	120-12-7	Anthracene	0.03	mg/k	0.03	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.078	mg/k	0.078	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03		C10-C25	240	mg/k	240	1	1
D	Soil	S-8-0.5	0.5	04-Jun-03		C12-C16	6	mg/k	6	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03		C16-C21	6	mg/k	6	0	0
D	Soil	S-8-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
D	Soil	S-8-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	7440-50-8	Copper	0.5	mg/k	0.5	1	1
D	Soil	S-8-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	7439-92-1	Lead	1	mg/k	1	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	7440-47-3	Chromium	11	mg/k	11	1	1
D	Soil	S-8-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	7.1	mg/k	7.1	1	1
D	Soil	S-8-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	S-8-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	7440-02-0	Nickel	6.6	mg/k	6.6	1	1
D	Soil	S-8-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	7440-66-6	Zinc	4.7	mg/k	4.7	1	1
D	Soil	S-8-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03		C25-C40	10	mg/k	10	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	7440-39-3	Barium	55	mg/k	55	1	1
D	Soil	S-8-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	2	mg/k	2	1	1
D	Soil	S-8-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
D	Soil	S-8-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
D	Soil	S-9D-0.5	0.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
D	Soil	S-9D-0.5	0.5	14-Jan-04	7440-62-2	Vanadium	140	mg/k	140	1	1
D	Soil	S-9D-0.5	0.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
D	Soil	S-9D-0.5	0.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
D	Soil	S-9D-0.5	0.5	14-Jan-04	7440-02-0	Nickel	54	mg/k	54	1	1
D	Soil	S-9D-0.5	0.5	14-Jan-04	7439-98-7	Molybdenum	1.6	mg/k	1.6	1	1
D	Soil	S-9D-0.5	0.5	14-Jan-04	7439-97-6	Mercury	1	mg/k	1	1	1
D	Soil	S-9D-0.5	0.5	14-Jan-04	7439-92-1	Lead	1600	mg/k	1600	1	1
D	Soil	S-9D-0.5	0.5	14-Jan-04	7440-36-0	Antimony	46	mg/k	46	1	1
D	Soil	S-9D-0.5	0.5	14-Jan-04	7440-48-4	Cobalt	4.1	mg/k	4.1	1	1
D	Soil	S-9D-0.5	0.5	14-Jan-04	7440-47-3	Chromium	28	mg/k	28	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	S-9D-0.5	0.5	14-Jan-04	7440-43-9	Cadmium	2.3	mg/k	2.3	1	1
D	Soil	S-9D-0.5	0.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
D	Soil	S-9D-0.5	0.5	14-Jan-04	7440-39-3	Barium	99	mg/k	99	1	1
D	Soil	S-9D-0.5	0.5	14-Jan-04	7440-38-2	Arsenic	9.3	mg/k	9.3	1	1
D	Soil	S-9D-0.5	0.5	14-Jan-04	7440-66-6	Zinc	570	mg/k	570	1	1
D	Soil	S-9D-0.5	0.5	14-Jan-04	7440-50-8	Copper	100	mg/k	100	1	1
D	Soil	S-9D-2.5	2.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
D	Soil	S-9D-2.5	2.5	14-Jan-04	7440-02-0	Nickel	18	mg/k	18	1	1
D	Soil	S-9D-2.5	2.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
D	Soil	S-9D-2.5	2.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
D	Soil	S-9D-2.5	2.5	14-Jan-04	7439-92-1	Lead	79	mg/k	79	1	1
D	Soil	S-9D-2.5	2.5	14-Jan-04	7440-62-2	Vanadium	32	mg/k	32	1	1
D	Soil	S-9D-2.5	2.5	14-Jan-04	7440-38-2	Arsenic	4.7	mg/k	4.7	1	1
D	Soil	S-9D-2.5	2.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
D	Soil	S-9D-2.5	2.5	14-Jan-04	7440-48-4	Cobalt	2.2	mg/k	2.2	1	1
D	Soil	S-9D-2.5	2.5	14-Jan-04	7440-47-3	Chromium	15	mg/k	15	1	1
D	Soil	S-9D-2.5	2.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
D	Soil	S-9D-2.5	2.5	14-Jan-04	7440-39-3	Barium	65	mg/k	65	1	1
D	Soil	S-9D-2.5	2.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
D	Soil	S-9D-2.5	2.5	14-Jan-04	7440-66-6	Zinc	240	mg/k	240	1	1
D	Soil	S-9D-2.5	2.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	1	1
D	Soil	S-9D-2.5	2.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
D	Soil	S-9D-2.5	2.5	14-Jan-04	7440-50-8	Copper	19	mg/k	19	1	1
D	Soil	SV-58-02	2	10-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
D	Soil	SV-58-02	2	10-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	7439-97-6	Mercury	0.13	mg/k	0.13	1	1
D	Soil	SV-58-02	2	10-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	7439-92-1	Lead	15	mg/k	15	1	1
D	Soil	SV-58-02	2	10-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	7.8	ug/kg	0.0078	1	1
D	Soil	SV-58-02	2	10-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	86-73-7	Fluorene	19	ug/kg	0.019	1	1
D	Soil	SV-58-02	2	10-Jul-07	206-44-0	Fluoranthene	13	ug/kg	0.013	1	1
D	Soil	SV-58-02	2	10-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	91-20-3	Naphthalene	6.7	ug/kg	0.0067	0	0
D	Soil	SV-58-02	2	10-Jul-07	7440-48-4	Cobalt	2.8	mg/k	2.8	1	1
D	Soil	SV-58-02	2	10-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	7440-47-3	Chromium	19	mg/k	19	1	1
D	Soil	SV-58-02	2	10-Jul-07	218-01-9	Chrysene	13	ug/kg	0.013	1	1
D	Soil	SV-58-02	2	10-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07		DRO (C10-C24)	81	mg/k	81	1	1
D	Soil	SV-58-02	2	10-Jul-07	7440-50-8	Copper	9	mg/k	9	1	1
D	Soil	SV-58-02	2	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.7	ug/kg	0.0067	0	1
D	Soil	SV-58-02	2	10-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07		Dibromofluoromethane	55.6	ug/kg	0.0556	1	1
D	Soil	SV-58-02	2	10-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	7440-02-0	Nickel	14	mg/k	14	1	1
D	Soil	SV-58-02	2	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	7440-66-6	Zinc	24	mg/k	24	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	SV-58-02	2	10-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
D	Soil	SV-58-02	2	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
D	Soil	SV-58-02	2	10-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	7440-62-2	Vanadium	18	mg/k	18	1	1
D	Soil	SV-58-02	2	10-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07		Toluene-d8	43.1	ug/kg	0.0431	1	1
D	Soil	SV-58-02	2	10-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
D	Soil	SV-58-02	2	10-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
D	Soil	SV-58-02	2	10-Jul-07	129-00-0	Pyrene	18	ug/kg	0.018	1	1
D	Soil	SV-58-02	2	10-Jul-07		Nitrobenzene-d5	1500	ug/kg	1.5	1	1
D	Soil	SV-58-02	2	10-Jul-07		n-Octacosane	5.83	mg/k	5.83	1	1
D	Soil	SV-58-02	2	10-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07		ORO (C25-C40)	150	mg/k	150	1	1
D	Soil	SV-58-02	2	10-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
D	Soil	SV-58-02	2	10-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
D	Soil	SV-58-02	2	10-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
D	Soil	SV-58-02	2	10-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07		Terphenyl-d14	1500	ug/kg	1.5	1	1
D	Soil	SV-58-02	2	10-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	85-01-8	Phenanthrene	19	ug/kg	0.019	1	1
D	Soil	SV-58-02	2	10-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	208-96-8	Acenaphthylene	6.7	ug/kg	0.0067	0	1
D	Soil	SV-58-02	2	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07		2-Fluorobiphenyl	940	ug/kg	0.94	1	1
D	Soil	SV-58-02	2	10-Jul-07	91-57-6	2-Methylnaphthalene	6.7	ug/kg	0.0067	0	1
D	Soil	SV-58-02	2	10-Jul-07		4-Bromofluorobenzene	0.015	mg/k	0.015	1	0
D	Soil	SV-58-02	2	10-Jul-07		4-Bromofluorobenzene	37.1	ug/kg	0.0371	1	1
D	Soil	SV-58-02	2	10-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	83-32-9	Acenaphthene	6.7	ug/kg	0.0067	0	1
D	Soil	SV-58-02	2	10-Jul-07	90-12-0	1-Methylnaphthalene	6.8	ug/kg	0.0068	1	1
D	Soil	SV-58-02	2	10-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1
D	Soil	SV-58-02	2	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	SV-58-02	2	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07		C26-C27	29	mg/k	29	1	1
D	Soil	SV-58-02	2	10-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
D	Soil	SV-58-02	2	10-Jul-07		C14-C15	4.4	mg/k	4.4	1	1
D	Soil	SV-58-02	2	10-Jul-07		C16-C17	11	mg/k	11	1	1
D	Soil	SV-58-02	2	10-Jul-07		C18-C19	12	mg/k	12	1	1
D	Soil	SV-58-02	2	10-Jul-07		C20-C21	24	mg/k	24	1	1
D	Soil	SV-58-02	2	10-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
D	Soil	SV-58-02	2	10-Jul-07		C24-C25	22	mg/k	22	1	1
D	Soil	SV-58-02	2	10-Jul-07		C8-C40	240	mg/k	240	1	1
D	Soil	SV-58-02	2	10-Jul-07		C28-C29	23	mg/k	23	1	1
D	Soil	SV-58-02	2	10-Jul-07		C30-C31	30	mg/k	30	1	1
D	Soil	SV-58-02	2	10-Jul-07		C32-C35	39	mg/k	39	1	1
D	Soil	SV-58-02	2	10-Jul-07		C36-C40	20	mg/k	20	1	1
D	Soil	SV-58-02	2	10-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
D	Soil	SV-58-02	2	10-Jul-07	120-12-7	Anthracene	6.7	ug/kg	0.0067	0	1
D	Soil	SV-58-02	2	10-Jul-07		C22-C23	20	mg/k	20	1	1
D	Soil	SV-58-02	2	10-Jul-07	56-55-3	Benzo(a)anthracene	6.9	ug/kg	0.0069	1	1
D	Soil	SV-58-02	2	10-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
D	Soil	SV-58-02	2	10-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
D	Soil	SV-58-02	2	10-Jul-07	7440-38-2	Arsenic	1.8	mg/k	1.8	1	1
D	Soil	SV-58-02	2	10-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
D	Soil	SV-58-02	2	10-Jul-07	50-32-8	Benzo(a)pyrene	6.7	ug/kg	0.0067	0	1
D	Soil	SV-58-02	2	10-Jul-07	205-99-2	Benzo(b)fluoranthene	6.7	ug/kg	0.0067	0	1
D	Soil	SV-58-02	2	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	24	ug/kg	0.024	1	1
D	Soil	SV-58-02	2	10-Jul-07	207-08-9	Benzo(k)fluoranthene	6.7	ug/kg	0.0067	0	1
D	Soil	SV-58-02	2	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
D	Soil	SV-58-02	2	10-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
D	Soil	SV-58-02	2	10-Jul-07	7440-39-3	Barium	50	mg/k	50	1	1
D	Soil	SV-58-05	5	10-Jul-07	91-20-3	Naphthalene	5.8	ug/kg	0.0058	0	0
D	Soil	SV-58-05	5	10-Jul-07	86-73-7	Fluorene	5.8	ug/kg	0.0058	0	1
D	Soil	SV-58-05	5	10-Jul-07	87-68-3	Hexachlorobutadiene	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.8	ug/kg	0.0058	0	1
D	Soil	SV-58-05	5	10-Jul-07	108-20-3	Isopropyl ether	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	98-82-8	Isopropylbenzene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	7439-92-1	Lead	2.3	mg/k	2.3	1	1
D	Soil	SV-58-05	5	10-Jul-07	179601-23-1	m,p-Xylenes	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
D	Soil	SV-58-05	5	10-Jul-07	1634-04-4	Methyl tert-butyl ether	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	75-09-2	Methylene chloride	21	ug/kg	0.021	0	1
D	Soil	SV-58-05	5	10-Jul-07	100-41-4	Ethylbenzene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	91-20-3	Naphthalene	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	7440-48-4	Cobalt	2	mg/k	2	1	1
D	Soil	SV-58-05	5	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
D	Soil	SV-58-05	5	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	75-65-0	tert-Butyl alcohol	110	ug/kg	0.11	0	1
D	Soil	SV-58-05	5	10-Jul-07	67-66-3	Chloroform	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	104-51-8	n-Butylbenzene	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	74-87-3	Chloromethane	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	7440-47-3	Chromium	8.1	mg/k	8.1	1	1
D	Soil	SV-58-05	5	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.8	ug/kg	0.0058	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	SV-58-05	5	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	75-00-3	Chloroethane	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	7440-50-8	Copper	4.3	mg/k	4.3	1	1
D	Soil	SV-58-05	5	10-Jul-07	124-48-1	Dibromochloromethane	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07		Dibromofluoromethane	57.5	ug/kg	0.0575	1	1
D	Soil	SV-58-05	5	10-Jul-07	74-95-3	Dibromomethane	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	75-71-8	Dichlorodifluoromethane	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07		DRO (C10-C24)	65	mg/k	65	1	1
D	Soil	SV-58-05	5	10-Jul-07	218-01-9	Chrysene	5.8	ug/kg	0.0058	0	1
D	Soil	SV-58-05	5	10-Jul-07	75-69-4	Trichlorofluoromethane	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07		Terphenyl-d14	1400	ug/kg	1.4	1	1
D	Soil	SV-58-05	5	10-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
D	Soil	SV-58-05	5	10-Jul-07	108-88-3	Toluene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07		Toluene-d8	51	ug/kg	0.051	1	1
D	Soil	SV-58-05	5	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	98-06-6	tert-Butylbenzene	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	79-01-6	Trichloroethene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	994-05-8	Tert-amyl methyl ether	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	7440-62-2	Vanadium	8.8	mg/k	8.8	1	1
D	Soil	SV-58-05	5	10-Jul-07	75-01-4	Vinyl chloride	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
D	Soil	SV-58-05	5	10-Jul-07	1330-20-7	Xylenes (total)	4.2	ug/kg	0.0042	0	1
D	Soil	SV-58-05	5	10-Jul-07	637-92-3	Ethyl tert butyl ether	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	108-90-7	Chlorobenzene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	99-87-6	p-Isopropyltoluene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07		Nitrobenzene-d5	1400	ug/kg	1.4	1	1
D	Soil	SV-58-05	5	10-Jul-07		n-Octacosane	10.9	mg/k	10.9	1	0
D	Soil	SV-58-05	5	10-Jul-07		n-Octacosane	11	mg/k	11	1	1
D	Soil	SV-58-05	5	10-Jul-07	103-65-1	n-Propylbenzene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07		ORO (C25-C40)	260	mg/k	260	1	1
D	Soil	SV-58-05	5	10-Jul-07	127-18-4	Tetrachloroethene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	85-01-8	Phenanthrene	5.8	ug/kg	0.0058	0	1
D	Soil	SV-58-05	5	10-Jul-07	7440-02-0	Nickel	7.4	mg/k	7.4	1	1
D	Soil	SV-58-05	5	10-Jul-07	129-00-0	Pyrene	5.8	ug/kg	0.0058	0	1
D	Soil	SV-58-05	5	10-Jul-07	135-98-8	sec-Butylbenzene	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
D	Soil	SV-58-05	5	10-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
D	Soil	SV-58-05	5	10-Jul-07	100-42-5	Styrene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	7440-66-6	Zinc	8.8	mg/k	8.8	1	1
D	Soil	SV-58-05	5	10-Jul-07	95-47-6	o-Xylene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	91-57-6	2-Methylnaphthalene	5.8	ug/kg	0.0058	0	1
D	Soil	SV-58-05	5	10-Jul-07	541-73-1	1,3-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	142-28-9	1,3-Dichloropropane	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	106-46-7	1,4-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	90-12-0	1-Methylnaphthalene	5.8	ug/kg	0.0058	0	1
D	Soil	SV-58-05	5	10-Jul-07	594-20-7	2,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
D	Soil	SV-58-05	5	10-Jul-07		2-Fluorobiphenyl	910	ug/kg	0.91	1	1
D	Soil	SV-58-05	5	10-Jul-07	95-50-1	1,2-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07		4-Bromofluorobenzene	0.0169	mg/k	0.0169	1	0
D	Soil	SV-58-05	5	10-Jul-07		4-Bromofluorobenzene	36.5	ug/kg	0.0365	1	1
D	Soil	SV-58-05	5	10-Jul-07	106-43-4	4-Chlorotoluene	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	83-32-9	Acenaphthene	5.8	ug/kg	0.0058	0	1
D	Soil	SV-58-05	5	10-Jul-07	208-96-8	Acenaphthylene	5.8	ug/kg	0.0058	0	1
D	Soil	SV-58-05	5	10-Jul-07	120-12-7	Anthracene	5.8	ug/kg	0.0058	0	1
D	Soil	SV-58-05	5	10-Jul-07	95-49-8	2-Chlorotoluene	5.3	ug/kg	0.0053	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	SV-58-05	5	10-Jul-07	563-58-6	1,1-Dichloropropene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	56-23-5	Carbon tetrachloride	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	206-44-0	Fluoranthene	5.8	ug/kg	0.0058	0	1
D	Soil	SV-58-05	5	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	71-55-6	1,1,1-Trichloroethane	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	79-00-5	1,1,2-Trichloroethane	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	75-35-4	1,1-Dichloroethene	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	78-87-5	1,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	96-18-4	1,2,3-Trichloropropane	11	ug/kg	0.011	0	1
D	Soil	SV-58-05	5	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	107-06-2	1,2-Dichloroethane	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	75-34-3	1,1-Dichloroethane	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07		C32-C35	76	mg/k	76	1	1
D	Soil	SV-58-05	5	10-Jul-07		C14-C15	7	mg/k	7	0	1
D	Soil	SV-58-05	5	10-Jul-07		C16-C17	7	mg/k	7	0	1
D	Soil	SV-58-05	5	10-Jul-07		C18-C19	7	mg/k	7	0	1
D	Soil	SV-58-05	5	10-Jul-07		C22-C23	23	mg/k	23	1	1
D	Soil	SV-58-05	5	10-Jul-07		C26-C27	47	mg/k	47	1	1
D	Soil	SV-58-05	5	10-Jul-07		C12-C13	7	mg/k	7	0	1
D	Soil	SV-58-05	5	10-Jul-07		C30-C31	50	mg/k	50	1	1
D	Soil	SV-58-05	5	10-Jul-07		C20-C21	15	mg/k	15	1	1
D	Soil	SV-58-05	5	10-Jul-07		C36-C40	31	mg/k	31	1	1
D	Soil	SV-58-05	5	10-Jul-07		C8-C40	330	mg/k	330	1	1
D	Soil	SV-58-05	5	10-Jul-07	7440-38-2	Arsenic	1.4	mg/k	1.4	1	1
D	Soil	SV-58-05	5	10-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
D	Soil	SV-58-05	5	10-Jul-07	106-93-4	1,2-Dibromoethane	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07		C8-C9	7	mg/k	7	0	1
D	Soil	SV-58-05	5	10-Jul-07		C28-C29	49	mg/k	49	1	1
D	Soil	SV-58-05	5	10-Jul-07	74-97-5	Bromochloromethane	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	71-43-2	Benzene	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	56-55-3	Benzo(a)anthracene	5.8	ug/kg	0.0058	0	1
D	Soil	SV-58-05	5	10-Jul-07	50-32-8	Benzo(a)pyrene	5.8	ug/kg	0.0058	0	1
D	Soil	SV-58-05	5	10-Jul-07		C24-C25	32	mg/k	32	1	1
D	Soil	SV-58-05	5	10-Jul-07		C10-C11	7	mg/k	7	0	1
D	Soil	SV-58-05	5	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.8	ug/kg	0.0058	0	1
D	Soil	SV-58-05	5	10-Jul-07	207-08-9	Benzo(k)fluoranthene	5.8	ug/kg	0.0058	0	1
D	Soil	SV-58-05	5	10-Jul-07	7440-39-3	Barium	59	mg/k	59	1	1
D	Soil	SV-58-05	5	10-Jul-07	108-86-1	Bromobenzene	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	205-99-2	Benzo(b)fluoranthene	5.8	ug/kg	0.0058	0	1
D	Soil	SV-58-05	5	10-Jul-07	75-27-4	Bromodichloromethane	2.1	ug/kg	0.0021	0	1
D	Soil	SV-58-05	5	10-Jul-07	75-25-2	Bromoform	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	74-83-9	Bromomethane	5.3	ug/kg	0.0053	0	1
D	Soil	SV-58-05	5	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
D	Soil	T1A-1	1	31-Oct-11		TPH Gasoline (C4-C10)	0.49	mg/k	0.49	0	1
D	Soil	T1A-1	1	31-Oct-11		TPH Diesel (C10-C25)	24	mg/k	24	1	1
D	Soil	T1A-1	1	31-Oct-11		TPH Motor Oil (C25-C40)	180	mg/k	180	1	1
D	Soil	T1A-2	2	31-Oct-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
D	Soil	T1A-2	2	31-Oct-11		TPH Diesel (C10-C25)	11	mg/k	11	1	1
D	Soil	T1A-2	2	31-Oct-11		TPH Motor Oil (C25-C40)	38	mg/k	38	1	1
D	Soil	T1A-3	3	31-Oct-11		TPH Gasoline (C4-C10)	0.49	mg/k	0.49	0	1
D	Soil	T1A-3	3	31-Oct-11		TPH Diesel (C10-C25)	9.6	mg/k	9.6	1	1
D	Soil	T1A-3	3	31-Oct-11		TPH Motor Oil (C25-C40)	50	mg/k	50	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	T1A-4	4	31-Oct-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
D	Soil	T1A-4	4	31-Oct-11		TPH Diesel (C10-C25)	10	mg/k	10	0	1
D	Soil	T1A-4	4	31-Oct-11		TPH Motor Oil (C25-C40)	50	mg/k	50	0	1
D	Soil	T1A-5	5	31-Oct-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
D	Soil	T1A-5	5	31-Oct-11		TPH Diesel (C10-C25)	10	mg/k	10	0	1
D	Soil	T1A-5	5	31-Oct-11		TPH Motor Oil (C25-C40)	50	mg/k	50	0	1
D	Soil	T1A-6	6	31-Oct-11		TPH Gasoline (C4-C10)	0.49	mg/k	0.49	0	1
D	Soil	T1A-6	6	31-Oct-11		TPH Diesel (C10-C25)	10	mg/k	10	0	1
D	Soil	T1A-6	6	31-Oct-11		TPH Motor Oil (C25-C40)	50	mg/k	50	0	1
D	Soil	T1B-1	1	31-Oct-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
D	Soil	T1B-1	1	31-Oct-11		TPH Diesel (C10-C25)	41	mg/k	41	1	1
D	Soil	T1B-1	1	31-Oct-11		TPH Motor Oil (C25-C40)	370	mg/k	370	1	1
D	Soil	T1B-2	2	31-Oct-11		TPH Gasoline (C4-C10)	0.49	mg/k	0.49	0	1
D	Soil	T1B-2	2	31-Oct-11		TPH Diesel (C10-C25)	69	mg/k	69	1	1
D	Soil	T1B-2	2	31-Oct-11		TPH Motor Oil (C25-C40)	350	mg/k	350	1	1
D	Soil	T1B-3	3	31-Oct-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
D	Soil	T1B-3	3	31-Oct-11		TPH Diesel (C10-C25)	13	mg/k	13	1	1
D	Soil	T1B-3	3	31-Oct-11		TPH Motor Oil (C25-C40)	78	mg/k	78	1	1
D	Soil	T1B-4	4	31-Oct-11		TPH Diesel (C10-C25)	10	mg/k	10	0	1
D	Soil	T1B-4	4	31-Oct-11		TPH Motor Oil (C25-C40)	50	mg/k	50	0	1
D	Soil	T1B-4	4	31-Oct-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
D	Soil	T1B-5	5	31-Oct-11		TPH Diesel (C10-C25)	10	mg/k	10	0	1
D	Soil	T1B-5	5	31-Oct-11		TPH Motor Oil (C25-C40)	16	mg/k	16	1	1
D	Soil	T1B-5	5	31-Oct-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
D	Soil	T1B-6	6	31-Oct-11	206-44-0	Fluoranthene	0.005	mg/k	0.005	0	1
D	Soil	T1B-6	6	31-Oct-11	95-95-4	2,4,5-Trichlorophenol	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	110-86-1	Pyridine	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	88-06-2	2,4,6-Trichlorophenol	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	205-99-2	Benzo(b)fluoranthene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	207-08-9	Benzo(k)fluoranthene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	50-32-8	Benzo(a)pyrene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	53-70-3	Dibenz(a,h)anthracene	0.01	mg/k	0.01	0	1
D	Soil	T1B-6	6	31-Oct-11	88-75-5	2-Nitrophenol	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	86-73-7	Fluorene	0.0033	mg/k	0.0033	1	1
D	Soil	T1B-6	6	31-Oct-11	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
D	Soil	T1B-6	6	31-Oct-11	91-20-3	Naphthalene	0.01	mg/k	0.01	0	0
D	Soil	T1B-6	6	31-Oct-11	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
D	Soil	T1B-6	6	31-Oct-11	108-95-2	Phenol	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	100-02-7	4-Nitrophenol	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	56-23-5	Carbon tetrachloride	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	3/4-Methylp	3/4-Methylphenol	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	95-48-7	2-Methylphenol	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	534-52-1	4,6-Dinitro-2-methylphenol	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	51-28-5	2,4-Dinitrophenol	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	56-55-3	Benzo(a)anthracene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	105-67-9	2,4-Dimethylphenol	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	120-83-2	2,4-Dichlorophenol	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	59-50-7	4-Chloro-3-methylphenol	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	86-74-8	Carbazole	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	85-01-8	Phenanthrene	0.012	mg/k	0.012	1	1
D	Soil	T1B-6	6	31-Oct-11	87-86-5	Pentachlorophenol	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11		TPH Diesel (C13-C22)	0.099	mg/L		1	0
D	Soil	T1B-6	6	31-Oct-11	108-86-1	Bromobenzene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	124-48-1	Dibromochloromethane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	96-12-8	1,2-Dibromo-3-chloropropane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	106-43-4	4-Chlorotoluene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	95-49-8	2-Chlorotoluene	0.0049	mg/k	0.0049	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	T1B-6	6	31-Oct-11	74-87-3	Chloromethane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	67-66-3	Chloroform	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	75-00-3	Chloroethane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	108-90-7	Chlorobenzene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	118-74-1	Hexachlorobenzene	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	71-43-2	Benzene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11		TPH Diesel (C13-C22)	45	mg/k	45	1	1
D	Soil	T1B-6	6	31-Oct-11		TPH Motor Oil (C23-C40)	0.077	mg/L		1	0
D	Soil	T1B-6	6	31-Oct-11	129-00-0	Pyrene	0.005	mg/k	0.005	0	1
D	Soil	T1B-6	6	31-Oct-11		TPH Gasoline (C4-C12)	50	ug/L		0	0
D	Soil	T1B-6	6	31-Oct-11		Cyanide, reactive	0.5	mg/k	0.5	0	1
D	Soil	T1B-6	6	31-Oct-11		Sulfide, reactive	2	mg/k	2	0	1
D	Soil	T1B-6	6	31-Oct-11		pH	6.26	pH		1	1
D	Soil	T1B-6	6	31-Oct-11	218-01-9	Chrysene	0.005	mg/k	0.005	0	1
D	Soil	T1B-6	6	31-Oct-11	191-24-2	Benzo(g,h,i)perylene	0.01	mg/k	0.01	0	1
D	Soil	T1B-6	6	31-Oct-11	50-32-8	Benzo(a)pyrene	0.005	mg/k	0.005	0	1
D	Soil	T1B-6	6	31-Oct-11	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
D	Soil	T1B-6	6	31-Oct-11	205-99-2	Benzo(b)fluoranthene	0.005	mg/k	0.005	0	1
D	Soil	T1B-6	6	31-Oct-11	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
D	Soil	T1B-6	6	31-Oct-11	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
D	Soil	T1B-6	6	31-Oct-11	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
D	Soil	T1B-6	6	31-Oct-11	129-00-0	Pyrene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	111-44-4	Bis(2-chloroethyl)ether	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	77-47-4	Hexachlorocyclopentadiene	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	84-74-2	Di-n-butyl phthalate	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	132-64-9	Dibenzofuran	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	53-70-3	Dibenz(a,h)anthracene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	218-01-9	Chrysene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	7005-72-3	4-Chlorophenyl phenyl ether	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	91-58-7	2-Chloronaphthalene	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	208-96-8	Acenaphthylene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	106-47-8	4-Chloroaniline	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	85-68-7	Butyl benzyl phthalate	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	101-55-3	4-Bromophenyl phenyl ether	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	541-73-1	1,3-Dichlorobenzene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	108-60-1	Bis(2-chloroisopropyl)ether	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	106-46-7	1,4-Dichlorobenzene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	111-91-1	Bis(2-chloroethoxy)methane	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	100-51-6	Benzyl alcohol	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	65-85-0	Benzoic acid	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	191-24-2	Benzo(g,h,i)perylene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	83-32-9	Acenaphthene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	11096-82-5	Aroclor 1260	0.02	mg/k	0.02	0	1
D	Soil	T1B-6	6	31-Oct-11	11097-69-1	Aroclor 1254	0.02	mg/k	0.02	0	1
D	Soil	T1B-6	6	31-Oct-11	12672-29-6	Aroclor 1248	0.02	mg/k	0.02	0	1
D	Soil	T1B-6	6	31-Oct-11	53469-21-9	Aroclor 1242	0.02	mg/k	0.02	0	1
D	Soil	T1B-6	6	31-Oct-11	11141-16-5	Aroclor 1232	0.02	mg/k	0.02	0	1
D	Soil	T1B-6	6	31-Oct-11	11104-28-2	Aroclor 1221	0.02	mg/k	0.02	0	1
D	Soil	T1B-6	6	31-Oct-11	12674-11-2	Aroclor 1016	0.02	mg/k	0.02	0	1
D	Soil	T1B-6	6	31-Oct-11	117-81-7	Bis(2-ethylhexyl)phthalate	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	120-12-7	Anthracene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	86-30-6	N-Nitrosodiphenylamine	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	621-64-7	N-Nitrosodi-n-propylamine	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	103-33-3	Azobenzene	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	62-75-9	N-Nitrosodimethylamine	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	98-95-3	Nitrobenzene	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	100-01-6	4-Nitroaniline	0.25	mg/k	0.25	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	T1B-6	6	31-Oct-11	99-09-2	3-Nitroaniline	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	88-74-4	2-Nitroaniline	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	91-20-3	Naphthalene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	91-57-6	2-Methylnaphthalene	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	78-59-1	Isophorone	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	95-50-1	1,2-Dichlorobenzene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	67-72-1	Hexachloroethane	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	85-01-8	Phenanthrene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	74-95-3	Dibromomethane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	87-68-3	Hexachlorobutadiene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	95-57-8	2-Chlorophenol	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	86-73-7	Fluorene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	206-44-0	Fluoranthene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	117-84-0	Di-n-octyl phthalate	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	606-20-2	2,6-Dinitrotoluene	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	121-14-2	2,4-Dinitrotoluene	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	131-11-3	Dimethyl phthalate	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	84-66-2	Diethyl phthalate	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	62-53-3	Aniline	0.099	mg/k	0.099	0	1
D	Soil	T1B-6	6	31-Oct-11	91-94-1	3,3-Dichlorobenzidine	0.5	mg/k	0.5	0	1
D	Soil	T1B-6	6	31-Oct-11	193-39-5	Indeno(1,2,3-cd)pyrene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	5103-71-9	alpha-Chlordane	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	319-86-8	delta-BHC	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	72-54-8	4,4'-DDD	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	72-55-9	4,4'-DDE	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	50-29-3	4,4'-DDT	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	60-57-1	Dieldrin	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	115-29-7	Endosulfan I	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	33213-65-9	Endosulfan II	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	1031-07-8	Endosulfan sulfate	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	72-20-8	Endrin	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11		TPH Gasoline (C4-C12)	0.49	mg/k	0.49	0	0
D	Soil	T1B-6	6	31-Oct-11	53494-70-5	Endrin ketone	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11		TPH Motor Oil (C25-C40)	73	mg/k	73	1	1
D	Soil	T1B-6	6	31-Oct-11	58-89-9	gamma-BHC	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	12789-03-6	gamma-Chlordane	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	76-44-8	Heptachlor	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	1024-57-3	Heptachlor epoxide	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	72-43-5	Methoxychlor	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	12789-03-6	gamma-Chlordane	0.02	mg/k	0.02	0	0
D	Soil	T1B-6	6	31-Oct-11	8001-35-2	Toxaphene	0.02	mg/k	0.02	0	1
D	Soil	T1B-6	6	31-Oct-11	309-00-2	Aldrin	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	319-85-7	beta-BHC	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	7421-93-4	Endrin aldehyde	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	7439-92-1	Lead	7.4	mg/k	7.4	1	1
D	Soil	T1B-6	6	31-Oct-11	120-82-1	1,2,4-Trichlorobenzene	0.099	mg/k	0.099	0	0
D	Soil	T1B-6	6	31-Oct-11	1634-04-4	Methyl tert-butyl ether	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11		Flashpoint	212	°F		1	1
D	Soil	T1B-6	6	31-Oct-11	7440-36-0	Antimony	4.5	mg/k	4.5	0	1
D	Soil	T1B-6	6	31-Oct-11	7440-38-2	Arsenic	5.4	mg/k	5.4	1	1
D	Soil	T1B-6	6	31-Oct-11	7440-39-3	Barium	38	mg/k	38	1	1
D	Soil	T1B-6	6	31-Oct-11	7440-41-7	Beryllium	0.9	mg/k	0.9	0	1
D	Soil	T1B-6	6	31-Oct-11	7440-43-9	Cadmium	0.73	mg/k	0.73	1	1
D	Soil	T1B-6	6	31-Oct-11	7440-47-3	Chromium	46	mg/k	46	1	1
D	Soil	T1B-6	6	31-Oct-11	319-84-6	alpha-BHC	0.003	mg/k	0.003	0	1
D	Soil	T1B-6	6	31-Oct-11	7440-50-8	Copper	3.6	mg/k	3.6	1	1
D	Soil	T1B-6	6	31-Oct-11		TPH Motor Oil (C23-C40)	73	mg/k	73	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	T1B-6	6	31-Oct-11	7439-98-7	Molybdenum	0.9	mg/k	0.9	0	1
D	Soil	T1B-6	6	31-Oct-11	7440-02-0	Nickel	9.7	mg/k	9.7	1	1
D	Soil	T1B-6	6	31-Oct-11	7782-49-2	Selenium	1.8	mg/k	1.8	0	1
D	Soil	T1B-6	6	31-Oct-11	7440-22-4	Silver	0.9	mg/k	0.9	0	1
D	Soil	T1B-6	6	31-Oct-11	7440-28-0	Thallium	0.9	mg/k	0.9	0	1
D	Soil	T1B-6	6	31-Oct-11	7440-62-2	Vanadium	25	mg/k	25	1	1
D	Soil	T1B-6	6	31-Oct-11	7440-66-6	Zinc	14	mg/k	14	1	1
D	Soil	T1B-6	6	31-Oct-11	7439-97-6	Mercury	0.091	mg/k	0.091	0	1
D	Soil	T1B-6	6	31-Oct-11		TPH Gasoline (C4-C10)	0.49	mg/k	0.49	0	1
D	Soil	T1B-6	6	31-Oct-11	7440-48-4	Cobalt	1.8	mg/k	1.8	1	1
D	Soil	T1B-6	6	31-Oct-11	100-42-5	Styrene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	75-27-4	Bromodichloromethane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	98-82-8	Isopropylbenzene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	99-87-6	p-Isopropyltoluene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11		TPH Diesel (C10-C25)	69	mg/k	69	1	1
D	Soil	T1B-6	6	31-Oct-11	75-09-2	Methylene chloride	0.00078	mg/k	0.00078	1	1
D	Soil	T1B-6	6	31-Oct-11	120-82-1	1,2,4-Trichlorobenzene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	103-65-1	n-Propylbenzene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	100-41-4	Ethylbenzene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	630-20-6	1,1,1,2-Tetrachloroethane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	79-34-5	1,1,2,2-Tetrachloroethane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	127-18-4	Tetrachloroethene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	108-88-3	Toluene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	75-25-2	Bromoform	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	98-06-6	tert-Butylbenzene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	91-20-3	Naphthalene	0.0071	mg/k	0.0071	1	1
D	Soil	T1B-6	6	31-Oct-11	78-87-5	1,2-Dichloropropane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	106-46-7	1,4-Dichlorobenzene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	75-71-8	Dichlorodifluoromethane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	75-34-3	1,1-Dichloroethane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	107-06-2	1,2-Dichloroethane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	75-35-4	1,1-Dichloroethene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	156-59-2	cis-1,2-Dichloroethene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	87-68-3	Hexachlorobutadiene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	74-97-5	Bromochloromethane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	106-93-4	1,2-Dibromoethane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	142-28-9	1,3-Dichloropropane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	594-20-7	2,2-Dichloropropane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	563-58-6	1,1-Dichloropropene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	10061-01-5	cis-1,3-Dichloropropene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	10061-02-6	trans-1,3-Dichloropropene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	71-55-6	1,1,1-Trichloroethane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	156-60-5	trans-1,2-Dichloroethene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	79-00-5	1,1,2-Trichloroethane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	79-01-6	Trichloroethene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	75-69-4	Trichlorofluoromethane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	96-18-4	1,2,3-Trichloropropane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	95-63-6	1,2,4-Trimethylbenzene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	108-67-8	1,3,5-Trimethylbenzene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	75-01-4	Vinyl chloride	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	74-83-9	Bromomethane	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	1330-20-7	Xylenes (total)	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	104-51-8	n-Butylbenzene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	135-98-8	sec-Butylbenzene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	541-73-1	1,3-Dichlorobenzene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	87-61-6	1,2,3-Trichlorobenzene	0.0049	mg/k	0.0049	0	1
D	Soil	T1B-6	6	31-Oct-11	95-50-1	1,2-Dichlorobenzene	0.0049	mg/k	0.0049	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
D	Soil	T1C-1	1	31-Oct-11		TPH Diesel (C10-C25)	170	mg/k	170	1	1
D	Soil	T1C-1	1	31-Oct-11		TPH Motor Oil (C25-C40)	1700	mg/k	1700	1	1
D	Soil	T1C-1	1	31-Oct-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
D	Soil	T1C-2	2	31-Oct-11		TPH Gasoline (C4-C10)	0.49	mg/k	0.49	0	1
D	Soil	T1C-2	2	31-Oct-11		TPH Diesel (C10-C25)	17	mg/k	17	1	1
D	Soil	T1C-2	2	31-Oct-11		TPH Motor Oil (C25-C40)	62	mg/k	62	1	1
D	Soil	T1C-3	3	31-Oct-11		TPH Motor Oil (C25-C40)	140	mg/k	140	1	1
D	Soil	T1C-3	3	31-Oct-11		TPH Diesel (C10-C25)	24	mg/k	24	1	1
D	Soil	T1C-3	3	31-Oct-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
D	Soil	T1C-4	4	31-Oct-11		TPH Motor Oil (C25-C40)	30	mg/k	30	1	1
D	Soil	T1C-4	4	31-Oct-11		TPH Diesel (C10-C25)	10	mg/k	10	0	1
D	Soil	T1C-4	4	31-Oct-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
D	Soil	T1C-5	5	31-Oct-11		TPH Motor Oil (C25-C40)	20	mg/k	20	1	1
D	Soil	T1C-5	5	31-Oct-11		TPH Diesel (C10-C25)	10	mg/k	10	0	1
D	Soil	T1C-5	5	31-Oct-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
D	Soil	T1C-6	6	31-Oct-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
D	Soil	T1C-6	6	31-Oct-11		TPH Diesel (C10-C25)	22	mg/k	22	1	1
D	Soil	T1C-6	6	31-Oct-11		TPH Motor Oil (C25-C40)	21	mg/k	21	1	1
Drainage	Soil	B-191-10	10		BaP TEQ	BaP TEQ			0.705	0	1
Drainage	Soil	B-191-10	10		8006-61-9	TPHg			10	0	1
Drainage	Soil	B-191-10	10		64742-47-8	TPHm			990	1	1
Drainage	Soil	B-191-10	10		68476-30-2	TPHd			550	1	1
Drainage	Soil	B-21-5	5		68476-30-2	TPHd			10	0	1
Drainage	Soil	B-21-5	5		8006-61-9	TPHg			10	0	1
Drainage	Soil	B-21-5	5		64742-47-8	TPHm			10	0	1
Drainage	Soil	B-22-5	5		68476-30-2	TPHd			10	0	1
Drainage	Soil	B-22-5	5		8006-61-9	TPHg			10	0	1
Drainage	Soil	B-22-5	5		64742-47-8	TPHm			10	0	1
Drainage	Soil	B-23-5	5		68476-30-2	TPHd			10	0	1
Drainage	Soil	B-23-5	5		64742-47-8	TPHm			10	0	1
Drainage	Soil	B-23-5	5		8006-61-9	TPHg			10	0	1
Drainage	Soil	B-30-10	10		BaP TEQ	BaP TEQ			0.03525	0	1
Drainage	Soil	B-30-10	10		68476-30-2	TPHd			1200	1	1
Drainage	Soil	B-30-10	10		8006-61-9	TPHg			510	1	1
Drainage	Soil	B-30-10	10		64742-47-8	TPHm			240	1	1
Drainage	Soil	B-30-5	5		68476-30-2	TPHd			300	1	1
Drainage	Soil	B-30-5	5		8006-61-9	TPHg			10	0	1
Drainage	Soil	B-30-5	5		64742-47-8	TPHm			110	1	1
Drainage	Soil	S-11-0.5	0.5		BaP TEQ	BaP TEQ			0.00755	1	1
Drainage	Soil	S-11-0.5	0.5		68476-30-2	TPHd			25	1	1
Drainage	Soil	S-11-0.5	0.5		8006-61-9	TPHg			10	0	1
Drainage	Soil	S-11-0.5	0.5		64742-47-8	TPHm			200	1	1
Drainage	Soil	S-11-2.5	2.5		BaP TEQ	BaP TEQ			0.06872	1	1
Drainage	Soil	S-11-2.5	2.5		64742-47-8	TPHm			700	1	1
Drainage	Soil	S-11-2.5	2.5		8006-61-9	TPHg			10	0	1
Drainage	Soil	S-11-2.5	2.5		68476-30-2	TPHd			110	1	1
Drainage	Soil	S-11C-0.5	0.5		64742-47-8	TPHm			580	1	1
Drainage	Soil	S-11C-0.5	0.5		68476-30-2	TPHd			130	1	1
Drainage	Soil	S-11C-0.5	0.5		8006-61-9	TPHg			10	0	1
Drainage	Soil	S-11C-2.5	2.5		68476-30-2	TPHd			4300	1	1
Drainage	Soil	S-11C-2.5	2.5		8006-61-9	TPHg			10	0	1
Drainage	Soil	S-11C-2.5	2.5		64742-47-8	TPHm			12000	1	1
Drainage	Soil	B-21-5	5	07-Sep-97		C4-C10	10	mg/K	10	0	1
Drainage	Soil	B-21-5	5	07-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-21-5	5	07-Sep-97		C10-C25	10	mg/K	10	0	1
Drainage	Soil	B-21-5	5	07-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-21-5	5	07-Sep-97		C25-C40	10	mg/K	10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Drainage	Soil	B-21-5	5	07-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
Drainage	Soil	B-21-5	5	07-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Drainage	Soil	B-21-5	5	07-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-21-5	5	07-Sep-97		C1-C40	10	mg/K	10	0	1
Drainage	Soil	B-22-5	5	07-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
Drainage	Soil	B-22-5	5	07-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-22-5	5	07-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-22-5	5	07-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Drainage	Soil	B-22-5	5	07-Sep-97		C4-C10	10	mg/K	10	0	1
Drainage	Soil	B-22-5	5	07-Sep-97		C25-C40	10	mg/K	10	0	1
Drainage	Soil	B-22-5	5	07-Sep-97		C1-C40	10	mg/K	10	0	1
Drainage	Soil	B-22-5	5	07-Sep-97		C10-C25	10	mg/K	10	0	1
Drainage	Soil	B-22-5	5	07-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-23-5	5	07-Sep-97		C25-C40	10	mg/K	10	0	1
Drainage	Soil	B-23-5	5	07-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Drainage	Soil	B-23-5	5	07-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-23-5	5	07-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
Drainage	Soil	B-23-5	5	07-Sep-97		C4-C10	10	mg/K	10	0	1
Drainage	Soil	B-23-5	5	07-Sep-97		C1-C40	10	mg/K	10	0	1
Drainage	Soil	B-23-5	5	07-Sep-97		C10-C25	10	mg/K	10	0	1
Drainage	Soil	B-23-5	5	07-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-23-5	5	07-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	207-08-9	Benzo(k)fluoranthene	0.05	mg/K	0.05	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	85-01-8	Phenanthrene	0.48	mg/K	0.48	1	1
Drainage	Soil	B-30-10	10	07-Sep-97	100-41-4	Ethylbenzene	1.7	mg/K	1.7	1	1
Drainage	Soil	B-30-10	10	07-Sep-97	86-73-7	Fluorene	0.21	mg/K	0.21	1	1
Drainage	Soil	B-30-10	10	07-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/K	0.05	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	7439-92-1	Lead	3.9	mg/K	3.9	1	1
Drainage	Soil	B-30-10	10	07-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	1634-04-4	Methyl tert-butyl ether	0.1	mg/K	0.1	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	7440-50-8	Copper	4	mg/K	4	1	1
Drainage	Soil	B-30-10	10	07-Sep-97	7440-02-0	Nickel	6.5	mg/K	6.5	1	1
Drainage	Soil	B-30-10	10	07-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.05	mg/K	0.05	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	129-00-0	Pyrene	0.05	mg/K	0.05	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	7440-62-2	Vanadium	16	mg/K	16	1	1
Drainage	Soil	B-30-10	10	07-Sep-97	1330-20-7	Xylenes (total)	0.9	mg/K	0.9	1	1
Drainage	Soil	B-30-10	10	07-Sep-97	7440-66-6	Zinc	11	mg/K	11	1	1
Drainage	Soil	B-30-10	10	07-Sep-97	91-20-3	Naphthalene	0.26	mg/K	0.26	1	1
Drainage	Soil	B-30-10	10	07-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.05	mg/K	0.05	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	208-96-8	Acenaphthylene	0.05	mg/K	0.05	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	120-12-7	Anthracene	0.05	mg/K	0.05	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	7440-39-3	Barium	46	mg/K	46	1	1
Drainage	Soil	B-30-10	10	07-Sep-97	71-43-2	Benzene	1.4	mg/K	1.4	1	1
Drainage	Soil	B-30-10	10	07-Sep-97	56-55-3	Benzo(a)anthracene	0.05	mg/K	0.05	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	206-44-0	Fluoranthene	0.05	mg/K	0.05	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	205-99-2	Benzo(b)fluoranthene	0.05	mg/K	0.05	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	7440-48-4	Cobalt	1.1	mg/K	1.1	1	1
Drainage	Soil	B-30-10	10	07-Sep-97	83-32-9	Acenaphthene	0.05	mg/K	0.05	1	1
Drainage	Soil	B-30-10	10	07-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
Drainage	Soil	B-30-10	10	07-Sep-97		C10-C25	1200	mg/K	1200	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Drainage	Soil	B-30-10	10	07-Sep-97		C1-C40	1950	mg/K	1950	1	1
Drainage	Soil	B-30-10	10	07-Sep-97		C25-C40	240	mg/K	240	1	1
Drainage	Soil	B-30-10	10	07-Sep-97		C4-C10	510	mg/K	510	1	1
Drainage	Soil	B-30-10	10	07-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	7440-47-3	Chromium	20	mg/K	20	1	1
Drainage	Soil	B-30-10	10	07-Sep-97	218-01-9	Chrysene	0.05	mg/K	0.05	0	1
Drainage	Soil	B-30-10	10	07-Sep-97	50-32-8	Benzo(a)pyrene	0.05	mg/K	0.05	0	1
Drainage	Soil	B-30-5	5	07-Sep-97		C4-C10	10	mg/K	10	0	1
Drainage	Soil	B-30-5	5	07-Sep-97		C25-C40	110	mg/K	110	1	1
Drainage	Soil	B-30-5	5	07-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Drainage	Soil	B-30-5	5	07-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-30-5	5	07-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
Drainage	Soil	B-30-5	5	07-Sep-97		C1-C40	410	mg/K	410	1	1
Drainage	Soil	B-30-5	5	07-Sep-97		C10-C25	300	mg/K	300	1	1
Drainage	Soil	B-30-5	5	07-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-30-5	5	07-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	218-01-9	Chrysene	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	86-73-7	Fluorene	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	206-44-0	Fluoranthene	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	34077-87-7	Dichlorotrifluoroethane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	75-71-8	Dichlorodifluoromethane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	74-95-3	Dibromomethane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	124-48-1	Dibromochloromethane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	53-70-3	Dibenz(a,h)anthracene	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	7440-50-8	Copper	7.7	mg/K	7.7	1	1
Drainage	Soil	B-191-10	10	01-Jul-99	7440-48-4	Cobalt	18	mg/K	18	1	1
Drainage	Soil	B-191-10	10	01-Jul-99	156-59-2	cis-1,2-Dichloroethene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	98-82-8	Isopropylbenzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	7440-47-3	Chromium	52	mg/K	52	1	1
Drainage	Soil	B-191-10	10	01-Jul-99	74-87-3	Chloromethane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	67-66-3	Chloroform	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	75-00-3	Chloroethane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	108-90-7	Chlorobenzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	56-23-5	Carbon tetrachloride	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	7440-43-9	Cadmium	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	7440-02-0	Nickel	400	mg/K	400	1	1
Drainage	Soil	B-191-10	10	01-Jul-99		C4-C10	10	mg/K	10	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	98-06-6	tert-Butylbenzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	127-18-4	Tetrachloroethene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	135-98-8	sec-Butylbenzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	129-00-0	Pyrene	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	99-87-6	p-Isopropyltoluene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	87-68-3	Hexachlorobutadiene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	103-65-1	n-Propylbenzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	193-39-5	Indeno(1,2,3-cd)pyrene	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	104-51-8	n-Butylbenzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	91-20-3	Naphthalene	1	mg/K	1	0	0
Drainage	Soil	B-191-10	10	01-Jul-99	91-20-3	Naphthalene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	7439-98-7	Molybdenum	1.4	mg/K	1.4	1	1
Drainage	Soil	B-191-10	10	01-Jul-99	75-09-2	Methylene chloride	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	7439-92-1	Lead	5.4	mg/K	5.4	1	1
Drainage	Soil	B-191-10	10	01-Jul-99	75-35-4	1,1-Dichloroethene	0.005	mg/K	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Drainage	Soil	B-191-10	10	01-Jul-99	85-01-8	Phenanthrene	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	107-06-2	1,2-Dichloroethane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	75-34-3	1,1-Dichloroethane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	100-42-5	Styrene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	563-58-6	1,1-Dichloropropene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/K	0.01	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	96-18-4	1,2,3-Trichloropropane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/K	0.01	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/K	0.01	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	79-00-5	1,1,2-Trichloroethane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	95-50-1	1,2-Dichlorobenzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	71-55-6	1,1,1-Trichloroethane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	78-87-5	1,2-Dichloropropane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	541-73-1	1,3-Dichlorobenzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	142-28-9	1,3-Dichloropropane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	106-46-7	1,4-Dichlorobenzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	594-20-7	2,2-Dichloropropane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/K	0.01	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	95-49-8	2-Chlorotoluene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	106-43-4	4-Chlorotoluene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	106-93-4	1,2-Dibromoethane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	50-32-8	Benzo(a)pyrene	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99		C1-C40	1540	mg/K	1540	1	1
Drainage	Soil	B-191-10	10	01-Jul-99		C10-C25	550	mg/K	550	1	1
Drainage	Soil	B-191-10	10	01-Jul-99	74-83-9	Bromomethane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	75-25-2	Bromoform	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	75-27-4	Bromodichloromethane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	74-97-5	Bromochloromethane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	108-86-1	Bromobenzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	207-08-9	Benzo(k)fluoranthene	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	205-99-2	Benzo(b)fluoranthene	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	56-55-3	Benzo(a)anthracene	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	7440-39-3	Barium	43	mg/K	43	1	1
Drainage	Soil	B-191-10	10	01-Jul-99	7440-38-2	Arsenic	14	mg/K	14	1	1
Drainage	Soil	B-191-10	10	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	120-12-7	Anthracene	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	208-96-8	Acenaphthylene	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99		C25-C40	990	mg/K	990	1	1
Drainage	Soil	B-191-10	10	01-Jul-99	191-24-2	Benzo(g,h,i)perylene	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	7440-66-6	Zinc	25	mg/K	25	1	1
Drainage	Soil	B-191-10	10	01-Jul-99	83-32-9	Acenaphthene	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	75-01-4	Vinyl chloride	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	7440-62-2	Vanadium	19	mg/K	19	1	1
Drainage	Soil	B-191-10	10	01-Jul-99	75-69-4	Trichlorofluoromethane	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	79-01-6	Trichloroethene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/K	0.005	0	1
Drainage	Soil	B-191-10	10	01-Jul-99	156-60-5	trans-1,2-Dichloroethene	0.005	mg/K	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	7440-02-0	Nickel	310	mg/k	310	1	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.01	mg/k	0.01	0	0
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	7440-66-6	Zinc	41	mg/k	41	1	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	34	mg/k	34	1	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03		C25-C40	200	mg/k	200	1	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03		C10-C25	25	mg/k	25	1	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.021	mg/k	0.021	1	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	7440-39-3	Barium	61	mg/k	61	1	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	9.3	mg/k	9.3	1	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	1	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	7439-92-1	Lead	11	mg/k	11	1	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.01	mg/k	0.01	1	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	7440-47-3	Chromium	97	mg/k	97	1	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	7440-50-8	Copper	21	mg/k	21	1	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.01	mg/k	0.01	1	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	21	mg/k	21	1	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.02	mg/k	0.02	1	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.027	mg/k	0.027	1	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	218-01-9	Chrysene	0.022	mg/k	0.022	1	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.065	mg/k	0.065	1	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	7440-39-3	Barium	66	mg/k	66	1	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	7440-50-8	Copper	4.6	mg/k	4.6	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	7440-47-3	Chromium	17	mg/k	17	1	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03		C10-C25	110	mg/k	110	1	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03		C25-C40	700	mg/k	700	1	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.012	mg/k	0.012	1	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	7440-66-6	Zinc	15	mg/k	15	1	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	35	mg/k	35	1	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	83-32-9	Acenaphthene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	208-96-8	Acenaphthylene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	120-12-7	Anthracene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	85-01-8	Phenanthrene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	129-00-0	Pyrene	0.013	mg/k	0.013	1	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	7440-02-0	Nickel	14	mg/k	14	1	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	16	mg/k	16	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	86-73-7	Fluorene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	206-44-0	Fluoranthene	0.011	mg/k	0.011	1	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.01	mg/k	0.01	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	7439-92-1	Lead	15	mg/k	15	1	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.01	mg/k	0.01	0	0
Drainage	Soil	S-11-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	7440-66-6	Zinc	17	mg/k	17	1	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	7439-92-1	Lead	7.9	mg/k	7.9	1	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	7440-02-0	Nickel	13	mg/k	13	1	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04		Percent Moisture	15.8	%		1	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	18540-29-9	Hexavalent Chromium	0.5	mg/k	0.5	0	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	7440-62-2	Vanadium	16	mg/k	16	1	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	7440-38-2	Arsenic	57	mg/k	57	1	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	7440-48-4	Cobalt	2.5	mg/k	2.5	1	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	7440-47-3	Chromium	17	mg/k	17	1	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	7440-39-3	Barium	67	mg/k	67	1	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	7440-50-8	Copper	5.3	mg/k	5.3	1	1
Drainage	Soil	S-11A-0.5	0.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	18540-29-9	Hexavalent Chromium	0.5	mg/k	0.5	0	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	7439-92-1	Lead	3.6	mg/k	3.6	1	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	7440-02-0	Nickel	11	mg/k	11	1	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04		Percent Moisture	22.3	%		1	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	7440-66-6	Zinc	9.4	mg/k	9.4	1	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	7440-62-2	Vanadium	12	mg/k	12	1	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	7440-50-8	Copper	4	mg/k	4	1	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	7440-48-4	Cobalt	1.7	mg/k	1.7	1	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	7440-47-3	Chromium	16	mg/k	16	1	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	7440-39-3	Barium	38	mg/k	38	1	1
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	7440-38-2	Arsenic	23	mg/k	23	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Drainage	Soil	S-11A-2.5	2.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	7439-92-1	Lead	22	mg/k	22	1	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	7440-02-0	Nickel	9.4	mg/k	9.4	1	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	7440-50-8	Copper	4.7	mg/k	4.7	1	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	7440-66-6	Zinc	33	mg/k	33	1	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	18540-29-9	Hexavalent Chromium	0.5	mg/k	0.5	0	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	7440-62-2	Vanadium	13	mg/k	13	1	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	7440-38-2	Arsenic	12	mg/k	12	1	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	7440-47-3	Chromium	15	mg/k	15	1	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04		C4-C10	10	mg/k	10	0	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04		C25-C40	580	mg/k	580	1	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04		C10-C25	130	mg/k	130	1	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	7440-39-3	Barium	64	mg/k	64	1	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	7440-48-4	Cobalt	1.8	mg/k	1.8	1	1
Drainage	Soil	S-11C-0.5	0.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	7440-50-8	Copper	2.2	mg/k	2.2	1	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	7440-47-3	Chromium	19	mg/k	19	1	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04		C4-C10	10	mg/k	10	0	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04		C25-C40	12000	mg/k	12000	1	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04		C10-C25	4300	mg/k	4300	1	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	7440-39-3	Barium	54	mg/k	54	1	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	18540-29-9	Hexavalent Chromium	0.5	mg/k	0.5	0	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	7440-48-4	Cobalt	1.1	mg/k	1.1	1	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	7440-38-2	Arsenic	3.1	mg/k	3.1	1	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	7440-62-2	Vanadium	12	mg/k	12	1	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	7440-66-6	Zinc	10	mg/k	10	1	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	7440-02-0	Nickel	9.1	mg/k	9.1	1	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Drainage	Soil	S-11C-2.5	2.5	14-Jan-04	7439-92-1	Lead	5.9	mg/k	5.9	1	1
E	GS	SP-3-6	6	01-May-01		n-pentane	609.55	ppmv		1	1
E	GS	SP-3-6	6	01-May-01		Ethene	1.31	ppmv		1	1
E	GS	SP-3-6	6	01-May-01		1-butene	3.5	ppmv		1	1
E	GS	SP-3-6	6	01-May-01		1-pentene	8.47	ppmv		1	1
E	GS	SP-3-6	6	01-May-01		2,2-dimethyl propane	3.93	ppmv		1	1
E	GS	SP-3-6	6	01-May-01		Ethane	2.27	ppmv		1	1
E	GS	SP-3-6	6	01-May-01		i-butane	38.48	ppmv		1	1
E	GS	SP-3-6	6	01-May-01		n-butane	556.77	ppmv		1	1
E	GS	SP-3-6	6	01-May-01		propane	1.92	ppmv		1	1
E	GS	SP-3-6	6	01-May-01		Propene	0.32	ppmv		1	1
E	GS	SP-3-6	6	01-May-01		i-pentane	1558.72	ppmv		1	1
E	GS	SP-5-10	10	01-May-01		i-butane	44.74	ppmv		1	1
E	GS	SP-5-10	10	01-May-01		i-pentane	88.62	ppmv		1	1
E	GS	SP-5-10	10	01-May-01		n-butane	75.59	ppmv		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SP-5-10	10	01-May-01		n-pentane	22.28	ppmv		1	1
E	GS	SP-5-10	10	01-May-01		propane	31.89	ppmv		1	1
E	GS	SP-5-10	10	01-May-01		Propene	0.95	ppmv		1	1
E	GS	SP-5-10	10	01-May-01		Ethene	6.92	ppmv		1	1
E	GS	SP-5-10	10	01-May-01		2,2-dimethyl propane	1.3	ppmv		1	1
E	GS	SP-5-10	10	01-May-01		1-pentene	0.44	ppmv		1	1
E	GS	SP-5-10	10	01-May-01		1-butene	2.27	ppmv		1	1
E	GS	SP-5-10	10	01-May-01		Ethane	15.14	ppmv		1	1
E	GS	SP-5-6	6	01-May-01		i-butane	9.85	ppmv		1	1
E	GS	SP-5-6	6	01-May-01		propane	5.46	ppmv		1	1
E	GS	SP-5-6	6	01-May-01		n-pentane	23.55	ppmv		1	1
E	GS	SP-5-6	6	01-May-01		n-butane	31.15	ppmv		1	1
E	GS	SP-5-6	6	01-May-01		Propene	0.65	ppmv		1	1
E	GS	SP-5-6	6	01-May-01		1-pentene	1.35	ppmv		1	1
E	GS	SP-5-6	6	01-May-01		i-pentane	75.47	ppmv		1	1
E	GS	SP-5-6	6	01-May-01		Ethene	6.91	ppmv		1	1
E	GS	SP-5-6	6	01-May-01		Ethane	4.57	ppmv		1	1
E	GS	SP-5-6	6	01-May-01		2,2-dimethyl propane	0.61	ppmv		1	1
E	GS	SP-5-6	6	01-May-01		1-butene	3.25	ppmv		1	1
E	GS	SP-3-10	10	18-Oct-01		Ethene	5.52	ppmv		1	1
E	GS	SP-3-10	10	18-Oct-01		1-butene	7.73	ppmv		1	1
E	GS	SP-3-10	10	18-Oct-01		n-pentane	3284.12	ppmv		1	1
E	GS	SP-3-10	10	18-Oct-01		n-butane	6089.29	ppmv		1	1
E	GS	SP-3-10	10	18-Oct-01		i-pentane	6070.99	ppmv		1	1
E	GS	SP-3-10	10	18-Oct-01		propane	14.22	ppmv		1	1
E	GS	SP-3-10	10	18-Oct-01		i-butane	301.93	ppmv		1	1
E	GS	SP-3-10	10	18-Oct-01		1-pentene	26.03	ppmv		1	1
E	GS	SP-3-10	10	18-Oct-01	71-43-2	Benzene	9.88	ppmv		1	1
E	GS	SP-3-10	10	18-Oct-01		Propene	0.6	ppmv		1	1
E	GS	SP-3-10	10	18-Oct-01		2,2-dimethyl propane	18.18	ppmv		1	1
E	GS	SP-3-10	10	18-Oct-01		Ethane	9.24	ppmv		1	1
E	GS	SP-3-15	15	18-Oct-01		n-pentane	24375.47	ppmv		1	1
E	GS	SP-3-15	15	18-Oct-01		n-butane	36505.26	ppmv		1	1
E	GS	SP-3-15	15	18-Oct-01		propane	64.43	ppmv		1	1
E	GS	SP-3-15	15	18-Oct-01		Propene	0.73	ppmv		1	1
E	GS	SP-3-15	15	18-Oct-01		i-butane	2130.66	ppmv		1	1
E	GS	SP-3-15	15	18-Oct-01		Ethene	3.74	ppmv		1	1
E	GS	SP-3-15	15	18-Oct-01		Ethane	35.37	ppmv		1	1
E	GS	SP-3-15	15	18-Oct-01	71-43-2	Benzene	4.11	ppmv		1	1
E	GS	SP-3-15	15	18-Oct-01		2,2-dimethyl propane	103.31	ppmv		1	1
E	GS	SP-3-15	15	18-Oct-01		1-pentene	116.71	ppmv		1	1
E	GS	SP-3-15	15	18-Oct-01		1-butene	32.22	ppmv		1	1
E	GS	SP-3-15	15	18-Oct-01		i-pentane	44273.01	ppmv		1	1
E	GS	SP-3-6	6	18-Oct-01		propane	3.4	ppmv		1	1
E	GS	SP-3-6	6	18-Oct-01		n-pentane	1975.97	ppmv		1	1
E	GS	SP-3-6	6	18-Oct-01		Propene	0.39	ppmv		1	1
E	GS	SP-3-6	6	18-Oct-01		1-pentene	4.77	ppmv		1	1
E	GS	SP-3-6	6	18-Oct-01		2,2-dimethyl propane	7.92	ppmv		1	1
E	GS	SP-3-6	6	18-Oct-01		n-C5	852	ppmv		1	1
E	GS	SP-3-6	6	18-Oct-01		1-butene	11.79	ppmv		1	1
E	GS	SP-3-6	6	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
E	GS	SP-3-6	6	18-Oct-01		C1	14100	ppmv		1	1
E	GS	SP-3-6	6	18-Oct-01		C2	10	ppmv		0	1
E	GS	SP-3-6	6	18-Oct-01		C3	11.6	ppmv		1	1
E	GS	SP-3-6	6	18-Oct-01		Ethane	4.86	ppmv		1	1
E	GS	SP-3-6	6	18-Oct-01		Ethene	3.84	ppmv		1	1
E	GS	SP-3-6	6	18-Oct-01		i-butane	78.46	ppmv		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SP-3-6	6	18-Oct-01		i-C4	42.2	ppmv		1	1
E	GS	SP-3-6	6	18-Oct-01		i-C5	1000	ppmv		1	1
E	GS	SP-3-6	6	18-Oct-01		n-butane	1975.97	ppmv		1	1
E	GS	SP-3-6	6	18-Oct-01		i-pentane	3438.76	ppmv		1	1
E	GS	SP-3-6	6	18-Oct-01		n-C4	592	ppmv		1	1
E	GS	SP-5-10	10	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
E	GS	SP-5-10	10	18-Oct-01		C2	10	ppmv		0	1
E	GS	SP-5-10	10	18-Oct-01		C3	68.9	ppmv		1	1
E	GS	SP-5-10	10	18-Oct-01		n-C5	92.1	ppmv		1	1
E	GS	SP-5-10	10	18-Oct-01		1-pentene	0.18	ppmv		1	1
E	GS	SP-5-10	10	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
E	GS	SP-5-10	10	18-Oct-01		Ethene	5.65	ppmv		1	1
E	GS	SP-5-10	10	18-Oct-01		n-butane	142.76	ppmv		1	1
E	GS	SP-5-10	10	18-Oct-01		1-butene	6.95	ppmv		1	1
E	GS	SP-5-10	10	18-Oct-01		i-butane	35.94	ppmv		1	1
E	GS	SP-5-10	10	18-Oct-01		i-C4	69.9	ppmv		1	1
E	GS	SP-5-10	10	18-Oct-01		i-C5	223	ppmv		1	1
E	GS	SP-5-10	10	18-Oct-01		Ethane	7.36	ppmv		1	1
E	GS	SP-5-10	10	18-Oct-01		C1	103000	ppmv		1	1
E	GS	SP-5-10	10	18-Oct-01		i-pentane	108.63	ppmv		1	1
E	GS	SP-5-10	10	18-Oct-01		n-C4	229	ppmv		1	1
E	GS	SP-5-10	10	18-Oct-01		Propene	0.64	ppmv		1	1
E	GS	SP-5-10	10	18-Oct-01		propane	33.61	ppmv		1	1
E	GS	SP-5-10	10	18-Oct-01		n-pentane	12.87	ppmv		1	1
E	GS	SP-5-15	15	18-Oct-01		1-butene	7.86	ppmv		1	1
E	GS	SP-5-15	15	18-Oct-01		1-pentene	0.2	ppmv		1	1
E	GS	SP-5-15	15	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
E	GS	SP-5-15	15	18-Oct-01		n-pentane	72.74	ppmv		1	1
E	GS	SP-5-15	15	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
E	GS	SP-5-15	15	18-Oct-01		Ethene	4.75	ppmv		1	1
E	GS	SP-5-15	15	18-Oct-01		i-butane	169.82	ppmv		1	1
E	GS	SP-5-15	15	18-Oct-01		Ethane	15.89	ppmv		1	1
E	GS	SP-5-15	15	18-Oct-01		n-butane	590.03	ppmv		1	1
E	GS	SP-5-15	15	18-Oct-01		propane	176.01	ppmv		1	1
E	GS	SP-5-15	15	18-Oct-01		Propene	0.74	ppmv		1	1
E	GS	SP-5-15	15	18-Oct-01		i-pentane	373.32	ppmv		1	1
E	GS	SP-5-6	6	18-Oct-01		Ethene	10.69	ppmv		1	1
E	GS	SP-5-6	6	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
E	GS	SP-5-6	6	18-Oct-01		Ethane	2.89	ppmv		1	1
E	GS	SP-5-6	6	18-Oct-01		i-butane	8.02	ppmv		1	1
E	GS	SP-5-6	6	18-Oct-01		i-pentane	46.68	ppmv		1	1
E	GS	SP-5-6	6	18-Oct-01		n-butane	22.2	ppmv		1	1
E	GS	SP-5-6	6	18-Oct-01		n-pentane	4.61	ppmv		1	1
E	GS	SP-5-6	6	18-Oct-01		propane	5.94	ppmv		1	1
E	GS	SP-5-6	6	18-Oct-01		Propene	0.58	ppmv		1	1
E	GS	SP-5-6	6	18-Oct-01		1-pentene	0.16	ppmv		1	1
E	GS	SP-5-6	6	18-Oct-01		1-butene	9.7	ppmv		1	1
E	GS	SP-5-6	6	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
E	GS	SP-3-10	10	09-Apr-02		n-C4	2600	ppmv		1	1
E	GS	SP-3-10	10	09-Apr-02		C2	10	ppmv		0	1
E	GS	SP-3-10	10	09-Apr-02		Ethane	0.1	ppmv		0	1
E	GS	SP-3-10	10	09-Apr-02		1-pentene	1.65	ppmv		1	1
E	GS	SP-3-10	10	09-Apr-02		propane	15.57	ppmv		1	1
E	GS	SP-3-10	10	09-Apr-02		C1	16000	ppmv		1	1
E	GS	SP-3-10	10	09-Apr-02		n-C5	3600	ppmv		1	1
E	GS	SP-3-10	10	09-Apr-02		C3	19	ppmv		1	1
E	GS	SP-3-10	10	09-Apr-02		n-butane	8958.08	ppmv		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SP-3-10	10	09-Apr-02		i-pentane	13040.78	ppmv		1	1
E	GS	SP-3-10	10	09-Apr-02		i-C5	3800	ppmv		1	1
E	GS	SP-3-10	10	09-Apr-02		Ethene	4.5	ppmv		1	1
E	GS	SP-3-10	10	09-Apr-02		i-butane	348.71	ppmv		1	1
E	GS	SP-3-10	10	09-Apr-02		n-pentane	10836.16	ppmv		1	1
E	GS	SP-3-10	10	09-Apr-02		2,2-dimethyl propane	17.62	ppmv		1	1
E	GS	SP-3-10	10	09-Apr-02		1-butene	12.45	ppmv		1	1
E	GS	SP-3-10	10	09-Apr-02		i-C4	170	ppmv		1	1
E	GS	SP-3-10	10	09-Apr-02		Propene	0.3	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		C3	38	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		i-butane	208.3	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		Ethene	3.31	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		Propene	0.19	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		propane	7.69	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		n-pentane	7242.01	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		n-C5	5500	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		n-C4	4100	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		n-butane	5402.38	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		i-pentane	8481.31	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		Ethane	6.54	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		i-C4	260	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		C2	46	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		C1	31000	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		2,2-dimethyl propane	9.45	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		1-pentene	0.34	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		1-butene	4.22	ppmv		1	1
E	GS	SP-3-6	6	09-Apr-02		i-C5	6300	ppmv		1	1
E	GS	SP-5-10	10	09-Apr-02		2,2-dimethyl propane	1.84	ppmv		1	1
E	GS	SP-5-10	10	09-Apr-02		Ethene	7.35	ppmv		1	1
E	GS	SP-5-10	10	09-Apr-02		n-C5	120	ppmv		1	1
E	GS	SP-5-10	10	09-Apr-02		1-butene	0.1	ppmv		0	1
E	GS	SP-5-10	10	09-Apr-02		i-C4	130	ppmv		1	1
E	GS	SP-5-10	10	09-Apr-02		i-C5	300	ppmv		1	1
E	GS	SP-5-10	10	09-Apr-02		i-pentane	338.67	ppmv		1	1
E	GS	SP-5-10	10	09-Apr-02		n-C4	400	ppmv		1	1
E	GS	SP-5-10	10	09-Apr-02		i-butane	122.03	ppmv		1	1
E	GS	SP-5-10	10	09-Apr-02		n-pentane	95.56	ppmv		1	1
E	GS	SP-5-10	10	09-Apr-02		propane	116.4	ppmv		1	1
E	GS	SP-5-10	10	09-Apr-02		Propene	0.35	ppmv		1	1
E	GS	SP-5-10	10	09-Apr-02		C2	10	ppmv		0	1
E	GS	SP-5-10	10	09-Apr-02		1-pentene	0.1	ppmv		0	1
E	GS	SP-5-10	10	09-Apr-02		n-butane	436.88	ppmv		1	1
E	GS	SP-5-10	10	09-Apr-02		C1	120000	ppmv		1	1
E	GS	SP-5-10	10	09-Apr-02		C3	140	ppmv		1	1
E	GS	SP-5-10	10	09-Apr-02		Ethane	12.82	ppmv		1	1
E	GS	SP-5-6	6	09-Apr-02		propane	36.75	ppmv		1	1
E	GS	SP-5-6	6	09-Apr-02		i-butane	37.57	ppmv		1	1
E	GS	SP-5-6	6	09-Apr-02		Ethene	10.46	ppmv		1	1
E	GS	SP-5-6	6	09-Apr-02		Ethane	5.61	ppmv		1	1
E	GS	SP-5-6	6	09-Apr-02		2,2-dimethyl propane	1.93	ppmv		1	1
E	GS	SP-5-6	6	09-Apr-02		1-pentene	0.1	ppmv		0	1
E	GS	SP-5-6	6	09-Apr-02		1-butene	0.1	ppmv		0	1
E	GS	SP-5-6	6	09-Apr-02		n-butane	155.86	ppmv		1	1
E	GS	SP-5-6	6	09-Apr-02		n-pentane	46.09	ppmv		1	1
E	GS	SP-5-6	6	09-Apr-02		i-pentane	153.17	ppmv		1	1
E	GS	SP-5-6	6	09-Apr-02		Propene	0.26	ppmv		1	1
E	GS	SP-3-10	10	24-Sep-02		n-butane	7181.99	ppmv		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SP-3-10	10	24-Sep-02		Propene	0.38	ppmv		1	1
E	GS	SP-3-10	10	24-Sep-02		i-butane	389.74	ppmv		1	1
E	GS	SP-3-10	10	24-Sep-02		1-butene	9.52	ppmv		1	1
E	GS	SP-3-10	10	24-Sep-02		1-pentene	0.1	ppmv		0	1
E	GS	SP-3-10	10	24-Sep-02		2,2-dimethyl propane	16.9	ppmv		1	1
E	GS	SP-3-10	10	24-Sep-02		Ethane	11.94	ppmv		1	1
E	GS	SP-3-10	10	24-Sep-02		Ethene	4.57	ppmv		1	1
E	GS	SP-3-10	10	24-Sep-02		i-pentane	9353.69	ppmv		1	1
E	GS	SP-3-10	10	24-Sep-02		n-pentane	7996.49	ppmv		1	1
E	GS	SP-3-10	10	24-Sep-02		propane	15.9	ppmv		1	1
E	GS	SP-3-15	15	24-Sep-02		1-pentene	0.1	ppmv		0	1
E	GS	SP-3-15	15	24-Sep-02		2,2-dimethyl propane	81.74	ppmv		1	1
E	GS	SP-3-15	15	24-Sep-02		Ethane	35.51	ppmv		1	1
E	GS	SP-3-15	15	24-Sep-02		Ethene	2.96	ppmv		1	1
E	GS	SP-3-15	15	24-Sep-02		i-butane	1649.89	ppmv		1	1
E	GS	SP-3-15	15	24-Sep-02		i-pentane	39662.21	ppmv		1	1
E	GS	SP-3-15	15	24-Sep-02		n-butane	28080.97	ppmv		1	1
E	GS	SP-3-15	15	24-Sep-02		n-pentane	27734.91	ppmv		1	1
E	GS	SP-3-15	15	24-Sep-02		propane	49.57	ppmv		1	1
E	GS	SP-3-15	15	24-Sep-02		Propene	0.38	ppmv		1	1
E	GS	SP-3-15	15	24-Sep-02		1-butene	24.99	ppmv		1	1
E	GS	SP-3-6	6	24-Sep-02		2,2-dimethyl propane	10.34	ppmv		1	1
E	GS	SP-3-6	6	24-Sep-02		1-pentene	9.92	ppmv		1	1
E	GS	SP-3-6	6	24-Sep-02		Ethene	3.83	ppmv		1	1
E	GS	SP-3-6	6	24-Sep-02		i-butane	202.07	ppmv		1	1
E	GS	SP-3-6	6	24-Sep-02		i-pentane	7011.53	ppmv		1	1
E	GS	SP-3-6	6	24-Sep-02		n-butane	4352.19	ppmv		1	1
E	GS	SP-3-6	6	24-Sep-02		n-pentane	5203.07	ppmv		1	1
E	GS	SP-3-6	6	24-Sep-02		propane	7.57	ppmv		1	1
E	GS	SP-3-6	6	24-Sep-02		Propene	0.22	ppmv		1	1
E	GS	SP-3-6	6	24-Sep-02		1-butene	3.15	ppmv		1	1
E	GS	SP-3-6	6	24-Sep-02		Ethane	6.99	ppmv		1	1
E	GS	SP-5-10	10	24-Sep-02		i-pentane	385.79	ppmv		1	1
E	GS	SP-5-10	10	24-Sep-02		n-butane	402.92	ppmv		1	1
E	GS	SP-5-10	10	24-Sep-02		1-pentene	0.1	ppmv		0	1
E	GS	SP-5-10	10	24-Sep-02		Ethene	7.74	ppmv		1	1
E	GS	SP-5-10	10	24-Sep-02		Ethane	11.95	ppmv		1	1
E	GS	SP-5-10	10	24-Sep-02		2,2-dimethyl propane	2.86	ppmv		1	1
E	GS	SP-5-10	10	24-Sep-02		Propene	0.39	ppmv		1	1
E	GS	SP-5-10	10	24-Sep-02		propane	99.6	ppmv		1	1
E	GS	SP-5-10	10	24-Sep-02		n-pentane	130.58	ppmv		1	1
E	GS	SP-5-10	10	24-Sep-02		1-butene	0.1	ppmv		0	1
E	GS	SP-5-10	10	24-Sep-02		i-butane	117.28	ppmv		1	1
E	GS	SP-5-15	15	24-Sep-02		Propene	0.46	ppmv		1	1
E	GS	SP-5-15	15	24-Sep-02		i-pentane	764.43	ppmv		1	1
E	GS	SP-5-15	15	24-Sep-02		n-butane	892.89	ppmv		1	1
E	GS	SP-5-15	15	24-Sep-02		propane	253.67	ppmv		1	1
E	GS	SP-5-15	15	24-Sep-02		i-butane	280.43	ppmv		1	1
E	GS	SP-5-15	15	24-Sep-02		n-pentane	238.06	ppmv		1	1
E	GS	SP-5-15	15	24-Sep-02		Ethene	6.12	ppmv		1	1
E	GS	SP-5-15	15	24-Sep-02		Ethane	24.16	ppmv		1	1
E	GS	SP-5-15	15	24-Sep-02		2,2-dimethyl propane	4.38	ppmv		1	1
E	GS	SP-5-15	15	24-Sep-02		1-butene	0.1	ppmv		0	1
E	GS	SP-5-15	15	24-Sep-02		1-pentene	0.1	ppmv		0	1
E	GS	SP-5-6	6	24-Sep-02		Ethene	17.53	ppmv		1	1
E	GS	SP-5-6	6	24-Sep-02		1-pentene	0.33	ppmv		1	1
E	GS	SP-5-6	6	24-Sep-02		Propene	0.33	ppmv		1	1

Attachment 6
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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SP-5-6	6	24-Sep-02		propane	27.01	ppmv		1	1
E	GS	SP-5-6	6	24-Sep-02		n-pentane	88.71	ppmv		1	1
E	GS	SP-5-6	6	24-Sep-02		n-butane	145.03	ppmv		1	1
E	GS	SP-5-6	6	24-Sep-02		i-pentane	198.51	ppmv		1	1
E	GS	SP-5-6	6	24-Sep-02		i-butane	38.11	ppmv		1	1
E	GS	SP-5-6	6	24-Sep-02		2,2-dimethyl propane	4.51	ppmv		1	1
E	GS	SP-5-6	6	24-Sep-02		Ethane	3.78	ppmv		1	1
E	GS	SP-5-6	6	24-Sep-02		1-butene	0.1	ppmv		0	1
E	GS	SP-3-6	6	14-Jan-04	75-35-4	1,1-Dichloroethene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	71-43-2	Benzene	13000	ppbv		1	1
E	GS	SP-3-6	6	14-Jan-04	106-46-7	1,4-Dichlorobenzene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	541-73-1	1,3-Dichlorobenzene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	108-67-8	1,3,5-Trimethylbenzene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	78-87-5	1,2-Dichloropropane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	107-06-2	1,2-Dichloroethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	95-50-1	1,2-Dichlorobenzene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	106-93-4	1,2-Dibromoethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	120-82-1	1,2,4-Trichlorobenzene	100	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	75-34-3	1,1-Dichloroethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	79-00-5	1,1,2-Trichloroethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	79-34-5	1,1,2,2-Tetrachloroethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	71-55-6	1,1,1-Trichloroethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	74-83-9	Bromomethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	95-63-6	1,2,4-Trimethylbenzene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	108-88-3	Toluene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	75-01-4	Vinyl Chloride	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	56-23-5	Carbon Tetrachloride	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	1330-20-7	Xylenes (total)	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	75-69-4	Trichlorofluoromethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	10061-02-6	trans-1,3-Dichloropropene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	127-18-4	Tetrachloroethene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	100-42-5	Styrene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	75-09-2	Methylene Chloride	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	75-00-3	Chloroethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	100-41-4	Ethylbenzene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	75-71-8	Dichlorodifluoromethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	10061-01-5	cis-1,3-Dichloropropene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	156-59-2	cis-1,2-Dichloroethene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	74-87-3	Chloromethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	67-66-3	Chloroform	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	87-68-3	Hexachlorobutadiene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	79-01-6	Trichloroethene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	108-90-7	Chlorobenzene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	71-55-6	1,1,1-Trichloroethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	79-34-5	1,1,2,2-Tetrachloroethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	75-69-4	Trichlorofluoromethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	75-01-4	Vinyl Chloride	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	1330-20-7	Xylenes (total)	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	541-73-1	1,3-Dichlorobenzene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	108-67-8	1,3,5-Trimethylbenzene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	75-34-3	1,1-Dichloroethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	107-06-2	1,2-Dichloroethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	108-88-3	Toluene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	95-50-1	1,2-Dichlorobenzene	50	ppbv		0	1

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SP-3-6	6	14-Jan-04	106-46-7	1,4-Dichlorobenzene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	106-93-4	1,2-Dibromoethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	120-82-1	1,2,4-Trichlorobenzene	100	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	75-35-4	1,1-Dichloroethene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	78-87-5	1,2-Dichloropropane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	10061-01-5	cis-1,3-Dichloropropene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	71-43-2	Benzene	11000	ppbv		1	1
E	GS	SP-3-6	6	14-Jan-04	74-83-9	Bromomethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	56-23-5	Carbon Tetrachloride	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	108-90-7	Chlorobenzene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	75-00-3	Chloroethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	67-66-3	Chloroform	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	79-01-6	Trichloroethene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	156-59-2	cis-1,2-Dichloroethene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	10061-02-6	trans-1,3-Dichloropropene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	75-71-8	Dichlorodifluoromethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	100-41-4	Ethylbenzene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	87-68-3	Hexachlorobutadiene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	75-09-2	Methylene Chloride	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	100-42-5	Styrene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	127-18-4	Tetrachloroethene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	95-63-6	1,2,4-Trimethylbenzene	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	74-87-3	Chloromethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	50	ppbv		0	1
E	GS	SP-3-6	6	14-Jan-04	79-00-5	1,1,2-Trichloroethane	50	ppbv		0	1
E	GS	SP-3-6	6	23-Jul-07	622-96-8	p-Ethyltoluene	32	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	1634-04-4	Methyl tert-butyl ether	23	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07		Oxygen	2.6	%		1	0
E	GS	SP-3-6	6	23-Jul-07	103-65-1	n-Propylbenzene	32	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07		Nitrogen	60	%		1	0
E	GS	SP-3-6	6	23-Jul-07	142-82-5	n-Heptane	100	ug/L		1	0
E	GS	SP-3-6	6	23-Jul-07	75-09-2	Methylene chloride	22	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	100-42-5	Styrene	27	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	108-05-4	Vinyl Acetate	0	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	91-20-3	Naphthalene	140	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	994-05-8	Tert-amyl methyl ether	110	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	75-65-0	tert-Butyl alcohol	78	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	127-18-4	Tetrachloroethene	44	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	109-99-9	Tetrahydrofuran	19	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	108-88-3	Toluene	24	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07		Toluene-d8	91	%		1	0
E	GS	SP-3-6	6	23-Jul-07	156-60-5	trans-1,2-Dichloroethene	26	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	10061-02-6	trans-1,3-Dichloropropene	29	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	75-69-4	Trichlorofluoromethane	36	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	75-01-4	Vinyl chloride	16	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	79-01-6	Trichloroethene	35	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07		Ethane	0.0026	%		0	0
E	GS	SP-3-6	6	23-Jul-07	95-47-6	o-Xylene	28	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	67-66-3	Chloroform	31	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	74-87-3	Chloromethane	53	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	156-59-2	cis-1,2-Dichloroethene	26	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	10061-01-5	cis-1,3-Dichloropropene	29	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	110-82-7	Cyclohexane	830	ug/L		1	0
E	GS	SP-3-6	6	23-Jul-07	74-82-8	Methane	4.8	%		1	0
E	GS	SP-3-6	6	23-Jul-07	75-71-8	Dichlorodifluoromethane	32	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	64-17-5	Ethanol	49	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07		Ethene	0.0026	%		0	0

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SP-3-6	6	23-Jul-07	637-92-3	Ethyl tert butyl ether	110	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	100-41-4	Ethylbenzene	28	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	87-68-3	Hexachlorobutadiene	280	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	110-54-3	Hexane	1100	ug/L		1	0
E	GS	SP-3-6	6	23-Jul-07	67-63-0	Isopropyl alcohol	63	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	108-20-3	Isopropyl ether	110	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	98-82-8	Isopropylbenzene	32	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	179601-23-1	m,p-Xylenes	28	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	124-48-1	Dibromochloromethane	55	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	100-44-7	Benzyl chloride	33	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	75-27-4	Bromodichloromethane	43	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	75-25-2	Bromoform	67	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	74-83-9	Bromomethane	25	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07		Carbon Dioxide	30	%		1	0
E	GS	SP-3-6	6	23-Jul-07	75-15-0	Carbon Disulfide	20	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07		Carbon Monoxide	0.026	%		0	0
E	GS	SP-3-6	6	23-Jul-07	56-23-5	Carbon tetrachloride	40	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	108-90-7	Chlorobenzene	30	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	75-00-3	Chloroethane	17	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	71-43-2	Benzene	86	ug/L		1	0
E	GS	SP-3-6	6	23-Jul-07	107-05-1	Allyl chloride	81	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	106-46-7	1,4-Dichlorobenzene	39	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	541-73-1	1,3-Dichlorobenzene	39	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	106-99-0	1,3-Butadiene	14	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	96-18-4	1,2,3-Trichloropropane	160	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	123-91-1	1,4-Dioxane	93	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	540-84-1	2,2,4-Trimethylpentane	30	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	78-93-3	2-Butanone	19	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	591-78-6	2-Hexanone	100	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07		4-Bromofluorobenzene	87	%		1	0
E	GS	SP-3-6	6	23-Jul-07	108-10-1	4-Methyl-2-pentanone	26	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	180	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	67-64-1	Acetone	140	ug/L		1	0
E	GS	SP-3-6	6	23-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	44	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	75-35-4	1,1-Dichloroethene	26	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	75-34-3	1,1-Dichloroethane	26	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	79-00-5	1,1,2-Trichloroethane	35	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	49	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	120-82-1	1,2,4-Trichlorobenzene	190	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	71-55-6	1,1,1-Trichloroethane	35	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	106-93-4	1,2-Dibromoethane	50	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	108-67-8	1,3,5-Trimethylbenzene	32	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	45	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	95-50-1	1,2-Dichlorobenzene	39	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	107-06-2	1,2-Dichloroethane	26	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07		1,2-Dichloroethane-d4	110	%		1	0
E	GS	SP-3-6	6	23-Jul-07	78-87-5	1,2-Dichloropropane	30	ug/L		0	0
E	GS	SP-3-6	6	23-Jul-07	95-63-6	1,2,4-Trimethylbenzene	32	ug/L		0	0
E	GS	SV-39-06	6	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	62	ug/L	62	1	1
E	GS	SV-39-06	6	20-Jul-07	75-25-2	Bromoform	0.71	ug/L	0.71	0	1
E	GS	SV-39-06	6	20-Jul-07	106-93-4	1,2-Dibromoethane	0.53	ug/L	0.53	0	1
E	GS	SV-39-06	6	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.48	ug/L	0.48	0	1
E	GS	SV-39-06	6	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.41	ug/L	0.41	0	1
E	GS	SV-39-06	6	20-Jul-07	107-06-2	1,2-Dichloroethane	0.44	ug/L	0.44	1	1
E	GS	SV-39-06	6	20-Jul-07	78-87-5	1,2-Dichloropropane	0.32	ug/L	0.32	0	1
E	GS	SV-39-06	6	20-Jul-07	95-47-6	o-Xylene	0.38	ug/L	0.38	1	1
E	GS	SV-39-06	6	20-Jul-07	106-99-0	1,3-Butadiene	0.15	ug/L	0.15	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-39-06	6	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.41	ug/L	0.41	0	1
E	GS	SV-39-06	6	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	2	ug/L	2	0	1
E	GS	SV-39-06	6	20-Jul-07	123-91-1	1,4-Dioxane	0.99	ug/L	0.99	0	1
E	GS	SV-39-06	6	20-Jul-07	96-18-4	1,2,3-Trichloropropane	1.7	ug/L	1.7	0	1
E	GS	SV-39-06	6	20-Jul-07	78-93-3	2-Butanone	0.2	ug/L	0.2	0	1
E	GS	SV-39-06	6	20-Jul-07	591-78-6	2-Hexanone	1.1	ug/L	1.1	0	1
E	GS	SV-39-06	6	20-Jul-07		4-Bromofluorobenzene	80	%		1	1
E	GS	SV-39-06	6	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.28	ug/L	0.28	0	1
E	GS	SV-39-06	6	20-Jul-07	67-64-1	Acetone	0.66	ug/L	0.66	0	1
E	GS	SV-39-06	6	20-Jul-07	107-05-1	Allyl chloride	0.86	ug/L	0.86	0	1
E	GS	SV-39-06	6	20-Jul-07	71-43-2	Benzene	1.4	ug/L	1.4	1	1
E	GS	SV-39-06	6	20-Jul-07	100-44-7	Benzyl chloride	0.36	ug/L	0.36	0	1
E	GS	SV-39-06	6	20-Jul-07	75-27-4	Bromodichloromethane	0.46	ug/L	0.46	0	1
E	GS	SV-39-06	6	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.41	ug/L	0.41	0	1
E	GS	SV-39-06	6	20-Jul-07	75-65-0	tert-Butyl alcohol	0.84	ug/L	0.84	0	1
E	GS	SV-39-06	6	20-Jul-07	622-96-8	p-Ethyltoluene	0.37	ug/L	0.37	1	1
E	GS	SV-39-06	6	20-Jul-07	75-01-4	Vinyl chloride	0.18	ug/L	0.18	0	1
E	GS	SV-39-06	6	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
E	GS	SV-39-06	6	20-Jul-07	75-69-4	Trichlorofluoromethane	0.39	ug/L	0.39	0	1
E	GS	SV-39-06	6	20-Jul-07	79-01-6	Trichloroethene	0.37	ug/L	0.37	0	1
E	GS	SV-39-06	6	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.31	ug/L	0.31	0	1
E	GS	SV-39-06	6	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.27	ug/L	0.27	0	1
E	GS	SV-39-06	6	20-Jul-07		Toluene-d8	91	%		1	1
E	GS	SV-39-06	6	20-Jul-07	108-88-3	Toluene	1.3	ug/L	1.3	1	1
E	GS	SV-39-06	6	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.51	ug/L	0.51	1	1
E	GS	SV-39-06	6	20-Jul-07	127-18-4	Tetrachloroethene	0.47	ug/L	0.47	0	1
E	GS	SV-39-06	6	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.34	ug/L	0.34	0	1
E	GS	SV-39-06	6	20-Jul-07	994-05-8	Tert-amyl methyl ether	1.2	ug/L	1.2	0	1
E	GS	SV-39-06	6	20-Jul-07	100-42-5	Styrene	0.29	ug/L	0.29	0	1
E	GS	SV-39-06	6	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	1.9	ug/L	1.9	0	1
E	GS	SV-39-06	6	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.38	ug/L	0.38	0	1
E	GS	SV-39-06	6	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.47	ug/L	0.47	0	1
E	GS	SV-39-06	6	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.53	ug/L	0.53	0	1
E	GS	SV-39-06	6	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.38	ug/L	0.38	0	1
E	GS	SV-39-06	6	20-Jul-07	75-34-3	1,1-Dichloroethane	0.28	ug/L	0.28	0	1
E	GS	SV-39-06	6	20-Jul-07	75-35-4	1,1-Dichloroethene	0.27	ug/L	0.27	0	1
E	GS	SV-39-06	6	20-Jul-07	109-99-9	Tetrahydrofuran	0.2	ug/L	0.2	0	1
E	GS	SV-39-06	6	20-Jul-07	75-09-2	Methylene chloride	0.24	ug/L	0.24	0	1
E	GS	SV-39-06	6	20-Jul-07	100-41-4	Ethylbenzene	0.61	ug/L	0.61	1	1
E	GS	SV-39-06	6	20-Jul-07	87-68-3	Hexachlorobutadiene	2.9	ug/L	2.9	0	1
E	GS	SV-39-06	6	20-Jul-07	110-54-3	Hexane	29	ug/L	29	1	1
E	GS	SV-39-06	6	20-Jul-07	67-63-0	Isopropyl alcohol	0.68	ug/L	0.68	0	1
E	GS	SV-39-06	6	20-Jul-07	108-20-3	Isopropyl ether	1.2	ug/L	1.2	0	1
E	GS	SV-39-06	6	20-Jul-07	98-82-8	Isopropylbenzene	1.7	ug/L	1.7	1	1
E	GS	SV-39-06	6	20-Jul-07	637-92-3	Ethyl tert butyl ether	1.2	ug/L	1.2	0	1
E	GS	SV-39-06	6	20-Jul-07	74-82-8	Methane	0.19	%		1	1
E	GS	SV-39-06	6	20-Jul-07	1634-04-4	Methyl tert-butyl ether	1.1	ug/L	1.1	1	1
E	GS	SV-39-06	6	20-Jul-07	142-82-5	n-Heptane	27	ug/L	27	1	1
E	GS	SV-39-06	6	20-Jul-07		Nitrogen	93	%		1	1
E	GS	SV-39-06	6	20-Jul-07	103-65-1	n-Propylbenzene	1.5	ug/L	1.5	1	1
E	GS	SV-39-06	6	20-Jul-07		Oxygen	2.2	%		1	1
E	GS	SV-39-06	6	20-Jul-07	74-83-9	Bromomethane	0.27	ug/L	0.27	0	1
E	GS	SV-39-06	6	20-Jul-07		1,2-Dichloroethane-d4	147	%		1	1
E	GS	SV-39-06	6	20-Jul-07	179601-23-1	m,p-Xylenes	1.3	ug/L	1.3	1	1
E	GS	SV-39-06	6	20-Jul-07	75-00-3	Chloroethane	0.18	ug/L	0.18	0	1
E	GS	SV-39-06	6	20-Jul-07		Carbon Dioxide	4.6	%		1	1
E	GS	SV-39-06	6	20-Jul-07	75-15-0	Carbon Disulfide	0.21	ug/L	0.21	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-39-06	6	20-Jul-07	91-20-3	Naphthalene	1.4	ug/L	1.4	0	1
E	GS	SV-39-06	6	20-Jul-07		Ethene	0.017	%		0	1
E	GS	SV-39-06	6	20-Jul-07		Carbon Monoxide	0.17	%		0	1
E	GS	SV-39-06	6	20-Jul-07	108-90-7	Chlorobenzene	0.32	ug/L	0.32	0	1
E	GS	SV-39-06	6	20-Jul-07	67-66-3	Chloroform	0.34	ug/L	0.34	0	1
E	GS	SV-39-06	6	20-Jul-07	74-87-3	Chloromethane	0.57	ug/L	0.57	0	1
E	GS	SV-39-06	6	20-Jul-07	124-48-1	Dibromochloromethane	0.59	ug/L	0.59	0	1
E	GS	SV-39-06	6	20-Jul-07	64-17-5	Ethanol	0.52	ug/L	0.52	0	1
E	GS	SV-39-06	6	20-Jul-07		Ethane	0.017	%		0	1
E	GS	SV-39-06	6	20-Jul-07	56-23-5	Carbon tetrachloride	0.43	ug/L	0.43	0	1
E	GS	SV-39-06	6	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.34	ug/L	0.34	0	1
E	GS	SV-39-06	6	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.27	ug/L		0	1
E	GS	SV-39-06	6	20-Jul-07	110-82-7	Cyclohexane	17	ug/L	17	1	1
E	GS	SV-39-06	6	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.31	ug/L	0.31	0	1
E	GS	SV-39-15	15	20-Jul-07	110-82-7	Cyclohexane	180	ug/L	180	1	1
E	GS	SV-39-15	15	20-Jul-07	637-92-3	Ethyl tert butyl ether	16	ug/L	16	0	1
E	GS	SV-39-15	15	20-Jul-07	56-23-5	Carbon tetrachloride	6.1	ug/L	6.1	0	1
E	GS	SV-39-15	15	20-Jul-07	100-41-4	Ethylbenzene	4.2	ug/L	4.2	0	1
E	GS	SV-39-15	15	20-Jul-07	64-17-5	Ethanol	7.3	ug/L	7.3	0	1
E	GS	SV-39-15	15	20-Jul-07	87-68-3	Hexachlorobutadiene	41	ug/L	41	0	1
E	GS	SV-39-15	15	20-Jul-07		Ethane	0.0044	%		1	1
E	GS	SV-39-15	15	20-Jul-07	110-54-3	Hexane	150	ug/L	150	1	1
E	GS	SV-39-15	15	20-Jul-07	75-71-8	Dichlorodifluoromethane	4.8	ug/L	4.8	0	1
E	GS	SV-39-15	15	20-Jul-07	124-48-1	Dibromochloromethane	8.3	ug/L	8.3	0	1
E	GS	SV-39-15	15	20-Jul-07		Ethene	0.0024	%		0	1
E	GS	SV-39-15	15	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	4.4	ug/L	4.4	0	1
E	GS	SV-39-15	15	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	3.8	ug/L		0	1
E	GS	SV-39-15	15	20-Jul-07	74-87-3	Chloromethane	8	ug/L	8	0	1
E	GS	SV-39-15	15	20-Jul-07	67-66-3	Chloroform	4.7	ug/L	4.7	0	1
E	GS	SV-39-15	15	20-Jul-07	75-00-3	Chloroethane	2.6	ug/L	2.6	0	1
E	GS	SV-39-15	15	20-Jul-07	100-42-5	Styrene	4.1	ug/L	4.1	0	1
E	GS	SV-39-15	15	20-Jul-07		Carbon Monoxide	0.024	%		0	1
E	GS	SV-39-15	15	20-Jul-07	75-15-0	Carbon Disulfide	3	ug/L	3	0	1
E	GS	SV-39-15	15	20-Jul-07	67-63-0	Isopropyl alcohol	9.5	ug/L	9.5	0	1
E	GS	SV-39-15	15	20-Jul-07	79-01-6	Trichloroethene	5.2	ug/L	5.2	0	1
E	GS	SV-39-15	15	20-Jul-07		Carbon Dioxide	14	%		1	1
E	GS	SV-39-15	15	20-Jul-07	108-90-7	Chlorobenzene	4.5	ug/L	4.5	0	1
E	GS	SV-39-15	15	20-Jul-07	75-65-0	tert-Butyl alcohol	37	ug/L	37	1	1
E	GS	SV-39-15	15	20-Jul-07	74-83-9	Bromomethane	3.8	ug/L	3.8	0	1
E	GS	SV-39-15	15	20-Jul-07	95-47-6	o-Xylene	4.2	ug/L	4.2	0	1
E	GS	SV-39-15	15	20-Jul-07		Oxygen	5	%		1	1
E	GS	SV-39-15	15	20-Jul-07	75-01-4	Vinyl chloride	2.5	ug/L	2.5	0	1
E	GS	SV-39-15	15	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
E	GS	SV-39-15	15	20-Jul-07	75-69-4	Trichlorofluoromethane	5.4	ug/L	5.4	0	1
E	GS	SV-39-15	15	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	4.4	ug/L	4.4	0	1
E	GS	SV-39-15	15	20-Jul-07		Toluene-d8	95	%		1	1
E	GS	SV-39-15	15	20-Jul-07	108-88-3	Toluene	19	ug/L	19	1	1
E	GS	SV-39-15	15	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	3.8	ug/L	3.8	0	1
E	GS	SV-39-15	15	20-Jul-07	127-18-4	Tetrachloroethene	6.6	ug/L	6.6	0	1
E	GS	SV-39-15	15	20-Jul-07	108-20-3	Isopropyl ether	16	ug/L	16	0	1
E	GS	SV-39-15	15	20-Jul-07	994-05-8	Tert-amyl methyl ether	16	ug/L	16	0	1
E	GS	SV-39-15	15	20-Jul-07	103-65-1	n-Propylbenzene	4.8	ug/L	4.8	0	1
E	GS	SV-39-15	15	20-Jul-07		Nitrogen	52	%		1	1
E	GS	SV-39-15	15	20-Jul-07	142-82-5	n-Heptane	24	ug/L	24	1	1
E	GS	SV-39-15	15	20-Jul-07	91-20-3	Naphthalene	20	ug/L	20	0	1
E	GS	SV-39-15	15	20-Jul-07	75-09-2	Methylene chloride	3.5	ug/L	3.5	1	1
E	GS	SV-39-15	15	20-Jul-07	1634-04-4	Methyl tert-butyl ether	3.5	ug/L	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-39-15	15	20-Jul-07	74-82-8	Methane	28	%		1	1
E	GS	SV-39-15	15	20-Jul-07	179601-23-1	m,p-Xylenes	4.2	ug/L	4.2	0	1
E	GS	SV-39-15	15	20-Jul-07	98-82-8	Isopropylbenzene	4.8	ug/L	4.8	0	1
E	GS	SV-39-15	15	20-Jul-07	109-99-9	Tetrahydrofuran	2.9	ug/L	2.9	0	1
E	GS	SV-39-15	15	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	7.4	ug/L	7.4	0	1
E	GS	SV-39-15	15	20-Jul-07	107-06-2	1,2-Dichloroethane	3.9	ug/L	3.9	0	1
E	GS	SV-39-15	15	20-Jul-07	95-50-1	1,2-Dichlorobenzene	5.8	ug/L	5.8	0	1
E	GS	SV-39-15	15	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	6.8	ug/L	6.8	0	1
E	GS	SV-39-15	15	20-Jul-07	106-93-4	1,2-Dibromoethane	7.4	ug/L	7.4	0	1
E	GS	SV-39-15	15	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	4.8	ug/L	4.8	0	1
E	GS	SV-39-15	15	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	29	ug/L	29	0	1
E	GS	SV-39-15	15	20-Jul-07		1,2-Dichloroethane-d4	112	%		1	1
E	GS	SV-39-15	15	20-Jul-07	75-34-3	1,1-Dichloroethane	3.9	ug/L	3.9	0	1
E	GS	SV-39-15	15	20-Jul-07	75-35-4	1,1-Dichloroethene	3.8	ug/L	3.8	0	1
E	GS	SV-39-15	15	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	6.6	ug/L	6.6	0	1
E	GS	SV-39-15	15	20-Jul-07	71-55-6	1,1,1-Trichloroethane	5.3	ug/L	5.3	0	1
E	GS	SV-39-15	15	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	27	ug/L	27	0	1
E	GS	SV-39-15	15	20-Jul-07	622-96-8	p-Ethyltoluene	4.8	ug/L	4.8	0	1
E	GS	SV-39-15	15	20-Jul-07	67-64-1	Acetone	91	ug/L	91	1	1
E	GS	SV-39-15	15	20-Jul-07	75-25-2	Bromoform	10	ug/L	10	0	1
E	GS	SV-39-15	15	20-Jul-07	96-18-4	1,2,3-Trichloropropane	23	ug/L	23	0	1
E	GS	SV-39-15	15	20-Jul-07		4-Bromofluorobenzene	88	%		1	1
E	GS	SV-39-15	15	20-Jul-07	100-44-7	Benzyl chloride	5	ug/L	5	0	1
E	GS	SV-39-15	15	20-Jul-07	79-00-5	1,1,2-Trichloroethane	5.3	ug/L	5.3	0	1
E	GS	SV-39-15	15	20-Jul-07	78-87-5	1,2-Dichloropropane	4.5	ug/L	4.5	0	1
E	GS	SV-39-15	15	20-Jul-07	71-43-2	Benzene	13	ug/L	13	1	1
E	GS	SV-39-15	15	20-Jul-07	107-05-1	Allyl chloride	12	ug/L	12	0	1
E	GS	SV-39-15	15	20-Jul-07	75-27-4	Bromodichloromethane	6.5	ug/L	6.5	0	1
E	GS	SV-39-15	15	20-Jul-07	591-78-6	2-Hexanone	16	ug/L	16	0	1
E	GS	SV-39-15	15	20-Jul-07	106-46-7	1,4-Dichlorobenzene	5.8	ug/L	5.8	0	1
E	GS	SV-39-15	15	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	4.8	ug/L	4.8	0	1
E	GS	SV-39-15	15	20-Jul-07	106-99-0	1,3-Butadiene	2.1	ug/L	2.1	0	1
E	GS	SV-39-15	15	20-Jul-07	108-10-1	4-Methyl-2-pentanone	4	ug/L	4	0	1
E	GS	SV-39-15	15	20-Jul-07	541-73-1	1,3-Dichlorobenzene	5.8	ug/L	5.8	0	1
E	GS	SV-39-15	15	20-Jul-07	123-91-1	1,4-Dioxane	14	ug/L	14	0	1
E	GS	SV-39-15	15	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	4.5	ug/L	4.5	0	1
E	GS	SV-39-15	15	20-Jul-07	78-93-3	2-Butanone	6.8	ug/L	6.8	1	1
E	GS	SV-43-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
E	GS	SV-43-05	5	19-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
E	GS	SV-43-05	5	19-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
E	GS	SV-43-05	5	19-Jul-07		4-Bromofluorobenzene	106	%		1	1
E	GS	SV-43-05	5	19-Jul-07	67-64-1	Acetone	0.035	ug/L	0.035	1	1
E	GS	SV-43-05	5	19-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
E	GS	SV-43-05	5	19-Jul-07	71-43-2	Benzene	0.0041	ug/L	0.0041	0	1
E	GS	SV-43-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
E	GS	SV-43-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.0086	ug/L	0.0086	0	1
E	GS	SV-43-05	5	19-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
E	GS	SV-43-05	5	19-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
E	GS	SV-43-05	5	19-Jul-07		Carbon Dioxide	2.2	%		1	1
E	GS	SV-43-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.004	ug/L	0.004	0	1
E	GS	SV-43-05	5	19-Jul-07		Carbon Monoxide	0.026	%		0	1
E	GS	SV-43-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
E	GS	SV-43-05	5	19-Jul-07	67-66-3	Chloroform	0.0063	ug/L	0.0063	0	1
E	GS	SV-43-05	5	19-Jul-07	78-93-3	2-Butanone	0.069	ug/L	0.069	1	1
E	GS	SV-43-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
E	GS	SV-43-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
E	GS	SV-43-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0098	ug/L	0.0098	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-43-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
E	GS	SV-43-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
E	GS	SV-43-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
E	GS	SV-43-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
E	GS	SV-43-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
E	GS	SV-43-05	5	19-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
E	GS	SV-43-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
E	GS	SV-43-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
E	GS	SV-43-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
E	GS	SV-43-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
E	GS	SV-43-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.006	ug/L	0.006	0	1
E	GS	SV-43-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
E	GS	SV-43-05	5	19-Jul-07		1,2-Dichloroethane-d4	109	%		1	1
E	GS	SV-43-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
E	GS	SV-43-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
E	GS	SV-43-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
E	GS	SV-43-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
E	GS	SV-43-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
E	GS	SV-43-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
E	GS	SV-43-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
E	GS	SV-43-05	5	19-Jul-07	108-88-3	Toluene	0.0053	ug/L	0.0053	1	1
E	GS	SV-43-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.0063	ug/L	0.0063	1	1
E	GS	SV-43-05	5	19-Jul-07	95-47-6	o-Xylene	0.0056	ug/L	0.0056	0	1
E	GS	SV-43-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.0063	ug/L	0.0063	0	1
E	GS	SV-43-05	5	19-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
E	GS	SV-43-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
E	GS	SV-43-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
E	GS	SV-43-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
E	GS	SV-43-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.0063	ug/L	0.0063	0	1
E	GS	SV-43-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.0038	ug/L	0.0038	0	1
E	GS	SV-43-05	5	19-Jul-07		Nitrogen	79	%		1	1
E	GS	SV-43-05	5	19-Jul-07		Toluene-d8	96	%		1	1
E	GS	SV-43-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
E	GS	SV-43-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
E	GS	SV-43-05	5	19-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
E	GS	SV-43-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
E	GS	SV-43-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
E	GS	SV-43-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
E	GS	SV-43-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
E	GS	SV-43-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1
E	GS	SV-43-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
E	GS	SV-43-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
E	GS	SV-43-05	5	19-Jul-07	110-82-7	Cyclohexane	0.0074	ug/L	0.0074	1	1
E	GS	SV-43-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
E	GS	SV-43-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
E	GS	SV-43-05	5	19-Jul-07		Ethane	0.0026	%		0	1
E	GS	SV-43-05	5	19-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
E	GS	SV-43-05	5	19-Jul-07		Ethene	0.0026	%		0	1
E	GS	SV-43-05	5	19-Jul-07		Oxygen	19	%		1	1
E	GS	SV-43-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.0056	ug/L	0.0056	0	1
E	GS	SV-43-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
E	GS	SV-43-05	5	19-Jul-07	110-54-3	Hexane	0.0045	ug/L	0.0045	0	1
E	GS	SV-43-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
E	GS	SV-43-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
E	GS	SV-43-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1
E	GS	SV-43-05	5	19-Jul-07	74-82-8	Methane	0.0012	%		1	1
E	GS	SV-43-05	5	19-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-43-05	5	19-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
E	GS	SV-43-05	5	19-Jul-07	142-82-5	n-Heptane	0.0053	ug/L	0.0053	0	1
E	GS	SV-43-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
E	GS	SV-43-14	14	19-Jul-07	75-27-4	Bromodichloromethane	3.4	ug/L	3.4	0	1
E	GS	SV-43-14	14	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/L		0	1
E	GS	SV-43-14	14	19-Jul-07	78-93-3	2-Butanone	1.5	ug/L	1.5	0	1
E	GS	SV-43-14	14	19-Jul-07	591-78-6	2-Hexanone	8.4	ug/L	8.4	0	1
E	GS	SV-43-14	14	19-Jul-07		4-Bromofluorobenzene	103	%		1	1
E	GS	SV-43-14	14	19-Jul-07	108-10-1	4-Methyl-2-pentanone	2.1	ug/L	2.1	0	1
E	GS	SV-43-14	14	19-Jul-07	67-64-1	Acetone	4.9	ug/L	4.9	0	1
E	GS	SV-43-14	14	19-Jul-07	107-05-1	Allyl chloride	6.4	ug/L	6.4	0	1
E	GS	SV-43-14	14	19-Jul-07	123-91-1	1,4-Dioxane	7.4	ug/L	7.4	0	1
E	GS	SV-43-14	14	19-Jul-07	100-44-7	Benzyl chloride	2.7	ug/L	2.7	0	1
E	GS	SV-43-14	14	19-Jul-07	106-46-7	1,4-Dichlorobenzene	3.1	ug/L	3.1	0	1
E	GS	SV-43-14	14	19-Jul-07	75-25-2	Bromoform	5.3	ug/L	5.3	0	1
E	GS	SV-43-14	14	19-Jul-07	74-83-9	Bromomethane	2	ug/L	2	0	1
E	GS	SV-43-14	14	19-Jul-07		Carbon Dioxide	18	%		1	1
E	GS	SV-43-14	14	19-Jul-07	75-15-0	Carbon Disulfide	1.6	ug/L	1.6	0	1
E	GS	SV-43-14	14	19-Jul-07		Carbon Monoxide	0.026	%		0	1
E	GS	SV-43-14	14	19-Jul-07	56-23-5	Carbon tetrachloride	3.2	ug/L	3.2	0	1
E	GS	SV-43-14	14	19-Jul-07	108-90-7	Chlorobenzene	2.4	ug/L	2.4	0	1
E	GS	SV-43-14	14	19-Jul-07	75-00-3	Chloroethane	1.4	ug/L	1.4	0	1
E	GS	SV-43-14	14	19-Jul-07	71-43-2	Benzene	1.6	ug/L	1.6	0	1
E	GS	SV-43-14	14	19-Jul-07	106-93-4	1,2-Dibromoethane	4	ug/L	4	0	1
E	GS	SV-43-14	14	19-Jul-07	71-55-6	1,1,1-Trichloroethane	2.8	ug/L	2.8	0	1
E	GS	SV-43-14	14	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	3.5	ug/L	3.5	0	1
E	GS	SV-43-14	14	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	3.9	ug/L	3.9	0	1
E	GS	SV-43-14	14	19-Jul-07	79-00-5	1,1,2-Trichloroethane	2.8	ug/L	2.8	0	1
E	GS	SV-43-14	14	19-Jul-07	75-34-3	1,1-Dichloroethane	2.1	ug/L	2.1	0	1
E	GS	SV-43-14	14	19-Jul-07	75-35-4	1,1-Dichloroethene	2	ug/L	2	0	1
E	GS	SV-43-14	14	19-Jul-07	96-18-4	1,2,3-Trichloropropane	12	ug/L	12	0	1
E	GS	SV-43-14	14	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	480	ug/L	480	1	1
E	GS	SV-43-14	14	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	18	ug/L	18	1	1
E	GS	SV-43-14	14	19-Jul-07	74-87-3	Chloromethane	4.2	ug/L	4.2	0	1
E	GS	SV-43-14	14	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	3.6	ug/L	3.6	0	1
E	GS	SV-43-14	14	19-Jul-07	95-50-1	1,2-Dichlorobenzene	3.1	ug/L	3.1	0	1
E	GS	SV-43-14	14	19-Jul-07	107-06-2	1,2-Dichloroethane	2.1	ug/L	2.1	0	1
E	GS	SV-43-14	14	19-Jul-07		1,2-Dichloroethane-d4	228	%		1	1
E	GS	SV-43-14	14	19-Jul-07	78-87-5	1,2-Dichloropropane	2.4	ug/L	2.4	0	1
E	GS	SV-43-14	14	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	7.7	ug/L	7.7	1	1
E	GS	SV-43-14	14	19-Jul-07	106-99-0	1,3-Butadiene	1.1	ug/L	1.1	0	1
E	GS	SV-43-14	14	19-Jul-07	541-73-1	1,3-Dichlorobenzene	3.1	ug/L	3.1	0	1
E	GS	SV-43-14	14	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	15	ug/L	15	0	1
E	GS	SV-43-14	14	19-Jul-07	109-99-9	Tetrahydrofuran	1.5	ug/L	1.5	0	1
E	GS	SV-43-14	14	19-Jul-07		Nitrogen	69	%		1	1
E	GS	SV-43-14	14	19-Jul-07	103-65-1	n-Propylbenzene	14	ug/L	14	1	1
E	GS	SV-43-14	14	19-Jul-07		Oxygen	2.3	%		1	1
E	GS	SV-43-14	14	19-Jul-07	95-47-6	o-Xylene	2.2	ug/L	2.2	0	1
E	GS	SV-43-14	14	19-Jul-07	622-96-8	p-Ethyltoluene	3.1	ug/L	3.1	1	1
E	GS	SV-43-14	14	19-Jul-07	100-42-5	Styrene	2.2	ug/L	2.2	0	1
E	GS	SV-43-14	14	19-Jul-07	994-05-8	Tert-amyl methyl ether	8.6	ug/L	8.6	0	1
E	GS	SV-43-14	14	19-Jul-07	91-20-3	Naphthalene	11	ug/L	11	0	1
E	GS	SV-43-14	14	19-Jul-07	127-18-4	Tetrachloroethene	3.5	ug/L	3.5	0	1
E	GS	SV-43-14	14	19-Jul-07	75-09-2	Methylene chloride	1.8	ug/L	1.8	0	1
E	GS	SV-43-14	14	19-Jul-07	108-88-3	Toluene	1.9	ug/L	1.9	0	1
E	GS	SV-43-14	14	19-Jul-07		Toluene-d8	97	%		1	1
E	GS	SV-43-14	14	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/L	2	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-43-14	14	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.3	ug/L	2.3	0	1
E	GS	SV-43-14	14	19-Jul-07	79-01-6	Trichloroethene	2.8	ug/L	2.8	0	1
E	GS	SV-43-14	14	19-Jul-07	75-69-4	Trichlorofluoromethane	2.9	ug/L	2.9	0	1
E	GS	SV-43-14	14	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
E	GS	SV-43-14	14	19-Jul-07	75-01-4	Vinyl chloride	1.3	ug/L	1.3	0	1
E	GS	SV-43-14	14	19-Jul-07	75-65-0	tert-Butyl alcohol	6.2	ug/L	6.2	0	1
E	GS	SV-43-14	14	19-Jul-07	87-68-3	Hexachlorobutadiene	22	ug/L	22	0	1
E	GS	SV-43-14	14	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	14	ug/L	14	0	1
E	GS	SV-43-14	14	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.3	ug/L	2.3	0	1
E	GS	SV-43-14	14	19-Jul-07	110-82-7	Cyclohexane	590	ug/L	590	1	1
E	GS	SV-43-14	14	19-Jul-07	124-48-1	Dibromochloromethane	4.4	ug/L	4.4	0	1
E	GS	SV-43-14	14	19-Jul-07	75-71-8	Dichlorodifluoromethane	2.5	ug/L	2.5	0	1
E	GS	SV-43-14	14	19-Jul-07		Ethane	0.0026	%		0	1
E	GS	SV-43-14	14	19-Jul-07	64-17-5	Ethanol	3.9	ug/L	3.9	0	1
E	GS	SV-43-14	14	19-Jul-07		Ethene	0.0026	%		0	1
E	GS	SV-43-14	14	19-Jul-07	142-82-5	n-Heptane	2.1	ug/L	2.1	0	1
E	GS	SV-43-14	14	19-Jul-07	100-41-4	Ethylbenzene	51	ug/L	51	1	1
E	GS	SV-43-14	14	19-Jul-07	67-66-3	Chloroform	2.5	ug/L	2.5	0	1
E	GS	SV-43-14	14	19-Jul-07	110-54-3	Hexane	9.5	ug/L	9.5	1	1
E	GS	SV-43-14	14	19-Jul-07	67-63-0	Isopropyl alcohol	5.1	ug/L	5.1	0	1
E	GS	SV-43-14	14	19-Jul-07	108-20-3	Isopropyl ether	8.6	ug/L	8.6	0	1
E	GS	SV-43-14	14	19-Jul-07	98-82-8	Isopropylbenzene	14	ug/L	14	1	1
E	GS	SV-43-14	14	19-Jul-07	179601-23-1	m,p-Xylenes	4.6	ug/L	4.6	1	1
E	GS	SV-43-14	14	19-Jul-07	74-82-8	Methane	10	%		1	1
E	GS	SV-43-14	14	19-Jul-07	1634-04-4	Methyl tert-butyl ether	1.8	ug/L	1.8	0	1
E	GS	SV-43-14	14	19-Jul-07	637-92-3	Ethyl tert butyl ether	8.6	ug/L	8.6	0	1
E	GS	SV-60-05	5	19-Jul-07	110-54-3	Hexane	71	ug/L	71	1	1
E	GS	SV-60-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	2.6	ug/L	2.6	0	1
E	GS	SV-60-05	5	19-Jul-07	108-20-3	Isopropyl ether	4.5	ug/L	4.5	0	1
E	GS	SV-60-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	11	ug/L	11	0	1
E	GS	SV-60-05	5	19-Jul-07	98-82-8	Isopropylbenzene	1.3	ug/L	1.3	0	1
E	GS	SV-60-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	1.2	ug/L	1.2	0	1
E	GS	SV-60-05	5	19-Jul-07	74-82-8	Methane	0.24	%		1	1
E	GS	SV-60-05	5	19-Jul-07	100-41-4	Ethylbenzene	1.2	ug/L	1.2	0	1
E	GS	SV-60-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	4.5	ug/L	4.5	0	1
E	GS	SV-60-05	5	19-Jul-07		Ethene	0.0027	%		0	1
E	GS	SV-60-05	5	19-Jul-07		Ethane	0.0027	%		0	1
E	GS	SV-60-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.97	ug/L	0.97	0	1
E	GS	SV-60-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	1.1	ug/L	1.1	0	1
E	GS	SV-60-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	1.2	ug/L	1.2	0	1
E	GS	SV-60-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	1.3	ug/L	1.3	0	1
E	GS	SV-60-05	5	19-Jul-07	110-82-7	Cyclohexane	63	ug/L	63	1	1
E	GS	SV-60-05	5	19-Jul-07	124-48-1	Dibromochloromethane	2.3	ug/L	2.3	0	1
E	GS	SV-60-05	5	19-Jul-07	64-17-5	Ethanol	2	ug/L	2	0	1
E	GS	SV-60-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	4.5	ug/L	4.5	0	1
E	GS	SV-60-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	1.5	ug/L	1.5	0	1
E	GS	SV-60-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.69	ug/L	0.69	0	1
E	GS	SV-60-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	1.3	ug/L	1.3	0	1
E	GS	SV-60-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	1.1	ug/L		0	1
E	GS	SV-60-05	5	19-Jul-07	79-01-6	Trichloroethene	1.4	ug/L	1.4	0	1
E	GS	SV-60-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	1.2	ug/L	1.2	0	1
E	GS	SV-60-05	5	19-Jul-07		Toluene-d8	96	%		1	1
E	GS	SV-60-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.79	ug/L	0.79	0	1
E	GS	SV-60-05	5	19-Jul-07	108-88-3	Toluene	1	ug/L	1	0	1
E	GS	SV-60-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	3.3	ug/L	3.3	0	1
E	GS	SV-60-05	5	19-Jul-07	75-09-2	Methylene chloride	0.93	ug/L	0.93	0	1
E	GS	SV-60-05	5	19-Jul-07	100-42-5	Styrene	1.1	ug/L	1.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-60-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	1.3	ug/L	1.3	0	1
E	GS	SV-60-05	5	19-Jul-07	95-47-6	o-Xylene	1.2	ug/L	1.2	0	1
E	GS	SV-60-05	5	19-Jul-07		Oxygen	5.6	%		1	1
E	GS	SV-60-05	5	19-Jul-07	103-65-1	n-Propylbenzene	1.6	ug/L	1.6	1	1
E	GS	SV-60-05	5	19-Jul-07		Nitrogen	81	%		1	1
E	GS	SV-60-05	5	19-Jul-07	142-82-5	n-Heptane	28	ug/L	28	1	1
E	GS	SV-60-05	5	19-Jul-07	91-20-3	Naphthalene	5.6	ug/L	5.6	0	1
E	GS	SV-60-05	5	19-Jul-07	127-18-4	Tetrachloroethene	1.8	ug/L	1.8	0	1
E	GS	SV-60-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	8	ug/L	8	0	1
E	GS	SV-60-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	1.9	ug/L	1.9	0	1
E	GS	SV-60-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.6	ug/L	0.6	0	1
E	GS	SV-60-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	1.3	ug/L	1.3	0	1
E	GS	SV-60-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	1.2	ug/L	1.2	0	1
E	GS	SV-60-05	5	19-Jul-07		1,2-Dichloroethane-d4	143	%		1	1
E	GS	SV-60-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	1.1	ug/L	1.1	0	1
E	GS	SV-60-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	1.6	ug/L	1.6	0	1
E	GS	SV-60-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	1.6	ug/L	1.6	0	1
E	GS	SV-60-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	2.1	ug/L	2.1	0	1
E	GS	SV-60-05	5	19-Jul-07	123-91-1	1,4-Dioxane	3.9	ug/L	3.9	0	1
E	GS	SV-60-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	6.5	ug/L	6.5	0	1
E	GS	SV-60-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	1.1	ug/L	1.1	0	1
E	GS	SV-60-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	1.1	ug/L	1.1	0	1
E	GS	SV-60-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	1.5	ug/L	1.5	0	1
E	GS	SV-60-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.1	ug/L	2.1	0	1
E	GS	SV-60-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	1.8	ug/L	1.8	0	1
E	GS	SV-60-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	7.4	ug/L	7.4	0	1
E	GS	SV-60-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	1.5	ug/L	1.5	0	1
E	GS	SV-60-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
E	GS	SV-60-05	5	19-Jul-07	100-44-7	Benzyl chloride	1.4	ug/L	1.4	0	1
E	GS	SV-60-05	5	19-Jul-07	108-90-7	Chlorobenzene	1.2	ug/L	1.2	0	1
E	GS	SV-60-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	1.7	ug/L	1.7	0	1
E	GS	SV-60-05	5	19-Jul-07		Carbon Monoxide	0.027	%		0	1
E	GS	SV-60-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.84	ug/L	0.84	0	1
E	GS	SV-60-05	5	19-Jul-07		Carbon Dioxide	13	%		1	1
E	GS	SV-60-05	5	19-Jul-07	74-83-9	Bromomethane	1	ug/L	1	0	1
E	GS	SV-60-05	5	19-Jul-07	75-25-2	Bromoform	2.8	ug/L	2.8	0	1
E	GS	SV-60-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	1.6	ug/L	1.6	0	1
E	GS	SV-60-05	5	19-Jul-07	75-00-3	Chloroethane	0.71	ug/L	0.71	0	1
E	GS	SV-60-05	5	19-Jul-07	74-87-3	Chloromethane	2.2	ug/L	2.2	0	1
E	GS	SV-60-05	5	19-Jul-07	75-27-4	Bromodichloromethane	1.8	ug/L	1.8	0	1
E	GS	SV-60-05	5	19-Jul-07	71-43-2	Benzene	0.86	ug/L	0.86	0	1
E	GS	SV-60-05	5	19-Jul-07	107-05-1	Allyl chloride	3.4	ug/L	3.4	0	1
E	GS	SV-60-05	5	19-Jul-07	67-64-1	Acetone	2.6	ug/L	2.6	0	1
E	GS	SV-60-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	1.1	ug/L	1.1	0	1
E	GS	SV-60-05	5	19-Jul-07		4-Bromofluorobenzene	104	%		1	1
E	GS	SV-60-05	5	19-Jul-07	591-78-6	2-Hexanone	4.4	ug/L	4.4	0	1
E	GS	SV-60-05	5	19-Jul-07	78-93-3	2-Butanone	0.79	ug/L	0.79	0	1
E	GS	SV-60-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	94	ug/L	94	1	1
E	GS	SV-60-05	5	19-Jul-07	67-66-3	Chloroform	1.3	ug/L	1.3	0	1
E	GS	SV-60-15	15	19-Jul-07	74-83-9	Bromomethane	27	ug/L	27	0	1
E	GS	SV-60-15	15	19-Jul-07	75-01-4	Vinyl chloride	18	ug/L	18	0	1
E	GS	SV-60-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	120	ug/L	120	0	1
E	GS	SV-60-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	25	ug/L	25	0	1
E	GS	SV-60-15	15	19-Jul-07	74-82-8	Methane	1.7	%		1	1
E	GS	SV-60-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	49	ug/L	49	1	1
E	GS	SV-60-15	15	19-Jul-07	98-82-8	Isopropylbenzene	34	ug/L	34	0	1
E	GS	SV-60-15	15	19-Jul-07	108-20-3	Isopropyl ether	120	ug/L	120	0	1

Attachment 6
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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-60-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	69	ug/L	69	0	1
E	GS	SV-60-15	15	19-Jul-07	110-54-3	Hexane	5000	ug/L	5000	1	1
E	GS	SV-60-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	28	ug/L		0	1
E	GS	SV-60-15	15	19-Jul-07	100-41-4	Ethylbenzene	30	ug/L	30	0	1
E	GS	SV-60-15	15	19-Jul-07	142-82-5	n-Heptane	1200	ug/L	1200	1	1
E	GS	SV-60-15	15	19-Jul-07		Ethene	0.0053	%		0	1
E	GS	SV-60-15	15	19-Jul-07	64-17-5	Ethanol	53	ug/L	53	0	1
E	GS	SV-60-15	15	19-Jul-07		Ethane	0.0053	%		0	1
E	GS	SV-60-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	35	ug/L	35	0	1
E	GS	SV-60-15	15	19-Jul-07	124-48-1	Dibromochloromethane	60	ug/L	60	0	1
E	GS	SV-60-15	15	19-Jul-07	110-82-7	Cyclohexane	2200	ug/L	2200	1	1
E	GS	SV-60-15	15	19-Jul-07	75-27-4	Bromodichloromethane	47	ug/L	47	0	1
E	GS	SV-60-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	300	ug/L	300	0	1
E	GS	SV-60-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	840	ug/L	840	1	1
E	GS	SV-60-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
E	GS	SV-60-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	39	ug/L	39	0	1
E	GS	SV-60-15	15	19-Jul-07	79-01-6	Trichloroethene	38	ug/L	38	0	1
E	GS	SV-60-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	32	ug/L	32	0	1
E	GS	SV-60-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	28	ug/L	28	0	1
E	GS	SV-60-15	15	19-Jul-07		Toluene-d8	94	%		1	1
E	GS	SV-60-15	15	19-Jul-07	108-88-3	Toluene	160	ug/L	160	1	1
E	GS	SV-60-15	15	19-Jul-07	75-09-2	Methylene chloride	24	ug/L	24	0	1
E	GS	SV-60-15	15	19-Jul-07	127-18-4	Tetrachloroethene	47	ug/L	47	0	1
E	GS	SV-60-15	15	19-Jul-07	91-20-3	Naphthalene	150	ug/L	150	0	1
E	GS	SV-60-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	120	ug/L	120	0	1
E	GS	SV-60-15	15	19-Jul-07	100-42-5	Styrene	30	ug/L	30	0	1
E	GS	SV-60-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	34	ug/L	34	0	1
E	GS	SV-60-15	15	19-Jul-07	95-47-6	o-Xylene	30	ug/L	30	0	1
E	GS	SV-60-15	15	19-Jul-07		Oxygen	5.6	%		1	1
E	GS	SV-60-15	15	19-Jul-07	103-65-1	n-Propylbenzene	34	ug/L	34	0	1
E	GS	SV-60-15	15	19-Jul-07		Nitrogen	71	%		1	1
E	GS	SV-60-15	15	19-Jul-07	74-87-3	Chloromethane	58	ug/L	58	0	1
E	GS	SV-60-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	21	ug/L	21	0	1
E	GS	SV-60-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	210	ug/L	210	0	1
E	GS	SV-60-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	32	ug/L	32	0	1
E	GS	SV-60-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	34	ug/L	34	0	1
E	GS	SV-60-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	32	ug/L	32	0	1
E	GS	SV-60-15	15	19-Jul-07		1,2-Dichloroethane-d4	111	%		1	1
E	GS	SV-60-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	28	ug/L	28	0	1
E	GS	SV-60-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	42	ug/L	42	0	1
E	GS	SV-60-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	49	ug/L	49	0	1
E	GS	SV-60-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	42	ug/L	42	0	1
E	GS	SV-60-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	34	ug/L	34	0	1
E	GS	SV-60-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	42	ug/L	42	0	1
E	GS	SV-60-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	170	ug/L	170	0	1
E	GS	SV-60-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	28	ug/L	28	0	1
E	GS	SV-60-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	28	ug/L	28	0	1
E	GS	SV-60-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	38	ug/L	38	0	1
E	GS	SV-60-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	54	ug/L	54	0	1
E	GS	SV-60-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	48	ug/L	48	0	1
E	GS	SV-60-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	38	ug/L	38	0	1
E	GS	SV-60-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	54	ug/L	54	0	1
E	GS	SV-60-15	15	19-Jul-07	71-43-2	Benzene	1600	ug/L	1600	1	1
E	GS	SV-60-15	15	19-Jul-07	67-66-3	Chloroform	120	ug/L	120	1	1
E	GS	SV-60-15	15	19-Jul-07	75-00-3	Chloroethane	18	ug/L	18	0	1
E	GS	SV-60-15	15	19-Jul-07	108-90-7	Chlorobenzene	32	ug/L	32	0	1
E	GS	SV-60-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	44	ug/L	44	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-60-15	15	19-Jul-07		Carbon Monoxide	0.053	%		0	1
E	GS	SV-60-15	15	19-Jul-07	75-15-0	Carbon Disulfide	22	ug/L	22	0	1
E	GS	SV-60-15	15	19-Jul-07		Carbon Dioxide	18	%		1	1
E	GS	SV-60-15	15	19-Jul-07	106-99-0	1,3-Butadiene	15	ug/L	15	0	1
E	GS	SV-60-15	15	19-Jul-07	100-44-7	Benzyl chloride	36	ug/L	36	0	1
E	GS	SV-60-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	190	ug/L	190	0	1
E	GS	SV-60-15	15	19-Jul-07	107-05-1	Allyl chloride	88	ug/L	88	0	1
E	GS	SV-60-15	15	19-Jul-07	67-64-1	Acetone	1300	ug/L	1300	1	1
E	GS	SV-60-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	29	ug/L	29	0	1
E	GS	SV-60-15	15	19-Jul-07		4-Bromofluorobenzene	101	%		1	1
E	GS	SV-60-15	15	19-Jul-07	591-78-6	2-Hexanone	110	ug/L	110	0	1
E	GS	SV-60-15	15	19-Jul-07	78-93-3	2-Butanone	66	ug/L	66	1	1
E	GS	SV-60-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	33	ug/L	33	0	1
E	GS	SV-60-15	15	19-Jul-07	123-91-1	1,4-Dioxane	100	ug/L	100	0	1
E	GS	SV-60-15	15	19-Jul-07	75-25-2	Bromoform	72	ug/L	72	0	1
E	GS	SV-61-05	5	19-Jul-07	74-83-9	Bromomethane	65	ug/L	65	0	1
E	GS	SV-61-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	79	ug/L	79	0	1
E	GS	SV-61-05	5	19-Jul-07	78-93-3	2-Butanone	54	ug/L	54	1	1
E	GS	SV-61-05	5	19-Jul-07		4-Bromofluorobenzene	100	%		1	1
E	GS	SV-61-05	5	19-Jul-07	67-64-1	Acetone	840	ug/L	840	1	1
E	GS	SV-61-05	5	19-Jul-07	107-05-1	Allyl chloride	210	ug/L	210	0	1
E	GS	SV-61-05	5	19-Jul-07	71-43-2	Benzene	160	ug/L	160	1	1
E	GS	SV-61-05	5	19-Jul-07	100-44-7	Benzyl chloride	87	ug/L	87	0	1
E	GS	SV-61-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	460	ug/L	460	0	1
E	GS	SV-61-05	5	19-Jul-07	75-25-2	Bromoform	170	ug/L	170	0	1
E	GS	SV-61-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	100	ug/L	100	0	1
E	GS	SV-61-05	5	19-Jul-07		Carbon Dioxide	30	%		1	1
E	GS	SV-61-05	5	19-Jul-07	75-15-0	Carbon Disulfide	52	ug/L	52	0	1
E	GS	SV-61-05	5	19-Jul-07		Carbon Monoxide	0.025	%		0	1
E	GS	SV-61-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	110	ug/L	110	0	1
E	GS	SV-61-05	5	19-Jul-07	108-90-7	Chlorobenzene	78	ug/L	78	0	1
E	GS	SV-61-05	5	19-Jul-07	75-00-3	Chloroethane	44	ug/L	44	0	1
E	GS	SV-61-05	5	19-Jul-07	67-66-3	Chloroform	82	ug/L	82	0	1
E	GS	SV-61-05	5	19-Jul-07	75-27-4	Bromodichloromethane	110	ug/L	110	0	1
E	GS	SV-61-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	130	ug/L	130	0	1
E	GS	SV-61-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	92	ug/L	92	0	1
E	GS	SV-61-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	120	ug/L	120	0	1
E	GS	SV-61-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	130	ug/L	130	0	1
E	GS	SV-61-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	92	ug/L	92	0	1
E	GS	SV-61-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	68	ug/L	68	0	1
E	GS	SV-61-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	67	ug/L	67	0	1
E	GS	SV-61-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	410	ug/L	410	0	1
E	GS	SV-61-05	5	19-Jul-07	123-91-1	1,4-Dioxane	240	ug/L	240	0	1
E	GS	SV-61-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	83	ug/L	83	0	1
E	GS	SV-61-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	100	ug/L	100	0	1
E	GS	SV-61-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	120	ug/L	120	0	1
E	GS	SV-61-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	100	ug/L	100	0	1
E	GS	SV-61-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	68	ug/L	68	0	1
E	GS	SV-61-05	5	19-Jul-07		1,2-Dichloroethane-d4	110	%		1	1
E	GS	SV-61-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	78	ug/L	78	0	1
E	GS	SV-61-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	83	ug/L	83	0	1
E	GS	SV-61-05	5	19-Jul-07	106-99-0	1,3-Butadiene	37	ug/L	37	0	1
E	GS	SV-61-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	76	ug/L	76	0	1
E	GS	SV-61-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	500	ug/L	500	0	1
E	GS	SV-61-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	50	ug/L	50	0	1
E	GS	SV-61-05	5	19-Jul-07	74-87-3	Chloromethane	140	ug/L	140	0	1
E	GS	SV-61-05	5	19-Jul-07	103-65-1	n-Propylbenzene	83	ug/L	83	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-61-05	5	19-Jul-07		Oxygen	0.92	%		1	1
E	GS	SV-61-05	5	19-Jul-07	95-47-6	o-Xylene	73	ug/L	73	0	1
E	GS	SV-61-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	83	ug/L	83	0	1
E	GS	SV-61-05	5	19-Jul-07	100-42-5	Styrene	72	ug/L	72	0	1
E	GS	SV-61-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	280	ug/L	280	0	1
E	GS	SV-61-05	5	19-Jul-07	142-82-5	n-Heptane	340	ug/L	340	1	1
E	GS	SV-61-05	5	19-Jul-07	127-18-4	Tetrachloroethene	110	ug/L	110	0	1
E	GS	SV-61-05	5	19-Jul-07	91-20-3	Naphthalene	350	ug/L	350	0	1
E	GS	SV-61-05	5	19-Jul-07	108-88-3	Toluene	63	ug/L	63	0	1
E	GS	SV-61-05	5	19-Jul-07		Toluene-d8	95	%		1	1
E	GS	SV-61-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	67	ug/L	67	0	1
E	GS	SV-61-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	76	ug/L	76	0	1
E	GS	SV-61-05	5	19-Jul-07	79-01-6	Trichloroethene	90	ug/L	90	0	1
E	GS	SV-61-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	95	ug/L	95	0	1
E	GS	SV-61-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
E	GS	SV-61-05	5	19-Jul-07	75-01-4	Vinyl chloride	43	ug/L	43	0	1
E	GS	SV-61-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	290	ug/L	290	1	1
E	GS	SV-61-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	720	ug/L	720	0	1
E	GS	SV-61-05	5	19-Jul-07	591-78-6	2-Hexanone	280	ug/L	280	0	1
E	GS	SV-61-05	5	19-Jul-07	110-82-7	Cyclohexane	1700	ug/L	1700	1	1
E	GS	SV-61-05	5	19-Jul-07	124-48-1	Dibromochloromethane	140	ug/L	140	0	1
E	GS	SV-61-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	83	ug/L	83	0	1
E	GS	SV-61-05	5	19-Jul-07		Ethane	0.0025	%		0	1
E	GS	SV-61-05	5	19-Jul-07	64-17-5	Ethanol	130	ug/L	130	0	1
E	GS	SV-61-05	5	19-Jul-07		Ethene	0.0025	%		0	1
E	GS	SV-61-05	5	19-Jul-07		Nitrogen	44	%		1	1
E	GS	SV-61-05	5	19-Jul-07	100-41-4	Ethylbenzene	73	ug/L	73	0	1
E	GS	SV-61-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	67	ug/L		0	1
E	GS	SV-61-05	5	19-Jul-07	110-54-3	Hexane	3200	ug/L	3200	1	1
E	GS	SV-61-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	160	ug/L	160	0	1
E	GS	SV-61-05	5	19-Jul-07	108-20-3	Isopropyl ether	280	ug/L	280	0	1
E	GS	SV-61-05	5	19-Jul-07	98-82-8	Isopropylbenzene	83	ug/L	83	0	1
E	GS	SV-61-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	73	ug/L	73	0	1
E	GS	SV-61-05	5	19-Jul-07	74-82-8	Methane	20	%		1	1
E	GS	SV-61-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	61	ug/L	61	0	1
E	GS	SV-61-05	5	19-Jul-07	75-09-2	Methylene chloride	58	ug/L	58	0	1
E	GS	SV-61-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	280	ug/L	280	0	1
E	GS	SV-61-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	69	ug/L	69	0	1
E	GS	SV-61-15	15	19-Jul-07	71-43-2	Benzene	290	ug/L	290	1	1
E	GS	SV-61-15	15	19-Jul-07		Toluene-d8	99	%		1	1
E	GS	SV-61-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	100	ug/L	100	0	1
E	GS	SV-61-15	15	19-Jul-07	78-93-3	2-Butanone	64	ug/L	64	0	1
E	GS	SV-61-15	15	19-Jul-07	591-78-6	2-Hexanone	360	ug/L	360	0	1
E	GS	SV-61-15	15	19-Jul-07		4-Bromofluorobenzene	103	%		1	1
E	GS	SV-61-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	90	ug/L	90	0	1
E	GS	SV-61-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	130	ug/L	130	0	1
E	GS	SV-61-15	15	19-Jul-07	107-05-1	Allyl chloride	270	ug/L	270	0	1
E	GS	SV-61-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	130	ug/L	130	0	1
E	GS	SV-61-15	15	19-Jul-07	100-44-7	Benzyl chloride	110	ug/L	110	0	1
E	GS	SV-61-15	15	19-Jul-07	75-27-4	Bromodichloromethane	150	ug/L	150	0	1
E	GS	SV-61-15	15	19-Jul-07	75-25-2	Bromoform	220	ug/L	220	0	1
E	GS	SV-61-15	15	19-Jul-07	75-01-4	Vinyl chloride	56	ug/L	56	0	1
E	GS	SV-61-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
E	GS	SV-61-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	120	ug/L	120	0	1
E	GS	SV-61-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	150	ug/L	150	0	1
E	GS	SV-61-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	99	ug/L	99	0	1
E	GS	SV-61-15	15	19-Jul-07	67-64-1	Acetone	530	ug/L	530	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-61-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	110	ug/L	110	0	1
E	GS	SV-61-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	120	ug/L	120	0	1
E	GS	SV-61-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	600	ug/L	600	0	1
E	GS	SV-61-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	170	ug/L	170	0	1
E	GS	SV-61-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	120	ug/L	120	0	1
E	GS	SV-61-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	88	ug/L	88	0	1
E	GS	SV-61-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	87	ug/L	87	0	1
E	GS	SV-61-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	530	ug/L	530	0	1
E	GS	SV-61-15	15	19-Jul-07	123-91-1	1,4-Dioxane	310	ug/L	310	0	1
E	GS	SV-61-15	15	19-Jul-07	74-83-9	Bromomethane	85	ug/L	85	0	1
E	GS	SV-61-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	87	ug/L	87	0	1
E	GS	SV-61-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	170	ug/L	170	0	1
E	GS	SV-61-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	150	ug/L	150	0	1
E	GS	SV-61-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	130	ug/L	130	0	1
E	GS	SV-61-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	88	ug/L	88	0	1
E	GS	SV-61-15	15	19-Jul-07		1,2-Dichloroethane-d4	111	%		1	1
E	GS	SV-61-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	100	ug/L	100	0	1
E	GS	SV-61-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	110	ug/L	110	0	1
E	GS	SV-61-15	15	19-Jul-07	106-99-0	1,3-Butadiene	48	ug/L	48	0	1
E	GS	SV-61-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	650	ug/L	650	0	1
E	GS	SV-61-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	99	ug/L	99	0	1
E	GS	SV-61-15	15	19-Jul-07	79-01-6	Trichloroethene	120	ug/L	120	0	1
E	GS	SV-61-15	15	19-Jul-07	110-54-3	Hexane	4300	ug/L	4300	1	1
E	GS	SV-61-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	930	ug/L	930	0	1
E	GS	SV-61-15	15	19-Jul-07	100-41-4	Ethylbenzene	95	ug/L	95	0	1
E	GS	SV-61-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	360	ug/L	360	0	1
E	GS	SV-61-15	15	19-Jul-07		Ethene	0.0033	%		0	1
E	GS	SV-61-15	15	19-Jul-07	64-17-5	Ethanol	160	ug/L	160	0	1
E	GS	SV-61-15	15	19-Jul-07		Ethane	0.0033	%		0	1
E	GS	SV-61-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	110	ug/L	110	0	1
E	GS	SV-61-15	15	19-Jul-07	108-20-3	Isopropyl ether	360	ug/L	360	0	1
E	GS	SV-61-15	15	19-Jul-07	110-82-7	Cyclohexane	1700	ug/L	1700	1	1
E	GS	SV-61-15	15	19-Jul-07	98-82-8	Isopropylbenzene	110	ug/L	110	0	1
E	GS	SV-61-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	87	ug/L		0	1
E	GS	SV-61-15	15	19-Jul-07	74-87-3	Chloromethane	180	ug/L	180	0	1
E	GS	SV-61-15	15	19-Jul-07	67-66-3	Chloroform	110	ug/L	110	0	1
E	GS	SV-61-15	15	19-Jul-07	75-00-3	Chloroethane	58	ug/L	58	0	1
E	GS	SV-61-15	15	19-Jul-07	108-90-7	Chlorobenzene	100	ug/L	100	0	1
E	GS	SV-61-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	140	ug/L	140	0	1
E	GS	SV-61-15	15	19-Jul-07		Carbon Monoxide	0.033	%		0	1
E	GS	SV-61-15	15	19-Jul-07	75-15-0	Carbon Disulfide	68	ug/L	68	0	1
E	GS	SV-61-15	15	19-Jul-07		Carbon Dioxide	37	%		1	1
E	GS	SV-61-15	15	19-Jul-07	124-48-1	Dibromochloromethane	190	ug/L	190	0	1
E	GS	SV-61-15	15	19-Jul-07	103-65-1	n-Propylbenzene	110	ug/L	110	0	1
E	GS	SV-61-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	360	ug/L	360	0	1
E	GS	SV-61-15	15	19-Jul-07	100-42-5	Styrene	93	ug/L	93	0	1
E	GS	SV-61-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	110	ug/L	110	0	1
E	GS	SV-61-15	15	19-Jul-07	127-18-4	Tetrachloroethene	150	ug/L	150	0	1
E	GS	SV-61-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	210	ug/L	210	0	1
E	GS	SV-61-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	64	ug/L	64	0	1
E	GS	SV-61-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	360	ug/L	360	1	1
E	GS	SV-61-15	15	19-Jul-07		Oxygen	2.2	%		1	1
E	GS	SV-61-15	15	19-Jul-07	95-47-6	o-Xylene	95	ug/L	95	0	1
E	GS	SV-61-15	15	19-Jul-07		Nitrogen	42	%		1	1
E	GS	SV-61-15	15	19-Jul-07	142-82-5	n-Heptane	280	ug/L	280	1	1
E	GS	SV-61-15	15	19-Jul-07	91-20-3	Naphthalene	460	ug/L	460	0	1
E	GS	SV-61-15	15	19-Jul-07	75-09-2	Methylene chloride	76	ug/L	76	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-61-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	79	ug/L	79	0	1
E	GS	SV-61-15	15	19-Jul-07	74-82-8	Methane	14	%		1	1
E	GS	SV-61-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	95	ug/L	95	0	1
E	GS	SV-61-15	15	19-Jul-07	108-88-3	Toluene	82	ug/L	82	0	1
E	GS	SV-62-05	5	19-Jul-07	100-42-5	Styrene	0.073	ug/L	0.073	0	1
E	GS	SV-62-05	5	19-Jul-07	74-87-3	Chloromethane	0.14	ug/L	0.14	0	1
E	GS	SV-62-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.068	ug/L		0	1
E	GS	SV-62-05	5	19-Jul-07	110-82-7	Cyclohexane	6.8	ug/L	6.8	1	1
E	GS	SV-62-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.078	ug/L	0.078	0	1
E	GS	SV-62-05	5	19-Jul-07	108-88-3	Toluene	0.065	ug/L	0.065	0	1
E	GS	SV-62-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.34	ug/L	0.34	1	1
E	GS	SV-62-05	5	19-Jul-07		Oxygen	12	%		1	1
E	GS	SV-62-05	5	19-Jul-07	67-66-3	Chloroform	0.084	ug/L	0.084	0	1
E	GS	SV-62-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.28	ug/L	0.28	1	1
E	GS	SV-62-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.29	ug/L	0.29	0	1
E	GS	SV-62-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.21	ug/L	0.21	0	1
E	GS	SV-62-05	5	19-Jul-07	95-47-6	o-Xylene	0.68	ug/L	0.68	1	1
E	GS	SV-62-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.055	ug/L	0.055	1	1
E	GS	SV-62-05	5	19-Jul-07	91-20-3	Naphthalene	0.36	ug/L	0.36	0	1
E	GS	SV-62-05	5	19-Jul-07		Toluene-d8	92	%		1	1
E	GS	SV-62-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.068	ug/L	0.068	0	1
E	GS	SV-62-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.078	ug/L	0.078	0	1
E	GS	SV-62-05	5	19-Jul-07	79-01-6	Trichloroethene	0.092	ug/L	0.092	0	1
E	GS	SV-62-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.097	ug/L	0.097	0	1
E	GS	SV-62-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
E	GS	SV-62-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.12	ug/L	0.12	0	1
E	GS	SV-62-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.17	ug/L	0.17	0	1
E	GS	SV-62-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.085	ug/L	0.085	0	1
E	GS	SV-62-05	5	19-Jul-07		Ethane	0.0026	%		0	1
E	GS	SV-62-05	5	19-Jul-07	64-17-5	Ethanol	0.13	ug/L	0.13	0	1
E	GS	SV-62-05	5	19-Jul-07		Ethene	0.0026	%		0	1
E	GS	SV-62-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.29	ug/L	0.29	0	1
E	GS	SV-62-05	5	19-Jul-07	100-41-4	Ethylbenzene	1.1	ug/L	1.1	1	1
E	GS	SV-62-05	5	19-Jul-07		Nitrogen	78	%		1	1
E	GS	SV-62-05	5	19-Jul-07	110-54-3	Hexane	13	ug/L	13	1	1
E	GS	SV-62-05	5	19-Jul-07	142-82-5	n-Heptane	2.9	ug/L	2.9	1	1
E	GS	SV-62-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.29	ug/L	0.29	0	1
E	GS	SV-62-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.28	ug/L	0.28	1	1
E	GS	SV-62-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.96	ug/L	0.96	1	1
E	GS	SV-62-05	5	19-Jul-07	74-82-8	Methane	0.039	%		1	1
E	GS	SV-62-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.062	ug/L	0.062	0	1
E	GS	SV-62-05	5	19-Jul-07	75-09-2	Methylene chloride	0.06	ug/L	0.06	0	1
E	GS	SV-62-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.15	ug/L	0.15	0	1
E	GS	SV-62-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.73	ug/L	0.73	0	1
E	GS	SV-62-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.51	ug/L	0.51	0	1
E	GS	SV-62-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.038	ug/L	0.038	0	1
E	GS	SV-62-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.32	ug/L	0.32	1	1
E	GS	SV-62-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.079	ug/L	0.079	0	1
E	GS	SV-62-05	5	19-Jul-07		1,2-Dichloroethane-d4	96	%		1	1
E	GS	SV-62-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.07	ug/L	0.07	0	1
E	GS	SV-62-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.1	ug/L	0.1	0	1
E	GS	SV-62-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.12	ug/L	0.12	0	1
E	GS	SV-62-05	5	19-Jul-07		Carbon Dioxide	9.8	%		1	1
E	GS	SV-62-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.7	ug/L	0.7	1	1
E	GS	SV-62-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.25	ug/L	0.25	0	1
E	GS	SV-62-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.41	ug/L	0.41	0	1
E	GS	SV-62-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.068	ug/L	0.068	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-62-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.07	ug/L	0.07	0	1
E	GS	SV-62-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.094	ug/L	0.094	0	1
E	GS	SV-62-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.13	ug/L	0.13	0	1
E	GS	SV-62-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.12	ug/L	0.12	0	1
E	GS	SV-62-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.094	ug/L	0.094	0	1
E	GS	SV-62-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.47	ug/L	0.47	0	1
E	GS	SV-62-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.13	ug/L	0.13	0	1
E	GS	SV-62-05	5	19-Jul-07	71-43-2	Benzene	2	ug/L	2	1	1
E	GS	SV-62-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.079	ug/L	0.079	0	1
E	GS	SV-62-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.11	ug/L	0.11	0	1
E	GS	SV-62-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.054	ug/L	0.054	0	1
E	GS	SV-62-05	5	19-Jul-07		Carbon Monoxide	0.026	%		0	1
E	GS	SV-62-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.044	ug/L	0.044	0	1
E	GS	SV-62-05	5	19-Jul-07	74-83-9	Bromomethane	0.067	ug/L	0.067	0	1
E	GS	SV-62-05	5	19-Jul-07	75-25-2	Bromoform	0.18	ug/L	0.18	0	1
E	GS	SV-62-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.1	ug/L	0.1	0	1
E	GS	SV-62-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.089	ug/L	0.089	0	1
E	GS	SV-62-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.1	ug/L	0.1	0	1
E	GS	SV-62-05	5	19-Jul-07	107-05-1	Allyl chloride	0.22	ug/L	0.22	0	1
E	GS	SV-62-05	5	19-Jul-07	67-64-1	Acetone	0.16	ug/L	0.16	0	1
E	GS	SV-62-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.07	ug/L	0.07	0	1
E	GS	SV-62-05	5	19-Jul-07		4-Bromofluorobenzene	80	%		1	1
E	GS	SV-62-05	5	19-Jul-07	591-78-6	2-Hexanone	0.28	ug/L	0.28	0	1
E	GS	SV-62-05	5	19-Jul-07	78-93-3	2-Butanone	0.051	ug/L	0.051	0	1
E	GS	SV-62-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.08	ug/L	0.08	0	1
E	GS	SV-62-05	5	19-Jul-07	75-00-3	Chloroethane	0.045	ug/L	0.045	0	1
E	GS	SV-62-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.12	ug/L	0.12	0	1
E	GS	SV-62-15	15	20-Jul-07	75-25-2	Bromoform	0.28	ug/L	0.28	0	1
E	GS	SV-62-15	15	20-Jul-07	100-41-4	Ethylbenzene	2.9	ug/L	2.9	1	1
E	GS	SV-62-15	15	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.11	ug/L		0	1
E	GS	SV-62-15	15	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.097	ug/L	0.097	0	1
E	GS	SV-62-15	15	20-Jul-07	74-82-8	Methane	0.64	%		1	1
E	GS	SV-62-15	15	20-Jul-07	179601-23-1	m,p-Xylenes	2.2	ug/L	2.2	1	1
E	GS	SV-62-15	15	20-Jul-07	98-82-8	Isopropylbenzene	1.3	ug/L	1.3	1	1
E	GS	SV-62-15	15	20-Jul-07	108-20-3	Isopropyl ether	0.45	ug/L	0.45	0	1
E	GS	SV-62-15	15	20-Jul-07	67-63-0	Isopropyl alcohol	0.26	ug/L	0.26	0	1
E	GS	SV-62-15	15	20-Jul-07	91-20-3	Naphthalene	0.56	ug/L	0.56	0	1
E	GS	SV-62-15	15	20-Jul-07	100-44-7	Benzyl chloride	0.14	ug/L	0.14	0	1
E	GS	SV-62-15	15	20-Jul-07	142-82-5	n-Heptane	6.3	ug/L	6.3	1	1
E	GS	SV-62-15	15	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.74	ug/L	0.74	0	1
E	GS	SV-62-15	15	20-Jul-07		Ethene	0.0067	%		0	1
E	GS	SV-62-15	15	20-Jul-07	64-17-5	Ethanol	0.25	ug/L	0.25	1	1
E	GS	SV-62-15	15	20-Jul-07		Ethane	0.0067	%		0	1
E	GS	SV-62-15	15	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.13	ug/L	0.13	0	1
E	GS	SV-62-15	15	20-Jul-07	124-48-1	Dibromochloromethane	0.23	ug/L	0.23	0	1
E	GS	SV-62-15	15	20-Jul-07	110-82-7	Cyclohexane	15	ug/L	15	1	1
E	GS	SV-62-15	15	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.12	ug/L	0.12	0	1
E	GS	SV-62-15	15	20-Jul-07	110-54-3	Hexane	16	ug/L	16	1	1
E	GS	SV-62-15	15	20-Jul-07	127-18-4	Tetrachloroethene	0.18	ug/L	0.18	0	1
E	GS	SV-62-15	15	20-Jul-07	75-01-4	Vinyl chloride	0.069	ug/L	0.069	0	1
E	GS	SV-62-15	15	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
E	GS	SV-62-15	15	20-Jul-07	75-69-4	Trichlorofluoromethane	0.15	ug/L	0.15	0	1
E	GS	SV-62-15	15	20-Jul-07	79-01-6	Trichloroethene	0.14	ug/L	0.14	0	1
E	GS	SV-62-15	15	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.12	ug/L	0.12	0	1
E	GS	SV-62-15	15	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.11	ug/L	0.11	0	1
E	GS	SV-62-15	15	20-Jul-07		Toluene-d8	91	%		1	1
E	GS	SV-62-15	15	20-Jul-07	75-09-2	Methylene chloride	0.093	ug/L	0.093	0	1

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-62-15	15	20-Jul-07	109-99-9	Tetrahydrofuran	0.12	ug/L	0.12	1	1
E	GS	SV-62-15	15	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.45	ug/L	0.45	0	1
E	GS	SV-62-15	15	20-Jul-07	75-65-0	tert-Butyl alcohol	0.33	ug/L	0.33	0	1
E	GS	SV-62-15	15	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.45	ug/L	0.45	0	1
E	GS	SV-62-15	15	20-Jul-07	100-42-5	Styrene	0.11	ug/L	0.11	0	1
E	GS	SV-62-15	15	20-Jul-07	622-96-8	p-Ethyltoluene	1.1	ug/L	1.1	1	1
E	GS	SV-62-15	15	20-Jul-07	95-47-6	o-Xylene	1.7	ug/L	1.7	1	1
E	GS	SV-62-15	15	20-Jul-07		Oxygen	5.4	%		1	1
E	GS	SV-62-15	15	20-Jul-07	103-65-1	n-Propylbenzene	1.2	ug/L	1.2	1	1
E	GS	SV-62-15	15	20-Jul-07		Nitrogen	81	%		1	1
E	GS	SV-62-15	15	20-Jul-07	108-88-3	Toluene	0.12	ug/L	0.12	1	1
E	GS	SV-62-15	15	20-Jul-07	87-68-3	Hexachlorobutadiene	1.1	ug/L	1.1	0	1
E	GS	SV-62-15	15	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.16	ug/L	0.16	0	1
E	GS	SV-62-15	15	20-Jul-07	106-99-0	1,3-Butadiene	0.06	ug/L	0.06	0	1
E	GS	SV-62-15	15	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.91	ug/L	0.91	1	1
E	GS	SV-62-15	15	20-Jul-07	78-87-5	1,2-Dichloropropane	0.12	ug/L	0.12	0	1
E	GS	SV-62-15	15	20-Jul-07		1,2-Dichloroethane-d4	131	%		1	1
E	GS	SV-62-15	15	20-Jul-07	107-06-2	1,2-Dichloroethane	0.11	ug/L	0.11	0	1
E	GS	SV-62-15	15	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.16	ug/L	0.16	0	1
E	GS	SV-62-15	15	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.16	ug/L	0.16	0	1
E	GS	SV-62-15	15	20-Jul-07	106-93-4	1,2-Dibromoethane	0.21	ug/L	0.21	0	1
E	GS	SV-62-15	15	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.19	ug/L	0.19	0	1
E	GS	SV-62-15	15	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.8	ug/L	0.8	0	1
E	GS	SV-62-15	15	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.65	ug/L	0.65	0	1
E	GS	SV-62-15	15	20-Jul-07	75-35-4	1,1-Dichloroethene	0.11	ug/L	0.11	0	1
E	GS	SV-62-15	15	20-Jul-07	75-34-3	1,1-Dichloroethane	0.11	ug/L	0.11	0	1
E	GS	SV-62-15	15	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.15	ug/L	0.15	0	1
E	GS	SV-62-15	15	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.21	ug/L	0.21	0	1
E	GS	SV-62-15	15	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.18	ug/L	0.18	0	1
E	GS	SV-62-15	15	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.15	ug/L	0.15	0	1
E	GS	SV-62-15	15	20-Jul-07	74-87-3	Chloromethane	0.22	ug/L	0.22	0	1
E	GS	SV-62-15	15	20-Jul-07		Carbon Dioxide	13	%		1	1
E	GS	SV-62-15	15	20-Jul-07	67-66-3	Chloroform	0.13	ug/L	0.13	0	1
E	GS	SV-62-15	15	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.3	ug/L	2.3	1	1
E	GS	SV-62-15	15	20-Jul-07	123-91-1	1,4-Dioxane	0.39	ug/L	0.39	0	1
E	GS	SV-62-15	15	20-Jul-07	75-00-3	Chloroethane	0.071	ug/L	0.071	0	1
E	GS	SV-62-15	15	20-Jul-07	108-90-7	Chlorobenzene	0.12	ug/L	0.12	0	1
E	GS	SV-62-15	15	20-Jul-07	56-23-5	Carbon tetrachloride	0.17	ug/L	0.17	0	1
E	GS	SV-62-15	15	20-Jul-07	75-15-0	Carbon Disulfide	0.14	ug/L	0.14	1	1
E	GS	SV-62-15	15	20-Jul-07	74-83-9	Bromomethane	0.1	ug/L	0.1	0	1
E	GS	SV-62-15	15	20-Jul-07	75-27-4	Bromodichloromethane	0.18	ug/L	0.18	0	1
E	GS	SV-62-15	15	20-Jul-07		4-Bromofluorobenzene	90	%		1	1
E	GS	SV-62-15	15	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.12	ug/L	0.12	0	1
E	GS	SV-62-15	15	20-Jul-07	78-93-3	2-Butanone	0.26	ug/L	0.26	1	1
E	GS	SV-62-15	15	20-Jul-07		Carbon Monoxide	0.067	%		0	1
E	GS	SV-62-15	15	20-Jul-07	591-78-6	2-Hexanone	0.44	ug/L	0.44	0	1
E	GS	SV-62-15	15	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.11	ug/L	0.11	0	1
E	GS	SV-62-15	15	20-Jul-07	67-64-1	Acetone	1.4	ug/L	1.4	1	1
E	GS	SV-62-15	15	20-Jul-07	107-05-1	Allyl chloride	0.34	ug/L	0.34	0	1
E	GS	SV-62-15	15	20-Jul-07	71-43-2	Benzene	2.4	ug/L	2.4	1	1
E	GS	SV-63-05	5	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	33	ug/L	33	0	1
E	GS	SV-63-05	5	20-Jul-07	123-91-1	1,4-Dioxane	69	ug/L	69	0	1
E	GS	SV-63-05	5	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	130	ug/L	130	0	1
E	GS	SV-63-05	5	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
E	GS	SV-63-05	5	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	23	ug/L	23	0	1
E	GS	SV-63-05	5	20-Jul-07	106-46-7	1,4-Dichlorobenzene	29	ug/L	29	0	1
E	GS	SV-63-05	5	20-Jul-07		1,2-Dichloroethane-d4	114	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-63-05	5	20-Jul-07	107-06-2	1,2-Dichloroethane	19	ug/L	19	0	1
E	GS	SV-63-05	5	20-Jul-07	95-50-1	1,2-Dichlorobenzene	29	ug/L	29	0	1
E	GS	SV-63-05	5	20-Jul-07	541-73-1	1,3-Dichlorobenzene	29	ug/L	29	0	1
E	GS	SV-63-05	5	20-Jul-07	106-93-4	1,2-Dibromoethane	36	ug/L	36	0	1
E	GS	SV-63-05	5	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	23	ug/L	23	0	1
E	GS	SV-63-05	5	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	140	ug/L	140	0	1
E	GS	SV-63-05	5	20-Jul-07	96-18-4	1,2,3-Trichloropropane	110	ug/L	110	0	1
E	GS	SV-63-05	5	20-Jul-07	75-35-4	1,1-Dichloroethene	19	ug/L	19	0	1
E	GS	SV-63-05	5	20-Jul-07	75-34-3	1,1-Dichloroethane	19	ug/L	19	0	1
E	GS	SV-63-05	5	20-Jul-07	79-00-5	1,1,2-Trichloroethane	26	ug/L	26	0	1
E	GS	SV-63-05	5	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	36	ug/L	36	0	1
E	GS	SV-63-05	5	20-Jul-07	71-55-6	1,1,1-Trichloroethane	26	ug/L	26	0	1
E	GS	SV-63-05	5	20-Jul-07	106-99-0	1,3-Butadiene	10	ug/L	10	0	1
E	GS	SV-63-05	5	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	22	ug/L	22	0	1
E	GS	SV-63-05	5	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	33	ug/L	33	0	1
E	GS	SV-63-05	5	20-Jul-07	179601-23-1	m,p-Xylenes	21	ug/L	21	0	1
E	GS	SV-63-05	5	20-Jul-07	108-88-3	Toluene	18	ug/L	18	0	1
E	GS	SV-63-05	5	20-Jul-07	109-99-9	Tetrahydrofuran	14	ug/L	14	0	1
E	GS	SV-63-05	5	20-Jul-07	127-18-4	Tetrachloroethene	32	ug/L	32	0	1
E	GS	SV-63-05	5	20-Jul-07	75-65-0	tert-Butyl alcohol	58	ug/L	58	0	1
E	GS	SV-63-05	5	20-Jul-07	994-05-8	Tert-amyl methyl ether	80	ug/L	80	0	1
E	GS	SV-63-05	5	20-Jul-07	100-42-5	Styrene	20	ug/L	20	0	1
E	GS	SV-63-05	5	20-Jul-07	622-96-8	p-Ethyltoluene	23	ug/L	23	0	1
E	GS	SV-63-05	5	20-Jul-07		Oxygen	0.62	%		1	1
E	GS	SV-63-05	5	20-Jul-07		Nitrogen	35	%		1	1
E	GS	SV-63-05	5	20-Jul-07	142-82-5	n-Heptane	31	ug/L	31	1	1
E	GS	SV-63-05	5	20-Jul-07	91-20-3	Naphthalene	100	ug/L	100	0	1
E	GS	SV-63-05	5	20-Jul-07	75-09-2	Methylene chloride	16	ug/L	16	0	1
E	GS	SV-63-05	5	20-Jul-07		Toluene-d8	94	%		1	1
E	GS	SV-63-05	5	20-Jul-07	74-82-8	Methane	41	%		1	1
E	GS	SV-63-05	5	20-Jul-07	95-47-6	o-Xylene	21	ug/L	21	0	1
E	GS	SV-63-05	5	20-Jul-07	98-82-8	Isopropylbenzene	23	ug/L	23	0	1
E	GS	SV-63-05	5	20-Jul-07	78-93-3	2-Butanone	14	ug/L	14	0	1
E	GS	SV-63-05	5	20-Jul-07	108-20-3	Isopropyl ether	80	ug/L	80	0	1
E	GS	SV-63-05	5	20-Jul-07	67-63-0	Isopropyl alcohol	47	ug/L	47	0	1
E	GS	SV-63-05	5	20-Jul-07	110-54-3	Hexane	190	ug/L	190	1	1
E	GS	SV-63-05	5	20-Jul-07	87-68-3	Hexachlorobutadiene	200	ug/L	200	0	1
E	GS	SV-63-05	5	20-Jul-07	100-41-4	Ethylbenzene	21	ug/L	21	0	1
E	GS	SV-63-05	5	20-Jul-07	637-92-3	Ethyl tert butyl ether	80	ug/L	80	0	1
E	GS	SV-63-05	5	20-Jul-07		Ethene	0.0024	%		0	1
E	GS	SV-63-05	5	20-Jul-07	64-17-5	Ethanol	36	ug/L	36	0	1
E	GS	SV-63-05	5	20-Jul-07		Ethane	0.0055	%		1	1
E	GS	SV-63-05	5	20-Jul-07	75-71-8	Dichlorodifluoromethane	24	ug/L	24	0	1
E	GS	SV-63-05	5	20-Jul-07	78-87-5	1,2-Dichloropropane	22	ug/L	22	0	1
E	GS	SV-63-05	5	20-Jul-07	1634-04-4	Methyl tert-butyl ether	17	ug/L	17	0	1
E	GS	SV-63-05	5	20-Jul-07	100-44-7	Benzyl chloride	25	ug/L	25	0	1
E	GS	SV-63-05	5	20-Jul-07	56-23-5	Carbon tetrachloride	30	ug/L	30	0	1
E	GS	SV-63-05	5	20-Jul-07		Carbon Monoxide	0.024	%		0	1
E	GS	SV-63-05	5	20-Jul-07	75-15-0	Carbon Disulfide	15	ug/L	15	0	1
E	GS	SV-63-05	5	20-Jul-07		Carbon Dioxide	22	%		1	1
E	GS	SV-63-05	5	20-Jul-07	74-83-9	Bromomethane	18	ug/L	18	0	1
E	GS	SV-63-05	5	20-Jul-07	108-90-7	Chlorobenzene	22	ug/L	22	0	1
E	GS	SV-63-05	5	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	19	ug/L	19	0	1
E	GS	SV-63-05	5	20-Jul-07	75-27-4	Bromodichloromethane	32	ug/L	32	0	1
E	GS	SV-63-05	5	20-Jul-07	103-65-1	n-Propylbenzene	23	ug/L	23	0	1
E	GS	SV-63-05	5	20-Jul-07	107-05-1	Allyl chloride	60	ug/L	60	0	1
E	GS	SV-63-05	5	20-Jul-07	67-64-1	Acetone	45	ug/L	45	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-63-05	5	20-Jul-07	108-10-1	4-Methyl-2-pentanone	19	ug/L	19	0	1
E	GS	SV-63-05	5	20-Jul-07		4-Bromofluorobenzene	88	%		1	1
E	GS	SV-63-05	5	20-Jul-07	591-78-6	2-Hexanone	78	ug/L	78	0	1
E	GS	SV-63-05	5	20-Jul-07	75-25-2	Bromoform	49	ug/L	49	0	1
E	GS	SV-63-05	5	20-Jul-07	75-01-4	Vinyl chloride	12	ug/L	12	0	1
E	GS	SV-63-05	5	20-Jul-07	67-66-3	Chloroform	23	ug/L	23	0	1
E	GS	SV-63-05	5	20-Jul-07	74-87-3	Chloromethane	39	ug/L	39	0	1
E	GS	SV-63-05	5	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	19	ug/L		0	1
E	GS	SV-63-05	5	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	22	ug/L	22	0	1
E	GS	SV-63-05	5	20-Jul-07	110-82-7	Cyclohexane	290	ug/L	290	1	1
E	GS	SV-63-05	5	20-Jul-07	124-48-1	Dibromochloromethane	40	ug/L	40	0	1
E	GS	SV-63-05	5	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	22	ug/L	22	0	1
E	GS	SV-63-05	5	20-Jul-07	71-43-2	Benzene	15	ug/L	15	0	1
E	GS	SV-63-05	5	20-Jul-07	75-69-4	Trichlorofluoromethane	27	ug/L	27	0	1
E	GS	SV-63-05	5	20-Jul-07	79-01-6	Trichloroethene	26	ug/L	26	0	1
E	GS	SV-63-05	5	20-Jul-07	75-00-3	Chloroethane	12	ug/L	12	0	1
E	GS	SV-63-15	15	20-Jul-07		Nitrogen	36	%		1	1
E	GS	SV-63-15	15	20-Jul-07	142-82-5	n-Heptane	1100	ug/L	1100	1	1
E	GS	SV-63-15	15	20-Jul-07	91-20-3	Naphthalene	500	ug/L	500	0	1
E	GS	SV-63-15	15	20-Jul-07	75-09-2	Methylene chloride	83	ug/L	83	0	1
E	GS	SV-63-15	15	20-Jul-07	103-65-1	n-Propylbenzene	120	ug/L	120	0	1
E	GS	SV-63-15	15	20-Jul-07	74-82-8	Methane	29	%		1	1
E	GS	SV-63-15	15	20-Jul-07	179601-23-1	m,p-Xylenes	100	ug/L	100	1	1
E	GS	SV-63-15	15	20-Jul-07	98-82-8	Isopropylbenzene	120	ug/L	120	0	1
E	GS	SV-63-15	15	20-Jul-07	1634-04-4	Methyl tert-butyl ether	86	ug/L	86	0	1
E	GS	SV-63-15	15	20-Jul-07		Oxygen	0.61	%		1	1
E	GS	SV-63-15	15	20-Jul-07	95-47-6	o-Xylene	100	ug/L	100	0	1
E	GS	SV-63-15	15	20-Jul-07	622-96-8	p-Ethyltoluene	120	ug/L	120	0	1
E	GS	SV-63-15	15	20-Jul-07	100-42-5	Styrene	100	ug/L	100	0	1
E	GS	SV-63-15	15	20-Jul-07	75-65-0	tert-Butyl alcohol	290	ug/L	290	0	1
E	GS	SV-63-15	15	20-Jul-07	109-99-9	Tetrahydrofuran	70	ug/L	70	0	1
E	GS	SV-63-15	15	20-Jul-07		Toluene-d8	95	%		1	1
E	GS	SV-63-15	15	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	94	ug/L	94	0	1
E	GS	SV-63-15	15	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	94	ug/L		0	1
E	GS	SV-63-15	15	20-Jul-07	108-20-3	Isopropyl ether	400	ug/L	400	0	1
E	GS	SV-63-15	15	20-Jul-07	994-05-8	Tert-amyl methyl ether	400	ug/L	400	0	1
E	GS	SV-63-15	15	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	170	ug/L	170	0	1
E	GS	SV-63-15	15	20-Jul-07		4-Bromofluorobenzene	88	%		1	1
E	GS	SV-63-15	15	20-Jul-07	591-78-6	2-Hexanone	390	ug/L	390	0	1
E	GS	SV-63-15	15	20-Jul-07	78-93-3	2-Butanone	70	ug/L	70	0	1
E	GS	SV-63-15	15	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	470	ug/L	470	1	1
E	GS	SV-63-15	15	20-Jul-07	123-91-1	1,4-Dioxane	340	ug/L	340	0	1
E	GS	SV-63-15	15	20-Jul-07	106-46-7	1,4-Dichlorobenzene	140	ug/L	140	0	1
E	GS	SV-63-15	15	20-Jul-07	541-73-1	1,3-Dichlorobenzene	140	ug/L	140	0	1
E	GS	SV-63-15	15	20-Jul-07	106-99-0	1,3-Butadiene	53	ug/L	53	0	1
E	GS	SV-63-15	15	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	120	ug/L	120	0	1
E	GS	SV-63-15	15	20-Jul-07	78-87-5	1,2-Dichloropropane	110	ug/L	110	0	1
E	GS	SV-63-15	15	20-Jul-07		1,2-Dichloroethane-d4	109	%		1	1
E	GS	SV-63-15	15	20-Jul-07	110-82-7	Cyclohexane	1900	ug/L	1900	1	1
E	GS	SV-63-15	15	20-Jul-07	95-50-1	1,2-Dichlorobenzene	140	ug/L	140	0	1
E	GS	SV-63-15	15	20-Jul-07	107-05-1	Allyl chloride	300	ug/L	300	0	1
E	GS	SV-63-15	15	20-Jul-07	106-93-4	1,2-Dibromoethane	180	ug/L	180	0	1
E	GS	SV-63-15	15	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	120	ug/L	120	0	1
E	GS	SV-63-15	15	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	710	ug/L	710	0	1
E	GS	SV-63-15	15	20-Jul-07	96-18-4	1,2,3-Trichloropropane	570	ug/L	570	0	1
E	GS	SV-63-15	15	20-Jul-07	75-35-4	1,1-Dichloroethene	94	ug/L	94	0	1
E	GS	SV-63-15	15	20-Jul-07	75-34-3	1,1-Dichloroethane	96	ug/L	96	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-63-15	15	20-Jul-07	79-00-5	1,1,2-Trichloroethane	130	ug/L	130	0	1
E	GS	SV-63-15	15	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	180	ug/L	180	0	1
E	GS	SV-63-15	15	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	160	ug/L	160	0	1
E	GS	SV-63-15	15	20-Jul-07	71-55-6	1,1,1-Trichloroethane	130	ug/L	130	0	1
E	GS	SV-63-15	15	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	650	ug/L	650	0	1
E	GS	SV-63-15	15	20-Jul-07	107-06-2	1,2-Dichloroethane	96	ug/L	96	0	1
E	GS	SV-63-15	15	20-Jul-07	67-66-3	Chloroform	120	ug/L	120	0	1
E	GS	SV-63-15	15	20-Jul-07	110-54-3	Hexane	6100	ug/L	6100	1	1
E	GS	SV-63-15	15	20-Jul-07	87-68-3	Hexachlorobutadiene	1000	ug/L	1000	0	1
E	GS	SV-63-15	15	20-Jul-07	100-41-4	Ethylbenzene	100	ug/L	100	0	1
E	GS	SV-63-15	15	20-Jul-07	637-92-3	Ethyl tert butyl ether	400	ug/L	400	0	1
E	GS	SV-63-15	15	20-Jul-07		Ethene	0.0024	%		0	1
E	GS	SV-63-15	15	20-Jul-07	64-17-5	Ethanol	180	ug/L	180	0	1
E	GS	SV-63-15	15	20-Jul-07		Ethane	0.007	%		1	1
E	GS	SV-63-15	15	20-Jul-07	75-71-8	Dichlorodifluoromethane	120	ug/L	120	0	1
E	GS	SV-63-15	15	20-Jul-07	124-48-1	Dibromochloromethane	200	ug/L	200	0	1
E	GS	SV-63-15	15	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	110	ug/L	110	0	1
E	GS	SV-63-15	15	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	110	ug/L	110	0	1
E	GS	SV-63-15	15	20-Jul-07	108-10-1	4-Methyl-2-pentanone	97	ug/L	97	0	1
E	GS	SV-63-15	15	20-Jul-07	74-87-3	Chloromethane	200	ug/L	200	0	1
E	GS	SV-63-15	15	20-Jul-07	67-64-1	Acetone	230	ug/L	230	0	1
E	GS	SV-63-15	15	20-Jul-07	75-00-3	Chloroethane	63	ug/L	63	0	1
E	GS	SV-63-15	15	20-Jul-07	108-90-7	Chlorobenzene	110	ug/L	110	0	1
E	GS	SV-63-15	15	20-Jul-07	56-23-5	Carbon tetrachloride	150	ug/L	150	0	1
E	GS	SV-63-15	15	20-Jul-07		Carbon Monoxide	0.024	%		0	1
E	GS	SV-63-15	15	20-Jul-07	75-15-0	Carbon Disulfide	74	ug/L	74	0	1
E	GS	SV-63-15	15	20-Jul-07		Carbon Dioxide	26	%		1	1
E	GS	SV-63-15	15	20-Jul-07	74-83-9	Bromomethane	92	ug/L	92	0	1
E	GS	SV-63-15	15	20-Jul-07	75-25-2	Bromoform	250	ug/L	250	0	1
E	GS	SV-63-15	15	20-Jul-07	75-27-4	Bromodichloromethane	160	ug/L	160	0	1
E	GS	SV-63-15	15	20-Jul-07	100-44-7	Benzyl chloride	120	ug/L	120	0	1
E	GS	SV-63-15	15	20-Jul-07	71-43-2	Benzene	130	ug/L	130	1	1
E	GS	SV-63-15	15	20-Jul-07	67-63-0	Isopropyl alcohol	230	ug/L	230	0	1
E	GS	SV-63-15	15	20-Jul-07	108-88-3	Toluene	90	ug/L	90	0	1
E	GS	SV-63-15	15	20-Jul-07	127-18-4	Tetrachloroethene	160	ug/L	160	0	1
E	GS	SV-63-15	15	20-Jul-07	79-01-6	Trichloroethene	130	ug/L	130	0	1
E	GS	SV-63-15	15	20-Jul-07	75-01-4	Vinyl chloride	61	ug/L	61	0	1
E	GS	SV-63-15	15	20-Jul-07	75-69-4	Trichlorofluoromethane	130	ug/L	130	0	1
E	GS	SV-63-15	15	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
E	GS	SV-39-15	15	16-Nov-07	75-01-4	Vinyl Chloride	0.84	UG/L	0.84	0	1
E	GS	SV-39-15	15	16-Nov-07	71-55-6	1,1,1-Trichloroethane	1.8	UG/L	1.8	0	1
E	GS	SV-39-15	15	16-Nov-07	108-90-7	Chlorobenzene	1.5	UG/L	1.5	0	1
E	GS	SV-39-15	15	16-Nov-07	67-63-0	Isopropyl alcohol	3.2	UG/L	3.2	0	1
E	GS	SV-39-15	15	16-Nov-07	110-54-3	Hexane	410	UG/L	410	1	1
E	GS	SV-39-15	15	16-Nov-07	87-68-3	Hexachlorobutadiene	14	UG/L	14	0	1
E	GS	SV-39-15	15	16-Nov-07	100-41-4	Ethylbenzene	1.4	UG/L	1.4	0	1
E	GS	SV-39-15	15	16-Nov-07	179601-23-1	m,p-Xylenes	15	UG/L	15	1	1
E	GS	SV-39-15	15	16-Nov-07	75-71-8	Dichlorodifluoromethane	1.6	UG/L	1.6	0	1
E	GS	SV-39-15	15	16-Nov-07	1634-04-4	Methyl tert-butyl ether	1.2	UG/L	1.2	0	1
E	GS	SV-39-15	15	16-Nov-07	110-82-7	Cyclohexane	620	UG/L	620	1	1
E	GS	SV-39-15	15	16-Nov-07	10061-01-5	cis-1,3-Dichloropropene	1.5	UG/L	1.5	0	1
E	GS	SV-39-15	15	16-Nov-07	156-59-2	cis-1,2-Dichloroethene	1.3	UG/L		0	1
E	GS	SV-39-15	15	16-Nov-07	74-87-3	Chloromethane	2.7	UG/L	2.7	0	1
E	GS	SV-39-15	15	16-Nov-07	67-66-3	Chloroform	1.6	UG/L	1.6	0	1
E	GS	SV-39-15	15	16-Nov-07	75-00-3	Chloroethane	0.87	UG/L	0.87	0	1
E	GS	SV-39-15	15	16-Nov-07	79-01-6	Trichloroethene	1.8	UG/L	1.8	0	1
E	GS	SV-39-15	15	16-Nov-07	100-42-5	Styrene	1.4	UG/L	1.4	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-39-15	15	16-Nov-07	75-69-4	Trichlorofluoromethane	1.8	UG/L	1.8	0	1
E	GS	SV-39-15	15	16-Nov-07	10061-02-6	trans-1,3-Dichloropropene	1.5	UG/L	1.5	0	1
E	GS	SV-39-15	15	16-Nov-07	156-60-5	trans-1,2-Dichloroethene	1.3	UG/L	1.3	0	1
E	GS	SV-39-15	15	16-Nov-07		Toluene-d8	123	%		1	1
E	GS	SV-39-15	15	16-Nov-07	108-88-3	Toluene	2.1	UG/L	2.1	1	1
E	GS	SV-39-15	15	16-Nov-07	98-82-8	Isopropylbenzene	3.1	UG/L	3.1	1	1
E	GS	SV-39-15	15	16-Nov-07	127-18-4	Tetrachloroethene	2.2	UG/L	2.2	0	1
E	GS	SV-39-15	15	16-Nov-07	124-48-1	Dibromochloromethane	2.8	UG/L	2.8	0	1
E	GS	SV-39-15	15	16-Nov-07	622-96-8	p-Ethyltoluene	1.6	UG/L	1.6	0	1
E	GS	SV-39-15	15	16-Nov-07	95-47-6	o-Xylene	11	UG/L	11	1	1
E	GS	SV-39-15	15	16-Nov-07	103-65-1	n-Propylbenzene	1.6	UG/L	1.6	0	1
E	GS	SV-39-15	15	16-Nov-07	142-82-5	n-Heptane	100	UG/L	100	1	1
E	GS	SV-39-15	15	16-Nov-07	91-20-3	Naphthalene	6.9	UG/L	6.9	0	1
E	GS	SV-39-15	15	16-Nov-07	75-09-2	Methylene Chloride	1.1	UG/L	1.1	0	1
E	GS	SV-39-15	15	16-Nov-07	109-99-9	Tetrahydrofuran	0.97	UG/L	0.97	0	1
E	GS	SV-39-15	15	16-Nov-07	95-63-6	1,2,4-Trimethylbenzene	3.6	UG/L	3.6	1	1
E	GS	SV-39-15	15	16-Nov-07	108-67-8	1,3,5-Trimethylbenzene	1.8	UG/L	1.8	1	1
E	GS	SV-39-15	15	16-Nov-07	78-87-5	1,2-Dichloropropane	1.5	UG/L	1.5	0	1
E	GS	SV-39-15	15	16-Nov-07		1,2-Dichloroethane-d4	167	%		1	1
E	GS	SV-39-15	15	16-Nov-07	107-06-2	1,2-Dichloroethane	1.3	UG/L	1.3	0	1
E	GS	SV-39-15	15	16-Nov-07	95-50-1	1,2-Dichlorobenzene	2	UG/L	2	0	1
E	GS	SV-39-15	15	16-Nov-07	106-99-0	1,3-Butadiene	0.73	UG/L	0.73	0	1
E	GS	SV-39-15	15	16-Nov-07	56-23-5	Carbon Tetrachloride	2.1	UG/L	2.1	0	1
E	GS	SV-39-15	15	16-Nov-07	106-93-4	1,2-Dibromoethane	2.5	UG/L	2.5	0	1
E	GS	SV-39-15	15	16-Nov-07	64-17-5	Ethanol	2.5	UG/L	2.5	0	1
E	GS	SV-39-15	15	16-Nov-07	75-35-4	1,1-Dichloroethene	1.3	UG/L	1.3	0	1
E	GS	SV-39-15	15	16-Nov-07	75-34-3	1,1-Dichloroethane	1.3	UG/L	1.3	0	1
E	GS	SV-39-15	15	16-Nov-07	79-00-5	1,1,2-Trichloroethane	1.8	UG/L	1.8	0	1
E	GS	SV-39-15	15	16-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	UG/L	2.5	0	1
E	GS	SV-39-15	15	16-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	6.8	UG/L	6.8	1	1
E	GS	SV-39-15	15	16-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	2.3	UG/L	2.3	0	1
E	GS	SV-39-15	15	16-Nov-07	75-27-4	Bromodichloromethane	2.2	UG/L	2.2	0	1
E	GS	SV-39-15	15	16-Nov-07	120-82-1	1,2,4-Trichlorobenzene	9.8	UG/L	9.8	0	1
E	GS	SV-39-15	15	16-Nov-07	541-73-1	1,3-Dichlorobenzene	2	UG/L	2	0	1
E	GS	SV-39-15	15	16-Nov-07	75-15-0	Carbon Disulfide	1	UG/L	1	0	1
E	GS	SV-39-15	15	16-Nov-07	75-25-2	Bromoform	3.4	UG/L	3.4	0	1
E	GS	SV-39-15	15	16-Nov-07	100-44-7	Benzyl chloride	1.7	UG/L	1.7	0	1
E	GS	SV-39-15	15	16-Nov-07	71-43-2	Benzene	120	UG/L	120	1	1
E	GS	SV-39-15	15	16-Nov-07	107-05-1	Allyl chloride	4.1	UG/L	4.1	0	1
E	GS	SV-39-15	15	16-Nov-07	123-91-1	1,4-Dioxane	4.8	UG/L	4.8	0	1
E	GS	SV-39-15	15	16-Nov-07	74-83-9	Bromomethane	1.3	UG/L	1.3	0	1
E	GS	SV-39-15	15	16-Nov-07	106-46-7	1,4-Dichlorobenzene	2	UG/L	2	0	1
E	GS	SV-39-15	15	16-Nov-07	67-64-1	Acetone	3.1	UG/L	3.1	0	1
E	GS	SV-39-15	15	16-Nov-07	540-84-1	2,2,4-Trimethylpentane	110	UG/L	110	1	1
E	GS	SV-39-15	15	16-Nov-07	78-93-3	2-Butanone	0.97	UG/L	0.97	0	1
E	GS	SV-39-15	15	16-Nov-07	591-78-6	2-Hexanone	5.4	UG/L	5.4	0	1
E	GS	SV-39-15	15	16-Nov-07		4-Bromofluorobenzene	103	%		1	1
E	GS	SV-39-15	15	16-Nov-07	108-10-1	4-Methyl-2-pentanone	1.4	UG/L	1.4	0	1
E	GS	SV-61-05	5	16-Nov-07	71-43-2	Benzene	0.011	UG/L	0.011	1	1
E	GS	SV-61-05	5	16-Nov-07	107-05-1	Allyl chloride	0.017	UG/L	0.017	0	1
E	GS	SV-61-05	5	16-Nov-07	67-64-1	Acetone	0.035	UG/L	0.035	1	1
E	GS	SV-61-05	5	16-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0056	UG/L	0.0056	0	1
E	GS	SV-61-05	5	16-Nov-07		4-Bromofluorobenzene	96	%		1	1
E	GS	SV-61-05	5	16-Nov-07	591-78-6	2-Hexanone	0.023	UG/L	0.023	0	1
E	GS	SV-61-05	5	16-Nov-07	78-93-3	2-Butanone	0.0046	UG/L	0.0046	1	1
E	GS	SV-61-05	5	16-Nov-07	123-91-1	1,4-Dioxane	0.02	UG/L	0.02	0	1
E	GS	SV-61-05	5	16-Nov-07	100-44-7	Benzyl chloride	0.0071	UG/L	0.0071	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-61-05	5	16-Nov-07	75-15-0	Carbon Disulfide	0.0043	UG/L	0.0043	0	1
E	GS	SV-61-05	5	16-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0083	UG/L	0.0083	0	1
E	GS	SV-61-05	5	16-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0083	UG/L	0.0083	0	1
E	GS	SV-61-05	5	16-Nov-07	106-99-0	1,3-Butadiene	0.003	UG/L	0.003	0	1
E	GS	SV-61-05	5	16-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.014	UG/L	0.014	1	1
E	GS	SV-61-05	5	16-Nov-07	78-87-5	1,2-Dichloropropane	0.0064	UG/L	0.0064	0	1
E	GS	SV-61-05	5	16-Nov-07	107-06-2	1,2-Dichloroethane	0.0056	UG/L	0.0056	0	1
E	GS	SV-61-05	5	16-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0064	UG/L	0.0064	0	1
E	GS	SV-61-05	5	16-Nov-07	74-87-3	Chloromethane	0.011	UG/L	0.011	0	1
E	GS	SV-61-05	5	16-Nov-07	100-41-4	Ethylbenzene	0.006	UG/L	0.006	0	1
E	GS	SV-61-05	5	16-Nov-07	637-92-3	Ethyl tert butyl ether	0.023	UG/L	0.023	0	1
E	GS	SV-61-05	5	16-Nov-07	64-17-5	Ethanol	0.01	UG/L	0.01	0	1
E	GS	SV-61-05	5	16-Nov-07	75-71-8	Dichlorodifluoromethane	0.0068	UG/L	0.0068	0	1
E	GS	SV-61-05	5	16-Nov-07	124-48-1	Dibromochloromethane	0.012	UG/L	0.012	0	1
E	GS	SV-61-05	5	16-Nov-07	110-82-7	Cyclohexane	0.054	UG/L	0.054	1	1
E	GS	SV-61-05	5	16-Nov-07	75-25-2	Bromoform	0.014	UG/L	0.014	0	1
E	GS	SV-61-05	5	16-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0055	UG/L		0	1
E	GS	SV-61-05	5	16-Nov-07	75-27-4	Bromodichloromethane	0.0092	UG/L	0.0092	0	1
E	GS	SV-61-05	5	16-Nov-07	67-66-3	Chloroform	0.0067	UG/L	0.0067	0	1
E	GS	SV-61-05	5	16-Nov-07	75-00-3	Chloroethane	0.0036	UG/L	0.0036	0	1
E	GS	SV-61-05	5	16-Nov-07	108-90-7	Chlorobenzene	0.0064	UG/L	0.0064	0	1
E	GS	SV-61-05	5	16-Nov-07	56-23-5	Carbon Tetrachloride	0.0087	UG/L	0.0087	0	1
E	GS	SV-61-05	5	16-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0083	UG/L	0.0083	0	1
E	GS	SV-61-05	5	16-Nov-07	74-83-9	Bromomethane	0.0054	UG/L	0.0054	0	1
E	GS	SV-61-05	5	16-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0096	UG/L	0.0096	0	1
E	GS	SV-61-05	5	16-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0063	UG/L	0.0063	0	1
E	GS	SV-61-05	5	16-Nov-07	108-88-3	Toluene	0.01	UG/L	0.01	1	1
E	GS	SV-61-05	5	16-Nov-07	142-82-5	n-Heptane	0.016	UG/L	0.016	1	1
E	GS	SV-61-05	5	16-Nov-07	106-93-4	1,2-Dibromoethane	0.011	UG/L	0.011	0	1
E	GS	SV-61-05	5	16-Nov-07	95-47-6	o-Xylene	0.024	UG/L	0.024	1	1
E	GS	SV-61-05	5	16-Nov-07		1,2-Dichloroethane-d4	99	%		1	1
E	GS	SV-61-05	5	16-Nov-07	100-42-5	Styrene	0.0059	UG/L	0.0059	0	1
E	GS	SV-61-05	5	16-Nov-07	994-05-8	tert-Amyl methyl ether	0.023	UG/L	0.023	0	1
E	GS	SV-61-05	5	16-Nov-07	75-65-0	tert-Butyl alcohol	0.017	UG/L	0.017	0	1
E	GS	SV-61-05	5	16-Nov-07	91-20-3	Naphthalene	0.029	UG/L	0.029	0	1
E	GS	SV-61-05	5	16-Nov-07	109-99-9	Tetrahydrofuran	0.0041	UG/L	0.0041	0	1
E	GS	SV-61-05	5	16-Nov-07	103-65-1	n-Propylbenzene	0.0068	UG/L	0.0068	0	1
E	GS	SV-61-05	5	16-Nov-07		Toluene-d8	98	%		1	1
E	GS	SV-61-05	5	16-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0055	UG/L	0.0055	0	1
E	GS	SV-61-05	5	16-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0063	UG/L	0.0063	0	1
E	GS	SV-61-05	5	16-Nov-07	79-01-6	Trichloroethene	0.0074	UG/L	0.0074	0	1
E	GS	SV-61-05	5	16-Nov-07	75-69-4	Trichlorofluoromethane	0.0078	UG/L	0.0078	0	1
E	GS	SV-61-05	5	16-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
E	GS	SV-61-05	5	16-Nov-07	75-01-4	Vinyl Chloride	0.0035	UG/L	0.0035	0	1
E	GS	SV-61-05	5	16-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.038	UG/L	0.038	0	1
E	GS	SV-61-05	5	16-Nov-07	127-18-4	Tetrachloroethene	0.0094	UG/L	0.0094	0	1
E	GS	SV-61-05	5	16-Nov-07	75-34-3	1,1-Dichloroethane	0.0056	UG/L	0.0056	0	1
E	GS	SV-61-05	5	16-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.048	UG/L	0.048	1	1
E	GS	SV-61-05	5	16-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.041	UG/L	0.041	0	1
E	GS	SV-61-05	5	16-Nov-07	622-96-8	p-Ethyltoluene	0.0068	UG/L	0.0068	0	1
E	GS	SV-61-05	5	16-Nov-07	75-35-4	1,1-Dichloroethene	0.0055	UG/L	0.0055	0	1
E	GS	SV-61-05	5	16-Nov-07	75-09-2	Methylene Chloride	0.0048	UG/L	0.0048	0	1
E	GS	SV-61-05	5	16-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0075	UG/L	0.0075	0	1
E	GS	SV-61-05	5	16-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	UG/L	0.01	0	1
E	GS	SV-61-05	5	16-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0095	UG/L	0.0095	0	1
E	GS	SV-61-05	5	16-Nov-07	1634-04-4	Methyl tert-butyl ether	0.005	UG/L	0.005	0	1
E	GS	SV-61-05	5	16-Nov-07	87-68-3	Hexachlorobutadiene	0.059	UG/L	0.059	0	1

Attachment 6
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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-61-05	5	16-Nov-07	110-54-3	Hexane	0.018	UG/L	0.018	1	1
E	GS	SV-61-05	5	16-Nov-07	67-63-0	Isopropyl alcohol	0.014	UG/L	0.014	0	1
E	GS	SV-61-05	5	16-Nov-07	108-20-3	Isopropyl ether	0.023	UG/L	0.023	0	1
E	GS	SV-61-05	5	16-Nov-07	98-82-8	Isopropylbenzene	0.0068	UG/L	0.0068	0	1
E	GS	SV-61-05	5	16-Nov-07	179601-23-1	m,p-Xylenes	0.029	UG/L	0.029	1	1
E	GS	SV-61-05	5	16-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0075	UG/L	0.0075	0	1
E	GS	SV-61-05	5	16-Nov-07	96-18-4	1,2,3-Trichloropropane	0.033	UG/L	0.033	0	1
E	GS	SV-61A-15	15	16-Nov-07	120-82-1	1,2,4-Trichlorobenzene	37	UG/L	37	0	1
E	GS	SV-61A-15	15	16-Nov-07	75-35-4	1,1-Dichloroethene	4.9	UG/L	4.9	0	1
E	GS	SV-61A-15	15	16-Nov-07	75-34-3	1,1-Dichloroethane	5	UG/L	5	0	1
E	GS	SV-61A-15	15	16-Nov-07	79-00-5	1,1,2-Trichloroethane	6.7	UG/L	6.7	0	1
E	GS	SV-61A-15	15	16-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	9.5	UG/L	9.5	0	1
E	GS	SV-61A-15	15	16-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	20	UG/L	20	1	1
E	GS	SV-61A-15	15	16-Nov-07	71-43-2	Benzene	10	UG/L	10	1	1
E	GS	SV-61A-15	15	16-Nov-07	95-63-6	1,2,4-Trimethylbenzene	48	UG/L	48	1	1
E	GS	SV-61A-15	15	16-Nov-07	71-55-6	1,1,1-Trichloroethane	6.7	UG/L	6.7	0	1
E	GS	SV-61A-15	15	16-Nov-07	95-47-6	o-Xylene	5.4	UG/L	5.4	0	1
E	GS	SV-61A-15	15	16-Nov-07	67-64-1	Acetone	12	UG/L	12	0	1
E	GS	SV-61A-15	15	16-Nov-07	64-17-5	Ethanol	9.3	UG/L	9.3	0	1
E	GS	SV-61A-15	15	16-Nov-07	100-41-4	Ethylbenzene	110	UG/L	110	1	1
E	GS	SV-61A-15	15	16-Nov-07	87-68-3	Hexachlorobutadiene	53	UG/L	53	0	1
E	GS	SV-61A-15	15	16-Nov-07	110-54-3	Hexane	99	UG/L	99	1	1
E	GS	SV-61A-15	15	16-Nov-07	67-63-0	Isopropyl alcohol	12	UG/L	12	0	1
E	GS	SV-61A-15	15	16-Nov-07	98-82-8	Isopropylbenzene	33	UG/L	33	1	1
E	GS	SV-61A-15	15	16-Nov-07	179601-23-1	m,p-Xylenes	46	UG/L	46	1	1
E	GS	SV-61A-15	15	16-Nov-07	1634-04-4	Methyl tert-butyl ether	4.4	UG/L	4.4	0	1
E	GS	SV-61A-15	15	16-Nov-07	75-09-2	Methylene Chloride	4.3	UG/L	4.3	0	1
E	GS	SV-61A-15	15	16-Nov-07	91-20-3	Naphthalene	26	UG/L	26	0	1
E	GS	SV-61A-15	15	16-Nov-07	124-48-1	Dibromochloromethane	10	UG/L	10	0	1
E	GS	SV-61A-15	15	16-Nov-07	103-65-1	n-Propylbenzene	39	UG/L	39	1	1
E	GS	SV-61A-15	15	16-Nov-07	110-82-7	Cyclohexane	820	UG/L	820	1	1
E	GS	SV-61A-15	15	16-Nov-07	622-96-8	p-Ethyltoluene	27	UG/L	27	1	1
E	GS	SV-61A-15	15	16-Nov-07	100-42-5	Styrene	5.3	UG/L	5.3	0	1
E	GS	SV-61A-15	15	16-Nov-07	127-18-4	Tetrachloroethene	8.4	UG/L	8.4	0	1
E	GS	SV-61A-15	15	16-Nov-07	109-99-9	Tetrahydrofuran	3.6	UG/L	3.6	0	1
E	GS	SV-61A-15	15	16-Nov-07	108-88-3	Toluene	4.6	UG/L	4.6	0	1
E	GS	SV-61A-15	15	16-Nov-07		Toluene-d8	116	%		1	1
E	GS	SV-61A-15	15	16-Nov-07	156-60-5	trans-1,2-Dichloroethene	4.9	UG/L	4.9	0	1
E	GS	SV-61A-15	15	16-Nov-07	10061-02-6	trans-1,3-Dichloropropene	5.6	UG/L	5.6	0	1
E	GS	SV-61A-15	15	16-Nov-07	79-01-6	Trichloroethene	6.6	UG/L	6.6	0	1
E	GS	SV-61A-15	15	16-Nov-07	75-69-4	Trichlorofluoromethane	6.9	UG/L	6.9	0	1
E	GS	SV-61A-15	15	16-Nov-07	75-01-4	Vinyl Chloride	3.2	UG/L	3.2	0	1
E	GS	SV-61A-15	15	16-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	8.6	UG/L	8.6	0	1
E	GS	SV-61A-15	15	16-Nov-07	142-82-5	n-Heptane	200	UG/L	200	1	1
E	GS	SV-61A-15	15	16-Nov-07	107-05-1	Allyl chloride	15	UG/L	15	0	1
E	GS	SV-61A-15	15	16-Nov-07	95-50-1	1,2-Dichlorobenzene	7.4	UG/L	7.4	0	1
E	GS	SV-61A-15	15	16-Nov-07		1,2-Dichloroethane-d4	142	%		1	1
E	GS	SV-61A-15	15	16-Nov-07	78-87-5	1,2-Dichloropropane	5.7	UG/L	5.7	0	1
E	GS	SV-61A-15	15	16-Nov-07	108-67-8	1,3,5-Trimethylbenzene	22	UG/L	22	1	1
E	GS	SV-61A-15	15	16-Nov-07	106-99-0	1,3-Butadiene	2.7	UG/L	2.7	0	1
E	GS	SV-61A-15	15	16-Nov-07	541-73-1	1,3-Dichlorobenzene	7.4	UG/L	7.4	0	1
E	GS	SV-61A-15	15	16-Nov-07	106-46-7	1,4-Dichlorobenzene	7.4	UG/L	7.4	0	1
E	GS	SV-61A-15	15	16-Nov-07	123-91-1	1,4-Dioxane	18	UG/L	18	0	1
E	GS	SV-61A-15	15	16-Nov-07	540-84-1	2,2,4-Trimethylpentane	62	UG/L	62	1	1
E	GS	SV-61A-15	15	16-Nov-07	78-93-3	2-Butanone	3.6	UG/L	3.6	0	1
E	GS	SV-61A-15	15	16-Nov-07	591-78-6	2-Hexanone	20	UG/L	20	0	1
E	GS	SV-61A-15	15	16-Nov-07	75-71-8	Dichlorodifluoromethane	6.1	UG/L	6.1	0	1

Attachment 6
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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	GS	SV-61A-15	15	16-Nov-07	108-10-1	4-Methyl-2-pentanone	5	UG/L	5	0	1
E	GS	SV-61A-15	15	16-Nov-07	106-93-4	1,2-Dibromoethane	9.5	UG/L	9.5	0	1
E	GS	SV-61A-15	15	16-Nov-07	100-44-7	Benzyl chloride	6.4	UG/L	6.4	0	1
E	GS	SV-61A-15	15	16-Nov-07	75-27-4	Bromodichloromethane	8.3	UG/L	8.3	0	1
E	GS	SV-61A-15	15	16-Nov-07	75-25-2	Bromoform	13	UG/L	13	0	1
E	GS	SV-61A-15	15	16-Nov-07	74-83-9	Bromomethane	4.8	UG/L	4.8	0	1
E	GS	SV-61A-15	15	16-Nov-07	75-15-0	Carbon Disulfide	3.8	UG/L	3.8	0	1
E	GS	SV-61A-15	15	16-Nov-07	56-23-5	Carbon Tetrachloride	7.8	UG/L	7.8	0	1
E	GS	SV-61A-15	15	16-Nov-07	108-90-7	Chlorobenzene	5.7	UG/L	5.7	0	1
E	GS	SV-61A-15	15	16-Nov-07	75-00-3	Chloroethane	3.2	UG/L	3.2	0	1
E	GS	SV-61A-15	15	16-Nov-07	67-66-3	Chloroform	6	UG/L	6	0	1
E	GS	SV-61A-15	15	16-Nov-07	74-87-3	Chloromethane	10	UG/L	10	0	1
E	GS	SV-61A-15	15	16-Nov-07	156-59-2	cis-1,2-Dichloroethene	4.9	UG/L		0	1
E	GS	SV-61A-15	15	16-Nov-07	10061-01-5	cis-1,3-Dichloropropene	5.6	UG/L	5.6	0	1
E	GS	SV-61A-15	15	16-Nov-07		4-Bromofluorobenzene	102	%		1	1
E	GS	SV-61A-15	15	16-Nov-07	107-06-2	1,2-Dichloroethane	5	UG/L	5	0	1
E	Soil	B-12-10	10		BaP TEQ	BaP TEQ			0.03525	0	1
E	Soil	B-12-10	10		68476-30-2	TPHd			1700	1	1
E	Soil	B-12-10	10		8006-61-9	TPHg			880	1	1
E	Soil	B-12-10	10		64742-47-8	TPHm			220	1	1
E	Soil	B-13-10	10		68476-30-2	TPHd			20	1	1
E	Soil	B-13-10	10		8006-61-9	TPHg			10	0	1
E	Soil	B-13-10	10		64742-47-8	TPHm			10	0	1
E	Soil	B-14-5	5		68476-30-2	TPHd			140	1	1
E	Soil	B-14-5	5		8006-61-9	TPHg			270	1	1
E	Soil	B-14-5	5		64742-47-8	TPHm			10	1	1
E	Soil	B-15-10	10		BaP TEQ	BaP TEQ			0.03525	0	1
E	Soil	B-15-10	10		68476-30-2	TPHd			2300	1	1
E	Soil	B-15-10	10		8006-61-9	TPHg			400	1	1
E	Soil	B-15-10	10		64742-47-8	TPHm			370	1	1
E	Soil	B-16-10	10		68476-30-2	TPHd			10	1	1
E	Soil	B-16-10	10		8006-61-9	TPHg			10	0	1
E	Soil	B-16-10	10		64742-47-8	TPHm			10	0	1
E	Soil	B-162-10	10		68476-30-2	TPHd			11	1	1
E	Soil	B-162-10	10		8006-61-9	TPHg			10	0	1
E	Soil	B-162-10	10		64742-47-8	TPHm			10	0	1
E	Soil	B-165-5	5		68476-30-2	TPHd			200	1	1
E	Soil	B-165-5	5		8006-61-9	TPHg			10	0	1
E	Soil	B-165-5	5		64742-47-8	TPHm			330	1	1
E	Soil	B-168-5	5		68476-30-2	TPHd			280	1	1
E	Soil	B-168-5	5		8006-61-9	TPHg			10	0	1
E	Soil	B-168-5	5		64742-47-8	TPHm			600	1	1
E	Soil	B-170-5	5		64742-47-8	TPHm			10	0	1
E	Soil	B-170-5	5		8006-61-9	TPHg			10	0	1
E	Soil	B-170-5	5		68476-30-2	TPHd			10	0	1
E	Soil	B-17-10	10		BaP TEQ	BaP TEQ			0.0705	0	1
E	Soil	B-17-10	10		68476-30-2	TPHd			8800	1	1
E	Soil	B-17-10	10		8006-61-9	TPHg			3100	1	1
E	Soil	B-17-10	10		64742-47-8	TPHm			1800	1	1
E	Soil	B-174-10	10		64742-47-8	TPHm			16	1	1
E	Soil	B-174-10	10		68476-30-2	TPHd			10	0	1
E	Soil	B-174-10	10		8006-61-9	TPHg			10	0	1
E	Soil	B-186-10	10		BaP TEQ	BaP TEQ			0.705	0	1
E	Soil	B-186-10	10		8006-61-9	TPHg			21	1	1
E	Soil	B-186-10	10		64742-47-8	TPHm			1400	1	1
E	Soil	B-186-10	10		68476-30-2	TPHd			2400	1	1
E	Soil	B-186-5	5		68476-30-2	TPHd			200	1	1

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-186-5	5		64742-47-8	TPHm			480	1	1
E	Soil	B-186-5	5		8006-61-9	TPHg			10	0	1
E	Soil	B-187-5	5		BaP TEQ	BaP TEQ			2.82	0	1
E	Soil	B-187-5	5		8006-61-9	TPHg			10	0	1
E	Soil	B-187-5	5		64742-47-8	TPHm			1300	1	1
E	Soil	B-187-5	5		68476-30-2	TPHd			530	1	1
E	Soil	B-199-10	10		BaP TEQ	BaP TEQ			0.0705	0	1
E	Soil	B-199-10	10		8006-61-9	TPHg			460	1	1
E	Soil	B-199-10	10		68476-30-2	TPHd			610	1	1
E	Soil	B-199-10	10		64742-47-8	TPHm			130	1	1
E	Soil	B-214-10	10		8006-61-9	TPHg			10	0	1
E	Soil	B-214-10	10		68476-30-2	TPHd			10	0	1
E	Soil	B-214-10	10		64742-47-8	TPHm			10	0	1
E	Soil	B-214-5	5		BaP TEQ	BaP TEQ			0.705	0	1
E	Soil	B-214-5	5		64742-47-8	TPHm			400	1	1
E	Soil	B-214-5	5		8006-61-9	TPHg			150	1	1
E	Soil	B-214-5	5		68476-30-2	TPHd			1700	1	1
E	Soil	B-218-2.5	2.5		BaP TEQ	BaP TEQ			0.00359	1	1
E	Soil	B-218-2.5	2.5		64742-47-8	TPHm			530	1	1
E	Soil	B-218-2.5	2.5		68476-30-2	TPHd			210	1	1
E	Soil	B-218-2.5	2.5		8006-61-9	TPHg			10	0	1
E	Soil	B-218-7	7		BaP TEQ	BaP TEQ			0.03525	0	1
E	Soil	B-218-7	7		8006-61-9	TPHg			170	1	1
E	Soil	B-218-7	7		64742-47-8	TPHm			220	1	1
E	Soil	B-218-7	7		68476-30-2	TPHd			620	1	1
E	Soil	B-219-10	10		BaP TEQ	BaP TEQ			0.0396	1	1
E	Soil	B-219-10	10		64742-47-8	TPHm			950	1	1
E	Soil	B-219-10	10		68476-30-2	TPHd			1300	1	1
E	Soil	B-219-10	10		8006-61-9	TPHg			240	1	1
E	Soil	B-219-5	5		BaP TEQ	BaP TEQ			0.1687	1	1
E	Soil	B-219-5	5		64742-47-8	TPHm			7700	1	1
E	Soil	B-219-5	5		8006-61-9	TPHg			420	1	1
E	Soil	B-219-5	5		68476-30-2	TPHd			8800	1	1
E	Soil	B-219-8	8		BaP TEQ	BaP TEQ			0.1635	1	1
E	Soil	B-219-8	8		64742-47-8	TPHm			7300	1	1
E	Soil	B-219-8	8		8006-61-9	TPHg			870	1	1
E	Soil	B-219-8	8		68476-30-2	TPHd			9800	1	1
E	Soil	B-220-10	10		BaP TEQ	BaP TEQ			0.0141	0	1
E	Soil	B-220-10	10		64742-47-8	TPHm			57	1	1
E	Soil	B-220-10	10		68476-30-2	TPHd			220	1	1
E	Soil	B-220-10	10		8006-61-9	TPHg			53	1	1
E	Soil	B-220-5	5		BaP TEQ	BaP TEQ			0.141	0	1
E	Soil	B-220-5	5		8006-61-9	TPHg			400	1	1
E	Soil	B-220-5	5		64742-47-8	TPHm			300	1	1
E	Soil	B-220-5	5		68476-30-2	TPHd			1900	1	1
E	Soil	B-220-8	8		BaP TEQ	BaP TEQ			0.03525	0	1
E	Soil	B-220-8	8		64742-47-8	TPHm			200	1	1
E	Soil	B-220-8	8		8006-61-9	TPHg			230	1	1
E	Soil	B-220-8	8		68476-30-2	TPHd			1400	1	1
E	Soil	B-31-5	5		68476-30-2	TPHd			780	1	1
E	Soil	B-31-5	5		8006-61-9	TPHg			280	1	1
E	Soil	B-31-5	5		64742-47-8	TPHm			190	1	1
E	Soil	B-32-5	5		68476-30-2	TPHd			420	1	1
E	Soil	B-32-5	5		8006-61-9	TPHg			1300	1	1
E	Soil	B-32-5	5		64742-47-8	TPHm			50	1	1
E	Soil	B-33-5	5		68476-30-2	TPHd			10	0	1
E	Soil	B-33-5	5		8006-61-9	TPHg			10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-33-5	5		64742-47-8	TPHm			10	0	1
E	Soil	B-34-5	5		BaP TEQ	BaP TEQ			0.0705	0	1
E	Soil	B-34-5	5		8006-61-9	TPHg			230	1	1
E	Soil	B-34-5	5		68476-30-2	TPHd			4500	1	1
E	Soil	B-34-5	5		64742-47-8	TPHm			3600	1	1
E	Soil	B-35-45R-5	5		BaP TEQ	BaP TEQ			1.41	0	1
E	Soil	B-35-45R-5	5		64742-47-8	TPHm			2400	1	1
E	Soil	B-35-45R-5	5		68476-30-2	TPHd			5200	1	1
E	Soil	B-35-45R-5	5		8006-61-9	TPHg			130	1	1
E	Soil	B-35-5	5		BaP TEQ	BaP TEQ			0.0705	0	1
E	Soil	B-35-5	5		64742-47-8	TPHm			1400	1	1
E	Soil	B-35-5	5		8006-61-9	TPHg			200	1	1
E	Soil	B-35-5	5		68476-30-2	TPHd			3400	1	1
E	Soil	B-46-10	10		BaP TEQ	BaP TEQ			0.141	0	1
E	Soil	B-46-10	10		8006-61-9	TPHg			670	1	1
E	Soil	B-46-10	10		64742-47-8	TPHm			1400	1	1
E	Soil	B-46-10	10		68476-30-2	TPHd			6700	1	1
E	Soil	B-47-5	5		BaP TEQ	BaP TEQ			0.071	1	1
E	Soil	B-47-5	5		64742-47-8	TPHm			3100	1	1
E	Soil	B-47-5	5		8006-61-9	TPHg			210	1	1
E	Soil	B-47-5	5		68476-30-2	TPHd			4600	1	1
E	Soil	B-48-10	10		64742-47-8	TPHm			24	1	1
E	Soil	B-48-10	10		8006-61-9	TPHg			10	0	1
E	Soil	B-48-10	10		68476-30-2	TPHd			72	1	1
E	Soil	B-48-5	5		8006-61-9	TPHg			21	1	1
E	Soil	B-48-5	5		64742-47-8	TPHm			170	1	1
E	Soil	B-48-5	5		68476-30-2	TPHd			380	1	1
E	Soil	B-49-10	10		64742-47-8	TPHm			370	1	1
E	Soil	B-49-10	10		8006-61-9	TPHg			240	1	1
E	Soil	B-49-10	10		68476-30-2	TPHd			1800	1	1
E	Soil	B-49-5	5		BaP TEQ	BaP TEQ			0.03525	0	1
E	Soil	B-49-5	5		68476-30-2	TPHd			2500	1	1
E	Soil	B-49-5	5		8006-61-9	TPHg			510	1	1
E	Soil	B-49-5	5		64742-47-8	TPHm			340	1	1
E	Soil	B-50-10	10		BaP TEQ	BaP TEQ			0.546	1	1
E	Soil	B-50-10	10		68476-30-2	TPHd			590	1	1
E	Soil	B-50-10	10		8006-61-9	TPHg			19	1	1
E	Soil	B-50-10	10		64742-47-8	TPHm			1600	1	1
E	Soil	B-51-5	5		68476-30-2	TPHd			520	1	1
E	Soil	B-51-5	5		8006-61-9	TPHg			40	1	1
E	Soil	B-51-5	5		64742-47-8	TPHm			110	1	1
E	Soil	B-52-5	5		8006-61-9	TPHg			130	1	1
E	Soil	B-52-5	5		68476-30-2	TPHd			650	1	1
E	Soil	B-52-5	5		64742-47-8	TPHm			130	1	1
E	Soil	B-53-5	5		BaP TEQ	BaP TEQ			0.03525	0	1
E	Soil	B-53-5	5		64742-47-8	TPHm			250	1	1
E	Soil	B-53-5	5		68476-30-2	TPHd			1400	1	1
E	Soil	B-53-5	5		8006-61-9	TPHg			350	1	1
E	Soil	B-54-10	10		64742-47-8	TPHm			12	1	1
E	Soil	B-54-10	10		8006-61-9	TPHg			10	0	1
E	Soil	B-54-10	10		68476-30-2	TPHd			33	1	1
E	Soil	B-55-5	5		64742-47-8	TPHm			200	1	1
E	Soil	B-55-5	5		8006-61-9	TPHg			84	1	1
E	Soil	B-55-5	5		68476-30-2	TPHd			500	1	1
E	Soil	B-56-10	10		BaP TEQ	BaP TEQ			0.071	1	1
E	Soil	B-56-10	10		64742-47-8	TPHm			1600	1	1
E	Soil	B-56-10	10		8006-61-9	TPHg			400	1	1

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-56-10	10		68476-30-2	TPHd			4600	1	1
E	Soil	B-57-10	10		64742-47-8	TPHm			10	0	1
E	Soil	B-57-10	10		68476-30-2	TPHd			10	0	1
E	Soil	B-57-10	10		8006-61-9	TPHg			10	0	1
E	Soil	B-80-10	10		BaP TEQ	BaP TEQ			0.03525	0	1
E	Soil	B-80-10	10		8006-61-9	TPHg			110	1	1
E	Soil	B-80-10	10		64742-47-8	TPHm			700	1	1
E	Soil	B-80-10	10		68476-30-2	TPHd			1600	1	1
E	Soil	B-8-10	10		8006-61-9	TPHg			10	0	1
E	Soil	B-8-10	10		64742-47-8	TPHm			10	0	1
E	Soil	B-8-10	10		68476-30-2	TPHd			10	0	1
E	Soil	B-81-5	5		BaP TEQ	BaP TEQ			0.072	1	1
E	Soil	B-81-5	5		8006-61-9	TPHg			260	1	1
E	Soil	B-81-5	5		64742-47-8	TPHm			5200	1	1
E	Soil	B-81-5	5		68476-30-2	TPHd			14000	1	1
E	Soil	B-82-10	10		68476-30-2	TPHd			89	1	1
E	Soil	B-82-10	10		8006-61-9	TPHg			62	1	1
E	Soil	B-82-10	10		64742-47-8	TPHm			21	1	1
E	Soil	B-8-5	5		68476-30-2	TPHd			10	0	1
E	Soil	B-8-5	5		64742-47-8	TPHm			10	0	1
E	Soil	B-8-5	5		8006-61-9	TPHg			10	0	1
E	Soil	S-12-0.5	0.5		BaP TEQ	BaP TEQ			0.08254	1	1
E	Soil	S-12-0.5	0.5		8006-61-9	TPHg			10	0	1
E	Soil	S-12-0.5	0.5		68476-30-2	TPHd			47	1	1
E	Soil	S-12-0.5	0.5		64742-47-8	TPHm			760	1	1
E	Soil	S-12-2.5	2.5		68476-30-2	TPHd			10	0	1
E	Soil	S-12-2.5	2.5		64742-47-8	TPHm			10	0	1
E	Soil	S-12-2.5	2.5		8006-61-9	TPHg			10	0	1
E	Soil	S-15-0.5	0.5		BaP TEQ	BaP TEQ			0.05437	1	1
E	Soil	S-15-0.5	0.5		64742-47-8	TPHm			420	1	1
E	Soil	S-15-0.5	0.5		8006-61-9	TPHg			10	0	1
E	Soil	S-15-0.5	0.5		68476-30-2	TPHd			66	1	1
E	Soil	S-15-2.5	2.5		BaP TEQ	BaP TEQ			0.0141	0	1
E	Soil	S-15-2.5	2.5		8006-61-9	TPHg			350	1	1
E	Soil	S-15-2.5	2.5		68476-30-2	TPHd			390	1	1
E	Soil	S-15-2.5	2.5		64742-47-8	TPHm			120	1	1
E	Soil	S-16-0.5	0.5		BaP TEQ	BaP TEQ			0.19977	1	1
E	Soil	S-16-0.5	0.5		64742-47-8	TPHm			1700	1	1
E	Soil	S-16-0.5	0.5		8006-61-9	TPHg			10	0	1
E	Soil	S-16-0.5	0.5		68476-30-2	TPHd			250	1	1
E	Soil	S-16-2.5	2.5		BaP TEQ	BaP TEQ			0.080375	1	1
E	Soil	S-16-2.5	2.5		68476-30-2	TPHd			150	1	1
E	Soil	S-16-2.5	2.5		64742-47-8	TPHm			570	1	1
E	Soil	S-16-2.5	2.5		8006-61-9	TPHg			10	0	1
E	Soil	S-19-0.5	0.5		BaP TEQ	BaP TEQ			0.06619	1	1
E	Soil	S-19-0.5	0.5		64742-47-8	TPHm			950	1	1
E	Soil	S-19-0.5	0.5		8006-61-9	TPHg			10	0	1
E	Soil	S-19-0.5	0.5		68476-30-2	TPHd			230	1	1
E	Soil	S-19-2.5	2.5		8006-61-9	TPHg			10	0	1
E	Soil	S-19-2.5	2.5		68476-30-2	TPHd			16	1	1
E	Soil	S-19-2.5	2.5		64742-47-8	TPHm			80	1	1
E	Soil	SP-3-9	9		64742-47-8	TPHm			190	1	1
E	Soil	SP-3-9	9		68476-30-2	TPHd			890	1	1
E	Soil	SP-3-9	9		8006-61-9	TPHg			100	1	1
E	Soil	SV-60-01	1		BaP TEQ	BaP TEQ			0.0052335	1	1
E	Soil	SV-60-01	1		68476-30-2	TPHd			500	1	1
E	Soil	SV-60-01	1		8006-61-9	TPHg			0.4	0	1

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-60-01	1		64742-47-8	TPHm			920	1	1
E	Soil	SV-60-05	5		BaP TEQ	BaP TEQ			0.02722	1	1
E	Soil	SV-60-05	5		68476-30-2	TPHd			2100	1	1
E	Soil	SV-60-05	5		8006-61-9	TPHg			540	1	1
E	Soil	SV-60-05	5		64742-47-8	TPHm			280	1	1
E	Soil	SV-61-01	1		BaP TEQ	BaP TEQ			0.0038775	0	1
E	Soil	SV-61-01	1		68476-30-2	TPHd			6.3	1	1
E	Soil	SV-61-01	1		64742-47-8	TPHm			13	1	1
E	Soil	SV-61-01	1		8006-61-9	TPHg			0.4	0	1
E	Soil	SV-61-05	5		BaP TEQ	BaP TEQ			0.15585	1	1
E	Soil	SV-61-05	5		68476-30-2	TPHd			5400	1	1
E	Soil	SV-61-05	5		8006-61-9	TPHg			2900	1	1
E	Soil	SV-61-05	5		64742-47-8	TPHm			1500	1	1
E	Soil	SV-62-01	1		BaP TEQ	BaP TEQ			0.33927	1	1
E	Soil	SV-62-01	1		68476-30-2	TPHd			10000	1	1
E	Soil	SV-62-01	1		8006-61-9	TPHg			0.38	0	1
E	Soil	SV-62-01	1		64742-47-8	TPHm			12000	1	1
E	Soil	SV-62-05	5		BaP TEQ	BaP TEQ			0.2927	1	1
E	Soil	SV-62-05	5		8006-61-9	TPHg			390	0	1
E	Soil	SV-62-05	5		64742-47-8	TPHm			4000	1	1
E	Soil	SV-62-05	5		68476-30-2	TPHd			12000	1	1
E	Soil	SV-63-01	1		BaP TEQ	BaP TEQ			0.175	1	1
E	Soil	SV-63-01	1		8006-61-9	TPHg			0.87	1	1
E	Soil	SV-63-01	1		64742-47-8	TPHm			1800	1	1
E	Soil	SV-63-01	1		68476-30-2	TPHd			1900	1	1
E	Soil	SV-63-05	5		BaP TEQ	BaP TEQ			0.004939	1	1
E	Soil	SV-63-05	5		68476-30-2	TPHd			43	1	1
E	Soil	SV-63-05	5		8006-61-9	TPHg			34	1	1
E	Soil	SV-63-05	5		64742-47-8	TPHm			43	1	1
E	Soil	T3A-1	1		68476-30-2	TPHd			9800	1	1
E	Soil	T3A-1	1		8006-61-9	TPHg			11	1	1
E	Soil	T3A-1	1		64742-47-8	TPHm			11000	1	1
E	Soil	T3A-2	2		BaP TEQ	BaP TEQ			0.09233	1	1
E	Soil	T3A-2	2		64742-47-8	TPHm			4500	1	1
E	Soil	T3A-2	2		8006-61-9	TPHg			5	1	1
E	Soil	T3A-2	2		68476-30-2	TPHd			1800	1	1
E	Soil	T3A-3	3		68476-30-2	TPHd			120	1	1
E	Soil	T3A-3	3		8006-61-9	TPHg			2.9	1	1
E	Soil	T3A-3	3		64742-47-8	TPHm			130	1	1
E	Soil	T3A-4	4		68476-30-2	TPHd			3500	1	1
E	Soil	T3A-4	4		8006-61-9	TPHg			140	1	1
E	Soil	T3A-4	4		64742-47-8	TPHm			1600	1	1
E	Soil	T3A-5	5		8006-61-9	TPHg			940	1	1
E	Soil	T3A-5	5		64742-47-8	TPHm			3500	1	1
E	Soil	T3A-5	5		68476-30-2	TPHd			11000	1	1
E	Soil	T3A-6	6		8006-61-9	TPHg			900	1	1
E	Soil	T3A-6	6		64742-47-8	TPHm			2700	1	1
E	Soil	T3A-6	6		68476-30-2	TPHd			8500	1	1
E	Soil	T3B-1	1		68476-30-2	TPHd			9000	1	1
E	Soil	T3B-1	1		8006-61-9	TPHg			46	1	1
E	Soil	T3B-1	1		64742-47-8	TPHm			11000	1	1
E	Soil	T3B-2	2		64742-47-8	TPHm			1100	1	1
E	Soil	T3B-2	2		68476-30-2	TPHd			520	1	1
E	Soil	T3B-2	2		8006-61-9	TPHg			1.4	1	1
E	Soil	T3B-3	3		64742-47-8	TPHm			41	1	1
E	Soil	T3B-3	3		8006-61-9	TPHg			0.74	1	1
E	Soil	T3B-3	3		68476-30-2	TPHd			51	1	1

Attachment 6
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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	T3B-4	4		68476-30-2	TPHd			940	1	1
E	Soil	T3B-4	4		8006-61-9	TPHg			200	1	1
E	Soil	T3B-4	4		64742-47-8	TPHm			390	1	1
E	Soil	T3B-5	5		68476-30-2	TPHd			19000	1	1
E	Soil	T3B-5	5		8006-61-9	TPHg			910	1	1
E	Soil	T3B-5	5		64742-47-8	TPHm			6500	1	1
E	Soil	T3B-6	6		BaP TEQ	BaP TEQ			0.0757	1	1
E	Soil	T3B-6	6		68476-30-2	TPHd			11600	1	1
E	Soil	T3B-6	6		8006-61-9	TPHg			2110	1	1
E	Soil	T3B-6	6		64742-47-8	TPHm			5300	1	1
E	Soil	T3C-1	1		68476-30-2	TPHd			9800	1	1
E	Soil	T3C-1	1		8006-61-9	TPHg			2.3	1	1
E	Soil	T3C-1	1		64742-47-8	TPHm			11000	1	1
E	Soil	T3C-2	2		68476-30-2	TPHd			7000	1	1
E	Soil	T3C-2	2		8006-61-9	TPHg			2.6	1	1
E	Soil	T3C-2	2		64742-47-8	TPHm			8600	1	1
E	Soil	T3C-3	3		68476-30-2	TPHd			1200	1	1
E	Soil	T3C-3	3		8006-61-9	TPHg			3.7	1	1
E	Soil	T3C-3	3		64742-47-8	TPHm			430	1	1
E	Soil	T3C-4	4		68476-30-2	TPHd			2600	1	1
E	Soil	T3C-4	4		64742-47-8	TPHm			1400	1	1
E	Soil	T3C-4	4		8006-61-9	TPHg			640	1	1
E	Soil	T3C-5	5		64742-47-8	TPHm			5400	1	1
E	Soil	T3C-5	5		8006-61-9	TPHg			880	1	1
E	Soil	T3C-5	5		68476-30-2	TPHd			13000	1	1
E	Soil	T3C-6	6		8006-61-9	TPHg			180	1	1
E	Soil	T3C-6	6		68476-30-2	TPHd			3600	1	1
E	Soil	T3C-6	6		64742-47-8	TPHm			1500	1	1
E	Soil	B-12-10	10	24-Sep-97	100-41-4	Ethylbenzene	3.9	mg/K	3.9	1	1
E	Soil	B-12-10	10	24-Sep-97	205-99-2	Benzo(b)fluoranthene	0.05	mg/K	0.05	0	1
E	Soil	B-12-10	10	24-Sep-97	86-73-7	Fluorene	0.2	mg/K	0.2	1	1
E	Soil	B-12-10	10	24-Sep-97	83-32-9	Acenaphthene	0.06	mg/K	0.06	1	1
E	Soil	B-12-10	10	24-Sep-97	208-96-8	Acenaphthylene	0.06	mg/K	0.06	1	1
E	Soil	B-12-10	10	24-Sep-97	120-12-7	Anthracene	0.05	mg/K	0.05	0	1
E	Soil	B-12-10	10	24-Sep-97	71-43-2	Benzene	2.2	mg/K	2.2	1	1
E	Soil	B-12-10	10	24-Sep-97	50-32-8	Benzo(a)pyrene	0.05	mg/K	0.05	0	1
E	Soil	B-12-10	10	24-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.05	mg/K	0.05	0	1
E	Soil	B-12-10	10	24-Sep-97	207-08-9	Benzo(k)fluoranthene	0.05	mg/K	0.05	0	1
E	Soil	B-12-10	10	24-Sep-97		C10-C25	1700	mg/K	1700	1	1
E	Soil	B-12-10	10	24-Sep-97		C1-C40	2800	mg/K	2800	1	1
E	Soil	B-12-10	10	24-Sep-97		C25-C40	220	mg/K	220	1	1
E	Soil	B-12-10	10	24-Sep-97		C4-C10	880	mg/K	880	1	1
E	Soil	B-12-10	10	24-Sep-97	218-01-9	Chrysene	0.05	mg/K	0.05	0	1
E	Soil	B-12-10	10	24-Sep-97	1330-20-7	Xylenes (total)	8.8	mg/K	8.8	1	1
E	Soil	B-12-10	10	24-Sep-97	206-44-0	Fluoranthene	0.05	mg/K	0.05	0	1
E	Soil	B-12-10	10	24-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/K	0.05	0	1
E	Soil	B-12-10	10	24-Sep-97	91-20-3	Naphthalene	0.63	mg/K	0.63	1	1
E	Soil	B-12-10	10	24-Sep-97	85-01-8	Phenanthrene	0.43	mg/K	0.43	1	1
E	Soil	B-12-10	10	24-Sep-97	129-00-0	Pyrene	0.05	mg/K	0.05	0	1
E	Soil	B-12-10	10	24-Sep-97	108-88-3	Toluene	0.2	mg/K	0.2	1	1
E	Soil	B-12-10	10	24-Sep-97	56-55-3	Benzo(a)anthracene	0.05	mg/K	0.05	0	1
E	Soil	B-12-10	10	24-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.05	mg/K	0.05	0	1
E	Soil	B-12-5	5	24-Sep-97	7440-62-2	Vanadium	16	mg/K	16	1	1
E	Soil	B-12-5	5	24-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
E	Soil	B-12-5	5	24-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-12-5	5	24-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-12-5	5	24-Sep-97	7440-02-0	Nickel	6.3	mg/K	6.3	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-12-5	5	24-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-12-5	5	24-Sep-97	7439-92-1	Lead	4	mg/K	4	1	1
E	Soil	B-12-5	5	24-Sep-97	7440-50-8	Copper	4.4	mg/K	4.4	1	1
E	Soil	B-12-5	5	24-Sep-97	7440-48-4	Cobalt	1.4	mg/K	1.4	1	1
E	Soil	B-12-5	5	24-Sep-97	7440-66-6	Zinc	13	mg/K	13	1	1
E	Soil	B-12-5	5	24-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
E	Soil	B-12-5	5	24-Sep-97	7440-47-3	Chromium	17	mg/K	17	1	1
E	Soil	B-12-5	5	24-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
E	Soil	B-12-5	5	24-Sep-97	7440-39-3	Barium	50	mg/K	50	1	1
E	Soil	B-12-5	5	24-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
E	Soil	B-12-5	5	24-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-12-5	5	24-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-13-10	10	24-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
E	Soil	B-13-10	10	24-Sep-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
E	Soil	B-13-10	10	24-Sep-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
E	Soil	B-13-10	10	24-Sep-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
E	Soil	B-13-10	10	24-Sep-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
E	Soil	B-13-10	10	24-Sep-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
E	Soil	B-13-10	10	24-Sep-97	71-43-2	Benzene	0.011	mg/K	0.011	1	1
E	Soil	B-13-10	10	24-Sep-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
E	Soil	B-13-10	10	24-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
E	Soil	B-13-10	10	24-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
E	Soil	B-13-10	10	24-Sep-97		C4-C10	10	mg/K	10	0	1
E	Soil	B-13-10	10	24-Sep-97		C25-C40	10	mg/K	10	0	1
E	Soil	B-13-10	10	24-Sep-97		C1-C40	20	mg/K	20	1	1
E	Soil	B-13-10	10	24-Sep-97		C10-C25	20	mg/K	20	1	1
E	Soil	B-13-10	10	24-Sep-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
E	Soil	B-14-1	1	24-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-14-1	1	24-Sep-97	7439-92-1	Lead	460	mg/K	460	1	0
E	Soil	B-14-1	1	24-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-14-1	1	24-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
E	Soil	B-14-1	1	24-Sep-97	7440-39-3	Barium	93	mg/K	93	1	1
E	Soil	B-14-1	1	24-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
E	Soil	B-14-1	1	24-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-14-1	1	24-Sep-97	7440-47-3	Chromium	21	mg/K	21	1	1
E	Soil	B-14-1	1	24-Sep-97	7440-66-6	Zinc	130	mg/K	130	1	1
E	Soil	B-14-1	1	24-Sep-97	7440-50-8	Copper	14	mg/K	14	1	1
E	Soil	B-14-1	1	24-Sep-97	7440-62-2	Vanadium	22	mg/K	22	1	1
E	Soil	B-14-1	1	24-Sep-97	7439-92-1	Lead	490	mg/K	490	1	1
E	Soil	B-14-1	1	24-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	1	1
E	Soil	B-14-1	1	24-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
E	Soil	B-14-1	1	24-Sep-97	7440-02-0	Nickel	16	mg/K	16	1	1
E	Soil	B-14-1	1	24-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
E	Soil	B-14-1	1	24-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-14-1	1	24-Sep-97	7440-48-4	Cobalt	2.1	mg/K	2.1	1	1
E	Soil	B-14-5	5	24-Sep-97		C4-C10	270	mg/K	270	1	1
E	Soil	B-14-5	5	24-Sep-97	1330-20-7	Xylenes (total)	3.1	mg/K	3.1	1	1
E	Soil	B-14-5	5	24-Sep-97	100-41-4	Ethylbenzene	0.7	mg/K	0.7	1	1
E	Soil	B-14-5	5	24-Sep-97		C25-C40	10	mg/K	10	1	1
E	Soil	B-14-5	5	24-Sep-97		C1-C40	420	mg/K	420	1	1
E	Soil	B-14-5	5	24-Sep-97		C10-C25	140	mg/K	140	1	1
E	Soil	B-14-5	5	24-Sep-97	71-43-2	Benzene	0.2	mg/K	0.2	1	1
E	Soil	B-14-5	5	24-Sep-97	108-88-3	Toluene	0.2	mg/K	0.2	1	1
E	Soil	B-15-10	10	24-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/K	0.05	0	1
E	Soil	B-15-10	10	24-Sep-97	91-20-3	Naphthalene	1.4	mg/K	1.4	1	1
E	Soil	B-15-10	10	24-Sep-97	1330-20-7	Xylenes (total)	1.1	mg/K	1.1	1	1
E	Soil	B-15-10	10	24-Sep-97	108-88-3	Toluene	1.3	mg/K	1.3	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-15-10	10	24-Sep-97	129-00-0	Pyrene	0.05	mg/K	0.05	1	1
E	Soil	B-15-10	10	24-Sep-97	86-73-7	Fluorene	0.33	mg/K	0.33	1	1
E	Soil	B-15-10	10	24-Sep-97	71-43-2	Benzene	3.5	mg/K	3.5	1	1
E	Soil	B-15-10	10	24-Sep-97	207-08-9	Benzo(k)fluoranthene	0.05	mg/K	0.05	0	1
E	Soil	B-15-10	10	24-Sep-97	208-96-8	Acenaphthylene	0.12	mg/K	0.12	1	1
E	Soil	B-15-10	10	24-Sep-97	83-32-9	Acenaphthene	0.09	mg/K	0.09	1	1
E	Soil	B-15-10	10	24-Sep-97	85-01-8	Phenanthrene	0.59	mg/K	0.59	1	1
E	Soil	B-15-10	10	24-Sep-97	120-12-7	Anthracene	0.05	mg/K	0.05	0	1
E	Soil	B-15-10	10	24-Sep-97	218-01-9	Chrysene	0.05	mg/K	0.05	0	1
E	Soil	B-15-10	10	24-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.05	mg/K	0.05	0	1
E	Soil	B-15-10	10	24-Sep-97		C1-C40	3070	mg/K	3070	1	1
E	Soil	B-15-10	10	24-Sep-97		C4-C10	400	mg/K	400	1	1
E	Soil	B-15-10	10	24-Sep-97	100-41-4	Ethylbenzene	1.4	mg/K	1.4	1	1
E	Soil	B-15-10	10	24-Sep-97		C25-C40	370	mg/K	370	1	1
E	Soil	B-15-10	10	24-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.05	mg/K	0.05	0	1
E	Soil	B-15-10	10	24-Sep-97	205-99-2	Benzo(b)fluoranthene	0.05	mg/K	0.05	0	1
E	Soil	B-15-10	10	24-Sep-97	50-32-8	Benzo(a)pyrene	0.05	mg/K	0.05	0	1
E	Soil	B-15-10	10	24-Sep-97	56-55-3	Benzo(a)anthracene	0.05	mg/K	0.05	0	1
E	Soil	B-15-10	10	24-Sep-97	206-44-0	Fluoranthene	0.05	mg/K	0.05	0	1
E	Soil	B-15-10	10	24-Sep-97		C10-C25	2300	mg/K	2300	1	1
E	Soil	B-16-1	1	24-Sep-97	7440-50-8	Copper	12	mg/K	12	1	1
E	Soil	B-16-1	1	24-Sep-97	7439-92-1	Lead	32	mg/K	32	1	0
E	Soil	B-16-1	1	24-Sep-97	7439-92-1	Lead	37	mg/K	37	1	1
E	Soil	B-16-1	1	24-Sep-97	7440-47-3	Chromium	21	mg/K	21	1	1
E	Soil	B-16-1	1	24-Sep-97	7440-02-0	Nickel	15	mg/K	15	1	1
E	Soil	B-16-1	1	24-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-16-1	1	24-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
E	Soil	B-16-1	1	24-Sep-97	7440-39-3	Barium	75	mg/K	75	1	1
E	Soil	B-16-1	1	24-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
E	Soil	B-16-1	1	24-Sep-97	7440-48-4	Cobalt	2.6	mg/K	2.6	1	1
E	Soil	B-16-1	1	24-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
E	Soil	B-16-1	1	24-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
E	Soil	B-16-1	1	24-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-16-1	1	24-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-16-1	1	24-Sep-97	7440-62-2	Vanadium	21	mg/K	21	1	1
E	Soil	B-16-1	1	24-Sep-97	7440-66-6	Zinc	62	mg/K	62	1	1
E	Soil	B-16-1	1	24-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	1	1
E	Soil	B-16-1	1	24-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-16-10	10	24-Sep-97	71-43-2	Benzene	0.018	mg/K	0.018	1	1
E	Soil	B-16-10	10	24-Sep-97	100-41-4	Ethylbenzene	0.006	mg/K	0.006	1	1
E	Soil	B-16-10	10	24-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
E	Soil	B-16-10	10	24-Sep-97	1330-20-7	Xylenes (total)	0.006	mg/K	0.006	1	1
E	Soil	B-16-10	10	24-Sep-97		C25-C40	10	mg/K	10	0	1
E	Soil	B-16-10	10	24-Sep-97		C4-C10	10	mg/K	10	0	1
E	Soil	B-16-10	10	24-Sep-97		C10-C25	10	mg/K	10	1	1
E	Soil	B-16-10	10	24-Sep-97		C1-C40	10	mg/K	10	1	1
E	Soil	B-17-1	1	24-Sep-97	7439-92-1	Lead	3	mg/K	3	1	1
E	Soil	B-17-10	10	24-Sep-97	50-32-8	Benzo(a)pyrene	0.1	mg/K	0.1	0	1
E	Soil	B-17-10	10	24-Sep-97	205-99-2	Benzo(b)fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-17-10	10	24-Sep-97	11104-28-2	Aroclor 1221	0.3	mg/K	0.3	0	1
E	Soil	B-17-10	10	24-Sep-97	12674-11-2	Aroclor 1016	0.3	mg/K	0.3	0	1
E	Soil	B-17-10	10	24-Sep-97	120-12-7	Anthracene	0.1	mg/K	0.1	1	1
E	Soil	B-17-10	10	24-Sep-97	208-96-8	Acenaphthylene	0.2	mg/K	0.2	1	1
E	Soil	B-17-10	10	24-Sep-97	1330-20-7	Xylenes (total)	31	mg/K	31	1	1
E	Soil	B-17-10	10	24-Sep-97		C4-C10	3100	mg/K	3100	1	1
E	Soil	B-17-10	10	24-Sep-97	83-32-9	Acenaphthene	0.3	mg/K	0.3	1	1
E	Soil	B-17-10	10	24-Sep-97	100-41-4	Ethylbenzene	11	mg/K	11	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-17-10	10	24-Sep-97	206-44-0	Fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-17-10	10	24-Sep-97	86-73-7	Fluorene	0.6	mg/K	0.6	1	1
E	Soil	B-17-10	10	24-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.1	mg/K	0.1	0	1
E	Soil	B-17-10	10	24-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.1	mg/K	0.1	0	1
E	Soil	B-17-10	10	24-Sep-97	91-20-3	Naphthalene	3.2	mg/K	3.2	1	1
E	Soil	B-17-10	10	24-Sep-97	85-01-8	Phenanthrene	1.3	mg/K	1.3	1	1
E	Soil	B-17-10	10	24-Sep-97	129-00-0	Pyrene	0.1	mg/K	0.1	0	1
E	Soil	B-17-10	10	24-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-17-10	10	24-Sep-97		C1-C40	13700	mg/K	13700	1	1
E	Soil	B-17-10	10	24-Sep-97	11141-16-5	Aroclor 1232	0.3	mg/K	0.3	0	1
E	Soil	B-17-10	10	24-Sep-97	11097-69-1	Aroclor 1254	0.3	mg/K	0.3	0	1
E	Soil	B-17-10	10	24-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-17-10	10	24-Sep-97	218-01-9	Chrysene	0.1	mg/K	0.1	0	1
E	Soil	B-17-10	10	24-Sep-97	12672-29-6	Aroclor 1248	0.3	mg/K	0.3	0	1
E	Soil	B-17-10	10	24-Sep-97		C25-C40	1800	mg/K	1800	1	1
E	Soil	B-17-10	10	24-Sep-97		C10-C25	8800	mg/K	8800	1	1
E	Soil	B-17-10	10	24-Sep-97	207-08-9	Benzo(k)fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-17-10	10	24-Sep-97	11096-82-5	Aroclor 1260	0.3	mg/K	0.3	0	1
E	Soil	B-17-10	10	24-Sep-97	71-43-2	Benzene	19	mg/K	19	1	1
E	Soil	B-17-10	10	24-Sep-97	56-55-3	Benzo(a)anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-17-10	10	24-Sep-97	53469-21-9	Aroclor 1242	0.3	mg/K	0.3	0	1
E	Soil	B-31-5	5	06-Sep-97		C10-C25	780	mg/K	780	1	1
E	Soil	B-31-5	5	06-Sep-97		C4-C10	280	mg/K	280	1	1
E	Soil	B-31-5	5	06-Sep-97	1634-04-4	Methyl tert-butyl ether	0.1	mg/K	0.1	0	1
E	Soil	B-31-5	5	06-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-31-5	5	06-Sep-97	100-41-4	Ethylbenzene	0.5	mg/K	0.5	1	1
E	Soil	B-31-5	5	06-Sep-97		C1-C40	1250	mg/K	1250	1	1
E	Soil	B-31-5	5	06-Sep-97	1330-20-7	Xylenes (total)	0.6	mg/K	0.6	1	1
E	Soil	B-31-5	5	06-Sep-97	71-43-2	Benzene	0.2	mg/K	0.2	1	1
E	Soil	B-31-5	5	06-Sep-97		C25-C40	190	mg/K	190	1	1
E	Soil	B-32-5	5	06-Sep-97	1330-20-7	Xylenes (total)	170	mg/K	170	1	1
E	Soil	B-32-5	5	06-Sep-97		C10-C25	420	mg/K	420	1	1
E	Soil	B-32-5	5	06-Sep-97		C1-C40	1770	mg/K	1770	1	1
E	Soil	B-32-5	5	06-Sep-97		C25-C40	50	mg/K	50	1	1
E	Soil	B-32-5	5	06-Sep-97		C4-C10	1300	mg/K	1300	1	1
E	Soil	B-32-5	5	06-Sep-97	100-41-4	Ethylbenzene	32	mg/K	32	1	1
E	Soil	B-32-5	5	06-Sep-97	1634-04-4	Methyl tert-butyl ether	0.1	mg/K	0.1	0	1
E	Soil	B-32-5	5	06-Sep-97	108-88-3	Toluene	34	mg/K	34	1	1
E	Soil	B-32-5	5	06-Sep-97	71-43-2	Benzene	12	mg/K	12	1	1
E	Soil	B-33-5	5	06-Sep-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
E	Soil	B-33-5	5	06-Sep-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
E	Soil	B-33-5	5	06-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
E	Soil	B-33-5	5	06-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
E	Soil	B-33-5	5	06-Sep-97	100-41-4	Ethylbenzene	0.021	mg/K	0.021	1	1
E	Soil	B-33-5	5	06-Sep-97		C4-C10	10	mg/K	10	0	1
E	Soil	B-33-5	5	06-Sep-97		C25-C40	10	mg/K	10	0	1
E	Soil	B-33-5	5	06-Sep-97		C1-C40	10	mg/K	10	0	1
E	Soil	B-33-5	5	06-Sep-97	71-43-2	Benzene	0.061	mg/K	0.061	1	1
E	Soil	B-33-5	5	06-Sep-97	1330-20-7	Xylenes (total)	0.04	mg/K	0.04	1	1
E	Soil	B-33-5	5	06-Sep-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
E	Soil	B-33-5	5	06-Sep-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
E	Soil	B-33-5	5	06-Sep-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
E	Soil	B-33-5	5	06-Sep-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
E	Soil	B-33-5	5	06-Sep-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
E	Soil	B-33-5	5	06-Sep-97		C10-C25	10	mg/K	10	0	1
E	Soil	B-34-5	5	25-Sep-97	100-41-4	Ethylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-34-5	5	25-Sep-97	86-73-7	Fluorene	0.4	mg/K	0.4	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-34-5	5	25-Sep-97	206-44-0	Fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-34-5	5	25-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-34-5	5	25-Sep-97	218-01-9	Chrysene	0.1	mg/K	0.1	0	1
E	Soil	B-34-5	5	25-Sep-97	7440-02-0	Nickel	8.8	mg/K	8.8	1	1
E	Soil	B-34-5	5	25-Sep-97	78-00-2	Tetraethyl Lead	1	mg/K	1	0	1
E	Soil	B-34-5	5	25-Sep-97	85-01-8	Phenanthrene	1.1	mg/K	1.1	1	1
E	Soil	B-34-5	5	25-Sep-97	129-00-0	Pyrene	0.1	mg/K	0.1	1	1
E	Soil	B-34-5	5	25-Sep-97	7440-66-6	Zinc	16	mg/K	16	1	1
E	Soil	B-34-5	5	25-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.1	mg/K	0.1	0	1
E	Soil	B-34-5	5	25-Sep-97	7440-62-2	Vanadium	12	mg/K	12	1	1
E	Soil	B-34-5	5	25-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-34-5	5	25-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-34-5	5	25-Sep-97	91-20-3	Naphthalene	0.3	mg/K	0.3	1	1
E	Soil	B-34-5	5	25-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
E	Soil	B-34-5	5	25-Sep-97	1634-04-4	Methyl tert-butyl ether	0.1	mg/K	0.1	0	1
E	Soil	B-34-5	5	25-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-34-5	5	25-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
E	Soil	B-34-5	5	25-Sep-97	7439-92-1	Lead	3.2	mg/K	3.2	1	1
E	Soil	B-34-5	5	25-Sep-97	1330-20-7	Xylenes (total)	0.2	mg/K	0.2	1	1
E	Soil	B-34-5	5	25-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
E	Soil	B-34-5	5	25-Sep-97	7440-47-3	Chromium	13	mg/K	13	1	1
E	Soil	B-34-5	5	25-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-34-5	5	25-Sep-97		C4-C10	230	mg/K	230	1	1
E	Soil	B-34-5	5	25-Sep-97		C25-C40	3600	mg/K	3600	1	1
E	Soil	B-34-5	5	25-Sep-97	7440-50-8	Copper	5.4	mg/K	5.4	1	1
E	Soil	B-34-5	5	25-Sep-97		C10-C25	4500	mg/K	4500	1	1
E	Soil	B-34-5	5	25-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-34-5	5	25-Sep-97	207-08-9	Benzo(k)fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-34-5	5	25-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.1	mg/K	0.1	0	1
E	Soil	B-34-5	5	25-Sep-97	205-99-2	Benzo(b)fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-34-5	5	25-Sep-97	50-32-8	Benzo(a)pyrene	0.1	mg/K	0.1	0	1
E	Soil	B-34-5	5	25-Sep-97	83-32-9	Acenaphthene	0.2	mg/K	0.2	1	1
E	Soil	B-34-5	5	25-Sep-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
E	Soil	B-34-5	5	25-Sep-97	7440-39-3	Barium	43	mg/K	43	1	1
E	Soil	B-34-5	5	25-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
E	Soil	B-34-5	5	25-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-34-5	5	25-Sep-97	120-12-7	Anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-34-5	5	25-Sep-97	208-96-8	Acenaphthylene	0.1	mg/K	0.1	0	1
E	Soil	B-34-5	5	25-Sep-97	7440-48-4	Cobalt	2	mg/K	2	1	1
E	Soil	B-34-5	5	25-Sep-97	56-55-3	Benzo(a)anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-34-5	5	25-Sep-97		C1-C40	8330	mg/K	8330	1	1
E	Soil	B-35-5	5	18-Sep-97	206-44-0	Fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-35-5	5	18-Sep-97		C4-C10	200	mg/K	200	1	1
E	Soil	B-35-5	5	18-Sep-97	100-41-4	Ethylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-35-5	5	18-Sep-97	218-01-9	Chrysene	0.1	mg/K	0.1	0	1
E	Soil	B-35-5	5	18-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-35-5	5	18-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-35-5	5	18-Sep-97	86-73-7	Fluorene	0.5	mg/K	0.5	1	1
E	Soil	B-35-5	5	18-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.1	mg/K	0.1	0	1
E	Soil	B-35-5	5	18-Sep-97	91-20-3	Naphthalene	0.1	mg/K	0.1	0	1
E	Soil	B-35-5	5	18-Sep-97	129-00-0	Pyrene	0.1	mg/K	0.1	0	1
E	Soil	B-35-5	5	18-Sep-97	1330-20-7	Xylenes (total)	0.1	mg/K	0.1	0	1
E	Soil	B-35-5	5	18-Sep-97	56-55-3	Benzo(a)anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-35-5	5	18-Sep-97	85-01-8	Phenanthrene	0.9	mg/K	0.9	1	1
E	Soil	B-35-5	5	18-Sep-97	11104-28-2	Aroclor 1221	0.6	mg/K	0.6	0	1
E	Soil	B-35-5	5	18-Sep-97	205-99-2	Benzo(b)fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-35-5	5	18-Sep-97	12674-11-2	Aroclor 1016	0.6	mg/K	0.6	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-35-5	5	18-Sep-97	120-12-7	Anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-35-5	5	18-Sep-97	208-96-8	Acenaphthylene	0.1	mg/K	0.1	1	1
E	Soil	B-35-5	5	18-Sep-97		C25-C40	1400	mg/K	1400	1	1
E	Soil	B-35-5	5	18-Sep-97	83-32-9	Acenaphthene	0.1	mg/K	0.1	1	1
E	Soil	B-35-5	5	18-Sep-97	11141-16-5	Aroclor 1232	0.6	mg/K	0.6	0	1
E	Soil	B-35-5	5	18-Sep-97	53469-21-9	Aroclor 1242	0.6	mg/K	0.6	0	1
E	Soil	B-35-5	5	18-Sep-97	207-08-9	Benzo(k)fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-35-5	5	18-Sep-97	11097-69-1	Aroclor 1254	0.6	mg/K	0.6	0	1
E	Soil	B-35-5	5	18-Sep-97	11096-82-5	Aroclor 1260	0.6	mg/K	0.6	0	1
E	Soil	B-35-5	5	18-Sep-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
E	Soil	B-35-5	5	18-Sep-97	50-32-8	Benzo(a)pyrene	0.1	mg/K	0.1	0	1
E	Soil	B-35-5	5	18-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.1	mg/K	0.1	0	1
E	Soil	B-35-5	5	18-Sep-97	12672-29-6	Aroclor 1248	0.6	mg/K	0.6	0	1
E	Soil	B-35-5	5	18-Sep-97		C1-C40	5000	mg/K	5000	1	1
E	Soil	B-35-5	5	18-Sep-97		C10-C25	3400	mg/K	3400	1	1
E	Soil	B-46-10	10	06-Sep-97	630-20-6	1,1,1,2-Tetrachloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	87-61-6	1,2,3-Trichlorobenzene	0.2	mg/K	0.2	0	1
E	Soil	B-46-10	10	06-Sep-97	79-00-5	1,1,2-Trichloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	78-87-5	1,2-Dichloropropane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	71-55-6	1,1,1-Trichloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	79-34-5	1,1,2,2-Tetrachloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	75-34-3	1,1-Dichloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	7440-39-3	Barium	43	mg/K	43	1	1
E	Soil	B-46-10	10	06-Sep-97	563-58-6	1,1-Dichloropropene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
E	Soil	B-46-10	10	06-Sep-97	96-18-4	1,2,3-Trichloropropane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	120-82-1	1,2,4-Trichlorobenzene	0.2	mg/K	0.2	0	1
E	Soil	B-46-10	10	06-Sep-97	95-63-6	1,2,4-Trimethylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	96-12-8	1,2-Dibromo-3-chloropropane	0.2	mg/K	0.2	0	1
E	Soil	B-46-10	10	06-Sep-97	106-93-4	1,2-Dibromoethane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	95-50-1	1,2-Dichlorobenzene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	107-06-2	1,2-Dichloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	75-35-4	1,1-Dichloroethene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	83-32-9	Acenaphthene	0.3	mg/K	0.3	1	1
E	Soil	B-46-10	10	06-Sep-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	108-67-8	1,3,5-Trimethylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	541-73-1	1,3-Dichlorobenzene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	142-28-9	1,3-Dichloropropane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	106-46-7	1,4-Dichlorobenzene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	594-20-7	2,2-Dichloropropane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	110-75-8	2-Chloroethyl vinyl ether	0.2	mg/K	0.2	0	1
E	Soil	B-46-10	10	06-Sep-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
E	Soil	B-46-10	10	06-Sep-97	106-43-4	4-Chlorotoluene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
E	Soil	B-46-10	10	06-Sep-97	208-96-8	Acenaphthylene	0.2	mg/K	0.2	1	1
E	Soil	B-46-10	10	06-Sep-97	120-12-7	Anthracene	0.2	mg/K	0.2	0	1
E	Soil	B-46-10	10	06-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-46-10	10	06-Sep-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
E	Soil	B-46-10	10	06-Sep-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
E	Soil	B-46-10	10	06-Sep-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
E	Soil	B-46-10	10	06-Sep-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
E	Soil	B-46-10	10	06-Sep-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
E	Soil	B-46-10	10	06-Sep-97	95-49-8	2-Chlorotoluene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	1634-04-4	Methyl tert-butyl ether	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	103-65-1	n-Propylbenzene	2.7	mg/K	2.7	1	1
E	Soil	B-46-10	10	06-Sep-97	7440-02-0	Nickel	6.7	mg/K	6.7	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-46-10	10	06-Sep-97	104-51-8	n-Butylbenzene	0.7	mg/K	0.7	1	1
E	Soil	B-46-10	10	06-Sep-97	91-20-3	Naphthalene	3.4	mg/K	3.4	1	1
E	Soil	B-46-10	10	06-Sep-97	91-20-3	Naphthalene	2.6	mg/K	2.6	1	0
E	Soil	B-46-10	10	06-Sep-97	206-44-0	Fluoranthene	0.2	mg/K	0.2	0	1
E	Soil	B-46-10	10	06-Sep-97	75-09-2	Methylene chloride	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	129-00-0	Pyrene	0.2	mg/K	0.2	0	1
E	Soil	B-46-10	10	06-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	7439-92-1	Lead	3.6	mg/K	3.6	1	1
E	Soil	B-46-10	10	06-Sep-97	98-82-8	Isopropylbenzene	1.5	mg/K	1.5	1	1
E	Soil	B-46-10	10	06-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.2	mg/K	0.2	0	1
E	Soil	B-46-10	10	06-Sep-97	87-68-3	Hexachlorobutadiene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	86-73-7	Fluorene	1.2	mg/K	1.2	1	1
E	Soil	B-46-10	10	06-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
E	Soil	B-46-10	10	06-Sep-97	156-60-5	trans-1,2-Dichloroethene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	56-55-3	Benzo(a)anthracene	0.2	mg/K	0.2	0	1
E	Soil	B-46-10	10	06-Sep-97	7440-66-6	Zinc	11	mg/K	11	1	1
E	Soil	B-46-10	10	06-Sep-97	1330-20-7	Xylenes (total)	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	75-01-4	Vinyl chloride	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	7440-62-2	Vanadium	17	mg/K	17	1	1
E	Soil	B-46-10	10	06-Sep-97	75-69-4	Trichlorofluoromethane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	85-01-8	Phenanthrene	1.8	mg/K	1.8	1	1
E	Soil	B-46-10	10	06-Sep-97	10061-02-6	trans-1,3-Dichloropropene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	99-87-6	p-Isopropyltoluene	0.1	mg/K	0.1	1	1
E	Soil	B-46-10	10	06-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-46-10	10	06-Sep-97	100-42-5	Styrene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-46-10	10	06-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
E	Soil	B-46-10	10	06-Sep-97	135-98-8	sec-Butylbenzene	1.2	mg/K	1.2	1	1
E	Soil	B-46-10	10	06-Sep-97	98-06-6	tert-Butylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	79-01-6	Trichloroethene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	74-97-5	Bromochloromethane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97		C4-C10	670	mg/K	670	1	1
E	Soil	B-46-10	10	06-Sep-97		C25-C40	1400	mg/K	1400	1	1
E	Soil	B-46-10	10	06-Sep-97		C1-C40	8770	mg/K	8770	1	1
E	Soil	B-46-10	10	06-Sep-97		C10-C25	6700	mg/K	6700	1	1
E	Soil	B-46-10	10	06-Sep-97	50-32-8	Benzo(a)pyrene	0.2	mg/K	0.2	0	1
E	Soil	B-46-10	10	06-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-46-10	10	06-Sep-97	75-25-2	Bromoform	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	75-27-4	Bromodichloromethane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
E	Soil	B-46-10	10	06-Sep-97	207-08-9	Benzo(k)fluoranthene	0.2	mg/K	0.2	0	1
E	Soil	B-46-10	10	06-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.2	mg/K	0.2	0	1
E	Soil	B-46-10	10	06-Sep-97	205-99-2	Benzo(b)fluoranthene	0.2	mg/K	0.2	0	1
E	Soil	B-46-10	10	06-Sep-97	100-41-4	Ethylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	127-18-4	Tetrachloroethene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	74-83-9	Bromomethane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	7440-50-8	Copper	3.9	mg/K	3.9	1	1
E	Soil	B-46-10	10	06-Sep-97	34077-87-7	Dichlorotrifluoroethane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	75-71-8	Dichlorodifluoromethane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	108-86-1	Bromobenzene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	56-23-5	Carbon tetrachloride	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	74-95-3	Dibromomethane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	124-48-1	Dibromochloromethane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.2	mg/K	0.2	0	1
E	Soil	B-46-10	10	06-Sep-97	7440-48-4	Cobalt	1.2	mg/K	1.2	1	1
E	Soil	B-46-10	10	06-Sep-97	74-87-3	Chloromethane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	108-90-7	Chlorobenzene	0.1	mg/K	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-46-10	10	06-Sep-97	156-59-2	cis-1,2-Dichloroethene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	75-00-3	Chloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	218-01-9	Chrysene	0.2	mg/K	0.2	0	1
E	Soil	B-46-10	10	06-Sep-97	7440-47-3	Chromium	20	mg/K	20	1	1
E	Soil	B-46-10	10	06-Sep-97	10061-01-5	cis-1,3-Dichloropropene	0.1	mg/K	0.1	0	1
E	Soil	B-46-10	10	06-Sep-97	67-66-3	Chloroform	0.1	mg/K	0.1	0	1
E	Soil	B-47-5	5	25-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
E	Soil	B-47-5	5	25-Sep-97	1634-04-4	Methyl tert-butyl ether	0.1	mg/K	0.1	0	1
E	Soil	B-47-5	5	25-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-47-5	5	25-Sep-97	86-73-7	Fluorene	0.6	mg/K	0.6	1	1
E	Soil	B-47-5	5	25-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.1	mg/K	0.1	0	1
E	Soil	B-47-5	5	25-Sep-97	91-20-3	Naphthalene	0.1	mg/K	0.1	1	1
E	Soil	B-47-5	5	25-Sep-97	7440-62-2	Vanadium	16	mg/K	16	1	1
E	Soil	B-47-5	5	25-Sep-97	100-41-4	Ethylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-47-5	5	25-Sep-97	206-44-0	Fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-47-5	5	25-Sep-97	7439-92-1	Lead	3.8	mg/K	3.8	1	1
E	Soil	B-47-5	5	25-Sep-97	7440-02-0	Nickel	11	mg/K	11	1	1
E	Soil	B-47-5	5	25-Sep-97	85-01-8	Phenanthrene	1	mg/K	1	1	1
E	Soil	B-47-5	5	25-Sep-97	129-00-0	Pyrene	0.2	mg/K	0.2	1	1
E	Soil	B-47-5	5	25-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
E	Soil	B-47-5	5	25-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-47-5	5	25-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-47-5	5	25-Sep-97	1330-20-7	Xylenes (total)	0.1	mg/K	0.1	0	1
E	Soil	B-47-5	5	25-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-47-5	5	25-Sep-97	7440-39-3	Barium	71	mg/K	71	1	1
E	Soil	B-47-5	5	25-Sep-97	7440-66-6	Zinc	16	mg/K	16	1	1
E	Soil	B-47-5	5	25-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-47-5	5	25-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.1	mg/K	0.1	0	1
E	Soil	B-47-5	5	25-Sep-97	83-32-9	Acenaphthene	0.2	mg/K	0.2	1	1
E	Soil	B-47-5	5	25-Sep-97	208-96-8	Acenaphthylene	0.1	mg/K	0.1	1	1
E	Soil	B-47-5	5	25-Sep-97	120-12-7	Anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-47-5	5	25-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-47-5	5	25-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
E	Soil	B-47-5	5	25-Sep-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
E	Soil	B-47-5	5	25-Sep-97	56-55-3	Benzo(a)anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-47-5	5	25-Sep-97	205-99-2	Benzo(b)fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-47-5	5	25-Sep-97	7440-50-8	Copper	9	mg/K	9	1	1
E	Soil	B-47-5	5	25-Sep-97	207-08-9	Benzo(k)fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-47-5	5	25-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
E	Soil	B-47-5	5	25-Sep-97		C10-C25	4600	mg/K	4600	1	1
E	Soil	B-47-5	5	25-Sep-97		C1-C40	7910	mg/K	7910	1	1
E	Soil	B-47-5	5	25-Sep-97		C25-C40	3100	mg/K	3100	1	1
E	Soil	B-47-5	5	25-Sep-97		C4-C10	210	mg/K	210	1	1
E	Soil	B-47-5	5	25-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-47-5	5	25-Sep-97	7440-47-3	Chromium	16	mg/K	16	1	1
E	Soil	B-47-5	5	25-Sep-97	218-01-9	Chrysene	0.1	mg/K	0.1	1	1
E	Soil	B-47-5	5	25-Sep-97	7440-48-4	Cobalt	2.7	mg/K	2.7	1	1
E	Soil	B-47-5	5	25-Sep-97	50-32-8	Benzo(a)pyrene	0.1	mg/K	0.1	0	1
E	Soil	B-48-10	10	25-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
E	Soil	B-48-10	10	25-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
E	Soil	B-48-10	10	25-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
E	Soil	B-48-10	10	25-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
E	Soil	B-48-10	10	25-Sep-97		C25-C40	24	mg/K	24	1	1
E	Soil	B-48-10	10	25-Sep-97		C1-C40	96	mg/K	96	1	1
E	Soil	B-48-10	10	25-Sep-97		C10-C25	72	mg/K	72	1	1
E	Soil	B-48-10	10	25-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
E	Soil	B-48-10	10	25-Sep-97		C4-C10	10	mg/K	10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-48-5	5	25-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-48-5	5	25-Sep-97	7440-48-4	Cobalt	1.2	mg/K	1.2	1	1
E	Soil	B-48-5	5	25-Sep-97	7440-50-8	Copper	4.7	mg/K	4.7	1	1
E	Soil	B-48-5	5	25-Sep-97	100-41-4	Ethylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-48-5	5	25-Sep-97	7439-92-1	Lead	3.5	mg/K	3.5	1	1
E	Soil	B-48-5	5	25-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-48-5	5	25-Sep-97	1634-04-4	Methyl tert-butyl ether	0.1	mg/K	0.1	0	1
E	Soil	B-48-5	5	25-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
E	Soil	B-48-5	5	25-Sep-97	7440-02-0	Nickel	6.3	mg/K	6.3	1	1
E	Soil	B-48-5	5	25-Sep-97	7440-47-3	Chromium	19	mg/K	19	1	1
E	Soil	B-48-5	5	25-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-48-5	5	25-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-48-5	5	25-Sep-97	1330-20-7	Xylenes (total)	0.1	mg/K	0.1	0	1
E	Soil	B-48-5	5	25-Sep-97	7440-66-6	Zinc	12	mg/K	12	1	1
E	Soil	B-48-5	5	25-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-48-5	5	25-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
E	Soil	B-48-5	5	25-Sep-97	11096-82-5	Aroclor 1260	0.12	mg/K	0.12	0	1
E	Soil	B-48-5	5	25-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-48-5	5	25-Sep-97	7440-62-2	Vanadium	16	mg/K	16	1	1
E	Soil	B-48-5	5	25-Sep-97	11104-28-2	Aroclor 1221	0.12	mg/K	0.12	0	1
E	Soil	B-48-5	5	25-Sep-97	11141-16-5	Aroclor 1232	0.12	mg/K	0.12	0	1
E	Soil	B-48-5	5	25-Sep-97	53469-21-9	Aroclor 1242	0.12	mg/K	0.12	0	1
E	Soil	B-48-5	5	25-Sep-97	12674-11-2	Aroclor 1016	0.12	mg/K	0.12	0	1
E	Soil	B-48-5	5	25-Sep-97	11097-69-1	Aroclor 1254	0.12	mg/K	0.12	0	1
E	Soil	B-48-5	5	25-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
E	Soil	B-48-5	5	25-Sep-97	7440-39-3	Barium	36	mg/K	36	1	1
E	Soil	B-48-5	5	25-Sep-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
E	Soil	B-48-5	5	25-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
E	Soil	B-48-5	5	25-Sep-97		C10-C25	380	mg/K	380	1	1
E	Soil	B-48-5	5	25-Sep-97		C1-C40	571	mg/K	571	1	1
E	Soil	B-48-5	5	25-Sep-97		C25-C40	170	mg/K	170	1	1
E	Soil	B-48-5	5	25-Sep-97		C4-C10	21	mg/K	21	1	1
E	Soil	B-48-5	5	25-Sep-97	12672-29-6	Aroclor 1248	0.12	mg/K	0.12	0	1
E	Soil	B-49-10	10	25-Sep-97	100-41-4	Ethylbenzene	1.1	mg/K	1.1	1	1
E	Soil	B-49-10	10	25-Sep-97		C4-C10	240	mg/K	240	1	1
E	Soil	B-49-10	10	25-Sep-97	1330-20-7	Xylenes (total)	1.3	mg/K	1.3	1	1
E	Soil	B-49-10	10	25-Sep-97	1634-04-4	Methyl tert-butyl ether	0.1	mg/K	0.1	0	1
E	Soil	B-49-10	10	25-Sep-97		C1-C40	2410	mg/K	2410	1	1
E	Soil	B-49-10	10	25-Sep-97		C10-C25	1800	mg/K	1800	1	1
E	Soil	B-49-10	10	25-Sep-97	71-43-2	Benzene	0.3	mg/K	0.3	1	1
E	Soil	B-49-10	10	25-Sep-97		C25-C40	370	mg/K	370	1	1
E	Soil	B-49-10	10	25-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-49-5	5	25-Sep-97	85-01-8	Phenanthrene	0.71	mg/K	0.71	1	1
E	Soil	B-49-5	5	25-Sep-97	100-41-4	Ethylbenzene	0.2	mg/K	0.2	1	1
E	Soil	B-49-5	5	25-Sep-97	206-44-0	Fluoranthene	0.05	mg/K	0.05	0	1
E	Soil	B-49-5	5	25-Sep-97	86-73-7	Fluorene	0.59	mg/K	0.59	1	1
E	Soil	B-49-5	5	25-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/K	0.05	0	1
E	Soil	B-49-5	5	25-Sep-97	7439-92-1	Lead	5.6	mg/K	5.6	1	1
E	Soil	B-49-5	5	25-Sep-97	7440-66-6	Zinc	70	mg/K	70	1	1
E	Soil	B-49-5	5	25-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-49-5	5	25-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	1	1
E	Soil	B-49-5	5	25-Sep-97	1634-04-4	Methyl tert-butyl ether	0.1	mg/K	0.1	0	1
E	Soil	B-49-5	5	25-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
E	Soil	B-49-5	5	25-Sep-97	7440-02-0	Nickel	9.7	mg/K	9.7	1	1
E	Soil	B-49-5	5	25-Sep-97	129-00-0	Pyrene	0.05	mg/K	0.05	0	1
E	Soil	B-49-5	5	25-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
E	Soil	B-49-5	5	25-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-49-5	5	25-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-49-5	5	25-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-49-5	5	25-Sep-97	7440-62-2	Vanadium	24	mg/K	24	1	1
E	Soil	B-49-5	5	25-Sep-97	1330-20-7	Xylenes (total)	1.1	mg/K	1.1	1	1
E	Soil	B-49-5	5	25-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.05	mg/K	0.05	0	1
E	Soil	B-49-5	5	25-Sep-97	91-20-3	Naphthalene	0.05	mg/K	0.05	0	1
E	Soil	B-49-5	5	25-Sep-97	120-12-7	Anthracene	0.08	mg/K	0.08	1	1
E	Soil	B-49-5	5	25-Sep-97		C1-C40	3350	mg/K	3350	1	1
E	Soil	B-49-5	5	25-Sep-97	7440-50-8	Copper	29	mg/K	29	1	1
E	Soil	B-49-5	5	25-Sep-97	208-96-8	Acenaphthylene	0.14	mg/K	0.14	1	1
E	Soil	B-49-5	5	25-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-49-5	5	25-Sep-97	7440-38-2	Arsenic	5.7	mg/K	5.7	1	1
E	Soil	B-49-5	5	25-Sep-97	7440-39-3	Barium	41	mg/K	41	1	1
E	Soil	B-49-5	5	25-Sep-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
E	Soil	B-49-5	5	25-Sep-97	56-55-3	Benzo(a)anthracene	0.05	mg/K	0.05	0	1
E	Soil	B-49-5	5	25-Sep-97	50-32-8	Benzo(a)pyrene	0.05	mg/K	0.05	0	1
E	Soil	B-49-5	5	25-Sep-97	7440-47-3	Chromium	31	mg/K	31	1	1
E	Soil	B-49-5	5	25-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.05	mg/K	0.05	0	1
E	Soil	B-49-5	5	25-Sep-97	207-08-9	Benzo(k)fluoranthene	0.05	mg/K	0.05	0	1
E	Soil	B-49-5	5	25-Sep-97		C10-C25	2500	mg/K	2500	1	1
E	Soil	B-49-5	5	25-Sep-97		C25-C40	340	mg/K	340	1	1
E	Soil	B-49-5	5	25-Sep-97		C4-C10	510	mg/K	510	1	1
E	Soil	B-49-5	5	25-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-49-5	5	25-Sep-97	218-01-9	Chrysene	0.05	mg/K	0.05	0	1
E	Soil	B-49-5	5	25-Sep-97	83-32-9	Acenaphthene	0.24	mg/K	0.24	1	1
E	Soil	B-49-5	5	25-Sep-97	7440-48-4	Cobalt	1.8	mg/K	1.8	1	1
E	Soil	B-49-5	5	25-Sep-97	205-99-2	Benzo(b)fluoranthene	0.05	mg/K	0.05	0	1
E	Soil	B-50-10	10	25-Sep-97	100-41-4	Ethylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-50-10	10	25-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-50-10	10	25-Sep-97	218-01-9	Chrysene	0.6	mg/K	0.6	1	1
E	Soil	B-50-10	10	25-Sep-97		C25-C40	1600	mg/K	1600	1	1
E	Soil	B-50-10	10	25-Sep-97	129-00-0	Pyrene	1	mg/K	1	1	1
E	Soil	B-50-10	10	25-Sep-97		C1-C40	2209	mg/K	2209	1	1
E	Soil	B-50-10	10	25-Sep-97		C4-C10	19	mg/K	19	1	1
E	Soil	B-50-10	10	25-Sep-97	206-44-0	Fluoranthene	1.1	mg/K	1.1	1	1
E	Soil	B-50-10	10	25-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.3	mg/K	0.3	1	1
E	Soil	B-50-10	10	25-Sep-97	85-01-8	Phenanthrene	0.7	mg/K	0.7	1	1
E	Soil	B-50-10	10	25-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-50-10	10	25-Sep-97	1330-20-7	Xylenes (total)	0.3	mg/K	0.3	1	1
E	Soil	B-50-10	10	25-Sep-97		C10-C25	590	mg/K	590	1	1
E	Soil	B-50-10	10	25-Sep-97	11104-28-2	Aroclor 1221	0.3	mg/K	0.3	0	1
E	Soil	B-50-10	10	25-Sep-97	91-20-3	Naphthalene	0.3	mg/K	0.3	1	1
E	Soil	B-50-10	10	25-Sep-97	11097-69-1	Aroclor 1254	0.3	mg/K	0.3	0	1
E	Soil	B-50-10	10	25-Sep-97	86-73-7	Fluorene	0.1	mg/K	0.1	0	1
E	Soil	B-50-10	10	25-Sep-97	83-32-9	Acenaphthene	0.1	mg/K	0.1	0	1
E	Soil	B-50-10	10	25-Sep-97	208-96-8	Acenaphthylene	0.1	mg/K	0.1	1	1
E	Soil	B-50-10	10	25-Sep-97	120-12-7	Anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-50-10	10	25-Sep-97	12674-11-2	Aroclor 1016	0.3	mg/K	0.3	0	1
E	Soil	B-50-10	10	25-Sep-97	53469-21-9	Aroclor 1242	0.3	mg/K	0.3	0	1
E	Soil	B-50-10	10	25-Sep-97	12672-29-6	Aroclor 1248	0.3	mg/K	0.3	0	1
E	Soil	B-50-10	10	25-Sep-97	207-08-9	Benzo(k)fluoranthene	0.2	mg/K	0.2	1	1
E	Soil	B-50-10	10	25-Sep-97	11096-82-5	Aroclor 1260	0.3	mg/K	0.3	0	1
E	Soil	B-50-10	10	25-Sep-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
E	Soil	B-50-10	10	25-Sep-97	56-55-3	Benzo(a)anthracene	0.4	mg/K	0.4	1	1
E	Soil	B-50-10	10	25-Sep-97	50-32-8	Benzo(a)pyrene	0.4	mg/K	0.4	1	1
E	Soil	B-50-10	10	25-Sep-97	205-99-2	Benzo(b)fluoranthene	0.5	mg/K	0.5	1	1
E	Soil	B-50-10	10	25-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.3	mg/K	0.3	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-50-10	10	25-Sep-97	11141-16-5	Aroclor 1232	0.3	mg/K	0.3	0	1
E	Soil	B-50-10	10	25-Sep-97	1634-04-4	Methyl tert-butyl ether	0.1	mg/K	0.1	0	1
E	Soil	B-50-5	5	25-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-50-5	5	25-Sep-97	7440-66-6	Zinc	21	mg/K	21	1	1
E	Soil	B-50-5	5	25-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-50-5	5	25-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-50-5	5	25-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
E	Soil	B-50-5	5	25-Sep-97	7440-02-0	Nickel	13	mg/K	13	1	1
E	Soil	B-50-5	5	25-Sep-97	7439-98-7	Molybdenum	1.7	mg/K	1.7	1	1
E	Soil	B-50-5	5	25-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-50-5	5	25-Sep-97	7440-50-8	Copper	6.8	mg/K	6.8	1	1
E	Soil	B-50-5	5	25-Sep-97	7440-48-4	Cobalt	1.9	mg/K	1.9	1	1
E	Soil	B-50-5	5	25-Sep-97	7440-47-3	Chromium	38	mg/K	38	1	1
E	Soil	B-50-5	5	25-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-50-5	5	25-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	1	1
E	Soil	B-50-5	5	25-Sep-97	7440-39-3	Barium	72	mg/K	72	1	1
E	Soil	B-50-5	5	25-Sep-97	7439-92-1	Lead	8.5	mg/K	8.5	1	1
E	Soil	B-50-5	5	25-Sep-97	7440-62-2	Vanadium	34	mg/K	34	1	1
E	Soil	B-50-5	5	25-Sep-97	7440-38-2	Arsenic	5.6	mg/K	5.6	1	1
E	Soil	B-51-5	5	10-Sep-97	7439-92-1	Lead	1.4	mg/K	1.4	1	1
E	Soil	B-51-5	5	10-Sep-97	7440-50-8	Copper	2.9	mg/K	2.9	1	1
E	Soil	B-51-5	5	10-Sep-97	124-48-1	Dibromochloromethane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	74-95-3	Dibromomethane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	75-71-8	Dichlorodifluoromethane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	34077-87-7	Dichlorotrifluoroethane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	100-41-4	Ethylbenzene	0.022	mg/K	0.022	1	1
E	Soil	B-51-5	5	10-Sep-97	98-82-8	Isopropylbenzene	0.02	mg/K	0.02	1	1
E	Soil	B-51-5	5	10-Sep-97	56-23-5	Carbon tetrachloride	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	87-68-3	Hexachlorobutadiene	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	7440-48-4	Cobalt	1.2	mg/K	1.2	1	1
E	Soil	B-51-5	5	10-Sep-97	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	156-59-2	cis-1,2-Dichloroethene	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	7440-47-3	Chromium	21	mg/K	21	1	1
E	Soil	B-51-5	5	10-Sep-97	74-87-3	Chloromethane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	67-66-3	Chloroform	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-51-5	5	10-Sep-97	108-90-7	Chlorobenzene	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	98-06-6	tert-Butylbenzene	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-51-5	5	10-Sep-97	75-00-3	Chloroethane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	100-42-5	Styrene	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	7440-66-6	Zinc	19	mg/K	19	1	1
E	Soil	B-51-5	5	10-Sep-97	1330-20-7	Xylenes (total)	0.023	mg/K	0.023	1	1
E	Soil	B-51-5	5	10-Sep-97	75-01-4	Vinyl chloride	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	7440-62-2	Vanadium	16	mg/K	16	1	1
E	Soil	B-51-5	5	10-Sep-97	75-69-4	Trichlorofluoromethane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	79-01-6	Trichloroethene	0.036	mg/K	0.036	1	1
E	Soil	B-51-5	5	10-Sep-97	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	156-60-5	trans-1,2-Dichloroethene	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
E	Soil	B-51-5	5	10-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-51-5	5	10-Sep-97	75-09-2	Methylene chloride	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-51-5	5	10-Sep-97		C4-C10	40	mg/K	40	1	1
E	Soil	B-51-5	5	10-Sep-97	135-98-8	sec-Butylbenzene	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	99-87-6	p-Isopropyltoluene	0.048	mg/K	0.048	1	1
E	Soil	B-51-5	5	10-Sep-97	103-65-1	n-Propylbenzene	0.038	mg/K	0.038	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-51-5	5	10-Sep-97	7440-02-0	Nickel	9.4	mg/K	9.4	1	1
E	Soil	B-51-5	5	10-Sep-97	104-51-8	n-Butylbenzene	0.043	mg/K	0.043	1	1
E	Soil	B-51-5	5	10-Sep-97	91-20-3	Naphthalene	0.19	mg/K	0.19	1	1
E	Soil	B-51-5	5	10-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
E	Soil	B-51-5	5	10-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/K	0.01	0	1
E	Soil	B-51-5	5	10-Sep-97	106-46-7	1,4-Dichlorobenzene	0.096	mg/K	0.096	1	1
E	Soil	B-51-5	5	10-Sep-97	142-28-9	1,3-Dichloropropane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	541-73-1	1,3-Dichlorobenzene	0.017	mg/K	0.017	1	1
E	Soil	B-51-5	5	10-Sep-97	108-67-8	1,3,5-Trimethylbenzene	0.066	mg/K	0.066	1	1
E	Soil	B-51-5	5	10-Sep-97	78-87-5	1,2-Dichloropropane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	95-50-1	1,2-Dichlorobenzene	0.27	mg/K	0.27	1	1
E	Soil	B-51-5	5	10-Sep-97	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/K	0.01	0	1
E	Soil	B-51-5	5	10-Sep-97	95-63-6	1,2,4-Trimethylbenzene	0.18	mg/K	0.18	1	1
E	Soil	B-51-5	5	10-Sep-97	594-20-7	2,2-Dichloropropane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	96-18-4	1,2,3-Trichloropropane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	107-06-2	1,2-Dichloroethane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	563-58-6	1,1-Dichloropropene	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	75-35-4	1,1-Dichloroethene	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	75-34-3	1,1-Dichloroethane	0.029	mg/K	0.029	1	1
E	Soil	B-51-5	5	10-Sep-97	79-00-5	1,1,2-Trichloroethane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	71-55-6	1,1,1-Trichloroethane	0.007	mg/K	0.007	1	1
E	Soil	B-51-5	5	10-Sep-97	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	127-18-4	Tetrachloroethene	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97		C25-C40	110	mg/K	110	1	1
E	Soil	B-51-5	5	10-Sep-97	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/K	0.01	0	1
E	Soil	B-51-5	5	10-Sep-97	108-86-1	Bromobenzene	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97		C1-C40	670	mg/K	670	1	1
E	Soil	B-51-5	5	10-Sep-97		C10-C25	520	mg/K	520	1	1
E	Soil	B-51-5	5	10-Sep-97	74-83-9	Bromomethane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	75-25-2	Bromoform	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	106-93-4	1,2-Dibromoethane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	74-97-5	Bromochloromethane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/K	0.01	0	1
E	Soil	B-51-5	5	10-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
E	Soil	B-51-5	5	10-Sep-97	71-43-2	Benzene	0.02	mg/K	0.02	1	1
E	Soil	B-51-5	5	10-Sep-97	7440-39-3	Barium	42	mg/K	42	1	1
E	Soil	B-51-5	5	10-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
E	Soil	B-51-5	5	10-Sep-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
E	Soil	B-51-5	5	10-Sep-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
E	Soil	B-51-5	5	10-Sep-97	75-27-4	Bromodichloromethane	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
E	Soil	B-51-5	5	10-Sep-97	106-43-4	4-Chlorotoluene	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
E	Soil	B-51-5	5	10-Sep-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
E	Soil	B-51-5	5	10-Sep-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
E	Soil	B-51-5	5	10-Sep-97	95-49-8	2-Chlorotoluene	0.005	mg/K	0.005	0	1
E	Soil	B-51-5	5	10-Sep-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
E	Soil	B-51-5	5	10-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-52-5	5	25-Sep-97	7440-50-8	Copper	3.8	mg/K	3.8	1	1
E	Soil	B-52-5	5	25-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-52-5	5	25-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
E	Soil	B-52-5	5	25-Sep-97	7439-92-1	Lead	3.4	mg/K	3.4	1	1
E	Soil	B-52-5	5	25-Sep-97	7440-47-3	Chromium	19	mg/K	19	1	1
E	Soil	B-52-5	5	25-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-52-5	5	25-Sep-97	1634-04-4	Methyl tert-butyl ether	0.1	mg/K	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-52-5	5	25-Sep-97	7440-02-0	Nickel	7.6	mg/K	7.6	1	1
E	Soil	B-52-5	5	25-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
E	Soil	B-52-5	5	25-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-52-5	5	25-Sep-97	7440-62-2	Vanadium	15	mg/K	15	1	1
E	Soil	B-52-5	5	25-Sep-97	1330-20-7	Xylenes (total)	0.1	mg/K	0.1	1	1
E	Soil	B-52-5	5	25-Sep-97	7440-48-4	Cobalt	1.5	mg/K	1.5	1	1
E	Soil	B-52-5	5	25-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-52-5	5	25-Sep-97	7440-66-6	Zinc	19	mg/K	19	1	1
E	Soil	B-52-5	5	25-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-52-5	5	25-Sep-97	11104-28-2	Aroclor 1221	0.3	mg/K	0.3	0	1
E	Soil	B-52-5	5	25-Sep-97		C4-C10	130	mg/K	130	1	1
E	Soil	B-52-5	5	25-Sep-97	100-41-4	Ethylbenzene	0.2	mg/K	0.2	1	1
E	Soil	B-52-5	5	25-Sep-97	12674-11-2	Aroclor 1016	0.3	mg/K	0.3	0	1
E	Soil	B-52-5	5	25-Sep-97	11141-16-5	Aroclor 1232	0.3	mg/K	0.3	0	1
E	Soil	B-52-5	5	25-Sep-97	53469-21-9	Aroclor 1242	0.3	mg/K	0.3	0	1
E	Soil	B-52-5	5	25-Sep-97	12672-29-6	Aroclor 1248	0.3	mg/K	0.3	0	1
E	Soil	B-52-5	5	25-Sep-97	11097-69-1	Aroclor 1254	0.3	mg/K	0.3	0	1
E	Soil	B-52-5	5	25-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
E	Soil	B-52-5	5	25-Sep-97	7440-39-3	Barium	48	mg/K	48	1	1
E	Soil	B-52-5	5	25-Sep-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
E	Soil	B-52-5	5	25-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
E	Soil	B-52-5	5	25-Sep-97		C10-C25	650	mg/K	650	1	1
E	Soil	B-52-5	5	25-Sep-97		C25-C40	130	mg/K	130	1	1
E	Soil	B-52-5	5	25-Sep-97	11096-82-5	Aroclor 1260	0.3	mg/K	0.3	0	1
E	Soil	B-52-5	5	25-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-52-5	5	25-Sep-97		C1-C40	910	mg/K	910	1	1
E	Soil	B-53-5	5	10-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-53-5	5	10-Sep-97	11096-82-5	Aroclor 1260	0.3	mg/K	0.3	0	1
E	Soil	B-53-5	5	10-Sep-97	11097-69-1	Aroclor 1254	0.3	mg/K	0.3	0	1
E	Soil	B-53-5	5	10-Sep-97	12672-29-6	Aroclor 1248	0.3	mg/K	0.3	0	1
E	Soil	B-53-5	5	10-Sep-97	53469-21-9	Aroclor 1242	0.3	mg/K	0.3	0	1
E	Soil	B-53-5	5	10-Sep-97	11141-16-5	Aroclor 1232	0.3	mg/K	0.3	0	1
E	Soil	B-53-5	5	10-Sep-97	12674-11-2	Aroclor 1016	0.3	mg/K	0.3	0	1
E	Soil	B-53-5	5	10-Sep-97	120-12-7	Anthracene	0.05	mg/K	0.05	0	1
E	Soil	B-53-5	5	10-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
E	Soil	B-53-5	5	10-Sep-97	108-86-1	Bromobenzene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	11104-28-2	Aroclor 1221	0.3	mg/K	0.3	0	1
E	Soil	B-53-5	5	10-Sep-97	7440-39-3	Barium	44	mg/K	44	1	1
E	Soil	B-53-5	5	10-Sep-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	56-55-3	Benzo(a)anthracene	0.05	mg/K	0.05	0	1
E	Soil	B-53-5	5	10-Sep-97	50-32-8	Benzo(a)pyrene	0.05	mg/K	0.05	0	1
E	Soil	B-53-5	5	10-Sep-97	205-99-2	Benzo(b)fluoranthene	0.05	mg/K	0.05	0	1
E	Soil	B-53-5	5	10-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.05	mg/K	0.05	0	1
E	Soil	B-53-5	5	10-Sep-97	208-96-8	Acenaphthylene	0.05	mg/K	0.05	0	1
E	Soil	B-53-5	5	10-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
E	Soil	B-53-5	5	10-Sep-97	78-87-5	1,2-Dichloropropane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	74-97-5	Bromochloromethane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	75-27-4	Bromodichloromethane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	75-25-2	Bromoform	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	74-83-9	Bromomethane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	207-08-9	Benzo(k)fluoranthene	0.05	mg/K	0.05	0	1
E	Soil	B-53-5	5	10-Sep-97	96-12-8	1,2-Dibromo-3-chloropropane	0.2	mg/K	0.2	0	1
E	Soil	B-53-5	5	10-Sep-97		C25-C40	250	mg/K	250	1	1
E	Soil	B-53-5	5	10-Sep-97	630-20-6	1,1,1,2-Tetrachloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	71-55-6	1,1,1-Trichloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	79-34-5	1,1,2,2-Tetrachloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	79-00-5	1,1,2-Trichloroethane	0.1	mg/K	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-53-5	5	10-Sep-97	75-34-3	1,1-Dichloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	75-35-4	1,1-Dichloroethene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	563-58-6	1,1-Dichloropropene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	87-61-6	1,2,3-Trichlorobenzene	0.2	mg/K	0.2	0	1
E	Soil	B-53-5	5	10-Sep-97	96-18-4	1,2,3-Trichloropropane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	541-73-1	1,3-Dichlorobenzene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	95-63-6	1,2,4-Trimethylbenzene	2.2	mg/K	2.2	1	1
E	Soil	B-53-5	5	10-Sep-97	83-32-9	Acenaphthene	0.05	mg/K	0.05	0	1
E	Soil	B-53-5	5	10-Sep-97	106-93-4	1,2-Dibromoethane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	95-50-1	1,2-Dichlorobenzene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	107-06-2	1,2-Dichloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	108-67-8	1,3,5-Trimethylbenzene	0.3	mg/K	0.3	1	1
E	Soil	B-53-5	5	10-Sep-97	142-28-9	1,3-Dichloropropane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	106-46-7	1,4-Dichlorobenzene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	594-20-7	2,2-Dichloropropane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	110-75-8	2-Chloroethyl vinyl ether	0.2	mg/K	0.2	0	1
E	Soil	B-53-5	5	10-Sep-97	95-49-8	2-Chlorotoluene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	106-43-4	4-Chlorotoluene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	120-82-1	1,2,4-Trichlorobenzene	0.2	mg/K	0.2	0	1
E	Soil	B-53-5	5	10-Sep-97	127-18-4	Tetrachloroethene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	75-09-2	Methylene chloride	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	7439-98-7	Molybdenum	1.1	mg/K	1.1	1	1
E	Soil	B-53-5	5	10-Sep-97	91-20-3	Naphthalene	0.9	mg/K	0.9	1	1
E	Soil	B-53-5	5	10-Sep-97	7440-02-0	Nickel	9.9	mg/K	9.9	1	1
E	Soil	B-53-5	5	10-Sep-97	103-65-1	n-Propylbenzene	1.2	mg/K	1.2	1	1
E	Soil	B-53-5	5	10-Sep-97	85-01-8	Phenanthrene	0.71	mg/K	0.71	1	1
E	Soil	B-53-5	5	10-Sep-97	99-87-6	p-Isopropyltoluene	0.6	mg/K	0.6	1	1
E	Soil	B-53-5	5	10-Sep-97	129-00-0	Pyrene	0.05	mg/K	0.05	0	1
E	Soil	B-53-5	5	10-Sep-97	135-98-8	sec-Butylbenzene	0.6	mg/K	0.6	1	1
E	Soil	B-53-5	5	10-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
E	Soil	B-53-5	5	10-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-53-5	5	10-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	98-06-6	tert-Butylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	91-20-3	Naphthalene	0.11	mg/K	0.11	1	0
E	Soil	B-53-5	5	10-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-53-5	5	10-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	156-60-5	trans-1,2-Dichloroethene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	10061-02-6	trans-1,3-Dichloropropene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	79-01-6	Trichloroethene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	75-69-4	Trichlorofluoromethane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	7440-62-2	Vanadium	25	mg/K	25	1	1
E	Soil	B-53-5	5	10-Sep-97	75-01-4	Vinyl chloride	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	1330-20-7	Xylenes (total)	0.1	mg/K	0.1	1	1
E	Soil	B-53-5	5	10-Sep-97	7440-66-6	Zinc	16	mg/K	16	1	1
E	Soil	B-53-5	5	10-Sep-97		C1-C40	2000	mg/K	2000	1	1
E	Soil	B-53-5	5	10-Sep-97	100-42-5	Styrene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	10061-01-5	cis-1,3-Dichloropropene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97		C10-C25	1400	mg/K	1400	1	1
E	Soil	B-53-5	5	10-Sep-97		C4-C10	350	mg/K	350	1	1
E	Soil	B-53-5	5	10-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-53-5	5	10-Sep-97	56-23-5	Carbon tetrachloride	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	108-90-7	Chlorobenzene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	75-00-3	Chloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	67-66-3	Chloroform	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	74-87-3	Chloromethane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	7440-47-3	Chromium	30	mg/K	30	1	1
E	Soil	B-53-5	5	10-Sep-97	104-51-8	n-Butylbenzene	0.4	mg/K	0.4	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-53-5	5	10-Sep-97	156-59-2	cis-1,2-Dichloroethene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	7439-92-1	Lead	5.4	mg/K	5.4	1	1
E	Soil	B-53-5	5	10-Sep-97	7440-48-4	Cobalt	1.4	mg/K	1.4	1	1
E	Soil	B-53-5	5	10-Sep-97	206-44-0	Fluoranthene	0.05	mg/K	0.05	0	1
E	Soil	B-53-5	5	10-Sep-97	98-82-8	Isopropylbenzene	0.7	mg/K	0.7	1	1
E	Soil	B-53-5	5	10-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/K	0.05	0	1
E	Soil	B-53-5	5	10-Sep-97	218-01-9	Chrysene	0.05	mg/K	0.05	0	1
E	Soil	B-53-5	5	10-Sep-97	86-73-7	Fluorene	0.32	mg/K	0.32	1	1
E	Soil	B-53-5	5	10-Sep-97	87-68-3	Hexachlorobutadiene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	100-41-4	Ethylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	34077-87-7	Dichlorotrifluoroethane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	75-71-8	Dichlorodifluoromethane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	74-95-3	Dibromomethane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	124-48-1	Dibromochloromethane	0.1	mg/K	0.1	0	1
E	Soil	B-53-5	5	10-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.05	mg/K	0.05	0	1
E	Soil	B-53-5	5	10-Sep-97	7440-50-8	Copper	5.3	mg/K	5.3	1	1
E	Soil	B-54-10	10	25-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
E	Soil	B-54-10	10	25-Sep-97		C25-C40	12	mg/K	12	1	1
E	Soil	B-54-10	10	25-Sep-97		C4-C10	10	mg/K	10	0	1
E	Soil	B-54-10	10	25-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
E	Soil	B-54-10	10	25-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
E	Soil	B-54-10	10	25-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
E	Soil	B-54-10	10	25-Sep-97		C1-C40	45	mg/K	45	1	1
E	Soil	B-54-10	10	25-Sep-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
E	Soil	B-54-10	10	25-Sep-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
E	Soil	B-54-10	10	25-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
E	Soil	B-54-10	10	25-Sep-97		C10-C25	33	mg/K	33	1	1
E	Soil	B-54-10	10	25-Sep-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
E	Soil	B-54-10	10	25-Sep-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
E	Soil	B-54-10	10	25-Sep-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
E	Soil	B-54-10	10	25-Sep-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
E	Soil	B-54-10	10	25-Sep-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
E	Soil	B-54-5	5	25-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-54-5	5	25-Sep-97	7439-98-7	Molybdenum	1.8	mg/K	1.8	1	1
E	Soil	B-54-5	5	25-Sep-97	7440-02-0	Nickel	11	mg/K	11	1	1
E	Soil	B-54-5	5	25-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-54-5	5	25-Sep-97	7439-92-1	Lead	4.1	mg/K	4.1	1	1
E	Soil	B-54-5	5	25-Sep-97	7440-66-6	Zinc	17	mg/K	17	1	1
E	Soil	B-54-5	5	25-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
E	Soil	B-54-5	5	25-Sep-97	7440-62-2	Vanadium	22	mg/K	22	1	1
E	Soil	B-54-5	5	25-Sep-97	7440-38-2	Arsenic	17	mg/K	17	1	1
E	Soil	B-54-5	5	25-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-54-5	5	25-Sep-97	7440-50-8	Copper	6.5	mg/K	6.5	1	1
E	Soil	B-54-5	5	25-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-54-5	5	25-Sep-97	7440-39-3	Barium	57	mg/K	57	1	1
E	Soil	B-54-5	5	25-Sep-97	7440-41-7	Beryllium	0.6	mg/K	0.6	1	1
E	Soil	B-54-5	5	25-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-54-5	5	25-Sep-97	7440-47-3	Chromium	24	mg/K	24	1	1
E	Soil	B-54-5	5	25-Sep-97	7440-48-4	Cobalt	2.2	mg/K	2.2	1	1
E	Soil	B-55-5	5	06-Sep-97	100-41-4	Ethylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	56-23-5	Carbon tetrachloride	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	156-59-2	cis-1,2-Dichloroethene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	75-71-8	Dichlorodifluoromethane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	74-95-3	Dibromomethane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	124-48-1	Dibromochloromethane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	10061-01-5	cis-1,3-Dichloropropene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	34077-87-7	Dichlorotrifluoroethane	0.1	mg/K	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-55-5	5	06-Sep-97	74-87-3	Chloromethane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	67-66-3	Chloroform	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97		C10-C25	500	mg/K	500	1	1
E	Soil	B-55-5	5	06-Sep-97	108-90-7	Chlorobenzene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97		C4-C10	84	mg/K	84	1	1
E	Soil	B-55-5	5	06-Sep-97		C25-C40	200	mg/K	200	1	1
E	Soil	B-55-5	5	06-Sep-97		C1-C40	784	mg/K	784	1	1
E	Soil	B-55-5	5	06-Sep-97	87-68-3	Hexachlorobutadiene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	75-00-3	Chloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	98-06-6	tert-Butylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	563-58-6	1,1-Dichloropropene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	75-01-4	Vinyl chloride	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	75-69-4	Trichlorofluoromethane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	79-01-6	Trichloroethene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	10061-02-6	trans-1,3-Dichloropropene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	74-83-9	Bromomethane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	156-60-5	trans-1,2-Dichloroethene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	1330-20-7	Xylenes (total)	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	98-82-8	Isopropylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	100-42-5	Styrene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	135-98-8	sec-Butylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	99-87-6	p-Isopropyltoluene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	103-65-1	n-Propylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	104-51-8	n-Butylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	91-20-3	Naphthalene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	75-09-2	Methylene chloride	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	127-18-4	Tetrachloroethene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	87-61-6	1,2,3-Trichlorobenzene	0.2	mg/K	0.2	0	1
E	Soil	B-55-5	5	06-Sep-97	108-67-8	1,3,5-Trimethylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	78-87-5	1,2-Dichloropropane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	107-06-2	1,2-Dichloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	95-50-1	1,2-Dichlorobenzene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	106-93-4	1,2-Dibromoethane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	96-12-8	1,2-Dibromo-3-chloropropane	0.2	mg/K	0.2	0	1
E	Soil	B-55-5	5	06-Sep-97	541-73-1	1,3-Dichlorobenzene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	120-82-1	1,2,4-Trichlorobenzene	0.2	mg/K	0.2	0	1
E	Soil	B-55-5	5	06-Sep-97	71-55-6	1,1,1-Trichloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	75-35-4	1,1-Dichloroethene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	75-34-3	1,1-Dichloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	79-00-5	1,1,2-Trichloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	79-34-5	1,1,2,2-Tetrachloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	75-25-2	Bromoform	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	630-20-6	1,1,1,2-Tetrachloroethane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	96-18-4	1,2,3-Trichloropropane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	95-63-6	1,2,4-Trimethylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	74-97-5	Bromochloromethane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	142-28-9	1,3-Dichloropropane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	75-27-4	Bromodichloromethane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	108-86-1	Bromobenzene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
E	Soil	B-55-5	5	06-Sep-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
E	Soil	B-55-5	5	06-Sep-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
E	Soil	B-55-5	5	06-Sep-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
E	Soil	B-55-5	5	06-Sep-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
E	Soil	B-55-5	5	06-Sep-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-55-5	5	06-Sep-97	106-43-4	4-Chlorotoluene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	95-49-8	2-Chlorotoluene	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	110-75-8	2-Chloroethyl vinyl ether	0.2	mg/K	0.2	0	1
E	Soil	B-55-5	5	06-Sep-97	594-20-7	2,2-Dichloropropane	0.1	mg/K	0.1	0	1
E	Soil	B-55-5	5	06-Sep-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
E	Soil	B-55-5	5	06-Sep-97	106-46-7	1,4-Dichlorobenzene	0.1	mg/K	0.1	0	1
E	Soil	B-56-10	10	25-Sep-97	129-00-0	Pyrene	0.2	mg/K	0.2	1	1
E	Soil	B-56-10	10	25-Sep-97		C4-C10	400	mg/K	400	1	1
E	Soil	B-56-10	10	25-Sep-97	218-01-9	Chrysene	0.1	mg/K	0.1	1	1
E	Soil	B-56-10	10	25-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-56-10	10	25-Sep-97	100-41-4	Ethylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-56-10	10	25-Sep-97	206-44-0	Fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-56-10	10	25-Sep-97	86-73-7	Fluorene	0.6	mg/K	0.6	1	1
E	Soil	B-56-10	10	25-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.1	mg/K	0.1	0	1
E	Soil	B-56-10	10	25-Sep-97	1634-04-4	Methyl tert-butyl ether	0.1	mg/K	0.1	0	1
E	Soil	B-56-10	10	25-Sep-97	1330-20-7	Xylenes (total)	0.1	mg/K	0.1	0	1
E	Soil	B-56-10	10	25-Sep-97	85-01-8	Phenanthrene	1.9	mg/K	1.9	1	1
E	Soil	B-56-10	10	25-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-56-10	10	25-Sep-97		C25-C40	1600	mg/K	1600	1	1
E	Soil	B-56-10	10	25-Sep-97	53469-21-9	Aroclor 1242	0.3	mg/K	0.3	0	1
E	Soil	B-56-10	10	25-Sep-97	91-20-3	Naphthalene	0.1	mg/K	0.1	0	1
E	Soil	B-56-10	10	25-Sep-97	12672-29-6	Aroclor 1248	0.3	mg/K	0.3	0	1
E	Soil	B-56-10	10	25-Sep-97	83-32-9	Acenaphthene	0.3	mg/K	0.3	1	1
E	Soil	B-56-10	10	25-Sep-97	208-96-8	Acenaphthylene	0.1	mg/K	0.1	1	1
E	Soil	B-56-10	10	25-Sep-97	120-12-7	Anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-56-10	10	25-Sep-97	12674-11-2	Aroclor 1016	0.3	mg/K	0.3	0	1
E	Soil	B-56-10	10	25-Sep-97	11104-28-2	Aroclor 1221	0.3	mg/K	0.3	0	1
E	Soil	B-56-10	10	25-Sep-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
E	Soil	B-56-10	10	25-Sep-97	11097-69-1	Aroclor 1254	0.3	mg/K	0.3	0	1
E	Soil	B-56-10	10	25-Sep-97		C1-C40	6600	mg/K	6600	1	1
E	Soil	B-56-10	10	25-Sep-97	56-55-3	Benzo(a)anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-56-10	10	25-Sep-97	50-32-8	Benzo(a)pyrene	0.1	mg/K	0.1	0	1
E	Soil	B-56-10	10	25-Sep-97	205-99-2	Benzo(b)fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-56-10	10	25-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.1	mg/K	0.1	0	1
E	Soil	B-56-10	10	25-Sep-97	207-08-9	Benzo(k)fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-56-10	10	25-Sep-97		C10-C25	4600	mg/K	4600	1	1
E	Soil	B-56-10	10	25-Sep-97	11141-16-5	Aroclor 1232	0.3	mg/K	0.3	0	1
E	Soil	B-56-10	10	25-Sep-97	11096-82-5	Aroclor 1260	0.3	mg/K	0.3	0	1
E	Soil	B-56-5	5	25-Sep-97	7439-92-1	Lead	5.8	mg/K	5.8	1	1
E	Soil	B-56-5	5	25-Sep-97	7440-66-6	Zinc	15	mg/K	15	1	1
E	Soil	B-56-5	5	25-Sep-97	7440-62-2	Vanadium	20	mg/K	20	1	1
E	Soil	B-56-5	5	25-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-56-5	5	25-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-56-5	5	25-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
E	Soil	B-56-5	5	25-Sep-97	7440-02-0	Nickel	8.5	mg/K	8.5	1	1
E	Soil	B-56-5	5	25-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-56-5	5	25-Sep-97	7440-48-4	Cobalt	1.7	mg/K	1.7	1	1
E	Soil	B-56-5	5	25-Sep-97	7440-50-8	Copper	6.7	mg/K	6.7	1	1
E	Soil	B-56-5	5	25-Sep-97	7440-47-3	Chromium	23	mg/K	23	1	1
E	Soil	B-56-5	5	25-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	1	1
E	Soil	B-56-5	5	25-Sep-97	7440-39-3	Barium	58	mg/K	58	1	1
E	Soil	B-56-5	5	25-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
E	Soil	B-56-5	5	25-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-56-5	5	25-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
E	Soil	B-56-5	5	25-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-57-10	10	24-Sep-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
E	Soil	B-57-10	10	24-Sep-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-57-10	10	24-Sep-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
E	Soil	B-57-10	10	24-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
E	Soil	B-57-10	10	24-Sep-97		C10-C25	10	mg/K	10	0	1
E	Soil	B-57-10	10	24-Sep-97		C1-C40	10	mg/K	10	0	1
E	Soil	B-57-10	10	24-Sep-97		C25-C40	10	mg/K	10	0	1
E	Soil	B-57-10	10	24-Sep-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
E	Soil	B-57-10	10	24-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
E	Soil	B-57-10	10	24-Sep-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
E	Soil	B-57-10	10	24-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
E	Soil	B-57-10	10	24-Sep-97	78-00-2	Tetraethyl Lead	1	mg/K	1	0	1
E	Soil	B-57-10	10	24-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
E	Soil	B-57-10	10	24-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
E	Soil	B-57-10	10	24-Sep-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
E	Soil	B-57-10	10	24-Sep-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
E	Soil	B-57-10	10	24-Sep-97		C4-C10	10	mg/K	10	0	1
E	Soil	B-57-5	5	24-Sep-97	7440-62-2	Vanadium	24	mg/K	24	1	1
E	Soil	B-57-5	5	24-Sep-97	7440-39-3	Barium	60	mg/K	60	1	1
E	Soil	B-57-5	5	24-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-57-5	5	24-Sep-97	7440-38-2	Arsenic	7.2	mg/K	7.2	1	1
E	Soil	B-57-5	5	24-Sep-97	7440-66-6	Zinc	67	mg/K	67	1	1
E	Soil	B-57-5	5	24-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-57-5	5	24-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-57-5	5	24-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
E	Soil	B-57-5	5	24-Sep-97	78-00-2	Tetraethyl Lead	1	mg/K	1	0	1
E	Soil	B-57-5	5	24-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-57-5	5	24-Sep-97	7439-98-7	Molybdenum	5.1	mg/K	5.1	1	1
E	Soil	B-57-5	5	24-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-57-5	5	24-Sep-97	7439-92-1	Lead	4.2	mg/K	4.2	1	1
E	Soil	B-57-5	5	24-Sep-97	7440-50-8	Copper	21	mg/K	21	1	1
E	Soil	B-57-5	5	24-Sep-97	7440-48-4	Cobalt	1.4	mg/K	1.4	1	1
E	Soil	B-57-5	5	24-Sep-97	7440-47-3	Chromium	27	mg/K	27	1	1
E	Soil	B-57-5	5	24-Sep-97	7440-02-0	Nickel	6.9	mg/K	6.9	1	1
E	Soil	B-57-5	5	24-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
E	Soil	B-80-10	10	25-Sep-97		C4-C10	110	mg/K	110	1	1
E	Soil	B-80-10	10	25-Sep-97	1634-04-4	Methyl tert-butyl ether	0.1	mg/K	0.1	0	1
E	Soil	B-80-10	10	25-Sep-97		C1-C40	2410	mg/K	2410	1	1
E	Soil	B-80-10	10	25-Sep-97	207-08-9	Benzo(k)fluoranthene	0.05	mg/K	0.05	0	1
E	Soil	B-80-10	10	25-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.05	mg/K	0.05	0	1
E	Soil	B-80-10	10	25-Sep-97	205-99-2	Benzo(b)fluoranthene	0.05	mg/K	0.05	0	1
E	Soil	B-80-10	10	25-Sep-97	50-32-8	Benzo(a)pyrene	0.05	mg/K	0.05	0	1
E	Soil	B-80-10	10	25-Sep-97	120-12-7	Anthracene	0.05	mg/K	0.05	0	1
E	Soil	B-80-10	10	25-Sep-97	208-96-8	Acenaphthylene	0.05	mg/K	0.05	1	1
E	Soil	B-80-10	10	25-Sep-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
E	Soil	B-80-10	10	25-Sep-97	218-01-9	Chrysene	0.05	mg/K	0.05	0	1
E	Soil	B-80-10	10	25-Sep-97		C25-C40	700	mg/K	700	1	1
E	Soil	B-80-10	10	25-Sep-97	56-55-3	Benzo(a)anthracene	0.05	mg/K	0.05	0	1
E	Soil	B-80-10	10	25-Sep-97	129-00-0	Pyrene	0.05	mg/K	0.05	0	1
E	Soil	B-80-10	10	25-Sep-97		C10-C25	1600	mg/K	1600	1	1
E	Soil	B-80-10	10	25-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.05	mg/K	0.05	0	1
E	Soil	B-80-10	10	25-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-80-10	10	25-Sep-97	83-32-9	Acenaphthene	0.1	mg/K	0.1	1	1
E	Soil	B-80-10	10	25-Sep-97	85-01-8	Phenanthrene	0.52	mg/K	0.52	1	1
E	Soil	B-80-10	10	25-Sep-97	206-44-0	Fluoranthene	0.05	mg/K	0.05	0	1
E	Soil	B-80-10	10	25-Sep-97	91-20-3	Naphthalene	0.35	mg/K	0.35	1	1
E	Soil	B-80-10	10	25-Sep-97	86-73-7	Fluorene	0.26	mg/K	0.26	1	1
E	Soil	B-80-10	10	25-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/K	0.05	0	1
E	Soil	B-80-10	10	25-Sep-97	100-41-4	Ethylbenzene	0.1	mg/K	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-80-10	10	25-Sep-97	1330-20-7	Xylenes (total)	0.1	mg/K	0.1	0	1
E	Soil	B-80-5	5	25-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-80-5	5	25-Sep-97	7440-47-3	Chromium	13	mg/K	13	1	1
E	Soil	B-80-5	5	25-Sep-97	7440-48-4	Cobalt	1	mg/K	1	1	1
E	Soil	B-80-5	5	25-Sep-97	7440-50-8	Copper	3.7	mg/K	3.7	1	1
E	Soil	B-80-5	5	25-Sep-97	7439-92-1	Lead	2.9	mg/K	2.9	1	1
E	Soil	B-80-5	5	25-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-80-5	5	25-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
E	Soil	B-80-5	5	25-Sep-97	7440-39-3	Barium	71	mg/K	71	1	1
E	Soil	B-80-5	5	25-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-80-5	5	25-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
E	Soil	B-80-5	5	25-Sep-97	7440-02-0	Nickel	67	mg/K	67	1	1
E	Soil	B-80-5	5	25-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
E	Soil	B-80-5	5	25-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-80-5	5	25-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-80-5	5	25-Sep-97	7440-62-2	Vanadium	11	mg/K	11	1	1
E	Soil	B-80-5	5	25-Sep-97	7440-66-6	Zinc	8.7	mg/K	8.7	1	1
E	Soil	B-80-5	5	25-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
E	Soil	B-8-10	10	09-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
E	Soil	B-8-10	10	09-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
E	Soil	B-8-10	10	09-Sep-97		C4-C10	10	mg/K	10	0	1
E	Soil	B-8-10	10	09-Sep-97		C25-C40	10	mg/K	10	0	1
E	Soil	B-8-10	10	09-Sep-97		C1-C40	10	mg/K	10	0	1
E	Soil	B-8-10	10	09-Sep-97		C10-C25	10	mg/K	10	0	1
E	Soil	B-8-10	10	09-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
E	Soil	B-8-10	10	09-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
E	Soil	B-81-5	5	26-Sep-97	85-01-8	Phenanthrene	0.1	mg/K	0.1	0	1
E	Soil	B-81-5	5	26-Sep-97	100-41-4	Ethylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-81-5	5	26-Sep-97	7440-66-6	Zinc	16	mg/K	16	1	1
E	Soil	B-81-5	5	26-Sep-97	1330-20-7	Xylenes (total)	0.1	mg/K	0.1	0	1
E	Soil	B-81-5	5	26-Sep-97	7440-62-2	Vanadium	10	mg/K	10	1	1
E	Soil	B-81-5	5	26-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-81-5	5	26-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-81-5	5	26-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-81-5	5	26-Sep-97	91-20-3	Naphthalene	0.1	mg/K	0.1	1	1
E	Soil	B-81-5	5	26-Sep-97	129-00-0	Pyrene	0.1	mg/K	0.1	1	1
E	Soil	B-81-5	5	26-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-81-5	5	26-Sep-97	7440-02-0	Nickel	7.2	mg/K	7.2	1	1
E	Soil	B-81-5	5	26-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
E	Soil	B-81-5	5	26-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-81-5	5	26-Sep-97	7439-92-1	Lead	2.5	mg/K	2.5	1	1
E	Soil	B-81-5	5	26-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.1	mg/K	0.1	0	1
E	Soil	B-81-5	5	26-Sep-97	206-44-0	Fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-81-5	5	26-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
E	Soil	B-81-5	5	26-Sep-97	11141-16-5	Aroclor 1232	0.6	mg/K	0.6	0	1
E	Soil	B-81-5	5	26-Sep-97	207-08-9	Benzo(k)fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-81-5	5	26-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.1	mg/K	0.1	0	1
E	Soil	B-81-5	5	26-Sep-97	205-99-2	Benzo(b)fluoranthene	0.1	mg/K	0.1	0	1
E	Soil	B-81-5	5	26-Sep-97	50-32-8	Benzo(a)pyrene	0.1	mg/K	0.1	0	1
E	Soil	B-81-5	5	26-Sep-97	120-12-7	Anthracene	0.1	mg/K	0.1	0	1
E	Soil	B-81-5	5	26-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-81-5	5	26-Sep-97	11097-69-1	Aroclor 1254	0.6	mg/K	0.6	0	1
E	Soil	B-81-5	5	26-Sep-97	11104-28-2	Aroclor 1221	0.6	mg/K	0.6	0	1
E	Soil	B-81-5	5	26-Sep-97		C1-C40	19460	mg/K	19460	1	1
E	Soil	B-81-5	5	26-Sep-97	53469-21-9	Aroclor 1242	0.6	mg/K	0.6	0	1
E	Soil	B-81-5	5	26-Sep-97	12672-29-6	Aroclor 1248	0.6	mg/K	0.6	0	1
E	Soil	B-81-5	5	26-Sep-97	56-55-3	Benzo(a)anthracene	0.1	mg/K	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-81-5	5	26-Sep-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
E	Soil	B-81-5	5	26-Sep-97	7440-39-3	Barium	59	mg/K	59	1	1
E	Soil	B-81-5	5	26-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
E	Soil	B-81-5	5	26-Sep-97	11096-82-5	Aroclor 1260	0.6	mg/K	0.6	0	1
E	Soil	B-81-5	5	26-Sep-97	12674-11-2	Aroclor 1016	0.6	mg/K	0.6	0	1
E	Soil	B-81-5	5	26-Sep-97	218-01-9	Chrysene	0.2	mg/K	0.2	1	1
E	Soil	B-81-5	5	26-Sep-97	7440-48-4	Cobalt	1.4	mg/K	1.4	1	1
E	Soil	B-81-5	5	26-Sep-97		C25-C40	5200	mg/K	5200	1	1
E	Soil	B-81-5	5	26-Sep-97		C4-C10	260	mg/K	260	1	1
E	Soil	B-81-5	5	26-Sep-97	208-96-8	Acenaphthylene	0.2	mg/K	0.2	1	1
E	Soil	B-81-5	5	26-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-81-5	5	26-Sep-97	83-32-9	Acenaphthene	0.4	mg/K	0.4	1	1
E	Soil	B-81-5	5	26-Sep-97	7440-47-3	Chromium	11	mg/K	11	1	1
E	Soil	B-81-5	5	26-Sep-97		C10-C25	14000	mg/K	14000	1	1
E	Soil	B-81-5	5	26-Sep-97	86-73-7	Fluorene	1.2	mg/K	1.2	1	1
E	Soil	B-81-5	5	26-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
E	Soil	B-81-5	5	26-Sep-97	7440-50-8	Copper	6.3	mg/K	6.3	1	1
E	Soil	B-82-10	10	26-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-82-10	10	26-Sep-97	100-41-4	Ethylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-82-10	10	26-Sep-97		C25-C40	21	mg/K	21	1	1
E	Soil	B-82-10	10	26-Sep-97		C10-C25	89	mg/K	89	1	1
E	Soil	B-82-10	10	26-Sep-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
E	Soil	B-82-10	10	26-Sep-97		C1-C40	172	mg/K	172	1	1
E	Soil	B-82-10	10	26-Sep-97	1330-20-7	Xylenes (total)	0.1	mg/K	0.1	0	1
E	Soil	B-82-10	10	26-Sep-97		C4-C10	62	mg/K	62	1	1
E	Soil	B-8-5	5	09-Sep-97		C1-C40	10	mg/K	10	0	1
E	Soil	B-8-5	5	09-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
E	Soil	B-8-5	5	09-Sep-97		C4-C10	10	mg/K	10	0	1
E	Soil	B-8-5	5	09-Sep-97		C25-C40	10	mg/K	10	0	1
E	Soil	B-8-5	5	09-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
E	Soil	B-8-5	5	09-Sep-97		C10-C25	10	mg/K	10	0	1
E	Soil	B-8-5	5	09-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
E	Soil	B-8-5	5	09-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
E	Soil	H-1-1	1	22-Sep-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
E	Soil	H-1-1	1	22-Sep-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
E	Soil	H-1-1	1	22-Sep-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
E	Soil	H-1-1	1	22-Sep-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
E	Soil	H-1-1	1	22-Sep-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
E	Soil	H-1-1	1	22-Sep-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
E	Soil	H-1-1	1	22-Sep-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
E	Soil	B-162-10	10	26-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
E	Soil	B-162-10	10	26-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
E	Soil	B-162-10	10	26-Nov-97		C1-C40	11	mg/K	11	1	1
E	Soil	B-162-10	10	26-Nov-97		C25-C40	10	mg/K	10	0	1
E	Soil	B-162-10	10	26-Nov-97		C4-C10	10	mg/K	10	0	1
E	Soil	B-162-10	10	26-Nov-97		C10-C25	11	mg/K	11	1	1
E	Soil	B-162-10	10	26-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
E	Soil	B-162-10	10	26-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
E	Soil	B-162-5	5	26-Nov-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
E	Soil	B-162-5	5	26-Nov-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
E	Soil	B-162-5	5	26-Nov-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
E	Soil	B-162-5	5	26-Nov-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
E	Soil	B-162-5	5	26-Nov-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
E	Soil	B-162-5	5	26-Nov-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
E	Soil	B-162-5	5	26-Nov-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
E	Soil	B-165-5	5	01-Jul-99	7440-39-3	Barium	59	mg/K	59	1	1
E	Soil	B-165-5	5	01-Jul-99	7440-48-4	Cobalt	1.6	mg/K	1.6	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-165-5	5	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
E	Soil	B-165-5	5	01-Jul-99	7440-62-2	Vanadium	18	mg/K	18	1	1
E	Soil	B-165-5	5	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-165-5	5	01-Jul-99	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
E	Soil	B-165-5	5	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
E	Soil	B-165-5	5	01-Jul-99	7440-02-0	Nickel	11	mg/K	11	1	1
E	Soil	B-165-5	5	01-Jul-99	7439-98-7	Molybdenum	1.2	mg/K	1.2	1	1
E	Soil	B-165-5	5	01-Jul-99	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-165-5	5	01-Jul-99	7439-92-1	Lead	6.1	mg/K	6.1	1	1
E	Soil	B-165-5	5	01-Jul-99	7440-66-6	Zinc	21	mg/K	21	1	1
E	Soil	B-165-5	5	01-Jul-99	7440-50-8	Copper	5.7	mg/K	5.7	1	1
E	Soil	B-165-5	5	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
E	Soil	B-165-5	5	01-Jul-99	7440-47-3	Chromium	19	mg/K	19	1	1
E	Soil	B-165-5	5	01-Jul-99	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-165-5	5	01-Jul-99		C4-C10	10	mg/K	10	0	1
E	Soil	B-165-5	5	01-Jul-99		C25-C40	330	mg/K	330	1	1
E	Soil	B-165-5	5	01-Jul-99		C1-C40	530	mg/K	530	1	1
E	Soil	B-165-5	5	01-Jul-99		C10-C25	200	mg/K	200	1	1
E	Soil	B-165-5	5	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
E	Soil	B-165-5	5	01-Jul-99	7440-38-2	Arsenic	2.6	mg/K	2.6	1	1
E	Soil	B-165-5	5	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-165-5	5	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
E	Soil	B-165-5	5	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-168-5	5	01-Jul-99	7440-48-4	Cobalt	2.4	mg/K	2.4	1	1
E	Soil	B-168-5	5	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
E	Soil	B-168-5	5	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
E	Soil	B-168-5	5	01-Jul-99	7440-62-2	Vanadium	23	mg/K	23	1	1
E	Soil	B-168-5	5	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
E	Soil	B-168-5	5	01-Jul-99		C10-C25	280	mg/K	280	1	1
E	Soil	B-168-5	5	01-Jul-99	7440-66-6	Zinc	58	mg/K	58	1	1
E	Soil	B-168-5	5	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-168-5	5	01-Jul-99	7439-98-7	Molybdenum	1.9	mg/K	1.9	1	1
E	Soil	B-168-5	5	01-Jul-99	7439-97-6	Mercury	0.4	mg/K	0.4	1	1
E	Soil	B-168-5	5	01-Jul-99	7439-92-1	Lead	22	mg/K	22	1	1
E	Soil	B-168-5	5	01-Jul-99	7440-02-0	Nickel	15	mg/K	15	1	1
E	Soil	B-168-5	5	01-Jul-99	7440-50-8	Copper	8.6	mg/K	8.6	1	1
E	Soil	B-168-5	5	01-Jul-99	7440-47-3	Chromium	21	mg/K	21	1	1
E	Soil	B-168-5	5	01-Jul-99	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-168-5	5	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-168-5	5	01-Jul-99		C4-C10	10	mg/K	10	0	1
E	Soil	B-168-5	5	01-Jul-99		C25-C40	600	mg/K	600	1	1
E	Soil	B-168-5	5	01-Jul-99		C1-C40	880	mg/K	880	1	1
E	Soil	B-168-5	5	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-168-5	5	01-Jul-99	7440-38-2	Arsenic	4	mg/K	4	1	1
E	Soil	B-168-5	5	01-Jul-99	7440-39-3	Barium	66	mg/K	66	1	1
E	Soil	B-168-5	5	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
E	Soil	B-168-5	5	01-Jul-99	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
E	Soil	B-168-5	5	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
E	Soil	B-170-5	5	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
E	Soil	B-170-5	5	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
E	Soil	B-170-5	5	01-Jul-99		C10-C25	10	mg/K	10	0	1
E	Soil	B-170-5	5	01-Jul-99		C1-C40	30	mg/K	30	0	1
E	Soil	B-170-5	5	01-Jul-99		C4-C10	10	mg/K	10	0	1
E	Soil	B-170-5	5	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
E	Soil	B-170-5	5	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
E	Soil	B-170-5	5	01-Jul-99		C25-C40	10	mg/K	10	0	1
E	Soil	B-174-10	10	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-174-10	10	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
E	Soil	B-174-10	10	01-Jul-99		C4-C10	10	mg/K	10	0	1
E	Soil	B-174-10	10	01-Jul-99		C25-C40	16	mg/K	16	1	1
E	Soil	B-174-10	10	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
E	Soil	B-174-10	10	01-Jul-99		C10-C25	10	mg/K	10	0	1
E	Soil	B-174-10	10	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
E	Soil	B-174-10	10	01-Jul-99		C1-C40	16	mg/K	16	1	1
E	Soil	B-174-5	5	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
E	Soil	B-174-5	5	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-174-5	5	01-Jul-99	7440-41-7	Beryllium	0.7	mg/K	0.7	1	1
E	Soil	B-174-5	5	01-Jul-99	7440-62-2	Vanadium	22	mg/K	22	1	1
E	Soil	B-174-5	5	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-174-5	5	01-Jul-99	7440-66-6	Zinc	34	mg/K	34	1	1
E	Soil	B-174-5	5	01-Jul-99	7440-02-0	Nickel	13	mg/K	13	1	1
E	Soil	B-174-5	5	01-Jul-99	7439-98-7	Molybdenum	1	mg/K	1	0	1
E	Soil	B-174-5	5	01-Jul-99	7440-38-2	Arsenic	1	mg/K	1	0	1
E	Soil	B-174-5	5	01-Jul-99	7439-92-1	Lead	5.6	mg/K	5.6	1	1
E	Soil	B-174-5	5	01-Jul-99	7440-50-8	Copper	7.8	mg/K	7.8	1	1
E	Soil	B-174-5	5	01-Jul-99	7440-48-4	Cobalt	5.3	mg/K	5.3	1	1
E	Soil	B-174-5	5	01-Jul-99	7440-47-3	Chromium	26	mg/K	26	1	1
E	Soil	B-174-5	5	01-Jul-99	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-174-5	5	01-Jul-99	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-174-5	5	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-174-5	5	01-Jul-99	7440-39-3	Barium	44	mg/K	44	1	1
E	Soil	B-186-10	10	01-Jul-99	207-08-9	Benzo(k)fluoranthene	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
E	Soil	B-186-10	10	01-Jul-99		C10-C25	2400	mg/K	2400	1	1
E	Soil	B-186-10	10	01-Jul-99		C1-C40	3821	mg/K	3821	1	1
E	Soil	B-186-10	10	01-Jul-99		C25-C40	1400	mg/K	1400	1	1
E	Soil	B-186-10	10	01-Jul-99	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	191-24-2	Benzo(g,h,i)perylene	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99		C4-C10	21	mg/K	21	1	1
E	Soil	B-186-10	10	01-Jul-99	205-99-2	Benzo(b)fluoranthene	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	50-32-8	Benzo(a)pyrene	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	56-55-3	Benzo(a)anthracene	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	71-43-2	Benzene	0.1	mg/K	0.1	0	1
E	Soil	B-186-10	10	01-Jul-99	7440-38-2	Arsenic	1.7	mg/K	1.7	1	1
E	Soil	B-186-10	10	01-Jul-99	7440-39-3	Barium	43	mg/K	43	1	1
E	Soil	B-186-10	10	01-Jul-99	120-12-7	Anthracene	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	83-32-9	Acenaphthene	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	7440-47-3	Chromium	16	mg/K	16	1	1
E	Soil	B-186-10	10	01-Jul-99	208-96-8	Acenaphthylene	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-186-10	10	01-Jul-99	7440-66-6	Zinc	32	mg/K	32	1	1
E	Soil	B-186-10	10	01-Jul-99	1330-20-7	Xylenes (total)	0.1	mg/K	0.1	0	1
E	Soil	B-186-10	10	01-Jul-99	108-88-3	Toluene	0.1	mg/K	0.1	0	1
E	Soil	B-186-10	10	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	129-00-0	Pyrene	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	85-01-8	Phenanthrene	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	7440-02-0	Nickel	5.4	mg/K	5.4	1	1
E	Soil	B-186-10	10	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-186-10	10	01-Jul-99	91-20-3	Naphthalene	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	218-01-9	Chrysene	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	7440-62-2	Vanadium	16	mg/K	16	1	1
E	Soil	B-186-10	10	01-Jul-99	7439-98-7	Molybdenum	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	7440-48-4	Cobalt	1.1	mg/K	1.1	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-186-10	10	01-Jul-99	7440-50-8	Copper	34	mg/K	34	1	1
E	Soil	B-186-10	10	01-Jul-99	53-70-3	Dibenz(a,h)anthracene	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	100-41-4	Ethylbenzene	0.1	mg/K	0.1	0	1
E	Soil	B-186-10	10	01-Jul-99	206-44-0	Fluoranthene	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	86-73-7	Fluorene	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	193-39-5	Indeno(1,2,3-cd)pyrene	1	mg/K	1	0	1
E	Soil	B-186-10	10	01-Jul-99	7439-92-1	Lead	3.1	mg/K	3.1	1	1
E	Soil	B-186-10	10	01-Jul-99	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
E	Soil	B-186-5	5	01-Jul-99	7440-02-0	Nickel	12	mg/K	12	1	1
E	Soil	B-186-5	5	01-Jul-99	7440-38-2	Arsenic	3.3	mg/K	3.3	1	1
E	Soil	B-186-5	5	01-Jul-99		C4-C10	10	mg/K	10	0	1
E	Soil	B-186-5	5	01-Jul-99	7439-97-6	Mercury	0.1	mg/K	0.1	1	1
E	Soil	B-186-5	5	01-Jul-99	7439-92-1	Lead	14	mg/K	14	1	1
E	Soil	B-186-5	5	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
E	Soil	B-186-5	5	01-Jul-99	7440-48-4	Cobalt	3.8	mg/K	3.8	1	1
E	Soil	B-186-5	5	01-Jul-99	7440-43-9	Cadmium	1	mg/K	1	0	1
E	Soil	B-186-5	5	01-Jul-99	7439-98-7	Molybdenum	2.2	mg/K	2.2	1	1
E	Soil	B-186-5	5	01-Jul-99		C25-C40	480	mg/K	480	1	1
E	Soil	B-186-5	5	01-Jul-99		C1-C40	680	mg/K	680	1	1
E	Soil	B-186-5	5	01-Jul-99		C10-C25	200	mg/K	200	1	1
E	Soil	B-186-5	5	01-Jul-99	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
E	Soil	B-186-5	5	01-Jul-99	7440-39-3	Barium	42	mg/K	42	1	1
E	Soil	B-186-5	5	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1
E	Soil	B-186-5	5	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
E	Soil	B-186-5	5	01-Jul-99	7440-50-8	Copper	18	mg/K	18	1	1
E	Soil	B-186-5	5	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
E	Soil	B-186-5	5	01-Jul-99	7440-47-3	Chromium	27	mg/K	27	1	1
E	Soil	B-186-5	5	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
E	Soil	B-186-5	5	01-Jul-99	7440-66-6	Zinc	59	mg/K	59	1	1
E	Soil	B-186-5	5	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
E	Soil	B-186-5	5	01-Jul-99	7440-62-2	Vanadium	23	mg/K	23	1	1
E	Soil	B-186-5	5	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
E	Soil	B-186-5	5	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1
E	Soil	B-187-5	5	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
E	Soil	B-187-5	5	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
E	Soil	B-187-5	5	01-Jul-99	91-20-3	Naphthalene	4	mg/K	4	0	1
E	Soil	B-187-5	5	01-Jul-99		C25-C40	1300	mg/K	1300	1	1
E	Soil	B-187-5	5	01-Jul-99	193-39-5	Indeno(1,2,3-cd)pyrene	4	mg/K	4	0	1
E	Soil	B-187-5	5	01-Jul-99	86-73-7	Fluorene	4	mg/K	4	0	1
E	Soil	B-187-5	5	01-Jul-99	206-44-0	Fluoranthene	4	mg/K	4	0	1
E	Soil	B-187-5	5	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
E	Soil	B-187-5	5	01-Jul-99	53-70-3	Dibenz(a,h)anthracene	4	mg/K	4	0	1
E	Soil	B-187-5	5	01-Jul-99	218-01-9	Chrysene	4	mg/K	4	0	1
E	Soil	B-187-5	5	01-Jul-99		C4-C10	10	mg/K	10	0	1
E	Soil	B-187-5	5	01-Jul-99	85-01-8	Phenanthrene	4	mg/K	4	0	1
E	Soil	B-187-5	5	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
E	Soil	B-187-5	5	01-Jul-99		C1-C40	1830	mg/K	1830	1	1
E	Soil	B-187-5	5	01-Jul-99	83-32-9	Acenaphthene	4	mg/K	4	0	1
E	Soil	B-187-5	5	01-Jul-99	129-00-0	Pyrene	4	mg/K	4	0	1
E	Soil	B-187-5	5	01-Jul-99	208-96-8	Acenaphthylene	4	mg/K	4	0	1
E	Soil	B-187-5	5	01-Jul-99	120-12-7	Anthracene	4	mg/K	4	0	1
E	Soil	B-187-5	5	01-Jul-99	56-55-3	Benzo(a)anthracene	4	mg/K	4	0	1
E	Soil	B-187-5	5	01-Jul-99	50-32-8	Benzo(a)pyrene	4	mg/K	4	0	1
E	Soil	B-187-5	5	01-Jul-99	205-99-2	Benzo(b)fluoranthene	4	mg/K	4	0	1
E	Soil	B-187-5	5	01-Jul-99	191-24-2	Benzo(g,h,i)perylene	4	mg/K	4	0	1
E	Soil	B-187-5	5	01-Jul-99	207-08-9	Benzo(k)fluoranthene	4	mg/K	4	0	1
E	Soil	B-187-5	5	01-Jul-99		C10-C25	530	mg/K	530	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-199-10	10	27-Feb-01	83-32-9	Acenaphthene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	142-28-9	1,3-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	108-67-8	1,3,5-Trimethylbenzene	1.9	mg/k	1.9	1	1
E	Soil	B-199-10	10	27-Feb-01	541-73-1	1,3-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	78-87-5	1,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	110-75-8	2-Chloroethyl vinyl ether	0.2	mg/k	0.2	0	1
E	Soil	B-199-10	10	27-Feb-01	594-20-7	2,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	107-06-2	1,2-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	106-43-4	4-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	87-61-6	1,2,3-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	B-199-10	10	27-Feb-01	208-96-8	Acenaphthylene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	95-49-8	2-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	95-50-1	1,2-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	106-93-4	1,2-Dibromoethane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	96-12-8	1,2-Dibromo-3-chloropropane	0.2	mg/k	0.2	0	1
E	Soil	B-199-10	10	27-Feb-01	95-63-6	1,2,4-Trimethylbenzene	5.5	mg/k	5.5	1	1
E	Soil	B-199-10	10	27-Feb-01	96-18-4	1,2,3-Trichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	563-58-6	1,1-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	75-35-4	1,1-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	75-34-3	1,1-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	79-00-5	1,1,2-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	79-34-5	1,1,2,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	71-55-6	1,1,1-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	630-20-6	1,1,1,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	120-12-7	Anthracene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	120-82-1	1,2,4-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	B-199-10	10	27-Feb-01	53-70-3	Dibenz(a,h)anthracene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	106-46-7	1,4-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	87-68-3	Hexachlorobutadiene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	71-43-2	Benzene	0.9	mg/k	0.9	1	1
E	Soil	B-199-10	10	27-Feb-01	206-44-0	Fluoranthene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	100-41-4	Ethylbenzene	2.2	mg/k	2.2	1	1
E	Soil	B-199-10	10	27-Feb-01	34077-87-7	Dichlorotrifluoroethane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	75-71-8	Dichlorodifluoromethane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	56-23-5	Carbon tetrachloride	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	124-48-1	Dibromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	91-20-3	Naphthalene	0.7	mg/k	0.7	1	0
E	Soil	B-199-10	10	27-Feb-01	10061-01-5	cis-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	156-59-2	cis-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	218-01-9	Chrysene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	74-87-3	Chloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	67-66-3	Chloroform	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	75-00-3	Chloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	108-90-7	Chlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	74-95-3	Dibromomethane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	100-42-5	Styrene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	1330-20-7	Xylenes (total)	9.1	mg/k	9.1	1	1
E	Soil	B-199-10	10	27-Feb-01	75-01-4	Vinyl chloride	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	75-69-4	Trichlorofluoromethane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	79-01-6	Trichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	10061-02-6	trans-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	156-60-5	trans-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	108-88-3	Toluene	0.3	mg/k	0.3	1	1
E	Soil	B-199-10	10	27-Feb-01	98-82-8	Isopropylbenzene	0.8	mg/k	0.8	1	1
E	Soil	B-199-10	10	27-Feb-01	98-06-6	tert-Butylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	75-09-2	Methylene chloride	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	135-98-8	sec-Butylbenzene	0.7	mg/k	0.7	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-199-10	10	27-Feb-01	129-00-0	Pyrene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	99-87-6	p-Isopropyltoluene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	85-01-8	Phenanthrene	0.1	mg/k	0.1	1	1
E	Soil	B-199-10	10	27-Feb-01	103-65-1	n-Propylbenzene	1.4	mg/k	1.4	1	1
E	Soil	B-199-10	10	27-Feb-01	104-51-8	n-Butylbenzene	1	mg/k	1	1	1
E	Soil	B-199-10	10	27-Feb-01	91-20-3	Naphthalene	0.8	mg/k	0.8	1	1
E	Soil	B-199-10	10	27-Feb-01	86-73-7	Fluorene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	127-18-4	Tetrachloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	74-97-5	Bromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01		C4-C10	460	mg/k	460	1	1
E	Soil	B-199-10	10	27-Feb-01	193-39-5	Indeno(1,2,3-cd)pyrene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01		C25-C40	130	mg/k	130	1	1
E	Soil	B-199-10	10	27-Feb-01		C1-C40	1200	mg/K	1200	1	1
E	Soil	B-199-10	10	27-Feb-01		C10-C25	610	mg/k	610	1	1
E	Soil	B-199-10	10	27-Feb-01	74-83-9	Bromomethane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	75-27-4	Bromodichloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	108-86-1	Bromobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	207-08-9	Benzo(k)fluoranthene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	191-24-2	Benzo(g,h,i)perylene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	205-99-2	Benzo(b)fluoranthene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	50-32-8	Benzo(a)pyrene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	56-55-3	Benzo(a)anthracene	0.1	mg/k	0.1	0	1
E	Soil	B-199-10	10	27-Feb-01	75-25-2	Bromoform	0.1	mg/k	0.1	0	1
E	Soil	B-214-10	10	06-Mar-01		C1-C40	10	mg/K	10	0	1
E	Soil	B-214-10	10	06-Mar-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
E	Soil	B-214-10	10	06-Mar-01	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	B-214-10	10	06-Mar-01		C25-C40	10	mg/k	10	0	1
E	Soil	B-214-10	10	06-Mar-01	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
E	Soil	B-214-10	10	06-Mar-01		C10-C25	10	mg/k	10	0	1
E	Soil	B-214-10	10	06-Mar-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
E	Soil	B-214-10	10	06-Mar-01		C4-C10	10	mg/k	10	0	1
E	Soil	B-214-5	5	06-Mar-01	218-01-9	Chrysene	1	mg/k	1	0	1
E	Soil	B-214-5	5	06-Mar-01	207-08-9	Benzo(k)fluoranthene	1	mg/k	1	0	1
E	Soil	B-214-5	5	06-Mar-01		C4-C10	150	mg/k	150	1	1
E	Soil	B-214-5	5	06-Mar-01		C25-C40	400	mg/k	400	1	1
E	Soil	B-214-5	5	06-Mar-01		C1-C40	2250	mg/K	2250	1	1
E	Soil	B-214-5	5	06-Mar-01		C10-C25	1700	mg/k	1700	1	1
E	Soil	B-214-5	5	06-Mar-01	191-24-2	Benzo(g,h,i)perylene	1	mg/k	1	0	1
E	Soil	B-214-5	5	06-Mar-01	205-99-2	Benzo(b)fluoranthene	1	mg/k	1	0	1
E	Soil	B-214-5	5	06-Mar-01	50-32-8	Benzo(a)pyrene	1	mg/k	1	0	1
E	Soil	B-214-5	5	06-Mar-01	56-55-3	Benzo(a)anthracene	1	mg/k	1	0	1
E	Soil	B-214-5	5	06-Mar-01	71-43-2	Benzene	0.1	mg/k	0.1	0	1
E	Soil	B-214-5	5	06-Mar-01	120-12-7	Anthracene	1	mg/k	1	0	1
E	Soil	B-214-5	5	06-Mar-01	83-32-9	Acenaphthene	1	mg/k	1	0	1
E	Soil	B-214-5	5	06-Mar-01	206-44-0	Fluoranthene	1	mg/k	1	0	1
E	Soil	B-214-5	5	06-Mar-01	208-96-8	Acenaphthylene	1	mg/k	1	0	1
E	Soil	B-214-5	5	06-Mar-01	86-73-7	Fluorene	1	mg/k	1	0	1
E	Soil	B-214-5	5	06-Mar-01	193-39-5	Indeno(1,2,3-cd)pyrene	1	mg/k	1	0	1
E	Soil	B-214-5	5	06-Mar-01	91-20-3	Naphthalene	1	mg/k	1	0	1
E	Soil	B-214-5	5	06-Mar-01	85-01-8	Phenanthrene	1	mg/k	1	0	1
E	Soil	B-214-5	5	06-Mar-01	129-00-0	Pyrene	1	mg/k	1	0	1
E	Soil	B-214-5	5	06-Mar-01	108-88-3	Toluene	0.1	mg/k	0.1	0	1
E	Soil	B-214-5	5	06-Mar-01	1330-20-7	Xylenes (total)	0.1	mg/k	0.1	0	1
E	Soil	B-214-5	5	06-Mar-01	53-70-3	Dibenz(a,h)anthracene	1	mg/k	1	0	1
E	Soil	B-214-5	5	06-Mar-01	100-41-4	Ethylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-35-45R-5	5	28-Feb-01	208-96-8	Acenaphthylene	2	mg/k	2	0	1
E	Soil	B-35-45R-5	5	28-Feb-01		C10-C25	5200	mg/k	5200	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-35-45R-5	5	28-Feb-01	207-08-9	Benzo(k)fluoranthene	2	mg/k	2	0	1
E	Soil	B-35-45R-5	5	28-Feb-01	191-24-2	Benzo(g,h,i)perylene	2	mg/k	2	0	1
E	Soil	B-35-45R-5	5	28-Feb-01	205-99-2	Benzo(b)fluoranthene	2	mg/k	2	0	1
E	Soil	B-35-45R-5	5	28-Feb-01	50-32-8	Benzo(a)pyrene	2	mg/k	2	0	1
E	Soil	B-35-45R-5	5	28-Feb-01	56-55-3	Benzo(a)anthracene	2	mg/k	2	0	1
E	Soil	B-35-45R-5	5	28-Feb-01		C1-C40	7730	mg/K	7730	1	1
E	Soil	B-35-45R-5	5	28-Feb-01	120-12-7	Anthracene	2	mg/k	2	0	1
E	Soil	B-35-45R-5	5	28-Feb-01	100-41-4	Ethylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-35-45R-5	5	28-Feb-01	83-32-9	Acenaphthene	2	mg/k	2	0	1
E	Soil	B-35-45R-5	5	28-Feb-01	71-43-2	Benzene	0.1	mg/k	0.1	0	1
E	Soil	B-35-45R-5	5	28-Feb-01		C25-C40	2400	mg/k	2400	1	1
E	Soil	B-35-45R-5	5	28-Feb-01		C4-C10	130	mg/k	130	1	1
E	Soil	B-35-45R-5	5	28-Feb-01	53-70-3	Dibenz(a,h)anthracene	2	mg/k	2	0	1
E	Soil	B-35-45R-5	5	28-Feb-01	206-44-0	Fluoranthene	2	mg/k	2	0	1
E	Soil	B-35-45R-5	5	28-Feb-01	86-73-7	Fluorene	2	mg/k	2	0	1
E	Soil	B-35-45R-5	5	28-Feb-01	193-39-5	Indeno(1,2,3-cd)pyrene	2	mg/k	2	0	1
E	Soil	B-35-45R-5	5	28-Feb-01	91-20-3	Naphthalene	2	mg/k	2	0	1
E	Soil	B-35-45R-5	5	28-Feb-01	85-01-8	Phenanthrene	2	mg/k	2	0	1
E	Soil	B-35-45R-5	5	28-Feb-01	129-00-0	Pyrene	2	mg/k	2	0	1
E	Soil	B-35-45R-5	5	28-Feb-01	108-88-3	Toluene	0.1	mg/k	0.1	0	1
E	Soil	B-35-45R-5	5	28-Feb-01	1330-20-7	Xylenes (total)	0.1	mg/k	0.1	0	1
E	Soil	B-35-45R-5	5	28-Feb-01	218-01-9	Chrysene	2	mg/k	2	0	1
E	Soil	SP-3-9	9	02-Mar-01	87-61-6	1,2,3-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	SP-3-9	9	02-Mar-01	630-20-6	1,1,1,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	71-55-6	1,1,1-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	79-34-5	1,1,2,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	79-00-5	1,1,2-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	75-34-3	1,1-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	563-58-6	1,1-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	1330-20-7	Xylenes (total)	0.2	mg/k	0.2	1	1
E	Soil	SP-3-9	9	02-Mar-01	75-35-4	1,1-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	104-51-8	n-Butylbenzene	0.2	mg/k	0.2	1	1
E	Soil	SP-3-9	9	02-Mar-01	67-66-3	Chloroform	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	74-87-3	Chloromethane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	156-59-2	cis-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	10061-01-5	cis-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	124-48-1	Dibromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	74-95-3	Dibromomethane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	75-71-8	Dichlorodifluoromethane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	34077-87-7	Dichlorotrifluoroethane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	100-41-4	Ethylbenzene	0.3	mg/k	0.3	1	1
E	Soil	SP-3-9	9	02-Mar-01	87-68-3	Hexachlorobutadiene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	98-82-8	Isopropylbenzene	0.2	mg/k	0.2	1	1
E	Soil	SP-3-9	9	02-Mar-01	75-00-3	Chloroethane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	91-20-3	Naphthalene	1.3	mg/k	1.3	1	1
E	Soil	SP-3-9	9	02-Mar-01	103-65-1	n-Propylbenzene	0.3	mg/k	0.3	1	1
E	Soil	SP-3-9	9	02-Mar-01	96-18-4	1,2,3-Trichloropropane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	99-87-6	p-Isopropyltoluene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	75-69-4	Trichlorofluoromethane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	100-42-5	Styrene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	98-06-6	tert-Butylbenzene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	127-18-4	Tetrachloroethene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	108-88-3	Toluene	0.1	mg/k	0.1	1	1
E	Soil	SP-3-9	9	02-Mar-01	156-60-5	trans-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	10061-02-6	trans-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	79-01-6	Trichloroethene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	75-01-4	Vinyl chloride	0.1	mg/k	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SP-3-9	9	02-Mar-01	75-09-2	Methylene chloride	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	110-75-8	2-Chloroethyl vinyl ether	0.2	mg/k	0.2	0	1
E	Soil	SP-3-9	9	02-Mar-01	135-98-8	sec-Butylbenzene	0.2	mg/k	0.2	1	1
E	Soil	SP-3-9	9	02-Mar-01	120-82-1	1,2,4-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	SP-3-9	9	02-Mar-01	95-63-6	1,2,4-Trimethylbenzene	0.5	mg/k	0.5	1	1
E	Soil	SP-3-9	9	02-Mar-01	96-12-8	1,2-Dibromo-3-chloropropane	0.2	mg/k	0.2	0	1
E	Soil	SP-3-9	9	02-Mar-01	106-93-4	1,2-Dibromoethane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	95-50-1	1,2-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	107-06-2	1,2-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	78-87-5	1,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	108-67-8	1,3,5-Trimethylbenzene	0.1	mg/k	0.1	1	1
E	Soil	SP-3-9	9	02-Mar-01	541-73-1	1,3-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	142-28-9	1,3-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	108-90-7	Chlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	594-20-7	2,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	75-25-2	Bromoform	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	56-23-5	Carbon tetrachloride	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01		C4-C10	100	mg/k	100	1	1
E	Soil	SP-3-9	9	02-Mar-01		C25-C40	190	mg/k	190	1	1
E	Soil	SP-3-9	9	02-Mar-01		C1-C40	1180	mg/K	1180	1	1
E	Soil	SP-3-9	9	02-Mar-01	106-46-7	1,4-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	74-83-9	Bromomethane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	75-27-4	Bromodichloromethane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	74-97-5	Bromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	108-86-1	Bromobenzene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	71-43-2	Benzene	0.4	mg/k	0.4	1	1
E	Soil	SP-3-9	9	02-Mar-01	106-43-4	4-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01	95-49-8	2-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	SP-3-9	9	02-Mar-01		C10-C25	890	mg/k	890	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.01	mg/k	0.01	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	75-99-0	Dalapon	0.1	mg/k	0.1	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7440-50-8	Copper	7.6	mg/k	7.6	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	319-86-8	delta-BHC	0.008	mg/k	0.008	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.054	mg/k	0.054	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7440-47-3	Chromium	15	mg/k	15	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	57-74-9	Chlordane	0.4	mg/k	0.4	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	88-85-7	Dinoseb	0.01	mg/k	0.01	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03		C25-C40	760	mg/k	760	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7439-92-1	Lead	34	mg/k	34	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.013	mg/k	0.013	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	S-12-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	1024-57-3	Heptachlor epoxide	0.008	mg/k	0.008	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	76-44-8	Heptachlor	0.008	mg/k	0.008	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	58-89-9	gamma-BHC	0.008	mg/k	0.008	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.034	mg/k	0.034	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	53494-70-5	Endrin ketone	0.008	mg/k	0.008	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7421-93-4	Endrin aldehyde	0.008	mg/k	0.008	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	72-20-8	Endrin	0.008	mg/k	0.008	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	1031-07-8	Endosulfan sulfate	0.008	mg/k	0.008	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	33213-65-9	Endosulfan II	0.008	mg/k	0.008	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	115-29-7	Endosulfan I	0.008	mg/k	0.008	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	60-57-1	Dieldrin	0.008	mg/k	0.008	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	120-36-5	Dichloroprop	0.05	mg/k	0.05	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	1918-00-9	Dicamba	0.01	mg/k	0.01	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.01	mg/k	0.01	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	93-76-5	2,4,5-T	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	94-75-7	2,4-D	0.05	mg/k	0.05	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	94-82-6	2,4-DB	0.5	mg/k	0.5	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	94-74-6	MCPA	5	mg/k	5	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.01	mg/k	0.01	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	319-85-7	beta-BHC	0.008	mg/k	0.008	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.016	mg/k	0.016	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.026	mg/k	0.026	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.06	mg/k	0.06	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.071	mg/k	0.071	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.021	mg/k	0.021	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7440-39-3	Barium	61	mg/k	61	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	319-84-6	alpha-BHC	0.008	mg/k	0.008	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	309-00-2	Aldrin	0.008	mg/k	0.008	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	S-12-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.01	mg/k	0.01	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.01	mg/k	0.01	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	50-29-3	4,4'-DDT	0.008	mg/k	0.008	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	72-55-9	4,4'-DDE	0.008	mg/k	0.008	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	72-54-8	4,4'-DDD	0.008	mg/k	0.008	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	23	mg/k	23	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	93-72-1	Silvex	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	14	mg/k	14	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7440-66-6	Zinc	70	mg/k	70	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	93-65-2	MCPP	5	mg/k	5	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03		C10-C25	47	mg/k	47	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	8001-35-2	Toxaphene	0.4	mg/k	0.4	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.01	mg/k	0.01	0	0
E	Soil	S-12-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	72-43-5	Methoxychlor	0.008	mg/k	0.008	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.038	mg/k	0.038	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.016	mg/k	0.016	1	1
E	Soil	S-12-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-0.5	0.5	05-Jun-03	7440-02-0	Nickel	10	mg/k	10	1	1
E	Soil	S-12-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	7439-92-1	Lead	8.6	mg/k	8.6	1	1
E	Soil	S-12-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	7440-50-8	Copper	5.7	mg/k	5.7	1	1
E	Soil	S-12-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	7440-47-3	Chromium	21	mg/k	21	1	1
E	Soil	S-12-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	S-12-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	7440-66-6	Zinc	26	mg/k	26	1	1
E	Soil	S-12-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	11	mg/k	11	1	1
E	Soil	S-12-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	7440-02-0	Nickel	12	mg/k	12	1	1
E	Soil	S-12-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03		C25-C40	10	mg/k	10	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03		C10-C25	10	mg/k	10	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	S-12-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	10	mg/k	10	1	1
E	Soil	S-12-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	7440-39-3	Barium	68	mg/k	68	1	1
E	Soil	S-12-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
E	Soil	S-12-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	88-85-7	Dinoseb	0.01	mg/k	0.01	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.03	mg/k	0.03	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	1024-57-3	Heptachlor epoxide	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	76-44-8	Heptachlor	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	58-89-9	gamma-BHC	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	86-73-7	Fluorene	0.01	mg/k	0.01	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	206-44-0	Fluoranthene	0.037	mg/k	0.037	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	53494-70-5	Endrin ketone	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7421-93-4	Endrin aldehyde	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	72-20-8	Endrin	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	1031-07-8	Endosulfan sulfate	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7439-92-1	Lead	33	mg/k	33	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7440-47-3	Chromium	30	mg/k	30	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7440-50-8	Copper	6.7	mg/k	6.7	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	75-99-0	Dalapon	0.1	mg/k	0.1	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	319-86-8	delta-BHC	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	33213-65-9	Endosulfan II	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	115-29-7	Endosulfan I	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	1918-00-9	Dicamba	0.01	mg/k	0.01	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	120-36-5	Dichloroprop	0.05	mg/k	0.05	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	60-57-1	Dieldrin	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	94-74-6	MCPA	5	mg/k	5	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.01	mg/k	0.01	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7440-66-6	Zinc	11	mg/k	11	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	16	mg/k	16	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	8001-35-2	Toxaphene	0.1	mg/k	0.1	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	93-65-2	MCPP	5	mg/k	5	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.2	mg/k	0.2	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	S-15-0.5	0.5	04-Jun-03	72-43-5	Methoxychlor	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7440-02-0	Nickel	10	mg/k	10	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	93-72-1	Silvex	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	85-01-8	Phenanthrene	0.019	mg/k	0.019	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	129-00-0	Pyrene	0.041	mg/k	0.041	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	218-01-9	Chrysene	0.037	mg/k	0.037	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	50-29-3	4,4'-DDT	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	72-55-9	4,4'-DDE	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	72-54-8	4,4'-DDD	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	94-82-6	2,4-DB	0.5	mg/k	0.5	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	94-75-7	2,4-D	0.05	mg/k	0.05	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	93-76-5	2,4,5-T	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	83-32-9	Acenaphthene	0.01	mg/k	0.01	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	208-96-8	Acenaphthylene	0.016	mg/k	0.016	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	319-85-7	beta-BHC	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	57-74-9	Chlordane	0.1	mg/k	0.1	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03		C25-C40	420	mg/k	420	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03		C10-C25	66	mg/k	66	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	S-15-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.017	mg/k	0.017	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	309-00-2	Aldrin	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	319-84-6	alpha-BHC	0.002	mg/k	0.002	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	120-12-7	Anthracene	0.01	mg/k	0.01	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	3.3	mg/k	3.3	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.043	mg/k	0.043	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.041	mg/k	0.041	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.045	mg/k	0.045	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.022	mg/k	0.022	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-15-0.5	0.5	04-Jun-03	7440-39-3	Barium	71	mg/k	71	1	1
E	Soil	S-15-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.01	mg/k	0.01	0	0
E	Soil	S-15-2.5	2.5	04-Jun-03	218-01-9	Chrysene	0.02	mg/k	0.02	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	86-73-7	Fluorene	0.13	mg/k	0.13	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	206-44-0	Fluoranthene	0.02	mg/k	0.02	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.3	mg/k	0.3	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.02	mg/k	0.02	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	7440-50-8	Copper	3.8	mg/k	3.8	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	20	mg/k	20	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.7	mg/k	0.7	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	7440-47-3	Chromium	26	mg/k	26	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03		C4-C10	350	mg/k	350	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03		C25-C40	120	mg/k	120	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03		C21-C40	70	mg/k	70	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.6	mg/k	0.6	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	129-00-0	Pyrene	0.02	mg/k	0.02	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	S-15-2.5	2.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.02	mg/k	0.02	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	85-01-8	Phenanthrene	0.2	mg/k	0.2	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	1.6	mg/k	1.6	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	7440-02-0	Nickel	7.8	mg/k	7.8	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.4	mg/k	0.4	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.4	mg/k	0.4	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.19	mg/k	0.19	1	0
E	Soil	S-15-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	7439-92-1	Lead	7.6	mg/k	7.6	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03		C16-C21	45	mg/k	45	1	0
E	Soil	S-15-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.8	mg/k	0.8	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.2	mg/k	0.2	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.9	mg/k	0.9	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03		C21-C40	65	mg/k	65	1	0
E	Soil	S-15-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	3.3	mg/k	3.3	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	83-32-9	Acenaphthene	0.03	mg/k	0.03	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.2	mg/k	0.2	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.02	mg/k	0.02	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	7440-66-6	Zinc	1	mg/k	1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03		C12-C16	77	mg/k	77	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03		C12-C16	34	mg/k	34	1	0
E	Soil	S-15-2.5	2.5	04-Jun-03		C10-C25	390	mg/k	390	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03		C10-C12	22	mg/k	22	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03		C10-C12	6	mg/k	6	1	0
E	Soil	S-15-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.02	mg/k	0.02	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.02	mg/k	0.02	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.02	mg/k	0.02	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.02	mg/k	0.02	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.1	mg/k	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	S-15-2.5	2.5	04-Jun-03	7440-39-3	Barium	45	mg/k	45	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	2.7	mg/k	2.7	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	120-12-7	Anthracene	0.02	mg/k	0.02	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	208-96-8	Acenaphthylene	0.02	mg/k	0.02	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03		C16-C21	75	mg/k	75	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.1	mg/k	0.1	0	1
E	Soil	S-15-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.8	mg/k	0.8	1	1
E	Soil	S-15-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.1	mg/k	0.1	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.02	mg/k	0.02	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	7439-92-1	Lead	88	mg/k	88	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.032	mg/k	0.032	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	86-73-7	Fluorene	0.02	mg/k	0.02	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	206-44-0	Fluoranthene	0.11	mg/k	0.11	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	7440-50-8	Copper	13	mg/k	13	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	218-01-9	Chrysene	0.097	mg/k	0.097	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	7440-47-3	Chromium	19	mg/k	19	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	7440-66-6	Zinc	330	mg/k	330	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	57	mg/k	57	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.7	mg/k	0.7	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	129-00-0	Pyrene	0.14	mg/k	0.14	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	85-01-8	Phenanthrene	0.068	mg/k	0.068	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	7440-02-0	Nickel	38	mg/k	38	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.02	mg/k	0.02	0	0

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	S-16-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	83-32-9	Acenaphthene	0.02	mg/k	0.02	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03		C10-C25	250	mg/k	250	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.074	mg/k	0.074	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03		C25-C40	1700	mg/k	1700	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03		C21-C40	370	mg/k	370	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03		C21-C40	280	mg/k	280	1	0
E	Soil	S-16-0.5	0.5	04-Jun-03		C16-C21	13	mg/k	13	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03		C12-C16	8	mg/k	8	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03		C10-C12	4	mg/k	4	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.078	mg/k	0.078	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.15	mg/k	0.15	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.17	mg/k	0.17	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.032	mg/k	0.032	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	7440-39-3	Barium	54	mg/k	54	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	2.3	mg/k	2.3	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	120-12-7	Anthracene	0.025	mg/k	0.025	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	208-96-8	Acenaphthylene	0.023	mg/k	0.023	1	1
E	Soil	S-16-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-0.5	0.5	04-Jun-03		C16-C21	8	mg/k	8	0	0
E	Soil	S-16-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03		C25-C40	570	mg/k	570	1	1
E	Soil	S-16-2.5	2.5	04-Jun-03		C21-C40	160	mg/k	160	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	S-16-2.5	2.5	04-Jun-03		C21-C40	100	mg/k	100	1	0
E	Soil	S-16-2.5	2.5	04-Jun-03		C16-C21	25	mg/k	25	1	1
E	Soil	S-16-2.5	2.5	04-Jun-03		C16-C21	6	mg/k	6	0	0
E	Soil	S-16-2.5	2.5	04-Jun-03		C12-C16	6	mg/k	6	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.094	mg/k	0.094	1	1
E	Soil	S-16-2.5	2.5	04-Jun-03		C10-C12	3	mg/k	3	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.015	mg/k	0.015	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	7440-50-8	Copper	5	mg/k	5	1	1
E	Soil	S-16-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	218-01-9	Chrysene	0.015	mg/k	0.015	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	7440-47-3	Chromium	13	mg/k	13	1	1
E	Soil	S-16-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.067	mg/k	0.067	1	1
E	Soil	S-16-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	2.6	mg/k	2.6	1	1
E	Soil	S-16-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.019	mg/k	0.019	1	1
E	Soil	S-16-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.015	mg/k	0.015	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	7440-39-3	Barium	45	mg/k	45	1	1
E	Soil	S-16-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	23	mg/k	23	1	1
E	Soil	S-16-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	120-12-7	Anthracene	0.015	mg/k	0.015	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	83-32-9	Acenaphthene	0.015	mg/k	0.015	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	S-16-2.5	2.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.024	mg/k	0.024	1	1
E	Soil	S-16-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	208-96-8	Acenaphthylene	0.015	mg/k	0.015	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	23	mg/k	23	1	1
E	Soil	S-16-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	7440-66-6	Zinc	24	mg/k	24	1	1
E	Soil	S-16-2.5	2.5	04-Jun-03		C10-C25	150	mg/k	150	1	1
E	Soil	S-16-2.5	2.5	04-Jun-03	206-44-0	Fluoranthene	0.015	mg/k	0.015	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	86-73-7	Fluorene	0.015	mg/k	0.015	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.015	mg/k	0.015	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	7439-92-1	Lead	9.7	mg/k	9.7	1	1
E	Soil	S-16-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	7440-02-0	Nickel	11	mg/k	11	1	1
E	Soil	S-16-2.5	2.5	04-Jun-03	129-00-0	Pyrene	0.015	mg/k	0.015	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-16-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.015	mg/k	0.015	0	0
E	Soil	S-16-2.5	2.5	04-Jun-03	85-01-8	Phenanthrene	0.015	mg/k	0.015	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.043	mg/k	0.043	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.015	mg/k	0.015	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.022	mg/k	0.022	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.03	mg/k	0.03	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	7440-50-8	Copper	6.5	mg/k	6.5	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	2.7	mg/k	2.7	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	S-19-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	7440-47-3	Chromium	14	mg/k	14	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.054	mg/k	0.054	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.054	mg/k	0.054	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.041	mg/k	0.041	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	7439-92-1	Lead	18	mg/k	18	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	7440-02-0	Nickel	17	mg/k	17	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.015	mg/k	0.015	0	0
E	Soil	S-19-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.015	mg/k	0.015	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.031	mg/k	0.031	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	9.1	mg/k	9.1	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.015	mg/k	0.015	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.056	mg/k	0.056	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.05	mg/k	0.05	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.062	mg/k	0.062	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.017	mg/k	0.017	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	7440-39-3	Barium	78	mg/k	78	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.015	mg/k	0.015	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03		C25-C40	950	mg/k	950	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03		C10-C25	230	mg/k	230	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	S-19-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	7440-66-6	Zinc	30	mg/k	30	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	22	mg/k	22	1	1
E	Soil	S-19-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	7439-92-1	Lead	8.8	mg/k	8.8	1	1
E	Soil	S-19-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	7440-50-8	Copper	5.6	mg/k	5.6	1	1
E	Soil	S-19-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	7440-47-3	Chromium	14	mg/k	14	1	1
E	Soil	S-19-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	2.9	mg/k	2.9	1	1
E	Soil	S-19-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	7440-66-6	Zinc	24	mg/k	24	1	1
E	Soil	S-19-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	17	mg/k	17	1	1
E	Soil	S-19-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	S-19-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	7440-02-0	Nickel	13	mg/k	13	1	1
E	Soil	S-19-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03		C10-C25	16	mg/k	16	1	1
E	Soil	S-19-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03		C25-C40	80	mg/k	80	1	1
E	Soil	S-19-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	7440-39-3	Barium	54	mg/k	54	1	1
E	Soil	S-19-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	11	mg/k	11	1	1
E	Soil	S-19-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
E	Soil	S-19-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	83-32-9	Acenaphthene	0.01	mg/k	0.01	1	1
E	Soil	B-218-2.5	2.5	27-Jan-04	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	71-43-2	Benzene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	50-32-8	Benzo(a)pyrene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	205-99-2	Benzo(b)fluoranthene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-218-2.5	2.5	27-Jan-04		C12-C16	17	mg/k	17	1	1
E	Soil	B-218-2.5	2.5	27-Jan-04	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04		C10-C12	4.6	mg/k	4.6	1	0
E	Soil	B-218-2.5	2.5	27-Jan-04		C10-C12	12	mg/k	12	1	1
E	Soil	B-218-2.5	2.5	27-Jan-04		C10-C25	210	mg/k	210	1	1
E	Soil	B-218-2.5	2.5	27-Jan-04	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	191-24-2	Benzo(g,h,i)perylene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	96-12-8	1,2-Dibromo-3-Chloropropane	0.01	mg/k	0.01	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	95-63-6	1,2,4-Trimethylbenzene	0.006	mg/k	0.006	1	1
E	Soil	B-218-2.5	2.5	27-Jan-04	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04		C16-C21	11	mg/k	11	1	0
E	Soil	B-218-2.5	2.5	27-Jan-04	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	100-42-5	Styrene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	75-09-2	Methylene Chloride	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	91-20-3	Naphthalene	0.005	mg/k	0.005	0	0
E	Soil	B-218-2.5	2.5	27-Jan-04	91-20-3	Naphthalene	0.023	mg/k	0.023	1	1
E	Soil	B-218-2.5	2.5	27-Jan-04	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	103-65-1	n-Propylbenzene	0.04	mg/k	0.04	1	1
E	Soil	B-218-2.5	2.5	27-Jan-04		Percent Moisture	23.4	%		1	1
E	Soil	B-218-2.5	2.5	27-Jan-04	85-01-8	Phenanthrene	0.023	mg/k	0.023	1	1
E	Soil	B-218-2.5	2.5	27-Jan-04	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04		C12-C16	12	mg/k	12	1	0
E	Soil	B-218-2.5	2.5	27-Jan-04	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	108-88-3	Toluene	0.006	mg/k	0.006	1	1
E	Soil	B-218-2.5	2.5	27-Jan-04	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	75-01-4	Vinyl Chloride	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	129-00-0	Pyrene	0.006	mg/k	0.006	1	1
E	Soil	B-218-2.5	2.5	27-Jan-04	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04		C16-C21	19	mg/k	19	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-218-2.5	2.5	27-Jan-04		C21-C40	78	mg/k	78	1	0
E	Soil	B-218-2.5	2.5	27-Jan-04		C21-C40	81	mg/k	81	1	1
E	Soil	B-218-2.5	2.5	27-Jan-04		C25-C40	530	mg/k	530	1	1
E	Soil	B-218-2.5	2.5	27-Jan-04		C4-C10	10	mg/k	10	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	56-23-5	Carbon Tetrachloride	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	98-82-8	Isopropylbenzene	0.01	mg/k	0.01	1	1
E	Soil	B-218-2.5	2.5	27-Jan-04	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
E	Soil	B-218-2.5	2.5	27-Jan-04	206-44-0	Fluoranthene	0.006	mg/k	0.006	1	1
E	Soil	B-218-2.5	2.5	27-Jan-04	86-73-7	Fluorene	0.028	mg/k	0.028	1	1
E	Soil	B-218-2.5	2.5	27-Jan-04	1330-20-7	Xylenes (total)	0.021	mg/k	0.021	1	1
E	Soil	B-218-2.5	2.5	27-Jan-04	218-01-9	Chrysene	0.009	mg/k	0.009	1	1
E	Soil	B-218-2.5	2.5	27-Jan-04	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
E	Soil	B-218-5	5	27-Jan-04		Percent Moisture	19.8	%		1	1
E	Soil	B-218-7	7	27-Jan-04	74-97-5	Bromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04		C21-C40	90	mg/k	90	1	0
E	Soil	B-218-7	7	27-Jan-04		C16-C21	120	mg/k	120	1	1
E	Soil	B-218-7	7	27-Jan-04		C16-C21	86	mg/k	86	1	0
E	Soil	B-218-7	7	27-Jan-04		C12-C16	170	mg/k	170	1	1
E	Soil	B-218-7	7	27-Jan-04		C12-C16	90	mg/k	90	1	0
E	Soil	B-218-7	7	27-Jan-04		C10-C25	620	mg/k	620	1	1
E	Soil	B-218-7	7	27-Jan-04		C10-C12	66	mg/k	66	1	1
E	Soil	B-218-7	7	27-Jan-04		C10-C12	22	mg/k	22	1	0
E	Soil	B-218-7	7	27-Jan-04	74-83-9	Bromomethane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	106-43-4	4-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	75-27-4	Bromodichloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04		C4-C10	170	mg/k	170	1	1
E	Soil	B-218-7	7	27-Jan-04	108-86-1	Bromobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	207-08-9	Benzo(k)fluoranthene	0.05	mg/k	0.05	0	1
E	Soil	B-218-7	7	27-Jan-04	191-24-2	Benzo(g,h,i)perylene	0.05	mg/k	0.05	0	1
E	Soil	B-218-7	7	27-Jan-04	205-99-2	Benzo(b)fluoranthene	0.05	mg/k	0.05	0	1
E	Soil	B-218-7	7	27-Jan-04	56-55-3	Benzo(a)anthracene	0.05	mg/k	0.05	0	1
E	Soil	B-218-7	7	27-Jan-04	120-12-7	Anthracene	0.05	mg/k	0.05	0	1
E	Soil	B-218-7	7	27-Jan-04	208-96-8	Acenaphthylene	0.05	mg/k	0.05	0	1
E	Soil	B-218-7	7	27-Jan-04	83-32-9	Acenaphthene	0.066	mg/k	0.066	1	1
E	Soil	B-218-7	7	27-Jan-04	75-25-2	Bromoform	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	53-70-3	Dibenz(a,h)anthracene	0.05	mg/k	0.05	0	1
E	Soil	B-218-7	7	27-Jan-04	75-34-3	1,1-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	79-00-5	1,1,2-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	79-34-5	1,1,2,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	71-55-6	1,1,1-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	630-20-6	1,1,1,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	75-35-4	1,1-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	34077-87-7	Dichlorotrifluoroethane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	75-71-8	Dichlorodifluoromethane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04		C21-C40	130	mg/k	130	1	1
E	Soil	B-218-7	7	27-Jan-04	124-48-1	Dibromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04		C25-C40	220	mg/k	220	1	1
E	Soil	B-218-7	7	27-Jan-04	10061-01-5	cis-1,3-Dichloropropene	0.1	mg/k	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-218-7	7	27-Jan-04	156-59-2	cis-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	218-01-9	Chrysene	0.05	mg/k	0.05	0	1
E	Soil	B-218-7	7	27-Jan-04	74-87-3	Chloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	67-66-3	Chloroform	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	75-00-3	Chloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	108-90-7	Chlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	56-23-5	Carbon Tetrachloride	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	71-43-2	Benzene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	74-95-3	Dibromomethane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	98-06-6	tert-Butylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	98-82-8	Isopropylbenzene	0.3	mg/k	0.3	1	1
E	Soil	B-218-7	7	27-Jan-04	75-09-2	Methylene Chloride	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	91-20-3	Naphthalene	1	mg/k	1	1	0
E	Soil	B-218-7	7	27-Jan-04	95-49-8	2-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	104-51-8	n-Butylbenzene	0.4	mg/k	0.4	1	1
E	Soil	B-218-7	7	27-Jan-04	50-32-8	Benzo(a)pyrene	0.05	mg/k	0.05	0	1
E	Soil	B-218-7	7	27-Jan-04	85-01-8	Phenanthrene	0.35	mg/k	0.35	1	1
E	Soil	B-218-7	7	27-Jan-04	99-87-6	p-Isopropyltoluene	0.3	mg/k	0.3	1	1
E	Soil	B-218-7	7	27-Jan-04	129-00-0	Pyrene	0.05	mg/k	0.05	0	1
E	Soil	B-218-7	7	27-Jan-04	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/k	0.05	0	1
E	Soil	B-218-7	7	27-Jan-04	100-42-5	Styrene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	91-20-3	Naphthalene	1.1	mg/k	1.1	1	1
E	Soil	B-218-7	7	27-Jan-04	127-18-4	Tetrachloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	108-88-3	Toluene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	156-60-5	trans-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	10061-02-6	trans-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	79-01-6	Trichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	75-69-4	Trichlorofluoromethane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	75-01-4	Vinyl Chloride	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	1330-20-7	Xylenes (total)	0.6	mg/k	0.6	1	1
E	Soil	B-218-7	7	27-Jan-04	563-58-6	1,1-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	135-98-8	sec-Butylbenzene	0.3	mg/k	0.3	1	1
E	Soil	B-218-7	7	27-Jan-04	78-87-5	1,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	110-75-8	2-Chloroethyl vinyl ether	0.2	mg/k	0.2	0	1
E	Soil	B-218-7	7	27-Jan-04	594-20-7	2,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	106-46-7	1,4-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	103-65-1	n-Propylbenzene	0.6	mg/k	0.6	1	1
E	Soil	B-218-7	7	27-Jan-04	87-68-3	Hexachlorobutadiene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	541-73-1	1,3-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	108-67-8	1,3,5-Trimethylbenzene	1	mg/k	1	1	1
E	Soil	B-218-7	7	27-Jan-04	142-28-9	1,3-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	107-06-2	1,2-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	87-61-6	1,2,3-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	B-218-7	7	27-Jan-04	86-73-7	Fluorene	0.24	mg/k	0.24	1	1
E	Soil	B-218-7	7	27-Jan-04	206-44-0	Fluoranthene	0.05	mg/k	0.05	0	1
E	Soil	B-218-7	7	27-Jan-04	100-41-4	Ethylbenzene	0.3	mg/k	0.3	1	1
E	Soil	B-218-7	7	27-Jan-04	95-50-1	1,2-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	96-18-4	1,2,3-Trichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-218-7	7	27-Jan-04	120-82-1	1,2,4-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	B-218-7	7	27-Jan-04	95-63-6	1,2,4-Trimethylbenzene	2.8	mg/k	2.8	1	1
E	Soil	B-218-7	7	27-Jan-04	96-12-8	1,2-Dibromo-3-Chloropropane	0.2	mg/k	0.2	0	1
E	Soil	B-218-7	7	27-Jan-04	106-93-4	1,2-Dibromoethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-0.5	0.5	27-Jan-04		Percent Moisture	10.7	%		1	1
E	Soil	B-219-0.5	0.5	27-Jan-04		Percent Moisture	15.7	%		1	1
E	Soil	B-219-10	10	27-Jan-04	156-60-5	trans-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	135-98-8	sec-Butylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	98-06-6	tert-Butylbenzene	0.1	mg/k	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-219-10	10	27-Jan-04	127-18-4	Tetrachloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	100-42-5	Styrene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	79-01-6	Trichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	75-69-4	Trichlorofluoromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	75-01-4	Vinyl Chloride	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	1330-20-7	Xylenes (total)	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	129-00-0	Pyrene	0.12	mg/k	0.12	1	1
E	Soil	B-219-10	10	27-Jan-04	71-55-6	1,1,1-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	108-88-3	Toluene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04		C10-C12	40	mg/k	40	1	1
E	Soil	B-219-10	10	27-Jan-04	71-43-2	Benzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	56-55-3	Benzo(a)anthracene	0.057	mg/k	0.057	1	1
E	Soil	B-219-10	10	27-Jan-04	50-32-8	Benzo(a)pyrene	0.05	mg/k	0.05	0	1
E	Soil	B-219-10	10	27-Jan-04	205-99-2	Benzo(b)fluoranthene	0.05	mg/k	0.05	0	1
E	Soil	B-219-10	10	27-Jan-04	191-24-2	Benzo(g,h,i)perylene	0.05	mg/k	0.05	0	1
E	Soil	B-219-10	10	27-Jan-04	207-08-9	Benzo(k)fluoranthene	0.05	mg/k	0.05	0	1
E	Soil	B-219-10	10	27-Jan-04	108-86-1	Bromobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	74-97-5	Bromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	75-27-4	Bromodichloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	75-25-2	Bromoform	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	108-90-7	Chlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04		C10-C12	35	mg/k	35	1	0
E	Soil	B-219-10	10	27-Jan-04	83-32-9	Acenaphthene	0.19	mg/k	0.19	1	1
E	Soil	B-219-10	10	27-Jan-04		C10-C25	1300	mg/k	1300	1	1
E	Soil	B-219-10	10	27-Jan-04	10061-02-6	trans-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04		C12-C16	260	mg/k	260	1	1
E	Soil	B-219-10	10	27-Jan-04	99-87-6	p-Isopropyltoluene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04		C16-C21	380	mg/k	380	1	1
E	Soil	B-219-10	10	27-Jan-04		C21-C40	180	mg/k	180	1	0
E	Soil	B-219-10	10	27-Jan-04		C21-C40	990	mg/k	990	1	1
E	Soil	B-219-10	10	27-Jan-04		C25-C40	950	mg/k	950	1	1
E	Soil	B-219-10	10	27-Jan-04		C4-C10	240	mg/k	240	1	1
E	Soil	B-219-10	10	27-Jan-04	56-23-5	Carbon Tetrachloride	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	74-83-9	Bromomethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	95-50-1	1,2-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	630-20-6	1,1,1,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	79-34-5	1,1,2,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	79-00-5	1,1,2-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	75-34-3	1,1-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	75-35-4	1,1-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	563-58-6	1,1-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	87-61-6	1,2,3-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	B-219-10	10	27-Jan-04	96-18-4	1,2,3-Trichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	120-82-1	1,2,4-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	B-219-10	10	27-Jan-04	95-63-6	1,2,4-Trimethylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	120-12-7	Anthracene	0.05	mg/k	0.05	0	1
E	Soil	B-219-10	10	27-Jan-04	106-93-4	1,2-Dibromoethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	208-96-8	Acenaphthylene	0.066	mg/k	0.066	1	1
E	Soil	B-219-10	10	27-Jan-04	107-06-2	1,2-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	78-87-5	1,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	108-67-8	1,3,5-Trimethylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	541-73-1	1,3-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	142-28-9	1,3-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	106-46-7	1,4-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	594-20-7	2,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	110-75-8	2-Chloroethyl vinyl ether	0.2	mg/k	0.2	0	1
E	Soil	B-219-10	10	27-Jan-04	95-49-8	2-Chlorotoluene	0.1	mg/k	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-219-10	10	27-Jan-04	106-43-4	4-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04		C16-C21	130	mg/k	130	1	0
E	Soil	B-219-10	10	27-Jan-04	96-12-8	1,2-Dibromo-3-Chloropropane	0.2	mg/k	0.2	0	1
E	Soil	B-219-10	10	27-Jan-04	98-82-8	Isopropylbenzene	0.3	mg/k	0.3	1	1
E	Soil	B-219-10	10	27-Jan-04	74-95-3	Dibromomethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	75-00-3	Chloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	34077-87-7	Dichlorotrifluoroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04		C12-C16	140	mg/k	140	1	0
E	Soil	B-219-10	10	27-Jan-04	206-44-0	Fluoranthene	0.05	mg/k	0.05	0	1
E	Soil	B-219-10	10	27-Jan-04	86-73-7	Fluorene	0.72	mg/k	0.72	1	1
E	Soil	B-219-10	10	27-Jan-04	124-48-1	Dibromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/k	0.05	0	1
E	Soil	B-219-10	10	27-Jan-04	75-71-8	Dichlorodifluoromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	75-09-2	Methylene Chloride	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	91-20-3	Naphthalene	0.079	mg/k	0.079	1	1
E	Soil	B-219-10	10	27-Jan-04	91-20-3	Naphthalene	0.1	mg/k	0.1	0	0
E	Soil	B-219-10	10	27-Jan-04	104-51-8	n-Butylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	103-65-1	n-Propylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04		Percent Moisture	27	%		1	1
E	Soil	B-219-10	10	27-Jan-04	85-01-8	Phenanthrene	1.2	mg/k	1.2	1	1
E	Soil	B-219-10	10	27-Jan-04	87-68-3	Hexachlorobutadiene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	10061-01-5	cis-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	156-59-2	cis-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	218-01-9	Chrysene	0.14	mg/k	0.14	1	1
E	Soil	B-219-10	10	27-Jan-04	74-87-3	Chloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	67-66-3	Chloroform	0.1	mg/k	0.1	0	1
E	Soil	B-219-10	10	27-Jan-04	53-70-3	Dibenz(a,h)anthracene	0.05	mg/k	0.05	0	1
E	Soil	B-219-10	10	27-Jan-04	100-41-4	Ethylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-2.5	2.5	27-Jan-04		Percent Moisture	14.2	%		1	1
E	Soil	B-219-5	5	27-Jan-04	124-48-1	Dibromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	108-67-8	1,3,5-Trimethylbenzene	0.2	mg/k	0.2	1	1
E	Soil	B-219-5	5	27-Jan-04	74-87-3	Chloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	218-01-9	Chrysene	0.67	mg/k	0.67	1	1
E	Soil	B-219-5	5	27-Jan-04	156-59-2	cis-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	53-70-3	Dibenz(a,h)anthracene	0.2	mg/k	0.2	0	1
E	Soil	B-219-5	5	27-Jan-04	74-95-3	Dibromomethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	75-71-8	Dichlorodifluoromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	34077-87-7	Dichlorotrifluoroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	100-41-4	Ethylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	206-44-0	Fluoranthene	0.2	mg/k	0.2	0	1
E	Soil	B-219-5	5	27-Jan-04	86-73-7	Fluorene	2.2	mg/k	2.2	1	1
E	Soil	B-219-5	5	27-Jan-04	87-68-3	Hexachlorobutadiene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	193-39-5	Indeno(1,2,3-cd)pyrene	0.2	mg/k	0.2	0	1
E	Soil	B-219-5	5	27-Jan-04	98-82-8	Isopropylbenzene	0.7	mg/k	0.7	1	1
E	Soil	B-219-5	5	27-Jan-04	75-09-2	Methylene Chloride	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	10061-01-5	cis-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	205-99-2	Benzo(b)fluoranthene	0.16	mg/k	0.16	1	1
E	Soil	B-219-5	5	27-Jan-04		C12-C16	490	mg/k	490	1	0
E	Soil	B-219-5	5	27-Jan-04		C10-C25	8800	mg/k	8800	1	1
E	Soil	B-219-5	5	27-Jan-04		C10-C12	220	mg/k	220	1	1
E	Soil	B-219-5	5	27-Jan-04		C10-C12	45	mg/k	45	1	0
E	Soil	B-219-5	5	27-Jan-04	74-83-9	Bromomethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	75-25-2	Bromoform	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	75-27-4	Bromodichloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	74-97-5	Bromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	108-86-1	Bromobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	91-20-3	Naphthalene	1.2	mg/k	1.2	1	0

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-219-5	5	27-Jan-04	191-24-2	Benzo(g,h,i)perylene	0.2	mg/k	0.2	0	1
E	Soil	B-219-5	5	27-Jan-04	67-66-3	Chloroform	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04		C16-C21	830	mg/k	830	1	0
E	Soil	B-219-5	5	27-Jan-04		C16-C21	1000	mg/k	1000	1	1
E	Soil	B-219-5	5	27-Jan-04		C21-C40	1500	mg/k	1500	1	0
E	Soil	B-219-5	5	27-Jan-04		C21-C40	3600	mg/k	3600	1	1
E	Soil	B-219-5	5	27-Jan-04		C25-C40	7700	mg/k	7700	1	1
E	Soil	B-219-5	5	27-Jan-04		C4-C10	420	mg/k	420	1	1
E	Soil	B-219-5	5	27-Jan-04	56-23-5	Carbon Tetrachloride	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	108-90-7	Chlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	75-00-3	Chloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04		C12-C16	760	mg/k	760	1	1
E	Soil	B-219-5	5	27-Jan-04	207-08-9	Benzo(k)fluoranthene	0.2	mg/k	0.2	0	1
E	Soil	B-219-5	5	27-Jan-04	120-82-1	1,2,4-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	B-219-5	5	27-Jan-04	142-28-9	1,3-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	110-75-8	2-Chloroethyl vinyl ether	0.2	mg/k	0.2	0	1
E	Soil	B-219-5	5	27-Jan-04	594-20-7	2,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	106-46-7	1,4-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	541-73-1	1,3-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	78-87-5	1,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	107-06-2	1,2-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	95-50-1	1,2-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	106-93-4	1,2-Dibromoethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	106-43-4	4-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	95-63-6	1,2,4-Trimethylbenzene	0.5	mg/k	0.5	1	1
E	Soil	B-219-5	5	27-Jan-04	83-32-9	Acenaphthene	0.85	mg/k	0.85	1	1
E	Soil	B-219-5	5	27-Jan-04	96-18-4	1,2,3-Trichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	87-61-6	1,2,3-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	B-219-5	5	27-Jan-04	563-58-6	1,1-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	75-35-4	1,1-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	75-34-3	1,1-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	79-00-5	1,1,2-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	79-34-5	1,1,2,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	71-55-6	1,1,1-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	630-20-6	1,1,1,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	96-12-8	1,2-Dibromo-3-Chloropropane	0.2	mg/k	0.2	0	1
E	Soil	B-219-5	5	27-Jan-04	10061-02-6	trans-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	104-51-8	n-Butylbenzene	0.1	mg/k	0.1	1	1
E	Soil	B-219-5	5	27-Jan-04	103-65-1	n-Propylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04		Percent Moisture	18.3	%		1	1
E	Soil	B-219-5	5	27-Jan-04	85-01-8	Phenanthrene	3.7	mg/k	3.7	1	1
E	Soil	B-219-5	5	27-Jan-04	99-87-6	p-Isopropyltoluene	0.2	mg/k	0.2	1	1
E	Soil	B-219-5	5	27-Jan-04	129-00-0	Pyrene	0.47	mg/k	0.47	1	1
E	Soil	B-219-5	5	27-Jan-04	135-98-8	sec-Butylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	100-42-5	Styrene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	98-06-6	tert-Butylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	127-18-4	Tetrachloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	95-49-8	2-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	156-60-5	trans-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	91-20-3	Naphthalene	2	mg/k	2	1	1
E	Soil	B-219-5	5	27-Jan-04	79-01-6	Trichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	75-69-4	Trichlorofluoromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	75-01-4	Vinyl Chloride	0.1	mg/k	0.1	0	1
E	Soil	B-219-5	5	27-Jan-04	1330-20-7	Xylenes (total)	0.2	mg/k	0.2	1	1
E	Soil	B-219-5	5	27-Jan-04	50-32-8	Benzo(a)pyrene	0.2	mg/k	0.2	0	1
E	Soil	B-219-5	5	27-Jan-04	56-55-3	Benzo(a)anthracene	0.26	mg/k	0.26	1	1
E	Soil	B-219-5	5	27-Jan-04	71-43-2	Benzene	0.1	mg/k	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-219-5	5	27-Jan-04	120-12-7	Anthracene	0.2	mg/k	0.2	0	1
E	Soil	B-219-5	5	27-Jan-04	208-96-8	Acenaphthylene	0.2	mg/k	0.2	0	1
E	Soil	B-219-5	5	27-Jan-04	108-88-3	Toluene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	71-43-2	Benzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	156-59-2	cis-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	208-96-8	Acenaphthylene	0.2	mg/k	0.2	0	1
E	Soil	B-219-8	8	27-Jan-04	86-73-7	Fluorene	2.8	mg/k	2.8	1	1
E	Soil	B-219-8	8	27-Jan-04	206-44-0	Fluoranthene	0.2	mg/k	0.2	0	1
E	Soil	B-219-8	8	27-Jan-04	100-41-4	Ethylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	34077-87-7	Dichlorotrifluoroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	75-71-8	Dichlorodifluoromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	74-95-3	Dibromomethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	124-48-1	Dibromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	193-39-5	Indeno(1,2,3-cd)pyrene	0.2	mg/k	0.2	0	1
E	Soil	B-219-8	8	27-Jan-04	10061-01-5	cis-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	98-82-8	Isopropylbenzene	2.7	mg/k	2.7	1	1
E	Soil	B-219-8	8	27-Jan-04	218-01-9	Chrysene	0.95	mg/k	0.95	1	1
E	Soil	B-219-8	8	27-Jan-04	74-87-3	Chloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	67-66-3	Chloroform	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	75-00-3	Chloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	108-90-7	Chlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	56-23-5	Carbon Tetrachloride	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04		C4-C10	870	mg/k	870	1	1
E	Soil	B-219-8	8	27-Jan-04		C25-C40	7300	mg/k	7300	1	1
E	Soil	B-219-8	8	27-Jan-04	53-70-3	Dibenz(a,h)anthracene	0.2	mg/k	0.2	0	1
E	Soil	B-219-8	8	27-Jan-04	135-98-8	sec-Butylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	1330-20-7	Xylenes (total)	0.2	mg/k	0.2	1	1
E	Soil	B-219-8	8	27-Jan-04	75-01-4	Vinyl Chloride	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	75-69-4	Trichlorofluoromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	79-01-6	Trichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	10061-02-6	trans-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	156-60-5	trans-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	108-88-3	Toluene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	127-18-4	Tetrachloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	87-68-3	Hexachlorobutadiene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	100-42-5	Styrene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04		C12-C16	910	mg/k	910	1	1
E	Soil	B-219-8	8	27-Jan-04	129-00-0	Pyrene	0.51	mg/k	0.51	1	1
E	Soil	B-219-8	8	27-Jan-04	99-87-6	p-Isopropyltoluene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	85-01-8	Phenanthrene	5.7	mg/k	5.7	1	1
E	Soil	B-219-8	8	27-Jan-04	103-65-1	n-Propylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	104-51-8	n-Butylbenzene	0.3	mg/k	0.3	1	1
E	Soil	B-219-8	8	27-Jan-04	91-20-3	Naphthalene	2.9	mg/k	2.9	1	1
E	Soil	B-219-8	8	27-Jan-04	91-20-3	Naphthalene	1	mg/k	1	1	0
E	Soil	B-219-8	8	27-Jan-04	75-09-2	Methylene Chloride	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	98-06-6	tert-Butylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	120-82-1	1,2,4-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	B-219-8	8	27-Jan-04	106-46-7	1,4-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	142-28-9	1,3-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	541-73-1	1,3-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	108-67-8	1,3,5-Trimethylbenzene	0.1	mg/k	0.1	1	1
E	Soil	B-219-8	8	27-Jan-04	78-87-5	1,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	107-06-2	1,2-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	95-50-1	1,2-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	106-93-4	1,2-Dibromoethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04		C21-C40	1200	mg/k	1200	1	0
E	Soil	B-219-8	8	27-Jan-04	95-63-6	1,2,4-Trimethylbenzene	0.2	mg/k	0.2	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-219-8	8	27-Jan-04	95-49-8	2-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	96-18-4	1,2,3-Trichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	87-61-6	1,2,3-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	B-219-8	8	27-Jan-04	563-58-6	1,1-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	75-35-4	1,1-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	75-34-3	1,1-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	79-00-5	1,1,2-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	79-34-5	1,1,2,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	71-55-6	1,1,1-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	96-12-8	1,2-Dibromo-3-Chloropropane	0.2	mg/k	0.2	0	1
E	Soil	B-219-8	8	27-Jan-04	207-08-9	Benzo(k)fluoranthene	0.2	mg/k	0.2	0	1
E	Soil	B-219-8	8	27-Jan-04	630-20-6	1,1,1,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04		C12-C16	640	mg/k	640	1	0
E	Soil	B-219-8	8	27-Jan-04		C10-C25	9800	mg/k	9800	1	1
E	Soil	B-219-8	8	27-Jan-04		C10-C12	280	mg/k	280	1	1
E	Soil	B-219-8	8	27-Jan-04		C10-C12	62	mg/k	62	1	0
E	Soil	B-219-8	8	27-Jan-04	74-83-9	Bromomethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	75-25-2	Bromoform	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	75-27-4	Bromodichloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	594-20-7	2,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	108-86-1	Bromobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04	110-75-8	2-Chloroethyl vinyl ether	0.2	mg/k	0.2	0	1
E	Soil	B-219-8	8	27-Jan-04	191-24-2	Benzo(g,h,i)perylene	0.2	mg/k	0.2	0	1
E	Soil	B-219-8	8	27-Jan-04	205-99-2	Benzo(b)fluoranthene	0.2	mg/k	0.2	0	1
E	Soil	B-219-8	8	27-Jan-04	50-32-8	Benzo(a)pyrene	0.2	mg/k	0.2	0	1
E	Soil	B-219-8	8	27-Jan-04	56-55-3	Benzo(a)anthracene	0.24	mg/k	0.24	1	1
E	Soil	B-219-8	8	27-Jan-04		C16-C21	1100	mg/k	1100	1	1
E	Soil	B-219-8	8	27-Jan-04	120-12-7	Anthracene	0.32	mg/k	0.32	1	1
E	Soil	B-219-8	8	27-Jan-04	83-32-9	Acenaphthene	0.81	mg/k	0.81	1	1
E	Soil	B-219-8	8	27-Jan-04	106-43-4	4-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04		C16-C21	910	mg/k	910	1	0
E	Soil	B-219-8	8	27-Jan-04	74-97-5	Bromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-219-8	8	27-Jan-04		C21-C40	3400	mg/k	3400	1	1
E	Soil	B-220-0.5	0.5	27-Jan-04		Percent Moisture	4.6	%		1	1
E	Soil	B-220-10	10	27-Jan-04		C4-C10	53	mg/k	53	1	1
E	Soil	B-220-10	10	27-Jan-04		C25-C40	57	mg/k	57	1	1
E	Soil	B-220-10	10	27-Jan-04		C21-C40	34	mg/k	34	1	1
E	Soil	B-220-10	10	27-Jan-04		C21-C40	16	mg/k	16	1	0
E	Soil	B-220-10	10	27-Jan-04		C16-C21	66	mg/k	66	1	1
E	Soil	B-220-10	10	27-Jan-04		C16-C21	41	mg/k	41	1	0
E	Soil	B-220-10	10	27-Jan-04		C12-C16	62	mg/k	62	1	1
E	Soil	B-220-10	10	27-Jan-04	91-20-3	Naphthalene	0.15	mg/k	0.15	1	0
E	Soil	B-220-10	10	27-Jan-04		C10-C25	220	mg/k	220	1	1
E	Soil	B-220-10	10	27-Jan-04	75-00-3	Chloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	594-20-7	2,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04		C10-C12	9	mg/k	9	1	1
E	Soil	B-220-10	10	27-Jan-04		C10-C12	5	mg/k	5	1	0
E	Soil	B-220-10	10	27-Jan-04	74-83-9	Bromomethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	75-25-2	Bromoform	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	75-27-4	Bromodichloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	74-97-5	Bromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04		C12-C16	32	mg/k	32	1	0
E	Soil	B-220-10	10	27-Jan-04	74-95-3	Dibromomethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	75-09-2	Methylene Chloride	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	98-82-8	Isopropylbenzene	0.2	mg/k	0.2	1	1
E	Soil	B-220-10	10	27-Jan-04	193-39-5	Indeno(1,2,3-cd)pyrene	0.02	mg/k	0.02	0	1
E	Soil	B-220-10	10	27-Jan-04	87-68-3	Hexachlorobutadiene	0.1	mg/k	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-220-10	10	27-Jan-04	86-73-7	Fluorene	0.094	mg/k	0.094	1	1
E	Soil	B-220-10	10	27-Jan-04	206-44-0	Fluoranthene	0.02	mg/k	0.02	0	1
E	Soil	B-220-10	10	27-Jan-04	100-41-4	Ethylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	56-23-5	Carbon Tetrachloride	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	75-71-8	Dichlorodifluoromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	108-90-7	Chlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	124-48-1	Dibromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	53-70-3	Dibenz(a,h)anthracene	0.02	mg/k	0.02	0	1
E	Soil	B-220-10	10	27-Jan-04	10061-01-5	cis-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	156-59-2	cis-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	74-87-3	Chloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	142-28-9	1,3-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	191-24-2	Benzo(g,h,i)perylene	0.02	mg/k	0.02	0	1
E	Soil	B-220-10	10	27-Jan-04	34077-87-7	Dichlorotrifluoroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	95-63-6	1,2,4-Trimethylbenzene	1.2	mg/k	1.2	1	1
E	Soil	B-220-10	10	27-Jan-04	108-88-3	Toluene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	127-18-4	Tetrachloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	98-06-6	tert-Butylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	106-43-4	4-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	95-49-8	2-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	110-75-8	2-Chloroethyl vinyl ether	0.2	mg/k	0.2	0	1
E	Soil	B-220-10	10	27-Jan-04	85-01-8	Phenanthrene	0.16	mg/k	0.16	1	1
E	Soil	B-220-10	10	27-Jan-04	108-86-1	Bromobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	120-82-1	1,2,4-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	B-220-10	10	27-Jan-04	79-01-6	Trichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	96-12-8	1,2-Dibromo-3-Chloropropane	0.2	mg/k	0.2	0	1
E	Soil	B-220-10	10	27-Jan-04	106-93-4	1,2-Dibromoethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	95-50-1	1,2-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	107-06-2	1,2-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	78-87-5	1,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	108-67-8	1,3,5-Trimethylbenzene	0.4	mg/k	0.4	1	1
E	Soil	B-220-10	10	27-Jan-04	541-73-1	1,3-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	96-18-4	1,2,3-Trichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	79-00-5	1,1,2-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	218-01-9	Chrysene	0.02	mg/k	0.02	0	1
E	Soil	B-220-10	10	27-Jan-04	205-99-2	Benzo(b)fluoranthene	0.02	mg/k	0.02	0	1
E	Soil	B-220-10	10	27-Jan-04	50-32-8	Benzo(a)pyrene	0.02	mg/k	0.02	0	1
E	Soil	B-220-10	10	27-Jan-04	56-55-3	Benzo(a)anthracene	0.02	mg/k	0.02	0	1
E	Soil	B-220-10	10	27-Jan-04	71-43-2	Benzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	120-12-7	Anthracene	0.02	mg/k	0.02	0	1
E	Soil	B-220-10	10	27-Jan-04	208-96-8	Acenaphthylene	0.02	mg/k	0.02	0	1
E	Soil	B-220-10	10	27-Jan-04	156-60-5	trans-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	106-46-7	1,4-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	10061-02-6	trans-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	75-34-3	1,1-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	75-35-4	1,1-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	563-58-6	1,1-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	87-61-6	1,2,3-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	B-220-10	10	27-Jan-04	1330-20-7	Xylenes (total)	0.5	mg/k	0.5	1	1
E	Soil	B-220-10	10	27-Jan-04	75-01-4	Vinyl Chloride	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	75-69-4	Trichlorofluoromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	207-08-9	Benzo(k)fluoranthene	0.02	mg/k	0.02	0	1
E	Soil	B-220-10	10	27-Jan-04	83-32-9	Acenaphthene	0.023	mg/k	0.023	1	1
E	Soil	B-220-10	10	27-Jan-04	67-66-3	Chloroform	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	135-98-8	sec-Butylbenzene	0.1	mg/k	0.1	1	1
E	Soil	B-220-10	10	27-Jan-04	129-00-0	Pyrene	0.02	mg/k	0.02	0	1
E	Soil	B-220-10	10	27-Jan-04	91-20-3	Naphthalene	0.7	mg/k	0.7	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-220-10	10	27-Jan-04	103-65-1	n-Propylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	99-87-6	p-Isopropyltoluene	0.2	mg/k	0.2	1	1
E	Soil	B-220-10	10	27-Jan-04	630-20-6	1,1,1,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	71-55-6	1,1,1-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	100-42-5	Styrene	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	79-34-5	1,1,2,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-10	10	27-Jan-04	104-51-8	n-Butylbenzene	0.2	mg/k	0.2	1	1
E	Soil	B-220-2.5	2.5	27-Jan-04		Percent Moisture	25.4	%		1	1
E	Soil	B-220-5	5	27-Jan-04		C12-C16	280	mg/k	280	1	0
E	Soil	B-220-5	5	27-Jan-04	75-25-2	Bromoform	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	95-50-1	1,2-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	106-93-4	1,2-Dibromoethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	96-12-8	1,2-Dibromo-3-Chloropropane	0.2	mg/k	0.2	0	1
E	Soil	B-220-5	5	27-Jan-04	75-27-4	Bromodichloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	74-83-9	Bromomethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04		C10-C12	57	mg/k	57	1	0
E	Soil	B-220-5	5	27-Jan-04	107-06-2	1,2-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04		C10-C25	1900	mg/k	1900	1	1
E	Soil	B-220-5	5	27-Jan-04	142-28-9	1,3-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04		C12-C16	450	mg/k	450	1	1
E	Soil	B-220-5	5	27-Jan-04		C16-C21	310	mg/k	310	1	0
E	Soil	B-220-5	5	27-Jan-04		C21-C40	240	mg/k	240	1	0
E	Soil	B-220-5	5	27-Jan-04		C25-C40	300	mg/k	300	1	1
E	Soil	B-220-5	5	27-Jan-04		C4-C10	400	mg/k	400	1	1
E	Soil	B-220-5	5	27-Jan-04	56-23-5	Carbon Tetrachloride	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	95-63-6	1,2,4-Trimethylbenzene	3.2	mg/k	3.2	1	1
E	Soil	B-220-5	5	27-Jan-04		C10-C12	130	mg/k	130	1	1
E	Soil	B-220-5	5	27-Jan-04	71-43-2	Benzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	630-20-6	1,1,1,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	71-55-6	1,1,1-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	79-34-5	1,1,2,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	79-00-5	1,1,2-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	74-97-5	Bromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	75-34-3	1,1-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	108-86-1	Bromobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	207-08-9	Benzo(k)fluoranthene	0.2	mg/k	0.2	0	1
E	Soil	B-220-5	5	27-Jan-04	191-24-2	Benzo(g,h,i)perylene	0.2	mg/k	0.2	0	1
E	Soil	B-220-5	5	27-Jan-04	205-99-2	Benzo(b)fluoranthene	0.2	mg/k	0.2	0	1
E	Soil	B-220-5	5	27-Jan-04	108-67-8	1,3,5-Trimethylbenzene	4.9	mg/k	4.9	1	1
E	Soil	B-220-5	5	27-Jan-04	56-55-3	Benzo(a)anthracene	0.2	mg/k	0.2	0	1
E	Soil	B-220-5	5	27-Jan-04	78-87-5	1,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	120-12-7	Anthracene	0.2	mg/k	0.2	0	1
E	Soil	B-220-5	5	27-Jan-04	208-96-8	Acenaphthylene	0.2	mg/k	0.2	0	1
E	Soil	B-220-5	5	27-Jan-04	83-32-9	Acenaphthene	0.2	mg/k	0.2	0	1
E	Soil	B-220-5	5	27-Jan-04	106-43-4	4-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	95-49-8	2-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	110-75-8	2-Chloroethyl vinyl ether	0.2	mg/k	0.2	0	1
E	Soil	B-220-5	5	27-Jan-04	594-20-7	2,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	106-46-7	1,4-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04		C21-C40	270	mg/k	270	1	1
E	Soil	B-220-5	5	27-Jan-04	541-73-1	1,3-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	108-90-7	Chlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	50-32-8	Benzo(a)pyrene	0.2	mg/k	0.2	0	1
E	Soil	B-220-5	5	27-Jan-04	75-00-3	Chloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04		Percent Moisture	34.4	%		1	1
E	Soil	B-220-5	5	27-Jan-04	85-01-8	Phenanthrene	1.1	mg/k	1.1	1	1
E	Soil	B-220-5	5	27-Jan-04	99-87-6	p-Isopropyltoluene	1.5	mg/k	1.5	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-220-5	5	27-Jan-04	129-00-0	Pyrene	0.2	mg/k	0.2	0	1
E	Soil	B-220-5	5	27-Jan-04	135-98-8	sec-Butylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	100-42-5	Styrene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	98-06-6	tert-Butylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	127-18-4	Tetrachloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	103-65-1	n-Propylbenzene	1.8	mg/k	1.8	1	1
E	Soil	B-220-5	5	27-Jan-04	156-60-5	trans-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	10061-02-6	trans-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	79-01-6	Trichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04		C16-C21	390	mg/k	390	1	1
E	Soil	B-220-5	5	27-Jan-04	75-01-4	Vinyl Chloride	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	1330-20-7	Xylenes (total)	5	mg/k	5	1	1
E	Soil	B-220-5	5	27-Jan-04	120-82-1	1,2,4-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	B-220-5	5	27-Jan-04	96-18-4	1,2,3-Trichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	87-61-6	1,2,3-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	B-220-5	5	27-Jan-04	563-58-6	1,1-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	75-35-4	1,1-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	108-88-3	Toluene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	10061-01-5	cis-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	75-69-4	Trichlorofluoromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	104-51-8	n-Butylbenzene	0.2	mg/k	0.2	1	1
E	Soil	B-220-5	5	27-Jan-04	74-87-3	Chloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	218-01-9	Chrysene	0.2	mg/k	0.2	0	1
E	Soil	B-220-5	5	27-Jan-04	156-59-2	cis-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	67-66-3	Chloroform	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	53-70-3	Dibenz(a,h)anthracene	0.2	mg/k	0.2	0	1
E	Soil	B-220-5	5	27-Jan-04	124-48-1	Dibromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	74-95-3	Dibromomethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	75-71-8	Dichlorodifluoromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	91-20-3	Naphthalene	2.1	mg/k	2.1	1	0
E	Soil	B-220-5	5	27-Jan-04	100-41-4	Ethylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	206-44-0	Fluoranthene	0.2	mg/k	0.2	0	1
E	Soil	B-220-5	5	27-Jan-04	86-73-7	Fluorene	0.66	mg/k	0.66	1	1
E	Soil	B-220-5	5	27-Jan-04	87-68-3	Hexachlorobutadiene	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	193-39-5	Indeno(1,2,3-cd)pyrene	0.2	mg/k	0.2	0	1
E	Soil	B-220-5	5	27-Jan-04	98-82-8	Isopropylbenzene	0.9	mg/k	0.9	1	1
E	Soil	B-220-5	5	27-Jan-04	75-09-2	Methylene Chloride	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	34077-87-7	Dichlorotrifluoroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-5	5	27-Jan-04	91-20-3	Naphthalene	3.2	mg/k	3.2	1	1
E	Soil	B-220-8	8	27-Jan-04	1330-20-7	Xylenes (total)	0.6	mg/k	0.6	1	1
E	Soil	B-220-8	8	27-Jan-04	120-12-7	Anthracene	0.061	mg/k	0.061	1	1
E	Soil	B-220-8	8	27-Jan-04	108-67-8	1,3,5-Trimethylbenzene	1.5	mg/k	1.5	1	1
E	Soil	B-220-8	8	27-Jan-04	71-43-2	Benzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	56-55-3	Benzo(a)anthracene	0.05	mg/k	0.05	0	1
E	Soil	B-220-8	8	27-Jan-04	50-32-8	Benzo(a)pyrene	0.05	mg/k	0.05	0	1
E	Soil	B-220-8	8	27-Jan-04	541-73-1	1,3-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	110-75-8	2-Chloroethyl vinyl ether	0.2	mg/k	0.2	0	1
E	Soil	B-220-8	8	27-Jan-04	106-46-7	1,4-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	594-20-7	2,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	78-87-5	1,2-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	142-28-9	1,3-Dichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	75-01-4	Vinyl Chloride	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	75-69-4	Trichlorofluoromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	79-01-6	Trichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	10061-02-6	trans-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	156-60-5	trans-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	108-88-3	Toluene	0.1	mg/k	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-220-8	8	27-Jan-04	127-18-4	Tetrachloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	98-06-6	tert-Butylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	208-96-8	Acenaphthylene	0.05	mg/k	0.05	0	1
E	Soil	B-220-8	8	27-Jan-04	86-73-7	Fluorene	0.65	mg/k	0.65	1	1
E	Soil	B-220-8	8	27-Jan-04	87-68-3	Hexachlorobutadiene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	106-43-4	4-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04		C10-C25	1400	mg/k	1400	1	1
E	Soil	B-220-8	8	27-Jan-04	83-32-9	Acenaphthene	0.16	mg/k	0.16	1	1
E	Soil	B-220-8	8	27-Jan-04		C16-C21	380	mg/k	380	1	1
E	Soil	B-220-8	8	27-Jan-04	129-00-0	Pyrene	0.05	mg/k	0.05	0	1
E	Soil	B-220-8	8	27-Jan-04	99-87-6	p-Isopropyltoluene	0.6	mg/k	0.6	1	1
E	Soil	B-220-8	8	27-Jan-04		C25-C40	200	mg/k	200	1	1
E	Soil	B-220-8	8	27-Jan-04		C21-C40	140	mg/k	140	1	1
E	Soil	B-220-8	8	27-Jan-04	85-01-8	Phenanthrene	1.2	mg/k	1.2	1	1
E	Soil	B-220-8	8	27-Jan-04	75-09-2	Methylene Chloride	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	103-65-1	n-Propylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	630-20-6	1,1,1,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	104-51-8	n-Butylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04		C16-C21	250	mg/k	250	1	0
E	Soil	B-220-8	8	27-Jan-04	91-20-3	Naphthalene	2	mg/k	2	1	1
E	Soil	B-220-8	8	27-Jan-04		C10-C12	100	mg/k	100	1	1
E	Soil	B-220-8	8	27-Jan-04	91-20-3	Naphthalene	0.4	mg/k	0.4	1	0
E	Soil	B-220-8	8	27-Jan-04	205-99-2	Benzo(b)fluoranthene	0.05	mg/k	0.05	0	1
E	Soil	B-220-8	8	27-Jan-04		C21-C40	120	mg/k	120	1	0
E	Soil	B-220-8	8	27-Jan-04	563-58-6	1,1-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	107-06-2	1,2-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	95-50-1	1,2-Dichlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	106-93-4	1,2-Dibromoethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	96-12-8	1,2-Dibromo-3-Chloropropane	0.2	mg/k	0.2	0	1
E	Soil	B-220-8	8	27-Jan-04	95-63-6	1,2,4-Trimethylbenzene	1	mg/k	1	1	1
E	Soil	B-220-8	8	27-Jan-04	120-82-1	1,2,4-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	B-220-8	8	27-Jan-04	100-42-5	Styrene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	87-61-6	1,2,3-Trichlorobenzene	0.2	mg/k	0.2	0	1
E	Soil	B-220-8	8	27-Jan-04	135-98-8	sec-Butylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	75-35-4	1,1-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	75-34-3	1,1-Dichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	79-00-5	1,1,2-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	79-34-5	1,1,2,2-Tetrachloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	71-55-6	1,1,1-Trichloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04		C12-C16	190	mg/k	190	1	0
E	Soil	B-220-8	8	27-Jan-04	96-18-4	1,2,3-Trichloropropane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	74-83-9	Bromomethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	53-70-3	Dibenz(a,h)anthracene	0.05	mg/k	0.05	0	1
E	Soil	B-220-8	8	27-Jan-04		C10-C12	31	mg/k	31	1	0
E	Soil	B-220-8	8	27-Jan-04		C12-C16	340	mg/k	340	1	1
E	Soil	B-220-8	8	27-Jan-04	74-95-3	Dibromomethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	75-71-8	Dichlorodifluoromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	34077-87-7	Dichlorotrifluoroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	10061-01-5	cis-1,3-Dichloropropene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	206-44-0	Fluoranthene	0.05	mg/k	0.05	0	1
E	Soil	B-220-8	8	27-Jan-04	124-48-1	Dibromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	75-25-2	Bromoform	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	75-27-4	Bromodichloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	74-97-5	Bromochloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	108-86-1	Bromobenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	207-08-9	Benzo(k)fluoranthene	0.05	mg/k	0.05	0	1
E	Soil	B-220-8	8	27-Jan-04	191-24-2	Benzo(g,h,i)perylene	0.05	mg/k	0.05	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	B-220-8	8	27-Jan-04	100-41-4	Ethylbenzene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	75-00-3	Chloroethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	156-59-2	cis-1,2-Dichloroethene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	218-01-9	Chrysene	0.05	mg/k	0.05	0	1
E	Soil	B-220-8	8	27-Jan-04	74-87-3	Chloromethane	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	67-66-3	Chloroform	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	98-82-8	Isopropylbenzene	0.2	mg/k	0.2	1	1
E	Soil	B-220-8	8	27-Jan-04	95-49-8	2-Chlorotoluene	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/k	0.05	0	1
E	Soil	B-220-8	8	27-Jan-04		C4-C10	230	mg/k	230	1	1
E	Soil	B-220-8	8	27-Jan-04	56-23-5	Carbon Tetrachloride	0.1	mg/k	0.1	0	1
E	Soil	B-220-8	8	27-Jan-04	108-90-7	Chlorobenzene	0.1	mg/k	0.1	0	1
E	Soil	SV-60-01	1	10-Jul-07	7439-92-1	Lead	18	mg/k	18	1	1
E	Soil	SV-60-01	1	10-Jul-07	74-95-3	Dibromomethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	7440-66-6	Zinc	22	mg/k	22	1	1
E	Soil	SV-60-01	1	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
E	Soil	SV-60-01	1	10-Jul-07	75-09-2	Methylene chloride	21	ug/kg	0.021	0	1
E	Soil	SV-60-01	1	10-Jul-07	1634-04-4	Methyl tert-butyl ether	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	179601-23-1	m,p-Xylenes	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	98-82-8	Isopropylbenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	108-20-3	Isopropyl ether	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	15	ug/kg	0.015	1	1
E	Soil	SV-60-01	1	10-Jul-07	87-68-3	Hexachlorobutadiene	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	86-73-7	Fluorene	5.7	ug/kg	0.0057	0	1
E	Soil	SV-60-01	1	10-Jul-07	206-44-0	Fluoranthene	14	ug/kg	0.014	1	1
E	Soil	SV-60-01	1	10-Jul-07	100-41-4	Ethylbenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	637-92-3	Ethyl tert butyl ether	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	91-20-3	Naphthalene	7.9	ug/kg	0.0079	1	1
E	Soil	SV-60-01	1	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	108-90-7	Chlorobenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	75-00-3	Chloroethane	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	67-66-3	Chloroform	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	74-87-3	Chloromethane	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	7440-47-3	Chromium	12	mg/k	12	1	1
E	Soil	SV-60-01	1	10-Jul-07		DRO (C10-C24)	500	mg/k	500	1	1
E	Soil	SV-60-01	1	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	75-71-8	Dichlorodifluoromethane	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	7440-48-4	Cobalt	2.3	mg/k	2.3	1	1
E	Soil	SV-60-01	1	10-Jul-07	7440-50-8	Copper	7.9	mg/k	7.9	1	1
E	Soil	SV-60-01	1	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.7	ug/kg	0.0057	0	1
E	Soil	SV-60-01	1	10-Jul-07	124-48-1	Dibromochloromethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07		Dibromofluoromethane	65.6	ug/kg	0.0656	1	1
E	Soil	SV-60-01	1	10-Jul-07	104-51-8	n-Butylbenzene	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	218-01-9	Chrysene	5.7	ug/kg	0.0057	0	1
E	Soil	SV-60-01	1	10-Jul-07	100-42-5	Styrene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	1330-20-7	Xylenes (total)	4.2	ug/kg	0.0042	0	1
E	Soil	SV-60-01	1	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
E	Soil	SV-60-01	1	10-Jul-07	75-01-4	Vinyl chloride	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	7440-62-2	Vanadium	13	mg/k	13	1	1
E	Soil	SV-60-01	1	10-Jul-07	75-69-4	Trichlorofluoromethane	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	79-01-6	Trichloroethene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
E	Soil	SV-60-01	1	10-Jul-07	108-88-3	Toluene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
E	Soil	SV-60-01	1	10-Jul-07	127-18-4	Tetrachloroethene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	98-06-6	tert-Butylbenzene	5.3	ug/kg	0.0053	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-60-01	1	10-Jul-07	75-65-0	tert-Butyl alcohol	110	ug/kg	0.11	0	1
E	Soil	SV-60-01	1	10-Jul-07	91-20-3	Naphthalene	5.3	ug/kg	0.0053	0	0
E	Soil	SV-60-01	1	10-Jul-07	85-01-8	Phenanthrene	11	ug/kg	0.011	1	1
E	Soil	SV-60-01	1	10-Jul-07	7440-02-0	Nickel	12	mg/k	12	1	1
E	Soil	SV-60-01	1	10-Jul-07		Nitrobenzene-d5	2700	ug/kg	2.7	1	1
E	Soil	SV-60-01	1	10-Jul-07		n-Octacosane	21.5	mg/k	21.5	1	0
E	Soil	SV-60-01	1	10-Jul-07		n-Octacosane	21.8	mg/k	21.8	1	1
E	Soil	SV-60-01	1	10-Jul-07	103-65-1	n-Propylbenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	994-05-8	Tert-amyl methyl ether	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	95-47-6	o-Xylene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07		Terphenyl-d14	2400	ug/kg	2.4	1	1
E	Soil	SV-60-01	1	10-Jul-07	99-87-6	p-Isopropyltoluene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	129-00-0	Pyrene	5.7	ug/kg	0.0057	0	1
E	Soil	SV-60-01	1	10-Jul-07	135-98-8	sec-Butylbenzene	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
E	Soil	SV-60-01	1	10-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
E	Soil	SV-60-01	1	10-Jul-07		C8-C9	18	mg/k	18	0	1
E	Soil	SV-60-01	1	10-Jul-07		ORO (C25-C40)	920	mg/k	920	1	1
E	Soil	SV-60-01	1	10-Jul-07	95-50-1	1,2-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	83-32-9	Acenaphthene	5.7	ug/kg	0.0057	0	1
E	Soil	SV-60-01	1	10-Jul-07	106-43-4	4-Chlorotoluene	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07		4-Bromofluorobenzene	32.2	ug/kg	0.0322	1	1
E	Soil	SV-60-01	1	10-Jul-07		4-Bromofluorobenzene	0.0122	mg/k	0.0122	1	0
E	Soil	SV-60-01	1	10-Jul-07	91-57-6	2-Methylnaphthalene	7.4	ug/kg	0.0074	1	1
E	Soil	SV-60-01	1	10-Jul-07		2-Fluorobiphenyl	1200	ug/kg	1.2	1	1
E	Soil	SV-60-01	1	10-Jul-07	95-49-8	2-Chlorotoluene	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	594-20-7	2,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	90-12-0	1-Methylnaphthalene	5.7	ug/kg	0.0057	0	1
E	Soil	SV-60-01	1	10-Jul-07	106-46-7	1,4-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	142-28-9	1,3-Dichloropropane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	541-73-1	1,3-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	56-23-5	Carbon tetrachloride	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	71-55-6	1,1,1-Trichloroethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	79-00-5	1,1,2-Trichloroethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	75-34-3	1,1-Dichloroethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	78-87-5	1,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	563-58-6	1,1-Dichloropropene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	107-06-2	1,2-Dichloroethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	96-18-4	1,2,3-Trichloropropane	11	ug/kg	0.011	0	1
E	Soil	SV-60-01	1	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	106-93-4	1,2-Dibromoethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
E	Soil	SV-60-01	1	10-Jul-07	75-35-4	1,1-Dichloroethene	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07		C26-C27	190	mg/k	190	1	1
E	Soil	SV-60-01	1	10-Jul-07	208-96-8	Acenaphthylene	15	ug/kg	0.015	1	1
E	Soil	SV-60-01	1	10-Jul-07		C14-C15	18	mg/k	18	0	1
E	Soil	SV-60-01	1	10-Jul-07		C16-C17	50	mg/k	50	1	1
E	Soil	SV-60-01	1	10-Jul-07		C18-C19	80	mg/k	80	1	1
E	Soil	SV-60-01	1	10-Jul-07		C20-C21	120	mg/k	120	1	1
E	Soil	SV-60-01	1	10-Jul-07		C10-C11	18	mg/k	18	0	1
E	Soil	SV-60-01	1	10-Jul-07		C24-C25	150	mg/k	150	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-60-01	1	10-Jul-07	74-83-9	Bromomethane	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07		C28-C29	160	mg/k	160	1	1
E	Soil	SV-60-01	1	10-Jul-07		C30-C31	160	mg/k	160	1	1
E	Soil	SV-60-01	1	10-Jul-07		C32-C35	230	mg/k	230	1	1
E	Soil	SV-60-01	1	10-Jul-07		C36-C40	120	mg/k	120	1	1
E	Soil	SV-60-01	1	10-Jul-07		C8-C40	1400	mg/k	1400	1	1
E	Soil	SV-60-01	1	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07		C22-C23	140	mg/k	140	1	1
E	Soil	SV-60-01	1	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	29	ug/kg	0.029	1	1
E	Soil	SV-60-01	1	10-Jul-07	7440-43-9	Cadmium	0.97	mg/k	0.97	1	1
E	Soil	SV-60-01	1	10-Jul-07	7440-38-2	Arsenic	1.5	mg/k	1.5	1	1
E	Soil	SV-60-01	1	10-Jul-07	7440-39-3	Barium	87	mg/k	87	1	1
E	Soil	SV-60-01	1	10-Jul-07	71-43-2	Benzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	56-55-3	Benzo(a)anthracene	5.7	ug/kg	0.0057	0	1
E	Soil	SV-60-01	1	10-Jul-07		C12-C13	18	mg/k	18	0	1
E	Soil	SV-60-01	1	10-Jul-07	205-99-2	Benzo(b)fluoranthene	5.7	ug/kg	0.0057	0	1
E	Soil	SV-60-01	1	10-Jul-07	120-12-7	Anthracene	7.7	ug/kg	0.0077	1	1
E	Soil	SV-60-01	1	10-Jul-07	207-08-9	Benzo(k)fluoranthene	5.7	ug/kg	0.0057	0	1
E	Soil	SV-60-01	1	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
E	Soil	SV-60-01	1	10-Jul-07	108-86-1	Bromobenzene	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	74-97-5	Bromochloromethane	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	75-27-4	Bromodichloromethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-60-01	1	10-Jul-07	75-25-2	Bromoform	5.3	ug/kg	0.0053	0	1
E	Soil	SV-60-01	1	10-Jul-07	50-32-8	Benzo(a)pyrene	5.7	ug/kg	0.0057	0	1
E	Soil	SV-60-01	1	10-Jul-07		Toluene-d8	47.5	ug/kg	0.0475	1	1
E	Soil	SV-60-05	5	10-Jul-07		DRO (C10-C24)	2100	mg/k	2100	1	1
E	Soil	SV-60-05	5	10-Jul-07	75-71-8	Dichlorodifluoromethane	400	ug/kg	0.4	0	1
E	Soil	SV-60-05	5	10-Jul-07	74-95-3	Dibromomethane	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07		Dibromofluoromethane	1970	ug/kg	1.97	1	1
E	Soil	SV-60-05	5	10-Jul-07	124-48-1	Dibromochloromethane	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	67-66-3	Chloroform	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	7440-50-8	Copper	3.7	mg/k	3.7	1	1
E	Soil	SV-60-05	5	10-Jul-07	206-44-0	Fluoranthene	110	ug/kg	0.11	1	1
E	Soil	SV-60-05	5	10-Jul-07	7440-48-4	Cobalt	0.99	mg/k	0.99	0	1
E	Soil	SV-60-05	5	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	218-01-9	Chrysene	78	ug/kg	0.078	1	1
E	Soil	SV-60-05	5	10-Jul-07	7440-47-3	Chromium	12	mg/k	12	1	1
E	Soil	SV-60-05	5	10-Jul-07	104-51-8	n-Butylbenzene	790	ug/kg	0.79	1	1
E	Soil	SV-60-05	5	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.8	ug/kg	0.0058	0	1
E	Soil	SV-60-05	5	10-Jul-07	7439-92-1	Lead	3.8	mg/k	3.8	1	1
E	Soil	SV-60-05	5	10-Jul-07	91-20-3	Naphthalene	500	ug/kg	0.5	0	0
E	Soil	SV-60-05	5	10-Jul-07	91-20-3	Naphthalene	320	ug/kg	0.32	1	1
E	Soil	SV-60-05	5	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
E	Soil	SV-60-05	5	10-Jul-07	75-09-2	Methylene chloride	2000	ug/kg	2	0	1
E	Soil	SV-60-05	5	10-Jul-07	1634-04-4	Methyl tert-butyl ether	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07	637-92-3	Ethyl tert butyl ether	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07	100-41-4	Ethylbenzene	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	108-20-3	Isopropyl ether	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.6	ug/kg	0.0066	1	1
E	Soil	SV-60-05	5	10-Jul-07	87-68-3	Hexachlorobutadiene	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07		GRO (C4 - C12)	540	mg/k	540	1	1
E	Soil	SV-60-05	5	10-Jul-07	86-73-7	Fluorene	520	ug/kg	0.52	1	1
E	Soil	SV-60-05	5	10-Jul-07	75-00-3	Chloroethane	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
E	Soil	SV-60-05	5	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-60-05	5	10-Jul-07	74-87-3	Chloromethane	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07		C10-C11	350	mg/k	350	1	1
E	Soil	SV-60-05	5	10-Jul-07	74-83-9	Bromomethane	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07	75-25-2	Bromoform	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07	75-27-4	Bromodichloromethane	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07		C14-C15	400	mg/k	400	1	1
E	Soil	SV-60-05	5	10-Jul-07	108-86-1	Bromobenzene	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07		C16-C17	330	mg/k	330	1	1
E	Soil	SV-60-05	5	10-Jul-07	207-08-9	Benzo(k)fluoranthene	5.8	ug/kg	0.0058	1	1
E	Soil	SV-60-05	5	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.5	ug/kg	0.0065	1	1
E	Soil	SV-60-05	5	10-Jul-07	205-99-2	Benzo(b)fluoranthene	24	ug/kg	0.024	1	1
E	Soil	SV-60-05	5	10-Jul-07	50-32-8	Benzo(a)pyrene	19	ug/kg	0.019	1	1
E	Soil	SV-60-05	5	10-Jul-07	56-55-3	Benzo(a)anthracene	38	ug/kg	0.038	1	1
E	Soil	SV-60-05	5	10-Jul-07	71-43-2	Benzene	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	74-97-5	Bromochloromethane	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07		C30-C31	52	mg/k	52	1	1
E	Soil	SV-60-05	5	10-Jul-07	108-90-7	Chlorobenzene	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	56-23-5	Carbon tetrachloride	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07		C8-C9	230	mg/k	230	1	1
E	Soil	SV-60-05	5	10-Jul-07		C8-C40	2700	mg/k	2700	1	1
E	Soil	SV-60-05	5	10-Jul-07		C12-C13	480	mg/k	480	1	1
E	Soil	SV-60-05	5	10-Jul-07		C32-C35	61	mg/k	61	1	1
E	Soil	SV-60-05	5	10-Jul-07	179601-23-1	m,p-Xylenes	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07		C28-C29	46	mg/k	46	1	1
E	Soil	SV-60-05	5	10-Jul-07		C26-C27	76	mg/k	76	1	1
E	Soil	SV-60-05	5	10-Jul-07		C24-C25	78	mg/k	78	1	1
E	Soil	SV-60-05	5	10-Jul-07		C22-C23	110	mg/k	110	1	1
E	Soil	SV-60-05	5	10-Jul-07		C20-C21	220	mg/k	220	1	1
E	Soil	SV-60-05	5	10-Jul-07		C18-C19	210	mg/k	210	1	1
E	Soil	SV-60-05	5	10-Jul-07		C36-C40	35	mg/k	35	0	1
E	Soil	SV-60-05	5	10-Jul-07	7440-02-0	Nickel	3.9	mg/k	3.9	1	1
E	Soil	SV-60-05	5	10-Jul-07	120-12-7	Anthracene	150	ug/kg	0.15	1	1
E	Soil	SV-60-05	5	10-Jul-07	541-73-1	1,3-Dichlorobenzene	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	142-28-9	1,3-Dichloropropane	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	106-46-7	1,4-Dichlorobenzene	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	90-12-0	1-Methylnaphthalene	2300	ug/kg	2.3	1	1
E	Soil	SV-60-05	5	10-Jul-07	78-87-5	1,2-Dichloropropane	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	95-49-8	2-Chlorotoluene	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07	107-06-2	1,2-Dichloroethane	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	91-57-6	2-Methylnaphthalene	3300	ug/kg	3.3	1	1
E	Soil	SV-60-05	5	10-Jul-07		4-Bromofluorobenzene	21.1	mg/k	21.1	1	1
E	Soil	SV-60-05	5	10-Jul-07		4-Bromofluorobenzene	2460	ug/kg	2.46	1	0
E	Soil	SV-60-05	5	10-Jul-07	106-43-4	4-Chlorotoluene	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07	83-32-9	Acenaphthene	410	ug/kg	0.41	1	1
E	Soil	SV-60-05	5	10-Jul-07	208-96-8	Acenaphthylene	5.8	ug/kg	0.0058	0	1
E	Soil	SV-60-05	5	10-Jul-07	98-82-8	Isopropylbenzene	1800	ug/kg	1.8	1	1
E	Soil	SV-60-05	5	10-Jul-07	7440-39-3	Barium	35	mg/k	35	1	1
E	Soil	SV-60-05	5	10-Jul-07	71-55-6	1,1,1-Trichloroethane	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	79-00-5	1,1,2-Trichloroethane	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	75-34-3	1,1-Dichloroethane	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	75-35-4	1,1-Dichloroethene	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07		2-Fluorobiphenyl	470	ug/kg	0.47	1	1
E	Soil	SV-60-05	5	10-Jul-07	96-18-4	1,2,3-Trichloropropane	1000	ug/kg	1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-60-05	5	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07	106-93-4	1,2-Dibromoethane	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	95-50-1	1,2-Dichlorobenzene	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	563-58-6	1,1-Dichloropropene	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	99-87-6	p-Isopropyltoluene	250	ug/kg	0.25	1	1
E	Soil	SV-60-05	5	10-Jul-07	994-05-8	Tert-amyl methyl ether	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07		Terphenyl-d14	1500	ug/kg	1.5	1	1
E	Soil	SV-60-05	5	10-Jul-07	100-42-5	Styrene	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
E	Soil	SV-60-05	5	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
E	Soil	SV-60-05	5	10-Jul-07	75-65-0	tert-Butyl alcohol	10000	ug/kg	10	0	1
E	Soil	SV-60-05	5	10-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
E	Soil	SV-60-05	5	10-Jul-07	129-00-0	Pyrene	200	ug/kg	0.2	1	1
E	Soil	SV-60-05	5	10-Jul-07	594-20-7	2,2-Dichloropropane	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	95-47-6	o-Xylene	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07		ORO (C25-C40)	280	mg/k	280	1	1
E	Soil	SV-60-05	5	10-Jul-07	103-65-1	n-Propylbenzene	2900	ug/kg	2.9	1	1
E	Soil	SV-60-05	5	10-Jul-07		n-Octacosane	10.3	mg/k	10.3	1	1
E	Soil	SV-60-05	5	10-Jul-07		Nitrobenzene-d5	1100	ug/kg	1.1	1	1
E	Soil	SV-60-05	5	10-Jul-07	135-98-8	sec-Butylbenzene	1300	ug/kg	1.3	1	1
E	Soil	SV-60-05	5	10-Jul-07	7440-62-2	Vanadium	9.6	mg/k	9.6	1	1
E	Soil	SV-60-05	5	10-Jul-07	85-01-8	Phenanthrene	950	ug/kg	0.95	1	1
E	Soil	SV-60-05	5	10-Jul-07	98-06-6	tert-Butylbenzene	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07	7440-38-2	Arsenic	1.2	mg/k	1.2	1	1
E	Soil	SV-60-05	5	10-Jul-07	7440-66-6	Zinc	7	mg/k	7	1	1
E	Soil	SV-60-05	5	10-Jul-07	75-01-4	Vinyl chloride	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07	75-69-4	Trichlorofluoromethane	500	ug/kg	0.5	0	1
E	Soil	SV-60-05	5	10-Jul-07	108-88-3	Toluene	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	127-18-4	Tetrachloroethene	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	1330-20-7	Xylenes (total)	400	ug/kg	0.4	0	1
E	Soil	SV-60-05	5	10-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
E	Soil	SV-60-05	5	10-Jul-07	79-01-6	Trichloroethene	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07		Toluene-d8	2290	ug/kg	2.29	1	1
E	Soil	SV-60-05	5	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	200	ug/kg	0.2	0	1
E	Soil	SV-60-05	5	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	200	ug/kg	0.2	0	1
E	Soil	SV-61-01	1	10-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
E	Soil	SV-61-01	1	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	75-35-4	1,1-Dichloroethene	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.5	ug/kg	0.0055	0	1
E	Soil	SV-61-01	1	10-Jul-07		Nitrobenzene-d5	1300	ug/kg	1.3	1	1
E	Soil	SV-61-01	1	10-Jul-07	7440-02-0	Nickel	6.5	mg/k	6.5	1	1
E	Soil	SV-61-01	1	10-Jul-07	104-51-8	n-Butylbenzene	5.1	ug/kg	0.0051	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-61-01	1	10-Jul-07	91-20-3	Naphthalene	5.5	ug/kg	0.0055	0	0
E	Soil	SV-61-01	1	10-Jul-07	91-20-3	Naphthalene	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
E	Soil	SV-61-01	1	10-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
E	Soil	SV-61-01	1	10-Jul-07	1634-04-4	Methyl tert-butyl ether	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
E	Soil	SV-61-01	1	10-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	7439-92-1	Lead	3.5	mg/k	3.5	1	1
E	Soil	SV-61-01	1	10-Jul-07	7440-50-8	Copper	3.6	mg/k	3.6	1	1
E	Soil	SV-61-01	1	10-Jul-07	108-20-3	Isopropyl ether	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07		ORO (C25-C40)	13	mg/k	13	1	1
E	Soil	SV-61-01	1	10-Jul-07	87-68-3	Hexachlorobutadiene	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	86-73-7	Fluorene	5.5	ug/kg	0.0055	0	1
E	Soil	SV-61-01	1	10-Jul-07	206-44-0	Fluoranthene	5.5	ug/kg	0.0055	0	1
E	Soil	SV-61-01	1	10-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	637-92-3	Ethyl tert butyl ether	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07		DRO (C10-C24)	6.3	mg/k	6.3	1	1
E	Soil	SV-61-01	1	10-Jul-07	75-71-8	Dichlorodifluoromethane	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07		Dibromofluoromethane	57.7	ug/kg	0.0577	1	1
E	Soil	SV-61-01	1	10-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.5	ug/kg	0.0055	0	1
E	Soil	SV-61-01	1	10-Jul-07	98-82-8	Isopropylbenzene	3.3	ug/kg	0.0033	1	1
E	Soil	SV-61-01	1	10-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	7440-66-6	Zinc	6.8	mg/k	6.8	1	1
E	Soil	SV-61-01	1	10-Jul-07	1330-20-7	Xylenes (total)	4.1	ug/kg	0.0041	0	1
E	Soil	SV-61-01	1	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
E	Soil	SV-61-01	1	10-Jul-07	75-01-4	Vinyl chloride	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	7440-62-2	Vanadium	13	mg/k	13	1	1
E	Soil	SV-61-01	1	10-Jul-07	75-69-4	Trichlorofluoromethane	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07		Toluene-d8	55.1	ug/kg	0.0551	1	1
E	Soil	SV-61-01	1	10-Jul-07		n-Octacosane	4.89	mg/k	4.89	1	1
E	Soil	SV-61-01	1	10-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
E	Soil	SV-61-01	1	10-Jul-07	103-65-1	n-Propylbenzene	6	ug/kg	0.006	1	1
E	Soil	SV-61-01	1	10-Jul-07	98-06-6	tert-Butylbenzene	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
E	Soil	SV-61-01	1	10-Jul-07	994-05-8	Tert-amyl methyl ether	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07		Terphenyl-d14	1400	ug/kg	1.4	1	1
E	Soil	SV-61-01	1	10-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
E	Soil	SV-61-01	1	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
E	Soil	SV-61-01	1	10-Jul-07	135-98-8	sec-Butylbenzene	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	85-01-8	Phenanthrene	5.5	ug/kg	0.0055	0	1
E	Soil	SV-61-01	1	10-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	83-32-9	Acenaphthene	5.5	ug/kg	0.0055	0	1
E	Soil	SV-61-01	1	10-Jul-07	74-97-5	Bromochloromethane	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	108-86-1	Bromobenzene	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	7440-41-7	Beryllium	0.51	mg/k	0.51	0	1
E	Soil	SV-61-01	1	10-Jul-07	207-08-9	Benzo(k)fluoranthene	5.5	ug/kg	0.0055	0	1
E	Soil	SV-61-01	1	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.5	ug/kg	0.0055	0	1
E	Soil	SV-61-01	1	10-Jul-07	205-99-2	Benzo(b)fluoranthene	5.5	ug/kg	0.0055	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-61-01	1	10-Jul-07	50-32-8	Benzo(a)pyrene	5.5	ug/kg	0.0055	0	1
E	Soil	SV-61-01	1	10-Jul-07	56-55-3	Benzo(a)anthracene	5.5	ug/kg	0.0055	0	1
E	Soil	SV-61-01	1	10-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	7440-39-3	Barium	68	mg/k	68	1	1
E	Soil	SV-61-01	1	10-Jul-07	7440-38-2	Arsenic	1.4	mg/k	1.4	1	1
E	Soil	SV-61-01	1	10-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	120-12-7	Anthracene	5.5	ug/kg	0.0055	0	1
E	Soil	SV-61-01	1	10-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
E	Soil	SV-61-01	1	10-Jul-07	106-43-4	4-Chlorotoluene	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07		4-Bromofluorobenzene	49.9	ug/kg	0.0499	1	1
E	Soil	SV-61-01	1	10-Jul-07		4-Bromofluorobenzene	0.0241	mg/k	0.0241	1	0
E	Soil	SV-61-01	1	10-Jul-07	91-57-6	2-Methylnaphthalene	5.5	ug/kg	0.0055	0	1
E	Soil	SV-61-01	1	10-Jul-07		2-Fluorobiphenyl	920	ug/kg	0.92	1	1
E	Soil	SV-61-01	1	10-Jul-07	95-49-8	2-Chlorotoluene	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	90-12-0	1-Methylnaphthalene	5.5	ug/kg	0.0055	0	1
E	Soil	SV-61-01	1	10-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	7440-48-4	Cobalt	1.1	mg/k	1.1	1	1
E	Soil	SV-61-01	1	10-Jul-07	129-00-0	Pyrene	5.5	ug/kg	0.0055	0	1
E	Soil	SV-61-01	1	10-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	7440-43-9	Cadmium	0.51	mg/k	0.51	0	1
E	Soil	SV-61-01	1	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	208-96-8	Acenaphthylene	5.5	ug/kg	0.0055	0	1
E	Soil	SV-61-01	1	10-Jul-07	75-25-2	Bromoform	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	218-01-9	Chrysene	5.5	ug/kg	0.0055	0	1
E	Soil	SV-61-01	1	10-Jul-07	7440-47-3	Chromium	16	mg/k	16	1	1
E	Soil	SV-61-01	1	10-Jul-07	74-87-3	Chloromethane	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07	75-00-3	Chloroethane	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	56-23-5	Carbon tetrachloride	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
E	Soil	SV-61-01	1	10-Jul-07		C8-C40	20	mg/k	20	1	1
E	Soil	SV-61-01	1	10-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
E	Soil	SV-61-01	1	10-Jul-07		C32-C35	4.4	mg/k	4.4	1	1
E	Soil	SV-61-01	1	10-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
E	Soil	SV-61-01	1	10-Jul-07	74-83-9	Bromomethane	5.1	ug/kg	0.0051	0	1
E	Soil	SV-61-01	1	10-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
E	Soil	SV-61-01	1	10-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
E	Soil	SV-61-01	1	10-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
E	Soil	SV-61-01	1	10-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
E	Soil	SV-61-01	1	10-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
E	Soil	SV-61-01	1	10-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
E	Soil	SV-61-01	1	10-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
E	Soil	SV-61-01	1	10-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
E	Soil	SV-61-01	1	10-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
E	Soil	SV-61-01	1	10-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
E	Soil	SV-61-01	1	10-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
E	Soil	SV-61-05	5	10-Jul-07		GRO (C4 - C12)	2900	mg/k	2900	1	1
E	Soil	SV-61-05	5	10-Jul-07	7439-92-1	Lead	5.9	mg/k	5.9	1	1
E	Soil	SV-61-05	5	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.5	ug/kg	0.0065	0	1
E	Soil	SV-61-05	5	10-Jul-07	108-20-3	Isopropyl ether	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	86-73-7	Fluorene	3500	ug/kg	3.5	1	1
E	Soil	SV-61-05	5	10-Jul-07	98-82-8	Isopropylbenzene	4400	ug/kg	4.4	1	1
E	Soil	SV-61-05	5	10-Jul-07	87-68-3	Hexachlorobutadiene	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	179601-23-1	m,p-Xylenes	6800	ug/kg	6.8	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-61-05	5	10-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
E	Soil	SV-61-05	5	10-Jul-07	1634-04-4	Methyl tert-butyl ether	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	91-20-3	Naphthalene	11000	ug/kg	11	1	1
E	Soil	SV-61-05	5	10-Jul-07	91-20-3	Naphthalene	6400	ug/kg	6.4	1	0
E	Soil	SV-61-05	5	10-Jul-07	206-44-0	Fluoranthene	6.5	ug/kg	0.0065	0	1
E	Soil	SV-61-05	5	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
E	Soil	SV-61-05	5	10-Jul-07	75-09-2	Methylene chloride	10000	ug/kg	10	0	1
E	Soil	SV-61-05	5	10-Jul-07	7440-50-8	Copper	5.9	mg/k	5.9	1	1
E	Soil	SV-61-05	5	10-Jul-07	75-00-3	Chloroethane	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	67-66-3	Chloroform	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	104-51-8	n-Butylbenzene	4300	ug/kg	4.3	1	1
E	Soil	SV-61-05	5	10-Jul-07	74-87-3	Chloromethane	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	218-01-9	Chrysene	270	ug/kg	0.27	1	1
E	Soil	SV-61-05	5	10-Jul-07	7440-47-3	Chromium	36	mg/k	36	1	1
E	Soil	SV-61-05	5	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	100-41-4	Ethylbenzene	9800	ug/kg	9.8	1	1
E	Soil	SV-61-05	5	10-Jul-07	124-48-1	Dibromochloromethane	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07		Dibromofluoromethane	1980	ug/kg	1.98	1	1
E	Soil	SV-61-05	5	10-Jul-07	74-95-3	Dibromomethane	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	75-71-8	Dichlorodifluoromethane	2000	ug/kg	2	0	1
E	Soil	SV-61-05	5	10-Jul-07		DRO (C10-C24)	5400	mg/k	5400	1	1
E	Soil	SV-61-05	5	10-Jul-07	637-92-3	Ethyl tert butyl ether	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	79-01-6	Trichloroethene	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	7440-62-2	Vanadium	28	mg/k	28	1	1
E	Soil	SV-61-05	5	10-Jul-07	127-18-4	Tetrachloroethene	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
E	Soil	SV-61-05	5	10-Jul-07	108-88-3	Toluene	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07		Toluene-d8	2290	ug/kg	2.29	1	1
E	Soil	SV-61-05	5	10-Jul-07	75-65-0	tert-Butyl alcohol	50000	ug/kg	50	0	1
E	Soil	SV-61-05	5	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	994-05-8	Tert-amyl methyl ether	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	75-69-4	Trichlorofluoromethane	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	75-01-4	Vinyl chloride	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	1330-20-7	Xylenes (total)	16000	ug/kg	16	1	1
E	Soil	SV-61-05	5	10-Jul-07	7440-66-6	Zinc	15	mg/k	15	1	1
E	Soil	SV-61-05	5	10-Jul-07	108-90-7	Chlorobenzene	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	7440-48-4	Cobalt	1.7	mg/k	1.7	1	1
E	Soil	SV-61-05	5	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	99-87-6	p-Isopropyltoluene	3300	ug/kg	3.3	1	1
E	Soil	SV-61-05	5	10-Jul-07		Nitrobenzene-d5	2900	ug/kg	2.9	1	1
E	Soil	SV-61-05	5	10-Jul-07		n-Octacosane	19.6	mg/k	19.6	1	0
E	Soil	SV-61-05	5	10-Jul-07		n-Octacosane	33	mg/k	33	1	1
E	Soil	SV-61-05	5	10-Jul-07	103-65-1	n-Propylbenzene	6300	ug/kg	6.3	1	1
E	Soil	SV-61-05	5	10-Jul-07		ORO (C25-C40)	1500	mg/k	1500	1	1
E	Soil	SV-61-05	5	10-Jul-07	98-06-6	tert-Butylbenzene	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	85-01-8	Phenanthrene	3600	ug/kg	3.6	1	1
E	Soil	SV-61-05	5	10-Jul-07	7440-02-0	Nickel	11	mg/k	11	1	1
E	Soil	SV-61-05	5	10-Jul-07	129-00-0	Pyrene	180	ug/kg	0.18	1	1
E	Soil	SV-61-05	5	10-Jul-07	135-98-8	sec-Butylbenzene	2800	ug/kg	2.8	1	1
E	Soil	SV-61-05	5	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
E	Soil	SV-61-05	5	10-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	100-42-5	Styrene	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07		Terphenyl-d14	2800	ug/kg	2.8	1	1
E	Soil	SV-61-05	5	10-Jul-07	95-47-6	o-Xylene	8700	ug/kg	8.7	1	1
E	Soil	SV-61-05	5	10-Jul-07		2-Fluorobiphenyl	1700	ug/kg	1.7	1	1
E	Soil	SV-61-05	5	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	8300	ug/kg	8.3	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-61-05	5	10-Jul-07	541-73-1	1,3-Dichlorobenzene	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	142-28-9	1,3-Dichloropropane	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	106-46-7	1,4-Dichlorobenzene	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	90-12-0	1-Methylnaphthalene	5500	ug/kg	5.5	1	1
E	Soil	SV-61-05	5	10-Jul-07	120-12-7	Anthracene	240	ug/kg	0.24	1	1
E	Soil	SV-61-05	5	10-Jul-07	95-49-8	2-Chlorotoluene	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	95-50-1	1,2-Dichlorobenzene	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	91-57-6	2-Methylnaphthalene	4100	ug/kg	4.1	1	1
E	Soil	SV-61-05	5	10-Jul-07		4-Bromofluorobenzene	83.8	mg/k	83.8	1	1
E	Soil	SV-61-05	5	10-Jul-07		4-Bromofluorobenzene	2860	ug/kg	2.86	1	0
E	Soil	SV-61-05	5	10-Jul-07	106-43-4	4-Chlorotoluene	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	83-32-9	Acenaphthene	710	ug/kg	0.71	1	1
E	Soil	SV-61-05	5	10-Jul-07	208-96-8	Acenaphthylene	420	ug/kg	0.42	1	1
E	Soil	SV-61-05	5	10-Jul-07	594-20-7	2,2-Dichloropropane	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	9.6	ug/kg	0.0096	1	1
E	Soil	SV-61-05	5	10-Jul-07	56-23-5	Carbon tetrachloride	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	79-00-5	1,1,2-Trichloroethane	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	75-34-3	1,1-Dichloroethane	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	78-87-5	1,2-Dichloropropane	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	563-58-6	1,1-Dichloropropene	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	107-06-2	1,2-Dichloroethane	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	96-18-4	1,2,3-Trichloropropane	5000	ug/kg	5	0	1
E	Soil	SV-61-05	5	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	25000	ug/kg	25	1	1
E	Soil	SV-61-05	5	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	106-93-4	1,2-Dibromoethane	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	71-55-6	1,1,1-Trichloroethane	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	75-35-4	1,1-Dichloroethene	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
E	Soil	SV-61-05	5	10-Jul-07		C14-C15	870	mg/k	870	1	1
E	Soil	SV-61-05	5	10-Jul-07		C16-C17	750	mg/k	750	1	1
E	Soil	SV-61-05	5	10-Jul-07		C18-C19	470	mg/k	470	1	1
E	Soil	SV-61-05	5	10-Jul-07		C20-C21	550	mg/k	550	1	1
E	Soil	SV-61-05	5	10-Jul-07		C8-C40	6700	mg/k	6700	1	1
E	Soil	SV-61-05	5	10-Jul-07		C12-C13	1000	mg/k	1000	1	1
E	Soil	SV-61-05	5	10-Jul-07		C26-C27	320	mg/k	320	1	1
E	Soil	SV-61-05	5	10-Jul-07		C22-C23	320	mg/k	320	1	1
E	Soil	SV-61-05	5	10-Jul-07		C28-C29	190	mg/k	190	1	1
E	Soil	SV-61-05	5	10-Jul-07		C30-C31	230	mg/k	230	1	1
E	Soil	SV-61-05	5	10-Jul-07		C32-C35	260	mg/k	260	1	1
E	Soil	SV-61-05	5	10-Jul-07		C36-C40	180	mg/k	180	0	1
E	Soil	SV-61-05	5	10-Jul-07		C8-C9	450	mg/k	450	1	1
E	Soil	SV-61-05	5	10-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
E	Soil	SV-61-05	5	10-Jul-07		C24-C25	260	mg/k	260	1	1
E	Soil	SV-61-05	5	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	18	ug/kg	0.018	1	1
E	Soil	SV-61-05	5	10-Jul-07	7440-39-3	Barium	41	mg/k	41	1	1
E	Soil	SV-61-05	5	10-Jul-07		C10-C11	860	mg/k	860	1	1
E	Soil	SV-61-05	5	10-Jul-07	56-55-3	Benzo(a)anthracene	58	ug/kg	0.058	1	1
E	Soil	SV-61-05	5	10-Jul-07	205-99-2	Benzo(b)fluoranthene	67	ug/kg	0.067	1	1
E	Soil	SV-61-05	5	10-Jul-07	71-43-2	Benzene	1800	ug/kg	1.8	1	1
E	Soil	SV-61-05	5	10-Jul-07	207-08-9	Benzo(k)fluoranthene	6.5	ug/kg	0.0065	0	1
E	Soil	SV-61-05	5	10-Jul-07	7440-38-2	Arsenic	3.8	mg/k	3.8	1	1
E	Soil	SV-61-05	5	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	108-86-1	Bromobenzene	2500	ug/kg	2.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-61-05	5	10-Jul-07	74-97-5	Bromochloromethane	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	75-27-4	Bromodichloromethane	1000	ug/kg	1	0	1
E	Soil	SV-61-05	5	10-Jul-07	75-25-2	Bromoform	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	74-83-9	Bromomethane	2500	ug/kg	2.5	0	1
E	Soil	SV-61-05	5	10-Jul-07	50-32-8	Benzo(a)pyrene	140	ug/kg	0.14	1	1
E	Soil	SV-62-01	1	10-Jul-07	71-55-6	1,1,1-Trichloroethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	563-58-6	1,1-Dichloropropene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	75-35-4	1,1-Dichloroethene	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	75-34-3	1,1-Dichloroethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	79-00-5	1,1,2-Trichloroethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	179601-23-1	m,p-Xylenes	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	7439-97-6	Mercury	0.087	mg/k	0.087	1	1
E	Soil	SV-62-01	1	10-Jul-07	1634-04-4	Methyl tert-butyl ether	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	91-20-3	Naphthalene	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
E	Soil	SV-62-01	1	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	75-09-2	Methylene chloride	21	ug/kg	0.021	0	1
E	Soil	SV-62-01	1	10-Jul-07	78-87-5	1,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07		2-Fluorobiphenyl	640	ug/kg	0.64	1	1
E	Soil	SV-62-01	1	10-Jul-07	95-49-8	2-Chlorotoluene	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	100-42-5	Styrene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	594-20-7	2,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	106-46-7	1,4-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	142-28-9	1,3-Dichloropropane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	90-12-0	1-Methylnaphthalene	54	ug/kg	0.054	0	1
E	Soil	SV-62-01	1	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
E	Soil	SV-62-01	1	10-Jul-07	107-06-2	1,2-Dichloroethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	95-50-1	1,2-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	106-93-4	1,2-Dibromoethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	541-73-1	1,3-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	79-01-6	Trichloroethene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	98-06-6	tert-Butylbenzene	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	127-18-4	Tetrachloroethene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
E	Soil	SV-62-01	1	10-Jul-07	108-88-3	Toluene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07		Toluene-d8	47.8	ug/kg	0.0478	1	1
E	Soil	SV-62-01	1	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
E	Soil	SV-62-01	1	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07		Terphenyl-d14	130	ug/kg	0.13	1	1
E	Soil	SV-62-01	1	10-Jul-07	75-69-4	Trichlorofluoromethane	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	7440-62-2	Vanadium	20	mg/k	20	1	1
E	Soil	SV-62-01	1	10-Jul-07	91-57-6	2-Methylnaphthalene	54	ug/kg	0.054	0	1
E	Soil	SV-62-01	1	10-Jul-07		C32-C35	1100	mg/k	1100	1	1
E	Soil	SV-62-01	1	10-Jul-07	1330-20-7	Xylenes (total)	4.2	ug/kg	0.0042	0	1
E	Soil	SV-62-01	1	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.38	mg/k	0.38	0	1
E	Soil	SV-62-01	1	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	85-01-8	Phenanthrene	54	ug/kg	0.054	0	1
E	Soil	SV-62-01	1	10-Jul-07	104-51-8	n-Butylbenzene	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	7440-02-0	Nickel	25	mg/k	25	1	1
E	Soil	SV-62-01	1	10-Jul-07		Nitrobenzene-d5	1900	ug/kg	1.9	1	1
E	Soil	SV-62-01	1	10-Jul-07		n-Octacosane	36.3	mg/k	36.3	1	0

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-62-01	1	10-Jul-07		n-Octacosane	55.6	mg/k	55.6	1	1
E	Soil	SV-62-01	1	10-Jul-07	103-65-1	n-Propylbenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
E	Soil	SV-62-01	1	10-Jul-07	95-47-6	o-Xylene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	994-05-8	Tert-amyl methyl ether	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	99-87-6	p-Isopropyltoluene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	129-00-0	Pyrene	370	ug/kg	0.37	1	1
E	Soil	SV-62-01	1	10-Jul-07	135-98-8	sec-Butylbenzene	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	75-01-4	Vinyl chloride	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
E	Soil	SV-62-01	1	10-Jul-07	91-20-3	Naphthalene	54	ug/kg	0.054	0	0
E	Soil	SV-62-01	1	10-Jul-07		ORO (C25-C40)	12000	mg/k	12000	1	1
E	Soil	SV-62-01	1	10-Jul-07		Dibromofluoromethane	58.8	ug/kg	0.0588	1	1
E	Soil	SV-62-01	1	10-Jul-07		C28-C29	1300	mg/k	1300	1	1
E	Soil	SV-62-01	1	10-Jul-07	7440-43-9	Cadmium	0.49	mg/k	0.49	0	1
E	Soil	SV-62-01	1	10-Jul-07	56-23-5	Carbon tetrachloride	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	108-90-7	Chlorobenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	75-00-3	Chloroethane	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	67-66-3	Chloroform	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	74-87-3	Chloromethane	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	7440-47-3	Chromium	15	mg/k	15	1	1
E	Soil	SV-62-01	1	10-Jul-07	218-01-9	Chrysene	54	ug/kg	0.054	0	1
E	Soil	SV-62-01	1	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	7440-48-4	Cobalt	2.2	mg/k	2.2	1	1
E	Soil	SV-62-01	1	10-Jul-07	7440-50-8	Copper	5.8	mg/k	5.8	1	1
E	Soil	SV-62-01	1	10-Jul-07		C8-C40	17000	mg/k	17000	1	1
E	Soil	SV-62-01	1	10-Jul-07	100-41-4	Ethylbenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	7440-66-6	Zinc	120	mg/k	120	1	1
E	Soil	SV-62-01	1	10-Jul-07	98-82-8	Isopropylbenzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	108-20-3	Isopropyl ether	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	280	ug/kg	0.28	1	1
E	Soil	SV-62-01	1	10-Jul-07	87-68-3	Hexachlorobutadiene	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	54	ug/kg	0.054	0	1
E	Soil	SV-62-01	1	10-Jul-07	206-44-0	Fluoranthene	54	ug/kg	0.054	0	1
E	Soil	SV-62-01	1	10-Jul-07	124-48-1	Dibromochloromethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	637-92-3	Ethyl tert butyl ether	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	7439-92-1	Lead	9.8	mg/k	9.8	1	1
E	Soil	SV-62-01	1	10-Jul-07		DRO (C10-C24)	10000	mg/k	10000	1	1
E	Soil	SV-62-01	1	10-Jul-07	75-71-8	Dichlorodifluoromethane	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	74-95-3	Dibromomethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07		C36-C40	270	mg/k	270	1	1
E	Soil	SV-62-01	1	10-Jul-07	86-73-7	Fluorene	7100	ug/kg	7.1	1	1
E	Soil	SV-62-01	1	10-Jul-07	7440-38-2	Arsenic	2.2	mg/k	2.2	1	1
E	Soil	SV-62-01	1	10-Jul-07		C8-C9	35	mg/k	35	0	1
E	Soil	SV-62-01	1	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	650	ug/kg	0.65	1	1
E	Soil	SV-62-01	1	10-Jul-07	205-99-2	Benzo(b)fluoranthene	760	ug/kg	0.76	1	1
E	Soil	SV-62-01	1	10-Jul-07	50-32-8	Benzo(a)pyrene	110	ug/kg	0.11	1	1
E	Soil	SV-62-01	1	10-Jul-07	56-55-3	Benzo(a)anthracene	850	ug/kg	0.85	1	1
E	Soil	SV-62-01	1	10-Jul-07	7440-41-7	Beryllium	0.49	mg/k	0.49	0	1
E	Soil	SV-62-01	1	10-Jul-07	7440-39-3	Barium	93	mg/k	93	1	1
E	Soil	SV-62-01	1	10-Jul-07	108-86-1	Bromobenzene	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
E	Soil	SV-62-01	1	10-Jul-07	120-12-7	Anthracene	54	ug/kg	0.054	0	1
E	Soil	SV-62-01	1	10-Jul-07	208-96-8	Acenaphthylene	54	ug/kg	0.054	0	1
E	Soil	SV-62-01	1	10-Jul-07	83-32-9	Acenaphthene	54	ug/kg	0.054	0	1
E	Soil	SV-62-01	1	10-Jul-07	106-43-4	4-Chlorotoluene	5.2	ug/kg	0.0052	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-62-01	1	10-Jul-07		4-Bromofluorobenzene	43.6	ug/kg	0.0436	1	1
E	Soil	SV-62-01	1	10-Jul-07	71-43-2	Benzene	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07		C14-C15	940	mg/k	940	1	1
E	Soil	SV-62-01	1	10-Jul-07		C30-C31	1200	mg/k	1200	1	1
E	Soil	SV-62-01	1	10-Jul-07		C26-C27	2000	mg/k	2000	1	1
E	Soil	SV-62-01	1	10-Jul-07		C24-C25	2100	mg/k	2100	1	1
E	Soil	SV-62-01	1	10-Jul-07		C22-C23	2200	mg/k	2200	1	1
E	Soil	SV-62-01	1	10-Jul-07		C20-C21	2100	mg/k	2100	1	1
E	Soil	SV-62-01	1	10-Jul-07	207-08-9	Benzo(k)fluoranthene	400	ug/kg	0.4	1	1
E	Soil	SV-62-01	1	10-Jul-07		C16-C17	1500	mg/k	1500	1	1
E	Soil	SV-62-01	1	10-Jul-07		4-Bromofluorobenzene	0.016	mg/k	0.016	1	0
E	Soil	SV-62-01	1	10-Jul-07		C12-C13	500	mg/k	500	1	1
E	Soil	SV-62-01	1	10-Jul-07		C10-C11	130	mg/k	130	1	1
E	Soil	SV-62-01	1	10-Jul-07	74-83-9	Bromomethane	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	75-25-2	Bromoform	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07	75-27-4	Bromodichloromethane	2.1	ug/kg	0.0021	0	1
E	Soil	SV-62-01	1	10-Jul-07	74-97-5	Bromochloromethane	5.2	ug/kg	0.0052	0	1
E	Soil	SV-62-01	1	10-Jul-07		C18-C19	1700	mg/k	1700	1	1
E	Soil	SV-62-05	5	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	75-71-8	Dichlorodifluoromethane	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	75-09-2	Methylene chloride	97	ug/kg	0.097	0	1
E	Soil	SV-62-05	5	10-Jul-07	1634-04-4	Methyl tert-butyl ether	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
E	Soil	SV-62-05	5	10-Jul-07	179601-23-1	m,p-Xylenes	14	ug/kg	0.014	1	1
E	Soil	SV-62-05	5	10-Jul-07	7439-92-1	Lead	2.5	mg/k	2.5	1	1
E	Soil	SV-62-05	5	10-Jul-07	98-82-8	Isopropylbenzene	23	ug/kg	0.023	1	1
E	Soil	SV-62-05	5	10-Jul-07	108-20-3	Isopropyl ether	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	62	ug/kg	0.062	0	1
E	Soil	SV-62-05	5	10-Jul-07	87-68-3	Hexachlorobutadiene	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07		GRO (C4 - C12)	390	mg/k	390	0	1
E	Soil	SV-62-05	5	10-Jul-07	86-73-7	Fluorene	4800	ug/kg	4.8	1	1
E	Soil	SV-62-05	5	10-Jul-07	206-44-0	Fluoranthene	370	ug/kg	0.37	1	1
E	Soil	SV-62-05	5	10-Jul-07	100-41-4	Ethylbenzene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	108-90-7	Chlorobenzene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	7440-48-4	Cobalt	2.2	mg/k	2.2	1	1
E	Soil	SV-62-05	5	10-Jul-07	108-88-3	Toluene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	67-66-3	Chloroform	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	74-87-3	Chloromethane	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	7440-47-3	Chromium	8.5	mg/k	8.5	1	1
E	Soil	SV-62-05	5	10-Jul-07	218-01-9	Chrysene	610	ug/kg	0.61	1	1
E	Soil	SV-62-05	5	10-Jul-07	637-92-3	Ethyl tert butyl ether	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07		DRO (C10-C24)	12000	mg/k	12000	1	1
E	Soil	SV-62-05	5	10-Jul-07	7440-50-8	Copper	5.9	mg/k	5.9	1	1
E	Soil	SV-62-05	5	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	62	ug/kg	0.062	0	1
E	Soil	SV-62-05	5	10-Jul-07	124-48-1	Dibromochloromethane	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07		Dibromofluoromethane	278	ug/kg	0.278	1	1
E	Soil	SV-62-05	5	10-Jul-07	74-95-3	Dibromomethane	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	91-20-3	Naphthalene	62	ug/kg	0.062	0	0
E	Soil	SV-62-05	5	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	1330-20-7	Xylenes (total)	48	ug/kg	0.048	1	1
E	Soil	SV-62-05	5	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
E	Soil	SV-62-05	5	10-Jul-07	994-05-8	Tert-amyl methyl ether	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	75-65-0	tert-Butyl alcohol	490	ug/kg	0.49	0	1
E	Soil	SV-62-05	5	10-Jul-07	98-06-6	tert-Butylbenzene	240	ug/kg	0.24	1	1
E	Soil	SV-62-05	5	10-Jul-07	127-18-4	Tetrachloroethene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	100-42-5	Styrene	9.7	ug/kg	0.0097	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-62-05	5	10-Jul-07		Toluene-d8	218	ug/kg	0.218	1	1
E	Soil	SV-62-05	5	10-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
E	Soil	SV-62-05	5	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	79-01-6	Trichloroethene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	75-69-4	Trichlorofluoromethane	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	7440-62-2	Vanadium	9.7	mg/k	9.7	1	1
E	Soil	SV-62-05	5	10-Jul-07	75-01-4	Vinyl chloride	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	7440-66-6	Zinc	12	mg/k	12	1	1
E	Soil	SV-62-05	5	10-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
E	Soil	SV-62-05	5	10-Jul-07		ORO (C25-C40)	4000	mg/k	4000	1	1
E	Soil	SV-62-05	5	10-Jul-07	56-23-5	Carbon tetrachloride	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	104-51-8	n-Butylbenzene	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	7440-02-0	Nickel	10	mg/k	10	1	1
E	Soil	SV-62-05	5	10-Jul-07		Nitrobenzene-d5	8800	ug/kg	8.8	1	1
E	Soil	SV-62-05	5	10-Jul-07		n-Octacosane	57.3	mg/k	57.3	1	0
E	Soil	SV-62-05	5	10-Jul-07		Terphenyl-d14	1400	ug/kg	1.4	1	1
E	Soil	SV-62-05	5	10-Jul-07	103-65-1	n-Propylbenzene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	91-20-3	Naphthalene	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	95-47-6	o-Xylene	34	ug/kg	0.034	1	1
E	Soil	SV-62-05	5	10-Jul-07	85-01-8	Phenanthrene	1400	ug/kg	1.4	1	1
E	Soil	SV-62-05	5	10-Jul-07	99-87-6	p-Isopropyltoluene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	129-00-0	Pyrene	820	ug/kg	0.82	1	1
E	Soil	SV-62-05	5	10-Jul-07	135-98-8	sec-Butylbenzene	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
E	Soil	SV-62-05	5	10-Jul-07		n-Octacosane	57.8	mg/k	57.8	1	1
E	Soil	SV-62-05	5	10-Jul-07	107-06-2	1,2-Dichloroethane	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	208-96-8	Acenaphthylene	62	ug/kg	0.062	0	1
E	Soil	SV-62-05	5	10-Jul-07	83-32-9	Acenaphthene	3200	ug/kg	3.2	1	1
E	Soil	SV-62-05	5	10-Jul-07	106-43-4	4-Chlorotoluene	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07		4-Bromofluorobenzene	300	ug/kg	0.3	1	0
E	Soil	SV-62-05	5	10-Jul-07		4-Bromofluorobenzene	9.53	mg/k	9.53	1	1
E	Soil	SV-62-05	5	10-Jul-07	91-57-6	2-Methylnaphthalene	62	ug/kg	0.062	0	1
E	Soil	SV-62-05	5	10-Jul-07		2-Fluorobiphenyl	410	ug/kg	0.41	1	1
E	Soil	SV-62-05	5	10-Jul-07	95-49-8	2-Chlorotoluene	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	594-20-7	2,2-Dichloropropane	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	90-12-0	1-Methylnaphthalene	62	ug/kg	0.062	0	1
E	Soil	SV-62-05	5	10-Jul-07	106-46-7	1,4-Dichlorobenzene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	142-28-9	1,3-Dichloropropane	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	541-73-1	1,3-Dichlorobenzene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	75-00-3	Chloroethane	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	96-18-4	1,2,3-Trichloropropane	49	ug/kg	0.049	0	1
E	Soil	SV-62-05	5	10-Jul-07	71-55-6	1,1,1-Trichloroethane	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	79-00-5	1,1,2-Trichloroethane	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	75-34-3	1,1-Dichloroethane	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	75-35-4	1,1-Dichloroethene	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	78-87-5	1,2-Dichloropropane	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	106-93-4	1,2-Dibromoethane	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	95-50-1	1,2-Dichlorobenzene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	7440-38-2	Arsenic	8.7	mg/k	8.7	1	1
E	Soil	SV-62-05	5	10-Jul-07	563-58-6	1,1-Dichloropropene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07		C28-C29	640	mg/k	640	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-62-05	5	10-Jul-07	120-12-7	Anthracene	1200	ug/kg	1.2	1	1
E	Soil	SV-62-05	5	10-Jul-07		C16-C17	1900	mg/k	1900	1	1
E	Soil	SV-62-05	5	10-Jul-07		C18-C19	1400	mg/k	1400	1	1
E	Soil	SV-62-05	5	10-Jul-07		C20-C21	1300	mg/k	1300	1	1
E	Soil	SV-62-05	5	10-Jul-07		C22-C23	1000	mg/k	1000	1	1
E	Soil	SV-62-05	5	10-Jul-07		C12-C13	2400	mg/k	2400	1	1
E	Soil	SV-62-05	5	10-Jul-07		C26-C27	890	mg/k	890	1	1
E	Soil	SV-62-05	5	10-Jul-07		C10-C11	1300	mg/k	1300	1	1
E	Soil	SV-62-05	5	10-Jul-07		C30-C31	620	mg/k	620	1	1
E	Soil	SV-62-05	5	10-Jul-07		C32-C35	980	mg/k	980	1	1
E	Soil	SV-62-05	5	10-Jul-07		C36-C40	550	mg/k	550	1	1
E	Soil	SV-62-05	5	10-Jul-07		C8-C40	16000	mg/k	16000	1	1
E	Soil	SV-62-05	5	10-Jul-07		C8-C9	440	mg/k	440	0	1
E	Soil	SV-62-05	5	10-Jul-07	7440-43-9	Cadmium	0.49	mg/k	0.49	0	1
E	Soil	SV-62-05	5	10-Jul-07		C24-C25	780	mg/k	780	1	1
E	Soil	SV-62-05	5	10-Jul-07	207-08-9	Benzo(k)fluoranthene	62	ug/kg	0.062	0	1
E	Soil	SV-62-05	5	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	7440-39-3	Barium	52	mg/k	52	1	1
E	Soil	SV-62-05	5	10-Jul-07	71-43-2	Benzene	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	56-55-3	Benzo(a)anthracene	110	ug/kg	0.11	1	1
E	Soil	SV-62-05	5	10-Jul-07	50-32-8	Benzo(a)pyrene	260	ug/kg	0.26	1	1
E	Soil	SV-62-05	5	10-Jul-07		C14-C15	2300	mg/k	2300	1	1
E	Soil	SV-62-05	5	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	83	ug/kg	0.083	1	1
E	Soil	SV-62-05	5	10-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
E	Soil	SV-62-05	5	10-Jul-07	7440-41-7	Beryllium	0.49	mg/k	0.49	0	1
E	Soil	SV-62-05	5	10-Jul-07	108-86-1	Bromobenzene	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	74-97-5	Bromochloromethane	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	75-27-4	Bromodichloromethane	9.7	ug/kg	0.0097	0	1
E	Soil	SV-62-05	5	10-Jul-07	75-25-2	Bromoform	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	74-83-9	Bromomethane	24	ug/kg	0.024	0	1
E	Soil	SV-62-05	5	10-Jul-07	205-99-2	Benzo(b)fluoranthene	94	ug/kg	0.094	1	1
E	Soil	SV-63-01	1	09-Jul-07		C14-C15	210	mg/k	210	1	1
E	Soil	SV-63-01	1	09-Jul-07	7440-39-3	Barium	43	mg/k	43	1	1
E	Soil	SV-63-01	1	09-Jul-07	71-43-2	Benzene	18	ug/kg	0.018	1	1
E	Soil	SV-63-01	1	09-Jul-07	56-55-3	Benzo(a)anthracene	400	ug/kg	0.4	1	1
E	Soil	SV-63-01	1	09-Jul-07	50-32-8	Benzo(a)pyrene	85	ug/kg	0.085	1	1
E	Soil	SV-63-01	1	09-Jul-07	205-99-2	Benzo(b)fluoranthene	120	ug/kg	0.12	1	1
E	Soil	SV-63-01	1	09-Jul-07	191-24-2	Benzo(g,h,i)perylene	91	ug/kg	0.091	1	1
E	Soil	SV-63-01	1	09-Jul-07	207-08-9	Benzo(k)fluoranthene	120	ug/kg	0.12	1	1
E	Soil	SV-63-01	1	09-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
E	Soil	SV-63-01	1	09-Jul-07	108-86-1	Bromobenzene	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	74-97-5	Bromochloromethane	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	75-27-4	Bromodichloromethane	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	75-25-2	Bromoform	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	74-83-9	Bromomethane	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07		C26-C27	440	mg/k	440	1	1
E	Soil	SV-63-01	1	09-Jul-07	7440-43-9	Cadmium	1.7	mg/k	1.7	1	1
E	Soil	SV-63-01	1	09-Jul-07		C8-C9	18	mg/k	18	0	1
E	Soil	SV-63-01	1	09-Jul-07		C8-C40	3500	mg/k	3500	1	1
E	Soil	SV-63-01	1	09-Jul-07		C36-C40	120	mg/k	120	1	1
E	Soil	SV-63-01	1	09-Jul-07		C32-C35	320	mg/k	320	1	1
E	Soil	SV-63-01	1	09-Jul-07		C10-C11	28	mg/k	28	1	1
E	Soil	SV-63-01	1	09-Jul-07		C28-C29	230	mg/k	230	1	1
E	Soil	SV-63-01	1	09-Jul-07		C12-C13	110	mg/k	110	1	1
E	Soil	SV-63-01	1	09-Jul-07		C24-C25	350	mg/k	350	1	1
E	Soil	SV-63-01	1	09-Jul-07		C22-C23	320	mg/k	320	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-63-01	1	09-Jul-07		C20-C21	480	mg/k	480	1	1
E	Soil	SV-63-01	1	09-Jul-07		C18-C19	250	mg/k	250	1	1
E	Soil	SV-63-01	1	09-Jul-07		C16-C17	310	mg/k	310	1	1
E	Soil	SV-63-01	1	09-Jul-07	120-12-7	Anthracene	3500	ug/kg	3.5	1	1
E	Soil	SV-63-01	1	09-Jul-07		C30-C31	280	mg/k	280	1	1
E	Soil	SV-63-01	1	09-Jul-07	87-61-6	1,2,3-Trichlorobenzene	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	7440-38-2	Arsenic	2.8	mg/k	2.8	1	1
E	Soil	SV-63-01	1	09-Jul-07	95-50-1	1,2-Dichlorobenzene	16	ug/kg	0.016	1	1
E	Soil	SV-63-01	1	09-Jul-07	106-93-4	1,2-Dibromoethane	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	95-63-6	1,2,4-Trimethylbenzene	140	ug/kg	0.14	1	1
E	Soil	SV-63-01	1	09-Jul-07	78-87-5	1,2-Dichloropropane	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	96-18-4	1,2,3-Trichloropropane	24	ug/kg	0.024	0	1
E	Soil	SV-63-01	1	09-Jul-07	108-67-8	1,3,5-Trimethylbenzene	47	ug/kg	0.047	1	1
E	Soil	SV-63-01	1	09-Jul-07	563-58-6	1,1-Dichloropropene	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	75-35-4	1,1-Dichloroethene	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	75-34-3	1,1-Dichloroethane	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	79-00-5	1,1,2-Trichloroethane	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	71-55-6	1,1,1-Trichloroethane	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	120-82-1	1,2,4-Trichlorobenzene	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07		2-Fluorobiphenyl	240	ug/kg	0.24	1	1
E	Soil	SV-63-01	1	09-Jul-07	75-00-3	Chloroethane	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	208-96-8	Acenaphthylene	52	ug/kg	0.052	1	1
E	Soil	SV-63-01	1	09-Jul-07	83-32-9	Acenaphthene	260	ug/kg	0.26	1	1
E	Soil	SV-63-01	1	09-Jul-07	106-43-4	4-Chlorotoluene	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07		4-Bromofluorobenzene	102	ug/kg	0.102	1	1
E	Soil	SV-63-01	1	09-Jul-07	107-06-2	1,2-Dichloroethane	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	91-57-6	2-Methylnaphthalene	2900	ug/kg	2.9	1	1
E	Soil	SV-63-01	1	09-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
E	Soil	SV-63-01	1	09-Jul-07	95-49-8	2-Chlorotoluene	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	594-20-7	2,2-Dichloropropane	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	90-12-0	1-Methylnaphthalene	1600	ug/kg	1.6	1	1
E	Soil	SV-63-01	1	09-Jul-07	106-46-7	1,4-Dichlorobenzene	6.2	ug/kg	0.0062	1	1
E	Soil	SV-63-01	1	09-Jul-07	142-28-9	1,3-Dichloropropane	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	541-73-1	1,3-Dichlorobenzene	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07		4-Bromofluorobenzene	0.0158	mg/k	0.0158	1	0
E	Soil	SV-63-01	1	09-Jul-07	85-01-8	Phenanthrene	3300	ug/kg	3.3	1	1
E	Soil	SV-63-01	1	09-Jul-07	7440-02-0	Nickel	32	mg/k	32	1	1
E	Soil	SV-63-01	1	09-Jul-07	100-42-5	Styrene	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
E	Soil	SV-63-01	1	09-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
E	Soil	SV-63-01	1	09-Jul-07	135-98-8	sec-Butylbenzene	31	ug/kg	0.031	1	1
E	Soil	SV-63-01	1	09-Jul-07	994-05-8	Tert-amyl methyl ether	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	99-87-6	p-Isopropyltoluene	19	ug/kg	0.019	1	1
E	Soil	SV-63-01	1	09-Jul-07	75-65-0	tert-Butyl alcohol	240	ug/kg	0.24	0	1
E	Soil	SV-63-01	1	09-Jul-07	95-47-6	o-Xylene	22	ug/kg	0.022	1	1
E	Soil	SV-63-01	1	09-Jul-07		ORO (C25-C40)	1800	mg/k	1800	1	1
E	Soil	SV-63-01	1	09-Jul-07	103-65-1	n-Propylbenzene	290	ug/kg	0.29	1	1
E	Soil	SV-63-01	1	09-Jul-07		n-Octacosane	33.7	mg/k	33.7	1	1
E	Soil	SV-63-01	1	09-Jul-07		n-Octacosane	24.4	mg/k	24.4	1	0
E	Soil	SV-63-01	1	09-Jul-07	56-23-5	Carbon tetrachloride	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	129-00-0	Pyrene	280	ug/kg	0.28	1	1
E	Soil	SV-63-01	1	09-Jul-07	10061-02-6	trans-1,3-Dichloropropene	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	7440-66-6	Zinc	39	mg/k	39	1	1
E	Soil	SV-63-01	1	09-Jul-07	1330-20-7	Xylenes (total)	66	ug/kg	0.066	1	1
E	Soil	SV-63-01	1	09-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.87	mg/k	0.87	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-63-01	1	09-Jul-07	75-01-4	Vinyl chloride	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	7440-62-2	Vanadium	38	mg/k	38	1	1
E	Soil	SV-63-01	1	09-Jul-07		Terphenyl-d14	160	ug/kg	0.16	1	1
E	Soil	SV-63-01	1	09-Jul-07	79-01-6	Trichloroethene	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	104-51-8	n-Butylbenzene	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	156-60-5	trans-1,2-Dichloroethene	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07		Toluene-d8	104	ug/kg	0.104	1	1
E	Soil	SV-63-01	1	09-Jul-07	108-88-3	Toluene	5.7	ug/kg	0.0057	1	1
E	Soil	SV-63-01	1	09-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
E	Soil	SV-63-01	1	09-Jul-07	127-18-4	Tetrachloroethene	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	98-06-6	tert-Butylbenzene	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	75-69-4	Trichlorofluoromethane	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	10061-01-5	cis-1,3-Dichloropropene	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07		Nitrobenzene-d5	490	ug/kg	0.49	1	1
E	Soil	SV-63-01	1	09-Jul-07	74-95-3	Dibromomethane	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07		Dibromofluoromethane	154	ug/kg	0.154	1	1
E	Soil	SV-63-01	1	09-Jul-07	124-48-1	Dibromochloromethane	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	53-70-3	Dibenz(a,h)anthracene	49	ug/kg	0.049	1	1
E	Soil	SV-63-01	1	09-Jul-07		DRO (C10-C24)	1900	mg/k	1900	1	1
E	Soil	SV-63-01	1	09-Jul-07	7440-48-4	Cobalt	2.7	mg/k	2.7	1	1
E	Soil	SV-63-01	1	09-Jul-07	637-92-3	Ethyl tert butyl ether	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	156-59-2	cis-1,2-Dichloroethene	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	218-01-9	Chrysene	2300	ug/kg	2.3	1	1
E	Soil	SV-63-01	1	09-Jul-07	7440-47-3	Chromium	18	mg/k	18	1	1
E	Soil	SV-63-01	1	09-Jul-07	74-87-3	Chloromethane	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	67-66-3	Chloroform	4.9	ug/kg	0.0049	0	1
E	Soil	SV-63-01	1	09-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	30	ug/kg	0.03	1	1
E	Soil	SV-63-01	1	09-Jul-07	7440-50-8	Copper	14	mg/k	14	1	1
E	Soil	SV-63-01	1	09-Jul-07	7439-92-1	Lead	14	mg/k	14	1	1
E	Soil	SV-63-01	1	09-Jul-07	91-20-3	Naphthalene	1000	ug/kg	1	1	1
E	Soil	SV-63-01	1	09-Jul-07	91-20-3	Naphthalene	140	ug/kg	0.14	1	0
E	Soil	SV-63-01	1	09-Jul-07	7439-98-7	Molybdenum	6	mg/k	6	1	1
E	Soil	SV-63-01	1	09-Jul-07	75-09-2	Methylene chloride	49	ug/kg	0.049	0	1
E	Soil	SV-63-01	1	09-Jul-07	1634-04-4	Methyl tert-butyl ether	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	75-71-8	Dichlorodifluoromethane	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	179601-23-1	m,p-Xylenes	44	ug/kg	0.044	1	1
E	Soil	SV-63-01	1	09-Jul-07	108-90-7	Chlorobenzene	5.9	ug/kg	0.0059	1	1
E	Soil	SV-63-01	1	09-Jul-07	98-82-8	Isopropylbenzene	180	ug/kg	0.18	1	1
E	Soil	SV-63-01	1	09-Jul-07	108-20-3	Isopropyl ether	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	87-68-3	Hexachlorobutadiene	12	ug/kg	0.012	0	1
E	Soil	SV-63-01	1	09-Jul-07	86-73-7	Fluorene	1700	ug/kg	1.7	1	1
E	Soil	SV-63-01	1	09-Jul-07	206-44-0	Fluoranthene	390	ug/kg	0.39	1	1
E	Soil	SV-63-01	1	09-Jul-07	100-41-4	Ethylbenzene	42	ug/kg	0.042	1	1
E	Soil	SV-63-01	1	09-Jul-07	7439-97-6	Mercury	0.03	mg/k	0.03	1	1
E	Soil	SV-63-05	5	09-Jul-07	994-05-8	Tert-amyl methyl ether	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	71-43-2	Benzene	7	ug/kg	0.007	1	1
E	Soil	SV-63-05	5	09-Jul-07	7440-66-6	Zinc	10	mg/k	10	1	1
E	Soil	SV-63-05	5	09-Jul-07	1330-20-7	Xylenes (total)	17	ug/kg	0.017	1	1
E	Soil	SV-63-05	5	09-Jul-07	75-01-4	Vinyl chloride	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	7440-62-2	Vanadium	16	mg/k	16	1	1
E	Soil	SV-63-05	5	09-Jul-07	75-69-4	Trichlorofluoromethane	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	79-01-6	Trichloroethene	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	10061-02-6	trans-1,3-Dichloropropene	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	156-60-5	trans-1,2-Dichloroethene	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07		Toluene-d8	48.1	ug/kg	0.0481	1	1
E	Soil	SV-63-05	5	09-Jul-07	108-88-3	Toluene	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-63-05	5	09-Jul-07	127-18-4	Tetrachloroethene	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07		Nitrobenzene-d5	1000	ug/kg	1	1	1
E	Soil	SV-63-05	5	09-Jul-07	129-00-0	Pyrene	5.8	ug/kg	0.0058	0	1
E	Soil	SV-63-05	5	09-Jul-07	56-55-3	Benzo(a)anthracene	7	ug/kg	0.007	1	1
E	Soil	SV-63-05	5	09-Jul-07		n-Octacosane	6.62	mg/k	6.62	1	1
E	Soil	SV-63-05	5	09-Jul-07	103-65-1	n-Propylbenzene	100	ug/kg	0.1	1	1
E	Soil	SV-63-05	5	09-Jul-07		ORO (C25-C40)	43	mg/k	43	1	1
E	Soil	SV-63-05	5	09-Jul-07	95-47-6	o-Xylene	4.1	ug/kg	0.0041	1	1
E	Soil	SV-63-05	5	09-Jul-07	98-06-6	tert-Butylbenzene	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	99-87-6	p-Isopropyltoluene	44	ug/kg	0.044	1	1
E	Soil	SV-63-05	5	09-Jul-07	75-65-0	tert-Butyl alcohol	98	ug/kg	0.098	0	1
E	Soil	SV-63-05	5	09-Jul-07	135-98-8	sec-Butylbenzene	45	ug/kg	0.045	1	1
E	Soil	SV-63-05	5	09-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
E	Soil	SV-63-05	5	09-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
E	Soil	SV-63-05	5	09-Jul-07	100-42-5	Styrene	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07		Terphenyl-d14	1200	ug/kg	1.2	1	1
E	Soil	SV-63-05	5	09-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
E	Soil	SV-63-05	5	09-Jul-07	85-01-8	Phenanthrene	20	ug/kg	0.02	1	1
E	Soil	SV-63-05	5	09-Jul-07	563-58-6	1,1-Dichloropropene	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	7440-39-3	Barium	63	mg/k	63	1	1
E	Soil	SV-63-05	5	09-Jul-07	106-93-4	1,2-Dibromoethane	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	95-63-6	1,2,4-Trimethylbenzene	390	ug/kg	0.39	1	1
E	Soil	SV-63-05	5	09-Jul-07	120-82-1	1,2,4-Trichlorobenzene	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	107-06-2	1,2-Dichloroethane	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	87-61-6	1,2,3-Trichlorobenzene	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	78-87-5	1,2-Dichloropropane	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	75-35-4	1,1-Dichloroethene	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	75-34-3	1,1-Dichloroethane	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	79-00-5	1,1,2-Trichloroethane	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	71-55-6	1,1,1-Trichloroethane	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	96-18-4	1,2,3-Trichloropropane	20	ug/kg	0.02	0	1
E	Soil	SV-63-05	5	09-Jul-07	91-57-6	2-Methylnaphthalene	310	ug/kg	0.31	1	1
E	Soil	SV-63-05	5	09-Jul-07	7440-02-0	Nickel	7.1	mg/k	7.1	1	1
E	Soil	SV-63-05	5	09-Jul-07	120-12-7	Anthracene	5.8	ug/kg	0.0058	0	1
E	Soil	SV-63-05	5	09-Jul-07	208-96-8	Acenaphthylene	5.8	ug/kg	0.0058	0	1
E	Soil	SV-63-05	5	09-Jul-07	83-32-9	Acenaphthene	12	ug/kg	0.012	1	1
E	Soil	SV-63-05	5	09-Jul-07	106-43-4	4-Chlorotoluene	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	95-50-1	1,2-Dichlorobenzene	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07		4-Bromofluorobenzene	1.42	mg/k	1.42	1	1
E	Soil	SV-63-05	5	09-Jul-07	7440-38-2	Arsenic	2.5	mg/k	2.5	1	1
E	Soil	SV-63-05	5	09-Jul-07		2-Fluorobiphenyl	780	ug/kg	0.78	1	1
E	Soil	SV-63-05	5	09-Jul-07	95-49-8	2-Chlorotoluene	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	594-20-7	2,2-Dichloropropane	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	106-46-7	1,4-Dichlorobenzene	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	541-73-1	1,3-Dichlorobenzene	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	108-67-8	1,3,5-Trimethylbenzene	59	ug/kg	0.059	1	1
E	Soil	SV-63-05	5	09-Jul-07		4-Bromofluorobenzene	42.5	ug/kg	0.0425	1	0
E	Soil	SV-63-05	5	09-Jul-07		C16-C17	3.6	mg/k	3.6	1	1
E	Soil	SV-63-05	5	09-Jul-07	75-00-3	Chloroethane	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	108-90-7	Chlorobenzene	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	56-23-5	Carbon tetrachloride	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	7440-43-9	Cadmium	0.49	mg/k	0.49	0	1
E	Soil	SV-63-05	5	09-Jul-07		C8-C9	4.9	mg/k	4.9	1	1
E	Soil	SV-63-05	5	09-Jul-07		C8-C40	92	mg/k	92	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	SV-63-05	5	09-Jul-07		C36-C40	4.4	mg/k	4.4	1	1
E	Soil	SV-63-05	5	09-Jul-07		C32-C35	11	mg/k	11	1	1
E	Soil	SV-63-05	5	09-Jul-07		C30-C31	8.1	mg/k	8.1	1	1
E	Soil	SV-63-05	5	09-Jul-07		C28-C29	7.1	mg/k	7.1	1	1
E	Soil	SV-63-05	5	09-Jul-07		C26-C27	9.3	mg/k	9.3	1	1
E	Soil	SV-63-05	5	09-Jul-07		C24-C25	7	mg/k	7	1	1
E	Soil	SV-63-05	5	09-Jul-07		C22-C23	6.7	mg/k	6.7	1	1
E	Soil	SV-63-05	5	09-Jul-07		n-Octacosane	6.61	mg/k	6.61	1	0
E	Soil	SV-63-05	5	09-Jul-07	75-27-4	Bromodichloromethane	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	50-32-8	Benzo(a)pyrene	5.8	ug/kg	0.0058	0	1
E	Soil	SV-63-05	5	09-Jul-07	205-99-2	Benzo(b)fluoranthene	7.3	ug/kg	0.0073	1	1
E	Soil	SV-63-05	5	09-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.8	ug/kg	0.0058	0	1
E	Soil	SV-63-05	5	09-Jul-07	207-08-9	Benzo(k)fluoranthene	5.8	ug/kg	0.0058	0	1
E	Soil	SV-63-05	5	09-Jul-07	7440-41-7	Beryllium	0.49	mg/k	0.49	0	1
E	Soil	SV-63-05	5	09-Jul-07		C20-C21	8.6	mg/k	8.6	1	1
E	Soil	SV-63-05	5	09-Jul-07	74-97-5	Bromochloromethane	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07		C18-C19	4.3	mg/k	4.3	1	1
E	Soil	SV-63-05	5	09-Jul-07	75-25-2	Bromoform	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	74-83-9	Bromomethane	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07		C10-C11	8.9	mg/k	8.9	1	1
E	Soil	SV-63-05	5	09-Jul-07		C12-C13	5.3	mg/k	5.3	1	1
E	Soil	SV-63-05	5	09-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
E	Soil	SV-63-05	5	09-Jul-07	7440-47-3	Chromium	18	mg/k	18	1	1
E	Soil	SV-63-05	5	09-Jul-07	108-86-1	Bromobenzene	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
E	Soil	SV-63-05	5	09-Jul-07	67-66-3	Chloroform	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	87-68-3	Hexachlorobutadiene	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.8	ug/kg	0.0058	0	1
E	Soil	SV-63-05	5	09-Jul-07	108-20-3	Isopropyl ether	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	98-82-8	Isopropylbenzene	81	ug/kg	0.081	1	1
E	Soil	SV-63-05	5	09-Jul-07	86-73-7	Fluorene	33	ug/kg	0.033	1	1
E	Soil	SV-63-05	5	09-Jul-07	179601-23-1	m,p-Xylenes	13	ug/kg	0.013	1	1
E	Soil	SV-63-05	5	09-Jul-07	206-44-0	Fluoranthene	5.8	ug/kg	0.0058	0	1
E	Soil	SV-63-05	5	09-Jul-07	1634-04-4	Methyl tert-butyl ether	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	75-09-2	Methylene chloride	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
E	Soil	SV-63-05	5	09-Jul-07	91-20-3	Naphthalene	150	ug/kg	0.15	1	0
E	Soil	SV-63-05	5	09-Jul-07	91-20-3	Naphthalene	240	ug/kg	0.24	1	1
E	Soil	SV-63-05	5	09-Jul-07	104-51-8	n-Butylbenzene	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	7439-92-1	Lead	4.2	mg/k	4.2	1	1
E	Soil	SV-63-05	5	09-Jul-07	124-48-1	Dibromochloromethane	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	142-28-9	1,3-Dichloropropane	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	218-01-9	Chrysene	5.8	ug/kg	0.0058	0	1
E	Soil	SV-63-05	5	09-Jul-07	156-59-2	cis-1,2-Dichloroethene	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	10061-01-5	cis-1,3-Dichloropropene	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	7440-48-4	Cobalt	1.3	mg/k	1.3	1	1
E	Soil	SV-63-05	5	09-Jul-07		GRO (C4 - C12)	34	mg/k	34	1	1
E	Soil	SV-63-05	5	09-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.8	ug/kg	0.0058	0	1
E	Soil	SV-63-05	5	09-Jul-07	74-87-3	Chloromethane	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07		Dibromofluoromethane	52.1	ug/kg	0.0521	1	1
E	Soil	SV-63-05	5	09-Jul-07	74-95-3	Dibromomethane	3.9	ug/kg	0.0039	0	1
E	Soil	SV-63-05	5	09-Jul-07	75-71-8	Dichlorodifluoromethane	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07		DRO (C10-C24)	43	mg/k	43	1	1
E	Soil	SV-63-05	5	09-Jul-07	637-92-3	Ethyl tert butyl ether	9.8	ug/kg	0.0098	0	1
E	Soil	SV-63-05	5	09-Jul-07	100-41-4	Ethylbenzene	47	ug/kg	0.047	1	1
E	Soil	SV-63-05	5	09-Jul-07	7440-50-8	Copper	5	mg/k	5	1	1
E	Soil	SV-63-05	5	09-Jul-07	90-12-0	1-Methylnaphthalene	330	ug/kg	0.33	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	T3A-1	1	02-Nov-11		TPH Diesel (C10-C25)	9800	mg/k	9800	1	1
E	Soil	T3A-1	1	02-Nov-11		TPH Motor Oil (C25-C40)	11000	mg/k	11000	1	1
E	Soil	T3A-1	1	02-Nov-11		TPH Gasoline (C4-C10)	11	mg/k	11	1	1
E	Soil	T3A-2	2	02-Nov-11	156-59-2	cis-1,2-Dichloroethene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	1634-04-4	Methyl tert-butyl ether	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	95-50-1	1,2-Dichlorobenzene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	541-73-1	1,3-Dichlorobenzene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	106-46-7	1,4-Dichlorobenzene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	75-71-8	Dichlorodifluoromethane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	75-34-3	1,1-Dichloroethane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	135-98-8	sec-Butylbenzene	0.0025	mg/k	0.0025	1	1
E	Soil	T3A-2	2	02-Nov-11	75-35-4	1,1-Dichloroethene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	124-48-1	Dibromochloromethane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	156-60-5	trans-1,2-Dichloroethene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	74-97-5	Bromochloromethane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	78-87-5	1,2-Dichloropropane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	142-28-9	1,3-Dichloropropane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	594-20-7	2,2-Dichloropropane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	107-06-2	1,2-Dichloroethane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	108-90-7	Chlorobenzene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11		Sulfide, reactive	2	mg/k	2	0	1
E	Soil	T3A-2	2	02-Nov-11		Cyanide, reactive	0.5	mg/k	0.5	0	1
E	Soil	T3A-2	2	02-Nov-11		TPH Gasoline (C4-C12)	50	ug/L		0	0
E	Soil	T3A-2	2	02-Nov-11		TPH Diesel (C13-C22)	0.72	mg/L		1	0
E	Soil	T3A-2	2	02-Nov-11		TPH Motor Oil (C23-C40)	1	mg/L		1	0
E	Soil	T3A-2	2	02-Nov-11		TPH Diesel (C13-C22)	700	mg/k	700	1	1
E	Soil	T3A-2	2	02-Nov-11	74-95-3	Dibromomethane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	56-23-5	Carbon tetrachloride	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	108-86-1	Bromobenzene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	75-00-3	Chloroethane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	67-66-3	Chloroform	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	74-87-3	Chloromethane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	95-49-8	2-Chlorotoluene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	106-43-4	4-Chlorotoluene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	96-12-8	1,2-Dibromo-3-chloropropane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	10061-02-6	trans-1,3-Dichloropropene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	71-43-2	Benzene	0.0064	mg/k	0.0064	1	1
E	Soil	T3A-2	2	02-Nov-11	108-67-8	1,3,5-Trimethylbenzene	0.002	mg/k	0.002	1	1
E	Soil	T3A-2	2	02-Nov-11	563-58-6	1,1-Dichloropropene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	79-00-5	1,1,2-Trichloroethane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	83-32-9	Acenaphthene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	79-01-6	Trichloroethene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	98-06-6	tert-Butylbenzene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	75-69-4	Trichlorofluoromethane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	120-82-1	1,2,4-Trichlorobenzene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	95-63-6	1,2,4-Trimethylbenzene	0.0048	mg/k	0.0048	1	1
E	Soil	T3A-2	2	02-Nov-11	87-61-6	1,2,3-Trichlorobenzene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	75-01-4	Vinyl chloride	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	74-83-9	Bromomethane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	1330-20-7	Xylenes (total)	0.015	mg/k	0.015	1	1
E	Soil	T3A-2	2	02-Nov-11	104-51-8	n-Butylbenzene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	7439-92-1	Lead	13	mg/k	13	1	1
E	Soil	T3A-2	2	02-Nov-11		pH	8.42	pH		1	1
E	Soil	T3A-2	2	02-Nov-11	96-18-4	1,2,3-Trichloropropane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	103-65-1	n-Propylbenzene	0.012	mg/k	0.012	1	1
E	Soil	T3A-2	2	02-Nov-11	100-41-4	Ethylbenzene	0.0032	mg/k	0.0032	1	1
E	Soil	T3A-2	2	02-Nov-11	106-93-4	1,2-Dibromoethane	0.0048	mg/k	0.0048	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	T3A-2	2	02-Nov-11	87-68-3	Hexachlorobutadiene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	75-27-4	Bromodichloromethane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	98-82-8	Isopropylbenzene	0.018	mg/k	0.018	1	1
E	Soil	T3A-2	2	02-Nov-11	99-87-6	p-Isopropyltoluene	0.0044	mg/k	0.0044	1	1
E	Soil	T3A-2	2	02-Nov-11	71-55-6	1,1,1-Trichloroethane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	91-20-3	Naphthalene	0.014	mg/k	0.014	1	0
E	Soil	T3A-2	2	02-Nov-11	10061-01-5	cis-1,3-Dichloropropene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	100-42-5	Styrene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	630-20-6	1,1,1,2-Tetrachloroethane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	79-34-5	1,1,2,2-Tetrachloroethane	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	127-18-4	Tetrachloroethene	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	108-88-3	Toluene	0.0026	mg/k	0.0026	1	1
E	Soil	T3A-2	2	02-Nov-11	75-25-2	Bromoform	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	75-09-2	Methylene chloride	0.0048	mg/k	0.0048	0	1
E	Soil	T3A-2	2	02-Nov-11	72-55-9	4,4'-DDE	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	7440-02-0	Nickel	23	mg/k	23	1	1
E	Soil	T3A-2	2	02-Nov-11		TPH Gasoline (C4-C10)	2.5	mg/k	2.5	1	1
E	Soil	T3A-2	2	02-Nov-11		TPH Diesel (C10-C25)	1100	mg/k	1100	1	1
E	Soil	T3A-2	2	02-Nov-11		TPH Motor Oil (C25-C40)	2100	mg/k	2100	1	1
E	Soil	T3A-2	2	02-Nov-11		TPH Motor Oil (C23-C40)	2400	mg/k	2400	1	1
E	Soil	T3A-2	2	02-Nov-11		TPH Gasoline (C4-C12)	2.5	mg/k	2.5	1	1
E	Soil	T3A-2	2	02-Nov-11	7440-66-6	Zinc	47	mg/k	47	1	1
E	Soil	T3A-2	2	02-Nov-11	72-54-8	4,4'-DDD	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	7440-62-2	Vanadium	24	mg/k	24	1	1
E	Soil	T3A-2	2	02-Nov-11	50-29-3	4,4'-DDT	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	60-57-1	Dieldrin	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	115-29-7	Endosulfan I	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	33213-65-9	Endosulfan II	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	1031-07-8	Endosulfan sulfate	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	72-20-8	Endrin	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	319-84-6	alpha-BHC	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	7440-47-3	Chromium	33	mg/k	33	1	1
E	Soil	T3A-2	2	02-Nov-11	100-51-6	Benzyl alcohol	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	65-85-0	Benzoic acid	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11		Flashpoint	212	°F		1	1
E	Soil	T3A-2	2	02-Nov-11	7440-36-0	Antimony	4.4	mg/k	4.4	0	1
E	Soil	T3A-2	2	02-Nov-11	7440-38-2	Arsenic	5.3	mg/k	5.3	1	1
E	Soil	T3A-2	2	02-Nov-11	7440-39-3	Barium	48	mg/k	48	1	1
E	Soil	T3A-2	2	02-Nov-11	7439-97-6	Mercury	0.089	mg/k	0.089	1	1
E	Soil	T3A-2	2	02-Nov-11	7440-43-9	Cadmium	0.78	mg/k	0.78	1	1
E	Soil	T3A-2	2	02-Nov-11	5103-71-9	alpha-Chlordane	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	7440-48-4	Cobalt	3.5	mg/k	3.5	1	1
E	Soil	T3A-2	2	02-Nov-11	7440-50-8	Copper	11	mg/k	11	1	1
E	Soil	T3A-2	2	02-Nov-11	7439-98-7	Molybdenum	0.88	mg/k	0.88	0	1
E	Soil	T3A-2	2	02-Nov-11	7782-49-2	Selenium	1.8	mg/k	1.8	0	1
E	Soil	T3A-2	2	02-Nov-11	7440-22-4	Silver	1.8	mg/k	1.8	0	1
E	Soil	T3A-2	2	02-Nov-11	7440-28-0	Thallium	0.88	mg/k	0.88	0	1
E	Soil	T3A-2	2	02-Nov-11	7440-41-7	Beryllium	0.88	mg/k	0.88	0	1
E	Soil	T3A-2	2	02-Nov-11	208-96-8	Acenaphthylene	0.05	mg/k	0.05	0	1
E	Soil	T3A-2	2	02-Nov-11	83-32-9	Acenaphthene	0.05	mg/k	0.05	0	1
E	Soil	T3A-2	2	02-Nov-11	53-70-3	Dibenz(a,h)anthracene	0.1	mg/k	0.1	0	1
E	Soil	T3A-2	2	02-Nov-11	206-44-0	Fluoranthene	0.037	mg/k	0.037	1	1
E	Soil	T3A-2	2	02-Nov-11	86-73-7	Fluorene	0.03	mg/k	0.03	1	1
E	Soil	T3A-2	2	02-Nov-11	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/k	0.05	0	1
E	Soil	T3A-2	2	02-Nov-11	91-20-3	Naphthalene	0.15	mg/k	0.15	1	1
E	Soil	T3A-2	2	02-Nov-11	7421-93-4	Endrin aldehyde	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	129-00-0	Pyrene	0.067	mg/k	0.067	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	T3A-2	2	02-Nov-11	12672-29-6	Aroclor 1248	0.1	mg/k	0.1	0	1
E	Soil	T3A-2	2	02-Nov-11	120-12-7	Anthracene	0.05	mg/k	0.05	0	1
E	Soil	T3A-2	2	02-Nov-11	56-55-3	Benzo(a)anthracene	0.05	mg/k	0.05	0	1
E	Soil	T3A-2	2	02-Nov-11	205-99-2	Benzo(b)fluoranthene	0.04	mg/k	0.04	1	1
E	Soil	T3A-2	2	02-Nov-11	207-08-9	Benzo(k)fluoranthene	0.05	mg/k	0.05	0	1
E	Soil	T3A-2	2	02-Nov-11	50-32-8	Benzo(a)pyrene	0.08	mg/k	0.08	1	1
E	Soil	T3A-2	2	02-Nov-11	191-24-2	Benzo(g,h,i)perylene	0.06	mg/k	0.06	1	1
E	Soil	T3A-2	2	02-Nov-11	85-01-8	Phenanthrene	0.087	mg/k	0.087	1	1
E	Soil	T3A-2	2	02-Nov-11	309-00-2	Aldrin	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	218-01-9	Chrysene	0.083	mg/k	0.083	1	1
E	Soil	T3A-2	2	02-Nov-11	58-89-9	gamma-BHC	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	12789-03-6	gamma-Chlordane	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	76-44-8	Heptachlor	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	1024-57-3	Heptachlor epoxide	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	72-43-5	Methoxychlor	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	11096-82-5	Aroclor 1260	0.1	mg/k	0.1	0	1
E	Soil	T3A-2	2	02-Nov-11	8001-35-2	Toxaphene	0.1	mg/k	0.1	0	1
E	Soil	T3A-2	2	02-Nov-11	11097-69-1	Aroclor 1254	0.1	mg/k	0.1	0	1
E	Soil	T3A-2	2	02-Nov-11	319-85-7	beta-BHC	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	319-86-8	delta-BHC	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	12674-11-2	Aroclor 1016	0.1	mg/k	0.1	0	1
E	Soil	T3A-2	2	02-Nov-11	11104-28-2	Aroclor 1221	0.1	mg/k	0.1	0	1
E	Soil	T3A-2	2	02-Nov-11	11141-16-5	Aroclor 1232	0.1	mg/k	0.1	0	1
E	Soil	T3A-2	2	02-Nov-11	53469-21-9	Aroclor 1242	0.1	mg/k	0.1	0	1
E	Soil	T3A-2	2	02-Nov-11	53494-70-5	Endrin ketone	0.015	mg/k	0.015	0	1
E	Soil	T3A-2	2	02-Nov-11	12789-03-6	gamma-Chlordane	0.1	mg/k	0.1	0	0
E	Soil	T3A-2	2	02-Nov-11	621-64-7	N-Nitrosodi-n-propylamine	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	95-57-8	2-Chlorophenol	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	59-50-7	4-Chloro-3-methylphenol	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	120-82-1	1,2,4-Trichlorobenzene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	86-74-8	Carbazole	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	129-00-0	Pyrene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	78-59-1	Isophorone	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	86-30-6	N-Nitrosodiphenylamine	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	56-55-3	Benzo(a)anthracene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	103-33-3	Azobenzene	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	62-75-9	N-Nitrosodimethylamine	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	98-95-3	Nitrobenzene	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	100-01-6	4-Nitroaniline	2.5	mg/k	2.5	0	1
E	Soil	T3A-2	2	02-Nov-11	99-09-2	3-Nitroaniline	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	91-20-3	Naphthalene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	85-01-8	Phenanthrene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	100-02-7	4-Nitrophenol	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	50-32-8	Benzo(a)pyrene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	207-08-9	Benzo(k)fluoranthene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	205-99-2	Benzo(b)fluoranthene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	88-06-2	2,4,6-Trichlorophenol	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	110-86-1	Pyridine	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	95-95-4	2,4,5-Trichlorophenol	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	120-83-2	2,4-Dichlorophenol	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	87-86-5	Pentachlorophenol	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	105-67-9	2,4-Dimethylphenol	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	88-75-5	2-Nitrophenol	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	3/4-Methylp	3/4-Methylphenol	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	95-48-7	2-Methylphenol	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	534-52-1	4,6-Dinitro-2-methylphenol	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	51-28-5	2,4-Dinitrophenol	1	mg/k	1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	T3A-2	2	02-Nov-11	91-57-6	2-Methylnaphthalene	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	108-95-2	Phenol	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	106-47-8	4-Chloroaniline	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	95-50-1	1,2-Dichlorobenzene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	88-74-4	2-Nitroaniline	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	132-64-9	Dibenzofuran	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	53-70-3	Dibenz(a,h)anthracene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	218-01-9	Chrysene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	7005-72-3	4-Chlorophenyl phenyl ether	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	193-39-5	Indeno(1,2,3-cd)pyrene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	208-96-8	Acenaphthylene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	541-73-1	1,3-Dichlorobenzene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	85-68-7	Butyl benzyl phthalate	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	101-55-3	4-Bromophenyl phenyl ether	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	117-81-7	Bis(2-ethylhexyl)phthalate	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	108-60-1	Bis(2-chloroisopropyl)ether	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	111-44-4	Bis(2-chloroethyl)ether	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	111-91-1	Bis(2-chloroethoxy)methane	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	191-24-2	Benzo(g,h,i)perylene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	91-58-7	2-Chloronaphthalene	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	86-73-7	Fluorene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	67-72-1	Hexachloroethane	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	120-12-7	Anthracene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	77-47-4	Hexachlorocyclopentadiene	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	84-74-2	Di-n-butyl phthalate	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	118-74-1	Hexachlorobenzene	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	106-46-7	1,4-Dichlorobenzene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	206-44-0	Fluoranthene	1	mg/k	1	0	0
E	Soil	T3A-2	2	02-Nov-11	117-84-0	Di-n-octyl phthalate	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	606-20-2	2,6-Dinitrotoluene	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	121-14-2	2,4-Dinitrotoluene	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	131-11-3	Dimethyl phthalate	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	84-66-2	Diethyl phthalate	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	62-53-3	Aniline	1	mg/k	1	0	1
E	Soil	T3A-2	2	02-Nov-11	91-94-1	3,3-Dichlorobenzidine	5	mg/k	5	0	1
E	Soil	T3A-2	2	02-Nov-11	87-68-3	Hexachlorobutadiene	1	mg/k	1	0	0
E	Soil	T3A-3	3	02-Nov-11		TPH Gasoline (C4-C10)	2.9	mg/k	2.9	1	1
E	Soil	T3A-3	3	02-Nov-11		TPH Diesel (C10-C25)	120	mg/k	120	1	1
E	Soil	T3A-3	3	02-Nov-11		TPH Motor Oil (C25-C40)	130	mg/k	130	1	1
E	Soil	T3A-4	4	02-Nov-11		TPH Diesel (C10-C25)	3500	mg/k	3500	1	1
E	Soil	T3A-4	4	02-Nov-11		TPH Gasoline (C4-C10)	140	mg/k	140	1	1
E	Soil	T3A-4	4	02-Nov-11		TPH Motor Oil (C25-C40)	1600	mg/k	1600	1	1
E	Soil	T3A-5	5	02-Nov-11		TPH Diesel (C10-C25)	11000	mg/k	11000	1	1
E	Soil	T3A-5	5	02-Nov-11		TPH Motor Oil (C25-C40)	3500	mg/k	3500	1	1
E	Soil	T3A-5	5	02-Nov-11		TPH Gasoline (C4-C10)	940	mg/k	940	1	1
E	Soil	T3A-6	6	02-Nov-11		TPH Diesel (C10-C25)	8500	mg/k	8500	1	1
E	Soil	T3A-6	6	02-Nov-11		TPH Motor Oil (C25-C40)	2700	mg/k	2700	1	1
E	Soil	T3A-6	6	02-Nov-11		TPH Gasoline (C4-C10)	900	mg/k	900	1	1
E	Soil	T3B-1	1	02-Nov-11		TPH Diesel (C10-C25)	9000	mg/k	9000	1	1
E	Soil	T3B-1	1	02-Nov-11		TPH Motor Oil (C25-C40)	11000	mg/k	11000	1	1
E	Soil	T3B-1	1	02-Nov-11		TPH Gasoline (C4-C10)	46	mg/k	46	1	1
E	Soil	T3B-2	2	02-Nov-11		TPH Gasoline (C4-C10)	1.4	mg/k	1.4	1	1
E	Soil	T3B-2	2	02-Nov-11		TPH Diesel (C10-C25)	520	mg/k	520	1	1
E	Soil	T3B-2	2	02-Nov-11		TPH Motor Oil (C25-C40)	1100	mg/k	1100	1	1
E	Soil	T3B-3	3	02-Nov-11		TPH Diesel (C10-C25)	51	mg/k	51	1	1
E	Soil	T3B-3	3	02-Nov-11		TPH Motor Oil (C25-C40)	41	mg/k	41	1	1
E	Soil	T3B-3	3	02-Nov-11		TPH Gasoline (C4-C10)	0.74	mg/k	0.74	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	T3B-4	4	02-Nov-11		TPH Motor Oil (C25-C40)	390	mg/k	390	1	1
E	Soil	T3B-4	4	02-Nov-11		TPH Gasoline (C4-C10)	200	mg/k	200	1	1
E	Soil	T3B-4	4	02-Nov-11		TPH Diesel (C10-C25)	940	mg/k	940	1	1
E	Soil	T3B-5	5	02-Nov-11		TPH Diesel (C10-C25)	19000	mg/k	19000	1	1
E	Soil	T3B-5	5	02-Nov-11		TPH Motor Oil (C25-C40)	6500	mg/k	6500	1	1
E	Soil	T3B-5	5	02-Nov-11		TPH Gasoline (C4-C10)	910	mg/k	910	1	1
E	Soil	T3B-6	6	02-Nov-11	108-60-1	Bis(2-chloroisopropyl)ether	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	7005-72-3	4-Chlorophenyl phenyl ether	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	91-58-7	2-Chloronaphthalene	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	111-91-1	Bis(2-chloroethoxy)methane	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	208-96-8	Acenaphthylene	1	mg/k	1	0	0
E	Soil	T3B-6	6	02-Nov-11	106-47-8	4-Chloroaniline	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	85-68-7	Butyl benzyl phthalate	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	117-81-7	Bis(2-ethylhexyl)phthalate	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	111-44-4	Bis(2-chloroethyl)ether	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	218-01-9	Chrysene	1	mg/k	1	0	0
E	Soil	T3B-6	6	02-Nov-11	101-55-3	4-Bromophenyl phenyl ether	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	53-70-3	Dibenz(a,h)anthracene	1	mg/k	1	0	0
E	Soil	T3B-6	6	02-Nov-11	132-64-9	Dibenzofuran	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	84-74-2	Di-n-butyl phthalate	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	95-50-1	1,2-Dichlorobenzene	1	mg/k	1	0	0
E	Soil	T3B-6	6	02-Nov-11	541-73-1	1,3-Dichlorobenzene	1	mg/k	1	0	0
E	Soil	T3B-6	6	02-Nov-11	106-46-7	1,4-Dichlorobenzene	1	mg/k	1	0	0
E	Soil	T3B-6	6	02-Nov-11	91-94-1	3,3-Dichlorobenzidine	5	mg/k	5	0	1
E	Soil	T3B-6	6	02-Nov-11	62-53-3	Aniline	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	84-66-2	Diethyl phthalate	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	100-51-6	Benzyl alcohol	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	121-14-2	2,4-Dinitrotoluene	0.64	mg/k	0.64	1	1
E	Soil	T3B-6	6	02-Nov-11	50-32-8	Benzo(a)pyrene	0.063	mg/k	0.063	1	1
E	Soil	T3B-6	6	02-Nov-11	606-20-2	2,6-Dinitrotoluene	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	131-11-3	Dimethyl phthalate	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	207-08-9	Benzo(k)fluoranthene	0.05	mg/k	0.05	0	1
E	Soil	T3B-6	6	02-Nov-11	117-84-0	Di-n-octyl phthalate	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	74-83-9	Bromomethane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	1330-20-7	Xylenes (total)	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	104-51-8	n-Butylbenzene	0.13	mg/k	0.13	1	1
E	Soil	T3B-6	6	02-Nov-11	135-98-8	sec-Butylbenzene	0.2	mg/k	0.2	1	1
E	Soil	T3B-6	6	02-Nov-11	98-06-6	tert-Butylbenzene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	53-70-3	Dibenz(a,h)anthracene	0.1	mg/k	0.1	0	1
E	Soil	T3B-6	6	02-Nov-11	206-44-0	Fluoranthene	0.053	mg/k	0.053	1	1
E	Soil	T3B-6	6	02-Nov-11	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/k	0.05	0	1
E	Soil	T3B-6	6	02-Nov-11	120-12-7	Anthracene	0.05	mg/k	0.05	0	1
E	Soil	T3B-6	6	02-Nov-11		pH	8.76	pH		1	1
E	Soil	T3B-6	6	02-Nov-11	205-99-2	Benzo(b)fluoranthene	0.05	mg/k	0.05	0	1
E	Soil	T3B-6	6	02-Nov-11	65-85-0	Benzoic acid	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	208-96-8	Acenaphthylene	0.35	mg/k	0.35	1	1
E	Soil	T3B-6	6	02-Nov-11	191-24-2	Benzo(g,h,i)perylene	0.1	mg/k	0.1	0	1
E	Soil	T3B-6	6	02-Nov-11		Sulfide, reactive	2	mg/k	2	0	1
E	Soil	T3B-6	6	02-Nov-11		Cyanide, reactive	0.5	mg/k	0.5	0	1
E	Soil	T3B-6	6	02-Nov-11		TPH Gasoline (C4-C12)	50	ug/L		0	0
E	Soil	T3B-6	6	02-Nov-11		TPH Diesel (C13-C22)	1.4	mg/L		1	0
E	Soil	T3B-6	6	02-Nov-11		TPH Motor Oil (C23-C40)	0.44	mg/L		1	0
E	Soil	T3B-6	6	02-Nov-11		TPH Diesel (C13-C22)	4600	mg/k	4600	1	1
E	Soil	T3B-6	6	02-Nov-11	83-32-9	Acenaphthene	0.75	mg/k	0.75	1	1
E	Soil	T3B-6	6	02-Nov-11	191-24-2	Benzo(g,h,i)perylene	1	mg/k	1	0	0
E	Soil	T3B-6	6	02-Nov-11	56-55-3	Benzo(a)anthracene	0.05	mg/k	0.05	0	1
E	Soil	T3B-6	6	02-Nov-11	205-99-2	Benzo(b)fluoranthene	1	mg/k	1	0	0

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	T3B-6	6	02-Nov-11	85-01-8	Phenanthrene	4.5	mg/k	4.5	1	1
E	Soil	T3B-6	6	02-Nov-11	51-28-5	2,4-Dinitrophenol	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	534-52-1	4,6-Dinitro-2-methylphenol	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	95-48-7	2-Methylphenol	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	3/4-Methylp	3/4-Methylphenol	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	88-75-5	2-Nitrophenol	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	100-02-7	4-Nitrophenol	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	87-86-5	Pentachlorophenol	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	108-95-2	Phenol	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	95-95-4	2,4,5-Trichlorophenol	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	105-67-9	2,4-Dimethylphenol	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	88-06-2	2,4,6-Trichlorophenol	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	120-83-2	2,4-Dichlorophenol	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	207-08-9	Benzo(k)fluoranthene	1	mg/k	1	0	0
E	Soil	T3B-6	6	02-Nov-11	50-32-8	Benzo(a)pyrene	1	mg/k	1	0	0
E	Soil	T3B-6	6	02-Nov-11	83-32-9	Acenaphthene	0.5	mg/k	0.5	1	0
E	Soil	T3B-6	6	02-Nov-11	86-73-7	Fluorene	2.3	mg/k	2.3	1	1
E	Soil	T3B-6	6	02-Nov-11	91-20-3	Naphthalene	0.65	mg/k	0.65	1	1
E	Soil	T3B-6	6	02-Nov-11	108-67-8	1,3,5-Trimethylbenzene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	129-00-0	Pyrene	0.35	mg/k	0.35	1	1
E	Soil	T3B-6	6	02-Nov-11	95-63-6	1,2,4-Trimethylbenzene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	218-01-9	Chrysene	0.27	mg/k	0.27	1	1
E	Soil	T3B-6	6	02-Nov-11		TPH Gasoline (C4-C10)	810	mg/k	810	1	1
E	Soil	T3B-6	6	02-Nov-11		TPH Gasoline (C4-C12)	1300	mg/k	1300	1	1
E	Soil	T3B-6	6	02-Nov-11	110-86-1	Pyridine	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	100-01-6	4-Nitroaniline	2.5	mg/k	2.5	0	1
E	Soil	T3B-6	6	02-Nov-11	86-73-7	Fluorene	1.4	mg/k	1.4	1	0
E	Soil	T3B-6	6	02-Nov-11	118-74-1	Hexachlorobenzene	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	87-68-3	Hexachlorobutadiene	1	mg/k	1	0	0
E	Soil	T3B-6	6	02-Nov-11	77-47-4	Hexachlorocyclopentadiene	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	120-12-7	Anthracene	1	mg/k	1	0	0
E	Soil	T3B-6	6	02-Nov-11	67-72-1	Hexachloroethane	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	193-39-5	Indeno(1,2,3-cd)pyrene	1	mg/k	1	0	0
E	Soil	T3B-6	6	02-Nov-11	78-59-1	Isophorone	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	91-57-6	2-Methylnaphthalene	15	mg/k	15	1	1
E	Soil	T3B-6	6	02-Nov-11	91-20-3	Naphthalene	1	mg/k	1	0	0
E	Soil	T3B-6	6	02-Nov-11	56-55-3	Benzo(a)anthracene	1	mg/k	1	0	0
E	Soil	T3B-6	6	02-Nov-11	99-09-2	3-Nitroaniline	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	206-44-0	Fluoranthene	1	mg/k	1	0	0
E	Soil	T3B-6	6	02-Nov-11	98-95-3	Nitrobenzene	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	62-75-9	N-Nitrosodimethylamine	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	103-33-3	Azobenzene	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	621-64-7	N-Nitrosodi-n-propylamine	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	86-30-6	N-Nitrosodiphenylamine	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	85-01-8	Phenanthrene	2	mg/k	2	1	0
E	Soil	T3B-6	6	02-Nov-11	129-00-0	Pyrene	1	mg/k	1	0	0
E	Soil	T3B-6	6	02-Nov-11	86-74-8	Carbazole	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	120-82-1	1,2,4-Trichlorobenzene	1	mg/k	1	0	0
E	Soil	T3B-6	6	02-Nov-11	59-50-7	4-Chloro-3-methylphenol	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	95-57-8	2-Chlorophenol	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	88-74-4	2-Nitroaniline	1	mg/k	1	0	1
E	Soil	T3B-6	6	02-Nov-11	8001-35-2	Toxaphene	0.1	mg/k	0.1	0	1
E	Soil	T3B-6	6	02-Nov-11		Flashpoint	212	°F		1	1
E	Soil	T3B-6	6	02-Nov-11	115-29-7	Endosulfan I	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	33213-65-9	Endosulfan II	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	1031-07-8	Endosulfan sulfate	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	72-20-8	Endrin	0.015	mg/k	0.015	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	T3B-6	6	02-Nov-11	7421-93-4	Endrin aldehyde	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	53494-70-5	Endrin ketone	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	5103-71-9	alpha-Chlordane	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	58-89-9	gamma-BHC	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	76-44-8	Heptachlor	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	71-43-2	Benzene	0.082	mg/k	0.082	1	1
E	Soil	T3B-6	6	02-Nov-11	12789-03-6	gamma-Chlordane	0.1	mg/k	0.1	0	0
E	Soil	T3B-6	6	02-Nov-11	7440-39-3	Barium	42	mg/k	42	1	1
E	Soil	T3B-6	6	02-Nov-11	309-00-2	Aldrin	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	319-85-7	beta-BHC	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	319-86-8	delta-BHC	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	12674-11-2	Aroclor 1016	0.1	mg/k	0.1	0	1
E	Soil	T3B-6	6	02-Nov-11	11104-28-2	Aroclor 1221	0.1	mg/k	0.1	0	1
E	Soil	T3B-6	6	02-Nov-11	11141-16-5	Aroclor 1232	0.1	mg/k	0.1	0	1
E	Soil	T3B-6	6	02-Nov-11	53469-21-9	Aroclor 1242	0.1	mg/k	0.1	0	1
E	Soil	T3B-6	6	02-Nov-11	12672-29-6	Aroclor 1248	0.1	mg/k	0.1	0	1
E	Soil	T3B-6	6	02-Nov-11	11097-69-1	Aroclor 1254	0.1	mg/k	0.1	0	1
E	Soil	T3B-6	6	02-Nov-11	11096-82-5	Aroclor 1260	0.1	mg/k	0.1	0	1
E	Soil	T3B-6	6	02-Nov-11	72-43-5	Methoxychlor	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	7440-22-4	Silver	1.9	mg/k	1.9	0	1
E	Soil	T3B-6	6	02-Nov-11	60-57-1	Dieldrin	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	50-29-3	4,4'-DDT	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	72-55-9	4,4'-DDE	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	72-54-8	4,4'-DDD	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	319-84-6	alpha-BHC	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11		TPH Motor Oil (C23-C40)	3000	mg/k	3000	1	1
E	Soil	T3B-6	6	02-Nov-11		TPH Motor Oil (C25-C40)	2300	mg/k	2300	1	1
E	Soil	T3B-6	6	02-Nov-11		TPH Diesel (C10-C25)	7000	mg/k	7000	1	1
E	Soil	T3B-6	6	02-Nov-11	7439-97-6	Mercury	0.088	mg/k	0.088	0	1
E	Soil	T3B-6	6	02-Nov-11	7440-66-6	Zinc	8.4	mg/k	8.4	1	1
E	Soil	T3B-6	6	02-Nov-11	7440-36-0	Antimony	4.7	mg/k	4.7	0	1
E	Soil	T3B-6	6	02-Nov-11	7440-28-0	Thallium	0.94	mg/k	0.94	0	1
E	Soil	T3B-6	6	02-Nov-11	7440-38-2	Arsenic	1.9	mg/k	1.9	1	1
E	Soil	T3B-6	6	02-Nov-11	7782-49-2	Selenium	1.9	mg/k	1.9	0	1
E	Soil	T3B-6	6	02-Nov-11	7440-02-0	Nickel	7.8	mg/k	7.8	1	1
E	Soil	T3B-6	6	02-Nov-11	7439-98-7	Molybdenum	0.94	mg/k	0.94	0	1
E	Soil	T3B-6	6	02-Nov-11	7439-92-1	Lead	4.1	mg/k	4.1	1	1
E	Soil	T3B-6	6	02-Nov-11	7440-50-8	Copper	3.8	mg/k	3.8	1	1
E	Soil	T3B-6	6	02-Nov-11	7440-48-4	Cobalt	1.5	mg/k	1.5	1	1
E	Soil	T3B-6	6	02-Nov-11	7440-47-3	Chromium	23	mg/k	23	1	1
E	Soil	T3B-6	6	02-Nov-11	75-01-4	Vinyl chloride	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	7440-43-9	Cadmium	0.32	mg/k	0.32	1	1
E	Soil	T3B-6	6	02-Nov-11	7440-41-7	Beryllium	0.94	mg/k	0.94	0	1
E	Soil	T3B-6	6	02-Nov-11	1024-57-3	Heptachlor epoxide	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	7440-62-2	Vanadium	14	mg/k	14	1	1
E	Soil	T3B-6	6	02-Nov-11	56-23-5	Carbon tetrachloride	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	75-27-4	Bromodichloromethane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	120-82-1	1,2,4-Trichlorobenzene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	87-61-6	1,2,3-Trichlorobenzene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	75-25-2	Bromoform	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	108-88-3	Toluene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	127-18-4	Tetrachloroethene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	79-34-5	1,1,2,2-Tetrachloroethane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	630-20-6	1,1,1,2-Tetrachloroethane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	100-42-5	Styrene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	103-65-1	n-Propylbenzene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	79-00-5	1,1,2-Trichloroethane	0.024	mg/k	0.024	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E	Soil	T3B-6	6	02-Nov-11	75-09-2	Methylene chloride	0.006	mg/k	0.006	1	1
E	Soil	T3B-6	6	02-Nov-11	79-01-6	Trichloroethene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	99-87-6	p-Isopropyltoluene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	12789-03-6	gamma-Chlordane	0.015	mg/k	0.015	0	1
E	Soil	T3B-6	6	02-Nov-11	98-82-8	Isopropylbenzene	0.18	mg/k	0.18	1	1
E	Soil	T3B-6	6	02-Nov-11	142-28-9	1,3-Dichloropropane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	594-20-7	2,2-Dichloropropane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	563-58-6	1,1-Dichloropropene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	10061-01-5	cis-1,3-Dichloropropene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	10061-02-6	trans-1,3-Dichloropropene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	100-41-4	Ethylbenzene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	106-93-4	1,2-Dibromoethane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	87-68-3	Hexachlorobutadiene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	91-20-3	Naphthalene	0.024	mg/k	0.024	0	0
E	Soil	T3B-6	6	02-Nov-11	541-73-1	1,3-Dichlorobenzene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	108-90-7	Chlorobenzene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	75-00-3	Chloroethane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	67-66-3	Chloroform	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	74-87-3	Chloromethane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	95-49-8	2-Chlorotoluene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	106-43-4	4-Chlorotoluene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	96-12-8	1,2-Dibromo-3-chloropropane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	124-48-1	Dibromochloromethane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	108-86-1	Bromobenzene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	74-95-3	Dibromomethane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	71-55-6	1,1,1-Trichloroethane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	95-50-1	1,2-Dichlorobenzene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	96-18-4	1,2,3-Trichloropropane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	106-46-7	1,4-Dichlorobenzene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	75-69-4	Trichlorofluoromethane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	75-71-8	Dichlorodifluoromethane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	75-34-3	1,1-Dichloroethane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	107-06-2	1,2-Dichloroethane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	75-35-4	1,1-Dichloroethene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	156-59-2	cis-1,2-Dichloroethene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	156-60-5	trans-1,2-Dichloroethene	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	74-97-5	Bromochloromethane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	78-87-5	1,2-Dichloropropane	0.024	mg/k	0.024	0	1
E	Soil	T3B-6	6	02-Nov-11	1634-04-4	Methyl tert-butyl ether	0.024	mg/k	0.024	0	1
E	Soil	T3C-1	1	02-Nov-11		TPH Motor Oil (C25-C40)	11000	mg/k	11000	1	1
E	Soil	T3C-1	1	02-Nov-11		TPH Diesel (C10-C25)	9800	mg/k	9800	1	1
E	Soil	T3C-1	1	02-Nov-11		TPH Gasoline (C4-C10)	2.3	mg/k	2.3	1	1
E	Soil	T3C-2	2	02-Nov-11		TPH Diesel (C10-C25)	7000	mg/k	7000	1	1
E	Soil	T3C-2	2	02-Nov-11		TPH Motor Oil (C25-C40)	8600	mg/k	8600	1	1
E	Soil	T3C-2	2	02-Nov-11		TPH Gasoline (C4-C10)	2.6	mg/k	2.6	1	1
E	Soil	T3C-3	3	02-Nov-11		TPH Gasoline (C4-C10)	3.7	mg/k	3.7	1	1
E	Soil	T3C-3	3	02-Nov-11		TPH Diesel (C10-C25)	1200	mg/k	1200	1	1
E	Soil	T3C-3	3	02-Nov-11		TPH Motor Oil (C25-C40)	430	mg/k	430	1	1
E	Soil	T3C-4	4	02-Nov-11		TPH Diesel (C10-C25)	2600	mg/k	2600	1	1
E	Soil	T3C-4	4	02-Nov-11		TPH Motor Oil (C25-C40)	1400	mg/k	1400	1	1
E	Soil	T3C-4	4	02-Nov-11		TPH Gasoline (C4-C10)	640	mg/k	640	1	1
E	Soil	T3C-5	5	02-Nov-11		TPH Diesel (C10-C25)	13000	mg/k	13000	1	1
E	Soil	T3C-5	5	02-Nov-11		TPH Motor Oil (C25-C40)	5400	mg/k	5400	1	1
E	Soil	T3C-5	5	02-Nov-11		TPH Gasoline (C4-C10)	880	mg/k	880	1	1
E	Soil	T3C-6	6	02-Nov-11		TPH Diesel (C10-C25)	3600	mg/k	3600	1	1
E	Soil	T3C-6	6	02-Nov-11		TPH Motor Oil (C25-C40)	1500	mg/k	1500	1	1
E	Soil	T3C-6	6	02-Nov-11		TPH Gasoline (C4-C10)	180	mg/k	180	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E/NativeGardens	Soil	B-189-10	10		8006-61-9	TPHg			10	0	1
E/NativeGardens	Soil	B-189-10	10		68476-30-2	TPHd			10	0	1
E/NativeGardens	Soil	B-189-10	10		64742-47-8	TPHm			10	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	79-01-6	Trichloroethene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	75-69-4	Trichlorofluoromethane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	135-98-8	sec-Butylbenzene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	75-01-4	Vinyl chloride	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	103-65-1	n-Propylbenzene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	91-20-3	Naphthalene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	104-51-8	n-Butylbenzene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	156-60-5	trans-1,2-Dichloroethene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	74-87-3	Chloromethane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	99-87-6	p-Isopropyltoluene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	74-97-5	Bromochloromethane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	124-48-1	Dibromochloromethane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	156-59-2	cis-1,2-Dichloroethene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	100-42-5	Styrene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	67-66-3	Chloroform	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	75-00-3	Chloroethane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	108-90-7	Chlorobenzene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	56-23-5	Carbon tetrachloride	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99		C4-C10	10	mg/K	10	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99		C25-C40	10	mg/K	10	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	75-71-8	Dichlorodifluoromethane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	75-27-4	Bromodichloromethane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	34077-87-7	Dichlorotrifluoroethane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	108-86-1	Bromobenzene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	106-43-4	4-Chlorotoluene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	95-49-8	2-Chlorotoluene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/K	0.01	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	594-20-7	2,2-Dichloropropane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	106-46-7	1,4-Dichlorobenzene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	142-28-9	1,3-Dichloropropane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	127-18-4	Tetrachloroethene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	98-06-6	tert-Butylbenzene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99		C1-C40	10	mg/K	10	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/K	0.01	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	74-83-9	Bromomethane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	75-25-2	Bromoform	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	541-73-1	1,3-Dichlorobenzene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	78-87-5	1,2-Dichloropropane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	107-06-2	1,2-Dichloroethane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	95-50-1	1,2-Dichlorobenzene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	106-93-4	1,2-Dibromoethane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/K	0.01	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	74-95-3	Dibromomethane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	96-18-4	1,2,3-Trichloropropane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99		C10-C25	10	mg/K	10	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	563-58-6	1,1-Dichloropropene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	75-35-4	1,1-Dichloroethene	0.005	mg/K	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	75-34-3	1,1-Dichloroethane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	79-00-5	1,1,2-Trichloroethane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	71-55-6	1,1,1-Trichloroethane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	75-09-2	Methylene chloride	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	98-82-8	Isopropylbenzene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	87-68-3	Hexachlorobutadiene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
E/NativeGardens	Soil	B-189-10	10	01-Jul-99	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/K	0.01	0	1
G	GS	SV-35-05	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.41	ug/L	0.41	1	1
G	GS	SV-35-05	5	18-Jul-07	64-17-5	Ethanol	0.0093	ug/L	0.0093	0	1
G	GS	SV-35-05	5	18-Jul-07		Oxygen	19	%		1	1
G	GS	SV-35-05	5	18-Jul-07	103-65-1	n-Propylbenzene	0.15	ug/L	0.15	1	1
G	GS	SV-35-05	5	18-Jul-07		Nitrogen	79	%		1	1
G	GS	SV-35-05	5	18-Jul-07	142-82-5	n-Heptane	0.84	ug/L	0.84	1	1
G	GS	SV-35-05	5	18-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	1	1
G	GS	SV-35-05	5	18-Jul-07	75-09-2	Methylene chloride	0.0084	ug/L	0.0084	1	1
G	GS	SV-35-05	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.45	ug/L	0.45	1	1
G	GS	SV-35-05	5	18-Jul-07	74-82-8	Methane	0.052	%		1	1
G	GS	SV-35-05	5	18-Jul-07	100-42-5	Styrene	0.0053	ug/L	0.0053	0	1
G	GS	SV-35-05	5	18-Jul-07	98-82-8	Isopropylbenzene	0.075	ug/L	0.075	1	1
G	GS	SV-35-05	5	18-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
G	GS	SV-35-05	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
G	GS	SV-35-05	5	18-Jul-07	110-54-3	Hexane	0.48	ug/L	0.48	1	1
G	GS	SV-35-05	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.053	ug/L	0.053	0	1
G	GS	SV-35-05	5	18-Jul-07	100-41-4	Ethylbenzene	0.07	ug/L	0.07	1	1
G	GS	SV-35-05	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
G	GS	SV-35-05	5	18-Jul-07		Ethene	0.0025	%		0	1
G	GS	SV-35-05	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1
G	GS	SV-35-05	5	18-Jul-07	79-01-6	Trichloroethene	0.039	ug/L	0.039	1	1
G	GS	SV-35-05	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0078	ug/L	0.0078	0	1
G	GS	SV-35-05	5	18-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1
G	GS	SV-35-05	5	18-Jul-07	67-66-3	Chloroform	0.14	ug/L	0.14	1	1
G	GS	SV-35-05	5	18-Jul-07	74-87-3	Chloromethane	0.16	ug/L	0.16	1	1
G	GS	SV-35-05	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0049	ug/L		0	1
G	GS	SV-35-05	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
G	GS	SV-35-05	5	18-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
G	GS	SV-35-05	5	18-Jul-07	95-47-6	o-Xylene	0.34	ug/L	0.34	1	1
G	GS	SV-35-05	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0069	ug/L	0.0069	0	1
G	GS	SV-35-05	5	18-Jul-07	108-90-7	Chlorobenzene	0.0057	ug/L	0.0057	0	1
G	GS	SV-35-05	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
G	GS	SV-35-05	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0049	ug/L	0.0049	0	1
G	GS	SV-35-05	5	18-Jul-07		Toluene-d8	100	%		1	1
G	GS	SV-35-05	5	18-Jul-07	108-88-3	Toluene	0.049	ug/L	0.049	1	1
G	GS	SV-35-05	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0036	ug/L	0.0036	0	1
G	GS	SV-35-05	5	18-Jul-07	127-18-4	Tetrachloroethene	0.045	ug/L	0.045	1	1
G	GS	SV-35-05	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
G	GS	SV-35-05	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
G	GS	SV-35-05	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
G	GS	SV-35-05	5	18-Jul-07		Ethane	0.0025	%		0	1
G	GS	SV-35-05	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0027	ug/L	0.0027	0	1
G	GS	SV-35-05	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.51	ug/L	0.51	1	1
G	GS	SV-35-05	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0057	ug/L	0.0057	0	1
G	GS	SV-35-05	5	18-Jul-07		1,2-Dichloroethane-d4	170	%		1	1
G	GS	SV-35-05	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.005	ug/L	0.005	0	1
G	GS	SV-35-05	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0074	ug/L	0.0074	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	GS	SV-35-05	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	ug/L	0.0086	0	1
G	GS	SV-35-05	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
G	GS	SV-35-05	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.23	ug/L	0.23	1	1
G	GS	SV-35-05	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0095	ug/L	0.0095	0	1
G	GS	SV-35-05	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
G	GS	SV-35-05	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0049	ug/L	0.0049	0	1
G	GS	SV-35-05	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.005	ug/L	0.005	0	1
G	GS	SV-35-05	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0067	ug/L	0.0067	0	1
G	GS	SV-35-05	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	ug/L	0.0095	0	1
G	GS	SV-35-05	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	ug/L	0.0085	0	1
G	GS	SV-35-05	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0067	ug/L	0.0067	0	1
G	GS	SV-35-05	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	ug/L	0.034	0	1
G	GS	SV-35-05	5	18-Jul-07	110-82-7	Cyclohexane	1.2	ug/L	1.2	1	1
G	GS	SV-35-05	5	18-Jul-07	74-83-9	Bromomethane	0.0048	ug/L	0.0048	0	1
G	GS	SV-35-05	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.037	ug/L	0.037	0	1
G	GS	SV-35-05	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
G	GS	SV-35-05	5	18-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
G	GS	SV-35-05	5	18-Jul-07		Carbon Monoxide	0.025	%		0	1
G	GS	SV-35-05	5	18-Jul-07		Carbon Dioxide	2.4	%		1	1
G	GS	SV-35-05	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0061	ug/L	0.0061	0	1
G	GS	SV-35-05	5	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
G	GS	SV-35-05	5	18-Jul-07	75-27-4	Bromodichloromethane	0.0083	ug/L	0.0083	0	1
G	GS	SV-35-05	5	18-Jul-07	100-44-7	Benzyl chloride	0.0064	ug/L	0.0064	0	1
G	GS	SV-35-05	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.43	ug/L	0.43	1	1
G	GS	SV-35-05	5	18-Jul-07	75-15-0	Carbon Disulfide	0.019	ug/L	0.019	1	1
G	GS	SV-35-05	5	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
G	GS	SV-35-05	5	18-Jul-07	71-43-2	Benzene	0.047	ug/L	0.047	1	1
G	GS	SV-35-05	5	18-Jul-07	78-93-3	2-Butanone	0.011	ug/L	0.011	1	1
G	GS	SV-35-05	5	18-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
G	GS	SV-35-05	5	18-Jul-07		4-Bromofluorobenzene	105	%		1	1
G	GS	SV-35-05	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.005	ug/L	0.005	0	1
G	GS	SV-35-05	5	18-Jul-07	67-64-1	Acetone	0.05	ug/L	0.05	1	1
G	GS	SV-35-05	5	18-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
G	GS	SV-35-15	15	18-Jul-07	71-43-2	Benzene	0.66	ug/L	0.66	1	1
G	GS	SV-35-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.7	ug/L	0.7	0	1
G	GS	SV-35-15	15	18-Jul-07	78-93-3	2-Butanone	0.44	ug/L	0.44	0	1
G	GS	SV-35-15	15	18-Jul-07	591-78-6	2-Hexanone	2.4	ug/L	2.4	0	1
G	GS	SV-35-15	15	18-Jul-07		4-Bromofluorobenzene	106	%		1	1
G	GS	SV-35-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.61	ug/L	0.61	0	1
G	GS	SV-35-15	15	18-Jul-07	67-64-1	Acetone	1.4	ug/L	1.4	0	1
G	GS	SV-35-15	15	18-Jul-07	107-05-1	Allyl chloride	1.9	ug/L	1.9	0	1
G	GS	SV-35-15	15	18-Jul-07	123-91-1	1,4-Dioxane	2.2	ug/L	2.2	0	1
G	GS	SV-35-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.77	ug/L	0.77	0	1
G	GS	SV-35-15	15	18-Jul-07	75-27-4	Bromodichloromethane	1	ug/L	1	0	1
G	GS	SV-35-15	15	18-Jul-07	75-25-2	Bromoform	1.5	ug/L	1.5	0	1
G	GS	SV-35-15	15	18-Jul-07	74-83-9	Bromomethane	0.58	ug/L	0.58	0	1
G	GS	SV-35-15	15	18-Jul-07		Carbon Dioxide	16	%		1	1
G	GS	SV-35-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.46	ug/L	0.46	0	1
G	GS	SV-35-15	15	18-Jul-07		Carbon Monoxide	0.022	%		0	1
G	GS	SV-35-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.94	ug/L	0.94	0	1
G	GS	SV-35-15	15	18-Jul-07	75-00-3	Chloroethane	0.39	ug/L	0.39	0	1
G	GS	SV-35-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.69	ug/L	0.69	0	1
G	GS	SV-35-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.1	ug/L	1.1	0	1
G	GS	SV-35-15	15	18-Jul-07	142-82-5	n-Heptane	3.6	ug/L	3.6	1	1
G	GS	SV-35-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.9	ug/L	0.9	0	1
G	GS	SV-35-15	15	18-Jul-07	67-66-3	Chloroform	3	ug/L	3	1	1
G	GS	SV-35-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	1.1	ug/L	1.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	GS	SV-35-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.73	ug/L	0.73	0	1
G	GS	SV-35-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.4	ug/L	4.4	0	1
G	GS	SV-35-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	3.6	ug/L	3.6	0	1
G	GS	SV-35-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.59	ug/L	0.59	0	1
G	GS	SV-35-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	1	ug/L	1	0	1
G	GS	SV-35-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.82	ug/L	0.82	0	1
G	GS	SV-35-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.9	ug/L	0.9	0	1
G	GS	SV-35-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	1	ug/L	1	0	1
G	GS	SV-35-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.82	ug/L	0.82	0	1
G	GS	SV-35-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.1	ug/L	4.1	0	1
G	GS	SV-35-15	15	18-Jul-07		1,2-Dichloroethane-d4	114	%		1	1
G	GS	SV-35-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.69	ug/L	0.69	0	1
G	GS	SV-35-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.73	ug/L	0.73	0	1
G	GS	SV-35-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.33	ug/L	0.33	0	1
G	GS	SV-35-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.9	ug/L	0.9	0	1
G	GS	SV-35-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.6	ug/L	0.6	0	1
G	GS	SV-35-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.44	ug/L	0.44	0	1
G	GS	SV-35-15	15	18-Jul-07	75-09-2	Methylene chloride	0.52	ug/L	0.52	0	1
G	GS	SV-35-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.73	ug/L	0.73	0	1
G	GS	SV-35-15	15	18-Jul-07		Oxygen	1.2	%		1	1
G	GS	SV-35-15	15	18-Jul-07	95-47-6	o-Xylene	0.65	ug/L	0.65	0	1
G	GS	SV-35-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.73	ug/L	0.73	0	1
G	GS	SV-35-15	15	18-Jul-07	100-42-5	Styrene	0.64	ug/L	0.64	0	1
G	GS	SV-35-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	2.5	ug/L	2.5	0	1
G	GS	SV-35-15	15	18-Jul-07	91-20-3	Naphthalene	3.1	ug/L	3.1	0	1
G	GS	SV-35-15	15	18-Jul-07	127-18-4	Tetrachloroethene	1.9	ug/L	1.9	1	1
G	GS	SV-35-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.38	ug/L	0.38	0	1
G	GS	SV-35-15	15	18-Jul-07	108-88-3	Toluene	0.56	ug/L	0.56	0	1
G	GS	SV-35-15	15	18-Jul-07		Toluene-d8	97	%		1	1
G	GS	SV-35-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.59	ug/L	0.59	0	1
G	GS	SV-35-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.68	ug/L	0.68	0	1
G	GS	SV-35-15	15	18-Jul-07	79-01-6	Trichloroethene	0.8	ug/L	0.8	0	1
G	GS	SV-35-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.84	ug/L	0.84	0	1
G	GS	SV-35-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
G	GS	SV-35-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.6	ug/L	0.6	0	1
G	GS	SV-35-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	1.8	ug/L	1.8	0	1
G	GS	SV-35-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.78	ug/L	0.78	1	1
G	GS	SV-35-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.59	ug/L		0	1
G	GS	SV-35-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.68	ug/L	0.68	0	1
G	GS	SV-35-15	15	18-Jul-07	110-82-7	Cyclohexane	6.2	ug/L	6.2	1	1
G	GS	SV-35-15	15	18-Jul-07	124-48-1	Dibromochloromethane	1.3	ug/L	1.3	0	1
G	GS	SV-35-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.74	ug/L	0.74	0	1
G	GS	SV-35-15	15	18-Jul-07		Ethane	0.0022	%		0	1
G	GS	SV-35-15	15	18-Jul-07	64-17-5	Ethanol	1.1	ug/L	1.1	0	1
G	GS	SV-35-15	15	18-Jul-07		Nitrogen	80	%		1	1
G	GS	SV-35-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	2.5	ug/L	2.5	0	1
G	GS	SV-35-15	15	18-Jul-07	74-87-3	Chloromethane	4	ug/L	4	1	1
G	GS	SV-35-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	6.4	ug/L	6.4	0	1
G	GS	SV-35-15	15	18-Jul-07	110-54-3	Hexane	8	ug/L	8	1	1
G	GS	SV-35-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	1.5	ug/L	1.5	0	1
G	GS	SV-35-15	15	18-Jul-07	108-20-3	Isopropyl ether	2.5	ug/L	2.5	0	1
G	GS	SV-35-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.73	ug/L	0.73	0	1
G	GS	SV-35-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.65	ug/L	0.65	0	1
G	GS	SV-35-15	15	18-Jul-07	74-82-8	Methane	3.2	%		1	1
G	GS	SV-35-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.54	ug/L	0.54	0	1
G	GS	SV-35-15	15	18-Jul-07		Ethene	0.0022	%		0	1
G	GS	SV-35-05	5	17-Nov-07	142-82-5	n-Heptane	0.0044	UG/L	0.0044	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	GS	SV-35-05	5	17-Nov-07	107-05-1	Allyl chloride	0.014	UG/L	0.014	0	1
G	GS	SV-35-05	5	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0065	UG/L	0.0065	0	1
G	GS	SV-35-05	5	17-Nov-07	95-47-6	o-Xylene	0.0047	UG/L	0.0047	0	1
G	GS	SV-35-05	5	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.005	UG/L	0.005	0	1
G	GS	SV-35-05	5	17-Nov-07	75-01-4	Vinyl Chloride	0.0028	UG/L	0.0028	0	1
G	GS	SV-35-05	5	17-Nov-07	591-78-6	2-Hexanone	0.018	UG/L	0.018	0	1
G	GS	SV-35-05	5	17-Nov-07		4-Bromofluorobenzene	97	%		1	1
G	GS	SV-35-05	5	17-Nov-07	108-90-7	Chlorobenzene	0.005	UG/L	0.005	0	1
G	GS	SV-35-05	5	17-Nov-07	67-64-1	Acetone	0.038	UG/L	0.038	1	1
G	GS	SV-35-05	5	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0053	UG/L	0.0053	0	1
G	GS	SV-35-05	5	17-Nov-07	71-43-2	Benzene	0.0034	UG/L	0.0034	0	1
G	GS	SV-35-05	5	17-Nov-07	100-44-7	Benzyl chloride	0.0056	UG/L	0.0056	0	1
G	GS	SV-35-05	5	17-Nov-07	75-27-4	Bromodichloromethane	0.0072	UG/L	0.0072	0	1
G	GS	SV-35-05	5	17-Nov-07	75-25-2	Bromoform	0.011	UG/L	0.011	0	1
G	GS	SV-35-05	5	17-Nov-07	74-83-9	Bromomethane	0.0042	UG/L	0.0042	0	1
G	GS	SV-35-05	5	17-Nov-07	75-15-0	Carbon Disulfide	0.0034	UG/L	0.0034	0	1
G	GS	SV-35-05	5	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0068	UG/L	0.0068	0	1
G	GS	SV-35-05	5	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0044	UG/L	0.0044	0	1
G	GS	SV-35-05	5	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0053	UG/L	0.0053	0	1
G	GS	SV-35-05	5	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.03	UG/L	0.03	0	1
G	GS	SV-35-05	5	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0059	UG/L	0.0059	0	1
G	GS	SV-35-05	5	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0074	UG/L	0.0074	0	1
G	GS	SV-35-05	5	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0083	UG/L	0.0083	0	1
G	GS	SV-35-05	5	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0059	UG/L	0.0059	0	1
G	GS	SV-35-05	5	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0044	UG/L	0.0044	0	1
G	GS	SV-35-05	5	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0043	UG/L	0.0043	0	1
G	GS	SV-35-05	5	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0065	UG/L	0.0065	0	1
G	GS	SV-35-05	5	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.032	UG/L	0.032	0	1
G	GS	SV-35-05	5	17-Nov-07	106-99-0	1,3-Butadiene	0.0024	UG/L	0.0024	0	1
G	GS	SV-35-05	5	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0083	UG/L	0.0083	0	1
G	GS	SV-35-05	5	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0076	UG/L	0.0076	0	1
G	GS	SV-35-05	5	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0065	UG/L	0.0065	0	1
G	GS	SV-35-05	5	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0044	UG/L	0.0044	0	1
G	GS	SV-35-05	5	17-Nov-07		1,2-Dichloroethane-d4	95	%		1	1
G	GS	SV-35-05	5	17-Nov-07	78-87-5	1,2-Dichloropropane	0.005	UG/L	0.005	0	1
G	GS	SV-35-05	5	17-Nov-07	78-93-3	2-Butanone	0.0094	UG/L	0.0094	1	1
G	GS	SV-35-05	5	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.026	UG/L	0.026	0	1
G	GS	SV-35-05	5	17-Nov-07	108-88-3	Toluene	0.015	UG/L	0.015	1	1
G	GS	SV-35-05	5	17-Nov-07	91-20-3	Naphthalene	0.023	UG/L	0.023	0	1
G	GS	SV-35-05	5	17-Nov-07	103-65-1	n-Propylbenzene	0.0053	UG/L	0.0053	0	1
G	GS	SV-35-05	5	17-Nov-07	622-96-8	p-Ethyltoluene	0.0053	UG/L	0.0053	0	1
G	GS	SV-35-05	5	17-Nov-07	100-42-5	Styrene	0.0046	UG/L	0.0046	0	1
G	GS	SV-35-05	5	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.018	UG/L	0.018	0	1
G	GS	SV-35-05	5	17-Nov-07	75-65-0	tert-Butyl alcohol	0.013	UG/L	0.013	0	1
G	GS	SV-35-05	5	17-Nov-07	75-09-2	Methylene Chloride	0.0038	UG/L	0.0038	0	1
G	GS	SV-35-05	5	17-Nov-07	109-99-9	Tetrahydrofuran	0.0034	UG/L	0.0034	1	1
G	GS	SV-35-05	5	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0043	UG/L	0.0043	0	1
G	GS	SV-35-05	5	17-Nov-07		Toluene-d8	96	%		1	1
G	GS	SV-35-05	5	17-Nov-07	75-00-3	Chloroethane	0.0028	UG/L	0.0028	0	1
G	GS	SV-35-05	5	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0049	UG/L	0.0049	0	1
G	GS	SV-35-05	5	17-Nov-07	123-91-1	1,4-Dioxane	0.016	UG/L	0.016	0	1
G	GS	SV-35-05	5	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0061	UG/L	0.0061	0	1
G	GS	SV-35-05	5	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
G	GS	SV-35-05	5	17-Nov-07	127-18-4	Tetrachloroethene	0.0078	UG/L	0.0078	1	1
G	GS	SV-35-05	5	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0049	UG/L	0.0049	0	1
G	GS	SV-35-05	5	17-Nov-07	79-01-6	Trichloroethene	0.0058	UG/L	0.0058	0	1
G	GS	SV-35-05	5	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0039	UG/L	0.0039	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	GS	SV-35-05	5	17-Nov-07	67-66-3	Chloroform	0.008	UG/L	0.008	1	1
G	GS	SV-35-05	5	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0043	UG/L		0	1
G	GS	SV-35-05	5	17-Nov-07	110-82-7	Cyclohexane	0.0044	UG/L	0.0044	1	1
G	GS	SV-35-05	5	17-Nov-07	124-48-1	Dibromochloromethane	0.0092	UG/L	0.0092	0	1
G	GS	SV-35-05	5	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0053	UG/L	0.0053	0	1
G	GS	SV-35-05	5	17-Nov-07	64-17-5	Ethanol	0.029	UG/L	0.029	1	1
G	GS	SV-35-05	5	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.018	UG/L	0.018	0	1
G	GS	SV-35-05	5	17-Nov-07	87-68-3	Hexachlorobutadiene	0.046	UG/L	0.046	0	1
G	GS	SV-35-05	5	17-Nov-07	110-54-3	Hexane	0.0097	UG/L	0.0097	1	1
G	GS	SV-35-05	5	17-Nov-07	67-63-0	Isopropyl alcohol	0.013	UG/L	0.013	1	1
G	GS	SV-35-05	5	17-Nov-07	108-20-3	Isopropyl ether	0.018	UG/L	0.018	0	1
G	GS	SV-35-05	5	17-Nov-07	100-41-4	Ethylbenzene	0.0047	UG/L	0.0047	0	1
G	GS	SV-35-05	5	17-Nov-07	74-87-3	Chloromethane	0.0089	UG/L	0.0089	0	1
G	GS	SV-35-05	5	17-Nov-07	98-82-8	Isopropylbenzene	0.0053	UG/L	0.0053	0	1
G	GS	SV-35-05	5	17-Nov-07	179601-23-1	m,p-Xylenes	0.0047	UG/L	0.0047	0	1
G	GS	SV-35-15	15	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.058	UG/L	0.058	0	1
G	GS	SV-35-15	15	17-Nov-07	75-09-2	Methylene Chloride	0.16	UG/L	0.16	1	1
G	GS	SV-35-15	15	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.042	UG/L	0.042	0	1
G	GS	SV-35-15	15	17-Nov-07	179601-23-1	m,p-Xylenes	0.14	UG/L	0.14	1	1
G	GS	SV-35-15	15	17-Nov-07	98-82-8	Isopropylbenzene	0.59	UG/L	0.59	1	1
G	GS	SV-35-15	15	17-Nov-07	67-63-0	Isopropyl alcohol	0.11	UG/L	0.11	0	1
G	GS	SV-35-15	15	17-Nov-07	110-54-3	Hexane	11	UG/L	11	1	1
G	GS	SV-35-15	15	17-Nov-07	87-68-3	Hexachlorobutadiene	0.5	UG/L	0.5	0	1
G	GS	SV-35-15	15	17-Nov-07	64-17-5	Ethanol	0.088	UG/L	0.088	0	1
G	GS	SV-35-15	15	17-Nov-07	124-48-1	Dibromochloromethane	0.099	UG/L	0.099	0	1
G	GS	SV-35-15	15	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.053	UG/L	0.053	0	1
G	GS	SV-35-15	15	17-Nov-07	91-20-3	Naphthalene	0.24	UG/L	0.24	0	1
G	GS	SV-35-15	15	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.046	UG/L	0.046	0	1
G	GS	SV-35-15	15	17-Nov-07	110-82-7	Cyclohexane	13	UG/L	13	1	1
G	GS	SV-35-15	15	17-Nov-07	100-41-4	Ethylbenzene	0.12	UG/L	0.12	1	1
G	GS	SV-35-15	15	17-Nov-07	142-82-5	n-Heptane	1.8	UG/L	1.8	1	1
G	GS	SV-35-15	15	17-Nov-07	103-65-1	n-Propylbenzene	0.29	UG/L	0.29	1	1
G	GS	SV-35-15	15	17-Nov-07	95-47-6	o-Xylene	0.075	UG/L	0.075	1	1
G	GS	SV-35-15	15	17-Nov-07	622-96-8	p-Ethyltoluene	0.057	UG/L	0.057	0	1
G	GS	SV-35-15	15	17-Nov-07	100-42-5	Styrene	0.05	UG/L	0.05	0	1
G	GS	SV-35-15	15	17-Nov-07	127-18-4	Tetrachloroethene	5.5	UG/L	5.5	1	1
G	GS	SV-35-15	15	17-Nov-07	109-99-9	Tetrahydrofuran	0.034	UG/L	0.034	0	1
G	GS	SV-35-15	15	17-Nov-07		Toluene-d8	129	%		1	1
G	GS	SV-35-15	15	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.053	UG/L	0.053	0	1
G	GS	SV-35-15	15	17-Nov-07	79-01-6	Trichloroethene	0.78	UG/L	0.78	1	1
G	GS	SV-35-15	15	17-Nov-07	75-69-4	Trichlorofluoromethane	0.065	UG/L	0.065	0	1
G	GS	SV-35-15	15	17-Nov-07	75-01-4	Vinyl Chloride	0.03	UG/L	0.03	0	1
G	GS	SV-35-15	15	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.046	UG/L		0	1
G	GS	SV-35-15	15	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.057	UG/L	0.057	0	1
G	GS	SV-35-15	15	17-Nov-07	108-88-3	Toluene	0.071	UG/L	0.071	1	1
G	GS	SV-35-15	15	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.1	UG/L	0.1	1	1
G	GS	SV-35-15	15	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.07	UG/L	0.07	0	1
G	GS	SV-35-15	15	17-Nov-07	106-99-0	1,3-Butadiene	0.026	UG/L	0.026	0	1
G	GS	SV-35-15	15	17-Nov-07	78-87-5	1,2-Dichloropropane	0.054	UG/L	0.054	0	1
G	GS	SV-35-15	15	17-Nov-07		1,2-Dichloroethane-d4	188	%		1	1
G	GS	SV-35-15	15	17-Nov-07	107-06-2	1,2-Dichloroethane	0.047	UG/L	0.047	0	1
G	GS	SV-35-15	15	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.07	UG/L	0.07	0	1
G	GS	SV-35-15	15	17-Nov-07	123-91-1	1,4-Dioxane	0.17	UG/L	0.17	0	1
G	GS	SV-35-15	15	17-Nov-07	106-93-4	1,2-Dibromoethane	0.09	UG/L	0.09	0	1
G	GS	SV-35-15	15	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.34	UG/L	0.34	0	1
G	GS	SV-35-15	15	17-Nov-07	74-87-3	Chloromethane	0.096	UG/L	0.096	0	1
G	GS	SV-35-15	15	17-Nov-07	75-35-4	1,1-Dichloroethene	0.046	UG/L	0.046	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	GS	SV-35-15	15	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.07	UG/L	0.07	0	1
G	GS	SV-35-15	15	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.064	UG/L	0.064	0	1
G	GS	SV-35-15	15	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.089	UG/L	0.089	0	1
G	GS	SV-35-15	15	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.08	UG/L	0.08	0	1
G	GS	SV-35-15	15	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.064	UG/L	0.064	0	1
G	GS	SV-35-15	15	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.081	UG/L	0.081	0	1
G	GS	SV-35-15	15	17-Nov-07	100-44-7	Benzyl chloride	0.06	UG/L	0.06	0	1
G	GS	SV-35-15	15	17-Nov-07	75-34-3	1,1-Dichloroethane	0.047	UG/L	0.047	0	1
G	GS	SV-35-15	15	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.054	UG/L	0.054	0	1
G	GS	SV-35-15	15	17-Nov-07	67-66-3	Chloroform	9	UG/L	9	1	1
G	GS	SV-35-15	15	17-Nov-07	75-00-3	Chloroethane	0.031	UG/L	0.031	0	1
G	GS	SV-35-15	15	17-Nov-07	108-90-7	Chlorobenzene	0.054	UG/L	0.054	0	1
G	GS	SV-35-15	15	17-Nov-07	56-23-5	Carbon Tetrachloride	0.073	UG/L	0.073	0	1
G	GS	SV-35-15	15	17-Nov-07	75-15-0	Carbon Disulfide	0.036	UG/L	0.036	0	1
G	GS	SV-35-15	15	17-Nov-07	74-83-9	Bromomethane	0.045	UG/L	0.045	0	1
G	GS	SV-35-15	15	17-Nov-07	75-27-4	Bromodichloromethane	0.078	UG/L	0.078	0	1
G	GS	SV-35-15	15	17-Nov-07	71-43-2	Benzene	0.93	UG/L	0.93	1	1
G	GS	SV-35-15	15	17-Nov-07		4-Bromofluorobenzene	92	%		1	1
G	GS	SV-35-15	15	17-Nov-07	78-93-3	2-Butanone	0.034	UG/L	0.034	0	1
G	GS	SV-35-15	15	17-Nov-07	75-25-2	Bromoform	0.12	UG/L	0.12	0	1
G	GS	SV-35-15	15	17-Nov-07	591-78-6	2-Hexanone	0.19	UG/L	0.19	0	1
G	GS	SV-35-15	15	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.048	UG/L	0.048	0	1
G	GS	SV-35-15	15	17-Nov-07	67-64-1	Acetone	0.11	UG/L	0.11	0	1
G	GS	SV-35-15	15	17-Nov-07	107-05-1	Allyl chloride	0.14	UG/L	0.14	0	1
G	Soil	B-225-10	10		68476-30-2	TPHd			9.9	0	1
G	Soil	B-225-10	10		8006-61-9	TPHg			0.49	0	1
G	Soil	B-225-10	10		64742-47-8	TPHm			49	0	1
G	Soil	B-225-5	5		68476-30-2	TPHd			10	0	1
G	Soil	B-225-5	5		8006-61-9	TPHg			0.49	0	1
G	Soil	B-225-5	5		64742-47-8	TPHm			50	0	1
G	Soil	B-226-10	10		68476-30-2	TPHd			10	0	1
G	Soil	B-226-10	10		8006-61-9	TPHg			0.5	0	1
G	Soil	B-226-10	10		64742-47-8	TPHm			50	0	1
G	Soil	B-226-5	5		68476-30-2	TPHd			10	0	1
G	Soil	B-226-5	5		8006-61-9	TPHg			0.5	0	1
G	Soil	B-226-5	5		64742-47-8	TPHm			50	0	1
G	Soil	B-227-10	10		8006-61-9	TPHg			0.5	0	1
G	Soil	B-227-10	10		64742-47-8	TPHm			50	0	1
G	Soil	B-227-10	10		68476-30-2	TPHd			10	0	1
G	Soil	B-227-5	5		68476-30-2	TPHd			10	0	1
G	Soil	B-227-5	5		8006-61-9	TPHg			0.5	0	1
G	Soil	B-227-5	5		64742-47-8	TPHm			50	0	1
G	Soil	B-228-10	10		68476-30-2	TPHd			10	0	1
G	Soil	B-228-10	10		8006-61-9	TPHg			0.5	0	1
G	Soil	B-228-10	10		64742-47-8	TPHm			50	0	1
G	Soil	B-228-5	5		68476-30-2	TPHd			10	0	1
G	Soil	B-228-5	5		8006-61-9	TPHg			0.5	0	1
G	Soil	B-228-5	5		64742-47-8	TPHm			50	0	1
G	Soil	B-36-5	5		68476-30-2	TPHd			10	0	1
G	Soil	B-36-5	5		8006-61-9	TPHg			10	0	1
G	Soil	B-36-5	5		64742-47-8	TPHm			10	0	1
G	Soil	B-37-5	5		BaP TEQ	BaP TEQ			0.0951	1	1
G	Soil	B-37-5	5		8006-61-9	TPHg			10	0	1
G	Soil	B-37-5	5		68476-30-2	TPHd			1600	1	1
G	Soil	B-37-5	5		64742-47-8	TPHm			1400	1	1
G	Soil	B-38-5	5		8006-61-9	TPHg			10	0	1
G	Soil	B-38-5	5		64742-47-8	TPHm			10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	B-38-5	5		68476-30-2	TPHd			10	0	1
G	Soil	B-39-5	5		68476-30-2	TPHd			17	1	1
G	Soil	B-39-5	5		8006-61-9	TPHg			10	0	1
G	Soil	B-39-5	5		64742-47-8	TPHm			36	1	1
G	Soil	S-14-0.5	0.5		BaP TEQ	BaP TEQ			0.003525	0	1
G	Soil	S-14-0.5	0.5		8006-61-9	TPHg			10	0	1
G	Soil	S-14-0.5	0.5		64742-47-8	TPHm			110	1	1
G	Soil	S-14-0.5	0.5		68476-30-2	TPHd			21	1	1
G	Soil	S-14-2.5	2.5		BaP TEQ	BaP TEQ			0.02414	1	1
G	Soil	S-14-2.5	2.5		8006-61-9	TPHg			10	0	1
G	Soil	S-14-2.5	2.5		64742-47-8	TPHm			250	1	1
G	Soil	S-14-2.5	2.5		68476-30-2	TPHd			190	1	1
G	Soil	SV-35-01	1		BaP TEQ	BaP TEQ			0.10611	1	1
G	Soil	SV-35-01	1		64742-47-8	TPHm			1500	1	1
G	Soil	SV-35-01	1		68476-30-2	TPHd			3300	1	1
G	Soil	SV-35-01	1		8006-61-9	TPHg			0.7	1	1
G	Soil	SV-35-05	5		BaP TEQ	BaP TEQ			0.004089	0	1
G	Soil	SV-35-05	5		64742-47-8	TPHm			5	0	1
G	Soil	SV-35-05	5		68476-30-2	TPHd			5	0	1
G	Soil	SV-35-05	5		8006-61-9	TPHg			0.4	0	1
G	Soil	B-36-5	5	23-Sep-97	7440-66-6	Zinc	69	mg/K	69	1	1
G	Soil	B-36-5	5	23-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
G	Soil	B-36-5	5	23-Sep-97	7440-62-2	Vanadium	95	mg/K	95	1	1
G	Soil	B-36-5	5	23-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
G	Soil	B-36-5	5	23-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
G	Soil	B-36-5	5	23-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
G	Soil	B-36-5	5	23-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
G	Soil	B-36-5	5	23-Sep-97	7440-02-0	Nickel	39	mg/K	39	1	1
G	Soil	B-36-5	5	23-Sep-97	7439-98-7	Molybdenum	3.7	mg/K	3.7	1	1
G	Soil	B-36-5	5	23-Sep-97	7439-97-6	Mercury	0.4	mg/K	0.4	1	1
G	Soil	B-36-5	5	23-Sep-97	7439-92-1	Lead	6.1	mg/K	6.1	1	1
G	Soil	B-36-5	5	23-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
G	Soil	B-36-5	5	23-Sep-97	7440-50-8	Copper	21	mg/K	21	1	1
G	Soil	B-36-5	5	23-Sep-97	7440-48-4	Cobalt	2	mg/K	2	1	1
G	Soil	B-36-5	5	23-Sep-97	7440-39-3	Barium	98	mg/K	98	1	1
G	Soil	B-36-5	5	23-Sep-97	7440-47-3	Chromium	58	mg/K	58	1	1
G	Soil	B-36-5	5	23-Sep-97	7440-38-2	Arsenic	31	mg/K	31	1	1
G	Soil	B-36-5	5	23-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
G	Soil	B-36-5	5	23-Sep-97	7440-41-7	Beryllium	0.6	mg/K	0.6	1	1
G	Soil	B-36-5	5	23-Sep-97		C10-C25	10	mg/K	10	0	1
G	Soil	B-36-5	5	23-Sep-97		C1-C40	10	mg/K	10	0	1
G	Soil	B-36-5	5	23-Sep-97		C25-C40	10	mg/K	10	0	1
G	Soil	B-36-5	5	23-Sep-97		C4-C10	10	mg/K	10	0	1
G	Soil	B-36-5	5	23-Sep-97	7440-43-9	Cadmium	1.9	mg/K	1.9	1	1
G	Soil	B-36-5	5	23-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
G	Soil	B-37-1	1	18-Sep-97	7439-92-1	Lead	5.1	mg/K	5.1	1	1
G	Soil	B-37-5	5	18-Sep-97	120-12-7	Anthracene	0.05	mg/K	0.05	0	1
G	Soil	B-37-5	5	18-Sep-97		C4-C10	10	mg/K	10	0	1
G	Soil	B-37-5	5	18-Sep-97		C25-C40	1400	mg/K	1400	1	1
G	Soil	B-37-5	5	18-Sep-97		C1-C40	3000	mg/K	3000	1	1
G	Soil	B-37-5	5	18-Sep-97		C10-C25	1600	mg/K	1600	1	1
G	Soil	B-37-5	5	18-Sep-97	207-08-9	Benzo(k)fluoranthene	0.05	mg/K	0.05	0	1
G	Soil	B-37-5	5	18-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.05	mg/K	0.05	0	1
G	Soil	B-37-5	5	18-Sep-97	205-99-2	Benzo(b)fluoranthene	0.11	mg/K	0.11	1	1
G	Soil	B-37-5	5	18-Sep-97	50-32-8	Benzo(a)pyrene	0.07	mg/K	0.07	1	1
G	Soil	B-37-5	5	18-Sep-97	218-01-9	Chrysene	0.11	mg/K	0.11	1	1
G	Soil	B-37-5	5	18-Sep-97	71-43-2	Benzene	0.041	mg/K	0.041	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	B-37-5	5	18-Sep-97	91-20-3	Naphthalene	0.05	mg/K	0.05	0	1
G	Soil	B-37-5	5	18-Sep-97	56-55-3	Benzo(a)anthracene	0.05	mg/K	0.05	0	1
G	Soil	B-37-5	5	18-Sep-97	208-96-8	Acenaphthylene	0.05	mg/K	0.05	0	1
G	Soil	B-37-5	5	18-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.05	mg/K	0.05	0	1
G	Soil	B-37-5	5	18-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
G	Soil	B-37-5	5	18-Sep-97	206-44-0	Fluoranthene	0.16	mg/K	0.16	1	1
G	Soil	B-37-5	5	18-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.08	mg/K	0.08	1	1
G	Soil	B-37-5	5	18-Sep-97	85-01-8	Phenanthrene	0.22	mg/K	0.22	1	1
G	Soil	B-37-5	5	18-Sep-97	129-00-0	Pyrene	0.19	mg/K	0.19	1	1
G	Soil	B-37-5	5	18-Sep-97	83-32-9	Acenaphthene	0.05	mg/K	0.05	0	1
G	Soil	B-37-5	5	18-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
G	Soil	B-37-5	5	18-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
G	Soil	B-37-5	5	18-Sep-97	86-73-7	Fluorene	0.05	mg/K	0.05	0	1
G	Soil	B-38-1	1	18-Sep-97	7439-92-1	Lead	4	mg/K	4	1	1
G	Soil	B-38-5	5	18-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
G	Soil	B-38-5	5	18-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
G	Soil	B-38-5	5	18-Sep-97		C10-C25	10	mg/K	10	0	1
G	Soil	B-38-5	5	18-Sep-97		C25-C40	10	mg/K	10	0	1
G	Soil	B-38-5	5	18-Sep-97		C4-C10	10	mg/K	10	0	1
G	Soil	B-38-5	5	18-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
G	Soil	B-38-5	5	18-Sep-97		C1-C40	10	mg/K	10	0	1
G	Soil	B-38-5	5	18-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
G	Soil	B-39-1	1	09-Sep-97	7439-92-1	Lead	4.4	mg/K	4.4	1	1
G	Soil	B-39-5	5	09-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
G	Soil	B-39-5	5	09-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
G	Soil	B-39-5	5	09-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
G	Soil	B-39-5	5	09-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
G	Soil	B-39-5	5	09-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
G	Soil	B-39-5	5	09-Sep-97		C10-C25	17	mg/K	17	1	1
G	Soil	B-39-5	5	09-Sep-97		C1-C40	53	mg/K	53	1	1
G	Soil	B-39-5	5	09-Sep-97		C25-C40	36	mg/K	36	1	1
G	Soil	B-39-5	5	09-Sep-97		C4-C10	10	mg/K	10	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	7440-50-8	Copper	11	mg/k	11	1	1
G	Soil	S-14-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	7439-92-1	Lead	7.4	mg/k	7.4	1	1
G	Soil	S-14-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	7440-47-3	Chromium	23	mg/k	23	1	1
G	Soil	S-14-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	S-14-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	20	mg/k	20	1	1
G	Soil	S-14-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03		C25-C40	110	mg/k	110	1	1
G	Soil	S-14-0.5	0.5	05-Jun-03	7440-66-6	Zinc	34	mg/k	34	1	1
G	Soil	S-14-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.3	mg/k	0.3	1	1
G	Soil	S-14-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	7440-02-0	Nickel	37	mg/k	37	1	1
G	Soil	S-14-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	3.4	mg/k	3.4	1	1
G	Soil	S-14-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03		C10-C25	21	mg/k	21	1	1
G	Soil	S-14-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.009	mg/k	0.009	1	1
G	Soil	S-14-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	S-14-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	7440-39-3	Barium	77	mg/k	77	1	1
G	Soil	S-14-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	5.1	mg/k	5.1	1	1
G	Soil	S-14-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
G	Soil	S-14-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.013	mg/k	0.013	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.01	mg/k	0.01	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	7440-50-8	Copper	5.9	mg/k	5.9	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	206-44-0	Fluoranthene	0.011	mg/k	0.011	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	86-73-7	Fluorene	0.01	mg/k	0.01	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.012	mg/k	0.012	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03		C10-C25	190	mg/k	190	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	7440-39-3	Barium	71	mg/k	71	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	7439-92-1	Lead	9.4	mg/k	9.4	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	S-14-2.5	2.5	05-Jun-03	218-01-9	Chrysene	0.014	mg/k	0.014	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	7440-47-3	Chromium	21	mg/k	21	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	120-12-7	Anthracene	0.01	mg/k	0.01	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	83-32-9	Acenaphthene	0.01	mg/k	0.01	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	208-96-8	Acenaphthylene	0.012	mg/k	0.012	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	3.8	mg/k	3.8	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03		C25-C40	250	mg/k	250	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.019	mg/k	0.019	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.02	mg/k	0.02	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.037	mg/k	0.037	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.01	mg/k	0.01	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	16	mg/k	16	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	7440-66-6	Zinc	22	mg/k	22	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	129-00-0	Pyrene	0.012	mg/k	0.012	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.01	mg/k	0.01	0	0
G	Soil	S-14-2.5	2.5	05-Jun-03	85-01-8	Phenanthrene	0.01	mg/k	0.01	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	7440-02-0	Nickel	16	mg/k	16	1	1
G	Soil	S-14-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
G	Soil	S-14-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	56-55-3	Benzo(a)anthracene	5.1	ug/kg	0.0051	0	1
G	Soil	SV-35-01	1	12-Jul-07	91-57-6	2-Methylnaphthalene	5.1	ug/kg	0.0051	0	1
G	Soil	SV-35-01	1	12-Jul-07		4-Bromofluorobenzene	0.026	mg/k	0.026	1	0
G	Soil	SV-35-01	1	12-Jul-07		4-Bromofluorobenzene	39.6	ug/kg	0.0396	1	1
G	Soil	SV-35-01	1	12-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	SV-35-01	1	12-Jul-07	83-32-9	Acenaphthene	5.1	ug/kg	0.0051	0	1
G	Soil	SV-35-01	1	12-Jul-07	208-96-8	Acenaphthylene	5.1	ug/kg	0.0051	0	1
G	Soil	SV-35-01	1	12-Jul-07	120-12-7	Anthracene	160	ug/kg	0.16	1	1
G	Soil	SV-35-01	1	12-Jul-07		Terphenyl-d14	1200	ug/kg	1.2	1	1
G	Soil	SV-35-01	1	12-Jul-07	7440-38-2	Arsenic	2.3	mg/k	2.3	1	1
G	Soil	SV-35-01	1	12-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
G	Soil	SV-35-01	1	12-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
G	Soil	SV-35-01	1	12-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
G	Soil	SV-35-01	1	12-Jul-07		2-Fluorobiphenyl	370	ug/kg	0.37	1	1
G	Soil	SV-35-01	1	12-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
G	Soil	SV-35-01	1	12-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	129-00-0	Pyrene	570	ug/kg	0.57	1	1
G	Soil	SV-35-01	1	12-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07		Toluene-d8	38.7	ug/kg	0.0387	1	1
G	Soil	SV-35-01	1	12-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	7440-62-2	Vanadium	18	mg/k	18	1	1
G	Soil	SV-35-01	1	12-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.7	mg/k	0.7	1	1
G	Soil	SV-35-01	1	12-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
G	Soil	SV-35-01	1	12-Jul-07	7440-66-6	Zinc	13	mg/k	13	1	1
G	Soil	SV-35-01	1	12-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	90-12-0	1-Methylnaphthalene	5.1	ug/kg	0.0051	0	1
G	Soil	SV-35-01	1	12-Jul-07	7440-39-3	Barium	110	mg/k	110	1	1
G	Soil	SV-35-01	1	12-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	108-67-8	1,3,5-Trimethylbenzene	13	ug/kg	0.013	1	1
G	Soil	SV-35-01	1	12-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
G	Soil	SV-35-01	1	12-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
G	Soil	SV-35-01	1	12-Jul-07	218-01-9	Chrysene	160	ug/kg	0.16	1	1
G	Soil	SV-35-01	1	12-Jul-07		C26-C27	380	mg/k	380	1	1
G	Soil	SV-35-01	1	12-Jul-07		C28-C29	240	mg/k	240	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	SV-35-01	1	12-Jul-07		C30-C31	240	mg/k	240	1	1
G	Soil	SV-35-01	1	12-Jul-07		C32-C35	310	mg/k	310	1	1
G	Soil	SV-35-01	1	12-Jul-07		C36-C40	150	mg/k	150	1	1
G	Soil	SV-35-01	1	12-Jul-07		C22-C23	440	mg/k	440	1	1
G	Soil	SV-35-01	1	12-Jul-07		C8-C9	70	mg/k	70	0	1
G	Soil	SV-35-01	1	12-Jul-07		C20-C21	490	mg/k	490	1	1
G	Soil	SV-35-01	1	12-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	7440-47-3	Chromium	24	mg/k	24	1	1
G	Soil	SV-35-01	1	12-Jul-07		C8-C40	4700	mg/k	4700	1	1
G	Soil	SV-35-01	1	12-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	50-32-8	Benzo(a)pyrene	89	ug/kg	0.089	1	1
G	Soil	SV-35-01	1	12-Jul-07	205-99-2	Benzo(b)fluoranthene	120	ug/kg	0.12	1	1
G	Soil	SV-35-01	1	12-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
G	Soil	SV-35-01	1	12-Jul-07	207-08-9	Benzo(k)fluoranthene	5.1	ug/kg	0.0051	0	1
G	Soil	SV-35-01	1	12-Jul-07	85-01-8	Phenanthrene	160	ug/kg	0.16	1	1
G	Soil	SV-35-01	1	12-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07		C24-C25	370	mg/k	370	1	1
G	Soil	SV-35-01	1	12-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
G	Soil	SV-35-01	1	12-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07		C10-C11	110	mg/k	110	1	1
G	Soil	SV-35-01	1	12-Jul-07		C12-C13	410	mg/k	410	1	1
G	Soil	SV-35-01	1	12-Jul-07		C14-C15	550	mg/k	550	1	1
G	Soil	SV-35-01	1	12-Jul-07		C16-C17	550	mg/k	550	1	1
G	Soil	SV-35-01	1	12-Jul-07		C18-C19	470	mg/k	470	1	1
G	Soil	SV-35-01	1	12-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	7440-02-0	Nickel	11	mg/k	11	1	1
G	Soil	SV-35-01	1	12-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
G	Soil	SV-35-01	1	12-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
G	Soil	SV-35-01	1	12-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
G	Soil	SV-35-01	1	12-Jul-07	91-20-3	Naphthalene	5.1	ug/kg	0.0051	0	0
G	Soil	SV-35-01	1	12-Jul-07	7439-92-1	Lead	6.4	mg/k	6.4	1	1
G	Soil	SV-35-01	1	12-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07		Nitrobenzene-d5	5500	ug/kg	5.5	1	1
G	Soil	SV-35-01	1	12-Jul-07		n-Octacosane	34.9	mg/k	34.9	1	0
G	Soil	SV-35-01	1	12-Jul-07		n-Octacosane	35	mg/k	35	1	1
G	Soil	SV-35-01	1	12-Jul-07		ORO (C25-C40)	1500	mg/k	1500	1	1
G	Soil	SV-35-01	1	12-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	191-24-2	Benzo(g,h,i)perylene	80	ug/kg	0.08	1	1
G	Soil	SV-35-01	1	12-Jul-07	91-20-3	Naphthalene	24	ug/kg	0.024	1	1
G	Soil	SV-35-01	1	12-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	7440-48-4	Cobalt	1.6	mg/k	1.6	1	1
G	Soil	SV-35-01	1	12-Jul-07	53-70-3	Dibenz(a,h)anthracene	23	ug/kg	0.023	1	1
G	Soil	SV-35-01	1	12-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07		Dibromofluoromethane	76.6	ug/kg	0.0766	1	1
G	Soil	SV-35-01	1	12-Jul-07	7440-50-8	Copper	5.3	mg/k	5.3	1	1
G	Soil	SV-35-01	1	12-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07		DRO (C10-C24)	3300	mg/k	3300	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	SV-35-01	1	12-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-01	1	12-Jul-07	206-44-0	Fluoranthene	96	ug/kg	0.096	1	1
G	Soil	SV-35-01	1	12-Jul-07	86-73-7	Fluorene	670	ug/kg	0.67	1	1
G	Soil	SV-35-01	1	12-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	30	ug/kg	0.03	1	1
G	Soil	SV-35-01	1	12-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
G	Soil	SV-35-01	1	12-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
G	Soil	SV-35-05	5	12-Jul-07	207-08-9	Benzo(k)fluoranthene	5.8	ug/kg	0.0058	0	1
G	Soil	SV-35-05	5	12-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.8	ug/kg	0.0058	0	1
G	Soil	SV-35-05	5	12-Jul-07	205-99-2	Benzo(b)fluoranthene	5.8	ug/kg	0.0058	0	1
G	Soil	SV-35-05	5	12-Jul-07	50-32-8	Benzo(a)pyrene	5.8	ug/kg	0.0058	0	1
G	Soil	SV-35-05	5	12-Jul-07	56-55-3	Benzo(a)anthracene	5.8	ug/kg	0.0058	0	1
G	Soil	SV-35-05	5	12-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	7440-39-3	Barium	42	mg/k	42	1	1
G	Soil	SV-35-05	5	12-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
G	Soil	SV-35-05	5	12-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
G	Soil	SV-35-05	5	12-Jul-07	120-12-7	Anthracene	5.8	ug/kg	0.0058	0	1
G	Soil	SV-35-05	5	12-Jul-07	7440-38-2	Arsenic	2.6	mg/k	2.6	1	1
G	Soil	SV-35-05	5	12-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
G	Soil	SV-35-05	5	12-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
G	Soil	SV-35-05	5	12-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
G	Soil	SV-35-05	5	12-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
G	Soil	SV-35-05	5	12-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
G	Soil	SV-35-05	5	12-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
G	Soil	SV-35-05	5	12-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
G	Soil	SV-35-05	5	12-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
G	Soil	SV-35-05	5	12-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
G	Soil	SV-35-05	5	12-Jul-07	208-96-8	Acenaphthylene	5.8	ug/kg	0.0058	0	1
G	Soil	SV-35-05	5	12-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
G	Soil	SV-35-05	5	12-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
G	Soil	SV-35-05	5	12-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1
G	Soil	SV-35-05	5	12-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	83-32-9	Acenaphthene	5.8	ug/kg	0.0058	0	1
G	Soil	SV-35-05	5	12-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	SV-35-05	5	12-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	90-12-0	1-Methylnaphthalene	5.8	ug/kg	0.0058	0	1
G	Soil	SV-35-05	5	12-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07		2-Fluorobiphenyl	1000	ug/kg	1	1	1
G	Soil	SV-35-05	5	12-Jul-07	91-57-6	2-Methylnaphthalene	5.8	ug/kg	0.0058	0	1
G	Soil	SV-35-05	5	12-Jul-07		4-Bromofluorobenzene	0.0229	mg/k	0.0229	1	0
G	Soil	SV-35-05	5	12-Jul-07		4-Bromofluorobenzene	49.7	ug/kg	0.0497	1	1
G	Soil	SV-35-05	5	12-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	86-73-7	Fluorene	5.8	ug/kg	0.0058	0	1
G	Soil	SV-35-05	5	12-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	91-20-3	Naphthalene	5.8	ug/kg	0.0058	0	0
G	Soil	SV-35-05	5	12-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
G	Soil	SV-35-05	5	12-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
G	Soil	SV-35-05	5	12-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
G	Soil	SV-35-05	5	12-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
G	Soil	SV-35-05	5	12-Jul-07	7440-02-0	Nickel	7.5	mg/k	7.5	1	1
G	Soil	SV-35-05	5	12-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07		Nitrobenzene-d5	970	ug/kg	0.97	1	1
G	Soil	SV-35-05	5	12-Jul-07	206-44-0	Fluoranthene	5.8	ug/kg	0.0058	0	1
G	Soil	SV-35-05	5	12-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
G	Soil	SV-35-05	5	12-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07		Dibromofluoromethane	61.1	ug/kg	0.0611	1	1
G	Soil	SV-35-05	5	12-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.8	ug/kg	0.0058	0	1
G	Soil	SV-35-05	5	12-Jul-07	7440-50-8	Copper	4.7	mg/k	4.7	1	1
G	Soil	SV-35-05	5	12-Jul-07	7440-48-4	Cobalt	1.3	mg/k	1.3	1	1
G	Soil	SV-35-05	5	12-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.8	ug/kg	0.0058	0	1
G	Soil	SV-35-05	5	12-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
G	Soil	SV-35-05	5	12-Jul-07	7440-66-6	Zinc	17	mg/k	17	1	1
G	Soil	SV-35-05	5	12-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
G	Soil	SV-35-05	5	12-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
G	Soil	SV-35-05	5	12-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	7440-62-2	Vanadium	18	mg/k	18	1	1
G	Soil	SV-35-05	5	12-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07		Toluene-d8	48.6	ug/kg	0.0486	1	1
G	Soil	SV-35-05	5	12-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07		Terphenyl-d14	1500	ug/kg	1.5	1	1
G	Soil	SV-35-05	5	12-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
G	Soil	SV-35-05	5	12-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	SV-35-05	5	12-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	129-00-0	Pyrene	5.8	ug/kg	0.0058	0	1
G	Soil	SV-35-05	5	12-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	85-01-8	Phenanthrene	5.8	ug/kg	0.0058	0	1
G	Soil	SV-35-05	5	12-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
G	Soil	SV-35-05	5	12-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07		n-Octacosane	5.73	mg/k	5.73	1	1
G	Soil	SV-35-05	5	12-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
G	Soil	SV-35-05	5	12-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07		C8-C40	5	mg/k	5	0	1
G	Soil	SV-35-05	5	12-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
G	Soil	SV-35-05	5	12-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
G	Soil	SV-35-05	5	12-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
G	Soil	SV-35-05	5	12-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
G	Soil	SV-35-05	5	12-Jul-07	7440-47-3	Chromium	26	mg/k	26	1	1
G	Soil	SV-35-05	5	12-Jul-07	218-01-9	Chrysene	5.8	ug/kg	0.0058	0	1
G	Soil	SV-35-05	5	12-Jul-07	7439-92-1	Lead	3.8	mg/k	3.8	1	1
G	Soil	SV-35-05	5	12-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
G	Soil	B-225-10	10	21-Jun-11	95-49-8	2-Chlorotoluene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	156-60-5	trans-1,2-Dichloroethene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11		TPH Oil Crude (C25-C40)	49	mg/k	49	0	1
G	Soil	B-225-10	10	21-Jun-11		TPH Diesel (C10-C25)	9.9	mg/k	9.9	0	1
G	Soil	B-225-10	10	21-Jun-11	99-87-6	p-Isopropyltoluene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	994-05-8	Tert-amyl methyl ether	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	98-82-8	Isopropylbenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	98-06-6	tert-Butylbenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	96-18-4	1,2,3-Trichloropropane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	96-12-8	1,2-Dibromo-3-chloropropane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	95-63-6	1,2,4-Trimethylbenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	95-50-1	1,2-Dichlorobenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	108-86-1	Bromobenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	563-58-6	1,1-Dichloropropene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	56-23-5	Carbon tetrachloride	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	1634-04-4	Methyl tert-butyl ether	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	91-20-3	Naphthalene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	142-28-9	1,3-Dichloropropane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	541-73-1	1,3-Dichlorobenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	135-98-8	sec-Butylbenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	1330-20-7	Xylenes (total)	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	127-18-4	Tetrachloroethene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	124-48-1	Dibromochloromethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	120-82-1	1,2,4-Trichlorobenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	594-20-7	2,2-Dichloropropane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	108-88-3	Toluene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	156-59-2	cis-1,2-Dichloroethene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	108-67-8	1,3,5-Trimethylbenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	108-20-3	Isopropyl ether	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	107-06-2	1,2-Dichloroethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	106-93-4	1,2-Dibromoethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	106-46-7	1,4-Dichlorobenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	106-43-4	4-Chlorotoluene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	104-51-8	n-Butylbenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	103-65-1	n-Propylbenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	10061-02-6	trans-1,3-Dichloropropene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	10061-01-5	cis-1,3-Dichloropropene	0.0049	mg/k	0.0049	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	B-225-10	10	21-Jun-11	100-42-5	Styrene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	100-41-4	Ethylbenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	108-90-7	Chlorobenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	75-65-0	tert-Butyl alcohol	0.025	mg/k	0.025	0	1
G	Soil	B-225-10	10	21-Jun-11	87-68-3	Hexachlorobutadiene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	87-61-6	1,2,3-Trichlorobenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11		TPH Gasoline (C4-C10)	0.49	mg/k	0.49	0	1
G	Soil	B-225-10	10	21-Jun-11	79-34-5	1,1,2,2-Tetrachloroethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	79-01-6	Trichloroethene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	79-00-5	1,1,2-Trichloroethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	78-87-5	1,2-Dichloropropane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	75-69-4	Trichlorofluoromethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	630-20-6	1,1,1,2-Tetrachloroethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	75-35-4	1,1-Dichloroethene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	75-34-3	1,1-Dichloroethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	75-27-4	Bromodichloromethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	75-25-2	Bromoform	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	67-66-3	Chloroform	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	75-71-8	Dichlorodifluoromethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	64-17-5	Ethanol	4.9	mg/k	4.9	0	1
G	Soil	B-225-10	10	21-Jun-11	75-09-2	Methylene chloride	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	71-43-2	Benzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	71-55-6	1,1,1-Trichloroethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	74-83-9	Bromomethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	74-95-3	Dibromomethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	74-97-5	Bromochloromethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	75-00-3	Chloroethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	75-01-4	Vinyl chloride	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	74-87-3	Chloromethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-10	10	21-Jun-11	637-92-3	Ethyl tert butyl ether	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11		TPH Diesel (C10-C25)	10	mg/k	10	0	1
G	Soil	B-225-5	5	21-Jun-11	95-50-1	1,2-Dichlorobenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	95-63-6	1,2,4-Trimethylbenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	96-12-8	1,2-Dibromo-3-chloropropane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	96-18-4	1,2,3-Trichloropropane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	98-06-6	tert-Butylbenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	98-82-8	Isopropylbenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	99-87-6	p-Isopropyltoluene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11		TPH Oil Crude (C25-C40)	50	mg/k	50	0	1
G	Soil	B-225-5	5	21-Jun-11	95-49-8	2-Chlorotoluene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	156-60-5	trans-1,2-Dichloroethene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	994-05-8	Tert-amyl methyl ether	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	74-83-9	Bromomethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	75-35-4	1,1-Dichloroethene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	56-23-5	Carbon tetrachloride	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	563-58-6	1,1-Dichloropropene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	594-20-7	2,2-Dichloropropane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	630-20-6	1,1,1,2-Tetrachloroethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	637-92-3	Ethyl tert butyl ether	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	64-17-5	Ethanol	4.9	mg/k	4.9	0	1
G	Soil	B-225-5	5	21-Jun-11	67-66-3	Chloroform	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	156-59-2	cis-1,2-Dichloroethene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	71-55-6	1,1,1-Trichloroethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	142-28-9	1,3-Dichloropropane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	74-87-3	Chloromethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	74-95-3	Dibromomethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	74-97-5	Bromochloromethane	0.0049	mg/k	0.0049	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	B-225-5	5	21-Jun-11	75-00-3	Chloroethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	75-01-4	Vinyl chloride	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	75-09-2	Methylene chloride	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	75-25-2	Bromoform	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	75-27-4	Bromodichloromethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	75-34-3	1,1-Dichloroethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	71-43-2	Benzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	106-93-4	1,2-Dibromoethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	541-73-1	1,3-Dichlorobenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	91-20-3	Naphthalene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	100-41-4	Ethylbenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	100-42-5	Styrene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	10061-01-5	cis-1,3-Dichloropropene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	10061-02-6	trans-1,3-Dichloropropene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	103-65-1	n-Propylbenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	104-51-8	n-Butylbenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	1634-04-4	Methyl tert-butyl ether	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	106-46-7	1,4-Dichlorobenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	1330-20-7	Xylenes (total)	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	107-06-2	1,2-Dichloroethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	108-20-3	Isopropyl ether	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	108-67-8	1,3,5-Trimethylbenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	108-86-1	Bromobenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	108-88-3	Toluene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	108-90-7	Chlorobenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	120-82-1	1,2,4-Trichlorobenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	127-18-4	Tetrachloroethene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	135-98-8	sec-Butylbenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	106-43-4	4-Chlorotoluene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	79-00-5	1,1,2-Trichloroethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	75-69-4	Trichlorofluoromethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	78-87-5	1,2-Dichloropropane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	75-65-0	tert-Butyl alcohol	0.025	mg/k	0.025	0	1
G	Soil	B-225-5	5	21-Jun-11	79-01-6	Trichloroethene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	79-34-5	1,1,2,2-Tetrachloroethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11		TPH Gasoline (C4-C10)	0.49	mg/k	0.49	0	1
G	Soil	B-225-5	5	21-Jun-11	124-48-1	Dibromochloromethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	87-61-6	1,2,3-Trichlorobenzene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	87-68-3	Hexachlorobutadiene	0.0049	mg/k	0.0049	0	1
G	Soil	B-225-5	5	21-Jun-11	75-71-8	Dichlorodifluoromethane	0.0049	mg/k	0.0049	0	1
G	Soil	B-226-10	10	22-Jun-11	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	1634-04-4	Methyl tert-butyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	120-82-1	1,2,4-Trichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	64-17-5	Ethanol	5	mg/k	5	0	1
G	Soil	B-226-10	10	22-Jun-11	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	67-66-3	Chloroform	0.0073	mg/k	0.0073	1	1
G	Soil	B-226-10	10	22-Jun-11	637-92-3	Ethyl tert butyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	B-226-10	10	22-Jun-11	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	100-42-5	Styrene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	108-20-3	Isopropyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	71-43-2	Benzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	108-88-3	Toluene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	96-12-8	1,2-Dibromo-3-chloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
G	Soil	B-226-10	10	22-Jun-11	87-61-6	1,2,3-Trichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11		TPH Oil Crude (C25-C40)	50	mg/k	50	0	1
G	Soil	B-226-10	10	22-Jun-11	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	994-05-8	Tert-amyl methyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11		TPH Diesel (C10-C25)	10	mg/k	10	0	1
G	Soil	B-226-10	10	22-Jun-11	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	75-65-0	tert-Butyl alcohol	0.025	mg/k	0.025	0	1
G	Soil	B-226-10	10	22-Jun-11	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
G	Soil	B-226-10	10	22-Jun-11	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	71-43-2	Benzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	B-226-5	5	22-Jun-11	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	100-42-5	Styrene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	108-88-3	Toluene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	120-82-1	1,2,4-Trichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	64-17-5	Ethanol	5	mg/k	5	0	1
G	Soil	B-226-5	5	22-Jun-11	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	637-92-3	Ethyl tert butyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	108-20-3	Isopropyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	1634-04-4	Methyl tert-butyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	96-12-8	1,2-Dibromo-3-chloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11		TPH Oil Crude (C25-C40)	50	mg/k	50	0	1
G	Soil	B-226-5	5	22-Jun-11		TPH Diesel (C10-C25)	10	mg/k	10	0	1
G	Soil	B-226-5	5	22-Jun-11	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	994-05-8	Tert-amyl methyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	87-61-6	1,2,3-Trichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
G	Soil	B-226-5	5	22-Jun-11	75-65-0	tert-Butyl alcohol	0.025	mg/k	0.025	0	1
G	Soil	B-226-5	5	22-Jun-11	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	B-226-5	5	22-Jun-11	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-226-5	5	22-Jun-11	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	100-42-5	Styrene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11		TPH Oil Crude (C25-C40)	50	mg/k	50	0	1
G	Soil	B-227-10	10	23-Jun-11		TPH Diesel (C10-C25)	10	mg/k	10	0	1
G	Soil	B-227-10	10	23-Jun-11	96-12-8	1,2-Dibromo-3-chloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	994-05-8	Tert-amyl methyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	637-92-3	Ethyl tert butyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	71-43-2	Benzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	64-17-5	Ethanol	5	mg/k	5	0	1
G	Soil	B-227-10	10	23-Jun-11	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	108-20-3	Isopropyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	1634-04-4	Methyl tert-butyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	108-88-3	Toluene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	120-82-1	1,2,4-Trichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	B-227-10	10	23-Jun-11	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	87-61-6	1,2,3-Trichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
G	Soil	B-227-10	10	23-Jun-11	75-65-0	tert-Butyl alcohol	0.025	mg/k	0.025	0	1
G	Soil	B-227-10	10	23-Jun-11	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-10	10	23-Jun-11	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	75-65-0	tert-Butyl alcohol	0.025	mg/k	0.025	0	1
G	Soil	B-227-5	5	23-Jun-11	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11		TPH Diesel (C10-C25)	10	mg/k	10	0	1
G	Soil	B-227-5	5	23-Jun-11	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	96-12-8	1,2-Dibromo-3-chloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11		TPH Oil Crude (C25-C40)	50	mg/k	50	0	1
G	Soil	B-227-5	5	23-Jun-11	994-05-8	Tert-amyl methyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	87-61-6	1,2,3-Trichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
G	Soil	B-227-5	5	23-Jun-11	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	120-82-1	1,2,4-Trichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	108-88-3	Toluene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	100-42-5	Styrene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	B-227-5	5	23-Jun-11	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	108-20-3	Isopropyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	64-17-5	Ethanol	5	mg/k	5	0	1
G	Soil	B-227-5	5	23-Jun-11	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	71-43-2	Benzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	637-92-3	Ethyl tert butyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	1634-04-4	Methyl tert-butyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
G	Soil	B-227-5	5	23-Jun-11	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	1634-04-4	Methyl tert-butyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	120-82-1	1,2,4-Trichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	108-88-3	Toluene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11		TPH Diesel (C10-C25)	10	mg/k	10	0	1
G	Soil	B-228-10	10	23-Jun-11	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	100-42-5	Styrene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11		TPH Oil Crude (C25-C40)	50	mg/k	50	0	1
G	Soil	B-228-10	10	23-Jun-11	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	108-20-3	Isopropyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	B-228-10	10	23-Jun-11	87-61-6	1,2,3-Trichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	96-12-8	1,2-Dibromo-3-chloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	994-05-8	Tert-amyl methyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	637-92-3	Ethyl tert butyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	64-17-5	Ethanol	5	mg/k	5	0	1
G	Soil	B-228-10	10	23-Jun-11	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	71-43-2	Benzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-228-10	10	23-Jun-11	75-65-0	tert-Butyl alcohol	0.025	mg/k	0.025	0	1
G	Soil	B-228-10	10	23-Jun-11	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	96-12-8	1,2-Dibromo-3-chloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	75-65-0	tert-Butyl alcohol	0.025	mg/k	0.025	0	1
G	Soil	B-228-5	5	23-Jun-11	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	994-05-8	Tert-amyl methyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
G	Soil	B-228-5	5	23-Jun-11	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	87-61-6	1,2,3-Trichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
G	Soil	B-228-5	5	23-Jun-11	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	64-17-5	Ethanol	5	mg/k	5	0	1
G	Soil	B-228-5	5	23-Jun-11	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	71-43-2	Benzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	108-20-3	Isopropyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	108-88-3	Toluene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	100-42-5	Styrene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11		TPH Oil Crude (C25-C40)	50	mg/k	50	0	1
G	Soil	B-228-5	5	23-Jun-11	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	637-92-3	Ethyl tert butyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	1634-04-4	Methyl tert-butyl ether	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11		TPH Diesel (C10-C25)	10	mg/k	10	0	1
G	Soil	B-228-5	5	23-Jun-11	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	120-82-1	1,2,4-Trichlorobenzene	0.005	mg/k	0.005	0	1
G	Soil	B-228-5	5	23-Jun-11	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	GS	SP-7-10	10	30-Apr-01		2,2-dimethyl propane	10	ppmv		0	1
Ia	GS	SP-7-10	10	30-Apr-01		Propene	0.15	ppmv		1	1
Ia	GS	SP-7-10	10	30-Apr-01		1-butene	4.12	ppmv		1	1
Ia	GS	SP-7-10	10	30-Apr-01		1-pentene	0.5	ppmv		1	1
Ia	GS	SP-7-10	10	30-Apr-01		Ethene	0.13	ppmv		1	1
Ia	GS	SP-7-10	10	30-Apr-01		i-butane	0.11	ppmv		1	1
Ia	GS	SP-7-10	10	30-Apr-01		i-pentane	0.37	ppmv		1	1
Ia	GS	SP-7-10	10	30-Apr-01	74-82-8	Methane	26.45	ppmv		1	1
Ia	GS	SP-7-10	10	30-Apr-01		n-butane	0.16	ppmv		1	1
Ia	GS	SP-7-10	10	30-Apr-01		propane	0.09	ppmv		1	1
Ia	GS	SP-7-10	10	30-Apr-01		Ethane	0.11	ppmv		1	1
Ia	GS	SP-7-10	10	30-Apr-01		n-pentane	0.28	ppmv		1	1
Ia	GS	SP-7-15	15	30-Apr-01		propane	0.14	ppmv		1	1
Ia	GS	SP-7-15	15	30-Apr-01		1-butene	4.41	ppmv		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	GS	SP-7-15	15	30-Apr-01		2,2-dimethyl propane	10	ppmv		0	1
Ia	GS	SP-7-15	15	30-Apr-01		Ethane	0.22	ppmv		1	1
Ia	GS	SP-7-15	15	30-Apr-01		Ethene	0.4	ppmv		1	1
Ia	GS	SP-7-15	15	30-Apr-01		i-butane	0.1	ppmv		1	1
Ia	GS	SP-7-15	15	30-Apr-01		i-pentane	0.22	ppmv		1	1
Ia	GS	SP-7-15	15	30-Apr-01	74-82-8	Methane	16.31	ppmv		1	1
Ia	GS	SP-7-15	15	30-Apr-01		Propene	0.26	ppmv		1	1
Ia	GS	SP-7-15	15	30-Apr-01		n-pentane	0.31	ppmv		1	1
Ia	GS	SP-7-15	15	30-Apr-01		1-pentene	0.48	ppmv		1	1
Ia	GS	SP-7-15	15	30-Apr-01		n-butane	0.16	ppmv		1	1
Ia	GS	SP-7-6	6	30-Apr-01		propane	0.08	ppmv		1	1
Ia	GS	SP-7-6	6	30-Apr-01		n-pentane	0.21	ppmv		1	1
Ia	GS	SP-7-6	6	30-Apr-01		n-butane	0.18	ppmv		1	1
Ia	GS	SP-7-6	6	30-Apr-01	74-82-8	Methane	32.41	ppmv		1	1
Ia	GS	SP-7-6	6	30-Apr-01		i-pentane	0.27	ppmv		1	1
Ia	GS	SP-7-6	6	30-Apr-01		i-butane	0.11	ppmv		1	1
Ia	GS	SP-7-6	6	30-Apr-01		Ethene	0.16	ppmv		1	1
Ia	GS	SP-7-6	6	30-Apr-01		Ethane	0.33	ppmv		1	1
Ia	GS	SP-7-6	6	30-Apr-01		2,2-dimethyl propane	10	ppmv		0	1
Ia	GS	SP-7-6	6	30-Apr-01		1-pentene	0.86	ppmv		1	1
Ia	GS	SP-7-6	6	30-Apr-01		1-butene	4.24	ppmv		1	1
Ia	GS	SP-7-6	6	30-Apr-01		Propene	0.16	ppmv		1	1
Ia	GS	SP-7-10	10	18-Oct-01	74-82-8	Methane	84.68	ppmv		1	1
Ia	GS	SP-7-10	10	18-Oct-01		i-pentane	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	18-Oct-01		Propene	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	18-Oct-01		propane	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	18-Oct-01		n-pentane	0.24	ppmv		1	1
Ia	GS	SP-7-10	10	18-Oct-01		n-C5	10	ppmv		0	1
Ia	GS	SP-7-10	10	18-Oct-01		n-C4	10	ppmv		0	1
Ia	GS	SP-7-10	10	18-Oct-01		1-butene	5.53	ppmv		1	1
Ia	GS	SP-7-10	10	18-Oct-01		i-C5	10	ppmv		0	1
Ia	GS	SP-7-10	10	18-Oct-01		i-C4	10	ppmv		0	1
Ia	GS	SP-7-10	10	18-Oct-01		C1	10	ppmv		0	1
Ia	GS	SP-7-10	10	18-Oct-01		1-pentene	0.47	ppmv		1	1
Ia	GS	SP-7-10	10	18-Oct-01		n-butane	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
Ia	GS	SP-7-10	10	18-Oct-01		i-butane	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	18-Oct-01		C2	10	ppmv		0	1
Ia	GS	SP-7-10	10	18-Oct-01		C3	10	ppmv		0	1
Ia	GS	SP-7-10	10	18-Oct-01		Ethane	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	18-Oct-01		Ethene	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	18-Oct-01		Ethene	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	18-Oct-01		n-pentane	0.33	ppmv		1	1
Ia	GS	SP-7-15	15	18-Oct-01		1-butene	5.7	ppmv		1	1
Ia	GS	SP-7-15	15	18-Oct-01		1-pentene	0.33	ppmv		1	1
Ia	GS	SP-7-15	15	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	18-Oct-01	71-43-2	Benzene	0.29	ppmv		1	1
Ia	GS	SP-7-15	15	18-Oct-01		Ethane	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	18-Oct-01		i-pentane	0.14	ppmv		1	1
Ia	GS	SP-7-15	15	18-Oct-01		n-butane	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	18-Oct-01		propane	0.22	ppmv		1	1
Ia	GS	SP-7-15	15	18-Oct-01		Propene	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	18-Oct-01		i-butane	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	18-Oct-01	74-82-8	Methane	4.21	ppmv		1	1
Ia	GS	SP-7-6	6	18-Oct-01		1-butene	6.02	ppmv		1	1
Ia	GS	SP-7-6	6	18-Oct-01		Ethene	0.1	ppmv		0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	GS	SP-7-6	6	18-Oct-01		i-butane	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	18-Oct-01		i-pentane	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	18-Oct-01	74-82-8	Methane	5.81	ppmv		1	1
Ia	GS	SP-7-6	6	18-Oct-01		n-butane	0.28	ppmv		1	1
Ia	GS	SP-7-6	6	18-Oct-01		n-pentane	0.25	ppmv		1	1
Ia	GS	SP-7-6	6	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
Ia	GS	SP-7-6	6	18-Oct-01		1-pentene	0.26	ppmv		1	1
Ia	GS	SP-7-6	6	18-Oct-01		Propene	0.23	ppmv		1	1
Ia	GS	SP-7-6	6	18-Oct-01		propane	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	18-Oct-01		Ethane	0.34	ppmv		1	1
Ia	GS	SP-7-6	6	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	09-Apr-02		n-C5	23	ppmv		1	1
Ia	GS	SP-7-10	10	09-Apr-02		n-butane	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	09-Apr-02		1-butene	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	09-Apr-02		1-pentene	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	09-Apr-02		2,2-dimethyl propane	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	09-Apr-02		C1	10	ppmv		0	1
Ia	GS	SP-7-10	10	09-Apr-02		C2	10	ppmv		0	1
Ia	GS	SP-7-10	10	09-Apr-02		C3	10	ppmv		0	1
Ia	GS	SP-7-10	10	09-Apr-02		Ethane	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	09-Apr-02		Ethene	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	09-Apr-02		i-butane	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	09-Apr-02		i-C4	10	ppmv		0	1
Ia	GS	SP-7-10	10	09-Apr-02		i-C5	32	ppmv		1	1
Ia	GS	SP-7-10	10	09-Apr-02		propane	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	09-Apr-02	74-82-8	Methane	4.1	ppmv		1	1
Ia	GS	SP-7-10	10	09-Apr-02		Propene	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	09-Apr-02		n-C4	10	ppmv		0	1
Ia	GS	SP-7-10	10	09-Apr-02		n-pentane	0.12	ppmv		1	1
Ia	GS	SP-7-10	10	09-Apr-02		i-pentane	0.11	ppmv		1	1
Ia	GS	SP-7-15	15	09-Apr-02		Ethene	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	09-Apr-02		i-pentane	0.14	ppmv		1	1
Ia	GS	SP-7-15	15	09-Apr-02	74-82-8	Methane	14.43	ppmv		1	1
Ia	GS	SP-7-15	15	09-Apr-02		n-butane	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	09-Apr-02		n-pentane	0.17	ppmv		1	1
Ia	GS	SP-7-15	15	09-Apr-02		propane	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	09-Apr-02		Propene	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	09-Apr-02		Ethane	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	09-Apr-02		2,2-dimethyl propane	0.11	ppmv		1	1
Ia	GS	SP-7-15	15	09-Apr-02		1-butene	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	09-Apr-02		i-butane	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	09-Apr-02		1-pentene	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	09-Apr-02		Ethane	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	09-Apr-02		Propene	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	09-Apr-02		propane	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	09-Apr-02		n-pentane	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	09-Apr-02		n-butane	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	09-Apr-02	74-82-8	Methane	6.67	ppmv		1	1
Ia	GS	SP-7-6	6	09-Apr-02		i-pentane	0.15	ppmv		1	1
Ia	GS	SP-7-6	6	09-Apr-02		Ethene	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	09-Apr-02		2,2-dimethyl propane	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	09-Apr-02		1-pentene	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	09-Apr-02		1-butene	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	09-Apr-02		i-butane	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	24-Sep-02		2,2-dimethyl propane	0.85	ppmv		1	1
Ia	GS	SP-7-10	10	24-Sep-02		Propene	0.18	ppmv		1	1
Ia	GS	SP-7-10	10	24-Sep-02		1-pentene	0.14	ppmv		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	GS	SP-7-10	10	24-Sep-02		Ethane	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	24-Sep-02		Ethene	0.1	ppmv		1	1
Ia	GS	SP-7-10	10	24-Sep-02		i-butane	0.41	ppmv		1	1
Ia	GS	SP-7-10	10	24-Sep-02		i-pentane	0.15	ppmv		1	1
Ia	GS	SP-7-10	10	24-Sep-02	74-82-8	Methane	94.34	ppmv		1	1
Ia	GS	SP-7-10	10	24-Sep-02		n-butane	0.27	ppmv		1	1
Ia	GS	SP-7-10	10	24-Sep-02		propane	0.39	ppmv		1	1
Ia	GS	SP-7-10	10	24-Sep-02		1-butene	0.1	ppmv		0	1
Ia	GS	SP-7-10	10	24-Sep-02		n-pentane	9.57	ppmv		1	1
Ia	GS	SP-7-15	15	24-Sep-02		2,2-dimethyl propane	0.45	ppmv		1	1
Ia	GS	SP-7-15	15	24-Sep-02		Ethene	0.12	ppmv		1	1
Ia	GS	SP-7-15	15	24-Sep-02		Ethane	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	24-Sep-02		i-butane	0.14	ppmv		1	1
Ia	GS	SP-7-15	15	24-Sep-02		1-pentene	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	24-Sep-02		Propene	0.12	ppmv		1	1
Ia	GS	SP-7-15	15	24-Sep-02		propane	0.13	ppmv		1	1
Ia	GS	SP-7-15	15	24-Sep-02	74-82-8	Methane	48.84	ppmv		1	1
Ia	GS	SP-7-15	15	24-Sep-02		n-butane	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	24-Sep-02		n-pentane	3.05	ppmv		1	1
Ia	GS	SP-7-15	15	24-Sep-02		i-pentane	0.1	ppmv		0	1
Ia	GS	SP-7-15	15	24-Sep-02		1-butene	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	24-Sep-02		n-pentane	1.76	ppmv		1	1
Ia	GS	SP-7-6	6	24-Sep-02		1-pentene	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	24-Sep-02		Ethane	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	24-Sep-02		Ethene	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	24-Sep-02		i-butane	0.12	ppmv		1	1
Ia	GS	SP-7-6	6	24-Sep-02		i-pentane	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	24-Sep-02		n-butane	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	24-Sep-02		1-butene	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	24-Sep-02		propane	0.1	ppmv		0	1
Ia	GS	SP-7-6	6	24-Sep-02		Propene	0.11	ppmv		1	1
Ia	GS	SP-7-6	6	24-Sep-02		2,2-dimethyl propane	0.2	ppmv		1	1
Ia	GS	SP-7-6	6	24-Sep-02	74-82-8	Methane	85.29	ppmv		1	1
Ia	GS	SV-12-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
Ia	GS	SV-12-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
Ia	GS	SV-12-05	5	19-Jul-07	74-82-8	Methane	0.0005	%		1	1
Ia	GS	SV-12-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.03	ug/L	0.03	1	1
Ia	GS	SV-12-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1
Ia	GS	SV-12-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
Ia	GS	SV-12-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	1	1
Ia	GS	SV-12-05	5	19-Jul-07	110-54-3	Hexane	0.0045	ug/L	0.0045	0	1
Ia	GS	SV-12-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
Ia	GS	SV-12-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.009	ug/L	0.009	1	1
Ia	GS	SV-12-05	5	19-Jul-07	142-82-5	n-Heptane	0.0053	ug/L	0.0053	0	1
Ia	GS	SV-12-05	5	19-Jul-07		Ethene	0.0026	%		0	1
Ia	GS	SV-12-05	5	19-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
Ia	GS	SV-12-05	5	19-Jul-07		Ethane	0.0026	%		0	1
Ia	GS	SV-12-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
Ia	GS	SV-12-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Ia	GS	SV-12-05	5	19-Jul-07	110-82-7	Cyclohexane	0.014	ug/L	0.014	1	1
Ia	GS	SV-12-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
Ia	GS	SV-12-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
Ia	GS	SV-12-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
Ia	GS	SV-12-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Ia	GS	SV-12-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
Ia	GS	SV-12-05	5	19-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
Ia	GS	SV-12-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	GS	SV-12-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
Ia	GS	SV-12-05	5	19-Jul-07		Toluene-d8	94	%		1	1
Ia	GS	SV-12-05	5	19-Jul-07	108-88-3	Toluene	0.046	ug/L	0.046	1	1
Ia	GS	SV-12-05	5	19-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
Ia	GS	SV-12-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1
Ia	GS	SV-12-05	5	19-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
Ia	GS	SV-12-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
Ia	GS	SV-12-05	5	19-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
Ia	GS	SV-12-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.0063	ug/L	0.0063	0	1
Ia	GS	SV-12-05	5	19-Jul-07	95-47-6	o-Xylene	0.0072	ug/L	0.0072	1	1
Ia	GS	SV-12-05	5	19-Jul-07		Oxygen	21	%		1	1
Ia	GS	SV-12-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.0063	ug/L	0.0063	0	1
Ia	GS	SV-12-05	5	19-Jul-07		Nitrogen	78	%		1	1
Ia	GS	SV-12-05	5	19-Jul-07	67-66-3	Chloroform	0.077	ug/L	0.077	1	1
Ia	GS	SV-12-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.0038	ug/L	0.0038	0	1
Ia	GS	SV-12-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
Ia	GS	SV-12-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
Ia	GS	SV-12-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
Ia	GS	SV-12-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
Ia	GS	SV-12-05	5	19-Jul-07		1,2-Dichloroethane-d4	102	%		1	1
Ia	GS	SV-12-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
Ia	GS	SV-12-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Ia	GS	SV-12-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
Ia	GS	SV-12-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Ia	GS	SV-12-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0077	ug/L	0.0077	1	1
Ia	GS	SV-12-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Ia	GS	SV-12-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
Ia	GS	SV-12-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
Ia	GS	SV-12-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
Ia	GS	SV-12-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
Ia	GS	SV-12-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
Ia	GS	SV-12-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
Ia	GS	SV-12-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
Ia	GS	SV-12-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
Ia	GS	SV-12-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
Ia	GS	SV-12-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.015	ug/L	0.015	1	1
Ia	GS	SV-12-05	5	19-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Ia	GS	SV-12-05	5	19-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
Ia	GS	SV-12-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
Ia	GS	SV-12-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
Ia	GS	SV-12-05	5	19-Jul-07		Carbon Monoxide	0.026	%		0	1
Ia	GS	SV-12-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.11	ug/L	0.11	1	1
Ia	GS	SV-12-05	5	19-Jul-07		Carbon Dioxide	0.43	%		1	1
Ia	GS	SV-12-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
Ia	GS	SV-12-05	5	19-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Ia	GS	SV-12-05	5	19-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
Ia	GS	SV-12-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
Ia	GS	SV-12-05	5	19-Jul-07	71-43-2	Benzene	0.0084	ug/L	0.0084	1	1
Ia	GS	SV-12-05	5	19-Jul-07	67-64-1	Acetone	0.027	ug/L	0.027	1	1
Ia	GS	SV-12-05	5	19-Jul-07		4-Bromofluorobenzene	88	%		1	1
Ia	GS	SV-12-05	5	19-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
Ia	GS	SV-12-05	5	19-Jul-07	78-93-3	2-Butanone	0.0095	ug/L	0.0095	1	1
Ia	GS	SV-12-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.006	ug/L	0.006	0	1
Ia	GS	SV-12-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Ia	GS	SV-12-05	5	19-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
Ia	GS	SV-12-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
Ia	GS	SV-12-15	15	19-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	GS	SV-12-15	15	19-Jul-07	74-82-8	Methane	0.00026	%		0	1
Ia	GS	SV-12-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	0.0071	ug/L	0.0071	1	1
Ia	GS	SV-12-15	15	19-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1
Ia	GS	SV-12-15	15	19-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
Ia	GS	SV-12-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
Ia	GS	SV-12-15	15	19-Jul-07	110-54-3	Hexane	0.0053	ug/L	0.0053	1	1
Ia	GS	SV-12-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
Ia	GS	SV-12-15	15	19-Jul-07	100-41-4	Ethylbenzene	0.0056	ug/L	0.0056	0	1
Ia	GS	SV-12-15	15	19-Jul-07	67-66-3	Chloroform	0.041	ug/L	0.041	1	1
Ia	GS	SV-12-15	15	19-Jul-07		Ethene	0.0026	%		0	1
Ia	GS	SV-12-15	15	19-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
Ia	GS	SV-12-15	15	19-Jul-07		Ethane	0.0026	%		0	1
Ia	GS	SV-12-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
Ia	GS	SV-12-15	15	19-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Ia	GS	SV-12-15	15	19-Jul-07	110-82-7	Cyclohexane	0.012	ug/L	0.012	1	1
Ia	GS	SV-12-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
Ia	GS	SV-12-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
Ia	GS	SV-12-15	15	19-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
Ia	GS	SV-12-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
Ia	GS	SV-12-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
Ia	GS	SV-12-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Ia	GS	SV-12-15	15	19-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
Ia	GS	SV-12-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
Ia	GS	SV-12-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
Ia	GS	SV-12-15	15	19-Jul-07		Toluene-d8	94	%		1	1
Ia	GS	SV-12-15	15	19-Jul-07	108-88-3	Toluene	0.016	ug/L	0.016	1	1
Ia	GS	SV-12-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	0.0038	ug/L	0.0038	0	1
Ia	GS	SV-12-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
Ia	GS	SV-12-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
Ia	GS	SV-12-15	15	19-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
Ia	GS	SV-12-15	15	19-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
Ia	GS	SV-12-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	0.0063	ug/L	0.0063	0	1
Ia	GS	SV-12-15	15	19-Jul-07	95-47-6	o-Xylene	0.0056	ug/L	0.0056	0	1
Ia	GS	SV-12-15	15	19-Jul-07		Oxygen	17	%		1	1
Ia	GS	SV-12-15	15	19-Jul-07	103-65-1	n-Propylbenzene	0.0063	ug/L	0.0063	0	1
Ia	GS	SV-12-15	15	19-Jul-07		Nitrogen	79	%		1	1
Ia	GS	SV-12-15	15	19-Jul-07	142-82-5	n-Heptane	0.0053	ug/L	0.0053	0	1
Ia	GS	SV-12-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
Ia	GS	SV-12-15	15	19-Jul-07	127-18-4	Tetrachloroethene	0.014	ug/L	0.014	1	1
Ia	GS	SV-12-15	15	19-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
Ia	GS	SV-12-15	15	19-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
Ia	GS	SV-12-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
Ia	GS	SV-12-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
Ia	GS	SV-12-15	15	19-Jul-07		1,2-Dichloroethane-d4	102	%		1	1
Ia	GS	SV-12-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
Ia	GS	SV-12-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Ia	GS	SV-12-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
Ia	GS	SV-12-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Ia	GS	SV-12-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
Ia	GS	SV-12-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
Ia	GS	SV-12-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
Ia	GS	SV-12-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
Ia	GS	SV-12-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
Ia	GS	SV-12-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
Ia	GS	SV-12-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
Ia	GS	SV-12-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
Ia	GS	SV-12-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	GS	SV-12-15	15	19-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
Ia	GS	SV-12-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
Ia	GS	SV-12-15	15	19-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
Ia	GS	SV-12-15	15	19-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
Ia	GS	SV-12-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
Ia	GS	SV-12-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Ia	GS	SV-12-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
Ia	GS	SV-12-15	15	19-Jul-07		Carbon Monoxide	0.026	%		0	1
Ia	GS	SV-12-15	15	19-Jul-07		Carbon Dioxide	4.4	%		1	1
Ia	GS	SV-12-15	15	19-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Ia	GS	SV-12-15	15	19-Jul-07	75-27-4	Bromodichloromethane	0.0086	ug/L	0.0086	0	1
Ia	GS	SV-12-15	15	19-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
Ia	GS	SV-12-15	15	19-Jul-07	78-93-3	2-Butanone	0.014	ug/L	0.014	1	1
Ia	GS	SV-12-15	15	19-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Ia	GS	SV-12-15	15	19-Jul-07	75-15-0	Carbon Disulfide	0.02	ug/L	0.02	1	1
Ia	GS	SV-12-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.006	ug/L	0.006	0	1
Ia	GS	SV-12-15	15	19-Jul-07	71-43-2	Benzene	0.0066	ug/L	0.0066	1	1
Ia	GS	SV-12-15	15	19-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
Ia	GS	SV-12-15	15	19-Jul-07		4-Bromofluorobenzene	90	%		1	1
Ia	GS	SV-12-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
Ia	GS	SV-12-15	15	19-Jul-07	67-64-1	Acetone	0.023	ug/L	0.023	1	1
Ia	GS	SV-12-15	15	19-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Ia	GS	SV-13-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.051	ug/L	0.051	0	1
Ia	GS	SV-13-05	5	19-Jul-07	74-87-3	Chloromethane	0.0098	ug/L	0.0098	0	1
Ia	GS	SV-13-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.012	ug/L	0.012	1	1
Ia	GS	SV-13-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.0058	ug/L	0.0058	0	1
Ia	GS	SV-13-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.02	ug/L	0.02	0	1
Ia	GS	SV-13-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
Ia	GS	SV-13-05	5	19-Jul-07	110-54-3	Hexane	0.013	ug/L	0.013	1	1
Ia	GS	SV-13-05	5	19-Jul-07	74-82-8	Methane	0.00047	%		1	1
Ia	GS	SV-13-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.0052	ug/L	0.0052	0	1
Ia	GS	SV-13-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.02	ug/L	0.02	0	1
Ia	GS	SV-13-05	5	19-Jul-07		Ethene	0.0024	%		0	1
Ia	GS	SV-13-05	5	19-Jul-07	64-17-5	Ethanol	0.009	ug/L	0.009	0	1
Ia	GS	SV-13-05	5	19-Jul-07		Ethane	0.0024	%		0	1
Ia	GS	SV-13-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0059	ug/L	0.0059	0	1
Ia	GS	SV-13-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
Ia	GS	SV-13-05	5	19-Jul-07	110-82-7	Cyclohexane	0.01	ug/L	0.01	1	1
Ia	GS	SV-13-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0047	ug/L		0	1
Ia	GS	SV-13-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0054	ug/L	0.0054	0	1
Ia	GS	SV-13-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.02	ug/L	0.02	0	1
Ia	GS	SV-13-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0067	ug/L	0.0067	0	1
Ia	GS	SV-13-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0072	ug/L	0.0072	0	1
Ia	GS	SV-13-05	5	19-Jul-07	79-01-6	Trichloroethene	0.0064	ug/L	0.0064	0	1
Ia	GS	SV-13-05	5	19-Jul-07	67-66-3	Chloroform	0.44	ug/L	0.44	1	1
Ia	GS	SV-13-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0047	ug/L	0.0047	0	1
Ia	GS	SV-13-05	5	19-Jul-07		Toluene-d8	97	%		1	1
Ia	GS	SV-13-05	5	19-Jul-07	108-88-3	Toluene	0.024	ug/L	0.024	1	1
Ia	GS	SV-13-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.0035	ug/L	0.0035	0	1
Ia	GS	SV-13-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0054	ug/L	0.0054	0	1
Ia	GS	SV-13-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.014	ug/L	0.014	0	1
Ia	GS	SV-13-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0043	ug/L	0.0043	0	1
Ia	GS	SV-13-05	5	19-Jul-07	100-42-5	Styrene	0.0051	ug/L	0.0051	0	1
Ia	GS	SV-13-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.0058	ug/L	0.0058	0	1
Ia	GS	SV-13-05	5	19-Jul-07	95-47-6	o-Xylene	0.0052	ug/L	0.0052	0	1
Ia	GS	SV-13-05	5	19-Jul-07		Oxygen	21	%		1	1
Ia	GS	SV-13-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.0058	ug/L	0.0058	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	GS	SV-13-05	5	19-Jul-07		Nitrogen	78	%		1	1
Ia	GS	SV-13-05	5	19-Jul-07	142-82-5	n-Heptane	0.0065	ug/L	0.0065	1	1
Ia	GS	SV-13-05	5	19-Jul-07	91-20-3	Naphthalene	0.025	ug/L	0.025	0	1
Ia	GS	SV-13-05	5	19-Jul-07	75-09-2	Methylene chloride	0.0041	ug/L	0.0041	0	1
Ia	GS	SV-13-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.0093	ug/L	0.0093	1	1
Ia	GS	SV-13-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0047	ug/L	0.0047	0	1
Ia	GS	SV-13-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.017	ug/L	0.017	0	1
Ia	GS	SV-13-05	5	19-Jul-07		1,2-Dichloroethane-d4	102	%		1	1
Ia	GS	SV-13-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0048	ug/L	0.0048	0	1
Ia	GS	SV-13-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0072	ug/L	0.0072	0	1
Ia	GS	SV-13-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0083	ug/L	0.0083	0	1
Ia	GS	SV-13-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.0091	ug/L	0.0091	0	1
Ia	GS	SV-13-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0058	ug/L	0.0058	0	1
Ia	GS	SV-13-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0058	ug/L	0.0058	0	1
Ia	GS	SV-13-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.029	ug/L	0.029	0	1
Ia	GS	SV-13-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.0026	ug/L	0.0026	0	1
Ia	GS	SV-13-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0048	ug/L	0.0048	0	1
Ia	GS	SV-13-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0065	ug/L	0.0065	0	1
Ia	GS	SV-13-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0091	ug/L	0.0091	0	1
Ia	GS	SV-13-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0082	ug/L	0.0082	0	1
Ia	GS	SV-13-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0065	ug/L	0.0065	0	1
Ia	GS	SV-13-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.033	ug/L	0.033	0	1
Ia	GS	SV-13-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Ia	GS	SV-13-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.003	ug/L	0.003	0	1
Ia	GS	SV-13-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.035	ug/L	0.035	0	1
Ia	GS	SV-13-05	5	19-Jul-07	71-43-2	Benzene	0.0098	ug/L	0.0098	1	1
Ia	GS	SV-13-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.0055	ug/L	0.0055	0	1
Ia	GS	SV-13-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.034	ug/L	0.034	1	1
Ia	GS	SV-13-05	5	19-Jul-07		Carbon Monoxide	0.024	%		0	1
Ia	GS	SV-13-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.055	ug/L	0.055	1	1
Ia	GS	SV-13-05	5	19-Jul-07		Carbon Dioxide	1	%		1	1
Ia	GS	SV-13-05	5	19-Jul-07	74-83-9	Bromomethane	0.0046	ug/L	0.0046	0	1
Ia	GS	SV-13-05	5	19-Jul-07	75-25-2	Bromoform	0.012	ug/L	0.012	0	1
Ia	GS	SV-13-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0055	ug/L	0.0055	0	1
Ia	GS	SV-13-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.0062	ug/L	0.0062	0	1
Ia	GS	SV-13-05	5	19-Jul-07	75-00-3	Chloroethane	0.0031	ug/L	0.0031	0	1
Ia	GS	SV-13-05	5	19-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
Ia	GS	SV-13-05	5	19-Jul-07	67-64-1	Acetone	0.019	ug/L	0.019	1	1
Ia	GS	SV-13-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0049	ug/L	0.0049	0	1
Ia	GS	SV-13-05	5	19-Jul-07		4-Bromofluorobenzene	90	%		1	1
Ia	GS	SV-13-05	5	19-Jul-07	591-78-6	2-Hexanone	0.019	ug/L	0.019	0	1
Ia	GS	SV-13-05	5	19-Jul-07	78-93-3	2-Butanone	0.006	ug/L	0.006	1	1
Ia	GS	SV-13-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0056	ug/L	0.0056	0	1
Ia	GS	SV-13-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0072	ug/L	0.0072	0	1
Ia	GS	SV-13-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.01	ug/L	0.01	1	1
Ia	GS	SV-13-15	15	19-Jul-07		Ethene	0.0024	%		0	1
Ia	GS	SV-13-15	15	19-Jul-07	67-66-3	Chloroform	0.024	ug/L	0.024	0	1
Ia	GS	SV-13-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	0.032	ug/L	0.032	1	1
Ia	GS	SV-13-15	15	19-Jul-07	98-82-8	Isopropylbenzene	0.48	ug/L	0.48	1	1
Ia	GS	SV-13-15	15	19-Jul-07	108-20-3	Isopropyl ether	0.081	ug/L	0.081	0	1
Ia	GS	SV-13-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	0.048	ug/L	0.048	0	1
Ia	GS	SV-13-15	15	19-Jul-07	110-54-3	Hexane	0.099	ug/L	0.099	1	1
Ia	GS	SV-13-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	0.21	ug/L	0.21	0	1
Ia	GS	SV-13-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.017	ug/L	0.017	0	1
Ia	GS	SV-13-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.081	ug/L	0.081	0	1
Ia	GS	SV-13-15	15	19-Jul-07	75-09-2	Methylene chloride	0.017	ug/L	0.017	0	1
Ia	GS	SV-13-15	15	19-Jul-07	64-17-5	Ethanol	0.036	ug/L	0.036	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	GS	SV-13-15	15	19-Jul-07		Ethane	0.0024	%		0	1
Ia	GS	SV-13-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.024	ug/L	0.024	0	1
Ia	GS	SV-13-15	15	19-Jul-07	124-48-1	Dibromochloromethane	0.041	ug/L	0.041	0	1
Ia	GS	SV-13-15	15	19-Jul-07	110-82-7	Cyclohexane	0.057	ug/L	0.057	1	1
Ia	GS	SV-13-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.022	ug/L	0.022	0	1
Ia	GS	SV-13-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.019	ug/L		0	1
Ia	GS	SV-13-15	15	19-Jul-07	74-87-3	Chloromethane	0.04	ug/L	0.04	0	1
Ia	GS	SV-13-15	15	19-Jul-07	100-41-4	Ethylbenzene	0.32	ug/L	0.32	1	1
Ia	GS	SV-13-15	15	19-Jul-07	127-18-4	Tetrachloroethene	0.033	ug/L	0.033	0	1
Ia	GS	SV-13-15	15	19-Jul-07	75-01-4	Vinyl chloride	0.012	ug/L	0.012	0	1
Ia	GS	SV-13-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Ia	GS	SV-13-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	0.027	ug/L	0.027	0	1
Ia	GS	SV-13-15	15	19-Jul-07	79-01-6	Trichloroethene	0.026	ug/L	0.026	0	1
Ia	GS	SV-13-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.022	ug/L	0.022	0	1
Ia	GS	SV-13-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.019	ug/L	0.019	0	1
Ia	GS	SV-13-15	15	19-Jul-07		Toluene-d8	92	%		1	1
Ia	GS	SV-13-15	15	19-Jul-07	74-82-8	Methane	0.039	%		1	1
Ia	GS	SV-13-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	0.014	ug/L	0.014	0	1
Ia	GS	SV-13-15	15	19-Jul-07	95-47-6	o-Xylene	0.021	ug/L	0.021	0	1
Ia	GS	SV-13-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	0.059	ug/L	0.059	0	1
Ia	GS	SV-13-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.081	ug/L	0.081	0	1
Ia	GS	SV-13-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	0.024	ug/L	0.024	0	1
Ia	GS	SV-13-15	15	19-Jul-07		Oxygen	4.4	%		1	1
Ia	GS	SV-13-15	15	19-Jul-07	103-65-1	n-Propylbenzene	0.65	ug/L	0.65	1	1
Ia	GS	SV-13-15	15	19-Jul-07		Nitrogen	88	%		1	1
Ia	GS	SV-13-15	15	19-Jul-07	142-82-5	n-Heptane	0.07	ug/L	0.07	1	1
Ia	GS	SV-13-15	15	19-Jul-07	91-20-3	Naphthalene	0.1	ug/L	0.1	0	1
Ia	GS	SV-13-15	15	19-Jul-07	108-88-3	Toluene	0.037	ug/L	0.037	1	1
Ia	GS	SV-13-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.12	ug/L	0.12	0	1
Ia	GS	SV-13-15	15	19-Jul-07	106-99-0	1,3-Butadiene	0.011	ug/L	0.011	0	1
Ia	GS	SV-13-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.47	ug/L	0.47	1	1
Ia	GS	SV-13-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	0.022	ug/L	0.022	0	1
Ia	GS	SV-13-15	15	19-Jul-07		1,2-Dichloroethane-d4	102	%		1	1
Ia	GS	SV-13-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	0.02	ug/L	0.02	0	1
Ia	GS	SV-13-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.029	ug/L	0.029	0	1
Ia	GS	SV-13-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.034	ug/L	0.034	0	1
Ia	GS	SV-13-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.029	ug/L	0.029	0	1
Ia	GS	SV-13-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.13	ug/L	0.13	1	1
Ia	GS	SV-13-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.14	ug/L	0.14	0	1
Ia	GS	SV-13-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	0.02	ug/L	0.02	0	1
Ia	GS	SV-13-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.026	ug/L	0.026	0	1
Ia	GS	SV-13-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.037	ug/L	0.037	0	1
Ia	GS	SV-13-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.033	ug/L	0.033	0	1
Ia	GS	SV-13-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.026	ug/L	0.026	0	1
Ia	GS	SV-13-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.13	ug/L	0.13	0	1
Ia	GS	SV-13-15	15	19-Jul-07	75-00-3	Chloroethane	0.013	ug/L	0.013	0	1
Ia	GS	SV-13-15	15	19-Jul-07	100-42-5	Styrene	0.021	ug/L	0.021	0	1
Ia	GS	SV-13-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	0.037	ug/L	0.037	0	1
Ia	GS	SV-13-15	15	19-Jul-07	75-27-4	Bromodichloromethane	0.032	ug/L	0.032	0	1
Ia	GS	SV-13-15	15	19-Jul-07	108-90-7	Chlorobenzene	0.022	ug/L	0.022	0	1
Ia	GS	SV-13-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	0.03	ug/L	0.03	0	1
Ia	GS	SV-13-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	0.019	ug/L	0.019	0	1
Ia	GS	SV-13-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.029	ug/L	0.029	0	1
Ia	GS	SV-13-15	15	19-Jul-07		Carbon Monoxide	0.024	%		0	1
Ia	GS	SV-13-15	15	19-Jul-07	75-15-0	Carbon Disulfide	0.042	ug/L	0.042	1	1
Ia	GS	SV-13-15	15	19-Jul-07		Carbon Dioxide	7.9	%		1	1
Ia	GS	SV-13-15	15	19-Jul-07	75-25-2	Bromoform	0.05	ug/L	0.05	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	GS	SV-13-15	15	19-Jul-07	100-44-7	Benzyl chloride	0.025	ug/L	0.025	0	1
Ia	GS	SV-13-15	15	19-Jul-07	71-43-2	Benzene	0.042	ug/L	0.042	1	1
Ia	GS	SV-13-15	15	19-Jul-07	591-78-6	2-Hexanone	0.079	ug/L	0.079	0	1
Ia	GS	SV-13-15	15	19-Jul-07	67-64-1	Acetone	0.068	ug/L	0.068	1	1
Ia	GS	SV-13-15	15	19-Jul-07	123-91-1	1,4-Dioxane	0.07	ug/L	0.07	0	1
Ia	GS	SV-13-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.02	ug/L	0.02	0	1
Ia	GS	SV-13-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.023	ug/L	0.023	0	1
Ia	GS	SV-13-15	15	19-Jul-07		4-Bromofluorobenzene	92	%		1	1
Ia	GS	SV-13-15	15	19-Jul-07	107-05-1	Allyl chloride	0.06	ug/L	0.06	0	1
Ia	GS	SV-13-15	15	19-Jul-07	74-83-9	Bromomethane	0.019	ug/L	0.019	0	1
Ia	GS	SV-13-15	15	19-Jul-07	78-93-3	2-Butanone	0.019	ug/L	0.019	1	1
Ia	GS	SV-14-05	5	19-Jul-07	74-87-3	Chloromethane	0.0096	ug/L	0.0096	0	1
Ia	GS	SV-14-05	5	19-Jul-07	67-66-3	Chloroform	0.53	ug/L	0.53	1	1
Ia	GS	SV-14-05	5	19-Jul-07	75-00-3	Chloroethane	0.0031	ug/L	0.0031	0	1
Ia	GS	SV-14-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.0054	ug/L	0.0054	0	1
Ia	GS	SV-14-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.0073	ug/L	0.0073	0	1
Ia	GS	SV-14-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.014	ug/L	0.014	1	1
Ia	GS	SV-14-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.015	ug/L	0.015	1	1
Ia	GS	SV-14-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0046	ug/L		0	1
Ia	GS	SV-14-05	5	19-Jul-07	75-25-2	Bromoform	0.012	ug/L	0.012	0	1
Ia	GS	SV-14-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.05	ug/L	0.05	0	1
Ia	GS	SV-14-05	5	19-Jul-07		Carbon Dioxide	1.7	%		1	1
Ia	GS	SV-14-05	5	19-Jul-07	74-83-9	Bromomethane	0.0045	ug/L	0.0045	0	1
Ia	GS	SV-14-05	5	19-Jul-07		Carbon Monoxide	0.023	%		0	1
Ia	GS	SV-14-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0053	ug/L	0.0053	0	1
Ia	GS	SV-14-05	5	19-Jul-07	110-82-7	Cyclohexane	0.004	ug/L	0.004	0	1
Ia	GS	SV-14-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.0099	ug/L	0.0099	0	1
Ia	GS	SV-14-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0058	ug/L	0.0058	0	1
Ia	GS	SV-14-05	5	19-Jul-07		Ethane	0.0023	%		0	1
Ia	GS	SV-14-05	5	19-Jul-07	64-17-5	Ethanol	0.0088	ug/L	0.0088	0	1
Ia	GS	SV-14-05	5	19-Jul-07		Ethene	0.0023	%		0	1
Ia	GS	SV-14-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.0058	ug/L	0.0058	1	1
Ia	GS	SV-14-05	5	19-Jul-07	110-54-3	Hexane	0.026	ug/L	0.026	1	1
Ia	GS	SV-14-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.006	ug/L	0.006	0	1
Ia	GS	SV-14-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0047	ug/L	0.0047	0	1
Ia	GS	SV-14-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.011	ug/L	0.011	0	1
Ia	GS	SV-14-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.019	ug/L	0.019	0	1
Ia	GS	SV-14-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.019	ug/L	0.019	0	1
Ia	GS	SV-14-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0047	ug/L	0.0047	0	1
Ia	GS	SV-14-05	5	19-Jul-07		4-Bromofluorobenzene	90	%		1	1
Ia	GS	SV-14-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.0057	ug/L	0.0057	0	1
Ia	GS	SV-14-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.032	ug/L	0.032	0	1
Ia	GS	SV-14-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0064	ug/L	0.0064	0	1
Ia	GS	SV-14-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.008	ug/L	0.008	0	1
Ia	GS	SV-14-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0089	ug/L	0.0089	0	1
Ia	GS	SV-14-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0064	ug/L	0.0064	0	1
Ia	GS	SV-14-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0046	ug/L	0.0046	0	1
Ia	GS	SV-14-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.034	ug/L	0.034	0	1
Ia	GS	SV-14-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.015	ug/L	0.015	1	1
Ia	GS	SV-14-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.009	ug/L	0.009	0	1
Ia	GS	SV-14-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.028	ug/L	0.028	0	1
Ia	GS	SV-14-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.007	ug/L	0.007	0	1
Ia	GS	SV-14-05	5	19-Jul-07	71-43-2	Benzene	0.014	ug/L	0.014	1	1
Ia	GS	SV-14-05	5	19-Jul-07		1,2-Dichloroethane-d4	104	%		1	1
Ia	GS	SV-14-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0054	ug/L	0.0054	0	1
Ia	GS	SV-14-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0057	ug/L	0.0057	0	1
Ia	GS	SV-14-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.0026	ug/L	0.0026	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	GS	SV-14-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.007	ug/L	0.007	0	1
Ia	GS	SV-14-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.007	ug/L	0.007	0	1
Ia	GS	SV-14-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.017	ug/L	0.017	0	1
Ia	GS	SV-14-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0054	ug/L	0.0054	0	1
Ia	GS	SV-14-05	5	19-Jul-07	591-78-6	2-Hexanone	0.019	ug/L	0.019	0	1
Ia	GS	SV-14-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0048	ug/L	0.0048	0	1
Ia	GS	SV-14-05	5	19-Jul-07	67-64-1	Acetone	0.066	ug/L	0.066	1	1
Ia	GS	SV-14-05	5	19-Jul-07	107-05-1	Allyl chloride	0.014	ug/L	0.014	0	1
Ia	GS	SV-14-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0081	ug/L	0.0081	0	1
Ia	GS	SV-14-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0065	ug/L	0.0065	0	1
Ia	GS	SV-14-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.017	ug/L	0.017	1	1
Ia	GS	SV-14-05	5	19-Jul-07	78-93-3	2-Butanone	0.0096	ug/L	0.0096	1	1
Ia	GS	SV-14-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Ia	GS	SV-14-05	5	19-Jul-07	79-01-6	Trichloroethene	0.0063	ug/L	0.0063	0	1
Ia	GS	SV-14-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0053	ug/L	0.0053	0	1
Ia	GS	SV-14-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0046	ug/L	0.0046	0	1
Ia	GS	SV-14-05	5	19-Jul-07		Toluene-d8	93	%		1	1
Ia	GS	SV-14-05	5	19-Jul-07	108-88-3	Toluene	0.026	ug/L	0.026	1	1
Ia	GS	SV-14-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.0034	ug/L	0.0034	0	1
Ia	GS	SV-14-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.0079	ug/L	0.0079	0	1
Ia	GS	SV-14-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	1	1
Ia	GS	SV-14-05	5	19-Jul-07	142-82-5	n-Heptane	0.027	ug/L	0.027	1	1
Ia	GS	SV-14-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.003	ug/L	0.003	0	1
Ia	GS	SV-14-05	5	19-Jul-07	74-82-8	Methane	0.00023	%		0	1
Ia	GS	SV-14-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0042	ug/L	0.0042	0	1
Ia	GS	SV-14-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.019	ug/L	0.019	0	1
Ia	GS	SV-14-05	5	19-Jul-07	91-20-3	Naphthalene	0.024	ug/L	0.024	0	1
Ia	GS	SV-14-05	5	19-Jul-07	75-09-2	Methylene chloride	0.004	ug/L	0.004	0	1
Ia	GS	SV-14-05	5	19-Jul-07		Nitrogen	78	%		1	1
Ia	GS	SV-14-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.0057	ug/L	0.0057	0	1
Ia	GS	SV-14-05	5	19-Jul-07		Oxygen	20	%		1	1
Ia	GS	SV-14-05	5	19-Jul-07	95-47-6	o-Xylene	0.005	ug/L	0.005	0	1
Ia	GS	SV-14-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.0066	ug/L	0.0066	1	1
Ia	GS	SV-14-05	5	19-Jul-07	100-42-5	Styrene	0.005	ug/L	0.005	0	1
Ia	GS	SV-14-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	0.1	ug/L	0.1	0	1
Ia	GS	SV-14-15	15	19-Jul-07	110-54-3	Hexane	0.068	ug/L	0.068	1	1
Ia	GS	SV-14-15	15	19-Jul-07	100-41-4	Ethylbenzene	0.01	ug/L	0.01	0	1
Ia	GS	SV-14-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	0.023	ug/L	0.023	0	1
Ia	GS	SV-14-15	15	19-Jul-07	108-20-3	Isopropyl ether	0.04	ug/L	0.04	0	1
Ia	GS	SV-14-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.04	ug/L	0.04	0	1
Ia	GS	SV-14-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	0.01	ug/L	0.01	0	1
Ia	GS	SV-14-15	15	19-Jul-07	74-82-8	Methane	0.00024	%		0	1
Ia	GS	SV-14-15	15	19-Jul-07	98-82-8	Isopropylbenzene	0.012	ug/L	0.012	0	1
Ia	GS	SV-14-15	15	19-Jul-07		Ethene	0.0024	%		0	1
Ia	GS	SV-14-15	15	19-Jul-07	64-17-5	Ethanol	0.018	ug/L	0.018	0	1
Ia	GS	SV-14-15	15	19-Jul-07		Ethane	0.0024	%		0	1
Ia	GS	SV-14-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.012	ug/L	0.012	0	1
Ia	GS	SV-14-15	15	19-Jul-07	110-82-7	Cyclohexane	0.0082	ug/L	0.0082	0	1
Ia	GS	SV-14-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.011	ug/L	0.011	0	1
Ia	GS	SV-14-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0094	ug/L		0	1
Ia	GS	SV-14-15	15	19-Jul-07	74-87-3	Chloromethane	0.02	ug/L	0.02	0	1
Ia	GS	SV-14-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0086	ug/L	0.0086	0	1
Ia	GS	SV-14-15	15	19-Jul-07	108-88-3	Toluene	0.016	ug/L	0.016	1	1
Ia	GS	SV-14-15	15	19-Jul-07	124-48-1	Dibromochloromethane	0.02	ug/L	0.02	0	1
Ia	GS	SV-14-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.04	ug/L	0.04	0	1
Ia	GS	SV-14-15	15	19-Jul-07	75-01-4	Vinyl chloride	0.0061	ug/L	0.0061	0	1
Ia	GS	SV-14-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	GS	SV-14-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	0.013	ug/L	0.013	0	1
Ia	GS	SV-14-15	15	19-Jul-07	79-01-6	Trichloroethene	0.013	ug/L	0.013	0	1
Ia	GS	SV-14-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0094	ug/L	0.0094	0	1
Ia	GS	SV-14-15	15	19-Jul-07		Toluene-d8	91	%		1	1
Ia	GS	SV-14-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	0.007	ug/L	0.007	0	1
Ia	GS	SV-14-15	15	19-Jul-07	127-18-4	Tetrachloroethene	0.016	ug/L	0.016	0	1
Ia	GS	SV-14-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	0.029	ug/L	0.029	0	1
Ia	GS	SV-14-15	15	19-Jul-07	75-09-2	Methylene chloride	0.0083	ug/L	0.0083	0	1
Ia	GS	SV-14-15	15	19-Jul-07	100-42-5	Styrene	0.01	ug/L	0.01	0	1
Ia	GS	SV-14-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	0.012	ug/L	0.012	0	1
Ia	GS	SV-14-15	15	19-Jul-07	95-47-6	o-Xylene	0.01	ug/L	0.01	0	1
Ia	GS	SV-14-15	15	19-Jul-07		Oxygen	16	%		1	1
Ia	GS	SV-14-15	15	19-Jul-07	103-65-1	n-Propylbenzene	0.012	ug/L	0.012	0	1
Ia	GS	SV-14-15	15	19-Jul-07		Nitrogen	80	%		1	1
Ia	GS	SV-14-15	15	19-Jul-07	142-82-5	n-Heptane	0.03	ug/L	0.03	1	1
Ia	GS	SV-14-15	15	19-Jul-07	91-20-3	Naphthalene	0.05	ug/L	0.05	0	1
Ia	GS	SV-14-15	15	19-Jul-07	67-66-3	Chloroform	2.6	ug/L	2.6	1	1
Ia	GS	SV-14-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0094	ug/L	0.0094	0	1
Ia	GS	SV-14-15	15	19-Jul-07	106-99-0	1,3-Butadiene	0.0053	ug/L	0.0053	0	1
Ia	GS	SV-14-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.012	ug/L	0.012	0	1
Ia	GS	SV-14-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	0.011	ug/L	0.011	0	1
Ia	GS	SV-14-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.071	ug/L	0.071	0	1
Ia	GS	SV-14-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0096	ug/L	0.0096	0	1
Ia	GS	SV-14-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.017	ug/L	0.017	0	1
Ia	GS	SV-14-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	0.018	ug/L	0.018	0	1
Ia	GS	SV-14-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.014	ug/L	0.014	0	1
Ia	GS	SV-14-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.057	ug/L	0.057	0	1
Ia	GS	SV-14-15	15	19-Jul-07		1,2-Dichloroethane-d4	105	%		1	1
Ia	GS	SV-14-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0096	ug/L	0.0096	0	1
Ia	GS	SV-14-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.013	ug/L	0.013	0	1
Ia	GS	SV-14-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.018	ug/L	0.018	0	1
Ia	GS	SV-14-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.016	ug/L	0.016	0	1
Ia	GS	SV-14-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.013	ug/L	0.013	0	1
Ia	GS	SV-14-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.065	ug/L	0.065	0	1
Ia	GS	SV-14-15	15	19-Jul-07	75-00-3	Chloroethane	0.0063	ug/L	0.0063	0	1
Ia	GS	SV-14-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.011	ug/L	0.011	0	1
Ia	GS	SV-14-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.012	ug/L	0.012	0	1
Ia	GS	SV-14-15	15	19-Jul-07	100-44-7	Benzyl chloride	0.012	ug/L	0.012	0	1
Ia	GS	SV-14-15	15	19-Jul-07	108-90-7	Chlorobenzene	0.011	ug/L	0.011	0	1
Ia	GS	SV-14-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	0.015	ug/L	0.015	0	1
Ia	GS	SV-14-15	15	19-Jul-07		Carbon Monoxide	0.024	%		0	1
Ia	GS	SV-14-15	15	19-Jul-07	75-15-0	Carbon Disulfide	0.024	ug/L	0.024	1	1
Ia	GS	SV-14-15	15	19-Jul-07		Carbon Dioxide	4.1	%		1	1
Ia	GS	SV-14-15	15	19-Jul-07	74-83-9	Bromomethane	0.0092	ug/L	0.0092	0	1
Ia	GS	SV-14-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.014	ug/L	0.014	0	1
Ia	GS	SV-14-15	15	19-Jul-07	75-27-4	Bromodichloromethane	0.016	ug/L	0.016	0	1
Ia	GS	SV-14-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.014	ug/L	0.014	0	1
Ia	GS	SV-14-15	15	19-Jul-07	71-43-2	Benzene	0.0076	ug/L	0.0076	0	1
Ia	GS	SV-14-15	15	19-Jul-07	591-78-6	2-Hexanone	0.039	ug/L	0.039	0	1
Ia	GS	SV-14-15	15	19-Jul-07	123-91-1	1,4-Dioxane	0.034	ug/L	0.034	0	1
Ia	GS	SV-14-15	15	19-Jul-07	75-25-2	Bromoform	0.025	ug/L	0.025	0	1
Ia	GS	SV-14-15	15	19-Jul-07	78-93-3	2-Butanone	0.012	ug/L	0.012	1	1
Ia	GS	SV-14-15	15	19-Jul-07		4-Bromofluorobenzene	88	%		1	1
Ia	GS	SV-14-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0097	ug/L	0.0097	0	1
Ia	GS	SV-14-15	15	19-Jul-07	67-64-1	Acetone	0.069	ug/L	0.069	1	1
Ia	GS	SV-14-15	15	19-Jul-07	107-05-1	Allyl chloride	0.03	ug/L	0.03	0	1
Ia	GS	SV-14-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.011	ug/L	0.011	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	Soil	B-106-5	5		68476-30-2	TPHd			61	1	1
Ia	Soil	B-106-5	5		8006-61-9	TPHg			10	0	1
Ia	Soil	B-106-5	5		64742-47-8	TPHm			73	1	1
Ia	Soil	B-107-5	5		68476-30-2	TPHd			10	0	1
Ia	Soil	B-107-5	5		8006-61-9	TPHg			10	0	1
Ia	Soil	B-107-5	5		64742-47-8	TPHm			10	0	1
Ia	Soil	B-108-10	10		68476-30-2	TPHd			10	0	1
Ia	Soil	B-108-10	10		8006-61-9	TPHg			10	0	1
Ia	Soil	B-108-10	10		64742-47-8	TPHm			10	0	1
Ia	Soil	B-111-5	5		64742-47-8	TPHm			10	0	1
Ia	Soil	B-111-5	5		68476-30-2	TPHd			10	0	1
Ia	Soil	B-111-5	5		8006-61-9	TPHg			10	0	1
Ia	Soil	B-112-10	10		64742-47-8	TPHm			17	1	1
Ia	Soil	B-112-10	10		8006-61-9	TPHg			11	1	1
Ia	Soil	B-112-10	10		68476-30-2	TPHd			13	1	1
Ia	Soil	B-91-5	5		68476-30-2	TPHd			10	0	1
Ia	Soil	B-91-5	5		8006-61-9	TPHg			10	0	1
Ia	Soil	B-91-5	5		64742-47-8	TPHm			10	0	1
Ia	Soil	B-92-10	10		68476-30-2	TPHd			23	1	1
Ia	Soil	B-92-10	10		8006-61-9	TPHg			10	0	1
Ia	Soil	B-92-10	10		64742-47-8	TPHm			76	1	1
Ia	Soil	B-93-10	10		68476-30-2	TPHd			10	0	1
Ia	Soil	B-93-10	10		8006-61-9	TPHg			10	0	1
Ia	Soil	B-93-10	10		64742-47-8	TPHm			10	0	1
Ia	Soil	B-94-5	5		BaP TEQ	BaP TEQ			0.0855	1	1
Ia	Soil	B-94-5	5		64742-47-8	TPHm			2200	1	1
Ia	Soil	B-94-5	5		68476-30-2	TPHd			1100	1	1
Ia	Soil	B-94-5	5		8006-61-9	TPHg			10	0	1
Ia	Soil	S-18-0.5	0.5		BaP TEQ	BaP TEQ			0.028	1	1
Ia	Soil	S-18-0.5	0.5		64742-47-8	TPHm			1500	1	1
Ia	Soil	S-18-0.5	0.5		8006-61-9	TPHg			10	0	1
Ia	Soil	S-18-0.5	0.5		68476-30-2	TPHd			370	1	1
Ia	Soil	S-18-2.5	2.5		BaP TEQ	BaP TEQ			0.022	1	1
Ia	Soil	S-18-2.5	2.5		68476-30-2	TPHd			260	1	1
Ia	Soil	S-18-2.5	2.5		8006-61-9	TPHg			10	0	1
Ia	Soil	S-18-2.5	2.5		64742-47-8	TPHm			980	1	1
Ia	Soil	S-35-0.5	0.5		BaP TEQ	BaP TEQ			0.067	1	1
Ia	Soil	S-35-0.5	0.5		8006-61-9	TPHg			10	0	1
Ia	Soil	S-35-0.5	0.5		64742-47-8	TPHm			1200	1	1
Ia	Soil	S-35-0.5	0.5		68476-30-2	TPHd			200	1	1
Ia	Soil	S-35-2.5	2.5		BaP TEQ	BaP TEQ			0.03518	1	1
Ia	Soil	S-35-2.5	2.5		8006-61-9	TPHg			10	0	1
Ia	Soil	S-35-2.5	2.5		64742-47-8	TPHm			1100	1	1
Ia	Soil	S-35-2.5	2.5		68476-30-2	TPHd			230	1	1
Ia	Soil	S-36-0.5	0.5		BaP TEQ	BaP TEQ			0.10523	1	1
Ia	Soil	S-36-0.5	0.5		68476-30-2	TPHd			42	1	1
Ia	Soil	S-36-0.5	0.5		8006-61-9	TPHg			10	0	1
Ia	Soil	S-36-0.5	0.5		64742-47-8	TPHm			200	1	1
Ia	Soil	S-36-2.5	2.5		BaP TEQ	BaP TEQ			0.016025	1	1
Ia	Soil	S-36-2.5	2.5		8006-61-9	TPHg			10	0	1
Ia	Soil	S-36-2.5	2.5		64742-47-8	TPHm			200	1	1
Ia	Soil	S-36-2.5	2.5		68476-30-2	TPHd			50	1	1
Ia	Soil	SP-7-10.5	10.5		68476-30-2	TPHd			10	0	1
Ia	Soil	SP-7-10.5	10.5		8006-61-9	TPHg			10	0	1
Ia	Soil	SP-7-10.5	10.5		64742-47-8	TPHm			10	0	1
Ia	Soil	B-106-1	1	28-Aug-97	7439-92-1	Lead	1.8	mg/K	1.8	1	1
Ia	Soil	B-106-5	5	28-Aug-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	Soil	B-106-5	5	28-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Ia	Soil	B-106-5	5	28-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Ia	Soil	B-106-5	5	28-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Ia	Soil	B-106-5	5	28-Aug-97		C4-C10	10	mg/K	10	0	1
Ia	Soil	B-106-5	5	28-Aug-97		C25-C40	73	mg/K	73	1	1
Ia	Soil	B-106-5	5	28-Aug-97		C1-C40	134	mg/K	134	1	1
Ia	Soil	B-106-5	5	28-Aug-97		C10-C25	61	mg/K	61	1	1
Ia	Soil	B-106-5	5	28-Aug-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
Ia	Soil	B-106-5	5	28-Aug-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
Ia	Soil	B-106-5	5	28-Aug-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
Ia	Soil	B-106-5	5	28-Aug-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
Ia	Soil	B-106-5	5	28-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Ia	Soil	B-106-5	5	28-Aug-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
Ia	Soil	B-106-5	5	28-Aug-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
Ia	Soil	B-107-1	1	28-Aug-97	7439-92-1	Lead	3.9	mg/K	3.9	1	1
Ia	Soil	B-107-5	5	28-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Ia	Soil	B-107-5	5	28-Aug-97		C25-C40	10	mg/K	10	0	1
Ia	Soil	B-107-5	5	28-Aug-97		C1-C40	10	mg/K	10	0	1
Ia	Soil	B-107-5	5	28-Aug-97		C10-C25	10	mg/K	10	0	1
Ia	Soil	B-107-5	5	28-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Ia	Soil	B-107-5	5	28-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Ia	Soil	B-107-5	5	28-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Ia	Soil	B-107-5	5	28-Aug-97		C4-C10	10	mg/K	10	0	1
Ia	Soil	B-108-10	10	28-Aug-97		C10-C25	10	mg/K	10	0	1
Ia	Soil	B-108-10	10	28-Aug-97		C25-C40	10	mg/K	10	0	1
Ia	Soil	B-108-10	10	28-Aug-97		C4-C10	10	mg/K	10	0	1
Ia	Soil	B-108-10	10	28-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Ia	Soil	B-108-10	10	28-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Ia	Soil	B-108-10	10	28-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Ia	Soil	B-108-10	10	28-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Ia	Soil	B-108-10	10	28-Aug-97		C1-C40	10	mg/K	10	0	1
Ia	Soil	B-111-5	5	17-Sep-97	1330-20-7	Xylenes (total)	0.013	mg/K	0.013	1	1
Ia	Soil	B-111-5	5	17-Sep-97		C4-C10	10	mg/K	10	0	1
Ia	Soil	B-111-5	5	17-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Ia	Soil	B-111-5	5	17-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Ia	Soil	B-111-5	5	17-Sep-97		C25-C40	10	mg/K	10	0	1
Ia	Soil	B-111-5	5	17-Sep-97		C1-C40	10	mg/K	10	0	1
Ia	Soil	B-111-5	5	17-Sep-97		C10-C25	10	mg/K	10	0	1
Ia	Soil	B-111-5	5	17-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Ia	Soil	B-112-10	10	27-Aug-97		C10-C25	13	mg/K	13	1	1
Ia	Soil	B-112-10	10	27-Aug-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
Ia	Soil	B-112-10	10	27-Aug-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
Ia	Soil	B-112-10	10	27-Aug-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
Ia	Soil	B-112-10	10	27-Aug-97	71-43-2	Benzene	0.28	mg/K	0.28	1	1
Ia	Soil	B-112-10	10	27-Aug-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
Ia	Soil	B-112-10	10	27-Aug-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
Ia	Soil	B-112-10	10	27-Aug-97		C1-C40	41	mg/K	41	1	1
Ia	Soil	B-112-10	10	27-Aug-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
Ia	Soil	B-112-10	10	27-Aug-97	1330-20-7	Xylenes (total)	0.11	mg/K	0.11	1	1
Ia	Soil	B-112-10	10	27-Aug-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
Ia	Soil	B-112-10	10	27-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Ia	Soil	B-112-10	10	27-Aug-97	100-41-4	Ethylbenzene	0.078	mg/K	0.078	1	1
Ia	Soil	B-112-10	10	27-Aug-97		C4-C10	11	mg/K	11	1	1
Ia	Soil	B-112-10	10	27-Aug-97		C25-C40	17	mg/K	17	1	1
Ia	Soil	B-91-1	1	28-Aug-97	7439-92-1	Lead	13	mg/K	13	1	1
Ia	Soil	B-91-5	5	28-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Ia	Soil	B-91-5	5	28-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	Soil	B-91-5	5	28-Aug-97		C10-C25	10	mg/K	10	0	1
Ia	Soil	B-91-5	5	28-Aug-97		C1-C40	10	mg/K	10	0	1
Ia	Soil	B-91-5	5	28-Aug-97		C4-C10	10	mg/K	10	0	1
Ia	Soil	B-91-5	5	28-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Ia	Soil	B-91-5	5	28-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Ia	Soil	B-91-5	5	28-Aug-97		C25-C40	10	mg/K	10	0	1
Ia	Soil	B-92-10	10	28-Aug-97		C1-C40	99	mg/K	99	1	1
Ia	Soil	B-92-10	10	28-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Ia	Soil	B-92-10	10	28-Aug-97		C10-C25	23	mg/K	23	1	1
Ia	Soil	B-92-10	10	28-Aug-97		C25-C40	76	mg/K	76	1	1
Ia	Soil	B-92-10	10	28-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Ia	Soil	B-92-10	10	28-Aug-97		C4-C10	10	mg/K	10	0	1
Ia	Soil	B-92-10	10	28-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Ia	Soil	B-92-10	10	28-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Ia	Soil	B-93-10	10	28-Aug-97		C25-C40	10	mg/K	10	0	1
Ia	Soil	B-93-10	10	28-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Ia	Soil	B-93-10	10	28-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Ia	Soil	B-93-10	10	28-Aug-97		C4-C10	10	mg/K	10	0	1
Ia	Soil	B-93-10	10	28-Aug-97		C1-C40	10	mg/K	10	0	1
Ia	Soil	B-93-10	10	28-Aug-97		C10-C25	10	mg/K	10	0	1
Ia	Soil	B-93-10	10	28-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Ia	Soil	B-93-10	10	28-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Ia	Soil	B-94-5	5	28-Aug-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
Ia	Soil	B-94-5	5	28-Aug-97	7440-47-3	Chromium	14	mg/K	14	1	1
Ia	Soil	B-94-5	5	28-Aug-97	218-01-9	Chrysene	0.05	mg/K	0.05	1	1
Ia	Soil	B-94-5	5	28-Aug-97	7440-48-4	Cobalt	2	mg/K	2	1	1
Ia	Soil	B-94-5	5	28-Aug-97	7440-50-8	Copper	5.4	mg/K	5.4	1	1
Ia	Soil	B-94-5	5	28-Aug-97	53-70-3	Dibenz(a,h)anthracene	0.04	mg/K	0.04	0	1
Ia	Soil	B-94-5	5	28-Aug-97	7440-66-6	Zinc	26	mg/K	26	1	1
Ia	Soil	B-94-5	5	28-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Ia	Soil	B-94-5	5	28-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Ia	Soil	B-94-5	5	28-Aug-97	206-44-0	Fluoranthene	0.05	mg/K	0.05	1	1
Ia	Soil	B-94-5	5	28-Aug-97	86-73-7	Fluorene	0.04	mg/K	0.04	0	1
Ia	Soil	B-94-5	5	28-Aug-97	7439-92-1	Lead	9.7	mg/K	9.7	1	1
Ia	Soil	B-94-5	5	28-Aug-97	85-01-8	Phenanthrene	0.09	mg/K	0.09	1	1
Ia	Soil	B-94-5	5	28-Aug-97	7439-98-7	Molybdenum	1.5	mg/K	1.5	1	1
Ia	Soil	B-94-5	5	28-Aug-97	91-20-3	Naphthalene	0.04	mg/K	0.04	0	1
Ia	Soil	B-94-5	5	28-Aug-97	7440-02-0	Nickel	9.9	mg/K	9.9	1	1
Ia	Soil	B-94-5	5	28-Aug-97	7440-62-2	Vanadium	14	mg/K	14	1	1
Ia	Soil	B-94-5	5	28-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Ia	Soil	B-94-5	5	28-Aug-97	7440-43-9	Cadmium	1	mg/K	1	0	1
Ia	Soil	B-94-5	5	28-Aug-97	7440-28-0	Thallium	5	mg/K	5	0	1
Ia	Soil	B-94-5	5	28-Aug-97	50-32-8	Benzo(a)pyrene	0.07	mg/K	0.07	1	1
Ia	Soil	B-94-5	5	28-Aug-97	7440-22-4	Silver	1	mg/K	1	0	1
Ia	Soil	B-94-5	5	28-Aug-97	7782-49-2	Selenium	5	mg/K	5	0	1
Ia	Soil	B-94-5	5	28-Aug-97	129-00-0	Pyrene	0.07	mg/K	0.07	1	1
Ia	Soil	B-94-5	5	28-Aug-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.04	mg/K	0.04	0	1
Ia	Soil	B-94-5	5	28-Aug-97	120-12-7	Anthracene	0.04	mg/K	0.04	0	1
Ia	Soil	B-94-5	5	28-Aug-97	191-24-2	Benzo(g,h,i)perylene	0.06	mg/K	0.06	1	1
Ia	Soil	B-94-5	5	28-Aug-97	208-96-8	Acenaphthylene	0.04	mg/K	0.04	0	1
Ia	Soil	B-94-5	5	28-Aug-97		C4-C10	10	mg/K	10	0	1
Ia	Soil	B-94-5	5	28-Aug-97	7440-36-0	Antimony	5	mg/K	5	0	1
Ia	Soil	B-94-5	5	28-Aug-97	7440-38-2	Arsenic	5	mg/K	5	0	1
Ia	Soil	B-94-5	5	28-Aug-97	7440-39-3	Barium	45	mg/K	45	1	1
Ia	Soil	B-94-5	5	28-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Ia	Soil	B-94-5	5	28-Aug-97	205-99-2	Benzo(b)fluoranthene	0.09	mg/K	0.09	1	1
Ia	Soil	B-94-5	5	28-Aug-97	207-08-9	Benzo(k)fluoranthene	0.04	mg/K	0.04	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	Soil	B-94-5	5	28-Aug-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
Ia	Soil	B-94-5	5	28-Aug-97		C10-C25	1100	mg/K	1100	1	1
Ia	Soil	B-94-5	5	28-Aug-97		C1-C40	3300	mg/K	3300	1	1
Ia	Soil	B-94-5	5	28-Aug-97		C25-C40	2200	mg/K	2200	1	1
Ia	Soil	B-94-5	5	28-Aug-97	56-55-3	Benzo(a)anthracene	0.04	mg/K	0.04	0	1
Ia	Soil	B-94-5	5	28-Aug-97	83-32-9	Acenaphthene	0.04	mg/K	0.04	0	1
Ia	Soil	135630-1a-0.5	0.5	26-Jun-98	7439-92-1	Lead	82	mg/k	82	1	1
Ia	Soil	135630-2a-0.5	0.5	26-Jun-98	7439-92-1	Lead	6	mg/k	6	1	1
Ia	Soil	135630-3a-0.5	0.5	26-Jun-98	7439-92-1	Lead	59	mg/k	59	1	1
Ia	Soil	135634-1a-0.5	0.5	26-Jun-98	7439-92-1	Lead	120	mg/k	120	1	1
Ia	Soil	135634-2a-0.5	0.5	26-Jun-98	7439-92-1	Lead	1100	mg/k	1100	1	1
Ia	Soil	135634-3a-0.5	0.5	26-Jun-98	7439-92-1	Lead	120	mg/k	120	1	1
Ia	Soil	SP-7-10.5	10.5	04-Mar-01	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	SP-7-10.5	10.5	04-Mar-01		C4-C10	10	mg/k	10	0	1
Ia	Soil	SP-7-10.5	10.5	04-Mar-01		C25-C40	10	mg/k	10	0	1
Ia	Soil	SP-7-10.5	10.5	04-Mar-01		C1-C40	10	mg/K	10	0	1
Ia	Soil	SP-7-10.5	10.5	04-Mar-01		C10-C25	10	mg/k	10	0	1
Ia	Soil	SP-7-10.5	10.5	04-Mar-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Ia	Soil	SP-7-10.5	10.5	04-Mar-01	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Ia	Soil	SP-7-10.5	10.5	04-Mar-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Ia	Soil	135630-1-0.25	0.25	30-May-01	7439-92-1	Lead	150	mg/k	150	1	1
Ia	Soil	135630-2-0.25	0.25	30-May-01	7439-92-1	Lead	43	mg/k	43	1	1
Ia	Soil	135630-3-0.25	0.25	30-May-01	7439-92-1	Lead	140	mg/k	140	1	1
Ia	Soil	135634-1-0.25	0.25	30-May-01	7439-92-1	Lead	42	mg/k	42	1	1
Ia	Soil	135634-2-0.25	0.25	30-May-01	7439-92-1	Lead	16	mg/k	16	1	1
Ia	Soil	135634-3-0.25	0.25	30-May-01	7439-92-1	Lead	84	mg/k	84	1	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.048	mg/k	0.048	1	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.059	mg/k	0.059	1	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	7440-39-3	Barium	46	mg/k	46	1	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	3.5	mg/k	3.5	1	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	11	mg/k	11	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	Soil	S-18-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	7440-66-6	Zinc	8.5	mg/k	8.5	1	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	7439-92-1	Lead	7.2	mg/k	7.2	1	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	1	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.03	mg/k	0.03	0	0
Ia	Soil	S-18-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	7440-02-0	Nickel	8.4	mg/k	8.4	1	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03		C10-C25	370	mg/k	370	1	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03		C12-C16	6	mg/k	6	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03		C16-C21	11	mg/k	11	1	0
Ia	Soil	S-18-0.5	0.5	05-Jun-03		C16-C21	61	mg/k	61	1	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03		C21-C40	260	mg/k	260	1	0
Ia	Soil	S-18-0.5	0.5	05-Jun-03		C21-C40	540	mg/k	540	1	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03		C25-C40	1500	mg/k	1500	1	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	Soil	S-18-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03		C10-C12	3	mg/k	3	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	7440-47-3	Chromium	10	mg/k	10	1	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.26	mg/k	0.26	1	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	1.9	mg/k	1.9	1	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	7440-50-8	Copper	2.3	mg/k	2.3	1	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	2.2	mg/k	2.2	1	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1.6	mg/k	1.6	1	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	7439-92-1	Lead	4.7	mg/k	4.7	1	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	86-73-7	Fluorene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	7440-02-0	Nickel	10	mg/k	10	1	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	7440-50-8	Copper	4	mg/k	4	1	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	218-01-9	Chrysene	0.1	mg/k	0.1	1	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	7440-47-3	Chromium	19	mg/k	19	1	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	206-44-0	Fluoranthene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	7440-39-3	Barium	46	mg/k	46	1	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	7440-66-6	Zinc	11	mg/k	11	1	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	13	mg/k	13	1	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.03	mg/k	0.03	0	0
Ia	Soil	S-18-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	129-00-0	Pyrene	0.03	mg/k	0.03	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	Soil	S-18-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	85-01-8	Phenanthrene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	83-32-9	Acenaphthene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03		C25-C40	980	mg/k	980	1	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03		C10-C25	260	mg/k	260	1	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	3.7	mg/k	3.7	1	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	120-12-7	Anthracene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	208-96-8	Acenaphthylene	0.03	mg/k	0.03	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-18-2.5	2.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.03	mg/k	0.03	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	Soil	S-35-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	83-32-9	Acenaphthene	0.02	mg/k	0.02	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	120-12-7	Anthracene	0.02	mg/k	0.02	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	3.9	mg/k	3.9	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	208-96-8	Acenaphthylene	0.02	mg/k	0.02	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	7440-39-3	Barium	64	mg/k	64	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	7439-92-1	Lead	30	mg/k	30	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	7440-66-6	Zinc	32	mg/k	32	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.02	mg/k	0.02	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	86-73-7	Fluorene	0.02	mg/k	0.02	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	129-00-0	Pyrene	0.024	mg/k	0.024	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.02	mg/k	0.02	0	0
Ia	Soil	S-35-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	7440-02-0	Nickel	16	mg/k	16	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	Soil	S-35-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	85-01-8	Phenanthrene	0.02	mg/k	0.02	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.02	mg/k	0.02	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03		C16-C21	10	mg/k	10	1	0
Ia	Soil	S-35-0.5	0.5	04-Jun-03	206-44-0	Fluoranthene	0.02	mg/k	0.02	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03		C10-C25	200	mg/k	200	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03		C10-C12	4	mg/k	4	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03		C21-C40	260	mg/k	260	1	0
Ia	Soil	S-35-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03		C16-C21	31	mg/k	31	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	1.7	mg/k	1.7	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.02	mg/k	0.02	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.024	mg/k	0.024	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.027	mg/k	0.027	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.061	mg/k	0.061	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.02	mg/k	0.02	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	7440-50-8	Copper	7.5	mg/k	7.5	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	1.5	mg/k	1.5	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03		C12-C16	8	mg/k	8	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	20	mg/k	20	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	218-01-9	Chrysene	0.03	mg/k	0.03	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	7440-47-3	Chromium	20	mg/k	20	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03		C25-C40	1200	mg/k	1200	1	1
Ia	Soil	S-35-0.5	0.5	04-Jun-03		C21-C40	360	mg/k	360	1	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.015	mg/k	0.015	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	7440-50-8	Copper	7	mg/k	7	1	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	Soil	S-35-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	85-01-8	Phenanthrene	0.015	mg/k	0.015	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	19	mg/k	19	1	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	206-44-0	Fluoranthene	0.015	mg/k	0.015	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	86-73-7	Fluorene	0.015	mg/k	0.015	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.015	mg/k	0.015	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	7439-92-1	Lead	45	mg/k	45	1	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	129-00-0	Pyrene	0.015	mg/k	0.015	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.015	mg/k	0.015	0	0
Ia	Soil	S-35-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	7440-02-0	Nickel	18	mg/k	18	1	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03		C25-C40	1100	mg/k	1100	1	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.015	mg/k	0.015	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.024	mg/k	0.024	1	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.015	mg/k	0.015	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	1.7	mg/k	1.7	1	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03		C10-C12	3	mg/k	3	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03		C12-C16	6	mg/k	6	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03		C16-C21	47	mg/k	47	1	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03		C21-C40	460	mg/k	460	1	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	7440-47-3	Chromium	20	mg/k	20	1	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	218-01-9	Chrysene	0.018	mg/k	0.018	1	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03		C16-C21	13	mg/k	13	1	0
Ia	Soil	S-35-2.5	2.5	04-Jun-03	7440-66-6	Zinc	17	mg/k	17	1	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03		C21-C40	390	mg/k	390	1	0
Ia	Soil	S-35-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	Soil	S-35-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.032	mg/k	0.032	1	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.015	mg/k	0.015	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	83-32-9	Acenaphthene	0.015	mg/k	0.015	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	208-96-8	Acenaphthylene	0.015	mg/k	0.015	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	120-12-7	Anthracene	0.015	mg/k	0.015	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	4.1	mg/k	4.1	1	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	7440-39-3	Barium	58	mg/k	58	1	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-35-2.5	2.5	04-Jun-03		C10-C25	230	mg/k	230	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	7440-50-8	Copper	11	mg/k	11	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	2	mg/k	2	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	218-01-9	Chrysene	0.033	mg/k	0.033	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	7440-47-3	Chromium	30	mg/k	30	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	85-01-8	Phenanthrene	0.016	mg/k	0.016	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03		C25-C40	200	mg/k	200	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03		C10-C25	42	mg/k	42	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.059	mg/k	0.059	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	7440-02-0	Nickel	22	mg/k	22	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1.3	mg/k	1.3	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.013	mg/k	0.013	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	Soil	S-36-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	206-44-0	Fluoranthene	0.066	mg/k	0.066	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	7439-92-1	Lead	62	mg/k	62	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.098	mg/k	0.098	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	1.6	mg/k	1.6	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.034	mg/k	0.034	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.091	mg/k	0.091	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.084	mg/k	0.084	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	7440-39-3	Barium	60	mg/k	60	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	208-96-8	Acenaphthylene	0.01	mg/k	0.01	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	3.7	mg/k	3.7	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.018	mg/k	0.018	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	7440-66-6	Zinc	83	mg/k	83	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	22	mg/k	22	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	Soil	S-36-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	129-00-0	Pyrene	0.076	mg/k	0.076	1	1
Ia	Soil	S-36-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	206-44-0	Fluoranthene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	7439-92-1	Lead	12	mg/k	12	1	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	7440-50-8	Copper	7.1	mg/k	7.1	1	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	1.7	mg/k	1.7	1	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	218-01-9	Chrysene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	7440-47-3	Chromium	13	mg/k	13	1	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	7440-66-6	Zinc	36	mg/k	36	1	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	16	mg/k	16	1	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	129-00-0	Pyrene	0.005	mg/k	0.005	1	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	85-01-8	Phenanthrene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	7440-02-0	Nickel	18	mg/k	18	1	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ia	Soil	S-36-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	1.6	mg/k	1.6	1	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03		C25-C40	200	mg/k	200	1	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03		C10-C25	50	mg/k	50	1	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.007	mg/k	0.007	1	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	2.2	mg/k	2.2	1	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	7440-39-3	Barium	59	mg/k	59	1	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.015	mg/k	0.015	1	1
Ia	Soil	S-36-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Ib	GS	SV-10-05	5	19-Jul-07	91-20-3	Naphthalene	0.053	ug/L	0.053	0	1
Ib	GS	SV-10-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.042	ug/L	0.042	0	1
Ib	GS	SV-10-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.031	ug/L	0.031	0	1
Ib	GS	SV-10-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.012	ug/L	0.012	0	1
Ib	GS	SV-10-05	5	19-Jul-07	100-42-5	Styrene	0.011	ug/L	0.011	0	1
Ib	GS	SV-10-05	5	19-Jul-07	95-47-6	o-Xylene	0.014	ug/L	0.014	1	1
Ib	GS	SV-10-05	5	19-Jul-07		Oxygen	8.5	%		1	1
Ib	GS	SV-10-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.012	ug/L	0.012	0	1
Ib	GS	SV-10-05	5	19-Jul-07		Nitrogen	83	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	GS	SV-10-05	5	19-Jul-07	142-82-5	n-Heptane	0.01	ug/L	0.01	0	1
Ib	GS	SV-10-05	5	19-Jul-07	75-09-2	Methylene chloride	0.023	ug/L	0.023	1	1
Ib	GS	SV-10-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0091	ug/L	0.0091	0	1
Ib	GS	SV-10-05	5	19-Jul-07	74-82-8	Methane	0.082	%		1	1
Ib	GS	SV-10-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.011	ug/L	0.011	0	1
Ib	GS	SV-10-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.012	ug/L	0.012	0	1
Ib	GS	SV-10-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.042	ug/L	0.042	0	1
Ib	GS	SV-10-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.025	ug/L	0.025	0	1
Ib	GS	SV-10-05	5	19-Jul-07	110-54-3	Hexane	0.35	ug/L	0.35	1	1
Ib	GS	SV-10-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.11	ug/L	0.11	0	1
Ib	GS	SV-10-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.018	ug/L	0.018	1	1
Ib	GS	SV-10-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.042	ug/L	0.042	0	1
Ib	GS	SV-10-05	5	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0084	UG/L	0.0084	0	1
Ib	GS	SV-10-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.013	ug/L	0.013	1	1
Ib	GS	SV-10-05	5	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0093	UG/L	0.0093	0	1
Ib	GS	SV-10-05	5	12-Sep-07	78-87-5	1,2-Dichloropropane	0.0056	UG/L	0.0056	0	1
Ib	GS	SV-10-05	5	12-Sep-07		1,2-Dichloroethane-d4	109	%		1	1
Ib	GS	SV-10-05	5	12-Sep-07	107-06-2	1,2-Dichloroethane	0.0049	UG/L	0.0049	0	1
Ib	GS	SV-10-05	5	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.0073	UG/L	0.0073	0	1
Ib	GS	SV-10-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.014	ug/L	0.014	0	1
Ib	GS	SV-10-05	5	12-Sep-07	106-93-4	1,2-Dibromoethane	0.0093	UG/L	0.0093	0	1
Ib	GS	SV-10-05	5	19-Jul-07		Ethene	0.0025	%		0	1
Ib	GS	SV-10-05	5	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.036	UG/L	0.036	0	1
Ib	GS	SV-10-05	5	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.029	UG/L	0.029	0	1
Ib	GS	SV-10-05	5	12-Sep-07	75-35-4	1,1-Dichloroethene	0.0048	UG/L	0.0048	0	1
Ib	GS	SV-10-05	5	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.0059	UG/L	0.0059	0	1
Ib	GS	SV-10-05	5	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.0066	UG/L	0.0066	0	1
Ib	GS	SV-10-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.0075	ug/L	0.0075	0	1
Ib	GS	SV-10-05	5	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0083	UG/L	0.0083	0	1
Ib	GS	SV-10-05	5	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.0066	UG/L	0.0066	0	1
Ib	GS	SV-10-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.0065	ug/L	0.0065	0	1
Ib	GS	SV-10-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.069	ug/L	0.069	0	1
Ib	GS	SV-10-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.014	ug/L	0.014	0	1
Ib	GS	SV-10-05	5	19-Jul-07	79-01-6	Trichloroethene	0.014	ug/L	0.014	0	1
Ib	GS	SV-10-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.011	ug/L	0.011	0	1
Ib	GS	SV-10-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.01	ug/L	0.01	0	1
Ib	GS	SV-10-05	5	19-Jul-07		Toluene-d8	96	%		1	1
Ib	GS	SV-10-05	5	19-Jul-07	108-88-3	Toluene	0.017	ug/L	0.017	1	1
Ib	GS	SV-10-05	5	12-Sep-07	75-34-3	1,1-Dichloroethane	0.0049	UG/L	0.0049	0	1
Ib	GS	SV-10-05	5	19-Jul-07	78-93-3	2-Butanone	0.013	ug/L	0.013	1	1
Ib	GS	SV-10-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.017	ug/L	0.017	0	1
Ib	GS	SV-10-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.015	ug/L	0.015	0	1
Ib	GS	SV-10-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.01	ug/L	0.01	0	1
Ib	GS	SV-10-05	5	19-Jul-07		1,2-Dichloroethane-d4	106	%		1	1
Ib	GS	SV-10-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.012	ug/L	0.012	0	1
Ib	GS	SV-10-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.012	ug/L	0.012	0	1
Ib	GS	SV-10-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.0056	ug/L	0.0056	0	1
Ib	GS	SV-10-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.015	ug/L	0.015	0	1
Ib	GS	SV-10-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.015	ug/L	0.015	0	1
Ib	GS	SV-10-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.019	ug/L	0.019	0	1
Ib	GS	SV-10-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.012	ug/L	0.012	0	1
Ib	GS	SV-10-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.012	ug/L	0.012	0	1
Ib	GS	SV-10-05	5	19-Jul-07	591-78-6	2-Hexanone	0.041	ug/L	0.041	0	1
Ib	GS	SV-10-05	5	19-Jul-07		4-Bromofluorobenzene	90	%		1	1
Ib	GS	SV-10-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.01	ug/L	0.01	0	1
Ib	GS	SV-10-05	5	19-Jul-07	67-64-1	Acetone	0.032	ug/L	0.032	1	1
Ib	GS	SV-10-05	5	19-Jul-07	107-05-1	Allyl chloride	0.032	ug/L	0.032	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	GS	SV-10-05	5	19-Jul-07	71-43-2	Benzene	0.18	ug/L	0.18	1	1
Ib	GS	SV-10-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.013	ug/L	0.013	0	1
Ib	GS	SV-10-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.017	ug/L	0.017	0	1
Ib	GS	SV-10-05	5	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	0.033	UG/L	0.033	0	1
Ib	GS	SV-10-05	5	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.0059	UG/L	0.0059	0	1
Ib	GS	SV-10-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.036	ug/L	0.036	0	1
Ib	GS	SV-10-05	5	19-Jul-07		Carbon Monoxide	0.025	%		0	1
Ib	GS	SV-10-05	5	19-Jul-07		Ethane	0.0025	%		0	1
Ib	GS	SV-10-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.012	ug/L	0.012	0	1
Ib	GS	SV-10-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.022	ug/L	0.022	0	1
Ib	GS	SV-10-05	5	19-Jul-07	110-82-7	Cyclohexane	0.85	ug/L	0.85	1	1
Ib	GS	SV-10-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.011	ug/L	0.011	0	1
Ib	GS	SV-10-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.01	ug/L		0	1
Ib	GS	SV-10-05	5	19-Jul-07	74-87-3	Chloromethane	0.021	ug/L	0.021	0	1
Ib	GS	SV-10-05	5	19-Jul-07	67-66-3	Chloroform	2.5	ug/L	2.5	1	1
Ib	GS	SV-10-05	5	19-Jul-07	75-00-3	Chloroethane	0.0067	ug/L	0.0067	0	1
Ib	GS	SV-10-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.018	ug/L	0.018	0	1
Ib	GS	SV-10-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.025	ug/L	0.025	1	1
Ib	GS	SV-10-05	5	19-Jul-07	64-17-5	Ethanol	0.019	ug/L	0.019	0	1
Ib	GS	SV-10-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.038	ug/L	0.038	1	1
Ib	GS	SV-10-05	5	19-Jul-07		Carbon Dioxide	8.8	%		1	1
Ib	GS	SV-10-05	5	19-Jul-07	74-83-9	Bromomethane	0.0098	ug/L	0.0098	0	1
Ib	GS	SV-10-05	5	19-Jul-07	75-25-2	Bromoform	0.026	ug/L	0.026	0	1
Ib	GS	SV-10-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.014	ug/L	0.014	0	1
Ib	GS	SV-10-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.019	ug/L	0.019	0	1
Ib	GS	SV-10-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.01	ug/L	0.01	0	1
Ib	GS	SV-10-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.01	ug/L	0.01	0	1
Ib	GS	SV-10-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.061	ug/L	0.061	0	1
Ib	GS	SV-10-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.075	ug/L	0.075	0	1
Ib	GS	SV-10-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.012	ug/L	0.012	0	1
Ib	GS	SV-10-05	5	12-Sep-07	100-42-5	Styrene	0.0052	UG/L	0.0052	0	1
Ib	GS	SV-10-05	5	12-Sep-07	100-41-4	Ethylbenzene	0.0052	UG/L	0.0052	0	1
Ib	GS	SV-10-05	5	12-Sep-07	87-68-3	Hexachlorobutadiene	0.052	UG/L	0.052	0	1
Ib	GS	SV-10-05	5	12-Sep-07	110-54-3	Hexane	0.0043	UG/L	0.0043	0	1
Ib	GS	SV-10-05	5	12-Sep-07	67-63-0	Isopropyl alcohol	0.012	UG/L	0.012	0	1
Ib	GS	SV-10-05	5	12-Sep-07	108-20-3	Isopropyl ether	0.02	UG/L	0.02	0	1
Ib	GS	SV-10-05	5	12-Sep-07	98-82-8	Isopropylbenzene	0.0059	UG/L	0.0059	0	1
Ib	GS	SV-10-05	5	12-Sep-07	179601-23-1	m,p-Xylenes	0.0052	UG/L	0.0052	0	1
Ib	GS	SV-10-05	5	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.0044	UG/L	0.0044	0	1
Ib	GS	SV-10-05	5	12-Sep-07	75-09-2	Methylene Chloride	0.0042	UG/L	0.0042	0	1
Ib	GS	SV-10-05	5	12-Sep-07	91-20-3	Naphthalene	0.025	UG/L	0.025	0	1
Ib	GS	SV-10-05	5	12-Sep-07	142-82-5	n-Heptane	0.005	UG/L	0.005	0	1
Ib	GS	SV-10-05	5	12-Sep-07	103-65-1	n-Propylbenzene	0.0059	UG/L	0.0059	0	1
Ib	GS	SV-10-05	5	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.02	UG/L	0.02	0	1
Ib	GS	SV-10-05	5	12-Sep-07	622-96-8	p-Ethyltoluene	0.0059	UG/L	0.0059	0	1
Ib	GS	SV-10-05	5	12-Sep-07	127-18-4	Tetrachloroethene	0.032	UG/L	0.032	1	1
Ib	GS	SV-10-05	5	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.02	UG/L	0.02	0	1
Ib	GS	SV-10-05	5	12-Sep-07	75-65-0	tert-Butyl alcohol	0.015	UG/L	0.015	0	1
Ib	GS	SV-10-05	5	12-Sep-07	109-99-9	Tetrahydrofuran	0.0036	UG/L	0.0036	0	1
Ib	GS	SV-10-05	5	12-Sep-07		Toluene-d8	99	%		1	1
Ib	GS	SV-10-05	5	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.0048	UG/L	0.0048	0	1
Ib	GS	SV-10-05	5	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.0055	UG/L	0.0055	0	1
Ib	GS	SV-10-05	5	12-Sep-07	79-01-6	Trichloroethene	0.0065	UG/L	0.0065	0	1
Ib	GS	SV-10-05	5	12-Sep-07	75-69-4	Trichlorofluoromethane	0.0068	UG/L	0.0068	0	1
Ib	GS	SV-10-05	5	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Ib	GS	SV-10-05	5	12-Sep-07	75-01-4	Vinyl Chloride	0.0031	UG/L	0.0031	0	1
Ib	GS	SV-10-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	GS	SV-10-05	5	12-Sep-07	106-99-0	1,3-Butadiene	0.0027	UG/L	0.0027	0	1
Ib	GS	SV-10-05	5	12-Sep-07	95-47-6	o-Xylene	0.0052	UG/L	0.0052	0	1
Ib	GS	SV-10-05	5	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.005	UG/L	0.005	0	1
Ib	GS	SV-10-05	5	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.0073	UG/L	0.0073	0	1
Ib	GS	SV-10-05	5	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.0073	UG/L	0.0073	0	1
Ib	GS	SV-10-05	5	12-Sep-07	108-88-3	Toluene	0.0046	UG/L	0.0046	0	1
Ib	GS	SV-10-05	5	12-Sep-07	64-17-5	Ethanol	0.0091	UG/L	0.0091	0	1
Ib	GS	SV-10-05	5	12-Sep-07	123-91-1	1,4-Dioxane	0.017	UG/L	0.017	0	1
Ib	GS	SV-10-05	5	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.0056	UG/L	0.0056	0	1
Ib	GS	SV-10-05	5	12-Sep-07	78-93-3	2-Butanone	0.0036	UG/L	0.0036	0	1
Ib	GS	SV-10-05	5	12-Sep-07		4-Bromofluorobenzene	89	%		1	1
Ib	GS	SV-10-05	5	12-Sep-07	67-64-1	Acetone	0.015	UG/L	0.015	1	1
Ib	GS	SV-10-05	5	12-Sep-07	107-05-1	Allyl chloride	0.015	UG/L	0.015	0	1
Ib	GS	SV-10-05	5	12-Sep-07	71-43-2	Benzene	0.0039	UG/L	0.0039	0	1
Ib	GS	SV-10-05	5	12-Sep-07	100-44-7	Benzyl chloride	0.0063	UG/L	0.0063	0	1
Ib	GS	SV-10-05	5	12-Sep-07	75-27-4	Bromodichloromethane	0.0081	UG/L	0.0081	0	1
Ib	GS	SV-10-05	5	12-Sep-07	67-66-3	Chloroform	0.77	UG/L	0.77	1	1
Ib	GS	SV-10-05	5	12-Sep-07	110-82-7	Cyclohexane	0.0089	UG/L	0.0089	1	1
Ib	GS	SV-10-05	5	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.0055	UG/L	0.0055	0	1
Ib	GS	SV-10-05	5	12-Sep-07	591-78-6	2-Hexanone	0.02	UG/L	0.02	0	1
Ib	GS	SV-10-05	5	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.006	UG/L	0.006	0	1
Ib	GS	SV-10-05	5	12-Sep-07	75-25-2	Bromoform	0.012	UG/L	0.012	0	1
Ib	GS	SV-10-05	5	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.0048	UG/L		0	1
Ib	GS	SV-10-05	5	12-Sep-07	124-48-1	Dibromochloromethane	0.01	UG/L	0.01	0	1
Ib	GS	SV-10-05	5	12-Sep-07	74-87-3	Chloromethane	0.01	UG/L	0.01	0	1
Ib	GS	SV-10-05	5	12-Sep-07	75-00-3	Chloroethane	0.0032	UG/L	0.0032	0	1
Ib	GS	SV-10-05	5	12-Sep-07	108-90-7	Chlorobenzene	0.0056	UG/L	0.0056	0	1
Ib	GS	SV-10-05	5	12-Sep-07	56-23-5	Carbon Tetrachloride	0.0088	UG/L	0.0088	1	1
Ib	GS	SV-10-05	5	12-Sep-07	75-15-0	Carbon Disulfide	0.0038	UG/L	0.0038	0	1
Ib	GS	SV-10-05	5	12-Sep-07	74-83-9	Bromomethane	0.0047	UG/L	0.0047	0	1
Ib	GS	SV-10-15	15	12-Sep-07	100-44-7	Benzyl chloride	0.63	UG/L	0.63	0	1
Ib	GS	SV-10-15	15	12-Sep-07	78-93-3	2-Butanone	0.36	UG/L	0.36	0	1
Ib	GS	SV-10-15	15	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.56	UG/L	0.56	0	1
Ib	GS	SV-10-15	15	12-Sep-07		4-Bromofluorobenzene	92	%		1	0
Ib	GS	SV-10-15	15	12-Sep-07	123-91-1	1,4-Dioxane	1.7	UG/L	1.7	0	1
Ib	GS	SV-10-15	15	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.73	UG/L	0.73	0	1
Ib	GS	SV-10-15	15	12-Sep-07		4-Bromofluorobenzene	98	%		1	1
Ib	GS	SV-10-15	15	12-Sep-07	591-78-6	2-Hexanone	2	UG/L	2	0	1
Ib	GS	SV-10-15	15	12-Sep-07	108-10-1	4-Methyl-2-pentanone	2	UG/L	2	0	1
Ib	GS	SV-10-15	15	12-Sep-07	67-64-1	Acetone	1.1	UG/L	1.1	0	1
Ib	GS	SV-10-15	15	12-Sep-07	71-43-2	Benzene	2.1	UG/L	2.1	1	1
Ib	GS	SV-10-15	15	12-Sep-07	75-27-4	Bromodichloromethane	17	UG/L	17	1	1
Ib	GS	SV-10-15	15	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.73	UG/L	0.73	0	1
Ib	GS	SV-10-15	15	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.66	UG/L	0.66	0	1
Ib	GS	SV-10-15	15	12-Sep-07	75-25-2	Bromoform	1.7	UG/L	1.7	1	1
Ib	GS	SV-10-15	15	12-Sep-07	74-83-9	Bromomethane	0.47	UG/L	0.47	0	1
Ib	GS	SV-10-15	15	12-Sep-07	75-15-0	Carbon Disulfide	0.55	UG/L	0.55	1	1
Ib	GS	SV-10-15	15	12-Sep-07	107-05-1	Allyl chloride	1.5	UG/L	1.5	0	1
Ib	GS	SV-10-15	15	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.59	UG/L	0.59	0	1
Ib	GS	SV-10-15	15	19-Jul-07	75-01-4	Vinyl chloride	2	ug/L	2	0	1
Ib	GS	SV-10-15	15	12-Sep-07	127-18-4	Tetrachloroethene	25	UG/L	25	1	1
Ib	GS	SV-10-15	15	12-Sep-07	56-23-5	Carbon Tetrachloride	69	UG/L	69	1	1
Ib	GS	SV-10-15	15	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	27	UG/L	27	0	1
Ib	GS	SV-10-15	15	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.66	UG/L	0.66	0	1
Ib	GS	SV-10-15	15	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.83	UG/L	0.83	0	1
Ib	GS	SV-10-15	15	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.93	UG/L	0.93	0	1
Ib	GS	SV-10-15	15	12-Sep-07	75-34-3	1,1-Dichloroethane	0.49	UG/L	0.49	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	GS	SV-10-15	15	12-Sep-07	75-35-4	1,1-Dichloroethene	0.85	UG/L	0.85	1	1
Ib	GS	SV-10-15	15	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	3.6	UG/L	3.6	0	1
Ib	GS	SV-10-15	15	12-Sep-07	106-99-0	1,3-Butadiene	0.27	UG/L	0.27	0	1
Ib	GS	SV-10-15	15	12-Sep-07	106-93-4	1,2-Dibromoethane	0.93	UG/L	0.93	0	1
Ib	GS	SV-10-15	15	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.84	UG/L	0.84	0	1
Ib	GS	SV-10-15	15	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.73	UG/L	0.73	0	1
Ib	GS	SV-10-15	15	12-Sep-07	107-06-2	1,2-Dichloroethane	0.49	UG/L	0.49	0	1
Ib	GS	SV-10-15	15	12-Sep-07		1,2-Dichloroethane-d4	99	%		1	0
Ib	GS	SV-10-15	15	12-Sep-07		1,2-Dichloroethane-d4	109	%		1	1
Ib	GS	SV-10-15	15	12-Sep-07	78-87-5	1,2-Dichloropropane	0.56	UG/L	0.56	0	1
Ib	GS	SV-10-15	15	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.59	UG/L	0.59	0	1
Ib	GS	SV-10-15	15	12-Sep-07	96-18-4	1,2,3-Trichloropropane	23	UG/L	23	0	1
Ib	GS	SV-10-15	15	12-Sep-07		Toluene-d8	98	%		1	0
Ib	GS	SV-10-15	15	12-Sep-07	103-65-1	n-Propylbenzene	0.59	UG/L	0.59	0	1
Ib	GS	SV-10-15	15	12-Sep-07	95-47-6	o-Xylene	0.52	UG/L	0.52	0	1
Ib	GS	SV-10-15	15	12-Sep-07	622-96-8	p-Ethyltoluene	0.59	UG/L	0.59	0	1
Ib	GS	SV-10-15	15	12-Sep-07	100-42-5	Styrene	0.52	UG/L	0.52	0	1
Ib	GS	SV-10-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Ib	GS	SV-10-15	15	12-Sep-07	75-65-0	tert-Butyl alcohol	53	UG/L	53	1	1
Ib	GS	SV-10-15	15	12-Sep-07	637-92-3	Ethyl tert butyl ether	16	UG/L	16	0	1
Ib	GS	SV-10-15	15	12-Sep-07	994-05-8	tert-Amyl methyl ether	16	UG/L	16	0	1
Ib	GS	SV-10-15	15	12-Sep-07	108-88-3	Toluene	2.3	UG/L	2.3	1	1
Ib	GS	SV-10-15	15	12-Sep-07	75-09-2	Methylene Chloride	1.6	UG/L	1.6	1	1
Ib	GS	SV-10-15	15	12-Sep-07		Toluene-d8	101	%		1	1
Ib	GS	SV-10-15	15	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.48	UG/L	0.48	0	1
Ib	GS	SV-10-15	15	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.55	UG/L	0.55	0	1
Ib	GS	SV-10-15	15	12-Sep-07	79-01-6	Trichloroethene	13	UG/L	13	1	1
Ib	GS	SV-10-15	15	12-Sep-07	75-69-4	Trichlorofluoromethane	0.68	UG/L	0.68	0	1
Ib	GS	SV-10-15	15	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Ib	GS	SV-10-15	15	12-Sep-07	75-01-4	Vinyl Chloride	0.31	UG/L	0.31	0	1
Ib	GS	SV-10-15	15	12-Sep-07	109-99-9	Tetrahydrofuran	0.36	UG/L	0.36	0	1
Ib	GS	SV-10-15	15	12-Sep-07	100-41-4	Ethylbenzene	0.52	UG/L	0.52	0	1
Ib	GS	SV-10-15	15	12-Sep-07	75-00-3	Chloroethane	0.32	UG/L	0.32	0	1
Ib	GS	SV-10-15	15	12-Sep-07	67-66-3	Chloroform	0.59	UG/L	0.59	1	1
Ib	GS	SV-10-15	15	12-Sep-07	74-87-3	Chloromethane	1	UG/L	1	0	1
Ib	GS	SV-10-15	15	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.48	UG/L		0	1
Ib	GS	SV-10-15	15	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.55	UG/L	0.55	0	1
Ib	GS	SV-10-15	15	12-Sep-07	110-82-7	Cyclohexane	9.6	UG/L	9.6	1	1
Ib	GS	SV-10-15	15	12-Sep-07	124-48-1	Dibromochloromethane	3.8	UG/L	3.8	1	1
Ib	GS	SV-10-15	15	12-Sep-07	142-82-5	n-Heptane	2.7	UG/L	2.7	1	1
Ib	GS	SV-10-15	15	12-Sep-07	64-17-5	Ethanol	0.91	UG/L	0.91	0	1
Ib	GS	SV-10-15	15	12-Sep-07	91-20-3	Naphthalene	2.5	UG/L	2.5	0	1
Ib	GS	SV-10-15	15	12-Sep-07	110-54-3	Hexane	12	UG/L	12	1	1
Ib	GS	SV-10-15	15	12-Sep-07	67-63-0	Isopropyl alcohol	1.2	UG/L	1.2	0	1
Ib	GS	SV-10-15	15	12-Sep-07	108-20-3	Isopropyl ether	16	UG/L	16	0	1
Ib	GS	SV-10-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	23	ug/L	23	0	1
Ib	GS	SV-10-15	15	12-Sep-07	98-82-8	Isopropylbenzene	0.59	UG/L	0.59	0	1
Ib	GS	SV-10-15	15	12-Sep-07	179601-23-1	m,p-Xylenes	0.94	UG/L	0.94	1	1
Ib	GS	SV-10-15	15	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.44	UG/L	0.44	0	1
Ib	GS	SV-10-15	15	12-Sep-07	108-90-7	Chlorobenzene	0.56	UG/L	0.56	0	1
Ib	GS	SV-10-15	15	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.6	UG/L	0.6	0	1
Ib	GS	SV-10-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	4.6	ug/L	4.6	0	1
Ib	GS	SV-10-15	15	19-Jul-07	107-05-1	Allyl chloride	9.6	ug/L	9.6	0	1
Ib	GS	SV-10-15	15	19-Jul-07	67-64-1	Acetone	140	ug/L	140	1	1
Ib	GS	SV-10-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	3.1	ug/L	3.1	0	1
Ib	GS	SV-10-15	15	19-Jul-07		4-Bromofluorobenzene	96	%		1	1
Ib	GS	SV-10-15	15	19-Jul-07	591-78-6	2-Hexanone	12	ug/L	12	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	GS	SV-10-15	15	19-Jul-07	78-93-3	2-Butanone	14	ug/L	14	1	1
Ib	GS	SV-10-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	3.6	ug/L	3.6	0	1
Ib	GS	SV-10-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	5.9	ug/L	5.9	0	1
Ib	GS	SV-10-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	4.6	ug/L	4.6	0	1
Ib	GS	SV-10-15	15	19-Jul-07	75-27-4	Bromodichloromethane	9.4	ug/L	9.4	1	1
Ib	GS	SV-10-15	15	19-Jul-07	106-99-0	1,3-Butadiene	1.7	ug/L	1.7	0	1
Ib	GS	SV-10-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	3.8	ug/L	3.8	0	1
Ib	GS	SV-10-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	3.5	ug/L	3.5	0	1
Ib	GS	SV-10-15	15	19-Jul-07		1,2-Dichloroethane-d4	100	%		1	1
Ib	GS	SV-10-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	3.1	ug/L	3.1	0	1
Ib	GS	SV-10-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	4.6	ug/L	4.6	0	1
Ib	GS	SV-10-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	5.3	ug/L	5.3	0	1
Ib	GS	SV-10-15	15	19-Jul-07	123-91-1	1,4-Dioxane	11	ug/L	11	0	1
Ib	GS	SV-10-15	15	19-Jul-07	75-00-3	Chloroethane	2	ug/L	2	0	1
Ib	GS	SV-10-15	15	12-Sep-07	87-68-3	Hexachlorobutadiene	5.2	UG/L	5.2	0	1
Ib	GS	SV-10-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	4.3	ug/L	4.3	0	1
Ib	GS	SV-10-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	18	ug/L	18	0	1
Ib	GS	SV-10-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	4.2	ug/L	4.2	0	1
Ib	GS	SV-10-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	5.2	ug/L	5.2	0	1
Ib	GS	SV-10-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.9	ug/L	5.9	0	1
Ib	GS	SV-10-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	4.2	ug/L	4.2	0	1
Ib	GS	SV-10-15	15	19-Jul-07	71-43-2	Benzene	2.4	ug/L	2.4	0	1
Ib	GS	SV-10-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	3	ug/L	3	0	1
Ib	GS	SV-10-15	15	19-Jul-07	100-44-7	Benzyl chloride	4	ug/L	4	0	1
Ib	GS	SV-10-15	15	19-Jul-07	108-90-7	Chlorobenzene	3.5	ug/L	3.5	0	1
Ib	GS	SV-10-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	25	ug/L	25	1	1
Ib	GS	SV-10-15	15	19-Jul-07		Carbon Monoxide	0.057	%		0	1
Ib	GS	SV-10-15	15	19-Jul-07	75-15-0	Carbon Disulfide	5.5	ug/L	5.5	1	1
Ib	GS	SV-10-15	15	19-Jul-07		Carbon Dioxide	3.3	%		1	1
Ib	GS	SV-10-15	15	19-Jul-07	74-83-9	Bromomethane	3	ug/L	3	0	1
Ib	GS	SV-10-15	15	19-Jul-07	75-25-2	Bromoform	7.9	ug/L	7.9	0	1
Ib	GS	SV-10-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	21	ug/L	21	0	1
Ib	GS	SV-10-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	3.1	ug/L	3.1	0	1
Ib	GS	SV-10-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	13	ug/L	13	0	1
Ib	GS	SV-10-15	15	19-Jul-07	75-09-2	Methylene chloride	6.8	ug/L	6.8	1	1
Ib	GS	SV-10-15	15	19-Jul-07	91-20-3	Naphthalene	16	ug/L	16	0	1
Ib	GS	SV-10-15	15	19-Jul-07	142-82-5	n-Heptane	3.7	ug/L	3.7	1	1
Ib	GS	SV-10-15	15	19-Jul-07		Nitrogen	78	%		1	1
Ib	GS	SV-10-15	15	19-Jul-07	103-65-1	n-Propylbenzene	3.8	ug/L	3.8	0	1
Ib	GS	SV-10-15	15	19-Jul-07		Oxygen	18	%		1	1
Ib	GS	SV-10-15	15	19-Jul-07	95-47-6	o-Xylene	3.3	ug/L	3.3	0	1
Ib	GS	SV-10-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	2.8	ug/L	2.8	0	1
Ib	GS	SV-10-15	15	19-Jul-07	100-42-5	Styrene	3.3	ug/L	3.3	1	1
Ib	GS	SV-10-15	15	19-Jul-07		Toluene-d8	96	%		1	1
Ib	GS	SV-10-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	27	ug/L	27	1	1
Ib	GS	SV-10-15	15	19-Jul-07	127-18-4	Tetrachloroethene	7.3	ug/L	7.3	1	1
Ib	GS	SV-10-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	2.2	ug/L	2.2	0	1
Ib	GS	SV-10-15	15	19-Jul-07	108-88-3	Toluene	110	ug/L	110	1	1
Ib	GS	SV-10-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	3	ug/L	3	0	1
Ib	GS	SV-10-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	3.5	ug/L	3.5	0	1
Ib	GS	SV-10-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	3.8	ug/L	3.8	0	1
Ib	GS	SV-10-15	15	19-Jul-07	79-01-6	Trichloroethene	5	ug/L	5	1	1
Ib	GS	SV-10-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	3.8	ug/L	3.8	0	1
Ib	GS	SV-10-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	3.5	ug/L	3.5	0	1
Ib	GS	SV-10-15	15	19-Jul-07	74-82-8	Methane	0.57	%		1	1
Ib	GS	SV-10-15	15	19-Jul-07	74-87-3	Chloromethane	6.3	ug/L	6.3	0	1
Ib	GS	SV-10-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	3	ug/L		0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	GS	SV-10-15	15	19-Jul-07	110-82-7	Cyclohexane	3.4	ug/L	3.4	1	1
Ib	GS	SV-10-15	15	19-Jul-07	124-48-1	Dibromochloromethane	6.5	ug/L	6.5	0	1
Ib	GS	SV-10-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	3.8	ug/L	3.8	0	1
Ib	GS	SV-10-15	15	19-Jul-07		Ethane	0.0057	%		0	1
Ib	GS	SV-10-15	15	19-Jul-07	67-66-3	Chloroform	1500	ug/L	1500	1	1
Ib	GS	SV-10-15	15	19-Jul-07	64-17-5	Ethanol	13	ug/L	13	1	1
Ib	GS	SV-10-15	15	19-Jul-07	108-20-3	Isopropyl ether	13	ug/L	13	0	1
Ib	GS	SV-10-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	4.6	ug/L	4.6	1	1
Ib	GS	SV-10-15	15	19-Jul-07	98-82-8	Isopropylbenzene	3.8	ug/L	3.8	0	1
Ib	GS	SV-10-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	7.5	ug/L	7.5	0	1
Ib	GS	SV-10-15	15	19-Jul-07	110-54-3	Hexane	6.6	ug/L	6.6	1	1
Ib	GS	SV-10-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	33	ug/L	33	0	1
Ib	GS	SV-10-15	15	19-Jul-07	100-41-4	Ethylbenzene	3.3	ug/L	3.3	0	1
Ib	GS	SV-10-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	13	ug/L	13	0	1
Ib	GS	SV-10-15	15	19-Jul-07		Ethene	0.0057	%		0	1
Ib	GS	SV-11-05	5	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.072	UG/L	0.072	0	1
Ib	GS	SV-11-05	5	12-Sep-07	100-44-7	Benzyl chloride	0.062	UG/L	0.062	0	1
Ib	GS	SV-11-05	5	12-Sep-07	123-91-1	1,4-Dioxane	0.17	UG/L	0.17	0	1
Ib	GS	SV-11-05	5	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.056	UG/L	0.056	0	1
Ib	GS	SV-11-05	5	12-Sep-07	78-93-3	2-Butanone	0.035	UG/L	0.035	0	1
Ib	GS	SV-11-05	5	12-Sep-07	591-78-6	2-Hexanone	0.19	UG/L	0.19	0	1
Ib	GS	SV-11-05	5	12-Sep-07		4-Bromofluorobenzene	95	%		1	0
Ib	GS	SV-11-05	5	12-Sep-07		4-Bromofluorobenzene	100	%		1	1
Ib	GS	SV-11-05	5	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.072	UG/L	0.072	0	1
Ib	GS	SV-11-05	5	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.19	UG/L	0.19	0	1
Ib	GS	SV-11-05	5	12-Sep-07	67-64-1	Acetone	0.11	UG/L	0.11	0	1
Ib	GS	SV-11-05	5	12-Sep-07	74-83-9	Bromomethane	0.046	UG/L	0.046	0	1
Ib	GS	SV-11-05	5	12-Sep-07	71-43-2	Benzene	0.038	UG/L	0.038	1	1
Ib	GS	SV-11-05	5	12-Sep-07	75-01-4	Vinyl Chloride	0.03	UG/L	0.03	0	1
Ib	GS	SV-11-05	5	12-Sep-07	75-27-4	Bromodichloromethane	0.08	UG/L	0.08	0	1
Ib	GS	SV-11-05	5	12-Sep-07	75-25-2	Bromoform	0.12	UG/L	0.12	0	1
Ib	GS	SV-11-05	5	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.058	UG/L	0.058	0	1
Ib	GS	SV-11-05	5	12-Sep-07	107-05-1	Allyl chloride	0.15	UG/L	0.15	0	1
Ib	GS	SV-11-05	5	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.35	UG/L	0.35	0	1
Ib	GS	SV-11-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.65	ug/L	0.65	0	1
Ib	GS	SV-11-05	5	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	1.1	UG/L	1.1	0	1
Ib	GS	SV-11-05	5	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.043	UG/L	0.043	0	1
Ib	GS	SV-11-05	5	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.082	UG/L	0.082	0	1
Ib	GS	SV-11-05	5	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.091	UG/L	0.091	0	1
Ib	GS	SV-11-05	5	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.065	UG/L	0.065	0	1
Ib	GS	SV-11-05	5	12-Sep-07	75-34-3	1,1-Dichloroethane	0.048	UG/L	0.048	0	1
Ib	GS	SV-11-05	5	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.083	UG/L	0.083	0	1
Ib	GS	SV-11-05	5	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.96	UG/L	0.96	0	1
Ib	GS	SV-11-05	5	12-Sep-07	106-99-0	1,3-Butadiene	0.026	UG/L	0.026	0	1
Ib	GS	SV-11-05	5	12-Sep-07	106-93-4	1,2-Dibromoethane	0.091	UG/L	0.091	0	1
Ib	GS	SV-11-05	5	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.065	UG/L	0.065	0	1
Ib	GS	SV-11-05	5	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.072	UG/L	0.072	0	1
Ib	GS	SV-11-05	5	12-Sep-07	107-06-2	1,2-Dichloroethane	0.048	UG/L	0.048	0	1
Ib	GS	SV-11-05	5	12-Sep-07		1,2-Dichloroethane-d4	110	%		1	0
Ib	GS	SV-11-05	5	12-Sep-07		1,2-Dichloroethane-d4	122	%		1	1
Ib	GS	SV-11-05	5	12-Sep-07	78-87-5	1,2-Dichloropropane	0.055	UG/L	0.055	0	1
Ib	GS	SV-11-05	5	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.058	UG/L	0.058	0	1
Ib	GS	SV-11-05	5	12-Sep-07	75-35-4	1,1-Dichloroethene	0.047	UG/L	0.047	0	1
Ib	GS	SV-11-05	5	12-Sep-07	110-82-7	Cyclohexane	5.8	UG/L	5.8	1	1
Ib	GS	SV-11-05	5	12-Sep-07	91-20-3	Naphthalene	0.25	UG/L	0.25	0	1
Ib	GS	SV-11-05	5	12-Sep-07	67-63-0	Isopropyl alcohol	0.12	UG/L	0.12	0	1
Ib	GS	SV-11-05	5	12-Sep-07	110-54-3	Hexane	1	UG/L	1	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	GS	SV-11-05	5	12-Sep-07	87-68-3	Hexachlorobutadiene	0.51	UG/L	0.51	0	1
Ib	GS	SV-11-05	5	12-Sep-07	100-41-4	Ethylbenzene	0.052	UG/L	0.052	0	1
Ib	GS	SV-11-05	5	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.66	UG/L	0.66	0	1
Ib	GS	SV-11-05	5	12-Sep-07	64-17-5	Ethanol	0.09	UG/L	0.09	0	1
Ib	GS	SV-11-05	5	12-Sep-07	98-82-8	Isopropylbenzene	0.058	UG/L	0.058	0	1
Ib	GS	SV-11-05	5	12-Sep-07	124-48-1	Dibromochloromethane	0.1	UG/L	0.1	0	1
Ib	GS	SV-11-05	5	12-Sep-07	179601-23-1	m,p-Xylenes	0.052	UG/L	0.052	0	1
Ib	GS	SV-11-05	5	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.054	UG/L	0.054	0	1
Ib	GS	SV-11-05	5	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.047	UG/L		0	1
Ib	GS	SV-11-05	5	12-Sep-07	74-87-3	Chloromethane	0.098	UG/L	0.098	0	1
Ib	GS	SV-11-05	5	12-Sep-07	67-66-3	Chloroform	0.058	UG/L	0.058	0	1
Ib	GS	SV-11-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Ib	GS	SV-11-05	5	19-Jul-07	108-90-7	Chlorobenzene	1.2	ug/L	1.2	0	1
Ib	GS	SV-11-05	5	12-Sep-07	108-90-7	Chlorobenzene	0.055	UG/L	0.055	0	1
Ib	GS	SV-11-05	5	12-Sep-07	56-23-5	Carbon Tetrachloride	0.075	UG/L	0.075	0	1
Ib	GS	SV-11-05	5	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.059	UG/L	0.059	0	1
Ib	GS	SV-11-05	5	12-Sep-07	75-65-0	tert-Butyl alcohol	0.48	UG/L	0.48	0	1
Ib	GS	SV-11-05	5	12-Sep-07	75-69-4	Trichlorofluoromethane	0.067	UG/L	0.067	0	1
Ib	GS	SV-11-05	5	12-Sep-07	79-01-6	Trichloroethene	0.064	UG/L	0.064	0	1
Ib	GS	SV-11-05	5	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.054	UG/L	0.054	0	1
Ib	GS	SV-11-05	5	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.047	UG/L	0.047	0	1
Ib	GS	SV-11-05	5	12-Sep-07		Toluene-d8	111	%		1	1
Ib	GS	SV-11-05	5	12-Sep-07		Toluene-d8	105	%		1	0
Ib	GS	SV-11-05	5	12-Sep-07	108-88-3	Toluene	0.045	UG/L	0.045	0	1
Ib	GS	SV-11-05	5	12-Sep-07	108-20-3	Isopropyl ether	0.66	UG/L	0.66	0	1
Ib	GS	SV-11-05	5	12-Sep-07	127-18-4	Tetrachloroethene	0.081	UG/L	0.081	0	1
Ib	GS	SV-11-05	5	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Ib	GS	SV-11-05	5	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.66	UG/L	0.66	0	1
Ib	GS	SV-11-05	5	12-Sep-07	100-42-5	Styrene	0.051	UG/L	0.051	0	1
Ib	GS	SV-11-05	5	12-Sep-07	622-96-8	p-Ethyltoluene	0.058	UG/L	0.058	0	1
Ib	GS	SV-11-05	5	12-Sep-07	95-47-6	o-Xylene	0.052	UG/L	0.052	0	1
Ib	GS	SV-11-05	5	12-Sep-07	103-65-1	n-Propylbenzene	0.058	UG/L	0.058	0	1
Ib	GS	SV-11-05	5	12-Sep-07	142-82-5	n-Heptane	0.69	UG/L	0.69	1	1
Ib	GS	SV-11-05	5	12-Sep-07	75-00-3	Chloroethane	0.031	UG/L	0.031	0	1
Ib	GS	SV-11-05	5	12-Sep-07	75-09-2	Methylene Chloride	0.041	UG/L	0.041	0	1
Ib	GS	SV-11-05	5	12-Sep-07	109-99-9	Tetrahydrofuran	0.035	UG/L	0.035	0	1
Ib	GS	SV-11-05	5	19-Jul-07	71-43-2	Benzene	0.81	ug/L	0.81	0	1
Ib	GS	SV-11-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	1.5	ug/L	1.5	0	1
Ib	GS	SV-11-05	5	19-Jul-07	123-91-1	1,4-Dioxane	3.6	ug/L	3.6	0	1
Ib	GS	SV-11-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	1.2	ug/L	1.2	0	1
Ib	GS	SV-11-05	5	19-Jul-07	78-93-3	2-Butanone	0.75	ug/L	0.75	0	1
Ib	GS	SV-11-05	5	19-Jul-07	591-78-6	2-Hexanone	4.1	ug/L	4.1	0	1
Ib	GS	SV-11-05	5	19-Jul-07		4-Bromofluorobenzene	88	%		1	1
Ib	GS	SV-11-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	1	ug/L	1	0	1
Ib	GS	SV-11-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	1.6	ug/L	1.6	0	1
Ib	GS	SV-11-05	5	19-Jul-07	107-05-1	Allyl chloride	3.2	ug/L	3.2	0	1
Ib	GS	SV-11-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	1.2	ug/L	1.2	0	1
Ib	GS	SV-11-05	5	19-Jul-07	100-44-7	Benzyl chloride	1.3	ug/L	1.3	0	1
Ib	GS	SV-11-05	5	19-Jul-07	75-27-4	Bromodichloromethane	1.7	ug/L	1.7	0	1
Ib	GS	SV-11-05	5	19-Jul-07	75-25-2	Bromoform	2.6	ug/L	2.6	0	1
Ib	GS	SV-11-05	5	19-Jul-07	74-83-9	Bromomethane	0.98	ug/L	0.98	0	1
Ib	GS	SV-11-05	5	19-Jul-07		Carbon Dioxide	9.4	%		1	1
Ib	GS	SV-11-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.79	ug/L	0.79	0	1
Ib	GS	SV-11-05	5	19-Jul-07	67-66-3	Chloroform	1.2	ug/L	1.2	0	1
Ib	GS	SV-11-05	5	19-Jul-07	67-64-1	Acetone	2.4	ug/L	2.4	0	1
Ib	GS	SV-11-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	7.5	ug/L	7.5	0	1
Ib	GS	SV-11-05	5	12-Sep-07	75-15-0	Carbon Disulfide	0.037	UG/L	0.037	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	GS	SV-11-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	6.9	ug/L	6.9	0	1
Ib	GS	SV-11-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	1.4	ug/L	1.4	0	1
Ib	GS	SV-11-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	1.7	ug/L	1.7	0	1
Ib	GS	SV-11-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.9	ug/L	1.9	0	1
Ib	GS	SV-11-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	1.4	ug/L	1.4	0	1
Ib	GS	SV-11-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	1	ug/L	1	0	1
Ib	GS	SV-11-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	1.5	ug/L	1.5	0	1
Ib	GS	SV-11-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	6.1	ug/L	6.1	0	1
Ib	GS	SV-11-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.56	ug/L	0.56	0	1
Ib	GS	SV-11-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	1.2	ug/L	1.2	0	1
Ib	GS	SV-11-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	1.9	ug/L	1.9	0	1
Ib	GS	SV-11-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	1.8	ug/L	1.8	0	1
Ib	GS	SV-11-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	1.5	ug/L	1.5	0	1
Ib	GS	SV-11-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	1	ug/L	1	0	1
Ib	GS	SV-11-05	5	19-Jul-07		1,2-Dichloroethane-d4	110	%		1	1
Ib	GS	SV-11-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	1.2	ug/L	1.2	0	1
Ib	GS	SV-11-05	5	19-Jul-07	75-00-3	Chloroethane	0.67	ug/L	0.67	0	1
Ib	GS	SV-11-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	1	ug/L	1	0	1
Ib	GS	SV-11-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	3.1	ug/L	3.1	0	1
Ib	GS	SV-11-05	5	19-Jul-07		Carbon Monoxide	0.025	%		0	1
Ib	GS	SV-11-05	5	19-Jul-07	142-82-5	n-Heptane	7.7	ug/L	7.7	1	1
Ib	GS	SV-11-05	5	19-Jul-07		Nitrogen	86	%		1	1
Ib	GS	SV-11-05	5	19-Jul-07	103-65-1	n-Propylbenzene	1.2	ug/L	1.2	0	1
Ib	GS	SV-11-05	5	19-Jul-07		Oxygen	4.4	%		1	1
Ib	GS	SV-11-05	5	19-Jul-07	95-47-6	o-Xylene	1.1	ug/L	1.1	0	1
Ib	GS	SV-11-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	1.2	ug/L	1.2	0	1
Ib	GS	SV-11-05	5	19-Jul-07	75-09-2	Methylene chloride	0.88	ug/L	0.88	0	1
Ib	GS	SV-11-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	4.2	ug/L	4.2	0	1
Ib	GS	SV-11-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.91	ug/L	0.91	0	1
Ib	GS	SV-11-05	5	19-Jul-07	127-18-4	Tetrachloroethene	1.7	ug/L	1.7	0	1
Ib	GS	SV-11-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.75	ug/L	0.75	0	1
Ib	GS	SV-11-05	5	19-Jul-07	108-88-3	Toluene	0.95	ug/L	0.95	0	1
Ib	GS	SV-11-05	5	19-Jul-07		Toluene-d8	95	%		1	1
Ib	GS	SV-11-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	1	ug/L	1	0	1
Ib	GS	SV-11-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	1.1	ug/L	1.1	0	1
Ib	GS	SV-11-05	5	19-Jul-07	79-01-6	Trichloroethene	1.4	ug/L	1.4	0	1
Ib	GS	SV-11-05	5	19-Jul-07	100-42-5	Styrene	1.1	ug/L	1.1	0	1
Ib	GS	SV-11-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	4.2	ug/L	4.2	0	1
Ib	GS	SV-11-05	5	19-Jul-07	74-87-3	Chloromethane	2.1	ug/L	2.1	0	1
Ib	GS	SV-11-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	1	ug/L		0	1
Ib	GS	SV-11-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	1.1	ug/L	1.1	0	1
Ib	GS	SV-11-05	5	19-Jul-07	110-82-7	Cyclohexane	60	ug/L	60	1	1
Ib	GS	SV-11-05	5	19-Jul-07	124-48-1	Dibromochloromethane	2.2	ug/L	2.2	0	1
Ib	GS	SV-11-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	1.2	ug/L	1.2	0	1
Ib	GS	SV-11-05	5	19-Jul-07		Ethane	0.0025	%		0	1
Ib	GS	SV-11-05	5	19-Jul-07	91-20-3	Naphthalene	5.3	ug/L	5.3	0	1
Ib	GS	SV-11-05	5	19-Jul-07		Ethene	0.0025	%		0	1
Ib	GS	SV-11-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	1.4	ug/L	1.4	0	1
Ib	GS	SV-11-05	5	19-Jul-07	100-41-4	Ethylbenzene	1.1	ug/L	1.1	0	1
Ib	GS	SV-11-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	11	ug/L	11	0	1
Ib	GS	SV-11-05	5	19-Jul-07	110-54-3	Hexane	30	ug/L	30	1	1
Ib	GS	SV-11-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	2.5	ug/L	2.5	0	1
Ib	GS	SV-11-05	5	19-Jul-07	108-20-3	Isopropyl ether	4.2	ug/L	4.2	0	1
Ib	GS	SV-11-05	5	19-Jul-07	98-82-8	Isopropylbenzene	1.2	ug/L	1.2	0	1
Ib	GS	SV-11-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	1.1	ug/L	1.1	0	1
Ib	GS	SV-11-05	5	19-Jul-07	74-82-8	Methane	0.23	%		1	1
Ib	GS	SV-11-05	5	19-Jul-07	64-17-5	Ethanol	1.9	ug/L	1.9	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	GS	SV-11-15	15	12-Sep-07	100-42-5	Styrene	0.039	UG/L	0.039	0	1
Ib	GS	SV-11-15	15	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.037	UG/L	0.037	0	1
Ib	GS	SV-11-15	15	12-Sep-07	75-15-0	Carbon Disulfide	0.028	UG/L	0.028	0	1
Ib	GS	SV-11-15	15	12-Sep-07	106-99-0	1,3-Butadiene	0.02	UG/L	0.02	0	1
Ib	GS	SV-11-15	15	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.055	UG/L	0.055	0	1
Ib	GS	SV-11-15	15	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.055	UG/L	0.055	0	1
Ib	GS	SV-11-15	15	12-Sep-07	123-91-1	1,4-Dioxane	0.13	UG/L	0.13	0	1
Ib	GS	SV-11-15	15	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.043	UG/L	0.043	0	1
Ib	GS	SV-11-15	15	12-Sep-07	78-93-3	2-Butanone	0.027	UG/L	0.027	0	1
Ib	GS	SV-11-15	15	12-Sep-07	78-87-5	1,2-Dichloropropane	0.042	UG/L	0.042	0	1
Ib	GS	SV-11-15	15	12-Sep-07		4-Bromofluorobenzene	92	%		1	1
Ib	GS	SV-11-15	15	12-Sep-07		1,2-Dichloroethane-d4	111	%		1	1
Ib	GS	SV-11-15	15	12-Sep-07	67-64-1	Acetone	0.087	UG/L	0.087	0	1
Ib	GS	SV-11-15	15	12-Sep-07	107-05-1	Allyl chloride	0.11	UG/L	0.11	0	1
Ib	GS	SV-11-15	15	12-Sep-07	71-43-2	Benzene	0.029	UG/L	0.029	0	1
Ib	GS	SV-11-15	15	12-Sep-07	100-44-7	Benzyl chloride	0.047	UG/L	0.047	0	1
Ib	GS	SV-11-15	15	12-Sep-07	75-27-4	Bromodichloromethane	0.061	UG/L	0.061	0	1
Ib	GS	SV-11-15	15	12-Sep-07	75-25-2	Bromoform	0.094	UG/L	0.094	0	1
Ib	GS	SV-11-15	15	19-Jul-07	79-01-6	Trichloroethene	0.026	ug/L	0.026	0	1
Ib	GS	SV-11-15	15	12-Sep-07	591-78-6	2-Hexanone	0.15	UG/L	0.15	0	1
Ib	GS	SV-11-15	15	12-Sep-07	75-35-4	1,1-Dichloroethene	0.036	UG/L	0.036	0	1
Ib	GS	SV-11-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	0.028	ug/L	0.028	0	1
Ib	GS	SV-11-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Ib	GS	SV-11-15	15	19-Jul-07	75-01-4	Vinyl chloride	0.013	ug/L	0.013	0	1
Ib	GS	SV-11-15	15	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	0.25	UG/L	0.25	0	1
Ib	GS	SV-11-15	15	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.05	UG/L	0.05	0	1
Ib	GS	SV-11-15	15	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.063	UG/L	0.063	0	1
Ib	GS	SV-11-15	15	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.07	UG/L	0.07	0	1
Ib	GS	SV-11-15	15	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.045	UG/L	0.045	0	1
Ib	GS	SV-11-15	15	12-Sep-07	75-34-3	1,1-Dichloroethane	0.037	UG/L	0.037	0	1
Ib	GS	SV-11-15	15	12-Sep-07	108-90-7	Chlorobenzene	0.042	UG/L	0.042	0	1
Ib	GS	SV-11-15	15	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.22	UG/L	0.22	0	1
Ib	GS	SV-11-15	15	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.27	UG/L	0.27	0	1
Ib	GS	SV-11-15	15	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.045	UG/L	0.045	0	1
Ib	GS	SV-11-15	15	12-Sep-07	106-93-4	1,2-Dibromoethane	0.07	UG/L	0.07	0	1
Ib	GS	SV-11-15	15	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.064	UG/L	0.064	0	1
Ib	GS	SV-11-15	15	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.055	UG/L	0.055	0	1
Ib	GS	SV-11-15	15	12-Sep-07	107-06-2	1,2-Dichloroethane	0.037	UG/L	0.037	0	1
Ib	GS	SV-11-15	15	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.05	UG/L	0.05	0	1
Ib	GS	SV-11-15	15	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.036	UG/L	0.036	0	1
Ib	GS	SV-11-15	15	12-Sep-07	74-83-9	Bromomethane	0.036	UG/L	0.036	0	1
Ib	GS	SV-11-15	15	12-Sep-07	103-65-1	n-Propylbenzene	0.045	UG/L	0.045	0	1
Ib	GS	SV-11-15	15	12-Sep-07	622-96-8	p-Ethyltoluene	0.045	UG/L	0.045	0	1
Ib	GS	SV-11-15	15	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.15	UG/L	0.15	0	1
Ib	GS	SV-11-15	15	12-Sep-07	75-65-0	tert-Butyl alcohol	0.11	UG/L	0.11	0	1
Ib	GS	SV-11-15	15	12-Sep-07	127-18-4	Tetrachloroethene	0.51	UG/L	0.51	1	1
Ib	GS	SV-11-15	15	12-Sep-07	109-99-9	Tetrahydrofuran	0.027	UG/L	0.027	0	1
Ib	GS	SV-11-15	15	12-Sep-07	91-20-3	Naphthalene	0.19	UG/L	0.19	0	1
Ib	GS	SV-11-15	15	12-Sep-07		Toluene-d8	96	%		1	1
Ib	GS	SV-11-15	15	12-Sep-07	75-09-2	Methylene Chloride	0.032	UG/L	0.032	0	1
Ib	GS	SV-11-15	15	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.042	UG/L	0.042	0	1
Ib	GS	SV-11-15	15	12-Sep-07	79-01-6	Trichloroethene	0.049	UG/L	0.049	0	1
Ib	GS	SV-11-15	15	12-Sep-07	75-69-4	Trichlorofluoromethane	0.051	UG/L	0.051	0	1
Ib	GS	SV-11-15	15	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Ib	GS	SV-11-15	15	12-Sep-07	75-01-4	Vinyl Chloride	0.023	UG/L	0.023	0	1
Ib	GS	SV-11-15	15	12-Sep-07	95-47-6	o-Xylene	0.04	UG/L	0.04	0	1
Ib	GS	SV-11-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.14	ug/L	0.14	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	GS	SV-11-15	15	12-Sep-07	108-88-3	Toluene	0.034	UG/L	0.034	0	1
Ib	GS	SV-11-15	15	12-Sep-07	100-41-4	Ethylbenzene	0.04	UG/L	0.04	0	1
Ib	GS	SV-11-15	15	12-Sep-07	67-66-3	Chloroform	9.3	UG/L	9.3	1	1
Ib	GS	SV-11-15	15	12-Sep-07	74-87-3	Chloromethane	0.076	UG/L	0.076	0	1
Ib	GS	SV-11-15	15	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.036	UG/L		0	1
Ib	GS	SV-11-15	15	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.042	UG/L	0.042	0	1
Ib	GS	SV-11-15	15	12-Sep-07	110-82-7	Cyclohexane	0.031	UG/L	0.031	0	1
Ib	GS	SV-11-15	15	12-Sep-07	124-48-1	Dibromochloromethane	0.078	UG/L	0.078	0	1
Ib	GS	SV-11-15	15	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.045	UG/L	0.045	0	1
Ib	GS	SV-11-15	15	12-Sep-07	142-82-5	n-Heptane	0.037	UG/L	0.037	0	1
Ib	GS	SV-11-15	15	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.15	UG/L	0.15	0	1
Ib	GS	SV-11-15	15	12-Sep-07	56-23-5	Carbon Tetrachloride	0.058	UG/L	0.058	0	1
Ib	GS	SV-11-15	15	12-Sep-07	87-68-3	Hexachlorobutadiene	0.39	UG/L	0.39	0	1
Ib	GS	SV-11-15	15	12-Sep-07	110-54-3	Hexane	0.032	UG/L	0.032	0	1
Ib	GS	SV-11-15	15	12-Sep-07	67-63-0	Isopropyl alcohol	0.09	UG/L	0.09	0	1
Ib	GS	SV-11-15	15	12-Sep-07	108-20-3	Isopropyl ether	0.15	UG/L	0.15	0	1
Ib	GS	SV-11-15	15	12-Sep-07	98-82-8	Isopropylbenzene	0.045	UG/L	0.045	0	1
Ib	GS	SV-11-15	15	12-Sep-07	179601-23-1	m,p-Xylenes	0.04	UG/L	0.04	0	1
Ib	GS	SV-11-15	15	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.033	UG/L	0.033	0	1
Ib	GS	SV-11-15	15	12-Sep-07	64-17-5	Ethanol	0.069	UG/L	0.069	0	1
Ib	GS	SV-11-15	15	19-Jul-07	100-44-7	Benzyl chloride	0.026	ug/L	0.026	0	1
Ib	GS	SV-11-15	15	19-Jul-07	108-90-7	Chlorobenzene	0.023	ug/L	0.023	0	1
Ib	GS	SV-11-15	15	19-Jul-07	123-91-1	1,4-Dioxane	0.071	ug/L	0.071	0	1
Ib	GS	SV-11-15	15	19-Jul-07	78-93-3	2-Butanone	0.024	ug/L	0.024	1	1
Ib	GS	SV-11-15	15	19-Jul-07	591-78-6	2-Hexanone	0.081	ug/L	0.081	0	1
Ib	GS	SV-11-15	15	19-Jul-07		4-Bromofluorobenzene	92	%		1	1
Ib	GS	SV-11-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.02	ug/L	0.02	0	1
Ib	GS	SV-11-15	15	19-Jul-07	67-64-1	Acetone	0.062	ug/L	0.062	1	1
Ib	GS	SV-11-15	15	19-Jul-07	106-99-0	1,3-Butadiene	0.011	ug/L	0.011	0	1
Ib	GS	SV-11-15	15	19-Jul-07	71-43-2	Benzene	0.022	ug/L	0.022	1	1
Ib	GS	SV-11-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.079	ug/L	0.079	1	1
Ib	GS	SV-11-15	15	19-Jul-07	75-27-4	Bromodichloromethane	0.033	ug/L	0.033	0	1
Ib	GS	SV-11-15	15	19-Jul-07	75-25-2	Bromoform	0.051	ug/L	0.051	0	1
Ib	GS	SV-11-15	15	19-Jul-07	74-83-9	Bromomethane	0.019	ug/L	0.019	0	1
Ib	GS	SV-11-15	15	19-Jul-07		Carbon Dioxide	5.4	%		1	1
Ib	GS	SV-11-15	15	19-Jul-07	75-15-0	Carbon Disulfide	0.015	ug/L	0.015	0	1
Ib	GS	SV-11-15	15	19-Jul-07		Carbon Monoxide	0.025	%		0	1
Ib	GS	SV-11-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	0.031	ug/L	0.031	0	1
Ib	GS	SV-11-15	15	19-Jul-07	107-05-1	Allyl chloride	0.062	ug/L	0.062	0	1
Ib	GS	SV-11-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.15	ug/L	0.15	0	1
Ib	GS	SV-11-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.034	ug/L	0.034	0	1
Ib	GS	SV-11-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.027	ug/L	0.027	0	1
Ib	GS	SV-11-15	15	12-Sep-07	75-00-3	Chloroethane	0.024	UG/L	0.024	0	1
Ib	GS	SV-11-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.022	ug/L	0.022	0	1
Ib	GS	SV-11-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.038	ug/L	0.038	0	1
Ib	GS	SV-11-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.027	ug/L	0.027	0	1
Ib	GS	SV-11-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	0.02	ug/L	0.02	0	1
Ib	GS	SV-11-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.03	ug/L	0.03	0	1
Ib	GS	SV-11-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.12	ug/L	0.12	0	1
Ib	GS	SV-11-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.023	ug/L	0.023	0	1
Ib	GS	SV-11-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.16	ug/L	0.16	1	1
Ib	GS	SV-11-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	0.038	ug/L	0.038	0	1
Ib	GS	SV-11-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.034	ug/L	0.034	0	1
Ib	GS	SV-11-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.03	ug/L	0.03	0	1
Ib	GS	SV-11-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	0.02	ug/L	0.02	0	1
Ib	GS	SV-11-15	15	19-Jul-07		1,2-Dichloroethane-d4	105	%		1	1
Ib	GS	SV-11-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	0.023	ug/L	0.023	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	GS	SV-11-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	0.02	ug/L	0.02	0	1
Ib	GS	SV-11-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	0.048	ug/L	0.048	1	1
Ib	GS	SV-11-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	0.044	ug/L	0.044	1	1
Ib	GS	SV-11-15	15	19-Jul-07	74-82-8	Methane	0.00025	%		0	1
Ib	GS	SV-11-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.018	ug/L	0.018	0	1
Ib	GS	SV-11-15	15	19-Jul-07	75-09-2	Methylene chloride	0.017	ug/L	0.017	0	1
Ib	GS	SV-11-15	15	19-Jul-07	91-20-3	Naphthalene	0.1	ug/L	0.1	0	1
Ib	GS	SV-11-15	15	19-Jul-07	142-82-5	n-Heptane	0.034	ug/L	0.034	1	1
Ib	GS	SV-11-15	15	19-Jul-07		Nitrogen	81	%		1	1
Ib	GS	SV-11-15	15	19-Jul-07	103-65-1	n-Propylbenzene	0.038	ug/L	0.038	1	1
Ib	GS	SV-11-15	15	19-Jul-07	98-82-8	Isopropylbenzene	0.028	ug/L	0.028	1	1
Ib	GS	SV-11-15	15	19-Jul-07	95-47-6	o-Xylene	0.029	ug/L	0.029	1	1
Ib	GS	SV-11-15	15	19-Jul-07	127-18-4	Tetrachloroethene	0.36	ug/L	0.36	1	1
Ib	GS	SV-11-15	15	19-Jul-07	100-42-5	Styrene	0.021	ug/L	0.021	0	1
Ib	GS	SV-11-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.082	ug/L	0.082	0	1
Ib	GS	SV-11-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	0.06	ug/L	0.06	0	1
Ib	GS	SV-11-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	0.014	ug/L	0.014	0	1
Ib	GS	SV-11-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.03	ug/L	0.03	0	1
Ib	GS	SV-11-15	15	19-Jul-07	108-88-3	Toluene	0.019	ug/L	0.019	0	1
Ib	GS	SV-11-15	15	19-Jul-07		Toluene-d8	95	%		1	1
Ib	GS	SV-11-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.02	ug/L	0.02	0	1
Ib	GS	SV-11-15	15	19-Jul-07		Oxygen	14	%		1	1
Ib	GS	SV-11-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.02	ug/L		0	1
Ib	GS	SV-11-15	15	19-Jul-07	67-66-3	Chloroform	4.8	ug/L	4.8	1	1
Ib	GS	SV-11-15	15	19-Jul-07	75-00-3	Chloroethane	0.013	ug/L	0.013	0	1
Ib	GS	SV-11-15	15	19-Jul-07	74-87-3	Chloromethane	0.041	ug/L	0.041	0	1
Ib	GS	SV-11-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.022	ug/L	0.022	0	1
Ib	GS	SV-11-15	15	19-Jul-07	110-82-7	Cyclohexane	0.15	ug/L	0.15	1	1
Ib	GS	SV-11-15	15	19-Jul-07	124-48-1	Dibromochloromethane	0.042	ug/L	0.042	0	1
Ib	GS	SV-11-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.024	ug/L	0.024	0	1
Ib	GS	SV-11-15	15	19-Jul-07		Ethane	0.0025	%		0	1
Ib	GS	SV-11-15	15	19-Jul-07	64-17-5	Ethanol	0.037	ug/L	0.037	0	1
Ib	GS	SV-11-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	0.048	ug/L	0.048	0	1
Ib	GS	SV-11-15	15	19-Jul-07		Ethene	0.0025	%		0	1
Ib	GS	SV-11-15	15	19-Jul-07	108-20-3	Isopropyl ether	0.082	ug/L	0.082	0	1
Ib	GS	SV-11-15	15	19-Jul-07	110-54-3	Hexane	0.031	ug/L	0.031	1	1
Ib	GS	SV-11-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	0.21	ug/L	0.21	0	1
Ib	GS	SV-11-15	15	19-Jul-07	100-41-4	Ethylbenzene	0.025	ug/L	0.025	1	1
Ib	GS	SV-11-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.082	ug/L	0.082	0	1
Ib	Soil	B-113-10	10		68476-30-2	TPHd			78	1	1
Ib	Soil	B-113-10	10		8006-61-9	TPHg			10	0	1
Ib	Soil	B-113-10	10		64742-47-8	TPHm			120	1	1
Ib	Soil	B-114-10	10		68476-30-2	TPHd			10	0	1
Ib	Soil	B-114-10	10		8006-61-9	TPHg			10	0	1
Ib	Soil	B-114-10	10		64742-47-8	TPHm			10	0	1
Ib	Soil	B-115-5	5		64742-47-8	TPHm			270	1	1
Ib	Soil	B-115-5	5		68476-30-2	TPHd			83	1	1
Ib	Soil	B-115-5	5		8006-61-9	TPHg			10	0	1
Ib	Soil	B-116-10	10		8006-61-9	TPHg			10	1	1
Ib	Soil	B-116-10	10		64742-47-8	TPHm			4200	1	1
Ib	Soil	B-116-10	10		68476-30-2	TPHd			3000	1	1
Ib	Soil	B-116-5	5		BaP TEQ	BaP TEQ			0.355	1	1
Ib	Soil	B-116-5	5		68476-30-2	TPHd			17000	1	1
Ib	Soil	B-116-5	5		8006-61-9	TPHg			340	1	1
Ib	Soil	B-116-5	5		64742-47-8	TPHm			9100	1	1
Ib	Soil	B-117-10	10		68476-30-2	TPHd			97	1	1
Ib	Soil	B-117-10	10		8006-61-9	TPHg			20	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	Soil	B-117-10	10		64742-47-8	TPHm			50	1	1
Ib	Soil	B-117-5	5		BaP TEQ	BaP TEQ			0.03525	0	1
Ib	Soil	B-117-5	5		68476-30-2	TPHd			1800	1	1
Ib	Soil	B-117-5	5		8006-61-9	TPHg			240	1	1
Ib	Soil	B-117-5	5		64742-47-8	TPHm			1000	1	1
Ib	Soil	B-122-10	10		64742-47-8	TPHm			2000	1	1
Ib	Soil	B-122-10	10		68476-30-2	TPHd			5500	1	1
Ib	Soil	B-122-10	10		8006-61-9	TPHg			600	1	1
Ib	Soil	B-122-5	5		BaP TEQ	BaP TEQ			0.3525	0	1
Ib	Soil	B-122-5	5		64742-47-8	TPHm			8200	1	1
Ib	Soil	B-122-5	5		8006-61-9	TPHg			1100	1	1
Ib	Soil	B-122-5	5		68476-30-2	TPHd			20000	1	1
Ib	Soil	B-123-10	10		8006-61-9	TPHg			10	0	1
Ib	Soil	B-123-10	10		68476-30-2	TPHd			10	0	1
Ib	Soil	B-123-10	10		64742-47-8	TPHm			10	0	1
Ib	Soil	B-123-5	5		68476-30-2	TPHd			520	1	1
Ib	Soil	B-123-5	5		64742-47-8	TPHm			1100	1	1
Ib	Soil	B-123-5	5		8006-61-9	TPHg			10	0	1
Ib	Soil	B-197-10	10		68476-30-2	TPHd			10	0	1
Ib	Soil	B-197-10	10		8006-61-9	TPHg			10	0	1
Ib	Soil	B-197-10	10		64742-47-8	TPHm			10	0	1
Ib	Soil	B-204-10.5	10.5		68476-30-2	TPHd			10	0	1
Ib	Soil	B-204-10.5	10.5		8006-61-9	TPHg			10	0	1
Ib	Soil	B-204-10.5	10.5		64742-47-8	TPHm			10	0	1
Ib	Soil	B-204-6	6		8006-61-9	TPHg			10	0	1
Ib	Soil	B-204-6	6		68476-30-2	TPHd			10	0	1
Ib	Soil	B-204-6	6		64742-47-8	TPHm			15	1	1
Ib	Soil	B-213-10	10		68476-30-2	TPHd			190	1	1
Ib	Soil	B-213-10	10		8006-61-9	TPHg			10	1	1
Ib	Soil	B-213-10	10		64742-47-8	TPHm			84	1	1
Ib	Soil	B-213-5	5		BaP TEQ	BaP TEQ			3.525	0	1
Ib	Soil	B-213-5	5		68476-30-2	TPHd			6100	1	1
Ib	Soil	B-213-5	5		64742-47-8	TPHm			2400	1	1
Ib	Soil	B-213-5	5		8006-61-9	TPHg			1200	1	1
Ib	Soil	WL-6-1	0		BaP TEQ	BaP TEQ			0.01159	1	1
Ib	Soil	WL-6-1	0		64742-47-8	TPHm			240	1	1
Ib	Soil	WL-6-1	0		68476-30-2	TPHd			110	1	1
Ib	Soil	WL-6-1	0		8006-61-9	TPHg			10	0	1
Ib	Soil	WL-6-2	0		BaP TEQ	BaP TEQ			0.003525	0	1
Ib	Soil	WL-6-2	0		64742-47-8	TPHm			240	1	1
Ib	Soil	WL-6-2	0		68476-30-2	TPHd			70	1	1
Ib	Soil	WL-6-2	0		8006-61-9	TPHg			10	0	1
Ib	Soil	B-113-10	10	27-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Ib	Soil	B-113-10	10	27-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Ib	Soil	B-113-10	10	27-Aug-97		C10-C25	78	mg/K	78	1	1
Ib	Soil	B-113-10	10	27-Aug-97		C4-C10	10	mg/K	10	0	1
Ib	Soil	B-113-10	10	27-Aug-97		C25-C40	120	mg/K	120	1	1
Ib	Soil	B-113-10	10	27-Aug-97		C1-C40	198	mg/K	198	1	1
Ib	Soil	B-113-10	10	27-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Ib	Soil	B-113-10	10	27-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Ib	Soil	B-114-10	10	27-Aug-97		C1-C40	10	mg/K	10	0	1
Ib	Soil	B-114-10	10	27-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Ib	Soil	B-114-10	10	27-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Ib	Soil	B-114-10	10	27-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Ib	Soil	B-114-10	10	27-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Ib	Soil	B-114-10	10	27-Aug-97		C25-C40	10	mg/K	10	0	1
Ib	Soil	B-114-10	10	27-Aug-97		C10-C25	10	mg/K	10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	Soil	B-114-10	10	27-Aug-97		C4-C10	10	mg/K	10	0	1
Ib	Soil	B-114-5	5	27-Aug-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
Ib	Soil	B-114-5	5	27-Aug-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
Ib	Soil	B-114-5	5	27-Aug-97	7440-36-0	Antimony	5	mg/K	5	0	1
Ib	Soil	B-114-5	5	27-Aug-97	7440-38-2	Arsenic	5	mg/K	5	0	1
Ib	Soil	B-114-5	5	27-Aug-97	7440-39-3	Barium	35	mg/K	35	1	1
Ib	Soil	B-114-5	5	27-Aug-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
Ib	Soil	B-114-5	5	27-Aug-97	7440-62-2	Vanadium	14	mg/K	14	1	1
Ib	Soil	B-114-5	5	27-Aug-97	7440-28-0	Thallium	5	mg/K	5	0	1
Ib	Soil	B-114-5	5	27-Aug-97	7440-22-4	Silver	1	mg/K	1	0	1
Ib	Soil	B-114-5	5	27-Aug-97	7782-49-2	Selenium	5	mg/K	5	0	1
Ib	Soil	B-114-5	5	27-Aug-97	7440-02-0	Nickel	11	mg/K	11	1	1
Ib	Soil	B-114-5	5	27-Aug-97	7440-43-9	Cadmium	1	mg/K	1	0	1
Ib	Soil	B-114-5	5	27-Aug-97	7440-66-6	Zinc	24	mg/K	24	1	1
Ib	Soil	B-114-5	5	27-Aug-97	7439-92-1	Lead	3.5	mg/K	3.5	1	1
Ib	Soil	B-114-5	5	27-Aug-97	7440-50-8	Copper	7	mg/K	7	1	1
Ib	Soil	B-114-5	5	27-Aug-97	7440-47-3	Chromium	18	mg/K	18	1	1
Ib	Soil	B-114-5	5	27-Aug-97	7440-48-4	Cobalt	1.7	mg/K	1.7	1	1
Ib	Soil	B-115-5	5	27-Aug-97		C4-C10	10	mg/K	10	0	1
Ib	Soil	B-115-5	5	27-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Ib	Soil	B-115-5	5	27-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Ib	Soil	B-115-5	5	27-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Ib	Soil	B-115-5	5	27-Aug-97		C25-C40	270	mg/K	270	1	1
Ib	Soil	B-115-5	5	27-Aug-97		C1-C40	353	mg/K	353	1	1
Ib	Soil	B-115-5	5	27-Aug-97		C10-C25	83	mg/K	83	1	1
Ib	Soil	B-115-5	5	27-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Ib	Soil	B-116-10	10	27-Aug-97	100-41-4	Ethylbenzene	0.011	mg/K	0.011	1	1
Ib	Soil	B-116-10	10	27-Aug-97	71-43-2	Benzene	0.007	mg/K	0.007	1	1
Ib	Soil	B-116-10	10	27-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Ib	Soil	B-116-10	10	27-Aug-97		C10-C25	3000	mg/K	3000	1	1
Ib	Soil	B-116-10	10	27-Aug-97		C4-C10	10	mg/K	10	1	1
Ib	Soil	B-116-10	10	27-Aug-97		C25-C40	4200	mg/K	4200	1	1
Ib	Soil	B-116-10	10	27-Aug-97		C1-C40	7210	mg/K	7210	1	1
Ib	Soil	B-116-10	10	27-Aug-97	1330-20-7	Xylenes (total)	0.009	mg/K	0.009	1	1
Ib	Soil	B-116-5	5	27-Aug-97	7440-39-3	Barium	59	mg/K	59	1	1
Ib	Soil	B-116-5	5	27-Aug-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
Ib	Soil	B-116-5	5	27-Aug-97	7440-38-2	Arsenic	5	mg/K	5	0	1
Ib	Soil	B-116-5	5	27-Aug-97	56-55-3	Benzo(a)anthracene	0.5	mg/K	0.5	0	1
Ib	Soil	B-116-5	5	27-Aug-97		C4-C10	340	mg/K	340	1	1
Ib	Soil	B-116-5	5	27-Aug-97	7440-47-3	Chromium	13	mg/K	13	1	1
Ib	Soil	B-116-5	5	27-Aug-97	218-01-9	Chrysene	0.5	mg/K	0.5	1	1
Ib	Soil	B-116-5	5	27-Aug-97	7440-48-4	Cobalt	3.5	mg/K	3.5	1	1
Ib	Soil	B-116-5	5	27-Aug-97	7440-50-8	Copper	6.9	mg/K	6.9	1	1
Ib	Soil	B-116-5	5	27-Aug-97	53-70-3	Dibenz(a,h)anthracene	0.5	mg/K	0.5	0	1
Ib	Soil	B-116-5	5	27-Aug-97	100-41-4	Ethylbenzene	0.1	mg/K	0.1	0	1
Ib	Soil	B-116-5	5	27-Aug-97	206-44-0	Fluoranthene	0.5	mg/K	0.5	0	1
Ib	Soil	B-116-5	5	27-Aug-97	207-08-9	Benzo(k)fluoranthene	0.5	mg/K	0.5	0	1
Ib	Soil	B-116-5	5	27-Aug-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.5	mg/K	0.5	0	1
Ib	Soil	B-116-5	5	27-Aug-97	50-32-8	Benzo(a)pyrene	0.5	mg/K	0.5	0	1
Ib	Soil	B-116-5	5	27-Aug-97		C25-C40	9100	mg/K	9100	1	1
Ib	Soil	B-116-5	5	27-Aug-97		C1-C40	26440	mg/K	26440	1	1
Ib	Soil	B-116-5	5	27-Aug-97		C10-C25	17000	mg/K	17000	1	1
Ib	Soil	B-116-5	5	27-Aug-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
Ib	Soil	B-116-5	5	27-Aug-97	7440-36-0	Antimony	5	mg/K	5	0	1
Ib	Soil	B-116-5	5	27-Aug-97	191-24-2	Benzo(g,h,i)perylene	0.5	mg/K	0.5	0	1
Ib	Soil	B-116-5	5	27-Aug-97	205-99-2	Benzo(b)fluoranthene	0.5	mg/K	0.5	0	1
Ib	Soil	B-116-5	5	27-Aug-97	86-73-7	Fluorene	2.5	mg/K	2.5	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	Soil	B-116-5	5	27-Aug-97	85-01-8	Phenanthrene	5.7	mg/K	5.7	1	1
Ib	Soil	B-116-5	5	27-Aug-97	7440-62-2	Vanadium	13	mg/K	13	1	1
Ib	Soil	B-116-5	5	27-Aug-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
Ib	Soil	B-116-5	5	27-Aug-97	7440-28-0	Thallium	5	mg/K	5	0	1
Ib	Soil	B-116-5	5	27-Aug-97	7440-66-6	Zinc	14	mg/K	14	1	1
Ib	Soil	B-116-5	5	27-Aug-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
Ib	Soil	B-116-5	5	27-Aug-97	120-12-7	Anthracene	0.5	mg/K	0.5	0	1
Ib	Soil	B-116-5	5	27-Aug-97	1330-20-7	Xylenes (total)	0.1	mg/K	0.1	0	1
Ib	Soil	B-116-5	5	27-Aug-97	129-00-0	Pyrene	0.05	mg/K	0.05	0	1
Ib	Soil	B-116-5	5	27-Aug-97	7440-43-9	Cadmium	1	mg/K	1	0	1
Ib	Soil	B-116-5	5	27-Aug-97	7440-02-0	Nickel	15	mg/K	15	1	1
Ib	Soil	B-116-5	5	27-Aug-97	91-20-3	Naphthalene	0.5	mg/K	0.5	1	1
Ib	Soil	B-116-5	5	27-Aug-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
Ib	Soil	B-116-5	5	27-Aug-97	7440-22-4	Silver	1	mg/K	1	0	1
Ib	Soil	B-116-5	5	27-Aug-97	7439-92-1	Lead	3.3	mg/K	3.3	1	1
Ib	Soil	B-116-5	5	27-Aug-97	83-32-9	Acenaphthene	0.8	mg/K	0.8	1	1
Ib	Soil	B-116-5	5	27-Aug-97	208-96-8	Acenaphthylene	0.6	mg/K	0.6	1	1
Ib	Soil	B-116-5	5	27-Aug-97	7782-49-2	Selenium	5	mg/K	5	0	1
Ib	Soil	B-117-10	10	29-Aug-97		C10-C25	97	mg/K	97	1	1
Ib	Soil	B-117-10	10	29-Aug-97	71-43-2	Benzene	0.025	mg/K	0.025	1	1
Ib	Soil	B-117-10	10	29-Aug-97		C1-C40	167	mg/K	167	1	1
Ib	Soil	B-117-10	10	29-Aug-97		C25-C40	50	mg/K	50	1	1
Ib	Soil	B-117-10	10	29-Aug-97		C4-C10	20	mg/K	20	1	1
Ib	Soil	B-117-10	10	29-Aug-97	108-88-3	Toluene	0.025	mg/K	0.025	1	1
Ib	Soil	B-117-10	10	29-Aug-97	1330-20-7	Xylenes (total)	0.49	mg/K	0.49	1	1
Ib	Soil	B-117-10	10	29-Aug-97	100-41-4	Ethylbenzene	0.21	mg/K	0.21	1	1
Ib	Soil	B-117-5	5	29-Aug-97	86-73-7	Fluorene	0.16	mg/K	0.16	1	1
Ib	Soil	B-117-5	5	29-Aug-97	205-99-2	Benzo(b)fluoranthene	0.05	mg/K	0.05	0	1
Ib	Soil	B-117-5	5	29-Aug-97	7440-02-0	Nickel	9.6	mg/K	9.6	1	1
Ib	Soil	B-117-5	5	29-Aug-97	91-20-3	Naphthalene	0.44	mg/K	0.44	1	1
Ib	Soil	B-117-5	5	29-Aug-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
Ib	Soil	B-117-5	5	29-Aug-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
Ib	Soil	B-117-5	5	29-Aug-97	129-00-0	Pyrene	0.05	mg/K	0.05	0	1
Ib	Soil	B-117-5	5	29-Aug-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/K	0.05	0	1
Ib	Soil	B-117-5	5	29-Aug-97	7782-49-2	Selenium	5	mg/K	5	0	1
Ib	Soil	B-117-5	5	29-Aug-97	206-44-0	Fluoranthene	0.05	mg/K	0.05	0	1
Ib	Soil	B-117-5	5	29-Aug-97	100-41-4	Ethylbenzene	0.5	mg/K	0.5	1	1
Ib	Soil	B-117-5	5	29-Aug-97	53-70-3	Dibenz(a,h)anthracene	0.05	mg/K	0.05	0	1
Ib	Soil	B-117-5	5	29-Aug-97	7440-50-8	Copper	5	mg/K	5	1	1
Ib	Soil	B-117-5	5	29-Aug-97	83-32-9	Acenaphthene	0.07	mg/K	0.07	1	1
Ib	Soil	B-117-5	5	29-Aug-97	207-08-9	Benzo(k)fluoranthene	0.05	mg/K	0.05	0	1
Ib	Soil	B-117-5	5	29-Aug-97	7439-92-1	Lead	5.2	mg/K	5.2	1	1
Ib	Soil	B-117-5	5	29-Aug-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
Ib	Soil	B-117-5	5	29-Aug-97	218-01-9	Chrysene	0.05	mg/K	0.05	0	1
Ib	Soil	B-117-5	5	29-Aug-97	7440-47-3	Chromium	15	mg/K	15	1	1
Ib	Soil	B-117-5	5	29-Aug-97	7440-43-9	Cadmium	1	mg/K	1	0	1
Ib	Soil	B-117-5	5	29-Aug-97		C4-C10	240	mg/K	240	1	1
Ib	Soil	B-117-5	5	29-Aug-97		C25-C40	1000	mg/K	1000	1	1
Ib	Soil	B-117-5	5	29-Aug-97	85-01-8	Phenanthrene	0.42	mg/K	0.42	1	1
Ib	Soil	B-117-5	5	29-Aug-97		C10-C25	1800	mg/K	1800	1	1
Ib	Soil	B-117-5	5	29-Aug-97	191-24-2	Benzo(g,h,i)perylene	0.05	mg/K	0.05	0	1
Ib	Soil	B-117-5	5	29-Aug-97	7440-66-6	Zinc	11	mg/K	11	1	1
Ib	Soil	B-117-5	5	29-Aug-97	1330-20-7	Xylenes (total)	0.9	mg/K	0.9	1	1
Ib	Soil	B-117-5	5	29-Aug-97	7440-62-2	Vanadium	15	mg/K	15	1	1
Ib	Soil	B-117-5	5	29-Aug-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
Ib	Soil	B-117-5	5	29-Aug-97	7440-28-0	Thallium	5	mg/K	5	0	1
Ib	Soil	B-117-5	5	29-Aug-97	7440-22-4	Silver	1	mg/K	1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	Soil	B-117-5	5	29-Aug-97		C1-C40	3040	mg/K	3040	1	1
Ib	Soil	B-117-5	5	29-Aug-97	120-12-7	Anthracene	0.05	mg/K	0.05	0	1
Ib	Soil	B-117-5	5	29-Aug-97	7440-48-4	Cobalt	2.4	mg/K	2.4	1	1
Ib	Soil	B-117-5	5	29-Aug-97	208-96-8	Acenaphthylene	0.05	mg/K	0.05	1	1
Ib	Soil	B-117-5	5	29-Aug-97	50-32-8	Benzo(a)pyrene	0.05	mg/K	0.05	0	1
Ib	Soil	B-117-5	5	29-Aug-97	7440-36-0	Antimony	5	mg/K	5	0	1
Ib	Soil	B-117-5	5	29-Aug-97	12674-11-2	Aroclor 1016	0.3	mg/K	0.3	0	1
Ib	Soil	B-117-5	5	29-Aug-97	11104-28-2	Aroclor 1221	0.3	mg/K	0.3	0	1
Ib	Soil	B-117-5	5	29-Aug-97	11141-16-5	Aroclor 1232	0.3	mg/K	0.3	0	1
Ib	Soil	B-117-5	5	29-Aug-97	53469-21-9	Aroclor 1242	0.3	mg/K	0.3	0	1
Ib	Soil	B-117-5	5	29-Aug-97	12672-29-6	Aroclor 1248	0.3	mg/K	0.3	0	1
Ib	Soil	B-117-5	5	29-Aug-97	11097-69-1	Aroclor 1254	0.3	mg/K	0.3	0	1
Ib	Soil	B-117-5	5	29-Aug-97	56-55-3	Benzo(a)anthracene	0.05	mg/K	0.05	0	1
Ib	Soil	B-117-5	5	29-Aug-97	7440-38-2	Arsenic	5	mg/K	5	0	1
Ib	Soil	B-117-5	5	29-Aug-97	11096-82-5	Aroclor 1260	0.3	mg/K	0.3	0	1
Ib	Soil	B-117-5	5	29-Aug-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
Ib	Soil	B-117-5	5	29-Aug-97	7440-39-3	Barium	55	mg/K	55	1	1
Ib	Soil	B-122-10	10	27-Aug-97	100-41-4	Ethylbenzene	2	mg/K	2	1	1
Ib	Soil	B-122-10	10	27-Aug-97	108-88-3	Toluene	0.5	mg/K	0.5	1	1
Ib	Soil	B-122-10	10	27-Aug-97	1330-20-7	Xylenes (total)	5.5	mg/K	5.5	1	1
Ib	Soil	B-122-10	10	27-Aug-97		C4-C10	600	mg/K	600	1	1
Ib	Soil	B-122-10	10	27-Aug-97		C25-C40	2000	mg/K	2000	1	1
Ib	Soil	B-122-10	10	27-Aug-97		C1-C40	8100	mg/K	8100	1	1
Ib	Soil	B-122-10	10	27-Aug-97		C10-C25	5500	mg/K	5500	1	1
Ib	Soil	B-122-10	10	27-Aug-97	71-43-2	Benzene	0.7	mg/K	0.7	1	1
Ib	Soil	B-122-5	5	27-Aug-97	120-12-7	Anthracene	0.5	mg/K	0.5	0	1
Ib	Soil	B-122-5	5	27-Aug-97	7440-62-2	Vanadium	23	mg/K	23	1	1
Ib	Soil	B-122-5	5	27-Aug-97	1330-20-7	Xylenes (total)	20	mg/K	20	1	1
Ib	Soil	B-122-5	5	27-Aug-97	7440-66-6	Zinc	11	mg/K	11	1	1
Ib	Soil	B-122-5	5	27-Aug-97	11096-82-5	Aroclor 1260	3	mg/K	3	0	1
Ib	Soil	B-122-5	5	27-Aug-97	11097-69-1	Aroclor 1254	3	mg/K	3	0	1
Ib	Soil	B-122-5	5	27-Aug-97	12672-29-6	Aroclor 1248	3	mg/K	3	0	1
Ib	Soil	B-122-5	5	27-Aug-97	53469-21-9	Aroclor 1242	3	mg/K	3	0	1
Ib	Soil	B-122-5	5	27-Aug-97	11141-16-5	Aroclor 1232	3	mg/K	3	0	1
Ib	Soil	B-122-5	5	27-Aug-97	11104-28-2	Aroclor 1221	3	mg/K	3	0	1
Ib	Soil	B-122-5	5	27-Aug-97	7440-36-0	Antimony	5	mg/K	5	0	1
Ib	Soil	B-122-5	5	27-Aug-97	7440-22-4	Silver	1	mg/K	1	0	1
Ib	Soil	B-122-5	5	27-Aug-97	208-96-8	Acenaphthylene	0.6	mg/K	0.6	1	1
Ib	Soil	B-122-5	5	27-Aug-97	83-32-9	Acenaphthene	1	mg/K	1	1	1
Ib	Soil	B-122-5	5	27-Aug-97		C10-C25	20000	mg/K	20000	1	1
Ib	Soil	B-122-5	5	27-Aug-97	12674-11-2	Aroclor 1016	3	mg/K	3	0	1
Ib	Soil	B-122-5	5	27-Aug-97	7439-92-1	Lead	6.4	mg/K	6.4	1	1
Ib	Soil	B-122-5	5	27-Aug-97	7440-38-2	Arsenic	5	mg/K	5	0	1
Ib	Soil	B-122-5	5	27-Aug-97	7440-50-8	Copper	4.5	mg/K	4.5	1	1
Ib	Soil	B-122-5	5	27-Aug-97	7440-48-4	Cobalt	1.7	mg/K	1.7	1	1
Ib	Soil	B-122-5	5	27-Aug-97	218-01-9	Chrysene	0.5	mg/K	0.5	0	1
Ib	Soil	B-122-5	5	27-Aug-97	53-70-3	Dibenz(a,h)anthracene	0.5	mg/K	0.5	0	1
Ib	Soil	B-122-5	5	27-Aug-97	100-41-4	Ethylbenzene	4.7	mg/K	4.7	1	1
Ib	Soil	B-122-5	5	27-Aug-97	206-44-0	Fluoranthene	0.5	mg/K	0.5	0	1
Ib	Soil	B-122-5	5	27-Aug-97	108-88-3	Toluene	8	mg/K	8	1	1
Ib	Soil	B-122-5	5	27-Aug-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.5	mg/K	0.5	0	1
Ib	Soil	B-122-5	5	27-Aug-97	7440-28-0	Thallium	5	mg/K	5	0	1
Ib	Soil	B-122-5	5	27-Aug-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
Ib	Soil	B-122-5	5	27-Aug-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
Ib	Soil	B-122-5	5	27-Aug-97	91-20-3	Naphthalene	7.4	mg/K	7.4	1	1
Ib	Soil	B-122-5	5	27-Aug-97	7440-02-0	Nickel	10	mg/K	10	1	1
Ib	Soil	B-122-5	5	27-Aug-97	85-01-8	Phenanthrene	3.8	mg/K	3.8	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	Soil	B-122-5	5	27-Aug-97	129-00-0	Pyrene	0.5	mg/K	0.5	0	1
Ib	Soil	B-122-5	5	27-Aug-97	7782-49-2	Selenium	5	mg/K	5	0	1
Ib	Soil	B-122-5	5	27-Aug-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
Ib	Soil	B-122-5	5	27-Aug-97	86-73-7	Fluorene	1.7	mg/K	1.7	1	1
Ib	Soil	B-122-5	5	27-Aug-97		C4-C10	1100	mg/K	1100	1	1
Ib	Soil	B-122-5	5	27-Aug-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
Ib	Soil	B-122-5	5	27-Aug-97	205-99-2	Benzo(b)fluoranthene	0.5	mg/K	0.5	0	1
Ib	Soil	B-122-5	5	27-Aug-97	7440-39-3	Barium	48	mg/K	48	1	1
Ib	Soil	B-122-5	5	27-Aug-97	207-08-9	Benzo(k)fluoranthene	0.5	mg/K	0.5	0	1
Ib	Soil	B-122-5	5	27-Aug-97	56-55-3	Benzo(a)anthracene	0.5	mg/K	0.5	0	1
Ib	Soil	B-122-5	5	27-Aug-97		C25-C40	8200	mg/K	8200	1	1
Ib	Soil	B-122-5	5	27-Aug-97	7440-43-9	Cadmium	1	mg/K	1	0	1
Ib	Soil	B-122-5	5	27-Aug-97	50-32-8	Benzo(a)pyrene	0.5	mg/K	0.5	0	1
Ib	Soil	B-122-5	5	27-Aug-97		C1-C40	29300	mg/K	29300	1	1
Ib	Soil	B-122-5	5	27-Aug-97	7440-47-3	Chromium	18	mg/K	18	1	1
Ib	Soil	B-122-5	5	27-Aug-97	191-24-2	Benzo(g,h,i)perylene	0.5	mg/K	0.5	0	1
Ib	Soil	B-123-10	10	26-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Ib	Soil	B-123-10	10	26-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Ib	Soil	B-123-10	10	26-Aug-97		C4-C10	10	mg/K	10	0	1
Ib	Soil	B-123-10	10	26-Aug-97		C25-C40	10	mg/K	10	0	1
Ib	Soil	B-123-10	10	26-Aug-97		C1-C40	10	mg/K	10	0	1
Ib	Soil	B-123-10	10	26-Aug-97		C10-C25	10	mg/K	10	0	1
Ib	Soil	B-123-10	10	26-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Ib	Soil	B-123-10	10	26-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Ib	Soil	B-123-5	5	26-Aug-97		C4-C10	10	mg/K	10	0	1
Ib	Soil	B-123-5	5	26-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Ib	Soil	B-123-5	5	26-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Ib	Soil	B-123-5	5	26-Aug-97		C1-C40	1620	mg/K	1620	1	1
Ib	Soil	B-123-5	5	26-Aug-97		C10-C25	520	mg/K	520	1	1
Ib	Soil	B-123-5	5	26-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Ib	Soil	B-123-5	5	26-Aug-97		C25-C40	1100	mg/K	1100	1	1
Ib	Soil	B-123-5	5	26-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Ib	Soil	B-197-10	10	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Ib	Soil	B-197-10	10	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Ib	Soil	B-197-10	10	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Ib	Soil	B-197-10	10	01-Jul-99		C4-C10	10	mg/K	10	0	1
Ib	Soil	B-197-10	10	01-Jul-99		C25-C40	10	mg/K	10	0	1
Ib	Soil	B-197-10	10	01-Jul-99		C1-C40	10	mg/K	10	0	1
Ib	Soil	B-197-10	10	01-Jul-99		C10-C25	10	mg/K	10	0	1
Ib	Soil	B-197-10	10	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Ib	Soil	B-204-10.5	10.5	27-Feb-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Ib	Soil	B-204-10.5	10.5	27-Feb-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Ib	Soil	B-204-10.5	10.5	27-Feb-01		C10-C25	10	mg/k	10	0	1
Ib	Soil	B-204-10.5	10.5	27-Feb-01		C1-C40	10	mg/K	10	0	1
Ib	Soil	B-204-10.5	10.5	27-Feb-01		C25-C40	10	mg/k	10	0	1
Ib	Soil	B-204-10.5	10.5	27-Feb-01	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	B-204-10.5	10.5	27-Feb-01	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Ib	Soil	B-204-10.5	10.5	27-Feb-01		C4-C10	10	mg/k	10	0	1
Ib	Soil	B-204-6	6	27-Feb-01		C4-C10	10	mg/k	10	0	1
Ib	Soil	B-204-6	6	27-Feb-01		C1-C40	15	mg/K	15	1	1
Ib	Soil	B-204-6	6	27-Feb-01	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Ib	Soil	B-204-6	6	27-Feb-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Ib	Soil	B-204-6	6	27-Feb-01	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	B-204-6	6	27-Feb-01		C25-C40	15	mg/k	15	1	1
Ib	Soil	B-204-6	6	27-Feb-01		C10-C25	10	mg/k	10	0	1
Ib	Soil	B-204-6	6	27-Feb-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Ib	Soil	B-213-10	10	05-Mar-01	100-41-4	Ethylbenzene	0.033	mg/k	0.033	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	Soil	B-213-10	10	05-Mar-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Ib	Soil	B-213-10	10	05-Mar-01		C4-C10	10	mg/k	10	1	1
Ib	Soil	B-213-10	10	05-Mar-01		C25-C40	84	mg/k	84	1	1
Ib	Soil	B-213-10	10	05-Mar-01		C1-C40	284	mg/K	284	1	1
Ib	Soil	B-213-10	10	05-Mar-01		C10-C25	190	mg/k	190	1	1
Ib	Soil	B-213-10	10	05-Mar-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Ib	Soil	B-213-10	10	05-Mar-01	1330-20-7	Xylenes (total)	0.19	mg/k	0.19	1	1
Ib	Soil	B-213-5	5	05-Mar-01	218-01-9	Chrysene	5	mg/k	5	0	1
Ib	Soil	B-213-5	5	05-Mar-01	208-96-8	Acenaphthylene	5	mg/k	5	0	1
Ib	Soil	B-213-5	5	05-Mar-01	120-12-7	Anthracene	5	mg/k	5	0	1
Ib	Soil	B-213-5	5	05-Mar-01	71-43-2	Benzene	0.1	mg/k	0.1	1	1
Ib	Soil	B-213-5	5	05-Mar-01	50-32-8	Benzo(a)pyrene	5	mg/k	5	0	1
Ib	Soil	B-213-5	5	05-Mar-01	191-24-2	Benzo(g,h,i)perylene	5	mg/k	5	0	1
Ib	Soil	B-213-5	5	05-Mar-01	207-08-9	Benzo(k)fluoranthene	5	mg/k	5	0	1
Ib	Soil	B-213-5	5	05-Mar-01		C10-C25	6100	mg/k	6100	1	1
Ib	Soil	B-213-5	5	05-Mar-01		C1-C40	9700	mg/K	9700	1	1
Ib	Soil	B-213-5	5	05-Mar-01	83-32-9	Acenaphthene	5	mg/k	5	0	1
Ib	Soil	B-213-5	5	05-Mar-01		C4-C10	1200	mg/k	1200	1	1
Ib	Soil	B-213-5	5	05-Mar-01	56-55-3	Benzo(a)anthracene	5	mg/k	5	0	1
Ib	Soil	B-213-5	5	05-Mar-01	53-70-3	Dibenz(a,h)anthracene	5	mg/k	5	0	1
Ib	Soil	B-213-5	5	05-Mar-01	100-41-4	Ethylbenzene	3.7	mg/k	3.7	1	1
Ib	Soil	B-213-5	5	05-Mar-01	206-44-0	Fluoranthene	5	mg/k	5	0	1
Ib	Soil	B-213-5	5	05-Mar-01	86-73-7	Fluorene	5	mg/k	5	0	1
Ib	Soil	B-213-5	5	05-Mar-01	193-39-5	Indeno(1,2,3-cd)pyrene	5	mg/k	5	0	1
Ib	Soil	B-213-5	5	05-Mar-01	91-20-3	Naphthalene	5	mg/k	5	0	1
Ib	Soil	B-213-5	5	05-Mar-01	85-01-8	Phenanthrene	5	mg/k	5	0	1
Ib	Soil	B-213-5	5	05-Mar-01	129-00-0	Pyrene	5	mg/k	5	0	1
Ib	Soil	B-213-5	5	05-Mar-01	108-88-3	Toluene	0.1	mg/k	0.1	0	1
Ib	Soil	B-213-5	5	05-Mar-01	1330-20-7	Xylenes (total)	14	mg/k	14	1	1
Ib	Soil	B-213-5	5	05-Mar-01		C25-C40	2400	mg/k	2400	1	1
Ib	Soil	B-213-5	5	05-Mar-01	205-99-2	Benzo(b)fluoranthene	5	mg/k	5	0	1
Ib	Soil	B-222-0.5	0.5	27-Jan-04		Percent Moisture	3.7	%		1	1
Ib	Soil	B-222-2.5	2.5	27-Jan-04		Percent Moisture	13.4	%		1	1
Ib	Soil	WL-6-1	0	24-Feb-05	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	7440-43-9	Cadmium	1	mg/k	1	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	56-23-5	Carbon Tetrachloride	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	7440-47-3	Chromium	15	mg/k	15	1	1
Ib	Soil	WL-6-1	0	24-Feb-05	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05		C10-C25	110	mg/k	110	1	1
Ib	Soil	WL-6-1	0	24-Feb-05	7440-48-4	Cobalt	2.5	mg/k	2.5	1	1
Ib	Soil	WL-6-1	0	24-Feb-05	7440-50-8	Copper	6.3	mg/k	6.3	1	1
Ib	Soil	WL-6-1	0	24-Feb-05	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	218-01-9	Chrysene	0.014	mg/k	0.014	1	1
Ib	Soil	WL-6-1	0	24-Feb-05	191-24-2	Benzo(g,h,i)perylene	0.008	mg/k	0.008	1	1
Ib	Soil	WL-6-1	0	24-Feb-05	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	7440-36-0	Antimony	5	mg/k	5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	Soil	WL-6-1	0	24-Feb-05	7440-38-2	Arsenic	2.4	mg/k	2.4	1	1
Ib	Soil	WL-6-1	0	24-Feb-05	7440-39-3	Barium	33	mg/k	33	1	1
Ib	Soil	WL-6-1	0	24-Feb-05	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05		C4-C10	10	mg/k	10	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	205-99-2	Benzo(b)fluoranthene	0.007	mg/k	0.007	1	1
Ib	Soil	WL-6-1	0	24-Feb-05		C25-C40	240	mg/k	240	1	1
Ib	Soil	WL-6-1	0	24-Feb-05	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	50-32-8	Benzo(a)pyrene	0.01	mg/k	0.01	1	1
Ib	Soil	WL-6-1	0	24-Feb-05		Total organic carbon	4600	mg/K	4600	1	1
Ib	Soil	WL-6-1	0	24-Feb-05	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	129-00-0	Pyrene	0.009	mg/k	0.009	1	1
Ib	Soil	WL-6-1	0	24-Feb-05	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	7782-49-2	Selenium	5	mg/k	5	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	7440-22-4	Silver	1	mg/k	1	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05		Percent Moisture	27.9	%		1	1
Ib	Soil	WL-6-1	0	24-Feb-05	7440-28-0	Thallium	5	mg/k	5	0	1
Ib	Soil	WL-6-1	0	24-Feb-05		Particle Size Distribution - Silt & Clay	22.12	wt. %		1	1
Ib	Soil	WL-6-1	0	24-Feb-05	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	7440-62-2	Vanadium	13	mg/k	13	1	1
Ib	Soil	WL-6-1	0	24-Feb-05	75-01-4	Vinyl Chloride	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	7440-66-6	Zinc	43	mg/k	43	1	1
Ib	Soil	WL-6-1	0	24-Feb-05	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	7439-92-1	Lead	33	mg/k	33	1	1
Ib	Soil	WL-6-1	0	24-Feb-05		Mean Grain Size - Fine sand	0.163	mm		1	1
Ib	Soil	WL-6-1	0	24-Feb-05	7439-97-6	Mercury	0.7	mg/k	0.7	1	1
Ib	Soil	WL-6-1	0	24-Feb-05	85-01-8	Phenanthrene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	7439-98-7	Molybdenum	1	mg/k	1	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	206-44-0	Fluoranthene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	7440-02-0	Nickel	16	mg/k	16	1	1
Ib	Soil	WL-6-1	0	24-Feb-05		Particle Size Distribution - Clay	7.73	wt. %		1	1
Ib	Soil	WL-6-1	0	24-Feb-05	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	0	wt. %		1	1
Ib	Soil	WL-6-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	63.89	wt. %		1	1
Ib	Soil	WL-6-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	13.98	wt. %		1	1
Ib	Soil	WL-6-1	0	24-Feb-05		Particle Size Distribution - Silt	14.39	wt. %		1	1
Ib	Soil	WL-6-1	0	24-Feb-05	75-09-2	Methylene Chloride	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	Soil	WL-6-1	0	24-Feb-05	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05		Particle Size Distribution - Gravel	0	wt. %		1	1
Ib	Soil	WL-6-1	0	24-Feb-05	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	96-12-8	1,2-Dibromo-3-Chloropropane	0.01	mg/k	0.01	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-1	0	24-Feb-05	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	218-01-9	Chrysene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	7440-47-3	Chromium	18	mg/k	18	1	1
Ib	Soil	WL-6-2	0	24-Feb-05	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	56-23-5	Carbon Tetrachloride	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	7440-48-4	Cobalt	4.1	mg/k	4.1	1	1
Ib	Soil	WL-6-2	0	24-Feb-05	7440-50-8	Copper	13	mg/k	13	1	1
Ib	Soil	WL-6-2	0	24-Feb-05	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	206-44-0	Fluoranthene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	7440-43-9	Cadmium	1	mg/k	1	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	7440-36-0	Antimony	5	mg/k	5	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	7440-38-2	Arsenic	2.5	mg/k	2.5	1	1
Ib	Soil	WL-6-2	0	24-Feb-05	7440-39-3	Barium	33	mg/k	33	1	1
Ib	Soil	WL-6-2	0	24-Feb-05	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	50-32-8	Benzo(a)pyrene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	205-99-2	Benzo(b)fluoranthene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	191-24-2	Benzo(g,h,i)perylene	0.005	mg/k	0.005	1	1
Ib	Soil	WL-6-2	0	24-Feb-05		C4-C10	10	mg/k	10	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	Soil	WL-6-2	0	24-Feb-05	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05		C10-C25	70	mg/k	70	1	1
Ib	Soil	WL-6-2	0	24-Feb-05		C25-C40	240	mg/k	240	1	1
Ib	Soil	WL-6-2	0	24-Feb-05		Particle Size Distribution - Clay	0	wt. %		0	1
Ib	Soil	WL-6-2	0	24-Feb-05		Total organic carbon	27000	mg/K	27000	1	1
Ib	Soil	WL-6-2	0	24-Feb-05	129-00-0	Pyrene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	7782-49-2	Selenium	5	mg/k	5	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	7440-22-4	Silver	1	mg/k	1	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	7440-02-0	Nickel	24	mg/k	24	1	1
Ib	Soil	WL-6-2	0	24-Feb-05	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05		Percent Moisture	8.6	%		1	1
Ib	Soil	WL-6-2	0	24-Feb-05	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	7440-62-2	Vanadium	15	mg/k	15	1	1
Ib	Soil	WL-6-2	0	24-Feb-05	75-01-4	Vinyl Chloride	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	7440-66-6	Zinc	61	mg/k	61	1	1
Ib	Soil	WL-6-2	0	24-Feb-05	7440-28-0	Thallium	5	mg/k	5	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	7439-92-1	Lead	44	mg/k	44	1	1
Ib	Soil	WL-6-2	0	24-Feb-05		Mean Grain Size - Medium sand	0.327	mm		1	1
Ib	Soil	WL-6-2	0	24-Feb-05	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	75-09-2	Methylene Chloride	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	7439-98-7	Molybdenum	1	mg/k	1	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	85-01-8	Phenanthrene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05		Particle Size Distribution - Gravel	4.26	wt. %		1	1
Ib	Soil	WL-6-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	22.3	wt. %		1	1
Ib	Soil	WL-6-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	44.29	wt. %		1	1
Ib	Soil	WL-6-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	21.11	wt. %		1	1
Ib	Soil	WL-6-2	0	24-Feb-05		Particle Size Distribution - Silt	0	wt. %		0	1
Ib	Soil	WL-6-2	0	24-Feb-05		Particle Size Distribution - Silt & Clay	8.04	wt. %		1	1
Ib	Soil	WL-6-2	0	24-Feb-05	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Ib	Soil	WL-6-2	0	24-Feb-05	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	96-12-8	1,2-Dibromo-3-Chloropropane	0.01	mg/k	0.01	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Ib	Soil	WL-6-2	0	24-Feb-05	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
J	GS	SP-6-10	10	01-May-01		Ethene	2.44	ppmv		1	1
J	GS	SP-6-10	10	01-May-01		Propene	0.49	ppmv		1	1
J	GS	SP-6-10	10	01-May-01		propane	1.51	ppmv		1	1
J	GS	SP-6-10	10	01-May-01		n-pentane	916.88	ppmv		1	1
J	GS	SP-6-10	10	01-May-01		n-butane	410.83	ppmv		1	1
J	GS	SP-6-10	10	01-May-01		i-butane	65.02	ppmv		1	1
J	GS	SP-6-10	10	01-May-01		Ethane	6.43	ppmv		1	1
J	GS	SP-6-10	10	01-May-01		2,2-dimethyl propane	4.08	ppmv		1	1
J	GS	SP-6-10	10	01-May-01		1-pentene	74.31	ppmv		1	1
J	GS	SP-6-10	10	01-May-01		1-butene	10	ppmv		0	1
J	GS	SP-6-10	10	01-May-01		i-pentane	2295.95	ppmv		1	1
J	GS	SP-6-15	15	01-May-01		Ethene	4.79	ppmv		1	1
J	GS	SP-6-15	15	01-May-01		Propene	0.68	ppmv		1	1
J	GS	SP-6-15	15	01-May-01		1-butene	3.38	ppmv		1	1
J	GS	SP-6-15	15	01-May-01		1-pentene	99.71	ppmv		1	1
J	GS	SP-6-15	15	01-May-01		Ethane	19.32	ppmv		1	1
J	GS	SP-6-15	15	01-May-01		i-butane	128.27	ppmv		1	1
J	GS	SP-6-15	15	01-May-01		i-pentane	2650.57	ppmv		1	1
J	GS	SP-6-15	15	01-May-01		n-butane	619	ppmv		1	1
J	GS	SP-6-15	15	01-May-01		n-pentane	1219.07	ppmv		1	1
J	GS	SP-6-15	15	01-May-01		propane	2.15	ppmv		1	1
J	GS	SP-6-15	15	01-May-01		2,2-dimethyl propane	0.85	ppmv		1	1
J	GS	SP-6-6	6	01-May-01		Propene	0.14	ppmv		1	1
J	GS	SP-6-6	6	01-May-01		1-pentene	2.16	ppmv		1	1
J	GS	SP-6-6	6	01-May-01		2,2-dimethyl propane	2.22	ppmv		1	1
J	GS	SP-6-6	6	01-May-01		Ethane	2.17	ppmv		1	1
J	GS	SP-6-6	6	01-May-01		Ethene	0.47	ppmv		1	1
J	GS	SP-6-6	6	01-May-01		i-butane	11.85	ppmv		1	1
J	GS	SP-6-6	6	01-May-01		i-pentane	372.96	ppmv		1	1
J	GS	SP-6-6	6	01-May-01		n-butane	30.57	ppmv		1	1
J	GS	SP-6-6	6	01-May-01		n-pentane	34.72	ppmv		1	1
J	GS	SP-6-6	6	01-May-01		1-butene	10	ppmv		0	1
J	GS	SP-6-6	6	01-May-01		propane	4.36	ppmv		1	1
J	GS	SP-8-10	10	30-Apr-01		n-pentane	14.19	ppmv		1	1
J	GS	SP-8-10	10	30-Apr-01		1-pentene	1.31	ppmv		1	1
J	GS	SP-8-10	10	30-Apr-01		2,2-dimethyl propane	5.15	ppmv		1	1
J	GS	SP-8-10	10	30-Apr-01		Ethane	19.79	ppmv		1	1
J	GS	SP-8-10	10	30-Apr-01		Ethene	0.25	ppmv		1	1
J	GS	SP-8-10	10	30-Apr-01		i-butane	72.6	ppmv		1	1
J	GS	SP-8-10	10	30-Apr-01		i-pentane	85.9	ppmv		1	1
J	GS	SP-8-10	10	30-Apr-01		n-butane	87.83	ppmv		1	1
J	GS	SP-8-10	10	30-Apr-01		propane	84.45	ppmv		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SP-8-10	10	30-Apr-01		1-butene	2.14	ppmv		1	1
J	GS	SP-8-10	10	30-Apr-01		Propene	0.26	ppmv		1	1
J	GS	SP-8-15	15	30-Apr-01		n-butane	436.83	ppmv		1	1
J	GS	SP-8-15	15	30-Apr-01		Propene	0.7	ppmv		1	1
J	GS	SP-8-15	15	30-Apr-01		n-pentane	42.64	ppmv		1	1
J	GS	SP-8-15	15	30-Apr-01		i-pentane	351.52	ppmv		1	1
J	GS	SP-8-15	15	30-Apr-01		i-butane	290.83	ppmv		1	1
J	GS	SP-8-15	15	30-Apr-01		Ethene	0.66	ppmv		1	1
J	GS	SP-8-15	15	30-Apr-01		Ethane	120.64	ppmv		1	1
J	GS	SP-8-15	15	30-Apr-01		1-pentene	0.57	ppmv		1	1
J	GS	SP-8-15	15	30-Apr-01		1-butene	10	ppmv		0	1
J	GS	SP-8-15	15	30-Apr-01		2,2-dimethyl propane	18.07	ppmv		1	1
J	GS	SP-8-15	15	30-Apr-01		propane	427.75	ppmv		1	1
J	GS	SP-8-6	6	30-Apr-01		Ethene	10	ppmv		0	1
J	GS	SP-8-6	6	30-Apr-01		Propene	0.1	ppmv		1	1
J	GS	SP-8-6	6	30-Apr-01		propane	1.23	ppmv		1	1
J	GS	SP-8-6	6	30-Apr-01		n-pentane	16.98	ppmv		1	1
J	GS	SP-8-6	6	30-Apr-01		n-butane	30.83	ppmv		1	1
J	GS	SP-8-6	6	30-Apr-01	74-82-8	Methane	1413.76	ppmv		1	1
J	GS	SP-8-6	6	30-Apr-01		i-butane	9.21	ppmv		1	1
J	GS	SP-8-6	6	30-Apr-01		1-pentene	1.4	ppmv		1	1
J	GS	SP-8-6	6	30-Apr-01		1-butene	1.59	ppmv		1	1
J	GS	SP-8-6	6	30-Apr-01		2,2-dimethyl propane	0.91	ppmv		1	1
J	GS	SP-8-6	6	30-Apr-01		Ethane	0.85	ppmv		1	1
J	GS	SP-8-6	6	30-Apr-01		i-pentane	68.27	ppmv		1	1
J	GS	SP-6-10	10	18-Oct-01		i-butane	36.66	ppmv		1	1
J	GS	SP-6-10	10	18-Oct-01		Ethane	2.73	ppmv		1	1
J	GS	SP-6-10	10	18-Oct-01		C3	10	ppmv		0	1
J	GS	SP-6-10	10	18-Oct-01		C2	10	ppmv		0	1
J	GS	SP-6-10	10	18-Oct-01		Propene	0.28	ppmv		1	1
J	GS	SP-6-10	10	18-Oct-01		C1	15900	ppmv		1	1
J	GS	SP-6-10	10	18-Oct-01		1-butene	5.91	ppmv		1	1
J	GS	SP-6-10	10	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
J	GS	SP-6-10	10	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
J	GS	SP-6-10	10	18-Oct-01		Ethene	1.38	ppmv		1	1
J	GS	SP-6-10	10	18-Oct-01		i-C4	59.4	ppmv		1	1
J	GS	SP-6-10	10	18-Oct-01		i-C5	1480	ppmv		1	1
J	GS	SP-6-10	10	18-Oct-01		i-pentane	1785.15	ppmv		1	1
J	GS	SP-6-10	10	18-Oct-01		n-butane	220.36	ppmv		1	1
J	GS	SP-6-10	10	18-Oct-01		n-C4	191	ppmv		1	1
J	GS	SP-6-10	10	18-Oct-01		n-C5	418	ppmv		1	1
J	GS	SP-6-10	10	18-Oct-01		n-pentane	320.2	ppmv		1	1
J	GS	SP-6-10	10	18-Oct-01		propane	0.53	ppmv		1	1
J	GS	SP-6-10	10	18-Oct-01		1-pentene	7.58	ppmv		1	1
J	GS	SP-6-15	15	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
J	GS	SP-6-15	15	18-Oct-01		Propene	0.27	ppmv		1	1
J	GS	SP-6-15	15	18-Oct-01		propane	0.64	ppmv		1	1
J	GS	SP-6-15	15	18-Oct-01		n-pentane	422.35	ppmv		1	1
J	GS	SP-6-15	15	18-Oct-01		n-butane	298.42	ppmv		1	1
J	GS	SP-6-15	15	18-Oct-01		i-pentane	3004.58	ppmv		1	1
J	GS	SP-6-15	15	18-Oct-01		i-butane	60.9	ppmv		1	1
J	GS	SP-6-15	15	18-Oct-01		Ethane	3.71	ppmv		1	1
J	GS	SP-6-15	15	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
J	GS	SP-6-15	15	18-Oct-01		1-pentene	10.09	ppmv		1	1
J	GS	SP-6-15	15	18-Oct-01		1-butene	6.78	ppmv		1	1
J	GS	SP-6-15	15	18-Oct-01		Ethene	1.11	ppmv		1	1
J	GS	SP-6-6	6	18-Oct-01		n-pentane	0.63	ppmv		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SP-6-6	6	18-Oct-01		1-butene	5.59	ppmv		1	1
J	GS	SP-6-6	6	18-Oct-01		1-pentene	0.17	ppmv		1	1
J	GS	SP-6-6	6	18-Oct-01		propane	0.09	ppmv		1	1
J	GS	SP-6-6	6	18-Oct-01		n-butane	0.52	ppmv		1	1
J	GS	SP-6-6	6	18-Oct-01	74-82-8	Methane	217.1	ppmv		1	1
J	GS	SP-6-6	6	18-Oct-01		i-pentane	1.56	ppmv		1	1
J	GS	SP-6-6	6	18-Oct-01		i-butane	0.36	ppmv		1	1
J	GS	SP-6-6	6	18-Oct-01		Ethene	0.95	ppmv		1	1
J	GS	SP-6-6	6	18-Oct-01		Ethane	0.37	ppmv		1	1
J	GS	SP-6-6	6	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
J	GS	SP-6-6	6	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
J	GS	SP-6-6	6	18-Oct-01		Propene	0.36	ppmv		1	1
J	GS	SP-8-10	10	18-Oct-01		1-pentene	0.12	ppmv		1	1
J	GS	SP-8-10	10	18-Oct-01		i-C5	283	ppmv		1	1
J	GS	SP-8-10	10	18-Oct-01		propane	262.37	ppmv		1	1
J	GS	SP-8-10	10	18-Oct-01		n-pentane	4.68	ppmv		1	1
J	GS	SP-8-10	10	18-Oct-01		Propene	0.43	ppmv		1	1
J	GS	SP-8-10	10	18-Oct-01		n-C5	59.4	ppmv		1	1
J	GS	SP-8-10	10	18-Oct-01		n-C4	246	ppmv		1	1
J	GS	SP-8-10	10	18-Oct-01		n-butane	193.9	ppmv		1	1
J	GS	SP-8-10	10	18-Oct-01		i-pentane	140.07	ppmv		1	1
J	GS	SP-8-10	10	18-Oct-01		i-butane	206.18	ppmv		1	1
J	GS	SP-8-10	10	18-Oct-01		Ethane	76.03	ppmv		1	1
J	GS	SP-8-10	10	18-Oct-01		C3	399	ppmv		1	1
J	GS	SP-8-10	10	18-Oct-01		C2	185	ppmv		1	1
J	GS	SP-8-10	10	18-Oct-01		C1	106000	ppmv		1	1
J	GS	SP-8-10	10	18-Oct-01		2,2-dimethyl propane	11.68	ppmv		1	1
J	GS	SP-8-10	10	18-Oct-01		1-butene	0.1	ppmv		0	1
J	GS	SP-8-10	10	18-Oct-01		Ethene	0.66	ppmv		1	1
J	GS	SP-8-10	10	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
J	GS	SP-8-10	10	18-Oct-01		i-C4	267	ppmv		1	1
J	GS	SP-8-15	15	18-Oct-01		i-pentane	318.9	ppmv		1	1
J	GS	SP-8-15	15	18-Oct-01		Propene	0.35	ppmv		1	1
J	GS	SP-8-15	15	18-Oct-01		i-butane	324.27	ppmv		1	1
J	GS	SP-8-15	15	18-Oct-01		1-butene	0.1	ppmv		0	1
J	GS	SP-8-15	15	18-Oct-01		1-pentene	0.1	ppmv		1	1
J	GS	SP-8-15	15	18-Oct-01		2,2-dimethyl propane	21.24	ppmv		1	1
J	GS	SP-8-15	15	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
J	GS	SP-8-15	15	18-Oct-01		Ethane	123.02	ppmv		1	1
J	GS	SP-8-15	15	18-Oct-01		n-pentane	5.59	ppmv		1	1
J	GS	SP-8-15	15	18-Oct-01		Ethene	0.77	ppmv		1	1
J	GS	SP-8-15	15	18-Oct-01		propane	362.23	ppmv		1	1
J	GS	SP-8-15	15	18-Oct-01		n-butane	202.48	ppmv		1	1
J	GS	SP-8-6	6	18-Oct-01		1-butene	5.83	ppmv		1	1
J	GS	SP-8-6	6	18-Oct-01		1-pentene	0.19	ppmv		1	1
J	GS	SP-8-6	6	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
J	GS	SP-8-6	6	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
J	GS	SP-8-6	6	18-Oct-01		Ethane	0.12	ppmv		1	1
J	GS	SP-8-6	6	18-Oct-01		Ethene	0.1	ppmv		0	1
J	GS	SP-8-6	6	18-Oct-01		i-butane	0.2	ppmv		1	1
J	GS	SP-8-6	6	18-Oct-01	74-82-8	Methane	13.2	ppmv		1	1
J	GS	SP-8-6	6	18-Oct-01		n-pentane	0.42	ppmv		1	1
J	GS	SP-8-6	6	18-Oct-01		propane	0.15	ppmv		1	1
J	GS	SP-8-6	6	18-Oct-01		Propene	0.33	ppmv		1	1
J	GS	SP-8-6	6	18-Oct-01		i-pentane	0.21	ppmv		1	1
J	GS	SP-8-6	6	18-Oct-01		n-butane	0.39	ppmv		1	1
J	GS	SP-6-10	10	09-Apr-02		Ethane	1.75	ppmv		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SP-6-10	10	09-Apr-02		1-butene	0.1	ppmv		0	1
J	GS	SP-6-10	10	09-Apr-02		2,2-dimethyl propane	0.33	ppmv		1	1
J	GS	SP-6-10	10	09-Apr-02		Ethene	1.2	ppmv		1	1
J	GS	SP-6-10	10	09-Apr-02		i-butane	19.81	ppmv		1	1
J	GS	SP-6-10	10	09-Apr-02		i-pentane	1608.75	ppmv		1	1
J	GS	SP-6-10	10	09-Apr-02		n-butane	128.24	ppmv		1	1
J	GS	SP-6-10	10	09-Apr-02		n-pentane	312.19	ppmv		1	1
J	GS	SP-6-10	10	09-Apr-02		propane	0.34	ppmv		1	1
J	GS	SP-6-10	10	09-Apr-02		Propene	0.12	ppmv		1	1
J	GS	SP-6-10	10	09-Apr-02		1-pentene	6.03	ppmv		1	1
J	GS	SP-6-15	15	09-Apr-02		i-butane	39.6	ppmv		1	1
J	GS	SP-6-15	15	09-Apr-02		i-pentane	2274.67	ppmv		1	1
J	GS	SP-6-15	15	09-Apr-02		1-butene	0.1	ppmv		0	1
J	GS	SP-6-15	15	09-Apr-02		1-pentene	9.5	ppmv		1	1
J	GS	SP-6-15	15	09-Apr-02		2,2-dimethyl propane	0.51	ppmv		1	1
J	GS	SP-6-15	15	10-Apr-02		C1	22000	ppmv		1	1
J	GS	SP-6-15	15	09-Apr-02		Propene	0.11	ppmv		1	1
J	GS	SP-6-15	15	09-Apr-02		n-butane	233.7	ppmv		1	1
J	GS	SP-6-15	15	09-Apr-02		propane	0.41	ppmv		1	1
J	GS	SP-6-15	15	09-Apr-02		n-pentane	478.6	ppmv		1	1
J	GS	SP-6-15	15	09-Apr-02		Ethene	1.04	ppmv		1	1
J	GS	SP-6-15	15	10-Apr-02		C2	10	ppmv		0	1
J	GS	SP-6-15	15	10-Apr-02		C3	10	ppmv		0	1
J	GS	SP-6-15	15	10-Apr-02		i-C4	52	ppmv		1	1
J	GS	SP-6-15	15	10-Apr-02		i-C5	2200	ppmv		1	1
J	GS	SP-6-15	15	10-Apr-02		n-C4	160	ppmv		1	1
J	GS	SP-6-15	15	10-Apr-02		n-C5	390	ppmv		1	1
J	GS	SP-6-15	15	09-Apr-02		Ethane	2.94	ppmv		1	1
J	GS	SP-6-6	6	09-Apr-02		propane	0.1	ppmv		0	1
J	GS	SP-6-6	6	09-Apr-02		i-pentane	2.1	ppmv		1	1
J	GS	SP-6-6	6	09-Apr-02	74-82-8	Methane	34.38	ppmv		1	1
J	GS	SP-6-6	6	09-Apr-02		n-butane	0.67	ppmv		1	1
J	GS	SP-6-6	6	09-Apr-02		n-C4	10	ppmv		0	1
J	GS	SP-6-6	6	09-Apr-02		n-pentane	1.88	ppmv		1	1
J	GS	SP-6-6	6	09-Apr-02		Propene	0.1	ppmv		0	1
J	GS	SP-6-6	6	09-Apr-02		C1	190	ppmv		1	1
J	GS	SP-6-6	6	09-Apr-02		n-C5	15	ppmv		1	1
J	GS	SP-6-6	6	09-Apr-02		i-C5	19	ppmv		1	1
J	GS	SP-6-6	6	09-Apr-02		i-C4	10	ppmv		0	1
J	GS	SP-6-6	6	09-Apr-02		i-butane	0.12	ppmv		1	1
J	GS	SP-6-6	6	09-Apr-02		Ethene	0.1	ppmv		0	1
J	GS	SP-6-6	6	09-Apr-02		Ethane	0.1	ppmv		0	1
J	GS	SP-6-6	6	09-Apr-02		C2	10	ppmv		0	1
J	GS	SP-6-6	6	09-Apr-02		2,2-dimethyl propane	0.11	ppmv		1	1
J	GS	SP-6-6	6	09-Apr-02		1-pentene	0.1	ppmv		0	1
J	GS	SP-6-6	6	09-Apr-02		1-butene	0.1	ppmv		0	1
J	GS	SP-6-6	6	09-Apr-02		C3	10	ppmv		0	1
J	GS	SP-8-10	10	09-Apr-02		2,2-dimethyl propane	13.43	ppmv		1	1
J	GS	SP-8-10	10	09-Apr-02		1-pentene	0.1	ppmv		0	1
J	GS	SP-8-10	10	09-Apr-02		1-butene	0.1	ppmv		0	1
J	GS	SP-8-10	10	09-Apr-02		i-C5	180	ppmv		1	1
J	GS	SP-8-10	10	09-Apr-02		Propene	0.1	ppmv		0	1
J	GS	SP-8-10	10	09-Apr-02		propane	64.32	ppmv		1	1
J	GS	SP-8-10	10	09-Apr-02		n-pentane	0.69	ppmv		1	1
J	GS	SP-8-10	10	09-Apr-02		n-C5	16	ppmv		1	1
J	GS	SP-8-10	10	09-Apr-02		n-C4	140	ppmv		1	1
J	GS	SP-8-10	10	09-Apr-02		n-butane	4.98	ppmv		1	1

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SP-8-10	10	09-Apr-02		i-pentane	15.69	ppmv		1	1
J	GS	SP-8-10	10	09-Apr-02		C1	120000	ppmv		1	1
J	GS	SP-8-10	10	09-Apr-02		i-C4	130	ppmv		1	1
J	GS	SP-8-10	10	09-Apr-02		i-butane	6.45	ppmv		1	1
J	GS	SP-8-10	10	09-Apr-02		Ethene	0.57	ppmv		1	1
J	GS	SP-8-10	10	09-Apr-02		Ethane	87.81	ppmv		1	1
J	GS	SP-8-10	10	09-Apr-02		C3	290	ppmv		1	1
J	GS	SP-8-10	10	09-Apr-02		C2	220	ppmv		1	1
J	GS	SP-8-15	15	09-Apr-02		i-butane	72.14	ppmv		1	1
J	GS	SP-8-15	15	09-Apr-02		Propene	0.1	ppmv		0	1
J	GS	SP-8-15	15	09-Apr-02		propane	212.05	ppmv		1	1
J	GS	SP-8-15	15	09-Apr-02		n-pentane	1.79	ppmv		1	1
J	GS	SP-8-15	15	09-Apr-02		i-pentane	114.05	ppmv		1	1
J	GS	SP-8-15	15	09-Apr-02		Ethene	0.92	ppmv		1	1
J	GS	SP-8-15	15	09-Apr-02		Ethane	125.49	ppmv		1	1
J	GS	SP-8-15	15	09-Apr-02		2,2-dimethyl propane	19.4	ppmv		1	1
J	GS	SP-8-15	15	09-Apr-02		1-pentene	0.1	ppmv		0	1
J	GS	SP-8-15	15	09-Apr-02		1-butene	0.1	ppmv		0	1
J	GS	SP-8-15	15	09-Apr-02		n-butane	40.34	ppmv		1	1
J	GS	SP-8-6	6	09-Apr-02		2,2-dimethyl propane	0.11	ppmv		1	1
J	GS	SP-8-6	6	09-Apr-02		i-pentane	0.9	ppmv		1	1
J	GS	SP-8-6	6	09-Apr-02		1-butene	0.1	ppmv		0	1
J	GS	SP-8-6	6	09-Apr-02		1-pentene	0.1	ppmv		0	1
J	GS	SP-8-6	6	09-Apr-02		Ethane	0.12	ppmv		1	1
J	GS	SP-8-6	6	09-Apr-02		Ethene	0.1	ppmv		0	1
J	GS	SP-8-6	6	09-Apr-02		i-butane	0.49	ppmv		1	1
J	GS	SP-8-6	6	09-Apr-02		n-butane	0.65	ppmv		1	1
J	GS	SP-8-6	6	09-Apr-02		n-pentane	0.41	ppmv		1	1
J	GS	SP-8-6	6	09-Apr-02		propane	0.49	ppmv		1	1
J	GS	SP-8-6	6	09-Apr-02		Propene	0.1	ppmv		0	1
J	GS	SP-8-6	6	09-Apr-02	74-82-8	Methane	83.97	ppmv		1	1
J	GS	SP-6-10	10	24-Sep-02		Ethene	0.81	ppmv		1	1
J	GS	SP-6-10	10	24-Sep-02		Ethane	1.21	ppmv		1	1
J	GS	SP-6-10	10	24-Sep-02		propane	0.42	ppmv		1	1
J	GS	SP-6-10	10	24-Sep-02		n-pentane	138.5	ppmv		1	1
J	GS	SP-6-10	10	24-Sep-02		n-butane	59.18	ppmv		1	1
J	GS	SP-6-10	10	24-Sep-02		i-pentane	817.43	ppmv		1	1
J	GS	SP-6-10	10	24-Sep-02		i-butane	11.71	ppmv		1	1
J	GS	SP-6-10	10	24-Sep-02		1-butene	0.1	ppmv		0	1
J	GS	SP-6-10	10	24-Sep-02		1-pentene	1.05	ppmv		1	1
J	GS	SP-6-10	10	24-Sep-02		2,2-dimethyl propane	0.32	ppmv		1	1
J	GS	SP-6-10	10	24-Sep-02		Propene	0.13	ppmv		1	1
J	GS	SP-6-15	15	24-Sep-02		n-pentane	141.64	ppmv		1	1
J	GS	SP-6-15	15	24-Sep-02		propane	0.43	ppmv		1	1
J	GS	SP-6-15	15	24-Sep-02		2,2-dimethyl propane	0.39	ppmv		1	1
J	GS	SP-6-15	15	24-Sep-02		1-pentene	0.95	ppmv		1	1
J	GS	SP-6-15	15	24-Sep-02		1-butene	0.1	ppmv		0	1
J	GS	SP-6-15	15	24-Sep-02		n-butane	99.68	ppmv		1	1
J	GS	SP-6-15	15	24-Sep-02		Propene	0.1	ppmv		1	1
J	GS	SP-6-15	15	24-Sep-02		i-pentane	1035.1	ppmv		1	1
J	GS	SP-6-15	15	24-Sep-02		i-butane	19.01	ppmv		1	1
J	GS	SP-6-15	15	24-Sep-02		Ethene	0.44	ppmv		1	1
J	GS	SP-6-15	15	24-Sep-02		Ethane	1.49	ppmv		1	1
J	GS	SP-6-6	6	24-Sep-02		Propene	0.1	ppmv		0	1
J	GS	SP-6-6	6	24-Sep-02		i-pentane	52.42	ppmv		1	1
J	GS	SP-6-6	6	24-Sep-02		i-butane	1.04	ppmv		1	1
J	GS	SP-6-6	6	24-Sep-02		Ethene	0.26	ppmv		1	1

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SP-6-6	6	24-Sep-02		Ethane	1.18	ppmv		1	1
J	GS	SP-6-6	6	24-Sep-02		2,2-dimethyl propane	0.12	ppmv		1	1
J	GS	SP-6-6	6	24-Sep-02		1-pentene	0.7	ppmv		1	1
J	GS	SP-6-6	6	24-Sep-02		n-pentane	23.63	ppmv		1	1
J	GS	SP-6-6	6	24-Sep-02		propane	0.25	ppmv		1	1
J	GS	SP-6-6	6	24-Sep-02		n-butane	6.25	ppmv		1	1
J	GS	SP-6-6	6	24-Sep-02	74-82-8	Methane	292.01	ppmv		1	1
J	GS	SP-6-6	6	24-Sep-02		1-butene	0.1	ppmv		0	1
J	GS	SP-8-10	10	24-Sep-02		i-butane	4.06	ppmv		1	1
J	GS	SP-8-10	10	24-Sep-02		Ethene	0.24	ppmv		1	1
J	GS	SP-8-10	10	24-Sep-02		2,2-dimethyl propane	14.99	ppmv		1	1
J	GS	SP-8-10	10	24-Sep-02		1-pentene	0.1	ppmv		0	1
J	GS	SP-8-10	10	24-Sep-02		Ethane	86.46	ppmv		1	1
J	GS	SP-8-10	10	24-Sep-02		i-pentane	12.96	ppmv		1	1
J	GS	SP-8-10	10	24-Sep-02		1-butene	0.1	ppmv		0	1
J	GS	SP-8-10	10	24-Sep-02		Propene	0.13	ppmv		1	1
J	GS	SP-8-10	10	24-Sep-02		n-pentane	8.6	ppmv		1	1
J	GS	SP-8-10	10	24-Sep-02		propane	13.06	ppmv		1	1
J	GS	SP-8-10	10	24-Sep-02		n-butane	5.1	ppmv		1	1
J	GS	SP-8-15	15	24-Sep-02		1-pentene	0.1	ppmv		0	1
J	GS	SP-8-15	15	24-Sep-02		Propene	0.1	ppmv		0	1
J	GS	SP-8-15	15	24-Sep-02		propane	69.73	ppmv		1	1
J	GS	SP-8-15	15	24-Sep-02		n-pentane	9.46	ppmv		1	1
J	GS	SP-8-15	15	24-Sep-02		1-butene	0.1	ppmv		0	1
J	GS	SP-8-15	15	24-Sep-02		i-butane	21.25	ppmv		1	1
J	GS	SP-8-15	15	24-Sep-02		Ethane	117.15	ppmv		1	1
J	GS	SP-8-15	15	24-Sep-02		Ethene	0.11	ppmv		1	1
J	GS	SP-8-15	15	24-Sep-02		n-butane	14.44	ppmv		1	1
J	GS	SP-8-15	15	24-Sep-02		i-pentane	30.24	ppmv		1	1
J	GS	SP-8-15	15	24-Sep-02		2,2-dimethyl propane	20.41	ppmv		1	1
J	GS	SP-8-6	6	24-Sep-02		i-pentane	4.46	ppmv		1	1
J	GS	SP-8-6	6	24-Sep-02		1-butene	0.1	ppmv		0	1
J	GS	SP-8-6	6	24-Sep-02		Propene	0.1	ppmv		0	1
J	GS	SP-8-6	6	24-Sep-02		propane	0.1	ppmv		1	1
J	GS	SP-8-6	6	24-Sep-02		1-pentene	0.1	ppmv		0	1
J	GS	SP-8-6	6	24-Sep-02	74-82-8	Methane	9.08	ppmv		1	1
J	GS	SP-8-6	6	24-Sep-02		i-butane	0.15	ppmv		1	1
J	GS	SP-8-6	6	24-Sep-02		Ethene	0.1	ppmv		0	1
J	GS	SP-8-6	6	24-Sep-02		Ethane	0.1	ppmv		0	1
J	GS	SP-8-6	6	24-Sep-02		2,2-dimethyl propane	0.24	ppmv		1	1
J	GS	SP-8-6	6	24-Sep-02		n-pentane	6.17	ppmv		1	1
J	GS	SP-8-6	6	24-Sep-02		n-butane	0.93	ppmv		1	1
J	GS	SP-6-6	6	13-Jan-04	106-93-4	1,2-Dibromoethane	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	71-55-6	1,1,1-Trichloroethane	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	74-83-9	Bromomethane	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	106-46-7	1,4-Dichlorobenzene	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	108-67-8	1,3,5-Trimethylbenzene	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	78-87-5	1,2-Dichloropropane	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	107-06-2	1,2-Dichloroethane	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	108-90-7	Chlorobenzene	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	75-00-3	Chloroethane	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	95-63-6	1,2,4-Trimethylbenzene	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	120-82-1	1,2,4-Trichlorobenzene	10	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	75-35-4	1,1-Dichloroethene	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	75-34-3	1,1-Dichloroethane	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	79-00-5	1,1,2-Trichloroethane	5	ppbv		0	1

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SP-6-6	6	13-Jan-04	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	79-34-5	1,1,2,2-Tetrachloroethane	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	95-50-1	1,2-Dichlorobenzene	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	75-09-2	Methylene Chloride	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	1330-20-7	Xylenes (total)	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	75-01-4	Vinyl Chloride	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	75-69-4	Trichlorofluoromethane	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	79-01-6	Trichloroethene	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	10061-02-6	trans-1,3-Dichloropropene	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	108-88-3	Toluene	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	56-23-5	Carbon Tetrachloride	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	100-42-5	Styrene	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	541-73-1	1,3-Dichlorobenzene	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	87-68-3	Hexachlorobutadiene	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	100-41-4	Ethylbenzene	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	75-71-8	Dichlorodifluoromethane	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	10061-01-5	cis-1,3-Dichloropropene	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	156-59-2	cis-1,2-Dichloroethene	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	74-87-3	Chloromethane	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	67-66-3	Chloroform	19000	ppbv		1	1
J	GS	SP-6-6	6	13-Jan-04	127-18-4	Tetrachloroethene	5	ppbv		0	1
J	GS	SP-6-6	6	13-Jan-04	71-43-2	Benzene	5	ppbv		0	1
J	GS	SP-6-06	6	20-Jul-07	107-05-1	Allyl chloride	0.66	ug/L	0.66	0	1
J	GS	SP-6-06	6	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.32	ug/L	0.32	0	1
J	GS	SP-6-06	6	20-Jul-07	123-91-1	1,4-Dioxane	0.76	ug/L	0.76	0	1
J	GS	SP-6-06	6	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	2.4	ug/L	2.4	1	1
J	GS	SP-6-06	6	20-Jul-07	78-93-3	2-Butanone	0.16	ug/L	0.16	0	1
J	GS	SP-6-06	6	20-Jul-07	591-78-6	2-Hexanone	0.87	ug/L	0.87	0	1
J	GS	SP-6-06	6	20-Jul-07		4-Bromofluorobenzene	86	%		1	1
J	GS	SP-6-06	6	20-Jul-07	106-99-0	1,3-Butadiene	0.12	ug/L	0.12	0	1
J	GS	SP-6-06	6	20-Jul-07	67-64-1	Acetone	0.5	ug/L	0.5	0	1
J	GS	SP-6-06	6	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.56	ug/L	0.56	1	1
J	GS	SP-6-06	6	20-Jul-07	71-43-2	Benzene	0.71	ug/L	0.71	1	1
J	GS	SP-6-06	6	20-Jul-07	100-44-7	Benzyl chloride	0.27	ug/L	0.27	0	1
J	GS	SP-6-06	6	20-Jul-07	75-27-4	Bromodichloromethane	0.36	ug/L	0.36	0	1
J	GS	SP-6-06	6	20-Jul-07	75-25-2	Bromoform	0.55	ug/L	0.55	0	1
J	GS	SP-6-06	6	20-Jul-07	74-83-9	Bromomethane	0.2	ug/L	0.2	0	1
J	GS	SP-6-06	6	20-Jul-07	108-90-7	Chlorobenzene	0.24	ug/L	0.24	0	1
J	GS	SP-6-06	6	20-Jul-07	75-00-3	Chloroethane	0.14	ug/L	0.14	0	1
J	GS	SP-6-06	6	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.22	ug/L	0.22	0	1
J	GS	SP-6-06	6	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	1.6	ug/L		0	0
J	GS	SP-6-06	6	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
J	GS	SP-6-06	6	20-Jul-07	75-01-4	Vinyl chloride	0.14	ug/L	0.14	0	1
J	GS	SP-6-06	6	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.29	ug/L		0	0
J	GS	SP-6-06	6	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.36	ug/L		0	0
J	GS	SP-6-06	6	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.41	ug/L		0	0
J	GS	SP-6-06	6	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.29	ug/L		0	0
J	GS	SP-6-06	6	20-Jul-07	75-34-3	1,1-Dichloroethane	0.21	ug/L		0	0
J	GS	SP-6-06	6	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.32	ug/L	0.32	0	1
J	GS	SP-6-06	6	20-Jul-07	96-18-4	1,2,3-Trichloropropane	1.3	ug/L		0	0
J	GS	SP-6-06	6	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.21	ug/L		0	1
J	GS	SP-6-06	6	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.64	ug/L		1	0
J	GS	SP-6-06	6	20-Jul-07	106-93-4	1,2-Dibromoethane	0.41	ug/L		0	0
J	GS	SP-6-06	6	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.37	ug/L		0	0
J	GS	SP-6-06	6	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.32	ug/L		0	0
J	GS	SP-6-06	6	20-Jul-07	107-06-2	1,2-Dichloroethane	0.21	ug/L		0	0
J	GS	SP-6-06	6	20-Jul-07		1,2-Dichloroethane-d4	110	%		1	1

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SP-6-06	6	20-Jul-07	78-87-5	1,2-Dichloropropane	0.24	ug/L	0.24	0	1
J	GS	SP-6-06	6	20-Jul-07	75-35-4	1,1-Dichloroethene	0.21	ug/L		0	0
J	GS	SP-6-06	6	20-Jul-07	75-65-0	tert-Butyl alcohol	0.64	ug/L	0.64	0	1
J	GS	SP-6-06	6	20-Jul-07	91-20-3	Naphthalene	1.1	ug/L	1.1	0	1
J	GS	SP-6-06	6	20-Jul-07	142-82-5	n-Heptane	1.7	ug/L	1.7	1	1
J	GS	SP-6-06	6	20-Jul-07		Nitrogen	79	%		1	1
J	GS	SP-6-06	6	20-Jul-07	103-65-1	n-Propylbenzene	0.26	ug/L	0.26	0	1
J	GS	SP-6-06	6	20-Jul-07		Oxygen	19	%		1	1
J	GS	SP-6-06	6	20-Jul-07	95-47-6	o-Xylene	0.23	ug/L	0.23	0	1
J	GS	SP-6-06	6	20-Jul-07	622-96-8	p-Ethyltoluene	0.91	ug/L	0.91	1	1
J	GS	SP-6-06	6	20-Jul-07	67-66-3	Chloroform	57	ug/L	57	1	1
J	GS	SP-6-06	6	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.88	ug/L	0.88	0	1
J	GS	SP-6-06	6	20-Jul-07	74-82-8	Methane	0.15	%		1	1
J	GS	SP-6-06	6	20-Jul-07	127-18-4	Tetrachloroethene	0.36	ug/L	0.36	0	1
J	GS	SP-6-06	6	20-Jul-07	109-99-9	Tetrahydrofuran	0.16	ug/L	0.16	0	1
J	GS	SP-6-06	6	20-Jul-07	108-88-3	Toluene	0.2	ug/L	0.2	0	1
J	GS	SP-6-06	6	20-Jul-07		Carbon Dioxide	1.7	%		1	1
J	GS	SP-6-06	6	20-Jul-07	75-15-0	Carbon Disulfide	0.16	ug/L	0.16	0	1
J	GS	SP-6-06	6	20-Jul-07		Carbon Monoxide	0.026	%		0	1
J	GS	SP-6-06	6	20-Jul-07	56-23-5	Carbon tetrachloride	0.33	ug/L	0.33	0	1
J	GS	SP-6-06	6	20-Jul-07	100-42-5	Styrene	0.22	ug/L	0.22	0	1
J	GS	SP-6-06	6	20-Jul-07	100-41-4	Ethylbenzene	0.23	ug/L	0.23	0	1
J	GS	SP-6-06	6	20-Jul-07		Toluene-d8	94	%		1	1
J	GS	SP-6-06	6	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.24	ug/L	0.24	0	1
J	GS	SP-6-06	6	20-Jul-07	110-82-7	Cyclohexane	3.6	ug/L	3.6	1	1
J	GS	SP-6-06	6	20-Jul-07	124-48-1	Dibromochloromethane	0.45	ug/L	0.45	0	1
J	GS	SP-6-06	6	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.26	ug/L	0.26	0	1
J	GS	SP-6-06	6	20-Jul-07		Ethane	0.0026	%		0	1
J	GS	SP-6-06	6	20-Jul-07	64-17-5	Ethanol	0.4	ug/L	0.4	0	1
J	GS	SP-6-06	6	20-Jul-07	75-09-2	Methylene chloride	0.18	ug/L	0.18	0	1
J	GS	SP-6-06	6	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.88	ug/L	0.88	0	1
J	GS	SP-6-06	6	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.19	ug/L	0.19	0	1
J	GS	SP-6-06	6	20-Jul-07	87-68-3	Hexachlorobutadiene	2.3	ug/L	2.3	0	1
J	GS	SP-6-06	6	20-Jul-07	110-54-3	Hexane	3.1	ug/L	3.1	1	1
J	GS	SP-6-06	6	20-Jul-07	67-63-0	Isopropyl alcohol	0.52	ug/L	0.52	0	1
J	GS	SP-6-06	6	20-Jul-07	108-20-3	Isopropyl ether	0.88	ug/L	0.88	0	1
J	GS	SP-6-06	6	20-Jul-07	98-82-8	Isopropylbenzene	0.26	ug/L	0.26	0	1
J	GS	SP-6-06	6	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	1.4	ug/L		0	0
J	GS	SP-6-06	6	20-Jul-07	75-69-4	Trichlorofluoromethane	0.3	ug/L	0.3	0	1
J	GS	SP-6-06	6	20-Jul-07	74-87-3	Chloromethane	0.44	ug/L	0.44	0	1
J	GS	SP-6-06	6	20-Jul-07		Ethene	0.0026	%		0	1
J	GS	SP-6-06	6	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.24	ug/L	0.24	0	1
J	GS	SP-6-06	6	20-Jul-07	179601-23-1	m,p-Xylenes	2.1	ug/L	2.1	1	1
J	GS	SP-6-06	6	20-Jul-07	79-01-6	Trichloroethene	0.28	ug/L	0.28	0	1
J	GS	SP-6-06	6	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.21	ug/L	0.21	0	1
J	GS	SP-6-15	15	20-Jul-07	142-82-5	n-Heptane	3.3	ug/L	3.3	1	1
J	GS	SP-6-15	15	20-Jul-07	107-05-1	Allyl chloride	1.8	ug/L	1.8	0	1
J	GS	SP-6-15	15	20-Jul-07	75-09-2	Methylene chloride	0.49	ug/L	0.49	0	1
J	GS	SP-6-15	15	20-Jul-07	67-64-1	Acetone	1.3	ug/L	1.3	0	1
J	GS	SP-6-15	15	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.51	ug/L	0.51	0	1
J	GS	SP-6-15	15	20-Jul-07		1,2-Dichloroethane-d4	110	%		1	1
J	GS	SP-6-15	15	20-Jul-07	78-87-5	1,2-Dichloropropane	0.65	ug/L	0.65	0	1
J	GS	SP-6-15	15	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.84	ug/L	0.84	0	1
J	GS	SP-6-15	15	20-Jul-07	106-99-0	1,3-Butadiene	0.31	ug/L	0.31	0	1
J	GS	SP-6-15	15	20-Jul-07	591-78-6	2-Hexanone	2.3	ug/L	2.3	0	1
J	GS	SP-6-15	15	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.58	ug/L	0.58	0	1
J	GS	SP-6-15	15	20-Jul-07		Nitrogen	83	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SP-6-15	15	20-Jul-07		4-Bromofluorobenzene	89	%		1	1
J	GS	SP-6-15	15	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.84	ug/L	0.84	0	1
J	GS	SP-6-15	15	20-Jul-07	123-91-1	1,4-Dioxane	2	ug/L	2	0	1
J	GS	SP-6-15	15	20-Jul-07	96-18-4	1,2,3-Trichloropropane	3.4	ug/L	3.4	0	1
J	GS	SP-6-15	15	20-Jul-07	78-93-3	2-Butanone	0.41	ug/L	0.41	0	1
J	GS	SP-6-15	15	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.5	ug/L	2.5	1	1
J	GS	SP-6-15	15	20-Jul-07	108-88-3	Toluene	0.53	ug/L	0.53	0	1
J	GS	SP-6-15	15	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.98	ug/L	0.98	0	1
J	GS	SP-6-15	15	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.84	ug/L	0.84	0	1
J	GS	SP-6-15	15	20-Jul-07	107-06-2	1,2-Dichloroethane	0.57	ug/L	0.57	0	1
J	GS	SP-6-15	15	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
J	GS	SP-6-15	15	20-Jul-07	75-69-4	Trichlorofluoromethane	0.79	ug/L	0.79	0	1
J	GS	SP-6-15	15	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	5	ug/L	5	1	1
J	GS	SP-6-15	15	20-Jul-07	79-01-6	Trichloroethene	0.76	ug/L	0.76	0	1
J	GS	SP-6-15	15	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.64	ug/L	0.64	0	1
J	GS	SP-6-15	15	20-Jul-07	91-20-3	Naphthalene	2.9	ug/L	2.9	0	1
J	GS	SP-6-15	15	20-Jul-07		Toluene-d8	96	%		1	1
J	GS	SP-6-15	15	20-Jul-07	74-83-9	Bromomethane	0.54	ug/L	0.54	0	1
J	GS	SP-6-15	15	20-Jul-07	109-99-9	Tetrahydrofuran	0.41	ug/L	0.41	0	1
J	GS	SP-6-15	15	20-Jul-07	127-18-4	Tetrachloroethene	0.95	ug/L	0.95	0	1
J	GS	SP-6-15	15	20-Jul-07	75-65-0	tert-Butyl alcohol	1.7	ug/L	1.7	0	1
J	GS	SP-6-15	15	20-Jul-07	994-05-8	Tert-amyl methyl ether	2.3	ug/L	2.3	0	1
J	GS	SP-6-15	15	20-Jul-07	100-42-5	Styrene	0.6	ug/L	0.6	0	1
J	GS	SP-6-15	15	20-Jul-07	622-96-8	p-Ethyltoluene	4.7	ug/L	4.7	1	1
J	GS	SP-6-15	15	20-Jul-07	95-47-6	o-Xylene	1.6	ug/L	1.6	1	1
J	GS	SP-6-15	15	20-Jul-07		Oxygen	10	%		1	1
J	GS	SP-6-15	15	20-Jul-07	103-65-1	n-Propylbenzene	1.8	ug/L	1.8	1	1
J	GS	SP-6-15	15	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.56	ug/L	0.56	0	1
J	GS	SP-6-15	15	20-Jul-07	637-92-3	Ethyl tert butyl ether	2.3	ug/L	2.3	0	1
J	GS	SP-6-15	15	20-Jul-07	71-43-2	Benzene	1.2	ug/L	1.2	1	1
J	GS	SP-6-15	15	20-Jul-07		Carbon Dioxide	7.1	%		1	1
J	GS	SP-6-15	15	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.64	ug/L	0.64	0	1
J	GS	SP-6-15	15	20-Jul-07	110-82-7	Cyclohexane	6.6	ug/L	6.6	1	1
J	GS	SP-6-15	15	20-Jul-07	124-48-1	Dibromochloromethane	1.2	ug/L	1.2	0	1
J	GS	SP-6-15	15	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.69	ug/L	0.69	0	1
J	GS	SP-6-15	15	20-Jul-07		Ethane	0.0025	%		0	1
J	GS	SP-6-15	15	20-Jul-07		Carbon Monoxide	0.025	%		0	1
J	GS	SP-6-15	15	20-Jul-07		Ethene	0.0025	%		0	1
J	GS	SP-6-15	15	20-Jul-07	56-23-5	Carbon tetrachloride	0.88	ug/L	0.88	0	1
J	GS	SP-6-15	15	20-Jul-07	100-41-4	Ethylbenzene	3.3	ug/L	3.3	1	1
J	GS	SP-6-15	15	20-Jul-07	87-68-3	Hexachlorobutadiene	6	ug/L	6	0	1
J	GS	SP-6-15	15	20-Jul-07	110-54-3	Hexane	4.7	ug/L	4.7	1	1
J	GS	SP-6-15	15	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.77	ug/L	0.77	0	1
J	GS	SP-6-15	15	20-Jul-07	75-34-3	1,1-Dichloroethane	0.57	ug/L	0.57	0	1
J	GS	SP-6-15	15	20-Jul-07	75-35-4	1,1-Dichloroethene	0.56	ug/L	0.56	0	1
J	GS	SP-6-15	15	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	4.8	ug/L	4.8	1	1
J	GS	SP-6-15	15	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.2	ug/L	4.2	0	1
J	GS	SP-6-15	15	20-Jul-07	64-17-5	Ethanol	1	ug/L	1	0	1
J	GS	SP-6-15	15	20-Jul-07	106-93-4	1,2-Dibromoethane	1.1	ug/L	1.1	0	1
J	GS	SP-6-15	15	20-Jul-07	100-44-7	Benzyl chloride	0.73	ug/L	0.73	0	1
J	GS	SP-6-15	15	20-Jul-07	75-01-4	Vinyl chloride	0.36	ug/L	0.36	0	1
J	GS	SP-6-15	15	20-Jul-07	75-27-4	Bromodichloromethane	0.94	ug/L	0.94	0	1
J	GS	SP-6-15	15	20-Jul-07	75-25-2	Bromoform	1.4	ug/L	1.4	0	1
J	GS	SP-6-15	15	20-Jul-07	74-82-8	Methane	0.038	%		1	1
J	GS	SP-6-15	15	20-Jul-07	179601-23-1	m,p-Xylenes	10	ug/L	10	1	1
J	GS	SP-6-15	15	20-Jul-07	98-82-8	Isopropylbenzene	0.8	ug/L	0.8	1	1
J	GS	SP-6-15	15	20-Jul-07	75-15-0	Carbon Disulfide	0.44	ug/L	0.44	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SP-6-15	15	20-Jul-07	67-63-0	Isopropyl alcohol	1.4	ug/L	1.4	0	1
J	GS	SP-6-15	15	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	3.8	ug/L	3.8	0	1
J	GS	SP-6-15	15	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.77	ug/L	0.77	0	1
J	GS	SP-6-15	15	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.96	ug/L	0.96	0	1
J	GS	SP-6-15	15	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.1	ug/L	1.1	0	1
J	GS	SP-6-15	15	20-Jul-07	74-87-3	Chloromethane	1.2	ug/L	1.2	0	1
J	GS	SP-6-15	15	20-Jul-07	67-66-3	Chloroform	190	ug/L	190	1	1
J	GS	SP-6-15	15	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.56	ug/L		0	1
J	GS	SP-6-15	15	20-Jul-07	75-00-3	Chloroethane	0.37	ug/L	0.37	0	1
J	GS	SP-6-15	15	20-Jul-07	108-90-7	Chlorobenzene	0.65	ug/L	0.65	0	1
J	GS	SP-6-15	15	20-Jul-07	108-20-3	Isopropyl ether	2.3	ug/L	2.3	0	1
J	GS	SV-15-05	5	19-Jul-07	78-93-3	2-Butanone	0.011	ug/L	0.011	1	1
J	GS	SV-15-05	5	19-Jul-07	591-78-6	2-Hexanone	0.044	ug/L	0.044	0	1
J	GS	SV-15-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.02	ug/L	0.02	1	1
J	GS	SV-15-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.014	ug/L	0.014	0	1
J	GS	SV-15-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.011	ug/L	0.011	0	1
J	GS	SV-15-05	5	19-Jul-07	67-64-1	Acetone	0.039	ug/L	0.039	1	1
J	GS	SV-15-05	5	19-Jul-07	107-05-1	Allyl chloride	0.034	ug/L	0.034	0	1
J	GS	SV-15-05	5	19-Jul-07	71-43-2	Benzene	0.0086	ug/L	0.0086	0	1
J	GS	SV-15-05	5	19-Jul-07		4-Bromofluorobenzene	93	%		1	1
J	GS	SV-15-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.018	ug/L	0.018	0	1
J	GS	SV-15-05	5	19-Jul-07	75-25-2	Bromoform	0.028	ug/L	0.028	0	1
J	GS	SV-15-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.017	ug/L	0.017	0	1
J	GS	SV-15-05	5	19-Jul-07		Carbon Dioxide	2	%		1	1
J	GS	SV-15-05	5	19-Jul-07		Carbon Monoxide	0.054	%		0	1
J	GS	SV-15-05	5	19-Jul-07	75-00-3	Chloroethane	0.0071	ug/L	0.0071	0	1
J	GS	SV-15-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.019	ug/L	0.019	0	1
J	GS	SV-15-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.012	ug/L	0.012	0	1
J	GS	SV-15-05	5	19-Jul-07	74-83-9	Bromomethane	0.01	ug/L	0.01	0	1
J	GS	SV-15-05	5	19-Jul-07	67-66-3	Chloroform	0.021	ug/L	0.021	1	1
J	GS	SV-15-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
J	GS	SV-15-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.021	ug/L	0.021	0	1
J	GS	SV-15-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.015	ug/L	0.015	0	1
J	GS	SV-15-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.011	ug/L	0.011	0	1
J	GS	SV-15-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.011	ug/L	0.011	0	1
J	GS	SV-15-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.065	ug/L	0.065	0	1
J	GS	SV-15-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.08	ug/L	0.08	0	1
J	GS	SV-15-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.011	ug/L	0.011	0	1
J	GS	SV-15-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.021	ug/L	0.021	0	1
J	GS	SV-15-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.039	ug/L	0.039	0	1
J	GS	SV-15-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.016	ug/L	0.016	0	1
J	GS	SV-15-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.015	ug/L	0.015	0	1
J	GS	SV-15-05	5	19-Jul-07		1,2-Dichloroethane-d4	99	%		1	1
J	GS	SV-15-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.012	ug/L	0.012	0	1
J	GS	SV-15-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.013	ug/L	0.013	0	1
J	GS	SV-15-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.006	ug/L	0.006	0	1
J	GS	SV-15-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.016	ug/L	0.016	0	1
J	GS	SV-15-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.018	ug/L	0.018	0	1
J	GS	SV-15-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.013	ug/L	0.013	0	1
J	GS	SV-15-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.0079	ug/L	0.0079	0	1
J	GS	SV-15-05	5	19-Jul-07		Nitrogen	80	%		1	1
J	GS	SV-15-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.014	ug/L	0.014	1	1
J	GS	SV-15-05	5	19-Jul-07		Oxygen	18	%		1	1
J	GS	SV-15-05	5	19-Jul-07	95-47-6	o-Xylene	0.012	ug/L	0.012	0	1
J	GS	SV-15-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.013	ug/L	0.013	0	1
J	GS	SV-15-05	5	19-Jul-07	100-42-5	Styrene	0.011	ug/L	0.011	0	1
J	GS	SV-15-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.045	ug/L	0.045	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-15-05	5	19-Jul-07	79-01-6	Trichloroethene	0.014	ug/L	0.014	0	1
J	GS	SV-15-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.018	ug/L	0.018	0	1
J	GS	SV-15-05	5	19-Jul-07	75-09-2	Methylene chloride	0.0094	ug/L	0.0094	0	1
J	GS	SV-15-05	5	19-Jul-07	108-88-3	Toluene	0.022	ug/L	0.022	1	1
J	GS	SV-15-05	5	19-Jul-07		Toluene-d8	96	%		1	1
J	GS	SV-15-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.011	ug/L	0.011	0	1
J	GS	SV-15-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.012	ug/L	0.012	0	1
J	GS	SV-15-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.015	ug/L	0.015	0	1
J	GS	SV-15-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.0069	ug/L	0.0069	0	1
J	GS	SV-15-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.074	ug/L	0.074	0	1
J	GS	SV-15-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.016	ug/L	0.016	0	1
J	GS	SV-15-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.033	ug/L	0.033	0	1
J	GS	SV-15-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.11	ug/L	0.11	0	1
J	GS	SV-15-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.011	ug/L		0	1
J	GS	SV-15-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.012	ug/L	0.012	0	1
J	GS	SV-15-05	5	19-Jul-07	110-82-7	Cyclohexane	0.0093	ug/L	0.0093	0	1
J	GS	SV-15-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.023	ug/L	0.023	0	1
J	GS	SV-15-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.013	ug/L	0.013	0	1
J	GS	SV-15-05	5	19-Jul-07		Ethane	0.0054	%		0	1
J	GS	SV-15-05	5	19-Jul-07	64-17-5	Ethanol	0.02	ug/L	0.02	0	1
J	GS	SV-15-05	5	19-Jul-07		Ethene	0.0054	%		0	1
J	GS	SV-15-05	5	19-Jul-07	142-82-5	n-Heptane	0.024	ug/L	0.024	1	1
J	GS	SV-15-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.012	ug/L	0.012	0	1
J	GS	SV-15-05	5	19-Jul-07	91-20-3	Naphthalene	0.056	ug/L	0.056	0	1
J	GS	SV-15-05	5	19-Jul-07	110-54-3	Hexane	0.022	ug/L	0.022	1	1
J	GS	SV-15-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.026	ug/L	0.026	0	1
J	GS	SV-15-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.045	ug/L	0.045	0	1
J	GS	SV-15-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.013	ug/L	0.013	1	1
J	GS	SV-15-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.012	ug/L	0.012	0	1
J	GS	SV-15-05	5	19-Jul-07	74-82-8	Methane	0.00054	%		0	1
J	GS	SV-15-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0097	ug/L	0.0097	0	1
J	GS	SV-15-05	5	19-Jul-07	74-87-3	Chloromethane	0.022	ug/L	0.022	0	1
J	GS	SV-15-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.045	ug/L	0.045	0	1
J	GS	SV-15-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.012	ug/L	0.012	0	1
J	GS	SV-15-15	15	19-Jul-07	100-44-7	Benzyl chloride	0.055	ug/L	0.055	0	1
J	GS	SV-15-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.29	ug/L	0.29	0	1
J	GS	SV-15-15	15	19-Jul-07	78-93-3	2-Butanone	0.031	ug/L	0.031	0	1
J	GS	SV-15-15	15	19-Jul-07	591-78-6	2-Hexanone	0.17	ug/L	0.17	0	1
J	GS	SV-15-15	15	19-Jul-07		4-Bromofluorobenzene	92	%		1	1
J	GS	SV-15-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.043	ug/L	0.043	0	1
J	GS	SV-15-15	15	19-Jul-07	67-64-1	Acetone	0.1	ug/L	0.1	0	1
J	GS	SV-15-15	15	19-Jul-07	123-91-1	1,4-Dioxane	0.15	ug/L	0.15	0	1
J	GS	SV-15-15	15	19-Jul-07	71-43-2	Benzene	0.034	ug/L	0.034	0	1
J	GS	SV-15-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.063	ug/L	0.063	0	1
J	GS	SV-15-15	15	19-Jul-07	75-27-4	Bromodichloromethane	0.071	ug/L	0.071	0	1
J	GS	SV-15-15	15	19-Jul-07	75-25-2	Bromoform	0.11	ug/L	0.11	0	1
J	GS	SV-15-15	15	19-Jul-07	74-83-9	Bromomethane	0.041	ug/L	0.041	0	1
J	GS	SV-15-15	15	19-Jul-07		Carbon Dioxide	8.4	%		1	1
J	GS	SV-15-15	15	19-Jul-07	75-15-0	Carbon Disulfide	0.15	ug/L	0.15	1	1
J	GS	SV-15-15	15	19-Jul-07		Carbon Monoxide	0.026	%		0	1
J	GS	SV-15-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	0.066	ug/L	0.066	0	1
J	GS	SV-15-15	15	19-Jul-07	108-90-7	Chlorobenzene	0.048	ug/L	0.048	0	1
J	GS	SV-15-15	15	19-Jul-07	107-05-1	Allyl chloride	0.13	ug/L	0.13	0	1
J	GS	SV-15-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	0.081	ug/L	0.081	0	1
J	GS	SV-15-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.058	ug/L	0.058	0	1
J	GS	SV-15-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.072	ug/L	0.072	0	1
J	GS	SV-15-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.081	ug/L	0.081	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-15-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.058	ug/L	0.058	0	1
J	GS	SV-15-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	0.043	ug/L	0.043	0	1
J	GS	SV-15-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	0.042	ug/L	0.042	0	1
J	GS	SV-15-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.25	ug/L	0.25	0	1
J	GS	SV-15-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.049	ug/L	0.049	0	1
J	GS	SV-15-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.11	ug/L	0.11	1	1
J	GS	SV-15-15	15	19-Jul-07	74-87-3	Chloromethane	0.087	ug/L	0.087	0	1
J	GS	SV-15-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.074	ug/L	0.074	0	1
J	GS	SV-15-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.063	ug/L	0.063	0	1
J	GS	SV-15-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	0.043	ug/L	0.043	0	1
J	GS	SV-15-15	15	19-Jul-07		1,2-Dichloroethane-d4	161	%		1	1
J	GS	SV-15-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	0.049	ug/L	0.049	0	1
J	GS	SV-15-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.052	ug/L	0.052	0	1
J	GS	SV-15-15	15	19-Jul-07	106-99-0	1,3-Butadiene	0.023	ug/L	0.023	0	1
J	GS	SV-15-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.063	ug/L	0.063	0	1
J	GS	SV-15-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.31	ug/L	0.31	0	1
J	GS	SV-15-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	0.031	ug/L	0.031	0	1
J	GS	SV-15-15	15	19-Jul-07	75-00-3	Chloroethane	0.028	ug/L	0.028	0	1
J	GS	SV-15-15	15	19-Jul-07	103-65-1	n-Propylbenzene	1.6	ug/L	1.6	1	1
J	GS	SV-15-15	15	19-Jul-07		Oxygen	1.5	%		1	1
J	GS	SV-15-15	15	19-Jul-07	95-47-6	o-Xylene	0.046	ug/L	0.046	0	1
J	GS	SV-15-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	0.052	ug/L	0.052	0	1
J	GS	SV-15-15	15	19-Jul-07	100-42-5	Styrene	0.045	ug/L	0.045	0	1
J	GS	SV-15-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.18	ug/L	0.18	0	1
J	GS	SV-15-15	15	19-Jul-07	142-82-5	n-Heptane	0.043	ug/L	0.043	0	1
J	GS	SV-15-15	15	19-Jul-07	127-18-4	Tetrachloroethene	0.072	ug/L	0.072	0	1
J	GS	SV-15-15	15	19-Jul-07	91-20-3	Naphthalene	0.22	ug/L	0.22	0	1
J	GS	SV-15-15	15	19-Jul-07	108-88-3	Toluene	0.04	ug/L	0.04	0	1
J	GS	SV-15-15	15	19-Jul-07		Toluene-d8	100	%		1	1
J	GS	SV-15-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.042	ug/L	0.042	0	1
J	GS	SV-15-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.048	ug/L	0.048	0	1
J	GS	SV-15-15	15	19-Jul-07	79-01-6	Trichloroethene	0.057	ug/L	0.057	0	1
J	GS	SV-15-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	0.059	ug/L	0.059	0	1
J	GS	SV-15-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
J	GS	SV-15-15	15	19-Jul-07	75-01-4	Vinyl chloride	0.027	ug/L	0.027	0	1
J	GS	SV-15-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	0.13	ug/L	0.13	0	1
J	GS	SV-15-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.18	ug/L	0.18	0	1
J	GS	SV-15-15	15	19-Jul-07	98-82-8	Isopropylbenzene	2	ug/L	2	1	1
J	GS	SV-15-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.042	ug/L		0	1
J	GS	SV-15-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.048	ug/L	0.048	0	1
J	GS	SV-15-15	15	19-Jul-07	110-82-7	Cyclohexane	0.036	ug/L	0.036	0	1
J	GS	SV-15-15	15	19-Jul-07	124-48-1	Dibromochloromethane	0.09	ug/L	0.09	0	1
J	GS	SV-15-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.052	ug/L	0.052	0	1
J	GS	SV-15-15	15	19-Jul-07		Ethane	0.0026	%		0	1
J	GS	SV-15-15	15	19-Jul-07		Nitrogen	89	%		1	1
J	GS	SV-15-15	15	19-Jul-07		Ethene	0.0026	%		0	1
J	GS	SV-15-15	15	19-Jul-07	67-66-3	Chloroform	0.052	ug/L	0.052	0	1
J	GS	SV-15-15	15	19-Jul-07	100-41-4	Ethylbenzene	0.046	ug/L	0.046	0	1
J	GS	SV-15-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	0.45	ug/L	0.45	0	1
J	GS	SV-15-15	15	19-Jul-07	110-54-3	Hexane	0.056	ug/L	0.056	1	1
J	GS	SV-15-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	0.1	ug/L	0.1	0	1
J	GS	SV-15-15	15	19-Jul-07	108-20-3	Isopropyl ether	0.18	ug/L	0.18	0	1
J	GS	SV-15-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	0.046	ug/L	0.046	0	1
J	GS	SV-15-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.038	ug/L	0.038	0	1
J	GS	SV-15-15	15	19-Jul-07	75-09-2	Methylene chloride	0.037	ug/L	0.037	0	1
J	GS	SV-15-15	15	19-Jul-07	64-17-5	Ethanol	0.08	ug/L	0.08	0	1
J	GS	SV-15-15	15	19-Jul-07	74-82-8	Methane	0.58	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-16-05	5	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0083	ug/L	0.0083	0	1
J	GS	SV-16-05	5	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0066	ug/L	0.0066	0	1
J	GS	SV-16-05	5	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.033	ug/L	0.033	0	1
J	GS	SV-16-05	5	20-Jul-07	75-15-0	Carbon Disulfide	0.04	ug/L	0.04	1	1
J	GS	SV-16-05	5	20-Jul-07		Carbon Monoxide	0.024	%		0	1
J	GS	SV-16-05	5	20-Jul-07	56-23-5	Carbon tetrachloride	0.0076	ug/L	0.0076	0	1
J	GS	SV-16-05	5	20-Jul-07	108-90-7	Chlorobenzene	0.0056	ug/L	0.0056	0	1
J	GS	SV-16-05	5	20-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1
J	GS	SV-16-05	5	20-Jul-07	67-66-3	Chloroform	0.012	ug/L	0.012	1	1
J	GS	SV-16-05	5	20-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
J	GS	SV-16-05	5	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0048	ug/L		0	1
J	GS	SV-16-05	5	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0055	ug/L	0.0055	0	1
J	GS	SV-16-05	5	20-Jul-07	74-82-8	Methane	0.00025	%		1	1
J	GS	SV-16-05	5	20-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
J	GS	SV-16-05	5	20-Jul-07	75-34-3	1,1-Dichloroethane	0.0049	ug/L	0.0049	0	1
J	GS	SV-16-05	5	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.006	ug/L	0.006	0	1
J	GS	SV-16-05	5	20-Jul-07		Ethane	0.0024	%		0	1
J	GS	SV-16-05	5	20-Jul-07	64-17-5	Ethanol	0.0091	ug/L	0.0091	0	1
J	GS	SV-16-05	5	20-Jul-07		Ethene	0.0024	%		0	1
J	GS	SV-16-05	5	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.02	ug/L	0.02	0	1
J	GS	SV-16-05	5	20-Jul-07	100-41-4	Ethylbenzene	0.46	ug/L	0.46	1	1
J	GS	SV-16-05	5	20-Jul-07	87-68-3	Hexachlorobutadiene	0.052	ug/L	0.052	0	1
J	GS	SV-16-05	5	20-Jul-07	110-54-3	Hexane	0.6	ug/L	0.6	1	1
J	GS	SV-16-05	5	20-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
J	GS	SV-16-05	5	20-Jul-07	108-20-3	Isopropyl ether	0.02	ug/L	0.02	0	1
J	GS	SV-16-05	5	20-Jul-07	98-82-8	Isopropylbenzene	0.089	ug/L	0.089	1	1
J	GS	SV-16-05	5	20-Jul-07	179601-23-1	m,p-Xylenes	1.6	ug/L	1.6	1	1
J	GS	SV-16-05	5	20-Jul-07	110-82-7	Cyclohexane	0.47	ug/L	0.47	1	1
J	GS	SV-16-05	5	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0073	ug/L	0.0073	0	1
J	GS	SV-16-05	5	20-Jul-07	75-25-2	Bromoform	0.012	ug/L	0.012	0	1
J	GS	SV-16-05	5	20-Jul-07	75-27-4	Bromodichloromethane	0.0081	ug/L	0.0081	0	1
J	GS	SV-16-05	5	20-Jul-07	100-44-7	Benzyl chloride	0.0063	ug/L	0.0063	0	1
J	GS	SV-16-05	5	20-Jul-07	71-43-2	Benzene	0.29	ug/L	0.29	1	1
J	GS	SV-16-05	5	20-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
J	GS	SV-16-05	5	20-Jul-07	67-64-1	Acetone	0.051	ug/L	0.051	1	1
J	GS	SV-16-05	5	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.005	ug/L	0.005	0	1
J	GS	SV-16-05	5	20-Jul-07		4-Bromofluorobenzene	82	%		1	1
J	GS	SV-16-05	5	20-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
J	GS	SV-16-05	5	20-Jul-07	78-93-3	2-Butanone	0.022	ug/L	0.022	1	1
J	GS	SV-16-05	5	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.13	ug/L	0.13	1	1
J	GS	SV-16-05	5	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0093	ug/L	0.0093	0	1
J	GS	SV-16-05	5	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0073	ug/L	0.0073	0	1
J	GS	SV-16-05	5	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0066	ug/L	0.0066	0	1
J	GS	SV-16-05	5	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.27	ug/L	0.27	1	1
J	GS	SV-16-05	5	20-Jul-07	74-83-9	Bromomethane	0.0047	ug/L	0.0047	0	1
J	GS	SV-16-05	5	20-Jul-07		1,2-Dichloroethane-d4	107	%		1	1
J	GS	SV-16-05	5	20-Jul-07	107-06-2	1,2-Dichloroethane	0.0049	ug/L	0.0049	0	1
J	GS	SV-16-05	5	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0073	ug/L	0.0073	0	1
J	GS	SV-16-05	5	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0084	ug/L	0.0084	0	1
J	GS	SV-16-05	5	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0093	ug/L	0.0093	0	1
J	GS	SV-16-05	5	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.88	ug/L	0.88	1	1
J	GS	SV-16-05	5	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.036	ug/L	0.036	0	1
J	GS	SV-16-05	5	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.029	ug/L	0.029	0	1
J	GS	SV-16-05	5	20-Jul-07	75-35-4	1,1-Dichloroethene	0.0048	ug/L	0.0048	0	1
J	GS	SV-16-05	5	20-Jul-07	78-87-5	1,2-Dichloropropane	0.0056	ug/L	0.0056	0	1
J	GS	SV-16-05	5	20-Jul-07	123-91-1	1,4-Dioxane	0.017	ug/L	0.017	0	1
J	GS	SV-16-05	5	20-Jul-07	79-01-6	Trichloroethene	0.0065	ug/L	0.0065	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-16-05	5	20-Jul-07		Carbon Dioxide	1.9	%		1	1
J	GS	SV-16-05	5	20-Jul-07	106-99-0	1,3-Butadiene	0.0027	ug/L	0.0027	0	1
J	GS	SV-16-05	5	20-Jul-07	75-01-4	Vinyl chloride	0.0031	ug/L	0.0031	0	1
J	GS	SV-16-05	5	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0068	ug/L	0.0068	0	1
J	GS	SV-16-05	5	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0055	ug/L	0.0055	0	1
J	GS	SV-16-05	5	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0048	ug/L	0.0048	0	1
J	GS	SV-16-05	5	20-Jul-07		Toluene-d8	92	%		1	1
J	GS	SV-16-05	5	20-Jul-07	108-88-3	Toluene	0.33	ug/L	0.33	1	1
J	GS	SV-16-05	5	20-Jul-07	109-99-9	Tetrahydrofuran	0.0036	ug/L	0.0036	0	1
J	GS	SV-16-05	5	20-Jul-07	127-18-4	Tetrachloroethene	0.0082	ug/L	0.0082	0	1
J	GS	SV-16-05	5	20-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	1	1
J	GS	SV-16-05	5	20-Jul-07	91-20-3	Naphthalene	0.025	ug/L	0.025	0	1
J	GS	SV-16-05	5	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
J	GS	SV-16-05	5	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.02	ug/L	0.02	0	1
J	GS	SV-16-05	5	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1
J	GS	SV-16-05	5	20-Jul-07	75-09-2	Methylene chloride	0.0042	ug/L	0.0042	0	1
J	GS	SV-16-05	5	20-Jul-07	142-82-5	n-Heptane	0.66	ug/L	0.66	1	1
J	GS	SV-16-05	5	20-Jul-07		Nitrogen	78	%		1	1
J	GS	SV-16-05	5	20-Jul-07	103-65-1	n-Propylbenzene	0.2	ug/L	0.2	1	1
J	GS	SV-16-05	5	20-Jul-07		Oxygen	20	%		1	1
J	GS	SV-16-05	5	20-Jul-07	95-47-6	o-Xylene	0.24	ug/L	0.24	1	1
J	GS	SV-16-05	5	20-Jul-07	622-96-8	p-Ethyltoluene	0.68	ug/L	0.68	1	1
J	GS	SV-16-05	5	20-Jul-07	100-42-5	Styrene	0.0052	ug/L	0.0052	0	1
J	GS	SV-16-15	15	20-Jul-07	79-01-6	Trichloroethene	0.072	ug/L	0.072	0	1
J	GS	SV-16-15	15	20-Jul-07	67-66-3	Chloroform	0.066	ug/L	0.066	0	1
J	GS	SV-16-15	15	20-Jul-07	622-96-8	p-Ethyltoluene	0.066	ug/L	0.066	0	1
J	GS	SV-16-15	15	20-Jul-07	100-42-5	Styrene	0.057	ug/L	0.057	0	1
J	GS	SV-16-15	15	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.22	ug/L	0.22	0	1
J	GS	SV-16-15	15	20-Jul-07	75-65-0	tert-Butyl alcohol	0.16	ug/L	0.16	0	1
J	GS	SV-16-15	15	20-Jul-07	127-18-4	Tetrachloroethene	0.091	ug/L	0.091	0	1
J	GS	SV-16-15	15	20-Jul-07	109-99-9	Tetrahydrofuran	0.04	ug/L	0.04	0	1
J	GS	SV-16-15	15	20-Jul-07	108-88-3	Toluene	0.051	ug/L	0.051	0	1
J	GS	SV-16-15	15	20-Jul-07		Toluene-d8	95	%		1	1
J	GS	SV-16-15	15	20-Jul-07	75-25-2	Bromoform	0.14	ug/L	0.14	0	1
J	GS	SV-16-15	15	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.061	ug/L	0.061	0	1
J	GS	SV-16-15	15	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.061	ug/L	0.061	0	1
J	GS	SV-16-15	15	20-Jul-07	75-69-4	Trichlorofluoromethane	0.076	ug/L	0.076	0	1
J	GS	SV-16-15	15	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
J	GS	SV-16-15	15	20-Jul-07	75-01-4	Vinyl chloride	0.034	ug/L	0.034	0	1
J	GS	SV-16-15	15	20-Jul-07	95-47-6	o-Xylene	0.058	ug/L	0.058	0	1
J	GS	SV-16-15	15	20-Jul-07	75-00-3	Chloroethane	0.035	ug/L	0.035	0	1
J	GS	SV-16-15	15	20-Jul-07	56-23-5	Carbon tetrachloride	0.085	ug/L	0.085	0	1
J	GS	SV-16-15	15	20-Jul-07		Carbon Monoxide	0.027	%		0	1
J	GS	SV-16-15	15	20-Jul-07	75-15-0	Carbon Disulfide	0.17	ug/L	0.17	1	1
J	GS	SV-16-15	15	20-Jul-07		Carbon Dioxide	3.3	%		1	1
J	GS	SV-16-15	15	20-Jul-07	74-83-9	Bromomethane	0.052	ug/L	0.052	0	1
J	GS	SV-16-15	15	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.053	ug/L	0.053	0	1
J	GS	SV-16-15	15	20-Jul-07	110-54-3	Hexane	0.42	ug/L	0.42	1	1
J	GS	SV-16-15	15	20-Jul-07		Oxygen	4.4	%		1	1
J	GS	SV-16-15	15	20-Jul-07	103-65-1	n-Propylbenzene	0.45	ug/L	0.45	1	1
J	GS	SV-16-15	15	20-Jul-07		Nitrogen	88	%		1	1
J	GS	SV-16-15	15	20-Jul-07	142-82-5	n-Heptane	0.62	ug/L	0.62	1	1
J	GS	SV-16-15	15	20-Jul-07	91-20-3	Naphthalene	0.28	ug/L	0.28	0	1
J	GS	SV-16-15	15	20-Jul-07	75-09-2	Methylene chloride	0.047	ug/L	0.047	0	1
J	GS	SV-16-15	15	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.048	ug/L	0.048	0	1
J	GS	SV-16-15	15	20-Jul-07	74-82-8	Methane	4.7	%		1	1
J	GS	SV-16-15	15	20-Jul-07	179601-23-1	m,p-Xylenes	0.058	ug/L	0.058	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-16-15	15	20-Jul-07	98-82-8	Isopropylbenzene	0.4	ug/L	0.4	1	1
J	GS	SV-16-15	15	20-Jul-07	74-87-3	Chloromethane	0.11	ug/L	0.11	0	1
J	GS	SV-16-15	15	20-Jul-07	67-63-0	Isopropyl alcohol	0.13	ug/L	0.13	0	1
J	GS	SV-16-15	15	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.053	ug/L		0	1
J	GS	SV-16-15	15	20-Jul-07	87-68-3	Hexachlorobutadiene	0.57	ug/L	0.57	0	1
J	GS	SV-16-15	15	20-Jul-07	100-41-4	Ethylbenzene	0.24	ug/L	0.24	1	1
J	GS	SV-16-15	15	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.22	ug/L	0.22	0	1
J	GS	SV-16-15	15	20-Jul-07		Ethene	0.0027	%		0	1
J	GS	SV-16-15	15	20-Jul-07	64-17-5	Ethanol	0.1	ug/L	0.1	0	1
J	GS	SV-16-15	15	20-Jul-07		Ethane	0.0027	%		0	1
J	GS	SV-16-15	15	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.066	ug/L	0.066	0	1
J	GS	SV-16-15	15	20-Jul-07	124-48-1	Dibromochloromethane	0.11	ug/L	0.11	0	1
J	GS	SV-16-15	15	20-Jul-07	110-82-7	Cyclohexane	0.95	ug/L	0.95	1	1
J	GS	SV-16-15	15	20-Jul-07	108-90-7	Chlorobenzene	0.062	ug/L	0.062	0	1
J	GS	SV-16-15	15	20-Jul-07	108-20-3	Isopropyl ether	0.22	ug/L	0.22	0	1
J	GS	SV-16-15	15	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.3	ug/L	0.3	1	1
J	GS	SV-16-15	15	20-Jul-07	123-91-1	1,4-Dioxane	0.19	ug/L	0.19	0	1
J	GS	SV-16-15	15	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.081	ug/L	0.081	0	1
J	GS	SV-16-15	15	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.081	ug/L	0.081	0	1
J	GS	SV-16-15	15	20-Jul-07	106-99-0	1,3-Butadiene	0.03	ug/L	0.03	0	1
J	GS	SV-16-15	15	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.085	ug/L	0.085	1	1
J	GS	SV-16-15	15	20-Jul-07	78-87-5	1,2-Dichloropropane	0.062	ug/L	0.062	0	1
J	GS	SV-16-15	15	20-Jul-07	75-27-4	Bromodichloromethane	0.09	ug/L	0.09	0	1
J	GS	SV-16-15	15	20-Jul-07	107-06-2	1,2-Dichloroethane	0.054	ug/L	0.054	0	1
J	GS	SV-16-15	15	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.063	ug/L	0.063	0	1
J	GS	SV-16-15	15	20-Jul-07	106-93-4	1,2-Dibromoethane	0.1	ug/L	0.1	0	1
J	GS	SV-16-15	15	20-Jul-07		1,2-Dichloroethane-d4	239	%		1	1
J	GS	SV-16-15	15	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.4	ug/L	0.4	0	1
J	GS	SV-16-15	15	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.32	ug/L	0.32	0	1
J	GS	SV-16-15	15	20-Jul-07	75-35-4	1,1-Dichloroethene	0.053	ug/L	0.053	0	1
J	GS	SV-16-15	15	20-Jul-07	75-34-3	1,1-Dichloroethane	0.054	ug/L	0.054	0	1
J	GS	SV-16-15	15	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.073	ug/L	0.073	0	1
J	GS	SV-16-15	15	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.1	ug/L	0.1	0	1
J	GS	SV-16-15	15	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.092	ug/L	0.092	0	1
J	GS	SV-16-15	15	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.073	ug/L	0.073	0	1
J	GS	SV-16-15	15	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.37	ug/L	0.37	0	1
J	GS	SV-16-15	15	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.094	ug/L	0.094	0	1
J	GS	SV-16-15	15	20-Jul-07	67-64-1	Acetone	0.23	ug/L	0.23	1	1
J	GS	SV-16-15	15	20-Jul-07	100-44-7	Benzyl chloride	0.07	ug/L	0.07	0	1
J	GS	SV-16-15	15	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.081	ug/L	0.081	0	1
J	GS	SV-16-15	15	20-Jul-07	107-05-1	Allyl chloride	0.17	ug/L	0.17	0	1
J	GS	SV-16-15	15	20-Jul-07	78-93-3	2-Butanone	0.051	ug/L	0.051	1	1
J	GS	SV-16-15	15	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.055	ug/L	0.055	0	1
J	GS	SV-16-15	15	20-Jul-07		4-Bromofluorobenzene	90	%		1	1
J	GS	SV-16-15	15	20-Jul-07	591-78-6	2-Hexanone	0.22	ug/L	0.22	0	1
J	GS	SV-16-15	15	20-Jul-07	71-43-2	Benzene	0.043	ug/L	0.043	0	1
J	GS	SV-17-04	4	19-Jul-07	75-15-0	Carbon Disulfide	0.2	ug/L	0.2	0	1
J	GS	SV-17-04	4	19-Jul-07	107-05-1	Allyl chloride	0.79	ug/L	0.79	0	1
J	GS	SV-17-04	4	19-Jul-07	71-43-2	Benzene	3.6	ug/L	3.6	1	1
J	GS	SV-17-04	4	19-Jul-07	100-44-7	Benzyl chloride	0.33	ug/L	0.33	0	1
J	GS	SV-17-04	4	19-Jul-07	75-27-4	Bromodichloromethane	0.42	ug/L	0.42	0	1
J	GS	SV-17-04	4	19-Jul-07	75-25-2	Bromoform	0.65	ug/L	0.65	0	1
J	GS	SV-17-04	4	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.28	ug/L	0.28	0	1
J	GS	SV-17-04	4	19-Jul-07		Carbon Dioxide	7.7	%		1	1
J	GS	SV-17-04	4	19-Jul-07	110-82-7	Cyclohexane	3.9	ug/L	3.9	1	1
J	GS	SV-17-04	4	19-Jul-07		Carbon Monoxide	0.025	%		0	1
J	GS	SV-17-04	4	19-Jul-07	56-23-5	Carbon tetrachloride	0.4	ug/L	0.4	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-17-04	4	19-Jul-07	108-90-7	Chlorobenzene	0.29	ug/L	0.29	0	1
J	GS	SV-17-04	4	19-Jul-07	75-00-3	Chloroethane	0.17	ug/L	0.17	0	1
J	GS	SV-17-04	4	19-Jul-07	67-66-3	Chloroform	0.31	ug/L	0.31	0	1
J	GS	SV-17-04	4	19-Jul-07	74-87-3	Chloromethane	0.52	ug/L	0.52	0	1
J	GS	SV-17-04	4	19-Jul-07	74-83-9	Bromomethane	0.24	ug/L	0.24	0	1
J	GS	SV-17-04	4	19-Jul-07	75-09-2	Methylene chloride	0.22	ug/L	0.22	0	1
J	GS	SV-17-04	4	19-Jul-07	87-68-3	Hexachlorobutadiene	2.7	ug/L	2.7	0	1
J	GS	SV-17-04	4	19-Jul-07	100-41-4	Ethylbenzene	0.51	ug/L	0.51	1	1
J	GS	SV-17-04	4	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.31	ug/L	0.31	0	1
J	GS	SV-17-04	4	19-Jul-07	637-92-3	Ethyl tert butyl ether	1	ug/L	1	0	1
J	GS	SV-17-04	4	19-Jul-07		Ethene	0.0025	%		0	1
J	GS	SV-17-04	4	19-Jul-07	64-17-5	Ethanol	0.47	ug/L	0.47	0	1
J	GS	SV-17-04	4	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.23	ug/L	0.23	0	1
J	GS	SV-17-04	4	19-Jul-07	67-63-0	Isopropyl alcohol	0.62	ug/L	0.62	0	1
J	GS	SV-17-04	4	19-Jul-07	110-54-3	Hexane	3.7	ug/L	3.7	1	1
J	GS	SV-17-04	4	19-Jul-07		Toluene-d8	90	%		1	1
J	GS	SV-17-04	4	19-Jul-07	108-20-3	Isopropyl ether	1	ug/L	1	0	1
J	GS	SV-17-04	4	19-Jul-07	98-82-8	Isopropylbenzene	0.31	ug/L	0.31	0	1
J	GS	SV-17-04	4	19-Jul-07	179601-23-1	m,p-Xylenes	1	ug/L	1	1	1
J	GS	SV-17-04	4	19-Jul-07	74-82-8	Methane	0.31	%		1	1
J	GS	SV-17-04	4	19-Jul-07	124-48-1	Dibromochloromethane	0.54	ug/L	0.54	0	1
J	GS	SV-17-04	4	19-Jul-07		Ethane	0.0025	%		0	1
J	GS	SV-17-04	4	19-Jul-07	106-93-4	1,2-Dibromoethane	0.48	ug/L	0.48	0	1
J	GS	SV-17-04	4	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.28	ug/L	0.28	0	1
J	GS	SV-17-04	4	19-Jul-07	123-91-1	1,4-Dioxane	0.91	ug/L	0.91	0	1
J	GS	SV-17-04	4	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.38	ug/L	0.38	0	1
J	GS	SV-17-04	4	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.38	ug/L	0.38	0	1
J	GS	SV-17-04	4	19-Jul-07	106-99-0	1,3-Butadiene	0.14	ug/L	0.14	0	1
J	GS	SV-17-04	4	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.31	ug/L	0.31	0	1
J	GS	SV-17-04	4	19-Jul-07	78-87-5	1,2-Dichloropropane	0.29	ug/L	0.29	0	1
J	GS	SV-17-04	4	19-Jul-07		1,2-Dichloroethane-d4	97	%		1	1
J	GS	SV-17-04	4	19-Jul-07	107-06-2	1,2-Dichloroethane	0.25	ug/L	0.25	0	1
J	GS	SV-17-04	4	19-Jul-07	78-93-3	2-Butanone	0.18	ug/L	0.18	0	1
J	GS	SV-17-04	4	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.44	ug/L	0.44	0	1
J	GS	SV-17-04	4	19-Jul-07	591-78-6	2-Hexanone	1	ug/L	1	0	1
J	GS	SV-17-04	4	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.35	ug/L	0.35	1	1
J	GS	SV-17-04	4	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	1.9	ug/L	1.9	0	1
J	GS	SV-17-04	4	19-Jul-07	96-18-4	1,2,3-Trichloropropane	1.5	ug/L	1.5	0	1
J	GS	SV-17-04	4	19-Jul-07	75-35-4	1,1-Dichloroethene	0.25	ug/L	0.25	0	1
J	GS	SV-17-04	4	19-Jul-07	75-34-3	1,1-Dichloroethane	0.26	ug/L	0.26	0	1
J	GS	SV-17-04	4	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.34	ug/L	0.34	0	1
J	GS	SV-17-04	4	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.48	ug/L	0.48	0	1
J	GS	SV-17-04	4	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.43	ug/L	0.43	0	1
J	GS	SV-17-04	4	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.34	ug/L	0.34	0	1
J	GS	SV-17-04	4	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	1.7	ug/L	1.7	0	1
J	GS	SV-17-04	4	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.38	ug/L	0.38	0	1
J	GS	SV-17-04	4	19-Jul-07	100-42-5	Styrene	0.27	ug/L	0.27	0	1
J	GS	SV-17-04	4	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
J	GS	SV-17-04	4	19-Jul-07	75-69-4	Trichlorofluoromethane	0.35	ug/L	0.35	0	1
J	GS	SV-17-04	4	19-Jul-07	79-01-6	Trichloroethene	0.34	ug/L	0.34	0	1
J	GS	SV-17-04	4	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.25	ug/L		0	1
J	GS	SV-17-04	4	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.25	ug/L	0.25	0	1
J	GS	SV-17-04	4	19-Jul-07	108-88-3	Toluene	1.4	ug/L	1.4	1	1
J	GS	SV-17-04	4	19-Jul-07	109-99-9	Tetrahydrofuran	0.18	ug/L	0.18	0	1
J	GS	SV-17-04	4	19-Jul-07	127-18-4	Tetrachloroethene	0.43	ug/L	0.43	0	1
J	GS	SV-17-04	4	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	3.3	ug/L	3.3	1	1
J	GS	SV-17-04	4	19-Jul-07	994-05-8	Tert-amyl methyl ether	1	ug/L	1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-17-04	4	19-Jul-07	75-01-4	Vinyl chloride	0.16	ug/L	0.16	0	1
J	GS	SV-17-04	4	19-Jul-07	622-96-8	p-Ethyltoluene	0.31	ug/L	0.31	0	1
J	GS	SV-17-04	4	19-Jul-07	95-47-6	o-Xylene	0.3	ug/L	0.3	1	1
J	GS	SV-17-04	4	19-Jul-07		Oxygen	12	%		1	1
J	GS	SV-17-04	4	19-Jul-07	103-65-1	n-Propylbenzene	0.31	ug/L	0.31	0	1
J	GS	SV-17-04	4	19-Jul-07		Nitrogen	80	%		1	1
J	GS	SV-17-04	4	19-Jul-07	142-82-5	n-Heptane	3.8	ug/L	3.8	1	1
J	GS	SV-17-04	4	19-Jul-07	91-20-3	Naphthalene	1.3	ug/L	1.3	0	1
J	GS	SV-17-04	4	19-Jul-07	67-64-1	Acetone	0.6	ug/L	0.6	0	1
J	GS	SV-17-04	4	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.26	ug/L	0.26	0	1
J	GS	SV-17-04	4	19-Jul-07		4-Bromofluorobenzene	79	%		1	1
J	GS	SV-17-04	4	19-Jul-07	75-65-0	tert-Butyl alcohol	0.76	ug/L	0.76	0	1
J	GS	SV-17-15	15	19-Jul-07	67-64-1	Acetone	1.7	ug/L	1.7	0	1
J	GS	SV-17-15	15	19-Jul-07	100-41-4	Ethylbenzene	0.76	ug/L	0.76	0	1
J	GS	SV-17-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.7	ug/L		0	1
J	GS	SV-17-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.63	ug/L	0.63	0	1
J	GS	SV-17-15	15	19-Jul-07	74-82-8	Methane	1.3	%		1	1
J	GS	SV-17-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	0.76	ug/L	0.76	0	1
J	GS	SV-17-15	15	19-Jul-07	98-82-8	Isopropylbenzene	1.4	ug/L	1.4	1	1
J	GS	SV-17-15	15	19-Jul-07	108-20-3	Isopropyl ether	2.9	ug/L	2.9	0	1
J	GS	SV-17-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	1.7	ug/L	1.7	0	1
J	GS	SV-17-15	15	19-Jul-07	91-20-3	Naphthalene	3.7	ug/L	3.7	0	1
J	GS	SV-17-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	7.5	ug/L	7.5	0	1
J	GS	SV-17-15	15	19-Jul-07	142-82-5	n-Heptane	0.72	ug/L	0.72	0	1
J	GS	SV-17-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	2.9	ug/L	2.9	0	1
J	GS	SV-17-15	15	19-Jul-07		Ethene	0.0026	%		0	1
J	GS	SV-17-15	15	19-Jul-07	64-17-5	Ethanol	1.3	ug/L	1.3	0	1
J	GS	SV-17-15	15	19-Jul-07		Ethane	0.0026	%		0	1
J	GS	SV-17-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.87	ug/L	0.87	0	1
J	GS	SV-17-15	15	19-Jul-07	124-48-1	Dibromochloromethane	1.5	ug/L	1.5	0	1
J	GS	SV-17-15	15	19-Jul-07	110-82-7	Cyclohexane	3.4	ug/L	3.4	1	1
J	GS	SV-17-15	15	19-Jul-07		4-Bromofluorobenzene	81	%		1	1
J	GS	SV-17-15	15	19-Jul-07	110-54-3	Hexane	3	ug/L	3	1	1
J	GS	SV-17-15	15	19-Jul-07	127-18-4	Tetrachloroethene	1.2	ug/L	1.2	0	1
J	GS	SV-17-15	15	19-Jul-07	75-01-4	Vinyl chloride	0.45	ug/L	0.45	0	1
J	GS	SV-17-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
J	GS	SV-17-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	0.99	ug/L	0.99	0	1
J	GS	SV-17-15	15	19-Jul-07	79-01-6	Trichloroethene	0.94	ug/L	0.94	0	1
J	GS	SV-17-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.8	ug/L	0.8	0	1
J	GS	SV-17-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.7	ug/L	0.7	0	1
J	GS	SV-17-15	15	19-Jul-07		Toluene-d8	86	%		1	1
J	GS	SV-17-15	15	19-Jul-07	75-09-2	Methylene chloride	0.61	ug/L	0.61	0	1
J	GS	SV-17-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	0.52	ug/L	0.52	0	1
J	GS	SV-17-15	15	19-Jul-07	74-87-3	Chloromethane	1.4	ug/L	1.4	0	1
J	GS	SV-17-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	2.1	ug/L	2.1	0	1
J	GS	SV-17-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	2.9	ug/L	2.9	0	1
J	GS	SV-17-15	15	19-Jul-07	100-42-5	Styrene	0.75	ug/L	0.75	0	1
J	GS	SV-17-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	0.86	ug/L	0.86	0	1
J	GS	SV-17-15	15	19-Jul-07	95-47-6	o-Xylene	0.76	ug/L	0.76	0	1
J	GS	SV-17-15	15	19-Jul-07		Oxygen	1.3	%		1	1
J	GS	SV-17-15	15	19-Jul-07	103-65-1	n-Propylbenzene	0.91	ug/L	0.91	1	1
J	GS	SV-17-15	15	19-Jul-07		Nitrogen	83	%		1	1
J	GS	SV-17-15	15	19-Jul-07	108-88-3	Toluene	0.66	ug/L	0.66	1	1
J	GS	SV-17-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.86	ug/L	0.86	0	1
J	GS	SV-17-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.8	ug/L	0.8	0	1
J	GS	SV-17-15	15	19-Jul-07	106-99-0	1,3-Butadiene	0.39	ug/L	0.39	0	1
J	GS	SV-17-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.86	ug/L	0.86	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-17-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	0.81	ug/L	0.81	0	1
J	GS	SV-17-15	15	19-Jul-07		1,2-Dichloroethane-d4	96	%		1	1
J	GS	SV-17-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	0.71	ug/L	0.71	0	1
J	GS	SV-17-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	1	ug/L	1	0	1
J	GS	SV-17-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	1	ug/L	1	0	1
J	GS	SV-17-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	1.4	ug/L	1.4	0	1
J	GS	SV-17-15	15	19-Jul-07	123-91-1	1,4-Dioxane	2.5	ug/L	2.5	0	1
J	GS	SV-17-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.2	ug/L	5.2	0	1
J	GS	SV-17-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	4.2	ug/L	4.2	0	1
J	GS	SV-17-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	0.7	ug/L	0.7	0	1
J	GS	SV-17-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	0.71	ug/L	0.71	0	1
J	GS	SV-17-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.96	ug/L	0.96	0	1
J	GS	SV-17-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.3	ug/L	1.3	0	1
J	GS	SV-17-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	1.2	ug/L	1.2	0	1
J	GS	SV-17-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.96	ug/L	0.96	0	1
J	GS	SV-17-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	1.2	ug/L	1.2	0	1
J	GS	SV-17-15	15	19-Jul-07	75-27-4	Bromodichloromethane	1.2	ug/L	1.2	0	1
J	GS	SV-17-15	15	19-Jul-07	67-66-3	Chloroform	0.86	ug/L	0.86	0	1
J	GS	SV-17-15	15	19-Jul-07	75-00-3	Chloroethane	0.46	ug/L	0.46	0	1
J	GS	SV-17-15	15	19-Jul-07	108-90-7	Chlorobenzene	0.81	ug/L	0.81	0	1
J	GS	SV-17-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	1.1	ug/L	1.1	0	1
J	GS	SV-17-15	15	19-Jul-07		Carbon Monoxide	0.026	%		0	1
J	GS	SV-17-15	15	19-Jul-07	75-15-0	Carbon Disulfide	0.55	ug/L	0.55	0	1
J	GS	SV-17-15	15	19-Jul-07		Carbon Dioxide	14	%		1	1
J	GS	SV-17-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	1	ug/L	1	0	1
J	GS	SV-17-15	15	19-Jul-07	75-25-2	Bromoform	1.8	ug/L	1.8	0	1
J	GS	SV-17-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.8	ug/L	4.8	0	1
J	GS	SV-17-15	15	19-Jul-07	100-44-7	Benzyl chloride	0.91	ug/L	0.91	0	1
J	GS	SV-17-15	15	19-Jul-07	71-43-2	Benzene	0.67	ug/L	0.67	1	1
J	GS	SV-17-15	15	19-Jul-07	107-05-1	Allyl chloride	2.2	ug/L	2.2	0	1
J	GS	SV-17-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.72	ug/L	0.72	0	1
J	GS	SV-17-15	15	19-Jul-07	591-78-6	2-Hexanone	2.9	ug/L	2.9	0	1
J	GS	SV-17-15	15	19-Jul-07	78-93-3	2-Butanone	0.52	ug/L	0.52	0	1
J	GS	SV-17-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.82	ug/L	0.82	0	1
J	GS	SV-17-15	15	19-Jul-07	74-83-9	Bromomethane	0.68	ug/L	0.68	0	1
J	GS	SV-26-05	5	19-Jul-07	91-20-3	Naphthalene	1	ug/L	1	0	1
J	GS	SV-26-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.25	ug/L	0.25	0	1
J	GS	SV-26-05	5	19-Jul-07	75-00-3	Chloroethane	0.13	ug/L	0.13	0	1
J	GS	SV-26-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.23	ug/L	0.23	0	1
J	GS	SV-26-05	5	19-Jul-07	78-93-3	2-Butanone	0.14	ug/L	0.14	0	1
J	GS	SV-26-05	5	19-Jul-07	591-78-6	2-Hexanone	0.79	ug/L	0.79	0	1
J	GS	SV-26-05	5	19-Jul-07		4-Bromofluorobenzene	103	%		1	1
J	GS	SV-26-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.2	ug/L	0.2	0	1
J	GS	SV-26-05	5	19-Jul-07	67-64-1	Acetone	0.46	ug/L	0.46	0	1
J	GS	SV-26-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.29	ug/L	0.29	0	1
J	GS	SV-26-05	5	19-Jul-07	71-43-2	Benzene	0.15	ug/L	0.15	0	1
J	GS	SV-26-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.29	ug/L	0.29	0	1
J	GS	SV-26-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.32	ug/L	0.32	0	1
J	GS	SV-26-05	5	19-Jul-07	75-25-2	Bromoform	0.5	ug/L	0.5	0	1
J	GS	SV-26-05	5	19-Jul-07	74-83-9	Bromomethane	0.19	ug/L	0.19	0	1
J	GS	SV-26-05	5	19-Jul-07		Carbon Dioxide	2.8	%		1	1
J	GS	SV-26-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.15	ug/L	0.15	0	1
J	GS	SV-26-05	5	19-Jul-07		Carbon Monoxide	0.024	%		0	1
J	GS	SV-26-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.3	ug/L	0.3	0	1
J	GS	SV-26-05	5	19-Jul-07		Nitrogen	77	%		1	1
J	GS	SV-26-05	5	19-Jul-07	107-05-1	Allyl chloride	0.6	ug/L	0.6	0	1
J	GS	SV-26-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.24	ug/L	0.24	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-26-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	1.3	ug/L	1.3	0	1
J	GS	SV-26-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.26	ug/L	0.26	0	1
J	GS	SV-26-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.33	ug/L	0.33	0	1
J	GS	SV-26-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.37	ug/L	0.37	0	1
J	GS	SV-26-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.26	ug/L	0.26	0	1
J	GS	SV-26-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.2	ug/L	0.2	0	1
J	GS	SV-26-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.19	ug/L	0.19	0	1
J	GS	SV-26-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.7	ug/L	0.7	0	1
J	GS	SV-26-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	1.4	ug/L	1.4	0	1
J	GS	SV-26-05	5	19-Jul-07	67-66-3	Chloroform	0.24	ug/L	0.24	0	1
J	GS	SV-26-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.37	ug/L	0.37	0	1
J	GS	SV-26-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.34	ug/L	0.34	0	1
J	GS	SV-26-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.29	ug/L	0.29	0	1
J	GS	SV-26-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.2	ug/L	0.2	0	1
J	GS	SV-26-05	5	19-Jul-07		1,2-Dichloroethane-d4	120	%		1	1
J	GS	SV-26-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.22	ug/L	0.22	0	1
J	GS	SV-26-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.24	ug/L	0.24	0	1
J	GS	SV-26-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.11	ug/L	0.11	0	1
J	GS	SV-26-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	1.2	ug/L	1.2	0	1
J	GS	SV-26-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.33	ug/L	0.33	0	1
J	GS	SV-26-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.22	ug/L	0.22	0	1
J	GS	SV-26-05	5	19-Jul-07	142-82-5	n-Heptane	0.2	ug/L	0.2	0	1
J	GS	SV-26-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.24	ug/L	0.24	0	1
J	GS	SV-26-05	5	19-Jul-07		Oxygen	20	%		1	1
J	GS	SV-26-05	5	19-Jul-07	95-47-6	o-Xylene	0.21	ug/L	0.21	0	1
J	GS	SV-26-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.24	ug/L	0.24	0	1
J	GS	SV-26-05	5	19-Jul-07	100-42-5	Styrene	0.21	ug/L	0.21	0	1
J	GS	SV-26-05	5	19-Jul-07	75-09-2	Methylene chloride	0.17	ug/L	0.17	0	1
J	GS	SV-26-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.59	ug/L	0.59	0	1
J	GS	SV-26-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.17	ug/L	0.17	0	1
J	GS	SV-26-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.14	ug/L	0.14	0	1
J	GS	SV-26-05	5	19-Jul-07	108-88-3	Toluene	0.18	ug/L	0.18	0	1
J	GS	SV-26-05	5	19-Jul-07		Toluene-d8	93	%		1	1
J	GS	SV-26-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.19	ug/L	0.19	0	1
J	GS	SV-26-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.22	ug/L	0.22	0	1
J	GS	SV-26-05	5	19-Jul-07	79-01-6	Trichloroethene	0.26	ug/L	0.26	0	1
J	GS	SV-26-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.27	ug/L	0.27	0	1
J	GS	SV-26-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
J	GS	SV-26-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.81	ug/L	0.81	0	1
J	GS	SV-26-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.81	ug/L	0.81	0	1
J	GS	SV-26-05	5	19-Jul-07	74-87-3	Chloromethane	0.4	ug/L	0.4	0	1
J	GS	SV-26-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.19	ug/L		0	1
J	GS	SV-26-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.22	ug/L	0.22	0	1
J	GS	SV-26-05	5	19-Jul-07	110-82-7	Cyclohexane	35	ug/L	35	1	1
J	GS	SV-26-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.41	ug/L	0.41	0	1
J	GS	SV-26-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.24	ug/L	0.24	0	1
J	GS	SV-26-05	5	19-Jul-07		Ethane	0.0024	%		0	1
J	GS	SV-26-05	5	19-Jul-07		Ethene	0.0024	%		0	1
J	GS	SV-26-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.12	ug/L	0.12	0	1
J	GS	SV-26-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.21	ug/L	0.21	0	1
J	GS	SV-26-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	2.1	ug/L	2.1	0	1
J	GS	SV-26-05	5	19-Jul-07	110-54-3	Hexane	6.6	ug/L	6.6	1	1
J	GS	SV-26-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.48	ug/L	0.48	0	1
J	GS	SV-26-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.81	ug/L	0.81	0	1
J	GS	SV-26-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.24	ug/L	0.24	0	1
J	GS	SV-26-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.21	ug/L	0.21	0	1
J	GS	SV-26-05	5	19-Jul-07	74-82-8	Methane	0.00083	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-26-05	5	19-Jul-07	64-17-5	Ethanol	0.36	ug/L	0.36	0	1
J	GS	SV-26-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	8.1	ug/L	8.1	0	1
J	GS	SV-26-15	15	19-Jul-07	75-25-2	Bromoform	15	ug/L	15	0	1
J	GS	SV-26-15	15	19-Jul-07	74-87-3	Chloromethane	12	ug/L	12	0	1
J	GS	SV-26-15	15	19-Jul-07	591-78-6	2-Hexanone	24	ug/L	24	0	1
J	GS	SV-26-15	15	19-Jul-07		4-Bromofluorobenzene	93	%		1	1
J	GS	SV-26-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	5.9	ug/L	5.9	0	1
J	GS	SV-26-15	15	19-Jul-07	67-64-1	Acetone	450	ug/L	450	1	1
J	GS	SV-26-15	15	19-Jul-07	107-05-1	Allyl chloride	18	ug/L	18	0	1
J	GS	SV-26-15	15	19-Jul-07	71-43-2	Benzene	110	ug/L	110	1	1
J	GS	SV-26-15	15	19-Jul-07	123-91-1	1,4-Dioxane	21	ug/L	21	0	1
J	GS	SV-26-15	15	19-Jul-07	75-27-4	Bromodichloromethane	9.7	ug/L	9.7	0	1
J	GS	SV-26-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	8.7	ug/L	8.7	0	1
J	GS	SV-26-15	15	19-Jul-07	74-83-9	Bromomethane	5.6	ug/L	5.6	0	1
J	GS	SV-26-15	15	19-Jul-07		Carbon Dioxide	2.2	%		1	1
J	GS	SV-26-15	15	19-Jul-07	75-15-0	Carbon Disulfide	7.3	ug/L	7.3	1	1
J	GS	SV-26-15	15	19-Jul-07		Carbon Monoxide	0.029	%		0	1
J	GS	SV-26-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	9.1	ug/L	9.1	0	1
J	GS	SV-26-15	15	19-Jul-07	108-90-7	Chlorobenzene	6.6	ug/L	6.6	0	1
J	GS	SV-26-15	15	19-Jul-07	75-00-3	Chloroethane	3.8	ug/L	3.8	0	1
J	GS	SV-26-15	15	19-Jul-07	67-66-3	Chloroform	7	ug/L	7	0	1
J	GS	SV-26-15	15	19-Jul-07	100-44-7	Benzyl chloride	7.5	ug/L	7.5	0	1
J	GS	SV-26-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	7.1	ug/L	7.1	0	1
J	GS	SV-26-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	40	ug/L	40	0	1
J	GS	SV-26-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	7.9	ug/L	7.9	0	1
J	GS	SV-26-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	9.9	ug/L	9.9	0	1
J	GS	SV-26-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	11	ug/L	11	0	1
J	GS	SV-26-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	7.9	ug/L	7.9	0	1
J	GS	SV-26-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	5.8	ug/L	5.8	0	1
J	GS	SV-26-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	5.7	ug/L	5.7	0	1
J	GS	SV-26-15	15	19-Jul-07	78-93-3	2-Butanone	27	ug/L	27	1	1
J	GS	SV-26-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	43	ug/L	43	0	1
J	GS	SV-26-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	6.8	ug/L	6.8	0	1
J	GS	SV-26-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	11	ug/L	11	0	1
J	GS	SV-26-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	10	ug/L	10	0	1
J	GS	SV-26-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	8.7	ug/L	8.7	0	1
J	GS	SV-26-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	5.8	ug/L	5.8	0	1
J	GS	SV-26-15	15	19-Jul-07		1,2-Dichloroethane-d4	122	%		1	1
J	GS	SV-26-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	6.7	ug/L	6.7	0	1
J	GS	SV-26-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	7.1	ug/L	7.1	0	1
J	GS	SV-26-15	15	19-Jul-07	106-99-0	1,3-Butadiene	3.2	ug/L	3.2	0	1
J	GS	SV-26-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	35	ug/L	35	0	1
J	GS	SV-26-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	4.3	ug/L	4.3	0	1
J	GS	SV-26-15	15	19-Jul-07		Nitrogen	78	%		1	1
J	GS	SV-26-15	15	19-Jul-07	103-65-1	n-Propylbenzene	7.1	ug/L	7.1	0	1
J	GS	SV-26-15	15	19-Jul-07		Oxygen	18	%		1	1
J	GS	SV-26-15	15	19-Jul-07	95-47-6	o-Xylene	17	ug/L	17	1	1
J	GS	SV-26-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	7.1	ug/L	7.1	0	1
J	GS	SV-26-15	15	19-Jul-07	100-42-5	Styrene	6.2	ug/L	6.2	0	1
J	GS	SV-26-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	24	ug/L	24	0	1
J	GS	SV-26-15	15	19-Jul-07	142-82-5	n-Heptane	360	ug/L	360	1	1
J	GS	SV-26-15	15	19-Jul-07	127-18-4	Tetrachloroethene	9.8	ug/L	9.8	0	1
J	GS	SV-26-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
J	GS	SV-26-15	15	19-Jul-07	108-88-3	Toluene	9.8	ug/L	9.8	1	1
J	GS	SV-26-15	15	19-Jul-07		Toluene-d8	90	%		1	1
J	GS	SV-26-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	5.7	ug/L	5.7	0	1
J	GS	SV-26-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	6.6	ug/L	6.6	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-26-15	15	19-Jul-07	79-01-6	Trichloroethene	7.8	ug/L	7.8	0	1
J	GS	SV-26-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	5.7	ug/L		0	1
J	GS	SV-26-15	15	19-Jul-07	75-01-4	Vinyl chloride	3.7	ug/L	3.7	0	1
J	GS	SV-26-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	8.7	ug/L	8.7	0	1
J	GS	SV-26-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	280	ug/L	280	1	1
J	GS	SV-26-15	15	19-Jul-07	124-48-1	Dibromochloromethane	12	ug/L	12	0	1
J	GS	SV-26-15	15	19-Jul-07	91-20-3	Naphthalene	30	ug/L	30	0	1
J	GS	SV-26-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	6.6	ug/L	6.6	0	1
J	GS	SV-26-15	15	19-Jul-07	110-82-7	Cyclohexane	1100	ug/L	1100	1	1
J	GS	SV-26-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	7.1	ug/L	7.1	0	1
J	GS	SV-26-15	15	19-Jul-07		Ethane	0.0029	%		0	1
J	GS	SV-26-15	15	19-Jul-07	64-17-5	Ethanol	18	ug/L	18	1	1
J	GS	SV-26-15	15	19-Jul-07		Ethene	0.0029	%		0	1
J	GS	SV-26-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	24	ug/L	24	0	1
J	GS	SV-26-15	15	19-Jul-07	100-41-4	Ethylbenzene	29	ug/L	29	1	1
J	GS	SV-26-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	62	ug/L	62	0	1
J	GS	SV-26-15	15	19-Jul-07	75-09-2	Methylene chloride	23	ug/L	23	1	1
J	GS	SV-26-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	14	ug/L	14	0	1
J	GS	SV-26-15	15	19-Jul-07	108-20-3	Isopropyl ether	24	ug/L	24	0	1
J	GS	SV-26-15	15	19-Jul-07	98-82-8	Isopropylbenzene	7.1	ug/L	7.1	0	1
J	GS	SV-26-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	51	ug/L	51	1	1
J	GS	SV-26-15	15	19-Jul-07	74-82-8	Methane	0.074	%		1	1
J	GS	SV-26-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	5.2	ug/L	5.2	0	1
J	GS	SV-26-15	15	19-Jul-07	110-54-3	Hexane	1100	ug/L	1100	1	1
J	GS	SV-27-15	15	23-Jul-07	87-68-3	Hexachlorobutadiene	5.5	ug/L	5.5	0	1
J	GS	SV-27-15	15	23-Jul-07	110-54-3	Hexane	39	ug/L	39	1	1
J	GS	SV-27-15	15	23-Jul-07	67-63-0	Isopropyl alcohol	1.3	ug/L	1.3	0	1
J	GS	SV-27-15	15	23-Jul-07	108-20-3	Isopropyl ether	2.2	ug/L	2.2	0	1
J	GS	SV-27-15	15	23-Jul-07	98-82-8	Isopropylbenzene	0.9	ug/L	0.9	1	1
J	GS	SV-27-15	15	23-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.51	ug/L		0	1
J	GS	SV-27-15	15	23-Jul-07	74-82-8	Methane	0.056	%		1	1
J	GS	SV-27-15	15	23-Jul-07		Ethane	0.0026	%		0	1
J	GS	SV-27-15	15	23-Jul-07	1634-04-4	Methyl tert-butyl ether	0.46	ug/L	0.46	0	1
J	GS	SV-27-15	15	23-Jul-07	179601-23-1	m,p-Xylenes	5.6	ug/L	5.6	1	1
J	GS	SV-27-15	15	23-Jul-07	100-41-4	Ethylbenzene	2.8	ug/L	2.8	1	1
J	GS	SV-27-15	15	23-Jul-07	637-92-3	Ethyl tert butyl ether	2.2	ug/L	2.2	0	1
J	GS	SV-27-15	15	23-Jul-07	110-82-7	Cyclohexane	67	ug/L	67	1	1
J	GS	SV-27-15	15	23-Jul-07	64-17-5	Ethanol	0.97	ug/L	0.97	0	1
J	GS	SV-27-15	15	23-Jul-07	75-71-8	Dichlorodifluoromethane	0.64	ug/L	0.64	0	1
J	GS	SV-27-15	15	23-Jul-07	124-48-1	Dibromochloromethane	1.1	ug/L	1.1	0	1
J	GS	SV-27-15	15	23-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.58	ug/L	0.58	0	1
J	GS	SV-27-15	15	23-Jul-07	75-09-2	Methylene chloride	3	ug/L	3	1	1
J	GS	SV-27-15	15	23-Jul-07	127-18-4	Tetrachloroethene	0.88	ug/L	0.88	0	1
J	GS	SV-27-15	15	23-Jul-07		Ethene	0.0026	%		0	1
J	GS	SV-27-15	15	23-Jul-07	75-65-0	tert-Butyl alcohol	1.6	ug/L	1.6	0	1
J	GS	SV-27-15	15	23-Jul-07	74-87-3	Chloromethane	1.1	ug/L	1.1	0	1
J	GS	SV-27-15	15	23-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
J	GS	SV-27-15	15	23-Jul-07	75-01-4	Vinyl chloride	0.33	ug/L	0.33	0	1
J	GS	SV-27-15	15	23-Jul-07	75-69-4	Trichlorofluoromethane	0.72	ug/L	0.72	0	1
J	GS	SV-27-15	15	23-Jul-07	79-01-6	Trichloroethene	1.2	ug/L	1.2	1	1
J	GS	SV-27-15	15	23-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.58	ug/L	0.58	0	1
J	GS	SV-27-15	15	23-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.51	ug/L	0.51	0	1
J	GS	SV-27-15	15	23-Jul-07		Toluene-d8	90	%		1	1
J	GS	SV-27-15	15	23-Jul-07	994-05-8	Tert-amyl methyl ether	2.2	ug/L	2.2	0	1
J	GS	SV-27-15	15	23-Jul-07	109-99-9	Tetrahydrofuran	0.38	ug/L	0.38	0	1
J	GS	SV-27-15	15	23-Jul-07	91-20-3	Naphthalene	2.7	ug/L	2.7	0	1
J	GS	SV-27-15	15	23-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	3.5	ug/L	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-27-15	15	23-Jul-07	100-42-5	Styrene	0.55	ug/L	0.55	0	1
J	GS	SV-27-15	15	23-Jul-07	622-96-8	p-Ethyltoluene	0.74	ug/L	0.74	1	1
J	GS	SV-27-15	15	23-Jul-07	95-47-6	o-Xylene	2.4	ug/L	2.4	1	1
J	GS	SV-27-15	15	23-Jul-07		Oxygen	14	%		1	1
J	GS	SV-27-15	15	23-Jul-07	103-65-1	n-Propylbenzene	0.73	ug/L	0.73	1	1
J	GS	SV-27-15	15	23-Jul-07		Nitrogen	85	%		1	1
J	GS	SV-27-15	15	23-Jul-07	142-82-5	n-Heptane	20	ug/L	20	1	1
J	GS	SV-27-15	15	23-Jul-07	108-88-3	Toluene	4.9	ug/L	4.9	1	1
J	GS	SV-27-15	15	23-Jul-07	120-82-1	1,2,4-Trichlorobenzene	3.8	ug/L	3.8	0	1
J	GS	SV-27-15	15	23-Jul-07	541-73-1	1,3-Dichlorobenzene	0.78	ug/L	0.78	0	1
J	GS	SV-27-15	15	23-Jul-07	106-99-0	1,3-Butadiene	0.59	ug/L	0.59	1	1
J	GS	SV-27-15	15	23-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.63	ug/L	0.63	0	1
J	GS	SV-27-15	15	23-Jul-07	78-87-5	1,2-Dichloropropane	0.6	ug/L	0.6	0	1
J	GS	SV-27-15	15	23-Jul-07		1,2-Dichloroethane-d4	122	%		1	1
J	GS	SV-27-15	15	23-Jul-07	107-06-2	1,2-Dichloroethane	0.52	ug/L	0.52	0	1
J	GS	SV-27-15	15	23-Jul-07	95-50-1	1,2-Dichlorobenzene	0.78	ug/L	0.78	0	1
J	GS	SV-27-15	15	23-Jul-07	106-46-7	1,4-Dichlorobenzene	0.78	ug/L	0.78	0	1
J	GS	SV-27-15	15	23-Jul-07	106-93-4	1,2-Dibromoethane	0.99	ug/L	0.99	0	1
J	GS	SV-27-15	15	23-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.9	ug/L	0.9	0	1
J	GS	SV-27-15	15	23-Jul-07	96-18-4	1,2,3-Trichloropropane	3.1	ug/L	3.1	0	1
J	GS	SV-27-15	15	23-Jul-07	75-35-4	1,1-Dichloroethene	0.51	ug/L	0.51	0	1
J	GS	SV-27-15	15	23-Jul-07	75-34-3	1,1-Dichloroethane	0.52	ug/L	0.52	0	1
J	GS	SV-27-15	15	23-Jul-07	79-00-5	1,1,2-Trichloroethane	0.7	ug/L	0.7	0	1
J	GS	SV-27-15	15	23-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.99	ug/L	0.99	0	1
J	GS	SV-27-15	15	23-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.88	ug/L	0.88	0	1
J	GS	SV-27-15	15	23-Jul-07	67-66-3	Chloroform	240	ug/L	240	1	1
J	GS	SV-27-15	15	23-Jul-07	71-55-6	1,1,1-Trichloroethane	0.7	ug/L	0.7	0	1
J	GS	SV-27-15	15	23-Jul-07	74-83-9	Bromomethane	0.5	ug/L	0.5	0	1
J	GS	SV-27-15	15	23-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.91	ug/L	0.91	1	1
J	GS	SV-27-15	15	23-Jul-07	75-00-3	Chloroethane	0.34	ug/L	0.34	0	1
J	GS	SV-27-15	15	23-Jul-07	123-91-1	1,4-Dioxane	1.8	ug/L	1.8	0	1
J	GS	SV-27-15	15	23-Jul-07	56-23-5	Carbon tetrachloride	4.2	ug/L	4.2	1	1
J	GS	SV-27-15	15	23-Jul-07		Carbon Monoxide	0.026	%		0	1
J	GS	SV-27-15	15	23-Jul-07		Carbon Dioxide	1.1	%		1	1
J	GS	SV-27-15	15	23-Jul-07	108-90-7	Chlorobenzene	0.59	ug/L	0.59	0	1
J	GS	SV-27-15	15	23-Jul-07	75-25-2	Bromoform	1.3	ug/L	1.3	0	1
J	GS	SV-27-15	15	23-Jul-07	75-27-4	Bromodichloromethane	0.86	ug/L	0.86	0	1
J	GS	SV-27-15	15	23-Jul-07	591-78-6	2-Hexanone	2.1	ug/L	2.1	0	1
J	GS	SV-27-15	15	23-Jul-07	75-15-0	Carbon Disulfide	0.62	ug/L	0.62	1	1
J	GS	SV-27-15	15	23-Jul-07	78-93-3	2-Butanone	0.56	ug/L	0.56	1	1
J	GS	SV-27-15	15	23-Jul-07	100-44-7	Benzyl chloride	0.67	ug/L	0.67	0	1
J	GS	SV-27-15	15	23-Jul-07		4-Bromofluorobenzene	91	%		1	1
J	GS	SV-27-15	15	23-Jul-07	108-10-1	4-Methyl-2-pentanone	0.53	ug/L	0.53	0	1
J	GS	SV-27-15	15	23-Jul-07	67-64-1	Acetone	3.2	ug/L	3.2	1	1
J	GS	SV-27-15	15	23-Jul-07	107-05-1	Allyl chloride	1.6	ug/L	1.6	0	1
J	GS	SV-27-15	15	23-Jul-07	71-43-2	Benzene	8.4	ug/L	8.4	1	1
J	GS	SV-27-15	15	23-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.6	ug/L	0.6	0	1
J	GS	SV-27-5	5	23-Jul-07	87-68-3	Hexachlorobutadiene	0.13	ug/L	0.13	0	1
J	GS	SV-27-5	5	23-Jul-07	75-09-2	Methylene chloride	0.025	ug/L	0.025	1	1
J	GS	SV-27-5	5	23-Jul-07	74-82-8	Methane	0.026	%		1	1
J	GS	SV-27-5	5	23-Jul-07	179601-23-1	m,p-Xylenes	0.94	ug/L	0.94	1	1
J	GS	SV-27-5	5	23-Jul-07	98-82-8	Isopropylbenzene	0.094	ug/L	0.094	1	1
J	GS	SV-27-5	5	23-Jul-07	108-20-3	Isopropyl ether	0.052	ug/L	0.052	0	1
J	GS	SV-27-5	5	23-Jul-07	67-63-0	Isopropyl alcohol	0.03	ug/L	0.03	0	1
J	GS	SV-27-5	5	23-Jul-07	110-54-3	Hexane	0.9	ug/L	0.9	1	1
J	GS	SV-27-5	5	23-Jul-07	100-41-4	Ethylbenzene	0.26	ug/L	0.26	1	1
J	GS	SV-27-5	5	23-Jul-07	637-92-3	Ethyl tert butyl ether	0.052	ug/L	0.052	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-27-5	5	23-Jul-07		Ethene	0.0025	%		0	1
J	GS	SV-27-5	5	23-Jul-07	64-17-5	Ethanol	0.099	ug/L	0.099	1	1
J	GS	SV-27-5	5	23-Jul-07		Ethane	0.0025	%		0	1
J	GS	SV-27-5	5	23-Jul-07	75-71-8	Dichlorodifluoromethane	0.015	ug/L	0.015	0	1
J	GS	SV-27-5	5	23-Jul-07	124-48-1	Dibromochloromethane	0.026	ug/L	0.026	0	1
J	GS	SV-27-5	5	23-Jul-07	110-82-7	Cyclohexane	2.6	ug/L	2.6	1	1
J	GS	SV-27-5	5	23-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.012	ug/L		0	1
J	GS	SV-27-5	5	23-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.085	ug/L	0.085	0	1
J	GS	SV-27-5	5	23-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.014	ug/L	0.014	0	1
J	GS	SV-27-5	5	23-Jul-07	127-18-4	Tetrachloroethene	0.021	ug/L	0.021	0	1
J	GS	SV-27-5	5	23-Jul-07	1634-04-4	Methyl tert-butyl ether	0.011	ug/L	0.011	0	1
J	GS	SV-27-5	5	23-Jul-07	75-01-4	Vinyl chloride	0.0079	ug/L	0.0079	0	1
J	GS	SV-27-5	5	23-Jul-07	74-87-3	Chloromethane	0.026	ug/L	0.026	0	1
J	GS	SV-27-5	5	23-Jul-07	75-69-4	Trichlorofluoromethane	0.017	ug/L	0.017	0	1
J	GS	SV-27-5	5	23-Jul-07	79-01-6	Trichloroethene	0.019	ug/L	0.019	1	1
J	GS	SV-27-5	5	23-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.014	ug/L	0.014	0	1
J	GS	SV-27-5	5	23-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.012	ug/L	0.012	0	1
J	GS	SV-27-5	5	23-Jul-07		Toluene-d8	91	%		1	1
J	GS	SV-27-5	5	23-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
J	GS	SV-27-5	5	23-Jul-07	109-99-9	Tetrahydrofuran	0.0091	ug/L	0.0091	0	1
J	GS	SV-27-5	5	23-Jul-07	142-82-5	n-Heptane	0.4	ug/L	0.4	1	1
J	GS	SV-27-5	5	23-Jul-07	75-65-0	tert-Butyl alcohol	0.037	ug/L	0.037	0	1
J	GS	SV-27-5	5	23-Jul-07	994-05-8	Tert-amyl methyl ether	0.052	ug/L	0.052	0	1
J	GS	SV-27-5	5	23-Jul-07	100-42-5	Styrene	0.013	ug/L	0.013	0	1
J	GS	SV-27-5	5	23-Jul-07	622-96-8	p-Ethyltoluene	0.18	ug/L	0.18	1	1
J	GS	SV-27-5	5	23-Jul-07	95-47-6	o-Xylene	0.39	ug/L	0.39	1	1
J	GS	SV-27-5	5	23-Jul-07		Oxygen	18	%		1	1
J	GS	SV-27-5	5	23-Jul-07	103-65-1	n-Propylbenzene	0.12	ug/L	0.12	1	1
J	GS	SV-27-5	5	23-Jul-07		Nitrogen	80	%		1	1
J	GS	SV-27-5	5	23-Jul-07	108-88-3	Toluene	1.4	ug/L	1.4	1	1
J	GS	SV-27-5	5	23-Jul-07	67-66-3	Chloroform	0.95	ug/L	0.95	1	1
J	GS	SV-27-5	5	23-Jul-07	541-73-1	1,3-Dichlorobenzene	0.018	ug/L	0.018	0	1
J	GS	SV-27-5	5	23-Jul-07	106-99-0	1,3-Butadiene	0.022	ug/L	0.022	1	1
J	GS	SV-27-5	5	23-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.12	ug/L	0.12	1	1
J	GS	SV-27-5	5	23-Jul-07	78-87-5	1,2-Dichloropropane	0.014	ug/L	0.014	0	1
J	GS	SV-27-5	5	23-Jul-07		1,2-Dichloroethane-d4	130	%		1	1
J	GS	SV-27-5	5	23-Jul-07	107-06-2	1,2-Dichloroethane	0.012	ug/L	0.012	0	1
J	GS	SV-27-5	5	23-Jul-07	95-50-1	1,2-Dichlorobenzene	0.018	ug/L	0.018	0	1
J	GS	SV-27-5	5	23-Jul-07	106-46-7	1,4-Dichlorobenzene	0.018	ug/L	0.018	0	1
J	GS	SV-27-5	5	23-Jul-07	106-93-4	1,2-Dibromoethane	0.024	ug/L	0.024	0	1
J	GS	SV-27-5	5	23-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.022	ug/L	0.022	0	1
J	GS	SV-27-5	5	23-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.092	ug/L	0.092	0	1
J	GS	SV-27-5	5	23-Jul-07	96-18-4	1,2,3-Trichloropropane	0.074	ug/L	0.074	0	1
J	GS	SV-27-5	5	23-Jul-07	75-35-4	1,1-Dichloroethene	0.012	ug/L	0.012	0	1
J	GS	SV-27-5	5	23-Jul-07	75-34-3	1,1-Dichloroethane	0.012	ug/L	0.012	0	1
J	GS	SV-27-5	5	23-Jul-07	79-00-5	1,1,2-Trichloroethane	0.017	ug/L	0.017	0	1
J	GS	SV-27-5	5	23-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.024	ug/L	0.024	0	1
J	GS	SV-27-5	5	23-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.021	ug/L	0.021	0	1
J	GS	SV-27-5	5	23-Jul-07	91-20-3	Naphthalene	0.065	ug/L	0.065	0	1
J	GS	SV-27-5	5	23-Jul-07	71-55-6	1,1,1-Trichloroethane	0.017	ug/L	0.017	0	1
J	GS	SV-27-5	5	23-Jul-07		Carbon Dioxide	2.3	%		1	1
J	GS	SV-27-5	5	23-Jul-07	75-00-3	Chloroethane	0.0082	ug/L	0.0082	0	1
J	GS	SV-27-5	5	23-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.24	ug/L	0.24	1	1
J	GS	SV-27-5	5	23-Jul-07	123-91-1	1,4-Dioxane	0.044	ug/L	0.044	0	1
J	GS	SV-27-5	5	23-Jul-07	108-90-7	Chlorobenzene	0.014	ug/L	0.014	0	1
J	GS	SV-27-5	5	23-Jul-07	56-23-5	Carbon tetrachloride	0.019	ug/L	0.019	0	1
J	GS	SV-27-5	5	23-Jul-07	75-15-0	Carbon Disulfide	0.03	ug/L	0.03	1	1

Attachment 6
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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-27-5	5	23-Jul-07	74-83-9	Bromomethane	0.012	ug/L	0.012	0	1
J	GS	SV-27-5	5	23-Jul-07	75-25-2	Bromoform	0.032	ug/L	0.032	0	1
J	GS	SV-27-5	5	23-Jul-07	75-27-4	Bromodichloromethane	0.021	ug/L	0.021	0	1
J	GS	SV-27-5	5	23-Jul-07	591-78-6	2-Hexanone	0.051	ug/L	0.051	0	1
J	GS	SV-27-5	5	23-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.014	ug/L	0.014	0	1
J	GS	SV-27-5	5	23-Jul-07		Carbon Monoxide	0.025	%		0	1
J	GS	SV-27-5	5	23-Jul-07	78-93-3	2-Butanone	0.13	ug/L	0.13	1	1
J	GS	SV-27-5	5	23-Jul-07	100-44-7	Benzyl chloride	0.016	ug/L	0.016	0	1
J	GS	SV-27-5	5	23-Jul-07		4-Bromofluorobenzene	88	%		1	1
J	GS	SV-27-5	5	23-Jul-07	108-10-1	4-Methyl-2-pentanone	0.013	ug/L	0.013	0	1
J	GS	SV-27-5	5	23-Jul-07	67-64-1	Acetone	0.73	ug/L	0.73	1	1
J	GS	SV-27-5	5	23-Jul-07	107-05-1	Allyl chloride	0.039	ug/L	0.039	0	1
J	GS	SV-27-5	5	23-Jul-07	71-43-2	Benzene	0.22	ug/L	0.22	1	1
J	GS	SV-28-05	5	23-Jul-07	87-68-3	Hexachlorobutadiene	0.09	ug/L	0.09	0	1
J	GS	SV-28-05	5	23-Jul-07	74-87-3	Chloromethane	0.017	ug/L	0.017	0	1
J	GS	SV-28-05	5	23-Jul-07	179601-23-1	m,p-Xylenes	0.29	ug/L	0.29	1	1
J	GS	SV-28-05	5	23-Jul-07	98-82-8	Isopropylbenzene	0.027	ug/L	0.027	1	1
J	GS	SV-28-05	5	23-Jul-07	108-20-3	Isopropyl ether	0.035	ug/L	0.035	0	1
J	GS	SV-28-05	5	23-Jul-07	67-63-0	Isopropyl alcohol	0.021	ug/L	0.021	0	1
J	GS	SV-28-05	5	23-Jul-07	110-54-3	Hexane	0.24	ug/L	0.24	1	1
J	GS	SV-28-05	5	23-Jul-07	74-82-8	Methane	0.0028	%		1	1
J	GS	SV-28-05	5	23-Jul-07	100-41-4	Ethylbenzene	0.08	ug/L	0.08	1	1
J	GS	SV-28-05	5	23-Jul-07	637-92-3	Ethyl tert butyl ether	0.035	ug/L	0.035	0	1
J	GS	SV-28-05	5	23-Jul-07		Ethene	0.0025	%		0	1
J	GS	SV-28-05	5	23-Jul-07	64-17-5	Ethanol	0.016	ug/L	0.016	0	1
J	GS	SV-28-05	5	23-Jul-07		Ethane	0.0025	%		0	1
J	GS	SV-28-05	5	23-Jul-07	75-71-8	Dichlorodifluoromethane	0.01	ug/L	0.01	0	1
J	GS	SV-28-05	5	23-Jul-07	124-48-1	Dibromochloromethane	0.018	ug/L	0.018	0	1
J	GS	SV-28-05	5	23-Jul-07	110-82-7	Cyclohexane	0.16	ug/L	0.16	1	1
J	GS	SV-28-05	5	23-Jul-07	156-59-2	cis-1,2-Dichloroethene	1	ug/L		1	1
J	GS	SV-28-05	5	23-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0096	ug/L	0.0096	0	1
J	GS	SV-28-05	5	23-Jul-07	75-65-0	tert-Butyl alcohol	0.026	ug/L	0.026	0	1
J	GS	SV-28-05	5	23-Jul-07	106-99-0	1,3-Butadiene	0.12	ug/L	0.12	1	1
J	GS	SV-28-05	5	23-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
J	GS	SV-28-05	5	23-Jul-07	67-66-3	Chloroform	2.8	ug/L	2.8	1	1
J	GS	SV-28-05	5	23-Jul-07	79-01-6	Trichloroethene	0.12	ug/L	0.12	1	1
J	GS	SV-28-05	5	23-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0096	ug/L	0.0096	0	1
J	GS	SV-28-05	5	23-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.012	ug/L	0.012	1	1
J	GS	SV-28-05	5	23-Jul-07		Toluene-d8	89	%		1	1
J	GS	SV-28-05	5	23-Jul-07	108-88-3	Toluene	0.63	ug/L	0.63	1	1
J	GS	SV-28-05	5	23-Jul-07	75-69-4	Trichlorofluoromethane	0.012	ug/L	0.012	0	1
J	GS	SV-28-05	5	23-Jul-07	127-18-4	Tetrachloroethene	0.49	ug/L	0.49	1	1
J	GS	SV-28-05	5	23-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0076	ug/L	0.0076	0	1
J	GS	SV-28-05	5	23-Jul-07	994-05-8	Tert-amyl methyl ether	0.035	ug/L	0.035	0	1
J	GS	SV-28-05	5	23-Jul-07	100-42-5	Styrene	0.009	ug/L	0.009	0	1
J	GS	SV-28-05	5	23-Jul-07	622-96-8	p-Ethyltoluene	0.071	ug/L	0.071	1	1
J	GS	SV-28-05	5	23-Jul-07	95-47-6	o-Xylene	0.079	ug/L	0.079	1	1
J	GS	SV-28-05	5	23-Jul-07		Oxygen	19	%		1	1
J	GS	SV-28-05	5	23-Jul-07	103-65-1	n-Propylbenzene	0.031	ug/L	0.031	1	1
J	GS	SV-28-05	5	23-Jul-07		Nitrogen	80	%		1	1
J	GS	SV-28-05	5	23-Jul-07	91-20-3	Naphthalene	0.044	ug/L	0.044	0	1
J	GS	SV-28-05	5	23-Jul-07	109-99-9	Tetrahydrofuran	0.0062	ug/L	0.0062	0	1
J	GS	SV-28-05	5	23-Jul-07	75-35-4	1,1-Dichloroethene	0.0084	ug/L	0.0084	0	1
J	GS	SV-28-05	5	23-Jul-07	106-46-7	1,4-Dichlorobenzene	0.013	ug/L	0.013	0	1
J	GS	SV-28-05	5	23-Jul-07		1,2-Dichloroethane-d4	108	%		1	1
J	GS	SV-28-05	5	23-Jul-07	107-06-2	1,2-Dichloroethane	0.0085	ug/L	0.0085	0	1
J	GS	SV-28-05	5	23-Jul-07	95-50-1	1,2-Dichlorobenzene	0.013	ug/L	0.013	0	1

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-28-05	5	23-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.015	ug/L	0.015	0	1
J	GS	SV-28-05	5	23-Jul-07	106-93-4	1,2-Dibromoethane	0.016	ug/L	0.016	0	1
J	GS	SV-28-05	5	23-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.08	ug/L	0.08	1	1
J	GS	SV-28-05	5	23-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.036	ug/L	0.036	1	1
J	GS	SV-28-05	5	23-Jul-07	96-18-4	1,2,3-Trichloropropane	0.051	ug/L	0.051	0	1
J	GS	SV-28-05	5	23-Jul-07	541-73-1	1,3-Dichlorobenzene	0.013	ug/L	0.013	0	1
J	GS	SV-28-05	5	23-Jul-07	75-34-3	1,1-Dichloroethane	0.0085	ug/L	0.0085	0	1
J	GS	SV-28-05	5	23-Jul-07	79-00-5	1,1,2-Trichloroethane	0.012	ug/L	0.012	0	1
J	GS	SV-28-05	5	23-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.016	ug/L	0.016	0	1
J	GS	SV-28-05	5	23-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.014	ug/L	0.014	0	1
J	GS	SV-28-05	5	23-Jul-07	71-55-6	1,1,1-Trichloroethane	0.012	ug/L	0.012	0	1
J	GS	SV-28-05	5	23-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.058	ug/L	0.058	0	1
J	GS	SV-28-05	5	23-Jul-07	142-82-5	n-Heptane	0.2	ug/L	0.2	1	1
J	GS	SV-28-05	5	23-Jul-07	75-01-4	Vinyl chloride	0.045	ug/L	0.045	1	1
J	GS	SV-28-05	5	23-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.063	ug/L	0.063	0	1
J	GS	SV-28-05	5	23-Jul-07	71-43-2	Benzene	0.1	ug/L	0.1	1	1
J	GS	SV-28-05	5	23-Jul-07	108-90-7	Chlorobenzene	0.0097	ug/L	0.0097	0	1
J	GS	SV-28-05	5	23-Jul-07	56-23-5	Carbon tetrachloride	0.013	ug/L	0.013	0	1
J	GS	SV-28-05	5	23-Jul-07		Carbon Monoxide	0.025	%		0	1
J	GS	SV-28-05	5	23-Jul-07	75-15-0	Carbon Disulfide	0.032	ug/L	0.032	1	1
J	GS	SV-28-05	5	23-Jul-07		Carbon Dioxide	0.42	%		1	1
J	GS	SV-28-05	5	23-Jul-07	74-83-9	Bromomethane	0.0082	ug/L	0.0082	0	1
J	GS	SV-28-05	5	23-Jul-07	75-25-2	Bromoform	0.022	ug/L	0.022	0	1
J	GS	SV-28-05	5	23-Jul-07	78-87-5	1,2-Dichloropropane	0.0098	ug/L	0.0098	0	1
J	GS	SV-28-05	5	23-Jul-07	100-44-7	Benzyl chloride	0.011	ug/L	0.011	0	1
J	GS	SV-28-05	5	23-Jul-07	75-00-3	Chloroethane	0.0056	ug/L	0.0056	0	1
J	GS	SV-28-05	5	23-Jul-07	107-05-1	Allyl chloride	0.026	ug/L	0.026	0	1
J	GS	SV-28-05	5	23-Jul-07	67-64-1	Acetone	0.16	ug/L	0.16	1	1
J	GS	SV-28-05	5	23-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0086	ug/L	0.0086	0	1
J	GS	SV-28-05	5	23-Jul-07		4-Bromofluorobenzene	90	%		1	1
J	GS	SV-28-05	5	23-Jul-07	591-78-6	2-Hexanone	0.034	ug/L	0.034	0	1
J	GS	SV-28-05	5	23-Jul-07	78-93-3	2-Butanone	0.038	ug/L	0.038	1	1
J	GS	SV-28-05	5	23-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.081	ug/L	0.081	1	1
J	GS	SV-28-05	5	23-Jul-07	123-91-1	1,4-Dioxane	0.03	ug/L	0.03	0	1
J	GS	SV-28-05	5	23-Jul-07	75-27-4	Bromodichloromethane	0.014	ug/L	0.014	0	1
J	GS	SV-28-05	5	23-Jul-07	75-09-2	Methylene chloride	0.0073	ug/L	0.0073	0	1
J	GS	SV-28-15	15	23-Jul-07	75-25-2	Bromoform	0.17	ug/L	0.17	0	1
J	GS	SV-28-15	15	23-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.13	ug/L	0.13	0	1
J	GS	SV-28-15	15	23-Jul-07	591-78-6	2-Hexanone	0.28	ug/L	0.28	0	1
J	GS	SV-28-15	15	23-Jul-07		4-Bromofluorobenzene	91	%		1	1
J	GS	SV-28-15	15	23-Jul-07	108-10-1	4-Methyl-2-pentanone	0.069	ug/L	0.069	0	1
J	GS	SV-28-15	15	23-Jul-07	67-64-1	Acetone	0.44	ug/L	0.44	1	1
J	GS	SV-28-15	15	23-Jul-07	107-05-1	Allyl chloride	0.21	ug/L	0.21	0	1
J	GS	SV-28-15	15	23-Jul-07	71-43-2	Benzene	0.2	ug/L	0.2	1	1
J	GS	SV-28-15	15	23-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.1	ug/L	0.1	1	1
J	GS	SV-28-15	15	23-Jul-07	75-27-4	Bromodichloromethane	0.11	ug/L	0.11	0	1
J	GS	SV-28-15	15	23-Jul-07	74-83-9	Bromomethane	0.065	ug/L	0.065	0	1
J	GS	SV-28-15	15	23-Jul-07		Carbon Dioxide	3.3	%		1	1
J	GS	SV-28-15	15	23-Jul-07	75-15-0	Carbon Disulfide	0.35	ug/L	0.35	1	1
J	GS	SV-28-15	15	23-Jul-07		Carbon Monoxide	0.025	%		0	1
J	GS	SV-28-15	15	23-Jul-07	56-23-5	Carbon tetrachloride	0.11	ug/L	0.11	0	1
J	GS	SV-28-15	15	23-Jul-07	108-90-7	Chlorobenzene	0.078	ug/L	0.078	0	1
J	GS	SV-28-15	15	23-Jul-07	75-00-3	Chloroethane	0.044	ug/L	0.044	0	1
J	GS	SV-28-15	15	23-Jul-07	100-44-7	Benzyl chloride	0.087	ug/L	0.087	0	1
J	GS	SV-28-15	15	23-Jul-07	107-06-2	1,2-Dichloroethane	0.068	ug/L	0.068	0	1
J	GS	SV-28-15	15	23-Jul-07	79-00-5	1,1,2-Trichloroethane	0.092	ug/L	0.092	0	1
J	GS	SV-28-15	15	23-Jul-07	75-34-3	1,1-Dichloroethane	0.068	ug/L	0.068	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-28-15	15	23-Jul-07	75-35-4	1,1-Dichloroethene	0.067	ug/L	0.067	0	1
J	GS	SV-28-15	15	23-Jul-07	96-18-4	1,2,3-Trichloropropane	0.41	ug/L	0.41	0	1
J	GS	SV-28-15	15	23-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.5	ug/L	0.5	0	1
J	GS	SV-28-15	15	23-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.083	ug/L	0.083	0	1
J	GS	SV-28-15	15	23-Jul-07	106-93-4	1,2-Dibromoethane	0.13	ug/L	0.13	0	1
J	GS	SV-28-15	15	23-Jul-07	78-93-3	2-Butanone	0.074	ug/L	0.074	1	1
J	GS	SV-28-15	15	23-Jul-07	95-50-1	1,2-Dichlorobenzene	0.1	ug/L	0.1	0	1
J	GS	SV-28-15	15	23-Jul-07	110-82-7	Cyclohexane	0.13	ug/L	0.13	1	1
J	GS	SV-28-15	15	23-Jul-07		1,2-Dichloroethane-d4	111	%		1	1
J	GS	SV-28-15	15	23-Jul-07	78-87-5	1,2-Dichloropropane	0.078	ug/L	0.078	0	1
J	GS	SV-28-15	15	23-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.083	ug/L	0.083	0	1
J	GS	SV-28-15	15	23-Jul-07	106-99-0	1,3-Butadiene	0.21	ug/L	0.21	1	1
J	GS	SV-28-15	15	23-Jul-07	541-73-1	1,3-Dichlorobenzene	0.1	ug/L	0.1	0	1
J	GS	SV-28-15	15	23-Jul-07	106-46-7	1,4-Dichlorobenzene	0.1	ug/L	0.1	0	1
J	GS	SV-28-15	15	23-Jul-07	123-91-1	1,4-Dioxane	0.24	ug/L	0.24	0	1
J	GS	SV-28-15	15	23-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.12	ug/L	0.12	0	1
J	GS	SV-28-15	15	23-Jul-07	108-88-3	Toluene	0.71	ug/L	0.71	1	1
J	GS	SV-28-15	15	23-Jul-07	103-65-1	n-Propylbenzene	0.083	ug/L	0.083	0	1
J	GS	SV-28-15	15	23-Jul-07		Oxygen	13	%		1	1
J	GS	SV-28-15	15	23-Jul-07	95-47-6	o-Xylene	0.073	ug/L	0.073	0	1
J	GS	SV-28-15	15	23-Jul-07	622-96-8	p-Ethyltoluene	0.083	ug/L	0.083	0	1
J	GS	SV-28-15	15	23-Jul-07	100-42-5	Styrene	0.072	ug/L	0.072	0	1
J	GS	SV-28-15	15	23-Jul-07	994-05-8	Tert-amyl methyl ether	0.28	ug/L	0.28	0	1
J	GS	SV-28-15	15	23-Jul-07	75-65-0	tert-Butyl alcohol	0.2	ug/L	0.2	0	1
J	GS	SV-28-15	15	23-Jul-07	74-87-3	Chloromethane	0.14	ug/L	0.14	0	1
J	GS	SV-28-15	15	23-Jul-07	109-99-9	Tetrahydrofuran	0.05	ug/L	0.05	0	1
J	GS	SV-28-15	15	23-Jul-07	91-20-3	Naphthalene	0.35	ug/L	0.35	0	1
J	GS	SV-28-15	15	23-Jul-07		Toluene-d8	93	%		1	1
J	GS	SV-28-15	15	23-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.067	ug/L	0.067	0	1
J	GS	SV-28-15	15	23-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.076	ug/L	0.076	0	1
J	GS	SV-28-15	15	23-Jul-07	79-01-6	Trichloroethene	0.09	ug/L	0.09	0	1
J	GS	SV-28-15	15	23-Jul-07	75-69-4	Trichlorofluoromethane	0.095	ug/L	0.095	0	1
J	GS	SV-28-15	15	23-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
J	GS	SV-28-15	15	23-Jul-07	75-01-4	Vinyl chloride	0.043	ug/L	0.043	0	1
J	GS	SV-28-15	15	23-Jul-07	127-18-4	Tetrachloroethene	0.11	ug/L	0.11	0	1
J	GS	SV-28-15	15	23-Jul-07	110-54-3	Hexane	0.46	ug/L	0.46	1	1
J	GS	SV-28-15	15	23-Jul-07	67-66-3	Chloroform	22	ug/L	22	1	1
J	GS	SV-28-15	15	23-Jul-07	124-48-1	Dibromochloromethane	0.14	ug/L	0.14	0	1
J	GS	SV-28-15	15	23-Jul-07	75-71-8	Dichlorodifluoromethane	0.083	ug/L	0.083	0	1
J	GS	SV-28-15	15	23-Jul-07		Ethane	0.0025	%		0	1
J	GS	SV-28-15	15	23-Jul-07	64-17-5	Ethanol	0.13	ug/L	0.13	0	1
J	GS	SV-28-15	15	23-Jul-07		Ethene	0.0025	%		0	1
J	GS	SV-28-15	15	23-Jul-07	637-92-3	Ethyl tert butyl ether	0.28	ug/L	0.28	0	1
J	GS	SV-28-15	15	23-Jul-07		Nitrogen	84	%		1	1
J	GS	SV-28-15	15	23-Jul-07	87-68-3	Hexachlorobutadiene	0.72	ug/L	0.72	0	1
J	GS	SV-28-15	15	23-Jul-07	142-82-5	n-Heptane	0.34	ug/L	0.34	1	1
J	GS	SV-28-15	15	23-Jul-07	67-63-0	Isopropyl alcohol	0.16	ug/L	0.16	0	1
J	GS	SV-28-15	15	23-Jul-07	108-20-3	Isopropyl ether	0.28	ug/L	0.28	0	1
J	GS	SV-28-15	15	23-Jul-07	98-82-8	Isopropylbenzene	0.083	ug/L	0.083	0	1
J	GS	SV-28-15	15	23-Jul-07	179601-23-1	m,p-Xylenes	0.17	ug/L	0.17	1	1
J	GS	SV-28-15	15	23-Jul-07	74-82-8	Methane	0.0023	%		1	1
J	GS	SV-28-15	15	23-Jul-07	1634-04-4	Methyl tert-butyl ether	0.061	ug/L	0.061	0	1
J	GS	SV-28-15	15	23-Jul-07	75-09-2	Methylene chloride	0.16	ug/L	0.16	1	1
J	GS	SV-28-15	15	23-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.076	ug/L	0.076	0	1
J	GS	SV-28-15	15	23-Jul-07	100-41-4	Ethylbenzene	0.075	ug/L	0.075	1	1
J	GS	SV-28-15	15	23-Jul-07	71-55-6	1,1,1-Trichloroethane	0.092	ug/L	0.092	0	1
J	GS	SV-28-15	15	23-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.46	ug/L	0.46	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-28-15	15	23-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.067	ug/L		0	1
J	GS	SV-28-15	15	23-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.12	ug/L	0.12	0	1
J	GS	SV-16-05	5	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0062	UG/L	0.0062	0	1
J	GS	SV-16-05	5	17-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
J	GS	SV-16-05	5	17-Nov-07	591-78-6	2-Hexanone	0.021	UG/L	0.021	0	1
J	GS	SV-16-05	5	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
J	GS	SV-16-05	5	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
J	GS	SV-16-05	5	17-Nov-07	123-91-1	1,4-Dioxane	0.051	UG/L	0.051	1	1
J	GS	SV-16-05	5	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0059	UG/L	0.0059	0	1
J	GS	SV-16-05	5	17-Nov-07	106-99-0	1,3-Butadiene	0.0028	UG/L	0.0028	0	1
J	GS	SV-16-05	5	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0052	UG/L	0.0052	0	1
J	GS	SV-16-05	5	17-Nov-07	67-64-1	Acetone	0.024	UG/L	0.024	1	1
J	GS	SV-16-05	5	17-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	1
J	GS	SV-16-05	5	17-Nov-07	71-43-2	Benzene	0.004	UG/L	0.004	0	1
J	GS	SV-16-05	5	17-Nov-07	75-27-4	Bromodichloromethane	0.0085	UG/L	0.0085	0	1
J	GS	SV-16-05	5	17-Nov-07	78-87-5	1,2-Dichloropropane	0.0058	UG/L	0.0058	0	1
J	GS	SV-16-05	5	17-Nov-07	78-93-3	2-Butanone	0.0037	UG/L	0.0037	0	1
J	GS	SV-16-05	5	17-Nov-07	100-44-7	Benzyl chloride	0.0065	UG/L	0.0065	0	1
J	GS	SV-16-05	5	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0069	UG/L	0.0069	0	1
J	GS	SV-16-05	5	17-Nov-07		4-Bromofluorobenzene	89	%		1	1
J	GS	SV-16-05	5	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	UG/L	0.035	0	1
J	GS	SV-16-05	5	17-Nov-07		1,2-Dichloroethane-d4	95	%		1	1
J	GS	SV-16-05	5	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	UG/L	0.0087	0	1
J	GS	SV-16-05	5	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	UG/L	0.0097	0	1
J	GS	SV-16-05	5	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0069	UG/L	0.0069	0	1
J	GS	SV-16-05	5	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0051	UG/L	0.0051	0	1
J	GS	SV-16-05	5	17-Nov-07	75-35-4	1,1-Dichloroethene	0.005	UG/L	0.005	0	1
J	GS	SV-16-05	5	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.03	UG/L	0.03	0	1
J	GS	SV-16-05	5	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.038	UG/L	0.038	0	1
J	GS	SV-16-05	5	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0062	UG/L	0.0062	0	1
J	GS	SV-16-05	5	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0097	UG/L	0.0097	0	1
J	GS	SV-16-05	5	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0051	UG/L	0.0051	0	1
J	GS	SV-16-05	5	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
J	GS	SV-16-05	5	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	UG/L	0.0088	0	1
J	GS	SV-16-05	5	17-Nov-07	179601-23-1	m,p-Xylenes	0.0055	UG/L	0.0055	0	1
J	GS	SV-16-05	5	17-Nov-07	622-96-8	p-Ethyltoluene	0.0062	UG/L	0.0062	0	1
J	GS	SV-16-05	5	17-Nov-07	95-47-6	o-Xylene	0.0055	UG/L	0.0055	0	1
J	GS	SV-16-05	5	17-Nov-07	103-65-1	n-Propylbenzene	0.0062	UG/L	0.0062	0	1
J	GS	SV-16-05	5	17-Nov-07	142-82-5	n-Heptane	0.0052	UG/L	0.0052	0	1
J	GS	SV-16-05	5	17-Nov-07	91-20-3	Naphthalene	0.026	UG/L	0.026	0	1
J	GS	SV-16-05	5	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0071	UG/L	0.0071	0	1
J	GS	SV-16-05	5	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0046	UG/L	0.0046	0	1
J	GS	SV-16-05	5	17-Nov-07	127-18-4	Tetrachloroethene	0.0086	UG/L	0.0086	0	1
J	GS	SV-16-05	5	17-Nov-07	98-82-8	Isopropylbenzene	0.0062	UG/L	0.0062	0	1
J	GS	SV-16-05	5	17-Nov-07	108-20-3	Isopropyl ether	0.021	UG/L	0.021	0	1
J	GS	SV-16-05	5	17-Nov-07	75-09-2	Methylene Chloride	0.0044	UG/L	0.0044	0	1
J	GS	SV-16-05	5	17-Nov-07	67-63-0	Isopropyl alcohol	0.012	UG/L	0.012	0	1
J	GS	SV-16-05	5	17-Nov-07	75-01-4	Vinyl Chloride	0.0032	UG/L	0.0032	0	1
J	GS	SV-16-05	5	17-Nov-07	100-42-5	Styrene	0.0054	UG/L	0.0054	0	1
J	GS	SV-16-05	5	17-Nov-07	109-99-9	Tetrahydrofuran	0.0037	UG/L	0.0037	0	1
J	GS	SV-16-05	5	17-Nov-07	108-88-3	Toluene	0.0048	UG/L	0.0048	0	1
J	GS	SV-16-05	5	17-Nov-07		Toluene-d8	99	%		1	1
J	GS	SV-16-05	5	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.005	UG/L	0.005	0	1
J	GS	SV-16-05	5	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	UG/L	0.0057	0	1
J	GS	SV-16-05	5	17-Nov-07	79-01-6	Trichloroethene	0.0068	UG/L	0.0068	0	1
J	GS	SV-16-05	5	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
J	GS	SV-16-05	5	17-Nov-07	74-83-9	Bromomethane	0.0049	UG/L	0.0049	0	1

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-16-05	5	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.021	UG/L	0.021	0	1
J	GS	SV-16-05	5	17-Nov-07	74-87-3	Chloromethane	0.01	UG/L	0.01	0	1
J	GS	SV-16-05	5	17-Nov-07	110-54-3	Hexane	0.0044	UG/L	0.0044	0	1
J	GS	SV-16-05	5	17-Nov-07	75-65-0	tert-Butyl alcohol	0.015	UG/L	0.015	0	1
J	GS	SV-16-05	5	17-Nov-07	56-23-5	Carbon Tetrachloride	0.008	UG/L	0.008	0	1
J	GS	SV-16-05	5	17-Nov-07	108-90-7	Chlorobenzene	0.0058	UG/L	0.0058	0	1
J	GS	SV-16-05	5	17-Nov-07	75-00-3	Chloroethane	0.0033	UG/L	0.0033	0	1
J	GS	SV-16-05	5	17-Nov-07	67-66-3	Chloroform	0.0062	UG/L	0.0062	0	1
J	GS	SV-16-05	5	17-Nov-07	75-15-0	Carbon Disulfide	0.025	UG/L	0.025	1	1
J	GS	SV-16-05	5	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.005	UG/L		0	1
J	GS	SV-16-05	5	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.021	UG/L	0.021	0	1
J	GS	SV-16-05	5	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	UG/L	0.0057	0	1
J	GS	SV-16-05	5	17-Nov-07	110-82-7	Cyclohexane	0.0095	UG/L	0.0095	1	1
J	GS	SV-16-05	5	17-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	1
J	GS	SV-16-05	5	17-Nov-07	87-68-3	Hexachlorobutadiene	0.054	UG/L	0.054	0	1
J	GS	SV-16-05	5	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0062	UG/L	0.0062	0	1
J	GS	SV-16-05	5	17-Nov-07	64-17-5	Ethanol	0.0095	UG/L	0.0095	0	1
J	GS	SV-16-05	5	17-Nov-07	100-41-4	Ethylbenzene	0.0055	UG/L	0.0055	0	1
J	GS	SV-16-15	15	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	2.3	UG/L	2.3	0	1
J	GS	SV-16-15	15	17-Nov-07	95-50-1	1,2-Dichlorobenzene	2	UG/L	2	0	1
J	GS	SV-16-15	15	17-Nov-07	107-06-2	1,2-Dichloroethane	1.4	UG/L	1.4	0	1
J	GS	SV-16-15	15	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	1.6	UG/L	1.6	0	1
J	GS	SV-16-15	15	17-Nov-07	78-87-5	1,2-Dichloropropane	1.6	UG/L	1.6	0	1
J	GS	SV-16-15	15	17-Nov-07	106-99-0	1,3-Butadiene	0.74	UG/L	0.74	0	1
J	GS	SV-16-15	15	17-Nov-07	106-93-4	1,2-Dibromoethane	2.6	UG/L	2.6	0	1
J	GS	SV-16-15	15	17-Nov-07		1,2-Dichloroethane-d4	124	%		1	1
J	GS	SV-16-15	15	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	3.7	UG/L	3.7	1	1
J	GS	SV-16-15	15	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	1.5	UG/L	1.5	0	1
J	GS	SV-16-15	15	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	10	UG/L	10	0	1
J	GS	SV-16-15	15	17-Nov-07	110-82-7	Cyclohexane	2.6	UG/L	2.6	1	1
J	GS	SV-16-15	15	17-Nov-07	75-35-4	1,1-Dichloroethene	1.3	UG/L	1.3	0	1
J	GS	SV-16-15	15	17-Nov-07	75-34-3	1,1-Dichloroethane	1.4	UG/L	1.4	0	1
J	GS	SV-16-15	15	17-Nov-07	541-73-1	1,3-Dichlorobenzene	2	UG/L	2	0	1
J	GS	SV-16-15	15	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.6	UG/L	2.6	0	1
J	GS	SV-16-15	15	17-Nov-07	107-05-1	Allyl chloride	4.2	UG/L	4.2	0	1
J	GS	SV-16-15	15	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	2.3	UG/L	2.3	0	1
J	GS	SV-16-15	15	17-Nov-07	71-55-6	1,1,1-Trichloroethane	1.8	UG/L	1.8	0	1
J	GS	SV-16-15	15	17-Nov-07	79-00-5	1,1,2-Trichloroethane	1.8	UG/L	1.8	0	1
J	GS	SV-16-15	15	17-Nov-07	74-87-3	Chloromethane	2.8	UG/L	2.8	0	1
J	GS	SV-16-15	15	17-Nov-07	74-83-9	Bromomethane	1.3	UG/L	1.3	0	1
J	GS	SV-16-15	15	17-Nov-07	75-25-2	Bromoform	3.5	UG/L	3.5	0	1
J	GS	SV-16-15	15	17-Nov-07	75-15-0	Carbon Disulfide	1	UG/L	1	0	1
J	GS	SV-16-15	15	17-Nov-07	56-23-5	Carbon Tetrachloride	2.1	UG/L	2.1	0	1
J	GS	SV-16-15	15	17-Nov-07	108-90-7	Chlorobenzene	1.5	UG/L	1.5	0	1
J	GS	SV-16-15	15	17-Nov-07	75-00-3	Chloroethane	0.89	UG/L	0.89	0	1
J	GS	SV-16-15	15	17-Nov-07	67-66-3	Chloroform	1.6	UG/L	1.6	0	1
J	GS	SV-16-15	15	17-Nov-07	108-10-1	4-Methyl-2-pentanone	1.4	UG/L	1.4	0	1
J	GS	SV-16-15	15	17-Nov-07	100-44-7	Benzyl chloride	1.7	UG/L	1.7	0	1
J	GS	SV-16-15	15	17-Nov-07	106-46-7	1,4-Dichlorobenzene	2	UG/L	2	0	1
J	GS	SV-16-15	15	17-Nov-07	71-43-2	Benzene	1.1	UG/L	1.1	0	1
J	GS	SV-16-15	15	17-Nov-07	67-64-1	Acetone	3.2	UG/L	3.2	0	1
J	GS	SV-16-15	15	17-Nov-07		4-Bromofluorobenzene	98	%		1	1
J	GS	SV-16-15	15	17-Nov-07	591-78-6	2-Hexanone	5.5	UG/L	5.5	0	1
J	GS	SV-16-15	15	17-Nov-07	78-93-3	2-Butanone	0.99	UG/L	0.99	0	1
J	GS	SV-16-15	15	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	1.3	UG/L		0	1
J	GS	SV-16-15	15	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	1.6	UG/L	1.6	0	1
J	GS	SV-16-15	15	17-Nov-07	123-91-1	1,4-Dioxane	4.8	UG/L	4.8	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-16-15	15	17-Nov-07	75-27-4	Bromodichloromethane	2.2	UG/L	2.2	0	1
J	GS	SV-16-15	15	17-Nov-07	100-42-5	Styrene	1.4	UG/L	1.4	0	1
J	GS	SV-16-15	15	17-Nov-07	67-63-0	Isopropyl alcohol	3.3	UG/L	3.3	0	1
J	GS	SV-16-15	15	17-Nov-07	98-82-8	Isopropylbenzene	9.1	UG/L	9.1	1	1
J	GS	SV-16-15	15	17-Nov-07	179601-23-1	m,p-Xylenes	1.4	UG/L	1.4	0	1
J	GS	SV-16-15	15	17-Nov-07	1634-04-4	Methyl tert-butyl ether	1.2	UG/L	1.2	0	1
J	GS	SV-16-15	15	17-Nov-07	75-09-2	Methylene Chloride	1.2	UG/L	1.2	0	1
J	GS	SV-16-15	15	17-Nov-07	91-20-3	Naphthalene	7	UG/L	7	0	1
J	GS	SV-16-15	15	17-Nov-07	142-82-5	n-Heptane	2.3	UG/L	2.3	1	1
J	GS	SV-16-15	15	17-Nov-07	103-65-1	n-Propylbenzene	4.8	UG/L	4.8	1	1
J	GS	SV-16-15	15	17-Nov-07	110-54-3	Hexane	1.2	UG/L	1.2	0	1
J	GS	SV-16-15	15	17-Nov-07	622-96-8	p-Ethyltoluene	1.6	UG/L	1.6	0	1
J	GS	SV-16-15	15	17-Nov-07	127-18-4	Tetrachloroethene	2.3	UG/L	2.3	0	1
J	GS	SV-16-15	15	17-Nov-07	109-99-9	Tetrahydrofuran	0.99	UG/L	0.99	0	1
J	GS	SV-16-15	15	17-Nov-07	124-48-1	Dibromochloromethane	2.9	UG/L	2.9	0	1
J	GS	SV-16-15	15	17-Nov-07		Toluene-d8	129	%		1	1
J	GS	SV-16-15	15	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	1.3	UG/L	1.3	0	1
J	GS	SV-16-15	15	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	1.5	UG/L	1.5	0	1
J	GS	SV-16-15	15	17-Nov-07	79-01-6	Trichloroethene	1.8	UG/L	1.8	0	1
J	GS	SV-16-15	15	17-Nov-07	75-69-4	Trichlorofluoromethane	1.9	UG/L	1.9	0	1
J	GS	SV-16-15	15	17-Nov-07	75-01-4	Vinyl Chloride	0.86	UG/L	0.86	0	1
J	GS	SV-16-15	15	17-Nov-07	95-47-6	o-Xylene	1.4	UG/L	1.4	0	1
J	GS	SV-16-15	15	17-Nov-07	100-41-4	Ethylbenzene	2	UG/L	2	1	1
J	GS	SV-16-15	15	17-Nov-07	64-17-5	Ethanol	2.5	UG/L	2.5	0	1
J	GS	SV-16-15	15	17-Nov-07	75-71-8	Dichlorodifluoromethane	1.7	UG/L	1.7	0	1
J	GS	SV-16-15	15	17-Nov-07	108-88-3	Toluene	1.3	UG/L	1.3	0	1
J	GS	SV-16-15	15	17-Nov-07	87-68-3	Hexachlorobutadiene	14	UG/L	14	0	1
J	GS	SV-17-04	4	17-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
J	GS	SV-17-04	4	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.007	UG/L	0.007	0	1
J	GS	SV-17-04	4	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0052	UG/L	0.0052	0	1
J	GS	SV-17-04	4	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0051	UG/L	0.0051	0	1
J	GS	SV-17-04	4	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.031	UG/L	0.031	0	1
J	GS	SV-17-04	4	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.038	UG/L	0.038	0	1
J	GS	SV-17-04	4	17-Nov-07	67-64-1	Acetone	0.038	UG/L	0.038	1	1
J	GS	SV-17-04	4	17-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	1
J	GS	SV-17-04	4	17-Nov-07	71-43-2	Benzene	0.0041	UG/L	0.0041	0	1
J	GS	SV-17-04	4	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	UG/L	0.0099	0	1
J	GS	SV-17-04	4	17-Nov-07	75-27-4	Bromodichloromethane	0.0086	UG/L	0.0086	0	1
J	GS	SV-17-04	4	17-Nov-07	87-68-3	Hexachlorobutadiene	0.055	UG/L	0.055	0	1
J	GS	SV-17-04	4	17-Nov-07	74-83-9	Bromomethane	0.005	UG/L	0.005	0	1
J	GS	SV-17-04	4	17-Nov-07	75-15-0	Carbon Disulfide	0.004	UG/L	0.004	0	1
J	GS	SV-17-04	4	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0081	UG/L	0.0081	0	1
J	GS	SV-17-04	4	17-Nov-07	108-90-7	Chlorobenzene	0.0059	UG/L	0.0059	0	1
J	GS	SV-17-04	4	17-Nov-07	75-00-3	Chloroethane	0.0034	UG/L	0.0034	0	1
J	GS	SV-17-04	4	17-Nov-07	67-66-3	Chloroform	0.038	UG/L	0.038	1	1
J	GS	SV-17-04	4	17-Nov-07	74-87-3	Chloromethane	0.011	UG/L	0.011	0	1
J	GS	SV-17-04	4	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0051	UG/L		0	1
J	GS	SV-17-04	4	17-Nov-07	100-44-7	Benzyl chloride	0.0067	UG/L	0.0067	0	1
J	GS	SV-17-04	4	17-Nov-07	591-78-6	2-Hexanone	0.021	UG/L	0.021	0	1
J	GS	SV-17-04	4	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0063	UG/L	0.0063	0	1
J	GS	SV-17-04	4	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0099	UG/L	0.0099	0	1
J	GS	SV-17-04	4	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	UG/L	0.009	0	1
J	GS	SV-17-04	4	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0078	UG/L	0.0078	0	1
J	GS	SV-17-04	4	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0052	UG/L	0.0052	0	1
J	GS	SV-17-04	4	17-Nov-07		1,2-Dichloroethane-d4	97	%		1	1
J	GS	SV-17-04	4	17-Nov-07	78-87-5	1,2-Dichloropropane	0.006	UG/L	0.006	0	1
J	GS	SV-17-04	4	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0053	UG/L	0.0053	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-17-04	4	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.007	UG/L	0.007	0	1
J	GS	SV-17-04	4	17-Nov-07		4-Bromofluorobenzene	95	%		1	1
J	GS	SV-17-04	4	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	UG/L	0.0088	0	1
J	GS	SV-17-04	4	17-Nov-07	78-93-3	2-Butanone	0.0054	UG/L	0.0054	1	1
J	GS	SV-17-04	4	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.006	UG/L	0.006	0	1
J	GS	SV-17-04	4	17-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
J	GS	SV-17-04	4	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0078	UG/L	0.0078	0	1
J	GS	SV-17-04	4	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0078	UG/L	0.0078	0	1
J	GS	SV-17-04	4	17-Nov-07	106-99-0	1,3-Butadiene	0.0028	UG/L	0.0028	0	1
J	GS	SV-17-04	4	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	UG/L	0.0058	0	1
J	GS	SV-17-04	4	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	UG/L	0.035	0	1
J	GS	SV-17-04	4	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	UG/L	0.0063	0	1
J	GS	SV-17-04	4	17-Nov-07	622-96-8	p-Ethyltoluene	0.0063	UG/L	0.0063	0	1
J	GS	SV-17-04	4	17-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	1
J	GS	SV-17-04	4	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0064	UG/L	0.0064	0	1
J	GS	SV-17-04	4	17-Nov-07	64-17-5	Ethanol	0.0097	UG/L	0.0097	0	1
J	GS	SV-17-04	4	17-Nov-07	100-41-4	Ethylbenzene	0.0056	UG/L	0.0056	0	1
J	GS	SV-17-04	4	17-Nov-07	110-54-3	Hexane	0.0045	UG/L	0.0045	0	1
J	GS	SV-17-04	4	17-Nov-07	67-63-0	Isopropyl alcohol	0.013	UG/L	0.013	0	1
J	GS	SV-17-04	4	17-Nov-07	108-20-3	Isopropyl ether	0.022	UG/L	0.022	0	1
J	GS	SV-17-04	4	17-Nov-07	98-82-8	Isopropylbenzene	0.0063	UG/L	0.0063	0	1
J	GS	SV-17-04	4	17-Nov-07	179601-23-1	m,p-Xylenes	0.0056	UG/L	0.0056	0	1
J	GS	SV-17-04	4	17-Nov-07	75-09-2	Methylene Chloride	0.0045	UG/L	0.0045	0	1
J	GS	SV-17-04	4	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.022	UG/L	0.022	0	1
J	GS	SV-17-04	4	17-Nov-07	142-82-5	n-Heptane	0.0053	UG/L	0.0053	0	1
J	GS	SV-17-04	4	17-Nov-07	110-82-7	Cyclohexane	0.018	UG/L	0.018	1	1
J	GS	SV-17-04	4	17-Nov-07	95-47-6	o-Xylene	0.0056	UG/L	0.0056	0	1
J	GS	SV-17-04	4	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0046	UG/L	0.0046	0	1
J	GS	SV-17-04	4	17-Nov-07	100-42-5	Styrene	0.0055	UG/L	0.0055	0	1
J	GS	SV-17-04	4	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.022	UG/L	0.022	0	1
J	GS	SV-17-04	4	17-Nov-07	75-65-0	tert-Butyl alcohol	0.016	UG/L	0.016	0	1
J	GS	SV-17-04	4	17-Nov-07	127-18-4	Tetrachloroethene	0.0088	UG/L	0.0088	0	1
J	GS	SV-17-04	4	17-Nov-07	109-99-9	Tetrahydrofuran	0.004	UG/L	0.004	1	1
J	GS	SV-17-04	4	17-Nov-07	108-88-3	Toluene	0.0049	UG/L	0.0049	0	1
J	GS	SV-17-04	4	17-Nov-07		Toluene-d8	94	%		1	1
J	GS	SV-17-04	4	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0051	UG/L	0.0051	0	1
J	GS	SV-17-04	4	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	UG/L	0.0058	0	1
J	GS	SV-17-04	4	17-Nov-07	79-01-6	Trichloroethene	0.0069	UG/L	0.0069	0	1
J	GS	SV-17-04	4	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0072	UG/L	0.0072	0	1
J	GS	SV-17-04	4	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
J	GS	SV-17-04	4	17-Nov-07	75-01-4	Vinyl Chloride	0.0033	UG/L	0.0033	0	1
J	GS	SV-17-04	4	17-Nov-07	103-65-1	n-Propylbenzene	0.0063	UG/L	0.0063	0	1
J	GS	SV-17-04	4	17-Nov-07	91-20-3	Naphthalene	0.027	UG/L	0.027	0	1
J	GS	SV-17-15	15	17-Nov-07	67-64-1	Acetone	1.1	UG/L	1.1	0	1
J	GS	SV-17-15	15	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.67	UG/L	0.67	0	1
J	GS	SV-17-15	15	17-Nov-07	123-91-1	1,4-Dioxane	1.6	UG/L	1.6	0	1
J	GS	SV-17-15	15	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.52	UG/L	0.52	0	1
J	GS	SV-17-15	15	17-Nov-07	78-93-3	2-Butanone	0.33	UG/L	0.33	0	1
J	GS	SV-17-15	15	17-Nov-07	591-78-6	2-Hexanone	1.8	UG/L	1.8	0	1
J	GS	SV-17-15	15	17-Nov-07	75-15-0	Carbon Disulfide	0.35	UG/L	0.35	0	1
J	GS	SV-17-15	15	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.46	UG/L	0.46	0	1
J	GS	SV-17-15	15	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.55	UG/L	0.55	0	1
J	GS	SV-17-15	15	17-Nov-07	107-05-1	Allyl chloride	1.4	UG/L	1.4	0	1
J	GS	SV-17-15	15	17-Nov-07	71-43-2	Benzene	0.36	UG/L	0.36	0	1
J	GS	SV-17-15	15	17-Nov-07	100-44-7	Benzyl chloride	0.58	UG/L	0.58	0	1
J	GS	SV-17-15	15	17-Nov-07	75-27-4	Bromodichloromethane	0.75	UG/L	0.75	0	1
J	GS	SV-17-15	15	17-Nov-07	75-25-2	Bromoform	1.2	UG/L	1.2	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-17-15	15	17-Nov-07		4-Bromofluorobenzene	94	%		1	1
J	GS	SV-17-15	15	17-Nov-07	106-93-4	1,2-Dibromoethane	0.86	UG/L	0.86	0	1
J	GS	SV-17-15	15	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.61	UG/L	0.61	0	1
J	GS	SV-17-15	15	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.77	UG/L	0.77	0	1
J	GS	SV-17-15	15	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.86	UG/L	0.86	0	1
J	GS	SV-17-15	15	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.61	UG/L	0.61	0	1
J	GS	SV-17-15	15	17-Nov-07	75-34-3	1,1-Dichloroethane	0.45	UG/L	0.45	0	1
J	GS	SV-17-15	15	17-Nov-07	75-35-4	1,1-Dichloroethene	0.44	UG/L	0.44	0	1
J	GS	SV-17-15	15	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.67	UG/L	0.67	0	1
J	GS	SV-17-15	15	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.55	UG/L	0.55	0	1
J	GS	SV-17-15	15	17-Nov-07	106-99-0	1,3-Butadiene	0.25	UG/L	0.25	0	1
J	GS	SV-17-15	15	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.78	UG/L	0.78	0	1
J	GS	SV-17-15	15	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.67	UG/L	0.67	0	1
J	GS	SV-17-15	15	17-Nov-07	107-06-2	1,2-Dichloroethane	0.45	UG/L	0.45	0	1
J	GS	SV-17-15	15	17-Nov-07		1,2-Dichloroethane-d4	110	%		1	1
J	GS	SV-17-15	15	17-Nov-07	78-87-5	1,2-Dichloropropane	0.52	UG/L	0.52	0	1
J	GS	SV-17-15	15	17-Nov-07	56-23-5	Carbon Tetrachloride	0.7	UG/L	0.7	0	1
J	GS	SV-17-15	15	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	3.3	UG/L	3.3	0	1
J	GS	SV-17-15	15	17-Nov-07	142-82-5	n-Heptane	0.46	UG/L	0.46	0	1
J	GS	SV-17-15	15	17-Nov-07	74-83-9	Bromomethane	0.43	UG/L	0.43	0	1
J	GS	SV-17-15	15	17-Nov-07	108-88-3	Toluene	0.42	UG/L	0.42	0	1
J	GS	SV-17-15	15	17-Nov-07	109-99-9	Tetrahydrofuran	0.33	UG/L	0.33	0	1
J	GS	SV-17-15	15	17-Nov-07	127-18-4	Tetrachloroethene	0.76	UG/L	0.76	0	1
J	GS	SV-17-15	15	17-Nov-07	100-42-5	Styrene	0.48	UG/L	0.48	0	1
J	GS	SV-17-15	15	17-Nov-07	622-96-8	p-Ethyltoluene	0.55	UG/L	0.55	0	1
J	GS	SV-17-15	15	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.44	UG/L	0.44	0	1
J	GS	SV-17-15	15	17-Nov-07	103-65-1	n-Propylbenzene	1	UG/L	1	1	1
J	GS	SV-17-15	15	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.51	UG/L	0.51	0	1
J	GS	SV-17-15	15	17-Nov-07	91-20-3	Naphthalene	2.3	UG/L	2.3	0	1
J	GS	SV-17-15	15	17-Nov-07	75-09-2	Methylene Chloride	0.39	UG/L	0.39	0	1
J	GS	SV-17-15	15	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.4	UG/L	0.4	0	1
J	GS	SV-17-15	15	17-Nov-07	179601-23-1	m,p-Xylenes	0.49	UG/L	0.49	0	1
J	GS	SV-17-15	15	17-Nov-07	98-82-8	Isopropylbenzene	1.1	UG/L	1.1	1	1
J	GS	SV-17-15	15	17-Nov-07	67-63-0	Isopropyl alcohol	1.1	UG/L	1.1	0	1
J	GS	SV-17-15	15	17-Nov-07	95-47-6	o-Xylene	0.49	UG/L	0.49	0	1
J	GS	SV-17-15	15	17-Nov-07	124-48-1	Dibromochloromethane	0.95	UG/L	0.95	0	1
J	GS	SV-17-15	15	17-Nov-07	75-00-3	Chloroethane	0.3	UG/L	0.3	0	1
J	GS	SV-17-15	15	17-Nov-07	67-66-3	Chloroform	0.55	UG/L	0.55	0	1
J	GS	SV-17-15	15	17-Nov-07	74-87-3	Chloromethane	0.92	UG/L	0.92	0	1
J	GS	SV-17-15	15	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.44	UG/L		0	1
J	GS	SV-17-15	15	17-Nov-07		Toluene-d8	125	%		1	1
J	GS	SV-17-15	15	17-Nov-07	110-82-7	Cyclohexane	3	UG/L	3	1	1
J	GS	SV-17-15	15	17-Nov-07	108-90-7	Chlorobenzene	0.52	UG/L	0.52	0	1
J	GS	SV-17-15	15	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.55	UG/L	0.55	0	1
J	GS	SV-17-15	15	17-Nov-07	64-17-5	Ethanol	0.84	UG/L	0.84	0	1
J	GS	SV-17-15	15	17-Nov-07	100-41-4	Ethylbenzene	0.49	UG/L	0.49	0	1
J	GS	SV-17-15	15	17-Nov-07	87-68-3	Hexachlorobutadiene	4.8	UG/L	4.8	0	1
J	GS	SV-17-15	15	17-Nov-07	110-54-3	Hexane	0.39	UG/L	0.39	0	1
J	GS	SV-17-15	15	17-Nov-07	75-01-4	Vinyl Chloride	0.29	UG/L	0.29	0	1
J	GS	SV-17-15	15	17-Nov-07	75-69-4	Trichlorofluoromethane	0.63	UG/L	0.63	0	1
J	GS	SV-17-15	15	17-Nov-07	79-01-6	Trichloroethene	0.6	UG/L	0.6	0	1
J	GS	SV-17-15	15	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.51	UG/L	0.51	0	1
J	GS	SV-26-05	5	17-Nov-07	100-44-7	Benzyl chloride	0.0064	UG/L	0.0064	0	1
J	GS	SV-26-05	5	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.005	UG/L	0.005	0	1
J	GS	SV-26-05	5	17-Nov-07	67-64-1	Acetone	0.015	UG/L	0.015	1	1
J	GS	SV-26-05	5	17-Nov-07	78-87-5	1,2-Dichloropropane	0.0057	UG/L	0.0057	0	1
J	GS	SV-26-05	5	17-Nov-07	591-78-6	2-Hexanone	0.02	UG/L	0.02	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-26-05	5	17-Nov-07	78-93-3	2-Butanone	0.0036	UG/L	0.0036	0	1
J	GS	SV-26-05	5	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0058	UG/L	0.0058	0	1
J	GS	SV-26-05	5	17-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
J	GS	SV-26-05	5	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
J	GS	SV-26-05	5	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
J	GS	SV-26-05	5	17-Nov-07	107-05-1	Allyl chloride	0.015	UG/L	0.015	0	1
J	GS	SV-26-05	5	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.022	UG/L	0.022	1	1
J	GS	SV-26-05	5	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0069	UG/L	0.0069	0	1
J	GS	SV-26-05	5	17-Nov-07		1,2-Dichloroethane-d4	105	%		1	1
J	GS	SV-26-05	5	17-Nov-07	107-06-2	1,2-Dichloroethane	0.005	UG/L	0.005	0	1
J	GS	SV-26-05	5	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
J	GS	SV-26-05	5	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	UG/L	0.0086	0	1
J	GS	SV-26-05	5	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0095	UG/L	0.0095	0	1
J	GS	SV-26-05	5	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.11	UG/L	0.11	1	1
J	GS	SV-26-05	5	17-Nov-07	106-99-0	1,3-Butadiene	0.0027	UG/L	0.0027	0	1
J	GS	SV-26-05	5	17-Nov-07	127-18-4	Tetrachloroethene	0.044	UG/L	0.044	1	1
J	GS	SV-26-05	5	17-Nov-07	91-20-3	Naphthalene	0.026	UG/L	0.026	0	1
J	GS	SV-26-05	5	17-Nov-07	142-82-5	n-Heptane	0.0051	UG/L	0.0051	0	1
J	GS	SV-26-05	5	17-Nov-07	103-65-1	n-Propylbenzene	0.06	UG/L	0.06	1	1
J	GS	SV-26-05	5	17-Nov-07	95-47-6	o-Xylene	0.0054	UG/L	0.0054	0	1
J	GS	SV-26-05	5	17-Nov-07	622-96-8	p-Ethyltoluene	0.012	UG/L	0.012	1	1
J	GS	SV-26-05	5	17-Nov-07	100-42-5	Styrene	0.0053	UG/L	0.0053	0	1
J	GS	SV-26-05	5	17-Nov-07	75-01-4	Vinyl Chloride	0.0032	UG/L	0.0032	0	1
J	GS	SV-26-05	5	17-Nov-07	75-65-0	tert-Butyl alcohol	0.015	UG/L	0.015	0	1
J	GS	SV-26-05	5	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
J	GS	SV-26-05	5	17-Nov-07	109-99-9	Tetrahydrofuran	0.0036	UG/L	0.0036	0	1
J	GS	SV-26-05	5	17-Nov-07	108-88-3	Toluene	0.0046	UG/L	0.0046	0	1
J	GS	SV-26-05	5	17-Nov-07		Toluene-d8	95	%		1	1
J	GS	SV-26-05	5	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0049	UG/L	0.0049	0	1
J	GS	SV-26-05	5	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	UG/L	0.0056	0	1
J	GS	SV-26-05	5	17-Nov-07	79-01-6	Trichloroethene	0.0066	UG/L	0.0066	0	1
J	GS	SV-26-05	5	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0049	UG/L	0.0049	0	1
J	GS	SV-26-05	5	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.021	UG/L	0.021	0	1
J	GS	SV-26-05	5	17-Nov-07	75-00-3	Chloroethane	0.0032	UG/L	0.0032	0	1
J	GS	SV-26-05	5	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.037	UG/L	0.037	0	1
J	GS	SV-26-05	5	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0061	UG/L	0.0061	0	1
J	GS	SV-26-05	5	17-Nov-07	124-48-1	Dibromochloromethane	0.01	UG/L	0.01	0	1
J	GS	SV-26-05	5	17-Nov-07	110-82-7	Cyclohexane	0.0086	UG/L	0.0086	1	1
J	GS	SV-26-05	5	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	UG/L	0.0056	0	1
J	GS	SV-26-05	5	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0049	UG/L		0	1
J	GS	SV-26-05	5	17-Nov-07	64-17-5	Ethanol	0.0093	UG/L	0.0093	0	1
J	GS	SV-26-05	5	17-Nov-07	67-66-3	Chloroform	0.006	UG/L	0.006	0	1
J	GS	SV-26-05	5	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.021	UG/L	0.021	0	1
J	GS	SV-26-05	5	17-Nov-07	108-90-7	Chlorobenzene	0.0057	UG/L	0.0057	0	1
J	GS	SV-26-05	5	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0078	UG/L	0.0078	0	1
J	GS	SV-26-05	5	17-Nov-07	75-15-0	Carbon Disulfide	0.0054	UG/L	0.0054	1	1
J	GS	SV-26-05	5	17-Nov-07	74-83-9	Bromomethane	0.0048	UG/L	0.0048	0	1
J	GS	SV-26-05	5	17-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
J	GS	SV-26-05	5	17-Nov-07	75-27-4	Bromodichloromethane	0.0083	UG/L	0.0083	0	1
J	GS	SV-26-05	5	17-Nov-07	75-09-2	Methylene Chloride	0.0043	UG/L	0.0043	0	1
J	GS	SV-26-05	5	17-Nov-07	74-87-3	Chloromethane	0.01	UG/L	0.01	0	1
J	GS	SV-26-05	5	17-Nov-07	179601-23-1	m,p-Xylenes	0.0054	UG/L	0.0054	0	1
J	GS	SV-26-05	5	17-Nov-07	71-43-2	Benzene	0.0039	UG/L	0.0039	0	1
J	GS	SV-26-05	5	17-Nov-07	75-34-3	1,1-Dichloroethane	0.005	UG/L	0.005	0	1
J	GS	SV-26-05	5	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0067	UG/L	0.0067	0	1
J	GS	SV-26-05	5	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	UG/L	0.0095	0	1
J	GS	SV-26-05	5	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	UG/L	0.0085	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-26-05	5	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0067	UG/L	0.0067	0	1
J	GS	SV-26-05	5	17-Nov-07		4-Bromofluorobenzene	101	%		1	1
J	GS	SV-26-05	5	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0044	UG/L	0.0044	0	1
J	GS	SV-26-05	5	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.03	UG/L	0.03	0	1
J	GS	SV-26-05	5	17-Nov-07	98-82-8	Isopropylbenzene	0.068	UG/L	0.068	1	1
J	GS	SV-26-05	5	17-Nov-07	108-20-3	Isopropyl ether	0.021	UG/L	0.021	0	1
J	GS	SV-26-05	5	17-Nov-07	67-63-0	Isopropyl alcohol	0.012	UG/L	0.012	0	1
J	GS	SV-26-05	5	17-Nov-07	110-54-3	Hexane	0.0044	UG/L	0.0044	0	1
J	GS	SV-26-05	5	17-Nov-07	87-68-3	Hexachlorobutadiene	0.053	UG/L	0.053	0	1
J	GS	SV-26-05	5	17-Nov-07	100-41-4	Ethylbenzene	0.012	UG/L	0.012	1	1
J	GS	SV-26-05	5	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	UG/L	0.034	0	1
J	GS	SV-27-05	5	17-Nov-07	108-90-7	Chlorobenzene	0.059	UG/L	0.059	0	1
J	GS	SV-27-05	5	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.064	UG/L	0.064	0	1
J	GS	SV-27-05	5	17-Nov-07	179601-23-1	m,p-Xylenes	0.056	UG/L	0.056	0	1
J	GS	SV-27-05	5	17-Nov-07	98-82-8	Isopropylbenzene	0.063	UG/L	0.063	0	1
J	GS	SV-27-05	5	17-Nov-07	67-63-0	Isopropyl alcohol	0.13	UG/L	0.13	0	1
J	GS	SV-27-05	5	17-Nov-07	110-54-3	Hexane	3.1	UG/L	3.1	1	1
J	GS	SV-27-05	5	17-Nov-07	87-68-3	Hexachlorobutadiene	0.55	UG/L	0.55	0	1
J	GS	SV-27-05	5	17-Nov-07	75-00-3	Chloroethane	0.034	UG/L	0.034	0	1
J	GS	SV-27-05	5	17-Nov-07	64-17-5	Ethanol	0.097	UG/L	0.097	0	1
J	GS	SV-27-05	5	17-Nov-07	91-20-3	Naphthalene	0.27	UG/L	0.27	0	1
J	GS	SV-27-05	5	17-Nov-07	124-48-1	Dibromochloromethane	0.11	UG/L	0.11	0	1
J	GS	SV-27-05	5	17-Nov-07	110-82-7	Cyclohexane	7.4	UG/L	7.4	1	1
J	GS	SV-27-05	5	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.058	UG/L	0.058	0	1
J	GS	SV-27-05	5	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.051	UG/L		0	1
J	GS	SV-27-05	5	17-Nov-07	74-87-3	Chloromethane	0.11	UG/L	0.11	0	1
J	GS	SV-27-05	5	17-Nov-07	67-66-3	Chloroform	36	UG/L	36	1	1
J	GS	SV-27-05	5	17-Nov-07	100-41-4	Ethylbenzene	0.056	UG/L	0.056	0	1
J	GS	SV-27-05	5	17-Nov-07	127-18-4	Tetrachloroethene	0.088	UG/L	0.088	0	1
J	GS	SV-27-05	5	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.07	UG/L	0.07	0	1
J	GS	SV-27-05	5	17-Nov-07	75-15-0	Carbon Disulfide	0.04	UG/L	0.04	0	1
J	GS	SV-27-05	5	17-Nov-07	75-01-4	Vinyl Chloride	0.033	UG/L	0.033	0	1
J	GS	SV-27-05	5	17-Nov-07	75-69-4	Trichlorofluoromethane	0.072	UG/L	0.072	0	1
J	GS	SV-27-05	5	17-Nov-07	79-01-6	Trichloroethene	0.069	UG/L	0.069	0	1
J	GS	SV-27-05	5	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.058	UG/L	0.058	0	1
J	GS	SV-27-05	5	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.046	UG/L	0.046	0	1
J	GS	SV-27-05	5	17-Nov-07	108-88-3	Toluene	0.049	UG/L	0.049	0	1
J	GS	SV-27-05	5	17-Nov-07	75-09-2	Methylene Chloride	0.045	UG/L	0.045	0	1
J	GS	SV-27-05	5	17-Nov-07	100-42-5	Styrene	0.055	UG/L	0.055	0	1
J	GS	SV-27-05	5	17-Nov-07	622-96-8	p-Ethyltoluene	0.063	UG/L	0.063	0	1
J	GS	SV-27-05	5	17-Nov-07	95-47-6	o-Xylene	0.056	UG/L	0.056	0	1
J	GS	SV-27-05	5	17-Nov-07	103-65-1	n-Propylbenzene	0.063	UG/L	0.063	0	1
J	GS	SV-27-05	5	17-Nov-07	142-82-5	n-Heptane	0.57	UG/L	0.57	1	1
J	GS	SV-27-05	5	17-Nov-07	109-99-9	Tetrahydrofuran	0.038	UG/L	0.038	0	1
J	GS	SV-27-05	5	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.051	UG/L	0.051	0	1
J	GS	SV-27-05	5	17-Nov-07	106-93-4	1,2-Dibromoethane	0.099	UG/L	0.099	0	1
J	GS	SV-27-05	5	17-Nov-07	106-99-0	1,3-Butadiene	0.028	UG/L	0.028	0	1
J	GS	SV-27-05	5	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.063	UG/L	0.063	0	1
J	GS	SV-27-05	5	17-Nov-07	78-87-5	1,2-Dichloropropane	0.06	UG/L	0.06	0	1
J	GS	SV-27-05	5	17-Nov-07		1,2-Dichloroethane-d4	140	%		1	1
J	GS	SV-27-05	5	17-Nov-07	107-06-2	1,2-Dichloroethane	0.052	UG/L	0.052	0	1
J	GS	SV-27-05	5	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.078	UG/L	0.078	0	1
J	GS	SV-27-05	5	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.09	UG/L	0.09	0	1
J	GS	SV-27-05	5	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.38	UG/L	0.38	0	1
J	GS	SV-27-05	5	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.063	UG/L	0.063	0	1
J	GS	SV-27-05	5	17-Nov-07	75-35-4	1,1-Dichloroethene	0.051	UG/L	0.051	0	1
J	GS	SV-27-05	5	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.07	UG/L	0.07	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-27-05	5	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.099	UG/L	0.099	0	1
J	GS	SV-27-05	5	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.088	UG/L	0.088	0	1
J	GS	SV-27-05	5	17-Nov-07		Toluene-d8	121	%		1	1
J	GS	SV-27-05	5	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.078	UG/L	0.078	0	1
J	GS	SV-27-05	5	17-Nov-07	100-44-7	Benzyl chloride	0.067	UG/L	0.067	0	1
J	GS	SV-27-05	5	17-Nov-07	56-23-5	Carbon Tetrachloride	0.69	UG/L	0.69	1	1
J	GS	SV-27-05	5	17-Nov-07	75-34-3	1,1-Dichloroethane	0.052	UG/L	0.052	0	1
J	GS	SV-27-05	5	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.078	UG/L	0.078	0	1
J	GS	SV-27-05	5	17-Nov-07	74-83-9	Bromomethane	0.05	UG/L	0.05	0	1
J	GS	SV-27-05	5	17-Nov-07	75-25-2	Bromoform	0.13	UG/L	0.13	0	1
J	GS	SV-27-05	5	17-Nov-07	75-27-4	Bromodichloromethane	0.086	UG/L	0.086	0	1
J	GS	SV-27-05	5	17-Nov-07	71-43-2	Benzene	0.041	UG/L	0.041	0	1
J	GS	SV-27-05	5	17-Nov-07	107-05-1	Allyl chloride	0.16	UG/L	0.16	0	1
J	GS	SV-27-05	5	17-Nov-07	591-78-6	2-Hexanone	0.21	UG/L	0.21	0	1
J	GS	SV-27-05	5	17-Nov-07	123-91-1	1,4-Dioxane	0.18	UG/L	0.18	0	1
J	GS	SV-27-05	5	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.06	UG/L	0.06	0	1
J	GS	SV-27-05	5	17-Nov-07	78-93-3	2-Butanone	0.038	UG/L	0.038	0	1
J	GS	SV-27-05	5	17-Nov-07		4-Bromofluorobenzene	88	%		1	1
J	GS	SV-27-05	5	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.053	UG/L	0.053	0	1
J	GS	SV-27-05	5	17-Nov-07	67-64-1	Acetone	0.21	UG/L	0.21	1	1
J	GS	SV-27-15	15	17-Nov-07	71-43-2	Benzene	46	UG/L	46	1	1
J	GS	SV-27-15	15	17-Nov-07	123-91-1	1,4-Dioxane	4.4	UG/L	4.4	0	1
J	GS	SV-27-15	15	17-Nov-07	108-90-7	Chlorobenzene	1.4	UG/L	1.4	0	1
J	GS	SV-27-15	15	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	1.2	UG/L		0	1
J	GS	SV-27-15	15	17-Nov-07	67-66-3	Chloroform	1300	UG/L	1300	1	1
J	GS	SV-27-15	15	17-Nov-07	75-00-3	Chloroethane	0.82	UG/L	0.82	0	1
J	GS	SV-27-15	15	17-Nov-07	75-15-0	Carbon Disulfide	0.96	UG/L	0.96	0	1
J	GS	SV-27-15	15	17-Nov-07	74-83-9	Bromomethane	1.2	UG/L	1.2	0	1
J	GS	SV-27-15	15	17-Nov-07	75-25-2	Bromoform	3.2	UG/L	3.2	0	1
J	GS	SV-27-15	15	17-Nov-07	75-27-4	Bromodichloromethane	2.1	UG/L	2.1	0	1
J	GS	SV-27-15	15	17-Nov-07	100-44-7	Benzyl chloride	1.6	UG/L	1.6	0	1
J	GS	SV-27-15	15	17-Nov-07	74-87-3	Chloromethane	2.6	UG/L	2.6	0	1
J	GS	SV-27-15	15	17-Nov-07	56-23-5	Carbon Tetrachloride	3.3	UG/L	3.3	1	1
J	GS	SV-27-15	15	17-Nov-07	107-05-1	Allyl chloride	3.9	UG/L	3.9	0	1
J	GS	SV-27-15	15	17-Nov-07	67-64-1	Acetone	2.9	UG/L	2.9	0	1
J	GS	SV-27-15	15	17-Nov-07	108-10-1	4-Methyl-2-pentanone	1.3	UG/L	1.3	0	1
J	GS	SV-27-15	15	17-Nov-07		4-Bromofluorobenzene	92	%		1	1
J	GS	SV-27-15	15	17-Nov-07	591-78-6	2-Hexanone	5.1	UG/L	5.1	0	1
J	GS	SV-27-15	15	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	1.4	UG/L	1.4	0	1
J	GS	SV-27-15	15	17-Nov-07	106-46-7	1,4-Dichlorobenzene	1.8	UG/L	1.8	0	1
J	GS	SV-27-15	15	17-Nov-07	541-73-1	1,3-Dichlorobenzene	1.8	UG/L	1.8	0	1
J	GS	SV-27-15	15	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	1.4	UG/L	1.4	0	1
J	GS	SV-27-15	15	17-Nov-07	622-96-8	p-Ethyltoluene	2.7	UG/L	2.7	1	1
J	GS	SV-27-15	15	17-Nov-07	106-99-0	1,3-Butadiene	0.68	UG/L	0.68	0	1
J	GS	SV-27-15	15	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	1.5	UG/L	1.5	0	1
J	GS	SV-27-15	15	17-Nov-07	78-93-3	2-Butanone	0.91	UG/L	0.91	0	1
J	GS	SV-27-15	15	17-Nov-07	91-20-3	Naphthalene	6.5	UG/L	6.5	0	1
J	GS	SV-27-15	15	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	1.4	UG/L	1.4	0	1
J	GS	SV-27-15	15	17-Nov-07	78-87-5	1,2-Dichloropropane	1.4	UG/L	1.4	0	1
J	GS	SV-27-15	15	17-Nov-07	79-01-6	Trichloroethene	8.6	UG/L	8.6	1	1
J	GS	SV-27-15	15	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	1.2	UG/L	1.2	0	1
J	GS	SV-27-15	15	17-Nov-07		Toluene-d8	118	%		1	1
J	GS	SV-27-15	15	17-Nov-07	108-88-3	Toluene	38	UG/L	38	1	1
J	GS	SV-27-15	15	17-Nov-07	109-99-9	Tetrahydrofuran	0.91	UG/L	0.91	0	1
J	GS	SV-27-15	15	17-Nov-07	127-18-4	Tetrachloroethene	2.1	UG/L	2.1	0	1
J	GS	SV-27-15	15	17-Nov-07	100-42-5	Styrene	1.3	UG/L	1.3	0	1
J	GS	SV-27-15	15	17-Nov-07	75-01-4	Vinyl Chloride	0.79	UG/L	0.79	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-27-15	15	17-Nov-07	103-65-1	n-Propylbenzene	1.7	UG/L	1.7	1	1
J	GS	SV-27-15	15	17-Nov-07	142-82-5	n-Heptane	77	UG/L	77	1	1
J	GS	SV-27-15	15	17-Nov-07	110-82-7	Cyclohexane	300	UG/L	300	1	1
J	GS	SV-27-15	15	17-Nov-07	75-09-2	Methylene Chloride	13	UG/L	13	1	1
J	GS	SV-27-15	15	17-Nov-07	1634-04-4	Methyl tert-butyl ether	1.1	UG/L	1.1	0	1
J	GS	SV-27-15	15	17-Nov-07	179601-23-1	m,p-Xylenes	24	UG/L	24	1	1
J	GS	SV-27-15	15	17-Nov-07	98-82-8	Isopropylbenzene	2	UG/L	2	1	1
J	GS	SV-27-15	15	17-Nov-07	67-63-0	Isopropyl alcohol	3	UG/L	3	0	1
J	GS	SV-27-15	15	17-Nov-07	110-54-3	Hexane	190	UG/L	190	1	1
J	GS	SV-27-15	15	17-Nov-07	87-68-3	Hexachlorobutadiene	13	UG/L	13	0	1
J	GS	SV-27-15	15	17-Nov-07	100-41-4	Ethylbenzene	11	UG/L	11	1	1
J	GS	SV-27-15	15	17-Nov-07	64-17-5	Ethanol	2.3	UG/L	2.3	0	1
J	GS	SV-27-15	15	17-Nov-07	75-71-8	Dichlorodifluoromethane	1.5	UG/L	1.5	0	1
J	GS	SV-27-15	15	17-Nov-07	124-48-1	Dibromochloromethane	2.6	UG/L	2.6	0	1
J	GS	SV-27-15	15	17-Nov-07	95-47-6	o-Xylene	10	UG/L	10	1	1
J	GS	SV-27-15	15	17-Nov-07	79-00-5	1,1,2-Trichloroethane	1.7	UG/L	1.7	0	1
J	GS	SV-27-15	15	17-Nov-07	75-69-4	Trichlorofluoromethane	1.7	UG/L	1.7	0	1
J	GS	SV-27-15	15	17-Nov-07		1,2-Dichloroethane-d4	125	%		1	1
J	GS	SV-27-15	15	17-Nov-07	71-55-6	1,1,1-Trichloroethane	1.7	UG/L	1.7	0	1
J	GS	SV-27-15	15	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.4	UG/L	2.4	0	1
J	GS	SV-27-15	15	17-Nov-07	75-34-3	1,1-Dichloroethane	1.4	UG/L	1.4	1	1
J	GS	SV-27-15	15	17-Nov-07	75-35-4	1,1-Dichloroethene	1.2	UG/L	1.2	0	1
J	GS	SV-27-15	15	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	9.2	UG/L	9.2	0	1
J	GS	SV-27-15	15	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	1.8	UG/L	1.8	1	1
J	GS	SV-27-15	15	17-Nov-07	106-93-4	1,2-Dibromoethane	2.4	UG/L	2.4	0	1
J	GS	SV-27-15	15	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	2.2	UG/L	2.2	0	1
J	GS	SV-27-15	15	17-Nov-07	95-50-1	1,2-Dichlorobenzene	1.8	UG/L	1.8	0	1
J	GS	SV-27-15	15	17-Nov-07	107-06-2	1,2-Dichloroethane	1.2	UG/L	1.2	0	1
J	GS	SV-27-15	15	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	2.1	UG/L	2.1	0	1
J	GS	SV-28-05	5	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.04	UG/L		0	1
J	GS	SV-28-05	5	17-Nov-07	100-41-4	Ethylbenzene	0.044	UG/L	0.044	0	1
J	GS	SV-28-05	5	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.036	UG/L	0.036	0	1
J	GS	SV-28-05	5	17-Nov-07	179601-23-1	m,p-Xylenes	0.044	UG/L	0.044	0	1
J	GS	SV-28-05	5	17-Nov-07	108-20-3	Isopropyl ether	0.17	UG/L	0.17	0	1
J	GS	SV-28-05	5	17-Nov-07	110-54-3	Hexane	0.036	UG/L	0.036	0	1
J	GS	SV-28-05	5	17-Nov-07	87-68-3	Hexachlorobutadiene	0.43	UG/L	0.43	0	1
J	GS	SV-28-05	5	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.17	UG/L	0.17	0	1
J	GS	SV-28-05	5	17-Nov-07	64-17-5	Ethanol	0.076	UG/L	0.076	0	1
J	GS	SV-28-05	5	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.05	UG/L	0.05	0	1
J	GS	SV-28-05	5	17-Nov-07	124-48-1	Dibromochloromethane	0.086	UG/L	0.086	0	1
J	GS	SV-28-05	5	17-Nov-07	75-09-2	Methylene Chloride	0.035	UG/L	0.035	0	1
J	GS	SV-28-05	5	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.046	UG/L	0.046	0	1
J	GS	SV-28-05	5	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.17	UG/L	0.17	0	1
J	GS	SV-28-05	5	17-Nov-07	74-87-3	Chloromethane	0.083	UG/L	0.083	0	1
J	GS	SV-28-05	5	17-Nov-07	110-82-7	Cyclohexane	0.035	UG/L	0.035	0	1
J	GS	SV-28-05	5	17-Nov-07	127-18-4	Tetrachloroethene	0.068	UG/L	0.068	0	1
J	GS	SV-28-05	5	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
J	GS	SV-28-05	5	17-Nov-07	75-69-4	Trichlorofluoromethane	0.057	UG/L	0.057	0	1
J	GS	SV-28-05	5	17-Nov-07	79-01-6	Trichloroethene	0.054	UG/L	0.054	0	1
J	GS	SV-28-05	5	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.046	UG/L	0.046	0	1
J	GS	SV-28-05	5	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.04	UG/L	0.04	0	1
J	GS	SV-28-05	5	17-Nov-07		Toluene-d8	96	%		1	1
J	GS	SV-28-05	5	17-Nov-07	622-96-8	p-Ethyltoluene	0.05	UG/L	0.05	0	1
J	GS	SV-28-05	5	17-Nov-07	109-99-9	Tetrahydrofuran	0.03	UG/L	0.03	0	1
J	GS	SV-28-05	5	17-Nov-07	91-20-3	Naphthalene	0.21	UG/L	0.21	0	1
J	GS	SV-28-05	5	17-Nov-07	75-65-0	tert-Butyl alcohol	0.12	UG/L	0.12	0	1
J	GS	SV-28-05	5	17-Nov-07	100-44-7	Benzyl chloride	0.052	UG/L	0.052	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-28-05	5	17-Nov-07	100-42-5	Styrene	0.043	UG/L	0.043	0	1
J	GS	SV-28-05	5	17-Nov-07	67-66-3	Chloroform	14	UG/L	14	1	1
J	GS	SV-28-05	5	17-Nov-07	95-47-6	o-Xylene	0.044	UG/L	0.044	0	1
J	GS	SV-28-05	5	17-Nov-07	103-65-1	n-Propylbenzene	0.05	UG/L	0.05	0	1
J	GS	SV-28-05	5	17-Nov-07	142-82-5	n-Heptane	0.041	UG/L	0.041	0	1
J	GS	SV-28-05	5	17-Nov-07	108-88-3	Toluene	0.038	UG/L	0.038	0	1
J	GS	SV-28-05	5	17-Nov-07	123-91-1	1,4-Dioxane	0.14	UG/L	0.14	0	1
J	GS	SV-28-05	5	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.061	UG/L	0.061	0	1
J	GS	SV-28-05	5	17-Nov-07	107-06-2	1,2-Dichloroethane	0.041	UG/L	0.041	0	1
J	GS	SV-28-05	5	17-Nov-07		1,2-Dichloroethane-d4	96	%		1	1
J	GS	SV-28-05	5	17-Nov-07	78-87-5	1,2-Dichloropropane	0.047	UG/L	0.047	0	1
J	GS	SV-28-05	5	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.05	UG/L	0.05	0	1
J	GS	SV-28-05	5	17-Nov-07	106-99-0	1,3-Butadiene	0.022	UG/L	0.022	0	1
J	GS	SV-28-05	5	17-Nov-07	75-25-2	Bromoform	0.1	UG/L	0.1	0	1
J	GS	SV-28-05	5	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.061	UG/L	0.061	0	1
J	GS	SV-28-05	5	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.05	UG/L	0.05	0	1
J	GS	SV-28-05	5	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.047	UG/L	0.047	0	1
J	GS	SV-28-05	5	17-Nov-07	78-93-3	2-Butanone	0.03	UG/L	0.03	0	1
J	GS	SV-28-05	5	17-Nov-07	591-78-6	2-Hexanone	0.16	UG/L	0.16	0	1
J	GS	SV-28-05	5	17-Nov-07		4-Bromofluorobenzene	94	%		1	1
J	GS	SV-28-05	5	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.041	UG/L	0.041	0	1
J	GS	SV-28-05	5	17-Nov-07	67-64-1	Acetone	0.096	UG/L	0.096	0	1
J	GS	SV-28-05	5	17-Nov-07	107-05-1	Allyl chloride	0.13	UG/L	0.13	0	1
J	GS	SV-28-05	5	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.061	UG/L	0.061	0	1
J	GS	SV-28-05	5	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.069	UG/L	0.069	0	1
J	GS	SV-28-05	5	17-Nov-07	108-90-7	Chlorobenzene	0.046	UG/L	0.046	0	1
J	GS	SV-28-05	5	17-Nov-07	56-23-5	Carbon Tetrachloride	0.064	UG/L	0.064	0	1
J	GS	SV-28-05	5	17-Nov-07	75-15-0	Carbon Disulfide	0.031	UG/L	0.031	0	1
J	GS	SV-28-05	5	17-Nov-07	74-83-9	Bromomethane	0.039	UG/L	0.039	0	1
J	GS	SV-28-05	5	17-Nov-07	75-01-4	Vinyl Chloride	0.026	UG/L	0.026	0	1
J	GS	SV-28-05	5	17-Nov-07	75-27-4	Bromodichloromethane	0.27	UG/L	0.27	1	1
J	GS	SV-28-05	5	17-Nov-07	98-82-8	Isopropylbenzene	0.05	UG/L	0.05	0	1
J	GS	SV-28-05	5	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.071	UG/L	0.071	0	1
J	GS	SV-28-05	5	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.055	UG/L	0.055	0	1
J	GS	SV-28-05	5	17-Nov-07	106-93-4	1,2-Dibromoethane	0.078	UG/L	0.078	0	1
J	GS	SV-28-05	5	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.077	UG/L	0.077	0	1
J	GS	SV-28-05	5	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.055	UG/L	0.055	0	1
J	GS	SV-28-05	5	17-Nov-07	75-34-3	1,1-Dichloroethane	0.041	UG/L	0.041	0	1
J	GS	SV-28-05	5	17-Nov-07	75-35-4	1,1-Dichloroethene	0.04	UG/L	0.04	0	1
J	GS	SV-28-05	5	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.24	UG/L	0.24	0	1
J	GS	SV-28-05	5	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.3	UG/L	0.3	0	1
J	GS	SV-28-05	5	17-Nov-07	75-00-3	Chloroethane	0.027	UG/L	0.027	0	1
J	GS	SV-28-05	5	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.28	UG/L	0.28	0	1
J	GS	SV-28-05	5	17-Nov-07	67-63-0	Isopropyl alcohol	0.099	UG/L	0.099	0	1
J	GS	SV-28-05	5	17-Nov-07	71-43-2	Benzene	0.032	UG/L	0.032	0	1
J	GS	SV-28-15	15	17-Nov-07	75-09-2	Methylene Chloride	0.28	UG/L	0.28	0	1
J	GS	SV-28-15	15	17-Nov-07	91-20-3	Naphthalene	1.7	UG/L	1.7	0	1
J	GS	SV-28-15	15	17-Nov-07	142-82-5	n-Heptane	0.33	UG/L	0.33	0	1
J	GS	SV-28-15	15	17-Nov-07	103-65-1	n-Propylbenzene	0.4	UG/L	0.4	0	1
J	GS	SV-28-15	15	17-Nov-07	95-47-6	o-Xylene	0.35	UG/L	0.35	0	1
J	GS	SV-28-15	15	17-Nov-07	622-96-8	p-Ethyltoluene	0.4	UG/L	0.4	0	1
J	GS	SV-28-15	15	17-Nov-07	100-42-5	Styrene	0.34	UG/L	0.34	0	1
J	GS	SV-28-15	15	17-Nov-07	75-69-4	Trichlorofluoromethane	0.45	UG/L	0.45	0	1
J	GS	SV-28-15	15	17-Nov-07	75-65-0	tert-Butyl alcohol	0.98	UG/L	0.98	0	1
J	GS	SV-28-15	15	17-Nov-07	98-82-8	Isopropylbenzene	0.4	UG/L	0.4	0	1
J	GS	SV-28-15	15	17-Nov-07	127-18-4	Tetrachloroethene	0.55	UG/L	0.55	0	1
J	GS	SV-28-15	15	17-Nov-07	109-99-9	Tetrahydrofuran	0.24	UG/L	0.24	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-28-15	15	17-Nov-07	108-88-3	Toluene	0.3	UG/L	0.3	0	1
J	GS	SV-28-15	15	17-Nov-07		Toluene-d8	96	%		1	1
J	GS	SV-28-15	15	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.32	UG/L	0.32	0	1
J	GS	SV-28-15	15	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.36	UG/L	0.36	0	1
J	GS	SV-28-15	15	17-Nov-07	79-01-6	Trichloroethene	0.43	UG/L	0.43	0	1
J	GS	SV-28-15	15	17-Nov-07	994-05-8	tert-Amyl methyl ether	1.3	UG/L	1.3	0	1
J	GS	SV-28-15	15	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.44	UG/L	0.44	0	1
J	GS	SV-28-15	15	17-Nov-07	56-23-5	Carbon Tetrachloride	0.59	UG/L	0.59	1	1
J	GS	SV-28-15	15	17-Nov-07	108-90-7	Chlorobenzene	0.37	UG/L	0.37	0	1
J	GS	SV-28-15	15	17-Nov-07	75-00-3	Chloroethane	0.21	UG/L	0.21	0	1
J	GS	SV-28-15	15	17-Nov-07	67-66-3	Chloroform	120	UG/L	120	1	1
J	GS	SV-28-15	15	17-Nov-07	74-87-3	Chloromethane	0.66	UG/L	0.66	0	1
J	GS	SV-28-15	15	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.32	UG/L		0	1
J	GS	SV-28-15	15	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.36	UG/L	0.36	0	1
J	GS	SV-28-15	15	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.29	UG/L	0.29	0	1
J	GS	SV-28-15	15	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.4	UG/L	0.4	0	1
J	GS	SV-28-15	15	17-Nov-07	179601-23-1	m,p-Xylenes	0.35	UG/L	0.35	0	1
J	GS	SV-28-15	15	17-Nov-07	637-92-3	Ethyl tert butyl ether	1.3	UG/L	1.3	0	1
J	GS	SV-28-15	15	17-Nov-07	100-41-4	Ethylbenzene	0.35	UG/L	0.35	0	1
J	GS	SV-28-15	15	17-Nov-07	87-68-3	Hexachlorobutadiene	3.4	UG/L	3.4	0	1
J	GS	SV-28-15	15	17-Nov-07	110-54-3	Hexane	0.28	UG/L	0.28	0	1
J	GS	SV-28-15	15	17-Nov-07	67-63-0	Isopropyl alcohol	0.79	UG/L	0.79	0	1
J	GS	SV-28-15	15	17-Nov-07	108-20-3	Isopropyl ether	1.3	UG/L	1.3	0	1
J	GS	SV-28-15	15	17-Nov-07	64-17-5	Ethanol	0.61	UG/L	0.61	0	1
J	GS	SV-28-15	15	17-Nov-07	110-82-7	Cyclohexane	0.28	UG/L	0.28	0	1
J	GS	SV-28-15	15	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	2.4	UG/L	2.4	0	1
J	GS	SV-28-15	15	17-Nov-07	106-99-0	1,3-Butadiene	0.18	UG/L	0.18	0	1
J	GS	SV-28-15	15	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.4	UG/L	0.4	0	1
J	GS	SV-28-15	15	17-Nov-07	78-87-5	1,2-Dichloropropane	0.37	UG/L	0.37	0	1
J	GS	SV-28-15	15	17-Nov-07		1,2-Dichloroethane-d4	99	%		1	1
J	GS	SV-28-15	15	17-Nov-07	107-06-2	1,2-Dichloroethane	0.32	UG/L	0.32	0	1
J	GS	SV-28-15	15	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.48	UG/L	0.48	0	1
J	GS	SV-28-15	15	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.56	UG/L	0.56	0	1
J	GS	SV-28-15	15	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.48	UG/L	0.48	0	1
J	GS	SV-28-15	15	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.4	UG/L	0.4	0	1
J	GS	SV-28-15	15	17-Nov-07	75-35-4	1,1-Dichloroethene	0.32	UG/L	0.32	0	1
J	GS	SV-28-15	15	17-Nov-07	96-18-4	1,2,3-Trichloropropane	1.9	UG/L	1.9	0	1
J	GS	SV-28-15	15	17-Nov-07	75-34-3	1,1-Dichloroethane	0.32	UG/L	0.32	0	1
J	GS	SV-28-15	15	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.62	UG/L	0.62	0	1
J	GS	SV-28-15	15	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.55	UG/L	0.55	0	1
J	GS	SV-28-15	15	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
J	GS	SV-28-15	15	17-Nov-07	124-48-1	Dibromochloromethane	0.68	UG/L	0.68	0	1
J	GS	SV-28-15	15	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	2.2	UG/L	2.2	0	1
J	GS	SV-28-15	15	17-Nov-07	106-93-4	1,2-Dibromoethane	0.62	UG/L	0.62	0	1
J	GS	SV-28-15	15	17-Nov-07	75-27-4	Bromodichloromethane	1.5	UG/L	1.5	1	1
J	GS	SV-28-15	15	17-Nov-07	75-15-0	Carbon Disulfide	0.35	UG/L	0.35	1	1
J	GS	SV-28-15	15	17-Nov-07	74-83-9	Bromomethane	0.31	UG/L	0.31	0	1
J	GS	SV-28-15	15	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.44	UG/L	0.44	0	1
J	GS	SV-28-15	15	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.48	UG/L	0.48	0	1
J	GS	SV-28-15	15	17-Nov-07	75-01-4	Vinyl Chloride	0.2	UG/L	0.2	0	1
J	GS	SV-28-15	15	17-Nov-07	75-25-2	Bromoform	0.83	UG/L	0.83	0	1
J	GS	SV-28-15	15	17-Nov-07	100-44-7	Benzyl chloride	0.42	UG/L	0.42	0	1
J	GS	SV-28-15	15	17-Nov-07	71-43-2	Benzene	0.26	UG/L	0.26	0	1
J	GS	SV-28-15	15	17-Nov-07	591-78-6	2-Hexanone	1.3	UG/L	1.3	0	1
J	GS	SV-28-15	15	17-Nov-07	123-91-1	1,4-Dioxane	1.2	UG/L	1.2	0	1
J	GS	SV-28-15	15	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.38	UG/L	0.38	0	1
J	GS	SV-28-15	15	17-Nov-07	67-64-1	Acetone	0.76	UG/L	0.76	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	GS	SV-28-15	15	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.33	UG/L	0.33	0	1
J	GS	SV-28-15	15	17-Nov-07		4-Bromofluorobenzene	96	%		1	1
J	GS	SV-28-15	15	17-Nov-07	107-05-1	Allyl chloride	1	UG/L	1	0	1
J	GS	SV-28-15	15	17-Nov-07	78-93-3	2-Butanone	0.24	UG/L	0.24	0	1
J	Soil	10622-1-2	2		8006-61-9	TPHg			10	0	1
J	Soil	10622-1-2	2		68476-30-2	TPHd			10	0	1
J	Soil	10622-1-2	2		64742-47-8	TPHm			10	0	1
J	Soil	10622-2-1.5	1.5		64742-47-8	TPHm			250	1	1
J	Soil	10622-2-1.5	1.5		8006-61-9	TPHg			10	0	1
J	Soil	10622-2-1.5	1.5		68476-30-2	TPHd			56	1	1
J	Soil	10622-3-2	2		8006-61-9	TPHg			10	0	1
J	Soil	10622-3-2	2		68476-30-2	TPHd			32	1	1
J	Soil	10622-3-2	2		64742-47-8	TPHm			62	1	1
J	Soil	14638-1-2	2		68476-30-2	TPHd			10	0	1
J	Soil	14638-1-2	2		8006-61-9	TPHg			10	0	1
J	Soil	14638-1-2	2		64742-47-8	TPHm			14	1	1
J	Soil	14638-2-2	2		68476-30-2	TPHd			10	0	1
J	Soil	14638-2-2	2		8006-61-9	TPHg			10	0	1
J	Soil	14638-2-2	2		64742-47-8	TPHm			10	0	1
J	Soil	14638-3-2	2		64742-47-8	TPHm			360	1	1
J	Soil	14638-3-2	2		68476-30-2	TPHd			750	1	1
J	Soil	14638-3-2	2		8006-61-9	TPHg			6600	1	1
J	Soil	23632-1-2	2		8006-61-9	TPHg			10	0	1
J	Soil	23632-1-2	2		64742-47-8	TPHm			37	1	1
J	Soil	23632-1-2	2		68476-30-2	TPHd			29	1	1
J	Soil	23632-2-1.5	1.5		68476-30-2	TPHd			23	1	1
J	Soil	23632-2-1.5	1.5		8006-61-9	TPHg			10	0	1
J	Soil	23632-2-1.5	1.5		64742-47-8	TPHm			32	1	1
J	Soil	23632-3-1.5	1.5		64742-47-8	TPHm			25	1	1
J	Soil	23632-3-1.5	1.5		8006-61-9	TPHg			10	0	1
J	Soil	23632-3-1.5	1.5		68476-30-2	TPHd			22	1	1
J	Soil	B-105-10	10		8006-61-9	TPHg			10	0	1
J	Soil	B-105-10	10		68476-30-2	TPHd			10	0	1
J	Soil	B-105-10	10		64742-47-8	TPHm			10	0	1
J	Soil	B-136-10	10		64742-47-8	TPHm			10	0	1
J	Soil	B-136-10	10		68476-30-2	TPHd			10	0	1
J	Soil	B-136-10	10		8006-61-9	TPHg			10	0	1
J	Soil	B-137-10	10		8006-61-9	TPHg			10	0	1
J	Soil	B-137-10	10		68476-30-2	TPHd			10	0	1
J	Soil	B-137-10	10		64742-47-8	TPHm			10	0	1
J	Soil	B-200-10	10		68476-30-2	TPHd			10	0	1
J	Soil	B-200-10	10		8006-61-9	TPHg			10	0	1
J	Soil	B-200-10	10		64742-47-8	TPHm			10	0	1
J	Soil	B-201-10.5	10.5		8006-61-9	TPHg			10	0	1
J	Soil	B-201-10.5	10.5		64742-47-8	TPHm			10	0	1
J	Soil	B-201-10.5	10.5		68476-30-2	TPHd			10	0	1
J	Soil	B-203-6	6		BaP TEQ	BaP TEQ			7.05	0	1
J	Soil	B-203-6	6		68476-30-2	TPHd			24000	1	1
J	Soil	B-203-6	6		8006-61-9	TPHg			460	1	1
J	Soil	B-203-6	6		64742-47-8	TPHm			13000	1	1
J	Soil	B-206-10.5	10.5		68476-30-2	TPHd			310	1	1
J	Soil	B-206-10.5	10.5		8006-61-9	TPHg			10	0	1
J	Soil	B-206-10.5	10.5		64742-47-8	TPHm			10	0	1
J	Soil	B-221-5.0	5		8006-61-9	TPHg			10	0	1
J	Soil	B-221-5.0	5		68476-30-2	TPHd			10	0	1
J	Soil	B-221-5.0	5		64742-47-8	TPHm			10	0	1
J	Soil	B-43-5	5		68476-30-2	TPHd			10	0	1

Attachment 6
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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	B-43-5	5		8006-61-9	TPHg			10	0	1
J	Soil	B-43-5	5		64742-47-8	TPHm			10	0	1
J	Soil	B-44-10	10		68476-30-2	TPHd			10	0	1
J	Soil	B-44-10	10		8006-61-9	TPHg			10	0	1
J	Soil	B-44-10	10		64742-47-8	TPHm			10	0	1
J	Soil	B-44-5	5		8006-61-9	TPHg			10	0	1
J	Soil	B-44-5	5		68476-30-2	TPHd			35	1	1
J	Soil	B-44-5	5		64742-47-8	TPHm			34	1	1
J	Soil	B-45-10	10		64742-47-8	TPHm			10	0	1
J	Soil	B-45-10	10		68476-30-2	TPHd			10	0	1
J	Soil	B-45-10	10		8006-61-9	TPHg			10	0	1
J	Soil	B-45-5	5		68476-30-2	TPHd			10	0	1
J	Soil	B-45-5	5		8006-61-9	TPHg			10	0	1
J	Soil	B-45-5	5		64742-47-8	TPHm			10	0	1
J	Soil	B-58-10	10		68476-30-2	TPHd			10	0	1
J	Soil	B-58-10	10		8006-61-9	TPHg			10	0	1
J	Soil	B-58-10	10		64742-47-8	TPHm			10	0	1
J	Soil	B-58-5	5		68476-30-2	TPHd			10	0	1
J	Soil	B-58-5	5		8006-61-9	TPHg			10	0	1
J	Soil	B-58-5	5		64742-47-8	TPHm			10	0	1
J	Soil	B-59-5	5		68476-30-2	TPHd			10	0	1
J	Soil	B-59-5	5		8006-61-9	TPHg			10	0	1
J	Soil	B-59-5	5		64742-47-8	TPHm			10	0	1
J	Soil	B-60-5	5		68476-30-2	TPHd			10	0	1
J	Soil	B-60-5	5		8006-61-9	TPHg			10	0	1
J	Soil	B-60-5	5		64742-47-8	TPHm			10	0	1
J	Soil	B-61-5	5		68476-30-2	TPHd			10	0	1
J	Soil	B-61-5	5		8006-61-9	TPHg			10	0	1
J	Soil	B-61-5	5		64742-47-8	TPHm			10	0	1
J	Soil	B-63-5	5		68476-30-2	TPHd			10	0	1
J	Soil	B-63-5	5		8006-61-9	TPHg			10	0	1
J	Soil	B-63-5	5		64742-47-8	TPHm			10	0	1
J	Soil	B-64-10	10		8006-61-9	TPHg			10	0	1
J	Soil	B-64-10	10		64742-47-8	TPHm			10	0	1
J	Soil	B-64-10	10		68476-30-2	TPHd			10	0	1
J	Soil	B-65-10	10		BaP TEQ	BaP TEQ			0.141	0	1
J	Soil	B-65-10	10		68476-30-2	TPHd			14000	1	1
J	Soil	B-65-10	10		8006-61-9	TPHg			16	1	1
J	Soil	B-65-10	10		64742-47-8	TPHm			1100	1	1
J	Soil	B-66-10	10		68476-30-2	TPHd			140	1	1
J	Soil	B-66-10	10		8006-61-9	TPHg			10	0	1
J	Soil	B-66-10	10		64742-47-8	TPHm			120	1	1
J	Soil	B-66-5	5		BaP TEQ	BaP TEQ			0.01421	1	1
J	Soil	B-66-5	5		68476-30-2	TPHd			1400	1	1
J	Soil	B-66-5	5		8006-61-9	TPHg			120	1	1
J	Soil	B-66-5	5		64742-47-8	TPHm			690	1	1
J	Soil	B-67-5	5		BaP TEQ	BaP TEQ			0.03525	0	1
J	Soil	B-67-5	5		8006-61-9	TPHg			10	0	1
J	Soil	B-67-5	5		64742-47-8	TPHm			100	0	1
J	Soil	B-67-5	5		68476-30-2	TPHd			4600	1	1
J	Soil	B-68-5	5		8006-61-9	TPHg			10	0	1
J	Soil	B-68-5	5		64742-47-8	TPHm			10	0	1
J	Soil	B-68-5	5		68476-30-2	TPHd			140	1	1
J	Soil	B-69-5	5		68476-30-2	TPHd			10	0	1
J	Soil	B-69-5	5		8006-61-9	TPHg			10	0	1
J	Soil	B-69-5	5		64742-47-8	TPHm			10	0	1
J	Soil	B-70-10	10		68476-30-2	TPHd			10	0	1

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	B-70-10	10		8006-61-9	TPHg			10	0	1
J	Soil	B-70-10	10		64742-47-8	TPHm			10	0	1
J	Soil	B-78-10	10		64742-47-8	TPHm			10	0	1
J	Soil	B-78-10	10		68476-30-2	TPHd			10	0	1
J	Soil	B-78-10	10		8006-61-9	TPHg			10	0	1
J	Soil	B-79-5	5		8006-61-9	TPHg			110	1	1
J	Soil	B-79-5	5		64742-47-8	TPHm			110	1	1
J	Soil	B-79-5	5		68476-30-2	TPHd			250	1	1
J	Soil	B-83-10	10		BaP TEQ	BaP TEQ			0.00363	1	1
J	Soil	B-83-10	10		68476-30-2	TPHd			200	1	1
J	Soil	B-83-10	10		8006-61-9	TPHg			10	0	1
J	Soil	B-83-10	10		64742-47-8	TPHm			280	1	1
J	Soil	B-84-5	5		BaP TEQ	BaP TEQ			0.03525	0	1
J	Soil	B-84-5	5		68476-30-2	TPHd			1200	1	1
J	Soil	B-84-5	5		8006-61-9	TPHg			10	0	1
J	Soil	B-84-5	5		64742-47-8	TPHm			1200	1	1
J	Soil	B-85-5	5		64742-47-8	TPHm			10	0	1
J	Soil	B-85-5	5		68476-30-2	TPHd			10	0	1
J	Soil	B-85-5	5		8006-61-9	TPHg			10	0	1
J	Soil	B-86-5	5		BaP TEQ	BaP TEQ			0.0356	1	1
J	Soil	B-86-5	5		64742-47-8	TPHm			970	1	1
J	Soil	B-86-5	5		68476-30-2	TPHd			1500	1	1
J	Soil	B-86-5	5		8006-61-9	TPHg			51	1	1
J	Soil	B-87-10	10		BaP TEQ	BaP TEQ			0.03525	0	1
J	Soil	B-87-10	10		68476-30-2	TPHd			3100	1	1
J	Soil	B-87-10	10		8006-61-9	TPHg			160	1	1
J	Soil	B-87-10	10		64742-47-8	TPHm			880	1	1
J	Soil	B-88-5	5		68476-30-2	TPHd			10	1	1
J	Soil	B-88-5	5		8006-61-9	TPHg			10	0	1
J	Soil	B-88-5	5		64742-47-8	TPHm			23	1	1
J	Soil	B-89-10	10		BaP TEQ	BaP TEQ			0.03525	0	1
J	Soil	B-89-10	10		68476-30-2	TPHd			1600	1	1
J	Soil	B-89-10	10		8006-61-9	TPHg			560	1	1
J	Soil	B-89-10	10		64742-47-8	TPHm			370	1	1
J	Soil	B-90-10	10		64742-47-8	TPHm			10	0	1
J	Soil	B-90-10	10		8006-61-9	TPHg			10	0	1
J	Soil	B-90-10	10		68476-30-2	TPHd			10	0	1
J	Soil	B-95-5	5		BaP TEQ	BaP TEQ			0.3525	0	1
J	Soil	B-95-5	5		68476-30-2	TPHd			24000	1	1
J	Soil	B-95-5	5		8006-61-9	TPHg			1200	1	1
J	Soil	B-95-5	5		64742-47-8	TPHm			5800	1	1
J	Soil	S-20-0.5	0.5		BaP TEQ	BaP TEQ			0.1758	1	1
J	Soil	S-20-0.5	0.5		68476-30-2	TPHd			220	1	1
J	Soil	S-20-0.5	0.5		8006-61-9	TPHg			10	0	1
J	Soil	S-20-0.5	0.5		64742-47-8	TPHm			1300	1	1
J	Soil	S-20-2.5	2.5		BaP TEQ	BaP TEQ			0.1382	1	1
J	Soil	S-20-2.5	2.5		68476-30-2	TPHd			480	1	1
J	Soil	S-20-2.5	2.5		8006-61-9	TPHg			10	0	1
J	Soil	S-20-2.5	2.5		64742-47-8	TPHm			2100	1	1
J	Soil	S-21-0.5	0.5		BaP TEQ	BaP TEQ			0.30844	1	1
J	Soil	S-21-0.5	0.5		8006-61-9	TPHg			10	0	1
J	Soil	S-21-0.5	0.5		64742-47-8	TPHm			2700	1	1
J	Soil	S-21-0.5	0.5		68476-30-2	TPHd			500	1	1
J	Soil	S-21-2.5	2.5		BaP TEQ	BaP TEQ			0.00359	1	1
J	Soil	S-21-2.5	2.5		8006-61-9	TPHg			10	0	1
J	Soil	S-21-2.5	2.5		64742-47-8	TPHm			110	1	1
J	Soil	S-21-2.5	2.5		68476-30-2	TPHd			10	0	1

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-22-0.5	0.5		BaP TEQ	BaP TEQ			0.1823	1	1
J	Soil	S-22-0.5	0.5		68476-30-2	TPHd			460	1	1
J	Soil	S-22-0.5	0.5		8006-61-9	TPHg			10	0	1
J	Soil	S-22-0.5	0.5		64742-47-8	TPHm			1500	1	1
J	Soil	S-22-2.5	2.5		64742-47-8	TPHm			10	0	1
J	Soil	S-22-2.5	2.5		68476-30-2	TPHd			10	0	1
J	Soil	S-22-2.5	2.5		8006-61-9	TPHg			10	0	1
J	Soil	S-32-0.5	0.5		BaP TEQ	BaP TEQ			0.01334	1	1
J	Soil	S-32-0.5	0.5		64742-47-8	TPHm			690	1	1
J	Soil	S-32-0.5	0.5		68476-30-2	TPHd			160	1	1
J	Soil	S-32-0.5	0.5		8006-61-9	TPHg			10	0	1
J	Soil	S-32-2.5	2.5		BaP TEQ	BaP TEQ			0.01427	1	1
J	Soil	S-32-2.5	2.5		68476-30-2	TPHd			120	1	1
J	Soil	S-32-2.5	2.5		64742-47-8	TPHm			600	1	1
J	Soil	S-32-2.5	2.5		8006-61-9	TPHg			10	0	1
J	Soil	S-46-0.5	0.5		BaP TEQ	BaP TEQ			0.00705	0	1
J	Soil	S-46-0.5	0.5		64742-47-8	TPHm			420	1	1
J	Soil	S-46-0.5	0.5		68476-30-2	TPHd			150	1	1
J	Soil	S-46-0.5	0.5		8006-61-9	TPHg			10	0	1
J	Soil	S-46-2.5	2.5		8006-61-9	TPHg			10	0	1
J	Soil	S-46-2.5	2.5		64742-47-8	TPHm			10	0	1
J	Soil	S-46-2.5	2.5		68476-30-2	TPHd			10	0	1
J	Soil	SP-6-5	5		68476-30-2	TPHd			10	0	1
J	Soil	SP-6-5	5		8006-61-9	TPHg			10	0	1
J	Soil	SP-6-5	5		64742-47-8	TPHm			10	0	1
J	Soil	SP-8-10	10		68476-30-2	TPHd			2800	1	1
J	Soil	SP-8-10	10		8006-61-9	TPHg			32	1	1
J	Soil	SP-8-10	10		64742-47-8	TPHm			780	1	1
J	Soil	SP-8-5	5		BaP TEQ	BaP TEQ			1.41	0	1
J	Soil	SP-8-5	5		64742-47-8	TPHm			1200	1	1
J	Soil	SP-8-5	5		8006-61-9	TPHg			11	1	1
J	Soil	SP-8-5	5		68476-30-2	TPHd			4100	1	1
J	Soil	WL-3-1	0		BaP TEQ	BaP TEQ			0.01776	1	1
J	Soil	WL-3-1	0		68476-30-2	TPHd			52	1	1
J	Soil	WL-3-1	0		8006-61-9	TPHg			10	0	1
J	Soil	WL-3-1	0		64742-47-8	TPHm			230	1	1
J	Soil	WL-3-2	0		BaP TEQ	BaP TEQ			0.00732	1	1
J	Soil	WL-3-2	0		68476-30-2	TPHd			13	1	1
J	Soil	WL-3-2	0		8006-61-9	TPHg			10	0	1
J	Soil	WL-3-2	0		64742-47-8	TPHm			62	1	1
J	Soil	WL-4-1	0		BaP TEQ	BaP TEQ			0.003525	0	1
J	Soil	WL-4-1	0		68476-30-2	TPHd			10	0	1
J	Soil	WL-4-1	0		8006-61-9	TPHg			10	0	1
J	Soil	WL-4-1	0		64742-47-8	TPHm			36	1	1
J	Soil	WL-4-2	0		BaP TEQ	BaP TEQ			0.01681	1	1
J	Soil	WL-4-2	0		68476-30-2	TPHd			160	1	1
J	Soil	WL-4-2	0		8006-61-9	TPHg			10	0	1
J	Soil	WL-4-2	0		64742-47-8	TPHm			660	1	1
J	Soil	B-105-10	10	17-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-105-10	10	17-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-105-10	10	17-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-105-10	10	17-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-105-10	10	17-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-105-10	10	17-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-105-10	10	17-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-105-10	10	17-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-136-1	1	18-Sep-97	7440-02-0	Nickel	8.7	mg/K	8.7	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	B-136-1	1	18-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
J	Soil	B-136-1	1	18-Sep-97	7440-66-6	Zinc	20	mg/K	20	1	1
J	Soil	B-136-1	1	18-Sep-97	7440-62-2	Vanadium	18	mg/K	18	1	1
J	Soil	B-136-1	1	18-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
J	Soil	B-136-1	1	18-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
J	Soil	B-136-1	1	18-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
J	Soil	B-136-1	1	18-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
J	Soil	B-136-1	1	18-Sep-97	7439-92-1	Lead	7.2	mg/K	7.2	1	1
J	Soil	B-136-1	1	18-Sep-97	7440-39-3	Barium	83	mg/K	83	1	1
J	Soil	B-136-1	1	18-Sep-97	7440-50-8	Copper	4.7	mg/K	4.7	1	1
J	Soil	B-136-1	1	18-Sep-97	7440-48-4	Cobalt	2.2	mg/K	2.2	1	1
J	Soil	B-136-1	1	18-Sep-97	7440-47-3	Chromium	24	mg/K	24	1	1
J	Soil	B-136-1	1	18-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
J	Soil	B-136-1	1	18-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
J	Soil	B-136-1	1	18-Sep-97	7439-92-1	Lead	6.2	mg/K	6.2	1	0
J	Soil	B-136-1	1	18-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
J	Soil	B-136-1	1	18-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
J	Soil	B-136-10	10	18-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
J	Soil	B-136-10	10	18-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
J	Soil	B-136-10	10	18-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-136-10	10	18-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-136-10	10	18-Sep-97	7440-66-6	Zinc	11	mg/K	11	1	1
J	Soil	B-136-10	10	18-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
J	Soil	B-136-10	10	18-Sep-97	7440-02-0	Nickel	2.9	mg/K	2.9	1	1
J	Soil	B-136-10	10	18-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
J	Soil	B-136-10	10	18-Sep-97	7440-38-2	Arsenic	8.5	mg/K	8.5	1	1
J	Soil	B-136-10	10	18-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-136-10	10	18-Sep-97	7440-39-3	Barium	43	mg/K	43	1	1
J	Soil	B-136-10	10	18-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-136-10	10	18-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
J	Soil	B-136-10	10	18-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-136-10	10	18-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-136-10	10	18-Sep-97	7440-62-2	Vanadium	14	mg/K	14	1	1
J	Soil	B-136-10	10	18-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-136-10	10	18-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
J	Soil	B-136-10	10	18-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
J	Soil	B-136-10	10	18-Sep-97	7439-92-1	Lead	1.7	mg/K	1.7	1	1
J	Soil	B-136-10	10	18-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
J	Soil	B-136-10	10	18-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-136-10	10	18-Sep-97	7440-50-8	Copper	1.7	mg/K	1.7	1	1
J	Soil	B-136-10	10	18-Sep-97	7440-48-4	Cobalt	1	mg/K	1	0	1
J	Soil	B-136-10	10	18-Sep-97	7440-47-3	Chromium	18	mg/K	18	1	1
J	Soil	B-137-1	1	18-Sep-97	7439-92-1	Lead	5.9	mg/K	5.9	1	1
J	Soil	B-137-10	10	18-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-137-10	10	18-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-137-10	10	18-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-137-10	10	18-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-137-10	10	18-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-137-10	10	18-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-137-10	10	18-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-137-10	10	18-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-43-5	5	23-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-43-5	5	23-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-43-5	5	23-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-43-5	5	23-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-43-5	5	23-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-43-5	5	23-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	B-43-5	5	23-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-43-5	5	23-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-43-5	5	23-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-44-10	10	24-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-44-10	10	24-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-44-10	10	24-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-44-10	10	24-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-44-10	10	24-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-44-10	10	24-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-44-10	10	24-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-44-10	10	24-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-44-10	10	24-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-44-5	5	24-Sep-97		C1-C40	69	mg/K	69	1	1
J	Soil	B-44-5	5	24-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-44-5	5	24-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-44-5	5	24-Sep-97		C10-C25	35	mg/K	35	1	1
J	Soil	B-44-5	5	24-Sep-97		C25-C40	34	mg/K	34	1	1
J	Soil	B-44-5	5	24-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-44-5	5	24-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-44-5	5	24-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-44-5	5	24-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-45-10	10	24-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-45-10	10	24-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-45-10	10	24-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-45-10	10	24-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-45-10	10	24-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-45-10	10	24-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-45-10	10	24-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-45-10	10	24-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-45-10	10	24-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-45-5	5	24-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-45-5	5	24-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-45-5	5	24-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-45-5	5	24-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-45-5	5	24-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-45-5	5	24-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-45-5	5	24-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-45-5	5	24-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-45-5	5	24-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-58-10	10	09-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-58-10	10	09-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-58-10	10	09-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-58-10	10	09-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-58-10	10	09-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-58-10	10	09-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-58-10	10	09-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-58-10	10	09-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-58-10	10	09-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-58-5	5	09-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-58-5	5	09-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-58-5	5	09-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-58-5	5	09-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-58-5	5	09-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-58-5	5	09-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-58-5	5	09-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-58-5	5	09-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-58-5	5	09-Sep-97		C1-C40	10	mg/K	10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	B-59-1	1	22-Sep-97	7439-92-1	Lead	49	mg/K	49	1	1
J	Soil	B-59-5	5	22-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-59-5	5	22-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-59-5	5	22-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-59-5	5	22-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-59-5	5	22-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-59-5	5	22-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-59-5	5	22-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-59-5	5	22-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-59-5	5	22-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-60-1	1	22-Sep-97	7439-92-1	Lead	5.2	mg/K	5.2	1	1
J	Soil	B-60-5	5	22-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-60-5	5	22-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-60-5	5	22-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-60-5	5	22-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-60-5	5	22-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-60-5	5	22-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-60-5	5	22-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-60-5	5	22-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-60-5	5	22-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-61-1	1	22-Sep-97	7439-92-1	Lead	5.8	mg/K	5.8	1	1
J	Soil	B-61-5	5	22-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-61-5	5	22-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-61-5	5	22-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-61-5	5	22-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-61-5	5	22-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-61-5	5	22-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-61-5	5	22-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-61-5	5	22-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-61-5	5	22-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-63-1	1	04-Sep-97	7439-92-1	Lead	3.5	mg/K	3.5	1	1
J	Soil	B-63-5	5	04-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-63-5	5	04-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-63-5	5	04-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-63-5	5	04-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-63-5	5	04-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-63-5	5	04-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-63-5	5	04-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-63-5	5	04-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-63-5	5	04-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-64-1	1	04-Sep-97	7439-92-1	Lead	2.7	mg/K	2.7	1	1
J	Soil	B-64-10	10	04-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-64-10	10	04-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-64-10	10	04-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-64-10	10	04-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-64-10	10	04-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-64-10	10	04-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-64-10	10	04-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-64-10	10	04-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-64-10	10	04-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-65-10	10	22-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
J	Soil	B-65-10	10	22-Sep-97		C1-C40	15116	mg/K	15116	1	1
J	Soil	B-65-10	10	22-Sep-97	71-43-2	Benzene	0.006	mg/K	0.006	1	1
J	Soil	B-65-10	10	22-Sep-97		C4-C10	16	mg/K	16	1	1
J	Soil	B-65-10	10	22-Sep-97		C10-C25	14000	mg/K	14000	1	1
J	Soil	B-65-10	10	22-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
J	Soil	B-65-10	10	22-Sep-97	207-08-9	Benzo(k)fluoranthene	0.2	mg/K	0.2	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	B-65-10	10	22-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.2	mg/K	0.2	0	1
J	Soil	B-65-10	10	22-Sep-97	205-99-2	Benzo(b)fluoranthene	0.2	mg/K	0.2	0	1
J	Soil	B-65-10	10	22-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
J	Soil	B-65-10	10	22-Sep-97	56-55-3	Benzo(a)anthracene	0.2	mg/K	0.2	0	1
J	Soil	B-65-10	10	22-Sep-97	7440-47-3	Chromium	27	mg/K	27	1	1
J	Soil	B-65-10	10	22-Sep-97	7440-39-3	Barium	78	mg/K	78	1	1
J	Soil	B-65-10	10	22-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
J	Soil	B-65-10	10	22-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
J	Soil	B-65-10	10	22-Sep-97	120-12-7	Anthracene	0.2	mg/K	0.2	0	1
J	Soil	B-65-10	10	22-Sep-97	208-96-8	Acenaphthylene	0.4	mg/K	0.4	1	1
J	Soil	B-65-10	10	22-Sep-97	83-32-9	Acenaphthene	0.3	mg/K	0.3	1	1
J	Soil	B-65-10	10	22-Sep-97	50-32-8	Benzo(a)pyrene	0.2	mg/K	0.2	0	1
J	Soil	B-65-10	10	22-Sep-97	86-73-7	Fluorene	0.7	mg/K	0.7	1	1
J	Soil	B-65-10	10	22-Sep-97	78-00-2	Tetraethyl Lead	1	mg/K	1	0	1
J	Soil	B-65-10	10	22-Sep-97	7440-02-0	Nickel	8.5	mg/K	8.5	1	1
J	Soil	B-65-10	10	22-Sep-97	91-20-3	Naphthalene	1.4	mg/K	1.4	1	1
J	Soil	B-65-10	10	22-Sep-97	7439-98-7	Molybdenum	1.4	mg/K	1.4	1	1
J	Soil	B-65-10	10	22-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-65-10	10	22-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
J	Soil	B-65-10	10	22-Sep-97		C25-C40	1100	mg/K	1100	1	1
J	Soil	B-65-10	10	22-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.2	mg/K	0.2	0	1
J	Soil	B-65-10	10	22-Sep-97	85-01-8	Phenanthrene	1.2	mg/K	1.2	1	1
J	Soil	B-65-10	10	22-Sep-97	206-44-0	Fluoranthene	0.2	mg/K	0.2	0	1
J	Soil	B-65-10	10	22-Sep-97	100-41-4	Ethylbenzene	0.11	mg/K	0.11	1	1
J	Soil	B-65-10	10	22-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.2	mg/K	0.2	0	1
J	Soil	B-65-10	10	22-Sep-97	7440-50-8	Copper	4.3	mg/K	4.3	1	1
J	Soil	B-65-10	10	22-Sep-97	7440-48-4	Cobalt	1.5	mg/K	1.5	1	1
J	Soil	B-65-10	10	22-Sep-97	218-01-9	Chrysene	0.2	mg/K	0.2	0	1
J	Soil	B-65-10	10	22-Sep-97	7439-92-1	Lead	9.6	mg/K	9.6	1	1
J	Soil	B-65-10	10	22-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-65-10	10	22-Sep-97	7440-62-2	Vanadium	27	mg/K	27	1	1
J	Soil	B-65-10	10	22-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
J	Soil	B-65-10	10	22-Sep-97	129-00-0	Pyrene	0.2	mg/K	0.2	0	1
J	Soil	B-65-10	10	22-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
J	Soil	B-65-10	10	22-Sep-97	1330-20-7	Xylenes (total)	0.19	mg/K	0.19	1	1
J	Soil	B-65-10	10	22-Sep-97	7440-66-6	Zinc	20	mg/K	20	1	1
J	Soil	B-66-1	1	04-Sep-97	7439-92-1	Lead	8.6	mg/K	8.6	1	1
J	Soil	B-66-10	10	04-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-66-10	10	04-Sep-97	71-43-2	Benzene	0.01	mg/K	0.01	1	1
J	Soil	B-66-10	10	04-Sep-97	100-41-4	Ethylbenzene	0.007	mg/K	0.007	1	1
J	Soil	B-66-10	10	04-Sep-97		C10-C25	140	mg/K	140	1	1
J	Soil	B-66-10	10	04-Sep-97		C1-C40	260	mg/K	260	1	1
J	Soil	B-66-10	10	04-Sep-97		C25-C40	120	mg/K	120	1	1
J	Soil	B-66-10	10	04-Sep-97	1330-20-7	Xylenes (total)	0.043	mg/K	0.043	1	1
J	Soil	B-66-10	10	04-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-66-10	10	04-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-66-5	5	04-Sep-97		C4-C10	120	mg/K	120	1	1
J	Soil	B-66-5	5	04-Sep-97	129-00-0	Pyrene	0.036	mg/K	0.036	1	1
J	Soil	B-66-5	5	04-Sep-97	85-01-8	Phenanthrene	0.51	mg/K	0.51	1	1
J	Soil	B-66-5	5	04-Sep-97	91-20-3	Naphthalene	0.064	mg/K	0.064	1	1
J	Soil	B-66-5	5	04-Sep-97	1634-04-4	Methyl tert-butyl ether	0.1	mg/K	0.1	0	1
J	Soil	B-66-5	5	04-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/K	0.005	0	1
J	Soil	B-66-5	5	04-Sep-97	86-73-7	Fluorene	0.16	mg/K	0.16	1	1
J	Soil	B-66-5	5	04-Sep-97	206-44-0	Fluoranthene	0.01	mg/K	0.01	1	1
J	Soil	B-66-5	5	04-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
J	Soil	B-66-5	5	04-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.005	mg/K	0.005	0	1
J	Soil	B-66-5	5	04-Sep-97	83-32-9	Acenaphthene	0.054	mg/K	0.054	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	B-66-5	5	04-Sep-97	208-96-8	Acenaphthylene	0.018	mg/K	0.018	1	1
J	Soil	B-66-5	5	04-Sep-97	120-12-7	Anthracene	0.005	mg/K	0.005	0	1
J	Soil	B-66-5	5	04-Sep-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
J	Soil	B-66-5	5	04-Sep-97	56-55-3	Benzo(a)anthracene	0.009	mg/K	0.009	1	1
J	Soil	B-66-5	5	04-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.005	mg/K	0.005	0	1
J	Soil	B-66-5	5	04-Sep-97	205-99-2	Benzo(b)fluoranthene	0.015	mg/K	0.015	1	1
J	Soil	B-66-5	5	04-Sep-97	100-41-4	Ethylbenzene	0.3	mg/K	0.3	1	1
J	Soil	B-66-5	5	04-Sep-97	207-08-9	Benzo(k)fluoranthene	0.005	mg/K	0.005	0	1
J	Soil	B-66-5	5	04-Sep-97		C10-C25	1400	mg/K	1400	1	1
J	Soil	B-66-5	5	04-Sep-97		C1-C40	2210	mg/K	2210	1	1
J	Soil	B-66-5	5	04-Sep-97		C25-C40	690	mg/K	690	1	1
J	Soil	B-66-5	5	04-Sep-97	1330-20-7	Xylenes (total)	1.3	mg/K	1.3	1	1
J	Soil	B-66-5	5	04-Sep-97	218-01-9	Chrysene	0.031	mg/K	0.031	1	1
J	Soil	B-66-5	5	04-Sep-97	50-32-8	Benzo(a)pyrene	0.011	mg/K	0.011	1	1
J	Soil	B-67-1	1	04-Sep-97	7439-92-1	Lead	39	mg/K	39	1	1
J	Soil	B-67-5	5	04-Sep-97	207-08-9	Benzo(k)fluoranthene	0.05	mg/K	0.05	0	1
J	Soil	B-67-5	5	04-Sep-97	100-41-4	Ethylbenzene	0.044	mg/K	0.044	1	1
J	Soil	B-67-5	5	04-Sep-97	7440-50-8	Copper	3	mg/K	3	1	1
J	Soil	B-67-5	5	04-Sep-97	218-01-9	Chrysene	0.05	mg/K	0.05	0	1
J	Soil	B-67-5	5	04-Sep-97	7440-47-3	Chromium	13	mg/K	13	1	1
J	Soil	B-67-5	5	04-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
J	Soil	B-67-5	5	04-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-67-5	5	04-Sep-97		C25-C40	100	mg/K	100	0	1
J	Soil	B-67-5	5	04-Sep-97		C1-C40	4600	mg/K	4600	1	1
J	Soil	B-67-5	5	04-Sep-97	53469-21-9	Aroclor 1242	0.3	mg/K	0.3	0	1
J	Soil	B-67-5	5	04-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
J	Soil	B-67-5	5	04-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
J	Soil	B-67-5	5	04-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.05	mg/K	0.05	0	1
J	Soil	B-67-5	5	04-Sep-97	205-99-2	Benzo(b)fluoranthene	0.05	mg/K	0.05	0	1
J	Soil	B-67-5	5	04-Sep-97	50-32-8	Benzo(a)pyrene	0.05	mg/K	0.05	0	1
J	Soil	B-67-5	5	04-Sep-97	56-55-3	Benzo(a)anthracene	0.05	mg/K	0.05	0	1
J	Soil	B-67-5	5	04-Sep-97	206-44-0	Fluoranthene	0.05	mg/K	0.05	0	1
J	Soil	B-67-5	5	04-Sep-97	12672-29-6	Aroclor 1248	0.3	mg/K	0.3	0	1
J	Soil	B-67-5	5	04-Sep-97	71-43-2	Benzene	0.007	mg/K	0.007	1	1
J	Soil	B-67-5	5	04-Sep-97	11097-69-1	Aroclor 1254	0.3	mg/K	0.3	0	1
J	Soil	B-67-5	5	04-Sep-97	7440-39-3	Barium	26	mg/K	26	1	1
J	Soil	B-67-5	5	04-Sep-97	11096-82-5	Aroclor 1260	0.3	mg/K	0.3	0	1
J	Soil	B-67-5	5	04-Sep-97		C10-C25	4600	mg/K	4600	1	1
J	Soil	B-67-5	5	04-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
J	Soil	B-67-5	5	04-Sep-97	83-32-9	Acenaphthene	0.11	mg/K	0.11	1	1
J	Soil	B-67-5	5	04-Sep-97	208-96-8	Acenaphthylene	0.14	mg/K	0.14	1	1
J	Soil	B-67-5	5	04-Sep-97	120-12-7	Anthracene	0.05	mg/K	0.05	0	1
J	Soil	B-67-5	5	04-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
J	Soil	B-67-5	5	04-Sep-97	12674-11-2	Aroclor 1016	0.3	mg/K	0.3	0	1
J	Soil	B-67-5	5	04-Sep-97	7440-48-4	Cobalt	1	mg/K	1	0	1
J	Soil	B-67-5	5	04-Sep-97	11141-16-5	Aroclor 1232	0.3	mg/K	0.3	0	1
J	Soil	B-67-5	5	04-Sep-97	7440-66-6	Zinc	11	mg/K	11	1	1
J	Soil	B-67-5	5	04-Sep-97	11104-28-2	Aroclor 1221	0.3	mg/K	0.3	0	1
J	Soil	B-67-5	5	04-Sep-97	7440-62-2	Vanadium	9.2	mg/K	9.2	1	1
J	Soil	B-67-5	5	04-Sep-97	1330-20-7	Xylenes (total)	0.375	mg/K	0.375	1	1
J	Soil	B-67-5	5	04-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
J	Soil	B-67-5	5	04-Sep-97	86-73-7	Fluorene	0.27	mg/K	0.27	1	1
J	Soil	B-67-5	5	04-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
J	Soil	B-67-5	5	04-Sep-97	129-00-0	Pyrene	0.05	mg/K	0.05	0	1
J	Soil	B-67-5	5	04-Sep-97	85-01-8	Phenanthrene	1.2	mg/K	1.2	1	1
J	Soil	B-67-5	5	04-Sep-97	7440-02-0	Nickel	4.7	mg/K	4.7	1	1
J	Soil	B-67-5	5	04-Sep-97	91-20-3	Naphthalene	0.25	mg/K	0.25	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	B-67-5	5	04-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
J	Soil	B-67-5	5	04-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-67-5	5	04-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
J	Soil	B-67-5	5	04-Sep-97	7439-92-1	Lead	1.3	mg/K	1.3	1	1
J	Soil	B-67-5	5	04-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/K	0.05	0	1
J	Soil	B-67-5	5	04-Sep-97	108-88-3	Toluene	0.09	mg/K	0.09	1	1
J	Soil	B-67-5	5	04-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.05	mg/K	0.05	0	1
J	Soil	B-68-1	1	03-Sep-97	7439-92-1	Lead	19	mg/K	19	1	1
J	Soil	B-68-5	5	03-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-68-5	5	03-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-68-5	5	03-Sep-97		C1-C40	140	mg/K	140	1	1
J	Soil	B-68-5	5	03-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-68-5	5	03-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-68-5	5	03-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-68-5	5	03-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-68-5	5	03-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-68-5	5	03-Sep-97		C10-C25	140	mg/K	140	1	1
J	Soil	B-69-1	1	03-Sep-97	7439-92-1	Lead	1.5	mg/K	1.5	1	1
J	Soil	B-69-5	5	03-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-69-5	5	03-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-69-5	5	03-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-69-5	5	03-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-69-5	5	03-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-69-5	5	03-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-69-5	5	03-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-69-5	5	03-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-69-5	5	03-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-70-1	1	03-Sep-97	7439-92-1	Lead	5.3	mg/K	5.3	1	1
J	Soil	B-70-10	10	03-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-70-10	10	03-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-70-10	10	03-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-70-10	10	03-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-70-10	10	03-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-70-10	10	03-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-70-10	10	03-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-70-10	10	03-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-70-10	10	03-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-78-10	10	22-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-78-10	10	22-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-78-10	10	22-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-78-10	10	22-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-78-10	10	22-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-78-10	10	22-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-78-10	10	22-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-78-10	10	22-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-78-10	10	22-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
J	Soil	B-79-1	1	18-Sep-97	7439-92-1	Lead	17	mg/K	17	1	1
J	Soil	B-79-5	5	18-Sep-97		C10-C25	250	mg/K	250	1	1
J	Soil	B-79-5	5	18-Sep-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
J	Soil	B-79-5	5	18-Sep-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
J	Soil	B-79-5	5	18-Sep-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
J	Soil	B-79-5	5	18-Sep-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
J	Soil	B-79-5	5	18-Sep-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
J	Soil	B-79-5	5	18-Sep-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
J	Soil	B-79-5	5	18-Sep-97	71-43-2	Benzene	0.2	mg/K	0.2	1	1
J	Soil	B-79-5	5	18-Sep-97	1330-20-7	Xylenes (total)	0.9	mg/K	0.9	1	1
J	Soil	B-79-5	5	18-Sep-97		C25-C40	110	mg/K	110	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	B-79-5	5	18-Sep-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
J	Soil	B-79-5	5	18-Sep-97		C4-C10	110	mg/K	110	1	1
J	Soil	B-79-5	5	18-Sep-97		C1-C40	470	mg/K	470	1	1
J	Soil	B-79-5	5	18-Sep-97	100-41-4	Ethylbenzene	0.5	mg/K	0.5	1	1
J	Soil	B-79-5	5	18-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
J	Soil	B-83-10	10	23-Sep-97	50-32-8	Benzo(a)pyrene	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97	56-55-3	Benzo(a)anthracene	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97	120-12-7	Anthracene	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97	208-96-8	Acenaphthylene	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97	205-99-2	Benzo(b)fluoranthene	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97	85-01-8	Phenanthrene	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97		C25-C40	280	mg/K	280	1	1
J	Soil	B-83-10	10	23-Sep-97	129-00-0	Pyrene	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97	83-32-9	Acenaphthene	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97	207-08-9	Benzo(k)fluoranthene	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97		C1-C40	480	mg/K	480	1	1
J	Soil	B-83-10	10	23-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-83-10	10	23-Sep-97	218-01-9	Chrysene	0.013	mg/K	0.013	1	1
J	Soil	B-83-10	10	23-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97	206-44-0	Fluoranthene	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97	86-73-7	Fluorene	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97		C10-C25	200	mg/K	200	1	1
J	Soil	B-83-10	10	23-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-83-10	10	23-Sep-97	91-20-3	Naphthalene	0.005	mg/K	0.005	0	1
J	Soil	B-84-5	5	10-Sep-97	83-32-9	Acenaphthene	0.05	mg/K	0.05	0	1
J	Soil	B-84-5	5	10-Sep-97	7440-50-8	Copper	6.7	mg/K	6.7	1	1
J	Soil	B-84-5	5	10-Sep-97		C25-C40	1200	mg/K	1200	1	1
J	Soil	B-84-5	5	10-Sep-97	11096-82-5	Aroclor 1260	0.3	mg/K	0.3	0	1
J	Soil	B-84-5	5	10-Sep-97	11097-69-1	Aroclor 1254	0.3	mg/K	0.3	0	1
J	Soil	B-84-5	5	10-Sep-97	12672-29-6	Aroclor 1248	0.3	mg/K	0.3	0	1
J	Soil	B-84-5	5	10-Sep-97	53469-21-9	Aroclor 1242	0.3	mg/K	0.3	0	1
J	Soil	B-84-5	5	10-Sep-97	11141-16-5	Aroclor 1232	0.3	mg/K	0.3	0	1
J	Soil	B-84-5	5	10-Sep-97	11104-28-2	Aroclor 1221	0.3	mg/K	0.3	0	1
J	Soil	B-84-5	5	10-Sep-97	12674-11-2	Aroclor 1016	0.3	mg/K	0.3	0	1
J	Soil	B-84-5	5	10-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
J	Soil	B-84-5	5	10-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.05	mg/K	0.05	0	1
J	Soil	B-84-5	5	10-Sep-97	208-96-8	Acenaphthylene	0.05	mg/K	0.05	0	1
J	Soil	B-84-5	5	10-Sep-97	207-08-9	Benzo(k)fluoranthene	0.05	mg/K	0.05	0	1
J	Soil	B-84-5	5	10-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
J	Soil	B-84-5	5	10-Sep-97	7440-39-3	Barium	41	mg/K	41	1	1
J	Soil	B-84-5	5	10-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-84-5	5	10-Sep-97	56-55-3	Benzo(a)anthracene	0.05	mg/K	0.05	0	1
J	Soil	B-84-5	5	10-Sep-97	50-32-8	Benzo(a)pyrene	0.05	mg/K	0.05	0	1
J	Soil	B-84-5	5	10-Sep-97	205-99-2	Benzo(b)fluoranthene	0.05	mg/K	0.05	0	1
J	Soil	B-84-5	5	10-Sep-97		C1-C40	2400	mg/K	2400	1	1
J	Soil	B-84-5	5	10-Sep-97		C10-C25	1200	mg/K	1200	1	1
J	Soil	B-84-5	5	10-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
J	Soil	B-84-5	5	10-Sep-97	120-12-7	Anthracene	0.05	mg/K	0.05	0	1
J	Soil	B-84-5	5	10-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
J	Soil	B-84-5	5	10-Sep-97	218-01-9	Chrysene	0.05	mg/K	0.05	0	1
J	Soil	B-84-5	5	10-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-84-5	5	10-Sep-97	7440-66-6	Zinc	28	mg/K	28	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	B-84-5	5	10-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-84-5	5	10-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-84-5	5	10-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
J	Soil	B-84-5	5	10-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
J	Soil	B-84-5	5	10-Sep-97	129-00-0	Pyrene	0.05	mg/K	0.05	0	1
J	Soil	B-84-5	5	10-Sep-97	85-01-8	Phenanthrene	0.05	mg/K	0.05	0	1
J	Soil	B-84-5	5	10-Sep-97	7440-02-0	Nickel	11	mg/K	11	1	1
J	Soil	B-84-5	5	10-Sep-97	91-20-3	Naphthalene	0.05	mg/K	0.05	0	1
J	Soil	B-84-5	5	10-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.05	mg/K	0.05	0	1
J	Soil	B-84-5	5	10-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
J	Soil	B-84-5	5	10-Sep-97	7439-92-1	Lead	2.9	mg/K	2.9	1	1
J	Soil	B-84-5	5	10-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/K	0.05	0	1
J	Soil	B-84-5	5	10-Sep-97	86-73-7	Fluorene	0.05	mg/K	0.05	0	1
J	Soil	B-84-5	5	10-Sep-97	206-44-0	Fluoranthene	0.05	mg/K	0.05	0	1
J	Soil	B-84-5	5	10-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-84-5	5	10-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
J	Soil	B-84-5	5	10-Sep-97	7440-47-3	Chromium	28	mg/K	28	1	1
J	Soil	B-84-5	5	10-Sep-97	7440-62-2	Vanadium	24	mg/K	24	1	1
J	Soil	B-84-5	5	10-Sep-97	7440-48-4	Cobalt	2.6	mg/K	2.6	1	1
J	Soil	B-84-5	5	10-Sep-97	7439-98-7	Molybdenum	1.8	mg/K	1.8	1	1
J	Soil	B-85-5	5	19-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-85-5	5	19-Sep-97	7440-62-2	Vanadium	17	mg/K	17	1	1
J	Soil	B-85-5	5	19-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-85-5	5	19-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
J	Soil	B-85-5	5	19-Sep-97	7440-48-4	Cobalt	1.1	mg/K	1.1	1	1
J	Soil	B-85-5	5	19-Sep-97	7440-47-3	Chromium	21	mg/K	21	1	1
J	Soil	B-85-5	5	19-Sep-97	7440-66-6	Zinc	18	mg/K	18	1	1
J	Soil	B-85-5	5	19-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
J	Soil	B-85-5	5	19-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
J	Soil	B-85-5	5	19-Sep-97	7440-02-0	Nickel	7.2	mg/K	7.2	1	1
J	Soil	B-85-5	5	19-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
J	Soil	B-85-5	5	19-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-85-5	5	19-Sep-97	7439-92-1	Lead	1.8	mg/K	1.8	1	1
J	Soil	B-85-5	5	19-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
J	Soil	B-85-5	5	19-Sep-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
J	Soil	B-85-5	5	19-Sep-97	7439-98-7	Molybdenum	3.1	mg/K	3.1	1	1
J	Soil	B-85-5	5	19-Sep-97	7440-38-2	Arsenic	6.3	mg/K	6.3	1	1
J	Soil	B-85-5	5	19-Sep-97	7440-50-8	Copper	3.1	mg/K	3.1	1	1
J	Soil	B-85-5	5	19-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
J	Soil	B-85-5	5	19-Sep-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
J	Soil	B-85-5	5	19-Sep-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
J	Soil	B-85-5	5	19-Sep-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
J	Soil	B-85-5	5	19-Sep-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
J	Soil	B-85-5	5	19-Sep-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
J	Soil	B-85-5	5	19-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-85-5	5	19-Sep-97	7440-39-3	Barium	29	mg/K	29	1	1
J	Soil	B-85-5	5	19-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-85-5	5	19-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
J	Soil	B-85-5	5	19-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-85-5	5	19-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-85-5	5	19-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-85-5	5	19-Sep-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
J	Soil	B-86-5	5	19-Sep-97	129-00-0	Pyrene	0.06	mg/K	0.06	1	1
J	Soil	B-86-5	5	19-Sep-97	7439-92-1	Lead	3.6	mg/K	3.6	1	1
J	Soil	B-86-5	5	19-Sep-97	218-01-9	Chrysene	0.06	mg/K	0.06	1	1
J	Soil	B-86-5	5	19-Sep-97	7440-48-4	Cobalt	1.2	mg/K	1.2	1	1
J	Soil	B-86-5	5	19-Sep-97	7440-50-8	Copper	4.5	mg/K	4.5	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	B-86-5	5	19-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.05	mg/K	0.05	0	1
J	Soil	B-86-5	5	19-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-86-5	5	19-Sep-97	206-44-0	Fluoranthene	0.05	mg/K	0.05	0	1
J	Soil	B-86-5	5	19-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-86-5	5	19-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/K	0.05	0	1
J	Soil	B-86-5	5	19-Sep-97		C4-C10	51	mg/K	51	1	1
J	Soil	B-86-5	5	19-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
J	Soil	B-86-5	5	19-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
J	Soil	B-86-5	5	19-Sep-97	91-20-3	Naphthalene	0.05	mg/K	0.05	0	1
J	Soil	B-86-5	5	19-Sep-97	7440-02-0	Nickel	5.7	mg/K	5.7	1	1
J	Soil	B-86-5	5	19-Sep-97	85-01-8	Phenanthrene	0.12	mg/K	0.12	1	1
J	Soil	B-86-5	5	19-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
J	Soil	B-86-5	5	19-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
J	Soil	B-86-5	5	19-Sep-97	86-73-7	Fluorene	0.42	mg/K	0.42	1	1
J	Soil	B-86-5	5	19-Sep-97	205-99-2	Benzo(b)fluoranthene	0.05	mg/K	0.05	0	1
J	Soil	B-86-5	5	19-Sep-97	83-32-9	Acenaphthene	0.16	mg/K	0.16	1	1
J	Soil	B-86-5	5	19-Sep-97	208-96-8	Acenaphthylene	0.11	mg/K	0.11	1	1
J	Soil	B-86-5	5	19-Sep-97	120-12-7	Anthracene	0.05	mg/K	0.05	0	1
J	Soil	B-86-5	5	19-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
J	Soil	B-86-5	5	19-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
J	Soil	B-86-5	5	19-Sep-97	7440-39-3	Barium	48	mg/K	48	1	1
J	Soil	B-86-5	5	19-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-86-5	5	19-Sep-97	7440-47-3	Chromium	15	mg/K	15	1	1
J	Soil	B-86-5	5	19-Sep-97	50-32-8	Benzo(a)pyrene	0.05	mg/K	0.05	0	1
J	Soil	B-86-5	5	19-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
J	Soil	B-86-5	5	19-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.05	mg/K	0.05	0	1
J	Soil	B-86-5	5	19-Sep-97	207-08-9	Benzo(k)fluoranthene	0.05	mg/K	0.05	0	1
J	Soil	B-86-5	5	19-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
J	Soil	B-86-5	5	19-Sep-97		C10-C25	1500	mg/K	1500	1	1
J	Soil	B-86-5	5	19-Sep-97		C1-C40	2521	mg/K	2521	1	1
J	Soil	B-86-5	5	19-Sep-97		C25-C40	970	mg/K	970	1	1
J	Soil	B-86-5	5	19-Sep-97	7440-62-2	Vanadium	13	mg/K	13	1	1
J	Soil	B-86-5	5	19-Sep-97	56-55-3	Benzo(a)anthracene	0.05	mg/K	0.05	0	1
J	Soil	B-86-5	5	19-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-86-5	5	19-Sep-97	7440-66-6	Zinc	22	mg/K	22	1	1
J	Soil	B-86-5	5	19-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
J	Soil	B-87-10	10	18-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.05	mg/K	0.05	0	1
J	Soil	B-87-10	10	18-Sep-97	1330-20-7	Xylenes (total)	0.7	mg/K	0.7	1	1
J	Soil	B-87-10	10	18-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
J	Soil	B-87-10	10	18-Sep-97	129-00-0	Pyrene	0.05	mg/K	0.05	0	1
J	Soil	B-87-10	10	18-Sep-97	85-01-8	Phenanthrene	0.05	mg/K	0.05	0	1
J	Soil	B-87-10	10	18-Sep-97	91-20-3	Naphthalene	0.4	mg/K	0.4	1	1
J	Soil	B-87-10	10	18-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/K	0.05	0	1
J	Soil	B-87-10	10	18-Sep-97	86-73-7	Fluorene	0.05	mg/K	0.05	0	1
J	Soil	B-87-10	10	18-Sep-97	100-41-4	Ethylbenzene	0.9	mg/K	0.9	1	1
J	Soil	B-87-10	10	18-Sep-97	218-01-9	Chrysene	0.05	mg/K	0.05	0	1
J	Soil	B-87-10	10	18-Sep-97		C4-C10	160	mg/K	160	1	1
J	Soil	B-87-10	10	18-Sep-97	120-12-7	Anthracene	0.05	mg/K	0.05	0	1
J	Soil	B-87-10	10	18-Sep-97	206-44-0	Fluoranthene	0.05	mg/K	0.05	0	1
J	Soil	B-87-10	10	18-Sep-97	208-96-8	Acenaphthylene	0.05	mg/K	0.05	0	1
J	Soil	B-87-10	10	18-Sep-97		C25-C40	880	mg/K	880	1	1
J	Soil	B-87-10	10	18-Sep-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
J	Soil	B-87-10	10	18-Sep-97	56-55-3	Benzo(a)anthracene	0.05	mg/K	0.05	0	1
J	Soil	B-87-10	10	18-Sep-97	50-32-8	Benzo(a)pyrene	0.05	mg/K	0.05	0	1
J	Soil	B-87-10	10	18-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.05	mg/K	0.05	0	1
J	Soil	B-87-10	10	18-Sep-97	207-08-9	Benzo(k)fluoranthene	0.05	mg/K	0.05	0	1
J	Soil	B-87-10	10	18-Sep-97		C10-C25	3100	mg/K	3100	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	B-87-10	10	18-Sep-97		C1-C40	4140	mg/K	4140	1	1
J	Soil	B-87-10	10	18-Sep-97	205-99-2	Benzo(b)fluoranthene	0.05	mg/K	0.05	0	1
J	Soil	B-87-10	10	18-Sep-97	83-32-9	Acenaphthene	0.06	mg/K	0.06	1	1
J	Soil	B-88-5	5	05-Sep-97		C10-C25	10	mg/K	10	1	1
J	Soil	B-88-5	5	05-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-88-5	5	05-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-88-5	5	05-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-88-5	5	05-Sep-97		C4-C10	10	mg/K	10	0	1
J	Soil	B-88-5	5	05-Sep-97		C25-C40	23	mg/K	23	1	1
J	Soil	B-88-5	5	05-Sep-97		C1-C40	33	mg/K	33	1	1
J	Soil	B-88-5	5	05-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-89-1	1	04-Sep-97	7439-92-1	Lead	180	mg/K	180	1	1
J	Soil	B-89-10	10	04-Sep-97	91-20-3	Naphthalene	0.31	mg/K	0.31	1	1
J	Soil	B-89-10	10	04-Sep-97	85-01-8	Phenanthrene	0.62	mg/K	0.62	1	1
J	Soil	B-89-10	10	04-Sep-97	7440-50-8	Copper	3.7	mg/K	3.7	1	1
J	Soil	B-89-10	10	04-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.05	mg/K	0.05	0	1
J	Soil	B-89-10	10	04-Sep-97	83-32-9	Acenaphthene	0.06	mg/K	0.06	1	1
J	Soil	B-89-10	10	04-Sep-97	206-44-0	Fluoranthene	0.05	mg/K	0.05	0	1
J	Soil	B-89-10	10	04-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
J	Soil	B-89-10	10	04-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/K	0.05	0	1
J	Soil	B-89-10	10	04-Sep-97	7439-92-1	Lead	3.6	mg/K	3.6	1	1
J	Soil	B-89-10	10	04-Sep-97	7440-48-4	Cobalt	1.5	mg/K	1.5	1	1
J	Soil	B-89-10	10	04-Sep-97	7440-02-0	Nickel	7.6	mg/K	7.6	1	1
J	Soil	B-89-10	10	04-Sep-97	100-41-4	Ethylbenzene	2.3	mg/K	2.3	1	1
J	Soil	B-89-10	10	04-Sep-97	129-00-0	Pyrene	0.05	mg/K	0.05	0	1
J	Soil	B-89-10	10	04-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
J	Soil	B-89-10	10	04-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
J	Soil	B-89-10	10	04-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
J	Soil	B-89-10	10	04-Sep-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
J	Soil	B-89-10	10	04-Sep-97	7440-62-2	Vanadium	18	mg/K	18	1	1
J	Soil	B-89-10	10	04-Sep-97	1330-20-7	Xylenes (total)	2.1	mg/K	2.1	1	1
J	Soil	B-89-10	10	04-Sep-97	7440-66-6	Zinc	13	mg/K	13	1	1
J	Soil	B-89-10	10	04-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
J	Soil	B-89-10	10	04-Sep-97	71-43-2	Benzene	0.8	mg/K	0.8	1	1
J	Soil	B-89-10	10	04-Sep-97	208-96-8	Acenaphthylene	0.05	mg/K	0.05	1	1
J	Soil	B-89-10	10	04-Sep-97	120-12-7	Anthracene	0.05	mg/K	0.05	0	1
J	Soil	B-89-10	10	04-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
J	Soil	B-89-10	10	04-Sep-97	86-73-7	Fluorene	0.25	mg/K	0.25	1	1
J	Soil	B-89-10	10	04-Sep-97	7440-39-3	Barium	74	mg/K	74	1	1
J	Soil	B-89-10	10	04-Sep-97	218-01-9	Chrysene	0.05	mg/K	0.05	0	1
J	Soil	B-89-10	10	04-Sep-97	56-55-3	Benzo(a)anthracene	0.05	mg/K	0.05	0	1
J	Soil	B-89-10	10	04-Sep-97	50-32-8	Benzo(a)pyrene	0.05	mg/K	0.05	0	1
J	Soil	B-89-10	10	04-Sep-97	205-99-2	Benzo(b)fluoranthene	0.05	mg/K	0.05	0	1
J	Soil	B-89-10	10	04-Sep-97	7440-47-3	Chromium	19	mg/K	19	1	1
J	Soil	B-89-10	10	04-Sep-97	207-08-9	Benzo(k)fluoranthene	0.05	mg/K	0.05	0	1
J	Soil	B-89-10	10	04-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
J	Soil	B-89-10	10	04-Sep-97		C10-C25	1600	mg/K	1600	1	1
J	Soil	B-89-10	10	04-Sep-97		C1-C40	2530	mg/K	2530	1	1
J	Soil	B-89-10	10	04-Sep-97		C25-C40	370	mg/K	370	1	1
J	Soil	B-89-10	10	04-Sep-97		C4-C10	560	mg/K	560	1	1
J	Soil	B-89-10	10	04-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
J	Soil	B-89-10	10	04-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.05	mg/K	0.05	0	1
J	Soil	B-89-10	10	04-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
J	Soil	B-90-10	10	11-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
J	Soil	B-90-10	10	11-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
J	Soil	B-90-10	10	11-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
J	Soil	B-90-10	10	11-Sep-97		C4-C10	10	mg/K	10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	B-90-10	10	11-Sep-97		C25-C40	10	mg/K	10	0	1
J	Soil	B-90-10	10	11-Sep-97		C1-C40	10	mg/K	10	0	1
J	Soil	B-90-10	10	11-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
J	Soil	B-90-10	10	11-Sep-97		C10-C25	10	mg/K	10	0	1
J	Soil	B-95-5	5	18-Sep-97	85-01-8	Phenanthrene	4.7	mg/K	4.7	1	1
J	Soil	B-95-5	5	18-Sep-97	7440-02-0	Nickel	7.5	mg/K	7.5	1	1
J	Soil	B-95-5	5	18-Sep-97	218-01-9	Chrysene	0.5	mg/K	0.5	0	1
J	Soil	B-95-5	5	18-Sep-97	7440-48-4	Cobalt	1.2	mg/K	1.2	1	1
J	Soil	B-95-5	5	18-Sep-97	7440-50-8	Copper	3.1	mg/K	3.1	1	1
J	Soil	B-95-5	5	18-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.5	mg/K	0.5	0	1
J	Soil	B-95-5	5	18-Sep-97	100-41-4	Ethylbenzene	5.1	mg/K	5.1	1	1
J	Soil	B-95-5	5	18-Sep-97	206-44-0	Fluoranthene	0.5	mg/K	0.5	0	1
J	Soil	B-95-5	5	18-Sep-97	86-73-7	Fluorene	3.2	mg/K	3.2	1	1
J	Soil	B-95-5	5	18-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.5	mg/K	0.5	0	1
J	Soil	B-95-5	5	18-Sep-97	7439-92-1	Lead	2.6	mg/K	2.6	1	1
J	Soil	B-95-5	5	18-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
J	Soil	B-95-5	5	18-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
J	Soil	B-95-5	5	18-Sep-97		C4-C10	1200	mg/K	1200	1	1
J	Soil	B-95-5	5	18-Sep-97	129-00-0	Pyrene	0.5	mg/K	0.5	0	1
J	Soil	B-95-5	5	18-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
J	Soil	B-95-5	5	18-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
J	Soil	B-95-5	5	18-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
J	Soil	B-95-5	5	18-Sep-97	108-88-3	Toluene	0.2	mg/K	0.2	1	1
J	Soil	B-95-5	5	18-Sep-97	7440-62-2	Vanadium	12	mg/K	12	1	1
J	Soil	B-95-5	5	18-Sep-97	1330-20-7	Xylenes (total)	14	mg/K	14	1	1
J	Soil	B-95-5	5	18-Sep-97	7440-66-6	Zinc	11	mg/K	11	1	1
J	Soil	B-95-5	5	18-Sep-97	50-32-8	Benzo(a)pyrene	0.5	mg/K	0.5	0	1
J	Soil	B-95-5	5	18-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
J	Soil	B-95-5	5	18-Sep-97	120-12-7	Anthracene	0.5	mg/K	0.5	0	1
J	Soil	B-95-5	5	18-Sep-97	56-55-3	Benzo(a)anthracene	0.5	mg/K	0.5	0	1
J	Soil	B-95-5	5	18-Sep-97	71-43-2	Benzene	0.8	mg/K	0.8	1	1
J	Soil	B-95-5	5	18-Sep-97	7440-39-3	Barium	39	mg/K	39	1	1
J	Soil	B-95-5	5	18-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
J	Soil	B-95-5	5	18-Sep-97	11096-82-5	Aroclor 1260	3	mg/K	3	0	1
J	Soil	B-95-5	5	18-Sep-97	11097-69-1	Aroclor 1254	3	mg/K	3	0	1
J	Soil	B-95-5	5	18-Sep-97	12672-29-6	Aroclor 1248	3	mg/K	3	0	1
J	Soil	B-95-5	5	18-Sep-97	53469-21-9	Aroclor 1242	3	mg/K	3	0	1
J	Soil	B-95-5	5	18-Sep-97	11141-16-5	Aroclor 1232	3	mg/K	3	0	1
J	Soil	B-95-5	5	18-Sep-97	11104-28-2	Aroclor 1221	3	mg/K	3	0	1
J	Soil	B-95-5	5	18-Sep-97	7440-47-3	Chromium	15	mg/K	15	1	1
J	Soil	B-95-5	5	18-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
J	Soil	B-95-5	5	18-Sep-97	91-20-3	Naphthalene	11	mg/K	11	1	1
J	Soil	B-95-5	5	18-Sep-97	208-96-8	Acenaphthylene	0.5	mg/K	0.5	1	1
J	Soil	B-95-5	5	18-Sep-97	83-32-9	Acenaphthene	0.8	mg/K	0.8	1	1
J	Soil	B-95-5	5	18-Sep-97	205-99-2	Benzo(b)fluoranthene	0.5	mg/K	0.5	0	1
J	Soil	B-95-5	5	18-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.5	mg/K	0.5	0	1
J	Soil	B-95-5	5	18-Sep-97	207-08-9	Benzo(k)fluoranthene	0.5	mg/K	0.5	0	1
J	Soil	B-95-5	5	18-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
J	Soil	B-95-5	5	18-Sep-97		C10-C25	24000	mg/K	24000	1	1
J	Soil	B-95-5	5	18-Sep-97		C1-C40	31000	mg/K	31000	1	1
J	Soil	B-95-5	5	18-Sep-97		C25-C40	5800	mg/K	5800	1	1
J	Soil	B-95-5	5	18-Sep-97	12674-11-2	Aroclor 1016	3	mg/K	3	0	1
J	Soil	100620-1a-0.5	0.5	26-Jun-98	7439-92-1	Lead	300	mg/k	300	1	1
J	Soil	100620-2a-0.5	0.5	26-Jun-98	7439-92-1	Lead	320	mg/k	320	1	1
J	Soil	100620-3a-0.5	0.5	26-Jun-98	7439-92-1	Lead	56	mg/k	56	1	1
J	Soil	10622-1a-0.5	0.5	26-Jun-98	7439-92-1	Lead	350	mg/k	350	1	1
J	Soil	10622-2a-0.5	0.5	26-Jun-98	7439-92-1	Lead	110	mg/k	110	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	10622-3a-0.5	0.5	26-Jun-98	7439-92-1	Lead	50	mg/k	50	1	1
J	Soil	14638-1a-0.5	0.5	26-Jun-98	7439-92-1	Lead	9	mg/k	9	1	1
J	Soil	14638-2a-0.5	0.5	26-Jun-98	7439-92-1	Lead	110	mg/k	110	1	1
J	Soil	14638-3a-0.5	0.5	26-Jun-98	7439-92-1	Lead	44	mg/k	44	1	1
J	Soil	B-200-10	10	28-Feb-01		C4-C10	10	mg/k	10	0	1
J	Soil	B-200-10	10	28-Feb-01	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	B-200-10	10	28-Feb-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	B-200-10	10	28-Feb-01		C10-C25	10	mg/k	10	0	1
J	Soil	B-200-10	10	28-Feb-01		C1-C40	10	mg/K	10	0	1
J	Soil	B-200-10	10	28-Feb-01		C25-C40	10	mg/k	10	0	1
J	Soil	B-200-10	10	28-Feb-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	B-200-10	10	28-Feb-01	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	B-201-10.5	10.5	27-Feb-01	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	B-201-10.5	10.5	27-Feb-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	B-201-10.5	10.5	27-Feb-01	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	B-201-10.5	10.5	27-Feb-01		C25-C40	10	mg/k	10	0	1
J	Soil	B-201-10.5	10.5	27-Feb-01		C10-C25	10	mg/k	10	0	1
J	Soil	B-201-10.5	10.5	27-Feb-01		C4-C10	10	mg/k	10	0	1
J	Soil	B-201-10.5	10.5	27-Feb-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	B-201-10.5	10.5	27-Feb-01		C1-C40	10	mg/K	10	0	1
J	Soil	B-203-6	6	26-Feb-01	1330-20-7	Xylenes (total)	0.1	mg/k	0.1	0	1
J	Soil	B-203-6	6	26-Feb-01		C1-C40	37460	mg/K	37460	1	1
J	Soil	B-203-6	6	26-Feb-01	191-24-2	Benzo(g,h,i)perylene	10	mg/k	10	0	1
J	Soil	B-203-6	6	26-Feb-01	205-99-2	Benzo(b)fluoranthene	10	mg/k	10	0	1
J	Soil	B-203-6	6	26-Feb-01	50-32-8	Benzo(a)pyrene	10	mg/k	10	0	1
J	Soil	B-203-6	6	26-Feb-01	56-55-3	Benzo(a)anthracene	10	mg/k	10	0	1
J	Soil	B-203-6	6	26-Feb-01	120-12-7	Anthracene	10	mg/k	10	0	1
J	Soil	B-203-6	6	26-Feb-01	208-96-8	Acenaphthylene	10	mg/k	10	0	1
J	Soil	B-203-6	6	26-Feb-01	83-32-9	Acenaphthene	10	mg/k	10	0	1
J	Soil	B-203-6	6	26-Feb-01		C25-C40	13000	mg/k	13000	1	1
J	Soil	B-203-6	6	26-Feb-01		C4-C10	460	mg/k	460	1	1
J	Soil	B-203-6	6	26-Feb-01		C10-C25	24000	mg/k	24000	1	1
J	Soil	B-203-6	6	26-Feb-01	207-08-9	Benzo(k)fluoranthene	10	mg/k	10	0	1
J	Soil	B-203-6	6	26-Feb-01	71-43-2	Benzene	0.1	mg/k	0.1	0	1
J	Soil	B-203-6	6	26-Feb-01	108-88-3	Toluene	0.1	mg/k	0.1	0	1
J	Soil	B-203-6	6	26-Feb-01	129-00-0	Pyrene	10	mg/k	10	0	1
J	Soil	B-203-6	6	26-Feb-01	85-01-8	Phenanthrene	11	mg/k	11	1	1
J	Soil	B-203-6	6	26-Feb-01	91-20-3	Naphthalene	10	mg/k	10	0	1
J	Soil	B-203-6	6	26-Feb-01	193-39-5	Indeno(1,2,3-cd)pyrene	10	mg/k	10	0	1
J	Soil	B-203-6	6	26-Feb-01	86-73-7	Fluorene	10	mg/k	10	0	1
J	Soil	B-203-6	6	26-Feb-01	206-44-0	Fluoranthene	10	mg/k	10	0	1
J	Soil	B-203-6	6	26-Feb-01	100-41-4	Ethylbenzene	0.1	mg/k	0.1	0	1
J	Soil	B-203-6	6	26-Feb-01	53-70-3	Dibenz(a,h)anthracene	10	mg/k	10	0	1
J	Soil	B-203-6	6	26-Feb-01	218-01-9	Chrysene	10	mg/k	10	0	1
J	Soil	B-206-10.5	10.5	27-Feb-01		C10-C25	310	mg/k	310	1	1
J	Soil	B-206-10.5	10.5	27-Feb-01		C25-C40	10	mg/k	10	0	1
J	Soil	B-206-10.5	10.5	27-Feb-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	B-206-10.5	10.5	27-Feb-01		C1-C40	310	mg/K	310	1	1
J	Soil	B-206-10.5	10.5	27-Feb-01	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	B-206-10.5	10.5	27-Feb-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	B-206-10.5	10.5	27-Feb-01	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	B-206-10.5	10.5	27-Feb-01		C4-C10	10	mg/k	10	0	1
J	Soil	SP-6-5	5	03-Mar-01	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	SP-6-5	5	03-Mar-01	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	SP-6-5	5	03-Mar-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	SP-6-5	5	03-Mar-01		C10-C25	10	mg/k	10	0	1
J	Soil	SP-6-5	5	03-Mar-01		C25-C40	10	mg/k	10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	SP-6-5	5	03-Mar-01		C1-C40	10	mg/K	10	0	1
J	Soil	SP-6-5	5	03-Mar-01		C4-C10	10	mg/k	10	0	1
J	Soil	SP-6-5	5	03-Mar-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	SP-8-10	10	06-Mar-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	SP-8-10	10	06-Mar-01	100-41-4	Ethylbenzene	0.088	mg/k	0.088	1	1
J	Soil	SP-8-10	10	06-Mar-01		C4-C10	32	mg/k	32	1	1
J	Soil	SP-8-10	10	06-Mar-01		C25-C40	780	mg/k	780	1	1
J	Soil	SP-8-10	10	06-Mar-01		C10-C25	2800	mg/k	2800	1	1
J	Soil	SP-8-10	10	06-Mar-01	71-43-2	Benzene	0.073	mg/k	0.073	1	1
J	Soil	SP-8-10	10	06-Mar-01	1330-20-7	Xylenes (total)	0.29	mg/k	0.29	1	1
J	Soil	SP-8-10	10	06-Mar-01		C1-C40	3612	mg/K	3612	1	1
J	Soil	SP-8-5	5	06-Mar-01	120-12-7	Anthracene	2	mg/k	2	0	1
J	Soil	SP-8-5	5	06-Mar-01	208-96-8	Acenaphthylene	2	mg/k	2	0	1
J	Soil	SP-8-5	5	06-Mar-01	83-32-9	Acenaphthene	2	mg/k	2	0	1
J	Soil	SP-8-5	5	06-Mar-01	71-43-2	Benzene	0.05	mg/k	0.05	1	1
J	Soil	SP-8-5	5	06-Mar-01	56-55-3	Benzo(a)anthracene	2	mg/k	2	0	1
J	Soil	SP-8-5	5	06-Mar-01	50-32-8	Benzo(a)pyrene	2	mg/k	2	0	1
J	Soil	SP-8-5	5	06-Mar-01	205-99-2	Benzo(b)fluoranthene	2	mg/k	2	0	1
J	Soil	SP-8-5	5	06-Mar-01	191-24-2	Benzo(g,h,i)perylene	2	mg/k	2	0	1
J	Soil	SP-8-5	5	06-Mar-01	207-08-9	Benzo(k)fluoranthene	2	mg/k	2	0	1
J	Soil	SP-8-5	5	06-Mar-01		C10-C25	4100	mg/k	4100	1	1
J	Soil	SP-8-5	5	06-Mar-01		C1-C40	5311	mg/K	5311	1	1
J	Soil	SP-8-5	5	06-Mar-01		C25-C40	1200	mg/k	1200	1	1
J	Soil	SP-8-5	5	06-Mar-01	85-01-8	Phenanthrene	2	mg/k	2	0	1
J	Soil	SP-8-5	5	06-Mar-01		C4-C10	11	mg/k	11	1	1
J	Soil	SP-8-5	5	06-Mar-01	129-00-0	Pyrene	2	mg/k	2	0	1
J	Soil	SP-8-5	5	06-Mar-01	1330-20-7	Xylenes (total)	0.15	mg/k	0.15	1	1
J	Soil	SP-8-5	5	06-Mar-01	91-20-3	Naphthalene	2	mg/k	2	0	1
J	Soil	SP-8-5	5	06-Mar-01	193-39-5	Indeno(1,2,3-cd)pyrene	2	mg/k	2	0	1
J	Soil	SP-8-5	5	06-Mar-01	86-73-7	Fluorene	2	mg/k	2	0	1
J	Soil	SP-8-5	5	06-Mar-01	206-44-0	Fluoranthene	2	mg/k	2	0	1
J	Soil	SP-8-5	5	06-Mar-01	100-41-4	Ethylbenzene	0.034	mg/k	0.034	1	1
J	Soil	SP-8-5	5	06-Mar-01	53-70-3	Dibenz(a,h)anthracene	2	mg/k	2	0	1
J	Soil	SP-8-5	5	06-Mar-01	218-01-9	Chrysene	2	mg/k	2	0	1
J	Soil	SP-8-5	5	06-Mar-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	100620-1-0.25	0.25	30-May-01	7439-92-1	Lead	37	mg/k	37	1	1
J	Soil	100620-2-0.25	0.25	30-May-01	7439-92-1	Lead	28	mg/k	28	1	1
J	Soil	100620-3-0.25	0.25	30-May-01	7439-92-1	Lead	100	mg/k	100	1	1
J	Soil	10622-1-0.25	0.25	30-May-01	7439-92-1	Lead	16	mg/k	16	1	1
J	Soil	10622-1-2	2	30-May-01		C25-C40	10	mg/k	10	0	1
J	Soil	10622-1-2	2	30-May-01		C4-C10	10	mg/k	10	0	1
J	Soil	10622-1-2	2	30-May-01	1330-20-7	Xylenes (total)	0.029	mg/k	0.029	1	1
J	Soil	10622-1-2	2	30-May-01		C1-C40	10	mg/K	10	0	1
J	Soil	10622-1-2	2	30-May-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	10622-1-2	2	30-May-01		C10-C25	10	mg/k	10	0	1
J	Soil	10622-1-2	2	30-May-01	108-88-3	Toluene	0.006	mg/k	0.006	1	1
J	Soil	10622-1-2	2	30-May-01	7439-92-1	Lead	2.7	mg/k	2.7	1	1
J	Soil	10622-1-2	2	30-May-01	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	10622-1-2	2	30-May-01	78-00-2	Tetraethyl Lead	0.5	mg/k	0.5	0	1
J	Soil	10622-2-0.25	0.25	30-May-01	7439-92-1	Lead	33	mg/k	33	1	1
J	Soil	10622-2-1.5	1.5	30-May-01		C4-C10	10	mg/k	10	0	1
J	Soil	10622-2-1.5	1.5	30-May-01	100-41-4	Ethylbenzene	0.093	mg/k	0.093	1	1
J	Soil	10622-2-1.5	1.5	30-May-01	7439-92-1	Lead	44	mg/k	44	1	1
J	Soil	10622-2-1.5	1.5	30-May-01	78-00-2	Tetraethyl Lead	0.5	mg/k	0.5	0	1
J	Soil	10622-2-1.5	1.5	30-May-01	108-88-3	Toluene	0.12	mg/k	0.12	1	1
J	Soil	10622-2-1.5	1.5	30-May-01	1330-20-7	Xylenes (total)	0.5	mg/K	0.5	1	1
J	Soil	10622-2-1.5	1.5	30-May-01		C10-C25	56	mg/k	56	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	10622-2-1.5	1.5	30-May-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	10622-2-1.5	1.5	30-May-01		C1-C40	306	mg/K	306	1	1
J	Soil	10622-2-1.5	1.5	30-May-01		C25-C40	250	mg/k	250	1	1
J	Soil	10622-3-0.25	0.25	30-May-01	7439-92-1	Lead	120	mg/k	120	1	1
J	Soil	10622-3-2	2	30-May-01		C1-C40	94	mg/K	94	1	1
J	Soil	10622-3-2	2	30-May-01		C10-C25	32	mg/k	32	1	1
J	Soil	10622-3-2	2	30-May-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	10622-3-2	2	30-May-01		C25-C40	62	mg/k	62	1	1
J	Soil	10622-3-2	2	30-May-01		C4-C10	10	mg/k	10	0	1
J	Soil	10622-3-2	2	30-May-01	100-41-4	Ethylbenzene	0.022	mg/k	0.022	1	1
J	Soil	10622-3-2	2	30-May-01	78-00-2	Tetraethyl Lead	0.5	mg/k	0.5	0	1
J	Soil	10622-3-2	2	30-May-01	108-88-3	Toluene	0.046	mg/k	0.046	1	1
J	Soil	10622-3-2	2	30-May-01	1330-20-7	Xylenes (total)	0.13	mg/k	0.13	1	1
J	Soil	10622-3-2	2	30-May-01	7439-92-1	Lead	17	mg/k	17	1	1
J	Soil	14638-1-0.25	0.25	30-May-01	7439-92-1	Lead	7.2	mg/k	7.2	1	1
J	Soil	14638-1-2	2	30-May-01	7439-92-1	Lead	8.5	mg/k	8.5	1	1
J	Soil	14638-1-2	2	30-May-01	108-88-3	Toluene	0.012	mg/k	0.012	1	1
J	Soil	14638-1-2	2	30-May-01	1330-20-7	Xylenes (total)	0.065	mg/k	0.065	1	1
J	Soil	14638-1-2	2	30-May-01	100-41-4	Ethylbenzene	0.009	mg/k	0.009	1	1
J	Soil	14638-1-2	2	30-May-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	14638-1-2	2	30-May-01	78-00-2	Tetraethyl Lead	0.5	mg/k	0.5	0	1
J	Soil	14638-1-2	2	30-May-01		C25-C40	14	mg/k	14	1	1
J	Soil	14638-1-2	2	30-May-01		C10-C25	10	mg/k	10	0	1
J	Soil	14638-1-2	2	30-May-01		C1-C40	14	mg/K	14	1	1
J	Soil	14638-1-2	2	30-May-01		C4-C10	10	mg/k	10	0	1
J	Soil	14638-2-0.25	0.25	30-May-01	7439-92-1	Lead	4.5	mg/k	4.5	1	1
J	Soil	14638-2-2	2	30-May-01	7439-92-1	Lead	12	mg/k	12	1	1
J	Soil	14638-2-2	2	30-May-01	1330-20-7	Xylenes (total)	0.1	mg/k	0.1	1	1
J	Soil	14638-2-2	2	30-May-01	78-00-2	Tetraethyl Lead	0.5	mg/k	0.5	0	1
J	Soil	14638-2-2	2	30-May-01	100-41-4	Ethylbenzene	0.016	mg/k	0.016	1	1
J	Soil	14638-2-2	2	30-May-01		C4-C10	10	mg/k	10	0	1
J	Soil	14638-2-2	2	30-May-01		C25-C40	10	mg/k	10	0	1
J	Soil	14638-2-2	2	30-May-01		C10-C25	10	mg/k	10	0	1
J	Soil	14638-2-2	2	30-May-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	14638-2-2	2	30-May-01		C1-C40	10	mg/K	10	0	1
J	Soil	14638-2-2	2	30-May-01	108-88-3	Toluene	0.036	mg/k	0.036	1	1
J	Soil	14638-3-0.25	0.25	30-May-01	7439-92-1	Lead	4.8	mg/k	4.8	1	1
J	Soil	14638-3-2	2	30-May-01	108-88-3	Toluene	38	mg/k	38	1	1
J	Soil	14638-3-2	2	30-May-01	78-00-2	Tetraethyl Lead	0.5	mg/k	0.5	0	1
J	Soil	14638-3-2	2	30-May-01	7439-92-1	Lead	11	mg/k	11	1	1
J	Soil	14638-3-2	2	30-May-01	100-41-4	Ethylbenzene	120	mg/k	120	1	1
J	Soil	14638-3-2	2	30-May-01		C4-C10	6600	mg/k	6600	1	1
J	Soil	14638-3-2	2	30-May-01		C25-C40	360	mg/k	360	1	1
J	Soil	14638-3-2	2	30-May-01		C1-C40	7710	mg/K	7710	1	1
J	Soil	14638-3-2	2	30-May-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	14638-3-2	2	30-May-01	1330-20-7	Xylenes (total)	940	mg/k	940	1	1
J	Soil	14638-3-2	2	30-May-01		C10-C25	750	mg/k	750	1	1
J	Soil	15640-1-0.25	0.25	30-May-01	7439-92-1	Lead	5.6	mg/k	5.6	1	1
J	Soil	15640-2-0.25	0.25	30-May-01	7439-92-1	Lead	5.2	mg/k	5.2	1	1
J	Soil	15640-3-0.25	0.25	30-May-01	7439-92-1	Lead	5	mg/k	5	1	1
J	Soil	23632-1-0.25	0.25	30-May-01	7439-92-1	Lead	29	mg/k	29	1	1
J	Soil	23632-1-2	2	30-May-01	108-88-3	Toluene	0.046	mg/k	0.046	1	1
J	Soil	23632-1-2	2	30-May-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	23632-1-2	2	30-May-01	1330-20-7	Xylenes (total)	0.21	mg/k	0.21	1	1
J	Soil	23632-1-2	2	30-May-01	78-00-2	Tetraethyl Lead	0.5	mg/k	0.5	0	1
J	Soil	23632-1-2	2	30-May-01		C10-C25	29	mg/k	29	1	1
J	Soil	23632-1-2	2	30-May-01	7439-92-1	Lead	14	mg/k	14	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	23632-1-2	2	30-May-01	100-41-4	Ethylbenzene	0.031	mg/k	0.031	1	1
J	Soil	23632-1-2	2	30-May-01		C4-C10	10	mg/k	10	0	1
J	Soil	23632-1-2	2	30-May-01		C25-C40	37	mg/k	37	1	1
J	Soil	23632-1-2	2	30-May-01		C1-C40	66	mg/K	66	1	1
J	Soil	23632-2-0.25	0.25	30-May-01	7439-92-1	Lead	47	mg/k	47	1	1
J	Soil	23632-2-1.5	1.5	30-May-01	1330-20-7	Xylenes (total)	0.044	mg/k	0.044	1	1
J	Soil	23632-2-1.5	1.5	30-May-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	23632-2-1.5	1.5	30-May-01		C10-C25	23	mg/k	23	1	1
J	Soil	23632-2-1.5	1.5	30-May-01		C1-C40	55	mg/K	55	1	1
J	Soil	23632-2-1.5	1.5	30-May-01		C25-C40	32	mg/k	32	1	1
J	Soil	23632-2-1.5	1.5	30-May-01		C4-C10	10	mg/k	10	0	1
J	Soil	23632-2-1.5	1.5	30-May-01	100-41-4	Ethylbenzene	0.007	mg/k	0.007	1	1
J	Soil	23632-2-1.5	1.5	30-May-01	7439-92-1	Lead	3.2	mg/k	3.2	1	1
J	Soil	23632-2-1.5	1.5	30-May-01	78-00-2	Tetraethyl Lead	0.5	mg/k	0.5	0	1
J	Soil	23632-2-1.5	1.5	30-May-01	108-88-3	Toluene	0.012	mg/k	0.012	1	1
J	Soil	23632-3-0.25	0.25	30-May-01	7439-92-1	Lead	4	mg/k	4	1	1
J	Soil	23632-3-1.5	1.5	30-May-01	100-41-4	Ethylbenzene	0.011	mg/k	0.011	1	1
J	Soil	23632-3-1.5	1.5	30-May-01	1330-20-7	Xylenes (total)	0.079	mg/k	0.079	1	1
J	Soil	23632-3-1.5	1.5	30-May-01	108-88-3	Toluene	0.017	mg/k	0.017	1	1
J	Soil	23632-3-1.5	1.5	30-May-01	7439-92-1	Lead	2.9	mg/k	2.9	1	1
J	Soil	23632-3-1.5	1.5	30-May-01		C4-C10	10	mg/k	10	0	1
J	Soil	23632-3-1.5	1.5	30-May-01		C25-C40	25	mg/k	25	1	1
J	Soil	23632-3-1.5	1.5	30-May-01		C1-C40	47	mg/K	47	1	1
J	Soil	23632-3-1.5	1.5	30-May-01		C10-C25	22	mg/k	22	1	1
J	Soil	23632-3-1.5	1.5	30-May-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	23632-3-1.5	1.5	30-May-01	78-00-2	Tetraethyl Lead	0.5	mg/k	0.5	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	1	1
J	Soil	S-20-0.5	0.5	05-Jun-03	7439-92-1	Lead	150	mg/k	150	1	1
J	Soil	S-20-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.04	mg/k	0.04	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.04	mg/k	0.04	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.042	mg/k	0.042	1	1
J	Soil	S-20-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.04	mg/k	0.04	0	0
J	Soil	S-20-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.04	mg/k	0.04	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	7440-50-8	Copper	11	mg/k	11	1	1
J	Soil	S-20-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.11	mg/k	0.11	1	1
J	Soil	S-20-0.5	0.5	05-Jun-03	7440-47-3	Chromium	19	mg/k	19	1	1
J	Soil	S-20-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	7440-66-6	Zinc	47	mg/k	47	1	1
J	Soil	S-20-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	14	mg/k	14	1	1
J	Soil	S-20-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-20-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.058	mg/k	0.058	1	1
J	Soil	S-20-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.04	mg/k	0.04	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	7440-02-0	Nickel	13	mg/k	13	1	1
J	Soil	S-20-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03		C25-C40	1300	mg/k	1300	1	1
J	Soil	S-20-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03		C10-C25	220	mg/k	220	1	1
J	Soil	S-20-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.04	mg/k	0.04	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.04	mg/k	0.04	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.04	mg/k	0.04	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.04	mg/k	0.04	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-20-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.04	mg/k	0.04	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	5.4	mg/k	5.4	1	1
J	Soil	S-20-0.5	0.5	05-Jun-03	7440-39-3	Barium	49	mg/k	49	1	1
J	Soil	S-20-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.04	mg/k	0.04	0	1
J	Soil	S-20-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.16	mg/k	0.16	1	1
J	Soil	S-20-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.087	mg/k	0.087	1	1
J	Soil	S-20-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.04	mg/k	0.04	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	86-73-7	Fluorene	0.04	mg/k	0.04	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	7439-92-1	Lead	99	mg/k	99	1	1
J	Soil	S-20-2.5	2.5	05-Jun-03	218-01-9	Chrysene	0.04	mg/k	0.04	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	206-44-0	Fluoranthene	0.04	mg/k	0.04	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.04	mg/k	0.04	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	7440-50-8	Copper	11	mg/k	11	1	1
J	Soil	S-20-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.3	mg/k	0.3	1	1
J	Soil	S-20-2.5	2.5	05-Jun-03	7440-47-3	Chromium	24	mg/k	24	1	1
J	Soil	S-20-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	7440-66-6	Zinc	54	mg/k	54	1	1
J	Soil	S-20-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	14	mg/k	14	1	1
J	Soil	S-20-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	129-00-0	Pyrene	0.04	mg/k	0.04	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	85-01-8	Phenanthrene	0.04	mg/k	0.04	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	7440-02-0	Nickel	15	mg/k	15	1	1
J	Soil	S-20-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.04	mg/k	0.04	0	0

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-20-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	83-32-9	Acenaphthene	0.04	mg/k	0.04	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03		C12-C16	4	mg/k	4	0	0
J	Soil	S-20-2.5	2.5	05-Jun-03		C25-C40	2100	mg/k	2100	1	1
J	Soil	S-20-2.5	2.5	05-Jun-03		C21-C40	710	mg/k	710	1	1
J	Soil	S-20-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	208-96-8	Acenaphthylene	0.04	mg/k	0.04	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03		C21-C40	300	mg/k	300	1	0
J	Soil	S-20-2.5	2.5	05-Jun-03		C16-C21	87	mg/k	87	1	1
J	Soil	S-20-2.5	2.5	05-Jun-03		C12-C16	9	mg/k	9	1	1
J	Soil	S-20-2.5	2.5	05-Jun-03		C10-C25	480	mg/k	480	1	1
J	Soil	S-20-2.5	2.5	05-Jun-03		C10-C12	2	mg/k	2	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.13	mg/k	0.13	1	1
J	Soil	S-20-2.5	2.5	05-Jun-03	7440-39-3	Barium	65	mg/k	65	1	1
J	Soil	S-20-2.5	2.5	05-Jun-03		C16-C21	22	mg/k	22	1	0
J	Soil	S-20-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	120-12-7	Anthracene	0.04	mg/k	0.04	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	7.7	mg/k	7.7	1	1
J	Soil	S-20-2.5	2.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.04	mg/k	0.04	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.04	mg/k	0.04	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.043	mg/k	0.043	1	1
J	Soil	S-20-2.5	2.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.04	mg/k	0.04	0	1
J	Soil	S-20-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.04	mg/k	0.04	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-21-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	7440-02-0	Nickel	15	mg/k	15	1	1
J	Soil	S-21-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.04	mg/k	0.04	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.04	mg/k	0.04	0	0
J	Soil	S-21-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.04	mg/k	0.04	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.5	mg/k	0.5	1	1
J	Soil	S-21-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	7439-92-1	Lead	29	mg/k	29	1	1
J	Soil	S-21-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03		C16-C21	120	mg/k	120	1	1
J	Soil	S-21-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.04	mg/k	0.04	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.3	mg/k	0.3	1	1
J	Soil	S-21-0.5	0.5	05-Jun-03	7440-66-6	Zinc	53	mg/k	53	1	1
J	Soil	S-21-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	19	mg/k	19	1	1
J	Soil	S-21-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03		C10-C25	500	mg/k	500	1	1
J	Soil	S-21-0.5	0.5	05-Jun-03		C21-C40	710	mg/k	710	1	1
J	Soil	S-21-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03		C25-C40	2700	mg/k	2700	1	1
J	Soil	S-21-0.5	0.5	05-Jun-03		C21-C40	320	mg/k	320	1	0
J	Soil	S-21-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03		C12-C16	8	mg/k	8	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03		C10-C12	4	mg/k	4	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.04	mg/k	0.04	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03		C16-C21	27	mg/k	27	1	0
J	Soil	S-21-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.063	mg/k	0.063	1	1
J	Soil	S-21-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.04	mg/k	0.04	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-21-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.04	mg/k	0.04	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.04	mg/k	0.04	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	7440-50-8	Copper	9.4	mg/k	9.4	1	1
J	Soil	S-21-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	1.1	mg/k	1.1	1	1
J	Soil	S-21-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.044	mg/k	0.044	1	1
J	Soil	S-21-0.5	0.5	05-Jun-03	7440-47-3	Chromium	12	mg/k	12	1	1
J	Soil	S-21-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.04	mg/k	0.04	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	7440-39-3	Barium	96	mg/k	96	1	1
J	Soil	S-21-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.04	mg/k	0.04	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.04	mg/k	0.04	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.04	mg/k	0.04	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	2.5	mg/k	2.5	1	1
J	Soil	S-21-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	129-00-0	Pyrene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	85-01-8	Phenanthrene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	7440-02-0	Nickel	5.4	mg/k	5.4	1	1
J	Soil	S-21-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-21-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	6.4	mg/k	6.4	1	1
J	Soil	S-21-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	7440-66-6	Zinc	8.2	mg/k	8.2	1	1
J	Soil	S-21-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	206-44-0	Fluoranthene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03		C25-C40	110	mg/k	110	1	1
J	Soil	S-21-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	7440-50-8	Copper	0.5	mg/k	0.5	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	218-01-9	Chrysene	0.009	mg/k	0.009	1	1
J	Soil	S-21-2.5	2.5	05-Jun-03		C10-C25	10	mg/k	10	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	7440-47-3	Chromium	8.3	mg/k	8.3	1	1
J	Soil	S-21-2.5	2.5	05-Jun-03	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-21-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	7439-92-1	Lead	4.3	mg/k	4.3	1	1
J	Soil	S-21-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	0.5	mg/k	0.5	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	7440-39-3	Barium	22	mg/k	22	1	1
J	Soil	S-21-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-21-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.04	mg/k	0.04	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	7439-92-1	Lead	9.5	mg/k	9.5	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.051	mg/k	0.051	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.04	mg/k	0.04	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.25	mg/k	0.25	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	7440-50-8	Copper	1.2	mg/k	1.2	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.58	mg/k	0.58	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03	7440-47-3	Chromium	6.3	mg/k	6.3	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-22-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.35	mg/k	0.35	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.26	mg/k	0.26	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	7440-02-0	Nickel	6.1	mg/k	6.1	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.04	mg/k	0.04	0	0
J	Soil	S-22-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	7440-39-3	Barium	44	mg/k	44	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	3.2	mg/k	3.2	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.04	mg/k	0.04	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.04	mg/k	0.04	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.04	mg/k	0.04	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.13	mg/k	0.13	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.16	mg/k	0.16	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03		C10-C12	3	mg/k	3	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03		C25-C40	1500	mg/k	1500	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03		C21-C40	510	mg/k	510	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03		C21-C40	120	mg/k	120	1	0
J	Soil	S-22-0.5	0.5	05-Jun-03		C16-C21	70	mg/k	70	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03		C16-C21	10	mg/k	10	1	0
J	Soil	S-22-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.18	mg/k	0.18	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03		C10-C25	460	mg/k	460	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	7.2	mg/k	7.2	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-22-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.074	mg/k	0.074	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.069	mg/k	0.069	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03		C12-C16	6	mg/k	6	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	S-22-0.5	0.5	05-Jun-03	7440-66-6	Zinc	16	mg/k	16	1	1
J	Soil	S-22-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	7440-50-8	Copper	1.9	mg/k	1.9	1	1
J	Soil	S-22-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	7439-92-1	Lead	5.5	mg/k	5.5	1	1
J	Soil	S-22-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	7440-02-0	Nickel	8.1	mg/k	8.1	1	1
J	Soil	S-22-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	7440-47-3	Chromium	12	mg/k	12	1	1
J	Soil	S-22-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	9.2	mg/k	9.2	1	1
J	Soil	S-22-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-22-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	7440-66-6	Zinc	12	mg/k	12	1	1
J	Soil	S-22-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03		C25-C40	10	mg/k	10	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03		C10-C25	10	mg/k	10	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	7440-39-3	Barium	65	mg/k	65	1	1
J	Soil	S-22-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	0.6	mg/k	0.6	1	1
J	Soil	S-22-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-22-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.006	mg/k	0.006	1	1
J	Soil	S-32-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	206-44-0	Fluoranthene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	7440-50-8	Copper	3.2	mg/k	3.2	1	1
J	Soil	S-32-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	218-01-9	Chrysene	0.039	mg/k	0.039	1	1
J	Soil	S-32-0.5	0.5	04-Jun-03	7440-47-3	Chromium	32	mg/k	32	1	1
J	Soil	S-32-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	7439-92-1	Lead	10	mg/k	10	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-32-0.5	0.5	04-Jun-03	129-00-0	Pyrene	0.007	mg/k	0.007	1	1
J	Soil	S-32-0.5	0.5	04-Jun-03		C25-C40	690	mg/k	690	1	1
J	Soil	S-32-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03		C21-C40	150	mg/k	150	1	1
J	Soil	S-32-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	85-01-8	Phenanthrene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	9.7	mg/k	9.7	1	1
J	Soil	S-32-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	7440-66-6	Zinc	7.5	mg/k	7.5	1	1
J	Soil	S-32-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03		C21-C40	97	mg/k	97	1	0
J	Soil	S-32-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03		C12-C16	2	mg/k	2	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-32-0.5	0.5	04-Jun-03		C10-C25	160	mg/k	160	1	1
J	Soil	S-32-0.5	0.5	04-Jun-03		C10-C12	1	mg/k	1	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	7440-02-0	Nickel	11	mg/k	11	1	1
J	Soil	S-32-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03		C16-C21	18	mg/k	18	1	1
J	Soil	S-32-0.5	0.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.012	mg/k	0.012	1	1
J	Soil	S-32-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03		C16-C21	5	mg/k	5	1	0
J	Soil	S-32-0.5	0.5	04-Jun-03	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.011	mg/k	0.011	1	1
J	Soil	S-32-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	8.8	mg/k	8.8	1	1
J	Soil	S-32-0.5	0.5	04-Jun-03	7440-39-3	Barium	39	mg/k	39	1	1
J	Soil	S-32-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-0.5	0.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.014	mg/k	0.014	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	15	mg/k	15	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	7440-66-6	Zinc	10	mg/k	10	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03		C12-C16	2	mg/k	2	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	85-01-8	Phenanthrene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03		C10-C25	120	mg/k	120	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03		C10-C12	1	mg/k	1	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03		C16-C21	2	mg/k	2	1	0
J	Soil	S-32-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	7439-92-1	Lead	13	mg/k	13	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	129-00-0	Pyrene	0.007	mg/k	0.007	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03	7440-02-0	Nickel	14	mg/k	14	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-32-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03		C25-C40	600	mg/k	600	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03		C21-C40	85	mg/k	85	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03		C21-C40	60	mg/k	60	1	0
J	Soil	S-32-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.012	mg/k	0.012	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.012	mg/k	0.012	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.012	mg/k	0.012	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	7440-39-3	Barium	56	mg/k	56	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	16	mg/k	16	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03		C16-C21	8	mg/k	8	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	218-01-9	Chrysene	0.032	mg/k	0.032	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	7440-50-8	Copper	6.3	mg/k	6.3	1	1
J	Soil	S-32-2.5	2.5	04-Jun-03	206-44-0	Fluoranthene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-32-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
J	Soil	S-32-2.5	2.5	04-Jun-03	7440-47-3	Chromium	29	mg/k	29	1	1
J	Soil	S-46-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	206-44-0	Fluoranthene	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	7439-92-1	Lead	25	mg/k	25	1	1
J	Soil	S-46-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	7440-47-3	Chromium	22	mg/k	22	1	1
J	Soil	S-46-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	86-73-7	Fluorene	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	7440-50-8	Copper	4.2	mg/k	4.2	1	1
J	Soil	S-46-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	218-01-9	Chrysene	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	16	mg/k	16	1	1
J	Soil	S-46-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	129-00-0	Pyrene	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	85-01-8	Phenanthrene	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	7440-02-0	Nickel	14	mg/k	14	1	1
J	Soil	S-46-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.01	mg/k	0.01	0	0
J	Soil	S-46-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-46-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	208-96-8	Acenaphthylene	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	7440-66-6	Zinc	26	mg/k	26	1	1
J	Soil	S-46-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03		C25-C40	420	mg/k	420	1	1
J	Soil	S-46-0.5	0.5	04-Jun-03		C21-C40	280	mg/k	280	1	1
J	Soil	S-46-0.5	0.5	04-Jun-03		C21-C40	170	mg/k	170	1	0
J	Soil	S-46-0.5	0.5	04-Jun-03		C16-C21	36	mg/k	36	1	1
J	Soil	S-46-0.5	0.5	04-Jun-03		C16-C21	10	mg/k	10	1	0
J	Soil	S-46-0.5	0.5	04-Jun-03		C12-C16	3	mg/k	3	1	1
J	Soil	S-46-0.5	0.5	04-Jun-03		C12-C16	2	mg/k	2	0	0
J	Soil	S-46-0.5	0.5	04-Jun-03		C10-C25	150	mg/k	150	1	1
J	Soil	S-46-0.5	0.5	04-Jun-03		C10-C12	1	mg/k	1	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	83-32-9	Acenaphthene	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	1	mg/k	1	1	1
J	Soil	S-46-0.5	0.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	7440-39-3	Barium	62	mg/k	62	1	1
J	Soil	S-46-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	4.4	mg/k	4.4	1	1
J	Soil	S-46-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	120-12-7	Anthracene	0.01	mg/k	0.01	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
J	Soil	S-46-0.5	0.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.01	mg/k	0.01	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-46-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	7439-92-1	Lead	1.2	mg/k	1.2	1	1
J	Soil	S-46-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	7440-66-6	Zinc	14	mg/k	14	1	1
J	Soil	S-46-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	7440-02-0	Nickel	11	mg/k	11	1	1
J	Soil	S-46-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	7440-50-8	Copper	2	mg/k	2	1	1
J	Soil	S-46-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	7440-47-3	Chromium	21	mg/k	21	1	1
J	Soil	S-46-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	14	mg/k	14	1	1
J	Soil	S-46-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	S-46-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03		C25-C40	10	mg/k	10	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	1	mg/k	1	1	1
J	Soil	S-46-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	7440-39-3	Barium	42	mg/k	42	1	1
J	Soil	S-46-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	2.4	mg/k	2.4	1	1
J	Soil	S-46-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
J	Soil	S-46-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	B-221-0.5	0.5	27-Jan-04		Percent Moisture	19.4	%		1	1
J	Soil	B-221-2.5	2.5	27-Jan-04		Percent Moisture	16.6	%		1	1
J	Soil	B-221-5.0	5	27-Jan-04		C25-C40	10	mg/k	10	0	1
J	Soil	B-221-5.0	5	27-Jan-04		C4-C10	10	mg/k	10	0	1
J	Soil	B-221-5.0	5	27-Jan-04		Percent Moisture	29.3	%		1	1
J	Soil	B-221-5.0	5	27-Jan-04		C10-C25	10	mg/k	10	0	1
J	Soil	WL-3-1	0	24-Feb-05	100-42-5	Styrene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	6.03	wt. %		1	1
J	Soil	WL-3-1	0	24-Feb-05	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	7440-22-4	Silver	1	mg/k	1	0	1
J	Soil	WL-3-1	0	24-Feb-05	7782-49-2	Selenium	5	mg/k	5	0	1
J	Soil	WL-3-1	0	24-Feb-05	129-00-0	Pyrene	0.02	mg/k	0.02	1	1
J	Soil	WL-3-1	0	24-Feb-05	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	85-01-8	Phenanthrene	0.013	mg/k	0.013	1	1
J	Soil	WL-3-1	0	24-Feb-05		Percent Moisture	29.7	%		1	1
J	Soil	WL-3-1	0	24-Feb-05		Particle Size Distribution - Silt	35.11	wt. %		1	1
J	Soil	WL-3-1	0	24-Feb-05	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05		Particle Size Distribution - Silt & Clay	55.22	wt. %		1	1
J	Soil	WL-3-1	0	24-Feb-05	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	7440-28-0	Thallium	5	mg/k	5	0	1
J	Soil	WL-3-1	0	24-Feb-05	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05		Total organic carbon	35000	mg/K	35000	1	1
J	Soil	WL-3-1	0	24-Feb-05	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	7440-62-2	Vanadium	18	mg/k	18	1	1
J	Soil	WL-3-1	0	24-Feb-05	75-01-4	Vinyl Chloride	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	38.75	wt. %		1	1
J	Soil	WL-3-1	0	24-Feb-05	7440-66-6	Zinc	45	mg/k	45	1	1
J	Soil	WL-3-1	0	24-Feb-05	7439-92-1	Lead	21	mg/k	21	1	1
J	Soil	WL-3-1	0	24-Feb-05	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	218-01-9	Chrysene	0.016	mg/k	0.016	1	1
J	Soil	WL-3-1	0	24-Feb-05	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	WL-3-1	0	24-Feb-05	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	7440-48-4	Cobalt	2.2	mg/k	2.2	1	1
J	Soil	WL-3-1	0	24-Feb-05	7440-50-8	Copper	8.5	mg/k	8.5	1	1
J	Soil	WL-3-1	0	24-Feb-05	53-70-3	Dibenz(a,h)anthracene	0.01	mg/k	0.01	0	1
J	Soil	WL-3-1	0	24-Feb-05	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
J	Soil	WL-3-1	0	24-Feb-05	86-73-7	Fluorene	0.01	mg/k	0.01	0	1
J	Soil	WL-3-1	0	24-Feb-05	91-20-3	Naphthalene	0.01	mg/k	0.01	0	0
J	Soil	WL-3-1	0	24-Feb-05		Particle Size Distribution - Gravel	0	wt. %		1	1
J	Soil	WL-3-1	0	24-Feb-05		Particle Size Distribution - Clay	20.11	wt. %		1	1
J	Soil	WL-3-1	0	24-Feb-05	7440-47-3	Chromium	19	mg/k	19	1	1
J	Soil	WL-3-1	0	24-Feb-05	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	206-44-0	Fluoranthene	0.015	mg/k	0.015	1	1
J	Soil	WL-3-1	0	24-Feb-05	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	0	wt. %		1	1
J	Soil	WL-3-1	0	24-Feb-05	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	7439-98-7	Molybdenum	1	mg/k	1	0	1
J	Soil	WL-3-1	0	24-Feb-05	75-09-2	Methylene Chloride	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05		Mean Grain Size - Fine sand	0.053	mm		1	1
J	Soil	WL-3-1	0	24-Feb-05	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	193-39-5	Indeno(1,2,3-cd)pyrene	0.01	mg/k	0.01	0	1
J	Soil	WL-3-1	0	24-Feb-05	7440-02-0	Nickel	16	mg/k	16	1	1
J	Soil	WL-3-1	0	24-Feb-05	96-12-8	1,2-Dibromo-3-Chloropropane	0.01	mg/k	0.01	0	1
J	Soil	WL-3-1	0	24-Feb-05	7440-36-0	Antimony	5	mg/k	5	0	1
J	Soil	WL-3-1	0	24-Feb-05	120-12-7	Anthracene	0.01	mg/k	0.01	0	1
J	Soil	WL-3-1	0	24-Feb-05	208-96-8	Acenaphthylene	0.01	mg/k	0.01	0	1
J	Soil	WL-3-1	0	24-Feb-05	83-32-9	Acenaphthene	0.01	mg/k	0.01	0	1
J	Soil	WL-3-1	0	24-Feb-05	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
J	Soil	WL-3-1	0	24-Feb-05	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	7440-38-2	Arsenic	5.4	mg/k	5.4	1	1
J	Soil	WL-3-1	0	24-Feb-05	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	WL-3-1	0	24-Feb-05	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	WL-3-1	0	24-Feb-05	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	7440-43-9	Cadmium	1	mg/k	1	0	1
J	Soil	WL-3-1	0	24-Feb-05	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	WL-3-1	0	24-Feb-05	7440-39-3	Barium	44	mg/k	44	1	1
J	Soil	WL-3-1	0	24-Feb-05	56-23-5	Carbon Tetrachloride	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05		C4-C10	10	mg/k	10	0	1
J	Soil	WL-3-1	0	24-Feb-05		C25-C40	230	mg/k	230	1	1
J	Soil	WL-3-1	0	24-Feb-05		C10-C25	52	mg/k	52	1	1
J	Soil	WL-3-1	0	24-Feb-05	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	50-32-8	Benzo(a)pyrene	0.015	mg/k	0.015	1	1
J	Soil	WL-3-1	0	24-Feb-05	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
J	Soil	WL-3-1	0	24-Feb-05	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	207-08-9	Benzo(k)fluoranthene	0.01	mg/k	0.01	0	1
J	Soil	WL-3-1	0	24-Feb-05	191-24-2	Benzo(g,h,i)perylene	0.012	mg/k	0.012	1	1
J	Soil	WL-3-1	0	24-Feb-05	205-99-2	Benzo(b)fluoranthene	0.011	mg/k	0.011	1	1
J	Soil	WL-3-1	0	24-Feb-05	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-1	0	24-Feb-05	56-55-3	Benzo(a)anthracene	0.01	mg/k	0.01	0	1
J	Soil	WL-3-2	0	24-Feb-05	85-01-8	Phenanthrene	0.011	mg/k	0.011	1	1
J	Soil	WL-3-2	0	24-Feb-05	206-44-0	Fluoranthene	0.01	mg/k	0.01	1	1
J	Soil	WL-3-2	0	24-Feb-05	7440-02-0	Nickel	17	mg/k	17	1	1
J	Soil	WL-3-2	0	24-Feb-05	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	7439-98-7	Molybdenum	1	mg/k	1	0	1
J	Soil	WL-3-2	0	24-Feb-05	75-09-2	Methylene Chloride	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	7439-97-6	Mercury	0.1	mg/k	0.1	1	1
J	Soil	WL-3-2	0	24-Feb-05		Mean Grain Size - Silt	0.05	mm		1	1
J	Soil	WL-3-2	0	24-Feb-05	7439-92-1	Lead	29	mg/k	29	1	1
J	Soil	WL-3-2	0	24-Feb-05	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	7440-66-6	Zinc	46	mg/k	46	1	1
J	Soil	WL-3-2	0	24-Feb-05	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05		Particle Size Distribution - Gravel	0	wt. %		1	1
J	Soil	WL-3-2	0	24-Feb-05	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	7440-48-4	Cobalt	3	mg/k	3	1	1
J	Soil	WL-3-2	0	24-Feb-05	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	218-01-9	Chrysene	0.007	mg/k	0.007	1	1
J	Soil	WL-3-2	0	24-Feb-05	7440-47-3	Chromium	22	mg/k	22	1	1
J	Soil	WL-3-2	0	24-Feb-05	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	100-42-5	Styrene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	75-01-4	Vinyl Chloride	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	7440-62-2	Vanadium	17	mg/k	17	1	1
J	Soil	WL-3-2	0	24-Feb-05	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05		Total organic carbon	26000	mg/K	26000	1	1
J	Soil	WL-3-2	0	24-Feb-05	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	7440-28-0	Thallium	5	mg/k	5	0	1
J	Soil	WL-3-2	0	24-Feb-05	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	WL-3-2	0	24-Feb-05		Particle Size Distribution - Clay	13.25	wt. %		1	1
J	Soil	WL-3-2	0	24-Feb-05	7440-22-4	Silver	1	mg/k	1	0	1
J	Soil	WL-3-2	0	24-Feb-05	7782-49-2	Selenium	5	mg/k	5	0	1
J	Soil	WL-3-2	0	24-Feb-05	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05		Percent Moisture	38.7	%		1	1
J	Soil	WL-3-2	0	24-Feb-05		Particle Size Distribution - Silt & Clay	59.65	wt. %		1	1
J	Soil	WL-3-2	0	24-Feb-05		Particle Size Distribution - Silt	46.39	wt. %		1	1
J	Soil	WL-3-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	4.96	wt. %		1	1
J	Soil	WL-3-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	35.39	wt. %		1	1
J	Soil	WL-3-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	0	wt. %		1	1
J	Soil	WL-3-2	0	24-Feb-05	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
J	Soil	WL-3-2	0	24-Feb-05	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	96-12-8	1,2-Dibromo-3-Chloropropane	0.01	mg/k	0.01	0	1
J	Soil	WL-3-2	0	24-Feb-05	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	WL-3-2	0	24-Feb-05	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	WL-3-2	0	24-Feb-05	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	129-00-0	Pyrene	0.013	mg/k	0.013	1	1
J	Soil	WL-3-2	0	24-Feb-05	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
J	Soil	WL-3-2	0	24-Feb-05	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	56-23-5	Carbon Tetrachloride	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	7440-43-9	Cadmium	1	mg/k	1	0	1
J	Soil	WL-3-2	0	24-Feb-05		C4-C10	10	mg/k	10	0	1
J	Soil	WL-3-2	0	24-Feb-05		C25-C40	62	mg/k	62	1	1
J	Soil	WL-3-2	0	24-Feb-05		C10-C25	13	mg/k	13	1	1
J	Soil	WL-3-2	0	24-Feb-05	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	191-24-2	Benzo(g,h,i)perylene	0.005	mg/k	0.005	1	1
J	Soil	WL-3-2	0	24-Feb-05	205-99-2	Benzo(b)fluoranthene	0.005	mg/k	0.005	1	1
J	Soil	WL-3-2	0	24-Feb-05	50-32-8	Benzo(a)pyrene	0.006	mg/k	0.006	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	WL-3-2	0	24-Feb-05	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	7440-39-3	Barium	50	mg/k	50	1	1
J	Soil	WL-3-2	0	24-Feb-05	7440-38-2	Arsenic	5.1	mg/k	5.1	1	1
J	Soil	WL-3-2	0	24-Feb-05	7440-36-0	Antimony	5	mg/k	5	0	1
J	Soil	WL-3-2	0	24-Feb-05	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-3-2	0	24-Feb-05	7440-50-8	Copper	8.8	mg/k	8.8	1	1
J	Soil	WL-4-1	0	24-Feb-05	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	56-23-5	Carbon Tetrachloride	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	7440-43-9	Cadmium	1	mg/k	1	0	1
J	Soil	WL-4-1	0	24-Feb-05		C4-C10	10	mg/k	10	0	1
J	Soil	WL-4-1	0	24-Feb-05	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
J	Soil	WL-4-1	0	24-Feb-05		C10-C25	10	mg/k	10	0	1
J	Soil	WL-4-1	0	24-Feb-05	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
J	Soil	WL-4-1	0	24-Feb-05	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05		C25-C40	36	mg/k	36	1	1
J	Soil	WL-4-1	0	24-Feb-05	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05		Mean Grain Size - Silt	0.027	mm		1	1
J	Soil	WL-4-1	0	24-Feb-05	7439-92-1	Lead	200	mg/k	200	1	1
J	Soil	WL-4-1	0	24-Feb-05	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	7440-47-3	Chromium	55	mg/k	55	1	1
J	Soil	WL-4-1	0	24-Feb-05	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	7440-50-8	Copper	12	mg/k	12	1	1
J	Soil	WL-4-1	0	24-Feb-05	7440-48-4	Cobalt	6.9	mg/k	6.9	1	1
J	Soil	WL-4-1	0	24-Feb-05	50-32-8	Benzo(a)pyrene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	206-44-0	Fluoranthene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	96-12-8	1,2-Dibromo-3-Chloropropane	0.01	mg/k	0.01	0	1
J	Soil	WL-4-1	0	24-Feb-05	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	WL-4-1	0	24-Feb-05	191-24-2	Benzo(g,h,i)perylene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	WL-4-1	0	24-Feb-05	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	WL-4-1	0	24-Feb-05	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	7440-39-3	Barium	73	mg/k	73	1	1
J	Soil	WL-4-1	0	24-Feb-05	7440-38-2	Arsenic	4	mg/k	4	1	1
J	Soil	WL-4-1	0	24-Feb-05	7440-36-0	Antimony	5	mg/k	5	0	1
J	Soil	WL-4-1	0	24-Feb-05	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
J	Soil	WL-4-1	0	24-Feb-05	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	205-99-2	Benzo(b)fluoranthene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	7782-49-2	Selenium	5	mg/k	5	0	1
J	Soil	WL-4-1	0	24-Feb-05	7440-22-4	Silver	1	mg/k	1	0	1
J	Soil	WL-4-1	0	24-Feb-05	100-42-5	Styrene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	7440-28-0	Thallium	5	mg/k	5	0	1
J	Soil	WL-4-1	0	24-Feb-05	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	7440-62-2	Vanadium	24	mg/k	24	1	1
J	Soil	WL-4-1	0	24-Feb-05	75-01-4	Vinyl Chloride	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	7440-66-6	Zinc	88	mg/k	88	1	1
J	Soil	WL-4-1	0	24-Feb-05	75-09-2	Methylene Chloride	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	218-01-9	Chrysene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05		Total organic carbon	13000	mg/K	13000	1	1
J	Soil	WL-4-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	0	wt. %		1	1
J	Soil	WL-4-1	0	24-Feb-05	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	7439-98-7	Molybdenum	1	mg/k	1	0	1
J	Soil	WL-4-1	0	24-Feb-05	7440-02-0	Nickel	42	mg/k	42	1	1
J	Soil	WL-4-1	0	24-Feb-05	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05		Particle Size Distribution - Gravel	0	wt. %		1	1
J	Soil	WL-4-1	0	24-Feb-05	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	14.36	wt. %		1	1
J	Soil	WL-4-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	0	wt. %		1	1
J	Soil	WL-4-1	0	24-Feb-05		Particle Size Distribution - Silt	71.84	wt. %		1	1
J	Soil	WL-4-1	0	24-Feb-05		Particle Size Distribution - Silt & Clay	85.64	wt. %		1	1
J	Soil	WL-4-1	0	24-Feb-05		Percent Moisture	9.1	%		1	1
J	Soil	WL-4-1	0	24-Feb-05	85-01-8	Phenanthrene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05	129-00-0	Pyrene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-1	0	24-Feb-05		Particle Size Distribution - Clay	13.8	wt. %		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	WL-4-2	0	24-Feb-05	7440-43-9	Cadmium	1.2	mg/k	1.2	1	1
J	Soil	WL-4-2	0	24-Feb-05	7440-47-3	Chromium	31	mg/k	31	1	1
J	Soil	WL-4-2	0	24-Feb-05	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	56-23-5	Carbon Tetrachloride	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05		C4-C10	10	mg/k	10	0	1
J	Soil	WL-4-2	0	24-Feb-05	7439-98-7	Molybdenum	1.2	mg/k	1.2	1	1
J	Soil	WL-4-2	0	24-Feb-05		C25-C40	660	mg/k	660	1	1
J	Soil	WL-4-2	0	24-Feb-05		C10-C25	160	mg/k	160	1	1
J	Soil	WL-4-2	0	24-Feb-05	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	7439-92-1	Lead	140	mg/k	140	1	1
J	Soil	WL-4-2	0	24-Feb-05	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	86-73-7	Fluorene	0.01	mg/k	0.01	0	1
J	Soil	WL-4-2	0	24-Feb-05	206-44-0	Fluoranthene	0.01	mg/k	0.01	0	1
J	Soil	WL-4-2	0	24-Feb-05	53-70-3	Dibenz(a,h)anthracene	0.01	mg/k	0.01	0	1
J	Soil	WL-4-2	0	24-Feb-05	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	218-01-9	Chrysene	0.021	mg/k	0.021	1	1
J	Soil	WL-4-2	0	24-Feb-05	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	193-39-5	Indeno(1,2,3-cd)pyrene	0.01	mg/k	0.01	0	1
J	Soil	WL-4-2	0	24-Feb-05	7440-50-8	Copper	11	mg/k	11	1	1
J	Soil	WL-4-2	0	24-Feb-05	7440-48-4	Cobalt	4.3	mg/k	4.3	1	1
J	Soil	WL-4-2	0	24-Feb-05	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	205-99-2	Benzo(b)fluoranthene	0.011	mg/k	0.011	1	1
J	Soil	WL-4-2	0	24-Feb-05	208-96-8	Acenaphthylene	0.01	mg/k	0.01	0	1
J	Soil	WL-4-2	0	24-Feb-05	120-12-7	Anthracene	0.01	mg/k	0.01	0	1
J	Soil	WL-4-2	0	24-Feb-05	7440-36-0	Antimony	5	mg/k	5	0	1
J	Soil	WL-4-2	0	24-Feb-05	7440-38-2	Arsenic	4.4	mg/k	4.4	1	1
J	Soil	WL-4-2	0	24-Feb-05	7440-39-3	Barium	75	mg/k	75	1	1
J	Soil	WL-4-2	0	24-Feb-05	71-43-2	Benzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	50-32-8	Benzo(a)pyrene	0.014	mg/k	0.014	1	1
J	Soil	WL-4-2	0	24-Feb-05	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
J	Soil	WL-4-2	0	24-Feb-05	191-24-2	Benzo(g,h,i)perylene	0.031	mg/k	0.031	1	1
J	Soil	WL-4-2	0	24-Feb-05	207-08-9	Benzo(k)fluoranthene	0.01	mg/k	0.01	0	1
J	Soil	WL-4-2	0	24-Feb-05	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
J	Soil	WL-4-2	0	24-Feb-05	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05		Mean Grain Size - Medium sand	0.323	mm		1	1
J	Soil	WL-4-2	0	24-Feb-05	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	56-55-3	Benzo(a)anthracene	0.01	mg/k	0.01	0	1
J	Soil	WL-4-2	0	24-Feb-05	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
J	Soil	WL-4-2	0	24-Feb-05	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
J	Soil	WL-4-2	0	24-Feb-05	7440-66-6	Zinc	120	mg/k	120	1	1
J	Soil	WL-4-2	0	24-Feb-05	83-32-9	Acenaphthene	0.01	mg/k	0.01	0	1
J	Soil	WL-4-2	0	24-Feb-05	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	96-12-8	1,2-Dibromo-3-Chloropropane	0.01	mg/k	0.01	0	1
J	Soil	WL-4-2	0	24-Feb-05	108-88-3	Toluene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	129-00-0	Pyrene	0.01	mg/k	0.01	0	1
J	Soil	WL-4-2	0	24-Feb-05	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	7782-49-2	Selenium	5	mg/k	5	0	1
J	Soil	WL-4-2	0	24-Feb-05	7440-22-4	Silver	1	mg/k	1	0	1
J	Soil	WL-4-2	0	24-Feb-05	100-42-5	Styrene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	75-09-2	Methylene Chloride	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	7440-28-0	Thallium	5	mg/k	5	0	1
J	Soil	WL-4-2	0	24-Feb-05		Total organic carbon	35000	mg/K	35000	1	1
J	Soil	WL-4-2	0	24-Feb-05	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	7440-62-2	Vanadium	23	mg/k	23	1	1
J	Soil	WL-4-2	0	24-Feb-05	75-01-4	Vinyl Chloride	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05		Particle Size Distribution - Clay	0	wt. %		0	1
J	Soil	WL-4-2	0	24-Feb-05	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	91-20-3	Naphthalene	0.01	mg/k	0.01	0	0
J	Soil	WL-4-2	0	24-Feb-05	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05		Particle Size Distribution - Gravel	12.22	wt. %		1	1
J	Soil	WL-4-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	9.82	wt. %		1	1
J	Soil	WL-4-2	0	24-Feb-05	7439-97-6	Mercury	0.1	mg/k	0.1	1	1
J	Soil	WL-4-2	0	24-Feb-05	7440-02-0	Nickel	30	mg/k	30	1	1
J	Soil	WL-4-2	0	24-Feb-05		Percent Moisture	28.7	%		1	1
J	Soil	WL-4-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	36.94	wt. %		1	1
J	Soil	WL-4-2	0	24-Feb-05		Particle Size Distribution - Silt & Clay	18.17	wt. %		1	1
J	Soil	WL-4-2	0	24-Feb-05	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
J	Soil	WL-4-2	0	24-Feb-05		Particle Size Distribution - Silt	0	wt. %		0	1
J	Soil	WL-4-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	22.85	wt. %		1	1
J	Soil	WL-4-2	0	24-Feb-05	85-01-8	Phenanthrene	0.01	mg/k	0.01	0	1
K	GS	SV-25-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.37	ug/L	0.37	0	1
K	GS	SV-25-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.33	ug/L		0	1
K	GS	SV-25-15	15	18-Jul-07	74-87-3	Chloromethane	0.68	ug/L	0.68	0	1
K	GS	SV-25-15	15	18-Jul-07	67-66-3	Chloroform	120	ug/L	120	1	1
K	GS	SV-25-15	15	18-Jul-07	75-00-3	Chloroethane	0.22	ug/L	0.22	0	1
K	GS	SV-25-15	15	18-Jul-07		Carbon Dioxide	3.4	%		1	1
K	GS	SV-25-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	1.5	ug/L	1.5	1	1
K	GS	SV-25-15	15	18-Jul-07		Carbon Monoxide	0.025	%		0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-25-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.26	ug/L	0.26	0	1
K	GS	SV-25-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	1.4	ug/L	1.4	0	1
K	GS	SV-25-15	15	18-Jul-07	74-83-9	Bromomethane	0.32	ug/L	0.32	0	1
K	GS	SV-25-15	15	18-Jul-07	75-27-4	Bromodichloromethane	1.3	ug/L	1.3	1	1
K	GS	SV-25-15	15	18-Jul-07	75-25-2	Bromoform	0.85	ug/L	0.85	0	1
K	GS	SV-25-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.38	ug/L	0.38	0	1
K	GS	SV-25-15	15	18-Jul-07	110-82-7	Cyclohexane	0.28	ug/L	0.28	0	1
K	GS	SV-25-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.7	ug/L	0.7	0	1
K	GS	SV-25-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.41	ug/L	0.41	0	1
K	GS	SV-25-15	15	18-Jul-07		Ethane	0.0025	%		0	1
K	GS	SV-25-15	15	18-Jul-07		Ethene	0.0025	%		0	1
K	GS	SV-25-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.36	ug/L	0.36	0	1
K	GS	SV-25-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	3.5	ug/L	3.5	0	1
K	GS	SV-25-15	15	18-Jul-07	110-54-3	Hexane	0.29	ug/L	0.29	0	1
K	GS	SV-25-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.81	ug/L	0.81	0	1
K	GS	SV-25-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.43	ug/L	0.43	0	1
K	GS	SV-25-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.63	ug/L	0.63	0	1
K	GS	SV-25-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.4	ug/L	0.4	0	1
K	GS	SV-25-15	15	18-Jul-07	108-20-3	Isopropyl ether	1.4	ug/L	1.4	0	1
K	GS	SV-25-15	15	18-Jul-07	64-17-5	Ethanol	0.62	ug/L	0.62	0	1
K	GS	SV-25-15	15	18-Jul-07		1,2-Dichloroethane-d4	117	%		1	1
K	GS	SV-25-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.33	ug/L	0.33	0	1
K	GS	SV-25-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.36	ug/L	0.36	0	1
K	GS	SV-25-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	2.3	ug/L	2.3	0	1
K	GS	SV-25-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.45	ug/L	0.45	0	1
K	GS	SV-25-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.57	ug/L	0.57	0	1
K	GS	SV-25-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.63	ug/L	0.63	0	1
K	GS	SV-25-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.45	ug/L	0.45	0	1
K	GS	SV-25-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.33	ug/L	0.33	0	1
K	GS	SV-25-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.33	ug/L	0.33	0	1
K	GS	SV-25-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	2	ug/L	2	0	1
K	GS	SV-25-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	2.4	ug/L	2.4	0	1
K	GS	SV-25-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.4	ug/L	0.4	0	1
K	GS	SV-25-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.5	ug/L	0.5	0	1
K	GS	SV-25-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.33	ug/L	0.33	0	1
K	GS	SV-25-15	15	18-Jul-07	71-43-2	Benzene	0.26	ug/L	0.26	0	1
K	GS	SV-25-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.38	ug/L	0.38	0	1
K	GS	SV-25-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.4	ug/L	0.4	0	1
K	GS	SV-25-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.18	ug/L	0.18	0	1
K	GS	SV-25-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.5	ug/L	0.5	0	1
K	GS	SV-25-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.5	ug/L	0.5	0	1
K	GS	SV-25-15	15	18-Jul-07	123-91-1	1,4-Dioxane	1.2	ug/L	1.2	0	1
K	GS	SV-25-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.38	ug/L	0.38	0	1
K	GS	SV-25-15	15	18-Jul-07	78-93-3	2-Butanone	0.24	ug/L	0.24	0	1
K	GS	SV-25-15	15	18-Jul-07	591-78-6	2-Hexanone	1.4	ug/L	1.4	0	1
K	GS	SV-25-15	15	18-Jul-07		4-Bromofluorobenzene	100	%		1	1
K	GS	SV-25-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.34	ug/L	0.34	0	1
K	GS	SV-25-15	15	18-Jul-07	67-64-1	Acetone	0.78	ug/L	0.78	0	1
K	GS	SV-25-15	15	18-Jul-07	107-05-1	Allyl chloride	1	ug/L	1	0	1
K	GS	SV-25-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.58	ug/L	0.58	0	1
K	GS	SV-25-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.46	ug/L	0.46	0	1
K	GS	SV-25-15	15	18-Jul-07	74-82-8	Methane	0.0078	%		1	1
K	GS	SV-25-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
K	GS	SV-25-15	15	18-Jul-07	79-01-6	Trichloroethene	0.44	ug/L	0.44	0	1
K	GS	SV-25-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.37	ug/L	0.37	0	1
K	GS	SV-25-15	15	18-Jul-07	108-88-3	Toluene	0.31	ug/L	0.31	0	1
K	GS	SV-25-15	15	18-Jul-07		Toluene-d8	96	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-25-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.24	ug/L	0.24	0	1
K	GS	SV-25-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.57	ug/L	0.57	1	1
K	GS	SV-25-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	1	ug/L	1	0	1
K	GS	SV-25-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	1.4	ug/L	1.4	0	1
K	GS	SV-25-15	15	18-Jul-07	75-09-2	Methylene chloride	0.29	ug/L	0.29	0	1
K	GS	SV-25-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.21	ug/L	0.21	0	1
K	GS	SV-25-15	15	18-Jul-07	100-42-5	Styrene	0.35	ug/L	0.35	0	1
K	GS	SV-25-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.3	ug/L	0.3	0	1
K	GS	SV-25-15	15	18-Jul-07	91-20-3	Naphthalene	1.7	ug/L	1.7	0	1
K	GS	SV-25-15	15	18-Jul-07	142-82-5	n-Heptane	0.34	ug/L	0.34	0	1
K	GS	SV-25-15	15	18-Jul-07		Nitrogen	84	%		1	1
K	GS	SV-25-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.4	ug/L	0.4	0	1
K	GS	SV-25-15	15	18-Jul-07		Oxygen	13	%		1	1
K	GS	SV-25-15	15	18-Jul-07	95-47-6	o-Xylene	0.36	ug/L	0.36	0	1
K	GS	SV-25-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.4	ug/L	0.4	0	1
K	GS	SV-25-5	5	18-Jul-07	75-09-2	Methylene chloride	0.0049	ug/L	0.0049	1	1
K	GS	SV-25-5	5	18-Jul-07	110-82-7	Cyclohexane	0.0091	ug/L	0.0091	1	1
K	GS	SV-25-5	5	18-Jul-07	110-54-3	Hexane	0.0045	ug/L	0.0045	0	1
K	GS	SV-25-5	5	18-Jul-07	74-82-8	Methane	0.00028	%		1	1
K	GS	SV-25-5	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.036	ug/L	0.036	1	1
K	GS	SV-25-5	5	18-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1
K	GS	SV-25-5	5	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
K	GS	SV-25-5	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
K	GS	SV-25-5	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
K	GS	SV-25-5	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
K	GS	SV-25-5	5	18-Jul-07	100-41-4	Ethylbenzene	0.0083	ug/L	0.0083	1	1
K	GS	SV-25-5	5	18-Jul-07		Ethene	0.0026	%		0	1
K	GS	SV-25-5	5	18-Jul-07		Ethane	0.0026	%		0	1
K	GS	SV-25-5	5	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
K	GS	SV-25-5	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
K	GS	SV-25-5	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
K	GS	SV-25-5	5	18-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
K	GS	SV-25-5	5	18-Jul-07		Toluene-d8	96	%		1	1
K	GS	SV-25-5	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
K	GS	SV-25-5	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1
K	GS	SV-25-5	5	18-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
K	GS	SV-25-5	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
K	GS	SV-25-5	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
K	GS	SV-25-5	5	18-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
K	GS	SV-25-5	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
K	GS	SV-25-5	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
K	GS	SV-25-5	5	18-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
K	GS	SV-25-5	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0038	ug/L	0.0038	0	1
K	GS	SV-25-5	5	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
K	GS	SV-25-5	5	18-Jul-07	142-82-5	n-Heptane	0.0053	ug/L	0.0053	0	1
K	GS	SV-25-5	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
K	GS	SV-25-5	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
K	GS	SV-25-5	5	18-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
K	GS	SV-25-5	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.007	ug/L	0.007	1	1
K	GS	SV-25-5	5	18-Jul-07	95-47-6	o-Xylene	0.0089	ug/L	0.0089	1	1
K	GS	SV-25-5	5	18-Jul-07		Oxygen	21	%		1	1
K	GS	SV-25-5	5	18-Jul-07	103-65-1	n-Propylbenzene	0.0063	ug/L	0.0063	0	1
K	GS	SV-25-5	5	18-Jul-07		Nitrogen	78	%		1	1
K	GS	SV-25-5	5	18-Jul-07	108-88-3	Toluene	0.062	ug/L	0.062	1	1
K	GS	SV-25-5	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
K	GS	SV-25-5	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
K	GS	SV-25-5	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-25-5	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
K	GS	SV-25-5	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
K	GS	SV-25-5	5	18-Jul-07		1,2-Dichloroethane-d4	113	%		1	1
K	GS	SV-25-5	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
K	GS	SV-25-5	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
K	GS	SV-25-5	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
K	GS	SV-25-5	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
K	GS	SV-25-5	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.008	ug/L	0.008	1	1
K	GS	SV-25-5	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
K	GS	SV-25-5	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
K	GS	SV-25-5	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
K	GS	SV-25-5	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
K	GS	SV-25-5	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
K	GS	SV-25-5	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
K	GS	SV-25-5	5	18-Jul-07	67-66-3	Chloroform	1.2	ug/L	1.2	1	1
K	GS	SV-25-5	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
K	GS	SV-25-5	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
K	GS	SV-25-5	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
K	GS	SV-25-5	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.011	ug/L	0.011	1	1
K	GS	SV-25-5	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
K	GS	SV-25-5	5	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
K	GS	SV-25-5	5	18-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
K	GS	SV-25-5	5	18-Jul-07		Carbon Monoxide	0.026	%		0	1
K	GS	SV-25-5	5	18-Jul-07	75-15-0	Carbon Disulfide	0.026	ug/L	0.026	1	1
K	GS	SV-25-5	5	18-Jul-07		Carbon Dioxide	0.97	%		1	1
K	GS	SV-25-5	5	18-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
K	GS	SV-25-5	5	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
K	GS	SV-25-5	5	18-Jul-07	75-27-4	Bromodichloromethane	0.026	ug/L	0.026	1	1
K	GS	SV-25-5	5	18-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
K	GS	SV-25-5	5	18-Jul-07	71-43-2	Benzene	0.015	ug/L	0.015	1	1
K	GS	SV-25-5	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.006	ug/L	0.006	0	1
K	GS	SV-25-5	5	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
K	GS	SV-25-5	5	18-Jul-07	67-64-1	Acetone	0.077	ug/L	0.077	1	1
K	GS	SV-25-5	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
K	GS	SV-25-5	5	18-Jul-07		4-Bromofluorobenzene	105	%		1	1
K	GS	SV-25-5	5	18-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
K	GS	SV-25-5	5	18-Jul-07	78-93-3	2-Butanone	0.016	ug/L	0.016	1	1
K	GS	SV-25-5	5	18-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
K	GS	SV-30-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.0064	ug/L	0.0064	0	1
K	GS	SV-30-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.063	ug/L	0.063	0	1
K	GS	SV-30-15	15	18-Jul-07	110-54-3	Hexane	0.048	ug/L	0.048	1	1
K	GS	SV-30-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	1	ug/L	1	1	1
K	GS	SV-30-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.0073	ug/L	0.0073	0	1
K	GS	SV-30-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0073	ug/L	0.0073	0	1
K	GS	SV-30-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.0064	ug/L	0.0064	0	1
K	GS	SV-30-15	15	18-Jul-07	74-82-8	Methane	0.0007	%		1	1
K	GS	SV-30-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.025	ug/L	0.025	0	1
K	GS	SV-30-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.025	ug/L	0.025	0	1
K	GS	SV-30-15	15	18-Jul-07		Ethene	0.003	%		0	1
K	GS	SV-30-15	15	18-Jul-07		Ethane	0.003	%		0	1
K	GS	SV-30-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.013	ug/L	0.013	0	1
K	GS	SV-30-15	15	18-Jul-07	110-82-7	Cyclohexane	0.0094	ug/L	0.0094	1	1
K	GS	SV-30-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0053	ug/L	0.0053	0	1
K	GS	SV-30-15	15	18-Jul-07	108-88-3	Toluene	0.012	ug/L	0.012	1	1
K	GS	SV-30-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0067	ug/L	0.0067	0	1
K	GS	SV-30-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0059	ug/L		0	1
K	GS	SV-30-15	15	18-Jul-07	64-17-5	Ethanol	0.011	ug/L	0.011	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-30-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.0044	ug/L	0.0044	0	1
K	GS	SV-30-15	15	18-Jul-07	74-87-3	Chloromethane	0.082	ug/L	0.082	1	1
K	GS	SV-30-15	15	18-Jul-07	100-42-5	Styrene	0.0063	ug/L	0.0063	0	1
K	GS	SV-30-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0038	ug/L	0.0038	0	1
K	GS	SV-30-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
K	GS	SV-30-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0083	ug/L	0.0083	0	1
K	GS	SV-30-15	15	18-Jul-07	79-01-6	Trichloroethene	0.008	ug/L	0.008	0	1
K	GS	SV-30-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0067	ug/L	0.0067	0	1
K	GS	SV-30-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.01	ug/L	0.01	0	1
K	GS	SV-30-15	15	18-Jul-07		Toluene-d8	96	%		1	1
K	GS	SV-30-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0051	ug/L	0.0051	0	1
K	GS	SV-30-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.025	ug/L	0.025	0	1
K	GS	SV-30-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.0073	ug/L	0.0073	0	1
K	GS	SV-30-15	15	18-Jul-07	95-47-6	o-Xylene	0.0064	ug/L	0.0064	0	1
K	GS	SV-30-15	15	18-Jul-07		Oxygen	19	%		1	1
K	GS	SV-30-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.0073	ug/L	0.0073	0	1
K	GS	SV-30-15	15	18-Jul-07		Nitrogen	80	%		1	1
K	GS	SV-30-15	15	18-Jul-07	142-82-5	n-Heptane	0.014	ug/L	0.014	1	1
K	GS	SV-30-15	15	18-Jul-07	91-20-3	Naphthalene	0.031	ug/L	0.031	0	1
K	GS	SV-30-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0059	ug/L	0.0059	0	1
K	GS	SV-30-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.036	ug/L	0.036	0	1
K	GS	SV-30-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.0033	ug/L	0.0033	0	1
K	GS	SV-30-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0073	ug/L	0.0073	0	1
K	GS	SV-30-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0068	ug/L	0.0068	0	1
K	GS	SV-30-15	15	18-Jul-07		1,2-Dichloroethane-d4	112	%		1	1
K	GS	SV-30-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.006	ug/L	0.006	0	1
K	GS	SV-30-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0089	ug/L	0.0089	0	1
K	GS	SV-30-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.01	ug/L	0.01	0	1
K	GS	SV-30-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.011	ug/L	0.011	0	1
K	GS	SV-30-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0089	ug/L	0.0089	0	1
K	GS	SV-30-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.044	ug/L	0.044	0	1
K	GS	SV-30-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.01	ug/L	0.01	0	1
K	GS	SV-30-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0059	ug/L	0.0059	0	1
K	GS	SV-30-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.006	ug/L	0.006	0	1
K	GS	SV-30-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0081	ug/L	0.0081	0	1
K	GS	SV-30-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.011	ug/L	0.011	0	1
K	GS	SV-30-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0081	ug/L	0.0081	0	1
K	GS	SV-30-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.018	ug/L	0.018	0	1
K	GS	SV-30-15	15	18-Jul-07	67-66-3	Chloroform	0.0073	ug/L	0.0073	1	1
K	GS	SV-30-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.041	ug/L	0.041	0	1
K	GS	SV-30-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0073	ug/L	0.0073	0	1
K	GS	SV-30-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.0099	ug/L	0.0099	0	1
K	GS	SV-30-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0089	ug/L	0.0089	0	1
K	GS	SV-30-15	15	18-Jul-07	75-00-3	Chloroethane	0.0039	ug/L	0.0039	0	1
K	GS	SV-30-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.0093	ug/L	0.0093	0	1
K	GS	SV-30-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.022	ug/L	0.022	1	1
K	GS	SV-30-15	15	18-Jul-07		Carbon Dioxide	1.2	%		1	1
K	GS	SV-30-15	15	18-Jul-07	75-25-2	Bromoform	0.015	ug/L	0.015	0	1
K	GS	SV-30-15	15	18-Jul-07		Carbon Monoxide	0.03	%		0	1
K	GS	SV-30-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.0077	ug/L	0.0077	0	1
K	GS	SV-30-15	15	18-Jul-07	71-43-2	Benzene	0.0084	ug/L	0.0084	1	1
K	GS	SV-30-15	15	18-Jul-07	78-93-3	2-Butanone	0.02	ug/L	0.02	1	1
K	GS	SV-30-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0068	ug/L	0.0068	0	1
K	GS	SV-30-15	15	18-Jul-07	67-64-1	Acetone	0.085	ug/L	0.085	1	1
K	GS	SV-30-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.021	ug/L	0.021	0	1
K	GS	SV-30-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0061	ug/L	0.0061	0	1
K	GS	SV-30-15	15	18-Jul-07		4-Bromofluorobenzene	102	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-30-15	15	18-Jul-07	591-78-6	2-Hexanone	0.024	ug/L	0.024	0	1
K	GS	SV-30-15	15	18-Jul-07	107-05-1	Allyl chloride	0.018	ug/L	0.018	0	1
K	GS	SV-30-15	15	18-Jul-07	74-83-9	Bromomethane	0.0057	ug/L	0.0057	0	1
K	GS	SV-30-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0069	ug/L	0.0069	0	1
K	GS	SV-30-5	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.059	ug/L	0.059	0	1
K	GS	SV-30-5	5	18-Jul-07	110-54-3	Hexane	0.012	ug/L	0.012	1	1
K	GS	SV-30-5	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.014	ug/L	0.014	0	1
K	GS	SV-30-5	5	18-Jul-07	108-20-3	Isopropyl ether	0.023	ug/L	0.023	0	1
K	GS	SV-30-5	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.012	ug/L	0.012	1	1
K	GS	SV-30-5	5	18-Jul-07	100-41-4	Ethylbenzene	0.006	ug/L	0.006	0	1
K	GS	SV-30-5	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.005	ug/L	0.005	0	1
K	GS	SV-30-5	5	18-Jul-07	98-82-8	Isopropylbenzene	0.0068	ug/L	0.0068	0	1
K	GS	SV-30-5	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.023	ug/L	0.023	0	1
K	GS	SV-30-5	5	18-Jul-07		Ethene	0.0028	%		0	1
K	GS	SV-30-5	5	18-Jul-07	64-17-5	Ethanol	0.01	ug/L	0.01	0	1
K	GS	SV-30-5	5	18-Jul-07		Ethane	0.0028	%		0	1
K	GS	SV-30-5	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0068	ug/L	0.0068	0	1
K	GS	SV-30-5	5	18-Jul-07	124-48-1	Dibromochloromethane	0.012	ug/L	0.012	0	1
K	GS	SV-30-5	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0063	ug/L	0.0063	0	1
K	GS	SV-30-5	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.023	ug/L	0.023	0	1
K	GS	SV-30-5	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0055	ug/L		0	1
K	GS	SV-30-5	5	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
K	GS	SV-30-5	5	18-Jul-07	110-82-7	Cyclohexane	0.0073	ug/L	0.0073	1	1
K	GS	SV-30-5	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0094	ug/L	0.0094	0	1
K	GS	SV-30-5	5	18-Jul-07	75-01-4	Vinyl chloride	0.0035	ug/L	0.0035	0	1
K	GS	SV-30-5	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
K	GS	SV-30-5	5	18-Jul-07	74-82-8	Methane	0.00028	%		0	1
K	GS	SV-30-5	5	18-Jul-07	67-66-3	Chloroform	0.25	ug/L	0.25	1	1
K	GS	SV-30-5	5	18-Jul-07	79-01-6	Trichloroethene	0.0074	ug/L	0.0074	0	1
K	GS	SV-30-5	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0063	ug/L	0.0063	0	1
K	GS	SV-30-5	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0055	ug/L	0.0055	0	1
K	GS	SV-30-5	5	18-Jul-07		Toluene-d8	96	%		1	1
K	GS	SV-30-5	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.0068	ug/L	0.0068	0	1
K	GS	SV-30-5	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0041	ug/L	0.0041	0	1
K	GS	SV-30-5	5	18-Jul-07	91-20-3	Naphthalene	0.029	ug/L	0.029	0	1
K	GS	SV-30-5	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.017	ug/L	0.017	0	1
K	GS	SV-30-5	5	18-Jul-07	100-42-5	Styrene	0.0059	ug/L	0.0059	0	1
K	GS	SV-30-5	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0078	ug/L	0.0078	0	1
K	GS	SV-30-5	5	18-Jul-07	95-47-6	o-Xylene	0.006	ug/L	0.006	0	1
K	GS	SV-30-5	5	18-Jul-07		Oxygen	20	%		1	1
K	GS	SV-30-5	5	18-Jul-07	103-65-1	n-Propylbenzene	0.0068	ug/L	0.0068	0	1
K	GS	SV-30-5	5	18-Jul-07		Nitrogen	79	%		1	1
K	GS	SV-30-5	5	18-Jul-07	142-82-5	n-Heptane	0.0056	ug/L	0.0056	0	1
K	GS	SV-30-5	5	18-Jul-07	108-88-3	Toluene	0.0052	ug/L	0.0052	0	1
K	GS	SV-30-5	5	18-Jul-07	75-00-3	Chloroethane	0.0036	ug/L	0.0036	0	1
K	GS	SV-30-5	5	18-Jul-07	106-99-0	1,3-Butadiene	0.003	ug/L	0.003	0	1
K	GS	SV-30-5	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0068	ug/L	0.0068	0	1
K	GS	SV-30-5	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0064	ug/L	0.0064	0	1
K	GS	SV-30-5	5	18-Jul-07		1,2-Dichloroethane-d4	113	%		1	1
K	GS	SV-30-5	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0056	ug/L	0.0056	0	1
K	GS	SV-30-5	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0083	ug/L	0.0083	0	1
K	GS	SV-30-5	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0096	ug/L	0.0096	0	1
K	GS	SV-30-5	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0083	ug/L	0.0083	0	1
K	GS	SV-30-5	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0099	ug/L	0.0099	1	1
K	GS	SV-30-5	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.011	ug/L	0.011	0	1
K	GS	SV-30-5	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.033	ug/L	0.033	0	1
K	GS	SV-30-5	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0055	ug/L	0.0055	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-30-5	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0056	ug/L	0.0056	0	1
K	GS	SV-30-5	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0075	ug/L	0.0075	0	1
K	GS	SV-30-5	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
K	GS	SV-30-5	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0095	ug/L	0.0095	0	1
K	GS	SV-30-5	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0075	ug/L	0.0075	0	1
K	GS	SV-30-5	5	18-Jul-07	75-09-2	Methylene chloride	0.0048	ug/L	0.0048	0	1
K	GS	SV-30-5	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.038	ug/L	0.038	0	1
K	GS	SV-30-5	5	18-Jul-07	74-83-9	Bromomethane	0.0054	ug/L	0.0054	0	1
K	GS	SV-30-5	5	18-Jul-07	108-90-7	Chlorobenzene	0.0064	ug/L	0.0064	0	1
K	GS	SV-30-5	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.041	ug/L	0.041	0	1
K	GS	SV-30-5	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0083	ug/L	0.0083	0	1
K	GS	SV-30-5	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0087	ug/L	0.0087	0	1
K	GS	SV-30-5	5	18-Jul-07		Carbon Monoxide	0.028	%		0	1
K	GS	SV-30-5	5	18-Jul-07		Carbon Dioxide	1.2	%		1	1
K	GS	SV-30-5	5	18-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
K	GS	SV-30-5	5	18-Jul-07	75-27-4	Bromodichloromethane	0.012	ug/L	0.012	1	1
K	GS	SV-30-5	5	18-Jul-07	100-44-7	Benzyl chloride	0.0071	ug/L	0.0071	0	1
K	GS	SV-30-5	5	18-Jul-07	78-93-3	2-Butanone	0.0084	ug/L	0.0084	1	1
K	GS	SV-30-5	5	18-Jul-07	123-91-1	1,4-Dioxane	0.02	ug/L	0.02	0	1
K	GS	SV-30-5	5	18-Jul-07	75-15-0	Carbon Disulfide	0.017	ug/L	0.017	1	1
K	GS	SV-30-5	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0064	ug/L	0.0064	0	1
K	GS	SV-30-5	5	18-Jul-07	71-43-2	Benzene	0.0044	ug/L	0.0044	0	1
K	GS	SV-30-5	5	18-Jul-07	591-78-6	2-Hexanone	0.023	ug/L	0.023	0	1
K	GS	SV-30-5	5	18-Jul-07		4-Bromofluorobenzene	105	%		1	1
K	GS	SV-30-5	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0056	ug/L	0.0056	0	1
K	GS	SV-30-5	5	18-Jul-07	67-64-1	Acetone	0.041	ug/L	0.041	1	1
K	GS	SV-30-5	5	18-Jul-07	107-05-1	Allyl chloride	0.017	ug/L	0.017	0	1
K	GS	SV-31-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
K	GS	SV-31-15	15	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
K	GS	SV-31-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.025	ug/L	0.025	1	1
K	GS	SV-31-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1
K	GS	SV-31-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
K	GS	SV-31-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
K	GS	SV-31-15	15	18-Jul-07	110-54-3	Hexane	0.096	ug/L	0.096	1	1
K	GS	SV-31-15	15	18-Jul-07	74-82-8	Methane	0.00026	%		0	1
K	GS	SV-31-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.007	ug/L	0.007	1	1
K	GS	SV-31-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
K	GS	SV-31-15	15	18-Jul-07		Ethene	0.0026	%		0	1
K	GS	SV-31-15	15	18-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
K	GS	SV-31-15	15	18-Jul-07		Ethane	0.0026	%		0	1
K	GS	SV-31-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
K	GS	SV-31-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
K	GS	SV-31-15	15	18-Jul-07	110-82-7	Cyclohexane	0.093	ug/L	0.093	1	1
K	GS	SV-31-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
K	GS	SV-31-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
K	GS	SV-31-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
K	GS	SV-31-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
K	GS	SV-31-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
K	GS	SV-31-15	15	18-Jul-07	67-66-3	Chloroform	2.1	ug/L	2.1	1	1
K	GS	SV-31-15	15	18-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
K	GS	SV-31-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
K	GS	SV-31-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
K	GS	SV-31-15	15	18-Jul-07		Toluene-d8	98	%		1	1
K	GS	SV-31-15	15	18-Jul-07	108-88-3	Toluene	0.049	ug/L	0.049	1	1
K	GS	SV-31-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
K	GS	SV-31-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1
K	GS	SV-31-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-31-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
K	GS	SV-31-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.0073	ug/L	0.0073	1	1
K	GS	SV-31-15	15	18-Jul-07		Oxygen	15	%		1	1
K	GS	SV-31-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.0063	ug/L	0.0063	0	1
K	GS	SV-31-15	15	18-Jul-07		Nitrogen	81	%		1	1
K	GS	SV-31-15	15	18-Jul-07	142-82-5	n-Heptane	0.047	ug/L	0.047	1	1
K	GS	SV-31-15	15	18-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
K	GS	SV-31-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
K	GS	SV-31-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.0038	ug/L	0.0038	0	1
K	GS	SV-31-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
K	GS	SV-31-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
K	GS	SV-31-15	15	18-Jul-07		1,2-Dichloroethane-d4	96	%		1	1
K	GS	SV-31-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
K	GS	SV-31-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
K	GS	SV-31-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
K	GS	SV-31-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
K	GS	SV-31-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
K	GS	SV-31-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
K	GS	SV-31-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
K	GS	SV-31-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
K	GS	SV-31-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
K	GS	SV-31-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
K	GS	SV-31-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
K	GS	SV-31-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
K	GS	SV-31-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
K	GS	SV-31-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
K	GS	SV-31-15	15	18-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
K	GS	SV-31-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
K	GS	SV-31-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
K	GS	SV-31-15	15	18-Jul-07	71-43-2	Benzene	0.047	ug/L	0.047	1	1
K	GS	SV-31-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
K	GS	SV-31-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
K	GS	SV-31-15	15	18-Jul-07		Carbon Monoxide	0.026	%		0	1
K	GS	SV-31-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.026	ug/L	0.026	1	1
K	GS	SV-31-15	15	18-Jul-07		Carbon Dioxide	3.8	%		1	1
K	GS	SV-31-15	15	18-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
K	GS	SV-31-15	15	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
K	GS	SV-31-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
K	GS	SV-31-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
K	GS	SV-31-15	15	18-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
K	GS	SV-31-15	15	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
K	GS	SV-31-15	15	18-Jul-07	67-64-1	Acetone	0.063	ug/L	0.063	1	1
K	GS	SV-31-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
K	GS	SV-31-15	15	18-Jul-07		4-Bromofluorobenzene	98	%		1	1
K	GS	SV-31-15	15	18-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
K	GS	SV-31-15	15	18-Jul-07	78-93-3	2-Butanone	0.032	ug/L	0.032	1	1
K	GS	SV-31-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.006	ug/L	0.006	0	1
K	GS	SV-31-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
K	GS	SV-31-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.0086	ug/L	0.0086	0	1
K	GS	SV-31-15	15	18-Jul-07	95-47-6	o-Xylene	0.0078	ug/L	0.0078	1	1
K	GS	SV-31-5	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.013	ug/L	0.013	1	1
K	GS	SV-31-5	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0069	ug/L	0.0069	0	1
K	GS	SV-31-5	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0069	ug/L	0.0069	0	1
K	GS	SV-31-5	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0025	ug/L	0.0025	0	1
K	GS	SV-31-5	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0056	ug/L	0.0056	0	1
K	GS	SV-31-5	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0053	ug/L	0.0053	0	1
K	GS	SV-31-5	5	18-Jul-07		1,2-Dichloroethane-d4	97	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-31-5	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0046	ug/L	0.0046	0	1
K	GS	SV-31-5	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0069	ug/L	0.0069	0	1
K	GS	SV-31-5	5	18-Jul-07	123-91-1	1,4-Dioxane	0.016	ug/L	0.016	0	1
K	GS	SV-31-5	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0088	ug/L	0.0088	0	1
K	GS	SV-31-5	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0053	ug/L	0.0053	0	1
K	GS	SV-31-5	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.034	ug/L	0.034	0	1
K	GS	SV-31-5	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.028	ug/L	0.028	0	1
K	GS	SV-31-5	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0045	ug/L	0.0045	0	1
K	GS	SV-31-5	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0046	ug/L	0.0046	0	1
K	GS	SV-31-5	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0062	ug/L	0.0062	0	1
K	GS	SV-31-5	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0088	ug/L	0.0088	0	1
K	GS	SV-31-5	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0079	ug/L	0.0079	0	1
K	GS	SV-31-5	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0062	ug/L	0.0062	0	1
K	GS	SV-31-5	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.031	ug/L	0.031	0	1
K	GS	SV-31-5	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.008	ug/L	0.008	0	1
K	GS	SV-31-5	5	18-Jul-07	75-15-0	Carbon Disulfide	0.055	ug/L	0.055	1	1
K	GS	SV-31-5	5	18-Jul-07	591-78-6	2-Hexanone	0.019	ug/L	0.019	0	1
K	GS	SV-31-5	5	18-Jul-07		4-Bromofluorobenzene	95	%		1	1
K	GS	SV-31-5	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0047	ug/L	0.0047	0	1
K	GS	SV-31-5	5	18-Jul-07	67-64-1	Acetone	0.1	ug/L	0.1	1	1
K	GS	SV-31-5	5	18-Jul-07	107-05-1	Allyl chloride	0.014	ug/L	0.014	0	1
K	GS	SV-31-5	5	18-Jul-07	71-43-2	Benzene	0.032	ug/L	0.032	1	1
K	GS	SV-31-5	5	18-Jul-07	100-44-7	Benzyl chloride	0.0059	ug/L	0.0059	0	1
K	GS	SV-31-5	5	18-Jul-07	78-93-3	2-Butanone	0.026	ug/L	0.026	1	1
K	GS	SV-31-5	5	18-Jul-07	74-83-9	Bromomethane	0.0044	ug/L	0.0044	0	1
K	GS	SV-31-5	5	18-Jul-07	75-25-2	Bromoform	0.012	ug/L	0.012	0	1
K	GS	SV-31-5	5	18-Jul-07		Carbon Monoxide	0.023	%		0	1
K	GS	SV-31-5	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0072	ug/L	0.0072	0	1
K	GS	SV-31-5	5	18-Jul-07	108-90-7	Chlorobenzene	0.0053	ug/L	0.0053	0	1
K	GS	SV-31-5	5	18-Jul-07	75-00-3	Chloroethane	0.003	ug/L	0.003	0	1
K	GS	SV-31-5	5	18-Jul-07	67-66-3	Chloroform	0.055	ug/L	0.055	1	1
K	GS	SV-31-5	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0045	ug/L		0	1
K	GS	SV-31-5	5	18-Jul-07	74-87-3	Chloromethane	0.0094	ug/L	0.0094	0	1
K	GS	SV-31-5	5	18-Jul-07	75-27-4	Bromodichloromethane	0.012	ug/L	0.012	1	1
K	GS	SV-31-5	5	18-Jul-07		Carbon Dioxide	1.8	%		1	1
K	GS	SV-31-5	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.019	ug/L	0.019	0	1
K	GS	SV-31-5	5	18-Jul-07		Toluene-d8	100	%		1	1
K	GS	SV-31-5	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0045	ug/L	0.0045	0	1
K	GS	SV-31-5	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0052	ug/L	0.0052	0	1
K	GS	SV-31-5	5	18-Jul-07	79-01-6	Trichloroethene	0.0062	ug/L	0.0062	0	1
K	GS	SV-31-5	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0064	ug/L	0.0064	0	1
K	GS	SV-31-5	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
K	GS	SV-31-5	5	18-Jul-07	75-01-4	Vinyl chloride	0.0029	ug/L	0.0029	0	1
K	GS	SV-31-5	5	18-Jul-07	108-88-3	Toluene	0.059	ug/L	0.059	1	1
K	GS	SV-31-5	5	18-Jul-07	100-41-4	Ethylbenzene	0.0087	ug/L	0.0087	1	1
K	GS	SV-31-5	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0057	ug/L	0.0057	0	1
K	GS	SV-31-5	5	18-Jul-07		Ethene	0.0023	%		0	1
K	GS	SV-31-5	5	18-Jul-07	64-17-5	Ethanol	0.0086	ug/L	0.0086	0	1
K	GS	SV-31-5	5	18-Jul-07		Ethane	0.0023	%		0	1
K	GS	SV-31-5	5	18-Jul-07	110-54-3	Hexane	0.018	ug/L	0.018	1	1
K	GS	SV-31-5	5	18-Jul-07	124-48-1	Dibromochloromethane	0.0098	ug/L	0.0098	0	1
K	GS	SV-31-5	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0052	ug/L	0.0052	0	1
K	GS	SV-31-5	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.049	ug/L	0.049	0	1
K	GS	SV-31-5	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.024	ug/L	0.024	1	1
K	GS	SV-31-5	5	18-Jul-07	110-82-7	Cyclohexane	0.024	ug/L	0.024	1	1
K	GS	SV-31-5	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0034	ug/L	0.0034	0	1
K	GS	SV-31-5	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.011	ug/L	0.011	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-31-5	5	18-Jul-07	98-82-8	Isopropylbenzene	0.0056	ug/L	0.0056	0	1
K	GS	SV-31-5	5	18-Jul-07	74-82-8	Methane	0.00023	%		0	1
K	GS	SV-31-5	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0041	ug/L	0.0041	0	1
K	GS	SV-31-5	5	18-Jul-07	75-09-2	Methylene chloride	0.004	ug/L	0.004	0	1
K	GS	SV-31-5	5	18-Jul-07	91-20-3	Naphthalene	0.024	ug/L	0.024	0	1
K	GS	SV-31-5	5	18-Jul-07	142-82-5	n-Heptane	0.0047	ug/L	0.0047	0	1
K	GS	SV-31-5	5	18-Jul-07	100-42-5	Styrene	0.0049	ug/L	0.0049	0	1
K	GS	SV-31-5	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.014	ug/L	0.014	0	1
K	GS	SV-31-5	5	18-Jul-07	108-20-3	Isopropyl ether	0.019	ug/L	0.019	0	1
K	GS	SV-31-5	5	18-Jul-07		Nitrogen	79	%		1	1
K	GS	SV-31-5	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0078	ug/L	0.0078	0	1
K	GS	SV-31-5	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.019	ug/L	0.019	0	1
K	GS	SV-31-5	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.0056	ug/L	0.0056	0	1
K	GS	SV-31-5	5	18-Jul-07	95-47-6	o-Xylene	0.0054	ug/L	0.0054	1	1
K	GS	SV-31-5	5	18-Jul-07		Oxygen	19	%		1	1
K	GS	SV-31-5	5	18-Jul-07	103-65-1	n-Propylbenzene	0.0056	ug/L	0.0056	0	1
K	GS	SV-86-15'	15	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
K	GS	SV-86-15'	15	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
K	GS	SV-86-15'	15	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
K	GS	SV-86-15'	15	20-Jun-12	78-93-3	2-Butanone	0.1	ug/L	0.1	1	1
K	GS	SV-86-15'	15	20-Jun-12	110-54-3	Hexane	0.0021	ug/L	0.0021	1	1
K	GS	SV-86-15'	15	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
K	GS	SV-86-15'	15	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
K	GS	SV-86-15'	15	20-Jun-12	141-78-6	Ethyl acetate	0.017	ug/L	0.017	1	1
K	GS	SV-86-15'	15	20-Jun-12	67-66-3	Chloroform	0.0049	ug/L	0.0049	0	1
K	GS	SV-86-15'	15	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
K	GS	SV-86-15'	15	20-Jun-12	109-99-9	Tetrahydrofuran	0.026	ug/L	0.026	1	1
K	GS	SV-86-15'	15	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
K	GS	SV-86-15'	15	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
K	GS	SV-86-15'	15	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
K	GS	SV-86-15'	15	20-Jun-12	71-43-2	Benzene	0.0077	ug/L	0.0077	1	1
K	GS	SV-86-15'	15	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
K	GS	SV-86-15'	15	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
K	GS	SV-86-15'	15	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
K	GS	SV-86-15'	15	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
K	GS	SV-86-15'	15	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.0081	ug/L	0.0081	1	1
K	GS	SV-86-15'	15	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
K	GS	SV-86-15'	15	20-Jun-12	142-82-5	n-Heptane	0.0041	ug/L	0.0041	0	1
K	GS	SV-86-15'	15	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
K	GS	SV-86-15'	15	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
K	GS	SV-86-15'	15	20-Jun-12	591-78-6	2-Hexanone	0.0019	ug/L	0.0019	1	1
K	GS	SV-86-15'	15	20-Jun-12		Carbon dioxide	4.7	%		1	1
K	GS	SV-86-15'	15	20-Jun-12		Nitrogen	78	%		1	1
K	GS	SV-86-15'	15	20-Jun-12	74-82-8	Methane	0.01	%		0	1
K	GS	SV-86-15'	15	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
K	GS	SV-86-15'	15	20-Jun-12		TPHv (C5 - C11)	3.6	ug/L		1	1
K	GS	SV-86-15'	15	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
K	GS	SV-86-15'	15	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.204	ug/L		1	0
K	GS	SV-86-15'	15	20-Jun-12	2037-26-5	Toluene-d8	0.202	ug/L		1	0
K	GS	SV-86-15'	15	20-Jun-12		Oxygen	17	%		1	1
K	GS	SV-86-15'	15	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
K	GS	SV-86-15'	15	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
K	GS	SV-86-15'	15	20-Jun-12	64-17-5	Ethanol	0.042	ug/L	0.042	1	1
K	GS	SV-86-15'	15	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0056	ug/L	0.0056	0	1
K	GS	SV-86-15'	15	20-Jun-12	67-64-1	Acetone	0.084	ug/L	0.084	1	1
K	GS	SV-86-15'	15	20-Jun-12	67-63-0	Isopropyl alcohol	0.011	ug/L	0.011	1	1
K	GS	SV-86-15'	15	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-86-15'	15	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0061	ug/L	0.0061	0	1
K	GS	SV-86-15'	15	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
K	GS	SV-86-15'	15	20-Jun-12	75-09-2	Methylene Chloride	0.0019	ug/L	0.0019	1	1
K	GS	SV-86-15'	15	20-Jun-12	75-15-0	Carbon disulfide	0.014	ug/L	0.014	1	1
K	GS	SV-86-15'	15	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.391	ug/L		1	0
K	GS	SV-86-15'	15	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
K	GS	SV-86-15'	15	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
K	GS	SV-86-15'	15	20-Jun-12	103-65-1	n-Propylbenzene	0.005	ug/L	0.005	0	1
K	GS	SV-86-15'	15	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
K	GS	SV-86-15'	15	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.005	ug/L	0.005	0	1
K	GS	SV-86-15'	15	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
K	GS	SV-86-15'	15	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
K	GS	SV-86-15'	15	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0077	ug/L	0.0077	1	1
K	GS	SV-86-15'	15	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
K	GS	SV-86-15'	15	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
K	GS	SV-86-15'	15	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
K	GS	SV-86-15'	15	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
K	GS	SV-86-15'	15	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
K	GS	SV-86-15'	15	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
K	GS	SV-86-15'	15	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
K	GS	SV-86-15'	15	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
K	GS	SV-86-15'	15	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
K	GS	SV-86-15'	15	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	0	1
K	GS	SV-86-15'	15	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
K	GS	SV-86-15'	15	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
K	GS	SV-86-15'	15	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
K	GS	SV-86-15'	15	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	1.9	ug/L	1.9	1	1
K	GS	SV-86-15'	15	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	2.2	ug/L	2.2	1	1
K	GS	SV-86-15'	15	20-Jun-12		TPHv (C6 - C8) aromatic	0.066	ug/L		1	1
K	GS	SV-86-15'	15	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.088	ug/L	0.088	1	1
K	GS	SV-86-15'	15	20-Jun-12	108-88-3	Toluene	0.027	ug/L	0.027	1	1
K	GS	SV-86-15'	15	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
K	GS	SV-86-15'	15	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
K	GS	SV-86-15'	15	20-Jun-12	115-07-1	Propene	0.012	ug/L	0.012	1	1
K	GS	SV-86-15'	15	20-Jun-12	98-82-8	Isopropylbenzene	0.04	ug/L	0.04	1	1
K	GS	SV-86-15'	15	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
K	GS	SV-86-15'	15	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.051	ug/L	0.051	1	1
K	GS	SV-86-15'	15	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
K	GS	SV-86-15'	15	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
K	GS	SV-86-15'	15	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
K	GS	SV-86-15'	15	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
K	GS	SV-86-15'	15	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0026	ug/L	0.0026	1	1
K	GS	SV-86-15'	15	20-Jun-12	127-18-4	Tetrachloroethene	0.0098	ug/L	0.0098	1	1
K	GS	SV-86-15'	15	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
K	GS	SV-86-15'	15	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
K	GS	SV-86-15'	15	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
K	GS	SV-86-15'	15	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
K	GS	SV-86-15'	15	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
K	GS	SV-86-15'	15	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
K	GS	SV-86-15'	15	20-Jun-12	95-47-6	o-Xylene	0.0064	ug/L	0.0064	1	1
K	GS	SV-86-15'	15	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
K	GS	SV-86-15'	15	20-Jun-12	179601-23-1	m,p-Xylenes	0.018	ug/L	0.018	1	1
K	GS	SV-86-15'	15	20-Jun-12	100-41-4	Ethylbenzene	0.0073	ug/L	0.0073	1	1
K	GS	SV-86-15'	15	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.0066	ug/L	0.0066	1	1
K	GS	SV-86-15'	15	20-Jun-12	100-42-5	Styrene	0.0021	ug/L	0.0021	1	1
K	GS	SV-86-15'	15	20-Jun-12	622-96-8	p-Ethyltoluene	0.0018	ug/L	0.0018	1	1
K	GS	SV-87-15'	15	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-87-15'	15	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
K	GS	SV-87-15'	15	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
K	GS	SV-87-15'	15	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
K	GS	SV-87-15'	15	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0053	ug/L	0.0053	1	1
K	GS	SV-87-15'	15	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
K	GS	SV-87-15'	15	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.005	ug/L	0.005	0	1
K	GS	SV-87-15'	15	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
K	GS	SV-87-15'	15	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	1.3	ug/L	1.3	1	1
K	GS	SV-87-15'	15	20-Jun-12	103-65-1	n-Propylbenzene	0.005	ug/L	0.005	0	1
K	GS	SV-87-15'	15	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
K	GS	SV-87-15'	15	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
K	GS	SV-87-15'	15	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
K	GS	SV-87-15'	15	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
K	GS	SV-87-15'	15	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	0	1
K	GS	SV-87-15'	15	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
K	GS	SV-87-15'	15	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
K	GS	SV-87-15'	15	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	1.5	ug/L	1.5	1	1
K	GS	SV-87-15'	15	20-Jun-12		TPHv (C6 - C8) aromatic	0.057	ug/L		1	1
K	GS	SV-87-15'	15	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.076	ug/L	0.076	1	1
K	GS	SV-87-15'	15	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
K	GS	SV-87-15'	15	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
K	GS	SV-87-15'	15	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
K	GS	SV-87-15'	15	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
K	GS	SV-87-15'	15	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
K	GS	SV-87-15'	15	20-Jun-12	110-54-3	Hexane	0.0036	ug/L	0.0036	0	1
K	GS	SV-87-15'	15	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
K	GS	SV-87-15'	15	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
K	GS	SV-87-15'	15	20-Jun-12	64-17-5	Ethanol	0.032	ug/L	0.032	1	1
K	GS	SV-87-15'	15	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0056	ug/L	0.0056	0	1
K	GS	SV-87-15'	15	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
K	GS	SV-87-15'	15	20-Jun-12	2037-26-5	Toluene-d8	0.2	ug/L		1	0
K	GS	SV-87-15'	15	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0061	ug/L	0.0061	0	1
K	GS	SV-87-15'	15	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.186	ug/L		1	0
K	GS	SV-87-15'	15	20-Jun-12	75-09-2	Methylene Chloride	0.0035	ug/L	0.0035	0	1
K	GS	SV-87-15'	15	20-Jun-12	75-15-0	Carbon disulfide	0.0026	ug/L	0.0026	1	1
K	GS	SV-87-15'	15	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
K	GS	SV-87-15'	15	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
K	GS	SV-87-15'	15	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
K	GS	SV-87-15'	15	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
K	GS	SV-87-15'	15	20-Jun-12	78-93-3	2-Butanone	0.1	ug/L	0.1	1	1
K	GS	SV-87-15'	15	20-Jun-12	67-63-0	Isopropyl alcohol	0.0087	ug/L	0.0087	1	1
K	GS	SV-87-15'	15	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.0078	ug/L	0.0078	1	1
K	GS	SV-87-15'	15	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
K	GS	SV-87-15'	15	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
K	GS	SV-87-15'	15	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
K	GS	SV-87-15'	15	20-Jun-12	115-07-1	Propene	0.0021	ug/L	0.0021	1	1
K	GS	SV-87-15'	15	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
K	GS	SV-87-15'	15	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
K	GS	SV-87-15'	15	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.392	ug/L		1	0
K	GS	SV-87-15'	15	20-Jun-12	142-82-5	n-Heptane	0.0041	ug/L	0.0041	0	1
K	GS	SV-87-15'	15	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
K	GS	SV-87-15'	15	20-Jun-12		Carbon dioxide	3.2	%		1	1
K	GS	SV-87-15'	15	20-Jun-12		Oxygen	18	%		1	1
K	GS	SV-87-15'	15	20-Jun-12		Nitrogen	77	%		1	1
K	GS	SV-87-15'	15	20-Jun-12	74-82-8	Methane	0.01	%		0	1
K	GS	SV-87-15'	15	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
K	GS	SV-87-15'	15	20-Jun-12		TPHv (C5 - C11)	2.4	ug/L		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-87-15'	15	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
K	GS	SV-87-15'	15	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
K	GS	SV-87-15'	15	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
K	GS	SV-87-15'	15	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0024	ug/L	0.0024	1	1
K	GS	SV-87-15'	15	20-Jun-12	127-18-4	Tetrachloroethene	0.0075	ug/L	0.0075	1	1
K	GS	SV-87-15'	15	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
K	GS	SV-87-15'	15	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
K	GS	SV-87-15'	15	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
K	GS	SV-87-15'	15	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
K	GS	SV-87-15'	15	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
K	GS	SV-87-15'	15	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
K	GS	SV-87-15'	15	20-Jun-12	179601-23-1	m,p-Xylenes	0.016	ug/L	0.016	1	1
K	GS	SV-87-15'	15	20-Jun-12	100-42-5	Styrene	0.0029	ug/L	0.0029	1	1
K	GS	SV-87-15'	15	20-Jun-12	95-47-6	o-Xylene	0.0046	ug/L	0.0046	1	1
K	GS	SV-87-15'	15	20-Jun-12	67-64-1	Acetone	0.061	ug/L	0.061	1	1
K	GS	SV-87-15'	15	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
K	GS	SV-87-15'	15	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
K	GS	SV-87-15'	15	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0018	ug/L	0.0018	1	1
K	GS	SV-87-15'	15	20-Jun-12	622-96-8	p-Ethyltoluene	0.005	ug/L	0.005	0	1
K	GS	SV-87-15'	15	20-Jun-12	98-82-8	Isopropylbenzene	0.035	ug/L	0.035	1	1
K	GS	SV-87-15'	15	20-Jun-12	100-41-4	Ethylbenzene	0.0053	ug/L	0.0053	1	1
K	GS	SV-87-15'	15	20-Jun-12	109-99-9	Tetrahydrofuran	0.026	ug/L	0.026	1	1
K	GS	SV-87-15'	15	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
K	GS	SV-87-15'	15	20-Jun-12	591-78-6	2-Hexanone	0.0083	ug/L	0.0083	0	1
K	GS	SV-87-15'	15	20-Jun-12	141-78-6	Ethyl acetate	0.015	ug/L	0.015	1	1
K	GS	SV-87-15'	15	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
K	GS	SV-87-15'	15	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
K	GS	SV-87-15'	15	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
K	GS	SV-87-15'	15	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
K	GS	SV-87-15'	15	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
K	GS	SV-87-15'	15	20-Jun-12	108-88-3	Toluene	0.025	ug/L	0.025	1	1
K	GS	SV-87-15'	15	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
K	GS	SV-87-15'	15	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
K	GS	SV-87-15'	15	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.044	ug/L	0.044	1	1
K	GS	SV-87-15'	15	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
K	GS	SV-87-15'	15	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
K	GS	SV-87-15'	15	20-Jun-12	71-43-2	Benzene	0.0058	ug/L	0.0058	1	1
K	GS	SV-87-15'	15	20-Jun-12	67-66-3	Chloroform	0.065	ug/L	0.065	1	1
K	GS	SV-87-15'	15	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
K	GS	SV-88-15'	15	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
K	GS	SV-88-15'	15	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
K	GS	SV-88-15'	15	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
K	GS	SV-88-15'	15	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.014	ug/L	0.014	1	1
K	GS	SV-88-15'	15	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
K	GS	SV-88-15'	15	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
K	GS	SV-88-15'	15	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
K	GS	SV-88-15'	15	20-Jun-12	103-65-1	n-Propylbenzene	0.014	ug/L	0.014	1	1
K	GS	SV-88-15'	15	20-Jun-12	135-98-8	sec-Butylbenzene	0.0038	ug/L	0.0038	1	1
K	GS	SV-88-15'	15	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	1.7	ug/L	1.7	1	1
K	GS	SV-88-15'	15	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0027	ug/L	0.0027	1	1
K	GS	SV-88-15'	15	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
K	GS	SV-88-15'	15	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
K	GS	SV-88-15'	15	20-Jun-12	104-51-8	n-Butylbenzene	0.0089	ug/L	0.0089	1	1
K	GS	SV-88-15'	15	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
K	GS	SV-88-15'	15	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
K	GS	SV-88-15'	15	20-Jun-12	91-20-3	Naphthalene	0.018	ug/L	0.018	1	1
K	GS	SV-88-15'	15	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-88-15'	15	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
K	GS	SV-88-15'	15	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	1.3	ug/L	1.3	1	1
K	GS	SV-88-15'	15	20-Jun-12		TPHv (C6 - C8) aromatic	0.34	ug/L		1	1
K	GS	SV-88-15'	15	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.15	ug/L	0.15	1	1
K	GS	SV-88-15'	15	20-Jun-12	98-82-8	Isopropylbenzene	0.047	ug/L	0.047	1	1
K	GS	SV-88-15'	15	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
K	GS	SV-88-15'	15	20-Jun-12	110-54-3	Hexane	0.0039	ug/L	0.0039	1	1
K	GS	SV-88-15'	15	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
K	GS	SV-88-15'	15	20-Jun-12	75-09-2	Methylene Chloride	0.0022	ug/L	0.0022	1	1
K	GS	SV-88-15'	15	20-Jun-12	75-15-0	Carbon disulfide	0.17	ug/L	0.17	1	1
K	GS	SV-88-15'	15	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
K	GS	SV-88-15'	15	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
K	GS	SV-88-15'	15	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
K	GS	SV-88-15'	15	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0061	ug/L	0.0061	0	1
K	GS	SV-88-15'	15	20-Jun-12	78-93-3	2-Butanone	0.11	ug/L	0.11	1	1
K	GS	SV-88-15'	15	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
K	GS	SV-88-15'	15	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
K	GS	SV-88-15'	15	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
K	GS	SV-88-15'	15	20-Jun-12	141-78-6	Ethyl acetate	0.021	ug/L	0.021	1	1
K	GS	SV-88-15'	15	20-Jun-12	67-66-3	Chloroform	0.0049	ug/L	0.0049	0	1
K	GS	SV-88-15'	15	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
K	GS	SV-88-15'	15	20-Jun-12	109-99-9	Tetrahydrofuran	0.025	ug/L	0.025	1	1
K	GS	SV-88-15'	15	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
K	GS	SV-88-15'	15	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
K	GS	SV-88-15'	15	20-Jun-12	2037-26-5	Toluene-d8	0.199	ug/L		1	0
K	GS	SV-88-15'	15	20-Jun-12		Carbon dioxide	0.3	%		1	1
K	GS	SV-88-15'	15	20-Jun-12		Oxygen	16	%		1	1
K	GS	SV-88-15'	15	20-Jun-12		Nitrogen	82	%		1	1
K	GS	SV-88-15'	15	20-Jun-12	74-82-8	Methane	0.053	%		1	1
K	GS	SV-88-15'	15	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
K	GS	SV-88-15'	15	20-Jun-12		TPHv (C5 - C11)	2.8	ug/L		1	1
K	GS	SV-88-15'	15	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
K	GS	SV-88-15'	15	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.189	ug/L		1	0
K	GS	SV-88-15'	15	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
K	GS	SV-88-15'	15	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.386	ug/L		1	0
K	GS	SV-88-15'	15	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
K	GS	SV-88-15'	15	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
K	GS	SV-88-15'	15	20-Jun-12	64-17-5	Ethanol	0.086	ug/L	0.086	1	1
K	GS	SV-88-15'	15	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0023	ug/L	0.0023	1	1
K	GS	SV-88-15'	15	20-Jun-12	67-64-1	Acetone	0.082	ug/L	0.082	1	1
K	GS	SV-88-15'	15	20-Jun-12	67-63-0	Isopropyl alcohol	0.01	ug/L	0.01	1	1
K	GS	SV-88-15'	15	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
K	GS	SV-88-15'	15	20-Jun-12	179601-23-1	m,p-Xylenes	0.023	ug/L	0.023	1	1
K	GS	SV-88-15'	15	20-Jun-12	591-78-6	2-Hexanone	0.0083	ug/L	0.0083	0	1
K	GS	SV-88-15'	15	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
K	GS	SV-88-15'	15	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0032	ug/L	0.0032	1	1
K	GS	SV-88-15'	15	20-Jun-12	127-18-4	Tetrachloroethene	0.0069	ug/L	0.0069	0	1
K	GS	SV-88-15'	15	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
K	GS	SV-88-15'	15	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
K	GS	SV-88-15'	15	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
K	GS	SV-88-15'	15	20-Jun-12	100-41-4	Ethylbenzene	0.07	ug/L	0.07	1	1
K	GS	SV-88-15'	15	20-Jun-12	95-47-6	o-Xylene	0.0062	ug/L	0.0062	1	1
K	GS	SV-88-15'	15	20-Jun-12	100-42-5	Styrene	0.0025	ug/L	0.0025	1	1
K	GS	SV-88-15'	15	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
K	GS	SV-88-15'	15	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
K	GS	SV-88-15'	15	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
K	GS	SV-88-15'	15	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.0029	ug/L	0.0029	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-88-15'	15	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
K	GS	SV-88-15'	15	20-Jun-12	622-96-8	p-Ethyltoluene	0.0035	ug/L	0.0035	1	1
K	GS	SV-88-15'	15	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
K	GS	SV-88-15'	15	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
K	GS	SV-88-15'	15	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
K	GS	SV-88-15'	15	20-Jun-12	108-88-3	Toluene	0.029	ug/L	0.029	1	1
K	GS	SV-88-15'	15	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
K	GS	SV-88-15'	15	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
K	GS	SV-88-15'	15	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
K	GS	SV-88-15'	15	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
K	GS	SV-88-15'	15	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.012	ug/L	0.012	1	1
K	GS	SV-88-15'	15	20-Jun-12	142-82-5	n-Heptane	0.0041	ug/L	0.0041	1	1
K	GS	SV-88-15'	15	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
K	GS	SV-88-15'	15	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
K	GS	SV-88-15'	15	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
K	GS	SV-88-15'	15	20-Jun-12	115-07-1	Propene	0.59	ug/L	0.59	1	1
K	GS	SV-88-15'	15	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
K	GS	SV-88-15'	15	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
K	GS	SV-88-15'	15	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.046	ug/L	0.046	1	1
K	GS	SV-88-15'	15	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
K	GS	SV-88-15'	15	20-Jun-12	71-43-2	Benzene	0.02	ug/L	0.02	1	1
K	GS	SV-88-15'	15	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
K	GS	SV-89-15'	15	20-Jun-12	135-98-8	sec-Butylbenzene	0.56	ug/L	0.56	0	1
K	GS	SV-89-15'	15	20-Jun-12	106-46-7	1,4-Dichlorobenzene	1.2	ug/L	1.2	0	1
K	GS	SV-89-15'	15	20-Jun-12	100-44-7	Benzyl chloride	1	ug/L	1	0	1
K	GS	SV-89-15'	15	20-Jun-12	541-73-1	1,3-Dichlorobenzene	1.2	ug/L	1.2	0	1
K	GS	SV-89-15'	15	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.5	ug/L	0.5	0	1
K	GS	SV-89-15'	15	20-Jun-12	98-06-6	tert-Butylbenzene	0.56	ug/L	0.56	0	1
K	GS	SV-89-15'	15	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.71	ug/L	0.71	0	1
K	GS	SV-89-15'	15	20-Jun-12	106-43-4	4-Chlorotoluene	1.1	ug/L	1.1	0	1
K	GS	SV-89-15'	15	20-Jun-12	103-65-1	n-Propylbenzene	0.5	ug/L	0.5	0	1
K	GS	SV-89-15'	15	20-Jun-12	99-87-6	p-Isopropyltoluene	0.56	ug/L	0.56	0	1
K	GS	SV-89-15'	15	20-Jun-12		TPHv (C6 - C8) aromatic	10	ug/L		0	1
K	GS	SV-89-15'	15	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.5	ug/L	0.5	0	1
K	GS	SV-89-15'	15	20-Jun-12	95-50-1	1,2-Dichlorobenzene	1.2	ug/L	1.2	0	1
K	GS	SV-89-15'	15	20-Jun-12	104-51-8	n-Butylbenzene	0.56	ug/L	0.56	0	1
K	GS	SV-89-15'	15	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.98	ug/L	0.98	0	1
K	GS	SV-89-15'	15	20-Jun-12	75-01-4	Vinyl chloride	0.26	ug/L	0.26	0	1
K	GS	SV-89-15'	15	20-Jun-12	91-20-3	Naphthalene	0.53	ug/L	0.53	0	1
K	GS	SV-89-15'	15	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.75	ug/L	0.75	0	1
K	GS	SV-89-15'	15	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.75	ug/L	0.75	0	1
K	GS	SV-89-15'	15	20-Jun-12	87-68-3	Hexachlorobutadiene	1.1	ug/L	1.1	0	1
K	GS	SV-89-15'	15	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	10	ug/L	10	0	1
K	GS	SV-89-15'	15	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	10	ug/L	10	0	1
K	GS	SV-89-15'	15	20-Jun-12	110-54-3	Hexane	0.36	ug/L	0.36	0	1
K	GS	SV-89-15'	15	20-Jun-12	95-49-8	2-Chlorotoluene	1.1	ug/L	1.1	0	1
K	GS	SV-89-15'	15	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	75	ug/L	75	1	1
K	GS	SV-89-15'	15	20-Jun-12	107-06-2	1,2-Dichloroethane	0.41	ug/L	0.41	0	1
K	GS	SV-89-15'	15	20-Jun-12	67-64-1	Acetone	2.4	ug/L	2.4	0	1
K	GS	SV-89-15'	15	20-Jun-12	2037-26-5	Toluene-d8	0.197	ug/L		1	0
K	GS	SV-89-15'	15	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.39	ug/L		1	0
K	GS	SV-89-15'	15	20-Jun-12	74-83-9	Bromomethane	1.6	ug/L	1.6	0	1
K	GS	SV-89-15'	15	20-Jun-12	75-00-3	Chloroethane	0.8	ug/L	0.8	0	1
K	GS	SV-89-15'	15	20-Jun-12	56-23-5	Carbon tetrachloride	0.64	ug/L	0.64	0	1
K	GS	SV-89-15'	15	20-Jun-12	74-95-3	Dibromomethane	0.72	ug/L	0.72	0	1
K	GS	SV-89-15'	15	20-Jun-12	563-58-6	1,1-Dichloropropene	0.46	ug/L	0.46	0	1
K	GS	SV-89-15'	15	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.42	ug/L	0.42	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-89-15'	15	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.55	ug/L	0.55	0	1
K	GS	SV-89-15'	15	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.42	ug/L	0.42	0	1
K	GS	SV-89-15'	15	20-Jun-12	109-99-9	Tetrahydrofuran	3	ug/L	3	0	1
K	GS	SV-89-15'	15	20-Jun-12	75-69-4	Trichlorofluoromethane	0.56	ug/L	0.56	0	1
K	GS	SV-89-15'	15	20-Jun-12	594-20-7	2,2-Dichloropropane	0.47	ug/L		0	1
K	GS	SV-89-15'	15	20-Jun-12	67-66-3	Chloroform	42	ug/L	42	1	1
K	GS	SV-89-15'	15	20-Jun-12	141-78-6	Ethyl acetate	1.8	ug/L	1.8	0	1
K	GS	SV-89-15'	15	20-Jun-12	71-43-2	Benzene	0.32	ug/L	0.32	0	1
K	GS	SV-89-15'	15	20-Jun-12	106-99-0	1,3-Butadiene	0.45	ug/L	0.45	0	1
K	GS	SV-89-15'	15	20-Jun-12		Carbon dioxide	11	%		1	1
K	GS	SV-89-15'	15	20-Jun-12		Oxygen	8.4	%		1	1
K	GS	SV-89-15'	15	20-Jun-12	108-86-1	Bromobenzene	0.65	ug/L	0.65	0	1
K	GS	SV-89-15'	15	20-Jun-12	108-20-3	Isopropyl ether	0.42	ug/L	0.42	0	1
K	GS	SV-89-15'	15	20-Jun-12		Nitrogen	80	%		1	1
K	GS	SV-89-15'	15	20-Jun-12	74-82-8	Methane	0.01	%		0	1
K	GS	SV-89-15'	15	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.207	ug/L		1	0
K	GS	SV-89-15'	15	20-Jun-12		TPHv (C5 - C11)	53	ug/L		1	1
K	GS	SV-89-15'	15	20-Jun-12	64-17-5	Ethanol	1.9	ug/L	1.9	0	1
K	GS	SV-89-15'	15	20-Jun-12	75-27-4	Bromodichloromethane	0.81	ug/L	0.81	1	1
K	GS	SV-89-15'	15	20-Jun-12	115-07-1	Propene	0.72	ug/L	0.72	1	1
K	GS	SV-89-15'	15	20-Jun-12	123-91-1	1,4-Dioxane	0.73	ug/L	0.73	0	1
K	GS	SV-89-15'	15	20-Jun-12	78-87-5	1,2-Dichloropropane	0.94	ug/L	0.94	0	1
K	GS	SV-89-15'	15	20-Jun-12	79-01-6	Trichloroethene	0.55	ug/L	0.55	0	1
K	GS	SV-89-15'	15	20-Jun-12	142-82-5	n-Heptane	0.41	ug/L	0.41	0	1
K	GS	SV-89-15'	15	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.47	ug/L	0.47	0	1
K	GS	SV-89-15'	15	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
K	GS	SV-89-15'	15	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.4	ug/L		0	1
K	GS	SV-89-15'	15	20-Jun-12	591-78-6	2-Hexanone	0.83	ug/L	0.83	0	1
K	GS	SV-89-15'	15	20-Jun-12	124-48-1	Dibromochloromethane	0.86	ug/L	0.86	0	1
K	GS	SV-89-15'	15	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.5	ug/L	0.5	0	1
K	GS	SV-89-15'	15	20-Jun-12	127-18-4	Tetrachloroethene	0.96	ug/L	0.96	1	1
K	GS	SV-89-15'	15	20-Jun-12	106-93-4	1,2-Dibromoethane	0.78	ug/L	0.78	0	1
K	GS	SV-89-15'	15	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.7	ug/L	0.7	0	1
K	GS	SV-89-15'	15	20-Jun-12	108-90-7	Chlorobenzene	0.47	ug/L	0.47	0	1
K	GS	SV-89-15'	15	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.55	ug/L	0.55	0	1
K	GS	SV-89-15'	15	20-Jun-12	179601-23-1	m,p-Xylenes	0.88	ug/L	0.88	0	1
K	GS	SV-89-15'	15	20-Jun-12	100-42-5	Styrene	0.43	ug/L	0.43	0	1
K	GS	SV-89-15'	15	20-Jun-12	95-47-6	o-Xylene	0.44	ug/L	0.44	0	1
K	GS	SV-89-15'	15	20-Jun-12	110-82-7	Cyclohexane	1.7	ug/L	1.7	0	1
K	GS	SV-89-15'	15	20-Jun-12	74-87-3	Chloromethane	0.21	ug/L	0.21	0	1
K	GS	SV-89-15'	15	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.7	ug/L	0.7	0	1
K	GS	SV-89-15'	15	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.61	ug/L	0.61	0	1
K	GS	SV-89-15'	15	20-Jun-12	622-96-8	p-Ethyltoluene	0.5	ug/L	0.5	0	1
K	GS	SV-89-15'	15	20-Jun-12	98-82-8	Isopropylbenzene	0.5	ug/L	0.5	0	1
K	GS	SV-89-15'	15	20-Jun-12	100-41-4	Ethylbenzene	0.44	ug/L	0.44	0	1
K	GS	SV-89-15'	15	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.36	ug/L	0.36	0	1
K	GS	SV-89-15'	15	20-Jun-12	75-25-2	Bromoform	1	ug/L	1	0	1
K	GS	SV-89-15'	15	20-Jun-12	108-88-3	Toluene	0.38	ug/L	0.38	0	1
K	GS	SV-89-15'	15	20-Jun-12	67-63-0	Isopropyl alcohol	2.5	ug/L	2.5	0	1
K	GS	SV-89-15'	15	20-Jun-12	78-93-3	2-Butanone	3	ug/L	3	0	1
K	GS	SV-89-15'	15	20-Jun-12	108-05-4	Vinyl acetate	0.36	ug/L	0.36	0	1
K	GS	SV-89-15'	15	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.8	ug/L	0.8	0	1
K	GS	SV-89-15'	15	20-Jun-12	75-15-0	Carbon disulfide	0.79	ug/L	0.79	1	1
K	GS	SV-89-15'	15	20-Jun-12	75-09-2	Methylene Chloride	0.35	ug/L	0.35	0	1
K	GS	SV-89-15'	15	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.46	ug/L	0.46	0	1
K	GS	SV-89-15'	15	20-Jun-12	75-65-0	tert-Butyl alcohol	0.61	ug/L	0.61	0	1
K	GS	SV-89-15'	15	20-Jun-12	75-35-4	1,1-Dichloroethene	0.4	ug/L	0.4	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-89-15'	15	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.46	ug/L	0.46	0	1
K	GS	SV-89-15'	15	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.83	ug/L	0.83	0	1
K	GS	SV-89-15'	15	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.77	ug/L	0.77	0	1
K	GS	SV-89-15'	15	20-Jun-12	75-34-3	1,1-Dichloroethane	0.41	ug/L	0.41	0	1
K	GS	SV-89-15'	15	20-Jun-12	142-28-9	1,3-Dichloropropane	0.47	ug/L	0.47	0	1
K	GS	SV-90-15'	15	20-Jun-12	99-87-6	p-Isopropyltoluene	0.56	ug/L	0.56	0	1
K	GS	SV-90-15'	15	20-Jun-12	106-46-7	1,4-Dichlorobenzene	1.2	ug/L	1.2	0	1
K	GS	SV-90-15'	15	20-Jun-12	541-73-1	1,3-Dichlorobenzene	1.2	ug/L	1.2	0	1
K	GS	SV-90-15'	15	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.5	ug/L	0.5	0	1
K	GS	SV-90-15'	15	20-Jun-12	98-06-6	tert-Butylbenzene	0.56	ug/L	0.56	0	1
K	GS	SV-90-15'	15	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.71	ug/L	0.71	0	1
K	GS	SV-90-15'	15	20-Jun-12	106-43-4	4-Chlorotoluene	1.1	ug/L	1.1	0	1
K	GS	SV-90-15'	15	20-Jun-12	95-50-1	1,2-Dichlorobenzene	1.2	ug/L	1.2	0	1
K	GS	SV-90-15'	15	20-Jun-12	95-49-8	2-Chlorotoluene	1.1	ug/L	1.1	0	1
K	GS	SV-90-15'	15	20-Jun-12		TPHv (C6 - C8) aromatic	10	ug/L		0	1
K	GS	SV-90-15'	15	20-Jun-12	103-65-1	n-Propylbenzene	0.5	ug/L	0.5	0	1
K	GS	SV-90-15'	15	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.5	ug/L	0.5	0	1
K	GS	SV-90-15'	15	20-Jun-12	104-51-8	n-Butylbenzene	0.56	ug/L	0.56	0	1
K	GS	SV-90-15'	15	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.98	ug/L	0.98	0	1
K	GS	SV-90-15'	15	20-Jun-12	75-01-4	Vinyl chloride	0.26	ug/L	0.26	0	1
K	GS	SV-90-15'	15	20-Jun-12	91-20-3	Naphthalene	0.53	ug/L	0.53	0	1
K	GS	SV-90-15'	15	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.75	ug/L	0.75	0	1
K	GS	SV-90-15'	15	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.75	ug/L	0.75	0	1
K	GS	SV-90-15'	15	20-Jun-12	87-68-3	Hexachlorobutadiene	1.1	ug/L	1.1	0	1
K	GS	SV-90-15'	15	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	10	ug/L	10	0	1
K	GS	SV-90-15'	15	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	10	ug/L	10	0	1
K	GS	SV-90-15'	15	20-Jun-12	100-44-7	Benzyl chloride	1	ug/L	1	0	1
K	GS	SV-90-15'	15	20-Jun-12	108-86-1	Bromobenzene	0.65	ug/L	0.65	0	1
K	GS	SV-90-15'	15	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	49	ug/L	49	1	1
K	GS	SV-90-15'	15	20-Jun-12	75-35-4	1,1-Dichloroethene	0.4	ug/L	0.4	0	1
K	GS	SV-90-15'	15	20-Jun-12	142-82-5	n-Heptane	0.41	ug/L	0.41	0	1
K	GS	SV-90-15'	15	20-Jun-12	79-01-6	Trichloroethene	0.55	ug/L	0.55	0	1
K	GS	SV-90-15'	15	20-Jun-12	108-05-4	Vinyl acetate	0.36	ug/L	0.36	0	1
K	GS	SV-90-15'	15	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.36	ug/L	0.36	0	1
K	GS	SV-90-15'	15	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.8	ug/L	0.8	0	1
K	GS	SV-90-15'	15	20-Jun-12	75-15-0	Carbon disulfide	1	ug/L	1	1	1
K	GS	SV-90-15'	15	20-Jun-12	75-09-2	Methylene Chloride	0.35	ug/L	0.35	0	1
K	GS	SV-90-15'	15	20-Jun-12	123-91-1	1,4-Dioxane	0.73	ug/L	0.73	0	1
K	GS	SV-90-15'	15	20-Jun-12	75-65-0	tert-Butyl alcohol	0.61	ug/L	0.61	0	1
K	GS	SV-90-15'	15	20-Jun-12	135-98-8	sec-Butylbenzene	0.56	ug/L	0.56	0	1
K	GS	SV-90-15'	15	20-Jun-12	67-63-0	Isopropyl alcohol	2.5	ug/L	2.5	0	1
K	GS	SV-90-15'	15	20-Jun-12	67-64-1	Acetone	2.4	ug/L	2.4	0	1
K	GS	SV-90-15'	15	20-Jun-12	75-69-4	Trichlorofluoromethane	0.56	ug/L	0.56	0	1
K	GS	SV-90-15'	15	20-Jun-12	64-17-5	Ethanol	1.9	ug/L	1.9	0	1
K	GS	SV-90-15'	15	20-Jun-12	75-00-3	Chloroethane	0.8	ug/L	0.8	0	1
K	GS	SV-90-15'	15	20-Jun-12	78-87-5	1,2-Dichloropropane	0.94	ug/L	0.94	0	1
K	GS	SV-90-15'	15	20-Jun-12	109-99-9	Tetrahydrofuran	3	ug/L	3	0	1
K	GS	SV-90-15'	15	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.77	ug/L	0.77	0	1
K	GS	SV-90-15'	15	20-Jun-12	110-82-7	Cyclohexane	1.7	ug/L	1.7	0	1
K	GS	SV-90-15'	15	20-Jun-12	594-20-7	2,2-Dichloropropane	0.47	ug/L		0	1
K	GS	SV-90-15'	15	20-Jun-12	67-66-3	Chloroform	62	ug/L	62	1	1
K	GS	SV-90-15'	15	20-Jun-12	141-78-6	Ethyl acetate	1.8	ug/L	1.8	0	1
K	GS	SV-90-15'	15	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.42	ug/L	0.42	0	1
K	GS	SV-90-15'	15	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.55	ug/L	0.55	0	1
K	GS	SV-90-15'	15	20-Jun-12	107-06-2	1,2-Dichloroethane	0.41	ug/L	0.41	0	1
K	GS	SV-90-15'	15	20-Jun-12	563-58-6	1,1-Dichloropropene	0.46	ug/L	0.46	0	1
K	GS	SV-90-15'	15	20-Jun-12	98-82-8	Isopropylbenzene	0.5	ug/L	0.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-90-15'	15	20-Jun-12	56-23-5	Carbon tetrachloride	0.64	ug/L	0.64	0	1
K	GS	SV-90-15'	15	20-Jun-12	75-34-3	1,1-Dichloroethane	0.41	ug/L	0.41	0	1
K	GS	SV-90-15'	15	20-Jun-12	108-20-3	Isopropyl ether	0.42	ug/L	0.42	0	1
K	GS	SV-90-15'	15	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.4	ug/L		0	1
K	GS	SV-90-15'	15	20-Jun-12	110-54-3	Hexane	0.36	ug/L	0.36	0	1
K	GS	SV-90-15'	15	20-Jun-12	74-95-3	Dibromomethane	0.72	ug/L	0.72	0	1
K	GS	SV-90-15'	15	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.42	ug/L	0.42	0	1
K	GS	SV-90-15'	15	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.47	ug/L	0.47	0	1
K	GS	SV-90-15'	15	20-Jun-12	78-93-3	2-Butanone	3	ug/L	3	0	1
K	GS	SV-90-15'	15	20-Jun-12	74-83-9	Bromomethane	1.6	ug/L	1.6	0	1
K	GS	SV-90-15'	15	20-Jun-12	71-43-2	Benzene	0.32	ug/L	0.32	0	1
K	GS	SV-90-15'	15	20-Jun-12	179601-23-1	m,p-Xylenes	0.88	ug/L	0.88	0	1
K	GS	SV-90-15'	15	20-Jun-12	124-48-1	Dibromochloromethane	0.86	ug/L	0.86	0	1
K	GS	SV-90-15'	15	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.5	ug/L	0.5	0	1
K	GS	SV-90-15'	15	20-Jun-12	127-18-4	Tetrachloroethene	1.2	ug/L	1.2	1	1
K	GS	SV-90-15'	15	20-Jun-12	106-93-4	1,2-Dibromoethane	0.78	ug/L	0.78	0	1
K	GS	SV-90-15'	15	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.7	ug/L	0.7	0	1
K	GS	SV-90-15'	15	20-Jun-12	108-90-7	Chlorobenzene	0.47	ug/L	0.47	0	1
K	GS	SV-90-15'	15	20-Jun-12		Oxygen	16	%		1	1
K	GS	SV-90-15'	15	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.55	ug/L	0.55	0	1
K	GS	SV-90-15'	15	20-Jun-12		Carbon dioxide	0.3	%		1	1
K	GS	SV-90-15'	15	20-Jun-12	108-88-3	Toluene	0.38	ug/L	0.38	0	1
K	GS	SV-90-15'	15	20-Jun-12	100-42-5	Styrene	0.43	ug/L	0.43	0	1
K	GS	SV-90-15'	15	20-Jun-12	95-47-6	o-Xylene	0.44	ug/L	0.44	0	1
K	GS	SV-90-15'	15	20-Jun-12	75-25-2	Bromoform	1	ug/L	1	0	1
K	GS	SV-90-15'	15	20-Jun-12	74-87-3	Chloromethane	0.21	ug/L	0.21	0	1
K	GS	SV-90-15'	15	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.7	ug/L	0.7	0	1
K	GS	SV-90-15'	15	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.61	ug/L	0.61	0	1
K	GS	SV-90-15'	15	20-Jun-12	622-96-8	p-Ethyltoluene	0.5	ug/L	0.5	0	1
K	GS	SV-90-15'	15	20-Jun-12	100-41-4	Ethylbenzene	0.44	ug/L	0.44	0	1
K	GS	SV-90-15'	15	20-Jun-12	75-27-4	Bromodichloromethane	0.68	ug/L	0.68	0	1
K	GS	SV-90-15'	15	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.382	ug/L		1	0
K	GS	SV-90-15'	15	20-Jun-12	2037-26-5	Toluene-d8	0.201	ug/L		1	0
K	GS	SV-90-15'	15	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.218	ug/L		1	0
K	GS	SV-90-15'	15	20-Jun-12	106-99-0	1,3-Butadiene	0.45	ug/L	0.45	0	1
K	GS	SV-90-15'	15	20-Jun-12	591-78-6	2-Hexanone	0.83	ug/L	0.83	0	1
K	GS	SV-90-15'	15	20-Jun-12	115-07-1	Propene	2.3	ug/L	2.3	1	1
K	GS	SV-90-15'	15	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
K	GS	SV-90-15'	15	20-Jun-12	74-82-8	Methane	0.02	%		1	1
K	GS	SV-90-15'	15	20-Jun-12		Nitrogen	83	%		1	1
K	GS	SV-90-15'	15	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.46	ug/L	0.46	0	1
K	GS	SV-90-15'	15	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.83	ug/L	0.83	0	1
K	GS	SV-90-15'	15	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.46	ug/L	0.46	0	1
K	GS	SV-90-15'	15	20-Jun-12	142-28-9	1,3-Dichloropropane	0.47	ug/L	0.47	0	1
K	GS	SV-90-15'	15	20-Jun-12		TPHv (C5 - C11)	35	ug/L		1	1
K	GS	SV-91-15'	15	20-Jun-12	100-42-5	Styrene	0.0021	ug/L	0.0021	1	1
K	GS	SV-91-15'	15	20-Jun-12		TPHv (C6 - C8) aromatic	0.053	ug/L		1	1
K	GS	SV-91-15'	15	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	0.9	ug/L	0.9	1	1
K	GS	SV-91-15'	15	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	3.1	ug/L	3.1	1	1
K	GS	SV-91-15'	15	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
K	GS	SV-91-15'	15	20-Jun-12	98-82-8	Isopropylbenzene	0.025	ug/L	0.025	1	1
K	GS	SV-91-15'	15	20-Jun-12	100-41-4	Ethylbenzene	0.0054	ug/L	0.0054	1	1
K	GS	SV-91-15'	15	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0097	ug/L	0.0097	1	1
K	GS	SV-91-15'	15	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
K	GS	SV-91-15'	15	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
K	GS	SV-91-15'	15	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0024	ug/L	0.0024	1	1
K	GS	SV-91-15'	15	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-91-15'	15	20-Jun-12	103-65-1	n-Propylbenzene	0.0012	ug/L	0.0012	1	1
K	GS	SV-91-15'	15	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
K	GS	SV-91-15'	15	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
K	GS	SV-91-15'	15	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
K	GS	SV-91-15'	15	20-Jun-12	622-96-8	p-Ethyltoluene	0.005	ug/L	0.005	0	1
K	GS	SV-91-15'	15	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
K	GS	SV-91-15'	15	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
K	GS	SV-91-15'	15	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
K	GS	SV-91-15'	15	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
K	GS	SV-91-15'	15	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.073	ug/L	0.073	1	1
K	GS	SV-91-15'	15	20-Jun-12	67-64-1	Acetone	0.085	ug/L	0.085	1	1
K	GS	SV-91-15'	15	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
K	GS	SV-91-15'	15	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
K	GS	SV-91-15'	15	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
K	GS	SV-91-15'	15	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0023	ug/L	0.0023	1	1
K	GS	SV-91-15'	15	20-Jun-12	127-18-4	Tetrachloroethene	0.12	ug/L	0.12	1	1
K	GS	SV-91-15'	15	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
K	GS	SV-91-15'	15	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
K	GS	SV-91-15'	15	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
K	GS	SV-91-15'	15	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
K	GS	SV-91-15'	15	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
K	GS	SV-91-15'	15	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
K	GS	SV-91-15'	15	20-Jun-12	591-78-6	2-Hexanone	0.0022	ug/L	0.0022	1	1
K	GS	SV-91-15'	15	20-Jun-12	91-20-3	Naphthalene	0.004	ug/L	0.004	1	1
K	GS	SV-91-15'	15	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
K	GS	SV-91-15'	15	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
K	GS	SV-91-15'	15	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
K	GS	SV-91-15'	15	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
K	GS	SV-91-15'	15	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
K	GS	SV-91-15'	15	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
K	GS	SV-91-15'	15	20-Jun-12	179601-23-1	m,p-Xylenes	0.017	ug/L	0.017	1	1
K	GS	SV-91-15'	15	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0056	ug/L	0.0056	0	1
K	GS	SV-91-15'	15	20-Jun-12	75-35-4	1,1-Dichloroethene	0.0064	ug/L	0.0064	1	1
K	GS	SV-91-15'	15	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
K	GS	SV-91-15'	15	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.04	ug/L		1	1
K	GS	SV-91-15'	15	20-Jun-12	110-54-3	Hexane	0.0036	ug/L	0.0036	0	1
K	GS	SV-91-15'	15	20-Jun-12	78-93-3	2-Butanone	0.11	ug/L	0.11	1	1
K	GS	SV-91-15'	15	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0025	ug/L	0.0025	1	1
K	GS	SV-91-15'	15	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
K	GS	SV-91-15'	15	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
K	GS	SV-91-15'	15	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
K	GS	SV-91-15'	15	20-Jun-12	75-15-0	Carbon disulfide	0.016	ug/L	0.016	1	1
K	GS	SV-91-15'	15	20-Jun-12	75-09-2	Methylene Chloride	0.0024	ug/L	0.0024	1	1
K	GS	SV-91-15'	15	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
K	GS	SV-91-15'	15	20-Jun-12	67-66-3	Chloroform	1.3	ug/L	1.3	1	1
K	GS	SV-91-15'	15	20-Jun-12	67-63-0	Isopropyl alcohol	0.0077	ug/L	0.0077	1	1
K	GS	SV-91-15'	15	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
K	GS	SV-91-15'	15	20-Jun-12	64-17-5	Ethanol	0.061	ug/L	0.061	1	1
K	GS	SV-91-15'	15	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
K	GS	SV-91-15'	15	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
K	GS	SV-91-15'	15	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.391	ug/L		1	0
K	GS	SV-91-15'	15	20-Jun-12	2037-26-5	Toluene-d8	0.189	ug/L		1	0
K	GS	SV-91-15'	15	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.189	ug/L		1	0
K	GS	SV-91-15'	15	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
K	GS	SV-91-15'	15	20-Jun-12		TPHv (C5 - C11)	2.8	ug/L		1	1
K	GS	SV-91-15'	15	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
K	GS	SV-91-15'	15	20-Jun-12	74-82-8	Methane	0.01	%		0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	GS	SV-91-15'	15	20-Jun-12		Nitrogen	77	%		1	1
K	GS	SV-91-15'	15	20-Jun-12		Oxygen	16	%		1	1
K	GS	SV-91-15'	15	20-Jun-12		Carbon dioxide	5.8	%		1	1
K	GS	SV-91-15'	15	20-Jun-12	75-65-0	tert-Butyl alcohol	0.002	ug/L	0.002	1	1
K	GS	SV-91-15'	15	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
K	GS	SV-91-15'	15	20-Jun-12	108-88-3	Toluene	0.021	ug/L	0.021	1	1
K	GS	SV-91-15'	15	20-Jun-12	95-47-6	o-Xylene	0.0054	ug/L	0.0054	1	1
K	GS	SV-91-15'	15	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
K	GS	SV-91-15'	15	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
K	GS	SV-91-15'	15	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.03	ug/L	0.03	1	1
K	GS	SV-91-15'	15	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
K	GS	SV-91-15'	15	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
K	GS	SV-91-15'	15	20-Jun-12	141-78-6	Ethyl acetate	0.018	ug/L	0.018	0	1
K	GS	SV-91-15'	15	20-Jun-12	123-91-1	1,4-Dioxane	0.0034	ug/L	0.0034	1	1
K	GS	SV-91-15'	15	20-Jun-12	79-01-6	Trichloroethene	0.089	ug/L	0.089	1	1
K	GS	SV-91-15'	15	20-Jun-12	142-82-5	n-Heptane	0.0013	ug/L	0.0013	1	1
K	GS	SV-91-15'	15	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
K	GS	SV-91-15'	15	20-Jun-12	109-99-9	Tetrahydrofuran	0.014	ug/L	0.014	1	1
K	GS	SV-91-15'	15	20-Jun-12	115-07-1	Propene	0.0087	ug/L	0.0087	0	1
K	GS	SV-91-15'	15	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.016	ug/L	0.016	1	1
K	GS	SV-91-15'	15	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.0047	ug/L	0.0047	0	1
K	GS	SV-91-15'	15	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
K	GS	SV-91-15'	15	20-Jun-12	71-43-2	Benzene	0.0046	ug/L	0.0046	1	1
K	GS	SV-91-15'	15	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
K	GS	SV-91-15'	15	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
K	GS	SV-91-15'	15	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
K	GS	SV-91-15'	15	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
K	GS	SV-91-15'	15	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
K	Soil	B-215-10	10		68476-30-2	TPHd			100	0	1
K	Soil	B-215-10	10		8006-61-9	TPHg			10	0	1
K	Soil	B-215-10	10		64742-47-8	TPHm			100	0	1
K	Soil	B-71-5	5		68476-30-2	TPHd			10	0	1
K	Soil	B-71-5	5		8006-61-9	TPHg			10	0	1
K	Soil	B-71-5	5		64742-47-8	TPHm			10	0	1
K	Soil	B-72-5	5		68476-30-2	TPHd			10	0	1
K	Soil	B-72-5	5		8006-61-9	TPHg			10	0	1
K	Soil	B-72-5	5		64742-47-8	TPHm			10	0	1
K	Soil	B-73-5	5		8006-61-9	TPHg			10	0	1
K	Soil	B-73-5	5		68476-30-2	TPHd			10	0	1
K	Soil	B-73-5	5		64742-47-8	TPHm			10	0	1
K	Soil	B-74-10	10		68476-30-2	TPHd			260	1	1
K	Soil	B-74-10	10		8006-61-9	TPHg			10	0	1
K	Soil	B-74-10	10		64742-47-8	TPHm			120	1	1
K	Soil	B-75-10	10		68476-30-2	TPHd			110	1	1
K	Soil	B-75-10	10		8006-61-9	TPHg			10	0	1
K	Soil	B-75-10	10		64742-47-8	TPHm			230	1	1
K	Soil	B-76-5	5		68476-30-2	TPHd			980	1	1
K	Soil	B-76-5	5		8006-61-9	TPHg			10	0	1
K	Soil	B-76-5	5		64742-47-8	TPHm			430	1	1
K	Soil	B-77-10	10		64742-47-8	TPHm			10	1	1
K	Soil	B-77-10	10		68476-30-2	TPHd			10	0	1
K	Soil	B-77-10	10		8006-61-9	TPHg			10	0	1
K	Soil	S-23-0.5	0.5		BaP TEQ	BaP TEQ			0.1276	1	1
K	Soil	S-23-0.5	0.5		8006-61-9	TPHg			10	0	1
K	Soil	S-23-0.5	0.5		64742-47-8	TPHm			2000	1	1
K	Soil	S-23-0.5	0.5		68476-30-2	TPHd			870	1	1
K	Soil	S-23-2.5	2.5		BaP TEQ	BaP TEQ			0.08127	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	Soil	S-23-2.5	2.5		68476-30-2	TPHd			210	1	1
K	Soil	S-23-2.5	2.5		8006-61-9	TPHg			10	0	1
K	Soil	S-23-2.5	2.5		64742-47-8	TPHm			530	1	1
K	Soil	S-25-0.5	0.5		68476-30-2	TPHd			10	0	1
K	Soil	S-25-0.5	0.5		8006-61-9	TPHg			10	0	1
K	Soil	S-25-0.5	0.5		64742-47-8	TPHm			54	1	1
K	Soil	S-25-2.5	2.5		8006-61-9	TPHg			10	0	1
K	Soil	S-25-2.5	2.5		68476-30-2	TPHd			10	0	1
K	Soil	S-25-2.5	2.5		64742-47-8	TPHm			20	1	1
K	Soil	B-71-1	1	02-Sep-97	7439-92-1	Lead	15	mg/K	15	1	1
K	Soil	B-71-5	5	02-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
K	Soil	B-71-5	5	02-Sep-97		C10-C25	10	mg/K	10	0	1
K	Soil	B-71-5	5	02-Sep-97		C1-C40	10	mg/K	10	0	1
K	Soil	B-71-5	5	02-Sep-97		C25-C40	10	mg/K	10	0	1
K	Soil	B-71-5	5	02-Sep-97		C4-C10	10	mg/K	10	0	1
K	Soil	B-71-5	5	02-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
K	Soil	B-71-5	5	02-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
K	Soil	B-71-5	5	02-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
K	Soil	B-72-5	5	03-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
K	Soil	B-72-5	5	03-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
K	Soil	B-72-5	5	03-Sep-97		C4-C10	10	mg/K	10	0	1
K	Soil	B-72-5	5	03-Sep-97		C25-C40	10	mg/K	10	0	1
K	Soil	B-72-5	5	03-Sep-97		C10-C25	10	mg/K	10	0	1
K	Soil	B-72-5	5	03-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
K	Soil	B-72-5	5	03-Sep-97		C1-C40	10	mg/K	10	0	1
K	Soil	B-72-5	5	03-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
K	Soil	B-73-1	1	03-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
K	Soil	B-73-1	1	03-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
K	Soil	B-73-1	1	03-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
K	Soil	B-73-1	1	03-Sep-97	7439-92-1	Lead	3.1	mg/K	3.1	1	1
K	Soil	B-73-1	1	03-Sep-97	7439-92-1	Lead	2.9	mg/K	2.9	1	0
K	Soil	B-73-1	1	03-Sep-97	7440-50-8	Copper	1.6	mg/K	1.6	1	1
K	Soil	B-73-1	1	03-Sep-97	7440-48-4	Cobalt	1	mg/K	1	0	1
K	Soil	B-73-1	1	03-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
K	Soil	B-73-1	1	03-Sep-97	7440-39-3	Barium	38	mg/K	38	1	1
K	Soil	B-73-1	1	03-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
K	Soil	B-73-1	1	03-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
K	Soil	B-73-1	1	03-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
K	Soil	B-73-1	1	03-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
K	Soil	B-73-1	1	03-Sep-97	7440-47-3	Chromium	3.5	mg/K	3.5	1	1
K	Soil	B-73-1	1	03-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
K	Soil	B-73-1	1	03-Sep-97	7440-62-2	Vanadium	3.2	mg/K	3.2	1	1
K	Soil	B-73-1	1	03-Sep-97	7440-66-6	Zinc	9.6	mg/K	9.6	1	1
K	Soil	B-73-1	1	03-Sep-97	7440-02-0	Nickel	1.9	mg/K	1.9	1	1
K	Soil	B-73-5	5	03-Sep-97		C4-C10	10	mg/K	10	0	1
K	Soil	B-73-5	5	03-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
K	Soil	B-73-5	5	03-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
K	Soil	B-73-5	5	03-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
K	Soil	B-73-5	5	03-Sep-97		C1-C40	10	mg/K	10	0	1
K	Soil	B-73-5	5	03-Sep-97		C10-C25	10	mg/K	10	0	1
K	Soil	B-73-5	5	03-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
K	Soil	B-73-5	5	03-Sep-97		C25-C40	10	mg/K	10	0	1
K	Soil	B-74-1	1	03-Sep-97	7439-92-1	Lead	4.3	mg/K	4.3	1	1
K	Soil	B-74-10	10	03-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
K	Soil	B-74-10	10	03-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
K	Soil	B-74-10	10	03-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
K	Soil	B-74-10	10	03-Sep-97		C25-C40	120	mg/K	120	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	Soil	B-74-10	10	03-Sep-97		C1-C40	380	mg/K	380	1	1
K	Soil	B-74-10	10	03-Sep-97		C10-C25	260	mg/K	260	1	1
K	Soil	B-74-10	10	03-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
K	Soil	B-74-10	10	03-Sep-97		C4-C10	10	mg/K	10	0	1
K	Soil	B-75-1	1	03-Sep-97	7439-92-1	Lead	16	mg/K	16	1	1
K	Soil	B-75-10	10	03-Sep-97		C1-C40	340	mg/K	340	1	1
K	Soil	B-75-10	10	03-Sep-97		C25-C40	230	mg/K	230	1	1
K	Soil	B-75-10	10	03-Sep-97		C4-C10	10	mg/K	10	0	1
K	Soil	B-75-10	10	03-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
K	Soil	B-75-10	10	03-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
K	Soil	B-75-10	10	03-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
K	Soil	B-75-10	10	03-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
K	Soil	B-75-10	10	03-Sep-97		C10-C25	110	mg/K	110	1	1
K	Soil	B-76-1	1	03-Sep-97	7439-92-1	Lead	2.7	mg/K	2.7	1	1
K	Soil	B-76-5	5	03-Sep-97	11096-82-5	Aroclor 1260	0.3	mg/K	0.3	0	1
K	Soil	B-76-5	5	03-Sep-97	11097-69-1	Aroclor 1254	0.3	mg/K	0.3	0	1
K	Soil	B-76-5	5	03-Sep-97		C10-C25	980	mg/K	980	1	1
K	Soil	B-76-5	5	03-Sep-97	11104-28-2	Aroclor 1221	0.3	mg/K	0.3	0	1
K	Soil	B-76-5	5	03-Sep-97	11141-16-5	Aroclor 1232	0.3	mg/K	0.3	0	1
K	Soil	B-76-5	5	03-Sep-97	53469-21-9	Aroclor 1242	0.3	mg/K	0.3	0	1
K	Soil	B-76-5	5	03-Sep-97	12672-29-6	Aroclor 1248	0.3	mg/K	0.3	0	1
K	Soil	B-76-5	5	03-Sep-97	12674-11-2	Aroclor 1016	0.3	mg/K	0.3	0	1
K	Soil	B-76-5	5	03-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
K	Soil	B-76-5	5	03-Sep-97		C1-C40	1410	mg/K	1410	1	1
K	Soil	B-76-5	5	03-Sep-97		C25-C40	430	mg/K	430	1	1
K	Soil	B-76-5	5	03-Sep-97		C4-C10	10	mg/K	10	0	1
K	Soil	B-76-5	5	03-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
K	Soil	B-76-5	5	03-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
K	Soil	B-76-5	5	03-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
K	Soil	B-77-10	10	02-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
K	Soil	B-77-10	10	02-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
K	Soil	B-77-10	10	02-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
K	Soil	B-77-10	10	02-Sep-97		C4-C10	10	mg/K	10	0	1
K	Soil	B-77-10	10	02-Sep-97		C25-C40	10	mg/K	10	1	1
K	Soil	B-77-10	10	02-Sep-97		C1-C40	10	mg/K	10	1	1
K	Soil	B-77-10	10	02-Sep-97		C10-C25	10	mg/K	10	0	1
K	Soil	B-77-10	10	02-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
K	Soil	B-215-10	10	29-May-02	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
K	Soil	B-215-10	10	29-May-02		C25-C40	100	mg/k	100	0	1
K	Soil	B-215-10	10	29-May-02	71-43-2	Benzene	0.005	mg/k	0.005	0	1
K	Soil	B-215-10	10	29-May-02	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
K	Soil	B-215-10	10	29-May-02		C1-C40	100	mg/K	100	0	1
K	Soil	B-215-10	10	29-May-02		C4-C10	10	mg/k	10	0	1
K	Soil	B-215-10	10	29-May-02	108-88-3	Toluene	0.005	mg/k	0.005	0	1
K	Soil	B-215-10	10	29-May-02		C10-C25	100	mg/k	100	0	1
K	Soil	B-215-5	5	29-May-02	7440-50-8	Copper	2.1	mg/k	2.1	1	1
K	Soil	B-215-5	5	29-May-02	7440-36-0	Antimony	5	mg/k	5	0	1
K	Soil	B-215-5	5	29-May-02	7440-38-2	Arsenic	5.4	mg/k	5.4	1	1
K	Soil	B-215-5	5	29-May-02	7440-39-3	Barium	28	mg/k	28	1	1
K	Soil	B-215-5	5	29-May-02	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
K	Soil	B-215-5	5	29-May-02	7440-43-9	Cadmium	1	mg/k	1	0	1
K	Soil	B-215-5	5	29-May-02	7440-48-4	Cobalt	1.3	mg/k	1.3	1	1
K	Soil	B-215-5	5	29-May-02	7439-92-1	Lead	3.1	mg/k	3.1	1	1
K	Soil	B-215-5	5	29-May-02	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
K	Soil	B-215-5	5	29-May-02	7439-98-7	Molybdenum	1	mg/k	1	0	1
K	Soil	B-215-5	5	29-May-02	7440-02-0	Nickel	6.5	mg/k	6.5	1	1
K	Soil	B-215-5	5	29-May-02	7782-49-2	Selenium	5	mg/k	5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	Soil	B-215-5	5	29-May-02	7440-22-4	Silver	1	mg/k	1	0	1
K	Soil	B-215-5	5	29-May-02	7440-28-0	Thallium	5	mg/k	5	0	1
K	Soil	B-215-5	5	29-May-02	7440-66-6	Zinc	14	mg/k	14	1	1
K	Soil	B-215-5	5	29-May-02	7440-47-3	Chromium	11	mg/k	11	1	1
K	Soil	B-215-5	5	29-May-02	7440-62-2	Vanadium	8.4	mg/k	8.4	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.4	mg/k	0.4	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	8001-35-2	Toxaphene	0.5	mg/k	0.5	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	13	mg/k	13	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7440-66-6	Zinc	44	mg/k	44	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	72-43-5	Methoxychlor	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.04	mg/k	0.04	0	0
K	Soil	S-23-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7440-02-0	Nickel	11	mg/k	11	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.04	mg/k	0.04	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.095	mg/k	0.095	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	93-72-1	Silvex	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.04	mg/k	0.04	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	13	mg/k	13	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.04	mg/k	0.04	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	Soil	S-23-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	93-76-5	2,4,5-T	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	94-75-7	2,4-D	0.05	mg/k	0.05	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	319-84-6	alpha-BHC	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	309-00-2	Aldrin	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	72-54-8	4,4'-DDD	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	72-55-9	4,4'-DDE	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	50-29-3	4,4'-DDT	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.04	mg/k	0.04	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	94-82-6	2,4-DB	0.5	mg/k	0.5	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03		C16-C21	48	mg/k	48	1	0
K	Soil	S-23-0.5	0.5	05-Jun-03	93-65-2	MCPP	5	mg/k	5	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03		C21-C40	400	mg/k	400	1	0
K	Soil	S-23-0.5	0.5	05-Jun-03		C21-C40	720	mg/k	720	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03		C25-C40	2000	mg/k	2000	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.28	mg/k	0.28	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03		C10-C12	4	mg/k	4	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	57-74-9	Chlordane	0.5	mg/k	0.5	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7440-47-3	Chromium	12	mg/k	12	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	319-85-7	beta-BHC	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7440-39-3	Barium	46	mg/k	46	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.04	mg/k	0.04	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.092	mg/k	0.092	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.16	mg/k	0.16	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.14	mg/k	0.14	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03		C10-C25	870	mg/k	870	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03		C16-C21	150	mg/k	150	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.049	mg/k	0.049	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	1024-57-3	Heptachlor epoxide	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	72-20-8	Endrin	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7421-93-4	Endrin aldehyde	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	53494-70-5	Endrin ketone	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.066	mg/k	0.066	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.04	mg/k	0.04	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	1031-07-8	Endosulfan sulfate	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	76-44-8	Heptachlor	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7439-92-1	Lead	56	mg/k	56	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	Soil	S-23-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.079	mg/k	0.079	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	94-74-6	MCPA	5	mg/k	5	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03		C12-C16	8	mg/k	8	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	58-89-9	gamma-BHC	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7440-50-8	Copper	13	mg/k	13	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	33213-65-9	Endosulfan II	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	75-99-0	Dalapon	0.1	mg/k	0.1	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	319-86-8	delta-BHC	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.089	mg/k	0.089	1	1
K	Soil	S-23-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	120-36-5	Dichloroprop	0.05	mg/k	0.05	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	60-57-1	Dieldrin	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	88-85-7	Dinoseb	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	115-29-7	Endosulfan I	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	1918-00-9	Dicamba	0.01	mg/k	0.01	0	1
K	Soil	S-23-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	7439-92-1	Lead	17	mg/k	17	1	1
K	Soil	S-23-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	85-01-8	Phenanthrene	0.02	mg/k	0.02	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	7440-02-0	Nickel	7.2	mg/k	7.2	1	1
K	Soil	S-23-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.02	mg/k	0.02	0	0
K	Soil	S-23-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.02	mg/k	0.02	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	129-00-0	Pyrene	0.02	mg/k	0.02	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	7440-66-6	Zinc	14	mg/k	14	1	1
K	Soil	S-23-2.5	2.5	05-Jun-03	206-44-0	Fluoranthene	0.02	mg/k	0.02	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	7.5	mg/k	7.5	1	1
K	Soil	S-23-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	Soil	S-23-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	7440-39-3	Barium	34	mg/k	34	1	1
K	Soil	S-23-2.5	2.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.028	mg/k	0.028	1	1
K	Soil	S-23-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	86-73-7	Fluorene	0.02	mg/k	0.02	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.02	mg/k	0.02	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.077	mg/k	0.077	1	1
K	Soil	S-23-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	11	mg/k	11	1	1
K	Soil	S-23-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	120-12-7	Anthracene	0.02	mg/k	0.02	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	208-96-8	Acenaphthylene	0.02	mg/k	0.02	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	83-32-9	Acenaphthene	0.02	mg/k	0.02	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.02	mg/k	0.02	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.02	mg/k	0.02	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	7440-47-3	Chromium	9	mg/k	9	1	1
K	Soil	S-23-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	7440-50-8	Copper	3.3	mg/k	3.3	1	1
K	Soil	S-23-2.5	2.5	05-Jun-03	218-01-9	Chrysene	0.027	mg/k	0.027	1	1
K	Soil	S-23-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.02	mg/k	0.02	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	Soil	S-23-2.5	2.5	05-Jun-03		C10-C25	210	mg/k	210	1	1
K	Soil	S-23-2.5	2.5	05-Jun-03		C25-C40	530	mg/k	530	1	1
K	Soil	S-23-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
K	Soil	S-23-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	7439-92-1	Lead	8.4	mg/k	8.4	1	1
K	Soil	S-25-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	7440-47-3	Chromium	8.6	mg/k	8.6	1	1
K	Soil	S-25-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	7440-50-8	Copper	1.6	mg/k	1.6	1	1
K	Soil	S-25-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	7440-66-6	Zinc	12	mg/k	12	1	1
K	Soil	S-25-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	8.6	mg/k	8.6	1	1
K	Soil	S-25-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	7440-02-0	Nickel	4.8	mg/k	4.8	1	1
K	Soil	S-25-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03		C25-C40	54	mg/k	54	1	1
K	Soil	S-25-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	Soil	S-25-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03		C10-C25	10	mg/k	10	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	7440-39-3	Barium	36	mg/k	36	1	1
K	Soil	S-25-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	10	mg/k	10	1	1
K	Soil	S-25-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
K	Soil	S-25-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	7439-92-1	Lead	3	mg/k	3	1	1
K	Soil	S-25-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	7440-02-0	Nickel	4.6	mg/k	4.6	1	1
K	Soil	S-25-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	7440-50-8	Copper	1	mg/k	1	1	1
K	Soil	S-25-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	7440-47-3	Chromium	10	mg/k	10	1	1
K	Soil	S-25-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	7440-66-6	Zinc	6.7	mg/k	6.7	1	1
K	Soil	S-25-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	7.2	mg/k	7.2	1	1
K	Soil	S-25-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
K	Soil	S-25-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03		C25-C40	20	mg/k	20	1	1
K	Soil	S-25-2.5	2.5	05-Jun-03		C10-C25	10	mg/k	10	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	7440-39-3	Barium	120	mg/k	120	1	1
K	Soil	S-25-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	4.2	mg/k	4.2	1	1
K	Soil	S-25-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
K	Soil	S-25-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
L	GS	SP-9-10	10	30-Apr-01		n-butane	0.39	ppmv		1	1
L	GS	SP-9-10	10	30-Apr-01		Ethane	10	ppmv		0	1
L	GS	SP-9-10	10	30-Apr-01		2,2-dimethyl propane	10	ppmv		0	1
L	GS	SP-9-10	10	30-Apr-01		1-pentene	0.38	ppmv		1	1
L	GS	SP-9-10	10	30-Apr-01		1-butene	2.82	ppmv		1	1
L	GS	SP-9-10	10	30-Apr-01	74-82-8	Methane	4.36	ppmv		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SP-9-10	10	30-Apr-01		n-pentane	0.27	ppmv		1	1
L	GS	SP-9-10	10	30-Apr-01		propane	0.66	ppmv		1	1
L	GS	SP-9-10	10	30-Apr-01		i-pentane	0.12	ppmv		1	1
L	GS	SP-9-10	10	30-Apr-01		Ethene	10	ppmv		0	1
L	GS	SP-9-10	10	30-Apr-01		Propene	10	ppmv		0	1
L	GS	SP-9-10	10	30-Apr-01		i-butane	0.19	ppmv		1	1
L	GS	SP-9-15	15	30-Apr-01		1-pentene	0.32	ppmv		1	1
L	GS	SP-9-15	15	30-Apr-01		2,2-dimethyl propane	10	ppmv		0	1
L	GS	SP-9-15	15	30-Apr-01		1-butene	2.42	ppmv		1	1
L	GS	SP-9-15	15	30-Apr-01		propane	0.41	ppmv		1	1
L	GS	SP-9-15	15	30-Apr-01		n-butane	0.13	ppmv		1	1
L	GS	SP-9-15	15	30-Apr-01		i-butane	0.07	ppmv		1	1
L	GS	SP-9-15	15	30-Apr-01		i-pentane	0.08	ppmv		1	1
L	GS	SP-9-15	15	30-Apr-01		n-pentane	0.22	ppmv		1	1
L	GS	SP-9-15	15	30-Apr-01	74-82-8	Methane	2.3	ppmv		1	1
L	GS	SP-9-15	15	30-Apr-01		Ethane	0.12	ppmv		1	1
L	GS	SP-9-15	15	30-Apr-01		Propene	0.1	ppmv		1	1
L	GS	SP-9-6	6	30-Apr-01		1-butene	2.58	ppmv		1	1
L	GS	SP-9-6	6	30-Apr-01		1-pentene	0.36	ppmv		1	1
L	GS	SP-9-6	6	30-Apr-01		Ethane	10	ppmv		0	1
L	GS	SP-9-6	6	30-Apr-01		n-butane	0.13	ppmv		1	1
L	GS	SP-9-6	6	30-Apr-01		2,2-dimethyl propane	10	ppmv		0	1
L	GS	SP-9-6	6	30-Apr-01		Ethene	10	ppmv		0	1
L	GS	SP-9-6	6	30-Apr-01	74-82-8	Methane	11.03	ppmv		1	1
L	GS	SP-9-6	6	30-Apr-01		n-pentane	0.25	ppmv		1	1
L	GS	SP-9-6	6	30-Apr-01		propane	0.14	ppmv		1	1
L	GS	SP-9-6	6	30-Apr-01		Propene	10	ppmv		0	1
L	GS	SP-9-6	6	30-Apr-01		i-butane	0.16	ppmv		1	1
L	GS	SP-9-10	10	18-Oct-01		propane	0.15	ppmv		1	1
L	GS	SP-9-10	10	18-Oct-01		Propene	0.11	ppmv		1	1
L	GS	SP-9-10	10	18-Oct-01		1-butene	5.67	ppmv		1	1
L	GS	SP-9-10	10	18-Oct-01		Ethene	0.71	ppmv		1	1
L	GS	SP-9-10	10	18-Oct-01		Ethane	0.42	ppmv		1	1
L	GS	SP-9-10	10	18-Oct-01		1-pentene	0.22	ppmv		1	1
L	GS	SP-9-10	10	18-Oct-01		C3	10	ppmv		0	1
L	GS	SP-9-10	10	18-Oct-01		n-pentane	7.79	ppmv		1	1
L	GS	SP-9-10	10	18-Oct-01		C2	10	ppmv		0	1
L	GS	SP-9-10	10	18-Oct-01		C1	11600	ppmv		1	1
L	GS	SP-9-10	10	18-Oct-01		i-butane	0.85	ppmv		1	1
L	GS	SP-9-10	10	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
L	GS	SP-9-10	10	18-Oct-01		i-C4	10	ppmv		0	1
L	GS	SP-9-10	10	18-Oct-01		i-C5	10	ppmv		0	1
L	GS	SP-9-10	10	18-Oct-01		i-pentane	13.01	ppmv		1	1
L	GS	SP-9-10	10	18-Oct-01		n-butane	4.98	ppmv		1	1
L	GS	SP-9-10	10	18-Oct-01		n-C4	10	ppmv		0	1
L	GS	SP-9-10	10	18-Oct-01		n-C5	10	ppmv		0	1
L	GS	SP-9-10	10	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
L	GS	SP-9-15	15	18-Oct-01		i-butane	0.23	ppmv		1	1
L	GS	SP-9-15	15	18-Oct-01		1-butene	5.22	ppmv		1	1
L	GS	SP-9-15	15	18-Oct-01		1-pentene	0.24	ppmv		1	1
L	GS	SP-9-15	15	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
L	GS	SP-9-15	15	18-Oct-01		Ethene	0.1	ppmv		0	1
L	GS	SP-9-15	15	18-Oct-01		i-pentane	7.96	ppmv		1	1
L	GS	SP-9-15	15	18-Oct-01	74-82-8	Methane	80.56	ppmv		1	1
L	GS	SP-9-15	15	18-Oct-01		n-butane	2.85	ppmv		1	1
L	GS	SP-9-15	15	18-Oct-01		n-pentane	5.99	ppmv		1	1
L	GS	SP-9-15	15	18-Oct-01		propane	0.08	ppmv		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SP-9-15	15	18-Oct-01		Propene	0.11	ppmv		1	1
L	GS	SP-9-15	15	18-Oct-01		Ethane	0.12	ppmv		1	1
L	GS	SP-9-15	15	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
L	GS	SP-9-6	6	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
L	GS	SP-9-6	6	18-Oct-01		1-butene	4.94	ppmv		1	1
L	GS	SP-9-6	6	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
L	GS	SP-9-6	6	18-Oct-01		Ethane	0.12	ppmv		1	1
L	GS	SP-9-6	6	18-Oct-01		Ethene	0.1	ppmv		0	1
L	GS	SP-9-6	6	18-Oct-01		i-butane	0.26	ppmv		1	1
L	GS	SP-9-6	6	18-Oct-01		i-pentane	0.86	ppmv		1	1
L	GS	SP-9-6	6	18-Oct-01	74-82-8	Methane	68.74	ppmv		1	1
L	GS	SP-9-6	6	18-Oct-01		n-butane	0.35	ppmv		1	1
L	GS	SP-9-6	6	18-Oct-01		n-pentane	0.9	ppmv		1	1
L	GS	SP-9-6	6	18-Oct-01		propane	0.12	ppmv		1	1
L	GS	SP-9-6	6	18-Oct-01		Propene	0.1	ppmv		1	1
L	GS	SP-9-6	6	18-Oct-01		1-pentene	0.21	ppmv		1	1
L	GS	SP-9-10	10	09-Apr-02		Ethane	1.2	ppmv		1	1
L	GS	SP-9-10	10	09-Apr-02		n-butane	0.57	ppmv		1	1
L	GS	SP-9-10	10	09-Apr-02		1-butene	0.1	ppmv		0	1
L	GS	SP-9-10	10	09-Apr-02		1-pentene	0.1	ppmv		0	1
L	GS	SP-9-10	10	09-Apr-02		2,2-dimethyl propane	0.5	ppmv		1	1
L	GS	SP-9-10	10	09-Apr-02		Ethene	0.44	ppmv		1	1
L	GS	SP-9-10	10	09-Apr-02		i-butane	1.58	ppmv		1	1
L	GS	SP-9-10	10	09-Apr-02		i-pentane	13.08	ppmv		1	1
L	GS	SP-9-10	10	10-Apr-02		i-C5	140	ppmv		1	1
L	GS	SP-9-10	10	10-Apr-02		n-C5	10	ppmv		0	1
L	GS	SP-9-10	10	10-Apr-02		n-C4	14	ppmv		1	1
L	GS	SP-9-10	10	09-Apr-02		n-pentane	0.15	ppmv		1	1
L	GS	SP-9-10	10	10-Apr-02		i-C4	47	ppmv		1	1
L	GS	SP-9-10	10	10-Apr-02		C3	10	ppmv		0	1
L	GS	SP-9-10	10	09-Apr-02		Propene	0.1	ppmv		0	1
L	GS	SP-9-10	10	09-Apr-02		propane	0.1	ppmv		1	1
L	GS	SP-9-10	10	10-Apr-02		C2	10	ppmv		0	1
L	GS	SP-9-10	10	10-Apr-02		C1	180000	ppmv		1	1
L	GS	SP-9-15	15	09-Apr-02		1-butene	0.1	ppmv		0	1
L	GS	SP-9-15	15	09-Apr-02		1-pentene	0.1	ppmv		0	1
L	GS	SP-9-15	15	09-Apr-02		propane	0.27	ppmv		1	1
L	GS	SP-9-15	15	09-Apr-02		n-pentane	0.2	ppmv		1	1
L	GS	SP-9-15	15	09-Apr-02		n-butane	1.17	ppmv		1	1
L	GS	SP-9-15	15	09-Apr-02		i-pentane	32.49	ppmv		1	1
L	GS	SP-9-15	15	09-Apr-02		i-butane	14.25	ppmv		1	1
L	GS	SP-9-15	15	09-Apr-02		Ethene	0.72	ppmv		1	1
L	GS	SP-9-15	15	09-Apr-02		Ethane	1.66	ppmv		1	1
L	GS	SP-9-15	15	09-Apr-02		2,2-dimethyl propane	3.29	ppmv		1	1
L	GS	SP-9-15	15	09-Apr-02		Propene	0.1	ppmv		0	1
L	GS	SP-9-6	6	09-Apr-02		Ethene	0.1	ppmv		0	1
L	GS	SP-9-6	6	09-Apr-02		1-butene	0.1	ppmv		0	1
L	GS	SP-9-6	6	09-Apr-02		1-pentene	0.1	ppmv		0	1
L	GS	SP-9-6	6	09-Apr-02		i-butane	35.08	ppmv		1	1
L	GS	SP-9-6	6	09-Apr-02		i-pentane	201.06	ppmv		1	1
L	GS	SP-9-6	6	09-Apr-02		n-butane	8.15	ppmv		1	1
L	GS	SP-9-6	6	09-Apr-02		Propene	0.1	ppmv		0	1
L	GS	SP-9-6	6	09-Apr-02		n-pentane	2.65	ppmv		1	1
L	GS	SP-9-6	6	09-Apr-02		Ethane	4.2	ppmv		1	1
L	GS	SP-9-6	6	09-Apr-02		propane	0.57	ppmv		1	1
L	GS	SP-9-6	6	09-Apr-02		2,2-dimethyl propane	14.31	ppmv		1	1
L	GS	SP-9-10	10	24-Sep-02		n-butane	3.76	ppmv		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SP-9-10	10	24-Sep-02		1-butene	0.1	ppmv		0	1
L	GS	SP-9-10	10	24-Sep-02		2,2-dimethyl propane	11.41	ppmv		1	1
L	GS	SP-9-10	10	24-Sep-02		Ethane	0.1	ppmv		0	1
L	GS	SP-9-10	10	24-Sep-02		Ethene	1.03	ppmv		1	1
L	GS	SP-9-10	10	24-Sep-02		i-pentane	102.19	ppmv		1	1
L	GS	SP-9-10	10	24-Sep-02		Propene	0.13	ppmv		1	1
L	GS	SP-9-10	10	24-Sep-02		propane	0.4	ppmv		1	1
L	GS	SP-9-10	10	24-Sep-02		i-butane	18.3	ppmv		1	1
L	GS	SP-9-10	10	24-Sep-02		1-pentene	0.1	ppmv		0	1
L	GS	SP-9-10	10	24-Sep-02		n-pentane	2.23	ppmv		1	1
L	GS	SP-9-15	15	24-Sep-02		Ethene	0.95	ppmv		1	1
L	GS	SP-9-15	15	24-Sep-02		1-butene	0.1	ppmv		0	1
L	GS	SP-9-15	15	24-Sep-02		1-pentene	0.1	ppmv		0	1
L	GS	SP-9-15	15	24-Sep-02		Ethane	0.1	ppmv		0	1
L	GS	SP-9-15	15	24-Sep-02		Propene	0.16	ppmv		1	1
L	GS	SP-9-15	15	24-Sep-02		i-butane	14.33	ppmv		1	1
L	GS	SP-9-15	15	24-Sep-02		i-pentane	70.84	ppmv		1	1
L	GS	SP-9-15	15	24-Sep-02		n-butane	2.37	ppmv		1	1
L	GS	SP-9-15	15	24-Sep-02		n-pentane	2.33	ppmv		1	1
L	GS	SP-9-15	15	24-Sep-02		2,2-dimethyl propane	6.86	ppmv		1	1
L	GS	SP-9-15	15	24-Sep-02		propane	0.37	ppmv		1	1
L	GS	SP-9-6	6	24-Sep-02		1-pentene	0.1	ppmv		0	1
L	GS	SP-9-6	6	24-Sep-02		Propene	0.1	ppmv		0	1
L	GS	SP-9-6	6	24-Sep-02		propane	0.34	ppmv		1	1
L	GS	SP-9-6	6	24-Sep-02		n-pentane	2.98	ppmv		1	1
L	GS	SP-9-6	6	24-Sep-02		n-butane	2.3	ppmv		1	1
L	GS	SP-9-6	6	24-Sep-02		i-pentane	58.52	ppmv		1	1
L	GS	SP-9-6	6	24-Sep-02		i-butane	9.33	ppmv		1	1
L	GS	SP-9-6	6	24-Sep-02		Ethene	0.57	ppmv		1	1
L	GS	SP-9-6	6	24-Sep-02		2,2-dimethyl propane	7.02	ppmv		1	1
L	GS	SP-9-6	6	24-Sep-02		1-butene	0.1	ppmv		0	1
L	GS	SP-9-6	6	24-Sep-02		Ethane	0.1	ppmv		0	1
L	GS	SP-9-6	6	13-Jan-04	67-66-3	Chloroform	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	75-00-3	Chloroethane	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	108-90-7	Chlorobenzene	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	106-46-7	1,4-Dichlorobenzene	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	56-23-5	Carbon Tetrachloride	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	74-83-9	Bromomethane	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	71-43-2	Benzene	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	10061-01-5	cis-1,3-Dichloropropene	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	79-01-6	Trichloroethene	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	74-87-3	Chloromethane	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	156-59-2	cis-1,2-Dichloroethene	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	75-71-8	Dichlorodifluoromethane	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	100-41-4	Ethylbenzene	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	87-68-3	Hexachlorobutadiene	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	75-09-2	Methylene Chloride	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	100-42-5	Styrene	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	127-18-4	Tetrachloroethene	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	10061-02-6	trans-1,3-Dichloropropene	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	78-87-5	1,2-Dichloropropane	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	75-69-4	Trichlorofluoromethane	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	75-01-4	Vinyl Chloride	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	1330-20-7	Xylenes (total)	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	108-88-3	Toluene	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	75-34-3	1,1-Dichloroethane	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	108-67-8	1,3,5-Trimethylbenzene	5	ppbv		0	1

Attachment 6
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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SP-9-6	6	13-Jan-04	541-73-1	1,3-Dichlorobenzene	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	71-55-6	1,1,1-Trichloroethane	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	79-34-5	1,1,2,2-Tetrachloroethane	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	79-00-5	1,1,2-Trichloroethane	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	75-35-4	1,1-Dichloroethene	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	120-82-1	1,2,4-Trichlorobenzene	10	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	95-63-6	1,2,4-Trimethylbenzene	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	106-93-4	1,2-Dibromoethane	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	95-50-1	1,2-Dichlorobenzene	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	107-06-2	1,2-Dichloroethane	5	ppbv		0	1
L	GS	SP-9-6	6	13-Jan-04	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5	ppbv		0	1
L	GS	SV-09-15	15	18-Jul-07		Ethene	0.0027	%		0	1
L	GS	SV-09-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
L	GS	SV-09-15	15	18-Jul-07	74-82-8	Methane	0.015	%		1	1
L	GS	SV-09-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.025	ug/L	0.025	1	1
L	GS	SV-09-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.0066	ug/L	0.0066	0	1
L	GS	SV-09-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-09-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
L	GS	SV-09-15	15	18-Jul-07	110-54-3	Hexane	0.3	ug/L	0.3	1	1
L	GS	SV-09-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.057	ug/L	0.057	0	1
L	GS	SV-09-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0047	ug/L	0.0047	0	1
L	GS	SV-09-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-09-15	15	18-Jul-07		Oxygen	18	%		1	1
L	GS	SV-09-15	15	18-Jul-07	64-17-5	Ethanol	0.01	ug/L	0.01	0	1
L	GS	SV-09-15	15	18-Jul-07		Ethane	0.0027	%		0	1
L	GS	SV-09-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0066	ug/L	0.0066	0	1
L	GS	SV-09-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-09-15	15	18-Jul-07	110-82-7	Cyclohexane	0.063	ug/L	0.063	1	1
L	GS	SV-09-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0061	ug/L	0.0061	0	1
L	GS	SV-09-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0053	ug/L		0	1
L	GS	SV-09-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.02	ug/L	0.02	1	1
L	GS	SV-09-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.0091	ug/L	0.0091	0	1
L	GS	SV-09-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0076	ug/L	0.0076	0	1
L	GS	SV-09-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
L	GS	SV-09-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
L	GS	SV-09-15	15	18-Jul-07	79-01-6	Trichloroethene	0.0072	ug/L	0.0072	0	1
L	GS	SV-09-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0061	ug/L	0.0061	0	1
L	GS	SV-09-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0053	ug/L	0.0053	0	1
L	GS	SV-09-15	15	18-Jul-07		Toluene-d8	95	%		1	1
L	GS	SV-09-15	15	18-Jul-07		Nitrogen	80	%		1	1
L	GS	SV-09-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.004	ug/L	0.004	0	1
L	GS	SV-09-15	15	18-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
L	GS	SV-09-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
L	GS	SV-09-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-09-15	15	18-Jul-07	100-42-5	Styrene	0.0057	ug/L	0.0057	0	1
L	GS	SV-09-15	15	18-Jul-07	95-47-6	o-Xylene	0.01	ug/L	0.01	1	1
L	GS	SV-09-15	15	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-09-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.0066	ug/L	0.0066	0	1
L	GS	SV-09-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.009	ug/L	0.009	1	1
L	GS	SV-09-15	15	18-Jul-07	142-82-5	n-Heptane	0.069	ug/L	0.069	1	1
L	GS	SV-09-15	15	18-Jul-07	108-88-3	Toluene	0.081	ug/L	0.081	1	1
L	GS	SV-09-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
L	GS	SV-09-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
L	GS	SV-09-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.003	ug/L	0.003	0	1
L	GS	SV-09-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0066	ug/L	0.0066	0	1
L	GS	SV-09-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0062	ug/L	0.0062	0	1

Attachment 6
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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-09-15	15	18-Jul-07		1,2-Dichloroethane-d4	97	%		1	1
L	GS	SV-09-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0054	ug/L	0.0054	0	1
L	GS	SV-09-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0094	ug/L	0.0094	0	1
L	GS	SV-09-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
L	GS	SV-09-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.04	ug/L	0.04	0	1
L	GS	SV-09-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
L	GS	SV-09-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0053	ug/L	0.0053	0	1
L	GS	SV-09-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0054	ug/L	0.0054	0	1
L	GS	SV-09-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0073	ug/L	0.0073	0	1
L	GS	SV-09-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
L	GS	SV-09-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0092	ug/L	0.0092	0	1
L	GS	SV-09-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0073	ug/L	0.0073	0	1
L	GS	SV-09-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.037	ug/L	0.037	0	1
L	GS	SV-09-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
L	GS	SV-09-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0066	ug/L	0.0066	0	1
L	GS	SV-09-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.007	ug/L	0.007	0	1
L	GS	SV-09-15	15	18-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
L	GS	SV-09-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0062	ug/L	0.0062	0	1
L	GS	SV-09-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.0085	ug/L	0.0085	0	1
L	GS	SV-09-15	15	18-Jul-07		Carbon Monoxide	0.027	%		0	1
L	GS	SV-09-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.11	ug/L	0.11	1	1
L	GS	SV-09-15	15	18-Jul-07		Carbon Dioxide	2	%		1	1
L	GS	SV-09-15	15	18-Jul-07	74-83-9	Bromomethane	0.0052	ug/L	0.0052	0	1
L	GS	SV-09-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
L	GS	SV-09-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.009	ug/L	0.009	0	1
L	GS	SV-09-15	15	18-Jul-07	67-66-3	Chloroform	0.017	ug/L	0.017	1	1
L	GS	SV-09-15	15	18-Jul-07	71-43-2	Benzene	0.051	ug/L	0.051	1	1
L	GS	SV-09-15	15	18-Jul-07	107-05-1	Allyl chloride	0.017	ug/L	0.017	0	1
L	GS	SV-09-15	15	18-Jul-07	67-64-1	Acetone	0.066	ug/L	0.066	1	1
L	GS	SV-09-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0055	ug/L	0.0055	0	1
L	GS	SV-09-15	15	18-Jul-07		4-Bromofluorobenzene	92	%		1	1
L	GS	SV-09-15	15	18-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1
L	GS	SV-09-15	15	18-Jul-07	78-93-3	2-Butanone	0.031	ug/L	0.031	1	1
L	GS	SV-09-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0063	ug/L	0.0063	0	1
L	GS	SV-09-15	15	18-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
L	GS	SV-09-5	5	18-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
L	GS	SV-09-5	5	18-Jul-07		Ethene	0.0026	%		0	1
L	GS	SV-09-5	5	18-Jul-07	74-82-8	Methane	0.0033	%		1	1
L	GS	SV-09-5	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.074	ug/L	0.074	1	1
L	GS	SV-09-5	5	18-Jul-07	98-82-8	Isopropylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-09-5	5	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-09-5	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
L	GS	SV-09-5	5	18-Jul-07	110-54-3	Hexane	0.0062	ug/L	0.0062	1	1
L	GS	SV-09-5	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.056	ug/L	0.056	0	1
L	GS	SV-09-5	5	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-09-5	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-09-5	5	18-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
L	GS	SV-09-5	5	18-Jul-07	64-17-5	Ethanol	0.0099	ug/L	0.0099	0	1
L	GS	SV-09-5	5	18-Jul-07		Ethane	0.0026	%		0	1
L	GS	SV-09-5	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0065	ug/L	0.0065	0	1
L	GS	SV-09-5	5	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-09-5	5	18-Jul-07	110-82-7	Cyclohexane	0.073	ug/L	0.073	1	1
L	GS	SV-09-5	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
L	GS	SV-09-5	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0052	ug/L		0	1
L	GS	SV-09-5	5	18-Jul-07	100-41-4	Ethylbenzene	0.024	ug/L	0.024	1	1
L	GS	SV-09-5	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-09-5	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.036	ug/L	0.036	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-09-5	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0074	ug/L	0.0074	0	1
L	GS	SV-09-5	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
L	GS	SV-09-5	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0052	ug/L	0.0052	0	1
L	GS	SV-09-5	5	18-Jul-07		Toluene-d8	101	%		1	1
L	GS	SV-09-5	5	18-Jul-07	108-88-3	Toluene	0.058	ug/L	0.058	1	1
L	GS	SV-09-5	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0039	ug/L	0.0039	0	1
L	GS	SV-09-5	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
L	GS	SV-09-5	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
L	GS	SV-09-5	5	18-Jul-07	75-09-2	Methylene chloride	0.0046	ug/L	0.0046	0	1
L	GS	SV-09-5	5	18-Jul-07	100-42-5	Styrene	0.0056	ug/L	0.0056	0	1
L	GS	SV-09-5	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.015	ug/L	0.015	1	1
L	GS	SV-09-5	5	18-Jul-07	95-47-6	o-Xylene	0.02	ug/L	0.02	1	1
L	GS	SV-09-5	5	18-Jul-07		Oxygen	19	%		1	1
L	GS	SV-09-5	5	18-Jul-07	103-65-1	n-Propylbenzene	0.0065	ug/L	0.0065	1	1
L	GS	SV-09-5	5	18-Jul-07		Nitrogen	80	%		1	1
L	GS	SV-09-5	5	18-Jul-07	142-82-5	n-Heptane	0.0054	ug/L	0.0054	0	1
L	GS	SV-09-5	5	18-Jul-07	79-01-6	Trichloroethene	0.0071	ug/L	0.0071	0	1
L	GS	SV-09-5	5	18-Jul-07	127-18-4	Tetrachloroethene	0.009	ug/L	0.009	0	1
L	GS	SV-09-5	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.039	ug/L	0.039	0	1
L	GS	SV-09-5	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0029	ug/L	0.0029	0	1
L	GS	SV-09-5	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0065	ug/L	0.0065	1	1
L	GS	SV-09-5	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0061	ug/L	0.0061	0	1
L	GS	SV-09-5	5	18-Jul-07		1,2-Dichloroethane-d4	93	%		1	1
L	GS	SV-09-5	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0053	ug/L	0.0053	0	1
L	GS	SV-09-5	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-09-5	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0092	ug/L	0.0092	0	1
L	GS	SV-09-5	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-09-5	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.013	ug/L	0.013	1	1
L	GS	SV-09-5	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0091	ug/L	0.0091	0	1
L	GS	SV-09-5	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
L	GS	SV-09-5	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0052	ug/L	0.0052	0	1
L	GS	SV-09-5	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0053	ug/L	0.0053	0	1
L	GS	SV-09-5	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0072	ug/L	0.0072	0	1
L	GS	SV-09-5	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
L	GS	SV-09-5	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0072	ug/L	0.0072	0	1
L	GS	SV-09-5	5	18-Jul-07	67-66-3	Chloroform	0.12	ug/L	0.12	1	1
L	GS	SV-09-5	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
L	GS	SV-09-5	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
L	GS	SV-09-5	5	18-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
L	GS	SV-09-5	5	18-Jul-07	108-90-7	Chlorobenzene	0.0061	ug/L	0.0061	0	1
L	GS	SV-09-5	5	18-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
L	GS	SV-09-5	5	18-Jul-07		Carbon Monoxide	0.026	%		0	1
L	GS	SV-09-5	5	18-Jul-07	75-15-0	Carbon Disulfide	0.12	ug/L	0.12	1	1
L	GS	SV-09-5	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-09-5	5	18-Jul-07	74-83-9	Bromomethane	0.0051	ug/L	0.0051	0	1
L	GS	SV-09-5	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0083	ug/L	0.0083	0	1
L	GS	SV-09-5	5	18-Jul-07	75-27-4	Bromodichloromethane	0.025	ug/L	0.025	1	1
L	GS	SV-09-5	5	18-Jul-07	100-44-7	Benzyl chloride	0.0068	ug/L	0.0068	0	1
L	GS	SV-09-5	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.012	ug/L	0.012	1	1
L	GS	SV-09-5	5	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
L	GS	SV-09-5	5	18-Jul-07	67-64-1	Acetone	0.1	ug/L	0.1	1	1
L	GS	SV-09-5	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0054	ug/L	0.0054	0	1
L	GS	SV-09-5	5	18-Jul-07		4-Bromofluorobenzene	102	%		1	1
L	GS	SV-09-5	5	18-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1
L	GS	SV-09-5	5	18-Jul-07	78-93-3	2-Butanone	0.025	ug/L	0.025	1	1
L	GS	SV-09-5	5	18-Jul-07	71-43-2	Benzene	0.022	ug/L	0.022	1	1
L	GS	SV-09-5	5	18-Jul-07		Carbon Dioxide	0.66	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-09-5	5	18-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
L	GS	SV-18-05	5	18-Jul-07	110-82-7	Cyclohexane	0.035	ug/L	0.035	1	1
L	GS	SV-18-05	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.11	ug/L	0.11	0	1
L	GS	SV-18-05	5	18-Jul-07	100-41-4	Ethylbenzene	0.011	ug/L	0.011	0	1
L	GS	SV-18-05	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.043	ug/L	0.043	0	1
L	GS	SV-18-05	5	18-Jul-07		Ethene	0.0025	%		0	1
L	GS	SV-18-05	5	18-Jul-07	64-17-5	Ethanol	0.019	ug/L	0.019	0	1
L	GS	SV-18-05	5	18-Jul-07		Ethane	0.0025	%		0	1
L	GS	SV-18-05	5	18-Jul-07	124-48-1	Dibromochloromethane	0.022	ug/L	0.022	0	1
L	GS	SV-18-05	5	18-Jul-07	108-20-3	Isopropyl ether	0.043	ug/L	0.043	0	1
L	GS	SV-18-05	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.012	ug/L	0.012	0	1
L	GS	SV-18-05	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.01	ug/L		0	1
L	GS	SV-18-05	5	18-Jul-07	74-87-3	Chloromethane	0.021	ug/L	0.021	0	1
L	GS	SV-18-05	5	18-Jul-07	67-66-3	Chloroform	0.029	ug/L	0.029	1	1
L	GS	SV-18-05	5	18-Jul-07	75-00-3	Chloroethane	0.0068	ug/L	0.0068	0	1
L	GS	SV-18-05	5	18-Jul-07	108-90-7	Chlorobenzene	0.012	ug/L	0.012	0	1
L	GS	SV-18-05	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.013	ug/L	0.013	0	1
L	GS	SV-18-05	5	18-Jul-07	142-82-5	n-Heptane	0.01	ug/L	0.01	0	1
L	GS	SV-18-05	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.031	ug/L	0.031	0	1
L	GS	SV-18-05	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.043	ug/L	0.043	0	1
L	GS	SV-18-05	5	18-Jul-07	100-42-5	Styrene	0.011	ug/L	0.011	0	1
L	GS	SV-18-05	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.013	ug/L	0.013	0	1
L	GS	SV-18-05	5	18-Jul-07	95-47-6	o-Xylene	0.011	ug/L	0.011	0	1
L	GS	SV-18-05	5	18-Jul-07		Oxygen	17	%		1	1
L	GS	SV-18-05	5	18-Jul-07	110-54-3	Hexane	0.042	ug/L	0.042	1	1
L	GS	SV-18-05	5	18-Jul-07		Nitrogen	80	%		1	1
L	GS	SV-18-05	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.025	ug/L	0.025	0	1
L	GS	SV-18-05	5	18-Jul-07	91-20-3	Naphthalene	0.054	ug/L	0.054	0	1
L	GS	SV-18-05	5	18-Jul-07	75-09-2	Methylene chloride	0.009	ug/L	0.009	0	1
L	GS	SV-18-05	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0093	ug/L	0.0093	0	1
L	GS	SV-18-05	5	18-Jul-07	74-82-8	Methane	0.0024	%		1	1
L	GS	SV-18-05	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.011	ug/L	0.011	0	1
L	GS	SV-18-05	5	18-Jul-07	98-82-8	Isopropylbenzene	0.013	ug/L	0.013	0	1
L	GS	SV-18-05	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.01	ug/L	0.01	0	1
L	GS	SV-18-05	5	18-Jul-07	103-65-1	n-Propylbenzene	0.013	ug/L	0.013	0	1
L	GS	SV-18-05	5	18-Jul-07	75-27-4	Bromodichloromethane	0.017	ug/L	0.017	0	1
L	GS	SV-18-05	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.016	ug/L	0.016	0	1
L	GS	SV-18-05	5	18-Jul-07	127-18-4	Tetrachloroethene	0.018	ug/L	0.018	0	1
L	GS	SV-18-05	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.014	ug/L	0.014	0	1
L	GS	SV-18-05	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.018	ug/L	0.018	0	1
L	GS	SV-18-05	5	18-Jul-07	75-15-0	Carbon Disulfide	0.027	ug/L	0.027	1	1
L	GS	SV-18-05	5	18-Jul-07		Carbon Dioxide	2.7	%		1	1
L	GS	SV-18-05	5	18-Jul-07	123-91-1	1,4-Dioxane	0.037	ug/L	0.037	0	1
L	GS	SV-18-05	5	18-Jul-07	75-25-2	Bromoform	0.027	ug/L	0.027	0	1
L	GS	SV-18-05	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.016	ug/L	0.016	0	1
L	GS	SV-18-05	5	18-Jul-07	100-44-7	Benzyl chloride	0.013	ug/L	0.013	0	1
L	GS	SV-18-05	5	18-Jul-07	71-43-2	Benzene	0.0082	ug/L	0.0082	0	1
L	GS	SV-18-05	5	18-Jul-07	107-05-1	Allyl chloride	0.032	ug/L	0.032	0	1
L	GS	SV-18-05	5	18-Jul-07	67-64-1	Acetone	0.032	ug/L	0.032	1	1
L	GS	SV-18-05	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.01	ug/L	0.01	0	1
L	GS	SV-18-05	5	18-Jul-07		4-Bromofluorobenzene	89	%		1	1
L	GS	SV-18-05	5	18-Jul-07	591-78-6	2-Hexanone	0.042	ug/L	0.042	0	1
L	GS	SV-18-05	5	18-Jul-07	74-83-9	Bromomethane	0.01	ug/L	0.01	0	1
L	GS	SV-18-05	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.016	ug/L	0.016	0	1
L	GS	SV-18-05	5	18-Jul-07	78-93-3	2-Butanone	0.014	ug/L	0.014	1	1
L	GS	SV-18-05	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.01	ug/L	0.01	0	1
L	GS	SV-18-05	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.062	ug/L	0.062	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-18-05	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.076	ug/L	0.076	0	1
L	GS	SV-18-05	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.013	ug/L	0.013	0	1
L	GS	SV-18-05	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.02	ug/L	0.02	0	1
L	GS	SV-18-05	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.012	ug/L	0.012	0	1
L	GS	SV-18-05	5	18-Jul-07		Carbon Monoxide	0.025	%		0	1
L	GS	SV-18-05	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.014	ug/L	0.014	0	1
L	GS	SV-18-05	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.02	ug/L	0.02	0	1
L	GS	SV-18-05	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.01	ug/L	0.01	0	1
L	GS	SV-18-05	5	18-Jul-07		1,2-Dichloroethane-d4	104	%		1	1
L	GS	SV-18-05	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.012	ug/L	0.012	0	1
L	GS	SV-18-05	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.013	ug/L	0.013	0	1
L	GS	SV-18-05	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0057	ug/L	0.0057	0	1
L	GS	SV-18-05	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.016	ug/L	0.016	0	1
L	GS	SV-18-05	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.018	ug/L	0.018	0	1
L	GS	SV-18-05	5	18-Jul-07	75-01-4	Vinyl chloride	0.0066	ug/L	0.0066	0	1
L	GS	SV-18-05	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.071	ug/L	0.071	0	1
L	GS	SV-18-05	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
L	GS	SV-18-05	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.014	ug/L	0.014	0	1
L	GS	SV-18-05	5	18-Jul-07	79-01-6	Trichloroethene	0.014	ug/L	0.014	0	1
L	GS	SV-18-05	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.012	ug/L	0.012	0	1
L	GS	SV-18-05	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.01	ug/L	0.01	0	1
L	GS	SV-18-05	5	18-Jul-07		Toluene-d8	91	%		1	1
L	GS	SV-18-05	5	18-Jul-07	108-88-3	Toluene	0.018	ug/L	0.018	1	1
L	GS	SV-18-05	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0076	ug/L	0.0076	0	1
L	GS	SV-18-15	15	18-Jul-07		Nitrogen	79	%		1	1
L	GS	SV-18-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.024	ug/L	0.024	0	1
L	GS	SV-18-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0066	ug/L	0.0066	0	1
L	GS	SV-18-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0057	ug/L	0.0057	0	1
L	GS	SV-18-15	15	18-Jul-07		Toluene-d8	100	%		1	1
L	GS	SV-18-15	15	18-Jul-07	108-88-3	Toluene	0.051	ug/L	0.051	1	1
L	GS	SV-18-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.0043	ug/L	0.0043	0	1
L	GS	SV-18-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.0098	ug/L	0.0098	0	1
L	GS	SV-18-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.018	ug/L	0.018	0	1
L	GS	SV-18-15	15	18-Jul-07	100-42-5	Styrene	0.0062	ug/L	0.0062	0	1
L	GS	SV-18-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.0071	ug/L	0.0071	0	1
L	GS	SV-18-15	15	18-Jul-07	95-47-6	o-Xylene	0.0072	ug/L	0.0072	1	1
L	GS	SV-18-15	15	18-Jul-07	79-01-6	Trichloroethene	0.0078	ug/L	0.0078	0	1
L	GS	SV-18-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.024	ug/L	0.024	1	1
L	GS	SV-18-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.048	ug/L	0.048	1	1
L	GS	SV-18-15	15	18-Jul-07	142-82-5	n-Heptane	0.043	ug/L	0.043	1	1
L	GS	SV-18-15	15	18-Jul-07	91-20-3	Naphthalene	0.03	ug/L	0.03	0	1
L	GS	SV-18-15	15	18-Jul-07		Oxygen	19	%		1	1
L	GS	SV-18-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0087	ug/L	0.0087	0	1
L	GS	SV-18-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.043	ug/L	0.043	0	1
L	GS	SV-18-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0071	ug/L	0.0071	0	1
L	GS	SV-18-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.011	ug/L	0.011	0	1
L	GS	SV-18-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.01	ug/L	0.01	0	1
L	GS	SV-18-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0058	ug/L	0.0058	0	1
L	GS	SV-18-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0067	ug/L	0.0067	0	1
L	GS	SV-18-15	15	18-Jul-07	591-78-6	2-Hexanone	0.024	ug/L	0.024	0	1
L	GS	SV-18-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.0032	ug/L	0.0032	0	1
L	GS	SV-18-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0081	ug/L	0.0081	0	1
L	GS	SV-18-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0087	ug/L	0.0087	0	1
L	GS	SV-18-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.021	ug/L	0.021	0	1
L	GS	SV-18-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.014	ug/L	0.014	0	1
L	GS	SV-18-15	15	18-Jul-07	78-93-3	2-Butanone	0.11	ug/L	0.11	1	1
L	GS	SV-18-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0056	ug/L	0.0056	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-18-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0037	ug/L	0.0037	0	1
L	GS	SV-18-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
L	GS	SV-18-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0071	ug/L	0.0071	0	1
L	GS	SV-18-15	15	18-Jul-07	74-83-9	Bromomethane	0.0056	ug/L	0.0056	0	1
L	GS	SV-18-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.055	ug/L	0.055	1	1
L	GS	SV-18-15	15	18-Jul-07	67-66-3	Chloroform	0.007	ug/L	0.007	0	1
L	GS	SV-18-15	15	18-Jul-07	75-00-3	Chloroethane	0.0038	ug/L	0.0038	0	1
L	GS	SV-18-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0066	ug/L	0.0066	0	1
L	GS	SV-18-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.0091	ug/L	0.0091	0	1
L	GS	SV-18-15	15	18-Jul-07		Carbon Monoxide	0.029	%		0	1
L	GS	SV-18-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0057	ug/L		0	1
L	GS	SV-18-15	15	18-Jul-07		Carbon Dioxide	2.2	%		1	1
L	GS	SV-18-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0066	ug/L	0.0066	0	1
L	GS	SV-18-15	15	18-Jul-07	75-25-2	Bromoform	0.015	ug/L	0.015	0	1
L	GS	SV-18-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.0097	ug/L	0.0097	0	1
L	GS	SV-18-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.0075	ug/L	0.0075	0	1
L	GS	SV-18-15	15	18-Jul-07	71-43-2	Benzene	0.031	ug/L	0.031	1	1
L	GS	SV-18-15	15	18-Jul-07	107-05-1	Allyl chloride	0.018	ug/L	0.018	0	1
L	GS	SV-18-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0059	ug/L	0.0059	0	1
L	GS	SV-18-15	15	18-Jul-07	67-64-1	Acetone	0.22	ug/L	0.22	1	1
L	GS	SV-18-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.1	ug/L	0.1	1	1
L	GS	SV-18-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.024	ug/L	0.024	0	1
L	GS	SV-18-15	15	18-Jul-07	74-82-8	Methane	0.044	%		1	1
L	GS	SV-18-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.022	ug/L	0.022	1	1
L	GS	SV-18-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.035	ug/L	0.035	0	1
L	GS	SV-18-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.024	ug/L	0.024	0	1
L	GS	SV-18-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0087	ug/L	0.0087	0	1
L	GS	SV-18-15	15	18-Jul-07	110-54-3	Hexane	0.13	ug/L	0.13	1	1
L	GS	SV-18-15	15	18-Jul-07	74-87-3	Chloromethane	0.012	ug/L	0.012	0	1
L	GS	SV-18-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.011	ug/L	0.011	1	1
L	GS	SV-18-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0052	ug/L	0.0052	0	1
L	GS	SV-18-15	15	18-Jul-07		Ethene	0.0029	%		0	1
L	GS	SV-18-15	15	18-Jul-07	64-17-5	Ethanol	0.015	ug/L	0.015	1	1
L	GS	SV-18-15	15	18-Jul-07		4-Bromofluorobenzene	91	%		1	1
L	GS	SV-18-15	15	18-Jul-07		Ethane	0.0029	%		0	1
L	GS	SV-18-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0071	ug/L	0.0071	0	1
L	GS	SV-18-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.012	ug/L	0.012	0	1
L	GS	SV-18-15	15	18-Jul-07	110-82-7	Cyclohexane	0.069	ug/L	0.069	1	1
L	GS	SV-18-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.062	ug/L	0.062	0	1
L	GS	SV-18-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0057	ug/L	0.0057	0	1
L	GS	SV-18-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.04	ug/L	0.04	0	1
L	GS	SV-18-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0079	ug/L	0.0079	0	1
L	GS	SV-18-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0099	ug/L	0.0099	0	1
L	GS	SV-18-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.011	ug/L	0.011	0	1
L	GS	SV-18-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0079	ug/L	0.0079	0	1
L	GS	SV-18-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0058	ug/L	0.0058	0	1
L	GS	SV-18-15	15	18-Jul-07		1,2-Dichloroethane-d4	107	%		1	1
L	GS	SV-19-15	15	18-Jul-07	67-64-1	Acetone	0.052	ug/L	0.052	1	1
L	GS	SV-19-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0054	ug/L	0.0054	0	1
L	GS	SV-19-15	15	18-Jul-07		4-Bromofluorobenzene	97	%		1	1
L	GS	SV-19-15	15	18-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1
L	GS	SV-19-15	15	18-Jul-07	78-93-3	2-Butanone	0.012	ug/L	0.012	1	1
L	GS	SV-19-15	15	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
L	GS	SV-19-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
L	GS	SV-19-15	15	18-Jul-07	74-83-9	Bromomethane	0.0051	ug/L	0.0051	0	1
L	GS	SV-19-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.007	ug/L	0.007	1	1
L	GS	SV-19-15	15	18-Jul-07	71-43-2	Benzene	0.1	ug/L	0.1	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-19-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.0068	ug/L	0.0068	0	1
L	GS	SV-19-15	15	18-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
L	GS	SV-19-15	15	18-Jul-07		1,2-Dichloroethane-d4	93	%		1	1
L	GS	SV-19-15	15	18-Jul-07		Carbon Dioxide	4.2	%		1	1
L	GS	SV-19-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.029	ug/L	0.029	1	1
L	GS	SV-19-15	15	18-Jul-07		Carbon Monoxide	0.026	%		0	1
L	GS	SV-19-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.0083	ug/L	0.0083	0	1
L	GS	SV-19-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.0088	ug/L	0.0088	0	1
L	GS	SV-19-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-19-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.036	ug/L	0.036	0	1
L	GS	SV-19-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0072	ug/L	0.0072	0	1
L	GS	SV-19-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0091	ug/L	0.0091	0	1
L	GS	SV-19-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
L	GS	SV-19-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0072	ug/L	0.0072	0	1
L	GS	SV-19-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0053	ug/L	0.0053	0	1
L	GS	SV-19-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0052	ug/L	0.0052	0	1
L	GS	SV-19-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-19-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.039	ug/L	0.039	0	1
L	GS	SV-19-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-19-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
L	GS	SV-19-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0092	ug/L	0.0092	0	1
L	GS	SV-19-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-19-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0053	ug/L	0.0053	0	1
L	GS	SV-19-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0062	ug/L	0.0062	0	1
L	GS	SV-19-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0061	ug/L	0.0061	0	1
L	GS	SV-19-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0061	ug/L	0.0061	0	1
L	GS	SV-19-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.0029	ug/L	0.0029	0	1
L	GS	SV-19-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
L	GS	SV-19-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0052	ug/L	0.0052	0	1
L	GS	SV-19-15	15	18-Jul-07	142-82-5	n-Heptane	0.084	ug/L	0.084	1	1
L	GS	SV-19-15	15	18-Jul-07		Nitrogen	80	%		1	1
L	GS	SV-19-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-19-15	15	18-Jul-07		Oxygen	16	%		1	1
L	GS	SV-19-15	15	18-Jul-07	95-47-6	o-Xylene	0.0096	ug/L	0.0096	1	1
L	GS	SV-19-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
L	GS	SV-19-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
L	GS	SV-19-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0074	ug/L	0.0074	0	1
L	GS	SV-19-15	15	18-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
L	GS	SV-19-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
L	GS	SV-19-15	15	18-Jul-07	108-88-3	Toluene	0.071	ug/L	0.071	1	1
L	GS	SV-19-15	15	18-Jul-07		Toluene-d8	102	%		1	1
L	GS	SV-19-15	15	18-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
L	GS	SV-19-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.0039	ug/L	0.0039	0	1
L	GS	SV-19-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-19-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.009	ug/L	0.009	0	1
L	GS	SV-19-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
L	GS	SV-19-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-19-15	15	18-Jul-07	100-42-5	Styrene	0.0056	ug/L	0.0056	0	1
L	GS	SV-19-15	15	18-Jul-07	79-01-6	Trichloroethene	0.0071	ug/L	0.0071	0	1
L	GS	SV-19-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0065	ug/L	0.0065	0	1
L	GS	SV-19-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0046	ug/L	0.0046	0	1
L	GS	SV-19-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
L	GS	SV-19-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0052	ug/L		0	1
L	GS	SV-19-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-19-15	15	18-Jul-07		Ethane	0.0026	%		0	1
L	GS	SV-19-15	15	18-Jul-07	64-17-5	Ethanol	0.0099	ug/L	0.0099	0	1
L	GS	SV-19-15	15	18-Jul-07		Ethene	0.0026	%		0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-19-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-19-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.014	ug/L	0.014	1	1
L	GS	SV-19-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.056	ug/L	0.056	0	1
L	GS	SV-19-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
L	GS	SV-19-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-19-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-19-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.024	ug/L	0.024	1	1
L	GS	SV-19-15	15	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-19-15	15	18-Jul-07	74-82-8	Methane	0.011	%		1	1
L	GS	SV-19-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
L	GS	SV-19-15	15	18-Jul-07	67-66-3	Chloroform	0.0068	ug/L	0.0068	1	1
L	GS	SV-19-15	15	18-Jul-07	110-82-7	Cyclohexane	0.016	ug/L	0.016	1	1
L	GS	SV-19-15	15	18-Jul-07	110-54-3	Hexane	0.31	ug/L	0.31	1	1
L	GS	SV-19-5	5	18-Jul-07	98-82-8	Isopropylbenzene	0.012	ug/L	0.012	0	1
L	GS	SV-19-5	5	18-Jul-07	100-41-4	Ethylbenzene	0.012	ug/L	0.012	1	1
L	GS	SV-19-5	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.1	ug/L	0.1	0	1
L	GS	SV-19-5	5	18-Jul-07	110-54-3	Hexane	0.02	ug/L	0.02	1	1
L	GS	SV-19-5	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.011	ug/L	0.011	0	1
L	GS	SV-19-5	5	18-Jul-07	108-20-3	Isopropyl ether	0.04	ug/L	0.04	0	1
L	GS	SV-19-5	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.029	ug/L	0.029	1	1
L	GS	SV-19-5	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.023	ug/L	0.023	0	1
L	GS	SV-19-5	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.04	ug/L	0.04	0	1
L	GS	SV-19-5	5	18-Jul-07		Ethene	0.0025	%		0	1
L	GS	SV-19-5	5	18-Jul-07		Ethane	0.0025	%		0	1
L	GS	SV-19-5	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.012	ug/L	0.012	0	1
L	GS	SV-19-5	5	18-Jul-07	124-48-1	Dibromochloromethane	0.02	ug/L	0.02	0	1
L	GS	SV-19-5	5	18-Jul-07	74-82-8	Methane	0.00066	%		1	1
L	GS	SV-19-5	5	18-Jul-07	110-82-7	Cyclohexane	0.0081	ug/L	0.0081	0	1
L	GS	SV-19-5	5	18-Jul-07	100-42-5	Styrene	0.01	ug/L	0.01	0	1
L	GS	SV-19-5	5	18-Jul-07	64-17-5	Ethanol	0.018	ug/L	0.018	0	1
L	GS	SV-19-5	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.029	ug/L	0.029	0	1
L	GS	SV-19-5	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0094	ug/L		0	1
L	GS	SV-19-5	5	18-Jul-07		Carbon Monoxide	0.025	%		0	1
L	GS	SV-19-5	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.011	ug/L	0.011	0	1
L	GS	SV-19-5	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0094	ug/L	0.0094	0	1
L	GS	SV-19-5	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.013	ug/L	0.013	0	1
L	GS	SV-19-5	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
L	GS	SV-19-5	5	18-Jul-07	75-01-4	Vinyl chloride	0.006	ug/L	0.006	0	1
L	GS	SV-19-5	5	18-Jul-07	108-88-3	Toluene	0.058	ug/L	0.058	1	1
L	GS	SV-19-5	5	18-Jul-07	95-47-6	o-Xylene	0.01	ug/L	0.01	0	1
L	GS	SV-19-5	5	18-Jul-07	127-18-4	Tetrachloroethene	0.016	ug/L	0.016	0	1
L	GS	SV-19-5	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0085	ug/L	0.0085	0	1
L	GS	SV-19-5	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.04	ug/L	0.04	0	1
L	GS	SV-19-5	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.012	ug/L	0.012	0	1
L	GS	SV-19-5	5	18-Jul-07	79-01-6	Trichloroethene	0.013	ug/L	0.013	0	1
L	GS	SV-19-5	5	18-Jul-07		Oxygen	18	%		1	1
L	GS	SV-19-5	5	18-Jul-07	103-65-1	n-Propylbenzene	0.012	ug/L	0.012	0	1
L	GS	SV-19-5	5	18-Jul-07		Nitrogen	79	%		1	1
L	GS	SV-19-5	5	18-Jul-07	142-82-5	n-Heptane	0.0097	ug/L	0.0097	0	1
L	GS	SV-19-5	5	18-Jul-07	91-20-3	Naphthalene	0.05	ug/L	0.05	0	1
L	GS	SV-19-5	5	18-Jul-07	75-09-2	Methylene chloride	0.0082	ug/L	0.0082	0	1
L	GS	SV-19-5	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.007	ug/L	0.007	0	1
L	GS	SV-19-5	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.057	ug/L	0.057	0	1
L	GS	SV-19-5	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.012	ug/L	0.012	0	1
L	GS	SV-19-5	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.011	ug/L	0.011	0	1
L	GS	SV-19-5	5	18-Jul-07		1,2-Dichloroethane-d4	95	%		1	1
L	GS	SV-19-5	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0096	ug/L	0.0096	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-19-5	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.014	ug/L	0.014	0	1
L	GS	SV-19-5	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.016	ug/L	0.016	0	1
L	GS	SV-19-5	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.018	ug/L	0.018	0	1
L	GS	SV-19-5	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0052	ug/L	0.0052	0	1
L	GS	SV-19-5	5	18-Jul-07	108-90-7	Chlorobenzene	0.011	ug/L	0.011	0	1
L	GS	SV-19-5	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.018	ug/L	0.018	0	1
L	GS	SV-19-5	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0094	ug/L	0.0094	0	1
L	GS	SV-19-5	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0096	ug/L	0.0096	0	1
L	GS	SV-19-5	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.013	ug/L	0.013	0	1
L	GS	SV-19-5	5	18-Jul-07		Toluene-d8	97	%		1	1
L	GS	SV-19-5	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.065	ug/L	0.065	0	1
L	GS	SV-19-5	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.013	ug/L	0.013	0	1
L	GS	SV-19-5	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.016	ug/L	0.016	0	1
L	GS	SV-19-5	5	18-Jul-07	74-87-3	Chloromethane	0.02	ug/L	0.02	0	1
L	GS	SV-19-5	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.012	ug/L	0.012	0	1
L	GS	SV-19-5	5	18-Jul-07	75-25-2	Bromoform	0.024	ug/L	0.024	0	1
L	GS	SV-19-5	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.07	ug/L	0.07	0	1
L	GS	SV-19-5	5	18-Jul-07	67-66-3	Chloroform	0.078	ug/L	0.078	1	1
L	GS	SV-19-5	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.014	ug/L	0.014	0	1
L	GS	SV-19-5	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.015	ug/L	0.015	0	1
L	GS	SV-19-5	5	18-Jul-07	75-15-0	Carbon Disulfide	0.049	ug/L	0.049	1	1
L	GS	SV-19-5	5	18-Jul-07	74-83-9	Bromomethane	0.0092	ug/L	0.0092	0	1
L	GS	SV-19-5	5	18-Jul-07	75-00-3	Chloroethane	0.0062	ug/L	0.0062	0	1
L	GS	SV-19-5	5	18-Jul-07	75-27-4	Bromodichloromethane	0.019	ug/L	0.019	1	1
L	GS	SV-19-5	5	18-Jul-07	100-44-7	Benzyl chloride	0.012	ug/L	0.012	0	1
L	GS	SV-19-5	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.011	ug/L	0.011	0	1
L	GS	SV-19-5	5	18-Jul-07		Carbon Dioxide	2.8	%		1	1
L	GS	SV-19-5	5	18-Jul-07	123-91-1	1,4-Dioxane	0.034	ug/L	0.034	0	1
L	GS	SV-19-5	5	18-Jul-07	71-43-2	Benzene	0.034	ug/L	0.034	1	1
L	GS	SV-19-5	5	18-Jul-07	78-93-3	2-Butanone	0.01	ug/L	0.01	1	1
L	GS	SV-19-5	5	18-Jul-07	591-78-6	2-Hexanone	0.039	ug/L	0.039	0	1
L	GS	SV-19-5	5	18-Jul-07		4-Bromofluorobenzene	96	%		1	1
L	GS	SV-19-5	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0097	ug/L	0.0097	0	1
L	GS	SV-19-5	5	18-Jul-07	67-64-1	Acetone	0.064	ug/L	0.064	1	1
L	GS	SV-19-5	5	18-Jul-07	107-05-1	Allyl chloride	0.03	ug/L	0.03	0	1
L	GS	SV-19-5	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.014	ug/L	0.014	0	1
L	GS	SV-20-15	15	18-Jul-07	110-54-3	Hexane	0.02	ug/L	0.02	1	1
L	GS	SV-20-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0052	ug/L	0.0052	1	1
L	GS	SV-20-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
L	GS	SV-20-15	15	18-Jul-07	74-82-8	Methane	0.00044	%		1	1
L	GS	SV-20-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.0083	ug/L	0.0083	1	1
L	GS	SV-20-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-20-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-20-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
L	GS	SV-20-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.056	ug/L	0.056	0	1
L	GS	SV-20-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.0057	ug/L	0.0057	0	1
L	GS	SV-20-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-20-15	15	18-Jul-07		Ethene	0.0026	%		0	1
L	GS	SV-20-15	15	18-Jul-07	64-17-5	Ethanol	0.0099	ug/L	0.0099	0	1
L	GS	SV-20-15	15	18-Jul-07		Ethane	0.0026	%		0	1
L	GS	SV-20-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0065	ug/L	0.0065	0	1
L	GS	SV-20-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-20-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
L	GS	SV-20-15	15	18-Jul-07	110-82-7	Cyclohexane	0.044	ug/L	0.044	1	1
L	GS	SV-20-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
L	GS	SV-20-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
L	GS	SV-20-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0052	ug/L	0.0052	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-20-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0052	ug/L		0	1
L	GS	SV-20-15	15	18-Jul-07	79-01-6	Trichloroethene	0.0071	ug/L	0.0071	0	1
L	GS	SV-20-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0074	ug/L	0.0074	0	1
L	GS	SV-20-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
L	GS	SV-20-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
L	GS	SV-20-15	15	18-Jul-07	108-88-3	Toluene	0.02	ug/L	0.02	1	1
L	GS	SV-20-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
L	GS	SV-20-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.009	ug/L	0.009	0	1
L	GS	SV-20-15	15	18-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
L	GS	SV-20-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-20-15	15	18-Jul-07	100-42-5	Styrene	0.0056	ug/L	0.0056	0	1
L	GS	SV-20-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.0065	ug/L	0.0065	0	1
L	GS	SV-20-15	15	18-Jul-07	95-47-6	o-Xylene	0.0057	ug/L	0.0057	0	1
L	GS	SV-20-15	15	18-Jul-07		Oxygen	16	%		1	1
L	GS	SV-20-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-20-15	15	18-Jul-07		Nitrogen	83	%		1	1
L	GS	SV-20-15	15	18-Jul-07	142-82-5	n-Heptane	0.0089	ug/L	0.0089	1	1
L	GS	SV-20-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.0043	ug/L	0.0043	1	1
L	GS	SV-20-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.039	ug/L	0.039	0	1
L	GS	SV-20-15	15	18-Jul-07	78-93-3	2-Butanone	0.038	ug/L	0.038	1	1
L	GS	SV-20-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.0029	ug/L	0.0029	0	1
L	GS	SV-20-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-20-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0061	ug/L	0.0061	0	1
L	GS	SV-20-15	15	18-Jul-07		1,2-Dichloroethane-d4	102	%		1	1
L	GS	SV-20-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0053	ug/L	0.0053	0	1
L	GS	SV-20-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-20-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0092	ug/L	0.0092	0	1
L	GS	SV-20-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-20-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-20-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-20-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
L	GS	SV-20-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0052	ug/L	0.0052	0	1
L	GS	SV-20-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0053	ug/L	0.0053	0	1
L	GS	SV-20-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0072	ug/L	0.0072	0	1
L	GS	SV-20-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
L	GS	SV-20-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0091	ug/L	0.0091	0	1
L	GS	SV-20-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0072	ug/L	0.0072	0	1
L	GS	SV-20-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.036	ug/L	0.036	0	1
L	GS	SV-20-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
L	GS	SV-20-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.0068	ug/L	0.0068	0	1
L	GS	SV-20-15	15	18-Jul-07	67-66-3	Chloroform	0.25	ug/L	0.25	1	1
L	GS	SV-20-15	15	18-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
L	GS	SV-20-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0061	ug/L	0.0061	0	1
L	GS	SV-20-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.0083	ug/L	0.0083	0	1
L	GS	SV-20-15	15	18-Jul-07		Carbon Monoxide	0.026	%		0	1
L	GS	SV-20-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.18	ug/L	0.18	1	1
L	GS	SV-20-15	15	18-Jul-07		Carbon Dioxide	1	%		1	1
L	GS	SV-20-15	15	18-Jul-07	74-83-9	Bromomethane	0.0051	ug/L	0.0051	0	1
L	GS	SV-20-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.0088	ug/L	0.0088	0	1
L	GS	SV-20-15	15	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-20-15	15	18-Jul-07	71-43-2	Benzene	0.011	ug/L	0.011	1	1
L	GS	SV-20-15	15	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
L	GS	SV-20-15	15	18-Jul-07	67-64-1	Acetone	0.039	ug/L	0.039	1	1
L	GS	SV-20-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0054	ug/L	0.0054	0	1
L	GS	SV-20-15	15	18-Jul-07		4-Bromofluorobenzene	94	%		1	1
L	GS	SV-20-15	15	18-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1
L	GS	SV-20-15	15	18-Jul-07		Toluene-d8	94	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-20-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0062	ug/L	0.0062	0	1
L	GS	SV-20-15	15	18-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
L	GS	SV-20-5	5	18-Jul-07		1,2-Dichloroethane-d4	97	%		1	1
L	GS	SV-20-5	5	18-Jul-07	100-41-4	Ethylbenzene	0.0054	ug/L	0.0054	0	1
L	GS	SV-20-5	5	18-Jul-07	75-09-2	Methylene chloride	0.005	ug/L	0.005	1	1
L	GS	SV-20-5	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1
L	GS	SV-20-5	5	18-Jul-07	74-82-8	Methane	0.00025	%		0	1
L	GS	SV-20-5	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.0099	ug/L	0.0099	1	1
L	GS	SV-20-5	5	18-Jul-07	98-82-8	Isopropylbenzene	0.0061	ug/L	0.0061	0	1
L	GS	SV-20-5	5	18-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
L	GS	SV-20-5	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
L	GS	SV-20-5	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
L	GS	SV-20-5	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.053	ug/L	0.053	0	1
L	GS	SV-20-5	5	18-Jul-07		Nitrogen	79	%		1	1
L	GS	SV-20-5	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
L	GS	SV-20-5	5	18-Jul-07		Ethene	0.0025	%		0	1
L	GS	SV-20-5	5	18-Jul-07	64-17-5	Ethanol	0.0093	ug/L	0.0093	0	1
L	GS	SV-20-5	5	18-Jul-07		Ethane	0.0025	%		0	1
L	GS	SV-20-5	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0061	ug/L	0.0061	0	1
L	GS	SV-20-5	5	18-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
L	GS	SV-20-5	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
L	GS	SV-20-5	5	18-Jul-07	110-54-3	Hexane	0.0044	ug/L	0.0044	0	1
L	GS	SV-20-5	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0084	ug/L	0.0084	0	1
L	GS	SV-20-5	5	18-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
L	GS	SV-20-5	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
L	GS	SV-20-5	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0069	ug/L	0.0069	0	1
L	GS	SV-20-5	5	18-Jul-07	79-01-6	Trichloroethene	0.0066	ug/L	0.0066	0	1
L	GS	SV-20-5	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
L	GS	SV-20-5	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0049	ug/L	0.0049	0	1
L	GS	SV-20-5	5	18-Jul-07		Toluene-d8	95	%		1	1
L	GS	SV-20-5	5	18-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
L	GS	SV-20-5	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0036	ug/L	0.0036	0	1
L	GS	SV-20-5	5	18-Jul-07	142-82-5	n-Heptane	0.0051	ug/L	0.0051	0	1
L	GS	SV-20-5	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
L	GS	SV-20-5	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
L	GS	SV-20-5	5	18-Jul-07	100-42-5	Styrene	0.0053	ug/L	0.0053	0	1
L	GS	SV-20-5	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.0061	ug/L	0.0061	0	1
L	GS	SV-20-5	5	18-Jul-07	95-47-6	o-Xylene	0.0054	ug/L	0.0054	0	1
L	GS	SV-20-5	5	18-Jul-07		Oxygen	20	%		1	1
L	GS	SV-20-5	5	18-Jul-07	103-65-1	n-Propylbenzene	0.0061	ug/L	0.0061	0	1
L	GS	SV-20-5	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0049	ug/L		0	1
L	GS	SV-20-5	5	18-Jul-07	108-88-3	Toluene	0.012	ug/L	0.012	1	1
L	GS	SV-20-5	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0061	ug/L	0.0061	0	1
L	GS	SV-20-5	5	18-Jul-07	110-82-7	Cyclohexane	0.0092	ug/L	0.0092	1	1
L	GS	SV-20-5	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
L	GS	SV-20-5	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
L	GS	SV-20-5	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0027	ug/L	0.0027	0	1
L	GS	SV-20-5	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0061	ug/L	0.0061	0	1
L	GS	SV-20-5	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0057	ug/L	0.0057	0	1
L	GS	SV-20-5	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.005	ug/L	0.005	0	1
L	GS	SV-20-5	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0058	ug/L	0.0058	0	1
L	GS	SV-20-5	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0095	ug/L	0.0095	0	1
L	GS	SV-20-5	5	18-Jul-07	78-93-3	2-Butanone	0.0071	ug/L	0.0071	1	1
L	GS	SV-20-5	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.037	ug/L	0.037	0	1
L	GS	SV-20-5	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
L	GS	SV-20-5	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0049	ug/L	0.0049	0	1
L	GS	SV-20-5	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.005	ug/L	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-20-5	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0067	ug/L	0.0067	0	1
L	GS	SV-20-5	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	ug/L	0.0095	0	1
L	GS	SV-20-5	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	ug/L	0.0085	0	1
L	GS	SV-20-5	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0067	ug/L	0.0067	0	1
L	GS	SV-20-5	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	ug/L	0.0086	0	1
L	GS	SV-20-5	5	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
L	GS	SV-20-5	5	18-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
L	GS	SV-20-5	5	18-Jul-07	67-66-3	Chloroform	0.11	ug/L	0.11	1	1
L	GS	SV-20-5	5	18-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1
L	GS	SV-20-5	5	18-Jul-07	108-90-7	Chlorobenzene	0.0057	ug/L	0.0057	0	1
L	GS	SV-20-5	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0078	ug/L	0.0078	0	1
L	GS	SV-20-5	5	18-Jul-07		Carbon Monoxide	0.025	%		0	1
L	GS	SV-20-5	5	18-Jul-07	75-15-0	Carbon Disulfide	0.041	ug/L	0.041	1	1
L	GS	SV-20-5	5	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
L	GS	SV-20-5	5	18-Jul-07	74-83-9	Bromomethane	0.0048	ug/L	0.0048	0	1
L	GS	SV-20-5	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	ug/L	0.034	0	1
L	GS	SV-20-5	5	18-Jul-07	75-27-4	Bromodichloromethane	0.023	ug/L	0.023	1	1
L	GS	SV-20-5	5	18-Jul-07	100-44-7	Benzyl chloride	0.0064	ug/L	0.0064	0	1
L	GS	SV-20-5	5	18-Jul-07	71-43-2	Benzene	0.0048	ug/L	0.0048	1	1
L	GS	SV-20-5	5	18-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
L	GS	SV-20-5	5	18-Jul-07	67-64-1	Acetone	0.014	ug/L	0.014	1	1
L	GS	SV-20-5	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.005	ug/L	0.005	0	1
L	GS	SV-20-5	5	18-Jul-07		4-Bromofluorobenzene	93	%		1	1
L	GS	SV-20-5	5	18-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
L	GS	SV-20-5	5	18-Jul-07		Carbon Dioxide	1.4	%		1	1
L	GS	SV-21-15	15	18-Jul-07	67-64-1	Acetone	0.035	ug/L	0.035	1	1
L	GS	SV-21-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.013	ug/L	0.013	1	1
L	GS	SV-21-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0046	ug/L	0.0046	0	1
L	GS	SV-21-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
L	GS	SV-21-15	15	18-Jul-07	74-82-8	Methane	0.012	%		1	1
L	GS	SV-21-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.029	ug/L	0.029	1	1
L	GS	SV-21-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-21-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-21-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
L	GS	SV-21-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
L	GS	SV-21-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.056	ug/L	0.056	0	1
L	GS	SV-21-15	15	18-Jul-07		Oxygen	18	%		1	1
L	GS	SV-21-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-21-15	15	18-Jul-07		Ethene	0.0026	%		0	1
L	GS	SV-21-15	15	18-Jul-07	64-17-5	Ethanol	0.0099	ug/L	0.0099	0	1
L	GS	SV-21-15	15	18-Jul-07		Ethane	0.0026	%		0	1
L	GS	SV-21-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0065	ug/L	0.0065	0	1
L	GS	SV-21-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-21-15	15	18-Jul-07	110-82-7	Cyclohexane	0.05	ug/L	0.05	1	1
L	GS	SV-21-15	15	18-Jul-07	110-54-3	Hexane	0.12	ug/L	0.12	1	1
L	GS	SV-21-15	15	18-Jul-07	108-88-3	Toluene	0.062	ug/L	0.062	1	1
L	GS	SV-21-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.036	ug/L	0.036	0	1
L	GS	SV-21-15	15	18-Jul-07		4-Bromofluorobenzene	95	%		1	1
L	GS	SV-21-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
L	GS	SV-21-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
L	GS	SV-21-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0074	ug/L	0.0074	0	1
L	GS	SV-21-15	15	18-Jul-07	79-01-6	Trichloroethene	0.0071	ug/L	0.0071	0	1
L	GS	SV-21-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
L	GS	SV-21-15	15	18-Jul-07	142-82-5	n-Heptane	0.041	ug/L	0.041	1	1
L	GS	SV-21-15	15	18-Jul-07		Toluene-d8	99	%		1	1
L	GS	SV-21-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-21-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.0039	ug/L	0.0039	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-21-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.009	ug/L	0.009	0	1
L	GS	SV-21-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
L	GS	SV-21-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-21-15	15	18-Jul-07	100-42-5	Styrene	0.0056	ug/L	0.0056	0	1
L	GS	SV-21-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.0078	ug/L	0.0078	1	1
L	GS	SV-21-15	15	18-Jul-07	95-47-6	o-Xylene	0.0072	ug/L	0.0072	1	1
L	GS	SV-21-15	15	18-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
L	GS	SV-21-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0052	ug/L	0.0052	0	1
L	GS	SV-21-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-21-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-21-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.0029	ug/L	0.0029	0	1
L	GS	SV-21-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-21-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0061	ug/L	0.0061	0	1
L	GS	SV-21-15	15	18-Jul-07		1,2-Dichloroethane-d4	102	%		1	1
L	GS	SV-21-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0053	ug/L	0.0053	0	1
L	GS	SV-21-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-21-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-21-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
L	GS	SV-21-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
L	GS	SV-21-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.039	ug/L	0.039	0	1
L	GS	SV-21-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
L	GS	SV-21-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0052	ug/L	0.0052	0	1
L	GS	SV-21-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0053	ug/L	0.0053	0	1
L	GS	SV-21-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0072	ug/L	0.0072	0	1
L	GS	SV-21-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0052	ug/L		0	1
L	GS	SV-21-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0091	ug/L	0.0091	0	1
L	GS	SV-21-15	15	18-Jul-07		Nitrogen	81	%		1	1
L	GS	SV-21-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0092	ug/L	0.0092	0	1
L	GS	SV-21-15	15	18-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
L	GS	SV-21-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0072	ug/L	0.0072	0	1
L	GS	SV-21-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
L	GS	SV-21-15	15	18-Jul-07	67-66-3	Chloroform	0.4	ug/L	0.4	1	1
L	GS	SV-21-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0061	ug/L	0.0061	0	1
L	GS	SV-21-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.0083	ug/L	0.0083	0	1
L	GS	SV-21-15	15	18-Jul-07		Carbon Monoxide	0.026	%		0	1
L	GS	SV-21-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.11	ug/L	0.11	1	1
L	GS	SV-21-15	15	18-Jul-07		Carbon Dioxide	1.2	%		1	1
L	GS	SV-21-15	15	18-Jul-07	74-83-9	Bromomethane	0.0051	ug/L	0.0051	0	1
L	GS	SV-21-15	15	18-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
L	GS	SV-21-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0062	ug/L	0.0062	0	1
L	GS	SV-21-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.0068	ug/L	0.0068	0	1
L	GS	SV-21-15	15	18-Jul-07	71-43-2	Benzene	0.037	ug/L	0.037	1	1
L	GS	SV-21-15	15	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
L	GS	SV-21-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0054	ug/L	0.0054	0	1
L	GS	SV-21-15	15	18-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1
L	GS	SV-21-15	15	18-Jul-07	78-93-3	2-Butanone	0.024	ug/L	0.024	1	1
L	GS	SV-21-15	15	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-21-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.0088	ug/L	0.0088	0	1
L	GS	SV-21-5	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
L	GS	SV-21-5	5	18-Jul-07	110-54-3	Hexane	0.0045	ug/L	0.0045	0	1
L	GS	SV-21-5	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
L	GS	SV-21-5	5	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-21-5	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
L	GS	SV-21-5	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.0056	ug/L	0.0056	0	1
L	GS	SV-21-5	5	18-Jul-07		Ethane	0.0026	%		0	1
L	GS	SV-21-5	5	18-Jul-07	74-82-8	Methane	0.0016	%		1	1
L	GS	SV-21-5	5	18-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-21-5	5	18-Jul-07	100-41-4	Ethylbenzene	0.0056	ug/L	0.0056	0	1
L	GS	SV-21-5	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
L	GS	SV-21-5	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-21-5	5	18-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
L	GS	SV-21-5	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
L	GS	SV-21-5	5	18-Jul-07	124-48-1	Dibromochloromethane	0.016	ug/L	0.016	1	1
L	GS	SV-21-5	5	18-Jul-07	110-82-7	Cyclohexane	0.0088	ug/L	0.0088	1	1
L	GS	SV-21-5	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
L	GS	SV-21-5	5	18-Jul-07	108-88-3	Toluene	0.0064	ug/L	0.0064	1	1
L	GS	SV-21-5	5	18-Jul-07		Ethene	0.0026	%		0	1
L	GS	SV-21-5	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0038	ug/L	0.0038	0	1
L	GS	SV-21-5	5	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-21-5	5	18-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
L	GS	SV-21-5	5	18-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
L	GS	SV-21-5	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
L	GS	SV-21-5	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
L	GS	SV-21-5	5	18-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
L	GS	SV-21-5	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
L	GS	SV-21-5	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1
L	GS	SV-21-5	5	18-Jul-07		Toluene-d8	93	%		1	1
L	GS	SV-21-5	5	18-Jul-07	75-09-2	Methylene chloride	0.0053	ug/L	0.0053	1	1
L	GS	SV-21-5	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
L	GS	SV-21-5	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-21-5	5	18-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
L	GS	SV-21-5	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.0063	ug/L	0.0063	0	1
L	GS	SV-21-5	5	18-Jul-07	95-47-6	o-Xylene	0.0056	ug/L	0.0056	0	1
L	GS	SV-21-5	5	18-Jul-07		Oxygen	20	%		1	1
L	GS	SV-21-5	5	18-Jul-07	103-65-1	n-Propylbenzene	0.0063	ug/L	0.0063	0	1
L	GS	SV-21-5	5	18-Jul-07	142-82-5	n-Heptane	0.0053	ug/L	0.0053	0	1
L	GS	SV-21-5	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
L	GS	SV-21-5	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
L	GS	SV-21-5	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
L	GS	SV-21-5	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
L	GS	SV-21-5	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
L	GS	SV-21-5	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
L	GS	SV-21-5	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
L	GS	SV-21-5	5	18-Jul-07		1,2-Dichloroethane-d4	96	%		1	1
L	GS	SV-21-5	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
L	GS	SV-21-5	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
L	GS	SV-21-5	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
L	GS	SV-21-5	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
L	GS	SV-21-5	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
L	GS	SV-21-5	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
L	GS	SV-21-5	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
L	GS	SV-21-5	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
L	GS	SV-21-5	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
L	GS	SV-21-5	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
L	GS	SV-21-5	5	18-Jul-07		Nitrogen	80	%		1	1
L	GS	SV-21-5	5	18-Jul-07	67-66-3	Chloroform	0.32	ug/L	0.32	1	1
L	GS	SV-21-5	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
L	GS	SV-21-5	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
L	GS	SV-21-5	5	18-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
L	GS	SV-21-5	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
L	GS	SV-21-5	5	18-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
L	GS	SV-21-5	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
L	GS	SV-21-5	5	18-Jul-07		Carbon Monoxide	0.026	%		0	1
L	GS	SV-21-5	5	18-Jul-07	75-15-0	Carbon Disulfide	0.034	ug/L	0.034	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-21-5	5	18-Jul-07		Carbon Dioxide	0.4	%		1	1
L	GS	SV-21-5	5	18-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
L	GS	SV-21-5	5	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
L	GS	SV-21-5	5	18-Jul-07	75-27-4	Bromodichloromethane	0.06	ug/L	0.06	1	1
L	GS	SV-21-5	5	18-Jul-07	78-93-3	2-Butanone	0.014	ug/L	0.014	1	1
L	GS	SV-21-5	5	18-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
L	GS	SV-21-5	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.006	ug/L	0.006	0	1
L	GS	SV-21-5	5	18-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
L	GS	SV-21-5	5	18-Jul-07		4-Bromofluorobenzene	97	%		1	1
L	GS	SV-21-5	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
L	GS	SV-21-5	5	18-Jul-07	67-64-1	Acetone	0.096	ug/L	0.096	1	1
L	GS	SV-21-5	5	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
L	GS	SV-21-5	5	18-Jul-07	71-43-2	Benzene	0.0041	ug/L	0.0041	0	1
L	GS	SV-21-5	5	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
L	GS	SV-22-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0065	ug/L	0.0065	0	1
L	GS	SV-22-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.056	ug/L	0.056	0	1
L	GS	SV-22-15	15	18-Jul-07	74-82-8	Methane	0.0088	%		1	1
L	GS	SV-22-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.013	ug/L	0.013	1	1
L	GS	SV-22-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
L	GS	SV-22-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-22-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-22-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
L	GS	SV-22-15	15	18-Jul-07	110-54-3	Hexane	0.092	ug/L	0.092	1	1
L	GS	SV-22-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.0076	ug/L	0.0076	1	1
L	GS	SV-22-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-22-15	15	18-Jul-07		Ethene	0.0026	%		0	1
L	GS	SV-22-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
L	GS	SV-22-15	15	18-Jul-07		Ethane	0.0026	%		0	1
L	GS	SV-22-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-22-15	15	18-Jul-07	110-82-7	Cyclohexane	0.045	ug/L	0.045	1	1
L	GS	SV-22-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0046	ug/L	0.0046	0	1
L	GS	SV-22-15	15	18-Jul-07	64-17-5	Ethanol	0.0099	ug/L	0.0099	0	1
L	GS	SV-22-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
L	GS	SV-22-15	15	18-Jul-07	67-66-3	Chloroform	0.0073	ug/L	0.0073	1	1
L	GS	SV-22-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
L	GS	SV-22-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0074	ug/L	0.0074	0	1
L	GS	SV-22-15	15	18-Jul-07	79-01-6	Trichloroethene	0.0071	ug/L	0.0071	0	1
L	GS	SV-22-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
L	GS	SV-22-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0052	ug/L	0.0052	0	1
L	GS	SV-22-15	15	18-Jul-07		Toluene-d8	99	%		1	1
L	GS	SV-22-15	15	18-Jul-07	108-88-3	Toluene	0.049	ug/L	0.049	1	1
L	GS	SV-22-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
L	GS	SV-22-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.009	ug/L	0.009	0	1
L	GS	SV-22-15	15	18-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
L	GS	SV-22-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-22-15	15	18-Jul-07	100-42-5	Styrene	0.0056	ug/L	0.0056	0	1
L	GS	SV-22-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.0065	ug/L	0.0065	0	1
L	GS	SV-22-15	15	18-Jul-07	95-47-6	o-Xylene	0.0058	ug/L	0.0058	1	1
L	GS	SV-22-15	15	18-Jul-07		Oxygen	12	%		1	1
L	GS	SV-22-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-22-15	15	18-Jul-07		Nitrogen	87	%		1	1
L	GS	SV-22-15	15	18-Jul-07	142-82-5	n-Heptane	0.029	ug/L	0.029	1	1
L	GS	SV-22-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.0052	ug/L	0.0052	1	1
L	GS	SV-22-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
L	GS	SV-22-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.0029	ug/L	0.0029	0	1
L	GS	SV-22-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-22-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0061	ug/L	0.0061	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-22-15	15	18-Jul-07		1,2-Dichloroethane-d4	93	%		1	1
L	GS	SV-22-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0053	ug/L	0.0053	0	1
L	GS	SV-22-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-22-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0092	ug/L	0.0092	0	1
L	GS	SV-22-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-22-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-22-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
L	GS	SV-22-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0052	ug/L	0.0052	0	1
L	GS	SV-22-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0053	ug/L	0.0053	0	1
L	GS	SV-22-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0072	ug/L	0.0072	0	1
L	GS	SV-22-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
L	GS	SV-22-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0091	ug/L	0.0091	0	1
L	GS	SV-22-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0072	ug/L	0.0072	0	1
L	GS	SV-22-15	15	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-22-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0052	ug/L		0	1
L	GS	SV-22-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.036	ug/L	0.036	0	1
L	GS	SV-22-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0061	ug/L	0.0061	0	1
L	GS	SV-22-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.039	ug/L	0.039	0	1
L	GS	SV-22-15	15	18-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
L	GS	SV-22-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-22-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.0083	ug/L	0.0083	0	1
L	GS	SV-22-15	15	18-Jul-07		Carbon Monoxide	0.026	%		0	1
L	GS	SV-22-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.077	ug/L	0.077	1	1
L	GS	SV-22-15	15	18-Jul-07		Carbon Dioxide	1.1	%		1	1
L	GS	SV-22-15	15	18-Jul-07	74-83-9	Bromomethane	0.0051	ug/L	0.0051	0	1
L	GS	SV-22-15	15	18-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
L	GS	SV-22-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.0088	ug/L	0.0088	0	1
L	GS	SV-22-15	15	18-Jul-07	78-93-3	2-Butanone	0.02	ug/L	0.02	1	1
L	GS	SV-22-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0062	ug/L	0.0062	0	1
L	GS	SV-22-15	15	18-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1
L	GS	SV-22-15	15	18-Jul-07		4-Bromofluorobenzene	94	%		1	1
L	GS	SV-22-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0054	ug/L	0.0054	0	1
L	GS	SV-22-15	15	18-Jul-07	67-64-1	Acetone	0.018	ug/L	0.018	1	1
L	GS	SV-22-15	15	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
L	GS	SV-22-15	15	18-Jul-07	71-43-2	Benzene	0.025	ug/L	0.025	1	1
L	GS	SV-22-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.0068	ug/L	0.0068	0	1
L	GS	SV-22-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
L	GS	SV-22-5	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
L	GS	SV-22-5	5	18-Jul-07	110-54-3	Hexane	0.0045	ug/L	0.0045	0	1
L	GS	SV-22-5	5	18-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
L	GS	SV-22-5	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
L	GS	SV-22-5	5	18-Jul-07	74-82-8	Methane	0.0007	%		1	1
L	GS	SV-22-5	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.019	ug/L	0.019	1	1
L	GS	SV-22-5	5	18-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1
L	GS	SV-22-5	5	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-22-5	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
L	GS	SV-22-5	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
L	GS	SV-22-5	5	18-Jul-07	100-41-4	Ethylbenzene	0.0093	ug/L	0.0093	1	1
L	GS	SV-22-5	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-22-5	5	18-Jul-07		Ethene	0.0026	%		0	1
L	GS	SV-22-5	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
L	GS	SV-22-5	5	18-Jul-07		Ethane	0.0026	%		0	1
L	GS	SV-22-5	5	18-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
L	GS	SV-22-5	5	18-Jul-07	124-48-1	Dibromochloromethane	0.014	ug/L	0.014	1	1
L	GS	SV-22-5	5	18-Jul-07	110-82-7	Cyclohexane	0.014	ug/L	0.014	1	1
L	GS	SV-22-5	5	18-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
L	GS	SV-22-5	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-22-5	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
L	GS	SV-22-5	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
L	GS	SV-22-5	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
L	GS	SV-22-5	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
L	GS	SV-22-5	5	18-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
L	GS	SV-22-5	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
L	GS	SV-22-5	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
L	GS	SV-22-5	5	18-Jul-07		Toluene-d8	96	%		1	1
L	GS	SV-22-5	5	18-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
L	GS	SV-22-5	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0038	ug/L	0.0038	0	1
L	GS	SV-22-5	5	18-Jul-07	142-82-5	n-Heptane	0.0053	ug/L	0.0053	0	1
L	GS	SV-22-5	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
L	GS	SV-22-5	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-22-5	5	18-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
L	GS	SV-22-5	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.0063	ug/L	0.0063	0	1
L	GS	SV-22-5	5	18-Jul-07	95-47-6	o-Xylene	0.0085	ug/L	0.0085	1	1
L	GS	SV-22-5	5	18-Jul-07		Oxygen	21	%		1	1
L	GS	SV-22-5	5	18-Jul-07	103-65-1	n-Propylbenzene	0.0063	ug/L	0.0063	0	1
L	GS	SV-22-5	5	18-Jul-07		Nitrogen	79	%		1	1
L	GS	SV-22-5	5	18-Jul-07	108-88-3	Toluene	0.022	ug/L	0.022	1	1
L	GS	SV-22-5	5	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-22-5	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
L	GS	SV-22-5	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
L	GS	SV-22-5	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
L	GS	SV-22-5	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
L	GS	SV-22-5	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
L	GS	SV-22-5	5	18-Jul-07		1,2-Dichloroethane-d4	93	%		1	1
L	GS	SV-22-5	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
L	GS	SV-22-5	5	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
L	GS	SV-22-5	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
L	GS	SV-22-5	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
L	GS	SV-22-5	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0094	ug/L	0.0094	1	1
L	GS	SV-22-5	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
L	GS	SV-22-5	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
L	GS	SV-22-5	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
L	GS	SV-22-5	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
L	GS	SV-22-5	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
L	GS	SV-22-5	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
L	GS	SV-22-5	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
L	GS	SV-22-5	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
L	GS	SV-22-5	5	18-Jul-07	75-15-0	Carbon Disulfide	0.031	ug/L	0.031	1	1
L	GS	SV-22-5	5	18-Jul-07	67-66-3	Chloroform	0.18	ug/L	0.18	1	1
L	GS	SV-22-5	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
L	GS	SV-22-5	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.006	ug/L	0.006	0	1
L	GS	SV-22-5	5	18-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
L	GS	SV-22-5	5	18-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
L	GS	SV-22-5	5	18-Jul-07		Carbon Monoxide	0.026	%		0	1
L	GS	SV-22-5	5	18-Jul-07		Carbon Dioxide	0.38	%		1	1
L	GS	SV-22-5	5	18-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
L	GS	SV-22-5	5	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
L	GS	SV-22-5	5	18-Jul-07		4-Bromofluorobenzene	98	%		1	1
L	GS	SV-22-5	5	18-Jul-07	78-93-3	2-Butanone	0.011	ug/L	0.011	1	1
L	GS	SV-22-5	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
L	GS	SV-22-5	5	18-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
L	GS	SV-22-5	5	18-Jul-07	75-27-4	Bromodichloromethane	0.043	ug/L	0.043	1	1
L	GS	SV-22-5	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
L	GS	SV-22-5	5	18-Jul-07	67-64-1	Acetone	0.015	ug/L	0.015	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-22-5	5	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
L	GS	SV-22-5	5	18-Jul-07	71-43-2	Benzene	0.01	ug/L	0.01	1	1
L	GS	SV-22-5	5	18-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
L	GS	SV-23-15	15	18-Jul-07	110-54-3	Hexane	0.074	ug/L	0.074	1	1
L	GS	SV-23-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.005	ug/L		0	1
L	GS	SV-23-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
L	GS	SV-23-15	15	18-Jul-07	74-82-8	Methane	0.0012	%		1	1
L	GS	SV-23-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.0092	ug/L	0.0092	1	1
L	GS	SV-23-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.0062	ug/L	0.0062	0	1
L	GS	SV-23-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
L	GS	SV-23-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
L	GS	SV-23-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0044	ug/L	0.0044	0	1
L	GS	SV-23-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.054	ug/L	0.054	0	1
L	GS	SV-23-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.0055	ug/L	0.0055	0	1
L	GS	SV-23-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
L	GS	SV-23-15	15	18-Jul-07		Ethene	0.0025	%		0	1
L	GS	SV-23-15	15	18-Jul-07	64-17-5	Ethanol	0.0095	ug/L	0.0095	0	1
L	GS	SV-23-15	15	18-Jul-07		Ethane	0.0025	%		0	1
L	GS	SV-23-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0062	ug/L	0.0062	0	1
L	GS	SV-23-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-23-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
L	GS	SV-23-15	15	18-Jul-07	110-82-7	Cyclohexane	0.019	ug/L	0.019	1	1
L	GS	SV-23-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.0096	ug/L	0.0096	1	1
L	GS	SV-23-15	15	18-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
L	GS	SV-23-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
L	GS	SV-23-15	15	18-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
L	GS	SV-23-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0071	ug/L	0.0071	0	1
L	GS	SV-23-15	15	18-Jul-07	79-01-6	Trichloroethene	0.0068	ug/L	0.0068	0	1
L	GS	SV-23-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
L	GS	SV-23-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.005	ug/L	0.005	0	1
L	GS	SV-23-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
L	GS	SV-23-15	15	18-Jul-07	108-88-3	Toluene	0.023	ug/L	0.023	1	1
L	GS	SV-23-15	15	18-Jul-07	142-82-5	n-Heptane	0.021	ug/L	0.021	1	1
L	GS	SV-23-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.0086	ug/L	0.0086	0	1
L	GS	SV-23-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
L	GS	SV-23-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
L	GS	SV-23-15	15	18-Jul-07	100-42-5	Styrene	0.0054	ug/L	0.0054	0	1
L	GS	SV-23-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.0062	ug/L	0.0062	0	1
L	GS	SV-23-15	15	18-Jul-07	95-47-6	o-Xylene	0.0055	ug/L	0.0055	0	1
L	GS	SV-23-15	15	18-Jul-07		Oxygen	17	%		1	1
L	GS	SV-23-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.0062	ug/L	0.0062	0	1
L	GS	SV-23-15	15	18-Jul-07		Toluene-d8	92	%		1	1
L	GS	SV-23-15	15	18-Jul-07	67-66-3	Chloroform	0.022	ug/L	0.022	1	1
L	GS	SV-23-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
L	GS	SV-23-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0062	ug/L	0.0062	0	1
L	GS	SV-23-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0058	ug/L	0.0058	0	1
L	GS	SV-23-15	15	18-Jul-07		1,2-Dichloroethane-d4	94	%		1	1
L	GS	SV-23-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0051	ug/L	0.0051	0	1
L	GS	SV-23-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
L	GS	SV-23-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	ug/L	0.0088	0	1
L	GS	SV-23-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
L	GS	SV-23-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0062	ug/L	0.0062	0	1
L	GS	SV-23-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0097	ug/L	0.0097	0	1
L	GS	SV-23-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
L	GS	SV-23-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.005	ug/L	0.005	0	1
L	GS	SV-23-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0051	ug/L	0.0051	0	1
L	GS	SV-23-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0069	ug/L	0.0069	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-23-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	ug/L	0.0097	0	1
L	GS	SV-23-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	ug/L	0.0087	0	1
L	GS	SV-23-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0069	ug/L	0.0069	0	1
L	GS	SV-23-15	15	18-Jul-07		Nitrogen	80	%		1	1
L	GS	SV-23-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
L	GS	SV-23-15	15	18-Jul-07		Carbon Dioxide	3.1	%		1	1
L	GS	SV-23-15	15	18-Jul-07	75-00-3	Chloroethane	0.0033	ug/L	0.0033	0	1
L	GS	SV-23-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
L	GS	SV-23-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
L	GS	SV-23-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0058	ug/L	0.0058	0	1
L	GS	SV-23-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.008	ug/L	0.008	0	1
L	GS	SV-23-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.057	ug/L	0.057	1	1
L	GS	SV-23-15	15	18-Jul-07	74-83-9	Bromomethane	0.0049	ug/L	0.0049	0	1
L	GS	SV-23-15	15	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
L	GS	SV-23-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.0085	ug/L	0.0085	0	1
L	GS	SV-23-15	15	18-Jul-07	78-93-3	2-Butanone	0.0082	ug/L	0.0082	1	1
L	GS	SV-23-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
L	GS	SV-23-15	15	18-Jul-07		Carbon Monoxide	0.025	%		0	1
L	GS	SV-23-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0059	ug/L	0.0059	0	1
L	GS	SV-23-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.0065	ug/L	0.0065	0	1
L	GS	SV-23-15	15	18-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
L	GS	SV-23-15	15	18-Jul-07		4-Bromofluorobenzene	96	%		1	1
L	GS	SV-23-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0052	ug/L	0.0052	0	1
L	GS	SV-23-15	15	18-Jul-07	67-64-1	Acetone	0.043	ug/L	0.043	1	1
L	GS	SV-23-15	15	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
L	GS	SV-23-15	15	18-Jul-07	71-43-2	Benzene	0.011	ug/L	0.011	1	1
L	GS	SV-23-5	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
L	GS	SV-23-5	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
L	GS	SV-23-5	5	18-Jul-07	75-09-2	Methylene chloride	0.0046	ug/L	0.0046	0	1
L	GS	SV-23-5	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
L	GS	SV-23-5	5	18-Jul-07	74-82-8	Methane	0.00026	%		0	1
L	GS	SV-23-5	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.013	ug/L	0.013	1	1
L	GS	SV-23-5	5	18-Jul-07	98-82-8	Isopropylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-23-5	5	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-23-5	5	18-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
L	GS	SV-23-5	5	18-Jul-07	110-54-3	Hexane	0.0046	ug/L	0.0046	0	1
L	GS	SV-23-5	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.056	ug/L	0.056	0	1
L	GS	SV-23-5	5	18-Jul-07	100-41-4	Ethylbenzene	0.0057	ug/L	0.0057	0	1
L	GS	SV-23-5	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-23-5	5	18-Jul-07		Ethene	0.0026	%		0	1
L	GS	SV-23-5	5	18-Jul-07	64-17-5	Ethanol	0.0099	ug/L	0.0099	0	1
L	GS	SV-23-5	5	18-Jul-07		Ethane	0.0026	%		0	1
L	GS	SV-23-5	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0065	ug/L	0.0065	0	1
L	GS	SV-23-5	5	18-Jul-07	110-82-7	Cyclohexane	0.0045	ug/L	0.0045	0	1
L	GS	SV-23-5	5	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-23-5	5	18-Jul-07	127-18-4	Tetrachloroethene	0.009	ug/L	0.009	0	1
L	GS	SV-23-5	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-23-5	5	18-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
L	GS	SV-23-5	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0052	ug/L		0	1
L	GS	SV-23-5	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0074	ug/L	0.0074	0	1
L	GS	SV-23-5	5	18-Jul-07	79-01-6	Trichloroethene	0.0071	ug/L	0.0071	0	1
L	GS	SV-23-5	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
L	GS	SV-23-5	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0052	ug/L	0.0052	0	1
L	GS	SV-23-5	5	18-Jul-07		Toluene-d8	93	%		1	1
L	GS	SV-23-5	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
L	GS	SV-23-5	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0039	ug/L	0.0039	0	1
L	GS	SV-23-5	5	18-Jul-07	142-82-5	n-Heptane	0.0054	ug/L	0.0054	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-23-5	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
L	GS	SV-23-5	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-23-5	5	18-Jul-07	100-42-5	Styrene	0.0056	ug/L	0.0056	0	1
L	GS	SV-23-5	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.0065	ug/L	0.0065	0	1
L	GS	SV-23-5	5	18-Jul-07	95-47-6	o-Xylene	0.0057	ug/L	0.0057	0	1
L	GS	SV-23-5	5	18-Jul-07		Oxygen	21	%		1	1
L	GS	SV-23-5	5	18-Jul-07	103-65-1	n-Propylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-23-5	5	18-Jul-07		Nitrogen	78	%		1	1
L	GS	SV-23-5	5	18-Jul-07	108-88-3	Toluene	0.022	ug/L	0.022	1	1
L	GS	SV-23-5	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.039	ug/L	0.039	0	1
L	GS	SV-23-5	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0062	ug/L	0.0062	0	1
L	GS	SV-23-5	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-23-5	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0061	ug/L	0.0061	0	1
L	GS	SV-23-5	5	18-Jul-07		1,2-Dichloroethane-d4	98	%		1	1
L	GS	SV-23-5	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0053	ug/L	0.0053	0	1
L	GS	SV-23-5	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-23-5	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0092	ug/L	0.0092	0	1
L	GS	SV-23-5	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
L	GS	SV-23-5	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
L	GS	SV-23-5	5	18-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
L	GS	SV-23-5	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
L	GS	SV-23-5	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0052	ug/L	0.0052	0	1
L	GS	SV-23-5	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0053	ug/L	0.0053	0	1
L	GS	SV-23-5	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0072	ug/L	0.0072	0	1
L	GS	SV-23-5	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
L	GS	SV-23-5	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0091	ug/L	0.0091	0	1
L	GS	SV-23-5	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0072	ug/L	0.0072	0	1
L	GS	SV-23-5	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.036	ug/L	0.036	0	1
L	GS	SV-23-5	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
L	GS	SV-23-5	5	18-Jul-07	75-27-4	Bromodichloromethane	0.0088	ug/L	0.0088	0	1
L	GS	SV-23-5	5	18-Jul-07	67-66-3	Chloroform	0.019	ug/L	0.019	1	1
L	GS	SV-23-5	5	18-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
L	GS	SV-23-5	5	18-Jul-07	108-90-7	Chlorobenzene	0.0061	ug/L	0.0061	0	1
L	GS	SV-23-5	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0083	ug/L	0.0083	0	1
L	GS	SV-23-5	5	18-Jul-07		Carbon Monoxide	0.026	%		0	1
L	GS	SV-23-5	5	18-Jul-07	75-15-0	Carbon Disulfide	0.0042	ug/L	0.0042	1	1
L	GS	SV-23-5	5	18-Jul-07		Carbon Dioxide	0.92	%		1	1
L	GS	SV-23-5	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0029	ug/L	0.0029	0	1
L	GS	SV-23-5	5	18-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
L	GS	SV-23-5	5	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-23-5	5	18-Jul-07	100-44-7	Benzyl chloride	0.0068	ug/L	0.0068	0	1
L	GS	SV-23-5	5	18-Jul-07	71-43-2	Benzene	0.0054	ug/L	0.0054	1	1
L	GS	SV-23-5	5	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
L	GS	SV-23-5	5	18-Jul-07	67-64-1	Acetone	0.028	ug/L	0.028	1	1
L	GS	SV-23-5	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0054	ug/L	0.0054	0	1
L	GS	SV-23-5	5	18-Jul-07		4-Bromofluorobenzene	93	%		1	1
L	GS	SV-23-5	5	18-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1
L	GS	SV-23-5	5	18-Jul-07	78-93-3	2-Butanone	0.0053	ug/L	0.0053	1	1
L	GS	SV-23-5	5	18-Jul-07	74-83-9	Bromomethane	0.0051	ug/L	0.0051	0	1
L	GS	SV-24-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.0056	ug/L	0.0056	0	1
L	GS	SV-24-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
L	GS	SV-24-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
L	GS	SV-24-15	15	18-Jul-07	74-82-8	Methane	0.0074	%		1	1
L	GS	SV-24-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.0093	ug/L	0.0093	1	1
L	GS	SV-24-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1
L	GS	SV-24-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-24-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-24-15	15	18-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
L	GS	SV-24-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
L	GS	SV-24-15	15	18-Jul-07	142-82-5	n-Heptane	0.011	ug/L	0.011	1	1
L	GS	SV-24-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-24-15	15	18-Jul-07		Ethene	0.0026	%		0	1
L	GS	SV-24-15	15	18-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
L	GS	SV-24-15	15	18-Jul-07		Ethane	0.0026	%		0	1
L	GS	SV-24-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
L	GS	SV-24-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-24-15	15	18-Jul-07	110-82-7	Cyclohexane	0.023	ug/L	0.023	1	1
L	GS	SV-24-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
L	GS	SV-24-15	15	18-Jul-07	110-54-3	Hexane	0.054	ug/L	0.054	1	1
L	GS	SV-24-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1
L	GS	SV-24-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
L	GS	SV-24-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
L	GS	SV-24-15	15	18-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
L	GS	SV-24-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
L	GS	SV-24-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
L	GS	SV-24-15	15	18-Jul-07		Toluene-d8	100	%		1	1
L	GS	SV-24-15	15	18-Jul-07	108-88-3	Toluene	0.021	ug/L	0.021	1	1
L	GS	SV-24-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
L	GS	SV-24-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.0038	ug/L	0.0038	0	1
L	GS	SV-24-15	15	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-24-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
L	GS	SV-24-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-24-15	15	18-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
L	GS	SV-24-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.0063	ug/L	0.0063	0	1
L	GS	SV-24-15	15	18-Jul-07	95-47-6	o-Xylene	0.0056	ug/L	0.0056	0	1
L	GS	SV-24-15	15	18-Jul-07		Oxygen	16	%		1	1
L	GS	SV-24-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.0063	ug/L	0.0063	0	1
L	GS	SV-24-15	15	18-Jul-07		Nitrogen	82	%		1	1
L	GS	SV-24-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
L	GS	SV-24-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
L	GS	SV-24-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
L	GS	SV-24-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
L	GS	SV-24-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
L	GS	SV-24-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
L	GS	SV-24-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
L	GS	SV-24-15	15	18-Jul-07		1,2-Dichloroethane-d4	96	%		1	1
L	GS	SV-24-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
L	GS	SV-24-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
L	GS	SV-24-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
L	GS	SV-24-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.006	ug/L	0.006	0	1
L	GS	SV-24-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
L	GS	SV-24-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
L	GS	SV-24-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
L	GS	SV-24-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
L	GS	SV-24-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
L	GS	SV-24-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
L	GS	SV-24-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
L	GS	SV-24-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
L	GS	SV-24-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
L	GS	SV-24-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.0086	ug/L	0.0086	0	1
L	GS	SV-24-15	15	18-Jul-07	67-66-3	Chloroform	0.0073	ug/L	0.0073	1	1
L	GS	SV-24-15	15	18-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
L	GS	SV-24-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
L	GS	SV-24-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-24-15	15	18-Jul-07		Carbon Monoxide	0.026	%		0	1
L	GS	SV-24-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.058	ug/L	0.058	1	1
L	GS	SV-24-15	15	18-Jul-07		Carbon Dioxide	1.6	%		1	1
L	GS	SV-24-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
L	GS	SV-24-15	15	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
L	GS	SV-24-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
L	GS	SV-24-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
L	GS	SV-24-15	15	18-Jul-07	71-43-2	Benzene	0.0072	ug/L	0.0072	1	1
L	GS	SV-24-15	15	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
L	GS	SV-24-15	15	18-Jul-07	67-64-1	Acetone	0.045	ug/L	0.045	1	1
L	GS	SV-24-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
L	GS	SV-24-15	15	18-Jul-07		4-Bromofluorobenzene	97	%		1	1
L	GS	SV-24-15	15	18-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
L	GS	SV-24-15	15	18-Jul-07	78-93-3	2-Butanone	0.014	ug/L	0.014	1	1
L	GS	SV-24-15	15	18-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
L	GS	SV-24-5	5	18-Jul-07	100-41-4	Ethylbenzene	0.0074	ug/L	0.0074	1	1
L	GS	SV-24-5	5	18-Jul-07	75-09-2	Methylene chloride	0.0047	ug/L	0.0047	0	1
L	GS	SV-24-5	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
L	GS	SV-24-5	5	18-Jul-07	74-82-8	Methane	0.00027	%		0	1
L	GS	SV-24-5	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.02	ug/L	0.02	1	1
L	GS	SV-24-5	5	18-Jul-07	98-82-8	Isopropylbenzene	0.0066	ug/L	0.0066	0	1
L	GS	SV-24-5	5	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-24-5	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
L	GS	SV-24-5	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.037	ug/L	0.037	0	1
L	GS	SV-24-5	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.057	ug/L	0.057	0	1
L	GS	SV-24-5	5	18-Jul-07		Nitrogen	79	%		1	1
L	GS	SV-24-5	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-24-5	5	18-Jul-07		Ethene	0.0027	%		0	1
L	GS	SV-24-5	5	18-Jul-07	64-17-5	Ethanol	0.01	ug/L	0.01	0	1
L	GS	SV-24-5	5	18-Jul-07		Ethane	0.0027	%		0	1
L	GS	SV-24-5	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0066	ug/L	0.0066	0	1
L	GS	SV-24-5	5	18-Jul-07	124-48-1	Dibromochloromethane	0.012	ug/L	0.012	1	1
L	GS	SV-24-5	5	18-Jul-07	110-82-7	Cyclohexane	0.014	ug/L	0.014	1	1
L	GS	SV-24-5	5	18-Jul-07	110-54-3	Hexane	0.0047	ug/L	0.0047	0	1
L	GS	SV-24-5	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0091	ug/L	0.0091	0	1
L	GS	SV-24-5	5	18-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
L	GS	SV-24-5	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
L	GS	SV-24-5	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0076	ug/L	0.0076	0	1
L	GS	SV-24-5	5	18-Jul-07	79-01-6	Trichloroethene	0.0072	ug/L	0.0072	0	1
L	GS	SV-24-5	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0061	ug/L	0.0061	0	1
L	GS	SV-24-5	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0053	ug/L	0.0053	0	1
L	GS	SV-24-5	5	18-Jul-07		Toluene-d8	98	%		1	1
L	GS	SV-24-5	5	18-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
L	GS	SV-24-5	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.004	ug/L	0.004	0	1
L	GS	SV-24-5	5	18-Jul-07	142-82-5	n-Heptane	0.0055	ug/L	0.0055	0	1
L	GS	SV-24-5	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
L	GS	SV-24-5	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
L	GS	SV-24-5	5	18-Jul-07	100-42-5	Styrene	0.0057	ug/L	0.0057	0	1
L	GS	SV-24-5	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.0066	ug/L	0.0066	0	1
L	GS	SV-24-5	5	18-Jul-07	95-47-6	o-Xylene	0.0058	ug/L	0.0058	0	1
L	GS	SV-24-5	5	18-Jul-07		Oxygen	21	%		1	1
L	GS	SV-24-5	5	18-Jul-07	103-65-1	n-Propylbenzene	0.0066	ug/L	0.0066	0	1
L	GS	SV-24-5	5	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
L	GS	SV-24-5	5	18-Jul-07	108-88-3	Toluene	0.0051	ug/L	0.0051	0	1
L	GS	SV-24-5	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0094	ug/L	0.0094	0	1
L	GS	SV-24-5	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0061	ug/L	0.0061	0	1
L	GS	SV-24-5	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0081	ug/L	0.0081	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-24-5	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
L	GS	SV-24-5	5	18-Jul-07	106-99-0	1,3-Butadiene	0.003	ug/L	0.003	0	1
L	GS	SV-24-5	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0066	ug/L	0.0066	0	1
L	GS	SV-24-5	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0062	ug/L	0.0062	0	1
L	GS	SV-24-5	5	18-Jul-07		1,2-Dichloroethane-d4	102	%		1	1
L	GS	SV-24-5	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0063	ug/L	0.0063	0	1
L	GS	SV-24-5	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
L	GS	SV-24-5	5	18-Jul-07	78-93-3	2-Butanone	0.03	ug/L	0.03	1	1
L	GS	SV-24-5	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
L	GS	SV-24-5	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.04	ug/L	0.04	0	1
L	GS	SV-24-5	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0053	ug/L	0.0053	0	1
L	GS	SV-24-5	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0054	ug/L	0.0054	0	1
L	GS	SV-24-5	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0073	ug/L	0.0073	0	1
L	GS	SV-24-5	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
L	GS	SV-24-5	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0092	ug/L	0.0092	0	1
L	GS	SV-24-5	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
L	GS	SV-24-5	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0054	ug/L	0.0054	0	1
L	GS	SV-24-5	5	18-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
L	GS	SV-24-5	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0073	ug/L	0.0073	0	1
L	GS	SV-24-5	5	18-Jul-07	67-66-3	Chloroform	0.14	ug/L	0.14	1	1
L	GS	SV-24-5	5	18-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
L	GS	SV-24-5	5	18-Jul-07	108-90-7	Chlorobenzene	0.0062	ug/L	0.0062	0	1
L	GS	SV-24-5	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0085	ug/L	0.0085	0	1
L	GS	SV-24-5	5	18-Jul-07		Carbon Monoxide	0.027	%		0	1
L	GS	SV-24-5	5	18-Jul-07	75-15-0	Carbon Disulfide	0.018	ug/L	0.018	1	1
L	GS	SV-24-5	5	18-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
L	GS	SV-24-5	5	18-Jul-07	74-83-9	Bromomethane	0.0052	ug/L	0.0052	0	1
L	GS	SV-24-5	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0053	ug/L		0	1
L	GS	SV-24-5	5	18-Jul-07	75-27-4	Bromodichloromethane	0.038	ug/L	0.038	1	1
L	GS	SV-24-5	5	18-Jul-07	100-44-7	Benzyl chloride	0.007	ug/L	0.007	0	1
L	GS	SV-24-5	5	18-Jul-07	71-43-2	Benzene	0.0043	ug/L	0.0043	0	1
L	GS	SV-24-5	5	18-Jul-07	107-05-1	Allyl chloride	0.017	ug/L	0.017	0	1
L	GS	SV-24-5	5	18-Jul-07	67-64-1	Acetone	0.068	ug/L	0.068	1	1
L	GS	SV-24-5	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0055	ug/L	0.0055	0	1
L	GS	SV-24-5	5	18-Jul-07		4-Bromofluorobenzene	94	%		1	1
L	GS	SV-24-5	5	18-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1
L	GS	SV-24-5	5	18-Jul-07		Carbon Dioxide	0.13	%		1	1
L	GS	SV-24-5	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0066	ug/L	0.0066	0	1
L	GS	SV-19-05	5	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0061	UG/L	0.0061	0	1
L	GS	SV-19-05	5	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0044	UG/L	0.0044	0	1
L	GS	SV-19-05	5	17-Nov-07	98-82-8	Isopropylbenzene	0.0061	UG/L	0.0061	0	1
L	GS	SV-19-05	5	17-Nov-07	108-20-3	Isopropyl ether	0.021	UG/L	0.021	0	1
L	GS	SV-19-05	5	17-Nov-07	67-63-0	Isopropyl alcohol	0.012	UG/L	0.012	0	1
L	GS	SV-19-05	5	17-Nov-07	110-54-3	Hexane	0.0044	UG/L	0.0044	0	1
L	GS	SV-19-05	5	17-Nov-07	87-68-3	Hexachlorobutadiene	0.053	UG/L	0.053	0	1
L	GS	SV-19-05	5	17-Nov-07	100-41-4	Ethylbenzene	0.009	UG/L	0.009	1	1
L	GS	SV-19-05	5	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	UG/L	0.034	0	1
L	GS	SV-19-05	5	17-Nov-07	64-17-5	Ethanol	0.025	UG/L	0.025	1	1
L	GS	SV-19-05	5	17-Nov-07	103-65-1	n-Propylbenzene	0.0061	UG/L	0.0061	0	1
L	GS	SV-19-05	5	17-Nov-07	124-48-1	Dibromochloromethane	0.01	UG/L	0.01	0	1
L	GS	SV-19-05	5	17-Nov-07	110-82-7	Cyclohexane	0.0044	UG/L	0.0044	1	1
L	GS	SV-19-05	5	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	UG/L	0.0056	0	1
L	GS	SV-19-05	5	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0049	UG/L		0	1
L	GS	SV-19-05	5	17-Nov-07	74-87-3	Chloromethane	0.01	UG/L	0.01	0	1
L	GS	SV-19-05	5	17-Nov-07	67-66-3	Chloroform	0.006	UG/L	0.006	0	1
L	GS	SV-19-05	5	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.021	UG/L	0.021	0	1
L	GS	SV-19-05	5	17-Nov-07	109-99-9	Tetrahydrofuran	0.0036	UG/L	0.0036	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-19-05	5	17-Nov-07	75-01-4	Vinyl Chloride	0.0032	UG/L	0.0032	0	1
L	GS	SV-19-05	5	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
L	GS	SV-19-05	5	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0069	UG/L	0.0069	0	1
L	GS	SV-19-05	5	17-Nov-07	79-01-6	Trichloroethene	0.0066	UG/L	0.0066	0	1
L	GS	SV-19-05	5	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	UG/L	0.0056	0	1
L	GS	SV-19-05	5	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0049	UG/L	0.0049	0	1
L	GS	SV-19-05	5	17-Nov-07	91-20-3	Naphthalene	0.026	UG/L	0.026	0	1
L	GS	SV-19-05	5	17-Nov-07	108-88-3	Toluene	0.0046	UG/L	0.0046	0	1
L	GS	SV-19-05	5	17-Nov-07	142-82-5	n-Heptane	0.0079	UG/L	0.0079	1	1
L	GS	SV-19-05	5	17-Nov-07	127-18-4	Tetrachloroethene	0.0084	UG/L	0.0084	0	1
L	GS	SV-19-05	5	17-Nov-07	75-65-0	tert-Butyl alcohol	0.015	UG/L	0.015	0	1
L	GS	SV-19-05	5	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.021	UG/L	0.021	0	1
L	GS	SV-19-05	5	17-Nov-07	100-42-5	Styrene	0.0053	UG/L	0.0053	0	1
L	GS	SV-19-05	5	17-Nov-07	622-96-8	p-Ethyltoluene	0.0061	UG/L	0.0061	1	1
L	GS	SV-19-05	5	17-Nov-07	95-47-6	o-Xylene	0.0074	UG/L	0.0074	1	1
L	GS	SV-19-05	5	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0078	UG/L	0.0078	0	1
L	GS	SV-19-05	5	17-Nov-07		Toluene-d8	98	%		1	1
L	GS	SV-19-05	5	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.037	UG/L	0.037	0	1
L	GS	SV-19-05	5	17-Nov-07	75-00-3	Chloroethane	0.0032	UG/L	0.0032	0	1
L	GS	SV-19-05	5	17-Nov-07	78-87-5	1,2-Dichloropropane	0.0057	UG/L	0.0057	0	1
L	GS	SV-19-05	5	17-Nov-07		1,2-Dichloroethane-d4	101	%		1	1
L	GS	SV-19-05	5	17-Nov-07	107-06-2	1,2-Dichloroethane	0.005	UG/L	0.005	0	1
L	GS	SV-19-05	5	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
L	GS	SV-19-05	5	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	UG/L	0.0086	0	1
L	GS	SV-19-05	5	17-Nov-07	106-99-0	1,3-Butadiene	0.0027	UG/L	0.0027	0	1
L	GS	SV-19-05	5	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0083	UG/L	0.0083	1	1
L	GS	SV-19-05	5	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
L	GS	SV-19-05	5	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.03	UG/L	0.03	0	1
L	GS	SV-19-05	5	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0049	UG/L	0.0049	0	1
L	GS	SV-19-05	5	17-Nov-07	75-34-3	1,1-Dichloroethane	0.005	UG/L	0.005	0	1
L	GS	SV-19-05	5	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0067	UG/L	0.0067	0	1
L	GS	SV-19-05	5	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	UG/L	0.0095	0	1
L	GS	SV-19-05	5	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	UG/L	0.0085	0	1
L	GS	SV-19-05	5	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0067	UG/L	0.0067	0	1
L	GS	SV-19-05	5	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0095	UG/L	0.0095	0	1
L	GS	SV-19-05	5	17-Nov-07	67-64-1	Acetone	0.053	UG/L	0.053	1	1
L	GS	SV-19-05	5	17-Nov-07	75-09-2	Methylene Chloride	0.0043	UG/L	0.0043	0	1
L	GS	SV-19-05	5	17-Nov-07	75-15-0	Carbon Disulfide	0.0038	UG/L	0.0038	0	1
L	GS	SV-19-05	5	17-Nov-07	74-83-9	Bromomethane	0.0048	UG/L	0.0048	0	1
L	GS	SV-19-05	5	17-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
L	GS	SV-19-05	5	17-Nov-07	75-27-4	Bromodichloromethane	0.0083	UG/L	0.0083	0	1
L	GS	SV-19-05	5	17-Nov-07	100-44-7	Benzyl chloride	0.0064	UG/L	0.0064	0	1
L	GS	SV-19-05	5	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0061	UG/L	0.0061	0	1
L	GS	SV-19-05	5	17-Nov-07	107-05-1	Allyl chloride	0.015	UG/L	0.015	0	1
L	GS	SV-19-05	5	17-Nov-07	108-90-7	Chlorobenzene	0.0057	UG/L	0.0057	0	1
L	GS	SV-19-05	5	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.005	UG/L	0.005	0	1
L	GS	SV-19-05	5	17-Nov-07		4-Bromofluorobenzene	96	%		1	1
L	GS	SV-19-05	5	17-Nov-07	591-78-6	2-Hexanone	0.02	UG/L	0.02	0	1
L	GS	SV-19-05	5	17-Nov-07	78-93-3	2-Butanone	0.013	UG/L	0.013	1	1
L	GS	SV-19-05	5	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0058	UG/L	0.0058	0	1
L	GS	SV-19-05	5	17-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
L	GS	SV-19-05	5	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
L	GS	SV-19-05	5	17-Nov-07	71-43-2	Benzene	0.0039	UG/L	0.0039	0	1
L	GS	SV-19-05	5	17-Nov-07	179601-23-1	m,p-Xylenes	0.018	UG/L	0.018	1	1
L	GS	SV-19-15	15	17-Nov-07	64-17-5	Ethanol	0.042	UG/L	0.042	1	1
L	GS	SV-19-15	15	17-Nov-07	179601-23-1	m,p-Xylenes	0.0055	UG/L	0.0055	0	1
L	GS	SV-19-15	15	17-Nov-07	98-82-8	Isopropylbenzene	0.023	UG/L	0.023	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-19-15	15	17-Nov-07	108-20-3	Isopropyl ether	0.021	UG/L	0.021	0	1
L	GS	SV-19-15	15	17-Nov-07	67-63-0	Isopropyl alcohol	0.012	UG/L	0.012	0	1
L	GS	SV-19-15	15	17-Nov-07	110-54-3	Hexane	0.0044	UG/L	0.0044	0	1
L	GS	SV-19-15	15	17-Nov-07	87-68-3	Hexachlorobutadiene	0.054	UG/L	0.054	0	1
L	GS	SV-19-15	15	17-Nov-07	75-00-3	Chloroethane	0.0033	UG/L	0.0033	0	1
L	GS	SV-19-15	15	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.021	UG/L	0.021	0	1
L	GS	SV-19-15	15	17-Nov-07	91-20-3	Naphthalene	0.026	UG/L	0.026	0	1
L	GS	SV-19-15	15	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0062	UG/L	0.0062	0	1
L	GS	SV-19-15	15	17-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	1
L	GS	SV-19-15	15	17-Nov-07	110-82-7	Cyclohexane	0.0086	UG/L	0.0086	1	1
L	GS	SV-19-15	15	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	UG/L	0.0057	0	1
L	GS	SV-19-15	15	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.005	UG/L		0	1
L	GS	SV-19-15	15	17-Nov-07	74-87-3	Chloromethane	0.01	UG/L	0.01	0	1
L	GS	SV-19-15	15	17-Nov-07	67-66-3	Chloroform	0.022	UG/L	0.022	1	1
L	GS	SV-19-15	15	17-Nov-07	100-41-4	Ethylbenzene	0.0055	UG/L	0.0055	0	1
L	GS	SV-19-15	15	17-Nov-07	127-18-4	Tetrachloroethene	0.0086	UG/L	0.0086	0	1
L	GS	SV-19-15	15	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
L	GS	SV-19-15	15	17-Nov-07	75-01-4	Vinyl Chloride	0.0032	UG/L	0.0032	0	1
L	GS	SV-19-15	15	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0071	UG/L	0.0071	0	1
L	GS	SV-19-15	15	17-Nov-07	79-01-6	Trichloroethene	0.0068	UG/L	0.0068	0	1
L	GS	SV-19-15	15	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	UG/L	0.0057	0	1
L	GS	SV-19-15	15	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.005	UG/L	0.005	0	1
L	GS	SV-19-15	15	17-Nov-07		Toluene-d8	92	%		1	1
L	GS	SV-19-15	15	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0046	UG/L	0.0046	0	1
L	GS	SV-19-15	15	17-Nov-07	109-99-9	Tetrahydrofuran	0.0037	UG/L	0.0037	0	1
L	GS	SV-19-15	15	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	UG/L	0.035	0	1
L	GS	SV-19-15	15	17-Nov-07	75-65-0	tert-Butyl alcohol	0.015	UG/L	0.015	0	1
L	GS	SV-19-15	15	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.021	UG/L	0.021	0	1
L	GS	SV-19-15	15	17-Nov-07	100-42-5	Styrene	0.0054	UG/L	0.0054	0	1
L	GS	SV-19-15	15	17-Nov-07	622-96-8	p-Ethyltoluene	0.0062	UG/L	0.0062	0	1
L	GS	SV-19-15	15	17-Nov-07	95-47-6	o-Xylene	0.0055	UG/L	0.0055	0	1
L	GS	SV-19-15	15	17-Nov-07	103-65-1	n-Propylbenzene	0.028	UG/L	0.028	1	1
L	GS	SV-19-15	15	17-Nov-07	75-09-2	Methylene Chloride	0.0044	UG/L	0.0044	0	1
L	GS	SV-19-15	15	17-Nov-07	108-88-3	Toluene	0.0048	UG/L	0.0048	0	1
L	GS	SV-19-15	15	17-Nov-07	75-35-4	1,1-Dichloroethene	0.005	UG/L	0.005	0	1
L	GS	SV-19-15	15	17-Nov-07	106-99-0	1,3-Butadiene	0.0028	UG/L	0.0028	0	1
L	GS	SV-19-15	15	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0068	UG/L	0.0068	1	1
L	GS	SV-19-15	15	17-Nov-07	78-87-5	1,2-Dichloropropane	0.0058	UG/L	0.0058	0	1
L	GS	SV-19-15	15	17-Nov-07		1,2-Dichloroethane-d4	93	%		1	1
L	GS	SV-19-15	15	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0051	UG/L	0.0051	0	1
L	GS	SV-19-15	15	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
L	GS	SV-19-15	15	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	UG/L	0.0088	0	1
L	GS	SV-19-15	15	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
L	GS	SV-19-15	15	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.03	UG/L	0.03	0	1
L	GS	SV-19-15	15	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0097	UG/L	0.0097	0	1
L	GS	SV-19-15	15	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0051	UG/L	0.0051	0	1
L	GS	SV-19-15	15	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0069	UG/L	0.0069	0	1
L	GS	SV-19-15	15	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	UG/L	0.0097	0	1
L	GS	SV-19-15	15	17-Nov-07	108-90-7	Chlorobenzene	0.0058	UG/L	0.0058	0	1
L	GS	SV-19-15	15	17-Nov-07	142-82-5	n-Heptane	0.0056	UG/L	0.0056	1	1
L	GS	SV-19-15	15	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	UG/L	0.0087	0	1
L	GS	SV-19-15	15	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0069	UG/L	0.0069	0	1
L	GS	SV-19-15	15	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.033	UG/L	0.033	1	1
L	GS	SV-19-15	15	17-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	1
L	GS	SV-19-15	15	17-Nov-07	56-23-5	Carbon Tetrachloride	0.008	UG/L	0.008	0	1
L	GS	SV-19-15	15	17-Nov-07	75-15-0	Carbon Disulfide	0.055	UG/L	0.055	1	1
L	GS	SV-19-15	15	17-Nov-07	74-83-9	Bromomethane	0.0049	UG/L	0.0049	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	GS	SV-19-15	15	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.038	UG/L	0.038	0	1
L	GS	SV-19-15	15	17-Nov-07	75-27-4	Bromodichloromethane	0.0085	UG/L	0.0085	0	1
L	GS	SV-19-15	15	17-Nov-07	71-43-2	Benzene	0.004	UG/L	0.004	0	1
L	GS	SV-19-15	15	17-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
L	GS	SV-19-15	15	17-Nov-07	67-64-1	Acetone	0.036	UG/L	0.036	1	1
L	GS	SV-19-15	15	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
L	GS	SV-19-15	15	17-Nov-07		4-Bromofluorobenzene	99	%		1	1
L	GS	SV-19-15	15	17-Nov-07	591-78-6	2-Hexanone	0.021	UG/L	0.021	0	1
L	GS	SV-19-15	15	17-Nov-07	78-93-3	2-Butanone	0.0092	UG/L	0.0092	1	1
L	GS	SV-19-15	15	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0052	UG/L	0.0052	0	1
L	GS	SV-19-15	15	17-Nov-07	100-44-7	Benzyl chloride	0.0065	UG/L	0.0065	0	1
L	GS	SV-19-15	15	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0093	UG/L	0.0093	1	1
L	GS	SV-19-15	15	17-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
L	Soil	B-100-10	10		68476-30-2	TPHd			200	1	1
L	Soil	B-100-10	10		64742-47-8	TPHm			240	1	1
L	Soil	B-100-10	10		8006-61-9	TPHg			10	0	1
L	Soil	B-101-5	5		68476-30-2	TPHd			10	0	1
L	Soil	B-101-5	5		8006-61-9	TPHg			10	0	1
L	Soil	B-101-5	5		64742-47-8	TPHm			10	0	1
L	Soil	B-102-5	5		64742-47-8	TPHm			10	0	1
L	Soil	B-102-5	5		68476-30-2	TPHd			10	0	1
L	Soil	B-102-5	5		8006-61-9	TPHg			10	0	1
L	Soil	B-103-10	10		BaP TEQ	BaP TEQ			0.04075	1	1
L	Soil	B-103-10	10		64742-47-8	TPHm			1200	1	1
L	Soil	B-103-10	10		68476-30-2	TPHd			1000	1	1
L	Soil	B-103-10	10		8006-61-9	TPHg			10	0	1
L	Soil	B-104-5	5		BaP TEQ	BaP TEQ			0.141	0	1
L	Soil	B-104-5	5		68476-30-2	TPHd			6300	1	1
L	Soil	B-104-5	5		8006-61-9	TPHg			16	1	1
L	Soil	B-104-5	5		64742-47-8	TPHm			3400	1	1
L	Soil	B-109-5	5		68476-30-2	TPHd			23	1	1
L	Soil	B-109-5	5		8006-61-9	TPHg			10	0	1
L	Soil	B-109-5	5		64742-47-8	TPHm			10	1	1
L	Soil	B-110-10	10		68476-30-2	TPHd			870	1	1
L	Soil	B-110-10	10		8006-61-9	TPHg			160	1	1
L	Soil	B-110-10	10		64742-47-8	TPHm			400	1	1
L	Soil	B-118-5	5		8006-61-9	TPHg			10	0	1
L	Soil	B-118-5	5		68476-30-2	TPHd			10	0	1
L	Soil	B-118-5	5		64742-47-8	TPHm			10	0	1
L	Soil	B-119-10	10		64742-47-8	TPHm			10	0	1
L	Soil	B-119-10	10		68476-30-2	TPHd			10	0	1
L	Soil	B-119-10	10		8006-61-9	TPHg			10	0	1
L	Soil	B-120-5	5		64742-47-8	TPHm			22	1	1
L	Soil	B-120-5	5		8006-61-9	TPHg			10	0	1
L	Soil	B-120-5	5		68476-30-2	TPHd			10	0	1
L	Soil	B-121-10	10		68476-30-2	TPHd			10	0	1
L	Soil	B-121-10	10		8006-61-9	TPHg			10	0	1
L	Soil	B-121-10	10		64742-47-8	TPHm			10	0	1
L	Soil	B-121-5	5		68476-30-2	TPHd			10	0	1
L	Soil	B-121-5	5		64742-47-8	TPHm			10	0	1
L	Soil	B-121-5	5		8006-61-9	TPHg			10	0	1
L	Soil	B-124-10	10		64742-47-8	TPHm			140	1	1
L	Soil	B-124-10	10		68476-30-2	TPHd			430	1	1
L	Soil	B-124-10	10		8006-61-9	TPHg			110	1	1
L	Soil	B-124-5	5		68476-30-2	TPHd			3000	1	1
L	Soil	B-124-5	5		8006-61-9	TPHg			210	1	1
L	Soil	B-124-5	5		64742-47-8	TPHm			950	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	B-125-10	10		68476-30-2	TPHd			10	0	1
L	Soil	B-125-10	10		8006-61-9	TPHg			10	0	1
L	Soil	B-125-10	10		64742-47-8	TPHm			10	0	1
L	Soil	B-125-5	5		8006-61-9	TPHg			10	0	1
L	Soil	B-125-5	5		64742-47-8	TPHm			10	0	1
L	Soil	B-125-5	5		68476-30-2	TPHd			10	0	1
L	Soil	B-127-10	10		64742-47-8	TPHm			10	0	1
L	Soil	B-127-10	10		8006-61-9	TPHg			10	0	1
L	Soil	B-127-10	10		68476-30-2	TPHd			10	0	1
L	Soil	B-128-5	5		68476-30-2	TPHd			10	0	1
L	Soil	B-128-5	5		8006-61-9	TPHg			10	0	1
L	Soil	B-128-5	5		64742-47-8	TPHm			10	0	1
L	Soil	B-129-5	5		68476-30-2	TPHd			10	0	1
L	Soil	B-129-5	5		8006-61-9	TPHg			10	0	1
L	Soil	B-129-5	5		64742-47-8	TPHm			10	0	1
L	Soil	B-130-5	5		64742-47-8	TPHm			10	0	1
L	Soil	B-130-5	5		68476-30-2	TPHd			10	0	1
L	Soil	B-130-5	5		8006-61-9	TPHg			10	0	1
L	Soil	B-131-5	5		64742-47-8	TPHm			93	1	1
L	Soil	B-131-5	5		68476-30-2	TPHd			320	1	1
L	Soil	B-131-5	5		8006-61-9	TPHg			52	1	1
L	Soil	B-132-5	5		68476-30-2	TPHd			10	0	1
L	Soil	B-132-5	5		8006-61-9	TPHg			10	0	1
L	Soil	B-132-5	5		64742-47-8	TPHm			10	0	1
L	Soil	B-133-5	5		68476-30-2	TPHd			10	0	1
L	Soil	B-133-5	5		8006-61-9	TPHg			10	0	1
L	Soil	B-133-5	5		64742-47-8	TPHm			10	0	1
L	Soil	B-134-5	5		BaP TEQ	BaP TEQ			0.0185	1	1
L	Soil	B-134-5	5		64742-47-8	TPHm			230	1	1
L	Soil	B-134-5	5		8006-61-9	TPHg			10	0	1
L	Soil	B-134-5	5		68476-30-2	TPHd			130	1	1
L	Soil	B-135-5	5		8006-61-9	TPHg			10	0	1
L	Soil	B-135-5	5		64742-47-8	TPHm			62	1	1
L	Soil	B-135-5	5		68476-30-2	TPHd			32	1	1
L	Soil	B-169-5	5		68476-30-2	TPHd			10	0	1
L	Soil	B-169-5	5		8006-61-9	TPHg			10	0	1
L	Soil	B-169-5	5		64742-47-8	TPHm			10	0	1
L	Soil	B-196-5	5		BaP TEQ	BaP TEQ			14.1	0	1
L	Soil	B-196-5	5		64742-47-8	TPHm			12000	1	1
L	Soil	B-196-5	5		68476-30-2	TPHd			31000	1	1
L	Soil	B-196-5	5		8006-61-9	TPHg			250	1	1
L	Soil	B-205-10.5	10.5		64742-47-8	TPHm			10	0	1
L	Soil	B-205-10.5	10.5		68476-30-2	TPHd			10	0	1
L	Soil	B-205-10.5	10.5		8006-61-9	TPHg			10	0	1
L	Soil	B-96-5	5		BaP TEQ	BaP TEQ			0.03525	0	1
L	Soil	B-96-5	5		64742-47-8	TPHm			2500	1	1
L	Soil	B-96-5	5		68476-30-2	TPHd			3000	1	1
L	Soil	B-96-5	5		8006-61-9	TPHg			10	0	1
L	Soil	B-97-10	10		64742-47-8	TPHm			130	1	1
L	Soil	B-97-10	10		8006-61-9	TPHg			10	0	1
L	Soil	B-97-10	10		68476-30-2	TPHd			240	1	1
L	Soil	B-98-10	10		8006-61-9	TPHg			10	0	1
L	Soil	B-98-10	10		64742-47-8	TPHm			10	0	1
L	Soil	B-98-10	10		68476-30-2	TPHd			10	0	1
L	Soil	B-99-5	5		64742-47-8	TPHm			12	1	1
L	Soil	B-99-5	5		8006-61-9	TPHg			10	0	1
L	Soil	B-99-5	5		68476-30-2	TPHd			10	0	1

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	S-30-0.5	0.5		68476-30-2	TPHd			10	0	1
L	Soil	S-30-0.5	0.5		8006-61-9	TPHg			10	0	1
L	Soil	S-30-0.5	0.5		64742-47-8	TPHm			36	1	1
L	Soil	S-30-2.5	2.5		64742-47-8	TPHm			10	0	1
L	Soil	S-30-2.5	2.5		68476-30-2	TPHd			10	0	1
L	Soil	S-30-2.5	2.5		8006-61-9	TPHg			10	0	1
L	Soil	S-31-0.5	0.5		BaP TEQ	BaP TEQ			0.06354	1	1
L	Soil	S-31-0.5	0.5		68476-30-2	TPHd			150	1	1
L	Soil	S-31-0.5	0.5		8006-61-9	TPHg			10	0	1
L	Soil	S-31-0.5	0.5		64742-47-8	TPHm			600	1	1
L	Soil	S-31-2.5	2.5		68476-30-2	TPHd			12	1	1
L	Soil	S-31-2.5	2.5		8006-61-9	TPHg			10	0	1
L	Soil	S-31-2.5	2.5		64742-47-8	TPHm			51	1	1
L	Soil	S-33-0.5	0.5		BaP TEQ	BaP TEQ			0.20359	1	1
L	Soil	S-33-0.5	0.5		64742-47-8	TPHm			1600	1	1
L	Soil	S-33-0.5	0.5		68476-30-2	TPHd			520	1	1
L	Soil	S-33-0.5	0.5		8006-61-9	TPHg			10	0	1
L	Soil	S-33-2.5	2.5		64742-47-8	TPHm			10	0	1
L	Soil	S-33-2.5	2.5		8006-61-9	TPHg			10	0	1
L	Soil	S-33-2.5	2.5		68476-30-2	TPHd			10	0	1
L	Soil	S-34-0.5	0.5		68476-30-2	TPHd			10	0	1
L	Soil	S-34-0.5	0.5		8006-61-9	TPHg			10	0	1
L	Soil	S-34-0.5	0.5		64742-47-8	TPHm			10	0	1
L	Soil	S-34-2.5	2.5		BaP TEQ	BaP TEQ			0.04454	1	1
L	Soil	S-34-2.5	2.5		68476-30-2	TPHd			130	1	1
L	Soil	S-34-2.5	2.5		64742-47-8	TPHm			580	1	1
L	Soil	S-34-2.5	2.5		8006-61-9	TPHg			10	0	1
L	Soil	SP-9-10	10		64742-47-8	TPHm			10	0	1
L	Soil	SP-9-10	10		8006-61-9	TPHg			10	0	1
L	Soil	SP-9-10	10		68476-30-2	TPHd			10	0	1
L	Soil	T2A-1	1		68476-30-2	TPHd			150	1	1
L	Soil	T2A-1	1		8006-61-9	TPHg			0.51	0	1
L	Soil	T2A-1	1		64742-47-8	TPHm			1000	1	1
L	Soil	T2A-2	2		8006-61-9	TPHg			0.5	0	1
L	Soil	T2A-2	2		64742-47-8	TPHm			7400	1	1
L	Soil	T2A-2	2		68476-30-2	TPHd			1500	1	1
L	Soil	T2A-3	3		8006-61-9	TPHg			0.51	0	1
L	Soil	T2A-3	3		68476-30-2	TPHd			3100	1	1
L	Soil	T2A-3	3		64742-47-8	TPHm			6500	1	1
L	Soil	T2A-4	4		68476-30-2	TPHd			8600	1	1
L	Soil	T2A-4	4		64742-47-8	TPHm			6500	1	1
L	Soil	T2A-4	4		8006-61-9	TPHg			4.4	1	1
L	Soil	T2A-5	5		8006-61-9	TPHg			81	1	1
L	Soil	T2A-5	5		64742-47-8	TPHm			5500	1	1
L	Soil	T2A-5	5		68476-30-2	TPHd			7700	1	1
L	Soil	T2A-6	6		68476-30-2	TPHd			170	1	1
L	Soil	T2A-6	6		8006-61-9	TPHg			2.2	1	1
L	Soil	T2A-6	6		64742-47-8	TPHm			110	1	1
L	Soil	T2B-1	1		64742-47-8	TPHm			800	1	1
L	Soil	T2B-1	1		68476-30-2	TPHd			150	1	1
L	Soil	T2B-1	1		8006-61-9	TPHg			0.49	0	1
L	Soil	T2B-2	2		64742-47-8	TPHm			1500	1	1
L	Soil	T2B-2	2		68476-30-2	TPHd			420	1	1
L	Soil	T2B-2	2		8006-61-9	TPHg			0.5	0	1
L	Soil	T2B-3	3		68476-30-2	TPHd			7000	1	1
L	Soil	T2B-3	3		8006-61-9	TPHg			1.8	1	1
L	Soil	T2B-3	3		64742-47-8	TPHm			8500	1	1

Attachment 6
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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	T2B-4	4		8006-61-9	TPHg			0.5	0	1
L	Soil	T2B-4	4		68476-30-2	TPHd			580	1	1
L	Soil	T2B-4	4		64742-47-8	TPHm			870	1	1
L	Soil	T2B-5	5		8006-61-9	TPHg			32	1	1
L	Soil	T2B-5	5		64742-47-8	TPHm			840	1	1
L	Soil	T2B-5	5		68476-30-2	TPHd			850	1	1
L	Soil	T2B-6	6		68476-30-2	TPHd			590	1	1
L	Soil	T2B-6	6		8006-61-9	TPHg			2.7	1	1
L	Soil	T2B-6	6		64742-47-8	TPHm			280	1	1
L	Soil	T2C-1	1		64742-47-8	TPHm			2300	1	1
L	Soil	T2C-1	1		68476-30-2	TPHd			510	1	1
L	Soil	T2C-1	1		8006-61-9	TPHg			0.48	0	1
L	Soil	T2C-2	2		64742-47-8	TPHm			3000	1	1
L	Soil	T2C-2	2		68476-30-2	TPHd			650	1	1
L	Soil	T2C-2	2		8006-61-9	TPHg			0.49	0	1
L	Soil	T2C-3	3		68476-30-2	TPHd			16000	1	1
L	Soil	T2C-3	3		8006-61-9	TPHg			1000	1	1
L	Soil	T2C-3	3		64742-47-8	TPHm			8600	1	1
L	Soil	T2C-4	4		BaP TEQ	BaP TEQ			0.04083	1	1
L	Soil	T2C-4	4		64742-47-8	TPHm			3700	1	1
L	Soil	T2C-4	4		68476-30-2	TPHd			7300	1	1
L	Soil	T2C-4	4		8006-61-9	TPHg			420	1	1
L	Soil	T2C-5	5		68476-30-2	TPHd			490	1	1
L	Soil	T2C-5	5		64742-47-8	TPHm			160	1	1
L	Soil	T2C-5	5		8006-61-9	TPHg			35	1	1
L	Soil	T2C-6	6		BaP TEQ	BaP TEQ			0.0353	1	1
L	Soil	T2C-6	6		8006-61-9	TPHg			166	1	1
L	Soil	T2C-6	6		68476-30-2	TPHd			3800	1	1
L	Soil	T2C-6	6		64742-47-8	TPHm			1070	1	1
L	Soil	WL-5-1	0		BaP TEQ	BaP TEQ			0.003525	0	1
L	Soil	WL-5-1	0		68476-30-2	TPHd			13	1	1
L	Soil	WL-5-1	0		8006-61-9	TPHg			10	0	1
L	Soil	WL-5-1	0		64742-47-8	TPHm			59	1	1
L	Soil	WL-5-2	0		BaP TEQ	BaP TEQ			0.01613	1	1
L	Soil	WL-5-2	0		68476-30-2	TPHd			85	1	1
L	Soil	WL-5-2	0		8006-61-9	TPHg			10	0	1
L	Soil	WL-5-2	0		64742-47-8	TPHm			380	1	1
L	Soil	B-100-1	1	29-Aug-97	7439-92-1	Lead	9.3	mg/K	9.3	1	1
L	Soil	B-100-10	10	29-Aug-97		C25-C40	240	mg/K	240	1	1
L	Soil	B-100-10	10	29-Aug-97		C1-C40	440	mg/K	440	1	1
L	Soil	B-100-10	10	29-Aug-97		C10-C25	200	mg/K	200	1	1
L	Soil	B-100-10	10	29-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-100-10	10	29-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-100-10	10	29-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-100-10	10	29-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-100-10	10	29-Aug-97	71-43-2	Benzene	0.015	mg/K	0.015	1	1
L	Soil	B-101-1	1	29-Aug-97	7439-92-1	Lead	1.9	mg/K	1.9	1	1
L	Soil	B-101-5	5	29-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-101-5	5	29-Aug-97		C25-C40	10	mg/K	10	0	1
L	Soil	B-101-5	5	29-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-101-5	5	29-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-101-5	5	29-Aug-97		C1-C40	10	mg/K	10	0	1
L	Soil	B-101-5	5	29-Aug-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-101-5	5	29-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-101-5	5	29-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-102-1	1	28-Aug-97	7439-92-1	Lead	22	mg/K	22	1	1
L	Soil	B-102-5	5	28-Aug-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	B-102-5	5	28-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-102-5	5	28-Aug-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
L	Soil	B-102-5	5	28-Aug-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-102-5	5	28-Aug-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
L	Soil	B-102-5	5	28-Aug-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
L	Soil	B-102-5	5	28-Aug-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
L	Soil	B-102-5	5	28-Aug-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
L	Soil	B-102-5	5	28-Aug-97		C1-C40	10	mg/K	10	0	1
L	Soil	B-102-5	5	28-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-102-5	5	28-Aug-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
L	Soil	B-102-5	5	28-Aug-97		C25-C40	10	mg/K	10	0	1
L	Soil	B-102-5	5	28-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-102-5	5	28-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-102-5	5	28-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-103-10	10	29-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-103-10	10	29-Aug-97		C25-C40	1200	mg/K	1200	1	1
L	Soil	B-103-10	10	29-Aug-97	218-01-9	Chrysene	0.05	mg/K	0.05	0	1
L	Soil	B-103-10	10	29-Aug-97		C10-C25	1000	mg/K	1000	1	1
L	Soil	B-103-10	10	29-Aug-97	83-32-9	Acenaphthene	0.05	mg/K	0.05	0	1
L	Soil	B-103-10	10	29-Aug-97	207-08-9	Benzo(k)fluoranthene	0.05	mg/K	0.05	0	1
L	Soil	B-103-10	10	29-Aug-97	191-24-2	Benzo(g,h,i)perylene	0.05	mg/K	0.05	0	1
L	Soil	B-103-10	10	29-Aug-97	205-99-2	Benzo(b)fluoranthene	0.05	mg/K	0.05	0	1
L	Soil	B-103-10	10	29-Aug-97	50-32-8	Benzo(a)pyrene	0.05	mg/K	0.05	0	1
L	Soil	B-103-10	10	29-Aug-97	56-55-3	Benzo(a)anthracene	0.08	mg/K	0.08	1	1
L	Soil	B-103-10	10	29-Aug-97	71-43-2	Benzene	0.011	mg/K	0.011	1	1
L	Soil	B-103-10	10	29-Aug-97		C1-C40	2200	mg/K	2200	1	1
L	Soil	B-103-10	10	29-Aug-97	53-70-3	Dibenz(a,h)anthracene	0.05	mg/K	0.05	0	1
L	Soil	B-103-10	10	29-Aug-97	208-96-8	Acenaphthylene	0.05	mg/K	0.05	0	1
L	Soil	B-103-10	10	29-Aug-97	1330-20-7	Xylenes (total)	0.2	mg/K	0.2	1	1
L	Soil	B-103-10	10	29-Aug-97	120-12-7	Anthracene	0.05	mg/K	0.05	0	1
L	Soil	B-103-10	10	29-Aug-97	206-44-0	Fluoranthene	0.05	mg/K	0.05	0	1
L	Soil	B-103-10	10	29-Aug-97	86-73-7	Fluorene	0.05	mg/K	0.05	0	1
L	Soil	B-103-10	10	29-Aug-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/K	0.05	0	1
L	Soil	B-103-10	10	29-Aug-97	91-20-3	Naphthalene	0.06	mg/K	0.06	1	1
L	Soil	B-103-10	10	29-Aug-97	85-01-8	Phenanthrene	0.06	mg/K	0.06	1	1
L	Soil	B-103-10	10	29-Aug-97	129-00-0	Pyrene	0.05	mg/K	0.05	0	1
L	Soil	B-103-10	10	29-Aug-97	108-88-3	Toluene	0.037	mg/K	0.037	1	1
L	Soil	B-103-10	10	29-Aug-97	100-41-4	Ethylbenzene	0.042	mg/K	0.042	1	1
L	Soil	B-104-5	5	17-Sep-97	71-43-2	Benzene	0.007	mg/K	0.007	1	1
L	Soil	B-104-5	5	17-Sep-97		C1-C40	9716	mg/K	9716	1	1
L	Soil	B-104-5	5	17-Sep-97	7439-92-1	Lead	5.4	mg/K	5.4	1	1
L	Soil	B-104-5	5	17-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.2	mg/K	0.2	0	1
L	Soil	B-104-5	5	17-Sep-97	86-73-7	Fluorene	0.4	mg/K	0.4	1	1
L	Soil	B-104-5	5	17-Sep-97	206-44-0	Fluoranthene	0.2	mg/K	0.2	0	1
L	Soil	B-104-5	5	17-Sep-97	100-41-4	Ethylbenzene	0.042	mg/K	0.042	1	1
L	Soil	B-104-5	5	17-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.2	mg/K	0.2	0	1
L	Soil	B-104-5	5	17-Sep-97	7440-50-8	Copper	7.4	mg/K	7.4	1	1
L	Soil	B-104-5	5	17-Sep-97	7440-48-4	Cobalt	2.4	mg/K	2.4	1	1
L	Soil	B-104-5	5	17-Sep-97	218-01-9	Chrysene	0.2	mg/K	0.2	0	1
L	Soil	B-104-5	5	17-Sep-97	7440-47-3	Chromium	29	mg/K	29	1	1
L	Soil	B-104-5	5	17-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
L	Soil	B-104-5	5	17-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
L	Soil	B-104-5	5	17-Sep-97		C25-C40	3400	mg/K	3400	1	1
L	Soil	B-104-5	5	17-Sep-97	7440-39-3	Barium	59	mg/K	59	1	1
L	Soil	B-104-5	5	17-Sep-97		C10-C25	6300	mg/K	6300	1	1
L	Soil	B-104-5	5	17-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
L	Soil	B-104-5	5	17-Sep-97	207-08-9	Benzo(k)fluoranthene	0.2	mg/K	0.2	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	B-104-5	5	17-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.2	mg/K	0.2	0	1
L	Soil	B-104-5	5	17-Sep-97	205-99-2	Benzo(b)fluoranthene	0.2	mg/K	0.2	0	1
L	Soil	B-104-5	5	17-Sep-97	56-55-3	Benzo(a)anthracene	0.2	mg/K	0.2	0	1
L	Soil	B-104-5	5	17-Sep-97	83-32-9	Acenaphthene	0.2	mg/K	0.2	0	1
L	Soil	B-104-5	5	17-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
L	Soil	B-104-5	5	17-Sep-97	120-12-7	Anthracene	0.2	mg/K	0.2	0	1
L	Soil	B-104-5	5	17-Sep-97	208-96-8	Acenaphthylene	0.2	mg/K	0.2	0	1
L	Soil	B-104-5	5	17-Sep-97	50-32-8	Benzo(a)pyrene	0.2	mg/K	0.2	0	1
L	Soil	B-104-5	5	17-Sep-97		C4-C10	16	mg/K	16	1	1
L	Soil	B-104-5	5	17-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
L	Soil	B-104-5	5	17-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
L	Soil	B-104-5	5	17-Sep-97	7439-98-7	Molybdenum	1.7	mg/K	1.7	1	1
L	Soil	B-104-5	5	17-Sep-97	7440-66-6	Zinc	21	mg/K	21	1	1
L	Soil	B-104-5	5	17-Sep-97	1330-20-7	Xylenes (total)	0.14	mg/K	0.14	1	1
L	Soil	B-104-5	5	17-Sep-97	108-88-3	Toluene	0.061	mg/K	0.061	1	1
L	Soil	B-104-5	5	17-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
L	Soil	B-104-5	5	17-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
L	Soil	B-104-5	5	17-Sep-97	129-00-0	Pyrene	0.2	mg/K	0.2	0	1
L	Soil	B-104-5	5	17-Sep-97	85-01-8	Phenanthrene	0.8	mg/K	0.8	1	1
L	Soil	B-104-5	5	17-Sep-97	7440-02-0	Nickel	16	mg/K	16	1	1
L	Soil	B-104-5	5	17-Sep-97	91-20-3	Naphthalene	0.8	mg/K	0.8	1	1
L	Soil	B-104-5	5	17-Sep-97	7440-62-2	Vanadium	28	mg/K	28	1	1
L	Soil	B-109-5	5	17-Sep-97		C1-C40	33	mg/K	33	1	1
L	Soil	B-109-5	5	17-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-109-5	5	17-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-109-5	5	17-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-109-5	5	17-Sep-97		C25-C40	10	mg/K	10	1	1
L	Soil	B-109-5	5	17-Sep-97		C10-C25	23	mg/K	23	1	1
L	Soil	B-109-5	5	17-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-109-5	5	17-Sep-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-110-10	10	29-Aug-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
L	Soil	B-110-10	10	29-Aug-97		C10-C25	870	mg/K	870	1	1
L	Soil	B-110-10	10	29-Aug-97		C1-C40	1430	mg/K	1430	1	1
L	Soil	B-110-10	10	29-Aug-97		C25-C40	400	mg/K	400	1	1
L	Soil	B-110-10	10	29-Aug-97		C4-C10	160	mg/K	160	1	1
L	Soil	B-110-10	10	29-Aug-97	100-41-4	Ethylbenzene	0.3	mg/K	0.3	1	1
L	Soil	B-110-10	10	29-Aug-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
L	Soil	B-110-10	10	29-Aug-97	1330-20-7	Xylenes (total)	1.3	mg/K	1.3	1	1
L	Soil	B-118-5	5	29-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-118-5	5	29-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-118-5	5	29-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-118-5	5	29-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-118-5	5	29-Aug-97		C25-C40	10	mg/K	10	0	1
L	Soil	B-118-5	5	29-Aug-97		C1-C40	10	mg/K	10	0	1
L	Soil	B-118-5	5	29-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-118-5	5	29-Aug-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-119-10	10	02-Sep-97		C25-C40	10	mg/K	10	0	1
L	Soil	B-119-10	10	02-Sep-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-119-10	10	02-Sep-97		C1-C40	10	mg/K	10	0	1
L	Soil	B-119-10	10	02-Sep-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-119-10	10	02-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-119-10	10	02-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-119-10	10	02-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-119-10	10	02-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-119-5	5	02-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
L	Soil	B-119-5	5	02-Sep-97	7440-48-4	Cobalt	2	mg/K	2	1	1
L	Soil	B-119-5	5	02-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	B-119-5	5	02-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
L	Soil	B-119-5	5	02-Sep-97	7440-39-3	Barium	28	mg/K	28	1	1
L	Soil	B-119-5	5	02-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
L	Soil	B-119-5	5	02-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
L	Soil	B-119-5	5	02-Sep-97	7440-47-3	Chromium	13	mg/K	13	1	1
L	Soil	B-119-5	5	02-Sep-97	7440-50-8	Copper	4.2	mg/K	4.2	1	1
L	Soil	B-119-5	5	02-Sep-97	7439-92-1	Lead	2.2	mg/K	2.2	1	1
L	Soil	B-119-5	5	02-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
L	Soil	B-119-5	5	02-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
L	Soil	B-119-5	5	02-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
L	Soil	B-119-5	5	02-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
L	Soil	B-119-5	5	02-Sep-97	7440-62-2	Vanadium	8.8	mg/K	8.8	1	1
L	Soil	B-119-5	5	02-Sep-97	7440-66-6	Zinc	23	mg/K	23	1	1
L	Soil	B-119-5	5	02-Sep-97	7440-02-0	Nickel	12	mg/K	12	1	1
L	Soil	B-120-1	1	25-Aug-97	7439-92-1	Lead	5	mg/K	5	1	1
L	Soil	B-120-5	5	25-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-120-5	5	25-Aug-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-120-5	5	25-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-120-5	5	25-Aug-97		C25-C40	22	mg/K	22	1	1
L	Soil	B-120-5	5	25-Aug-97		C1-C40	22	mg/K	22	1	1
L	Soil	B-120-5	5	25-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-120-5	5	25-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-120-5	5	25-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-121-10	10	26-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-121-10	10	26-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-121-10	10	26-Aug-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-121-10	10	26-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-121-10	10	26-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-121-10	10	26-Aug-97		C1-C40	10	mg/K	10	0	1
L	Soil	B-121-10	10	26-Aug-97		C25-C40	10	mg/K	10	0	1
L	Soil	B-121-10	10	26-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-121-5	5	26-Aug-97		C1-C40	10	mg/K	10	0	1
L	Soil	B-121-5	5	26-Aug-97		C25-C40	10	mg/K	10	0	1
L	Soil	B-121-5	5	26-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-121-5	5	26-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-121-5	5	26-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-121-5	5	26-Aug-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-121-5	5	26-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-121-5	5	26-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-124-10	10	26-Aug-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
L	Soil	B-124-10	10	26-Aug-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
L	Soil	B-124-10	10	26-Aug-97	1330-20-7	Xylenes (total)	1.6	mg/K	1.6	1	1
L	Soil	B-124-10	10	26-Aug-97	100-41-4	Ethylbenzene	0.1	mg/K	0.1	0	1
L	Soil	B-124-10	10	26-Aug-97		C25-C40	140	mg/K	140	1	1
L	Soil	B-124-10	10	26-Aug-97		C10-C25	430	mg/K	430	1	1
L	Soil	B-124-10	10	26-Aug-97		C1-C40	680	mg/K	680	1	1
L	Soil	B-124-10	10	26-Aug-97		C4-C10	110	mg/K	110	1	1
L	Soil	B-124-5	5	26-Aug-97	12672-29-6	Aroclor 1248	0.2	mg/K	0.2	0	1
L	Soil	B-124-5	5	26-Aug-97	108-88-3	Toluene	0.1	mg/K	0.1	0	1
L	Soil	B-124-5	5	26-Aug-97	100-41-4	Ethylbenzene	0.2	mg/K	0.2	1	1
L	Soil	B-124-5	5	26-Aug-97		C4-C10	210	mg/K	210	1	1
L	Soil	B-124-5	5	26-Aug-97		C25-C40	950	mg/K	950	1	1
L	Soil	B-124-5	5	26-Aug-97		C1-C40	4160	mg/K	4160	1	1
L	Soil	B-124-5	5	26-Aug-97		C10-C25	3000	mg/K	3000	1	1
L	Soil	B-124-5	5	26-Aug-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
L	Soil	B-124-5	5	26-Aug-97	11097-69-1	Aroclor 1254	0.2	mg/K	0.2	0	1
L	Soil	B-124-5	5	26-Aug-97	53469-21-9	Aroclor 1242	0.2	mg/K	0.2	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	B-124-5	5	26-Aug-97	11141-16-5	Aroclor 1232	0.2	mg/K	0.2	0	1
L	Soil	B-124-5	5	26-Aug-97	11104-28-2	Aroclor 1221	0.2	mg/K	0.2	0	1
L	Soil	B-124-5	5	26-Aug-97	12674-11-2	Aroclor 1016	0.2	mg/K	0.2	0	1
L	Soil	B-124-5	5	26-Aug-97	1330-20-7	Xylenes (total)	0.9	mg/K	0.9	1	1
L	Soil	B-124-5	5	26-Aug-97	11096-82-5	Aroclor 1260	0.2	mg/K	0.2	0	1
L	Soil	B-125-10	10	26-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-125-10	10	26-Aug-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-125-10	10	26-Aug-97		C1-C40	10	mg/K	10	0	1
L	Soil	B-125-10	10	26-Aug-97		C25-C40	10	mg/K	10	0	1
L	Soil	B-125-10	10	26-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-125-10	10	26-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-125-10	10	26-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-125-10	10	26-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-125-5	5	26-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-125-5	5	26-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-125-5	5	26-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-125-5	5	26-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-125-5	5	26-Aug-97		C25-C40	10	mg/K	10	0	1
L	Soil	B-125-5	5	26-Aug-97		C1-C40	10	mg/K	10	0	1
L	Soil	B-125-5	5	26-Aug-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-125-5	5	26-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-127-10	10	26-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-127-10	10	26-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-127-10	10	26-Aug-97		C1-C40	10	mg/K	10	0	1
L	Soil	B-127-10	10	26-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-127-10	10	26-Aug-97		C25-C40	10	mg/K	10	0	1
L	Soil	B-127-10	10	26-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-127-10	10	26-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-127-10	10	26-Aug-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-128-0.5	0.5	25-Aug-97	7439-92-1	Lead	11	mg/K	11	1	1
L	Soil	B-128-5	5	25-Aug-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
L	Soil	B-128-5	5	25-Aug-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
L	Soil	B-128-5	5	25-Aug-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
L	Soil	B-128-5	5	25-Aug-97		C1-C40	10	mg/K	10	0	1
L	Soil	B-128-5	5	25-Aug-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
L	Soil	B-128-5	5	25-Aug-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
L	Soil	B-128-5	5	25-Aug-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-128-5	5	25-Aug-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
L	Soil	B-128-5	5	25-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-128-5	5	25-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-128-5	5	25-Aug-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
L	Soil	B-128-5	5	25-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-128-5	5	25-Aug-97		C25-C40	10	mg/K	10	0	1
L	Soil	B-128-5	5	25-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-128-5	5	25-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-129-0.5	0.5	25-Aug-97	7439-92-1	Lead	3.8	mg/K	3.8	1	1
L	Soil	B-129-5	5	25-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-129-5	5	25-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-129-5	5	25-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-129-5	5	25-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-129-5	5	25-Aug-97		C25-C40	10	mg/K	10	0	1
L	Soil	B-129-5	5	25-Aug-97		C1-C40	10	mg/K	10	0	1
L	Soil	B-129-5	5	25-Aug-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-129-5	5	25-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-130-1	1	25-Aug-97	7439-92-1	Lead	2.7	mg/K	2.7	1	1
L	Soil	B-130-5	5	25-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-130-5	5	25-Aug-97	7439-92-1	Lead	2.9	mg/K	2.9	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	B-130-5	5	25-Aug-97	7440-50-8	Copper	3.5	mg/K	3.5	1	1
L	Soil	B-130-5	5	25-Aug-97	7440-48-4	Cobalt	2.7	mg/K	2.7	1	1
L	Soil	B-130-5	5	25-Aug-97	7440-47-3	Chromium	9.9	mg/K	9.9	1	1
L	Soil	B-130-5	5	25-Aug-97	7440-43-9	Cadmium	1	mg/K	1	0	1
L	Soil	B-130-5	5	25-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-130-5	5	25-Aug-97		C25-C40	10	mg/K	10	0	1
L	Soil	B-130-5	5	25-Aug-97		C1-C40	10	mg/K	10	0	1
L	Soil	B-130-5	5	25-Aug-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
L	Soil	B-130-5	5	25-Aug-97	7440-41-7	Beryllium	0.7	mg/K	0.7	1	1
L	Soil	B-130-5	5	25-Aug-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
L	Soil	B-130-5	5	25-Aug-97	7440-39-3	Barium	180	mg/K	180	1	1
L	Soil	B-130-5	5	25-Aug-97	7440-38-2	Arsenic	5	mg/K	5	0	1
L	Soil	B-130-5	5	25-Aug-97	7440-36-0	Antimony	5	mg/K	5	0	1
L	Soil	B-130-5	5	25-Aug-97	7440-22-4	Silver	1	mg/K	1	0	1
L	Soil	B-130-5	5	25-Aug-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-130-5	5	25-Aug-97	7440-28-0	Thallium	5	mg/K	5	0	1
L	Soil	B-130-5	5	25-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-130-5	5	25-Aug-97	7440-62-2	Vanadium	8.2	mg/K	8.2	1	1
L	Soil	B-130-5	5	25-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-130-5	5	25-Aug-97	7440-66-6	Zinc	17	mg/K	17	1	1
L	Soil	B-130-5	5	25-Aug-97	7782-49-2	Selenium	5	mg/K	5	0	1
L	Soil	B-130-5	5	25-Aug-97	7440-02-0	Nickel	5.2	mg/K	5.2	1	1
L	Soil	B-130-5	5	25-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-131-1	1	26-Aug-97	7439-92-1	Lead	3.9	mg/K	3.9	1	1
L	Soil	B-131-5	5	26-Aug-97		C4-C10	52	mg/K	52	1	1
L	Soil	B-131-5	5	26-Aug-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
L	Soil	B-131-5	5	26-Aug-97		C10-C25	320	mg/K	320	1	1
L	Soil	B-131-5	5	26-Aug-97		C25-C40	93	mg/K	93	1	1
L	Soil	B-131-5	5	26-Aug-97	100-41-4	Ethylbenzene	0.1	mg/K	0.1	1	1
L	Soil	B-131-5	5	26-Aug-97	108-88-3	Toluene	0.2	mg/K	0.2	1	1
L	Soil	B-131-5	5	26-Aug-97	1330-20-7	Xylenes (total)	0.8	mg/K	0.8	1	1
L	Soil	B-131-5	5	26-Aug-97		C1-C40	465	mg/K	465	1	1
L	Soil	B-132-1	1	25-Aug-97	7439-92-1	Lead	2.6	mg/K	2.6	1	1
L	Soil	B-132-5	5	25-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-132-5	5	25-Aug-97		C25-C40	10	mg/K	10	0	1
L	Soil	B-132-5	5	25-Aug-97		C1-C40	10	mg/K	10	0	1
L	Soil	B-132-5	5	25-Aug-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-132-5	5	25-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-132-5	5	25-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-132-5	5	25-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-132-5	5	25-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-133-1	1	26-Aug-97	7439-92-1	Lead	2.6	mg/K	2.6	1	1
L	Soil	B-133-5	5	26-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-133-5	5	26-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-133-5	5	26-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-133-5	5	26-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-133-5	5	26-Aug-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-133-5	5	26-Aug-97		C1-C40	10	mg/K	10	0	1
L	Soil	B-133-5	5	26-Aug-97		C25-C40	10	mg/K	10	0	1
L	Soil	B-133-5	5	26-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-134-1	1	25-Aug-97	7439-92-1	Lead	30	mg/K	30	1	1
L	Soil	B-134-5	5	25-Aug-97	129-00-0	Pyrene	0.04	mg/K	0.04	1	1
L	Soil	B-134-5	5	25-Aug-97		C25-C40	230	mg/K	230	1	1
L	Soil	B-134-5	5	25-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-134-5	5	25-Aug-97	218-01-9	Chrysene	0.05	mg/K	0.05	1	1
L	Soil	B-134-5	5	25-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-134-5	5	25-Aug-97	86-73-7	Fluorene	0.02	mg/K	0.02	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	B-134-5	5	25-Aug-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.02	mg/K	0.02	0	1
L	Soil	B-134-5	5	25-Aug-97		C1-C40	360	mg/K	360	1	1
L	Soil	B-134-5	5	25-Aug-97	85-01-8	Phenanthrene	0.02	mg/K	0.02	0	1
L	Soil	B-134-5	5	25-Aug-97	53-70-3	Dibenz(a,h)anthracene	0.02	mg/K	0.02	0	1
L	Soil	B-134-5	5	25-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-134-5	5	25-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-134-5	5	25-Aug-97	91-20-3	Naphthalene	0.02	mg/K	0.02	0	1
L	Soil	B-134-5	5	25-Aug-97	208-96-8	Acenaphthylene	0.02	mg/K	0.02	0	1
L	Soil	B-134-5	5	25-Aug-97		C10-C25	130	mg/K	130	1	1
L	Soil	B-134-5	5	25-Aug-97	206-44-0	Fluoranthene	0.02	mg/K	0.02	0	1
L	Soil	B-134-5	5	25-Aug-97	120-12-7	Anthracene	0.02	mg/K	0.02	0	1
L	Soil	B-134-5	5	25-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-134-5	5	25-Aug-97	56-55-3	Benzo(a)anthracene	0.02	mg/K	0.02	1	1
L	Soil	B-134-5	5	25-Aug-97	83-32-9	Acenaphthene	0.02	mg/K	0.02	0	1
L	Soil	B-134-5	5	25-Aug-97	50-32-8	Benzo(a)pyrene	0.02	mg/K	0.02	0	1
L	Soil	B-134-5	5	25-Aug-97	205-99-2	Benzo(b)fluoranthene	0.04	mg/K	0.04	1	1
L	Soil	B-134-5	5	25-Aug-97	191-24-2	Benzo(g,h,i)perylene	0.02	mg/K	0.02	0	1
L	Soil	B-134-5	5	25-Aug-97	207-08-9	Benzo(k)fluoranthene	0.02	mg/K	0.02	0	1
L	Soil	B-135-0.5	0.5	25-Aug-97	7439-92-1	Lead	9.7	mg/K	9.7	1	1
L	Soil	B-135-5	5	25-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-135-5	5	25-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-135-5	5	25-Aug-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-135-5	5	25-Aug-97		C25-C40	62	mg/K	62	1	1
L	Soil	B-135-5	5	25-Aug-97		C1-C40	94	mg/K	94	1	1
L	Soil	B-135-5	5	25-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-135-5	5	25-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-135-5	5	25-Aug-97		C10-C25	32	mg/K	32	1	1
L	Soil	B-96-5	5	11-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
L	Soil	B-96-5	5	11-Sep-97	218-01-9	Chrysene	0.05	mg/K	0.05	0	1
L	Soil	B-96-5	5	11-Sep-97	7440-47-3	Chromium	29	mg/K	29	1	1
L	Soil	B-96-5	5	11-Sep-97	7440-50-8	Copper	4.7	mg/K	4.7	1	1
L	Soil	B-96-5	5	11-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.05	mg/K	0.05	0	1
L	Soil	B-96-5	5	11-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-96-5	5	11-Sep-97	206-44-0	Fluoranthene	0.05	mg/K	0.05	0	1
L	Soil	B-96-5	5	11-Sep-97	86-73-7	Fluorene	0.05	mg/K	0.05	0	1
L	Soil	B-96-5	5	11-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/K	0.05	0	1
L	Soil	B-96-5	5	11-Sep-97	7439-92-1	Lead	5.5	mg/K	5.5	1	1
L	Soil	B-96-5	5	11-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
L	Soil	B-96-5	5	11-Sep-97	7440-48-4	Cobalt	2.6	mg/K	2.6	1	1
L	Soil	B-96-5	5	11-Sep-97	91-20-3	Naphthalene	0.05	mg/K	0.05	0	1
L	Soil	B-96-5	5	11-Sep-97	7440-02-0	Nickel	14	mg/K	14	1	1
L	Soil	B-96-5	5	11-Sep-97	85-01-8	Phenanthrene	0.05	mg/K	0.05	0	1
L	Soil	B-96-5	5	11-Sep-97	129-00-0	Pyrene	0.05	mg/K	0.05	0	1
L	Soil	B-96-5	5	11-Sep-97	7440-66-6	Zinc	22	mg/K	22	1	1
L	Soil	B-96-5	5	11-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-96-5	5	11-Sep-97	7440-62-2	Vanadium	24	mg/K	24	1	1
L	Soil	B-96-5	5	11-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-96-5	5	11-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
L	Soil	B-96-5	5	11-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
L	Soil	B-96-5	5	11-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-96-5	5	11-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
L	Soil	B-96-5	5	11-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
L	Soil	B-96-5	5	11-Sep-97	7440-39-3	Barium	51	mg/K	51	1	1
L	Soil	B-96-5	5	11-Sep-97	208-96-8	Acenaphthylene	0.05	mg/K	0.05	0	1
L	Soil	B-96-5	5	11-Sep-97	120-12-7	Anthracene	0.05	mg/K	0.05	0	1
L	Soil	B-96-5	5	11-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
L	Soil	B-96-5	5	11-Sep-97	83-32-9	Acenaphthene	0.05	mg/K	0.05	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	B-96-5	5	11-Sep-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-96-5	5	11-Sep-97	56-55-3	Benzo(a)anthracene	0.05	mg/K	0.05	0	1
L	Soil	B-96-5	5	11-Sep-97	50-32-8	Benzo(a)pyrene	0.05	mg/K	0.05	0	1
L	Soil	B-96-5	5	11-Sep-97		C25-C40	2500	mg/K	2500	1	1
L	Soil	B-96-5	5	11-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.05	mg/K	0.05	0	1
L	Soil	B-96-5	5	11-Sep-97	207-08-9	Benzo(k)fluoranthene	0.05	mg/K	0.05	0	1
L	Soil	B-96-5	5	11-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
L	Soil	B-96-5	5	11-Sep-97		C10-C25	3000	mg/K	3000	1	1
L	Soil	B-96-5	5	11-Sep-97		C1-C40	5500	mg/K	5500	1	1
L	Soil	B-96-5	5	11-Sep-97	205-99-2	Benzo(b)fluoranthene	0.05	mg/K	0.05	0	1
L	Soil	B-96-5	5	11-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
L	Soil	B-97-1	1	02-Sep-97	7439-92-1	Lead	3.1	mg/K	3.1	1	1
L	Soil	B-97-10	10	02-Sep-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
L	Soil	B-97-10	10	02-Sep-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
L	Soil	B-97-10	10	02-Sep-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
L	Soil	B-97-10	10	02-Sep-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
L	Soil	B-97-10	10	02-Sep-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
L	Soil	B-97-10	10	02-Sep-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
L	Soil	B-97-10	10	02-Sep-97	71-43-2	Benzene	0.008	mg/K	0.008	1	1
L	Soil	B-97-10	10	02-Sep-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
L	Soil	B-97-10	10	02-Sep-97		C1-C40	370	mg/K	370	1	1
L	Soil	B-97-10	10	02-Sep-97		C25-C40	130	mg/K	130	1	1
L	Soil	B-97-10	10	02-Sep-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-97-10	10	02-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-97-10	10	02-Sep-97		C10-C25	240	mg/K	240	1	1
L	Soil	B-97-10	10	02-Sep-97	1330-20-7	Xylenes (total)	0.018	mg/K	0.018	1	1
L	Soil	B-97-10	10	02-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-98-1	1	02-Sep-97	7439-92-1	Lead	73	mg/K	73	1	1
L	Soil	B-98-10	10	02-Sep-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-98-10	10	02-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-98-10	10	02-Sep-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-98-10	10	02-Sep-97		C25-C40	10	mg/K	10	0	1
L	Soil	B-98-10	10	02-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-98-10	10	02-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-98-10	10	02-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-98-10	10	02-Sep-97		C1-C40	10	mg/K	10	0	1
L	Soil	B-99-1	1	02-Sep-97	7439-92-1	Lead	48	mg/K	48	1	1
L	Soil	B-99-5	5	02-Sep-97		C1-C40	12	mg/K	12	1	1
L	Soil	B-99-5	5	02-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	B-99-5	5	02-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-99-5	5	02-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-99-5	5	02-Sep-97		C25-C40	12	mg/K	12	1	1
L	Soil	B-99-5	5	02-Sep-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-99-5	5	02-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-99-5	5	02-Sep-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-169-5	5	19-Nov-97		C10-C25	10	mg/K	10	0	1
L	Soil	B-169-5	5	19-Nov-97		C1-C40	10	mg/K	10	0	1
L	Soil	B-169-5	5	19-Nov-97		C25-C40	10	mg/K	10	0	1
L	Soil	B-169-5	5	19-Nov-97		C4-C10	10	mg/K	10	0	1
L	Soil	B-169-5	5	19-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
L	Soil	B-169-5	5	19-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
L	Soil	B-169-5	5	19-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
L	Soil	B-169-5	5	19-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
L	Soil	113624-1a-0.5	0.5	26-Jun-98	7439-92-1	Lead	34	mg/k	34	1	1
L	Soil	113624-2a-0.5	0.5	26-Jun-98	7439-92-1	Lead	120	mg/k	120	1	1
L	Soil	113624-3a-0.5	0.5	26-Jun-98	7439-92-1	Lead	64	mg/k	64	1	1
L	Soil	113626-1a-0.5	0.5	26-Jun-98	7439-92-1	Lead	75	mg/k	75	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	113626-2a-0.5	0.5	26-Jun-98	7439-92-1	Lead	36	mg/k	36	1	1
L	Soil	113626-3a-0.5	0.5	26-Jun-98	7439-92-1	Lead	37	mg/k	37	1	1
L	Soil	120636-1a-0.5	0.5	26-Jun-98	7439-92-1	Lead	690	mg/k	690	1	1
L	Soil	120636-2a-0.5	0.5	26-Jun-98	7439-92-1	Lead	65	mg/k	65	1	1
L	Soil	120636-3a-0.5	0.5	26-Jun-98	7439-92-1	Lead	420	mg/k	420	1	1
L	Soil	135628-1a-0.5	0.5	26-Jun-98	7439-92-1	Lead	34	mg/k	34	1	1
L	Soil	135628-2a-0.5	0.5	26-Jun-98	7439-92-1	Lead	11	mg/k	11	1	1
L	Soil	135628-3a-0.5	0.5	26-Jun-98	7439-92-1	Lead	9	mg/k	9	1	1
L	Soil	B-196-5	5	01-Jul-99	127-18-4	Tetrachloroethene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	75-00-3	Chloroethane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	100-41-4	Ethylbenzene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	34077-87-7	Dichlorotrifluoroethane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	75-71-8	Dichlorodifluoromethane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	74-95-3	Dibromomethane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	124-48-1	Dibromochloromethane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	53-70-3	Dibenz(a,h)anthracene	20	mg/K	20	0	1
L	Soil	B-196-5	5	01-Jul-99	7440-50-8	Copper	5.7	mg/K	5.7	1	1
L	Soil	B-196-5	5	01-Jul-99	7440-48-4	Cobalt	1.4	mg/K	1.4	1	1
L	Soil	B-196-5	5	01-Jul-99	10061-01-5	cis-1,3-Dichloropropene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	156-59-2	cis-1,2-Dichloroethene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	218-01-9	Chrysene	20	mg/K	20	0	1
L	Soil	B-196-5	5	01-Jul-99	7440-47-3	Chromium	14	mg/K	14	1	1
L	Soil	B-196-5	5	01-Jul-99	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
L	Soil	B-196-5	5	01-Jul-99	67-66-3	Chloroform	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	87-68-3	Hexachlorobutadiene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	108-90-7	Chlorobenzene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	56-23-5	Carbon tetrachloride	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	7440-43-9	Cadmium	1	mg/K	1	0	1
L	Soil	B-196-5	5	01-Jul-99		C4-C10	250	mg/K	250	1	1
L	Soil	B-196-5	5	01-Jul-99		C25-C40	12000	mg/K	12000	1	1
L	Soil	B-196-5	5	01-Jul-99		C1-C40	43250	mg/K	43250	1	1
L	Soil	B-196-5	5	01-Jul-99		C10-C25	31000	mg/K	31000	1	1
L	Soil	B-196-5	5	01-Jul-99	74-83-9	Bromomethane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	75-25-2	Bromoform	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	75-27-4	Bromodichloromethane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	74-97-5	Bromochloromethane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	108-86-1	Bromobenzene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	74-87-3	Chloromethane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	135-98-8	sec-Butylbenzene	1.3	mg/K	1.3	1	1
L	Soil	B-196-5	5	01-Jul-99	100-42-5	Styrene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	7440-66-6	Zinc	15	mg/K	15	1	1
L	Soil	B-196-5	5	01-Jul-99	1330-20-7	Xylenes (total)	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	75-01-4	Vinyl chloride	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	7440-62-2	Vanadium	14	mg/K	14	1	1
L	Soil	B-196-5	5	01-Jul-99	75-69-4	Trichlorofluoromethane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	79-01-6	Trichloroethene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	10061-02-6	trans-1,3-Dichloropropene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	156-60-5	trans-1,2-Dichloroethene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	108-88-3	Toluene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1
L	Soil	B-196-5	5	01-Jul-99	98-06-6	tert-Butylbenzene	0.1	mg/K	0.1	1	1
L	Soil	B-196-5	5	01-Jul-99	206-44-0	Fluoranthene	20	mg/K	20	0	1
L	Soil	B-196-5	5	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
L	Soil	B-196-5	5	01-Jul-99	86-73-7	Fluorene	20	mg/K	20	0	1
L	Soil	B-196-5	5	01-Jul-99	129-00-0	Pyrene	20	mg/K	20	0	1
L	Soil	B-196-5	5	01-Jul-99	99-87-6	p-Isopropyltoluene	0.6	mg/K	0.6	1	1
L	Soil	B-196-5	5	01-Jul-99	85-01-8	Phenanthrene	20	mg/K	20	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	B-196-5	5	01-Jul-99	103-65-1	n-Propylbenzene	2.1	mg/K	2.1	1	1
L	Soil	B-196-5	5	01-Jul-99	7440-02-0	Nickel	11	mg/K	11	1	1
L	Soil	B-196-5	5	01-Jul-99	104-51-8	n-Butylbenzene	1.5	mg/K	1.5	1	1
L	Soil	B-196-5	5	01-Jul-99	91-20-3	Naphthalene	20	mg/K	20	0	0
L	Soil	B-196-5	5	01-Jul-99	91-20-3	Naphthalene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	7439-98-7	Molybdenum	1	mg/K	1	0	1
L	Soil	B-196-5	5	01-Jul-99	75-09-2	Methylene chloride	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	98-82-8	Isopropylbenzene	1.4	mg/K	1.4	1	1
L	Soil	B-196-5	5	01-Jul-99	193-39-5	Indeno(1,2,3-cd)pyrene	20	mg/K	20	0	1
L	Soil	B-196-5	5	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
L	Soil	B-196-5	5	01-Jul-99	563-58-6	1,1-Dichloropropene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	78-87-5	1,2-Dichloropropane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	107-06-2	1,2-Dichloroethane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	95-50-1	1,2-Dichlorobenzene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	106-93-4	1,2-Dibromoethane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	96-12-8	1,2-Dibromo-3-chloropropane	0.2	mg/K	0.2	0	1
L	Soil	B-196-5	5	01-Jul-99	95-63-6	1,2,4-Trimethylbenzene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	120-82-1	1,2,4-Trichlorobenzene	0.2	mg/K	0.2	0	1
L	Soil	B-196-5	5	01-Jul-99	108-67-8	1,3,5-Trimethylbenzene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	87-61-6	1,2,3-Trichlorobenzene	0.2	mg/K	0.2	0	1
L	Soil	B-196-5	5	01-Jul-99	71-55-6	1,1,1-Trichloroethane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	75-35-4	1,1-Dichloroethene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	75-34-3	1,1-Dichloroethane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	79-00-5	1,1,2-Trichloroethane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	79-34-5	1,1,2,2-Tetrachloroethane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	630-20-6	1,1,1,2-Tetrachloroethane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	207-08-9	Benzo(k)fluoranthene	20	mg/K	20	0	1
L	Soil	B-196-5	5	01-Jul-99	7439-92-1	Lead	2.4	mg/K	2.4	1	1
L	Soil	B-196-5	5	01-Jul-99	96-18-4	1,2,3-Trichloropropane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	120-12-7	Anthracene	20	mg/K	20	0	1
L	Soil	B-196-5	5	01-Jul-99	541-73-1	1,3-Dichlorobenzene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	50-32-8	Benzo(a)pyrene	20	mg/K	20	0	1
L	Soil	B-196-5	5	01-Jul-99	56-55-3	Benzo(a)anthracene	20	mg/K	20	0	1
L	Soil	B-196-5	5	01-Jul-99	205-99-2	Benzo(b)fluoranthene	20	mg/K	20	0	1
L	Soil	B-196-5	5	01-Jul-99	71-43-2	Benzene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	191-24-2	Benzo(g,h,i)perylene	20	mg/K	20	0	1
L	Soil	B-196-5	5	01-Jul-99	7440-39-3	Barium	54	mg/K	54	1	1
L	Soil	B-196-5	5	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1
L	Soil	B-196-5	5	01-Jul-99	208-96-8	Acenaphthylene	20	mg/K	20	0	1
L	Soil	B-196-5	5	01-Jul-99	83-32-9	Acenaphthene	20	mg/K	20	0	1
L	Soil	B-196-5	5	01-Jul-99	106-43-4	4-Chlorotoluene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	95-49-8	2-Chlorotoluene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	110-75-8	2-Chloroethyl vinyl ether	0.2	mg/K	0.2	0	1
L	Soil	B-196-5	5	01-Jul-99	594-20-7	2,2-Dichloropropane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	106-46-7	1,4-Dichlorobenzene	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	142-28-9	1,3-Dichloropropane	0.1	mg/K	0.1	0	1
L	Soil	B-196-5	5	01-Jul-99	7440-38-2	Arsenic	1.4	mg/K	1.4	1	1
L	Soil	B-205-10.5	10.5	26-Feb-01		C1-C40	10	mg/K	10	0	1
L	Soil	B-205-10.5	10.5	26-Feb-01		C10-C25	10	mg/k	10	0	1
L	Soil	B-205-10.5	10.5	26-Feb-01	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	B-205-10.5	10.5	26-Feb-01	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
L	Soil	B-205-10.5	10.5	26-Feb-01		C4-C10	10	mg/k	10	0	1
L	Soil	B-205-10.5	10.5	26-Feb-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
L	Soil	B-205-10.5	10.5	26-Feb-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
L	Soil	B-205-10.5	10.5	26-Feb-01		C25-C40	10	mg/k	10	0	1
L	Soil	SP-9-10	10	05-Mar-01		C1-C40	10	mg/K	10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	SP-9-10	10	05-Mar-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
L	Soil	SP-9-10	10	05-Mar-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
L	Soil	SP-9-10	10	05-Mar-01	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
L	Soil	SP-9-10	10	05-Mar-01	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	SP-9-10	10	05-Mar-01		C25-C40	10	mg/k	10	0	1
L	Soil	SP-9-10	10	05-Mar-01		C10-C25	10	mg/k	10	0	1
L	Soil	SP-9-10	10	05-Mar-01		C4-C10	10	mg/k	10	0	1
L	Soil	113624-1-0.25	0.25	30-May-01	7439-92-1	Lead	66	mg/k	66	1	1
L	Soil	113624-2-0.25	0.25	30-May-01	7439-92-1	Lead	91	mg/k	91	1	1
L	Soil	113624-3-0.25	0.25	30-May-01	7439-92-1	Lead	32	mg/k	32	1	1
L	Soil	113626-1-0.25	0.25	30-May-01	7439-92-1	Lead	53	mg/k	53	1	1
L	Soil	113626-2-0.25	0.25	30-May-01	7439-92-1	Lead	63	mg/k	63	1	1
L	Soil	113626-3-0.25	0.25	30-May-01	7439-92-1	Lead	7.7	mg/k	7.7	1	1
L	Soil	120636-1-0.25	0.25	30-May-01	7439-92-1	Lead	330	mg/k	330	1	1
L	Soil	120636-2-0.25	0.25	30-May-01	7439-92-1	Lead	8.7	mg/k	8.7	1	1
L	Soil	120636-3-0.25	0.25	30-May-01	7439-92-1	Lead	56	mg/k	56	1	1
L	Soil	135628-1-0.25	0.25	30-May-01	7439-92-1	Lead	31	mg/k	31	1	1
L	Soil	135628-2-0.25	0.25	30-May-01	7439-92-1	Lead	13	mg/k	13	1	1
L	Soil	135628-3-0.25	0.25	30-May-01	7439-92-1	Lead	44	mg/k	44	1	1
L	Soil	S-30-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	7440-50-8	Copper	9.8	mg/k	9.8	1	1
L	Soil	S-30-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	7439-92-1	Lead	25	mg/k	25	1	1
L	Soil	S-30-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	7440-02-0	Nickel	26	mg/k	26	1	1
L	Soil	S-30-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	5	mg/k	5	1	1
L	Soil	S-30-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	7440-47-3	Chromium	30	mg/k	30	1	1
L	Soil	S-30-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	7440-66-6	Zinc	200	mg/k	200	1	1
L	Soil	S-30-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	21	mg/k	21	1	1
L	Soil	S-30-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	S-30-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03		C25-C40	36	mg/k	36	1	1
L	Soil	S-30-0.5	0.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
L	Soil	S-30-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	2.3	mg/k	2.3	1	1
L	Soil	S-30-0.5	0.5	04-Jun-03	7440-39-3	Barium	77	mg/k	77	1	1
L	Soil	S-30-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	2.1	mg/k	2.1	1	1
L	Soil	S-30-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	7440-39-3	Barium	48	mg/k	48	1	1
L	Soil	S-30-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03		C25-C40	10	mg/k	10	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	S-30-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	7440-47-3	Chromium	16	mg/k	16	1	1
L	Soil	S-30-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	7440-50-8	Copper	4.4	mg/k	4.4	1	1
L	Soil	S-30-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	7440-66-6	Zinc	8.4	mg/k	8.4	1	1
L	Soil	S-30-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	10	mg/k	10	1	1
L	Soil	S-30-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	S-30-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
L	Soil	S-30-2.5	2.5	04-Jun-03	7439-92-1	Lead	5.7	mg/k	5.7	1	1
L	Soil	S-30-2.5	2.5	04-Jun-03	7440-02-0	Nickel	11	mg/k	11	1	1
L	Soil	S-31-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	7440-02-0	Nickel	13	mg/k	13	1	1
L	Soil	S-31-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.015	mg/k	0.015	0	0
L	Soil	S-31-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.2	mg/k	0.2	1	1
L	Soil	S-31-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	85-01-8	Phenanthrene	0.015	mg/k	0.015	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	7439-92-1	Lead	7.7	mg/k	7.7	1	1
L	Soil	S-31-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	129-00-0	Pyrene	0.019	mg/k	0.019	1	1
L	Soil	S-31-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	7440-47-3	Chromium	12	mg/k	12	1	1
L	Soil	S-31-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.057	mg/k	0.057	1	1
L	Soil	S-31-0.5	0.5	04-Jun-03	120-12-7	Anthracene	0.015	mg/k	0.015	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	218-01-9	Chrysene	0.079	mg/k	0.079	1	1
L	Soil	S-31-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.015	mg/k	0.015	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	7440-50-8	Copper	5.4	mg/k	5.4	1	1
L	Soil	S-31-0.5	0.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.015	mg/k	0.015	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	206-44-0	Fluoranthene	0.015	mg/k	0.015	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	86-73-7	Fluorene	0.015	mg/k	0.015	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.015	mg/k	0.015	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	S-31-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	11	mg/k	11	1	1
L	Soil	S-31-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	7440-66-6	Zinc	20	mg/k	20	1	1
L	Soil	S-31-0.5	0.5	04-Jun-03		C25-C40	600	mg/k	600	1	1
L	Soil	S-31-0.5	0.5	04-Jun-03		C10-C25	150	mg/k	150	1	1
L	Soil	S-31-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.015	mg/k	0.015	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.035	mg/k	0.035	1	1
L	Soil	S-31-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.015	mg/k	0.015	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	7440-39-3	Barium	38	mg/k	38	1	1
L	Soil	S-31-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	5.9	mg/k	5.9	1	1
L	Soil	S-31-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	208-96-8	Acenaphthylene	0.015	mg/k	0.015	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-0.5	0.5	04-Jun-03	83-32-9	Acenaphthene	0.015	mg/k	0.015	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	7439-92-1	Lead	1.8	mg/k	1.8	1	1
L	Soil	S-31-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	7440-66-6	Zinc	16	mg/k	16	1	1
L	Soil	S-31-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	S-31-2.5	2.5	04-Jun-03	7440-02-0	Nickel	12	mg/k	12	1	1
L	Soil	S-31-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	7440-50-8	Copper	3.5	mg/k	3.5	1	1
L	Soil	S-31-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	7440-47-3	Chromium	16	mg/k	16	1	1
L	Soil	S-31-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	9.3	mg/k	9.3	1	1
L	Soil	S-31-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03		C25-C40	51	mg/k	51	1	1
L	Soil	S-31-2.5	2.5	04-Jun-03		C10-C25	12	mg/k	12	1	1
L	Soil	S-31-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	S-31-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	1.1	mg/k	1.1	1	1
L	Soil	S-31-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	7440-39-3	Barium	66	mg/k	66	1	1
L	Soil	S-31-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	22	mg/k	22	1	1
L	Soil	S-31-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
L	Soil	S-31-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	1.6	mg/k	1.6	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03		C12-C16	8	mg/k	8	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03		C10-C25	520	mg/k	520	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03		C10-C12	4	mg/k	4	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	75-99-0	Dalapon	0.1	mg/k	0.1	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	319-85-7	beta-BHC	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03		C21-C40	290	mg/k	290	1	0
L	Soil	S-33-0.5	0.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.021	mg/k	0.021	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.093	mg/k	0.093	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.074	mg/k	0.074	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.19	mg/k	0.19	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.02	mg/k	0.02	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7440-50-8	Copper	5.8	mg/k	5.8	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	218-01-9	Chrysene	0.099	mg/k	0.099	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7440-47-3	Chromium	14	mg/k	14	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03		C16-C21	11	mg/k	11	1	0
L	Soil	S-33-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03		C16-C21	30	mg/k	30	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	57-74-9	Chlordane	0.1	mg/k	0.1	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	120-36-5	Dichloroprop	0.05	mg/k	0.05	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03		C25-C40	1600	mg/k	1600	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03		C21-C40	380	mg/k	380	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7440-39-3	Barium	51	mg/k	51	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	S-33-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	72-55-9	4,4'-DDE	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	120-12-7	Anthracene	0.02	mg/k	0.02	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	319-84-6	alpha-BHC	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	309-00-2	Aldrin	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	208-96-8	Acenaphthylene	0.02	mg/k	0.02	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	83-32-9	Acenaphthene	0.02	mg/k	0.02	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	50-29-3	4,4'-DDT	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	8.8	mg/k	8.8	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	72-54-8	4,4'-DDD	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	94-82-6	2,4-DB	0.5	mg/k	0.5	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	94-75-7	2,4-D	0.05	mg/k	0.05	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	93-76-5	2,4,5-T	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	94-74-6	MCPA	5	mg/k	5	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	93-65-2	MCPP	5	mg/k	5	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	319-86-8	delta-BHC	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.02	mg/k	0.02	0	0
L	Soil	S-33-0.5	0.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.021	mg/k	0.021	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7440-02-0	Nickel	12	mg/k	12	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	85-01-8	Phenanthrene	0.02	mg/k	0.02	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	129-00-0	Pyrene	0.067	mg/k	0.067	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	60-57-1	Dieldrin	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	88-85-7	Dinoseb	0.01	mg/k	0.01	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	115-29-7	Endosulfan I	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	33213-65-9	Endosulfan II	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	1031-07-8	Endosulfan sulfate	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	72-20-8	Endrin	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7439-92-1	Lead	31	mg/k	31	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	53494-70-5	Endrin ketone	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	S-33-0.5	0.5	04-Jun-03	206-44-0	Fluoranthene	0.033	mg/k	0.033	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	86-73-7	Fluorene	0.02	mg/k	0.02	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	58-89-9	gamma-BHC	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	76-44-8	Heptachlor	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	1024-57-3	Heptachlor epoxide	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7421-93-4	Endrin aldehyde	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	72-43-5	Methoxychlor	0.002	mg/k	0.002	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	1918-00-9	Dicamba	0.01	mg/k	0.01	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.037	mg/k	0.037	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	93-72-1	Silvex	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7440-66-6	Zinc	49	mg/k	49	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	8001-35-2	Toxaphene	0.1	mg/k	0.1	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	16	mg/k	16	1	1
L	Soil	S-33-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
L	Soil	S-33-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	7439-92-1	Lead	1.7	mg/k	1.7	1	1
L	Soil	S-33-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	7440-50-8	Copper	0.5	mg/k	0.5	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	7440-47-3	Chromium	1	mg/k	1	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	7440-66-6	Zinc	1	mg/k	1	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	1	mg/k	1	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	S-33-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	7440-02-0	Nickel	1	mg/k	1	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03		C25-C40	10	mg/k	10	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	1.2	mg/k	1.2	1	1
L	Soil	S-33-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	0.5	mg/k	0.5	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	7440-39-3	Barium	1.3	mg/k	1.3	1	1
L	Soil	S-33-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
L	Soil	S-33-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	S-34-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	7439-92-1	Lead	8.9	mg/k	8.9	1	1
L	Soil	S-34-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	7440-50-8	Copper	3.2	mg/k	3.2	1	1
L	Soil	S-34-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	7440-66-6	Zinc	1	mg/k	1	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	7440-47-3	Chromium	27	mg/k	27	1	1
L	Soil	S-34-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	21	mg/k	21	1	1
L	Soil	S-34-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	7440-02-0	Nickel	7.7	mg/k	7.7	1	1
L	Soil	S-34-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	S-34-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03		C25-C40	10	mg/k	10	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	7440-39-3	Barium	65	mg/k	65	1	1
L	Soil	S-34-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	11	mg/k	11	1	1
L	Soil	S-34-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	S-34-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	86-73-7	Fluorene	0.01	mg/k	0.01	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.01	mg/k	0.01	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.01	mg/k	0.01	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	206-44-0	Fluoranthene	0.016	mg/k	0.016	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03	7440-50-8	Copper	4.1	mg/k	4.1	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	218-01-9	Chrysene	0.024	mg/k	0.024	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03	7440-47-3	Chromium	13	mg/k	13	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	7439-92-1	Lead	9.1	mg/k	9.1	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	14	mg/k	14	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	7440-66-6	Zinc	1	mg/k	1	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	S-34-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	129-00-0	Pyrene	0.019	mg/k	0.019	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	85-01-8	Phenanthrene	0.015	mg/k	0.015	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	7440-02-0	Nickel	8.6	mg/k	8.6	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.01	mg/k	0.01	0	0
L	Soil	S-34-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	83-32-9	Acenaphthene	0.01	mg/k	0.01	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03		C12-C16	4	mg/k	4	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03		C25-C40	580	mg/k	580	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03		C21-C40	160	mg/k	160	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03		C21-C40	150	mg/k	150	1	0
L	Soil	S-34-2.5	2.5	04-Jun-03		C16-C21	6	mg/k	6	1	0
L	Soil	S-34-2.5	2.5	04-Jun-03		C10-C25	130	mg/k	130	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03		C10-C12	2	mg/k	2	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	7440-39-3	Barium	66	mg/k	66	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03	208-96-8	Acenaphthylene	0.01	mg/k	0.01	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	120-12-7	Anthracene	0.01	mg/k	0.01	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03		C16-C21	20	mg/k	20	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	S-34-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	23	mg/k	23	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.041	mg/k	0.041	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.01	mg/k	0.01	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.012	mg/k	0.012	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.018	mg/k	0.018	1	1
L	Soil	S-34-2.5	2.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.01	mg/k	0.01	0	1
L	Soil	S-34-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	7439-92-1	Lead	23	mg/k	23	1	1
L	Soil	WL-5-1	0	24-Feb-05	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05		Particle Size Distribution - Clay	0	wt. %		0	1
L	Soil	WL-5-1	0	24-Feb-05	7440-02-0	Nickel	15	mg/k	15	1	1
L	Soil	WL-5-1	0	24-Feb-05		Particle Size Distribution - Gravel	6.4	wt. %		1	1
L	Soil	WL-5-1	0	24-Feb-05	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	7439-98-7	Molybdenum	1	mg/k	1	0	1
L	Soil	WL-5-1	0	24-Feb-05	75-09-2	Methylene Chloride	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
L	Soil	WL-5-1	0	24-Feb-05		Mean Grain Size - Medium sand	0.729	mm		1	1
L	Soil	WL-5-1	0	24-Feb-05	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	206-44-0	Fluoranthene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	22.48	wt. %		1	1
L	Soil	WL-5-1	0	24-Feb-05	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	7440-66-6	Zinc	46	mg/k	46	1	1
L	Soil	WL-5-1	0	24-Feb-05	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	75-01-4	Vinyl Chloride	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	7440-62-2	Vanadium	16	mg/k	16	1	1
L	Soil	WL-5-1	0	24-Feb-05	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	7440-50-8	Copper	7.2	mg/k	7.2	1	1
L	Soil	WL-5-1	0	24-Feb-05	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	7440-48-4	Cobalt	2	mg/k	2	1	1
L	Soil	WL-5-1	0	24-Feb-05		Total organic carbon	15000	mg/K	15000	1	1
L	Soil	WL-5-1	0	24-Feb-05	108-88-3	Toluene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	27.57	wt. %		1	1
L	Soil	WL-5-1	0	24-Feb-05	100-42-5	Styrene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	7440-22-4	Silver	1	mg/k	1	0	1
L	Soil	WL-5-1	0	24-Feb-05	7782-49-2	Selenium	5	mg/k	5	0	1
L	Soil	WL-5-1	0	24-Feb-05	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	129-00-0	Pyrene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	85-01-8	Phenanthrene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05		Percent Moisture	21.3	%		1	1
L	Soil	WL-5-1	0	24-Feb-05		Particle Size Distribution - Silt & Clay	12.23	wt. %		1	1
L	Soil	WL-5-1	0	24-Feb-05		Particle Size Distribution - Silt	0	wt. %		0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	WL-5-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	31.32	wt. %		1	1
L	Soil	WL-5-1	0	24-Feb-05	7440-28-0	Thallium	5	mg/k	5	0	1
L	Soil	WL-5-1	0	24-Feb-05	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
L	Soil	WL-5-1	0	24-Feb-05	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	96-12-8	1,2-Dibromo-3-Chloropropane	0.01	mg/k	0.01	0	1
L	Soil	WL-5-1	0	24-Feb-05	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	7440-39-3	Barium	36	mg/k	36	1	1
L	Soil	WL-5-1	0	24-Feb-05	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	7440-36-0	Antimony	5	mg/k	5	0	1
L	Soil	WL-5-1	0	24-Feb-05	7440-38-2	Arsenic	2.4	mg/k	2.4	1	1
L	Soil	WL-5-1	0	24-Feb-05	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	71-43-2	Benzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	50-32-8	Benzo(a)pyrene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	205-99-2	Benzo(b)fluoranthene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	191-24-2	Benzo(g,h,i)perylene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
L	Soil	WL-5-1	0	24-Feb-05	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	7440-47-3	Chromium	16	mg/k	16	1	1
L	Soil	WL-5-1	0	24-Feb-05	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	218-01-9	Chrysene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	56-23-5	Carbon Tetrachloride	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	7440-43-9	Cadmium	1	mg/k	1	0	1
L	Soil	WL-5-1	0	24-Feb-05		C4-C10	10	mg/k	10	0	1
L	Soil	WL-5-1	0	24-Feb-05		C25-C40	59	mg/k	59	1	1
L	Soil	WL-5-1	0	24-Feb-05	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	WL-5-1	0	24-Feb-05	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	WL-5-1	0	24-Feb-05		C10-C25	13	mg/k	13	1	1
L	Soil	WL-5-1	0	24-Feb-05	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
L	Soil	WL-5-1	0	24-Feb-05	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	120-12-7	Anthracene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	WL-5-2	0	24-Feb-05	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	7440-36-0	Antimony	5	mg/k	5	0	1
L	Soil	WL-5-2	0	24-Feb-05	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
L	Soil	WL-5-2	0	24-Feb-05	205-99-2	Benzo(b)fluoranthene	0.013	mg/k	0.013	1	1
L	Soil	WL-5-2	0	24-Feb-05	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	7440-38-2	Arsenic	3.6	mg/k	3.6	1	1
L	Soil	WL-5-2	0	24-Feb-05	7440-39-3	Barium	48	mg/k	48	1	1
L	Soil	WL-5-2	0	24-Feb-05	71-43-2	Benzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	50-32-8	Benzo(a)pyrene	0.013	mg/k	0.013	1	1
L	Soil	WL-5-2	0	24-Feb-05	191-24-2	Benzo(g,h,i)perylene	0.005	mg/k	0.005	1	1
L	Soil	WL-5-2	0	24-Feb-05	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
L	Soil	WL-5-2	0	24-Feb-05	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	WL-5-2	0	24-Feb-05	56-55-3	Benzo(a)anthracene	0.009	mg/k	0.009	1	1
L	Soil	WL-5-2	0	24-Feb-05	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
L	Soil	WL-5-2	0	24-Feb-05	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	96-12-8	1,2-Dibromo-3-Chloropropane	0.01	mg/k	0.01	0	1
L	Soil	WL-5-2	0	24-Feb-05	7439-92-1	Lead	37	mg/k	37	1	1
L	Soil	WL-5-2	0	24-Feb-05	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	35.88	wt. %		1	1
L	Soil	WL-5-2	0	24-Feb-05	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	129-00-0	Pyrene	0.021	mg/k	0.021	1	1
L	Soil	WL-5-2	0	24-Feb-05	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	85-01-8	Phenanthrene	0.013	mg/k	0.013	1	1
L	Soil	WL-5-2	0	24-Feb-05		Percent Moisture	20	%		1	1
L	Soil	WL-5-2	0	24-Feb-05	7782-49-2	Selenium	5	mg/k	5	0	1
L	Soil	WL-5-2	0	24-Feb-05		Particle Size Distribution - Silt	0	wt. %		0	1
L	Soil	WL-5-2	0	24-Feb-05	7440-22-4	Silver	1	mg/k	1	0	1
L	Soil	WL-5-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	31.26	wt. %		1	1
L	Soil	WL-5-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	11.76	wt. %		1	1
L	Soil	WL-5-2	0	24-Feb-05		Particle Size Distribution - Gravel	8.13	wt. %		1	1
L	Soil	WL-5-2	0	24-Feb-05		Particle Size Distribution - Clay	0	wt. %		0	1
L	Soil	WL-5-2	0	24-Feb-05	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	7440-02-0	Nickel	17	mg/k	17	1	1
L	Soil	WL-5-2	0	24-Feb-05		Particle Size Distribution - Silt & Clay	12.97	wt. %		1	1
L	Soil	WL-5-2	0	24-Feb-05	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	WL-5-2	0	24-Feb-05	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	7440-62-2	Vanadium	19	mg/k	19	1	1
L	Soil	WL-5-2	0	24-Feb-05	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	75-01-4	Vinyl Chloride	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05		Total organic carbon	18000	mg/K	18000	1	1
L	Soil	WL-5-2	0	24-Feb-05	108-88-3	Toluene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	7440-28-0	Thallium	5	mg/k	5	0	1
L	Soil	WL-5-2	0	24-Feb-05	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	100-42-5	Styrene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	7440-43-9	Cadmium	1	mg/k	1	0	1
L	Soil	WL-5-2	0	24-Feb-05	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	218-01-9	Chrysene	0.043	mg/k	0.043	1	1
L	Soil	WL-5-2	0	24-Feb-05	7440-47-3	Chromium	19	mg/k	19	1	1
L	Soil	WL-5-2	0	24-Feb-05	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	56-23-5	Carbon Tetrachloride	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05		C4-C10	10	mg/k	10	0	1
L	Soil	WL-5-2	0	24-Feb-05		C25-C40	380	mg/k	380	1	1
L	Soil	WL-5-2	0	24-Feb-05		C10-C25	85	mg/k	85	1	1
L	Soil	WL-5-2	0	24-Feb-05	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	7440-66-6	Zinc	46	mg/k	46	1	1
L	Soil	WL-5-2	0	24-Feb-05	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	75-09-2	Methylene Chloride	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
L	Soil	WL-5-2	0	24-Feb-05	7439-98-7	Molybdenum	1	mg/k	1	0	1
L	Soil	WL-5-2	0	24-Feb-05	7440-48-4	Cobalt	2.2	mg/k	2.2	1	1
L	Soil	WL-5-2	0	24-Feb-05	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	206-44-0	Fluoranthene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
L	Soil	WL-5-2	0	24-Feb-05	7440-50-8	Copper	8	mg/k	8	1	1
L	Soil	WL-5-2	0	24-Feb-05		Mean Grain Size - Medium sand	0.544	mm		1	1
L	Soil	T2A-1	1	01-Nov-11		TPH Diesel (C10-C25)	150	mg/k	150	1	1
L	Soil	T2A-1	1	01-Nov-11		TPH Motor Oil (C25-C40)	1000	mg/k	1000	1	1
L	Soil	T2A-1	1	01-Nov-11		TPH Gasoline (C4-C10)	0.51	mg/k	0.51	0	1
L	Soil	T2A-2	2	01-Nov-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
L	Soil	T2A-2	2	01-Nov-11		TPH Diesel (C10-C25)	1500	mg/k	1500	1	1
L	Soil	T2A-2	2	01-Nov-11		TPH Motor Oil (C25-C40)	7400	mg/k	7400	1	1
L	Soil	T2A-3	3	01-Nov-11		TPH Diesel (C10-C25)	3100	mg/k	3100	1	1
L	Soil	T2A-3	3	01-Nov-11		TPH Motor Oil (C25-C40)	6500	mg/k	6500	1	1
L	Soil	T2A-3	3	01-Nov-11		TPH Gasoline (C4-C10)	0.51	mg/k	0.51	0	1
L	Soil	T2A-4	4	01-Nov-11		TPH Diesel (C10-C25)	8600	mg/k	8600	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	T2A-4	4	01-Nov-11		TPH Motor Oil (C25-C40)	6500	mg/k	6500	1	1
L	Soil	T2A-4	4	01-Nov-11		TPH Gasoline (C4-C10)	4.4	mg/k	4.4	1	1
L	Soil	T2A-5	5	01-Nov-11		TPH Diesel (C10-C25)	7700	mg/k	7700	1	1
L	Soil	T2A-5	5	01-Nov-11		TPH Gasoline (C4-C10)	81	mg/k	81	1	1
L	Soil	T2A-5	5	01-Nov-11		TPH Motor Oil (C25-C40)	5500	mg/k	5500	1	1
L	Soil	T2A-6	6	01-Nov-11		TPH Diesel (C10-C25)	170	mg/k	170	1	1
L	Soil	T2A-6	6	01-Nov-11		TPH Gasoline (C4-C10)	2.2	mg/k	2.2	1	1
L	Soil	T2A-6	6	01-Nov-11		TPH Motor Oil (C25-C40)	110	mg/k	110	1	1
L	Soil	T2B-1	1	01-Nov-11		TPH Diesel (C10-C25)	150	mg/k	150	1	1
L	Soil	T2B-1	1	01-Nov-11		TPH Gasoline (C4-C10)	0.49	mg/k	0.49	0	1
L	Soil	T2B-1	1	01-Nov-11		TPH Motor Oil (C25-C40)	800	mg/k	800	1	1
L	Soil	T2B-2	2	01-Nov-11		TPH Motor Oil (C25-C40)	1500	mg/k	1500	1	1
L	Soil	T2B-2	2	01-Nov-11		TPH Diesel (C10-C25)	420	mg/k	420	1	1
L	Soil	T2B-2	2	01-Nov-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
L	Soil	T2B-3	3	01-Nov-11		TPH Motor Oil (C25-C40)	8500	mg/k	8500	1	1
L	Soil	T2B-3	3	01-Nov-11		TPH Diesel (C10-C25)	7000	mg/k	7000	1	1
L	Soil	T2B-3	3	01-Nov-11		TPH Gasoline (C4-C10)	1.8	mg/k	1.8	1	1
L	Soil	T2B-4	4	01-Nov-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
L	Soil	T2B-4	4	01-Nov-11		TPH Diesel (C10-C25)	580	mg/k	580	1	1
L	Soil	T2B-4	4	01-Nov-11		TPH Motor Oil (C25-C40)	870	mg/k	870	1	1
L	Soil	T2B-5	5	01-Nov-11		TPH Gasoline (C4-C10)	32	mg/k	32	1	1
L	Soil	T2B-5	5	01-Nov-11		TPH Diesel (C10-C25)	850	mg/k	850	1	1
L	Soil	T2B-5	5	01-Nov-11		TPH Motor Oil (C25-C40)	840	mg/k	840	1	1
L	Soil	T2B-6	6	01-Nov-11		TPH Gasoline (C4-C10)	2.7	mg/k	2.7	1	1
L	Soil	T2B-6	6	01-Nov-11		TPH Diesel (C10-C25)	590	mg/k	590	1	1
L	Soil	T2B-6	6	01-Nov-11		TPH Motor Oil (C25-C40)	280	mg/k	280	1	1
L	Soil	T2C-1	1	01-Nov-11		TPH Gasoline (C4-C10)	0.48	mg/k	0.48	0	1
L	Soil	T2C-1	1	01-Nov-11		TPH Diesel (C10-C25)	510	mg/k	510	1	1
L	Soil	T2C-1	1	01-Nov-11		TPH Motor Oil (C25-C40)	2300	mg/k	2300	1	1
L	Soil	T2C-2	2	01-Nov-11		TPH Motor Oil (C25-C40)	3000	mg/k	3000	1	1
L	Soil	T2C-2	2	01-Nov-11		TPH Gasoline (C4-C10)	0.49	mg/k	0.49	0	1
L	Soil	T2C-2	2	01-Nov-11		TPH Diesel (C10-C25)	650	mg/k	650	1	1
L	Soil	T2C-3	3	01-Nov-11		TPH Gasoline (C4-C10)	1000	mg/k	1000	1	1
L	Soil	T2C-3	3	01-Nov-11		TPH Diesel (C10-C25)	16000	mg/k	16000	1	1
L	Soil	T2C-3	3	01-Nov-11		TPH Motor Oil (C25-C40)	8600	mg/k	8600	1	1
L	Soil	T2C-4	4	01-Nov-11		TPH Gasoline (C4-C12)	50	ug/L		0	0
L	Soil	T2C-4	4	01-Nov-11	191-24-2	Benzo(g,h,i)perylene	0.1	mg/k	0.1	0	1
L	Soil	T2C-4	4	01-Nov-11	50-32-8	Benzo(a)pyrene	0.03	mg/k	0.03	1	1
L	Soil	T2C-4	4	01-Nov-11	218-01-9	Chrysene	0.083	mg/k	0.083	1	1
L	Soil	T2C-4	4	01-Nov-11		pH	6.39	pH		1	1
L	Soil	T2C-4	4	01-Nov-11		Sulfide, reactive	2	mg/k	2	0	1
L	Soil	T2C-4	4	01-Nov-11		Cyanide, reactive	0.5	mg/k	0.5	0	1
L	Soil	T2C-4	4	01-Nov-11		TPH Diesel (C13-C22)	1.4	mg/L		1	0
L	Soil	T2C-4	4	01-Nov-11		TPH Motor Oil (C23-C40)	0.32	mg/L		1	0
L	Soil	T2C-4	4	01-Nov-11		TPH Diesel (C13-C22)	2900	mg/k	2900	1	1
L	Soil	T2C-4	4	01-Nov-11		TPH Gasoline (C4-C10)	210	mg/k	210	1	1
L	Soil	T2C-4	4	01-Nov-11		TPH Gasoline (C4-C12)	210	mg/k	210	1	1
L	Soil	T2C-4	4	01-Nov-11	91-20-3	Naphthalene	1.7	mg/k	1.7	1	0
L	Soil	T2C-4	4	01-Nov-11	58-89-9	gamma-BHC	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	95-63-6	1,2,4-Trimethylbenzene	4.3	mg/k	4.3	1	1
L	Soil	T2C-4	4	01-Nov-11	108-86-1	Bromobenzene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	11096-82-5	Aroclor 1260	0.02	mg/k	0.02	0	1
L	Soil	T2C-4	4	01-Nov-11	156-59-2	cis-1,2-Dichloroethene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	75-35-4	1,1-Dichloroethene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	107-06-2	1,2-Dichloroethane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	75-34-3	1,1-Dichloroethane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	75-71-8	Dichlorodifluoromethane	0.023	mg/k	0.023	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	T2C-4	4	01-Nov-11	106-46-7	1,4-Dichlorobenzene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	541-73-1	1,3-Dichlorobenzene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	95-50-1	1,2-Dichlorobenzene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	74-97-5	Bromochloromethane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	74-95-3	Dibromomethane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	78-87-5	1,2-Dichloropropane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	124-48-1	Dibromochloromethane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	96-12-8	1,2-Dibromo-3-chloropropane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	106-43-4	4-Chlorotoluene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	207-08-9	Benzo(k)fluoranthene	0.05	mg/k	0.05	0	1
L	Soil	T2C-4	4	01-Nov-11	74-87-3	Chloromethane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	76-44-8	Heptachlor	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	75-00-3	Chloroethane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	108-90-7	Chlorobenzene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	56-23-5	Carbon tetrachloride	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	71-55-6	1,1,1-Trichloroethane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	1634-04-4	Methyl tert-butyl ether	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	99-87-6	p-Isopropyltoluene	0.14	mg/k	0.14	1	1
L	Soil	T2C-4	4	01-Nov-11	120-82-1	1,2,4-Trichlorobenzene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	87-61-6	1,2,3-Trichlorobenzene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	75-25-2	Bromoform	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	108-88-3	Toluene	0.0084	mg/k	0.0084	1	1
L	Soil	T2C-4	4	01-Nov-11	127-18-4	Tetrachloroethene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	79-34-5	1,1,2,2-Tetrachloroethane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	630-20-6	1,1,1,2-Tetrachloroethane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	100-42-5	Styrene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	103-65-1	n-Propylbenzene	0.22	mg/k	0.22	1	1
L	Soil	T2C-4	4	01-Nov-11	156-60-5	trans-1,2-Dichloroethene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	75-09-2	Methylene chloride	0.004	mg/k	0.004	1	1
L	Soil	T2C-4	4	01-Nov-11	11097-69-1	Aroclor 1254	0.02	mg/k	0.02	0	1
L	Soil	T2C-4	4	01-Nov-11	98-82-8	Isopropylbenzene	0.2	mg/k	0.2	1	1
L	Soil	T2C-4	4	01-Nov-11	75-27-4	Bromodichloromethane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	87-68-3	Hexachlorobutadiene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	106-93-4	1,2-Dibromoethane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	100-41-4	Ethylbenzene	0.36	mg/k	0.36	1	1
L	Soil	T2C-4	4	01-Nov-11	10061-02-6	trans-1,3-Dichloropropene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	10061-01-5	cis-1,3-Dichloropropene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	563-58-6	1,1-Dichloropropene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	594-20-7	2,2-Dichloropropane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	142-28-9	1,3-Dichloropropane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	91-20-3	Naphthalene	0.69	mg/k	0.69	1	0
L	Soil	T2C-4	4	01-Nov-11	7439-98-7	Molybdenum	0.99	mg/k	0.99	0	1
L	Soil	T2C-4	4	01-Nov-11	71-43-2	Benzene	0.0097	mg/k	0.0097	1	1
L	Soil	T2C-4	4	01-Nov-11		TPH Motor Oil (C23-C40)	2000	mg/k	2000	1	1
L	Soil	T2C-4	4	01-Nov-11		TPH Motor Oil (C25-C40)	1700	mg/k	1700	1	1
L	Soil	T2C-4	4	01-Nov-11		TPH Diesel (C10-C25)	4400	mg/k	4400	1	1
L	Soil	T2C-4	4	01-Nov-11	7439-97-6	Mercury	0.013	mg/k	0.013	1	1
L	Soil	T2C-4	4	01-Nov-11	7440-66-6	Zinc	19	mg/k	19	1	1
L	Soil	T2C-4	4	01-Nov-11	7440-62-2	Vanadium	22	mg/k	22	1	1
L	Soil	T2C-4	4	01-Nov-11	7440-28-0	Thallium	0.99	mg/k	0.99	0	1
L	Soil	T2C-4	4	01-Nov-11	7440-22-4	Silver	2	mg/k	2	0	1
L	Soil	T2C-4	4	01-Nov-11	72-54-8	4,4'-DDD	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	7440-02-0	Nickel	13	mg/k	13	1	1
L	Soil	T2C-4	4	01-Nov-11	72-55-9	4,4'-DDE	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	7439-92-1	Lead	5.2	mg/k	5.2	1	1
L	Soil	T2C-4	4	01-Nov-11	7440-50-8	Copper	4.6	mg/k	4.6	1	1
L	Soil	T2C-4	4	01-Nov-11	7440-48-4	Cobalt	2.4	mg/k	2.4	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	T2C-4	4	01-Nov-11	7440-47-3	Chromium	41	mg/k	41	1	1
L	Soil	T2C-4	4	01-Nov-11	7440-43-9	Cadmium	0.63	mg/k	0.63	1	1
L	Soil	T2C-4	4	01-Nov-11	7440-41-7	Beryllium	0.99	mg/k	0.99	0	1
L	Soil	T2C-4	4	01-Nov-11	7440-39-3	Barium	48	mg/k	48	1	1
L	Soil	T2C-4	4	01-Nov-11	7440-38-2	Arsenic	2.9	mg/k	2.9	1	1
L	Soil	T2C-4	4	01-Nov-11	7440-36-0	Antimony	4.9	mg/k	4.9	0	1
L	Soil	T2C-4	4	01-Nov-11		Flashpoint	212	°F		1	1
L	Soil	T2C-4	4	01-Nov-11	7782-49-2	Selenium	2	mg/k	2	0	1
L	Soil	T2C-4	4	01-Nov-11	1024-57-3	Heptachlor epoxide	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	12672-29-6	Aroclor 1248	0.02	mg/k	0.02	0	1
L	Soil	T2C-4	4	01-Nov-11	53469-21-9	Aroclor 1242	0.02	mg/k	0.02	0	1
L	Soil	T2C-4	4	01-Nov-11	11141-16-5	Aroclor 1232	0.02	mg/k	0.02	0	1
L	Soil	T2C-4	4	01-Nov-11	11104-28-2	Aroclor 1221	0.02	mg/k	0.02	0	1
L	Soil	T2C-4	4	01-Nov-11	12674-11-2	Aroclor 1016	0.02	mg/k	0.02	0	1
L	Soil	T2C-4	4	01-Nov-11	319-86-8	delta-BHC	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	319-85-7	beta-BHC	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	309-00-2	Aldrin	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	8001-35-2	Toxaphene	0.02	mg/k	0.02	0	1
L	Soil	T2C-4	4	01-Nov-11	319-84-6	alpha-BHC	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	72-43-5	Methoxychlor	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	95-49-8	2-Chlorotoluene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	12789-03-6	gamma-Chlordane	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	5103-71-9	alpha-Chlordane	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	53494-70-5	Endrin ketone	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	7421-93-4	Endrin aldehyde	0.0023	mg/k	0.0023	1	1
L	Soil	T2C-4	4	01-Nov-11	72-20-8	Endrin	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	1031-07-8	Endosulfan sulfate	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	33213-65-9	Endosulfan II	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	115-29-7	Endosulfan I	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	60-57-1	Dieldrin	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	50-29-3	4,4'-DDT	0.003	mg/k	0.003	0	1
L	Soil	T2C-4	4	01-Nov-11	12789-03-6	gamma-Chlordane	0.02	mg/k	0.02	0	0
L	Soil	T2C-4	4	01-Nov-11	86-30-6	N-Nitrosodiphenylamine	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	78-59-1	Isophorone	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	51-28-5	2,4-Dinitrophenol	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	56-55-3	Benzo(a)anthracene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	105-67-9	2,4-Dimethylphenol	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	120-83-2	2,4-Dichlorophenol	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	95-57-8	2-Chlorophenol	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	59-50-7	4-Chloro-3-methylphenol	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	120-82-1	1,2,4-Trichlorobenzene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	86-74-8	Carbazole	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	95-48-7	2-Methylphenol	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	85-01-8	Phenanthrene	1.2	mg/k	1.2	1	1
L	Soil	T2C-4	4	01-Nov-11	3/4-Methylp	3/4-Methylphenol	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	621-64-7	N-Nitrosodi-n-propylamine	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	103-33-3	Azobenzene	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	62-75-9	N-Nitrosodimethylamine	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	98-95-3	Nitrobenzene	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	100-01-6	4-Nitroaniline	2.5	mg/k	2.5	0	1
L	Soil	T2C-4	4	01-Nov-11	99-09-2	3-Nitroaniline	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	88-74-4	2-Nitroaniline	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	91-20-3	Naphthalene	2.4	mg/k	2.4	1	1
L	Soil	T2C-4	4	01-Nov-11	91-57-6	2-Methylnaphthalene	8.4	mg/k	8.4	1	1
L	Soil	T2C-4	4	01-Nov-11	129-00-0	Pyrene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	50-32-8	Benzo(a)pyrene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	205-99-2	Benzo(b)fluoranthene	0.05	mg/k	0.05	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	T2C-4	4	01-Nov-11	56-55-3	Benzo(a)anthracene	0.05	mg/k	0.05	0	1
L	Soil	T2C-4	4	01-Nov-11	120-12-7	Anthracene	0.05	mg/k	0.05	0	1
L	Soil	T2C-4	4	01-Nov-11	208-96-8	Acenaphthylene	0.087	mg/k	0.087	1	1
L	Soil	T2C-4	4	01-Nov-11	129-00-0	Pyrene	0.11	mg/k	0.11	1	1
L	Soil	T2C-4	4	01-Nov-11	85-01-8	Phenanthrene	0.95	mg/k	0.95	1	0
L	Soil	T2C-4	4	01-Nov-11	67-66-3	Chloroform	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	86-73-7	Fluorene	0.5	mg/k	0.5	1	0
L	Soil	T2C-4	4	01-Nov-11	79-00-5	1,1,2-Trichloroethane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	534-52-1	4,6-Dinitro-2-methylphenol	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	83-32-9	Acenaphthene	0.17	mg/k	0.17	1	1
L	Soil	T2C-4	4	01-Nov-11	206-44-0	Fluoranthene	0.033	mg/k	0.033	1	1
L	Soil	T2C-4	4	01-Nov-11	207-08-9	Benzo(k)fluoranthene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	205-99-2	Benzo(b)fluoranthene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	88-06-2	2,4,6-Trichlorophenol	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	110-86-1	Pyridine	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	95-95-4	2,4,5-Trichlorophenol	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	108-95-2	Phenol	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	87-86-5	Pentachlorophenol	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	100-02-7	4-Nitrophenol	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	88-75-5	2-Nitrophenol	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	53-70-3	Dibenz(a,h)anthracene	0.1	mg/k	0.1	0	1
L	Soil	T2C-4	4	01-Nov-11	83-32-9	Acenaphthene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	208-96-8	Acenaphthylene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	106-47-8	4-Chloroaniline	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	85-68-7	Butyl benzyl phthalate	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	101-55-3	4-Bromophenyl phenyl ether	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	117-81-7	Bis(2-ethylhexyl)phthalate	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	108-60-1	Bis(2-chloroisopropyl)ether	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	111-44-4	Bis(2-chloroethyl)ether	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	111-91-1	Bis(2-chloroethoxy)methane	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	100-51-6	Benzyl alcohol	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	91-58-7	2-Chloronaphthalene	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	191-24-2	Benzo(g,h,i)perylene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	1330-20-7	Xylenes (total)	0.88	mg/k	0.88	1	1
L	Soil	T2C-4	4	01-Nov-11	98-06-6	tert-Butylbenzene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	135-98-8	sec-Butylbenzene	0.11	mg/k	0.11	1	1
L	Soil	T2C-4	4	01-Nov-11	104-51-8	n-Butylbenzene	0.15	mg/k	0.15	1	1
L	Soil	T2C-4	4	01-Nov-11	74-83-9	Bromomethane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	108-67-8	1,3,5-Trimethylbenzene	0.38	mg/k	0.38	1	1
L	Soil	T2C-4	4	01-Nov-11	96-18-4	1,2,3-Trichloropropane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	75-69-4	Trichlorofluoromethane	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	79-01-6	Trichloroethene	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	193-39-5	Indeno(1,2,3-cd)pyrene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/k	0.05	0	1
L	Soil	T2C-4	4	01-Nov-11	65-85-0	Benzoic acid	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	86-73-7	Fluorene	0.73	mg/k	0.73	1	1
L	Soil	T2C-4	4	01-Nov-11	67-72-1	Hexachloroethane	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	120-12-7	Anthracene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	75-01-4	Vinyl chloride	0.023	mg/k	0.023	0	1
L	Soil	T2C-4	4	01-Nov-11	7005-72-3	4-Chlorophenyl phenyl ether	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	77-47-4	Hexachlorocyclopentadiene	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	87-68-3	Hexachlorobutadiene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	118-74-1	Hexachlorobenzene	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	206-44-0	Fluoranthene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	117-84-0	Di-n-octyl phthalate	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	606-20-2	2,6-Dinitrotoluene	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	121-14-2	2,4-Dinitrotoluene	1	mg/k	1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	T2C-4	4	01-Nov-11	131-11-3	Dimethyl phthalate	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	84-66-2	Diethyl phthalate	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	53-70-3	Dibenz(a,h)anthracene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	84-74-2	Di-n-butyl phthalate	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	62-53-3	Aniline	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	95-50-1	1,2-Dichlorobenzene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	132-64-9	Dibenzofuran	1	mg/k	1	0	1
L	Soil	T2C-4	4	01-Nov-11	541-73-1	1,3-Dichlorobenzene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	106-46-7	1,4-Dichlorobenzene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	218-01-9	Chrysene	1	mg/k	1	0	0
L	Soil	T2C-4	4	01-Nov-11	91-94-1	3,3-Dichlorobenzidine	5	mg/k	5	0	1
L	Soil	T2C-5	5	01-Nov-11		TPH Gasoline (C4-C10)	35	mg/k	35	1	1
L	Soil	T2C-5	5	01-Nov-11		TPH Motor Oil (C25-C40)	160	mg/k	160	1	1
L	Soil	T2C-5	5	01-Nov-11		TPH Diesel (C10-C25)	490	mg/k	490	1	1
L	Soil	T2C-6	6	01-Nov-11	88-74-4	2-Nitroaniline	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	86-74-8	Carbazole	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	91-20-3	Naphthalene	0.75	mg/k	0.75	1	1
L	Soil	T2C-6	6	01-Nov-11	100-01-6	4-Nitroaniline	2.5	mg/k	2.5	0	1
L	Soil	T2C-6	6	01-Nov-11	98-95-3	Nitrobenzene	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	62-75-9	N-Nitrosodimethylamine	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	103-33-3	Azobenzene	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	621-64-7	N-Nitrosodi-n-propylamine	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	99-09-2	3-Nitroaniline	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	86-30-6	N-Nitrosodiphenylamine	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	95-57-8	2-Chlorophenol	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	129-00-0	Pyrene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	120-82-1	1,2,4-Trichlorobenzene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	59-50-7	4-Chloro-3-methylphenol	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	91-57-6	2-Methylnaphthalene	3.5	mg/k	3.5	1	1
L	Soil	T2C-6	6	01-Nov-11	56-55-3	Benzo(a)anthracene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	131-11-3	Dimethyl phthalate	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	120-83-2	2,4-Dichlorophenol	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	105-67-9	2,4-Dimethylphenol	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	85-01-8	Phenanthrene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	117-84-0	Di-n-octyl phthalate	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	95-50-1	1,2-Dichlorobenzene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	84-74-2	Di-n-butyl phthalate	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	207-08-9	Benzo(k)fluoranthene	0.05	mg/k	0.05	0	1
L	Soil	T2C-6	6	01-Nov-11	51-28-5	2,4-Dinitrophenol	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	541-73-1	1,3-Dichlorobenzene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	106-46-7	1,4-Dichlorobenzene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	91-94-1	3,3-Dichlorobenzidine	5	mg/k	5	0	1
L	Soil	T2C-6	6	01-Nov-11	62-53-3	Aniline	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	606-20-2	2,6-Dinitrotoluene	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	121-14-2	2,4-Dinitrotoluene	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	78-59-1	Isophorone	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	206-44-0	Fluoranthene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	86-73-7	Fluorene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	118-74-1	Hexachlorobenzene	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	87-68-3	Hexachlorobutadiene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	77-47-4	Hexachlorocyclopentadiene	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	120-12-7	Anthracene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	67-72-1	Hexachloroethane	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	193-39-5	Indeno(1,2,3-cd)pyrene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	84-66-2	Diethyl phthalate	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11		TPH Diesel (C13-C22)	0.87	mg/L		1	0
L	Soil	T2C-6	6	01-Nov-11	120-12-7	Anthracene	0.05	mg/k	0.05	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	T2C-6	6	01-Nov-11	205-99-2	Benzo(b)fluoranthene	0.05	mg/k	0.05	0	1
L	Soil	T2C-6	6	01-Nov-11	50-32-8	Benzo(a)pyrene	0.05	mg/k	0.05	0	1
L	Soil	T2C-6	6	01-Nov-11	191-24-2	Benzo(g,h,i)perylene	0.1	mg/k	0.1	0	1
L	Soil	T2C-6	6	01-Nov-11	218-01-9	Chrysene	0.03	mg/k	0.03	1	1
L	Soil	T2C-6	6	01-Nov-11		pH	5.72	pH		1	1
L	Soil	T2C-6	6	01-Nov-11		Sulfide, reactive	2	mg/k	2	0	1
L	Soil	T2C-6	6	01-Nov-11	56-55-3	Benzo(a)anthracene	0.05	mg/k	0.05	0	1
L	Soil	T2C-6	6	01-Nov-11		TPH Gasoline (C4-C12)	50	ug/L		0	0
L	Soil	T2C-6	6	01-Nov-11	85-01-8	Phenanthrene	0.52	mg/k	0.52	1	1
L	Soil	T2C-6	6	01-Nov-11		TPH Motor Oil (C23-C40)	0.21	mg/L		1	0
L	Soil	T2C-6	6	01-Nov-11		TPH Diesel (C13-C22)	1100	mg/k	1100	1	1
L	Soil	T2C-6	6	01-Nov-11		TPH Gasoline (C4-C10)	83	mg/k	83	1	1
L	Soil	T2C-6	6	01-Nov-11		TPH Diesel (C10-C25)	1600	mg/k	1600	1	1
L	Soil	T2C-6	6	01-Nov-11		TPH Motor Oil (C25-C40)	470	mg/k	470	1	1
L	Soil	T2C-6	6	01-Nov-11		TPH Gasoline (C4-C12)	83	mg/k	83	1	1
L	Soil	T2C-6	6	01-Nov-11	7421-93-4	Endrin aldehyde	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	132-64-9	Dibenzofuran	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11		Cyanide, reactive	0.5	mg/k	0.5	0	1
L	Soil	T2C-6	6	01-Nov-11	207-08-9	Benzo(k)fluoranthene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	95-48-7	2-Methylphenol	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	3/4-Methylp	3/4-Methylphenol	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	88-75-5	2-Nitrophenol	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	100-02-7	4-Nitrophenol	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	87-86-5	Pentachlorophenol	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	108-95-2	Phenol	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	95-95-4	2,4,5-Trichlorophenol	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	110-86-1	Pyridine	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	208-96-8	Acenaphthylene	0.06	mg/k	0.06	1	1
L	Soil	T2C-6	6	01-Nov-11	205-99-2	Benzo(b)fluoranthene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	129-00-0	Pyrene	0.037	mg/k	0.037	1	1
L	Soil	T2C-6	6	01-Nov-11	50-32-8	Benzo(a)pyrene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	83-32-9	Acenaphthene	0.096	mg/k	0.096	1	1
L	Soil	T2C-6	6	01-Nov-11	53-70-3	Dibenz(a,h)anthracene	0.1	mg/k	0.1	0	1
L	Soil	T2C-6	6	01-Nov-11	206-44-0	Fluoranthene	0.05	mg/k	0.05	0	1
L	Soil	T2C-6	6	01-Nov-11	86-73-7	Fluorene	0.24	mg/k	0.24	1	1
L	Soil	T2C-6	6	01-Nov-11	193-39-5	Indeno(1,2,3-cd)pyrene	0.05	mg/k	0.05	0	1
L	Soil	T2C-6	6	01-Nov-11	91-20-3	Naphthalene	0.68	mg/k	0.68	1	0
L	Soil	T2C-6	6	01-Nov-11	534-52-1	4,6-Dinitro-2-methylphenol	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	88-06-2	2,4,6-Trichlorophenol	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	11141-16-5	Aroclor 1232	0.02	mg/k	0.02	0	1
L	Soil	T2C-6	6	01-Nov-11	72-20-8	Endrin	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	53494-70-5	Endrin ketone	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	58-89-9	gamma-BHC	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	12789-03-6	gamma-Chlordane	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	76-44-8	Heptachlor	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	1024-57-3	Heptachlor epoxide	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	72-43-5	Methoxychlor	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	12789-03-6	gamma-Chlordane	0.02	mg/k	0.02	0	0
L	Soil	T2C-6	6	01-Nov-11	8001-35-2	Toxaphene	0.02	mg/k	0.02	0	1
L	Soil	T2C-6	6	01-Nov-11	309-00-2	Aldrin	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	319-85-7	beta-BHC	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	319-86-8	delta-BHC	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	74-95-3	Dibromomethane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	11104-28-2	Aroclor 1221	0.02	mg/k	0.02	0	1
L	Soil	T2C-6	6	01-Nov-11	115-29-7	Endosulfan I	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	53469-21-9	Aroclor 1242	0.02	mg/k	0.02	0	1
L	Soil	T2C-6	6	01-Nov-11	12672-29-6	Aroclor 1248	0.02	mg/k	0.02	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	T2C-6	6	01-Nov-11	11097-69-1	Aroclor 1254	0.02	mg/k	0.02	0	1
L	Soil	T2C-6	6	01-Nov-11	11096-82-5	Aroclor 1260	0.02	mg/k	0.02	0	1
L	Soil	T2C-6	6	01-Nov-11	71-43-2	Benzene	0.0064	mg/k	0.0064	1	1
L	Soil	T2C-6	6	01-Nov-11	108-90-7	Chlorobenzene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	67-66-3	Chloroform	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	74-87-3	Chloromethane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	95-49-8	2-Chlorotoluene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	106-43-4	4-Chlorotoluene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	96-12-8	1,2-Dibromo-3-chloropropane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	124-48-1	Dibromochloromethane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	108-86-1	Bromobenzene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	12674-11-2	Aroclor 1016	0.02	mg/k	0.02	0	1
L	Soil	T2C-6	6	01-Nov-11	7782-49-2	Selenium	1.8	mg/k	1.8	0	1
L	Soil	T2C-6	6	01-Nov-11	75-34-3	1,1-Dichloroethane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11		Flashpoint	212	°F		1	1
L	Soil	T2C-6	6	01-Nov-11	7440-36-0	Antimony	4.5	mg/k	4.5	0	1
L	Soil	T2C-6	6	01-Nov-11	7440-38-2	Arsenic	4.3	mg/k	4.3	1	1
L	Soil	T2C-6	6	01-Nov-11	7440-39-3	Barium	52	mg/k	52	1	1
L	Soil	T2C-6	6	01-Nov-11	53-70-3	Dibenz(a,h)anthracene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	7440-41-7	Beryllium	0.9	mg/k	0.9	0	1
L	Soil	T2C-6	6	01-Nov-11	5103-71-9	alpha-Chlordane	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	7440-43-9	Cadmium	0.86	mg/k	0.86	1	1
L	Soil	T2C-6	6	01-Nov-11	7440-47-3	Chromium	47	mg/k	47	1	1
L	Soil	T2C-6	6	01-Nov-11	7440-48-4	Cobalt	2.7	mg/k	2.7	1	1
L	Soil	T2C-6	6	01-Nov-11	7440-50-8	Copper	5	mg/k	5	1	1
L	Soil	T2C-6	6	01-Nov-11	7439-92-1	Lead	6.8	mg/k	6.8	1	1
L	Soil	T2C-6	6	01-Nov-11	1031-07-8	Endosulfan sulfate	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11		TPH Diesel (C13-C22)	1100	mg/k	1100	1	1
L	Soil	T2C-6	6	01-Nov-11	75-00-3	Chloroethane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	60-57-1	Dieldrin	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	50-29-3	4,4'-DDT	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	72-55-9	4,4'-DDE	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	72-54-8	4,4'-DDD	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	7439-98-7	Molybdenum	0.9	mg/k	0.9	0	1
L	Soil	T2C-6	6	01-Nov-11		TPH Motor Oil (C23-C40)	600	mg/k	600	1	1
L	Soil	T2C-6	6	01-Nov-11	7440-02-0	Nickel	18	mg/k	18	1	1
L	Soil	T2C-6	6	01-Nov-11	7439-97-6	Mercury	0.012	mg/k	0.012	1	1
L	Soil	T2C-6	6	01-Nov-11	7440-66-6	Zinc	24	mg/k	24	1	1
L	Soil	T2C-6	6	01-Nov-11	7440-62-2	Vanadium	27	mg/k	27	1	1
L	Soil	T2C-6	6	01-Nov-11	7440-28-0	Thallium	0.9	mg/k	0.9	0	1
L	Soil	T2C-6	6	01-Nov-11	7440-22-4	Silver	1.8	mg/k	1.8	0	1
L	Soil	T2C-6	6	01-Nov-11	33213-65-9	Endosulfan II	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	319-84-6	alpha-BHC	0.003	mg/k	0.003	0	1
L	Soil	T2C-6	6	01-Nov-11	1634-04-4	Methyl tert-butyl ether	0.005	mg/k	0.005	1	1
L	Soil	T2C-6	6	01-Nov-11	75-25-2	Bromoform	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	104-51-8	n-Butylbenzene	0.11	mg/k	0.11	1	1
L	Soil	T2C-6	6	01-Nov-11	1330-20-7	Xylenes (total)	0.91	mg/k	0.91	1	1
L	Soil	T2C-6	6	01-Nov-11	74-83-9	Bromomethane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	75-01-4	Vinyl chloride	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	98-06-6	tert-Butylbenzene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	95-63-6	1,2,4-Trimethylbenzene	0.99	mg/k	0.99	1	1
L	Soil	T2C-6	6	01-Nov-11	83-32-9	Acenaphthene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	75-69-4	Trichlorofluoromethane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	79-01-6	Trichloroethene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	79-00-5	1,1,2-Trichloroethane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	71-55-6	1,1,1-Trichloroethane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	120-82-1	1,2,4-Trichlorobenzene	0.025	mg/k	0.025	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
L	Soil	T2C-6	6	01-Nov-11	87-61-6	1,2,3-Trichlorobenzene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	56-23-5	Carbon tetrachloride	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	117-81-7	Bis(2-ethylhexyl)phthalate	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	218-01-9	Chrysene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	7005-72-3	4-Chlorophenyl phenyl ether	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	91-58-7	2-Chloronaphthalene	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	208-96-8	Acenaphthylene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	106-47-8	4-Chloroaniline	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	135-98-8	sec-Butylbenzene	0.073	mg/k	0.073	1	1
L	Soil	T2C-6	6	01-Nov-11	101-55-3	4-Bromophenyl phenyl ether	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	96-18-4	1,2,3-Trichloropropane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	108-60-1	Bis(2-chloroisopropyl)ether	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	111-44-4	Bis(2-chloroethyl)ether	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	111-91-1	Bis(2-chloroethoxy)methane	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	100-51-6	Benzyl alcohol	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	65-85-0	Benzoic acid	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	191-24-2	Benzo(g,h,i)perylene	1	mg/k	1	0	0
L	Soil	T2C-6	6	01-Nov-11	85-68-7	Butyl benzyl phthalate	1	mg/k	1	0	1
L	Soil	T2C-6	6	01-Nov-11	156-59-2	cis-1,2-Dichloroethene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	95-50-1	1,2-Dichlorobenzene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	541-73-1	1,3-Dichlorobenzene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	106-46-7	1,4-Dichlorobenzene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	75-71-8	Dichlorodifluoromethane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	78-87-5	1,2-Dichloropropane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	108-67-8	1,3,5-Trimethylbenzene	0.28	mg/k	0.28	1	1
L	Soil	T2C-6	6	01-Nov-11	156-60-5	trans-1,2-Dichloroethene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	108-88-3	Toluene	0.0094	mg/k	0.0094	1	1
L	Soil	T2C-6	6	01-Nov-11	75-35-4	1,1-Dichloroethene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	107-06-2	1,2-Dichloroethane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	142-28-9	1,3-Dichloropropane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	594-20-7	2,2-Dichloropropane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	563-58-6	1,1-Dichloropropene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	10061-01-5	cis-1,3-Dichloropropene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	103-65-1	n-Propylbenzene	0.14	mg/k	0.14	1	1
L	Soil	T2C-6	6	01-Nov-11	127-18-4	Tetrachloroethene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	74-97-5	Bromochloromethane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	10061-02-6	trans-1,3-Dichloropropene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	79-34-5	1,1,2,2-Tetrachloroethane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	100-42-5	Styrene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	91-20-3	Naphthalene	0.72	mg/k	0.72	1	0
L	Soil	T2C-6	6	01-Nov-11	75-09-2	Methylene chloride	0.0048	mg/k	0.0048	1	1
L	Soil	T2C-6	6	01-Nov-11	87-68-3	Hexachlorobutadiene	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	98-82-8	Isopropylbenzene	0.13	mg/k	0.13	1	1
L	Soil	T2C-6	6	01-Nov-11	100-41-4	Ethylbenzene	0.18	mg/k	0.18	1	1
L	Soil	T2C-6	6	01-Nov-11	75-27-4	Bromodichloromethane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	99-87-6	p-Isopropyltoluene	0.1	mg/k	0.1	1	1
L	Soil	T2C-6	6	01-Nov-11	106-93-4	1,2-Dibromoethane	0.025	mg/k	0.025	0	1
L	Soil	T2C-6	6	01-Nov-11	630-20-6	1,1,1,2-Tetrachloroethane	0.025	mg/k	0.025	0	1
M	GS	SV-03-05	5	18-Jul-07	67-66-3	Chloroform	0.0063	ug/L	0.0063	0	1
M	GS	SV-03-05	5	18-Jul-07	78-93-3	2-Butanone	0.0082	ug/L	0.0082	1	1
M	GS	SV-03-05	5	18-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
M	GS	SV-03-05	5	18-Jul-07		4-Bromofluorobenzene	104	%		1	1
M	GS	SV-03-05	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
M	GS	SV-03-05	5	18-Jul-07	67-64-1	Acetone	0.034	ug/L	0.034	1	1
M	GS	SV-03-05	5	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
M	GS	SV-03-05	5	18-Jul-07	71-43-2	Benzene	0.0042	ug/L	0.0042	1	1
M	GS	SV-03-05	5	18-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	GS	SV-03-05	5	18-Jul-07	75-27-4	Bromodichloromethane	0.0086	ug/L	0.0086	0	1
M	GS	SV-03-05	5	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
M	GS	SV-03-05	5	18-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
M	GS	SV-03-05	5	18-Jul-07		Carbon Dioxide	2.6	%		1	1
M	GS	SV-03-05	5	18-Jul-07	75-15-0	Carbon Disulfide	0.0083	ug/L	0.0083	1	1
M	GS	SV-03-05	5	18-Jul-07		Carbon Monoxide	0.026	%		0	1
M	GS	SV-03-05	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
M	GS	SV-03-05	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.014	ug/L	0.014	1	1
M	GS	SV-03-05	5	18-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
M	GS	SV-03-05	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
M	GS	SV-03-05	5	18-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
M	GS	SV-03-05	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
M	GS	SV-03-05	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
M	GS	SV-03-05	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
M	GS	SV-03-05	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
M	GS	SV-03-05	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
M	GS	SV-03-05	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
M	GS	SV-03-05	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
M	GS	SV-03-05	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
M	GS	SV-03-05	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
M	GS	SV-03-05	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
M	GS	SV-03-05	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.039	ug/L	0.039	1	1
M	GS	SV-03-05	5	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
M	GS	SV-03-05	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
M	GS	SV-03-05	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
M	GS	SV-03-05	5	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
M	GS	SV-03-05	5	18-Jul-07		1,2-Dichloroethane-d4	111	%		1	1
M	GS	SV-03-05	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
M	GS	SV-03-05	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.027	ug/L	0.027	1	1
M	GS	SV-03-05	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
M	GS	SV-03-05	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
M	GS	SV-03-05	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
M	GS	SV-03-05	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
M	GS	SV-03-05	5	18-Jul-07	108-88-3	Toluene	0.05	ug/L	0.05	1	1
M	GS	SV-03-05	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
M	GS	SV-03-05	5	18-Jul-07		Oxygen	19	%		1	1
M	GS	SV-03-05	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
M	GS	SV-03-05	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.048	ug/L	0.048	1	1
M	GS	SV-03-05	5	18-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
M	GS	SV-03-05	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
M	GS	SV-03-05	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
M	GS	SV-03-05	5	18-Jul-07		Nitrogen	78	%		1	1
M	GS	SV-03-05	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0038	ug/L	0.0038	0	1
M	GS	SV-03-05	5	18-Jul-07	103-65-1	n-Propylbenzene	0.022	ug/L	0.022	1	1
M	GS	SV-03-05	5	18-Jul-07		Toluene-d8	94	%		1	1
M	GS	SV-03-05	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
M	GS	SV-03-05	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
M	GS	SV-03-05	5	18-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
M	GS	SV-03-05	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
M	GS	SV-03-05	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
M	GS	SV-03-05	5	18-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
M	GS	SV-03-05	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1
M	GS	SV-03-05	5	18-Jul-07		Ethene	0.0026	%		0	1
M	GS	SV-03-05	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
M	GS	SV-03-05	5	18-Jul-07	110-82-7	Cyclohexane	0.027	ug/L	0.027	1	1
M	GS	SV-03-05	5	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
M	GS	SV-03-05	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	GS	SV-03-05	5	18-Jul-07	95-47-6	o-Xylene	0.035	ug/L	0.035	1	1
M	GS	SV-03-05	5	18-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
M	GS	SV-03-05	5	18-Jul-07	142-82-5	n-Heptane	0.038	ug/L	0.038	1	1
M	GS	SV-03-05	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
M	GS	SV-03-05	5	18-Jul-07	100-41-4	Ethylbenzene	0.02	ug/L	0.02	1	1
M	GS	SV-03-05	5	18-Jul-07	110-54-3	Hexane	0.01	ug/L	0.01	1	1
M	GS	SV-03-05	5	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
M	GS	SV-03-05	5	18-Jul-07	98-82-8	Isopropylbenzene	0.03	ug/L	0.03	1	1
M	GS	SV-03-05	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.1	ug/L	0.1	1	1
M	GS	SV-03-05	5	18-Jul-07	74-82-8	Methane	0.00026	%		0	1
M	GS	SV-03-05	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
M	GS	SV-03-05	5	18-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
M	GS	SV-03-05	5	18-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
M	GS	SV-03-05	5	18-Jul-07		Ethane	0.0026	%		0	1
M	GS	SV-03-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.21	ug/L	0.21	0	1
M	GS	SV-03-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.041	ug/L	0.041	0	1
M	GS	SV-03-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.052	ug/L	0.052	0	1
M	GS	SV-03-15	15	18-Jul-07	110-82-7	Cyclohexane	1.4	ug/L	1.4	1	1
M	GS	SV-03-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.019	ug/L	0.019	0	1
M	GS	SV-03-15	15	18-Jul-07	74-83-9	Bromomethane	0.03	ug/L	0.03	0	1
M	GS	SV-03-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.017	ug/L	0.017	0	1
M	GS	SV-03-15	15	18-Jul-07	64-17-5	Ethanol	0.1	ug/L	0.1	1	1
M	GS	SV-03-15	15	18-Jul-07		Ethane	0.015	%		0	1
M	GS	SV-03-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.038	ug/L	0.038	0	1
M	GS	SV-03-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.065	ug/L	0.065	0	1
M	GS	SV-03-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.034	ug/L	0.034	0	1
M	GS	SV-03-15	15	18-Jul-07	74-87-3	Chloromethane	0.16	ug/L	0.16	1	1
M	GS	SV-03-15	15	18-Jul-07	67-66-3	Chloroform	0.037	ug/L	0.037	0	1
M	GS	SV-03-15	15	18-Jul-07	75-00-3	Chloroethane	0.02	ug/L	0.02	0	1
M	GS	SV-03-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.035	ug/L	0.035	0	1
M	GS	SV-03-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.048	ug/L	0.048	0	1
M	GS	SV-03-15	15	18-Jul-07		Carbon Monoxide	0.15	%		0	1
M	GS	SV-03-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.13	ug/L	0.13	0	1
M	GS	SV-03-15	15	18-Jul-07		Carbon Dioxide	7	%		1	1
M	GS	SV-03-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.22	ug/L	0.22	1	1
M	GS	SV-03-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.03	ug/L		0	1
M	GS	SV-03-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.051	ug/L	0.051	0	1
M	GS	SV-03-15	15	18-Jul-07	71-43-2	Benzene	1.5	ug/L	1.5	1	1
M	GS	SV-03-15	15	18-Jul-07	107-05-1	Allyl chloride	0.095	ug/L	0.095	0	1
M	GS	SV-03-15	15	18-Jul-07	67-64-1	Acetone	0.73	ug/L	0.73	1	1
M	GS	SV-03-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.031	ug/L	0.031	0	1
M	GS	SV-03-15	15	18-Jul-07		4-Bromofluorobenzene	106	%		1	1
M	GS	SV-03-15	15	18-Jul-07	591-78-6	2-Hexanone	0.12	ug/L	0.12	0	1
M	GS	SV-03-15	15	18-Jul-07	78-93-3	2-Butanone	0.4	ug/L	0.4	1	1
M	GS	SV-03-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.036	ug/L	0.036	0	1
M	GS	SV-03-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.11	ug/L	0.11	0	1
M	GS	SV-03-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.046	ug/L	0.046	0	1
M	GS	SV-03-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.046	ug/L	0.046	0	1
M	GS	SV-03-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.21	ug/L	0.21	1	1
M	GS	SV-03-15	15	18-Jul-07		Oxygen	7.3	%		1	1
M	GS	SV-03-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
M	GS	SV-03-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.043	ug/L	0.043	0	1
M	GS	SV-03-15	15	18-Jul-07	79-01-6	Trichloroethene	0.041	ug/L	0.041	0	1
M	GS	SV-03-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.034	ug/L	0.034	0	1
M	GS	SV-03-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.03	ug/L	0.03	0	1
M	GS	SV-03-15	15	18-Jul-07		Toluene-d8	100	%		1	1
M	GS	SV-03-15	15	18-Jul-07	108-88-3	Toluene	0.11	ug/L	0.11	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	GS	SV-03-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.025	ug/L	0.025	1	1
M	GS	SV-03-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.052	ug/L	0.052	0	1
M	GS	SV-03-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.14	ug/L	0.14	1	1
M	GS	SV-03-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.13	ug/L	0.13	0	1
M	GS	SV-03-15	15	18-Jul-07	100-42-5	Styrene	0.032	ug/L	0.032	0	1
M	GS	SV-03-15	15	18-Jul-07		Ethene	0.015	%		0	1
M	GS	SV-03-15	15	18-Jul-07	95-47-6	o-Xylene	0.4	ug/L	0.4	1	1
M	GS	SV-03-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.039	ug/L	0.039	0	1
M	GS	SV-03-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.071	ug/L	0.071	1	1
M	GS	SV-03-15	15	18-Jul-07		Nitrogen	86	%		1	1
M	GS	SV-03-15	15	18-Jul-07	142-82-5	n-Heptane	1	ug/L	1	1	1
M	GS	SV-03-15	15	18-Jul-07	91-20-3	Naphthalene	0.16	ug/L	0.16	0	1
M	GS	SV-03-15	15	18-Jul-07	75-09-2	Methylene chloride	0.026	ug/L	0.026	0	1
M	GS	SV-03-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.027	ug/L	0.027	0	1
M	GS	SV-03-15	15	18-Jul-07	74-82-8	Methane	0.0015	%		0	1
M	GS	SV-03-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.47	ug/L	0.47	1	1
M	GS	SV-03-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.051	ug/L	0.051	1	1
M	GS	SV-03-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.13	ug/L	0.13	0	1
M	GS	SV-03-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.075	ug/L	0.075	0	1
M	GS	SV-03-15	15	18-Jul-07	110-54-3	Hexane	0.99	ug/L	0.99	1	1
M	GS	SV-03-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.32	ug/L	0.32	0	1
M	GS	SV-03-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.25	ug/L	0.25	1	1
M	GS	SV-03-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.3	ug/L	0.3	1	1
M	GS	SV-03-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.12	ug/L	0.12	1	1
M	GS	SV-03-15	15	18-Jul-07	75-25-2	Bromoform	0.078	ug/L	0.078	0	1
M	GS	SV-03-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.041	ug/L	0.041	0	1
M	GS	SV-03-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.058	ug/L	0.058	0	1
M	GS	SV-03-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.22	ug/L	0.22	0	1
M	GS	SV-03-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.18	ug/L	0.18	0	1
M	GS	SV-03-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.03	ug/L	0.03	0	1
M	GS	SV-03-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.031	ug/L	0.031	0	1
M	GS	SV-03-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.053	ug/L	0.053	0	1
M	GS	SV-03-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.046	ug/L	0.046	0	1
M	GS	SV-03-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.031	ug/L	0.031	0	1
M	GS	SV-03-15	15	18-Jul-07		1,2-Dichloroethane-d4	115	%		1	1
M	GS	SV-03-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.035	ug/L	0.035	0	1
M	GS	SV-03-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.058	ug/L	0.058	0	1
M	GS	SV-04-05	5	18-Jul-07	78-93-3	2-Butanone	0.0086	ug/L	0.0086	1	1
M	GS	SV-04-05	5	18-Jul-07	75-27-4	Bromodichloromethane	0.0085	ug/L	0.0085	0	1
M	GS	SV-04-05	5	18-Jul-07		Carbon Monoxide	0.025	%		0	1
M	GS	SV-04-05	5	18-Jul-07	75-15-0	Carbon Disulfide	0.0039	ug/L	0.0039	0	1
M	GS	SV-04-05	5	18-Jul-07		Carbon Dioxide	4	%		1	1
M	GS	SV-04-05	5	18-Jul-07	74-83-9	Bromomethane	0.0049	ug/L	0.0049	0	1
M	GS	SV-04-05	5	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
M	GS	SV-04-05	5	18-Jul-07	100-44-7	Benzyl chloride	0.0065	ug/L	0.0065	0	1
M	GS	SV-04-05	5	18-Jul-07	71-43-2	Benzene	0.18	ug/L	0.18	1	1
M	GS	SV-04-05	5	18-Jul-07	67-64-1	Acetone	0.033	ug/L	0.033	1	1
M	GS	SV-04-05	5	18-Jul-07		4-Bromofluorobenzene	96	%		1	1
M	GS	SV-04-05	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.008	ug/L	0.008	0	1
M	GS	SV-04-05	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
M	GS	SV-04-05	5	18-Jul-07	64-17-5	Ethanol	0.0095	ug/L	0.0095	0	1
M	GS	SV-04-05	5	18-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
M	GS	SV-04-05	5	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
M	GS	SV-04-05	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
M	GS	SV-04-05	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0069	ug/L	0.0069	0	1
M	GS	SV-04-05	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	ug/L	0.0087	0	1
M	GS	SV-04-05	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	ug/L	0.0097	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	GS	SV-04-05	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0069	ug/L	0.0069	0	1
M	GS	SV-04-05	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0051	ug/L	0.0051	0	1
M	GS	SV-04-05	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.005	ug/L	0.005	0	1
M	GS	SV-04-05	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
M	GS	SV-04-05	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0062	ug/L	0.0062	0	1
M	GS	SV-04-05	5	18-Jul-07	108-90-7	Chlorobenzene	0.0058	ug/L	0.0058	0	1
M	GS	SV-04-05	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.019	ug/L	0.019	1	1
M	GS	SV-04-05	5	18-Jul-07	110-82-7	Cyclohexane	0.13	ug/L	0.13	1	1
M	GS	SV-04-05	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0059	ug/L	0.0059	0	1
M	GS	SV-04-05	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.005	ug/L		0	1
M	GS	SV-04-05	5	18-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
M	GS	SV-04-05	5	18-Jul-07	67-66-3	Chloroform	0.0062	ug/L	0.0062	0	1
M	GS	SV-04-05	5	18-Jul-07	75-00-3	Chloroethane	0.0033	ug/L	0.0033	0	1
M	GS	SV-04-05	5	18-Jul-07		Ethane	0.0025	%		0	1
M	GS	SV-04-05	5	18-Jul-07	74-82-8	Methane	0.0065	%		1	1
M	GS	SV-04-05	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
M	GS	SV-04-05	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.04	ug/L	0.04	1	1
M	GS	SV-04-05	5	18-Jul-07	95-47-6	o-Xylene	0.059	ug/L	0.059	1	1
M	GS	SV-04-05	5	18-Jul-07		Oxygen	17	%		1	1
M	GS	SV-04-05	5	18-Jul-07	103-65-1	n-Propylbenzene	0.011	ug/L	0.011	1	1
M	GS	SV-04-05	5	18-Jul-07		Nitrogen	79	%		1	1
M	GS	SV-04-05	5	18-Jul-07	142-82-5	n-Heptane	0.13	ug/L	0.13	1	1
M	GS	SV-04-05	5	18-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
M	GS	SV-04-05	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
M	GS	SV-04-05	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
M	GS	SV-04-05	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
M	GS	SV-04-05	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.059	ug/L	0.059	1	1
M	GS	SV-04-05	5	18-Jul-07	98-82-8	Isopropylbenzene	0.0065	ug/L	0.0065	1	1
M	GS	SV-04-05	5	18-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
M	GS	SV-04-05	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
M	GS	SV-04-05	5	18-Jul-07	110-54-3	Hexane	0.12	ug/L	0.12	1	1
M	GS	SV-04-05	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.054	ug/L	0.054	0	1
M	GS	SV-04-05	5	18-Jul-07	100-41-4	Ethylbenzene	0.03	ug/L	0.03	1	1
M	GS	SV-04-05	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
M	GS	SV-04-05	5	18-Jul-07		Ethene	0.0025	%		0	1
M	GS	SV-04-05	5	18-Jul-07	75-09-2	Methylene chloride	0.0044	ug/L	0.0044	0	1
M	GS	SV-04-05	5	18-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
M	GS	SV-04-05	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
M	GS	SV-04-05	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
M	GS	SV-04-05	5	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
M	GS	SV-04-05	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0058	ug/L	0.0058	0	1
M	GS	SV-04-05	5	18-Jul-07		1,2-Dichloroethane-d4	97	%		1	1
M	GS	SV-04-05	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0051	ug/L	0.0051	0	1
M	GS	SV-04-05	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
M	GS	SV-04-05	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	ug/L	0.0088	0	1
M	GS	SV-04-05	5	18-Jul-07	100-42-5	Styrene	0.0054	ug/L	0.0054	0	1
M	GS	SV-04-05	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.051	ug/L	0.051	1	1
M	GS	SV-04-05	5	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
M	GS	SV-04-05	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
M	GS	SV-04-05	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0071	ug/L	0.0071	0	1
M	GS	SV-04-05	5	18-Jul-07	79-01-6	Trichloroethene	0.0068	ug/L	0.0068	0	1
M	GS	SV-04-05	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
M	GS	SV-04-05	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.005	ug/L	0.005	0	1
M	GS	SV-04-05	5	18-Jul-07		Toluene-d8	101	%		1	1
M	GS	SV-04-05	5	18-Jul-07	108-88-3	Toluene	0.0084	ug/L	0.0084	1	1
M	GS	SV-04-05	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0037	ug/L	0.0037	0	1
M	GS	SV-04-05	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0086	ug/L	0.0086	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	GS	SV-04-05	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0097	ug/L	0.0097	0	1
M	GS	SV-04-05	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0052	ug/L	0.0052	0	1
M	GS	SV-04-05	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
M	GS	SV-04-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.46	ug/L	0.46	0	1
M	GS	SV-04-15	15	18-Jul-07	95-47-6	o-Xylene	0.36	ug/L	0.36	0	1
M	GS	SV-04-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.4	ug/L	0.4	0	1
M	GS	SV-04-15	15	18-Jul-07	100-42-5	Styrene	0.35	ug/L	0.35	0	1
M	GS	SV-04-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	1.4	ug/L	1.4	0	1
M	GS	SV-04-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	1	ug/L	1	0	1
M	GS	SV-04-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.56	ug/L	0.56	0	1
M	GS	SV-04-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.24	ug/L	0.24	0	1
M	GS	SV-04-15	15	18-Jul-07	108-88-3	Toluene	0.31	ug/L	0.31	0	1
M	GS	SV-04-15	15	18-Jul-07		Oxygen	9.9	%		1	1
M	GS	SV-04-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.37	ug/L	0.37	0	1
M	GS	SV-04-15	15	18-Jul-07	142-82-5	n-Heptane	0.34	ug/L	0.34	0	1
M	GS	SV-04-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
M	GS	SV-04-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.7	ug/L	0.7	0	1
M	GS	SV-04-15	15	18-Jul-07	110-82-7	Cyclohexane	0.3	ug/L	0.3	1	1
M	GS	SV-04-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.37	ug/L	0.37	0	1
M	GS	SV-04-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.33	ug/L		0	1
M	GS	SV-04-15	15	18-Jul-07	74-87-3	Chloromethane	0.68	ug/L	0.68	0	1
M	GS	SV-04-15	15	18-Jul-07		Toluene-d8	94	%		1	1
M	GS	SV-04-15	15	18-Jul-07	108-20-3	Isopropyl ether	1.4	ug/L	1.4	0	1
M	GS	SV-04-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.41	ug/L	0.41	0	1
M	GS	SV-04-15	15	18-Jul-07		Ethane	0.0025	%		0	1
M	GS	SV-04-15	15	18-Jul-07	64-17-5	Ethanol	0.62	ug/L	0.62	0	1
M	GS	SV-04-15	15	18-Jul-07		Ethene	0.0025	%		0	1
M	GS	SV-04-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	1.4	ug/L	1.4	0	1
M	GS	SV-04-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.36	ug/L	0.36	0	1
M	GS	SV-04-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	3.5	ug/L	3.5	0	1
M	GS	SV-04-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.81	ug/L	0.81	1	1
M	GS	SV-04-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.81	ug/L	0.81	0	1
M	GS	SV-04-15	15	18-Jul-07	67-66-3	Chloroform	0.4	ug/L	0.4	0	1
M	GS	SV-04-15	15	18-Jul-07	98-82-8	Isopropylbenzene	2.6	ug/L	2.6	1	1
M	GS	SV-04-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.36	ug/L	0.36	0	1
M	GS	SV-04-15	15	18-Jul-07	74-82-8	Methane	2.8	%		1	1
M	GS	SV-04-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.3	ug/L	0.3	0	1
M	GS	SV-04-15	15	18-Jul-07	75-09-2	Methylene chloride	0.29	ug/L	0.29	0	1
M	GS	SV-04-15	15	18-Jul-07	91-20-3	Naphthalene	1.7	ug/L	1.7	0	1
M	GS	SV-04-15	15	18-Jul-07	79-01-6	Trichloroethene	0.44	ug/L	0.44	0	1
M	GS	SV-04-15	15	18-Jul-07		Nitrogen	83	%		1	1
M	GS	SV-04-15	15	18-Jul-07	110-54-3	Hexane	0.29	ug/L	0.29	0	1
M	GS	SV-04-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	2.4	ug/L	2.4	0	1
M	GS	SV-04-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.18	ug/L	0.18	0	1
M	GS	SV-04-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.4	ug/L	0.4	0	1
M	GS	SV-04-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.38	ug/L	0.38	0	1
M	GS	SV-04-15	15	18-Jul-07		1,2-Dichloroethane-d4	126	%		1	1
M	GS	SV-04-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.33	ug/L	0.33	0	1
M	GS	SV-04-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.21	ug/L	0.21	0	1
M	GS	SV-04-15	15	18-Jul-07	75-00-3	Chloroethane	0.22	ug/L	0.22	0	1
M	GS	SV-04-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.58	ug/L	0.58	0	1
M	GS	SV-04-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.5	ug/L	0.5	0	1
M	GS	SV-04-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.4	ug/L	0.4	0	1
M	GS	SV-04-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.5	ug/L	0.5	0	1
M	GS	SV-04-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	2	ug/L	2	0	1
M	GS	SV-04-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.33	ug/L	0.33	0	1
M	GS	SV-04-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.33	ug/L	0.33	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	GS	SV-04-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.45	ug/L	0.45	0	1
M	GS	SV-04-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.63	ug/L	0.63	0	1
M	GS	SV-04-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.57	ug/L	0.57	0	1
M	GS	SV-04-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.45	ug/L	0.45	0	1
M	GS	SV-04-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	2.3	ug/L	2.3	0	1
M	GS	SV-04-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.33	ug/L	0.33	0	1
M	GS	SV-04-15	15	18-Jul-07		Carbon Monoxide	0.025	%		0	1
M	GS	SV-04-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.63	ug/L	0.63	0	1
M	GS	SV-04-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.52	ug/L	0.52	0	1
M	GS	SV-04-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.5	ug/L	0.5	0	1
M	GS	SV-04-15	15	18-Jul-07	75-15-0	Carbon Disulfide	1.2	ug/L	1.2	1	1
M	GS	SV-04-15	15	18-Jul-07		Carbon Dioxide	3.8	%		1	1
M	GS	SV-04-15	15	18-Jul-07	74-83-9	Bromomethane	0.32	ug/L	0.32	0	1
M	GS	SV-04-15	15	18-Jul-07	75-25-2	Bromoform	0.85	ug/L	0.85	0	1
M	GS	SV-04-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.55	ug/L	0.55	0	1
M	GS	SV-04-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.43	ug/L	0.43	0	1
M	GS	SV-04-15	15	18-Jul-07	78-93-3	2-Butanone	0.24	ug/L	0.24	0	1
M	GS	SV-04-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.38	ug/L	0.38	0	1
M	GS	SV-04-15	15	18-Jul-07	71-43-2	Benzene	0.26	ug/L	0.26	0	1
M	GS	SV-04-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.38	ug/L	0.38	0	1
M	GS	SV-04-15	15	18-Jul-07	591-78-6	2-Hexanone	1.4	ug/L	1.4	0	1
M	GS	SV-04-15	15	18-Jul-07		4-Bromofluorobenzene	103	%		1	1
M	GS	SV-04-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.34	ug/L	0.34	0	1
M	GS	SV-04-15	15	18-Jul-07	67-64-1	Acetone	0.78	ug/L	0.78	0	1
M	GS	SV-04-15	15	18-Jul-07	107-05-1	Allyl chloride	1	ug/L	1	0	1
M	GS	SV-04-15	15	18-Jul-07	123-91-1	1,4-Dioxane	1.2	ug/L	1.2	0	1
M	GS	SV-03-05	5	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0078	UG/L	0.0078	0	1
M	GS	SV-03-05	5	17-Nov-07	103-65-1	n-Propylbenzene	0.0068	UG/L	0.0068	0	1
M	GS	SV-03-05	5	17-Nov-07	127-18-4	Tetrachloroethene	0.0094	UG/L	0.0094	0	1
M	GS	SV-03-05	5	17-Nov-07	95-47-6	o-Xylene	0.006	UG/L	0.006	0	1
M	GS	SV-03-05	5	17-Nov-07	622-96-8	p-Ethyltoluene	0.0068	UG/L	0.0068	0	1
M	GS	SV-03-05	5	17-Nov-07	100-42-5	Styrene	0.0059	UG/L	0.0059	0	1
M	GS	SV-03-05	5	17-Nov-07	142-82-5	n-Heptane	0.0056	UG/L	0.0056	0	1
M	GS	SV-03-05	5	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.023	UG/L	0.023	0	1
M	GS	SV-03-05	5	17-Nov-07	75-65-0	tert-Butyl alcohol	0.017	UG/L	0.017	0	1
M	GS	SV-03-05	5	17-Nov-07	109-99-9	Tetrahydrofuran	0.0041	UG/L	0.0041	0	1
M	GS	SV-03-05	5	17-Nov-07	108-88-3	Toluene	0.0052	UG/L	0.0052	0	1
M	GS	SV-03-05	5	17-Nov-07		Toluene-d8	97	%		1	1
M	GS	SV-03-05	5	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0055	UG/L	0.0055	0	1
M	GS	SV-03-05	5	17-Nov-07	79-01-6	Trichloroethene	0.0074	UG/L	0.0074	0	1
M	GS	SV-03-05	5	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
M	GS	SV-03-05	5	17-Nov-07	75-01-4	Vinyl Chloride	0.0035	UG/L	0.0035	0	1
M	GS	SV-03-05	5	17-Nov-07	75-27-4	Bromodichloromethane	0.0092	UG/L	0.0092	0	1
M	GS	SV-03-05	5	17-Nov-07	91-20-3	Naphthalene	0.029	UG/L	0.029	0	1
M	GS	SV-03-05	5	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0063	UG/L	0.0063	0	1
M	GS	SV-03-05	5	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0096	UG/L	0.0096	0	1
M	GS	SV-03-05	5	17-Nov-07	74-83-9	Bromomethane	0.0054	UG/L	0.0054	0	1
M	GS	SV-03-05	5	17-Nov-07	591-78-6	2-Hexanone	0.023	UG/L	0.023	0	1
M	GS	SV-03-05	5	17-Nov-07	78-93-3	2-Butanone	0.0041	UG/L	0.0041	0	1
M	GS	SV-03-05	5	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0064	UG/L	0.0064	0	1
M	GS	SV-03-05	5	17-Nov-07	123-91-1	1,4-Dioxane	0.02	UG/L	0.02	0	1
M	GS	SV-03-05	5	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0083	UG/L	0.0083	0	1
M	GS	SV-03-05	5	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0083	UG/L	0.0083	0	1
M	GS	SV-03-05	5	17-Nov-07	106-99-0	1,3-Butadiene	0.003	UG/L	0.003	0	1
M	GS	SV-03-05	5	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0068	UG/L	0.0068	0	1
M	GS	SV-03-05	5	17-Nov-07	78-87-5	1,2-Dichloropropane	0.0064	UG/L	0.0064	0	1
M	GS	SV-03-05	5	17-Nov-07		1,2-Dichloroethane-d4	96	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	GS	SV-03-05	5	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0056	UG/L	0.0056	0	1
M	GS	SV-03-05	5	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0083	UG/L	0.0083	0	1
M	GS	SV-03-05	5	17-Nov-07	67-64-1	Acetone	0.024	UG/L	0.024	1	1
M	GS	SV-03-05	5	17-Nov-07	106-93-4	1,2-Dibromoethane	0.011	UG/L	0.011	0	1
M	GS	SV-03-05	5	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0068	UG/L	0.0068	0	1
M	GS	SV-03-05	5	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.041	UG/L	0.041	0	1
M	GS	SV-03-05	5	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.033	UG/L	0.033	0	1
M	GS	SV-03-05	5	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0055	UG/L	0.0055	0	1
M	GS	SV-03-05	5	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0056	UG/L	0.0056	0	1
M	GS	SV-03-05	5	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0075	UG/L	0.0075	0	1
M	GS	SV-03-05	5	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	UG/L	0.01	0	1
M	GS	SV-03-05	5	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0095	UG/L	0.0095	0	1
M	GS	SV-03-05	5	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0075	UG/L	0.0075	0	1
M	GS	SV-03-05	5	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.038	UG/L	0.038	0	1
M	GS	SV-03-05	5	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0056	UG/L	0.0056	0	1
M	GS	SV-03-05	5	17-Nov-07	110-82-7	Cyclohexane	0.0094	UG/L	0.0094	1	1
M	GS	SV-03-05	5	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.005	UG/L	0.005	0	1
M	GS	SV-03-05	5	17-Nov-07	179601-23-1	m,p-Xylenes	0.006	UG/L	0.006	0	1
M	GS	SV-03-05	5	17-Nov-07	98-82-8	Isopropylbenzene	0.0068	UG/L	0.0068	0	1
M	GS	SV-03-05	5	17-Nov-07	108-20-3	Isopropyl ether	0.023	UG/L	0.023	0	1
M	GS	SV-03-05	5	17-Nov-07	67-63-0	Isopropyl alcohol	0.014	UG/L	0.014	0	1
M	GS	SV-03-05	5	17-Nov-07	110-54-3	Hexane	0.0049	UG/L	0.0049	0	1
M	GS	SV-03-05	5	17-Nov-07	87-68-3	Hexachlorobutadiene	0.059	UG/L	0.059	0	1
M	GS	SV-03-05	5	17-Nov-07	100-41-4	Ethylbenzene	0.006	UG/L	0.006	0	1
M	GS	SV-03-05	5	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.023	UG/L	0.023	0	1
M	GS	SV-03-05	5	17-Nov-07	64-17-5	Ethanol	0.01	UG/L	0.01	0	1
M	GS	SV-03-05	5	17-Nov-07		4-Bromofluorobenzene	94	%		1	1
M	GS	SV-03-05	5	17-Nov-07	124-48-1	Dibromochloromethane	0.012	UG/L	0.012	0	1
M	GS	SV-03-05	5	17-Nov-07	75-09-2	Methylene Chloride	0.0048	UG/L	0.0048	0	1
M	GS	SV-03-05	5	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0063	UG/L	0.0063	0	1
M	GS	SV-03-05	5	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0055	UG/L		0	1
M	GS	SV-03-05	5	17-Nov-07	74-87-3	Chloromethane	0.011	UG/L	0.011	0	1
M	GS	SV-03-05	5	17-Nov-07	67-66-3	Chloroform	0.0067	UG/L	0.0067	0	1
M	GS	SV-03-05	5	17-Nov-07	75-00-3	Chloroethane	0.0036	UG/L	0.0036	0	1
M	GS	SV-03-05	5	17-Nov-07	108-90-7	Chlorobenzene	0.0064	UG/L	0.0064	0	1
M	GS	SV-03-05	5	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0087	UG/L	0.0087	0	1
M	GS	SV-03-05	5	17-Nov-07	75-15-0	Carbon Disulfide	0.0043	UG/L	0.0043	0	1
M	GS	SV-03-05	5	17-Nov-07	75-25-2	Bromoform	0.014	UG/L	0.014	0	1
M	GS	SV-03-05	5	17-Nov-07	100-44-7	Benzyl chloride	0.0071	UG/L	0.0071	0	1
M	GS	SV-03-05	5	17-Nov-07	71-43-2	Benzene	0.0044	UG/L	0.0044	0	1
M	GS	SV-03-05	5	17-Nov-07	107-05-1	Allyl chloride	0.017	UG/L	0.017	0	1
M	GS	SV-03-05	5	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0068	UG/L	0.0068	0	1
M	GS	SV-77-5'	5	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
M	GS	SV-77-5'	5	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
M	GS	SV-77-5'	5	20-Jun-12	71-43-2	Benzene	0.0032	ug/L	0.0032	1	1
M	GS	SV-77-5'	5	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
M	GS	SV-77-5'	5	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
M	GS	SV-77-5'	5	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
M	GS	SV-77-5'	5	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
M	GS	SV-77-5'	5	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.0072	ug/L	0.0072	1	1
M	GS	SV-77-5'	5	20-Jun-12	142-82-5	n-Heptane	0.0041	ug/L	0.0041	0	1
M	GS	SV-77-5'	5	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
M	GS	SV-77-5'	5	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
M	GS	SV-77-5'	5	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
M	GS	SV-77-5'	5	20-Jun-12	115-07-1	Propene	0.0029	ug/L	0.0029	1	1
M	GS	SV-77-5'	5	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
M	GS	SV-77-5'	5	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	GS	SV-77-5'	5	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
M	GS	SV-77-5'	5	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
M	GS	SV-77-5'	5	20-Jun-12	64-17-5	Ethanol	0.039	ug/L	0.039	1	1
M	GS	SV-77-5'	5	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0024	ug/L	0.0024	1	1
M	GS	SV-77-5'	5	20-Jun-12	67-64-1	Acetone	0.045	ug/L	0.045	1	1
M	GS	SV-77-5'	5	20-Jun-12	67-63-0	Isopropyl alcohol	0.01	ug/L	0.01	1	1
M	GS	SV-77-5'	5	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
M	GS	SV-77-5'	5	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0014	ug/L	0.0014	1	1
M	GS	SV-77-5'	5	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
M	GS	SV-77-5'	5	20-Jun-12	75-09-2	Methylene Chloride	0.0031	ug/L	0.0031	1	1
M	GS	SV-77-5'	5	20-Jun-12	75-15-0	Carbon disulfide	0.0063	ug/L	0.0063	0	1
M	GS	SV-77-5'	5	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
M	GS	SV-77-5'	5	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
M	GS	SV-77-5'	5	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.05	ug/L	0.05	1	1
M	GS	SV-77-5'	5	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
M	GS	SV-77-5'	5	20-Jun-12	78-93-3	2-Butanone	0.077	ug/L	0.077	1	1
M	GS	SV-77-5'	5	20-Jun-12	110-54-3	Hexane	0.0021	ug/L	0.0021	1	1
M	GS	SV-77-5'	5	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
M	GS	SV-77-5'	5	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
M	GS	SV-77-5'	5	20-Jun-12	141-78-6	Ethyl acetate	0.013	ug/L	0.013	1	1
M	GS	SV-77-5'	5	20-Jun-12	67-66-3	Chloroform	0.005	ug/L	0.005	1	1
M	GS	SV-77-5'	5	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
M	GS	SV-77-5'	5	20-Jun-12	109-99-9	Tetrahydrofuran	0.024	ug/L	0.024	1	1
M	GS	SV-77-5'	5	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
M	GS	SV-77-5'	5	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
M	GS	SV-77-5'	5	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
M	GS	SV-77-5'	5	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
M	GS	SV-77-5'	5	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0023	ug/L	0.0023	1	1
M	GS	SV-77-5'	5	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
M	GS	SV-77-5'	5	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
M	GS	SV-77-5'	5	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0058	ug/L	0.0058	1	1
M	GS	SV-77-5'	5	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
M	GS	SV-77-5'	5	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
M	GS	SV-77-5'	5	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
M	GS	SV-77-5'	5	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
M	GS	SV-77-5'	5	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
M	GS	SV-77-5'	5	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
M	GS	SV-77-5'	5	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
M	GS	SV-77-5'	5	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	0	1
M	GS	SV-77-5'	5	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
M	GS	SV-77-5'	5	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
M	GS	SV-77-5'	5	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
M	GS	SV-77-5'	5	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	0.72	ug/L	0.72	1	1
M	GS	SV-77-5'	5	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	1.3	ug/L	1.3	1	1
M	GS	SV-77-5'	5	20-Jun-12		TPHv (C6 - C8) aromatic	0.052	ug/L		1	1
M	GS	SV-77-5'	5	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.086	ug/L	0.086	1	1
M	GS	SV-77-5'	5	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
M	GS	SV-77-5'	5	20-Jun-12	100-41-4	Ethylbenzene	0.0056	ug/L	0.0056	1	1
M	GS	SV-77-5'	5	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
M	GS	SV-77-5'	5	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
M	GS	SV-77-5'	5	20-Jun-12	108-88-3	Toluene	0.022	ug/L	0.022	1	1
M	GS	SV-77-5'	5	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
M	GS	SV-77-5'	5	20-Jun-12	591-78-6	2-Hexanone	0.0024	ug/L	0.0024	1	1
M	GS	SV-77-5'	5	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
M	GS	SV-77-5'	5	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0037	ug/L	0.0037	1	1
M	GS	SV-77-5'	5	20-Jun-12	127-18-4	Tetrachloroethene	0.0069	ug/L	0.0069	0	1
M	GS	SV-77-5'	5	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	GS	SV-77-5'	5	20-Jun-12	103-65-1	n-Propylbenzene	0.005	ug/L	0.005	0	1
M	GS	SV-77-5'	5	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
M	GS	SV-77-5'	5	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
M	GS	SV-77-5'	5	20-Jun-12	179601-23-1	m,p-Xylenes	0.016	ug/L	0.016	1	1
M	GS	SV-77-5'	5	20-Jun-12	100-42-5	Styrene	0.0035	ug/L	0.0035	1	1
M	GS	SV-77-5'	5	20-Jun-12	95-47-6	o-Xylene	0.0053	ug/L	0.0053	1	1
M	GS	SV-77-5'	5	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
M	GS	SV-77-5'	5	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
M	GS	SV-77-5'	5	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
M	GS	SV-77-5'	5	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
M	GS	SV-77-5'	5	20-Jun-12	622-96-8	p-Ethyltoluene	0.0021	ug/L	0.0021	1	1
M	GS	SV-77-5'	5	20-Jun-12	98-82-8	Isopropylbenzene	0.044	ug/L	0.044	1	1
M	GS	SV-77-5'	5	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
M	GS	SV-77-5'	5	20-Jun-12		TPHv (C5 - C11)	2	ug/L		1	1
M	GS	SV-77-5'	5	20-Jun-12		Carbon dioxide	3.9	%		1	1
M	GS	SV-77-5'	5	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
M	GS	SV-77-5'	5	20-Jun-12		Oxygen	18	%		1	1
M	GS	SV-77-5'	5	20-Jun-12		Nitrogen	75	%		1	1
M	GS	SV-77-5'	5	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
M	GS	SV-77-5'	5	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
M	GS	SV-77-5'	5	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.376	ug/L		1	0
M	GS	SV-77-5'	5	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.187	ug/L		1	0
M	GS	SV-77-5'	5	20-Jun-12	2037-26-5	Toluene-d8	0.199	ug/L		1	0
M	GS	SV-77-5'	5	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
M	GS	SV-77-5'	5	20-Jun-12	74-82-8	Methane	0.01	%		0	1
M	GS	SV-78-5'	5	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
M	GS	SV-78-5'	5	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
M	GS	SV-78-5'	5	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
M	GS	SV-78-5'	5	20-Jun-12	78-93-3	2-Butanone	0.072	ug/L	0.072	1	1
M	GS	SV-78-5'	5	20-Jun-12	110-54-3	Hexane	0.0024	ug/L	0.0024	1	1
M	GS	SV-78-5'	5	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
M	GS	SV-78-5'	5	20-Jun-12		Carbon dioxide	1.7	%		1	1
M	GS	SV-78-5'	5	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
M	GS	SV-78-5'	5	20-Jun-12	141-78-6	Ethyl acetate	0.018	ug/L	0.018	1	1
M	GS	SV-78-5'	5	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
M	GS	SV-78-5'	5	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
M	GS	SV-78-5'	5	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
M	GS	SV-78-5'	5	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
M	GS	SV-78-5'	5	20-Jun-12	67-63-0	Isopropyl alcohol	0.0084	ug/L	0.0084	1	1
M	GS	SV-78-5'	5	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
M	GS	SV-78-5'	5	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
M	GS	SV-78-5'	5	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
M	GS	SV-78-5'	5	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
M	GS	SV-78-5'	5	20-Jun-12	71-43-2	Benzene	0.0058	ug/L	0.0058	1	1
M	GS	SV-78-5'	5	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
M	GS	SV-78-5'	5	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
M	GS	SV-78-5'	5	20-Jun-12		Oxygen	18	%		1	1
M	GS	SV-78-5'	5	20-Jun-12		Nitrogen	78	%		1	1
M	GS	SV-78-5'	5	20-Jun-12	74-82-8	Methane	0.01	%		0	1
M	GS	SV-78-5'	5	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
M	GS	SV-78-5'	5	20-Jun-12		TPHv (C5 - C11)	2.7	ug/L		1	1
M	GS	SV-78-5'	5	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
M	GS	SV-78-5'	5	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.186	ug/L		1	0
M	GS	SV-78-5'	5	20-Jun-12	2037-26-5	Toluene-d8	0.199	ug/L		1	0
M	GS	SV-78-5'	5	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0013	ug/L	0.0013	1	1
M	GS	SV-78-5'	5	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
M	GS	SV-78-5'	5	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	GS	SV-78-5'	5	20-Jun-12	64-17-5	Ethanol	0.029	ug/L	0.029	1	1
M	GS	SV-78-5'	5	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0027	ug/L	0.0027	1	1
M	GS	SV-78-5'	5	20-Jun-12	67-64-1	Acetone	0.046	ug/L	0.046	1	1
M	GS	SV-78-5'	5	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
M	GS	SV-78-5'	5	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
M	GS	SV-78-5'	5	20-Jun-12	142-82-5	n-Heptane	0.0018	ug/L	0.0018	1	1
M	GS	SV-78-5'	5	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
M	GS	SV-78-5'	5	20-Jun-12	75-09-2	Methylene Chloride	0.0021	ug/L	0.0021	1	1
M	GS	SV-78-5'	5	20-Jun-12	75-15-0	Carbon disulfide	0.0033	ug/L	0.0033	1	1
M	GS	SV-78-5'	5	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.372	ug/L		1	0
M	GS	SV-78-5'	5	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
M	GS	SV-78-5'	5	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.01	ug/L	0.01	1	1
M	GS	SV-78-5'	5	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
M	GS	SV-78-5'	5	20-Jun-12	103-65-1	n-Propylbenzene	0.005	ug/L	0.005	0	1
M	GS	SV-78-5'	5	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
M	GS	SV-78-5'	5	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0023	ug/L	0.0023	1	1
M	GS	SV-78-5'	5	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
M	GS	SV-78-5'	5	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
M	GS	SV-78-5'	5	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0056	ug/L	0.0056	1	1
M	GS	SV-78-5'	5	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
M	GS	SV-78-5'	5	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
M	GS	SV-78-5'	5	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
M	GS	SV-78-5'	5	20-Jun-12	98-82-8	Isopropylbenzene	0.047	ug/L	0.047	1	1
M	GS	SV-78-5'	5	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
M	GS	SV-78-5'	5	20-Jun-12	622-96-8	p-Ethyltoluene	0.0021	ug/L	0.0021	1	1
M	GS	SV-78-5'	5	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
M	GS	SV-78-5'	5	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
M	GS	SV-78-5'	5	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
M	GS	SV-78-5'	5	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	0	1
M	GS	SV-78-5'	5	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
M	GS	SV-78-5'	5	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
M	GS	SV-78-5'	5	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
M	GS	SV-78-5'	5	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	0.82	ug/L	0.82	1	1
M	GS	SV-78-5'	5	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	1.7	ug/L	1.7	1	1
M	GS	SV-78-5'	5	20-Jun-12		TPHv (C6 - C8) aromatic	0.055	ug/L		1	1
M	GS	SV-78-5'	5	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.1	ug/L	0.1	1	1
M	GS	SV-78-5'	5	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
M	GS	SV-78-5'	5	20-Jun-12	127-18-4	Tetrachloroethene	0.0048	ug/L	0.0048	1	1
M	GS	SV-78-5'	5	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
M	GS	SV-78-5'	5	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
M	GS	SV-78-5'	5	20-Jun-12	115-07-1	Propene	0.0042	ug/L	0.0042	1	1
M	GS	SV-78-5'	5	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
M	GS	SV-78-5'	5	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
M	GS	SV-78-5'	5	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.054	ug/L	0.054	1	1
M	GS	SV-78-5'	5	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
M	GS	SV-78-5'	5	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
M	GS	SV-78-5'	5	20-Jun-12	108-88-3	Toluene	0.023	ug/L	0.023	1	1
M	GS	SV-78-5'	5	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
M	GS	SV-78-5'	5	20-Jun-12	591-78-6	2-Hexanone	0.0023	ug/L	0.0023	1	1
M	GS	SV-78-5'	5	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
M	GS	SV-78-5'	5	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0036	ug/L	0.0036	1	1
M	GS	SV-78-5'	5	20-Jun-12	67-66-3	Chloroform	0.0021	ug/L	0.0021	1	1
M	GS	SV-78-5'	5	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
M	GS	SV-78-5'	5	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.0029	ug/L	0.0029	1	1
M	GS	SV-78-5'	5	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
M	GS	SV-78-5'	5	20-Jun-12	100-41-4	Ethylbenzene	0.0056	ug/L	0.0056	1	1
M	GS	SV-78-5'	5	20-Jun-12	179601-23-1	m,p-Xylenes	0.016	ug/L	0.016	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	GS	SV-78-5'	5	20-Jun-12	100-42-5	Styrene	0.0027	ug/L	0.0027	1	1
M	GS	SV-78-5'	5	20-Jun-12	95-47-6	o-Xylene	0.0054	ug/L	0.0054	1	1
M	GS	SV-78-5'	5	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
M	GS	SV-78-5'	5	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
M	GS	SV-78-5'	5	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
M	GS	SV-78-5'	5	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
M	GS	SV-78-5'	5	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
M	GS	SV-78-5'	5	20-Jun-12	109-99-9	Tetrahydrofuran	0.021	ug/L	0.021	1	1
M	GS	SV-79-5'	5	20-Jun-12	64-17-5	Ethanol	0.099	ug/L	0.099	1	1
M	GS	SV-79-5'	5	20-Jun-12	142-82-5	n-Heptane	0.0041	ug/L	0.0041	0	1
M	GS	SV-79-5'	5	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
M	GS	SV-79-5'	5	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
M	GS	SV-79-5'	5	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
M	GS	SV-79-5'	5	20-Jun-12	115-07-1	Propene	0.0021	ug/L	0.0021	1	1
M	GS	SV-79-5'	5	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
M	GS	SV-79-5'	5	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
M	GS	SV-79-5'	5	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.036	ug/L	0.036	1	1
M	GS	SV-79-5'	5	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
M	GS	SV-79-5'	5	20-Jun-12	67-63-0	Isopropyl alcohol	0.009	ug/L	0.009	1	1
M	GS	SV-79-5'	5	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
M	GS	SV-79-5'	5	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0056	ug/L	0.0056	0	1
M	GS	SV-79-5'	5	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
M	GS	SV-79-5'	5	20-Jun-12		Carbon dioxide	14	%		1	1
M	GS	SV-79-5'	5	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
M	GS	SV-79-5'	5	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
M	GS	SV-79-5'	5	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.374	ug/L		1	0
M	GS	SV-79-5'	5	20-Jun-12	2037-26-5	Toluene-d8	0.199	ug/L		1	0
M	GS	SV-79-5'	5	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.184	ug/L		1	0
M	GS	SV-79-5'	5	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
M	GS	SV-79-5'	5	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
M	GS	SV-79-5'	5	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
M	GS	SV-79-5'	5	20-Jun-12	67-64-1	Acetone	0.043	ug/L	0.043	1	1
M	GS	SV-79-5'	5	20-Jun-12	141-78-6	Ethyl acetate	0.016	ug/L	0.016	1	1
M	GS	SV-79-5'	5	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0061	ug/L	0.0061	0	1
M	GS	SV-79-5'	5	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
M	GS	SV-79-5'	5	20-Jun-12	75-09-2	Methylene Chloride	0.0023	ug/L	0.0023	1	1
M	GS	SV-79-5'	5	20-Jun-12	75-15-0	Carbon disulfide	0.0063	ug/L	0.0063	0	1
M	GS	SV-79-5'	5	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
M	GS	SV-79-5'	5	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
M	GS	SV-79-5'	5	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
M	GS	SV-79-5'	5	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
M	GS	SV-79-5'	5	20-Jun-12	78-93-3	2-Butanone	0.062	ug/L	0.062	1	1
M	GS	SV-79-5'	5	20-Jun-12	110-54-3	Hexane	0.0036	ug/L	0.0036	0	1
M	GS	SV-79-5'	5	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.0037	ug/L	0.0037	1	1
M	GS	SV-79-5'	5	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
M	GS	SV-79-5'	5	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
M	GS	SV-79-5'	5	20-Jun-12	67-66-3	Chloroform	0.0046	ug/L	0.0046	1	1
M	GS	SV-79-5'	5	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
M	GS	SV-79-5'	5	20-Jun-12	109-99-9	Tetrahydrofuran	0.019	ug/L	0.019	1	1
M	GS	SV-79-5'	5	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
M	GS	SV-79-5'	5	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
M	GS	SV-79-5'	5	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
M	GS	SV-79-5'	5	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
M	GS	SV-79-5'	5	20-Jun-12	71-43-2	Benzene	0.0026	ug/L	0.0026	1	1
M	GS	SV-79-5'	5	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
M	GS	SV-79-5'	5	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
M	GS	SV-79-5'	5	20-Jun-12	74-82-8	Methane	0.01	%		0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	GS	SV-79-5'	5	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
M	GS	SV-79-5'	5	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
M	GS	SV-79-5'	5	20-Jun-12		Nitrogen	73	%		1	1
M	GS	SV-79-5'	5	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	0.71	ug/L	0.71	1	1
M	GS	SV-79-5'	5	20-Jun-12		TPHv (C5 - C11)	1.4	ug/L		1	1
M	GS	SV-79-5'	5	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
M	GS	SV-79-5'	5	20-Jun-12	103-65-1	n-Propylbenzene	0.005	ug/L	0.005	0	1
M	GS	SV-79-5'	5	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
M	GS	SV-79-5'	5	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.002	ug/L	0.002	1	1
M	GS	SV-79-5'	5	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
M	GS	SV-79-5'	5	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
M	GS	SV-79-5'	5	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
M	GS	SV-79-5'	5	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
M	GS	SV-79-5'	5	20-Jun-12	98-82-8	Isopropylbenzene	0.029	ug/L	0.029	1	1
M	GS	SV-79-5'	5	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
M	GS	SV-79-5'	5	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
M	GS	SV-79-5'	5	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
M	GS	SV-79-5'	5	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
M	GS	SV-79-5'	5	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
M	GS	SV-79-5'	5	20-Jun-12		Oxygen	12	%		1	1
M	GS	SV-79-5'	5	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
M	GS	SV-79-5'	5	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
M	GS	SV-79-5'	5	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	0	1
M	GS	SV-79-5'	5	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
M	GS	SV-79-5'	5	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0054	ug/L	0.0054	1	1
M	GS	SV-79-5'	5	20-Jun-12	100-41-4	Ethylbenzene	0.0044	ug/L	0.0044	1	1
M	GS	SV-79-5'	5	20-Jun-12		TPHv (C6 - C8) aromatic	0.1	ug/L		0	1
M	GS	SV-79-5'	5	20-Jun-12	108-88-3	Toluene	0.018	ug/L	0.018	1	1
M	GS	SV-79-5'	5	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.068	ug/L	0.068	1	1
M	GS	SV-79-5'	5	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
M	GS	SV-79-5'	5	20-Jun-12	591-78-6	2-Hexanone	0.0019	ug/L	0.0019	1	1
M	GS	SV-79-5'	5	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
M	GS	SV-79-5'	5	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0029	ug/L	0.0029	1	1
M	GS	SV-79-5'	5	20-Jun-12	127-18-4	Tetrachloroethene	0.0069	ug/L	0.0069	0	1
M	GS	SV-79-5'	5	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
M	GS	SV-79-5'	5	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
M	GS	SV-79-5'	5	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
M	GS	SV-79-5'	5	20-Jun-12	179601-23-1	m,p-Xylenes	0.012	ug/L	0.012	1	1
M	GS	SV-79-5'	5	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	0.82	ug/L	0.82	1	1
M	GS	SV-79-5'	5	20-Jun-12	100-42-5	Styrene	0.0024	ug/L	0.0024	1	1
M	GS	SV-79-5'	5	20-Jun-12	95-47-6	o-Xylene	0.004	ug/L	0.004	1	1
M	GS	SV-79-5'	5	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
M	GS	SV-79-5'	5	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
M	GS	SV-79-5'	5	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
M	GS	SV-79-5'	5	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
M	GS	SV-79-5'	5	20-Jun-12	622-96-8	p-Ethyltoluene	0.005	ug/L	0.005	0	1
M	GS	SV-79-5'	5	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
M	GS	SV-79-5'	5	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
M	Soil	B-146-10	10		68476-30-2	TPHd			21	1	1
M	Soil	B-146-10	10		8006-61-9	TPHg			10	0	1
M	Soil	B-146-10	10		64742-47-8	TPHm			10	1	1
M	Soil	B-146-5	5		BaP TEQ	BaP TEQ			0.144	1	1
M	Soil	B-146-5	5		64742-47-8	TPHm			5200	1	1
M	Soil	B-146-5	5		8006-61-9	TPHg			10	0	1
M	Soil	B-146-5	5		68476-30-2	TPHd			7600	1	1
M	Soil	B-171-10	10		68476-30-2	TPHd			10	0	1
M	Soil	B-171-10	10		8006-61-9	TPHg			10	0	1

Attachment 6
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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	B-171-10	10		64742-47-8	TPHm			10	0	1
M	Soil	B-171-5	5		68476-30-2	TPHd			10	0	1
M	Soil	B-171-5	5		8006-61-9	TPHg			10	0	1
M	Soil	B-171-5	5		64742-47-8	TPHm			15	1	1
M	Soil	B-202-10	10		68476-30-2	TPHd			100	0	1
M	Soil	B-202-10	10		8006-61-9	TPHg			10	0	1
M	Soil	B-202-10	10		64742-47-8	TPHm			100	0	1
M	Soil	B-202-5	5		68476-30-2	TPHd			100	0	1
M	Soil	B-202-5	5		8006-61-9	TPHg			10	0	1
M	Soil	B-202-5	5		64742-47-8	TPHm			100	0	1
M	Soil	S-44-0.5	0.5		68476-30-2	TPHd			12	1	1
M	Soil	S-44-0.5	0.5		8006-61-9	TPHg			10	0	1
M	Soil	S-44-0.5	0.5		64742-47-8	TPHm			63	1	1
M	Soil	S-44-2.5	2.5		68476-30-2	TPHd			10	0	1
M	Soil	S-44-2.5	2.5		8006-61-9	TPHg			10	0	1
M	Soil	S-44-2.5	2.5		64742-47-8	TPHm			10	0	1
M	Soil	SV-03-01	1		BaP TEQ	BaP TEQ			0.0108325	1	1
M	Soil	SV-03-01	1		64742-47-8	TPHm			10	0	1
M	Soil	SV-03-01	1		68476-30-2	TPHd			10	0	1
M	Soil	SV-03-01	1		8006-61-9	TPHg			0.41	0	1
M	Soil	SV-03-05	5		BaP TEQ	BaP TEQ			0.0048645	0	1
M	Soil	SV-03-05	5		64742-47-8	TPHm			5	0	1
M	Soil	SV-03-05	5		8006-61-9	TPHg			0.42	0	1
M	Soil	SV-03-05	5		68476-30-2	TPHd			5	0	1
M	Soil	SV-03-10	10		BaP TEQ	BaP TEQ			0.0050055	0	1
M	Soil	SV-03-10	10		64742-47-8	TPHm			5	0	1
M	Soil	SV-03-10	10		68476-30-2	TPHd			5	0	1
M	Soil	SV-03-10	10		8006-61-9	TPHg			0.43	0	1
M	Soil	SV-04-01	1		BaP TEQ	BaP TEQ			0.0455	1	1
M	Soil	SV-04-01	1		68476-30-2	TPHd			58	1	1
M	Soil	SV-04-01	1		8006-61-9	TPHg			0.4	0	1
M	Soil	SV-04-01	1		64742-47-8	TPHm			110	1	1
M	Soil	SV-04-05	5		BaP TEQ	BaP TEQ			0.0349525	1	1
M	Soil	SV-04-05	5		64742-47-8	TPHm			690	1	1
M	Soil	SV-04-05	5		68476-30-2	TPHd			800	1	1
M	Soil	SV-04-05	5		8006-61-9	TPHg			0.37	0	1
M	Soil	SV-04-10	10		BaP TEQ	BaP TEQ			0.04263	1	1
M	Soil	SV-04-10	10		8006-61-9	TPHg			13	1	1
M	Soil	SV-04-10	10		64742-47-8	TPHm			2500	1	1
M	Soil	SV-04-10	10		68476-30-2	TPHd			6100	1	1
M	Soil	B-146-10	10	24-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
M	Soil	B-146-10	10	24-Nov-97		C4-C10	10	mg/K	10	0	1
M	Soil	B-146-10	10	24-Nov-97		C25-C40	10	mg/K	10	1	1
M	Soil	B-146-10	10	24-Nov-97		C1-C40	31	mg/K	31	1	1
M	Soil	B-146-10	10	24-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
M	Soil	B-146-10	10	24-Nov-97		C10-C25	21	mg/K	21	1	1
M	Soil	B-146-10	10	24-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
M	Soil	B-146-10	10	24-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	106-93-4	1,2-Dibromoethane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	541-73-1	1,3-Dichlorobenzene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	108-67-8	1,3,5-Trimethylbenzene	0.02	mg/K	0.02	1	1
M	Soil	B-146-5	5	24-Nov-97	78-87-5	1,2-Dichloropropane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	107-06-2	1,2-Dichloroethane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97		C25-C40	5200	mg/K	5200	1	1
M	Soil	B-146-5	5	24-Nov-97	95-50-1	1,2-Dichlorobenzene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	7440-43-9	Cadmium	1	mg/K	1	0	1
M	Soil	B-146-5	5	24-Nov-97		C10-C25	7600	mg/K	7600	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	B-146-5	5	24-Nov-97	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/K	0.01	0	1
M	Soil	B-146-5	5	24-Nov-97		C1-C40	12800	mg/K	12800	1	1
M	Soil	B-146-5	5	24-Nov-97	75-25-2	Bromoform	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	142-28-9	1,3-Dichloropropane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	74-83-9	Bromomethane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97		C4-C10	10	mg/K	10	0	1
M	Soil	B-146-5	5	24-Nov-97	7440-36-0	Antimony	5	mg/K	5	0	1
M	Soil	B-146-5	5	24-Nov-97	7440-66-6	Zinc	40	mg/K	40	1	1
M	Soil	B-146-5	5	24-Nov-97	191-24-2	Benzo(g,h,i)perylene	0.2	mg/K	0.2	0	1
M	Soil	B-146-5	5	24-Nov-97	205-99-2	Benzo(b)fluoranthene	0.2	mg/K	0.2	0	1
M	Soil	B-146-5	5	24-Nov-97	50-32-8	Benzo(a)pyrene	0.2	mg/K	0.2	0	1
M	Soil	B-146-5	5	24-Nov-97	56-55-3	Benzo(a)anthracene	0.2	mg/K	0.2	0	1
M	Soil	B-146-5	5	24-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	120-12-7	Anthracene	0.2	mg/K	0.2	0	1
M	Soil	B-146-5	5	24-Nov-97	7440-38-2	Arsenic	5	mg/K	5	0	1
M	Soil	B-146-5	5	24-Nov-97	106-46-7	1,4-Dichlorobenzene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	124-48-1	Dibromochloromethane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	95-63-6	1,2,4-Trimethylbenzene	0.039	mg/K	0.039	1	1
M	Soil	B-146-5	5	24-Nov-97	83-32-9	Acenaphthene	0.2	mg/K	0.2	0	1
M	Soil	B-146-5	5	24-Nov-97	207-08-9	Benzo(k)fluoranthene	0.2	mg/K	0.2	0	1
M	Soil	B-146-5	5	24-Nov-97	95-49-8	2-Chlorotoluene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/K	0.01	0	1
M	Soil	B-146-5	5	24-Nov-97	594-20-7	2,2-Dichloropropane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	7440-39-3	Barium	83	mg/K	83	1	1
M	Soil	B-146-5	5	24-Nov-97	563-58-6	1,1-Dichloropropene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	7440-50-8	Copper	16	mg/K	16	1	1
M	Soil	B-146-5	5	24-Nov-97	34077-87-7	Dichlorotrifluoroethane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	1330-20-7	Xylenes (total)	0.026	mg/K	0.026	1	1
M	Soil	B-146-5	5	24-Nov-97	100-41-4	Ethylbenzene	0.009	mg/K	0.009	1	1
M	Soil	B-146-5	5	24-Nov-97	208-96-8	Acenaphthylene	0.2	mg/K	0.2	0	1
M	Soil	B-146-5	5	24-Nov-97	206-44-0	Fluoranthene	0.2	mg/K	0.2	0	1
M	Soil	B-146-5	5	24-Nov-97	108-90-7	Chlorobenzene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/K	0.01	0	1
M	Soil	B-146-5	5	24-Nov-97	75-00-3	Chloroethane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	75-35-4	1,1-Dichloroethene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	75-34-3	1,1-Dichloroethane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	79-00-5	1,1,2-Trichloroethane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	71-55-6	1,1,1-Trichloroethane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	96-18-4	1,2,3-Trichloropropane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	53-70-3	Dibenz(a,h)anthracene	0.2	mg/K	0.2	0	1
M	Soil	B-146-5	5	24-Nov-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
M	Soil	B-146-5	5	24-Nov-97	108-86-1	Bromobenzene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	74-97-5	Bromochloromethane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	75-27-4	Bromodichloromethane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	156-59-2	cis-1,2-Dichloroethene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	56-23-5	Carbon tetrachloride	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	75-71-8	Dichlorodifluoromethane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	7440-48-4	Cobalt	2.3	mg/K	2.3	1	1
M	Soil	B-146-5	5	24-Nov-97	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/K	0.01	0	1
M	Soil	B-146-5	5	24-Nov-97	86-73-7	Fluorene	0.2	mg/K	0.2	0	1
M	Soil	B-146-5	5	24-Nov-97	74-95-3	Dibromomethane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	218-01-9	Chrysene	0.4	mg/K	0.4	1	1
M	Soil	B-146-5	5	24-Nov-97	7440-47-3	Chromium	17	mg/K	17	1	1
M	Soil	B-146-5	5	24-Nov-97	74-87-3	Chloromethane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	67-66-3	Chloroform	0.005	mg/K	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	B-146-5	5	24-Nov-97	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	91-20-3	Naphthalene	0.012	mg/K	0.012	1	0
M	Soil	B-146-5	5	24-Nov-97	7782-49-2	Selenium	5	mg/K	5	0	1
M	Soil	B-146-5	5	24-Nov-97	135-98-8	sec-Butylbenzene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	129-00-0	Pyrene	0.2	mg/K	0.2	0	1
M	Soil	B-146-5	5	24-Nov-97	99-87-6	p-Isopropyltoluene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	85-01-8	Phenanthrene	0.2	mg/K	0.2	0	1
M	Soil	B-146-5	5	24-Nov-97	103-65-1	n-Propylbenzene	0.006	mg/K	0.006	1	1
M	Soil	B-146-5	5	24-Nov-97	106-43-4	4-Chlorotoluene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	104-51-8	n-Butylbenzene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	91-20-3	Naphthalene	0.6	mg/K	0.6	1	1
M	Soil	B-146-5	5	24-Nov-97	75-09-2	Methylene chloride	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
M	Soil	B-146-5	5	24-Nov-97	7439-92-1	Lead	3.6	mg/K	3.6	1	1
M	Soil	B-146-5	5	24-Nov-97	75-01-4	Vinyl chloride	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	98-82-8	Isopropylbenzene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.2	mg/K	0.2	0	1
M	Soil	B-146-5	5	24-Nov-97	87-68-3	Hexachlorobutadiene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	7440-02-0	Nickel	8.3	mg/K	8.3	1	1
M	Soil	B-146-5	5	24-Nov-97	75-69-4	Trichlorofluoromethane	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
M	Soil	B-146-5	5	24-Nov-97	7440-62-2	Vanadium	22	mg/K	22	1	1
M	Soil	B-146-5	5	24-Nov-97	7440-22-4	Silver	1	mg/K	1	0	1
M	Soil	B-146-5	5	24-Nov-97	79-01-6	Trichloroethene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	7440-28-0	Thallium	5	mg/K	5	0	1
M	Soil	B-146-5	5	24-Nov-97	156-60-5	trans-1,2-Dichloroethene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	100-42-5	Styrene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	98-06-6	tert-Butylbenzene	0.005	mg/K	0.005	0	1
M	Soil	B-146-5	5	24-Nov-97	127-18-4	Tetrachloroethene	0.005	mg/K	0.005	0	1
M	Soil	B-171-10	10	24-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
M	Soil	B-171-10	10	24-Nov-97		C10-C25	10	mg/K	10	0	1
M	Soil	B-171-10	10	24-Nov-97		C1-C40	10	mg/K	10	0	1
M	Soil	B-171-10	10	24-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
M	Soil	B-171-10	10	24-Nov-97		C4-C10	10	mg/K	10	0	1
M	Soil	B-171-10	10	24-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
M	Soil	B-171-10	10	24-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
M	Soil	B-171-10	10	24-Nov-97		C25-C40	10	mg/K	10	0	1
M	Soil	B-171-5	5	24-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
M	Soil	B-171-5	5	24-Nov-97		C4-C10	10	mg/K	10	0	1
M	Soil	B-171-5	5	24-Nov-97		C25-C40	15	mg/K	15	1	1
M	Soil	B-171-5	5	24-Nov-97		C1-C40	15	mg/K	15	1	1
M	Soil	B-171-5	5	24-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
M	Soil	B-171-5	5	24-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
M	Soil	B-171-5	5	24-Nov-97		C10-C25	10	mg/K	10	0	1
M	Soil	B-171-5	5	24-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
M	Soil	B-202-10	10	29-May-02	71-43-2	Benzene	0.005	mg/k	0.005	0	1
M	Soil	B-202-10	10	29-May-02	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
M	Soil	B-202-10	10	29-May-02		C10-C25	100	mg/k	100	0	1
M	Soil	B-202-10	10	29-May-02		C1-C40	100	mg/K	100	0	1
M	Soil	B-202-10	10	29-May-02		C25-C40	100	mg/k	100	0	1
M	Soil	B-202-10	10	29-May-02		C4-C10	10	mg/k	10	0	1
M	Soil	B-202-10	10	29-May-02	108-88-3	Toluene	0.005	mg/k	0.005	0	1
M	Soil	B-202-10	10	29-May-02	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
M	Soil	B-202-5	5	29-May-02	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
M	Soil	B-202-5	5	29-May-02	71-43-2	Benzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	B-202-5	5	29-May-02		C10-C25	100	mg/k	100	0	1
M	Soil	B-202-5	5	29-May-02		C1-C40	100	mg/K	100	0	1
M	Soil	B-202-5	5	29-May-02		C4-C10	10	mg/k	10	0	1
M	Soil	B-202-5	5	29-May-02	108-88-3	Toluene	0.005	mg/k	0.005	0	1
M	Soil	B-202-5	5	29-May-02	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
M	Soil	B-202-5	5	29-May-02		C25-C40	100	mg/k	100	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	309-00-2	Aldrin	0.002	mg/k	0.002	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	93-76-5	2,4,5-T	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	94-75-7	2,4-D	0.05	mg/k	0.05	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	72-54-8	4,4'-DDD	0.002	mg/k	0.002	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	72-55-9	4,4'-DDE	0.002	mg/k	0.002	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	319-84-6	alpha-BHC	0.002	mg/k	0.002	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	3.4	mg/k	3.4	1	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7440-39-3	Barium	130	mg/k	130	1	1
M	Soil	S-44-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	2	mg/k	2	1	1
M	Soil	S-44-0.5	0.5	04-Jun-03	319-85-7	beta-BHC	0.002	mg/k	0.002	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	50-29-3	4,4'-DDT	0.002	mg/k	0.002	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	8001-35-2	Toxaphene		mg/k	0.1	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	72-43-5	Methoxychlor	0.002	mg/k	0.002	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7440-66-6	Zinc	55	mg/k	55	1	1
M	Soil	S-44-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	62	mg/k	62	1	1
M	Soil	S-44-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	S-44-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	72-20-8	Endrin	0.002	mg/k	0.002	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7421-93-4	Endrin aldehyde	0.002	mg/k	0.002	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	53494-70-5	Endrin ketone	0.002	mg/k	0.002	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	58-89-9	gamma-BHC	0.002	mg/k	0.002	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	76-44-8	Heptachlor	0.002	mg/k	0.002	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	1024-57-3	Heptachlor epoxide	0.002	mg/k	0.002	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7439-92-1	Lead	11	mg/k	11	1	1
M	Soil	S-44-0.5	0.5	04-Jun-03	94-74-6	MCPA	5	mg/k	5	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	93-65-2	MCPP	5	mg/k	5	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	1031-07-8	Endosulfan sulfate	0.002	mg/k	0.002	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	93-72-1	Silvex	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03		C10-C25	12	mg/k	12	1	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	94-82-6	2,4-DB	0.5	mg/k	0.5	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7440-02-0	Nickel	27	mg/k	27	1	1
M	Soil	S-44-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03		C25-C40	63	mg/k	63	1	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	33213-65-9	Endosulfan II	0.002	mg/k	0.002	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1.2	mg/k	1.2	1	1
M	Soil	S-44-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7440-47-3	Chromium	22	mg/k	22	1	1
M	Soil	S-44-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	8.6	mg/k	8.6	1	1
M	Soil	S-44-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	88-85-7	Dinoseb	0.01	mg/k	0.01	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	60-57-1	Dieldrin	0.002	mg/k	0.002	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	57-74-9	Chlordane	0.1	mg/k	0.1	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	7440-50-8	Copper	15	mg/k	15	1	1
M	Soil	S-44-0.5	0.5	04-Jun-03	120-36-5	Dichloroprop	0.05	mg/k	0.05	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	1918-00-9	Dicamba	0.01	mg/k	0.01	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	115-29-7	Endosulfan I	0.002	mg/k	0.002	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	319-86-8	delta-BHC	0.002	mg/k	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	S-44-0.5	0.5	04-Jun-03	75-99-0	Dalapon	0.1	mg/k	0.1	0	1
M	Soil	S-44-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	7439-92-1	Lead	7.2	mg/k	7.2	1	1
M	Soil	S-44-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	7440-50-8	Copper	8.9	mg/k	8.9	1	1
M	Soil	S-44-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	11	mg/k	11	1	1
M	Soil	S-44-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	7440-47-3	Chromium	12	mg/k	12	1	1
M	Soil	S-44-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	7440-66-6	Zinc	21	mg/k	21	1	1
M	Soil	S-44-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	34	mg/k	34	1	1
M	Soil	S-44-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	7440-02-0	Nickel	15	mg/k	15	1	1
M	Soil	S-44-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	S-44-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	1.6	mg/k	1.6	1	1
M	Soil	S-44-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03		C25-C40	10	mg/k	10	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	7440-39-3	Barium	120	mg/k	120	1	1
M	Soil	S-44-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	1.8	mg/k	1.8	1	1
M	Soil	S-44-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
M	Soil	S-44-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
M	Soil	SV-03-01	1	11-Jul-07	103-65-1	n-Propylbenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07		C14-C15	7	mg/k	7	0	1
M	Soil	SV-03-01	1	11-Jul-07	56-23-5	Carbon tetrachloride	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	71-43-2	Benzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	56-55-3	Benzo(a)anthracene	6.5	ug/kg	0.0065	0	1
M	Soil	SV-03-01	1	11-Jul-07	50-32-8	Benzo(a)pyrene	9.5	ug/kg	0.0095	1	1
M	Soil	SV-03-01	1	11-Jul-07	205-99-2	Benzo(b)fluoranthene	6.5	ug/kg	0.0065	0	1
M	Soil	SV-03-01	1	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	9.8	ug/kg	0.0098	1	1
M	Soil	SV-03-01	1	11-Jul-07	207-08-9	Benzo(k)fluoranthene	6.5	ug/kg	0.0065	0	1
M	Soil	SV-03-01	1	11-Jul-07	7440-41-7	Beryllium	0.59	mg/k	0.59	1	1
M	Soil	SV-03-01	1	11-Jul-07	108-86-1	Bromobenzene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	74-97-5	Bromochloromethane	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	75-27-4	Bromodichloromethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	75-25-2	Bromoform	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	74-83-9	Bromomethane	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	7440-38-2	Arsenic	1.4	mg/k	1.4	1	1
M	Soil	SV-03-01	1	11-Jul-07		C26-C27	7	mg/k	7	0	1
M	Soil	SV-03-01	1	11-Jul-07	95-47-6	o-Xylene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07		C8-C9	7	mg/k	7	0	1
M	Soil	SV-03-01	1	11-Jul-07		C8-C40	10	mg/k	10	0	1
M	Soil	SV-03-01	1	11-Jul-07		C36-C40	7	mg/k	7	0	1
M	Soil	SV-03-01	1	11-Jul-07		C32-C35	7	mg/k	7	0	1
M	Soil	SV-03-01	1	11-Jul-07		C10-C11	7	mg/k	7	0	1
M	Soil	SV-03-01	1	11-Jul-07		C28-C29	7	mg/k	7	0	1
M	Soil	SV-03-01	1	11-Jul-07		C12-C13	7	mg/k	7	0	1
M	Soil	SV-03-01	1	11-Jul-07		C24-C25	7	mg/k	7	0	1
M	Soil	SV-03-01	1	11-Jul-07		C22-C23	7	mg/k	7	0	1
M	Soil	SV-03-01	1	11-Jul-07		C20-C21	7	mg/k	7	0	1
M	Soil	SV-03-01	1	11-Jul-07		C18-C19	7	mg/k	7	0	1
M	Soil	SV-03-01	1	11-Jul-07		C16-C17	7	mg/k	7	0	1
M	Soil	SV-03-01	1	11-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
M	Soil	SV-03-01	1	11-Jul-07		C30-C31	7	mg/k	7	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	SV-03-01	1	11-Jul-07	78-87-5	1,2-Dichloropropane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	75-34-3	1,1-Dichloroethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	75-35-4	1,1-Dichloroethene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	563-58-6	1,1-Dichloropropene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	96-18-4	1,2,3-Trichloropropane	11	ug/kg	0.011	0	1
M	Soil	SV-03-01	1	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	106-93-4	1,2-Dibromoethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	7440-39-3	Barium	170	mg/k	170	1	1
M	Soil	SV-03-01	1	11-Jul-07		2-Fluorobiphenyl	1600	ug/kg	1.6	1	1
M	Soil	SV-03-01	1	11-Jul-07	120-12-7	Anthracene	6.5	ug/kg	0.0065	0	1
M	Soil	SV-03-01	1	11-Jul-07	208-96-8	Acenaphthylene	6.5	ug/kg	0.0065	0	1
M	Soil	SV-03-01	1	11-Jul-07	83-32-9	Acenaphthene	6.5	ug/kg	0.0065	0	1
M	Soil	SV-03-01	1	11-Jul-07	106-43-4	4-Chlorotoluene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07		4-Bromofluorobenzene	38.8	ug/kg	0.0388	1	1
M	Soil	SV-03-01	1	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	91-57-6	2-Methylnaphthalene	6.5	ug/kg	0.0065	0	1
M	Soil	SV-03-01	1	11-Jul-07	107-06-2	1,2-Dichloroethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	95-49-8	2-Chlorotoluene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	594-20-7	2,2-Dichloropropane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	108-90-7	Chlorobenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07		4-Bromofluorobenzene	0.0134	mg/k	0.0134	1	0
M	Soil	SV-03-01	1	11-Jul-07	75-65-0	tert-Butyl alcohol	110	ug/kg	0.11	0	1
M	Soil	SV-03-01	1	11-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
M	Soil	SV-03-01	1	11-Jul-07	7440-02-0	Nickel	13	mg/k	13	1	1
M	Soil	SV-03-01	1	11-Jul-07		Nitrobenzene-d5	440	ug/kg	0.44	1	1
M	Soil	SV-03-01	1	11-Jul-07		n-Octacosane	4.77	mg/k	4.77	1	1
M	Soil	SV-03-01	1	11-Jul-07	90-12-0	1-Methylnaphthalene	6.5	ug/kg	0.0065	0	1
M	Soil	SV-03-01	1	11-Jul-07		ORO (C25-C40)	10	mg/k	10	0	1
M	Soil	SV-03-01	1	11-Jul-07	85-01-8	Phenanthrene	6.5	ug/kg	0.0065	0	1
M	Soil	SV-03-01	1	11-Jul-07	99-87-6	p-Isopropyltoluene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	129-00-0	Pyrene	6.5	ug/kg	0.0065	0	1
M	Soil	SV-03-01	1	11-Jul-07	135-98-8	sec-Butylbenzene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
M	Soil	SV-03-01	1	11-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
M	Soil	SV-03-01	1	11-Jul-07	100-42-5	Styrene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	91-20-3	Naphthalene	6.5	ug/kg	0.0065	0	0
M	Soil	SV-03-01	1	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	1330-20-7	Xylenes (total)	4.4	ug/kg	0.0044	0	1
M	Soil	SV-03-01	1	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
M	Soil	SV-03-01	1	11-Jul-07	75-01-4	Vinyl chloride	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	7440-62-2	Vanadium	54	mg/k	54	1	1
M	Soil	SV-03-01	1	11-Jul-07	75-69-4	Trichlorofluoromethane	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07		Terphenyl-d14	1500	ug/kg	1.5	1	1
M	Soil	SV-03-01	1	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	994-05-8	Tert-amyl methyl ether	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07		Toluene-d8	52.5	ug/kg	0.0525	1	1
M	Soil	SV-03-01	1	11-Jul-07	108-88-3	Toluene	2.2	ug/kg	0.0022	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	SV-03-01	1	11-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
M	Soil	SV-03-01	1	11-Jul-07	127-18-4	Tetrachloroethene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	98-06-6	tert-Butylbenzene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	91-20-3	Naphthalene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	79-01-6	Trichloroethene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	637-92-3	Ethyl tert butyl ether	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	75-00-3	Chloroethane	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	67-66-3	Chloroform	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	74-87-3	Chloromethane	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	7440-47-3	Chromium	13	mg/k	13	1	1
M	Soil	SV-03-01	1	11-Jul-07	218-01-9	Chrysene	6.5	ug/kg	0.0065	0	1
M	Soil	SV-03-01	1	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	7440-48-4	Cobalt	12	mg/k	12	1	1
M	Soil	SV-03-01	1	11-Jul-07	7440-50-8	Copper	11	mg/k	11	1	1
M	Soil	SV-03-01	1	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.5	ug/kg	0.0065	0	1
M	Soil	SV-03-01	1	11-Jul-07	124-48-1	Dibromochloromethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07		Dibromofluoromethane	49.8	ug/kg	0.0498	1	1
M	Soil	SV-03-01	1	11-Jul-07	74-95-3	Dibromomethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	104-51-8	n-Butylbenzene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	108-20-3	Isopropyl ether	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
M	Soil	SV-03-01	1	11-Jul-07	75-09-2	Methylene chloride	22	ug/kg	0.022	0	1
M	Soil	SV-03-01	1	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	7439-97-6	Mercury	0.032	mg/k	0.032	1	1
M	Soil	SV-03-01	1	11-Jul-07	179601-23-1	m,p-Xylenes	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	75-71-8	Dichlorodifluoromethane	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	98-82-8	Isopropylbenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07		DRO (C10-C24)	10	mg/k	10	0	1
M	Soil	SV-03-01	1	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.5	ug/kg	0.0065	0	1
M	Soil	SV-03-01	1	11-Jul-07	87-68-3	Hexachlorobutadiene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-03-01	1	11-Jul-07	86-73-7	Fluorene	6.5	ug/kg	0.0065	0	1
M	Soil	SV-03-01	1	11-Jul-07	206-44-0	Fluoranthene	6.5	ug/kg	0.0065	0	1
M	Soil	SV-03-01	1	11-Jul-07	100-41-4	Ethylbenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-01	1	11-Jul-07	7440-66-6	Zinc	37	mg/k	37	1	1
M	Soil	SV-03-01	1	11-Jul-07	7439-92-1	Lead	5.7	mg/k	5.7	1	1
M	Soil	SV-03-01	1	11-Jul-07	142-28-9	1,3-Dichloropropane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
M	Soil	SV-03-05	5	11-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
M	Soil	SV-03-05	5	11-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
M	Soil	SV-03-05	5	11-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
M	Soil	SV-03-05	5	11-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
M	Soil	SV-03-05	5	11-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
M	Soil	SV-03-05	5	11-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
M	Soil	SV-03-05	5	11-Jul-07	74-95-3	Dibromomethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
M	Soil	SV-03-05	5	11-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
M	Soil	SV-03-05	5	11-Jul-07	74-83-9	Bromomethane	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	75-25-2	Bromoform	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	75-27-4	Bromodichloromethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	74-97-5	Bromochloromethane	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	108-86-1	Bromobenzene	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	7440-41-7	Beryllium	0.57	mg/k	0.57	1	1
M	Soil	SV-03-05	5	11-Jul-07	207-08-9	Benzo(k)fluoranthene	6.9	ug/kg	0.0069	0	1
M	Soil	SV-03-05	5	11-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
M	Soil	SV-03-05	5	11-Jul-07	74-87-3	Chloromethane	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07		Dibromofluoromethane	53.8	ug/kg	0.0538	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	SV-03-05	5	11-Jul-07	124-48-1	Dibromochloromethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.9	ug/kg	0.0069	0	1
M	Soil	SV-03-05	5	11-Jul-07	7440-50-8	Copper	10	mg/k	10	1	1
M	Soil	SV-03-05	5	11-Jul-07	7440-48-4	Cobalt	13	mg/k	13	1	1
M	Soil	SV-03-05	5	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
M	Soil	SV-03-05	5	11-Jul-07	7440-47-3	Chromium	9.8	mg/k	9.8	1	1
M	Soil	SV-03-05	5	11-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
M	Soil	SV-03-05	5	11-Jul-07	67-66-3	Chloroform	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	108-90-7	Chlorobenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
M	Soil	SV-03-05	5	11-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
M	Soil	SV-03-05	5	11-Jul-07		C8-C40	5	mg/k	5	0	1
M	Soil	SV-03-05	5	11-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
M	Soil	SV-03-05	5	11-Jul-07	50-32-8	Benzo(a)pyrene	6.9	ug/kg	0.0069	0	1
M	Soil	SV-03-05	5	11-Jul-07	218-01-9	Chrysene	6.9	ug/kg	0.0069	0	1
M	Soil	SV-03-05	5	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	78-87-5	1,2-Dichloropropane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	107-06-2	1,2-Dichloroethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	106-93-4	1,2-Dibromoethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.9	ug/kg	0.0069	0	1
M	Soil	SV-03-05	5	11-Jul-07	96-18-4	1,2,3-Trichloropropane	11	ug/kg	0.011	0	1
M	Soil	SV-03-05	5	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	563-58-6	1,1-Dichloropropene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	75-35-4	1,1-Dichloroethene	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	75-34-3	1,1-Dichloroethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	106-43-4	4-Chlorotoluene	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	75-00-3	Chloroethane	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	56-55-3	Benzo(a)anthracene	6.9	ug/kg	0.0069	0	1
M	Soil	SV-03-05	5	11-Jul-07	71-43-2	Benzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	7440-39-3	Barium	120	mg/k	120	1	1
M	Soil	SV-03-05	5	11-Jul-07	7440-38-2	Arsenic	1.1	mg/k	1.1	1	1
M	Soil	SV-03-05	5	11-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
M	Soil	SV-03-05	5	11-Jul-07	120-12-7	Anthracene	6.9	ug/kg	0.0069	0	1
M	Soil	SV-03-05	5	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	83-32-9	Acenaphthene	6.9	ug/kg	0.0069	0	1
M	Soil	SV-03-05	5	11-Jul-07	142-28-9	1,3-Dichloropropane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07		4-Bromofluorobenzene	45	ug/kg	0.045	1	1
M	Soil	SV-03-05	5	11-Jul-07		4-Bromofluorobenzene	0.0139	mg/k	0.0139	1	0
M	Soil	SV-03-05	5	11-Jul-07	91-57-6	2-Methylnaphthalene	6.9	ug/kg	0.0069	0	1
M	Soil	SV-03-05	5	11-Jul-07		2-Fluorobiphenyl	1400	ug/kg	1.4	1	1
M	Soil	SV-03-05	5	11-Jul-07	95-49-8	2-Chlorotoluene	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	594-20-7	2,2-Dichloropropane	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	90-12-0	1-Methylnaphthalene	6.9	ug/kg	0.0069	0	1
M	Soil	SV-03-05	5	11-Jul-07	205-99-2	Benzo(b)fluoranthene	6.9	ug/kg	0.0069	0	1
M	Soil	SV-03-05	5	11-Jul-07	208-96-8	Acenaphthylene	6.9	ug/kg	0.0069	0	1
M	Soil	SV-03-05	5	11-Jul-07	179601-23-1	m,p-Xylenes	2.2	ug/kg	0.0022	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	SV-03-05	5	11-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
M	Soil	SV-03-05	5	11-Jul-07		n-Octacosane	4.55	mg/k	4.55	1	1
M	Soil	SV-03-05	5	11-Jul-07		Nitrobenzene-d5	470	ug/kg	0.47	1	1
M	Soil	SV-03-05	5	11-Jul-07	7440-02-0	Nickel	9	mg/k	9	1	1
M	Soil	SV-03-05	5	11-Jul-07	104-51-8	n-Butylbenzene	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	91-20-3	Naphthalene	6.9	ug/kg	0.0069	0	0
M	Soil	SV-03-05	5	11-Jul-07	91-20-3	Naphthalene	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
M	Soil	SV-03-05	5	11-Jul-07	75-09-2	Methylene chloride	22	ug/kg	0.022	0	1
M	Soil	SV-03-05	5	11-Jul-07	75-71-8	Dichlorodifluoromethane	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	7439-97-6	Mercury	0.035	mg/k	0.035	1	1
M	Soil	SV-03-05	5	11-Jul-07	99-87-6	p-Isopropyltoluene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	7439-92-1	Lead	3	mg/k	3	1	1
M	Soil	SV-03-05	5	11-Jul-07	98-82-8	Isopropylbenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	108-20-3	Isopropyl ether	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.9	ug/kg	0.0069	0	1
M	Soil	SV-03-05	5	11-Jul-07	87-68-3	Hexachlorobutadiene	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	86-73-7	Fluorene	6.9	ug/kg	0.0069	0	1
M	Soil	SV-03-05	5	11-Jul-07	206-44-0	Fluoranthene	6.9	ug/kg	0.0069	0	1
M	Soil	SV-03-05	5	11-Jul-07	100-41-4	Ethylbenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	637-92-3	Ethyl tert butyl ether	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
M	Soil	SV-03-05	5	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	127-18-4	Tetrachloroethene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	7440-66-6	Zinc	25	mg/k	25	1	1
M	Soil	SV-03-05	5	11-Jul-07	1330-20-7	Xylenes (total)	4.5	ug/kg	0.0045	0	1
M	Soil	SV-03-05	5	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.42	mg/k	0.42	0	1
M	Soil	SV-03-05	5	11-Jul-07	75-01-4	Vinyl chloride	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	7440-62-2	Vanadium	46	mg/k	46	1	1
M	Soil	SV-03-05	5	11-Jul-07	75-69-4	Trichlorofluoromethane	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	79-01-6	Trichloroethene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07		Toluene-d8	55.2	ug/kg	0.0552	1	1
M	Soil	SV-03-05	5	11-Jul-07	56-23-5	Carbon tetrachloride	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
M	Soil	SV-03-05	5	11-Jul-07	85-01-8	Phenanthrene	6.9	ug/kg	0.0069	0	1
M	Soil	SV-03-05	5	11-Jul-07	98-06-6	tert-Butylbenzene	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	75-65-0	tert-Butyl alcohol	110	ug/kg	0.11	0	1
M	Soil	SV-03-05	5	11-Jul-07	994-05-8	Tert-amyl methyl ether	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07		Terphenyl-d14	1600	ug/kg	1.6	1	1
M	Soil	SV-03-05	5	11-Jul-07	100-42-5	Styrene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
M	Soil	SV-03-05	5	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
M	Soil	SV-03-05	5	11-Jul-07	135-98-8	sec-Butylbenzene	5.6	ug/kg	0.0056	0	1
M	Soil	SV-03-05	5	11-Jul-07	129-00-0	Pyrene	6.9	ug/kg	0.0069	0	1
M	Soil	SV-03-05	5	11-Jul-07	103-65-1	n-Propylbenzene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	108-88-3	Toluene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-05	5	11-Jul-07	95-47-6	o-Xylene	2.2	ug/kg	0.0022	0	1
M	Soil	SV-03-10	10	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	7.1	ug/kg	0.0071	0	1
M	Soil	SV-03-10	10	11-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	7439-92-1	Lead	2.7	mg/k	2.7	1	1
M	Soil	SV-03-10	10	11-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	SV-03-10	10	11-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
M	Soil	SV-03-10	10	11-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
M	Soil	SV-03-10	10	11-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	91-20-3	Naphthalene	7.1	ug/kg	0.0071	0	0
M	Soil	SV-03-10	10	11-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	218-01-9	Chrysene	7.1	ug/kg	0.0071	0	1
M	Soil	SV-03-10	10	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	7440-48-4	Cobalt	12	mg/k	12	1	1
M	Soil	SV-03-10	10	11-Jul-07	86-73-7	Fluorene	7.1	ug/kg	0.0071	0	1
M	Soil	SV-03-10	10	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	7.1	ug/kg	0.0071	0	1
M	Soil	SV-03-10	10	11-Jul-07	206-44-0	Fluoranthene	7.1	ug/kg	0.0071	0	1
M	Soil	SV-03-10	10	11-Jul-07		Dibromofluoromethane	60.4	ug/kg	0.0604	1	1
M	Soil	SV-03-10	10	11-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
M	Soil	SV-03-10	10	11-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07		n-Octacosane	4.42	mg/k	4.42	1	1
M	Soil	SV-03-10	10	11-Jul-07	7440-50-8	Copper	9.4	mg/k	9.4	1	1
M	Soil	SV-03-10	10	11-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
M	Soil	SV-03-10	10	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	7440-66-6	Zinc	24	mg/k	24	1	1
M	Soil	SV-03-10	10	11-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
M	Soil	SV-03-10	10	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.43	mg/k	0.43	0	1
M	Soil	SV-03-10	10	11-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	7440-62-2	Vanadium	36	mg/k	36	1	1
M	Soil	SV-03-10	10	11-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07		Toluene-d8	47.8	ug/kg	0.0478	1	1
M	Soil	SV-03-10	10	11-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
M	Soil	SV-03-10	10	11-Jul-07	7440-02-0	Nickel	7.5	mg/k	7.5	1	1
M	Soil	SV-03-10	10	11-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
M	Soil	SV-03-10	10	11-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	85-01-8	Phenanthrene	7.1	ug/kg	0.0071	0	1
M	Soil	SV-03-10	10	11-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	129-00-0	Pyrene	7.1	ug/kg	0.0071	0	1
M	Soil	SV-03-10	10	11-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
M	Soil	SV-03-10	10	11-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
M	Soil	SV-03-10	10	11-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07		Terphenyl-d14	2300	ug/kg	2.3	1	1
M	Soil	SV-03-10	10	11-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07		Nitrobenzene-d5	1400	ug/kg	1.4	1	1
M	Soil	SV-03-10	10	11-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	7440-38-2	Arsenic	1.2	mg/k	1.2	1	1
M	Soil	SV-03-10	10	11-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	SV-03-10	10	11-Jul-07	120-12-7	Anthracene	7.1	ug/kg	0.0071	0	1
M	Soil	SV-03-10	10	11-Jul-07	208-96-8	Acenaphthylene	7.1	ug/kg	0.0071	0	1
M	Soil	SV-03-10	10	11-Jul-07	83-32-9	Acenaphthene	7.1	ug/kg	0.0071	0	1
M	Soil	SV-03-10	10	11-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07		4-Bromofluorobenzene	45	ug/kg	0.045	1	1
M	Soil	SV-03-10	10	11-Jul-07		4-Bromofluorobenzene	0.0159	mg/k	0.0159	1	0
M	Soil	SV-03-10	10	11-Jul-07	91-57-6	2-Methylnaphthalene	7.1	ug/kg	0.0071	0	1
M	Soil	SV-03-10	10	11-Jul-07		2-Fluorobiphenyl	1300	ug/kg	1.3	1	1
M	Soil	SV-03-10	10	11-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	90-12-0	1-Methylnaphthalene	7.1	ug/kg	0.0071	0	1
M	Soil	SV-03-10	10	11-Jul-07	7440-47-3	Chromium	6.7	mg/k	6.7	1	1
M	Soil	SV-03-10	10	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1
M	Soil	SV-03-10	10	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	56-55-3	Benzo(a)anthracene	7.1	ug/kg	0.0071	0	1
M	Soil	SV-03-10	10	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
M	Soil	SV-03-10	10	11-Jul-07	7440-39-3	Barium	97	mg/k	97	1	1
M	Soil	SV-03-10	10	11-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
M	Soil	SV-03-10	10	11-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
M	Soil	SV-03-10	10	11-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
M	Soil	SV-03-10	10	11-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
M	Soil	SV-03-10	10	11-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
M	Soil	SV-03-10	10	11-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
M	Soil	SV-03-10	10	11-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
M	Soil	SV-03-10	10	11-Jul-07		C8-C40	5	mg/k	5	0	1
M	Soil	SV-03-10	10	11-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
M	Soil	SV-03-10	10	11-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
M	Soil	SV-03-10	10	11-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
M	Soil	SV-03-10	10	11-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	50-32-8	Benzo(a)pyrene	7.1	ug/kg	0.0071	0	1
M	Soil	SV-03-10	10	11-Jul-07	205-99-2	Benzo(b)fluoranthene	7.1	ug/kg	0.0071	0	1
M	Soil	SV-03-10	10	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	7.1	ug/kg	0.0071	0	1
M	Soil	SV-03-10	10	11-Jul-07	207-08-9	Benzo(k)fluoranthene	7.1	ug/kg	0.0071	0	1
M	Soil	SV-03-10	10	11-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
M	Soil	SV-03-10	10	11-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
M	Soil	SV-03-10	10	11-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
M	Soil	SV-03-10	10	11-Jul-07		C10-C11	3.5	mg/k	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	SV-03-10	10	11-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
M	Soil	SV-03-10	10	11-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
M	Soil	SV-03-10	10	11-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
M	Soil	SV-03-10	10	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
M	Soil	SV-04-01	1	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07		Nitrobenzene-d5	1100	ug/kg	1.1	1	1
M	Soil	SV-04-01	1	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	85-01-8	Phenanthrene	5.9	ug/kg	0.0059	1	1
M	Soil	SV-04-01	1	11-Jul-07		Terphenyl-d14	1300	ug/kg	1.3	1	1
M	Soil	SV-04-01	1	11-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
M	Soil	SV-04-01	1	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
M	Soil	SV-04-01	1	11-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07		ORO (C25-C40)	110	mg/k	110	1	1
M	Soil	SV-04-01	1	11-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	129-00-0	Pyrene	18	ug/kg	0.018	1	1
M	Soil	SV-04-01	1	11-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	205-99-2	Benzo(b)fluoranthene	38	ug/kg	0.038	1	1
M	Soil	SV-04-01	1	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	57	ug/kg	0.057	1	1
M	Soil	SV-04-01	1	11-Jul-07	207-08-9	Benzo(k)fluoranthene	14	ug/kg	0.014	1	1
M	Soil	SV-04-01	1	11-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
M	Soil	SV-04-01	1	11-Jul-07	56-55-3	Benzo(a)anthracene	19	ug/kg	0.019	1	1
M	Soil	SV-04-01	1	11-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07		C10-C11	7	mg/k	7	0	1
M	Soil	SV-04-01	1	11-Jul-07		C12-C13	7	mg/k	7	0	1
M	Soil	SV-04-01	1	11-Jul-07		C14-C15	7	mg/k	7	0	1
M	Soil	SV-04-01	1	11-Jul-07		C16-C17	7	mg/k	7	0	1
M	Soil	SV-04-01	1	11-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	90-12-0	1-Methylnaphthalene	5.9	ug/kg	0.0059	0	1
M	Soil	SV-04-01	1	11-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07		2-Fluorobiphenyl	1200	ug/kg	1.2	1	1
M	Soil	SV-04-01	1	11-Jul-07	91-57-6	2-Methylnaphthalene	5.9	ug/kg	0.0059	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	SV-04-01	1	11-Jul-07	50-32-8	Benzo(a)pyrene	35	ug/kg	0.035	1	1
M	Soil	SV-04-01	1	11-Jul-07		4-Bromofluorobenzene	33.8	ug/kg	0.0338	1	1
M	Soil	SV-04-01	1	11-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	83-32-9	Acenaphthene	5.9	ug/kg	0.0059	0	1
M	Soil	SV-04-01	1	11-Jul-07	208-96-8	Acenaphthylene	5.9	ug/kg	0.0059	1	1
M	Soil	SV-04-01	1	11-Jul-07	120-12-7	Anthracene	5.9	ug/kg	0.0059	0	1
M	Soil	SV-04-01	1	11-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
M	Soil	SV-04-01	1	11-Jul-07	7440-38-2	Arsenic	1.4	mg/k	1.4	1	1
M	Soil	SV-04-01	1	11-Jul-07	7440-39-3	Barium	85	mg/k	85	1	1
M	Soil	SV-04-01	1	11-Jul-07		4-Bromofluorobenzene	0.0161	mg/k	0.0161	1	0
M	Soil	SV-04-01	1	11-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	218-01-9	Chrysene	20	ug/kg	0.02	1	1
M	Soil	SV-04-01	1	11-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07		DRO (C10-C24)	58	mg/k	58	1	1
M	Soil	SV-04-01	1	11-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	86-73-7	Fluorene	5.9	ug/kg	0.0059	0	1
M	Soil	SV-04-01	1	11-Jul-07		Dibromofluoromethane	58.8	ug/kg	0.0588	1	1
M	Soil	SV-04-01	1	11-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	12	ug/kg	0.012	1	1
M	Soil	SV-04-01	1	11-Jul-07		n-Octacosane	5.53	mg/k	5.53	1	1
M	Soil	SV-04-01	1	11-Jul-07	7440-50-8	Copper	9.7	mg/k	9.7	1	1
M	Soil	SV-04-01	1	11-Jul-07	7440-48-4	Cobalt	5.9	mg/k	5.9	1	1
M	Soil	SV-04-01	1	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	7440-02-0	Nickel	12	mg/k	12	1	1
M	Soil	SV-04-01	1	11-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	91-20-3	Naphthalene	6.4	ug/kg	0.0064	1	1
M	Soil	SV-04-01	1	11-Jul-07		n-Octacosane	5.51	mg/k	5.51	1	0
M	Soil	SV-04-01	1	11-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	0
M	Soil	SV-04-01	1	11-Jul-07	206-44-0	Fluoranthene	16	ug/kg	0.016	1	1
M	Soil	SV-04-01	1	11-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
M	Soil	SV-04-01	1	11-Jul-07	7440-47-3	Chromium	15	mg/k	15	1	1
M	Soil	SV-04-01	1	11-Jul-07	7439-97-6	Mercury	0.033	mg/k	0.033	1	1
M	Soil	SV-04-01	1	11-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	7439-92-1	Lead	6.2	mg/k	6.2	1	1
M	Soil	SV-04-01	1	11-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	32	ug/kg	0.032	1	1
M	Soil	SV-04-01	1	11-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
M	Soil	SV-04-01	1	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
M	Soil	SV-04-01	1	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
M	Soil	SV-04-01	1	11-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	7440-62-2	Vanadium	29	mg/k	29	1	1
M	Soil	SV-04-01	1	11-Jul-07		C20-C21	15	mg/k	15	1	1
M	Soil	SV-04-01	1	11-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07		C22-C23	18	mg/k	18	1	1
M	Soil	SV-04-01	1	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07		Toluene-d8	45.8	ug/kg	0.0458	1	1
M	Soil	SV-04-01	1	11-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
M	Soil	SV-04-01	1	11-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07		C18-C19	10	mg/k	10	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	SV-04-01	1	11-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07		C8-C40	170	mg/k	170	1	1
M	Soil	SV-04-01	1	11-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-01	1	11-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
M	Soil	SV-04-01	1	11-Jul-07	7440-66-6	Zinc	71	mg/k	71	1	1
M	Soil	SV-04-01	1	11-Jul-07		C8-C9	7	mg/k	7	0	1
M	Soil	SV-04-01	1	11-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
M	Soil	SV-04-01	1	11-Jul-07		C36-C40	13	mg/k	13	1	1
M	Soil	SV-04-01	1	11-Jul-07		C32-C35	23	mg/k	23	1	1
M	Soil	SV-04-01	1	11-Jul-07		C30-C31	19	mg/k	19	1	1
M	Soil	SV-04-01	1	11-Jul-07		C28-C29	24	mg/k	24	1	1
M	Soil	SV-04-01	1	11-Jul-07		C26-C27	19	mg/k	19	1	1
M	Soil	SV-04-01	1	11-Jul-07		C24-C25	19	mg/k	19	1	1
M	Soil	SV-04-01	1	11-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
M	Soil	SV-04-05	5	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07		C16-C17	110	mg/k	110	1	1
M	Soil	SV-04-05	5	11-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
M	Soil	SV-04-05	5	11-Jul-07		C28-C29	150	mg/k	150	1	1
M	Soil	SV-04-05	5	11-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
M	Soil	SV-04-05	5	11-Jul-07		C8-C9	18	mg/k	18	0	1
M	Soil	SV-04-05	5	11-Jul-07		C8-C40	1500	mg/k	1500	1	1
M	Soil	SV-04-05	5	11-Jul-07		C36-C40	56	mg/k	56	1	1
M	Soil	SV-04-05	5	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07		C30-C31	110	mg/k	110	1	1
M	Soil	SV-04-05	5	11-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07		C26-C27	170	mg/k	170	1	1
M	Soil	SV-04-05	5	11-Jul-07		C24-C25	180	mg/k	180	1	1
M	Soil	SV-04-05	5	11-Jul-07		C22-C23	200	mg/k	200	1	1
M	Soil	SV-04-05	5	11-Jul-07		C20-C21	180	mg/k	180	1	1
M	Soil	SV-04-05	5	11-Jul-07		C18-C19	160	mg/k	160	1	1
M	Soil	SV-04-05	5	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07		C32-C35	110	mg/k	110	1	1
M	Soil	SV-04-05	5	11-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	50-32-8	Benzo(a)pyrene	30	ug/kg	0.03	1	1
M	Soil	SV-04-05	5	11-Jul-07	205-99-2	Benzo(b)fluoranthene	41	ug/kg	0.041	1	1
M	Soil	SV-04-05	5	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	99	ug/kg	0.099	1	1
M	Soil	SV-04-05	5	11-Jul-07	207-08-9	Benzo(k)fluoranthene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-04-05	5	11-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	SV-04-05	5	11-Jul-07	7440-39-3	Barium	64	mg/k	64	1	1
M	Soil	SV-04-05	5	11-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07		C10-C11	18	mg/k	18	0	1
M	Soil	SV-04-05	5	11-Jul-07		C12-C13	18	mg/k	18	0	1
M	Soil	SV-04-05	5	11-Jul-07		C14-C15	44	mg/k	44	1	1
M	Soil	SV-04-05	5	11-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
M	Soil	SV-04-05	5	11-Jul-07		4-Bromofluorobenzene	34	ug/kg	0.034	1	1
M	Soil	SV-04-05	5	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	90-12-0	1-Methylnaphthalene	370	ug/kg	0.37	1	1
M	Soil	SV-04-05	5	11-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07		2-Fluorobiphenyl	830	ug/kg	0.83	1	1
M	Soil	SV-04-05	5	11-Jul-07	56-55-3	Benzo(a)anthracene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-04-05	5	11-Jul-07		4-Bromofluorobenzene	0.00555	mg/k	0.00555	1	0
M	Soil	SV-04-05	5	11-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	83-32-9	Acenaphthene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-04-05	5	11-Jul-07	208-96-8	Acenaphthylene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-04-05	5	11-Jul-07	120-12-7	Anthracene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-04-05	5	11-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
M	Soil	SV-04-05	5	11-Jul-07	7440-38-2	Arsenic	1.3	mg/k	1.3	1	1
M	Soil	SV-04-05	5	11-Jul-07	91-57-6	2-Methylnaphthalene	400	ug/kg	0.4	1	1
M	Soil	SV-04-05	5	11-Jul-07	85-01-8	Phenanthrene	42	ug/kg	0.042	1	1
M	Soil	SV-04-05	5	11-Jul-07	7440-02-0	Nickel	10	mg/k	10	1	1
M	Soil	SV-04-05	5	11-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
M	Soil	SV-04-05	5	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
M	Soil	SV-04-05	5	11-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
M	Soil	SV-04-05	5	11-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07		ORO (C25-C40)	690	mg/k	690	1	1
M	Soil	SV-04-05	5	11-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07		n-Octacosane	13.9	mg/k	13.9	1	1
M	Soil	SV-04-05	5	11-Jul-07		n-Octacosane	13.8	mg/k	13.8	1	0
M	Soil	SV-04-05	5	11-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	129-00-0	Pyrene	26	ug/kg	0.026	1	1
M	Soil	SV-04-05	5	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	7440-66-6	Zinc	13	mg/k	13	1	1
M	Soil	SV-04-05	5	11-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
M	Soil	SV-04-05	5	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.37	mg/k	0.37	0	1
M	Soil	SV-04-05	5	11-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	7440-62-2	Vanadium	19	mg/k	19	1	1
M	Soil	SV-04-05	5	11-Jul-07		Terphenyl-d14	1200	ug/kg	1.2	1	1
M	Soil	SV-04-05	5	11-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07		Toluene-d8	42.1	ug/kg	0.0421	1	1
M	Soil	SV-04-05	5	11-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
M	Soil	SV-04-05	5	11-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	SV-04-05	5	11-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	7440-47-3	Chromium	14	mg/k	14	1	1
M	Soil	SV-04-05	5	11-Jul-07	218-01-9	Chrysene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-04-05	5	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	7440-48-4	Cobalt	6.3	mg/k	6.3	1	1
M	Soil	SV-04-05	5	11-Jul-07	7440-50-8	Copper	5.4	mg/k	5.4	1	1
M	Soil	SV-04-05	5	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-04-05	5	11-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07		Dibromofluoromethane	55.2	ug/kg	0.0552	1	1
M	Soil	SV-04-05	5	11-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07		Nitrobenzene-d5	870	ug/kg	0.87	1	1
M	Soil	SV-04-05	5	11-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	91-20-3	Naphthalene	94	ug/kg	0.094	1	1
M	Soil	SV-04-05	5	11-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	0
M	Soil	SV-04-05	5	11-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
M	Soil	SV-04-05	5	11-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
M	Soil	SV-04-05	5	11-Jul-07		DRO (C10-C24)	800	mg/k	800	1	1
M	Soil	SV-04-05	5	11-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
M	Soil	SV-04-05	5	11-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	7439-92-1	Lead	3	mg/k	3	1	1
M	Soil	SV-04-05	5	11-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
M	Soil	SV-04-05	5	11-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.5	ug/kg	0.0055	0	1
M	Soil	SV-04-05	5	11-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
M	Soil	SV-04-05	5	11-Jul-07	86-73-7	Fluorene	79	ug/kg	0.079	1	1
M	Soil	SV-04-05	5	11-Jul-07	206-44-0	Fluoranthene	25	ug/kg	0.025	1	1
M	Soil	SV-04-05	5	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
M	Soil	SV-04-10	10	11-Jul-07	207-08-9	Benzo(k)fluoranthene	6.2	ug/kg	0.0062	0	1
M	Soil	SV-04-10	10	11-Jul-07	7440-66-6	Zinc	24	mg/k	24	1	1
M	Soil	SV-04-10	10	11-Jul-07		C10-C11	720	mg/k	720	1	1
M	Soil	SV-04-10	10	11-Jul-07		Dibromofluoromethane	64.2	ug/kg	0.0642	1	0
M	Soil	SV-04-10	10	11-Jul-07		C26-C27	560	mg/k	560	1	1
M	Soil	SV-04-10	10	11-Jul-07		C24-C25	450	mg/k	450	1	1
M	Soil	SV-04-10	10	11-Jul-07		C22-C23	520	mg/k	520	1	1
M	Soil	SV-04-10	10	11-Jul-07		C20-C21	870	mg/k	870	1	1
M	Soil	SV-04-10	10	11-Jul-07		C18-C19	640	mg/k	640	1	1
M	Soil	SV-04-10	10	11-Jul-07		C16-C17	900	mg/k	900	1	1
M	Soil	SV-04-10	10	11-Jul-07		C30-C31	380	mg/k	380	1	1
M	Soil	SV-04-10	10	11-Jul-07		C12-C13	1100	mg/k	1100	1	1
M	Soil	SV-04-10	10	11-Jul-07		C32-C35	550	mg/k	550	1	1
M	Soil	SV-04-10	10	11-Jul-07	74-83-9	Bromomethane	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	75-25-2	Bromoform	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	75-27-4	Bromodichloromethane	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	74-97-5	Bromochloromethane	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
M	Soil	SV-04-10	10	11-Jul-07	205-99-2	Benzo(b)fluoranthene	55	ug/kg	0.055	1	1
M	Soil	SV-04-10	10	11-Jul-07	50-32-8	Benzo(a)pyrene	34	ug/kg	0.034	1	1
M	Soil	SV-04-10	10	11-Jul-07		C14-C15	1000	mg/k	1000	1	1
M	Soil	SV-04-10	10	11-Jul-07	67-66-3	Chloroform	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	124-48-1	Dibromochloromethane	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.2	ug/kg	0.0062	0	1
M	Soil	SV-04-10	10	11-Jul-07	7440-50-8	Copper	8.4	mg/k	8.4	1	1
M	Soil	SV-04-10	10	11-Jul-07	7440-48-4	Cobalt	11	mg/k	11	1	1
M	Soil	SV-04-10	10	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	SV-04-10	10	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	218-01-9	Chrysene	220	ug/kg	0.22	1	1
M	Soil	SV-04-10	10	11-Jul-07		C28-C29	340	mg/k	340	1	1
M	Soil	SV-04-10	10	11-Jul-07	74-87-3	Chloromethane	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	7440-39-3	Barium	140	mg/k	140	1	1
M	Soil	SV-04-10	10	11-Jul-07	75-00-3	Chloroethane	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	108-90-7	Chlorobenzene	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	56-23-5	Carbon tetrachloride	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
M	Soil	SV-04-10	10	11-Jul-07		C8-C9	290	mg/k	290	1	1
M	Soil	SV-04-10	10	11-Jul-07		C8-C40	8700	mg/k	8700	1	1
M	Soil	SV-04-10	10	11-Jul-07		C36-C40	360	mg/k	360	1	1
M	Soil	SV-04-10	10	11-Jul-07	7440-47-3	Chromium	13	mg/k	13	1	1
M	Soil	SV-04-10	10	11-Jul-07	75-35-4	1,1-Dichloroethene	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	107-06-2	1,2-Dichloroethane	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	106-93-4	1,2-Dibromoethane	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
M	Soil	SV-04-10	10	11-Jul-07	56-55-3	Benzo(a)anthracene	6.2	ug/kg	0.0062	0	1
M	Soil	SV-04-10	10	11-Jul-07	563-58-6	1,1-Dichloropropene	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	75-34-3	1,1-Dichloroethane	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	1330-20-7	Xylenes (total)	4.2	ug/kg	0.0042	0	1
M	Soil	SV-04-10	10	11-Jul-07	108-86-1	Bromobenzene	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07		4-Bromofluorobenzene	0.000129	mg/k	0.000129	1	0
M	Soil	SV-04-10	10	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	41	ug/kg	0.041	1	1
M	Soil	SV-04-10	10	11-Jul-07	7440-38-2	Arsenic	1.1	mg/k	1.1	1	1
M	Soil	SV-04-10	10	11-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
M	Soil	SV-04-10	10	11-Jul-07	120-12-7	Anthracene	150	ug/kg	0.15	1	1
M	Soil	SV-04-10	10	11-Jul-07	208-96-8	Acenaphthylene	6.2	ug/kg	0.0062	0	1
M	Soil	SV-04-10	10	11-Jul-07	83-32-9	Acenaphthene	200	ug/kg	0.2	1	1
M	Soil	SV-04-10	10	11-Jul-07	106-43-4	4-Chlorotoluene	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	78-87-5	1,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07		4-Bromofluorobenzene	59.9	ug/kg	0.0599	1	0
M	Soil	SV-04-10	10	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	91-57-6	2-Methylnaphthalene	2500	ug/kg	2.5	1	1
M	Soil	SV-04-10	10	11-Jul-07		2-Fluorobiphenyl	820	ug/kg	0.82	1	1
M	Soil	SV-04-10	10	11-Jul-07	95-49-8	2-Chlorotoluene	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	594-20-7	2,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	90-12-0	1-Methylnaphthalene	2900	ug/kg	2.9	1	1
M	Soil	SV-04-10	10	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	142-28-9	1,3-Dichloropropane	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	71-43-2	Benzene	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07		4-Bromofluorobenzene	242	ug/kg	0.242	1	1
M	Soil	SV-04-10	10	11-Jul-07	127-18-4	Tetrachloroethene	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	95-47-6	o-Xylene	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	85-01-8	Phenanthrene	520	ug/kg	0.52	1	1
M	Soil	SV-04-10	10	11-Jul-07	99-87-6	p-Isopropyltoluene	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	129-00-0	Pyrene	320	ug/kg	0.32	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
M	Soil	SV-04-10	10	11-Jul-07	135-98-8	sec-Butylbenzene	110	ug/kg	0.11	1	1
M	Soil	SV-04-10	10	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
M	Soil	SV-04-10	10	11-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
M	Soil	SV-04-10	10	11-Jul-07	100-42-5	Styrene	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07		Terphenyl-d14	1400	ug/kg	1.4	1	1
M	Soil	SV-04-10	10	11-Jul-07	994-05-8	Tert-amyl methyl ether	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07		ORO (C25-C40)	2500	mg/k	2500	1	1
M	Soil	SV-04-10	10	11-Jul-07	98-06-6	tert-Butylbenzene	11	ug/kg	0.011	1	1
M	Soil	SV-04-10	10	11-Jul-07		Toluene-d8	48.6	ug/kg	0.0486	1	0
M	Soil	SV-04-10	10	11-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
M	Soil	SV-04-10	10	11-Jul-07	108-88-3	Toluene	2.7	ug/kg	0.0027	1	1
M	Soil	SV-04-10	10	11-Jul-07		Toluene-d8	233	ug/kg	0.233	1	1
M	Soil	SV-04-10	10	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	79-01-6	Trichloroethene	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	75-69-4	Trichlorofluoromethane	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	7440-62-2	Vanadium	39	mg/k	39	1	1
M	Soil	SV-04-10	10	11-Jul-07	75-01-4	Vinyl chloride	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	13	mg/k	13	1	1
M	Soil	SV-04-10	10	11-Jul-07		Dibromofluoromethane	232	ug/kg	0.232	1	1
M	Soil	SV-04-10	10	11-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
M	Soil	SV-04-10	10	11-Jul-07	86-73-7	Fluorene	1200	ug/kg	1.2	1	1
M	Soil	SV-04-10	10	11-Jul-07	74-95-3	Dibromomethane	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	103-65-1	n-Propylbenzene	210	ug/kg	0.21	1	1
M	Soil	SV-04-10	10	11-Jul-07	75-71-8	Dichlorodifluoromethane	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07		DRO (C10-C24)	6100	mg/k	6100	1	1
M	Soil	SV-04-10	10	11-Jul-07	637-92-3	Ethyl tert butyl ether	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	100-41-4	Ethylbenzene	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07	206-44-0	Fluoranthene	6.2	ug/kg	0.0062	0	1
M	Soil	SV-04-10	10	11-Jul-07	87-68-3	Hexachlorobutadiene	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.2	ug/kg	0.0062	0	1
M	Soil	SV-04-10	10	11-Jul-07	108-20-3	Isopropyl ether	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	98-82-8	Isopropylbenzene	290	ug/kg	0.29	1	1
M	Soil	SV-04-10	10	11-Jul-07	7439-92-1	Lead	3.5	mg/k	3.5	1	1
M	Soil	SV-04-10	10	11-Jul-07	179601-23-1	m,p-Xylenes	2.1	ug/kg	0.0021	0	1
M	Soil	SV-04-10	10	11-Jul-07		n-Octacosane	13.6	mg/k	13.6	1	1
M	Soil	SV-04-10	10	11-Jul-07		Nitrobenzene-d5	1200	ug/kg	1.2	1	1
M	Soil	SV-04-10	10	11-Jul-07	7440-02-0	Nickel	13	mg/k	13	1	1
M	Soil	SV-04-10	10	11-Jul-07	104-51-8	n-Butylbenzene	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07		n-Octacosane	12.9	mg/k	12.9	1	0
M	Soil	SV-04-10	10	11-Jul-07	91-20-3	Naphthalene	1400	ug/kg	1.4	1	0
M	Soil	SV-04-10	10	11-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
M	Soil	SV-04-10	10	11-Jul-07	75-09-2	Methylene chloride	21	ug/kg	0.021	0	1
M	Soil	SV-04-10	10	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5.2	ug/kg	0.0052	0	1
M	Soil	SV-04-10	10	11-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
M	Soil	SV-04-10	10	11-Jul-07	91-20-3	Naphthalene	2000	ug/kg	2	1	1
N	GS	SV-02-05	5	18-Jul-07	78-93-3	2-Butanone	0.008	ug/L	0.008	1	1
N	GS	SV-02-05	5	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
N	GS	SV-02-05	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0071	ug/L	0.0071	0	1
N	GS	SV-02-05	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0092	ug/L	0.0092	1	1
N	GS	SV-02-05	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
N	GS	SV-02-05	5	18-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
N	GS	SV-02-05	5	18-Jul-07		4-Bromofluorobenzene	104	%		1	1
N	GS	SV-02-05	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0052	ug/L	0.0052	0	1
N	GS	SV-02-05	5	18-Jul-07	67-64-1	Acetone	0.044	ug/L	0.044	1	1
N	GS	SV-02-05	5	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
N	GS	SV-02-05	5	18-Jul-07	71-43-2	Benzene	0.004	ug/L	0.004	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	GS	SV-02-05	5	18-Jul-07	74-83-9	Bromomethane	0.0049	ug/L	0.0049	0	1
N	GS	SV-02-05	5	18-Jul-07	75-27-4	Bromodichloromethane	0.0085	ug/L	0.0085	0	1
N	GS	SV-02-05	5	18-Jul-07	75-15-0	Carbon Disulfide	0.022	ug/L	0.022	1	1
N	GS	SV-02-05	5	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
N	GS	SV-02-05	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.005	ug/L	0.005	0	1
N	GS	SV-02-05	5	18-Jul-07		Carbon Dioxide	3.2	%		1	1
N	GS	SV-02-05	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.008	ug/L	0.008	0	1
N	GS	SV-02-05	5	18-Jul-07		Carbon Monoxide	0.025	%		0	1
N	GS	SV-02-05	5	18-Jul-07	100-44-7	Benzyl chloride	0.0065	ug/L	0.0065	0	1
N	GS	SV-02-05	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0097	ug/L	0.0097	0	1
N	GS	SV-02-05	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
N	GS	SV-02-05	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0069	ug/L	0.0069	0	1
N	GS	SV-02-05	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	ug/L	0.0087	0	1
N	GS	SV-02-05	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.054	ug/L	0.054	0	1
N	GS	SV-02-05	5	18-Jul-07	108-90-7	Chlorobenzene	0.0058	ug/L	0.0058	0	1
N	GS	SV-02-05	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	ug/L	0.0097	0	1
N	GS	SV-02-05	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0069	ug/L	0.0069	0	1
N	GS	SV-02-05	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0051	ug/L	0.0051	0	1
N	GS	SV-02-05	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
N	GS	SV-02-05	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.018	ug/L	0.018	1	1
N	GS	SV-02-05	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
N	GS	SV-02-05	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	ug/L	0.0088	0	1
N	GS	SV-02-05	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
N	GS	SV-02-05	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0051	ug/L	0.0051	0	1
N	GS	SV-02-05	5	18-Jul-07		1,2-Dichloroethane-d4	113	%		1	1
N	GS	SV-02-05	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0058	ug/L	0.0058	0	1
N	GS	SV-02-05	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.018	ug/L	0.018	1	1
N	GS	SV-02-05	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
N	GS	SV-02-05	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
N	GS	SV-02-05	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
N	GS	SV-02-05	5	18-Jul-07	79-01-6	Trichloroethene	0.0068	ug/L	0.0068	0	1
N	GS	SV-02-05	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
N	GS	SV-02-05	5	18-Jul-07	100-42-5	Styrene	0.0054	ug/L	0.0054	0	1
N	GS	SV-02-05	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.026	ug/L	0.026	1	1
N	GS	SV-02-05	5	18-Jul-07	95-47-6	o-Xylene	0.025	ug/L	0.025	1	1
N	GS	SV-02-05	5	18-Jul-07		Oxygen	19	%		1	1
N	GS	SV-02-05	5	18-Jul-07	103-65-1	n-Propylbenzene	0.013	ug/L	0.013	1	1
N	GS	SV-02-05	5	18-Jul-07		Nitrogen	78	%		1	1
N	GS	SV-02-05	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
N	GS	SV-02-05	5	18-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
N	GS	SV-02-05	5	18-Jul-07	75-09-2	Methylene chloride	0.0044	ug/L	0.0044	0	1
N	GS	SV-02-05	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
N	GS	SV-02-05	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
N	GS	SV-02-05	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.047	ug/L	0.047	1	1
N	GS	SV-02-05	5	18-Jul-07	98-82-8	Isopropylbenzene	0.018	ug/L	0.018	1	1
N	GS	SV-02-05	5	18-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
N	GS	SV-02-05	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.11	ug/L	0.11	1	1
N	GS	SV-02-05	5	18-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
N	GS	SV-02-05	5	18-Jul-07	142-82-5	n-Heptane	0.031	ug/L	0.031	1	1
N	GS	SV-02-05	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.005	ug/L		0	1
N	GS	SV-02-05	5	18-Jul-07	74-82-8	Methane	0.00025	%		0	1
N	GS	SV-02-05	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0086	ug/L	0.0086	0	1
N	GS	SV-02-05	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
N	GS	SV-02-05	5	18-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
N	GS	SV-02-05	5	18-Jul-07	75-00-3	Chloroethane	0.0033	ug/L	0.0033	0	1
N	GS	SV-02-05	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
N	GS	SV-02-05	5	18-Jul-07	110-82-7	Cyclohexane	0.029	ug/L	0.029	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	GS	SV-02-05	5	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
N	GS	SV-02-05	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0062	ug/L	0.0062	0	1
N	GS	SV-02-05	5	18-Jul-07	108-88-3	Toluene	0.026	ug/L	0.026	1	1
N	GS	SV-02-05	5	18-Jul-07	64-17-5	Ethanol	0.0095	ug/L	0.0095	0	1
N	GS	SV-02-05	5	18-Jul-07		Ethene	0.0025	%		0	1
N	GS	SV-02-05	5	18-Jul-07	110-54-3	Hexane	0.0091	ug/L	0.0091	1	1
N	GS	SV-02-05	5	18-Jul-07	100-41-4	Ethylbenzene	0.012	ug/L	0.012	1	1
N	GS	SV-02-05	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.005	ug/L	0.005	0	1
N	GS	SV-02-05	5	18-Jul-07		Toluene-d8	101	%		1	1
N	GS	SV-02-05	5	18-Jul-07		Ethane	0.0025	%		0	1
N	GS	SV-02-05	5	18-Jul-07	67-66-3	Chloroform	0.0087	ug/L	0.0087	1	1
N	GS	SV-02-05	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0037	ug/L	0.0037	0	1
N	GS	SV-70-05	5	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0078	UG/L	0.0078	0	1
N	GS	SV-70-05	5	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0078	UG/L	0.0078	0	1
N	GS	SV-70-05	5	17-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
N	GS	SV-70-05	5	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.006	UG/L	0.006	0	1
N	GS	SV-70-05	5	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0052	UG/L	0.0052	0	1
N	GS	SV-70-05	5	17-Nov-07	78-93-3	2-Butanone	0.0038	UG/L	0.0038	0	1
N	GS	SV-70-05	5	17-Nov-07	591-78-6	2-Hexanone	0.021	UG/L	0.021	0	1
N	GS	SV-70-05	5	17-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	1
N	GS	SV-70-05	5	17-Nov-07	106-99-0	1,3-Butadiene	0.0028	UG/L	0.0028	0	1
N	GS	SV-70-05	5	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	UG/L	0.0063	0	1
N	GS	SV-70-05	5	17-Nov-07		1,2-Dichloroethane-d4	95	%		1	1
N	GS	SV-70-05	5	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0078	UG/L	0.0078	0	1
N	GS	SV-70-05	5	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	UG/L	0.009	0	1
N	GS	SV-70-05	5	17-Nov-07		4-Bromofluorobenzene	98	%		1	1
N	GS	SV-70-05	5	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0051	UG/L		0	1
N	GS	SV-70-05	5	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0099	UG/L	0.0099	0	1
N	GS	SV-70-05	5	17-Nov-07	75-01-4	Vinyl Chloride	0.0033	UG/L	0.0033	0	1
N	GS	SV-70-05	5	17-Nov-07	78-87-5	1,2-Dichloropropane	0.006	UG/L	0.006	0	1
N	GS	SV-70-05	5	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	UG/L	0.0058	0	1
N	GS	SV-70-05	5	17-Nov-07	100-42-5	Styrene	0.0055	UG/L	0.0055	0	1
N	GS	SV-70-05	5	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
N	GS	SV-70-05	5	17-Nov-07	75-15-0	Carbon Disulfide	0.0083	UG/L	0.0083	1	1
N	GS	SV-70-05	5	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0081	UG/L	0.0081	0	1
N	GS	SV-70-05	5	17-Nov-07	108-90-7	Chlorobenzene	0.0059	UG/L	0.0059	0	1
N	GS	SV-70-05	5	17-Nov-07	75-00-3	Chloroethane	0.0034	UG/L	0.0034	0	1
N	GS	SV-70-05	5	17-Nov-07	110-82-7	Cyclohexane	0.0044	UG/L	0.0044	0	1
N	GS	SV-70-05	5	17-Nov-07	74-87-3	Chloromethane	0.011	UG/L	0.011	0	1
N	GS	SV-70-05	5	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0053	UG/L	0.0053	0	1
N	GS	SV-70-05	5	17-Nov-07	74-83-9	Bromomethane	0.005	UG/L	0.005	0	1
N	GS	SV-70-05	5	17-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
N	GS	SV-70-05	5	17-Nov-07	75-27-4	Bromodichloromethane	0.0086	UG/L	0.0086	0	1
N	GS	SV-70-05	5	17-Nov-07	100-44-7	Benzyl chloride	0.0067	UG/L	0.0067	0	1
N	GS	SV-70-05	5	17-Nov-07	71-43-2	Benzene	0.0041	UG/L	0.0041	0	1
N	GS	SV-70-05	5	17-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	1
N	GS	SV-70-05	5	17-Nov-07	67-64-1	Acetone	0.012	UG/L	0.012	0	1
N	GS	SV-70-05	5	17-Nov-07	67-66-3	Chloroform	0.0063	UG/L	0.0063	0	1
N	GS	SV-70-05	5	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0051	UG/L	0.0051	0	1
N	GS	SV-70-05	5	17-Nov-07	109-99-9	Tetrahydrofuran	0.0038	UG/L	0.0038	0	1
N	GS	SV-70-05	5	17-Nov-07	108-88-3	Toluene	0.0049	UG/L	0.0049	0	1
N	GS	SV-70-05	5	17-Nov-07		Toluene-d8	98	%		1	1
N	GS	SV-70-05	5	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0051	UG/L	0.0051	0	1
N	GS	SV-70-05	5	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	UG/L	0.0058	0	1
N	GS	SV-70-05	5	17-Nov-07	79-01-6	Trichloroethene	0.0069	UG/L	0.0069	0	1
N	GS	SV-70-05	5	17-Nov-07	64-17-5	Ethanol	0.0097	UG/L	0.0097	0	1
N	GS	SV-70-05	5	17-Nov-07	127-18-4	Tetrachloroethene	0.0088	UG/L	0.0088	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	GS	SV-70-05	5	17-Nov-07	95-47-6	o-Xylene	0.0056	UG/L	0.0056	0	1
N	GS	SV-70-05	5	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0077	UG/L	0.0077	1	1
N	GS	SV-70-05	5	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0052	UG/L	0.0052	0	1
N	GS	SV-70-05	5	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.007	UG/L	0.007	0	1
N	GS	SV-70-05	5	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	UG/L	0.0099	0	1
N	GS	SV-70-05	5	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	UG/L	0.0088	0	1
N	GS	SV-70-05	5	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.007	UG/L	0.007	0	1
N	GS	SV-70-05	5	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	UG/L	0.035	0	1
N	GS	SV-70-05	5	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0072	UG/L	0.0072	0	1
N	GS	SV-70-05	5	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.038	UG/L	0.038	0	1
N	GS	SV-70-05	5	17-Nov-07	108-20-3	Isopropyl ether	0.022	UG/L	0.022	0	1
N	GS	SV-70-05	5	17-Nov-07	87-68-3	Hexachlorobutadiene	0.055	UG/L	0.055	0	1
N	GS	SV-70-05	5	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.031	UG/L	0.031	0	1
N	GS	SV-70-05	5	17-Nov-07	75-65-0	tert-Butyl alcohol	0.016	UG/L	0.016	0	1
N	GS	SV-70-05	5	17-Nov-07	100-41-4	Ethylbenzene	0.0056	UG/L	0.0056	0	1
N	GS	SV-70-05	5	17-Nov-07	67-63-0	Isopropyl alcohol	0.013	UG/L	0.013	0	1
N	GS	SV-70-05	5	17-Nov-07	98-82-8	Isopropylbenzene	0.0063	UG/L	0.0063	0	1
N	GS	SV-70-05	5	17-Nov-07	179601-23-1	m,p-Xylenes	0.0056	UG/L	0.0056	0	1
N	GS	SV-70-05	5	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0046	UG/L	0.0046	0	1
N	GS	SV-70-05	5	17-Nov-07	622-96-8	p-Ethyltoluene	0.0063	UG/L	0.0063	0	1
N	GS	SV-70-05	5	17-Nov-07	91-20-3	Naphthalene	0.027	UG/L	0.027	0	1
N	GS	SV-70-05	5	17-Nov-07	142-82-5	n-Heptane	0.0053	UG/L	0.0053	0	1
N	GS	SV-70-05	5	17-Nov-07	103-65-1	n-Propylbenzene	0.0063	UG/L	0.0063	0	1
N	GS	SV-70-05	5	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.022	UG/L	0.022	0	1
N	GS	SV-70-05	5	17-Nov-07	75-09-2	Methylene Chloride	0.0045	UG/L	0.0045	0	1
N	GS	SV-70-05	5	17-Nov-07	110-54-3	Hexane	0.0045	UG/L	0.0045	0	1
N	GS	SV-70-05	5	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0064	UG/L	0.0064	0	1
N	GS	SV-70-05	5	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.022	UG/L	0.022	0	1
N	GS	SV-70-15a	15	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.022	UG/L	0.022	0	1
N	GS	SV-70-15a	15	17-Nov-07	100-42-5	Styrene	0.0055	UG/L	0.0055	0	1
N	GS	SV-70-15a	15	17-Nov-07	622-96-8	p-Ethyltoluene	0.0063	UG/L	0.0063	0	1
N	GS	SV-70-15a	15	17-Nov-07	95-47-6	o-Xylene	0.0056	UG/L	0.0056	0	1
N	GS	SV-70-15a	15	17-Nov-07	142-82-5	n-Heptane	0.0053	UG/L	0.0053	0	1
N	GS	SV-70-15a	15	17-Nov-07	75-65-0	tert-Butyl alcohol	0.016	UG/L	0.016	0	1
N	GS	SV-70-15a	15	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0072	UG/L	0.0072	0	0
N	GS	SV-70-15a	15	17-Nov-07	103-65-1	n-Propylbenzene	0.0063	UG/L	0.0063	0	0
N	GS	SV-70-15a	15	17-Nov-07	127-18-4	Tetrachloroethene	0.0088	UG/L	0.0088	0	1
N	GS	SV-70-15a	15	17-Nov-07	109-99-9	Tetrahydrofuran	0.0038	UG/L	0.0038	0	1
N	GS	SV-70-15a	15	17-Nov-07	108-88-3	Toluene	0.0049	UG/L	0.0049	0	1
N	GS	SV-70-15a	15	17-Nov-07		Toluene-d8	97	%		1	0
N	GS	SV-70-15a	15	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0051	UG/L	0.0051	0	1
N	GS	SV-70-15a	15	17-Nov-07	79-01-6	Trichloroethene	0.0069	UG/L	0.0069	0	0
N	GS	SV-70-15a	15	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
N	GS	SV-70-15a	15	17-Nov-07	75-01-4	Vinyl Chloride	0.0033	UG/L	0.0033	0	0
N	GS	SV-70-15a	15	17-Nov-07	75-09-2	Methylene Chloride	0.0045	UG/L	0.0045	0	0
N	GS	SV-70-15a	15	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	UG/L	0.0058	0	1
N	GS	SV-70-15a	15	17-Nov-07		4-Bromofluorobenzene	97	%		1	0
N	GS	SV-70-15a	15	17-Nov-07	106-99-0	1,3-Butadiene	0.0028	UG/L	0.0028	0	1
N	GS	SV-70-15a	15	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0078	UG/L	0.0078	0	1
N	GS	SV-70-15a	15	17-Nov-07	91-20-3	Naphthalene	0.027	UG/L	0.027	0	1
N	GS	SV-70-15a	15	17-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
N	GS	SV-70-15a	15	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0046	UG/L	0.0046	0	0
N	GS	SV-70-15a	15	17-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
N	GS	SV-70-15a	15	17-Nov-07	591-78-6	2-Hexanone	0.021	UG/L	0.021	0	1
N	GS	SV-70-15a	15	17-Nov-07		1,2-Dichloroethane-d4	99	%		1	1
N	GS	SV-70-15a	15	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0053	UG/L	0.0053	0	0
N	GS	SV-70-15a	15	17-Nov-07	67-64-1	Acetone	0.1	UG/L	0.1	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	GS	SV-70-15a	15	17-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	0
N	GS	SV-70-15a	15	17-Nov-07	71-43-2	Benzene	0.0041	UG/L	0.0041	0	0
N	GS	SV-70-15a	15	17-Nov-07	100-44-7	Benzyl chloride	0.0067	UG/L	0.0067	0	1
N	GS	SV-70-15a	15	17-Nov-07	75-27-4	Bromodichloromethane	0.0086	UG/L	0.0086	0	1
N	GS	SV-70-15a	15	17-Nov-07	78-93-3	2-Butanone	0.007	UG/L	0.007	1	0
N	GS	SV-70-15a	15	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.038	UG/L	0.038	0	0
N	GS	SV-70-15a	15	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	UG/L	0.035	0	1
N	GS	SV-70-15a	15	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.007	UG/L	0.007	0	0
N	GS	SV-70-15a	15	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	UG/L	0.0088	0	0
N	GS	SV-70-15a	15	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	UG/L	0.0099	0	1
N	GS	SV-70-15a	15	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.007	UG/L	0.007	0	1
N	GS	SV-70-15a	15	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0052	UG/L	0.0052	0	1
N	GS	SV-70-15a	15	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	UG/L	0.0063	0	1
N	GS	SV-70-15a	15	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.031	UG/L	0.031	0	1
N	GS	SV-70-15a	15	17-Nov-07	78-87-5	1,2-Dichloropropane	0.006	UG/L	0.006	0	1
N	GS	SV-70-15a	15	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0063	UG/L	0.0063	0	0
N	GS	SV-70-15a	15	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0099	UG/L	0.0099	0	0
N	GS	SV-70-15a	15	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	UG/L	0.009	0	0
N	GS	SV-70-15a	15	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0078	UG/L	0.0078	0	0
N	GS	SV-70-15a	15	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0052	UG/L	0.0052	0	1
N	GS	SV-70-15a	15	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.006	UG/L	0.006	0	1
N	GS	SV-70-15a	15	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0051	UG/L	0.0051	0	0
N	GS	SV-70-15a	15	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0064	UG/L	0.0064	0	0
N	GS	SV-70-15a	15	17-Nov-07	75-15-0	Carbon Disulfide	0.004	UG/L	0.004	0	1
N	GS	SV-70-15a	15	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0081	UG/L	0.0081	0	1
N	GS	SV-70-15a	15	17-Nov-07	108-90-7	Chlorobenzene	0.0059	UG/L	0.0059	0	0
N	GS	SV-70-15a	15	17-Nov-07	75-00-3	Chloroethane	0.0034	UG/L	0.0034	0	0
N	GS	SV-70-15a	15	17-Nov-07	67-66-3	Chloroform	0.0063	UG/L	0.0063	0	1
N	GS	SV-70-15a	15	17-Nov-07	74-87-3	Chloromethane	0.011	UG/L	0.011	0	1
N	GS	SV-70-15a	15	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0051	UG/L		0	0
N	GS	SV-70-15a	15	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	UG/L	0.0058	0	1
N	GS	SV-70-15a	15	17-Nov-07	74-83-9	Bromomethane	0.005	UG/L	0.005	0	0
N	GS	SV-70-15a	15	17-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	0
N	GS	SV-70-15a	15	17-Nov-07	67-63-0	Isopropyl alcohol	0.013	UG/L	0.013	0	1
N	GS	SV-70-15a	15	17-Nov-07	64-17-5	Ethanol	0.0097	UG/L	0.0097	0	1
N	GS	SV-70-15a	15	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.022	UG/L	0.022	0	1
N	GS	SV-70-15a	15	17-Nov-07	100-41-4	Ethylbenzene	0.0056	UG/L	0.0056	0	0
N	GS	SV-70-15a	15	17-Nov-07	87-68-3	Hexachlorobutadiene	0.055	UG/L	0.055	0	0
N	GS	SV-70-15a	15	17-Nov-07	110-54-3	Hexane	0.0045	UG/L	0.0045	0	0
N	GS	SV-70-15a	15	17-Nov-07	108-20-3	Isopropyl ether	0.022	UG/L	0.022	0	1
N	GS	SV-70-15a	15	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0078	UG/L	0.0078	0	1
N	GS	SV-70-15a	15	17-Nov-07	179601-23-1	m,p-Xylenes	0.0056	UG/L	0.0056	0	0
N	GS	SV-70-15a	15	17-Nov-07	110-82-7	Cyclohexane	0.0044	UG/L	0.0044	0	1
N	GS	SV-70-15a	15	17-Nov-07	98-82-8	Isopropylbenzene	0.0063	UG/L	0.0063	0	1
N	GS	SV-70-15b	15	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	0
N	GS	SV-70-15b	15	17-Nov-07	75-01-4	Vinyl Chloride	0.0033	UG/L	0.0033	0	1
N	GS	SV-70-15b	15	17-Nov-07	108-20-3	Isopropyl ether	0.022	UG/L	0.022	0	0
N	GS	SV-70-15b	15	17-Nov-07	67-63-0	Isopropyl alcohol	0.013	UG/L	0.013	0	0
N	GS	SV-70-15b	15	17-Nov-07	110-54-3	Hexane	0.0045	UG/L	0.0045	0	1
N	GS	SV-70-15b	15	17-Nov-07	74-87-3	Chloromethane	0.011	UG/L	0.011	0	0
N	GS	SV-70-15b	15	17-Nov-07	100-41-4	Ethylbenzene	0.0056	UG/L	0.0056	0	1
N	GS	SV-70-15b	15	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	UG/L	0.0058	0	0
N	GS	SV-70-15b	15	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	UG/L	0.0058	0	0
N	GS	SV-70-15b	15	17-Nov-07	110-82-7	Cyclohexane	0.0044	UG/L	0.0044	0	0
N	GS	SV-70-15b	15	17-Nov-07	100-44-7	Benzyl chloride	0.0067	UG/L	0.0067	0	0
N	GS	SV-70-15b	15	17-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	1
N	GS	SV-70-15b	15	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0064	UG/L	0.0064	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	GS	SV-70-15b	15	17-Nov-07	64-17-5	Ethanol	0.0097	UG/L	0.0097	0	0
N	GS	SV-70-15b	15	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.022	UG/L	0.022	0	0
N	GS	SV-70-15b	15	17-Nov-07	98-82-8	Isopropylbenzene	0.0063	UG/L	0.0063	0	0
N	GS	SV-70-15b	15	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.013	UG/L	0.013	1	1
N	GS	SV-70-15b	15	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.022	UG/L	0.022	0	0
N	GS	SV-70-15b	15	17-Nov-07	179601-23-1	m,p-Xylenes	0.0078	UG/L	0.0078	1	1
N	GS	SV-70-15b	15	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0046	UG/L	0.0046	0	1
N	GS	SV-70-15b	15	17-Nov-07	75-09-2	Methylene Chloride	0.0045	UG/L	0.0045	0	1
N	GS	SV-70-15b	15	17-Nov-07	91-20-3	Naphthalene	0.027	UG/L	0.027	0	0
N	GS	SV-70-15b	15	17-Nov-07	142-82-5	n-Heptane	0.0053	UG/L	0.0053	0	0
N	GS	SV-70-15b	15	17-Nov-07	103-65-1	n-Propylbenzene	0.0063	UG/L	0.0063	0	1
N	GS	SV-70-15b	15	17-Nov-07	95-47-6	o-Xylene	0.0056	UG/L	0.0056	0	0
N	GS	SV-70-15b	15	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0072	UG/L	0.0072	0	1
N	GS	SV-70-15b	15	17-Nov-07	100-42-5	Styrene	0.0055	UG/L	0.0055	0	0
N	GS	SV-70-15b	15	17-Nov-07	79-01-6	Trichloroethene	0.015	UG/L	0.015	1	1
N	GS	SV-70-15b	15	17-Nov-07	75-65-0	tert-Butyl alcohol	0.016	UG/L	0.016	0	0
N	GS	SV-70-15b	15	17-Nov-07	127-18-4	Tetrachloroethene	0.0088	UG/L	0.0088	0	0
N	GS	SV-70-15b	15	17-Nov-07	109-99-9	Tetrahydrofuran	0.0038	UG/L	0.0038	0	0
N	GS	SV-70-15b	15	17-Nov-07	108-88-3	Toluene	0.0049	UG/L	0.0049	0	0
N	GS	SV-70-15b	15	17-Nov-07		Toluene-d8	98	%		1	1
N	GS	SV-70-15b	15	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0051	UG/L	0.0051	0	0
N	GS	SV-70-15b	15	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0064	UG/L	0.0064	1	1
N	GS	SV-70-15b	15	17-Nov-07	622-96-8	p-Ethyltoluene	0.0063	UG/L	0.0063	0	0
N	GS	SV-70-15b	15	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0078	UG/L	0.0078	1	1
N	GS	SV-70-15b	15	17-Nov-07	67-64-1	Acetone	0.071	UG/L	0.071	1	0
N	GS	SV-70-15b	15	17-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	1
N	GS	SV-70-15b	15	17-Nov-07	71-43-2	Benzene	0.0041	UG/L	0.0041	0	1
N	GS	SV-70-15b	15	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	UG/L	0.035	0	0
N	GS	SV-70-15b	15	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.036	UG/L	0.036	1	1
N	GS	SV-70-15b	15	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	UG/L	0.0088	0	1
N	GS	SV-70-15b	15	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	UG/L	0.0099	0	0
N	GS	SV-70-15b	15	17-Nov-07	87-68-3	Hexachlorobutadiene	0.055	UG/L	0.055	0	1
N	GS	SV-70-15b	15	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0052	UG/L	0.0052	0	0
N	GS	SV-70-15b	15	17-Nov-07	591-78-6	2-Hexanone	0.021	UG/L	0.021	0	0
N	GS	SV-70-15b	15	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.031	UG/L	0.031	0	0
N	GS	SV-70-15b	15	17-Nov-07	108-90-7	Chlorobenzene	0.0059	UG/L	0.0059	0	1
N	GS	SV-70-15b	15	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0081	UG/L	0.0081	0	0
N	GS	SV-70-15b	15	17-Nov-07	75-15-0	Carbon Disulfide	0.004	UG/L	0.004	0	0
N	GS	SV-70-15b	15	17-Nov-07	74-83-9	Bromomethane	0.005	UG/L	0.005	0	1
N	GS	SV-70-15b	15	17-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	0
N	GS	SV-70-15b	15	17-Nov-07	75-27-4	Bromodichloromethane	0.0086	UG/L	0.0086	0	0
N	GS	SV-70-15b	15	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.007	UG/L	0.007	0	0
N	GS	SV-70-15b	15	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0078	UG/L	0.0078	0	0
N	GS	SV-70-15b	15	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0099	UG/L	0.0099	0	1
N	GS	SV-70-15b	15	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	UG/L	0.009	0	1
N	GS	SV-70-15b	15	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.038	UG/L	0.038	0	1
N	GS	SV-70-15b	15	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0078	UG/L	0.0078	0	1
N	GS	SV-70-15b	15	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0052	UG/L	0.0052	0	0
N	GS	SV-70-15b	15	17-Nov-07		1,2-Dichloroethane-d4	98	%		1	0
N	GS	SV-70-15b	15	17-Nov-07	78-87-5	1,2-Dichloropropane	0.006	UG/L	0.006	0	0
N	GS	SV-70-15b	15	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0053	UG/L	0.0053	0	1
N	GS	SV-70-15b	15	17-Nov-07	106-99-0	1,3-Butadiene	0.0028	UG/L	0.0028	0	0
N	GS	SV-70-15b	15	17-Nov-07		4-Bromofluorobenzene	97	%		1	1
N	GS	SV-70-15b	15	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0078	UG/L	0.0078	0	0
N	GS	SV-70-15b	15	17-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	0
N	GS	SV-70-15b	15	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.006	UG/L	0.006	0	0
N	GS	SV-70-15b	15	17-Nov-07	75-00-3	Chloroethane	0.0034	UG/L	0.0034	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	GS	SV-70-15b	15	17-Nov-07	78-93-3	2-Butanone	0.007	UG/L	0.007	1	1
N	GS	SV-70-15b	15	17-Nov-07	67-66-3	Chloroform	0.0063	UG/L	0.0063	0	0
N	GS	SV-70-15b	15	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	UG/L	0.0063	0	0
N	GS	SV-71-5'	5	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
N	GS	SV-71-5'	5	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
N	GS	SV-71-5'	5	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
N	GS	SV-71-5'	5	20-Jun-12	100-42-5	Styrene	0.0028	ug/L	0.0028	1	1
N	GS	SV-71-5'	5	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
N	GS	SV-71-5'	5	20-Jun-12	100-41-4	Ethylbenzene	0.0049	ug/L	0.0049	1	1
N	GS	SV-71-5'	5	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
N	GS	SV-71-5'	5	20-Jun-12	179601-23-1	m,p-Xylenes	0.013	ug/L	0.013	1	1
N	GS	SV-71-5'	5	20-Jun-12	95-47-6	o-Xylene	0.0042	ug/L	0.0042	1	1
N	GS	SV-71-5'	5	20-Jun-12	622-96-8	p-Ethyltoluene	0.005	ug/L	0.005	0	1
N	GS	SV-71-5'	5	20-Jun-12	98-82-8	Isopropylbenzene	0.032	ug/L	0.032	1	1
N	GS	SV-71-5'	5	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
N	GS	SV-71-5'	5	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
N	GS	SV-71-5'	5	20-Jun-12	103-65-1	n-Propylbenzene	0.005	ug/L	0.005	0	1
N	GS	SV-71-5'	5	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.002	ug/L	0.002	1	1
N	GS	SV-71-5'	5	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
N	GS	SV-71-5'	5	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
N	GS	SV-71-5'	5	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
N	GS	SV-71-5'	5	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
N	GS	SV-71-5'	5	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
N	GS	SV-71-5'	5	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
N	GS	SV-71-5'	5	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
N	GS	SV-71-5'	5	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
N	GS	SV-71-5'	5	20-Jun-12	78-93-3	2-Butanone	0.083	ug/L	0.083	1	1
N	GS	SV-71-5'	5	20-Jun-12	110-54-3	Hexane	0.0036	ug/L	0.0036	0	1
N	GS	SV-71-5'	5	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
N	GS	SV-71-5'	5	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-71-5'	5	20-Jun-12	141-78-6	Ethyl acetate	0.012	ug/L	0.012	1	1
N	GS	SV-71-5'	5	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-71-5'	5	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
N	GS	SV-71-5'	5	20-Jun-12	75-09-2	Methylene Chloride	0.0022	ug/L	0.0022	1	1
N	GS	SV-71-5'	5	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-71-5'	5	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
N	GS	SV-71-5'	5	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
N	GS	SV-71-5'	5	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
N	GS	SV-71-5'	5	20-Jun-12	71-43-2	Benzene	0.0018	ug/L	0.0018	1	1
N	GS	SV-71-5'	5	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
N	GS	SV-71-5'	5	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
N	GS	SV-71-5'	5	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
N	GS	SV-71-5'	5	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
N	GS	SV-71-5'	5	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
N	GS	SV-71-5'	5	20-Jun-12		Carbon dioxide	1.5	%		1	1
N	GS	SV-71-5'	5	20-Jun-12		Oxygen	20	%		1	1
N	GS	SV-71-5'	5	20-Jun-12		Nitrogen	76	%		1	1
N	GS	SV-71-5'	5	20-Jun-12	74-82-8	Methane	0.01	%		0	1
N	GS	SV-71-5'	5	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
N	GS	SV-71-5'	5	20-Jun-12		TPHv (C5 - C11)	1.3	ug/L		1	1
N	GS	SV-71-5'	5	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
N	GS	SV-71-5'	5	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.209	ug/L		1	0
N	GS	SV-71-5'	5	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
N	GS	SV-71-5'	5	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.381	ug/L		1	0
N	GS	SV-71-5'	5	20-Jun-12	75-15-0	Carbon disulfide	0.0063	ug/L	0.0063	0	1
N	GS	SV-71-5'	5	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
N	GS	SV-71-5'	5	20-Jun-12	64-17-5	Ethanol	0.029	ug/L	0.029	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	GS	SV-71-5'	5	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0024	ug/L	0.0024	1	1
N	GS	SV-71-5'	5	20-Jun-12	67-64-1	Acetone	0.048	ug/L	0.048	1	1
N	GS	SV-71-5'	5	20-Jun-12	67-63-0	Isopropyl alcohol	0.01	ug/L	0.01	1	1
N	GS	SV-71-5'	5	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
N	GS	SV-71-5'	5	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0014	ug/L	0.0014	1	1
N	GS	SV-71-5'	5	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
N	GS	SV-71-5'	5	20-Jun-12	109-99-9	Tetrahydrofuran	0.022	ug/L	0.022	1	1
N	GS	SV-71-5'	5	20-Jun-12	2037-26-5	Toluene-d8	0.198	ug/L		1	0
N	GS	SV-71-5'	5	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
N	GS	SV-71-5'	5	20-Jun-12	142-82-5	n-Heptane	0.0019	ug/L	0.0019	1	1
N	GS	SV-71-5'	5	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
N	GS	SV-71-5'	5	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
N	GS	SV-71-5'	5	20-Jun-12	123-91-1	1,4-Dioxane	0.017	ug/L	0.017	1	1
N	GS	SV-71-5'	5	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
N	GS	SV-71-5'	5	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.02	ug/L	0.02	1	1
N	GS	SV-71-5'	5	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.044	ug/L	0.044	1	1
N	GS	SV-71-5'	5	20-Jun-12	115-07-1	Propene	0.0012	ug/L	0.0012	1	1
N	GS	SV-71-5'	5	20-Jun-12	108-88-3	Toluene	0.02	ug/L	0.02	1	1
N	GS	SV-71-5'	5	20-Jun-12	591-78-6	2-Hexanone	0.002	ug/L	0.002	1	1
N	GS	SV-71-5'	5	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
N	GS	SV-71-5'	5	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0038	ug/L	0.0038	1	1
N	GS	SV-71-5'	5	20-Jun-12	127-18-4	Tetrachloroethene	0.003	ug/L	0.003	1	1
N	GS	SV-71-5'	5	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
N	GS	SV-71-5'	5	20-Jun-12	67-66-3	Chloroform	0.0049	ug/L	0.0049	0	1
N	GS	SV-71-5'	5	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
N	GS	SV-71-5'	5	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
N	GS	SV-71-5'	5	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
N	GS	SV-71-5'	5	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
N	GS	SV-71-5'	5	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
N	GS	SV-71-5'	5	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.072	ug/L	0.072	1	1
N	GS	SV-71-5'	5	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0044	ug/L	0.0044	1	1
N	GS	SV-71-5'	5	20-Jun-12		TPHv (C6 - C8) aromatic	0.1	ug/L		0	1
N	GS	SV-71-5'	5	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-71-5'	5	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
N	GS	SV-71-5'	5	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	0.71	ug/L	0.71	1	1
N	GS	SV-71-5'	5	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-71-5'	5	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-71-5'	5	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
N	GS	SV-71-5'	5	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	0	1
N	GS	SV-71-5'	5	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
N	GS	SV-71-5'	5	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
N	GS	SV-71-5'	5	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
N	GS	SV-71-5'	5	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	0.93	ug/L	0.93	1	1
N	GS	SV-72-5'	5	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
N	GS	SV-72-5'	5	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.203	ug/L		1	0
N	GS	SV-72-5'	5	20-Jun-12	95-47-6	o-Xylene	0.008	ug/L	0.008	1	1
N	GS	SV-72-5'	5	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0024	ug/L	0.0024	1	1
N	GS	SV-72-5'	5	20-Jun-12	64-17-5	Ethanol	0.053	ug/L	0.053	1	1
N	GS	SV-72-5'	5	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
N	GS	SV-72-5'	5	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
N	GS	SV-72-5'	5	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
N	GS	SV-72-5'	5	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-72-5'	5	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.027	ug/L	0.027	1	1
N	GS	SV-72-5'	5	20-Jun-12	142-82-5	n-Heptane	0.0052	ug/L	0.0052	1	1
N	GS	SV-72-5'	5	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
N	GS	SV-72-5'	5	20-Jun-12	2037-26-5	Toluene-d8	0.201	ug/L		1	0
N	GS	SV-72-5'	5	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	GS	SV-72-5'	5	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
N	GS	SV-72-5'	5	20-Jun-12		TPHv (C5 - C11)	2.6	ug/L		1	1
N	GS	SV-72-5'	5	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
N	GS	SV-72-5'	5	20-Jun-12	74-82-8	Methane	0.01	%		0	1
N	GS	SV-72-5'	5	20-Jun-12		Nitrogen	76	%		1	1
N	GS	SV-72-5'	5	20-Jun-12		Oxygen	20	%		1	1
N	GS	SV-72-5'	5	20-Jun-12		Carbon dioxide	1.7	%		1	1
N	GS	SV-72-5'	5	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
N	GS	SV-72-5'	5	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
N	GS	SV-72-5'	5	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
N	GS	SV-72-5'	5	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.387	ug/L		1	0
N	GS	SV-72-5'	5	20-Jun-12	75-09-2	Methylene Chloride	0.0042	ug/L	0.0042	1	1
N	GS	SV-72-5'	5	20-Jun-12	67-63-0	Isopropyl alcohol	0.021	ug/L	0.021	1	1
N	GS	SV-72-5'	5	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
N	GS	SV-72-5'	5	20-Jun-12	71-43-2	Benzene	0.0031	ug/L	0.0031	1	1
N	GS	SV-72-5'	5	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
N	GS	SV-72-5'	5	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
N	GS	SV-72-5'	5	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
N	GS	SV-72-5'	5	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-72-5'	5	20-Jun-12	67-66-3	Chloroform	0.0049	ug/L	0.0049	0	1
N	GS	SV-72-5'	5	20-Jun-12	109-99-9	Tetrahydrofuran	0.058	ug/L	0.058	1	1
N	GS	SV-72-5'	5	20-Jun-12	67-64-1	Acetone	0.25	ug/L	0.25	1	1
N	GS	SV-72-5'	5	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
N	GS	SV-72-5'	5	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
N	GS	SV-72-5'	5	20-Jun-12	75-15-0	Carbon disulfide	0.0063	ug/L	0.0063	0	1
N	GS	SV-72-5'	5	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
N	GS	SV-72-5'	5	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
N	GS	SV-72-5'	5	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
N	GS	SV-72-5'	5	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
N	GS	SV-72-5'	5	20-Jun-12	78-93-3	2-Butanone	0.18	ug/L	0.18	1	1
N	GS	SV-72-5'	5	20-Jun-12	110-54-3	Hexane	0.0058	ug/L	0.0058	1	1
N	GS	SV-72-5'	5	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
N	GS	SV-72-5'	5	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-72-5'	5	20-Jun-12	141-78-6	Ethyl acetate	0.033	ug/L	0.033	1	1
N	GS	SV-72-5'	5	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0018	ug/L	0.0018	1	1
N	GS	SV-72-5'	5	20-Jun-12	100-42-5	Styrene	0.0043	ug/L	0.0043	1	1
N	GS	SV-72-5'	5	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
N	GS	SV-72-5'	5	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0031	ug/L	0.0031	1	1
N	GS	SV-72-5'	5	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
N	GS	SV-72-5'	5	20-Jun-12	103-65-1	n-Propylbenzene	0.0021	ug/L	0.0021	1	1
N	GS	SV-72-5'	5	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
N	GS	SV-72-5'	5	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
N	GS	SV-72-5'	5	20-Jun-12	98-82-8	Isopropylbenzene	0.053	ug/L	0.053	1	1
N	GS	SV-72-5'	5	20-Jun-12	622-96-8	p-Ethyltoluene	0.0026	ug/L	0.0026	1	1
N	GS	SV-72-5'	5	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
N	GS	SV-72-5'	5	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
N	GS	SV-72-5'	5	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
N	GS	SV-72-5'	5	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-72-5'	5	20-Jun-12	179601-23-1	m,p-Xylenes	0.029	ug/L	0.029	1	1
N	GS	SV-72-5'	5	20-Jun-12	100-41-4	Ethylbenzene	0.0095	ug/L	0.0095	1	1
N	GS	SV-72-5'	5	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
N	GS	SV-72-5'	5	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
N	GS	SV-72-5'	5	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
N	GS	SV-72-5'	5	20-Jun-12	127-18-4	Tetrachloroethene	0.003	ug/L	0.003	1	1
N	GS	SV-72-5'	5	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.004	ug/L	0.004	1	1
N	GS	SV-72-5'	5	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
N	GS	SV-72-5'	5	20-Jun-12	591-78-6	2-Hexanone	0.0033	ug/L	0.0033	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	GS	SV-72-5'	5	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
N	GS	SV-72-5'	5	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
N	GS	SV-72-5'	5	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
N	GS	SV-72-5'	5	20-Jun-12	108-88-3	Toluene	0.043	ug/L	0.043	1	1
N	GS	SV-72-5'	5	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
N	GS	SV-72-5'	5	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.1	ug/L	0.1	1	1
N	GS	SV-72-5'	5	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
N	GS	SV-72-5'	5	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.11	ug/L	0.11	1	1
N	GS	SV-72-5'	5	20-Jun-12		TPHv (C6 - C8) aromatic	0.093	ug/L		1	1
N	GS	SV-72-5'	5	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	1.5	ug/L	1.5	1	1
N	GS	SV-72-5'	5	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	1.7	ug/L	1.7	1	1
N	GS	SV-72-5'	5	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
N	GS	SV-72-5'	5	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
N	GS	SV-72-5'	5	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
N	GS	SV-72-5'	5	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
N	GS	SV-72-5'	5	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0076	ug/L	0.0076	1	1
N	GS	SV-72-5'	5	20-Jun-12	91-20-3	Naphthalene	0.0046	ug/L	0.0046	1	1
N	GS	SV-72-5'	5	20-Jun-12	75-01-4	Vinyl chloride	0.0015	ug/L	0.0015	1	1
N	GS	SV-72-5'	5	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
N	GS	SV-72-5'	5	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
N	GS	SV-72-5'	5	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-72-5'	5	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
N	GS	SV-72-5'	5	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
N	GS	SV-72-5'	5	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-72-5'	5	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
N	GS	SV-72-5'	5	20-Jun-12	115-07-1	Propene	0.0024	ug/L	0.0024	1	1
N	GS	SV-73-5'	5	20-Jun-12	115-07-1	Propene	0.0016	ug/L	0.0016	1	1
N	GS	SV-73-5'	5	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
N	GS	SV-73-5'	5	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
N	GS	SV-73-5'	5	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
N	GS	SV-73-5'	5	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
N	GS	SV-73-5'	5	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
N	GS	SV-73-5'	5	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
N	GS	SV-73-5'	5	20-Jun-12	95-47-6	o-Xylene	0.0062	ug/L	0.0062	1	1
N	GS	SV-73-5'	5	20-Jun-12	100-42-5	Styrene	0.0041	ug/L	0.0041	1	1
N	GS	SV-73-5'	5	20-Jun-12	179601-23-1	m,p-Xylenes	0.021	ug/L	0.021	1	1
N	GS	SV-73-5'	5	20-Jun-12	100-41-4	Ethylbenzene	0.031	ug/L	0.031	1	1
N	GS	SV-73-5'	5	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
N	GS	SV-73-5'	5	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
N	GS	SV-73-5'	5	20-Jun-12	103-65-1	n-Propylbenzene	0.0085	ug/L	0.0085	1	1
N	GS	SV-73-5'	5	20-Jun-12	127-18-4	Tetrachloroethene	0.0031	ug/L	0.0031	1	1
N	GS	SV-73-5'	5	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0036	ug/L	0.0036	1	1
N	GS	SV-73-5'	5	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
N	GS	SV-73-5'	5	20-Jun-12	591-78-6	2-Hexanone	0.0024	ug/L	0.0024	1	1
N	GS	SV-73-5'	5	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
N	GS	SV-73-5'	5	20-Jun-12	108-88-3	Toluene	0.028	ug/L	0.028	1	1
N	GS	SV-73-5'	5	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
N	GS	SV-73-5'	5	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
N	GS	SV-73-5'	5	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.061	ug/L	0.061	1	1
N	GS	SV-73-5'	5	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
N	GS	SV-73-5'	5	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
N	GS	SV-73-5'	5	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-73-5'	5	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.18	ug/L	0.18	1	1
N	GS	SV-73-5'	5	20-Jun-12		TPHv (C6 - C8) aromatic	0.096	ug/L		1	1
N	GS	SV-73-5'	5	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	1.4	ug/L	1.4	1	1
N	GS	SV-73-5'	5	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	0.88	ug/L	0.88	1	1
N	GS	SV-73-5'	5	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	GS	SV-73-5'	5	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
N	GS	SV-73-5'	5	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
N	GS	SV-73-5'	5	20-Jun-12	91-20-3	Naphthalene	0.0067	ug/L	0.0067	1	1
N	GS	SV-73-5'	5	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
N	GS	SV-73-5'	5	20-Jun-12	98-82-8	Isopropylbenzene	0.045	ug/L	0.045	1	1
N	GS	SV-73-5'	5	20-Jun-12	104-51-8	n-Butylbenzene	0.0051	ug/L	0.0051	1	1
N	GS	SV-73-5'	5	20-Jun-12	622-96-8	p-Ethyltoluene	0.0029	ug/L	0.0029	1	1
N	GS	SV-73-5'	5	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
N	GS	SV-73-5'	5	20-Jun-12	135-98-8	sec-Butylbenzene	0.0034	ug/L	0.0034	1	1
N	GS	SV-73-5'	5	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-73-5'	5	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
N	GS	SV-73-5'	5	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-73-5'	5	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0083	ug/L	0.0083	1	1
N	GS	SV-73-5'	5	20-Jun-12	98-06-6	tert-Butylbenzene	0.0023	ug/L	0.0023	1	1
N	GS	SV-73-5'	5	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
N	GS	SV-73-5'	5	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0026	ug/L	0.0026	1	1
N	GS	SV-73-5'	5	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
N	GS	SV-73-5'	5	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
N	GS	SV-73-5'	5	20-Jun-12	2037-26-5	Toluene-d8	0.202	ug/L		1	0
N	GS	SV-73-5'	5	20-Jun-12	75-15-0	Carbon disulfide	0.0021	ug/L	0.0021	1	1
N	GS	SV-73-5'	5	20-Jun-12	75-09-2	Methylene Chloride	0.0028	ug/L	0.0028	1	1
N	GS	SV-73-5'	5	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
N	GS	SV-73-5'	5	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0061	ug/L	0.0061	0	1
N	GS	SV-73-5'	5	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
N	GS	SV-73-5'	5	20-Jun-12	67-63-0	Isopropyl alcohol	0.011	ug/L	0.011	1	1
N	GS	SV-73-5'	5	20-Jun-12	67-64-1	Acetone	0.062	ug/L	0.062	1	1
N	GS	SV-73-5'	5	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0023	ug/L	0.0023	1	1
N	GS	SV-73-5'	5	20-Jun-12	64-17-5	Ethanol	0.045	ug/L	0.045	1	1
N	GS	SV-73-5'	5	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
N	GS	SV-73-5'	5	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
N	GS	SV-73-5'	5	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.38	ug/L		1	0
N	GS	SV-73-5'	5	20-Jun-12		Carbon dioxide	2.1	%		1	1
N	GS	SV-73-5'	5	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.191	ug/L		1	0
N	GS	SV-73-5'	5	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
N	GS	SV-73-5'	5	20-Jun-12		TPHv (C5 - C11)	2.3	ug/L		1	1
N	GS	SV-73-5'	5	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
N	GS	SV-73-5'	5	20-Jun-12	74-82-8	Methane	0.01	%		0	1
N	GS	SV-73-5'	5	20-Jun-12		Nitrogen	76	%		1	1
N	GS	SV-73-5'	5	20-Jun-12		Oxygen	19	%		1	1
N	GS	SV-73-5'	5	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
N	GS	SV-73-5'	5	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
N	GS	SV-73-5'	5	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
N	GS	SV-73-5'	5	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
N	GS	SV-73-5'	5	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.012	ug/L	0.012	1	1
N	GS	SV-73-5'	5	20-Jun-12	142-82-5	n-Heptane	0.0036	ug/L	0.0036	1	1
N	GS	SV-73-5'	5	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-73-5'	5	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
N	GS	SV-73-5'	5	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
N	GS	SV-73-5'	5	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
N	GS	SV-73-5'	5	20-Jun-12	71-43-2	Benzene	0.009	ug/L	0.009	1	1
N	GS	SV-73-5'	5	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
N	GS	SV-73-5'	5	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
N	GS	SV-73-5'	5	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
N	GS	SV-73-5'	5	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-73-5'	5	20-Jun-12	109-99-9	Tetrahydrofuran	0.032	ug/L	0.032	1	1
N	GS	SV-73-5'	5	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
N	GS	SV-73-5'	5	20-Jun-12	67-66-3	Chloroform	0.0054	ug/L	0.0054	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	GS	SV-73-5'	5	20-Jun-12	141-78-6	Ethyl acetate	0.017	ug/L	0.017	1	1
N	GS	SV-73-5'	5	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-73-5'	5	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
N	GS	SV-73-5'	5	20-Jun-12	110-54-3	Hexane	0.0028	ug/L	0.0028	1	1
N	GS	SV-73-5'	5	20-Jun-12	78-93-3	2-Butanone	0.11	ug/L	0.11	1	1
N	GS	SV-73-5'	5	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
N	GS	SV-73-5'	5	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
N	GS	SV-73-5'	5	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
N	GS	SV-73-5'	5	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
N	GS	SV-74-5'	5	20-Jun-12	100-41-4	Ethylbenzene	0.008	ug/L	0.008	1	1
N	GS	SV-74-5'	5	20-Jun-12	179601-23-1	m,p-Xylenes	0.024	ug/L	0.024	1	1
N	GS	SV-74-5'	5	20-Jun-12	100-42-5	Styrene	0.0041	ug/L	0.0041	1	1
N	GS	SV-74-5'	5	20-Jun-12	95-47-6	o-Xylene	0.0074	ug/L	0.0074	1	1
N	GS	SV-74-5'	5	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
N	GS	SV-74-5'	5	20-Jun-12	74-87-3	Chloromethane	0.0034	ug/L	0.0034	1	1
N	GS	SV-74-5'	5	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
N	GS	SV-74-5'	5	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
N	GS	SV-74-5'	5	20-Jun-12	622-96-8	p-Ethyltoluene	0.0023	ug/L	0.0023	1	1
N	GS	SV-74-5'	5	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
N	GS	SV-74-5'	5	20-Jun-12	98-82-8	Isopropylbenzene	0.036	ug/L	0.036	1	1
N	GS	SV-74-5'	5	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
N	GS	SV-74-5'	5	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
N	GS	SV-74-5'	5	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
N	GS	SV-74-5'	5	20-Jun-12	127-18-4	Tetrachloroethene	0.0032	ug/L	0.0032	1	1
N	GS	SV-74-5'	5	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0035	ug/L	0.0035	1	1
N	GS	SV-74-5'	5	20-Jun-12	591-78-6	2-Hexanone	0.0025	ug/L	0.0025	1	1
N	GS	SV-74-5'	5	20-Jun-12	108-88-3	Toluene	0.027	ug/L	0.027	1	1
N	GS	SV-74-5'	5	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
N	GS	SV-74-5'	5	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
N	GS	SV-74-5'	5	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
N	GS	SV-74-5'	5	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-74-5'	5	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.047	ug/L	0.047	1	1
N	GS	SV-74-5'	5	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
N	GS	SV-74-5'	5	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
N	GS	SV-74-5'	5	20-Jun-12	109-99-9	Tetrahydrofuran	0.027	ug/L	0.027	1	1
N	GS	SV-74-5'	5	20-Jun-12		TPHv (C6 - C8) aromatic	0.072	ug/L		1	1
N	GS	SV-74-5'	5	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	0.99	ug/L	0.99	1	1
N	GS	SV-74-5'	5	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	0.91	ug/L	0.91	1	1
N	GS	SV-74-5'	5	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
N	GS	SV-74-5'	5	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
N	GS	SV-74-5'	5	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
N	GS	SV-74-5'	5	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	1	1
N	GS	SV-74-5'	5	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
N	GS	SV-74-5'	5	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
N	GS	SV-74-5'	5	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
N	GS	SV-74-5'	5	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
N	GS	SV-74-5'	5	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
N	GS	SV-74-5'	5	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.078	ug/L	0.078	1	1
N	GS	SV-74-5'	5	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-74-5'	5	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
N	GS	SV-74-5'	5	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-74-5'	5	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0067	ug/L	0.0067	1	1
N	GS	SV-74-5'	5	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
N	GS	SV-74-5'	5	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
N	GS	SV-74-5'	5	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0024	ug/L	0.0024	1	1
N	GS	SV-74-5'	5	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
N	GS	SV-74-5'	5	20-Jun-12	103-65-1	n-Propylbenzene	0.002	ug/L	0.002	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	GS	SV-74-5'	5	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
N	GS	SV-74-5'	5	20-Jun-12	2037-26-5	Toluene-d8	0.202	ug/L		1	0
N	GS	SV-74-5'	5	20-Jun-12	75-15-0	Carbon disulfide	0.0021	ug/L	0.0021	1	1
N	GS	SV-74-5'	5	20-Jun-12	75-09-2	Methylene Chloride	0.0033	ug/L	0.0033	1	1
N	GS	SV-74-5'	5	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
N	GS	SV-74-5'	5	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0013	ug/L	0.0013	1	1
N	GS	SV-74-5'	5	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
N	GS	SV-74-5'	5	20-Jun-12	67-63-0	Isopropyl alcohol	0.0096	ug/L	0.0096	1	1
N	GS	SV-74-5'	5	20-Jun-12	67-64-1	Acetone	0.05	ug/L	0.05	1	1
N	GS	SV-74-5'	5	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0025	ug/L	0.0025	1	1
N	GS	SV-74-5'	5	20-Jun-12	64-17-5	Ethanol	0.047	ug/L	0.047	1	1
N	GS	SV-74-5'	5	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
N	GS	SV-74-5'	5	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
N	GS	SV-74-5'	5	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.377	ug/L		1	0
N	GS	SV-74-5'	5	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
N	GS	SV-74-5'	5	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.186	ug/L		1	0
N	GS	SV-74-5'	5	20-Jun-12		TPHv (C5 - C11)	1.8	ug/L		1	1
N	GS	SV-74-5'	5	20-Jun-12	74-82-8	Methane	0.01	%		0	1
N	GS	SV-74-5'	5	20-Jun-12		Nitrogen	76	%		1	1
N	GS	SV-74-5'	5	20-Jun-12		Oxygen	20	%		1	1
N	GS	SV-74-5'	5	20-Jun-12		Carbon dioxide	0.6	%		1	1
N	GS	SV-74-5'	5	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.034	ug/L	0.034	1	1
N	GS	SV-74-5'	5	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
N	GS	SV-74-5'	5	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
N	GS	SV-74-5'	5	20-Jun-12	142-82-5	n-Heptane	0.0039	ug/L	0.0039	1	1
N	GS	SV-74-5'	5	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
N	GS	SV-74-5'	5	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
N	GS	SV-74-5'	5	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
N	GS	SV-74-5'	5	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
N	GS	SV-74-5'	5	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
N	GS	SV-74-5'	5	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
N	GS	SV-74-5'	5	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
N	GS	SV-74-5'	5	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-74-5'	5	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
N	GS	SV-74-5'	5	20-Jun-12	71-43-2	Benzene	0.0022	ug/L	0.0022	1	1
N	GS	SV-74-5'	5	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
N	GS	SV-74-5'	5	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
N	GS	SV-74-5'	5	20-Jun-12	141-78-6	Ethyl acetate	0.016	ug/L	0.016	1	1
N	GS	SV-74-5'	5	20-Jun-12	110-54-3	Hexane	0.0057	ug/L	0.0057	1	1
N	GS	SV-74-5'	5	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
N	GS	SV-74-5'	5	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-74-5'	5	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
N	GS	SV-74-5'	5	20-Jun-12	78-93-3	2-Butanone	0.084	ug/L	0.084	1	1
N	GS	SV-74-5'	5	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
N	GS	SV-74-5'	5	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
N	GS	SV-74-5'	5	20-Jun-12	67-66-3	Chloroform	0.0038	ug/L	0.0038	1	1
N	GS	SV-74-5'	5	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
N	GS	SV-74-5'	5	20-Jun-12	115-07-1	Propene	0.0021	ug/L	0.0021	1	1
N	GS	SV-74-5'	5	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-75-5'	5	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
N	GS	SV-75-5'	5	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-75-5'	5	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
N	GS	SV-75-5'	5	20-Jun-12	115-07-1	Propene	0.0016	ug/L	0.0016	1	1
N	GS	SV-75-5'	5	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
N	GS	SV-75-5'	5	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.04	ug/L	0.04	1	1
N	GS	SV-75-5'	5	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
N	GS	SV-75-5'	5	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	GS	SV-75-5'	5	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.02	ug/L	0.02	1	1
N	GS	SV-75-5'	5	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
N	GS	SV-75-5'	5	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
N	GS	SV-75-5'	5	20-Jun-12	100-41-4	Ethylbenzene	0.0095	ug/L	0.0095	1	1
N	GS	SV-75-5'	5	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
N	GS	SV-75-5'	5	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
N	GS	SV-75-5'	5	20-Jun-12	71-43-2	Benzene	0.015	ug/L	0.015	1	1
N	GS	SV-75-5'	5	20-Jun-12	142-82-5	n-Heptane	0.044	ug/L	0.044	1	1
N	GS	SV-75-5'	5	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
N	GS	SV-75-5'	5	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
N	GS	SV-75-5'	5	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
N	GS	SV-75-5'	5	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
N	GS	SV-75-5'	5	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
N	GS	SV-75-5'	5	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
N	GS	SV-75-5'	5	20-Jun-12	95-47-6	o-Xylene	0.0076	ug/L	0.0076	1	1
N	GS	SV-75-5'	5	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
N	GS	SV-75-5'	5	20-Jun-12	179601-23-1	m,p-Xylenes	0.032	ug/L	0.032	1	1
N	GS	SV-75-5'	5	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
N	GS	SV-75-5'	5	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
N	GS	SV-75-5'	5	20-Jun-12	127-18-4	Tetrachloroethene	0.0069	ug/L	0.0069	0	1
N	GS	SV-75-5'	5	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0036	ug/L	0.0036	1	1
N	GS	SV-75-5'	5	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
N	GS	SV-75-5'	5	20-Jun-12	591-78-6	2-Hexanone	0.0083	ug/L	0.0083	0	1
N	GS	SV-75-5'	5	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
N	GS	SV-75-5'	5	20-Jun-12	108-88-3	Toluene	0.03	ug/L	0.03	1	1
N	GS	SV-75-5'	5	20-Jun-12	100-42-5	Styrene	0.0034	ug/L	0.0034	1	1
N	GS	SV-75-5'	5	20-Jun-12		TPHv (C5 - C11)	2.3	ug/L		1	1
N	GS	SV-75-5'	5	20-Jun-12	64-17-5	Ethanol	0.025	ug/L	0.025	1	1
N	GS	SV-75-5'	5	20-Jun-12	67-64-1	Acetone	0.042	ug/L	0.042	1	1
N	GS	SV-75-5'	5	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0024	ug/L	0.0024	1	1
N	GS	SV-75-5'	5	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
N	GS	SV-75-5'	5	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.378	ug/L		1	0
N	GS	SV-75-5'	5	20-Jun-12	2037-26-5	Toluene-d8	0.201	ug/L		1	0
N	GS	SV-75-5'	5	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
N	GS	SV-75-5'	5	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
N	GS	SV-75-5'	5	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0061	ug/L	0.0061	0	1
N	GS	SV-75-5'	5	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
N	GS	SV-75-5'	5	20-Jun-12	74-82-8	Methane	0.01	%		0	1
N	GS	SV-75-5'	5	20-Jun-12		Nitrogen	75	%		1	1
N	GS	SV-75-5'	5	20-Jun-12		Oxygen	20	%		1	1
N	GS	SV-75-5'	5	20-Jun-12		Carbon dioxide	1.1	%		1	1
N	GS	SV-75-5'	5	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
N	GS	SV-75-5'	5	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
N	GS	SV-75-5'	5	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.187	ug/L		1	0
N	GS	SV-75-5'	5	20-Jun-12	78-93-3	2-Butanone	0.069	ug/L	0.069	1	1
N	GS	SV-75-5'	5	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-75-5'	5	20-Jun-12	109-99-9	Tetrahydrofuran	0.022	ug/L	0.022	1	1
N	GS	SV-75-5'	5	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
N	GS	SV-75-5'	5	20-Jun-12	67-66-3	Chloroform	0.0024	ug/L	0.0024	1	1
N	GS	SV-75-5'	5	20-Jun-12	141-78-6	Ethyl acetate	0.012	ug/L	0.012	1	1
N	GS	SV-75-5'	5	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-75-5'	5	20-Jun-12	67-63-0	Isopropyl alcohol	0.0078	ug/L	0.0078	1	1
N	GS	SV-75-5'	5	20-Jun-12	110-54-3	Hexane	0.036	ug/L	0.036	1	1
N	GS	SV-75-5'	5	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
N	GS	SV-75-5'	5	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
N	GS	SV-75-5'	5	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
N	GS	SV-75-5'	5	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	GS	SV-75-5'	5	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
N	GS	SV-75-5'	5	20-Jun-12	75-15-0	Carbon disulfide	0.0063	ug/L	0.0063	0	1
N	GS	SV-75-5'	5	20-Jun-12	75-09-2	Methylene Chloride	0.0024	ug/L	0.0024	1	1
N	GS	SV-75-5'	5	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
N	GS	SV-75-5'	5	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
N	GS	SV-75-5'	5	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	1.6	ug/L	1.6	1	1
N	GS	SV-75-5'	5	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
N	GS	SV-75-5'	5	20-Jun-12	622-96-8	p-Ethyltoluene	0.0045	ug/L	0.0045	1	1
N	GS	SV-75-5'	5	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.087	ug/L	0.087	1	1
N	GS	SV-75-5'	5	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	1	ug/L	1	1	1
N	GS	SV-75-5'	5	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
N	GS	SV-75-5'	5	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
N	GS	SV-75-5'	5	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
N	GS	SV-75-5'	5	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	0	1
N	GS	SV-75-5'	5	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
N	GS	SV-75-5'	5	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
N	GS	SV-75-5'	5	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-75-5'	5	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
N	GS	SV-75-5'	5	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
N	GS	SV-75-5'	5	20-Jun-12		TPHv (C6 - C8) aromatic	0.094	ug/L		1	1
N	GS	SV-75-5'	5	20-Jun-12	103-65-1	n-Propylbenzene	0.005	ug/L	0.005	0	1
N	GS	SV-75-5'	5	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
N	GS	SV-75-5'	5	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0037	ug/L	0.0037	1	1
N	GS	SV-75-5'	5	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
N	GS	SV-75-5'	5	20-Jun-12	98-06-6	tert-Butylbenzene	0.0023	ug/L	0.0023	1	1
N	GS	SV-75-5'	5	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
N	GS	SV-75-5'	5	20-Jun-12	98-82-8	Isopropylbenzene	0.035	ug/L	0.035	1	1
N	GS	SV-75-5'	5	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0064	ug/L	0.0064	1	1
N	GS	SV-75-5'	5	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-75-5'	5	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
N	GS	SV-75-5'	5	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-75-5'	5	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
N	GS	SV-76-5'	5	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.378	ug/L		1	0
N	GS	SV-76-5'	5	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
N	GS	SV-76-5'	5	20-Jun-12	67-63-0	Isopropyl alcohol	0.0099	ug/L	0.0099	1	1
N	GS	SV-76-5'	5	20-Jun-12	67-64-1	Acetone	0.051	ug/L	0.051	1	1
N	GS	SV-76-5'	5	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0032	ug/L	0.0032	1	1
N	GS	SV-76-5'	5	20-Jun-12	64-17-5	Ethanol	0.031	ug/L	0.031	1	1
N	GS	SV-76-5'	5	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
N	GS	SV-76-5'	5	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
N	GS	SV-76-5'	5	20-Jun-12	2037-26-5	Toluene-d8	0.203	ug/L		1	0
N	GS	SV-76-5'	5	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.189	ug/L		1	0
N	GS	SV-76-5'	5	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
N	GS	SV-76-5'	5	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
N	GS	SV-76-5'	5	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0014	ug/L	0.0014	1	1
N	GS	SV-76-5'	5	20-Jun-12		Oxygen	17	%		1	1
N	GS	SV-76-5'	5	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
N	GS	SV-76-5'	5	20-Jun-12		Carbon dioxide	2.9	%		1	1
N	GS	SV-76-5'	5	20-Jun-12		Nitrogen	77	%		1	1
N	GS	SV-76-5'	5	20-Jun-12	67-66-3	Chloroform	0.0095	ug/L	0.0095	1	1
N	GS	SV-76-5'	5	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.024	ug/L	0.024	1	1
N	GS	SV-76-5'	5	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-76-5'	5	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
N	GS	SV-76-5'	5	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
N	GS	SV-76-5'	5	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
N	GS	SV-76-5'	5	20-Jun-12	71-43-2	Benzene	0.0042	ug/L	0.0042	1	1
N	GS	SV-76-5'	5	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	GS	SV-76-5'	5	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
N	GS	SV-76-5'	5	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
N	GS	SV-76-5'	5	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-76-5'	5	20-Jun-12	75-15-0	Carbon disulfide	0.007	ug/L	0.007	1	1
N	GS	SV-76-5'	5	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
N	GS	SV-76-5'	5	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0036	ug/L	0.0036	1	1
N	GS	SV-76-5'	5	20-Jun-12	141-78-6	Ethyl acetate	0.014	ug/L	0.014	1	1
N	GS	SV-76-5'	5	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
N	GS	SV-76-5'	5	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
N	GS	SV-76-5'	5	20-Jun-12	110-54-3	Hexane	0.004	ug/L	0.004	1	1
N	GS	SV-76-5'	5	20-Jun-12	78-93-3	2-Butanone	0.094	ug/L	0.094	1	1
N	GS	SV-76-5'	5	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
N	GS	SV-76-5'	5	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
N	GS	SV-76-5'	5	20-Jun-12	74-82-8	Methane	0.01	%		0	1
N	GS	SV-76-5'	5	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
N	GS	SV-76-5'	5	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.09	ug/L	0.09	1	1
N	GS	SV-76-5'	5	20-Jun-12	75-09-2	Methylene Chloride	0.0029	ug/L	0.0029	1	1
N	GS	SV-76-5'	5	20-Jun-12	109-99-9	Tetrahydrofuran	0.029	ug/L	0.029	1	1
N	GS	SV-76-5'	5	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
N	GS	SV-76-5'	5	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
N	GS	SV-76-5'	5	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.0045	ug/L	0.0045	1	1
N	GS	SV-76-5'	5	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
N	GS	SV-76-5'	5	20-Jun-12	100-41-4	Ethylbenzene	0.0062	ug/L	0.0062	1	1
N	GS	SV-76-5'	5	20-Jun-12	179601-23-1	m,p-Xylenes	0.017	ug/L	0.017	1	1
N	GS	SV-76-5'	5	20-Jun-12	127-18-4	Tetrachloroethene	0.009	ug/L	0.009	1	1
N	GS	SV-76-5'	5	20-Jun-12	95-47-6	o-Xylene	0.0055	ug/L	0.0055	1	1
N	GS	SV-76-5'	5	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0039	ug/L	0.0039	1	1
N	GS	SV-76-5'	5	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
N	GS	SV-76-5'	5	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
N	GS	SV-76-5'	5	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
N	GS	SV-76-5'	5	20-Jun-12	622-96-8	p-Ethyltoluene	0.0021	ug/L	0.0021	1	1
N	GS	SV-76-5'	5	20-Jun-12	98-82-8	Isopropylbenzene	0.038	ug/L	0.038	1	1
N	GS	SV-76-5'	5	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
N	GS	SV-76-5'	5	20-Jun-12	100-42-5	Styrene	0.0032	ug/L	0.0032	1	1
N	GS	SV-76-5'	5	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.05	ug/L	0.05	1	1
N	GS	SV-76-5'	5	20-Jun-12	142-82-5	n-Heptane	0.002	ug/L	0.002	1	1
N	GS	SV-76-5'	5	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
N	GS	SV-76-5'	5	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
N	GS	SV-76-5'	5	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
N	GS	SV-76-5'	5	20-Jun-12	115-07-1	Propene	0.013	ug/L	0.013	1	1
N	GS	SV-76-5'	5	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
N	GS	SV-76-5'	5	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
N	GS	SV-76-5'	5	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
N	GS	SV-76-5'	5	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
N	GS	SV-76-5'	5	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
N	GS	SV-76-5'	5	20-Jun-12	108-88-3	Toluene	0.024	ug/L	0.024	1	1
N	GS	SV-76-5'	5	20-Jun-12		TPHv (C5 - C11)	2.5	ug/L		1	1
N	GS	SV-76-5'	5	20-Jun-12	591-78-6	2-Hexanone	0.0083	ug/L	0.0083	0	1
N	GS	SV-76-5'	5	20-Jun-12		TPHv (C6 - C8) aromatic	0.056	ug/L		1	1
N	GS	SV-76-5'	5	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
N	GS	SV-76-5'	5	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
N	GS	SV-76-5'	5	20-Jun-12	103-65-1	n-Propylbenzene	0.005	ug/L	0.005	0	1
N	GS	SV-76-5'	5	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	1.5	ug/L	1.5	1	1
N	GS	SV-76-5'	5	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	1.1	ug/L	1.1	1	1
N	GS	SV-76-5'	5	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
N	GS	SV-76-5'	5	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
N	GS	SV-76-5'	5	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	GS	SV-76-5'	5	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
N	GS	SV-76-5'	5	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	0	1
N	GS	SV-76-5'	5	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
N	GS	SV-76-5'	5	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-76-5'	5	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-76-5'	5	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
N	GS	SV-76-5'	5	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0024	ug/L	0.0024	1	1
N	GS	SV-76-5'	5	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
N	GS	SV-76-5'	5	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
N	GS	SV-76-5'	5	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0055	ug/L	0.0055	1	1
N	GS	SV-76-5'	5	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
N	GS	SV-76-5'	5	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
N	GS	SV-76-5'	5	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
N	GS	SV-76-5'	5	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
N	GS	SV-76-5'	5	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
N	Soil	B-147-10	10		64742-47-8	TPHm			10	0	1
N	Soil	B-147-10	10		8006-61-9	TPHg			10	0	1
N	Soil	B-147-10	10		68476-30-2	TPHd			10	0	1
N	Soil	B-172-5	5		68476-30-2	TPHd			10	0	1
N	Soil	B-172-5	5		8006-61-9	TPHg			10	0	1
N	Soil	B-172-5	5		64742-47-8	TPHm			10	0	1
N	Soil	S-43-0.5	0.5		68476-30-2	TPHd			10	0	1
N	Soil	S-43-0.5	0.5		8006-61-9	TPHg			10	0	1
N	Soil	S-43-0.5	0.5		64742-47-8	TPHm			10	0	1
N	Soil	S-43-2.5	2.5		68476-30-2	TPHd			10	0	1
N	Soil	S-43-2.5	2.5		64742-47-8	TPHm			10	0	1
N	Soil	S-43-2.5	2.5		8006-61-9	TPHg			10	0	1
N	Soil	S-47-01	1		BaP TEQ	BaP TEQ			0.00478	1	1
N	Soil	S-47-01	1		68476-30-2	TPHd			10	0	1
N	Soil	S-47-01	1		8006-61-9	TPHg			0.4	0	1
N	Soil	S-47-01	1		64742-47-8	TPHm			10	0	1
N	Soil	S-47-05	5		BaP TEQ	BaP TEQ			0.0050055	0	1
N	Soil	S-47-05	5		64742-47-8	TPHm			5	0	1
N	Soil	S-47-05	5		8006-61-9	TPHg			0.37	0	1
N	Soil	S-47-05	5		68476-30-2	TPHd			5	0	1
N	Soil	S-47-10	10		BaP TEQ	BaP TEQ			0.0052875	0	1
N	Soil	S-47-10	10		68476-30-2	TPHd			5	0	1
N	Soil	S-47-10	10		8006-61-9	TPHg			0.41	0	1
N	Soil	S-47-10	10		64742-47-8	TPHm			5	0	1
N	Soil	S-50-01	1		BaP TEQ	BaP TEQ			0.0087605	1	1
N	Soil	S-50-01	1		8006-61-9	TPHg			0.4	0	1
N	Soil	S-50-01	1		68476-30-2	TPHd			5	0	1
N	Soil	S-50-01	1		64742-47-8	TPHm			5	0	1
N	Soil	S-50-05	5		BaP TEQ	BaP TEQ			0.0043005	0	1
N	Soil	S-50-05	5		68476-30-2	TPHd			5	0	1
N	Soil	S-50-05	5		8006-61-9	TPHg			0.38	0	1
N	Soil	S-50-05	5		64742-47-8	TPHm			5	0	1
N	Soil	S-50-10	10		BaP TEQ	BaP TEQ			0.004512	0	1
N	Soil	S-50-10	10		64742-47-8	TPHm			5	0	1
N	Soil	S-50-10	10		68476-30-2	TPHd			5	0	1
N	Soil	S-50-10	10		8006-61-9	TPHg			0.39	0	1
N	Soil	SV-02-01	1		BaP TEQ	BaP TEQ			0.069401	1	1
N	Soil	SV-02-01	1		64742-47-8	TPHm			150	1	1
N	Soil	SV-02-01	1		68476-30-2	TPHd			160	1	1
N	Soil	SV-02-01	1		8006-61-9	TPHg			0.4	0	1
N	Soil	SV-02-05	5		BaP TEQ	BaP TEQ			0.0055695	0	1
N	Soil	SV-02-05	5		64742-47-8	TPHm			5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	SV-02-05	5		8006-61-9	TPHg			0.43	0	1
N	Soil	SV-02-05	5		68476-30-2	TPHd			5	0	1
N	Soil	SV-02-10	10		BaP TEQ	BaP TEQ			0.0051465	0	1
N	Soil	SV-02-10	10		8006-61-9	TPHg			0.43	0	1
N	Soil	SV-02-10	10		64742-47-8	TPHm			5	0	1
N	Soil	SV-02-10	10		68476-30-2	TPHd			5	0	1
N	Soil	B-147-10	10	24-Nov-97		C1-C40	10	mg/K	10	0	1
N	Soil	B-147-10	10	24-Nov-97		C25-C40	10	mg/K	10	0	1
N	Soil	B-147-10	10	24-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
N	Soil	B-147-10	10	24-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
N	Soil	B-147-10	10	24-Nov-97		C4-C10	10	mg/K	10	0	1
N	Soil	B-147-10	10	24-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
N	Soil	B-147-10	10	24-Nov-97		C10-C25	10	mg/K	10	0	1
N	Soil	B-147-10	10	24-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
N	Soil	B-172-5	5	25-Nov-97		C25-C40	10	mg/K	10	0	1
N	Soil	B-172-5	5	25-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
N	Soil	B-172-5	5	25-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
N	Soil	B-172-5	5	25-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
N	Soil	B-172-5	5	25-Nov-97		C1-C40	10	mg/K	10	0	1
N	Soil	B-172-5	5	25-Nov-97		C4-C10	10	mg/K	10	0	1
N	Soil	B-172-5	5	25-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
N	Soil	B-172-5	5	25-Nov-97		C10-C25	10	mg/K	10	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03		C25-C40	10	mg/k	10	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	1	1
N	Soil	S-43-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	7440-47-3	Chromium	17	mg/k	17	1	1
N	Soil	S-43-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	2.3	mg/k	2.3	1	1
N	Soil	S-43-0.5	0.5	04-Jun-03	7440-39-3	Barium	160	mg/k	160	1	1
N	Soil	S-43-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	S-43-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	7440-02-0	Nickel	20	mg/k	20	1	1
N	Soil	S-43-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	59	mg/k	59	1	1
N	Soil	S-43-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	7440-66-6	Zinc	29	mg/k	29	1	1
N	Soil	S-43-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	7.8	mg/k	7.8	1	1
N	Soil	S-43-0.5	0.5	04-Jun-03	7440-50-8	Copper	13	mg/k	13	1	1
N	Soil	S-43-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	7439-92-1	Lead	8.8	mg/k	8.8	1	1
N	Soil	S-43-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
N	Soil	S-43-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	7440-47-3	Chromium	11	mg/k	11	1	1
N	Soil	S-43-2.5	2.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03		C25-C40	10	mg/k	10	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	S-43-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	7440-39-3	Barium	120	mg/k	120	1	1
N	Soil	S-43-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	1.4	mg/k	1.4	1	1
N	Soil	S-43-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	46	mg/k	46	1	1
N	Soil	S-43-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	7440-66-6	Zinc	14	mg/k	14	1	1
N	Soil	S-43-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	7439-92-1	Lead	4.1	mg/k	4.1	1	1
N	Soil	S-43-2.5	2.5	04-Jun-03	7440-50-8	Copper	9.7	mg/k	9.7	1	1
N	Soil	S-43-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	7440-02-0	Nickel	14	mg/k	14	1	1
N	Soil	S-43-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	9.9	mg/k	9.9	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	S-43-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
N	Soil	S-43-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
N	Soil	S-47-01	1	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1
N	Soil	S-47-01	1	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
N	Soil	S-47-01	1	11-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07		n-Octacosane	7.79	mg/k	7.79	1	1
N	Soil	S-47-01	1	11-Jul-07	90-12-0	1-Methylnaphthalene	6.7	ug/kg	0.0067	0	1
N	Soil	S-47-01	1	11-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07		2-Fluorobiphenyl	1200	ug/kg	1.2	1	1
N	Soil	S-47-01	1	11-Jul-07	91-57-6	2-Methylnaphthalene	6.7	ug/kg	0.0067	0	1
N	Soil	S-47-01	1	11-Jul-07		4-Bromofluorobenzene	0.0104	mg/k	0.0104	1	0
N	Soil	S-47-01	1	11-Jul-07		4-Bromofluorobenzene	42	ug/kg	0.042	1	1
N	Soil	S-47-01	1	11-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
N	Soil	S-47-01	1	11-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
N	Soil	S-47-01	1	11-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	7440-02-0	Nickel	5.1	mg/k	5.1	1	1
N	Soil	S-47-01	1	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	7440-62-2	Vanadium	58	mg/k	58	1	1
N	Soil	S-47-01	1	11-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
N	Soil	S-47-01	1	11-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
N	Soil	S-47-01	1	11-Jul-07		Toluene-d8	47.1	ug/kg	0.0471	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	S-47-01	1	11-Jul-07	85-01-8	Phenanthrene	6.7	ug/kg	0.0067	0	1
N	Soil	S-47-01	1	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	83-32-9	Acenaphthene	6.7	ug/kg	0.0067	0	1
N	Soil	S-47-01	1	11-Jul-07		Nitrobenzene-d5	1600	ug/kg	1.6	1	1
N	Soil	S-47-01	1	11-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07		Terphenyl-d14	1600	ug/kg	1.6	1	1
N	Soil	S-47-01	1	11-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	129-00-0	Pyrene	6.7	ug/kg	0.0067	0	1
N	Soil	S-47-01	1	11-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
N	Soil	S-47-01	1	11-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
N	Soil	S-47-01	1	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07		ORO (C25-C40)	10	mg/k	10	0	1
N	Soil	S-47-01	1	11-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	7439-92-1	Lead	9.8	mg/k	9.8	1	1
N	Soil	S-47-01	1	11-Jul-07		C32-C35	7	mg/k	7	0	1
N	Soil	S-47-01	1	11-Jul-07		C30-C31	7	mg/k	7	0	1
N	Soil	S-47-01	1	11-Jul-07		C28-C29	7	mg/k	7	0	1
N	Soil	S-47-01	1	11-Jul-07		C26-C27	7	mg/k	7	0	1
N	Soil	S-47-01	1	11-Jul-07		C24-C25	7	mg/k	7	0	1
N	Soil	S-47-01	1	11-Jul-07		C22-C23	7	mg/k	7	0	1
N	Soil	S-47-01	1	11-Jul-07		C20-C21	7	mg/k	7	0	1
N	Soil	S-47-01	1	11-Jul-07		C18-C19	7	mg/k	7	0	1
N	Soil	S-47-01	1	11-Jul-07	7440-66-6	Zinc	34	mg/k	34	1	1
N	Soil	S-47-01	1	11-Jul-07		C16-C17	7	mg/k	7	0	1
N	Soil	S-47-01	1	11-Jul-07		C14-C15	7	mg/k	7	0	1
N	Soil	S-47-01	1	11-Jul-07		C12-C13	7	mg/k	7	0	1
N	Soil	S-47-01	1	11-Jul-07		C8-C40	10	mg/k	10	0	1
N	Soil	S-47-01	1	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.7	ug/kg	0.0067	0	1
N	Soil	S-47-01	1	11-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
N	Soil	S-47-01	1	11-Jul-07	7440-38-2	Arsenic	0.94	mg/k	0.94	1	1
N	Soil	S-47-01	1	11-Jul-07	7440-39-3	Barium	65	mg/k	65	1	1
N	Soil	S-47-01	1	11-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	56-55-3	Benzo(a)anthracene	6.7	ug/kg	0.0067	0	1
N	Soil	S-47-01	1	11-Jul-07		C10-C11	7	mg/k	7	0	1
N	Soil	S-47-01	1	11-Jul-07	205-99-2	Benzo(b)fluoranthene	6.7	ug/kg	0.0067	0	1
N	Soil	S-47-01	1	11-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	207-08-9	Benzo(k)fluoranthene	6.7	ug/kg	0.0067	0	1
N	Soil	S-47-01	1	11-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	1	1
N	Soil	S-47-01	1	11-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07		C8-C9	7	mg/k	7	0	1
N	Soil	S-47-01	1	11-Jul-07	50-32-8	Benzo(a)pyrene	6.7	ug/kg	0.0067	0	1
N	Soil	S-47-01	1	11-Jul-07	120-12-7	Anthracene	6.7	ug/kg	0.0067	0	1
N	Soil	S-47-01	1	11-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07		DRO (C10-C24)	10	mg/k	10	0	1
N	Soil	S-47-01	1	11-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	206-44-0	Fluoranthene	6.7	ug/kg	0.0067	0	1
N	Soil	S-47-01	1	11-Jul-07		C36-C40	7	mg/k	7	0	1
N	Soil	S-47-01	1	11-Jul-07	86-73-7	Fluorene	6.7	ug/kg	0.0067	0	1
N	Soil	S-47-01	1	11-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	S-47-01	1	11-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.7	ug/kg	0.0067	0	1
N	Soil	S-47-01	1	11-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
N	Soil	S-47-01	1	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	91-20-3	Naphthalene	6.7	ug/kg	0.0067	0	0
N	Soil	S-47-01	1	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
N	Soil	S-47-01	1	11-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
N	Soil	S-47-01	1	11-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	218-01-9	Chrysene	9	ug/kg	0.009	1	1
N	Soil	S-47-01	1	11-Jul-07		Dibromofluoromethane	58.4	ug/kg	0.0584	1	1
N	Soil	S-47-01	1	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	S-47-01	1	11-Jul-07	7440-48-4	Cobalt	9.7	mg/k	9.7	1	1
N	Soil	S-47-01	1	11-Jul-07	7440-50-8	Copper	11	mg/k	11	1	1
N	Soil	S-47-01	1	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.7	ug/kg	0.0067	0	1
N	Soil	S-47-01	1	11-Jul-07	208-96-8	Acenaphthylene	6.7	ug/kg	0.0067	0	1
N	Soil	S-47-01	1	11-Jul-07	7440-47-3	Chromium	7.8	mg/k	7.8	1	1
N	Soil	S-47-05	5	11-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
N	Soil	S-47-05	5	11-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
N	Soil	S-47-05	5	11-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
N	Soil	S-47-05	5	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
N	Soil	S-47-05	5	11-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	7439-92-1	Lead	2.6	mg/k	2.6	1	1
N	Soil	S-47-05	5	11-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	7.1	ug/kg	0.0071	0	1
N	Soil	S-47-05	5	11-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	86-73-7	Fluorene	7.1	ug/kg	0.0071	0	1
N	Soil	S-47-05	5	11-Jul-07	206-44-0	Fluoranthene	7.1	ug/kg	0.0071	0	1
N	Soil	S-47-05	5	11-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	7440-50-8	Copper	11	mg/k	11	1	1
N	Soil	S-47-05	5	11-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	7440-47-3	Chromium	8.8	mg/k	8.8	1	1
N	Soil	S-47-05	5	11-Jul-07	218-01-9	Chrysene	7.1	ug/kg	0.0071	0	1
N	Soil	S-47-05	5	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	7440-48-4	Cobalt	7.9	mg/k	7.9	1	1
N	Soil	S-47-05	5	11-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	7.1	ug/kg	0.0071	0	1
N	Soil	S-47-05	5	11-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07		Dibromofluoromethane	52	ug/kg	0.052	1	1
N	Soil	S-47-05	5	11-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	7440-02-0	Nickel	2	mg/k	2	0	1
N	Soil	S-47-05	5	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	91-20-3	Naphthalene	7.1	ug/kg	0.0071	0	0

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	S-47-05	5	11-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
N	Soil	S-47-05	5	11-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07		Toluene-d8	51.2	ug/kg	0.0512	1	1
N	Soil	S-47-05	5	11-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
N	Soil	S-47-05	5	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	7440-62-2	Vanadium	72	mg/k	72	1	1
N	Soil	S-47-05	5	11-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.37	mg/k	0.37	0	1
N	Soil	S-47-05	5	11-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
N	Soil	S-47-05	5	11-Jul-07	7440-66-6	Zinc	36	mg/k	36	1	1
N	Soil	S-47-05	5	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07		Nitrobenzene-d5	1800	ug/kg	1.8	1	1
N	Soil	S-47-05	5	11-Jul-07		n-Octacosane	3.49	mg/k	3.49	1	1
N	Soil	S-47-05	5	11-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
N	Soil	S-47-05	5	11-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	85-01-8	Phenanthrene	7.1	ug/kg	0.0071	0	1
N	Soil	S-47-05	5	11-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	129-00-0	Pyrene	7.1	ug/kg	0.0071	0	1
N	Soil	S-47-05	5	11-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
N	Soil	S-47-05	5	11-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
N	Soil	S-47-05	5	11-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07		Terphenyl-d14	1800	ug/kg	1.8	1	1
N	Soil	S-47-05	5	11-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	208-96-8	Acenaphthylene	7.1	ug/kg	0.0071	0	1
N	Soil	S-47-05	5	11-Jul-07	83-32-9	Acenaphthene	7.1	ug/kg	0.0071	0	1
N	Soil	S-47-05	5	11-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07		4-Bromofluorobenzene	45.5	ug/kg	0.0455	1	1
N	Soil	S-47-05	5	11-Jul-07		4-Bromofluorobenzene	0.0132	mg/k	0.0132	1	0
N	Soil	S-47-05	5	11-Jul-07	91-57-6	2-Methylnaphthalene	7.1	ug/kg	0.0071	0	1
N	Soil	S-47-05	5	11-Jul-07		2-Fluorobiphenyl	1300	ug/kg	1.3	1	1
N	Soil	S-47-05	5	11-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	90-12-0	1-Methylnaphthalene	7.1	ug/kg	0.0071	0	1
N	Soil	S-47-05	5	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
N	Soil	S-47-05	5	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	S-47-05	5	11-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	7440-38-2	Arsenic	0.5	mg/k	0.5	0	1
N	Soil	S-47-05	5	11-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
N	Soil	S-47-05	5	11-Jul-07	120-12-7	Anthracene	7.1	ug/kg	0.0071	0	1
N	Soil	S-47-05	5	11-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
N	Soil	S-47-05	5	11-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
N	Soil	S-47-05	5	11-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
N	Soil	S-47-05	5	11-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
N	Soil	S-47-05	5	11-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
N	Soil	S-47-05	5	11-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
N	Soil	S-47-05	5	11-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
N	Soil	S-47-05	5	11-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
N	Soil	S-47-05	5	11-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
N	Soil	S-47-05	5	11-Jul-07		C8-C40	5	mg/k	5	0	1
N	Soil	S-47-05	5	11-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
N	Soil	S-47-05	5	11-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
N	Soil	S-47-05	5	11-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
N	Soil	S-47-05	5	11-Jul-07	207-08-9	Benzo(k)fluoranthene	7.1	ug/kg	0.0071	0	1
N	Soil	S-47-05	5	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	7440-39-3	Barium	66	mg/k	66	1	1
N	Soil	S-47-05	5	11-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	56-55-3	Benzo(a)anthracene	7.1	ug/kg	0.0071	0	1
N	Soil	S-47-05	5	11-Jul-07	50-32-8	Benzo(a)pyrene	7.1	ug/kg	0.0071	0	1
N	Soil	S-47-05	5	11-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
N	Soil	S-47-05	5	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	7.1	ug/kg	0.0071	0	1
N	Soil	S-47-05	5	11-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
N	Soil	S-47-05	5	11-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
N	Soil	S-47-05	5	11-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
N	Soil	S-47-05	5	11-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
N	Soil	S-47-05	5	11-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
N	Soil	S-47-05	5	11-Jul-07	205-99-2	Benzo(b)fluoranthene	7.1	ug/kg	0.0071	0	1
N	Soil	S-47-10	10	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
N	Soil	S-47-10	10	11-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
N	Soil	S-47-10	10	11-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
N	Soil	S-47-10	10	11-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
N	Soil	S-47-10	10	11-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
N	Soil	S-47-10	10	11-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
N	Soil	S-47-10	10	11-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
N	Soil	S-47-10	10	11-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
N	Soil	S-47-10	10	11-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
N	Soil	S-47-10	10	11-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
N	Soil	S-47-10	10	11-Jul-07		C8-C40	5	mg/k	5	0	1
N	Soil	S-47-10	10	11-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
N	Soil	S-47-10	10	11-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
N	Soil	S-47-10	10	11-Jul-07	74-83-9	Bromomethane	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	75-25-2	Bromoform	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	75-27-4	Bromodichloromethane	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	74-97-5	Bromochloromethane	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	108-86-1	Bromobenzene	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	7440-41-7	Beryllium	1	mg/k	1	0	1
N	Soil	S-47-10	10	11-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
N	Soil	S-47-10	10	11-Jul-07	218-01-9	Chrysene	7.5	ug/kg	0.0075	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	S-47-10	10	11-Jul-07	7439-98-7	Molybdenum	4	mg/k	4	0	1
N	Soil	S-47-10	10	11-Jul-07	74-95-3	Dibromomethane	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07		Dibromofluoromethane	57.5	ug/kg	0.0575	1	1
N	Soil	S-47-10	10	11-Jul-07	124-48-1	Dibromochloromethane	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	7.5	ug/kg	0.0075	0	1
N	Soil	S-47-10	10	11-Jul-07	7440-50-8	Copper	15	mg/k	15	1	1
N	Soil	S-47-10	10	11-Jul-07	7440-48-4	Cobalt	11	mg/k	11	1	1
N	Soil	S-47-10	10	11-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
N	Soil	S-47-10	10	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	205-99-2	Benzo(b)fluoranthene	7.5	ug/kg	0.0075	0	1
N	Soil	S-47-10	10	11-Jul-07	7440-47-3	Chromium	12	mg/k	12	1	1
N	Soil	S-47-10	10	11-Jul-07	74-87-3	Chloromethane	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	67-66-3	Chloroform	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	75-00-3	Chloroethane	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	108-90-7	Chlorobenzene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	56-23-5	Carbon tetrachloride	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	7440-43-9	Cadmium	1	mg/k	1	0	1
N	Soil	S-47-10	10	11-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
N	Soil	S-47-10	10	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	78-87-5	1,2-Dichloropropane	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	107-06-2	1,2-Dichloroethane	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	106-93-4	1,2-Dibromoethane	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	207-08-9	Benzo(k)fluoranthene	7.5	ug/kg	0.0075	0	1
N	Soil	S-47-10	10	11-Jul-07	96-18-4	1,2,3-Trichloropropane	11	ug/kg	0.011	0	1
N	Soil	S-47-10	10	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	563-58-6	1,1-Dichloropropene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	75-35-4	1,1-Dichloroethene	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	75-34-3	1,1-Dichloroethane	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	7440-66-6	Zinc	50	mg/k	50	1	1
N	Soil	S-47-10	10	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	106-43-4	4-Chlorotoluene	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	637-92-3	Ethyl tert butyl ether	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	50-32-8	Benzo(a)pyrene	7.5	ug/kg	0.0075	0	1
N	Soil	S-47-10	10	11-Jul-07	56-55-3	Benzo(a)anthracene	7.5	ug/kg	0.0075	0	1
N	Soil	S-47-10	10	11-Jul-07	71-43-2	Benzene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	7440-39-3	Barium	81	mg/k	81	1	1
N	Soil	S-47-10	10	11-Jul-07	7440-38-2	Arsenic	0.5	mg/k	0.5	0	1
N	Soil	S-47-10	10	11-Jul-07	7440-36-0	Antimony	20	mg/k	20	0	1
N	Soil	S-47-10	10	11-Jul-07	120-12-7	Anthracene	7.5	ug/kg	0.0075	0	1
N	Soil	S-47-10	10	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	83-32-9	Acenaphthene	7.5	ug/kg	0.0075	0	1
N	Soil	S-47-10	10	11-Jul-07	142-28-9	1,3-Dichloropropane	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07		4-Bromofluorobenzene	52.7	ug/kg	0.0527	1	1
N	Soil	S-47-10	10	11-Jul-07		4-Bromofluorobenzene	0.0149	mg/k	0.0149	1	0
N	Soil	S-47-10	10	11-Jul-07	91-57-6	2-Methylnaphthalene	7.5	ug/kg	0.0075	0	1
N	Soil	S-47-10	10	11-Jul-07		2-Fluorobiphenyl	1400	ug/kg	1.4	1	1
N	Soil	S-47-10	10	11-Jul-07	95-49-8	2-Chlorotoluene	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	594-20-7	2,2-Dichloropropane	2.2	ug/kg	0.0022	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	S-47-10	10	11-Jul-07	90-12-0	1-Methylnaphthalene	7.5	ug/kg	0.0075	0	1
N	Soil	S-47-10	10	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	7.5	ug/kg	0.0075	0	1
N	Soil	S-47-10	10	11-Jul-07	208-96-8	Acenaphthylene	7.5	ug/kg	0.0075	0	1
N	Soil	S-47-10	10	11-Jul-07	108-88-3	Toluene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	129-00-0	Pyrene	7.5	ug/kg	0.0075	0	1
N	Soil	S-47-10	10	11-Jul-07	135-98-8	sec-Butylbenzene	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	7782-49-2	Selenium	4	mg/k	4	0	1
N	Soil	S-47-10	10	11-Jul-07	7440-22-4	Silver	2	mg/k	2	0	1
N	Soil	S-47-10	10	11-Jul-07	100-42-5	Styrene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07		Terphenyl-d14	2100	ug/kg	2.1	1	1
N	Soil	S-47-10	10	11-Jul-07	994-05-8	Tert-amyl methyl ether	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	75-65-0	tert-Butyl alcohol	110	ug/kg	0.11	0	1
N	Soil	S-47-10	10	11-Jul-07	98-06-6	tert-Butylbenzene	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	99-87-6	p-Isopropyltoluene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	7440-28-0	Thallium	20	mg/k	20	0	1
N	Soil	S-47-10	10	11-Jul-07	75-69-4	Trichlorofluoromethane	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07		Toluene-d8	58.8	ug/kg	0.0588	1	1
N	Soil	S-47-10	10	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	79-01-6	Trichloroethene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	100-41-4	Ethylbenzene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	7440-62-2	Vanadium	91	mg/k	91	1	1
N	Soil	S-47-10	10	11-Jul-07	75-71-8	Dichlorodifluoromethane	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
N	Soil	S-47-10	10	11-Jul-07	1330-20-7	Xylenes (total)	4.4	ug/kg	0.0044	0	1
N	Soil	S-47-10	10	11-Jul-07	127-18-4	Tetrachloroethene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	86-73-7	Fluorene	7.5	ug/kg	0.0075	0	1
N	Soil	S-47-10	10	11-Jul-07	75-01-4	Vinyl chloride	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	85-01-8	Phenanthrene	7.5	ug/kg	0.0075	0	1
N	Soil	S-47-10	10	11-Jul-07	206-44-0	Fluoranthene	7.5	ug/kg	0.0075	0	1
N	Soil	S-47-10	10	11-Jul-07	87-68-3	Hexachlorobutadiene	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	7.5	ug/kg	0.0075	0	1
N	Soil	S-47-10	10	11-Jul-07	108-20-3	Isopropyl ether	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	98-82-8	Isopropylbenzene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	7439-92-1	Lead	4	mg/k	4	0	1
N	Soil	S-47-10	10	11-Jul-07	179601-23-1	m,p-Xylenes	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
N	Soil	S-47-10	10	11-Jul-07	103-65-1	n-Propylbenzene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	95-47-6	o-Xylene	2.2	ug/kg	0.0022	0	1
N	Soil	S-47-10	10	11-Jul-07	91-20-3	Naphthalene	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	91-20-3	Naphthalene	7.5	ug/kg	0.0075	0	0
N	Soil	S-47-10	10	11-Jul-07	104-51-8	n-Butylbenzene	5.5	ug/kg	0.0055	0	1
N	Soil	S-47-10	10	11-Jul-07	7440-02-0	Nickel	4	mg/k	4	0	1
N	Soil	S-47-10	10	11-Jul-07		Nitrobenzene-d5	990	ug/kg	0.99	1	1
N	Soil	S-47-10	10	11-Jul-07		n-Octacosane	5.58	mg/k	5.58	1	1
N	Soil	S-47-10	10	11-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
N	Soil	S-47-10	10	11-Jul-07	75-09-2	Methylene chloride	22	ug/kg	0.022	0	1
N	Soil	S-50-01	1	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	86-73-7	Fluorene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-01	1	11-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	11	ug/kg	0.011	1	1
N	Soil	S-50-01	1	11-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	7439-92-1	Lead	13	mg/k	13	1	1
N	Soil	S-50-01	1	11-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
N	Soil	S-50-01	1	11-Jul-07	7439-97-6	Mercury	0.12	mg/k	0.12	1	1
N	Soil	S-50-01	1	11-Jul-07	7439-98-7	Molybdenum	4.3	mg/k	4.3	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	S-50-01	1	11-Jul-07	7440-66-6	Zinc	60	mg/k	60	1	1
N	Soil	S-50-01	1	11-Jul-07	206-44-0	Fluoranthene	21	ug/kg	0.021	1	1
N	Soil	S-50-01	1	11-Jul-07		Dibromofluoromethane	50.9	ug/kg	0.0509	1	1
N	Soil	S-50-01	1	11-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-01	1	11-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	7440-47-3	Chromium	28	mg/k	28	1	1
N	Soil	S-50-01	1	11-Jul-07	218-01-9	Chrysene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-01	1	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	7440-50-8	Copper	18	mg/k	18	1	1
N	Soil	S-50-01	1	11-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
N	Soil	S-50-01	1	11-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
N	Soil	S-50-01	1	11-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	7440-48-4	Cobalt	5.2	mg/k	5.2	1	1
N	Soil	S-50-01	1	11-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
N	Soil	S-50-01	1	11-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07		Toluene-d8	51.4	ug/kg	0.0514	1	1
N	Soil	S-50-01	1	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07		n-Octacosane	4.4	mg/k	4.4	1	1
N	Soil	S-50-01	1	11-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	7440-62-2	Vanadium	57	mg/k	57	1	1
N	Soil	S-50-01	1	11-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
N	Soil	S-50-01	1	11-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
N	Soil	S-50-01	1	11-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	129-00-0	Pyrene	21	ug/kg	0.021	1	1
N	Soil	S-50-01	1	11-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	7440-02-0	Nickel	29	mg/k	29	1	1
N	Soil	S-50-01	1	11-Jul-07		Nitrobenzene-d5	1500	ug/kg	1.5	1	1
N	Soil	S-50-01	1	11-Jul-07		n-Octacosane	4.39	mg/k	4.39	1	0
N	Soil	S-50-01	1	11-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
N	Soil	S-50-01	1	11-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
N	Soil	S-50-01	1	11-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
N	Soil	S-50-01	1	11-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07		Terphenyl-d14	1300	ug/kg	1.3	1	1
N	Soil	S-50-01	1	11-Jul-07	91-20-3	Naphthalene	6.1	ug/kg	0.0061	0	0
N	Soil	S-50-01	1	11-Jul-07	85-01-8	Phenanthrene	7.7	ug/kg	0.0077	1	1
N	Soil	S-50-01	1	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	83-32-9	Acenaphthene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-01	1	11-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	S-50-01	1	11-Jul-07		4-Bromofluorobenzene	41.2	ug/kg	0.0412	1	1
N	Soil	S-50-01	1	11-Jul-07		4-Bromofluorobenzene	0.0136	mg/k	0.0136	1	0
N	Soil	S-50-01	1	11-Jul-07	91-57-6	2-Methylnaphthalene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-01	1	11-Jul-07		2-Fluorobiphenyl	1200	ug/kg	1.2	1	1
N	Soil	S-50-01	1	11-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	90-12-0	1-Methylnaphthalene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-01	1	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	208-96-8	Acenaphthylene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-01	1	11-Jul-07	50-32-8	Benzo(a)pyrene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-01	1	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
N	Soil	S-50-01	1	11-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
N	Soil	S-50-01	1	11-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
N	Soil	S-50-01	1	11-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
N	Soil	S-50-01	1	11-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
N	Soil	S-50-01	1	11-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
N	Soil	S-50-01	1	11-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
N	Soil	S-50-01	1	11-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
N	Soil	S-50-01	1	11-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
N	Soil	S-50-01	1	11-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
N	Soil	S-50-01	1	11-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
N	Soil	S-50-01	1	11-Jul-07		C8-C40	5.9	mg/k	5.9	1	1
N	Soil	S-50-01	1	11-Jul-07	7440-43-9	Cadmium	1.3	mg/k	1.3	1	1
N	Soil	S-50-01	1	11-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	120-12-7	Anthracene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-01	1	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
N	Soil	S-50-01	1	11-Jul-07	56-55-3	Benzo(a)anthracene	14	ug/kg	0.014	1	1
N	Soil	S-50-01	1	11-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
N	Soil	S-50-01	1	11-Jul-07	7440-38-2	Arsenic	2.1	mg/k	2.1	1	1
N	Soil	S-50-01	1	11-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
N	Soil	S-50-01	1	11-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
N	Soil	S-50-01	1	11-Jul-07	7440-39-3	Barium	75	mg/k	75	1	1
N	Soil	S-50-01	1	11-Jul-07	205-99-2	Benzo(b)fluoranthene	24	ug/kg	0.024	1	1
N	Soil	S-50-01	1	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	14	ug/kg	0.014	1	1
N	Soil	S-50-01	1	11-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
N	Soil	S-50-01	1	11-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
N	Soil	S-50-01	1	11-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07		C10-C11	3.5	mg/k	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	S-50-01	1	11-Jul-07	207-08-9	Benzo(k)fluoranthene	7.8	ug/kg	0.0078	1	1
N	Soil	S-50-01	1	11-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
N	Soil	S-50-01	1	11-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	120-12-7	Anthracene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-05	5	11-Jul-07	208-96-8	Acenaphthylene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-05	5	11-Jul-07	83-32-9	Acenaphthene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-05	5	11-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07		2-Fluorobiphenyl	630	ug/kg	0.63	1	1
N	Soil	S-50-05	5	11-Jul-07		4-Bromofluorobenzene	0.0137	mg/k	0.0137	1	0
N	Soil	S-50-05	5	11-Jul-07	91-57-6	2-Methylnaphthalene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-05	5	11-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
N	Soil	S-50-05	5	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-05	5	11-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07		4-Bromofluorobenzene	41.3	ug/kg	0.0413	1	1
N	Soil	S-50-05	5	11-Jul-07	7440-38-2	Arsenic	2.4	mg/k	2.4	1	1
N	Soil	S-50-05	5	11-Jul-07	7440-39-3	Barium	67	mg/k	67	1	1
N	Soil	S-50-05	5	11-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	56-55-3	Benzo(a)anthracene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-05	5	11-Jul-07	205-99-2	Benzo(b)fluoranthene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-05	5	11-Jul-07	207-08-9	Benzo(k)fluoranthene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-05	5	11-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
N	Soil	S-50-05	5	11-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	50-32-8	Benzo(a)pyrene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-05	5	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	7439-92-1	Lead	3.1	mg/k	3.1	1	1
N	Soil	S-50-05	5	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	90-12-0	1-Methylnaphthalene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-05	5	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1
N	Soil	S-50-05	5	11-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	129-00-0	Pyrene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-05	5	11-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	85-01-8	Phenanthrene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-05	5	11-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
N	Soil	S-50-05	5	11-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07		n-Octacosane	4.07	mg/k	4.07	1	1
N	Soil	S-50-05	5	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-05	5	11-Jul-07	7440-02-0	Nickel	47	mg/k	47	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	S-50-05	5	11-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
N	Soil	S-50-05	5	11-Jul-07	91-20-3	Naphthalene	6.1	ug/kg	0.0061	0	0
N	Soil	S-50-05	5	11-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	7439-98-7	Molybdenum	10	mg/k	10	1	1
N	Soil	S-50-05	5	11-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
N	Soil	S-50-05	5	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	7439-97-6	Mercury	0.021	mg/k	0.021	1	1
N	Soil	S-50-05	5	11-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07		Nitrobenzene-d5	1500	ug/kg	1.5	1	1
N	Soil	S-50-05	5	11-Jul-07		Toluene-d8	50	ug/kg	0.05	1	1
N	Soil	S-50-05	5	11-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	7440-66-6	Zinc	55	mg/k	55	1	1
N	Soil	S-50-05	5	11-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
N	Soil	S-50-05	5	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.38	mg/k	0.38	0	1
N	Soil	S-50-05	5	11-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	7440-62-2	Vanadium	82	mg/k	82	1	1
N	Soil	S-50-05	5	11-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
N	Soil	S-50-05	5	11-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
N	Soil	S-50-05	5	11-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
N	Soil	S-50-05	5	11-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07		Terphenyl-d14	1500	ug/kg	1.5	1	1
N	Soil	S-50-05	5	11-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
N	Soil	S-50-05	5	11-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	7440-43-9	Cadmium	1.8	mg/k	1.8	1	1
N	Soil	S-50-05	5	11-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
N	Soil	S-50-05	5	11-Jul-07		C8-C40	5	mg/k	5	0	1
N	Soil	S-50-05	5	11-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
N	Soil	S-50-05	5	11-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
N	Soil	S-50-05	5	11-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
N	Soil	S-50-05	5	11-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
N	Soil	S-50-05	5	11-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
N	Soil	S-50-05	5	11-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
N	Soil	S-50-05	5	11-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
N	Soil	S-50-05	5	11-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
N	Soil	S-50-05	5	11-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
N	Soil	S-50-05	5	11-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
N	Soil	S-50-05	5	11-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
N	Soil	S-50-05	5	11-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	206-44-0	Fluoranthene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-05	5	11-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
N	Soil	S-50-05	5	11-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	S-50-05	5	11-Jul-07	86-73-7	Fluorene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-05	5	11-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07		Dibromofluoromethane	47.6	ug/kg	0.0476	1	1
N	Soil	S-50-05	5	11-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	7440-50-8	Copper	20	mg/k	20	1	1
N	Soil	S-50-05	5	11-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
N	Soil	S-50-05	5	11-Jul-07	7440-48-4	Cobalt	3.2	mg/k	3.2	1	1
N	Soil	S-50-05	5	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
N	Soil	S-50-05	5	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-05	5	11-Jul-07	7440-47-3	Chromium	46	mg/k	46	1	1
N	Soil	S-50-05	5	11-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
N	Soil	S-50-05	5	11-Jul-07	218-01-9	Chrysene	6.1	ug/kg	0.0061	0	1
N	Soil	S-50-10	10	11-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	206-44-0	Fluoranthene	6.4	ug/kg	0.0064	0	1
N	Soil	S-50-10	10	11-Jul-07	86-73-7	Fluorene	6.4	ug/kg	0.0064	0	1
N	Soil	S-50-10	10	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.4	ug/kg	0.0064	0	1
N	Soil	S-50-10	10	11-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
N	Soil	S-50-10	10	11-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	7440-48-4	Cobalt	1.5	mg/k	1.5	1	1
N	Soil	S-50-10	10	11-Jul-07	7440-66-6	Zinc	32	mg/k	32	1	1
N	Soil	S-50-10	10	11-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
N	Soil	S-50-10	10	11-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.39	mg/k	0.39	0	1
N	Soil	S-50-10	10	11-Jul-07	7439-92-1	Lead	2.2	mg/k	2.2	1	1
N	Soil	S-50-10	10	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
N	Soil	S-50-10	10	11-Jul-07	7440-62-2	Vanadium	53	mg/k	53	1	1
N	Soil	S-50-10	10	11-Jul-07	7440-47-3	Chromium	33	mg/k	33	1	1
N	Soil	S-50-10	10	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.4	ug/kg	0.0064	0	1
N	Soil	S-50-10	10	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	7440-50-8	Copper	11	mg/k	11	1	1
N	Soil	S-50-10	10	11-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07		Dibromofluoromethane	46.6	ug/kg	0.0466	1	1
N	Soil	S-50-10	10	11-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
N	Soil	S-50-10	10	11-Jul-07	218-01-9	Chrysene	6.4	ug/kg	0.0064	0	1
N	Soil	S-50-10	10	11-Jul-07	91-20-3	Naphthalene	6.4	ug/kg	0.0064	0	0
N	Soil	S-50-10	10	11-Jul-07	85-01-8	Phenanthrene	6.4	ug/kg	0.0064	0	1
N	Soil	S-50-10	10	11-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07		n-Octacosane	4.07	mg/k	4.07	1	1
N	Soil	S-50-10	10	11-Jul-07		Nitrobenzene-d5	1500	ug/kg	1.5	1	1
N	Soil	S-50-10	10	11-Jul-07	129-00-0	Pyrene	6.4	ug/kg	0.0064	0	1
N	Soil	S-50-10	10	11-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	7439-98-7	Molybdenum	7.5	mg/k	7.5	1	1
N	Soil	S-50-10	10	11-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	S-50-10	10	11-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	7440-02-0	Nickel	31	mg/k	31	1	1
N	Soil	S-50-10	10	11-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07		Toluene-d8	53.1	ug/kg	0.0531	1	1
N	Soil	S-50-10	10	11-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
N	Soil	S-50-10	10	11-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07		Terphenyl-d14	1600	ug/kg	1.6	1	1
N	Soil	S-50-10	10	11-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
N	Soil	S-50-10	10	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
N	Soil	S-50-10	10	11-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
N	Soil	S-50-10	10	11-Jul-07		4-Bromofluorobenzene	0.0138	mg/k	0.0138	1	0
N	Soil	S-50-10	10	11-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	7440-39-3	Barium	39	mg/k	39	1	1
N	Soil	S-50-10	10	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	90-12-0	1-Methylnaphthalene	6.4	ug/kg	0.0064	0	1
N	Soil	S-50-10	10	11-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	91-57-6	2-Methylnaphthalene	6.4	ug/kg	0.0064	0	1
N	Soil	S-50-10	10	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07		4-Bromofluorobenzene	42.6	ug/kg	0.0426	1	1
N	Soil	S-50-10	10	11-Jul-07	50-32-8	Benzo(a)pyrene	6.4	ug/kg	0.0064	0	1
N	Soil	S-50-10	10	11-Jul-07	56-55-3	Benzo(a)anthracene	6.4	ug/kg	0.0064	0	1
N	Soil	S-50-10	10	11-Jul-07	208-96-8	Acenaphthylene	6.4	ug/kg	0.0064	0	1
N	Soil	S-50-10	10	11-Jul-07	120-12-7	Anthracene	6.4	ug/kg	0.0064	0	1
N	Soil	S-50-10	10	11-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
N	Soil	S-50-10	10	11-Jul-07	7440-38-2	Arsenic	1.6	mg/k	1.6	1	1
N	Soil	S-50-10	10	11-Jul-07		2-Fluorobiphenyl	1100	ug/kg	1.1	1	1
N	Soil	S-50-10	10	11-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
N	Soil	S-50-10	10	11-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	83-32-9	Acenaphthene	6.4	ug/kg	0.0064	0	1
N	Soil	S-50-10	10	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	S-50-10	10	11-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
N	Soil	S-50-10	10	11-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
N	Soil	S-50-10	10	11-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
N	Soil	S-50-10	10	11-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
N	Soil	S-50-10	10	11-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
N	Soil	S-50-10	10	11-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
N	Soil	S-50-10	10	11-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
N	Soil	S-50-10	10	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.4	ug/kg	0.0064	0	1
N	Soil	S-50-10	10	11-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
N	Soil	S-50-10	10	11-Jul-07	205-99-2	Benzo(b)fluoranthene	6.4	ug/kg	0.0064	0	1
N	Soil	S-50-10	10	11-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
N	Soil	S-50-10	10	11-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
N	Soil	S-50-10	10	11-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
N	Soil	S-50-10	10	11-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
N	Soil	S-50-10	10	11-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
N	Soil	S-50-10	10	11-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
N	Soil	S-50-10	10	11-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
N	Soil	S-50-10	10	11-Jul-07		C8-C40	5	mg/k	5	0	1
N	Soil	S-50-10	10	11-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
N	Soil	S-50-10	10	11-Jul-07	7440-43-9	Cadmium	1.3	mg/k	1.3	1	1
N	Soil	S-50-10	10	11-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
N	Soil	S-50-10	10	11-Jul-07	207-08-9	Benzo(k)fluoranthene	6.4	ug/kg	0.0064	0	1
N	Soil	SV-02-01	1	11-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
N	Soil	SV-02-01	1	11-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
N	Soil	SV-02-01	1	11-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07		Terphenyl-d14	2100	ug/kg	2.1	1	1
N	Soil	SV-02-01	1	11-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
N	Soil	SV-02-01	1	11-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
N	Soil	SV-02-01	1	11-Jul-07		Toluene-d8	44.4	ug/kg	0.0444	1	1
N	Soil	SV-02-01	1	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	7440-62-2	Vanadium	57	mg/k	57	1	1
N	Soil	SV-02-01	1	11-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
N	Soil	SV-02-01	1	11-Jul-07	7440-66-6	Zinc	37	mg/k	37	1	1
N	Soil	SV-02-01	1	11-Jul-07	207-08-9	Benzo(k)fluoranthene	6.6	ug/kg	0.0066	0	1
N	Soil	SV-02-01	1	11-Jul-07	129-00-0	Pyrene	26	ug/kg	0.026	1	1
N	Soil	SV-02-01	1	11-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
N	Soil	SV-02-01	1	11-Jul-07	205-99-2	Benzo(b)fluoranthene	38	ug/kg	0.038	1	1
N	Soil	SV-02-01	1	11-Jul-07		C8-C9	7	mg/k	7	0	1
N	Soil	SV-02-01	1	11-Jul-07		4-Bromofluorobenzene	35.8	ug/kg	0.0358	1	1
N	Soil	SV-02-01	1	11-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	83-32-9	Acenaphthene	6.6	ug/kg	0.0066	0	1
N	Soil	SV-02-01	1	11-Jul-07	208-96-8	Acenaphthylene	6.6	ug/kg	0.0066	0	1
N	Soil	SV-02-01	1	11-Jul-07	120-12-7	Anthracene	17	ug/kg	0.017	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	SV-02-01	1	11-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
N	Soil	SV-02-01	1	11-Jul-07	7440-38-2	Arsenic	1.6	mg/k	1.6	1	1
N	Soil	SV-02-01	1	11-Jul-07	7440-39-3	Barium	150	mg/k	150	1	1
N	Soil	SV-02-01	1	11-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	50-32-8	Benzo(a)pyrene	64	ug/kg	0.064	1	1
N	Soil	SV-02-01	1	11-Jul-07		2-Fluorobiphenyl	1200	ug/kg	1.2	1	1
N	Soil	SV-02-01	1	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	130	ug/kg	0.13	1	1
N	Soil	SV-02-01	1	11-Jul-07	7440-41-7	Beryllium	0.55	mg/k	0.55	1	1
N	Soil	SV-02-01	1	11-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07		C10-C11	7	mg/k	7	0	1
N	Soil	SV-02-01	1	11-Jul-07		C12-C13	7	mg/k	7	0	1
N	Soil	SV-02-01	1	11-Jul-07		C14-C15	9.1	mg/k	9.1	1	1
N	Soil	SV-02-01	1	11-Jul-07		C16-C17	23	mg/k	23	1	1
N	Soil	SV-02-01	1	11-Jul-07	56-55-3	Benzo(a)anthracene	8.6	ug/kg	0.0086	1	1
N	Soil	SV-02-01	1	11-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1
N	Soil	SV-02-01	1	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07		4-Bromofluorobenzene	0.00904	mg/k	0.00904	1	0
N	Soil	SV-02-01	1	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	91-57-6	2-Methylnaphthalene	7.3	ug/kg	0.0073	1	1
N	Soil	SV-02-01	1	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	90-12-0	1-Methylnaphthalene	6.6	ug/kg	0.0066	0	1
N	Soil	SV-02-01	1	11-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07		C22-C23	38	mg/k	38	1	1
N	Soil	SV-02-01	1	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.6	ug/kg	0.0026	1	1
N	Soil	SV-02-01	1	11-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
N	Soil	SV-02-01	1	11-Jul-07		C18-C19	33	mg/k	33	1	1
N	Soil	SV-02-01	1	11-Jul-07	206-44-0	Fluoranthene	32	ug/kg	0.032	1	1
N	Soil	SV-02-01	1	11-Jul-07	86-73-7	Fluorene	6.6	ug/kg	0.0066	0	1
N	Soil	SV-02-01	1	11-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.6	ug/kg	0.0066	0	1
N	Soil	SV-02-01	1	11-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	7439-92-1	Lead	5.8	mg/k	5.8	1	1
N	Soil	SV-02-01	1	11-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
N	Soil	SV-02-01	1	11-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	SV-02-01	1	11-Jul-07		DRO (C10-C24)	160	mg/k	160	1	1
N	Soil	SV-02-01	1	11-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	0
N	Soil	SV-02-01	1	11-Jul-07	91-20-3	Naphthalene	7.9	ug/kg	0.0079	1	1
N	Soil	SV-02-01	1	11-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	7440-02-0	Nickel	15	mg/k	15	1	1
N	Soil	SV-02-01	1	11-Jul-07		Nitrobenzene-d5	1600	ug/kg	1.6	1	1
N	Soil	SV-02-01	1	11-Jul-07		n-Octacosane	4.95	mg/k	4.95	1	0
N	Soil	SV-02-01	1	11-Jul-07		n-Octacosane	5.01	mg/k	5.01	1	1
N	Soil	SV-02-01	1	11-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07		ORO (C25-C40)	150	mg/k	150	1	1
N	Soil	SV-02-01	1	11-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	85-01-8	Phenanthrene	6.6	ug/kg	0.0066	0	1
N	Soil	SV-02-01	1	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07		C24-C25	36	mg/k	36	1	1
N	Soil	SV-02-01	1	11-Jul-07		C26-C27	34	mg/k	34	1	1
N	Soil	SV-02-01	1	11-Jul-07		C28-C29	34	mg/k	34	1	1
N	Soil	SV-02-01	1	11-Jul-07		C30-C31	26	mg/k	26	1	1
N	Soil	SV-02-01	1	11-Jul-07		C32-C35	26	mg/k	26	1	1
N	Soil	SV-02-01	1	11-Jul-07		C8-C40	320	mg/k	320	1	1
N	Soil	SV-02-01	1	11-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
N	Soil	SV-02-01	1	11-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07		C20-C21	38	mg/k	38	1	1
N	Soil	SV-02-01	1	11-Jul-07	7440-47-3	Chromium	13	mg/k	13	1	1
N	Soil	SV-02-01	1	11-Jul-07	218-01-9	Chrysene	8.1	ug/kg	0.0081	1	1
N	Soil	SV-02-01	1	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	7440-48-4	Cobalt	13	mg/k	13	1	1
N	Soil	SV-02-01	1	11-Jul-07	7440-50-8	Copper	11	mg/k	11	1	1
N	Soil	SV-02-01	1	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.6	ug/kg	0.0066	0	1
N	Soil	SV-02-01	1	11-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07		Dibromofluoromethane	53.3	ug/kg	0.0533	1	1
N	Soil	SV-02-01	1	11-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-01	1	11-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
N	Soil	SV-02-01	1	11-Jul-07		C36-C40	16	mg/k	16	1	1
N	Soil	SV-02-05	5	11-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	637-92-3	Ethyl tert butyl ether	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	206-44-0	Fluoranthene	7.9	ug/kg	0.0079	0	1
N	Soil	SV-02-05	5	11-Jul-07	86-73-7	Fluorene	7.9	ug/kg	0.0079	0	1
N	Soil	SV-02-05	5	11-Jul-07	87-68-3	Hexachlorobutadiene	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	7440-66-6	Zinc	26	mg/k	26	1	1
N	Soil	SV-02-05	5	11-Jul-07	108-20-3	Isopropyl ether	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	7439-92-1	Lead	2.7	mg/k	2.7	1	1
N	Soil	SV-02-05	5	11-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
N	Soil	SV-02-05	5	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
N	Soil	SV-02-05	5	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	7.9	ug/kg	0.0079	0	1
N	Soil	SV-02-05	5	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	SV-02-05	5	11-Jul-07	75-00-3	Chloroethane	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	74-87-3	Chloromethane	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	7440-47-3	Chromium	9.2	mg/k	9.2	1	1
N	Soil	SV-02-05	5	11-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
N	Soil	SV-02-05	5	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	75-71-8	Dichlorodifluoromethane	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	7440-48-4	Cobalt	13	mg/k	13	1	1
N	Soil	SV-02-05	5	11-Jul-07	7440-50-8	Copper	10	mg/k	10	1	1
N	Soil	SV-02-05	5	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	7.9	ug/kg	0.0079	0	1
N	Soil	SV-02-05	5	11-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07		Dibromofluoromethane	47.7	ug/kg	0.0477	1	1
N	Soil	SV-02-05	5	11-Jul-07	91-20-3	Naphthalene	7.9	ug/kg	0.0079	0	0
N	Soil	SV-02-05	5	11-Jul-07	218-01-9	Chrysene	7.9	ug/kg	0.0079	0	1
N	Soil	SV-02-05	5	11-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
N	Soil	SV-02-05	5	11-Jul-07	1330-20-7	Xylenes (total)	4.1	ug/kg	0.0041	0	1
N	Soil	SV-02-05	5	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.43	mg/k	0.43	0	1
N	Soil	SV-02-05	5	11-Jul-07	75-01-4	Vinyl chloride	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	7440-62-2	Vanadium	50	mg/k	50	1	1
N	Soil	SV-02-05	5	11-Jul-07	75-69-4	Trichlorofluoromethane	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07		Toluene-d8	52.5	ug/kg	0.0525	1	1
N	Soil	SV-02-05	5	11-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
N	Soil	SV-02-05	5	11-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	98-06-6	tert-Butylbenzene	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
N	Soil	SV-02-05	5	11-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
N	Soil	SV-02-05	5	11-Jul-07	104-51-8	n-Butylbenzene	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	7440-02-0	Nickel	9.4	mg/k	9.4	1	1
N	Soil	SV-02-05	5	11-Jul-07		Nitrobenzene-d5	1500	ug/kg	1.5	1	1
N	Soil	SV-02-05	5	11-Jul-07		n-Octacosane	4	mg/k	4	1	1
N	Soil	SV-02-05	5	11-Jul-07	994-05-8	Tert-amyl methyl ether	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
N	Soil	SV-02-05	5	11-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	85-01-8	Phenanthrene	7.9	ug/kg	0.0079	0	1
N	Soil	SV-02-05	5	11-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	129-00-0	Pyrene	7.9	ug/kg	0.0079	0	1
N	Soil	SV-02-05	5	11-Jul-07	135-98-8	sec-Butylbenzene	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
N	Soil	SV-02-05	5	11-Jul-07	91-20-3	Naphthalene	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	83-32-9	Acenaphthene	7.9	ug/kg	0.0079	0	1
N	Soil	SV-02-05	5	11-Jul-07	106-43-4	4-Chlorotoluene	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07		4-Bromofluorobenzene	43.3	ug/kg	0.0433	1	1
N	Soil	SV-02-05	5	11-Jul-07		4-Bromofluorobenzene	0.0184	mg/k	0.0184	1	0
N	Soil	SV-02-05	5	11-Jul-07	91-57-6	2-Methylnaphthalene	7.9	ug/kg	0.0079	0	1
N	Soil	SV-02-05	5	11-Jul-07		2-Fluorobiphenyl	1400	ug/kg	1.4	1	1
N	Soil	SV-02-05	5	11-Jul-07	95-49-8	2-Chlorotoluene	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	90-12-0	1-Methylnaphthalene	7.9	ug/kg	0.0079	0	1
N	Soil	SV-02-05	5	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	SV-02-05	5	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	56-23-5	Carbon tetrachloride	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
N	Soil	SV-02-05	5	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
N	Soil	SV-02-05	5	11-Jul-07	75-35-4	1,1-Dichloroethene	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
N	Soil	SV-02-05	5	11-Jul-07	208-96-8	Acenaphthylene	7.9	ug/kg	0.0079	0	1
N	Soil	SV-02-05	5	11-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
N	Soil	SV-02-05	5	11-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
N	Soil	SV-02-05	5	11-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
N	Soil	SV-02-05	5	11-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
N	Soil	SV-02-05	5	11-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
N	Soil	SV-02-05	5	11-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
N	Soil	SV-02-05	5	11-Jul-07	74-83-9	Bromomethane	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
N	Soil	SV-02-05	5	11-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
N	Soil	SV-02-05	5	11-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
N	Soil	SV-02-05	5	11-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
N	Soil	SV-02-05	5	11-Jul-07		C8-C40	5	mg/k	5	0	1
N	Soil	SV-02-05	5	11-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
N	Soil	SV-02-05	5	11-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
N	Soil	SV-02-05	5	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	7.9	ug/kg	0.0079	0	1
N	Soil	SV-02-05	5	11-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
N	Soil	SV-02-05	5	11-Jul-07	7440-38-2	Arsenic	1.1	mg/k	1.1	1	1
N	Soil	SV-02-05	5	11-Jul-07	7440-39-3	Barium	91	mg/k	91	1	1
N	Soil	SV-02-05	5	11-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	56-55-3	Benzo(a)anthracene	7.9	ug/kg	0.0079	0	1
N	Soil	SV-02-05	5	11-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
N	Soil	SV-02-05	5	11-Jul-07	205-99-2	Benzo(b)fluoranthene	7.9	ug/kg	0.0079	0	1
N	Soil	SV-02-05	5	11-Jul-07	120-12-7	Anthracene	7.9	ug/kg	0.0079	0	1
N	Soil	SV-02-05	5	11-Jul-07	207-08-9	Benzo(k)fluoranthene	7.9	ug/kg	0.0079	0	1
N	Soil	SV-02-05	5	11-Jul-07	7440-41-7	Beryllium	0.53	mg/k	0.53	1	1
N	Soil	SV-02-05	5	11-Jul-07	108-86-1	Bromobenzene	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	74-97-5	Bromochloromethane	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
N	Soil	SV-02-05	5	11-Jul-07	75-25-2	Bromoform	5.1	ug/kg	0.0051	0	1
N	Soil	SV-02-05	5	11-Jul-07	50-32-8	Benzo(a)pyrene	7.9	ug/kg	0.0079	0	1
N	Soil	SV-02-05	5	11-Jul-07		Terphenyl-d14	1900	ug/kg	1.9	1	1
N	Soil	SV-02-10	10	11-Jul-07		4-Bromofluorobenzene	0.0151	mg/k	0.0151	1	0
N	Soil	SV-02-10	10	11-Jul-07	7440-39-3	Barium	140	mg/k	140	1	1
N	Soil	SV-02-10	10	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	142-28-9	1,3-Dichloropropane	2.2	ug/kg	0.0022	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	SV-02-10	10	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	594-20-7	2,2-Dichloropropane	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	107-06-2	1,2-Dichloroethane	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	91-57-6	2-Methylnaphthalene	7.3	ug/kg	0.0073	0	1
N	Soil	SV-02-10	10	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07		4-Bromofluorobenzene	47.9	ug/kg	0.0479	1	1
N	Soil	SV-02-10	10	11-Jul-07	106-43-4	4-Chlorotoluene	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	83-32-9	Acenaphthene	7.3	ug/kg	0.0073	0	1
N	Soil	SV-02-10	10	11-Jul-07	208-96-8	Acenaphthylene	7.3	ug/kg	0.0073	0	1
N	Soil	SV-02-10	10	11-Jul-07	120-12-7	Anthracene	7.3	ug/kg	0.0073	0	1
N	Soil	SV-02-10	10	11-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
N	Soil	SV-02-10	10	11-Jul-07		Dibromofluoromethane	52.8	ug/kg	0.0528	1	1
N	Soil	SV-02-10	10	11-Jul-07		2-Fluorobiphenyl	1400	ug/kg	1.4	1	1
N	Soil	SV-02-10	10	11-Jul-07	75-35-4	1,1-Dichloroethene	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	124-48-1	Dibromochloromethane	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	7.3	ug/kg	0.0073	0	1
N	Soil	SV-02-10	10	11-Jul-07	7440-50-8	Copper	11	mg/k	11	1	1
N	Soil	SV-02-10	10	11-Jul-07	7440-48-4	Cobalt	14	mg/k	14	1	1
N	Soil	SV-02-10	10	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	78-87-5	1,2-Dichloropropane	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	75-34-3	1,1-Dichloroethane	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	71-43-2	Benzene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	563-58-6	1,1-Dichloropropene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	96-18-4	1,2,3-Trichloropropane	11	ug/kg	0.011	0	1
N	Soil	SV-02-10	10	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	106-93-4	1,2-Dibromoethane	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	108-90-7	Chlorobenzene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	7440-38-2	Arsenic	1.2	mg/k	1.2	1	1
N	Soil	SV-02-10	10	11-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
N	Soil	SV-02-10	10	11-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
N	Soil	SV-02-10	10	11-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
N	Soil	SV-02-10	10	11-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
N	Soil	SV-02-10	10	11-Jul-07		C8-C40	5	mg/k	5	0	1
N	Soil	SV-02-10	10	11-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
N	Soil	SV-02-10	10	11-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
N	Soil	SV-02-10	10	11-Jul-07	56-23-5	Carbon tetrachloride	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
N	Soil	SV-02-10	10	11-Jul-07	75-00-3	Chloroethane	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	67-66-3	Chloroform	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	74-87-3	Chloromethane	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	7440-47-3	Chromium	8.2	mg/k	8.2	1	1
N	Soil	SV-02-10	10	11-Jul-07	218-01-9	Chrysene	7.3	ug/kg	0.0073	0	1
N	Soil	SV-02-10	10	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
N	Soil	SV-02-10	10	11-Jul-07	75-25-2	Bromoform	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	56-55-3	Benzo(a)anthracene	7.3	ug/kg	0.0073	0	1
N	Soil	SV-02-10	10	11-Jul-07	50-32-8	Benzo(a)pyrene	7.3	ug/kg	0.0073	0	1
N	Soil	SV-02-10	10	11-Jul-07	205-99-2	Benzo(b)fluoranthene	7.3	ug/kg	0.0073	0	1
N	Soil	SV-02-10	10	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	7.3	ug/kg	0.0073	0	1
N	Soil	SV-02-10	10	11-Jul-07	207-08-9	Benzo(k)fluoranthene	7.3	ug/kg	0.0073	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	SV-02-10	10	11-Jul-07	7440-41-7	Beryllium	0.62	mg/k	0.62	1	1
N	Soil	SV-02-10	10	11-Jul-07	108-86-1	Bromobenzene	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
N	Soil	SV-02-10	10	11-Jul-07	75-27-4	Bromodichloromethane	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	90-12-0	1-Methylnaphthalene	7.3	ug/kg	0.0073	0	1
N	Soil	SV-02-10	10	11-Jul-07	74-83-9	Bromomethane	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
N	Soil	SV-02-10	10	11-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
N	Soil	SV-02-10	10	11-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
N	Soil	SV-02-10	10	11-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
N	Soil	SV-02-10	10	11-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
N	Soil	SV-02-10	10	11-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
N	Soil	SV-02-10	10	11-Jul-07	74-97-5	Bromochloromethane	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	108-88-3	Toluene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	99-87-6	p-Isopropyltoluene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	129-00-0	Pyrene	7.3	ug/kg	0.0073	0	1
N	Soil	SV-02-10	10	11-Jul-07	135-98-8	sec-Butylbenzene	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
N	Soil	SV-02-10	10	11-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
N	Soil	SV-02-10	10	11-Jul-07	100-42-5	Styrene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07		Terphenyl-d14	1700	ug/kg	1.7	1	1
N	Soil	SV-02-10	10	11-Jul-07	994-05-8	Tert-amyl methyl ether	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	75-65-0	tert-Butyl alcohol	110	ug/kg	0.11	0	1
N	Soil	SV-02-10	10	11-Jul-07	98-06-6	tert-Butylbenzene	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	85-01-8	Phenanthrene	7.3	ug/kg	0.0073	0	1
N	Soil	SV-02-10	10	11-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
N	Soil	SV-02-10	10	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07		Toluene-d8	54.6	ug/kg	0.0546	1	1
N	Soil	SV-02-10	10	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	75-69-4	Trichlorofluoromethane	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	7440-62-2	Vanadium	45	mg/k	45	1	1
N	Soil	SV-02-10	10	11-Jul-07	75-01-4	Vinyl chloride	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.43	mg/k	0.43	0	1
N	Soil	SV-02-10	10	11-Jul-07	1330-20-7	Xylenes (total)	4.5	ug/kg	0.0045	0	1
N	Soil	SV-02-10	10	11-Jul-07	7440-66-6	Zinc	25	mg/k	25	1	1
N	Soil	SV-02-10	10	11-Jul-07	74-95-3	Dibromomethane	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	95-49-8	2-Chlorotoluene	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	127-18-4	Tetrachloroethene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	7.3	ug/kg	0.0073	0	1
N	Soil	SV-02-10	10	11-Jul-07	75-71-8	Dichlorodifluoromethane	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
N	Soil	SV-02-10	10	11-Jul-07	79-01-6	Trichloroethene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	95-47-6	o-Xylene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	637-92-3	Ethyl tert butyl ether	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	100-41-4	Ethylbenzene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	206-44-0	Fluoranthene	7.3	ug/kg	0.0073	0	1
N	Soil	SV-02-10	10	11-Jul-07	86-73-7	Fluorene	7.3	ug/kg	0.0073	0	1
N	Soil	SV-02-10	10	11-Jul-07	87-68-3	Hexachlorobutadiene	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	108-20-3	Isopropyl ether	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	98-82-8	Isopropylbenzene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	7439-92-1	Lead	3.1	mg/k	3.1	1	1
N	Soil	SV-02-10	10	11-Jul-07	179601-23-1	m,p-Xylenes	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	7439-97-6	Mercury	0.023	mg/k	0.023	1	1
N	Soil	SV-02-10	10	11-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
N	Soil	SV-02-10	10	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07		Nitrobenzene-d5	500	ug/kg	0.5	1	1
N	Soil	SV-02-10	10	11-Jul-07	7440-02-0	Nickel	9.4	mg/k	9.4	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
N	Soil	SV-02-10	10	11-Jul-07	103-65-1	n-Propylbenzene	2.2	ug/kg	0.0022	0	1
N	Soil	SV-02-10	10	11-Jul-07	91-20-3	Naphthalene	7.3	ug/kg	0.0073	0	0
N	Soil	SV-02-10	10	11-Jul-07		n-Octacosane	4.27	mg/k	4.27	1	1
N	Soil	SV-02-10	10	11-Jul-07	91-20-3	Naphthalene	5.6	ug/kg	0.0056	0	1
N	Soil	SV-02-10	10	11-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
N	Soil	SV-02-10	10	11-Jul-07	75-09-2	Methylene chloride	22	ug/kg	0.022	0	1
N	Soil	SV-02-10	10	11-Jul-07	104-51-8	n-Butylbenzene	5.6	ug/kg	0.0056	0	1
O	GS	SV-01-05	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.051	ug/L	0.051	1	1
O	GS	SV-01-05	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0061	ug/L	0.0061	0	1
O	GS	SV-01-05	5	18-Jul-07	74-82-8	Methane	0.00027	%		0	1
O	GS	SV-01-05	5	18-Jul-07	98-82-8	Isopropylbenzene	0.011	ug/L	0.011	1	1
O	GS	SV-01-05	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
O	GS	SV-01-05	5	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
O	GS	SV-01-05	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
O	GS	SV-01-05	5	18-Jul-07	110-54-3	Hexane	0.029	ug/L	0.029	1	1
O	GS	SV-01-05	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.057	ug/L	0.057	0	1
O	GS	SV-01-05	5	18-Jul-07	100-41-4	Ethylbenzene	0.0076	ug/L	0.0076	1	1
O	GS	SV-01-05	5	18-Jul-07		Ethane	0.0027	%		0	1
O	GS	SV-01-05	5	18-Jul-07		Ethene	0.0027	%		0	1
O	GS	SV-01-05	5	18-Jul-07	64-17-5	Ethanol	0.01	ug/L	0.01	0	1
O	GS	SV-01-05	5	18-Jul-07	75-09-2	Methylene chloride	0.0047	ug/L	0.0047	0	1
O	GS	SV-01-05	5	18-Jul-07	108-88-3	Toluene	0.0086	ug/L	0.0086	1	1
O	GS	SV-01-05	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0066	ug/L	0.0066	0	1
O	GS	SV-01-05	5	18-Jul-07	110-82-7	Cyclohexane	0.059	ug/L	0.059	1	1
O	GS	SV-01-05	5	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
O	GS	SV-01-05	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
O	GS	SV-01-05	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0092	ug/L	0.0092	0	1
O	GS	SV-01-05	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
O	GS	SV-01-05	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0076	ug/L	0.0076	0	1
O	GS	SV-01-05	5	18-Jul-07	79-01-6	Trichloroethene	0.0072	ug/L	0.0072	0	1
O	GS	SV-01-05	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0054	ug/L	0.0054	0	1
O	GS	SV-01-05	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0053	ug/L		0	1
O	GS	SV-01-05	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0061	ug/L	0.0061	0	1
O	GS	SV-01-05	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0053	ug/L	0.0053	0	1
O	GS	SV-01-05	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0091	ug/L	0.0091	0	1
O	GS	SV-01-05	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0073	ug/L	0.0073	0	1
O	GS	SV-01-05	5	18-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
O	GS	SV-01-05	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
O	GS	SV-01-05	5	18-Jul-07	100-42-5	Styrene	0.0057	ug/L	0.0057	0	1
O	GS	SV-01-05	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.08	ug/L	0.08	1	1
O	GS	SV-01-05	5	18-Jul-07	95-47-6	o-Xylene	0.053	ug/L	0.053	1	1
O	GS	SV-01-05	5	18-Jul-07		Oxygen	19	%		1	1
O	GS	SV-01-05	5	18-Jul-07	103-65-1	n-Propylbenzene	0.02	ug/L	0.02	1	1
O	GS	SV-01-05	5	18-Jul-07		Nitrogen	80	%		1	1
O	GS	SV-01-05	5	18-Jul-07	142-82-5	n-Heptane	0.11	ug/L	0.11	1	1
O	GS	SV-01-05	5	18-Jul-07		Toluene-d8	98	%		1	1
O	GS	SV-01-05	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
O	GS	SV-01-05	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0094	ug/L	0.0094	0	1
O	GS	SV-01-05	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.038	ug/L	0.038	1	1
O	GS	SV-01-05	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
O	GS	SV-01-05	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
O	GS	SV-01-05	5	18-Jul-07		1,2-Dichloroethane-d4	100	%		1	1
O	GS	SV-01-05	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0062	ug/L	0.0062	0	1
O	GS	SV-01-05	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.056	ug/L	0.056	1	1
O	GS	SV-01-05	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
O	GS	SV-01-05	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
O	GS	SV-01-05	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0053	ug/L	0.0053	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-01-05	5	18-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
O	GS	SV-01-05	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.032	ug/L	0.032	1	1
O	GS	SV-01-05	5	18-Jul-07	78-93-3	2-Butanone	0.015	ug/L	0.015	1	1
O	GS	SV-01-05	5	18-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1
O	GS	SV-01-05	5	18-Jul-07		4-Bromofluorobenzene	96	%		1	1
O	GS	SV-01-05	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.004	ug/L	0.004	0	1
O	GS	SV-01-05	5	18-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
O	GS	SV-01-05	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.037	ug/L	0.037	0	1
O	GS	SV-01-05	5	18-Jul-07	106-99-0	1,3-Butadiene	0.003	ug/L	0.003	0	1
O	GS	SV-01-05	5	18-Jul-07	75-27-4	Bromodichloromethane	0.009	ug/L	0.009	0	1
O	GS	SV-01-05	5	18-Jul-07	67-66-3	Chloroform	0.0066	ug/L	0.0066	0	1
O	GS	SV-01-05	5	18-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
O	GS	SV-01-05	5	18-Jul-07	108-90-7	Chlorobenzene	0.0062	ug/L	0.0062	0	1
O	GS	SV-01-05	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0085	ug/L	0.0085	0	1
O	GS	SV-01-05	5	18-Jul-07		Carbon Monoxide	0.027	%		0	1
O	GS	SV-01-05	5	18-Jul-07	75-15-0	Carbon Disulfide	0.0042	ug/L	0.0042	0	1
O	GS	SV-01-05	5	18-Jul-07		Carbon Dioxide	1.1	%		1	1
O	GS	SV-01-05	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.04	ug/L	0.04	0	1
O	GS	SV-01-05	5	18-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
O	GS	SV-01-05	5	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
O	GS	SV-01-05	5	18-Jul-07	100-44-7	Benzyl chloride	0.007	ug/L	0.007	0	1
O	GS	SV-01-05	5	18-Jul-07	71-43-2	Benzene	0.0043	ug/L	0.0043	1	1
O	GS	SV-01-05	5	18-Jul-07	107-05-1	Allyl chloride	0.017	ug/L	0.017	0	1
O	GS	SV-01-05	5	18-Jul-07	67-64-1	Acetone	0.041	ug/L	0.041	1	1
O	GS	SV-01-05	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0055	ug/L	0.0055	0	1
O	GS	SV-01-05	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
O	GS	SV-01-05	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0073	ug/L	0.0073	0	1
O	GS	SV-01-05	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0054	ug/L	0.0054	0	1
O	GS	SV-01-05	5	18-Jul-07	74-83-9	Bromomethane	0.0052	ug/L	0.0052	0	1
O	GS	SV-01-05	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
O	GS	SV-01-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.069	ug/L	0.069	0	1
O	GS	SV-01-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.08	ug/L	0.08	0	1
O	GS	SV-01-15	15	18-Jul-07	110-54-3	Hexane	4.2	ug/L	4.2	1	1
O	GS	SV-01-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.35	ug/L	0.35	0	1
O	GS	SV-01-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.21	ug/L	0.21	1	1
O	GS	SV-01-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.14	ug/L	0.14	0	1
O	GS	SV-01-15	15	18-Jul-07		Ethene	0.0061	%		0	1
O	GS	SV-01-15	15	18-Jul-07	64-17-5	Ethanol	0.061	ug/L	0.061	0	1
O	GS	SV-01-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.037	ug/L	0.037	0	1
O	GS	SV-01-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.04	ug/L	0.04	0	1
O	GS	SV-01-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.039	ug/L	0.039	1	1
O	GS	SV-01-15	15	18-Jul-07	110-82-7	Cyclohexane	3.2	ug/L	3.2	1	1
O	GS	SV-01-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.037	ug/L	0.037	0	1
O	GS	SV-01-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.032	ug/L		0	1
O	GS	SV-01-15	15	18-Jul-07	74-87-3	Chloromethane	0.094	ug/L	0.094	1	1
O	GS	SV-01-15	15	18-Jul-07	67-66-3	Chloroform	0.04	ug/L	0.04	0	1
O	GS	SV-01-15	15	18-Jul-07	75-00-3	Chloroethane	0.022	ug/L	0.022	0	1
O	GS	SV-01-15	15	18-Jul-07		Ethane	0.0061	%		0	1
O	GS	SV-01-15	15	18-Jul-07	95-47-6	o-Xylene	0.035	ug/L	0.035	0	1
O	GS	SV-01-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.032	ug/L	0.032	0	1
O	GS	SV-01-15	15	18-Jul-07		Toluene-d8	93	%		1	1
O	GS	SV-01-15	15	18-Jul-07	108-88-3	Toluene	0.04	ug/L	0.04	1	1
O	GS	SV-01-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.024	ug/L	0.024	0	1
O	GS	SV-01-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.055	ug/L	0.055	0	1
O	GS	SV-01-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.099	ug/L	0.099	0	1
O	GS	SV-01-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.14	ug/L	0.14	0	1
O	GS	SV-01-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.14	ug/L	0.14	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-01-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.078	ug/L	0.078	1	1
O	GS	SV-01-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.21	ug/L	0.21	1	1
O	GS	SV-01-15	15	18-Jul-07		Oxygen	16	%		1	1
O	GS	SV-01-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.16	ug/L	0.16	1	1
O	GS	SV-01-15	15	18-Jul-07	142-82-5	n-Heptane	7	ug/L	7	1	1
O	GS	SV-01-15	15	18-Jul-07	75-09-2	Methylene chloride	0.033	ug/L	0.033	1	1
O	GS	SV-01-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.029	ug/L	0.029	0	1
O	GS	SV-01-15	15	18-Jul-07	74-82-8	Methane	0.00061	%		0	1
O	GS	SV-01-15	15	18-Jul-07		Carbon Monoxide	0.061	%		0	1
O	GS	SV-01-15	15	18-Jul-07	100-42-5	Styrene	0.035	ug/L	0.035	0	1
O	GS	SV-01-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.2	ug/L	0.2	0	1
O	GS	SV-01-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.038	ug/L	0.038	0	1
O	GS	SV-01-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.038	ug/L	0.038	0	1
O	GS	SV-01-15	15	18-Jul-07		1,2-Dichloroethane-d4	133	%		1	1
O	GS	SV-01-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.033	ug/L	0.033	0	1
O	GS	SV-01-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.049	ug/L	0.049	0	1
O	GS	SV-01-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.057	ug/L	0.057	0	1
O	GS	SV-01-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.063	ug/L	0.063	0	1
O	GS	SV-01-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.018	ug/L	0.018	0	1
O	GS	SV-01-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.24	ug/L	0.24	0	1
O	GS	SV-01-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.049	ug/L	0.049	0	1
O	GS	SV-01-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.032	ug/L	0.032	0	1
O	GS	SV-01-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.033	ug/L	0.033	0	1
O	GS	SV-01-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.044	ug/L	0.044	0	1
O	GS	SV-01-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.062	ug/L	0.062	0	1
O	GS	SV-01-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.056	ug/L	0.056	0	1
O	GS	SV-01-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.044	ug/L	0.044	0	1
O	GS	SV-01-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.22	ug/L	0.22	0	1
O	GS	SV-01-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.04	ug/L	0.04	0	1
O	GS	SV-01-15	15	18-Jul-07	67-64-1	Acetone	0.8	ug/L	0.8	1	1
O	GS	SV-01-15	15	18-Jul-07		Nitrogen	84	%		1	1
O	GS	SV-01-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.12	ug/L	0.12	1	1
O	GS	SV-01-15	15	18-Jul-07		Carbon Dioxide	0.082	%		1	1
O	GS	SV-01-15	15	18-Jul-07	74-83-9	Bromomethane	0.032	ug/L	0.032	0	1
O	GS	SV-01-15	15	18-Jul-07	75-25-2	Bromoform	0.084	ug/L	0.084	0	1
O	GS	SV-01-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.055	ug/L	0.055	0	1
O	GS	SV-01-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.042	ug/L	0.042	0	1
O	GS	SV-01-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.081	ug/L	0.081	1	1
O	GS	SV-01-15	15	18-Jul-07	107-05-1	Allyl chloride	0.1	ug/L	0.1	0	1
O	GS	SV-01-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.051	ug/L	0.051	0	1
O	GS	SV-01-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.033	ug/L	0.033	0	1
O	GS	SV-01-15	15	18-Jul-07		4-Bromofluorobenzene	107	%		1	1
O	GS	SV-01-15	15	18-Jul-07	591-78-6	2-Hexanone	0.13	ug/L	0.13	0	1
O	GS	SV-01-15	15	18-Jul-07	78-93-3	2-Butanone	0.28	ug/L	0.28	1	1
O	GS	SV-01-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	2.2	ug/L	2.2	1	1
O	GS	SV-01-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.12	ug/L	0.12	0	1
O	GS	SV-01-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.049	ug/L	0.049	0	1
O	GS	SV-01-15	15	18-Jul-07	71-43-2	Benzene	0.87	ug/L	0.87	1	1
O	GS	SV-01-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.046	ug/L	0.046	0	1
O	GS	SV-01-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
O	GS	SV-01-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.021	ug/L	0.021	0	1
O	GS	SV-01-15	15	18-Jul-07	91-20-3	Naphthalene	0.17	ug/L	0.17	0	1
O	GS	SV-01-15	15	18-Jul-07	79-01-6	Trichloroethene	0.044	ug/L	0.044	0	1
O	GS	SV-05-05	5	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
O	GS	SV-05-05	5	18-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
O	GS	SV-05-05	5	18-Jul-07	67-64-1	Acetone	0.03	ug/L	0.03	1	1
O	GS	SV-05-05	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.005	ug/L	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-05-05	5	18-Jul-07		4-Bromofluorobenzene	95	%		1	1
O	GS	SV-05-05	5	18-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
O	GS	SV-05-05	5	18-Jul-07	71-43-2	Benzene	0.27	ug/L	0.27	1	1
O	GS	SV-05-05	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0058	ug/L	0.0058	0	1
O	GS	SV-05-05	5	18-Jul-07	74-83-9	Bromomethane	0.0048	ug/L	0.0048	0	1
O	GS	SV-05-05	5	12-Sep-07	106-93-4	1,2-Dibromoethane	0.0088	UG/L	0.0088	0	1
O	GS	SV-05-05	5	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.008	UG/L	0.008	0	1
O	GS	SV-05-05	5	18-Jul-07	78-93-3	2-Butanone	0.016	ug/L	0.016	1	1
O	GS	SV-05-05	5	18-Jul-07	100-44-7	Benzyl chloride	0.0064	ug/L	0.0064	0	1
O	GS	SV-05-05	5	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
O	GS	SV-05-05	5	12-Sep-07		1,2-Dichloroethane-d4	105	%		1	1
O	GS	SV-05-05	5	18-Jul-07		Carbon Dioxide	1.8	%		1	1
O	GS	SV-05-05	5	18-Jul-07	75-15-0	Carbon Disulfide	0.018	ug/L	0.018	1	1
O	GS	SV-05-05	5	18-Jul-07		Carbon Monoxide	0.025	%		0	1
O	GS	SV-05-05	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0078	ug/L	0.0078	0	1
O	GS	SV-05-05	5	18-Jul-07	108-90-7	Chlorobenzene	0.0057	ug/L	0.0057	0	1
O	GS	SV-05-05	5	18-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1
O	GS	SV-05-05	5	18-Jul-07	67-66-3	Chloroform	0.006	ug/L	0.006	0	1
O	GS	SV-05-05	5	18-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
O	GS	SV-05-05	5	18-Jul-07	75-27-4	Bromodichloromethane	0.0083	ug/L	0.0083	0	1
O	GS	SV-05-05	5	12-Sep-07		4-Bromofluorobenzene	86	%		1	1
O	GS	SV-05-05	5	12-Sep-07	75-00-3	Chloroethane	0.003	UG/L	0.003	0	1
O	GS	SV-05-05	5	12-Sep-07	108-90-7	Chlorobenzene	0.0053	UG/L	0.0053	0	1
O	GS	SV-05-05	5	12-Sep-07	56-23-5	Carbon Tetrachloride	0.0072	UG/L	0.0072	0	1
O	GS	SV-05-05	5	12-Sep-07	75-15-0	Carbon Disulfide	0.0036	UG/L	0.0036	0	1
O	GS	SV-05-05	5	12-Sep-07	74-83-9	Bromomethane	0.0044	UG/L	0.0044	0	1
O	GS	SV-05-05	5	12-Sep-07	75-25-2	Bromoform	0.012	UG/L	0.012	0	1
O	GS	SV-05-05	5	12-Sep-07	75-27-4	Bromodichloromethane	0.0077	UG/L	0.0077	0	1
O	GS	SV-05-05	5	12-Sep-07	100-44-7	Benzyl chloride	0.0059	UG/L	0.0059	0	1
O	GS	SV-05-05	5	12-Sep-07	71-43-2	Benzene	0.0036	UG/L	0.0036	0	1
O	GS	SV-05-05	5	12-Sep-07	107-05-1	Allyl chloride	0.014	UG/L	0.014	0	1
O	GS	SV-05-05	5	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.0069	UG/L	0.0069	0	1
O	GS	SV-05-05	5	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.0047	UG/L	0.0047	0	1
O	GS	SV-05-05	5	12-Sep-07	107-06-2	1,2-Dichloroethane	0.0046	UG/L	0.0046	0	1
O	GS	SV-05-05	5	12-Sep-07	591-78-6	2-Hexanone	0.019	UG/L	0.019	0	1
O	GS	SV-05-05	5	12-Sep-07	78-93-3	2-Butanone	0.0034	UG/L	0.0034	0	1
O	GS	SV-05-05	5	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.0053	UG/L	0.0053	0	1
O	GS	SV-05-05	5	12-Sep-07	123-91-1	1,4-Dioxane	0.016	UG/L	0.016	0	1
O	GS	SV-05-05	5	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.0069	UG/L	0.0069	0	1
O	GS	SV-05-05	5	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.0069	UG/L	0.0069	0	1
O	GS	SV-05-05	5	12-Sep-07	106-99-0	1,3-Butadiene	0.0025	UG/L	0.0025	0	1
O	GS	SV-05-05	5	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.0056	UG/L	0.0056	0	1
O	GS	SV-05-05	5	12-Sep-07	78-87-5	1,2-Dichloropropane	0.0053	UG/L	0.0053	0	1
O	GS	SV-05-05	5	18-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
O	GS	SV-05-05	5	12-Sep-07	67-64-1	Acetone	0.011	UG/L	0.011	0	1
O	GS	SV-05-05	5	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	0.031	UG/L	0.031	0	1
O	GS	SV-05-05	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
O	GS	SV-05-05	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0084	ug/L	0.0084	0	1
O	GS	SV-05-05	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0036	ug/L	0.0036	0	1
O	GS	SV-05-05	5	18-Jul-07	108-88-3	Toluene	0.025	ug/L	0.025	1	1
O	GS	SV-05-05	5	18-Jul-07		Toluene-d8	102	%		1	1
O	GS	SV-05-05	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0049	ug/L	0.0049	0	1
O	GS	SV-05-05	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
O	GS	SV-05-05	5	18-Jul-07	79-01-6	Trichloroethene	0.0066	ug/L	0.0066	0	1
O	GS	SV-05-05	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0069	ug/L	0.0069	0	1
O	GS	SV-05-05	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
O	GS	SV-05-05	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-05-05	5	12-Sep-07	67-66-3	Chloroform	0.0056	UG/L	0.0056	0	1
O	GS	SV-05-05	5	18-Jul-07	100-42-5	Styrene	0.0053	ug/L	0.0053	0	1
O	GS	SV-05-05	5	12-Sep-07	75-09-2	Methylene Chloride	0.004	UG/L	0.004	0	1
O	GS	SV-05-05	5	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.0062	UG/L	0.0062	0	1
O	GS	SV-05-05	5	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0079	UG/L	0.0079	0	1
O	GS	SV-05-05	5	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0088	UG/L	0.0088	0	1
O	GS	SV-05-05	5	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.0062	UG/L	0.0062	0	1
O	GS	SV-05-05	5	12-Sep-07	75-34-3	1,1-Dichloroethane	0.0046	UG/L	0.0046	0	1
O	GS	SV-05-05	5	12-Sep-07	75-35-4	1,1-Dichloroethene	0.0045	UG/L	0.0045	0	1
O	GS	SV-05-05	5	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.028	UG/L	0.028	0	1
O	GS	SV-05-05	5	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.034	UG/L	0.034	0	1
O	GS	SV-05-05	5	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.0056	UG/L	0.0056	0	1
O	GS	SV-05-05	5	18-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
O	GS	SV-05-05	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.096	ug/L	0.096	1	1
O	GS	SV-05-05	5	18-Jul-07	110-82-7	Cyclohexane	0.2	ug/L	0.2	1	1
O	GS	SV-05-05	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0061	ug/L	0.0061	0	1
O	GS	SV-05-05	5	18-Jul-07		Ethane	0.0025	%		0	1
O	GS	SV-05-05	5	18-Jul-07	64-17-5	Ethanol	0.0093	ug/L	0.0093	0	1
O	GS	SV-05-05	5	18-Jul-07		Ethene	0.0025	%		0	1
O	GS	SV-05-05	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
O	GS	SV-05-05	5	18-Jul-07	100-41-4	Ethylbenzene	0.043	ug/L	0.043	1	1
O	GS	SV-05-05	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.053	ug/L	0.053	0	1
O	GS	SV-05-05	5	18-Jul-07	110-54-3	Hexane	0.2	ug/L	0.2	1	1
O	GS	SV-05-05	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
O	GS	SV-05-05	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
O	GS	SV-05-05	5	18-Jul-07	98-82-8	Isopropylbenzene	0.01	ug/L	0.01	1	1
O	GS	SV-05-05	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0049	ug/L		0	1
O	GS	SV-05-05	5	18-Jul-07	74-82-8	Methane	0.00025	%		0	1
O	GS	SV-05-05	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1
O	GS	SV-05-05	5	18-Jul-07	75-09-2	Methylene chloride	0.0043	ug/L	0.0043	0	1
O	GS	SV-05-05	5	18-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
O	GS	SV-05-05	5	18-Jul-07	142-82-5	n-Heptane	0.18	ug/L	0.18	1	1
O	GS	SV-05-05	5	18-Jul-07		Nitrogen	79	%		1	1
O	GS	SV-05-05	5	18-Jul-07	103-65-1	n-Propylbenzene	0.015	ug/L	0.015	1	1
O	GS	SV-05-05	5	18-Jul-07		Oxygen	19	%		1	1
O	GS	SV-05-05	5	18-Jul-07	95-47-6	o-Xylene	0.085	ug/L	0.085	1	1
O	GS	SV-05-05	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.056	ug/L	0.056	1	1
O	GS	SV-05-05	5	18-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
O	GS	SV-05-05	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0095	ug/L	0.0095	0	1
O	GS	SV-05-05	5	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.0045	UG/L	0.0045	0	1
O	GS	SV-05-05	5	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.0052	UG/L	0.0052	0	1
O	GS	SV-05-05	5	12-Sep-07	79-01-6	Trichloroethene	0.0062	UG/L	0.0062	0	1
O	GS	SV-05-05	5	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
O	GS	SV-05-05	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0067	ug/L	0.0067	0	1
O	GS	SV-05-05	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	ug/L	0.0085	0	1
O	GS	SV-05-05	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	ug/L	0.0095	0	1
O	GS	SV-05-05	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0067	ug/L	0.0067	0	1
O	GS	SV-05-05	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.005	ug/L	0.005	0	1
O	GS	SV-05-05	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0049	ug/L	0.0049	0	1
O	GS	SV-05-05	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
O	GS	SV-05-05	5	12-Sep-07		Toluene-d8	96	%		1	1
O	GS	SV-05-05	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.072	ug/L	0.072	1	1
O	GS	SV-05-05	5	12-Sep-07	75-69-4	Trichlorofluoromethane	0.0064	UG/L	0.0064	0	1
O	GS	SV-05-05	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	ug/L	0.0086	0	1
O	GS	SV-05-05	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
O	GS	SV-05-05	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.005	ug/L	0.005	0	1
O	GS	SV-05-05	5	18-Jul-07		1,2-Dichloroethane-d4	103	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-05-05	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0057	ug/L	0.0057	0	1
O	GS	SV-05-05	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.028	ug/L	0.028	1	1
O	GS	SV-05-05	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0027	ug/L	0.0027	0	1
O	GS	SV-05-05	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
O	GS	SV-05-05	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
O	GS	SV-05-05	5	12-Sep-07	179601-23-1	m,p-Xylenes	0.005	UG/L	0.005	0	1
O	GS	SV-05-05	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	ug/L	0.034	0	1
O	GS	SV-05-05	5	12-Sep-07	74-87-3	Chloromethane	0.0094	UG/L	0.0094	0	1
O	GS	SV-05-05	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.037	ug/L	0.037	0	1
O	GS	SV-05-05	5	12-Sep-07	67-63-0	Isopropyl alcohol	0.033	UG/L	0.033	1	1
O	GS	SV-05-05	5	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.0045	UG/L		0	1
O	GS	SV-05-05	5	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.0052	UG/L	0.0052	0	1
O	GS	SV-05-05	5	12-Sep-07	110-82-7	Cyclohexane	0.0073	UG/L	0.0073	1	1
O	GS	SV-05-05	5	12-Sep-07	124-48-1	Dibromochloromethane	0.0098	UG/L	0.0098	0	1
O	GS	SV-05-05	5	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.0057	UG/L	0.0057	0	1
O	GS	SV-05-05	5	12-Sep-07	64-17-5	Ethanol	0.0086	UG/L	0.0086	0	1
O	GS	SV-05-05	5	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.019	UG/L	0.019	0	1
O	GS	SV-05-05	5	12-Sep-07	100-41-4	Ethylbenzene	0.005	UG/L	0.005	0	1
O	GS	SV-05-05	5	12-Sep-07	75-01-4	Vinyl Chloride	0.0029	UG/L	0.0029	0	1
O	GS	SV-05-05	5	12-Sep-07	110-54-3	Hexane	0.004	UG/L	0.004	0	1
O	GS	SV-05-05	5	12-Sep-07	108-88-3	Toluene	0.0043	UG/L	0.0043	0	1
O	GS	SV-05-05	5	12-Sep-07	108-20-3	Isopropyl ether	0.019	UG/L	0.019	0	1
O	GS	SV-05-05	5	12-Sep-07	98-82-8	Isopropylbenzene	0.0056	UG/L	0.0056	0	1
O	GS	SV-05-05	5	12-Sep-07	100-42-5	Styrene	0.0049	UG/L	0.0049	0	1
O	GS	SV-05-05	5	12-Sep-07	109-99-9	Tetrahydrofuran	0.0034	UG/L	0.0034	0	1
O	GS	SV-05-05	5	12-Sep-07	75-65-0	tert-Butyl alcohol	0.014	UG/L	0.014	0	1
O	GS	SV-05-05	5	12-Sep-07	87-68-3	Hexachlorobutadiene	0.049	UG/L	0.049	0	1
O	GS	SV-05-05	5	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.0041	UG/L	0.0041	0	1
O	GS	SV-05-05	5	12-Sep-07	127-18-4	Tetrachloroethene	0.0078	UG/L	0.0078	0	1
O	GS	SV-05-05	5	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.019	UG/L	0.019	0	1
O	GS	SV-05-05	5	12-Sep-07	622-96-8	p-Ethyltoluene	0.0056	UG/L	0.0056	0	1
O	GS	SV-05-05	5	12-Sep-07	95-47-6	o-Xylene	0.005	UG/L	0.005	0	1
O	GS	SV-05-05	5	12-Sep-07	103-65-1	n-Propylbenzene	0.0056	UG/L	0.0056	0	1
O	GS	SV-05-05	5	12-Sep-07	142-82-5	n-Heptane	0.0047	UG/L	0.0047	0	1
O	GS	SV-05-05	5	12-Sep-07	91-20-3	Naphthalene	0.024	UG/L	0.024	0	1
O	GS	SV-05-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.053	ug/L	0.053	0	1
O	GS	SV-05-15	15	18-Jul-07	110-54-3	Hexane	0.02	ug/L	0.02	1	1
O	GS	SV-05-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
O	GS	SV-05-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
O	GS	SV-05-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.063	ug/L	0.063	1	1
O	GS	SV-05-15	15	18-Jul-07	74-82-8	Methane	0.00025	%		0	1
O	GS	SV-05-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.068	ug/L	0.068	1	1
O	GS	SV-05-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.013	ug/L	0.013	1	1
O	GS	SV-05-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
O	GS	SV-05-15	15	18-Jul-07		Ethene	0.0025	%		0	1
O	GS	SV-05-15	15	18-Jul-07	64-17-5	Ethanol	0.0093	ug/L	0.0093	0	1
O	GS	SV-05-15	15	18-Jul-07		Ethane	0.0025	%		0	1
O	GS	SV-05-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0061	ug/L	0.0061	0	1
O	GS	SV-05-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
O	GS	SV-05-15	15	18-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
O	GS	SV-05-15	15	18-Jul-07	100-42-5	Styrene	0.0053	ug/L	0.0053	0	1
O	GS	SV-05-15	15	18-Jul-07	67-66-3	Chloroform	0.006	ug/L	0.006	0	1
O	GS	SV-05-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
O	GS	SV-05-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
O	GS	SV-05-15	15	18-Jul-07	79-01-6	Trichloroethene	0.033	ug/L	0.033	1	1
O	GS	SV-05-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.0027	ug/L	0.0027	0	1
O	GS	SV-05-15	15	18-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-05-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0049	ug/L	0.0049	0	1
O	GS	SV-05-15	15	18-Jul-07		Toluene-d8	103	%		1	1
O	GS	SV-05-15	15	18-Jul-07	108-88-3	Toluene	0.024	ug/L	0.024	1	1
O	GS	SV-05-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.0036	ug/L	0.0036	0	1
O	GS	SV-05-15	15	18-Jul-07	95-47-6	o-Xylene	0.045	ug/L	0.045	1	1
O	GS	SV-05-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
O	GS	SV-05-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1
O	GS	SV-05-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.068	ug/L	0.068	1	1
O	GS	SV-05-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
O	GS	SV-05-15	15	18-Jul-07		Oxygen	17	%		1	1
O	GS	SV-05-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.045	ug/L	0.045	1	1
O	GS	SV-05-15	15	18-Jul-07		Nitrogen	79	%		1	1
O	GS	SV-05-15	15	18-Jul-07	142-82-5	n-Heptane	0.069	ug/L	0.069	1	1
O	GS	SV-05-15	15	18-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
O	GS	SV-05-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0043	ug/L	0.0043	0	1
O	GS	SV-05-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.0084	ug/L	0.0084	0	1
O	GS	SV-05-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0049	ug/L	0.0049	0	1
O	GS	SV-05-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
O	GS	SV-05-15	15	18-Jul-07		1,2-Dichloroethane-d4	100	%		1	1
O	GS	SV-05-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.005	ug/L	0.005	0	1
O	GS	SV-05-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
O	GS	SV-05-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	ug/L	0.0086	0	1
O	GS	SV-05-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0095	ug/L	0.0095	0	1
O	GS	SV-05-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.041	ug/L	0.041	1	1
O	GS	SV-05-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.048	ug/L	0.048	1	1
O	GS	SV-05-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
O	GS	SV-05-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
O	GS	SV-05-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.005	ug/L	0.005	0	1
O	GS	SV-05-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0067	ug/L	0.0067	0	1
O	GS	SV-05-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	ug/L	0.0095	0	1
O	GS	SV-05-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	ug/L	0.0085	0	1
O	GS	SV-05-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0067	ug/L	0.0067	0	1
O	GS	SV-05-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0069	ug/L	0.0069	0	1
O	GS	SV-05-15	15	12-Sep-07	74-87-3	Chloromethane	0.0091	UG/L	0.0091	0	1
O	GS	SV-05-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.037	ug/L	0.037	0	1
O	GS	SV-05-15	15	18-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
O	GS	SV-05-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.0078	ug/L	0.0078	0	1
O	GS	SV-05-15	15	18-Jul-07		Carbon Monoxide	0.025	%		0	1
O	GS	SV-05-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.015	ug/L	0.015	1	1
O	GS	SV-05-15	15	18-Jul-07		Carbon Dioxide	4.2	%		1	1
O	GS	SV-05-15	15	18-Jul-07	74-83-9	Bromomethane	0.0048	ug/L	0.0048	0	1
O	GS	SV-05-15	15	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
O	GS	SV-05-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.0083	ug/L	0.0083	0	1
O	GS	SV-05-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0057	ug/L	0.0057	0	1
O	GS	SV-05-15	15	18-Jul-07	71-43-2	Benzene	0.0039	ug/L	0.0039	0	1
O	GS	SV-05-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0057	ug/L	0.0057	0	1
O	GS	SV-05-15	15	18-Jul-07	67-64-1	Acetone	0.063	ug/L	0.063	1	1
O	GS	SV-05-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.005	ug/L	0.005	0	1
O	GS	SV-05-15	15	18-Jul-07		4-Bromofluorobenzene	99	%		1	1
O	GS	SV-05-15	15	18-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
O	GS	SV-05-15	15	18-Jul-07	78-93-3	2-Butanone	0.042	ug/L	0.042	1	1
O	GS	SV-05-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.024	ug/L	0.024	1	1
O	GS	SV-05-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
O	GS	SV-05-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.0064	ug/L	0.0064	0	1
O	GS	SV-05-15	15	12-Sep-07	64-17-5	Ethanol	0.0083	UG/L	0.0083	0	1
O	GS	SV-05-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	ug/L	0.034	0	1
O	GS	SV-05-15	15	12-Sep-07	179601-23-1	m,p-Xylenes	0.0048	UG/L	0.0048	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-05-15	15	12-Sep-07	98-82-8	Isopropylbenzene	0.0054	UG/L	0.0054	0	1
O	GS	SV-05-15	15	12-Sep-07	108-20-3	Isopropyl ether	0.018	UG/L	0.018	0	1
O	GS	SV-05-15	15	12-Sep-07	67-63-0	Isopropyl alcohol	0.032	UG/L	0.032	1	1
O	GS	SV-05-15	15	12-Sep-07	110-54-3	Hexane	0.0039	UG/L	0.0039	0	1
O	GS	SV-05-15	15	12-Sep-07	87-68-3	Hexachlorobutadiene	0.047	UG/L	0.047	0	1
O	GS	SV-05-15	15	12-Sep-07	75-09-2	Methylene Chloride	0.0038	UG/L	0.0038	0	1
O	GS	SV-05-15	15	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.018	UG/L	0.018	0	1
O	GS	SV-05-15	15	12-Sep-07	91-20-3	Naphthalene	0.023	UG/L	0.023	0	1
O	GS	SV-05-15	15	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.0054	UG/L	0.0054	0	1
O	GS	SV-05-15	15	12-Sep-07	124-48-1	Dibromochloromethane	0.0094	UG/L	0.0094	0	1
O	GS	SV-05-15	15	12-Sep-07	110-82-7	Cyclohexane	0.018	UG/L	0.018	1	1
O	GS	SV-05-15	15	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.005	UG/L	0.005	0	1
O	GS	SV-05-15	15	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.0044	UG/L		0	1
O	GS	SV-05-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.006	ug/L		1	1
O	GS	SV-05-15	15	12-Sep-07	75-00-3	Chloroethane	0.0029	UG/L	0.0029	0	1
O	GS	SV-05-15	15	12-Sep-07	100-41-4	Ethylbenzene	0.0048	UG/L	0.0048	0	1
O	GS	SV-05-15	15	12-Sep-07	127-18-4	Tetrachloroethene	0.0075	UG/L	0.0075	0	1
O	GS	SV-05-15	15	12-Sep-07	75-01-4	Vinyl Chloride	0.0028	UG/L	0.0028	0	1
O	GS	SV-05-15	15	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
O	GS	SV-05-15	15	12-Sep-07	75-69-4	Trichlorofluoromethane	0.0062	UG/L	0.0062	0	1
O	GS	SV-05-15	15	12-Sep-07	79-01-6	Trichloroethene	0.0059	UG/L	0.0059	0	1
O	GS	SV-05-15	15	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.005	UG/L	0.005	0	1
O	GS	SV-05-15	15	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.0044	UG/L	0.0044	0	1
O	GS	SV-05-15	15	12-Sep-07		Toluene-d8	99	%		1	1
O	GS	SV-05-15	15	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.004	UG/L	0.004	0	1
O	GS	SV-05-15	15	12-Sep-07	109-99-9	Tetrahydrofuran	0.0032	UG/L	0.0032	0	1
O	GS	SV-05-15	15	12-Sep-07	108-90-7	Chlorobenzene	0.0051	UG/L	0.0051	0	1
O	GS	SV-05-15	15	12-Sep-07	75-65-0	tert-Butyl alcohol	0.013	UG/L	0.013	0	1
O	GS	SV-05-15	15	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.018	UG/L	0.018	0	1
O	GS	SV-05-15	15	12-Sep-07	100-42-5	Styrene	0.0047	UG/L	0.0047	0	1
O	GS	SV-05-15	15	12-Sep-07	622-96-8	p-Ethyltoluene	0.0054	UG/L	0.0054	0	1
O	GS	SV-05-15	15	12-Sep-07	95-47-6	o-Xylene	0.0048	UG/L	0.0048	0	1
O	GS	SV-05-15	15	12-Sep-07	103-65-1	n-Propylbenzene	0.0054	UG/L	0.0054	0	1
O	GS	SV-05-15	15	12-Sep-07	142-82-5	n-Heptane	0.0045	UG/L	0.0045	0	1
O	GS	SV-05-15	15	12-Sep-07	108-88-3	Toluene	0.0041	UG/L	0.0041	0	1
O	GS	SV-05-15	15	12-Sep-07	75-35-4	1,1-Dichloroethene	0.0044	UG/L	0.0044	0	1
O	GS	SV-05-15	15	12-Sep-07	67-66-3	Chloroform	0.0054	UG/L	0.0054	0	1
O	GS	SV-05-15	15	12-Sep-07		1,2-Dichloroethane-d4	110	%		1	1
O	GS	SV-05-15	15	12-Sep-07	107-06-2	1,2-Dichloroethane	0.0044	UG/L	0.0044	0	1
O	GS	SV-05-15	15	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.0066	UG/L	0.0066	0	1
O	GS	SV-05-15	15	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0077	UG/L	0.0077	0	1
O	GS	SV-05-15	15	12-Sep-07	106-93-4	1,2-Dibromoethane	0.0084	UG/L	0.0084	0	1
O	GS	SV-05-15	15	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.0054	UG/L	0.0054	0	1
O	GS	SV-05-15	15	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.0054	UG/L	0.0054	0	1
O	GS	SV-05-15	15	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.026	UG/L	0.026	0	1
O	GS	SV-05-15	15	12-Sep-07	106-99-0	1,3-Butadiene	0.0024	UG/L	0.0024	0	1
O	GS	SV-05-15	15	12-Sep-07	75-34-3	1,1-Dichloroethane	0.0044	UG/L	0.0044	0	1
O	GS	SV-05-15	15	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.006	UG/L	0.006	0	1
O	GS	SV-05-15	15	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0084	UG/L	0.0084	0	1
O	GS	SV-05-15	15	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0076	UG/L	0.0076	0	1
O	GS	SV-05-15	15	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.006	UG/L	0.006	0	1
O	GS	SV-05-15	15	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	0.03	UG/L	0.03	0	1
O	GS	SV-05-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
O	GS	SV-05-15	15	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.033	UG/L	0.033	0	1
O	GS	SV-05-15	15	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.0045	UG/L	0.0045	0	1
O	GS	SV-05-15	15	12-Sep-07	56-23-5	Carbon Tetrachloride	0.0069	UG/L	0.0069	0	1
O	GS	SV-05-15	15	12-Sep-07	75-15-0	Carbon Disulfide	0.025	UG/L	0.025	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-05-15	15	12-Sep-07	74-83-9	Bromomethane	0.0043	UG/L	0.0043	0	1
O	GS	SV-05-15	15	12-Sep-07	75-25-2	Bromoform	0.011	UG/L	0.011	0	1
O	GS	SV-05-15	15	12-Sep-07	75-27-4	Bromodichloromethane	0.0074	UG/L	0.0074	0	1
O	GS	SV-05-15	15	12-Sep-07	100-44-7	Benzyl chloride	0.0057	UG/L	0.0057	0	1
O	GS	SV-05-15	15	12-Sep-07	71-43-2	Benzene	0.0035	UG/L	0.0035	0	1
O	GS	SV-05-15	15	12-Sep-07	78-87-5	1,2-Dichloropropane	0.0051	UG/L	0.0051	0	1
O	GS	SV-05-15	15	12-Sep-07	67-64-1	Acetone	0.023	UG/L	0.023	1	1
O	GS	SV-05-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
O	GS	SV-05-15	15	12-Sep-07		4-Bromofluorobenzene	88	%		1	1
O	GS	SV-05-15	15	12-Sep-07	591-78-6	2-Hexanone	0.018	UG/L	0.018	0	1
O	GS	SV-05-15	15	12-Sep-07	78-93-3	2-Butanone	0.0032	UG/L	0.0032	0	1
O	GS	SV-05-15	15	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.0051	UG/L	0.0051	0	1
O	GS	SV-05-15	15	12-Sep-07	123-91-1	1,4-Dioxane	0.016	UG/L	0.016	0	1
O	GS	SV-05-15	15	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.0066	UG/L	0.0066	0	1
O	GS	SV-05-15	15	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.0066	UG/L	0.0066	0	1
O	GS	SV-05-15	15	12-Sep-07	107-05-1	Allyl chloride	0.014	UG/L	0.014	0	1
O	GS	SV-05-15	15	18-Jul-07	110-82-7	Cyclohexane	0.048	ug/L	0.048	1	1
O	GS	SV-01-05	5	03-Dec-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0084	UG/L	0.0084	0	1
O	GS	SV-01-05	5	17-Nov-07	91-20-3	Naphthalene	0.024	UG/L	0.024	0	1
O	GS	SV-01-05	5	17-Nov-07	75-09-2	Methylene Chloride	0.004	UG/L	0.004	0	1
O	GS	SV-01-05	5	17-Nov-07	103-65-1	n-Propylbenzene	0.0056	UG/L	0.0056	0	1
O	GS	SV-01-05	5	17-Nov-07	95-47-6	o-Xylene	0.005	UG/L	0.005	0	1
O	GS	SV-01-05	5	17-Nov-07	142-82-5	n-Heptane	0.0047	UG/L	0.0047	0	1
O	GS	SV-01-05	5	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0041	UG/L	0.0041	0	1
O	GS	SV-01-05	5	17-Nov-07	179601-23-1	m,p-Xylenes	0.005	UG/L	0.005	0	1
O	GS	SV-01-05	5	17-Nov-07	108-20-3	Isopropyl ether	0.019	UG/L	0.019	0	1
O	GS	SV-01-05	5	17-Nov-07	622-96-8	p-Ethyltoluene	0.0056	UG/L	0.0056	0	1
O	GS	SV-01-05	5	17-Nov-07	67-63-0	Isopropyl alcohol	0.011	UG/L	0.011	0	1
O	GS	SV-01-05	5	17-Nov-07	110-54-3	Hexane	0.004	UG/L	0.004	0	1
O	GS	SV-01-05	5	17-Nov-07	98-82-8	Isopropylbenzene	0.0056	UG/L	0.0056	0	1
O	GS	SV-01-05	5	03-Dec-07	107-06-2	1,2-Dichloroethane	0.0044	UG/L	0.0044	0	1
O	GS	SV-01-05	5	03-Dec-07	71-55-6	1,1,1-Trichloroethane	0.006	UG/L	0.006	0	1
O	GS	SV-01-05	5	03-Dec-07	75-35-4	1,1-Dichloroethene	0.0044	UG/L	0.0044	0	1
O	GS	SV-01-05	5	03-Dec-07	96-18-4	1,2,3-Trichloropropane	0.026	UG/L	0.026	0	1
O	GS	SV-01-05	5	03-Dec-07	120-82-1	1,2,4-Trichlorobenzene	0.033	UG/L	0.033	0	1
O	GS	SV-01-05	5	03-Dec-07	95-63-6	1,2,4-Trimethylbenzene	0.0054	UG/L	0.0054	0	1
O	GS	SV-01-05	5	03-Dec-07	106-93-4	1,2-Dibromoethane	0.0084	UG/L	0.0084	0	1
O	GS	SV-01-05	5	03-Dec-07	79-00-5	1,1,2-Trichloroethane	0.006	UG/L	0.006	0	1
O	GS	SV-01-05	5	03-Dec-07	95-50-1	1,2-Dichlorobenzene	0.0066	UG/L	0.0066	0	1
O	GS	SV-01-05	5	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0046	UG/L	0.0046	0	1
O	GS	SV-01-05	5	03-Dec-07		1,2-Dichloroethane-d4	103	%		1	1
O	GS	SV-01-05	5	03-Dec-07	78-87-5	1,2-Dichloropropane	0.0051	UG/L	0.0051	0	1
O	GS	SV-01-05	5	03-Dec-07	108-67-8	1,3,5-Trimethylbenzene	0.0054	UG/L	0.0054	0	1
O	GS	SV-01-05	5	03-Dec-07	106-99-0	1,3-Butadiene	0.0024	UG/L	0.0024	0	1
O	GS	SV-01-05	5	03-Dec-07	541-73-1	1,3-Dichlorobenzene	0.0066	UG/L	0.0066	0	1
O	GS	SV-01-05	5	03-Dec-07	106-46-7	1,4-Dichlorobenzene	0.0066	UG/L	0.0066	0	1
O	GS	SV-01-05	5	03-Dec-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0077	UG/L	0.0077	0	1
O	GS	SV-01-05	5	17-Nov-07	79-01-6	Trichloroethene	0.0062	UG/L	0.0062	0	1
O	GS	SV-01-05	5	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.019	UG/L	0.019	0	1
O	GS	SV-01-05	5	17-Nov-07	75-65-0	tert-Butyl alcohol	0.014	UG/L	0.014	0	1
O	GS	SV-01-05	5	17-Nov-07	127-18-4	Tetrachloroethene	0.0078	UG/L	0.0078	0	1
O	GS	SV-01-05	5	17-Nov-07	109-99-9	Tetrahydrofuran	0.0034	UG/L	0.0034	0	1
O	GS	SV-01-05	5	17-Nov-07	108-88-3	Toluene	0.0043	UG/L	0.0043	0	1
O	GS	SV-01-05	5	17-Nov-07		Toluene-d8	96	%		1	1
O	GS	SV-01-05	5	03-Dec-07	75-34-3	1,1-Dichloroethane	0.0044	UG/L	0.0044	0	1
O	GS	SV-01-05	5	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0052	UG/L	0.0052	0	1
O	GS	SV-01-05	5	17-Nov-07	100-42-5	Styrene	0.0049	UG/L	0.0049	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-01-05	5	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0064	UG/L	0.0064	0	1
O	GS	SV-01-05	5	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
O	GS	SV-01-05	5	17-Nov-07	75-01-4	Vinyl Chloride	0.0029	UG/L	0.0029	0	1
O	GS	SV-01-05	5	03-Dec-07	630-20-6	1,1,1,2-Tetrachloroethane	0.03	UG/L	0.03	0	1
O	GS	SV-01-05	5	17-Nov-07	87-68-3	Hexachlorobutadiene	0.049	UG/L	0.049	0	1
O	GS	SV-01-05	5	03-Dec-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0076	UG/L	0.0076	0	1
O	GS	SV-01-05	5	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0045	UG/L	0.0045	0	1
O	GS	SV-01-05	5	17-Nov-07	108-90-7	Chlorobenzene	0.0053	UG/L	0.0053	0	1
O	GS	SV-01-05	5	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0088	UG/L	0.0088	0	1
O	GS	SV-01-05	5	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0047	UG/L	0.0047	0	1
O	GS	SV-01-05	5	17-Nov-07	67-64-1	Acetone	0.011	UG/L	0.011	0	1
O	GS	SV-01-05	5	17-Nov-07	107-05-1	Allyl chloride	0.014	UG/L	0.014	0	1
O	GS	SV-01-05	5	17-Nov-07	71-43-2	Benzene	0.0036	UG/L	0.0036	0	1
O	GS	SV-01-05	5	17-Nov-07	100-44-7	Benzyl chloride	0.0059	UG/L	0.0059	0	1
O	GS	SV-01-05	5	17-Nov-07	75-27-4	Bromodichloromethane	0.0077	UG/L	0.0077	0	1
O	GS	SV-01-05	5	17-Nov-07	75-25-2	Bromoform	0.012	UG/L	0.012	0	1
O	GS	SV-01-05	5	17-Nov-07	74-83-9	Bromomethane	0.0044	UG/L	0.0044	0	1
O	GS	SV-01-05	5	17-Nov-07	591-78-6	2-Hexanone	0.019	UG/L	0.019	0	1
O	GS	SV-01-05	5	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0072	UG/L	0.0072	0	1
O	GS	SV-01-05	5	17-Nov-07	78-93-3	2-Butanone	0.0034	UG/L	0.0034	0	1
O	GS	SV-01-05	5	17-Nov-07	75-00-3	Chloroethane	0.003	UG/L	0.003	0	1
O	GS	SV-01-05	5	17-Nov-07	67-66-3	Chloroform	0.0056	UG/L	0.0056	0	1
O	GS	SV-01-05	5	17-Nov-07	74-87-3	Chloromethane	0.0094	UG/L	0.0094	0	1
O	GS	SV-01-05	5	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0045	UG/L		0	1
O	GS	SV-01-05	5	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0052	UG/L	0.0052	0	1
O	GS	SV-01-05	5	17-Nov-07	110-82-7	Cyclohexane	0.0064	UG/L	0.0064	1	1
O	GS	SV-01-05	5	17-Nov-07	124-48-1	Dibromochloromethane	0.0098	UG/L	0.0098	0	1
O	GS	SV-01-05	5	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0057	UG/L	0.0057	0	1
O	GS	SV-01-05	5	03-Dec-07	98-82-8	Isopropylbenzene	0.0054	UG/L	0.0054	0	1
O	GS	SV-01-05	5	03-Dec-07	123-91-1	1,4-Dioxane	0.016	UG/L	0.016	0	1
O	GS	SV-01-05	5	17-Nov-07	75-15-0	Carbon Disulfide	0.0036	UG/L	0.0036	0	1
O	GS	SV-01-05	5	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.008	UG/L	0.008	0	1
O	GS	SV-01-05	5	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.019	UG/L	0.019	0	1
O	GS	SV-01-05	5	17-Nov-07	64-17-5	Ethanol	0.0086	UG/L	0.0086	0	1
O	GS	SV-01-05	5	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.031	UG/L	0.031	0	1
O	GS	SV-01-05	5	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0062	UG/L	0.0062	0	1
O	GS	SV-01-05	5	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0079	UG/L	0.0079	0	1
O	GS	SV-01-05	5	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0062	UG/L	0.0062	0	1
O	GS	SV-01-05	5	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0045	UG/L	0.0045	0	1
O	GS	SV-01-05	5	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.028	UG/L	0.028	0	1
O	GS	SV-01-05	5	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.034	UG/L	0.034	0	1
O	GS	SV-01-05	5	17-Nov-07		4-Bromofluorobenzene	91	%		1	1
O	GS	SV-01-05	5	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0088	UG/L	0.0088	0	1
O	GS	SV-01-05	5	17-Nov-07	100-41-4	Ethylbenzene	0.005	UG/L	0.005	0	1
O	GS	SV-01-05	5	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0069	UG/L	0.0069	0	1
O	GS	SV-01-05	5	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0046	UG/L	0.0046	0	1
O	GS	SV-01-05	5	17-Nov-07		1,2-Dichloroethane-d4	97	%		1	1
O	GS	SV-01-05	5	17-Nov-07	78-87-5	1,2-Dichloropropane	0.0053	UG/L	0.0053	0	1
O	GS	SV-01-05	5	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0056	UG/L	0.0056	0	1
O	GS	SV-01-05	5	17-Nov-07	106-99-0	1,3-Butadiene	0.0025	UG/L	0.0025	0	1
O	GS	SV-01-05	5	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0069	UG/L	0.0069	0	1
O	GS	SV-01-05	5	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0069	UG/L	0.0069	0	1
O	GS	SV-01-05	5	17-Nov-07	123-91-1	1,4-Dioxane	0.016	UG/L	0.016	0	1
O	GS	SV-01-05	5	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0053	UG/L	0.0053	0	1
O	GS	SV-01-05	5	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0056	UG/L	0.0056	0	1
O	GS	SV-01-05	5	03-Dec-07	127-18-4	Tetrachloroethene	0.0075	UG/L	0.0075	0	1
O	GS	SV-01-05	5	03-Dec-07	110-54-3	Hexane	0.0039	UG/L	0.0039	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-01-05	5	03-Dec-07	108-20-3	Isopropyl ether	0.018	UG/L	0.018	0	1
O	GS	SV-01-05	5	03-Dec-07	179601-23-1	m,p-Xylenes	0.0048	UG/L	0.0048	0	1
O	GS	SV-01-05	5	03-Dec-07	1634-04-4	Methyl tert-butyl ether	0.004	UG/L	0.004	0	1
O	GS	SV-01-05	5	03-Dec-07	75-09-2	Methylene Chloride	0.0038	UG/L	0.0038	0	1
O	GS	SV-01-05	5	03-Dec-07	91-20-3	Naphthalene	0.023	UG/L	0.023	0	1
O	GS	SV-01-05	5	03-Dec-07	142-82-5	n-Heptane	0.0045	UG/L	0.0045	0	1
O	GS	SV-01-05	5	03-Dec-07	103-65-1	n-Propylbenzene	0.0054	UG/L	0.0054	0	1
O	GS	SV-01-05	5	03-Dec-07	95-47-6	o-Xylene	0.0048	UG/L	0.0048	0	1
O	GS	SV-01-05	5	03-Dec-07	622-96-8	p-Ethyltoluene	0.0054	UG/L	0.0054	0	1
O	GS	SV-01-05	5	03-Dec-07	87-68-3	Hexachlorobutadiene	0.047	UG/L	0.047	0	1
O	GS	SV-01-05	5	03-Dec-07	994-05-8	tert-Amyl methyl ether	0.018	UG/L	0.018	0	1
O	GS	SV-01-05	5	03-Dec-07	75-65-0	tert-Butyl alcohol	0.013	UG/L	0.013	0	1
O	GS	SV-01-05	5	03-Dec-07	108-88-3	Toluene	0.0041	UG/L	0.0041	0	1
O	GS	SV-01-05	5	03-Dec-07		Toluene-d8	100	%		1	1
O	GS	SV-01-05	5	03-Dec-07	156-60-5	trans-1,2-Dichloroethene	0.0044	UG/L	0.0044	0	1
O	GS	SV-01-05	5	03-Dec-07	10061-02-6	trans-1,3-Dichloropropene	0.005	UG/L	0.005	0	1
O	GS	SV-01-05	5	03-Dec-07	79-01-6	Trichloroethene	0.0059	UG/L	0.0059	0	1
O	GS	SV-01-05	5	03-Dec-07	75-69-4	Trichlorofluoromethane	0.0062	UG/L	0.0062	0	1
O	GS	SV-01-05	5	03-Dec-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
O	GS	SV-01-05	5	03-Dec-07	75-01-4	Vinyl Chloride	0.0028	UG/L	0.0028	0	1
O	GS	SV-01-05	5	03-Dec-07	67-63-0	Isopropyl alcohol	0.03	UG/L	0.03	1	1
O	GS	SV-01-05	5	03-Dec-07	540-84-1	2,2,4-Trimethylpentane	0.0051	UG/L	0.0051	0	1
O	GS	SV-01-05	5	03-Dec-07	100-42-5	Styrene	0.0047	UG/L	0.0047	0	1
O	GS	SV-01-05	5	03-Dec-07	100-44-7	Benzyl chloride	0.0057	UG/L	0.0057	0	1
O	GS	SV-01-05	5	03-Dec-07	109-99-9	Tetrahydrofuran	0.0032	UG/L	0.0032	0	1
O	GS	SV-01-05	5	03-Dec-07	100-41-4	Ethylbenzene	0.0048	UG/L	0.0048	0	1
O	GS	SV-01-05	5	03-Dec-07	78-93-3	2-Butanone	0.0032	UG/L	0.0032	0	1
O	GS	SV-01-05	5	03-Dec-07	591-78-6	2-Hexanone	0.018	UG/L	0.018	0	1
O	GS	SV-01-05	5	03-Dec-07		4-Bromofluorobenzene	89	%		1	1
O	GS	SV-01-05	5	03-Dec-07	108-10-1	4-Methyl-2-pentanone	0.0045	UG/L	0.0045	0	1
O	GS	SV-01-05	5	03-Dec-07	67-64-1	Acetone	0.01	UG/L	0.01	0	1
O	GS	SV-01-05	5	03-Dec-07	71-43-2	Benzene	0.0035	UG/L	0.0035	0	1
O	GS	SV-01-05	5	03-Dec-07	75-27-4	Bromodichloromethane	0.0074	UG/L	0.0074	0	1
O	GS	SV-01-05	5	03-Dec-07	75-25-2	Bromoform	0.011	UG/L	0.011	0	1
O	GS	SV-01-05	5	03-Dec-07	74-83-9	Bromomethane	0.0043	UG/L	0.0043	0	1
O	GS	SV-01-05	5	03-Dec-07	75-15-0	Carbon Disulfide	0.0034	UG/L	0.0034	0	1
O	GS	SV-01-05	5	03-Dec-07	75-71-8	Dichlorodifluoromethane	0.0054	UG/L	0.0054	0	1
O	GS	SV-01-05	5	03-Dec-07	637-92-3	Ethyl tert butyl ether	0.018	UG/L	0.018	0	1
O	GS	SV-01-05	5	03-Dec-07	107-05-1	Allyl chloride	0.014	UG/L	0.014	0	1
O	GS	SV-01-05	5	03-Dec-07	64-17-5	Ethanol	0.0083	UG/L	0.0083	0	1
O	GS	SV-01-05	5	03-Dec-07	56-23-5	Carbon Tetrachloride	0.0069	UG/L	0.0069	0	1
O	GS	SV-01-05	5	03-Dec-07	124-48-1	Dibromochloromethane	0.0094	UG/L	0.0094	0	1
O	GS	SV-01-05	5	03-Dec-07	110-82-7	Cyclohexane	0.0073	UG/L	0.0073	1	1
O	GS	SV-01-05	5	03-Dec-07	10061-01-5	cis-1,3-Dichloropropene	0.005	UG/L	0.005	0	1
O	GS	SV-01-05	5	03-Dec-07	108-90-7	Chlorobenzene	0.0051	UG/L	0.0051	0	1
O	GS	SV-01-05	5	03-Dec-07	74-87-3	Chloromethane	0.0091	UG/L	0.0091	0	1
O	GS	SV-01-05	5	03-Dec-07	67-66-3	Chloroform	0.0054	UG/L	0.0054	0	1
O	GS	SV-01-05	5	03-Dec-07	75-00-3	Chloroethane	0.0029	UG/L	0.0029	0	1
O	GS	SV-01-05	5	03-Dec-07	156-59-2	cis-1,2-Dichloroethene	0.0044	UG/L		0	1
O	GS	SV-05-05	5	17-Nov-07	79-01-6	Trichloroethene	0.0066	UG/L	0.0066	0	1
O	GS	SV-05-05	5	17-Nov-07	108-88-3	Toluene	0.0046	UG/L	0.0046	0	1
O	GS	SV-05-05	5	17-Nov-07	75-01-4	Vinyl Chloride	0.0032	UG/L	0.0032	0	1
O	GS	SV-05-05	5	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0069	UG/L	0.0069	0	1
O	GS	SV-05-05	5	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	UG/L	0.0056	0	1
O	GS	SV-05-05	5	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0049	UG/L	0.0049	0	1
O	GS	SV-05-05	5	17-Nov-07		Toluene-d8	94	%		1	1
O	GS	SV-05-05	5	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-05-05	5	17-Nov-07	110-54-3	Hexane	0.0044	UG/L	0.0044	0	1
O	GS	SV-05-05	5	17-Nov-07	87-68-3	Hexachlorobutadiene	0.053	UG/L	0.053	0	1
O	GS	SV-05-05	5	17-Nov-07	100-41-4	Ethylbenzene	0.0054	UG/L	0.0054	0	1
O	GS	SV-05-05	5	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.021	UG/L	0.021	0	1
O	GS	SV-05-05	5	17-Nov-07	64-17-5	Ethanol	0.0093	UG/L	0.0093	0	1
O	GS	SV-05-05	5	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0061	UG/L	0.0061	0	1
O	GS	SV-05-05	5	17-Nov-07	124-48-1	Dibromochloromethane	0.01	UG/L	0.01	0	1
O	GS	SV-05-05	5	17-Nov-07	110-82-7	Cyclohexane	0.0057	UG/L	0.0057	1	1
O	GS	SV-05-05	5	17-Nov-07	75-15-0	Carbon Disulfide	0.0038	UG/L	0.0038	0	1
O	GS	SV-05-05	5	17-Nov-07	74-87-3	Chloromethane	0.01	UG/L	0.01	0	1
O	GS	SV-05-05	5	17-Nov-07	75-00-3	Chloroethane	0.0032	UG/L	0.0032	0	1
O	GS	SV-05-05	5	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0078	UG/L	0.0078	0	1
O	GS	SV-05-05	5	17-Nov-07	108-90-7	Chlorobenzene	0.0057	UG/L	0.0057	0	1
O	GS	SV-05-05	5	17-Nov-07	127-18-4	Tetrachloroethene	0.0084	UG/L	0.0084	0	1
O	GS	SV-05-05	5	17-Nov-07	67-63-0	Isopropyl alcohol	0.012	UG/L	0.012	0	1
O	GS	SV-05-05	5	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	UG/L	0.0056	0	1
O	GS	SV-05-05	5	17-Nov-07	103-65-1	n-Propylbenzene	0.0061	UG/L	0.0061	0	1
O	GS	SV-05-05	5	17-Nov-07	109-99-9	Tetrahydrofuran	0.0036	UG/L	0.0036	0	1
O	GS	SV-05-05	5	17-Nov-07	67-66-3	Chloroform	0.006	UG/L	0.006	0	1
O	GS	SV-05-05	5	17-Nov-07	74-83-9	Bromomethane	0.0048	UG/L	0.0048	0	1
O	GS	SV-05-05	5	17-Nov-07	75-65-0	tert-Butyl alcohol	0.015	UG/L	0.015	0	1
O	GS	SV-05-05	5	17-Nov-07	100-42-5	Styrene	0.0053	UG/L	0.0053	0	1
O	GS	SV-05-05	5	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.021	UG/L	0.021	0	1
O	GS	SV-05-05	5	17-Nov-07	95-47-6	o-Xylene	0.0054	UG/L	0.0054	0	1
O	GS	SV-05-05	5	17-Nov-07	108-20-3	Isopropyl ether	0.021	UG/L	0.021	0	1
O	GS	SV-05-05	5	17-Nov-07	142-82-5	n-Heptane	0.0051	UG/L	0.0051	0	1
O	GS	SV-05-05	5	17-Nov-07	91-20-3	Naphthalene	0.026	UG/L	0.026	0	1
O	GS	SV-05-05	5	17-Nov-07	75-09-2	Methylene Chloride	0.0043	UG/L	0.0043	0	1
O	GS	SV-05-05	5	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0044	UG/L	0.0044	0	1
O	GS	SV-05-05	5	17-Nov-07	179601-23-1	m,p-Xylenes	0.0054	UG/L	0.0054	0	1
O	GS	SV-05-05	5	17-Nov-07	98-82-8	Isopropylbenzene	0.0061	UG/L	0.0061	0	1
O	GS	SV-05-05	5	17-Nov-07	622-96-8	p-Ethyltoluene	0.0061	UG/L	0.0061	0	1
O	GS	SV-05-05	5	17-Nov-07	75-34-3	1,1-Dichloroethane	0.005	UG/L	0.005	0	1
O	GS	SV-05-05	5	17-Nov-07		1,2-Dichloroethane-d4	95	%		1	1
O	GS	SV-05-05	5	17-Nov-07	107-06-2	1,2-Dichloroethane	0.005	UG/L	0.005	0	1
O	GS	SV-05-05	5	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
O	GS	SV-05-05	5	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	UG/L	0.0085	0	1
O	GS	SV-05-05	5	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0095	UG/L	0.0095	0	1
O	GS	SV-05-05	5	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.037	UG/L	0.037	0	1
O	GS	SV-05-05	5	17-Nov-07	78-87-5	1,2-Dichloropropane	0.0057	UG/L	0.0057	0	1
O	GS	SV-05-05	5	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0049	UG/L	0.0049	0	1
O	GS	SV-05-05	5	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	UG/L	0.0086	0	1
O	GS	SV-05-05	5	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0067	UG/L	0.0067	0	1
O	GS	SV-05-05	5	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	UG/L	0.0095	0	1
O	GS	SV-05-05	5	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	UG/L	0.034	0	1
O	GS	SV-05-05	5	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0067	UG/L	0.0067	0	1
O	GS	SV-05-05	5	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0049	UG/L		0	1
O	GS	SV-05-05	5	17-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
O	GS	SV-05-05	5	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.03	UG/L	0.03	0	1
O	GS	SV-05-05	5	17-Nov-07		4-Bromofluorobenzene	95	%		1	1
O	GS	SV-05-05	5	17-Nov-07	71-43-2	Benzene	0.0039	UG/L	0.0039	0	1
O	GS	SV-05-05	5	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0061	UG/L	0.0061	0	1
O	GS	SV-05-05	5	17-Nov-07	100-44-7	Benzyl chloride	0.0064	UG/L	0.0064	0	1
O	GS	SV-05-05	5	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0061	UG/L	0.0061	0	1
O	GS	SV-05-05	5	17-Nov-07	67-64-1	Acetone	0.023	UG/L	0.023	1	1
O	GS	SV-05-05	5	17-Nov-07	107-05-1	Allyl chloride	0.015	UG/L	0.015	0	1
O	GS	SV-05-05	5	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.005	UG/L	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-05-05	5	17-Nov-07	591-78-6	2-Hexanone	0.02	UG/L	0.02	0	1
O	GS	SV-05-05	5	17-Nov-07	75-27-4	Bromodichloromethane	0.0083	UG/L	0.0083	0	1
O	GS	SV-05-05	5	17-Nov-07	78-93-3	2-Butanone	0.0036	UG/L	0.0036	0	1
O	GS	SV-05-05	5	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0058	UG/L	0.0058	0	1
O	GS	SV-05-05	5	17-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
O	GS	SV-05-05	5	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
O	GS	SV-05-05	5	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
O	GS	SV-05-05	5	17-Nov-07	106-99-0	1,3-Butadiene	0.0027	UG/L	0.0027	0	1
O	GS	SV-05-15a	15	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.033	UG/L	0.033	0	1
O	GS	SV-05-15a	15	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0065	UG/L	0.0065	0	1
O	GS	SV-05-15a	15	17-Nov-07	75-09-2	Methylene Chloride	0.0041	UG/L	0.0041	0	1
O	GS	SV-05-15a	15	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0082	UG/L	0.0082	0	1
O	GS	SV-05-15a	15	17-Nov-07	98-82-8	Isopropylbenzene	0.0058	UG/L	0.0058	0	1
O	GS	SV-05-15a	15	17-Nov-07	100-41-4	Ethylbenzene	0.0052	UG/L	0.0052	0	1
O	GS	SV-05-15a	15	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0091	UG/L	0.0091	0	1
O	GS	SV-05-15a	15	17-Nov-07	87-68-3	Hexachlorobutadiene	0.051	UG/L	0.051	0	1
O	GS	SV-05-15a	15	17-Nov-07	110-54-3	Hexane	0.0042	UG/L	0.0042	0	1
O	GS	SV-05-15a	15	17-Nov-07	67-63-0	Isopropyl alcohol	0.012	UG/L	0.012	0	0
O	GS	SV-05-15a	15	17-Nov-07	108-20-3	Isopropyl ether	0.02	UG/L	0.02	0	1
O	GS	SV-05-15a	15	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0048	UG/L	0.0048	0	1
O	GS	SV-05-15a	15	17-Nov-07	75-65-0	tert-Butyl alcohol	0.014	UG/L	0.014	0	1
O	GS	SV-05-15a	15	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	0
O	GS	SV-05-15a	15	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0067	UG/L	0.0067	0	1
O	GS	SV-05-15a	15	17-Nov-07	79-01-6	Trichloroethene	0.0064	UG/L	0.0064	0	1
O	GS	SV-05-15a	15	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0054	UG/L	0.0054	0	1
O	GS	SV-05-15a	15	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0047	UG/L	0.0047	0	1
O	GS	SV-05-15a	15	17-Nov-07		Toluene-d8	94	%		1	1
O	GS	SV-05-15a	15	17-Nov-07	108-88-3	Toluene	0.0072	UG/L	0.0072	1	1
O	GS	SV-05-15a	15	17-Nov-07	179601-23-1	m,p-Xylenes	0.0052	UG/L	0.0052	0	1
O	GS	SV-05-15a	15	17-Nov-07	127-18-4	Tetrachloroethene	0.0081	UG/L	0.0081	0	1
O	GS	SV-05-15a	15	17-Nov-07	75-01-4	Vinyl Chloride	0.003	UG/L	0.003	0	1
O	GS	SV-05-15a	15	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.02	UG/L	0.02	0	1
O	GS	SV-05-15a	15	17-Nov-07	100-42-5	Styrene	0.0051	UG/L	0.0051	0	1
O	GS	SV-05-15a	15	17-Nov-07	622-96-8	p-Ethyltoluene	0.0058	UG/L	0.0058	0	1
O	GS	SV-05-15a	15	17-Nov-07	95-47-6	o-Xylene	0.0052	UG/L	0.0052	0	1
O	GS	SV-05-15a	15	17-Nov-07	103-65-1	n-Propylbenzene	0.0058	UG/L	0.0058	0	1
O	GS	SV-05-15a	15	17-Nov-07	142-82-5	n-Heptane	0.0049	UG/L	0.0049	0	1
O	GS	SV-05-15a	15	17-Nov-07	91-20-3	Naphthalene	0.025	UG/L	0.025	0	1
O	GS	SV-05-15a	15	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0043	UG/L	0.0043	0	1
O	GS	SV-05-15a	15	17-Nov-07	109-99-9	Tetrahydrofuran	0.0035	UG/L	0.0035	0	1
O	GS	SV-05-15a	15	17-Nov-07	67-66-3	Chloroform	0.0058	UG/L	0.0058	0	1
O	GS	SV-05-15a	15	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.029	UG/L	0.029	0	1
O	GS	SV-05-15a	15	17-Nov-07	100-44-7	Benzyl chloride	0.0062	UG/L	0.0062	0	1
O	GS	SV-05-15a	15	17-Nov-07	75-27-4	Bromodichloromethane	0.008	UG/L	0.008	0	1
O	GS	SV-05-15a	15	17-Nov-07	75-25-2	Bromoform	0.012	UG/L	0.012	0	1
O	GS	SV-05-15a	15	17-Nov-07	74-83-9	Bromomethane	0.0046	UG/L	0.0046	0	1
O	GS	SV-05-15a	15	17-Nov-07	75-15-0	Carbon Disulfide	0.0069	UG/L	0.0069	1	0
O	GS	SV-05-15a	15	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0075	UG/L	0.0075	0	1
O	GS	SV-05-15a	15	17-Nov-07	107-05-1	Allyl chloride	0.015	UG/L	0.015	0	1
O	GS	SV-05-15a	15	17-Nov-07	75-00-3	Chloroethane	0.0031	UG/L	0.0031	0	1
O	GS	SV-05-15a	15	17-Nov-07	67-64-1	Acetone	0.021	UG/L	0.021	1	0
O	GS	SV-05-15a	15	17-Nov-07	74-87-3	Chloromethane	0.0098	UG/L	0.0098	0	1
O	GS	SV-05-15a	15	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0047	UG/L		0	1
O	GS	SV-05-15a	15	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0054	UG/L	0.0054	0	1
O	GS	SV-05-15a	15	17-Nov-07	110-82-7	Cyclohexane	0.0092	UG/L	0.0092	1	1
O	GS	SV-05-15a	15	17-Nov-07	124-48-1	Dibromochloromethane	0.01	UG/L	0.01	0	1
O	GS	SV-05-15a	15	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0059	UG/L	0.0059	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-05-15a	15	17-Nov-07	64-17-5	Ethanol	0.009	UG/L	0.009	0	1
O	GS	SV-05-15a	15	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.02	UG/L	0.02	0	1
O	GS	SV-05-15a	15	17-Nov-07	108-90-7	Chlorobenzene	0.0055	UG/L	0.0055	0	1
O	GS	SV-05-15a	15	17-Nov-07	106-99-0	1,3-Butadiene	0.0026	UG/L	0.0026	0	1
O	GS	SV-05-15a	15	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0065	UG/L	0.0065	0	1
O	GS	SV-05-15a	15	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0058	UG/L	0.0058	0	1
O	GS	SV-05-15a	15	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0091	UG/L	0.0091	0	1
O	GS	SV-05-15a	15	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0083	UG/L	0.0083	0	1
O	GS	SV-05-15a	15	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0072	UG/L	0.0072	0	1
O	GS	SV-05-15a	15	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0048	UG/L	0.0048	0	1
O	GS	SV-05-15a	15	17-Nov-07		1,2-Dichloroethane-d4	93	%		1	1
O	GS	SV-05-15a	15	17-Nov-07	71-43-2	Benzene	0.0038	UG/L	0.0038	0	1
O	GS	SV-05-15a	15	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0058	UG/L	0.0058	0	1
O	GS	SV-05-15a	15	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.035	UG/L	0.035	0	1
O	GS	SV-05-15a	15	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0072	UG/L	0.0072	0	1
O	GS	SV-05-15a	15	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0072	UG/L	0.0072	0	1
O	GS	SV-05-15a	15	17-Nov-07	123-91-1	1,4-Dioxane	0.017	UG/L	0.017	0	1
O	GS	SV-05-15a	15	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0056	UG/L	0.0056	0	1
O	GS	SV-05-15a	15	17-Nov-07	78-93-3	2-Butanone	0.0035	UG/L	0.0035	0	1
O	GS	SV-05-15a	15	17-Nov-07	591-78-6	2-Hexanone	0.019	UG/L	0.019	0	1
O	GS	SV-05-15a	15	17-Nov-07		4-Bromofluorobenzene	99	%		1	1
O	GS	SV-05-15a	15	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0049	UG/L	0.0049	0	1
O	GS	SV-05-15a	15	17-Nov-07	78-87-5	1,2-Dichloropropane	0.0055	UG/L	0.0055	0	1
O	GS	SV-05-15a	15	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0047	UG/L	0.0047	0	1
O	GS	SV-05-15b	15	17-Nov-07	64-17-5	Ethanol	0.0093	UG/L	0.0093	0	0
O	GS	SV-05-15b	15	17-Nov-07	75-00-3	Chloroethane	0.0032	UG/L	0.0032	0	0
O	GS	SV-05-15b	15	17-Nov-07	75-09-2	Methylene Chloride	0.0043	UG/L	0.0043	0	0
O	GS	SV-05-15b	15	17-Nov-07	107-05-1	Allyl chloride	0.015	UG/L	0.015	0	0
O	GS	SV-05-15b	15	17-Nov-07	108-20-3	Isopropyl ether	0.021	UG/L	0.021	0	0
O	GS	SV-05-15b	15	17-Nov-07	98-82-8	Isopropylbenzene	0.0061	UG/L	0.0061	0	0
O	GS	SV-05-15b	15	17-Nov-07	179601-23-1	m,p-Xylenes	0.0054	UG/L	0.0054	0	0
O	GS	SV-05-15b	15	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0044	UG/L	0.0044	0	0
O	GS	SV-05-15b	15	17-Nov-07	103-65-1	n-Propylbenzene	0.0061	UG/L	0.0061	0	0
O	GS	SV-05-15b	15	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.021	UG/L	0.021	0	0
O	GS	SV-05-15b	15	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0061	UG/L	0.0061	0	0
O	GS	SV-05-15b	15	17-Nov-07	124-48-1	Dibromochloromethane	0.01	UG/L	0.01	0	0
O	GS	SV-05-15b	15	17-Nov-07	110-82-7	Cyclohexane	0.0088	UG/L	0.0088	1	0
O	GS	SV-05-15b	15	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	UG/L	0.0056	0	0
O	GS	SV-05-15b	15	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0049	UG/L		0	1
O	GS	SV-05-15b	15	17-Nov-07	74-87-3	Chloromethane	0.01	UG/L	0.01	0	0
O	GS	SV-05-15b	15	17-Nov-07	67-66-3	Chloroform	0.006	UG/L	0.006	0	0
O	GS	SV-05-15b	15	17-Nov-07	100-41-4	Ethylbenzene	0.0054	UG/L	0.0054	0	0
O	GS	SV-05-15b	15	17-Nov-07	108-88-3	Toluene	0.0046	UG/L	0.0046	0	0
O	GS	SV-05-15b	15	17-Nov-07	87-68-3	Hexachlorobutadiene	0.053	UG/L	0.053	0	0
O	GS	SV-05-15b	15	17-Nov-07	110-54-3	Hexane	0.0044	UG/L	0.0044	0	0
O	GS	SV-05-15b	15	17-Nov-07	75-01-4	Vinyl Chloride	0.0032	UG/L	0.0032	0	0
O	GS	SV-05-15b	15	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
O	GS	SV-05-15b	15	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0069	UG/L	0.0069	0	0
O	GS	SV-05-15b	15	17-Nov-07	79-01-6	Trichloroethene	0.0066	UG/L	0.0066	0	0
O	GS	SV-05-15b	15	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	UG/L	0.0056	0	0
O	GS	SV-05-15b	15	17-Nov-07	142-82-5	n-Heptane	0.0051	UG/L	0.0051	0	0
O	GS	SV-05-15b	15	17-Nov-07		Toluene-d8	97	%		1	1
O	GS	SV-05-15b	15	17-Nov-07	67-63-0	Isopropyl alcohol	0.012	UG/L	0.012	0	1
O	GS	SV-05-15b	15	17-Nov-07	109-99-9	Tetrahydrofuran	0.0036	UG/L	0.0036	0	0
O	GS	SV-05-15b	15	17-Nov-07	127-18-4	Tetrachloroethene	0.0084	UG/L	0.0084	0	0
O	GS	SV-05-15b	15	17-Nov-07	75-65-0	tert-Butyl alcohol	0.015	UG/L	0.015	0	0
O	GS	SV-05-15b	15	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.021	UG/L	0.021	0	0

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-05-15b	15	17-Nov-07	100-42-5	Styrene	0.0053	UG/L	0.0053	0	0
O	GS	SV-05-15b	15	17-Nov-07	622-96-8	p-Ethyltoluene	0.0061	UG/L	0.0061	0	0
O	GS	SV-05-15b	15	17-Nov-07	95-47-6	o-Xylene	0.0054	UG/L	0.0054	0	0
O	GS	SV-05-15b	15	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0049	UG/L	0.0049	0	0
O	GS	SV-05-15b	15	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.037	UG/L	0.037	0	0
O	GS	SV-05-15b	15	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0061	UG/L	0.0061	0	0
O	GS	SV-05-15b	15	17-Nov-07	78-87-5	1,2-Dichloropropane	0.0057	UG/L	0.0057	0	0
O	GS	SV-05-15b	15	17-Nov-07		1,2-Dichloroethane-d4	92	%		1	1
O	GS	SV-05-15b	15	17-Nov-07	107-06-2	1,2-Dichloroethane	0.005	UG/L	0.005	0	0
O	GS	SV-05-15b	15	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0074	UG/L	0.0074	0	0
O	GS	SV-05-15b	15	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	UG/L	0.0086	0	0
O	GS	SV-05-15b	15	17-Nov-07	106-99-0	1,3-Butadiene	0.0027	UG/L	0.0027	0	0
O	GS	SV-05-15b	15	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0061	UG/L	0.0061	0	0
O	GS	SV-05-15b	15	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0049	UG/L	0.0049	0	0
O	GS	SV-05-15b	15	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.03	UG/L	0.03	0	0
O	GS	SV-05-15b	15	17-Nov-07	75-34-3	1,1-Dichloroethane	0.005	UG/L	0.005	0	0
O	GS	SV-05-15b	15	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0067	UG/L	0.0067	0	0
O	GS	SV-05-15b	15	17-Nov-07	67-64-1	Acetone	0.031	UG/L	0.031	1	1
O	GS	SV-05-15b	15	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	UG/L	0.0095	0	0
O	GS	SV-05-15b	15	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	UG/L	0.0085	0	0
O	GS	SV-05-15b	15	17-Nov-07		4-Bromofluorobenzene	90	%		1	1
O	GS	SV-05-15b	15	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0095	UG/L	0.0095	0	0
O	GS	SV-05-15b	15	17-Nov-07	75-27-4	Bromodichloromethane	0.0083	UG/L	0.0083	0	0
O	GS	SV-05-15b	15	17-Nov-07	75-15-0	Carbon Disulfide	0.01	UG/L	0.01	1	1
O	GS	SV-05-15b	15	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.005	UG/L	0.005	0	0
O	GS	SV-05-15b	15	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0074	UG/L	0.0074	0	0
O	GS	SV-05-15b	15	17-Nov-07	74-83-9	Bromomethane	0.0048	UG/L	0.0048	0	0
O	GS	SV-05-15b	15	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0078	UG/L	0.0078	0	0
O	GS	SV-05-15b	15	17-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	0
O	GS	SV-05-15b	15	17-Nov-07	100-44-7	Benzyl chloride	0.0064	UG/L	0.0064	0	0
O	GS	SV-05-15b	15	17-Nov-07	71-43-2	Benzene	0.0039	UG/L	0.0039	0	0
O	GS	SV-05-15b	15	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0058	UG/L	0.0058	0	0
O	GS	SV-05-15b	15	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0067	UG/L	0.0067	0	0
O	GS	SV-05-15b	15	17-Nov-07	91-20-3	Naphthalene	0.026	UG/L	0.026	0	0
O	GS	SV-05-15b	15	17-Nov-07	108-90-7	Chlorobenzene	0.0057	UG/L	0.0057	0	0
O	GS	SV-05-15b	15	17-Nov-07	591-78-6	2-Hexanone	0.02	UG/L	0.02	0	0
O	GS	SV-05-15b	15	17-Nov-07	78-93-3	2-Butanone	0.0036	UG/L	0.0036	0	0
O	GS	SV-05-15b	15	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	UG/L	0.034	0	0
O	GS	SV-05-15b	15	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0074	UG/L	0.0074	0	0
O	GS	SV-05-15b	15	17-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	0
O	GS	SV-69-05a	5	17-Nov-07	95-47-6	o-Xylene	0.014	UG/L	0.014	1	1
O	GS	SV-69-05a	5	17-Nov-07	127-18-4	Tetrachloroethene	0.0088	UG/L	0.0088	0	1
O	GS	SV-69-05a	5	17-Nov-07	179601-23-1	m,p-Xylenes	0.042	UG/L	0.042	1	1
O	GS	SV-69-05a	5	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0071	UG/L	0.0071	1	1
O	GS	SV-69-05a	5	17-Nov-07	75-09-2	Methylene Chloride	0.0045	UG/L	0.0045	0	1
O	GS	SV-69-05a	5	17-Nov-07	91-20-3	Naphthalene	0.027	UG/L	0.027	0	1
O	GS	SV-69-05a	5	17-Nov-07	142-82-5	n-Heptane	0.0053	UG/L	0.0053	0	1
O	GS	SV-69-05a	5	17-Nov-07	622-96-8	p-Ethyltoluene	0.018	UG/L	0.018	1	1
O	GS	SV-69-05a	5	17-Nov-07	100-42-5	Styrene	0.0055	UG/L	0.0055	0	1
O	GS	SV-69-05a	5	17-Nov-07	75-65-0	tert-Butyl alcohol	0.016	UG/L	0.016	0	1
O	GS	SV-69-05a	5	17-Nov-07	109-99-9	Tetrahydrofuran	0.0038	UG/L	0.0038	0	1
O	GS	SV-69-05a	5	17-Nov-07	108-88-3	Toluene	0.024	UG/L	0.024	1	1
O	GS	SV-69-05a	5	17-Nov-07		Toluene-d8	94	%		1	1
O	GS	SV-69-05a	5	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0051	UG/L	0.0051	0	1
O	GS	SV-69-05a	5	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	UG/L	0.0058	0	1
O	GS	SV-69-05a	5	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.006	UG/L	0.006	0	1
O	GS	SV-69-05a	5	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.022	UG/L	0.022	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-69-05a	5	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.007	UG/L	0.007	0	1
O	GS	SV-69-05a	5	17-Nov-07	103-65-1	n-Propylbenzene	0.0063	UG/L	0.0063	0	1
O	GS	SV-69-05a	5	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.016	UG/L	0.016	1	1
O	GS	SV-69-05a	5	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0078	UG/L	0.0078	0	1
O	GS	SV-69-05a	5	17-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
O	GS	SV-69-05a	5	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0078	UG/L	0.0078	0	1
O	GS	SV-69-05a	5	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0078	UG/L	0.0078	0	1
O	GS	SV-69-05a	5	17-Nov-07	106-99-0	1,3-Butadiene	0.0028	UG/L	0.0028	0	1
O	GS	SV-69-05a	5	17-Nov-07		1,2-Dichloroethane-d4	96	%		1	1
O	GS	SV-69-05a	5	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	UG/L	0.035	0	1
O	GS	SV-69-05a	5	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0052	UG/L	0.0052	0	1
O	GS	SV-69-05a	5	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.007	UG/L	0.007	0	1
O	GS	SV-69-05a	5	17-Nov-07	591-78-6	2-Hexanone	0.021	UG/L	0.021	0	1
O	GS	SV-69-05a	5	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	UG/L	0.0099	0	1
O	GS	SV-69-05a	5	17-Nov-07		4-Bromofluorobenzene	97	%		1	1
O	GS	SV-69-05a	5	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0052	UG/L	0.0052	0	1
O	GS	SV-69-05a	5	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0051	UG/L	0.0051	0	1
O	GS	SV-69-05a	5	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.031	UG/L	0.031	0	1
O	GS	SV-69-05a	5	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.038	UG/L	0.038	0	1
O	GS	SV-69-05a	5	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.029	UG/L	0.029	1	1
O	GS	SV-69-05a	5	17-Nov-07	106-93-4	1,2-Dibromoethane	0.0099	UG/L	0.0099	0	1
O	GS	SV-69-05a	5	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	UG/L	0.009	0	1
O	GS	SV-69-05a	5	17-Nov-07	75-01-4	Vinyl Chloride	0.0033	UG/L	0.0033	0	1
O	GS	SV-69-05a	5	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	0
O	GS	SV-69-05a	5	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0072	UG/L	0.0072	0	1
O	GS	SV-69-05a	5	17-Nov-07	79-01-6	Trichloroethene	0.0069	UG/L	0.0069	0	1
O	GS	SV-69-05a	5	17-Nov-07	78-87-5	1,2-Dichloropropane	0.006	UG/L	0.006	0	1
O	GS	SV-69-05a	5	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	UG/L	0.0088	0	1
O	GS	SV-69-05a	5	17-Nov-07	75-00-3	Chloroethane	0.0034	UG/L	0.0034	0	1
O	GS	SV-69-05a	5	17-Nov-07	98-82-8	Isopropylbenzene	0.0063	UG/L	0.0063	0	1
O	GS	SV-69-05a	5	17-Nov-07	108-20-3	Isopropyl ether	0.022	UG/L	0.022	0	1
O	GS	SV-69-05a	5	17-Nov-07	67-63-0	Isopropyl alcohol	0.013	UG/L	0.013	0	1
O	GS	SV-69-05a	5	17-Nov-07	110-54-3	Hexane	0.0045	UG/L	0.0045	0	1
O	GS	SV-69-05a	5	17-Nov-07	87-68-3	Hexachlorobutadiene	0.055	UG/L	0.055	0	1
O	GS	SV-69-05a	5	17-Nov-07	100-41-4	Ethylbenzene	0.0089	UG/L	0.0089	1	1
O	GS	SV-69-05a	5	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.022	UG/L	0.022	0	1
O	GS	SV-69-05a	5	17-Nov-07	64-17-5	Ethanol	0.0097	UG/L	0.0097	0	1
O	GS	SV-69-05a	5	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0064	UG/L	0.0064	0	1
O	GS	SV-69-05a	5	17-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	1
O	GS	SV-69-05a	5	17-Nov-07	110-82-7	Cyclohexane	0.0044	UG/L	0.0044	0	1
O	GS	SV-69-05a	5	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	UG/L	0.0058	0	1
O	GS	SV-69-05a	5	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0051	UG/L		0	0
O	GS	SV-69-05a	5	17-Nov-07	78-93-3	2-Butanone	0.013	UG/L	0.013	1	1
O	GS	SV-69-05a	5	17-Nov-07	75-27-4	Bromodichloromethane	0.0086	UG/L	0.0086	0	1
O	GS	SV-69-05a	5	17-Nov-07	67-64-1	Acetone	0.077	UG/L	0.077	1	1
O	GS	SV-69-05a	5	17-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	1
O	GS	SV-69-05a	5	17-Nov-07	74-87-3	Chloromethane	0.011	UG/L	0.011	0	1
O	GS	SV-69-05a	5	17-Nov-07	100-44-7	Benzyl chloride	0.0067	UG/L	0.0067	0	1
O	GS	SV-69-05a	5	17-Nov-07	67-66-3	Chloroform	0.0063	UG/L	0.0063	0	1
O	GS	SV-69-05a	5	17-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
O	GS	SV-69-05a	5	17-Nov-07	74-83-9	Bromomethane	0.005	UG/L	0.005	0	1
O	GS	SV-69-05a	5	17-Nov-07	75-15-0	Carbon Disulfide	0.004	UG/L	0.004	0	1
O	GS	SV-69-05a	5	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0081	UG/L	0.0081	0	1
O	GS	SV-69-05a	5	17-Nov-07	108-90-7	Chlorobenzene	0.0059	UG/L	0.0059	0	1
O	GS	SV-69-05a	5	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0053	UG/L	0.0053	0	1
O	GS	SV-69-05a	5	17-Nov-07	71-43-2	Benzene	0.0041	UG/L	0.0041	0	1
O	GS	SV-69-05b	5	17-Nov-07	75-01-4	Vinyl Chloride	0.0035	UG/L	0.0035	0	0

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-69-05b	5	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
O	GS	SV-69-05b	5	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0078	UG/L	0.0078	0	0
O	GS	SV-69-05b	5	17-Nov-07	100-44-7	Benzyl chloride	0.0071	UG/L	0.0071	0	0
O	GS	SV-69-05b	5	17-Nov-07	71-43-2	Benzene	0.0044	UG/L	0.0044	0	0
O	GS	SV-69-05b	5	17-Nov-07	107-05-1	Allyl chloride	0.017	UG/L	0.017	0	0
O	GS	SV-69-05b	5	17-Nov-07	79-01-6	Trichloroethene	0.0074	UG/L	0.0074	0	0
O	GS	SV-69-05b	5	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0056	UG/L	0.0056	0	0
O	GS	SV-69-05b	5	17-Nov-07	179601-23-1	m,p-Xylenes	0.025	UG/L	0.025	1	0
O	GS	SV-69-05b	5	17-Nov-07		4-Bromofluorobenzene	94	%		1	1
O	GS	SV-69-05b	5	17-Nov-07	591-78-6	2-Hexanone	0.023	UG/L	0.023	0	0
O	GS	SV-69-05b	5	17-Nov-07	67-64-1	Acetone	0.038	UG/L	0.038	1	0
O	GS	SV-69-05b	5	17-Nov-07	74-87-3	Chloromethane	0.011	UG/L	0.011	0	0
O	GS	SV-69-05b	5	17-Nov-07	87-68-3	Hexachlorobutadiene	0.059	UG/L	0.059	0	0
O	GS	SV-69-05b	5	17-Nov-07	100-41-4	Ethylbenzene	0.0059	UG/L	0.0059	1	0
O	GS	SV-69-05b	5	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.023	UG/L	0.023	0	0
O	GS	SV-69-05b	5	17-Nov-07	64-17-5	Ethanol	0.01	UG/L	0.01	0	0
O	GS	SV-69-05b	5	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0068	UG/L	0.0068	0	0
O	GS	SV-69-05b	5	17-Nov-07	124-48-1	Dibromochloromethane	0.012	UG/L	0.012	0	0
O	GS	SV-69-05b	5	17-Nov-07	110-82-7	Cyclohexane	0.0048	UG/L	0.0048	0	0
O	GS	SV-69-05b	5	17-Nov-07	75-09-2	Methylene Chloride	0.0048	UG/L	0.0048	0	0
O	GS	SV-69-05b	5	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0055	UG/L		0	1
O	GS	SV-69-05b	5	17-Nov-07	108-20-3	Isopropyl ether	0.023	UG/L	0.023	0	0
O	GS	SV-69-05b	5	17-Nov-07	67-66-3	Chloroform	0.0067	UG/L	0.0067	0	0
O	GS	SV-69-05b	5	17-Nov-07	75-00-3	Chloroethane	0.0036	UG/L	0.0036	0	0
O	GS	SV-69-05b	5	17-Nov-07	108-90-7	Chlorobenzene	0.0064	UG/L	0.0064	0	0
O	GS	SV-69-05b	5	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0087	UG/L	0.0087	0	0
O	GS	SV-69-05b	5	17-Nov-07	75-15-0	Carbon Disulfide	0.0043	UG/L	0.0043	0	0
O	GS	SV-69-05b	5	17-Nov-07	74-83-9	Bromomethane	0.0054	UG/L	0.0054	0	0
O	GS	SV-69-05b	5	17-Nov-07	75-25-2	Bromoform	0.014	UG/L	0.014	0	0
O	GS	SV-69-05b	5	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0063	UG/L	0.0063	0	0
O	GS	SV-69-05b	5	17-Nov-07	95-47-6	o-Xylene	0.0068	UG/L	0.0068	1	0
O	GS	SV-69-05b	5	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0055	UG/L	0.0055	0	0
O	GS	SV-69-05b	5	17-Nov-07		Toluene-d8	98	%		1	1
O	GS	SV-69-05b	5	17-Nov-07	108-88-3	Toluene	0.018	UG/L	0.018	1	0
O	GS	SV-69-05b	5	17-Nov-07	109-99-9	Tetrahydrofuran	0.0041	UG/L	0.0041	0	0
O	GS	SV-69-05b	5	17-Nov-07	127-18-4	Tetrachloroethene	0.0094	UG/L	0.0094	0	0
O	GS	SV-69-05b	5	17-Nov-07	75-65-0	tert-Butyl alcohol	0.017	UG/L	0.017	0	0
O	GS	SV-69-05b	5	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.023	UG/L	0.023	0	0
O	GS	SV-69-05b	5	17-Nov-07	110-54-3	Hexane	0.0049	UG/L	0.0049	0	0
O	GS	SV-69-05b	5	17-Nov-07	622-96-8	p-Ethyltoluene	0.012	UG/L	0.012	1	0
O	GS	SV-69-05b	5	17-Nov-07	67-63-0	Isopropyl alcohol	0.014	UG/L	0.014	0	0
O	GS	SV-69-05b	5	17-Nov-07	103-65-1	n-Propylbenzene	0.0068	UG/L	0.0068	0	0
O	GS	SV-69-05b	5	17-Nov-07	142-82-5	n-Heptane	0.0056	UG/L	0.0056	0	0
O	GS	SV-69-05b	5	17-Nov-07	91-20-3	Naphthalene	0.029	UG/L	0.029	0	0
O	GS	SV-69-05b	5	17-Nov-07	78-93-3	2-Butanone	0.0053	UG/L	0.0053	1	0
O	GS	SV-69-05b	5	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0052	UG/L	0.0052	1	0
O	GS	SV-69-05b	5	17-Nov-07	78-87-5	1,2-Dichloropropane	0.0064	UG/L	0.0064	0	0
O	GS	SV-69-05b	5	17-Nov-07	98-82-8	Isopropylbenzene	0.0068	UG/L	0.0068	0	0
O	GS	SV-69-05b	5	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0063	UG/L	0.0063	0	0
O	GS	SV-69-05b	5	17-Nov-07	100-42-5	Styrene	0.0059	UG/L	0.0059	0	0
O	GS	SV-69-05b	5	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	UG/L	0.01	0	0
O	GS	SV-69-05b	5	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0064	UG/L	0.0064	0	0
O	GS	SV-69-05b	5	17-Nov-07	106-99-0	1,3-Butadiene	0.003	UG/L	0.003	0	0
O	GS	SV-69-05b	5	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.038	UG/L	0.038	0	0
O	GS	SV-69-05b	5	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0095	UG/L	0.0095	0	0
O	GS	SV-69-05b	5	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0075	UG/L	0.0075	0	0
O	GS	SV-69-05b	5	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0056	UG/L	0.0056	0	0

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-69-05b	5	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0055	UG/L	0.0055	0	0
O	GS	SV-69-05b	5	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.033	UG/L	0.033	0	0
O	GS	SV-69-05b	5	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.041	UG/L	0.041	0	0
O	GS	SV-69-05b	5	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.019	UG/L	0.019	1	0
O	GS	SV-69-05b	5	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0096	UG/L	0.0096	1	0
O	GS	SV-69-05b	5	17-Nov-07	123-91-1	1,4-Dioxane	0.02	UG/L	0.02	0	0
O	GS	SV-69-05b	5	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0075	UG/L	0.0075	0	0
O	GS	SV-69-05b	5	17-Nov-07	106-93-4	1,2-Dibromoethane	0.011	UG/L	0.011	0	0
O	GS	SV-69-05b	5	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0083	UG/L	0.0083	0	0
O	GS	SV-69-05b	5	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0083	UG/L	0.0083	0	0
O	GS	SV-69-05b	5	17-Nov-07	75-27-4	Bromodichloromethane	0.0092	UG/L	0.0092	0	0
O	GS	SV-69-05b	5	17-Nov-07		1,2-Dichloroethane-d4	93	%		1	1
O	GS	SV-69-05b	5	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0056	UG/L	0.0056	0	0
O	GS	SV-69-05b	5	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0083	UG/L	0.0083	0	0
O	GS	SV-69-05b	5	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0096	UG/L	0.0096	0	0
O	GS	SV-69-15	15	17-Nov-07	179601-23-1	m,p-Xylenes	0.2	UG/L	0.2	1	1
O	GS	SV-69-15	15	17-Nov-07	75-65-0	tert-Butyl alcohol	0.018	UG/L	0.018	0	1
O	GS	SV-69-15	15	17-Nov-07	98-82-8	Isopropylbenzene	0.15	UG/L	0.15	1	1
O	GS	SV-69-15	15	17-Nov-07	75-09-2	Methylene Chloride	0.005	UG/L	0.005	0	1
O	GS	SV-69-15	15	17-Nov-07	91-20-3	Naphthalene	0.03	UG/L	0.03	0	1
O	GS	SV-69-15	15	17-Nov-07	142-82-5	n-Heptane	0.042	UG/L	0.042	1	1
O	GS	SV-69-15	15	17-Nov-07	103-65-1	n-Propylbenzene	0.36	UG/L	0.36	1	1
O	GS	SV-69-15	15	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0059	UG/L	0.0059	1	1
O	GS	SV-69-15	15	17-Nov-07	95-47-6	o-Xylene	0.018	UG/L	0.018	1	1
O	GS	SV-69-15	15	17-Nov-07	622-96-8	p-Ethyltoluene	0.37	UG/L	0.37	1	1
O	GS	SV-69-15	15	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.024	UG/L	0.024	0	1
O	GS	SV-69-15	15	17-Nov-07	127-18-4	Tetrachloroethene	0.0098	UG/L	0.0098	0	1
O	GS	SV-69-15	15	17-Nov-07	109-99-9	Tetrahydrofuran	0.0043	UG/L	0.0043	0	1
O	GS	SV-69-15	15	17-Nov-07	108-20-3	Isopropyl ether	0.024	UG/L	0.024	0	1
O	GS	SV-69-15	15	17-Nov-07	74-87-3	Chloromethane	0.012	UG/L	0.012	0	1
O	GS	SV-69-15	15	17-Nov-07	108-88-3	Toluene	0.045	UG/L	0.045	1	1
O	GS	SV-69-15	15	17-Nov-07	100-42-5	Styrene	0.0062	UG/L	0.0062	0	1
O	GS	SV-69-15	15	17-Nov-07		Toluene-d8	96	%		1	1
O	GS	SV-69-15	15	17-Nov-07	75-25-2	Bromoform	0.015	UG/L	0.015	0	1
O	GS	SV-69-15	15	17-Nov-07	74-83-9	Bromomethane	0.0056	UG/L	0.0056	0	1
O	GS	SV-69-15	15	17-Nov-07	75-15-0	Carbon Disulfide	0.0064	UG/L	0.0064	1	1
O	GS	SV-69-15	15	17-Nov-07	56-23-5	Carbon Tetrachloride	0.0091	UG/L	0.0091	0	1
O	GS	SV-69-15	15	17-Nov-07	108-90-7	Chlorobenzene	0.0066	UG/L	0.0066	0	1
O	GS	SV-69-15	15	17-Nov-07	75-00-3	Chloroethane	0.0038	UG/L	0.0038	0	1
O	GS	SV-69-15	15	17-Nov-07	67-66-3	Chloroform	0.007	UG/L	0.007	0	1
O	GS	SV-69-15	15	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0066	UG/L	0.0066	0	1
O	GS	SV-69-15	15	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0057	UG/L		0	1
O	GS	SV-69-15	15	17-Nov-07	67-63-0	Isopropyl alcohol	0.02	UG/L	0.02	1	1
O	GS	SV-69-15	15	17-Nov-07	110-82-7	Cyclohexane	0.09	UG/L	0.09	1	1
O	GS	SV-69-15	15	17-Nov-07	124-48-1	Dibromochloromethane	0.012	UG/L	0.012	0	1
O	GS	SV-69-15	15	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.0071	UG/L	0.0071	0	1
O	GS	SV-69-15	15	17-Nov-07	64-17-5	Ethanol	0.011	UG/L	0.011	0	1
O	GS	SV-69-15	15	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.024	UG/L	0.024	0	1
O	GS	SV-69-15	15	17-Nov-07	100-41-4	Ethylbenzene	0.23	UG/L	0.23	1	1
O	GS	SV-69-15	15	17-Nov-07	87-68-3	Hexachlorobutadiene	0.062	UG/L	0.062	0	1
O	GS	SV-69-15	15	17-Nov-07	110-54-3	Hexane	0.012	UG/L	0.012	1	1
O	GS	SV-69-15	15	17-Nov-07	75-34-3	1,1-Dichloroethane	0.0058	UG/L	0.0058	0	1
O	GS	SV-69-15	15	17-Nov-07	591-78-6	2-Hexanone	0.024	UG/L	0.024	0	1
O	GS	SV-69-15	15	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.011	UG/L	0.011	0	1
O	GS	SV-69-15	15	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.37	UG/L	0.37	1	1
O	GS	SV-69-15	15	17-Nov-07	106-99-0	1,3-Butadiene	0.0032	UG/L	0.0032	0	1
O	GS	SV-69-15	15	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0087	UG/L	0.0087	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-69-15	15	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0087	UG/L	0.0087	0	1
O	GS	SV-69-15	15	17-Nov-07	123-91-1	1,4-Dioxane	0.021	UG/L	0.021	0	1
O	GS	SV-69-15	15	17-Nov-07		1,2-Dichloroethane-d4	93	%		1	1
O	GS	SV-69-15	15	17-Nov-07	78-93-3	2-Butanone	0.032	UG/L	0.032	1	1
O	GS	SV-69-15	15	17-Nov-07	107-06-2	1,2-Dichloroethane	0.0058	UG/L	0.0058	0	1
O	GS	SV-69-15	15	17-Nov-07		4-Bromofluorobenzene	104	%		1	1
O	GS	SV-69-15	15	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0059	UG/L	0.0059	0	1
O	GS	SV-69-15	15	17-Nov-07	67-64-1	Acetone	0.042	UG/L	0.042	1	1
O	GS	SV-69-15	15	17-Nov-07	107-05-1	Allyl chloride	0.018	UG/L	0.018	0	1
O	GS	SV-69-15	15	17-Nov-07	71-43-2	Benzene	0.011	UG/L	0.011	1	1
O	GS	SV-69-15	15	17-Nov-07	100-44-7	Benzyl chloride	0.0075	UG/L	0.0075	0	1
O	GS	SV-69-15	15	17-Nov-07	75-27-4	Bromodichloromethane	0.0097	UG/L	0.0097	0	1
O	GS	SV-69-15	15	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0068	UG/L	0.0068	0	1
O	GS	SV-69-15	15	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0079	UG/L	0.0079	0	1
O	GS	SV-69-15	15	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0066	UG/L	0.0066	0	1
O	GS	SV-69-15	15	17-Nov-07	79-01-6	Trichloroethene	0.0078	UG/L	0.0078	0	1
O	GS	SV-69-15	15	17-Nov-07	75-69-4	Trichlorofluoromethane	0.0081	UG/L	0.0081	0	1
O	GS	SV-69-15	15	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
O	GS	SV-69-15	15	17-Nov-07	75-01-4	Vinyl Chloride	0.0037	UG/L	0.0037	0	1
O	GS	SV-69-15	15	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.04	UG/L	0.04	0	1
O	GS	SV-69-15	15	17-Nov-07	78-87-5	1,2-Dichloropropane	0.0067	UG/L	0.0067	0	1
O	GS	SV-69-15	15	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0099	UG/L	0.0099	0	1
O	GS	SV-69-15	15	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0057	UG/L	0.0057	0	1
O	GS	SV-69-15	15	17-Nov-07	75-35-4	1,1-Dichloroethene	0.0057	UG/L	0.0057	0	1
O	GS	SV-69-15	15	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.035	UG/L	0.035	0	1
O	GS	SV-69-15	15	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.043	UG/L	0.043	0	1
O	GS	SV-69-15	15	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	1.3	UG/L	1.3	1	1
O	GS	SV-69-15	15	17-Nov-07	106-93-4	1,2-Dibromoethane	0.011	UG/L	0.011	0	1
O	GS	SV-69-15	15	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.01	UG/L	0.01	0	1
O	GS	SV-69-15	15	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0087	UG/L	0.0087	0	1
O	GS	SV-69-15	15	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0079	UG/L	0.0079	0	1
O	GS	SV-80-15'	15	20-Jun-12	95-47-6	o-Xylene	0.0044	ug/L	0.0044	1	1
O	GS	SV-80-15'	15	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
O	GS	SV-80-15'	15	20-Jun-12	103-65-1	n-Propylbenzene	0.005	ug/L	0.005	0	1
O	GS	SV-80-15'	15	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
O	GS	SV-80-15'	15	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
O	GS	SV-80-15'	15	20-Jun-12	98-82-8	Isopropylbenzene	0.03	ug/L	0.03	1	1
O	GS	SV-80-15'	15	20-Jun-12	622-96-8	p-Ethyltoluene	0.0022	ug/L	0.0022	1	1
O	GS	SV-80-15'	15	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
O	GS	SV-80-15'	15	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
O	GS	SV-80-15'	15	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
O	GS	SV-80-15'	15	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
O	GS	SV-80-15'	15	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0023	ug/L	0.0023	1	1
O	GS	SV-80-15'	15	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
O	GS	SV-80-15'	15	20-Jun-12	100-42-5	Styrene	0.0025	ug/L	0.0025	1	1
O	GS	SV-80-15'	15	20-Jun-12	179601-23-1	m,p-Xylenes	0.014	ug/L	0.014	1	1
O	GS	SV-80-15'	15	20-Jun-12	100-41-4	Ethylbenzene	0.0047	ug/L	0.0047	1	1
O	GS	SV-80-15'	15	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
O	GS	SV-80-15'	15	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
O	GS	SV-80-15'	15	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
O	GS	SV-80-15'	15	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
O	GS	SV-80-15'	15	20-Jun-12	127-18-4	Tetrachloroethene	0.0069	ug/L	0.0069	0	1
O	GS	SV-80-15'	15	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
O	GS	SV-80-15'	15	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.073	ug/L	0.073	1	1
O	GS	SV-80-15'	15	20-Jun-12		TPHv (C6 - C8) aromatic	0.1	ug/L		0	1
O	GS	SV-80-15'	15	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	0.82	ug/L	0.82	1	1
O	GS	SV-80-15'	15	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	1.3	ug/L	1.3	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-80-15'	15	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
O	GS	SV-80-15'	15	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	0	1
O	GS	SV-80-15'	15	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
O	GS	SV-80-15'	15	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
O	GS	SV-80-15'	15	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
O	GS	SV-80-15'	15	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-80-15'	15	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
O	GS	SV-80-15'	15	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
O	GS	SV-80-15'	15	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-80-15'	15	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
O	GS	SV-80-15'	15	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-80-15'	15	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.005	ug/L	0.005	0	1
O	GS	SV-80-15'	15	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
O	GS	SV-80-15'	15	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
O	GS	SV-80-15'	15	20-Jun-12	64-17-5	Ethanol	0.031	ug/L	0.031	1	1
O	GS	SV-80-15'	15	20-Jun-12	78-93-3	2-Butanone	0.081	ug/L	0.081	1	1
O	GS	SV-80-15'	15	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
O	GS	SV-80-15'	15	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
O	GS	SV-80-15'	15	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
O	GS	SV-80-15'	15	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
O	GS	SV-80-15'	15	20-Jun-12	75-15-0	Carbon disulfide	0.0026	ug/L	0.0026	1	1
O	GS	SV-80-15'	15	20-Jun-12	75-09-2	Methylene Chloride	0.0022	ug/L	0.0022	1	1
O	GS	SV-80-15'	15	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
O	GS	SV-80-15'	15	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0061	ug/L	0.0061	0	1
O	GS	SV-80-15'	15	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
O	GS	SV-80-15'	15	20-Jun-12	67-63-0	Isopropyl alcohol	0.0065	ug/L	0.0065	1	1
O	GS	SV-80-15'	15	20-Jun-12	110-54-3	Hexane	0.002	ug/L	0.002	1	1
O	GS	SV-80-15'	15	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0056	ug/L	0.0056	0	1
O	GS	SV-80-15'	15	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
O	GS	SV-80-15'	15	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
O	GS	SV-80-15'	15	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
O	GS	SV-80-15'	15	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.374	ug/L		1	0
O	GS	SV-80-15'	15	20-Jun-12	2037-26-5	Toluene-d8	0.2	ug/L		1	0
O	GS	SV-80-15'	15	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.191	ug/L		1	0
O	GS	SV-80-15'	15	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
O	GS	SV-80-15'	15	20-Jun-12		TPHv (C5 - C11)	1.7	ug/L		1	1
O	GS	SV-80-15'	15	20-Jun-12	74-82-8	Methane	0.01	%		0	1
O	GS	SV-80-15'	15	20-Jun-12		Oxygen	18	%		1	1
O	GS	SV-80-15'	15	20-Jun-12		Carbon dioxide	3.7	%		1	1
O	GS	SV-80-15'	15	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0038	ug/L	0.0038	1	1
O	GS	SV-80-15'	15	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.033	ug/L	0.033	1	1
O	GS	SV-80-15'	15	20-Jun-12	67-64-1	Acetone	0.054	ug/L	0.054	1	1
O	GS	SV-80-15'	15	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
O	GS	SV-80-15'	15	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
O	GS	SV-80-15'	15	20-Jun-12	591-78-6	2-Hexanone	0.0022	ug/L	0.0022	1	1
O	GS	SV-80-15'	15	20-Jun-12		Nitrogen	76	%		1	1
O	GS	SV-80-15'	15	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
O	GS	SV-80-15'	15	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
O	GS	SV-80-15'	15	20-Jun-12	108-88-3	Toluene	0.017	ug/L	0.017	1	1
O	GS	SV-80-15'	15	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-80-15'	15	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-80-15'	15	20-Jun-12	115-07-1	Propene	0.0029	ug/L	0.0029	1	1
O	GS	SV-80-15'	15	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
O	GS	SV-80-15'	15	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
O	GS	SV-80-15'	15	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
O	GS	SV-80-15'	15	20-Jun-12	142-82-5	n-Heptane	0.0024	ug/L	0.0024	1	1
O	GS	SV-80-15'	15	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.0046	ug/L	0.0046	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-80-15'	15	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-80-15'	15	20-Jun-12	67-66-3	Chloroform	0.0077	ug/L	0.0077	1	1
O	GS	SV-80-15'	15	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-80-15'	15	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
O	GS	SV-80-15'	15	20-Jun-12	141-78-6	Ethyl acetate	0.012	ug/L	0.012	1	1
O	GS	SV-80-15'	15	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-80-15'	15	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
O	GS	SV-80-15'	15	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-80-15'	15	20-Jun-12	71-43-2	Benzene	0.0032	ug/L	0.0032	1	1
O	GS	SV-80-15'	15	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
O	GS	SV-80-15'	15	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
O	GS	SV-80-15'	15	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
O	GS	SV-80-15'	15	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
O	GS	SV-80-15'	15	20-Jun-12	109-99-9	Tetrahydrofuran	0.015	ug/L	0.015	1	1
O	GS	SV-80-5'	5	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
O	GS	SV-80-5'	5	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-80-5'	5	20-Jun-12	109-99-9	Tetrahydrofuran	0.02	ug/L	0.02	1	1
O	GS	SV-80-5'	5	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
O	GS	SV-80-5'	5	20-Jun-12	78-93-3	2-Butanone	0.07	ug/L	0.07	1	1
O	GS	SV-80-5'	5	20-Jun-12	67-66-3	Chloroform	0.0062	ug/L	0.0062	1	1
O	GS	SV-80-5'	5	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-80-5'	5	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
O	GS	SV-80-5'	5	20-Jun-12	110-54-3	Hexane	0.002	ug/L	0.002	1	1
O	GS	SV-80-5'	5	20-Jun-12	141-78-6	Ethyl acetate	0.018	ug/L	0.018	1	1
O	GS	SV-80-5'	5	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
O	GS	SV-80-5'	5	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
O	GS	SV-80-5'	5	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-80-5'	5	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
O	GS	SV-80-5'	5	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
O	GS	SV-80-5'	5	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
O	GS	SV-80-5'	5	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-80-5'	5	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.0057	ug/L	0.0057	1	1
O	GS	SV-80-5'	5	20-Jun-12	142-82-5	n-Heptane	0.0041	ug/L	0.0041	0	1
O	GS	SV-80-5'	5	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
O	GS	SV-80-5'	5	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
O	GS	SV-80-5'	5	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
O	GS	SV-80-5'	5	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
O	GS	SV-80-5'	5	20-Jun-12	71-43-2	Benzene	0.0027	ug/L	0.0027	1	1
O	GS	SV-80-5'	5	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
O	GS	SV-80-5'	5	20-Jun-12		Carbon dioxide	1.4	%		1	1
O	GS	SV-80-5'	5	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
O	GS	SV-80-5'	5	20-Jun-12	115-07-1	Propene	0.0021	ug/L	0.0021	1	1
O	GS	SV-80-5'	5	20-Jun-12		Oxygen	20	%		1	1
O	GS	SV-80-5'	5	20-Jun-12		Nitrogen	76	%		1	1
O	GS	SV-80-5'	5	20-Jun-12	74-82-8	Methane	0.01	%		0	1
O	GS	SV-80-5'	5	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
O	GS	SV-80-5'	5	20-Jun-12		TPHv (C5 - C11)	1.5	ug/L		1	1
O	GS	SV-80-5'	5	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
O	GS	SV-80-5'	5	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.184	ug/L		1	0
O	GS	SV-80-5'	5	20-Jun-12	64-17-5	Ethanol	0.03	ug/L	0.03	1	1
O	GS	SV-80-5'	5	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.374	ug/L		1	0
O	GS	SV-80-5'	5	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
O	GS	SV-80-5'	5	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0025	ug/L	0.0025	1	1
O	GS	SV-80-5'	5	20-Jun-12	67-64-1	Acetone	0.048	ug/L	0.048	1	1
O	GS	SV-80-5'	5	20-Jun-12	67-63-0	Isopropyl alcohol	0.0083	ug/L	0.0083	1	1
O	GS	SV-80-5'	5	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
O	GS	SV-80-5'	5	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0015	ug/L	0.0015	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-80-5'	5	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
O	GS	SV-80-5'	5	20-Jun-12	75-09-2	Methylene Chloride	0.0024	ug/L	0.0024	1	1
O	GS	SV-80-5'	5	20-Jun-12	75-15-0	Carbon disulfide	0.0035	ug/L	0.0035	1	1
O	GS	SV-80-5'	5	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
O	GS	SV-80-5'	5	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
O	GS	SV-80-5'	5	20-Jun-12	2037-26-5	Toluene-d8	0.198	ug/L		1	0
O	GS	SV-80-5'	5	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
O	GS	SV-80-5'	5	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
O	GS	SV-80-5'	5	20-Jun-12	103-65-1	n-Propylbenzene	0.005	ug/L	0.005	0	1
O	GS	SV-80-5'	5	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0021	ug/L	0.0021	1	1
O	GS	SV-80-5'	5	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
O	GS	SV-80-5'	5	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0052	ug/L	0.0052	1	1
O	GS	SV-80-5'	5	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-80-5'	5	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
O	GS	SV-80-5'	5	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-80-5'	5	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
O	GS	SV-80-5'	5	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
O	GS	SV-80-5'	5	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-80-5'	5	20-Jun-12	98-82-8	Isopropylbenzene	0.032	ug/L	0.032	1	1
O	GS	SV-80-5'	5	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
O	GS	SV-80-5'	5	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
O	GS	SV-80-5'	5	20-Jun-12	91-20-3	Naphthalene	0.0041	ug/L	0.0041	1	1
O	GS	SV-80-5'	5	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
O	GS	SV-80-5'	5	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
O	GS	SV-80-5'	5	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
O	GS	SV-80-5'	5	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	1	ug/L	1	1	1
O	GS	SV-80-5'	5	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	0.71	ug/L	0.71	1	1
O	GS	SV-80-5'	5	20-Jun-12		TPHv (C6 - C8) aromatic	0.1	ug/L		0	1
O	GS	SV-80-5'	5	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.065	ug/L	0.065	1	1
O	GS	SV-80-5'	5	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
O	GS	SV-80-5'	5	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
O	GS	SV-80-5'	5	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-80-5'	5	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.037	ug/L	0.037	1	1
O	GS	SV-80-5'	5	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-80-5'	5	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
O	GS	SV-80-5'	5	20-Jun-12	108-88-3	Toluene	0.022	ug/L	0.022	1	1
O	GS	SV-80-5'	5	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
O	GS	SV-80-5'	5	20-Jun-12	591-78-6	2-Hexanone	0.0023	ug/L	0.0023	1	1
O	GS	SV-80-5'	5	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
O	GS	SV-80-5'	5	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0035	ug/L	0.0035	1	1
O	GS	SV-80-5'	5	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
O	GS	SV-80-5'	5	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
O	GS	SV-80-5'	5	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
O	GS	SV-80-5'	5	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
O	GS	SV-80-5'	5	20-Jun-12	100-41-4	Ethylbenzene	0.0049	ug/L	0.0049	1	1
O	GS	SV-80-5'	5	20-Jun-12	179601-23-1	m,p-Xylenes	0.014	ug/L	0.014	1	1
O	GS	SV-80-5'	5	20-Jun-12	100-42-5	Styrene	0.0025	ug/L	0.0025	1	1
O	GS	SV-80-5'	5	20-Jun-12	95-47-6	o-Xylene	0.0044	ug/L	0.0044	1	1
O	GS	SV-80-5'	5	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
O	GS	SV-80-5'	5	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
O	GS	SV-80-5'	5	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
O	GS	SV-80-5'	5	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
O	GS	SV-80-5'	5	20-Jun-12	622-96-8	p-Ethyltoluene	0.002	ug/L	0.002	1	1
O	GS	SV-80-5'	5	20-Jun-12	127-18-4	Tetrachloroethene	0.021	ug/L	0.021	1	1
O	GS	SV-81-15'	15	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
O	GS	SV-81-15'	15	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-81-15'	15	20-Jun-12	115-07-1	Propene	0.003	ug/L	0.003	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-81-15'	15	20-Jun-12	110-54-3	Hexane	0.0021	ug/L	0.0021	1	1
O	GS	SV-81-15'	15	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
O	GS	SV-81-15'	15	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-81-15'	15	20-Jun-12	141-78-6	Ethyl acetate	0.015	ug/L	0.015	1	1
O	GS	SV-81-15'	15	20-Jun-12	67-66-3	Chloroform	0.0053	ug/L	0.0053	1	1
O	GS	SV-81-15'	15	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
O	GS	SV-81-15'	15	20-Jun-12	109-99-9	Tetrahydrofuran	0.019	ug/L	0.019	1	1
O	GS	SV-81-15'	15	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-81-15'	15	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
O	GS	SV-81-15'	15	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
O	GS	SV-81-15'	15	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
O	GS	SV-81-15'	15	20-Jun-12	71-43-2	Benzene	0.0042	ug/L	0.0042	1	1
O	GS	SV-81-15'	15	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
O	GS	SV-81-15'	15	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
O	GS	SV-81-15'	15	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
O	GS	SV-81-15'	15	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-81-15'	15	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.0046	ug/L	0.0046	1	1
O	GS	SV-81-15'	15	20-Jun-12	142-82-5	n-Heptane	0.0041	ug/L	0.0041	0	1
O	GS	SV-81-15'	15	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
O	GS	SV-81-15'	15	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
O	GS	SV-81-15'	15	20-Jun-12		Oxygen	19	%		1	1
O	GS	SV-81-15'	15	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
O	GS	SV-81-15'	15	20-Jun-12	64-17-5	Ethanol	0.039	ug/L	0.039	1	1
O	GS	SV-81-15'	15	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	0	1
O	GS	SV-81-15'	15	20-Jun-12		Nitrogen	78	%		1	1
O	GS	SV-81-15'	15	20-Jun-12	74-82-8	Methane	0.01	%		0	1
O	GS	SV-81-15'	15	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
O	GS	SV-81-15'	15	20-Jun-12		TPHv (C5 - C11)	2	ug/L		1	1
O	GS	SV-81-15'	15	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
O	GS	SV-81-15'	15	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.187	ug/L		1	0
O	GS	SV-81-15'	15	20-Jun-12	2037-26-5	Toluene-d8	0.2	ug/L		1	0
O	GS	SV-81-15'	15	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.369	ug/L		1	0
O	GS	SV-81-15'	15	20-Jun-12	78-93-3	2-Butanone	0.085	ug/L	0.085	1	1
O	GS	SV-81-15'	15	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
O	GS	SV-81-15'	15	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
O	GS	SV-81-15'	15	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0023	ug/L	0.0023	1	1
O	GS	SV-81-15'	15	20-Jun-12	67-64-1	Acetone	0.046	ug/L	0.046	1	1
O	GS	SV-81-15'	15	20-Jun-12	67-63-0	Isopropyl alcohol	0.0073	ug/L	0.0073	1	1
O	GS	SV-81-15'	15	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
O	GS	SV-81-15'	15	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0013	ug/L	0.0013	1	1
O	GS	SV-81-15'	15	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
O	GS	SV-81-15'	15	20-Jun-12	75-09-2	Methylene Chloride	0.0024	ug/L	0.0024	1	1
O	GS	SV-81-15'	15	20-Jun-12	75-15-0	Carbon disulfide	0.0063	ug/L	0.0063	0	1
O	GS	SV-81-15'	15	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
O	GS	SV-81-15'	15	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
O	GS	SV-81-15'	15	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
O	GS	SV-81-15'	15	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
O	GS	SV-81-15'	15	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
O	GS	SV-81-15'	15	20-Jun-12	103-65-1	n-Propylbenzene	0.005	ug/L	0.005	0	1
O	GS	SV-81-15'	15	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
O	GS	SV-81-15'	15	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0023	ug/L	0.0023	1	1
O	GS	SV-81-15'	15	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
O	GS	SV-81-15'	15	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
O	GS	SV-81-15'	15	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0061	ug/L	0.0061	1	1
O	GS	SV-81-15'	15	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-81-15'	15	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
O	GS	SV-81-15'	15	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-81-15'	15	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
O	GS	SV-81-15'	15	20-Jun-12	98-82-8	Isopropylbenzene	0.03	ug/L	0.03	1	1
O	GS	SV-81-15'	15	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-81-15'	15	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
O	GS	SV-81-15'	15	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
O	GS	SV-81-15'	15	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
O	GS	SV-81-15'	15	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
O	GS	SV-81-15'	15	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
O	GS	SV-81-15'	15	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	1.6	ug/L	1.6	1	1
O	GS	SV-81-15'	15	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	0.97	ug/L	0.97	1	1
O	GS	SV-81-15'	15	20-Jun-12		TPHv (C6 - C8) aromatic	0.1	ug/L		0	1
O	GS	SV-81-15'	15	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.077	ug/L	0.077	1	1
O	GS	SV-81-15'	15	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-81-15'	15	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
O	GS	SV-81-15'	15	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-81-15'	15	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.034	ug/L	0.034	1	1
O	GS	SV-81-15'	15	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-81-15'	15	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
O	GS	SV-81-15'	15	20-Jun-12	108-88-3	Toluene	0.019	ug/L	0.019	1	1
O	GS	SV-81-15'	15	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
O	GS	SV-81-15'	15	20-Jun-12	591-78-6	2-Hexanone	0.0024	ug/L	0.0024	1	1
O	GS	SV-81-15'	15	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
O	GS	SV-81-15'	15	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0036	ug/L	0.0036	1	1
O	GS	SV-81-15'	15	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
O	GS	SV-81-15'	15	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
O	GS	SV-81-15'	15	20-Jun-12		Carbon dioxide	1.3	%		1	1
O	GS	SV-81-15'	15	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
O	GS	SV-81-15'	15	20-Jun-12	100-41-4	Ethylbenzene	0.0049	ug/L	0.0049	1	1
O	GS	SV-81-15'	15	20-Jun-12	179601-23-1	m,p-Xylenes	0.013	ug/L	0.013	1	1
O	GS	SV-81-15'	15	20-Jun-12	100-42-5	Styrene	0.0022	ug/L	0.0022	1	1
O	GS	SV-81-15'	15	20-Jun-12	95-47-6	o-Xylene	0.0046	ug/L	0.0046	1	1
O	GS	SV-81-15'	15	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
O	GS	SV-81-15'	15	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
O	GS	SV-81-15'	15	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
O	GS	SV-81-15'	15	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
O	GS	SV-81-15'	15	20-Jun-12	622-96-8	p-Ethyltoluene	0.0026	ug/L	0.0026	1	1
O	GS	SV-81-15'	15	20-Jun-12	127-18-4	Tetrachloroethene	0.0044	ug/L	0.0044	1	1
O	GS	SV-81-5'	5	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-81-5'	5	20-Jun-12	115-07-1	Propene	0.0012	ug/L	0.0012	1	1
O	GS	SV-81-5'	5	20-Jun-12	110-54-3	Hexane	0.0016	ug/L	0.0016	1	1
O	GS	SV-81-5'	5	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
O	GS	SV-81-5'	5	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-81-5'	5	20-Jun-12	141-78-6	Ethyl acetate	0.013	ug/L	0.013	1	1
O	GS	SV-81-5'	5	20-Jun-12	67-66-3	Chloroform	0.0022	ug/L	0.0022	1	1
O	GS	SV-81-5'	5	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
O	GS	SV-81-5'	5	20-Jun-12	109-99-9	Tetrahydrofuran	0.014	ug/L	0.014	1	1
O	GS	SV-81-5'	5	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-81-5'	5	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
O	GS	SV-81-5'	5	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
O	GS	SV-81-5'	5	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
O	GS	SV-81-5'	5	20-Jun-12	71-43-2	Benzene	0.0024	ug/L	0.0024	1	1
O	GS	SV-81-5'	5	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
O	GS	SV-81-5'	5	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
O	GS	SV-81-5'	5	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
O	GS	SV-81-5'	5	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-81-5'	5	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.0046	ug/L	0.0046	1	1
O	GS	SV-81-5'	5	20-Jun-12	142-82-5	n-Heptane	0.0018	ug/L	0.0018	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-81-5'	5	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
O	GS	SV-81-5'	5	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
O	GS	SV-81-5'	5	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.059	ug/L	0.059	1	1
O	GS	SV-81-5'	5	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
O	GS	SV-81-5'	5	20-Jun-12	64-17-5	Ethanol	0.032	ug/L	0.032	1	1
O	GS	SV-81-5'	5	20-Jun-12		Oxygen	20	%		1	1
O	GS	SV-81-5'	5	20-Jun-12		Nitrogen	76	%		1	1
O	GS	SV-81-5'	5	20-Jun-12	74-82-8	Methane	0.01	%		0	1
O	GS	SV-81-5'	5	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
O	GS	SV-81-5'	5	20-Jun-12		TPHv (C5 - C11)	1.4	ug/L		1	1
O	GS	SV-81-5'	5	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
O	GS	SV-81-5'	5	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.184	ug/L		1	0
O	GS	SV-81-5'	5	20-Jun-12	2037-26-5	Toluene-d8	0.202	ug/L		1	0
O	GS	SV-81-5'	5	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.369	ug/L		1	0
O	GS	SV-81-5'	5	20-Jun-12	78-93-3	2-Butanone	0.05	ug/L	0.05	1	1
O	GS	SV-81-5'	5	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
O	GS	SV-81-5'	5	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
O	GS	SV-81-5'	5	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0056	ug/L	0.0056	0	1
O	GS	SV-81-5'	5	20-Jun-12	67-64-1	Acetone	0.046	ug/L	0.046	1	1
O	GS	SV-81-5'	5	20-Jun-12	67-63-0	Isopropyl alcohol	0.0081	ug/L	0.0081	1	1
O	GS	SV-81-5'	5	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
O	GS	SV-81-5'	5	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0061	ug/L	0.0061	0	1
O	GS	SV-81-5'	5	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
O	GS	SV-81-5'	5	20-Jun-12	75-09-2	Methylene Chloride	0.0018	ug/L	0.0018	1	1
O	GS	SV-81-5'	5	20-Jun-12	75-15-0	Carbon disulfide	0.0063	ug/L	0.0063	0	1
O	GS	SV-81-5'	5	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
O	GS	SV-81-5'	5	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
O	GS	SV-81-5'	5	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
O	GS	SV-81-5'	5	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-81-5'	5	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
O	GS	SV-81-5'	5	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
O	GS	SV-81-5'	5	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.002	ug/L	0.002	1	1
O	GS	SV-81-5'	5	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
O	GS	SV-81-5'	5	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
O	GS	SV-81-5'	5	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0047	ug/L	0.0047	1	1
O	GS	SV-81-5'	5	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-81-5'	5	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
O	GS	SV-81-5'	5	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-81-5'	5	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
O	GS	SV-81-5'	5	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
O	GS	SV-81-5'	5	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
O	GS	SV-81-5'	5	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
O	GS	SV-81-5'	5	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
O	GS	SV-81-5'	5	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
O	GS	SV-81-5'	5	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	0	1
O	GS	SV-81-5'	5	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
O	GS	SV-81-5'	5	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
O	GS	SV-81-5'	5	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
O	GS	SV-81-5'	5	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	0.74	ug/L	0.74	1	1
O	GS	SV-81-5'	5	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	0.8	ug/L	0.8	1	1
O	GS	SV-81-5'	5	20-Jun-12		TPHv (C6 - C8) aromatic	0.1	ug/L		0	1
O	GS	SV-81-5'	5	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
O	GS	SV-81-5'	5	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
O	GS	SV-81-5'	5	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-81-5'	5	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.03	ug/L	0.03	1	1
O	GS	SV-81-5'	5	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-81-5'	5	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-81-5'	5	20-Jun-12	108-88-3	Toluene	0.017	ug/L	0.017	1	1
O	GS	SV-81-5'	5	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
O	GS	SV-81-5'	5	20-Jun-12	591-78-6	2-Hexanone	0.0018	ug/L	0.0018	1	1
O	GS	SV-81-5'	5	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
O	GS	SV-81-5'	5	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0038	ug/L	0.0038	1	1
O	GS	SV-81-5'	5	20-Jun-12	103-65-1	n-Propylbenzene	0.005	ug/L	0.005	0	1
O	GS	SV-81-5'	5	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
O	GS	SV-81-5'	5	20-Jun-12		Carbon dioxide	0.4	%		1	1
O	GS	SV-81-5'	5	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
O	GS	SV-81-5'	5	20-Jun-12	100-41-4	Ethylbenzene	0.004	ug/L	0.004	1	1
O	GS	SV-81-5'	5	20-Jun-12	179601-23-1	m,p-Xylenes	0.011	ug/L	0.011	1	1
O	GS	SV-81-5'	5	20-Jun-12	100-42-5	Styrene	0.0021	ug/L	0.0021	1	1
O	GS	SV-81-5'	5	20-Jun-12	95-47-6	o-Xylene	0.0038	ug/L	0.0038	1	1
O	GS	SV-81-5'	5	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
O	GS	SV-81-5'	5	20-Jun-12	74-87-3	Chloromethane	0.0013	ug/L	0.0013	1	1
O	GS	SV-81-5'	5	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
O	GS	SV-81-5'	5	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
O	GS	SV-81-5'	5	20-Jun-12	622-96-8	p-Ethyltoluene	0.005	ug/L	0.005	0	1
O	GS	SV-81-5'	5	20-Jun-12	98-82-8	Isopropylbenzene	0.027	ug/L	0.027	1	1
O	GS	SV-81-5'	5	20-Jun-12	127-18-4	Tetrachloroethene	0.0069	ug/L	0.0069	0	1
O	GS	SV-82-15'	15	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
O	GS	SV-82-15'	15	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
O	GS	SV-82-15'	15	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
O	GS	SV-82-15'	15	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-82-15'	15	20-Jun-12	141-78-6	Ethyl acetate	0.019	ug/L	0.019	1	1
O	GS	SV-82-15'	15	20-Jun-12	67-66-3	Chloroform	0.0049	ug/L	0.0049	0	1
O	GS	SV-82-15'	15	20-Jun-12	109-99-9	Tetrahydrofuran	0.024	ug/L	0.024	1	1
O	GS	SV-82-15'	15	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
O	GS	SV-82-15'	15	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
O	GS	SV-82-15'	15	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
O	GS	SV-82-15'	15	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-82-15'	15	20-Jun-12		Carbon dioxide	1.5	%		1	1
O	GS	SV-82-15'	15	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
O	GS	SV-82-15'	15	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
O	GS	SV-82-15'	15	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
O	GS	SV-82-15'	15	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-82-15'	15	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.0033	ug/L	0.0033	1	1
O	GS	SV-82-15'	15	20-Jun-12	142-82-5	n-Heptane	0.0041	ug/L	0.0041	0	1
O	GS	SV-82-15'	15	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
O	GS	SV-82-15'	15	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
O	GS	SV-82-15'	15	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
O	GS	SV-82-15'	15	20-Jun-12	115-07-1	Propene	0.0018	ug/L	0.0018	1	1
O	GS	SV-82-15'	15	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
O	GS	SV-82-15'	15	20-Jun-12	71-43-2	Benzene	0.0043	ug/L	0.0043	1	1
O	GS	SV-82-15'	15	20-Jun-12	64-17-5	Ethanol	0.048	ug/L	0.048	1	1
O	GS	SV-82-15'	15	20-Jun-12		Oxygen	20	%		1	1
O	GS	SV-82-15'	15	20-Jun-12		Nitrogen	76	%		1	1
O	GS	SV-82-15'	15	20-Jun-12	74-82-8	Methane	0.01	%		0	1
O	GS	SV-82-15'	15	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
O	GS	SV-82-15'	15	20-Jun-12		TPHv (C5 - C11)	2	ug/L		1	1
O	GS	SV-82-15'	15	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
O	GS	SV-82-15'	15	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.184	ug/L		1	0
O	GS	SV-82-15'	15	20-Jun-12	2037-26-5	Toluene-d8	0.198	ug/L		1	0
O	GS	SV-82-15'	15	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.369	ug/L		1	0
O	GS	SV-82-15'	15	20-Jun-12	110-54-3	Hexane	0.002	ug/L	0.002	1	1
O	GS	SV-82-15'	15	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
O	GS	SV-82-15'	15	20-Jun-12	78-93-3	2-Butanone	0.1	ug/L	0.1	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-82-15'	15	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0056	ug/L	0.0056	0	1
O	GS	SV-82-15'	15	20-Jun-12	67-64-1	Acetone	0.069	ug/L	0.069	1	1
O	GS	SV-82-15'	15	20-Jun-12	67-63-0	Isopropyl alcohol	0.0098	ug/L	0.0098	1	1
O	GS	SV-82-15'	15	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0014	ug/L	0.0014	1	1
O	GS	SV-82-15'	15	20-Jun-12	75-09-2	Methylene Chloride	0.0025	ug/L	0.0025	1	1
O	GS	SV-82-15'	15	20-Jun-12	75-15-0	Carbon disulfide	0.0063	ug/L	0.0063	0	1
O	GS	SV-82-15'	15	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
O	GS	SV-82-15'	15	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
O	GS	SV-82-15'	15	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
O	GS	SV-82-15'	15	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-82-15'	15	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
O	GS	SV-82-15'	15	20-Jun-12	104-51-8	n-Butylbenzene	0.0056	ug/L	0.0056	0	1
O	GS	SV-82-15'	15	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-82-15'	15	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0021	ug/L	0.0021	1	1
O	GS	SV-82-15'	15	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
O	GS	SV-82-15'	15	20-Jun-12	98-06-6	tert-Butylbenzene	0.0056	ug/L	0.0056	0	1
O	GS	SV-82-15'	15	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.0057	ug/L	0.0057	1	1
O	GS	SV-82-15'	15	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-82-15'	15	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
O	GS	SV-82-15'	15	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-82-15'	15	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
O	GS	SV-82-15'	15	20-Jun-12	103-65-1	n-Propylbenzene	0.005	ug/L	0.005	0	1
O	GS	SV-82-15'	15	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-82-15'	15	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
O	GS	SV-82-15'	15	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
O	GS	SV-82-15'	15	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
O	GS	SV-82-15'	15	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	1	1
O	GS	SV-82-15'	15	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
O	GS	SV-82-15'	15	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
O	GS	SV-82-15'	15	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
O	GS	SV-82-15'	15	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	1.5	ug/L	1.5	1	1
O	GS	SV-82-15'	15	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	1	ug/L	1	1	1
O	GS	SV-82-15'	15	20-Jun-12		TPHv (C6 - C8) aromatic	0.057	ug/L		1	1
O	GS	SV-82-15'	15	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.081	ug/L	0.081	1	1
O	GS	SV-82-15'	15	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
O	GS	SV-82-15'	15	20-Jun-12	100-41-4	Ethylbenzene	0.0055	ug/L	0.0055	1	1
O	GS	SV-82-15'	15	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
O	GS	SV-82-15'	15	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
O	GS	SV-82-15'	15	20-Jun-12	108-88-3	Toluene	0.027	ug/L	0.027	1	1
O	GS	SV-82-15'	15	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
O	GS	SV-82-15'	15	20-Jun-12	591-78-6	2-Hexanone	0.0026	ug/L	0.0026	1	1
O	GS	SV-82-15'	15	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
O	GS	SV-82-15'	15	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0036	ug/L	0.0036	1	1
O	GS	SV-82-15'	15	20-Jun-12	127-18-4	Tetrachloroethene	0.0069	ug/L	0.0069	0	1
O	GS	SV-82-15'	15	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
O	GS	SV-82-15'	15	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
O	GS	SV-82-15'	15	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
O	GS	SV-82-15'	15	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.043	ug/L	0.043	1	1
O	GS	SV-82-15'	15	20-Jun-12	179601-23-1	m,p-Xylenes	0.015	ug/L	0.015	1	1
O	GS	SV-82-15'	15	20-Jun-12	100-42-5	Styrene	0.0029	ug/L	0.0029	1	1
O	GS	SV-82-15'	15	20-Jun-12	95-47-6	o-Xylene	0.0047	ug/L	0.0047	1	1
O	GS	SV-82-15'	15	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
O	GS	SV-82-15'	15	20-Jun-12	74-87-3	Chloromethane	0.0021	ug/L	0.0021	0	1
O	GS	SV-82-15'	15	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
O	GS	SV-82-15'	15	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
O	GS	SV-82-15'	15	20-Jun-12	622-96-8	p-Ethyltoluene	0.005	ug/L	0.005	0	1
O	GS	SV-82-15'	15	20-Jun-12	98-82-8	Isopropylbenzene	0.037	ug/L	0.037	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-82-15'	15	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
O	GS	SV-82-15'	15	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
O	GS	SV-82-15'	15	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-82-5'	5	20-Jun-12	71-43-2	Benzene	0.0045	ug/L	0.0045	1	1
O	GS	SV-82-5'	5	20-Jun-12	110-54-3	Hexane	0.0026	ug/L	0.0026	1	1
O	GS	SV-82-5'	5	20-Jun-12	156-59-2	cis-1,2-Dichloroethene	0.004	ug/L		0	1
O	GS	SV-82-5'	5	20-Jun-12	108-20-3	Isopropyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-82-5'	5	20-Jun-12	141-78-6	Ethyl acetate	0.014	ug/L	0.014	1	1
O	GS	SV-82-5'	5	20-Jun-12	67-66-3	Chloroform	0.0049	ug/L	0.0049	0	1
O	GS	SV-82-5'	5	20-Jun-12	594-20-7	2,2-Dichloropropane	0.0047	ug/L		0	1
O	GS	SV-82-5'	5	20-Jun-12	109-99-9	Tetrahydrofuran	0.022	ug/L	0.022	1	1
O	GS	SV-82-5'	5	20-Jun-12	637-92-3	Ethyl tert butyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-82-5'	5	20-Jun-12	71-55-6	1,1,1-Trichloroethane	0.0055	ug/L	0.0055	0	1
O	GS	SV-82-5'	5	20-Jun-12	75-27-4	Bromodichloromethane	0.0068	ug/L	0.0068	0	1
O	GS	SV-82-5'	5	20-Jun-12	563-58-6	1,1-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-82-5'	5	20-Jun-12	108-05-4	Vinyl acetate	0.0036	ug/L	0.0036	0	1
O	GS	SV-82-5'	5	20-Jun-12	56-23-5	Carbon tetrachloride	0.0064	ug/L	0.0064	0	1
O	GS	SV-82-5'	5	20-Jun-12	110-82-7	Cyclohexane	0.017	ug/L	0.017	0	1
O	GS	SV-82-5'	5	20-Jun-12	74-95-3	Dibromomethane	0.0072	ug/L	0.0072	0	1
O	GS	SV-82-5'	5	20-Jun-12	994-05-8	tert-Amyl methyl ether	0.0042	ug/L	0.0042	0	1
O	GS	SV-82-5'	5	20-Jun-12	540-84-1	2,2,4-Trimethylpentane	0.0062	ug/L	0.0062	1	1
O	GS	SV-82-5'	5	20-Jun-12	142-82-5	n-Heptane	0.0024	ug/L	0.0024	1	1
O	GS	SV-82-5'	5	20-Jun-12	79-01-6	Trichloroethene	0.0055	ug/L	0.0055	0	1
O	GS	SV-82-5'	5	20-Jun-12	78-87-5	1,2-Dichloropropane	0.0094	ug/L	0.0094	0	1
O	GS	SV-82-5'	5	20-Jun-12	123-91-1	1,4-Dioxane	0.0073	ug/L	0.0073	0	1
O	GS	SV-82-5'	5	20-Jun-12	115-07-1	Propene	0.0017	ug/L	0.0017	1	1
O	GS	SV-82-5'	5	20-Jun-12	107-06-2	1,2-Dichloroethane	0.0041	ug/L	0.0041	0	1
O	GS	SV-82-5'	5	20-Jun-12	64-17-5	Ethanol	0.044	ug/L	0.044	1	1
O	GS	SV-82-5'	5	20-Jun-12		Oxygen	20	%		1	1
O	GS	SV-82-5'	5	20-Jun-12		Nitrogen	76	%		1	1
O	GS	SV-82-5'	5	20-Jun-12	74-82-8	Methane	0.01	%		0	1
O	GS	SV-82-5'	5	20-Jun-12	75-37-6	1,1-Difluoroethane (LCC)	0.0027	ug/L	0.0027	0	1
O	GS	SV-82-5'	5	20-Jun-12		TPHv (C5 - C11)	1.9	ug/L		1	1
O	GS	SV-82-5'	5	20-Jun-12	106-99-0	1,3-Butadiene	0.0045	ug/L	0.0045	0	1
O	GS	SV-82-5'	5	20-Jun-12	17060-07-0	1,2-Dichloroethane-d4	0.185	ug/L		1	0
O	GS	SV-82-5'	5	20-Jun-12	2037-26-5	Toluene-d8	0.203	ug/L		1	0
O	GS	SV-82-5'	5	20-Jun-12	460-00-4	4-Bromofluorobenzene	0.369	ug/L		1	0
O	GS	SV-82-5'	5	20-Jun-12	78-93-3	2-Butanone	0.078	ug/L	0.078	1	1
O	GS	SV-82-5'	5	20-Jun-12	75-00-3	Chloroethane	0.008	ug/L	0.008	0	1
O	GS	SV-82-5'	5	20-Jun-12	75-34-3	1,1-Dichloroethane	0.0041	ug/L	0.0041	0	1
O	GS	SV-82-5'	5	20-Jun-12	75-69-4	Trichlorofluoromethane	0.0024	ug/L	0.0024	1	1
O	GS	SV-82-5'	5	20-Jun-12	67-64-1	Acetone	0.049	ug/L	0.049	1	1
O	GS	SV-82-5'	5	20-Jun-12	67-63-0	Isopropyl alcohol	0.0089	ug/L	0.0089	1	1
O	GS	SV-82-5'	5	20-Jun-12	75-35-4	1,1-Dichloroethene	0.004	ug/L	0.004	0	1
O	GS	SV-82-5'	5	20-Jun-12	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0077	ug/L	0.0077	0	1
O	GS	SV-82-5'	5	20-Jun-12		TPHv (C6 - C8) aromatic	0.079	ug/L		1	1
O	GS	SV-82-5'	5	20-Jun-12	75-15-0	Carbon disulfide	0.0063	ug/L	0.0063	0	1
O	GS	SV-82-5'	5	20-Jun-12	156-60-5	trans-1,2-Dichloroethene	0.008	ug/L	0.008	0	1
O	GS	SV-82-5'	5	20-Jun-12	1634-04-4	Methyl tert-butyl ether	0.0036	ug/L	0.0036	0	1
O	GS	SV-82-5'	5	20-Jun-12	75-09-2	Methylene Chloride	0.0026	ug/L	0.0026	1	1
O	GS	SV-82-5'	5	20-Jun-12	74-83-9	Bromomethane	0.016	ug/L	0.016	0	1
O	GS	SV-82-5'	5	20-Jun-12	95-50-1	1,2-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-82-5'	5	20-Jun-12	103-65-1	n-Propylbenzene	0.0024	ug/L	0.0024	1	1
O	GS	SV-82-5'	5	20-Jun-12	106-43-4	4-Chlorotoluene	0.011	ug/L	0.011	0	1
O	GS	SV-82-5'	5	20-Jun-12	108-67-8	1,3,5-Trimethylbenzene	0.0041	ug/L	0.0041	1	1
O	GS	SV-82-5'	5	20-Jun-12	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0071	ug/L	0.0071	0	1
O	GS	SV-82-5'	5	20-Jun-12	98-06-6	tert-Butylbenzene	0.0031	ug/L	0.0031	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	GS	SV-82-5'	5	20-Jun-12	95-63-6	1,2,4-Trimethylbenzene	0.014	ug/L	0.014	1	1
O	GS	SV-82-5'	5	20-Jun-12	541-73-1	1,3-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-82-5'	5	20-Jun-12	100-44-7	Benzyl chloride	0.01	ug/L	0.01	0	1
O	GS	SV-82-5'	5	20-Jun-12	106-46-7	1,4-Dichlorobenzene	0.012	ug/L	0.012	0	1
O	GS	SV-82-5'	5	20-Jun-12	95-49-8	2-Chlorotoluene	0.011	ug/L	0.011	0	1
O	GS	SV-82-5'	5	20-Jun-12	99-87-6	p-Isopropyltoluene	0.0056	ug/L	0.0056	0	1
O	GS	SV-82-5'	5	20-Jun-12	87-68-3	Hexachlorobutadiene	0.011	ug/L	0.011	0	1
O	GS	SV-82-5'	5	20-Jun-12	104-51-8	n-Butylbenzene	0.0031	ug/L	0.0031	1	1
O	GS	SV-82-5'	5	20-Jun-12	96-12-8	1,2-Dibromo-3-chloropropane	0.0098	ug/L	0.0098	0	1
O	GS	SV-82-5'	5	20-Jun-12	75-01-4	Vinyl chloride	0.0026	ug/L	0.0026	0	1
O	GS	SV-82-5'	5	20-Jun-12	91-20-3	Naphthalene	0.0053	ug/L	0.0053	0	1
O	GS	SV-82-5'	5	20-Jun-12	120-82-1	1,2,4-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
O	GS	SV-82-5'	5	20-Jun-12	87-61-6	1,2,3-Trichlorobenzene	0.0075	ug/L	0.0075	0	1
O	GS	SV-82-5'	5	20-Jun-12	(C5-C8) Aliph	TPHv (C5 - C8) aliphatic	0.9	ug/L	0.9	1	1
O	GS	SV-82-5'	5	20-Jun-12	(C9-C10) Aro	TPHv (C9 - C10) aromatic	0.11	ug/L	0.11	1	1
O	GS	SV-82-5'	5	20-Jun-12	10061-01-5	cis-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-82-5'	5	20-Jun-12	75-65-0	tert-Butyl alcohol	0.0019	ug/L	0.0019	1	1
O	GS	SV-82-5'	5	20-Jun-12	135-98-8	sec-Butylbenzene	0.0056	ug/L	0.0056	0	1
O	GS	SV-82-5'	5	20-Jun-12	108-88-3	Toluene	0.028	ug/L	0.028	1	1
O	GS	SV-82-5'	5	20-Jun-12	(C9-C12) Alip	TPHv (C9 - C12) aliphatic	1	ug/L	1	1	1
O	GS	SV-82-5'	5	20-Jun-12	108-86-1	Bromobenzene	0.0065	ug/L	0.0065	0	1
O	GS	SV-82-5'	5	20-Jun-12	10061-02-6	trans-1,3-Dichloropropene	0.0046	ug/L	0.0046	0	1
O	GS	SV-82-5'	5	20-Jun-12	142-28-9	1,3-Dichloropropane	0.0047	ug/L	0.0047	0	1
O	GS	SV-82-5'	5	20-Jun-12	108-10-1	4-Methyl-2-pentanone	0.043	ug/L	0.043	1	1
O	GS	SV-82-5'	5	20-Jun-12	79-00-5	1,1,2-Trichloroethane	0.0055	ug/L	0.0055	0	1
O	GS	SV-82-5'	5	20-Jun-12	591-78-6	2-Hexanone	0.0026	ug/L	0.0026	1	1
O	GS	SV-82-5'	5	20-Jun-12	124-48-1	Dibromochloromethane	0.0086	ug/L	0.0086	0	1
O	GS	SV-82-5'	5	20-Jun-12	75-71-8	Dichlorodifluoromethane	0.0037	ug/L	0.0037	1	1
O	GS	SV-82-5'	5	20-Jun-12	127-18-4	Tetrachloroethene	0.0069	ug/L	0.0069	0	1
O	GS	SV-82-5'	5	20-Jun-12	106-93-4	1,2-Dibromoethane	0.0078	ug/L	0.0078	0	1
O	GS	SV-82-5'	5	20-Jun-12	630-20-6	1,1,1,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
O	GS	SV-82-5'	5	20-Jun-12	79-34-5	1,1,2,2-Tetrachloroethane	0.007	ug/L	0.007	0	1
O	GS	SV-82-5'	5	20-Jun-12	100-41-4	Ethylbenzene	0.0086	ug/L	0.0086	1	1
O	GS	SV-82-5'	5	20-Jun-12	179601-23-1	m,p-Xylenes	0.029	ug/L	0.029	1	1
O	GS	SV-82-5'	5	20-Jun-12	100-42-5	Styrene	0.0025	ug/L	0.0025	1	1
O	GS	SV-82-5'	5	20-Jun-12	95-47-6	o-Xylene	0.0095	ug/L	0.0095	1	1
O	GS	SV-82-5'	5	20-Jun-12		Carbon dioxide	1	%		1	1
O	GS	SV-82-5'	5	20-Jun-12	75-25-2	Bromoform	0.01	ug/L	0.01	0	1
O	GS	SV-82-5'	5	20-Jun-12	96-18-4	1,2,3-Trichloropropane	0.0061	ug/L	0.0061	0	1
O	GS	SV-82-5'	5	20-Jun-12	74-87-3	Chloromethane	0.0012	ug/L	0.0012	1	1
O	GS	SV-82-5'	5	20-Jun-12	98-82-8	Isopropylbenzene	0.037	ug/L	0.037	1	1
O	GS	SV-82-5'	5	20-Jun-12	622-96-8	p-Ethyltoluene	0.0033	ug/L	0.0033	1	1
O	GS	SV-82-5'	5	20-Jun-12	108-90-7	Chlorobenzene	0.0047	ug/L	0.0047	0	1
O	Soil	S-41-0.5	0.5		8006-61-9	TPHg			10	0	1
O	Soil	S-41-0.5	0.5		64742-47-8	TPHm			15	1	1
O	Soil	S-41-0.5	0.5		68476-30-2	TPHd			10	0	1
O	Soil	S-41-2.5	2.5		64742-47-8	TPHm			10	0	1
O	Soil	S-41-2.5	2.5		8006-61-9	TPHg			10	0	1
O	Soil	S-41-2.5	2.5		68476-30-2	TPHd			10	0	1
O	Soil	S-42-0.5	0.5		64742-47-8	TPHm			10	0	1
O	Soil	S-42-0.5	0.5		8006-61-9	TPHg			10	0	1
O	Soil	S-42-0.5	0.5		68476-30-2	TPHd			10	0	1
O	Soil	S-42-2.5	2.5		8006-61-9	TPHg			10	0	1
O	Soil	S-42-2.5	2.5		68476-30-2	TPHd			10	0	1
O	Soil	S-42-2.5	2.5		64742-47-8	TPHm			10	0	1
O	Soil	SV-01-01	1		BaP TEQ	BaP TEQ			0.0040185	0	1
O	Soil	SV-01-01	1		68476-30-2	TPHd			5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	SV-01-01	1		64742-47-8	TPHm			5	0	1
O	Soil	SV-01-01	1		8006-61-9	TPHg			0.38	0	1
O	Soil	SV-01-05	5		BaP TEQ	BaP TEQ			0.003807	0	1
O	Soil	SV-01-05	5		68476-30-2	TPHd			5	0	1
O	Soil	SV-01-05	5		8006-61-9	TPHg			0.38	0	1
O	Soil	SV-01-05	5		64742-47-8	TPHm			5	0	1
O	Soil	SV-01-10	10		BaP TEQ	BaP TEQ			0.004653	0	1
O	Soil	SV-01-10	10		64742-47-8	TPHm			5	0	1
O	Soil	SV-01-10	10		68476-30-2	TPHd			5	0	1
O	Soil	SV-01-10	10		8006-61-9	TPHg			0.39	0	1
O	Soil	SV-05-01	1		BaP TEQ	BaP TEQ			0.004794	0	1
O	Soil	SV-05-01	1		64742-47-8	TPHm			5	0	1
O	Soil	SV-05-01	1		68476-30-2	TPHd			5	0	1
O	Soil	SV-05-01	1		8006-61-9	TPHg			0.41	0	1
O	Soil	SV-05-05	5		BaP TEQ	BaP TEQ			0.0050055	0	1
O	Soil	SV-05-05	5		68476-30-2	TPHd			5	0	1
O	Soil	SV-05-05	5		8006-61-9	TPHg			0.41	0	1
O	Soil	SV-05-05	5		64742-47-8	TPHm			5	0	1
O	Soil	SV-05-10	10		BaP TEQ	BaP TEQ			0.005217	0	1
O	Soil	SV-05-10	10		64742-47-8	TPHm			5	0	1
O	Soil	SV-05-10	10		68476-30-2	TPHd			5	0	1
O	Soil	SV-05-10	10		8006-61-9	TPHg			0.4	0	1
O	Soil	S-41-0.4	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	7439-92-1	Lead	6.3	mg/k	6.3	1	1
O	Soil	S-41-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	7440-66-6	Zinc	40	mg/k	40	1	1
O	Soil	S-41-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	17	mg/k	17	1	1
O	Soil	S-41-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	7440-47-3	Chromium	23	mg/k	23	1	1
O	Soil	S-41-0.5	0.5	04-Jun-03	7440-50-8	Copper	15	mg/k	15	1	1
O	Soil	S-41-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	52	mg/k	52	1	1
O	Soil	S-41-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	7440-02-0	Nickel	29	mg/k	29	1	1
O	Soil	S-41-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	S-41-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	2.8	mg/k	2.8	1	1
O	Soil	S-41-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03		C25-C40	15	mg/k	15	1	1
O	Soil	S-41-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1.4	mg/k	1.4	1	1
O	Soil	S-41-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	7440-39-3	Barium	140	mg/k	140	1	1
O	Soil	S-41-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
O	Soil	S-41-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	7439-92-1	Lead	5.1	mg/k	5.1	1	1
O	Soil	S-41-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	7440-50-8	Copper	14	mg/k	14	1	1
O	Soil	S-41-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	19	mg/k	19	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	S-41-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	7440-47-3	Chromium	17	mg/k	17	1	1
O	Soil	S-41-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	65	mg/k	65	1	1
O	Soil	S-41-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	7440-02-0	Nickel	16	mg/k	16	1	1
O	Soil	S-41-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	7440-66-6	Zinc	35	mg/k	35	1	1
O	Soil	S-41-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03		C25-C40	10	mg/k	10	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	S-41-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	7440-39-3	Barium	90	mg/k	90	1	1
O	Soil	S-41-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	2.2	mg/k	2.2	1	1
O	Soil	S-41-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
O	Soil	S-41-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	7439-92-1	Lead	4.4	mg/k	4.4	1	1
O	Soil	S-42-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	7440-50-8	Copper	16	mg/k	16	1	1
O	Soil	S-42-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	9.9	mg/k	9.9	1	1
O	Soil	S-42-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	7440-47-3	Chromium	16	mg/k	16	1	1
O	Soil	S-42-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	7440-66-6	Zinc	50	mg/k	50	1	1
O	Soil	S-42-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	69	mg/k	69	1	1
O	Soil	S-42-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	2.9	mg/k	2.9	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	S-42-0.5	0.5	04-Jun-03	7440-39-3	Barium	91	mg/k	91	1	1
O	Soil	S-42-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03		C25-C40	10	mg/k	10	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	7440-02-0	Nickel	21	mg/k	21	1	1
O	Soil	S-42-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
O	Soil	S-42-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	7439-92-1	Lead	3.3	mg/k	3.3	1	1
O	Soil	S-42-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	10	mg/k	10	1	1
O	Soil	S-42-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	7440-47-3	Chromium	8.6	mg/k	8.6	1	1
O	Soil	S-42-2.5	2.5	04-Jun-03	7440-50-8	Copper	10	mg/k	10	1	1
O	Soil	S-42-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	7440-66-6	Zinc	31	mg/k	31	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	S-42-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	52	mg/k	52	1	1
O	Soil	S-42-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	7440-02-0	Nickel	9.1	mg/k	9.1	1	1
O	Soil	S-42-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03		C25-C40	10	mg/k	10	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	1.1	mg/k	1.1	1	1
O	Soil	S-42-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	7440-39-3	Barium	65	mg/k	65	1	1
O	Soil	S-42-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
O	Soil	S-42-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	SV-01-01	1	11-Jul-07	7439-98-7	Molybdenum	8.6	mg/k	8.6	1	1
O	Soil	SV-01-01	1	11-Jul-07	87-68-3	Hexachlorobutadiene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.7	ug/kg	0.0057	0	1
O	Soil	SV-01-01	1	11-Jul-07	108-20-3	Isopropyl ether	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	86-73-7	Fluorene	5.7	ug/kg	0.0057	0	1
O	Soil	SV-01-01	1	11-Jul-07	98-82-8	Isopropylbenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	7439-92-1	Lead	4.1	mg/k	4.1	1	1
O	Soil	SV-01-01	1	11-Jul-07	7440-66-6	Zinc	67	mg/k	67	1	1
O	Soil	SV-01-01	1	11-Jul-07	179601-23-1	m,p-Xylenes	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	75-09-2	Methylene chloride	21	ug/kg	0.021	0	1
O	Soil	SV-01-01	1	11-Jul-07	206-44-0	Fluoranthene	5.7	ug/kg	0.0057	0	1
O	Soil	SV-01-01	1	11-Jul-07	7439-97-6	Mercury	0.054	mg/k	0.054	1	1
O	Soil	SV-01-01	1	11-Jul-07	7440-50-8	Copper	23	mg/k	23	1	1
O	Soil	SV-01-01	1	11-Jul-07	67-66-3	Chloroform	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	74-87-3	Chloromethane	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07		Terphenyl-d14	1400	ug/kg	1.4	1	1
O	Soil	SV-01-01	1	11-Jul-07	7440-47-3	Chromium	54	mg/k	54	1	1
O	Soil	SV-01-01	1	11-Jul-07	91-20-3	Naphthalene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	218-01-9	Chrysene	5.7	ug/kg	0.0057	0	1
O	Soil	SV-01-01	1	11-Jul-07	7440-48-4	Cobalt	1.8	mg/k	1.8	1	1
O	Soil	SV-01-01	1	11-Jul-07	100-41-4	Ethylbenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.7	ug/kg	0.0057	0	1
O	Soil	SV-01-01	1	11-Jul-07	124-48-1	Dibromochloromethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07		Dibromofluoromethane	59.3	ug/kg	0.0593	1	1
O	Soil	SV-01-01	1	11-Jul-07	74-95-3	Dibromomethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	75-71-8	Dichlorodifluoromethane	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
O	Soil	SV-01-01	1	11-Jul-07	637-92-3	Ethyl tert butyl ether	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	75-69-4	Trichlorofluoromethane	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
O	Soil	SV-01-01	1	11-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
O	Soil	SV-01-01	1	11-Jul-07	108-88-3	Toluene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07		Toluene-d8	54.7	ug/kg	0.0547	1	1
O	Soil	SV-01-01	1	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	98-06-6	tert-Butylbenzene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	79-01-6	Trichloroethene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	75-65-0	tert-Butyl alcohol	110	ug/kg	0.11	0	1
O	Soil	SV-01-01	1	11-Jul-07	7440-62-2	Vanadium	120	mg/k	120	1	1
O	Soil	SV-01-01	1	11-Jul-07	75-01-4	Vinyl chloride	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.38	mg/k	0.38	0	1
O	Soil	SV-01-01	1	11-Jul-07	1330-20-7	Xylenes (total)	4.2	ug/kg	0.0042	0	1
O	Soil	SV-01-01	1	11-Jul-07	75-00-3	Chloroethane	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	90-12-0	1-Methylnaphthalene	5.7	ug/kg	0.0057	0	1
O	Soil	SV-01-01	1	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	85-01-8	Phenanthrene	5.7	ug/kg	0.0057	0	1
O	Soil	SV-01-01	1	11-Jul-07	104-51-8	n-Butylbenzene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	7440-02-0	Nickel	51	mg/k	51	1	1
O	Soil	SV-01-01	1	11-Jul-07		Nitrobenzene-d5	1300	ug/kg	1.3	1	1
O	Soil	SV-01-01	1	11-Jul-07		n-Octacosane	5.1	mg/k	5.1	1	1
O	Soil	SV-01-01	1	11-Jul-07	103-65-1	n-Propylbenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	127-18-4	Tetrachloroethene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	95-47-6	o-Xylene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	91-20-3	Naphthalene	5.7	ug/kg	0.0057	0	0
O	Soil	SV-01-01	1	11-Jul-07	99-87-6	p-Isopropyltoluene	2.1	ug/kg	0.0021	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	SV-01-01	1	11-Jul-07	129-00-0	Pyrene	5.7	ug/kg	0.0057	0	1
O	Soil	SV-01-01	1	11-Jul-07	135-98-8	sec-Butylbenzene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
O	Soil	SV-01-01	1	11-Jul-07	100-42-5	Styrene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	994-05-8	Tert-amyl methyl ether	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
O	Soil	SV-01-01	1	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	120-12-7	Anthracene	5.7	ug/kg	0.0057	0	1
O	Soil	SV-01-01	1	11-Jul-07	208-96-8	Acenaphthylene	5.7	ug/kg	0.0057	0	1
O	Soil	SV-01-01	1	11-Jul-07	83-32-9	Acenaphthene	5.7	ug/kg	0.0057	0	1
O	Soil	SV-01-01	1	11-Jul-07	106-43-4	4-Chlorotoluene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07		4-Bromofluorobenzene	45.1	ug/kg	0.0451	1	1
O	Soil	SV-01-01	1	11-Jul-07		4-Bromofluorobenzene	0.0159	mg/k	0.0159	1	0
O	Soil	SV-01-01	1	11-Jul-07	91-57-6	2-Methylnaphthalene	5.7	ug/kg	0.0057	0	1
O	Soil	SV-01-01	1	11-Jul-07		2-Fluorobiphenyl	1100	ug/kg	1.1	1	1
O	Soil	SV-01-01	1	11-Jul-07	594-20-7	2,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	142-28-9	1,3-Dichloropropane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	108-90-7	Chlorobenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
O	Soil	SV-01-01	1	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	75-34-3	1,1-Dichloroethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	78-87-5	1,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	563-58-6	1,1-Dichloropropene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	95-49-8	2-Chlorotoluene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	96-18-4	1,2,3-Trichloropropane	11	ug/kg	0.011	0	1
O	Soil	SV-01-01	1	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	106-93-4	1,2-Dibromoethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	75-35-4	1,1-Dichloroethene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
O	Soil	SV-01-01	1	11-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
O	Soil	SV-01-01	1	11-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
O	Soil	SV-01-01	1	11-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
O	Soil	SV-01-01	1	11-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
O	Soil	SV-01-01	1	11-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
O	Soil	SV-01-01	1	11-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
O	Soil	SV-01-01	1	11-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
O	Soil	SV-01-01	1	11-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
O	Soil	SV-01-01	1	11-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
O	Soil	SV-01-01	1	11-Jul-07		C8-C40	5	mg/k	5	0	1
O	Soil	SV-01-01	1	11-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
O	Soil	SV-01-01	1	11-Jul-07	7440-43-9	Cadmium	3.5	mg/k	3.5	1	1
O	Soil	SV-01-01	1	11-Jul-07	7440-38-2	Arsenic	3	mg/k	3	1	1
O	Soil	SV-01-01	1	11-Jul-07	107-06-2	1,2-Dichloroethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	56-23-5	Carbon tetrachloride	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	71-43-2	Benzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
O	Soil	SV-01-01	1	11-Jul-07	7440-39-3	Barium	57	mg/k	57	1	1
O	Soil	SV-01-01	1	11-Jul-07		C12-C13	3.5	mg/k	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	SV-01-01	1	11-Jul-07	56-55-3	Benzo(a)anthracene	5.7	ug/kg	0.0057	0	1
O	Soil	SV-01-01	1	11-Jul-07	50-32-8	Benzo(a)pyrene	5.7	ug/kg	0.0057	0	1
O	Soil	SV-01-01	1	11-Jul-07	205-99-2	Benzo(b)fluoranthene	5.7	ug/kg	0.0057	0	1
O	Soil	SV-01-01	1	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.7	ug/kg	0.0057	0	1
O	Soil	SV-01-01	1	11-Jul-07	207-08-9	Benzo(k)fluoranthene	5.7	ug/kg	0.0057	0	1
O	Soil	SV-01-01	1	11-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
O	Soil	SV-01-01	1	11-Jul-07	108-86-1	Bromobenzene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	74-97-5	Bromochloromethane	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	75-27-4	Bromodichloromethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-01	1	11-Jul-07	75-25-2	Bromoform	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07	74-83-9	Bromomethane	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-01	1	11-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
O	Soil	SV-01-05	5	11-Jul-07		4-Bromofluorobenzene	47.8	ug/kg	0.0478	1	1
O	Soil	SV-01-05	5	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	142-28-9	1,3-Dichloropropane	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	90-12-0	1-Methylnaphthalene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	594-20-7	2,2-Dichloropropane	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	95-49-8	2-Chlorotoluene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07		2-Fluorobiphenyl	1000	ug/kg	1	1	1
O	Soil	SV-01-05	5	11-Jul-07	83-32-9	Acenaphthene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07		4-Bromofluorobenzene	0.0247	mg/k	0.0247	1	0
O	Soil	SV-01-05	5	11-Jul-07	78-87-5	1,2-Dichloropropane	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	106-43-4	4-Chlorotoluene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	91-57-6	2-Methylnaphthalene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
O	Soil	SV-01-05	5	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	75-34-3	1,1-Dichloroethane	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	563-58-6	1,1-Dichloropropene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	107-06-2	1,2-Dichloroethane	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	96-18-4	1,2,3-Trichloropropane	11	ug/kg	0.011	0	1
O	Soil	SV-01-05	5	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	106-93-4	1,2-Dibromoethane	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	75-35-4	1,1-Dichloroethene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	637-92-3	Ethyl tert butyl ether	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
O	Soil	SV-01-05	5	11-Jul-07	103-65-1	n-Propylbenzene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07		n-Octacosane	5.26	mg/k	5.26	1	1
O	Soil	SV-01-05	5	11-Jul-07		Nitrobenzene-d5	1200	ug/kg	1.2	1	1
O	Soil	SV-01-05	5	11-Jul-07	7440-02-0	Nickel	57	mg/k	57	1	1
O	Soil	SV-01-05	5	11-Jul-07	104-51-8	n-Butylbenzene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	91-20-3	Naphthalene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	91-20-3	Naphthalene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	85-01-8	Phenanthrene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	75-09-2	Methylene chloride	22	ug/kg	0.022	0	1
O	Soil	SV-01-05	5	11-Jul-07	99-87-6	p-Isopropyltoluene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
O	Soil	SV-01-05	5	11-Jul-07	179601-23-1	m,p-Xylenes	2.2	ug/kg	0.0022	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	SV-01-05	5	11-Jul-07	7439-92-1	Lead	2	mg/k	2	0	1
O	Soil	SV-01-05	5	11-Jul-07	98-82-8	Isopropylbenzene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	108-20-3	Isopropyl ether	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	87-68-3	Hexachlorobutadiene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	86-73-7	Fluorene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	206-44-0	Fluoranthene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	100-41-4	Ethylbenzene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	7439-98-7	Molybdenum	11	mg/k	11	1	1
O	Soil	SV-01-05	5	11-Jul-07		Toluene-d8	57.3	ug/kg	0.0573	1	1
O	Soil	SV-01-05	5	11-Jul-07	120-12-7	Anthracene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	208-96-8	Acenaphthylene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	7440-66-6	Zinc	67	mg/k	67	1	1
O	Soil	SV-01-05	5	11-Jul-07	1330-20-7	Xylenes (total)	4.3	ug/kg	0.0043	0	1
O	Soil	SV-01-05	5	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.38	mg/k	0.38	0	1
O	Soil	SV-01-05	5	11-Jul-07	75-01-4	Vinyl chloride	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	7440-62-2	Vanadium	110	mg/k	110	1	1
O	Soil	SV-01-05	5	11-Jul-07	75-69-4	Trichlorofluoromethane	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	79-01-6	Trichloroethene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	95-47-6	o-Xylene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	127-18-4	Tetrachloroethene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
O	Soil	SV-01-05	5	11-Jul-07	98-06-6	tert-Butylbenzene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	75-65-0	tert-Butyl alcohol	110	ug/kg	0.11	0	1
O	Soil	SV-01-05	5	11-Jul-07	994-05-8	Tert-amyl methyl ether	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07		Terphenyl-d14	1200	ug/kg	1.2	1	1
O	Soil	SV-01-05	5	11-Jul-07	100-42-5	Styrene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
O	Soil	SV-01-05	5	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
O	Soil	SV-01-05	5	11-Jul-07	135-98-8	sec-Butylbenzene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	129-00-0	Pyrene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	74-97-5	Bromochloromethane	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
O	Soil	SV-01-05	5	11-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
O	Soil	SV-01-05	5	11-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
O	Soil	SV-01-05	5	11-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
O	Soil	SV-01-05	5	11-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
O	Soil	SV-01-05	5	11-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
O	Soil	SV-01-05	5	11-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
O	Soil	SV-01-05	5	11-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
O	Soil	SV-01-05	5	11-Jul-07	74-83-9	Bromomethane	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
O	Soil	SV-01-05	5	11-Jul-07	75-27-4	Bromodichloromethane	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	207-08-9	Benzo(k)fluoranthene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	108-86-1	Bromobenzene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
O	Soil	SV-01-05	5	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	50-32-8	Benzo(a)pyrene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	56-55-3	Benzo(a)anthracene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	71-43-2	Benzene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	7440-39-3	Barium	21	mg/k	21	1	1
O	Soil	SV-01-05	5	11-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
O	Soil	SV-01-05	5	11-Jul-07	108-88-3	Toluene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	7440-38-2	Arsenic	3.6	mg/k	3.6	1	1
O	Soil	SV-01-05	5	11-Jul-07	75-25-2	Bromoform	5.4	ug/kg	0.0054	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	SV-01-05	5	11-Jul-07	7440-48-4	Cobalt	1	mg/k	1	0	1
O	Soil	SV-01-05	5	11-Jul-07	74-95-3	Dibromomethane	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07		Dibromofluoromethane	58.3	ug/kg	0.0583	1	1
O	Soil	SV-01-05	5	11-Jul-07	75-71-8	Dichlorodifluoromethane	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	205-99-2	Benzo(b)fluoranthene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
O	Soil	SV-01-05	5	11-Jul-07	124-48-1	Dibromochloromethane	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	7440-50-8	Copper	22	mg/k	22	1	1
O	Soil	SV-01-05	5	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	218-01-9	Chrysene	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	7440-47-3	Chromium	39	mg/k	39	1	1
O	Soil	SV-01-05	5	11-Jul-07	108-90-7	Chlorobenzene	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07		C8-C40	5	mg/k	5	0	1
O	Soil	SV-01-05	5	11-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
O	Soil	SV-01-05	5	11-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
O	Soil	SV-01-05	5	11-Jul-07	7440-43-9	Cadmium	2.3	mg/k	2.3	1	1
O	Soil	SV-01-05	5	11-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
O	Soil	SV-01-05	5	11-Jul-07	56-23-5	Carbon tetrachloride	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
O	Soil	SV-01-05	5	11-Jul-07	75-00-3	Chloroethane	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-05	5	11-Jul-07	67-66-3	Chloroform	2.2	ug/kg	0.0022	0	1
O	Soil	SV-01-05	5	11-Jul-07	74-87-3	Chloromethane	5.4	ug/kg	0.0054	0	1
O	Soil	SV-01-10	10	11-Jul-07	100-41-4	Ethylbenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	124-48-1	Dibromochloromethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	108-20-3	Isopropyl ether	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	74-95-3	Dibromomethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.6	ug/kg	0.0066	0	1
O	Soil	SV-01-10	10	11-Jul-07		Dibromofluoromethane	61.1	ug/kg	0.0611	1	1
O	Soil	SV-01-10	10	11-Jul-07	75-71-8	Dichlorodifluoromethane	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	87-68-3	Hexachlorobutadiene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	637-92-3	Ethyl tert butyl ether	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	1330-20-7	Xylenes (total)	4.3	ug/kg	0.0043	0	1
O	Soil	SV-01-10	10	11-Jul-07	206-44-0	Fluoranthene	6.6	ug/kg	0.0066	0	1
O	Soil	SV-01-10	10	11-Jul-07	86-73-7	Fluorene	6.6	ug/kg	0.0066	0	1
O	Soil	SV-01-10	10	11-Jul-07	7440-50-8	Copper	27	mg/k	27	1	1
O	Soil	SV-01-10	10	11-Jul-07	7440-43-9	Cadmium	2.6	mg/k	2.6	1	1
O	Soil	SV-01-10	10	11-Jul-07	7440-66-6	Zinc	86	mg/k	86	1	1
O	Soil	SV-01-10	10	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.39	mg/k	0.39	0	1
O	Soil	SV-01-10	10	11-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
O	Soil	SV-01-10	10	11-Jul-07	56-23-5	Carbon tetrachloride	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
O	Soil	SV-01-10	10	11-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
O	Soil	SV-01-10	10	11-Jul-07		Nitrobenzene-d5	1100	ug/kg	1.1	1	1
O	Soil	SV-01-10	10	11-Jul-07	75-01-4	Vinyl chloride	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
O	Soil	SV-01-10	10	11-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
O	Soil	SV-01-10	10	11-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
O	Soil	SV-01-10	10	11-Jul-07	108-90-7	Chlorobenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
O	Soil	SV-01-10	10	11-Jul-07	7440-48-4	Cobalt	2	mg/k	2	1	1
O	Soil	SV-01-10	10	11-Jul-07	75-00-3	Chloroethane	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	67-66-3	Chloroform	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	74-87-3	Chloromethane	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	7440-47-3	Chromium	58	mg/k	58	1	1
O	Soil	SV-01-10	10	11-Jul-07	218-01-9	Chrysene	6.6	ug/kg	0.0066	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	SV-01-10	10	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07		C8-C40	5	mg/k	5	0	1
O	Soil	SV-01-10	10	11-Jul-07	75-09-2	Methylene chloride	21	ug/kg	0.021	0	1
O	Soil	SV-01-10	10	11-Jul-07	95-47-6	o-Xylene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
O	Soil	SV-01-10	10	11-Jul-07		n-Octacosane	3.56	mg/k	3.56	1	1
O	Soil	SV-01-10	10	11-Jul-07	7440-02-0	Nickel	72	mg/k	72	1	1
O	Soil	SV-01-10	10	11-Jul-07	104-51-8	n-Butylbenzene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	91-20-3	Naphthalene	6.6	ug/kg	0.0066	0	0
O	Soil	SV-01-10	10	11-Jul-07	103-65-1	n-Propylbenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	7439-98-7	Molybdenum	15	mg/k	15	1	1
O	Soil	SV-01-10	10	11-Jul-07	129-00-0	Pyrene	6.6	ug/kg	0.0066	0	1
O	Soil	SV-01-10	10	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	7439-97-6	Mercury	0.059	mg/k	0.059	1	1
O	Soil	SV-01-10	10	11-Jul-07	179601-23-1	m,p-Xylenes	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	7439-92-1	Lead	2.2	mg/k	2.2	1	1
O	Soil	SV-01-10	10	11-Jul-07	98-82-8	Isopropylbenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
O	Soil	SV-01-10	10	11-Jul-07	75-35-4	1,1-Dichloroethene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	91-20-3	Naphthalene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	75-65-0	tert-Butyl alcohol	110	ug/kg	0.11	0	1
O	Soil	SV-01-10	10	11-Jul-07	75-69-4	Trichlorofluoromethane	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	79-01-6	Trichloroethene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07		Toluene-d8	57	ug/kg	0.057	1	1
O	Soil	SV-01-10	10	11-Jul-07	108-88-3	Toluene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
O	Soil	SV-01-10	10	11-Jul-07	85-01-8	Phenanthrene	6.6	ug/kg	0.0066	0	1
O	Soil	SV-01-10	10	11-Jul-07	98-06-6	tert-Butylbenzene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	99-87-6	p-Isopropyltoluene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	994-05-8	Tert-amyl methyl ether	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07		Terphenyl-d14	1600	ug/kg	1.6	1	1
O	Soil	SV-01-10	10	11-Jul-07	100-42-5	Styrene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
O	Soil	SV-01-10	10	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
O	Soil	SV-01-10	10	11-Jul-07	135-98-8	sec-Butylbenzene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	7440-62-2	Vanadium	130	mg/k	130	1	1
O	Soil	SV-01-10	10	11-Jul-07	127-18-4	Tetrachloroethene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	106-93-4	1,2-Dibromoethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	91-57-6	2-Methylnaphthalene	6.6	ug/kg	0.0066	0	1
O	Soil	SV-01-10	10	11-Jul-07		2-Fluorobiphenyl	1200	ug/kg	1.2	1	1
O	Soil	SV-01-10	10	11-Jul-07	95-49-8	2-Chlorotoluene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	594-20-7	2,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	90-12-0	1-Methylnaphthalene	6.6	ug/kg	0.0066	0	1
O	Soil	SV-01-10	10	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	142-28-9	1,3-Dichloropropane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
O	Soil	SV-01-10	10	11-Jul-07	78-87-5	1,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07		4-Bromofluorobenzene	0.0214	mg/k	0.0214	1	0
O	Soil	SV-01-10	10	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.3	ug/kg	0.0053	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	SV-01-10	10	11-Jul-07	96-18-4	1,2,3-Trichloropropane	11	ug/kg	0.011	0	1
O	Soil	SV-01-10	10	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.6	ug/kg	0.0066	0	1
O	Soil	SV-01-10	10	11-Jul-07	563-58-6	1,1-Dichloropropene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	75-34-3	1,1-Dichloroethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
O	Soil	SV-01-10	10	11-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
O	Soil	SV-01-10	10	11-Jul-07	107-06-2	1,2-Dichloroethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
O	Soil	SV-01-10	10	11-Jul-07		4-Bromofluorobenzene	46.3	ug/kg	0.0463	1	1
O	Soil	SV-01-10	10	11-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
O	Soil	SV-01-10	10	11-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
O	Soil	SV-01-10	10	11-Jul-07	74-83-9	Bromomethane	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	75-25-2	Bromoform	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	75-27-4	Bromodichloromethane	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	74-97-5	Bromochloromethane	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	108-86-1	Bromobenzene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
O	Soil	SV-01-10	10	11-Jul-07	208-96-8	Acenaphthylene	6.6	ug/kg	0.0066	0	1
O	Soil	SV-01-10	10	11-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
O	Soil	SV-01-10	10	11-Jul-07	207-08-9	Benzo(k)fluoranthene	6.6	ug/kg	0.0066	0	1
O	Soil	SV-01-10	10	11-Jul-07	83-32-9	Acenaphthene	6.6	ug/kg	0.0066	0	1
O	Soil	SV-01-10	10	11-Jul-07	120-12-7	Anthracene	6.6	ug/kg	0.0066	0	1
O	Soil	SV-01-10	10	11-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
O	Soil	SV-01-10	10	11-Jul-07	7440-38-2	Arsenic	6.1	mg/k	6.1	1	1
O	Soil	SV-01-10	10	11-Jul-07	205-99-2	Benzo(b)fluoranthene	6.6	ug/kg	0.0066	0	1
O	Soil	SV-01-10	10	11-Jul-07	71-43-2	Benzene	2.1	ug/kg	0.0021	0	1
O	Soil	SV-01-10	10	11-Jul-07	56-55-3	Benzo(a)anthracene	6.6	ug/kg	0.0066	0	1
O	Soil	SV-01-10	10	11-Jul-07	50-32-8	Benzo(a)pyrene	6.6	ug/kg	0.0066	0	1
O	Soil	SV-01-10	10	11-Jul-07	7440-39-3	Barium	24	mg/k	24	1	1
O	Soil	SV-01-10	10	11-Jul-07	106-43-4	4-Chlorotoluene	5.3	ug/kg	0.0053	0	1
O	Soil	SV-01-10	10	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.6	ug/kg	0.0066	0	1
O	Soil	SV-05-01	1	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.8	ug/kg	0.0068	0	1
O	Soil	SV-05-01	1	11-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	7439-92-1	Lead	2.9	mg/k	2.9	1	1
O	Soil	SV-05-01	1	11-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
O	Soil	SV-05-01	1	11-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
O	Soil	SV-05-01	1	11-Jul-07	86-73-7	Fluorene	6.8	ug/kg	0.0068	0	1
O	Soil	SV-05-01	1	11-Jul-07	206-44-0	Fluoranthene	6.8	ug/kg	0.0068	0	1
O	Soil	SV-05-01	1	11-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
O	Soil	SV-05-01	1	11-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07		Dibromofluoromethane	58	ug/kg	0.058	1	1
O	Soil	SV-05-01	1	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.8	ug/kg	0.0068	0	1
O	Soil	SV-05-01	1	11-Jul-07	7440-50-8	Copper	15	mg/k	15	1	1
O	Soil	SV-05-01	1	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	SV-05-01	1	11-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
O	Soil	SV-05-01	1	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
O	Soil	SV-05-01	1	11-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	7440-62-2	Vanadium	77	mg/k	77	1	1
O	Soil	SV-05-01	1	11-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07		Toluene-d8	47.4	ug/kg	0.0474	1	1
O	Soil	SV-05-01	1	11-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
O	Soil	SV-05-01	1	11-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
O	Soil	SV-05-01	1	11-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
O	Soil	SV-05-01	1	11-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07		Terphenyl-d14	1700	ug/kg	1.7	1	1
O	Soil	SV-05-01	1	11-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
O	Soil	SV-05-01	1	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	129-00-0	Pyrene	6.8	ug/kg	0.0068	0	1
O	Soil	SV-05-01	1	11-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	85-01-8	Phenanthrene	6.8	ug/kg	0.0068	0	1
O	Soil	SV-05-01	1	11-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
O	Soil	SV-05-01	1	11-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
O	Soil	SV-05-01	1	11-Jul-07	7440-48-4	Cobalt	46	mg/k	46	1	1
O	Soil	SV-05-01	1	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	218-01-9	Chrysene	6.8	ug/kg	0.0068	0	1
O	Soil	SV-05-01	1	11-Jul-07	7440-47-3	Chromium	11	mg/k	11	1	1
O	Soil	SV-05-01	1	11-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
O	Soil	SV-05-01	1	11-Jul-07	7440-66-6	Zinc	51	mg/k	51	1	1
O	Soil	SV-05-01	1	11-Jul-07		C8-C40	5	mg/k	5	0	1
O	Soil	SV-05-01	1	11-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
O	Soil	SV-05-01	1	11-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
O	Soil	SV-05-01	1	11-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
O	Soil	SV-05-01	1	11-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
O	Soil	SV-05-01	1	11-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
O	Soil	SV-05-01	1	11-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
O	Soil	SV-05-01	1	11-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
O	Soil	SV-05-01	1	11-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
O	Soil	SV-05-01	1	11-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
O	Soil	SV-05-01	1	11-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
O	Soil	SV-05-01	1	11-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
O	Soil	SV-05-01	1	11-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
O	Soil	SV-05-01	1	11-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07		4-Bromofluorobenzene	0.0155	mg/k	0.0155	1	0
O	Soil	SV-05-01	1	11-Jul-07	91-57-6	2-Methylnaphthalene	6.8	ug/kg	0.0068	0	1
O	Soil	SV-05-01	1	11-Jul-07		2-Fluorobiphenyl	1400	ug/kg	1.4	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	SV-05-01	1	11-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
O	Soil	SV-05-01	1	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07		4-Bromofluorobenzene	47.7	ug/kg	0.0477	1	1
O	Soil	SV-05-01	1	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	90-12-0	1-Methylnaphthalene	6.8	ug/kg	0.0068	0	1
O	Soil	SV-05-01	1	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1
O	Soil	SV-05-01	1	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
O	Soil	SV-05-01	1	11-Jul-07		n-Octacosane	3.62	mg/k	3.62	1	1
O	Soil	SV-05-01	1	11-Jul-07		Nitrobenzene-d5	290	ug/kg	0.29	1	1
O	Soil	SV-05-01	1	11-Jul-07	7440-02-0	Nickel	9.3	mg/k	9.3	1	1
O	Soil	SV-05-01	1	11-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
O	Soil	SV-05-01	1	11-Jul-07	7440-41-7	Beryllium	0.7	mg/k	0.7	1	1
O	Soil	SV-05-01	1	11-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
O	Soil	SV-05-01	1	11-Jul-07	91-20-3	Naphthalene	6.8	ug/kg	0.0068	0	0
O	Soil	SV-05-01	1	11-Jul-07	207-08-9	Benzo(k)fluoranthene	6.8	ug/kg	0.0068	0	1
O	Soil	SV-05-01	1	11-Jul-07	208-96-8	Acenaphthylene	6.8	ug/kg	0.0068	0	1
O	Soil	SV-05-01	1	11-Jul-07	120-12-7	Anthracene	6.8	ug/kg	0.0068	0	1
O	Soil	SV-05-01	1	11-Jul-07	83-32-9	Acenaphthene	6.8	ug/kg	0.0068	0	1
O	Soil	SV-05-01	1	11-Jul-07	7440-38-2	Arsenic	0.5	mg/k	0.5	0	1
O	Soil	SV-05-01	1	11-Jul-07	7440-39-3	Barium	41	mg/k	41	1	1
O	Soil	SV-05-01	1	11-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-01	1	11-Jul-07	56-55-3	Benzo(a)anthracene	6.8	ug/kg	0.0068	0	1
O	Soil	SV-05-01	1	11-Jul-07	50-32-8	Benzo(a)pyrene	6.8	ug/kg	0.0068	0	1
O	Soil	SV-05-01	1	11-Jul-07	205-99-2	Benzo(b)fluoranthene	6.8	ug/kg	0.0068	0	1
O	Soil	SV-05-01	1	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.8	ug/kg	0.0068	0	1
O	Soil	SV-05-05	5	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	7440-28-0	Thallium	20	mg/k	20	0	1
O	Soil	SV-05-05	5	11-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07		Toluene-d8	49.3	ug/kg	0.0493	1	1
O	Soil	SV-05-05	5	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	SV-05-05	5	11-Jul-07	7440-62-2	Vanadium	100	mg/k	100	1	1
O	Soil	SV-05-05	5	11-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
O	Soil	SV-05-05	5	11-Jul-07	7440-66-6	Zinc	51	mg/k	51	1	1
O	Soil	SV-05-05	5	11-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
O	Soil	SV-05-05	5	11-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
O	Soil	SV-05-05	5	11-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	83-32-9	Acenaphthene	7.1	ug/kg	0.0071	0	1
O	Soil	SV-05-05	5	11-Jul-07	208-96-8	Acenaphthylene	7.1	ug/kg	0.0071	0	1
O	Soil	SV-05-05	5	11-Jul-07	120-12-7	Anthracene	7.1	ug/kg	0.0071	0	1
O	Soil	SV-05-05	5	11-Jul-07	7440-36-0	Antimony	20	mg/k	20	0	1
O	Soil	SV-05-05	5	11-Jul-07	7440-38-2	Arsenic	0.5	mg/k	0.5	0	1
O	Soil	SV-05-05	5	11-Jul-07	7440-39-3	Barium	35	mg/k	35	1	1
O	Soil	SV-05-05	5	11-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	56-55-3	Benzo(a)anthracene	7.1	ug/kg	0.0071	0	1
O	Soil	SV-05-05	5	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	205-99-2	Benzo(b)fluoranthene	7.1	ug/kg	0.0071	0	1
O	Soil	SV-05-05	5	11-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
O	Soil	SV-05-05	5	11-Jul-07	7440-41-7	Beryllium	1.4	mg/k	1.4	1	1
O	Soil	SV-05-05	5	11-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
O	Soil	SV-05-05	5	11-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
O	Soil	SV-05-05	5	11-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
O	Soil	SV-05-05	5	11-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
O	Soil	SV-05-05	5	11-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
O	Soil	SV-05-05	5	11-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
O	Soil	SV-05-05	5	11-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
O	Soil	SV-05-05	5	11-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
O	Soil	SV-05-05	5	11-Jul-07	207-08-9	Benzo(k)fluoranthene	7.1	ug/kg	0.0071	0	1
O	Soil	SV-05-05	5	11-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
O	Soil	SV-05-05	5	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07		4-Bromofluorobenzene	50.2	ug/kg	0.0502	1	1
O	Soil	SV-05-05	5	11-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07		4-Bromofluorobenzene	0.0148	mg/k	0.0148	1	0
O	Soil	SV-05-05	5	11-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	90-12-0	1-Methylnaphthalene	7.1	ug/kg	0.0071	0	1
O	Soil	SV-05-05	5	11-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	SV-05-05	5	11-Jul-07		2-Fluorobiphenyl	1600	ug/kg	1.6	1	1
O	Soil	SV-05-05	5	11-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
O	Soil	SV-05-05	5	11-Jul-07	91-57-6	2-Methylnaphthalene	7.1	ug/kg	0.0071	0	1
O	Soil	SV-05-05	5	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	7.1	ug/kg	0.0071	0	1
O	Soil	SV-05-05	5	11-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	7.1	ug/kg	0.0071	0	1
O	Soil	SV-05-05	5	11-Jul-07		n-Octacosane	5.13	mg/k	5.13	1	1
O	Soil	SV-05-05	5	11-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	7440-02-0	Nickel	11	mg/k	11	1	1
O	Soil	SV-05-05	5	11-Jul-07		Nitrobenzene-d5	1800	ug/kg	1.8	1	1
O	Soil	SV-05-05	5	11-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
O	Soil	SV-05-05	5	11-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	7439-98-7	Molybdenum	4	mg/k	4	0	1
O	Soil	SV-05-05	5	11-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
O	Soil	SV-05-05	5	11-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	7439-92-1	Lead	4	mg/k	4	0	1
O	Soil	SV-05-05	5	11-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	86-73-7	Fluorene	7.1	ug/kg	0.0071	0	1
O	Soil	SV-05-05	5	11-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
O	Soil	SV-05-05	5	11-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	50-32-8	Benzo(a)pyrene	7.1	ug/kg	0.0071	0	1
O	Soil	SV-05-05	5	11-Jul-07	7440-22-4	Silver	2	mg/k	2	0	1
O	Soil	SV-05-05	5	11-Jul-07	7782-49-2	Selenium	4	mg/k	4	0	1
O	Soil	SV-05-05	5	11-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	129-00-0	Pyrene	7.1	ug/kg	0.0071	0	1
O	Soil	SV-05-05	5	11-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	85-01-8	Phenanthrene	7.1	ug/kg	0.0071	0	1
O	Soil	SV-05-05	5	11-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
O	Soil	SV-05-05	5	11-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
O	Soil	SV-05-05	5	11-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
O	Soil	SV-05-05	5	11-Jul-07		C8-C40	5	mg/k	5	0	1
O	Soil	SV-05-05	5	11-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
O	Soil	SV-05-05	5	11-Jul-07	7440-43-9	Cadmium	1	mg/k	1	0	1
O	Soil	SV-05-05	5	11-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07	7440-47-3	Chromium	13	mg/k	13	1	1
O	Soil	SV-05-05	5	11-Jul-07	91-20-3	Naphthalene	7.1	ug/kg	0.0071	0	0
O	Soil	SV-05-05	5	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07		Terphenyl-d14	1700	ug/kg	1.7	1	1
O	Soil	SV-05-05	5	11-Jul-07	7440-48-4	Cobalt	15	mg/k	15	1	1
O	Soil	SV-05-05	5	11-Jul-07	7440-50-8	Copper	13	mg/k	13	1	1
O	Soil	SV-05-05	5	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	7.1	ug/kg	0.0071	0	1
O	Soil	SV-05-05	5	11-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07		Dibromofluoromethane	59.8	ug/kg	0.0598	1	1
O	Soil	SV-05-05	5	11-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
O	Soil	SV-05-05	5	11-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
O	Soil	SV-05-05	5	11-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	SV-05-05	5	11-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
O	Soil	SV-05-05	5	11-Jul-07	206-44-0	Fluoranthene	7.1	ug/kg	0.0071	0	1
O	Soil	SV-05-05	5	11-Jul-07	218-01-9	Chrysene	7.1	ug/kg	0.0071	0	1
O	Soil	SV-05-10	10	11-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
O	Soil	SV-05-10	10	11-Jul-07	135-98-8	sec-Butylbenzene	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	129-00-0	Pyrene	7.4	ug/kg	0.0074	0	1
O	Soil	SV-05-10	10	11-Jul-07	99-87-6	p-Isopropyltoluene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	85-01-8	Phenanthrene	7.4	ug/kg	0.0074	0	1
O	Soil	SV-05-10	10	11-Jul-07		n-Octacosane	5.35	mg/k	5.35	1	1
O	Soil	SV-05-10	10	11-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
O	Soil	SV-05-10	10	11-Jul-07	103-65-1	n-Propylbenzene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07		Toluene-d8	47.2	ug/kg	0.0472	1	1
O	Soil	SV-05-10	10	11-Jul-07		Nitrobenzene-d5	820	ug/kg	0.82	1	1
O	Soil	SV-05-10	10	11-Jul-07	95-47-6	o-Xylene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	100-42-5	Styrene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07		Terphenyl-d14	1800	ug/kg	1.8	1	1
O	Soil	SV-05-10	10	11-Jul-07	994-05-8	Tert-amyl methyl ether	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	75-65-0	tert-Butyl alcohol	97	ug/kg	0.097	0	1
O	Soil	SV-05-10	10	11-Jul-07	98-06-6	tert-Butylbenzene	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	127-18-4	Tetrachloroethene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	108-88-3	Toluene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	156-60-5	trans-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	71-55-6	1,1,1-Trichloroethane	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	7440-02-0	Nickel	12	mg/k	12	1	1
O	Soil	SV-05-10	10	11-Jul-07	75-71-8	Dichlorodifluoromethane	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
O	Soil	SV-05-10	10	11-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	7.4	ug/kg	0.0074	0	1
O	Soil	SV-05-10	10	11-Jul-07	7440-48-4	Cobalt	13	mg/k	13	1	1
O	Soil	SV-05-10	10	11-Jul-07	7440-50-8	Copper	12	mg/k	12	1	1
O	Soil	SV-05-10	10	11-Jul-07	53-70-3	Dibenz(a,h)anthracene	7.4	ug/kg	0.0074	0	1
O	Soil	SV-05-10	10	11-Jul-07	124-48-1	Dibromochloromethane	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07		Dibromofluoromethane	59.6	ug/kg	0.0596	1	1
O	Soil	SV-05-10	10	11-Jul-07	74-95-3	Dibromomethane	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
O	Soil	SV-05-10	10	11-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	100-41-4	Ethylbenzene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	206-44-0	Fluoranthene	7.4	ug/kg	0.0074	0	1
O	Soil	SV-05-10	10	11-Jul-07	637-92-3	Ethyl tert butyl ether	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	87-68-3	Hexachlorobutadiene	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	104-51-8	n-Butylbenzene	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	108-20-3	Isopropyl ether	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	98-82-8	Isopropylbenzene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	7439-92-1	Lead	2	mg/k	2	0	1
O	Soil	SV-05-10	10	11-Jul-07	179601-23-1	m,p-Xylenes	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
O	Soil	SV-05-10	10	11-Jul-07	1634-04-4	Methyl tert-butyl ether	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	75-09-2	Methylene chloride	19	ug/kg	0.019	0	1
O	Soil	SV-05-10	10	11-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
O	Soil	SV-05-10	10	11-Jul-07	91-20-3	Naphthalene	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	91-20-3	Naphthalene	7.4	ug/kg	0.0074	0	0
O	Soil	SV-05-10	10	11-Jul-07	86-73-7	Fluorene	7.4	ug/kg	0.0074	0	1
O	Soil	SV-05-10	10	11-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
O	Soil	SV-05-10	10	11-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
O	Soil	SV-05-10	10	11-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
O	Soil	SV-05-10	10	11-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
O	Soil	SV-05-10	10	11-Jul-07		C28-C29	3.5	mg/k	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	SV-05-10	10	11-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
O	Soil	SV-05-10	10	11-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
O	Soil	SV-05-10	10	11-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
O	Soil	SV-05-10	10	11-Jul-07	108-86-1	Bromobenzene	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
O	Soil	SV-05-10	10	11-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
O	Soil	SV-05-10	10	11-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
O	Soil	SV-05-10	10	11-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
O	Soil	SV-05-10	10	11-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
O	Soil	SV-05-10	10	11-Jul-07	74-83-9	Bromomethane	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	75-25-2	Bromoform	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	75-27-4	Bromodichloromethane	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	74-97-5	Bromochloromethane	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
O	Soil	SV-05-10	10	11-Jul-07	156-59-2	cis-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	7440-66-6	Zinc	47	mg/k	47	1	1
O	Soil	SV-05-10	10	11-Jul-07	1330-20-7	Xylenes (total)	3.9	ug/kg	0.0039	0	1
O	Soil	SV-05-10	10	11-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
O	Soil	SV-05-10	10	11-Jul-07	75-01-4	Vinyl chloride	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	7440-62-2	Vanadium	95	mg/k	95	1	1
O	Soil	SV-05-10	10	11-Jul-07	75-69-4	Trichlorofluoromethane	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	79-01-6	Trichloroethene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	79-00-5	1,1,2-Trichloroethane	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	10061-01-5	cis-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
O	Soil	SV-05-10	10	11-Jul-07	218-01-9	Chrysene	7.4	ug/kg	0.0074	0	1
O	Soil	SV-05-10	10	11-Jul-07	7440-47-3	Chromium	14	mg/k	14	1	1
O	Soil	SV-05-10	10	11-Jul-07	74-87-3	Chloromethane	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	67-66-3	Chloroform	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	75-00-3	Chloroethane	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	108-90-7	Chlorobenzene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	56-23-5	Carbon tetrachloride	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07		C8-C40	5	mg/k	5	0	1
O	Soil	SV-05-10	10	11-Jul-07	10061-02-6	trans-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	95-63-6	1,2,4-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	90-12-0	1-Methylnaphthalene	7.4	ug/kg	0.0074	0	1
O	Soil	SV-05-10	10	11-Jul-07	106-46-7	1,4-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	142-28-9	1,3-Dichloropropane	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	541-73-1	1,3-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	108-67-8	1,3,5-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	78-87-5	1,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	75-34-3	1,1-Dichloroethane	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	594-20-7	2,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	107-06-2	1,2-Dichloroethane	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	96-18-4	1,2,3-Trichloropropane	9.7	ug/kg	0.0097	0	1
O	Soil	SV-05-10	10	11-Jul-07	87-61-6	1,2,3-Trichlorobenzene	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	563-58-6	1,1-Dichloropropene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	75-35-4	1,1-Dichloroethene	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	7440-41-7	Beryllium	0.87	mg/k	0.87	1	1
O	Soil	SV-05-10	10	11-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
O	Soil	SV-05-10	10	11-Jul-07	95-50-1	1,2-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	191-24-2	Benzo(g,h,i)perylene	7.4	ug/kg	0.0074	0	1
O	Soil	SV-05-10	10	11-Jul-07	106-93-4	1,2-Dibromoethane	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	207-08-9	Benzo(k)fluoranthene	7.4	ug/kg	0.0074	0	1
O	Soil	SV-05-10	10	11-Jul-07	95-49-8	2-Chlorotoluene	4.9	ug/kg	0.0049	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
O	Soil	SV-05-10	10	11-Jul-07	205-99-2	Benzo(b)fluoranthene	7.4	ug/kg	0.0074	0	1
O	Soil	SV-05-10	10	11-Jul-07	50-32-8	Benzo(a)pyrene	7.4	ug/kg	0.0074	0	1
O	Soil	SV-05-10	10	11-Jul-07	56-55-3	Benzo(a)anthracene	7.4	ug/kg	0.0074	0	1
O	Soil	SV-05-10	10	11-Jul-07	71-43-2	Benzene	1.9	ug/kg	0.0019	0	1
O	Soil	SV-05-10	10	11-Jul-07	7440-39-3	Barium	75	mg/k	75	1	1
O	Soil	SV-05-10	10	11-Jul-07	7440-38-2	Arsenic	0.5	mg/k	0.5	0	1
O	Soil	SV-05-10	10	11-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
O	Soil	SV-05-10	10	11-Jul-07	91-57-6	2-Methylnaphthalene	7.4	ug/kg	0.0074	0	1
O	Soil	SV-05-10	10	11-Jul-07		2-Fluorobiphenyl	1900	ug/kg	1.9	1	1
O	Soil	SV-05-10	10	11-Jul-07		4-Bromofluorobenzene	0.0152	mg/k	0.0152	1	0
O	Soil	SV-05-10	10	11-Jul-07		4-Bromofluorobenzene	46.6	ug/kg	0.0466	1	1
O	Soil	SV-05-10	10	11-Jul-07	106-43-4	4-Chlorotoluene	4.9	ug/kg	0.0049	0	1
O	Soil	SV-05-10	10	11-Jul-07	83-32-9	Acenaphthene	7.4	ug/kg	0.0074	0	1
O	Soil	SV-05-10	10	11-Jul-07	208-96-8	Acenaphthylene	7.4	ug/kg	0.0074	0	1
O	Soil	SV-05-10	10	11-Jul-07	120-12-7	Anthracene	7.4	ug/kg	0.0074	0	1
Open Space	GS	SP-2-10	10	30-Apr-01		n-butane	692.41	ppmv		1	1
Open Space	GS	SP-2-10	10	30-Apr-01		Propene	0.28	ppmv		1	1
Open Space	GS	SP-2-10	10	30-Apr-01		propane	4.21	ppmv		1	1
Open Space	GS	SP-2-10	10	30-Apr-01		n-pentane	324.13	ppmv		1	1
Open Space	GS	SP-2-10	10	30-Apr-01		i-pentane	1097.66	ppmv		1	1
Open Space	GS	SP-2-10	10	30-Apr-01		i-butane	127.75	ppmv		1	1
Open Space	GS	SP-2-10	10	30-Apr-01		Ethene	0.7	ppmv		1	1
Open Space	GS	SP-2-10	10	30-Apr-01		1-butene	10	ppmv		0	1
Open Space	GS	SP-2-10	10	30-Apr-01		Ethane	3.71	ppmv		1	1
Open Space	GS	SP-2-10	10	30-Apr-01		1-pentene	10.82	ppmv		1	1
Open Space	GS	SP-2-10	10	30-Apr-01		2,2-dimethyl propane	12.09	ppmv		1	1
Open Space	GS	SP-2-15	15	30-Apr-01		Ethane	5.32	ppmv		1	1
Open Space	GS	SP-2-15	15	30-Apr-01		Ethene	0.81	ppmv		1	1
Open Space	GS	SP-2-15	15	30-Apr-01		i-butane	194.69	ppmv		1	1
Open Space	GS	SP-2-15	15	30-Apr-01		n-butane	1108.49	ppmv		1	1
Open Space	GS	SP-2-15	15	30-Apr-01		n-pentane	565.67	ppmv		1	1
Open Space	GS	SP-2-15	15	30-Apr-01		1-pentene	17.42	ppmv		1	1
Open Space	GS	SP-2-15	15	30-Apr-01		i-pentane	1590.57	ppmv		1	1
Open Space	GS	SP-2-15	15	30-Apr-01		2,2-dimethyl propane	17.92	ppmv		1	1
Open Space	GS	SP-2-15	15	30-Apr-01		propane	6.54	ppmv		1	1
Open Space	GS	SP-2-15	15	30-Apr-01		1-butene	10	ppmv		0	1
Open Space	GS	SP-2-15	15	30-Apr-01		Propene	0.3	ppmv		1	1
Open Space	GS	SP-2-6	6	30-Apr-01		n-pentane	108.26	ppmv		1	1
Open Space	GS	SP-2-6	6	30-Apr-01		propane	1.53	ppmv		1	1
Open Space	GS	SP-2-6	6	30-Apr-01		Propene	0.14	ppmv		1	1
Open Space	GS	SP-2-6	6	30-Apr-01		i-pentane	447.98	ppmv		1	1
Open Space	GS	SP-2-6	6	30-Apr-01		i-butane	51.63	ppmv		1	1
Open Space	GS	SP-2-6	6	30-Apr-01		Ethene	0.28	ppmv		1	1
Open Space	GS	SP-2-6	6	30-Apr-01		Ethane	1.32	ppmv		1	1
Open Space	GS	SP-2-6	6	30-Apr-01		2,2-dimethyl propane	5.2	ppmv		1	1
Open Space	GS	SP-2-6	6	30-Apr-01		1-pentene	4.3	ppmv		1	1
Open Space	GS	SP-2-6	6	30-Apr-01		1-butene	2.5	ppmv		1	1
Open Space	GS	SP-2-6	6	30-Apr-01		n-butane	241.82	ppmv		1	1
Open Space	GS	SP-2-10	10	18-Oct-01		1-butene	10.23	ppmv		1	1
Open Space	GS	SP-2-10	10	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
Open Space	GS	SP-2-10	10	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
Open Space	GS	SP-2-10	10	18-Oct-01		Ethane	0.72	ppmv		1	1
Open Space	GS	SP-2-10	10	18-Oct-01		Ethene	0.15	ppmv		1	1
Open Space	GS	SP-2-10	10	18-Oct-01		i-butane	55.37	ppmv		1	1
Open Space	GS	SP-2-10	10	18-Oct-01		i-pentane	461.89	ppmv		1	1
Open Space	GS	SP-2-10	10	18-Oct-01		n-butane	286.56	ppmv		1	1
Open Space	GS	SP-2-10	10	18-Oct-01		n-pentane	73.26	ppmv		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SP-2-10	10	18-Oct-01		Propene	0.2	ppmv		1	1
Open Space	GS	SP-2-10	10	18-Oct-01		1-pentene	0.59	ppmv		1	1
Open Space	GS	SP-2-10	10	18-Oct-01		propane	0.75	ppmv		1	1
Open Space	GS	SP-2-15	15	18-Oct-01		Ethane	1.85	ppmv		1	1
Open Space	GS	SP-2-15	15	18-Oct-01		i-pentane	1188.78	ppmv		1	1
Open Space	GS	SP-2-15	15	18-Oct-01		Propene	0.24	ppmv		1	1
Open Space	GS	SP-2-15	15	18-Oct-01		n-butane	849.53	ppmv		1	1
Open Space	GS	SP-2-15	15	18-Oct-01		n-pentane	323.24	ppmv		1	1
Open Space	GS	SP-2-15	15	18-Oct-01		Ethene	0.25	ppmv		1	1
Open Space	GS	SP-2-15	15	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
Open Space	GS	SP-2-15	15	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
Open Space	GS	SP-2-15	15	18-Oct-01		1-pentene	2.82	ppmv		1	1
Open Space	GS	SP-2-15	15	18-Oct-01		1-butene	16.89	ppmv		1	1
Open Space	GS	SP-2-15	15	18-Oct-01		propane	2.28	ppmv		1	1
Open Space	GS	SP-2-15	15	18-Oct-01		i-butane	153.07	ppmv		1	1
Open Space	GS	SP-2-6	6	18-Oct-01		n-butane	1.19	ppmv		1	1
Open Space	GS	SP-2-6	6	18-Oct-01		propane	0.08	ppmv		1	1
Open Space	GS	SP-2-6	6	18-Oct-01		n-pentane	3	ppmv		1	1
Open Space	GS	SP-2-6	6	18-Oct-01		n-C5	102	ppmv		1	1
Open Space	GS	SP-2-6	6	18-Oct-01		n-C4	189	ppmv		1	1
Open Space	GS	SP-2-6	6	18-Oct-01		2,2-dimethyl propane	0.1	ppmv		0	1
Open Space	GS	SP-2-6	6	18-Oct-01		Propene	0.12	ppmv		1	1
Open Space	GS	SP-2-6	6	18-Oct-01		1-pentene	0.2	ppmv		1	1
Open Space	GS	SP-2-6	6	18-Oct-01	74-82-8	Methane	25.74	ppmv		1	1
Open Space	GS	SP-2-6	6	18-Oct-01	71-43-2	Benzene	0.5	ppmv		0	1
Open Space	GS	SP-2-6	6	18-Oct-01		C1	2210	ppmv		1	1
Open Space	GS	SP-2-6	6	18-Oct-01		C2	10	ppmv		0	1
Open Space	GS	SP-2-6	6	18-Oct-01		Ethane	0.15	ppmv		1	1
Open Space	GS	SP-2-6	6	18-Oct-01		Ethene	0.1	ppmv		0	1
Open Space	GS	SP-2-6	6	18-Oct-01		i-butane	0.21	ppmv		1	1
Open Space	GS	SP-2-6	6	18-Oct-01		i-C4	46.1	ppmv		1	1
Open Space	GS	SP-2-6	6	18-Oct-01		i-C5	349	ppmv		1	1
Open Space	GS	SP-2-6	6	18-Oct-01		i-pentane	3.29	ppmv		1	1
Open Space	GS	SP-2-6	6	18-Oct-01		C3	10	ppmv		0	1
Open Space	GS	SP-2-6	6	18-Oct-01		1-butene	5.11	ppmv		1	1
Open Space	GS	SP-2-10	10	09-Apr-02		propane	2.4	ppmv		1	1
Open Space	GS	SP-2-10	10	09-Apr-02		1-butene	0.1	ppmv		0	1
Open Space	GS	SP-2-10	10	09-Apr-02		1-pentene	4.35	ppmv		1	1
Open Space	GS	SP-2-10	10	09-Apr-02		2,2-dimethyl propane	7.19	ppmv		1	1
Open Space	GS	SP-2-10	10	09-Apr-02		Ethane	1.29	ppmv		1	1
Open Space	GS	SP-2-10	10	09-Apr-02		Ethene	0.21	ppmv		1	1
Open Space	GS	SP-2-10	10	09-Apr-02		i-butane	157.71	ppmv		1	1
Open Space	GS	SP-2-10	10	09-Apr-02		i-pentane	1407.71	ppmv		1	1
Open Space	GS	SP-2-10	10	09-Apr-02		n-pentane	510.53	ppmv		1	1
Open Space	GS	SP-2-10	10	09-Apr-02		Propene	0.1	ppmv		0	1
Open Space	GS	SP-2-10	10	09-Apr-02		n-butane	934.23	ppmv		1	1
Open Space	GS	SP-2-15	15	09-Apr-02		i-C5	3200	ppmv		1	1
Open Space	GS	SP-2-15	15	09-Apr-02		Ethane	2.78	ppmv		1	1
Open Space	GS	SP-2-15	15	09-Apr-02		n-butane	1537.93	ppmv		1	1
Open Space	GS	SP-2-15	15	09-Apr-02		n-pentane	969.2	ppmv		1	1
Open Space	GS	SP-2-15	15	09-Apr-02		n-C5	1300	ppmv		1	1
Open Space	GS	SP-2-15	15	09-Apr-02		n-C4	1900	ppmv		1	1
Open Space	GS	SP-2-15	15	09-Apr-02		i-pentane	2535.77	ppmv		1	1
Open Space	GS	SP-2-15	15	09-Apr-02		i-C4	340	ppmv		1	1
Open Space	GS	SP-2-15	15	09-Apr-02		propane	4.33	ppmv		1	1
Open Space	GS	SP-2-15	15	09-Apr-02		Ethene	0.31	ppmv		1	1
Open Space	GS	SP-2-15	15	09-Apr-02		Propene	0.1	ppmv		0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SP-2-15	15	09-Apr-02		C3	10	ppmv		0	1
Open Space	GS	SP-2-15	15	09-Apr-02		C2	10	ppmv		0	1
Open Space	GS	SP-2-15	15	09-Apr-02		C1	12000	ppmv		1	1
Open Space	GS	SP-2-15	15	09-Apr-02		2,2-dimethyl propane	13.73	ppmv		1	1
Open Space	GS	SP-2-15	15	09-Apr-02		1-pentene	10.49	ppmv		1	1
Open Space	GS	SP-2-15	15	09-Apr-02		1-butene	0.1	ppmv		0	1
Open Space	GS	SP-2-15	15	09-Apr-02		i-butane	280.26	ppmv		1	1
Open Space	GS	SP-2-6	6	09-Apr-02		i-butane	0.1	ppmv		0	1
Open Space	GS	SP-2-6	6	09-Apr-02		n-butane	222.79	ppmv		1	1
Open Space	GS	SP-2-6	6	09-Apr-02		propane	0.58	ppmv		1	1
Open Space	GS	SP-2-6	6	09-Apr-02		n-pentane	115.06	ppmv		1	1
Open Space	GS	SP-2-6	6	09-Apr-02		n-C5	23	ppmv		1	1
Open Space	GS	SP-2-6	6	09-Apr-02		n-C4	36	ppmv		1	1
Open Space	GS	SP-2-6	6	09-Apr-02	74-82-8	Methane	652.26	ppmv		1	1
Open Space	GS	SP-2-6	6	09-Apr-02		1-butene	0.1	ppmv		0	1
Open Space	GS	SP-2-6	6	09-Apr-02		i-C4	12	ppmv		1	1
Open Space	GS	SP-2-6	6	09-Apr-02		Propene	0.1	ppmv		0	1
Open Space	GS	SP-2-6	6	09-Apr-02		Ethene	0.1	ppmv		0	1
Open Space	GS	SP-2-6	6	09-Apr-02		Ethane	0.2	ppmv		1	1
Open Space	GS	SP-2-6	6	09-Apr-02		C3	10	ppmv		0	1
Open Space	GS	SP-2-6	6	09-Apr-02		C2	10	ppmv		0	1
Open Space	GS	SP-2-6	6	09-Apr-02		C1	330	ppmv		1	1
Open Space	GS	SP-2-6	6	09-Apr-02		2,2-dimethyl propane	1.64	ppmv		1	1
Open Space	GS	SP-2-6	6	09-Apr-02		1-pentene	0.54	ppmv		1	1
Open Space	GS	SP-2-6	6	09-Apr-02		i-C5	61	ppmv		1	1
Open Space	GS	SP-2-6	6	09-Apr-02		i-pentane	383.88	ppmv		1	1
Open Space	GS	SP-2-10	10	24-Sep-02		Ethene	0.14	ppmv		1	1
Open Space	GS	SP-2-10	10	24-Sep-02		1-butene	0.1	ppmv		0	1
Open Space	GS	SP-2-10	10	24-Sep-02		1-pentene	1.44	ppmv		1	1
Open Space	GS	SP-2-10	10	24-Sep-02		Ethane	1.23	ppmv		1	1
Open Space	GS	SP-2-10	10	24-Sep-02		i-butane	104.58	ppmv		1	1
Open Space	GS	SP-2-10	10	24-Sep-02		i-pentane	699.52	ppmv		1	1
Open Space	GS	SP-2-10	10	24-Sep-02		n-butane	473.31	ppmv		1	1
Open Space	GS	SP-2-10	10	24-Sep-02		n-pentane	181.86	ppmv		1	1
Open Space	GS	SP-2-10	10	24-Sep-02		propane	1.64	ppmv		1	1
Open Space	GS	SP-2-10	10	24-Sep-02		Propene	0.1	ppmv		0	1
Open Space	GS	SP-2-10	10	24-Sep-02		2,2-dimethyl propane	5.73	ppmv		1	1
Open Space	GS	SP-2-15	15	24-Sep-02		Ethene	0.26	ppmv		1	1
Open Space	GS	SP-2-15	15	24-Sep-02		n-butane	1243.86	ppmv		1	1
Open Space	GS	SP-2-15	15	24-Sep-02		Propene	0.1	ppmv		0	1
Open Space	GS	SP-2-15	15	24-Sep-02		propane	4.18	ppmv		1	1
Open Space	GS	SP-2-15	15	24-Sep-02		n-pentane	535.99	ppmv		1	1
Open Space	GS	SP-2-15	15	24-Sep-02		Ethane	3	ppmv		1	1
Open Space	GS	SP-2-15	15	24-Sep-02		2,2-dimethyl propane	12.78	ppmv		1	1
Open Space	GS	SP-2-15	15	24-Sep-02		1-pentene	5.07	ppmv		1	1
Open Space	GS	SP-2-15	15	24-Sep-02		1-butene	0.1	ppmv		0	1
Open Space	GS	SP-2-15	15	24-Sep-02		i-butane	242.1	ppmv		1	1
Open Space	GS	SP-2-15	15	24-Sep-02		i-pentane	1685.58	ppmv		1	1
Open Space	GS	SP-2-6	6	24-Sep-02		1-butene	0.1	ppmv		0	1
Open Space	GS	SP-2-6	6	24-Sep-02		propane	0.1	ppmv		0	1
Open Space	GS	SP-2-6	6	24-Sep-02		n-pentane	1.77	ppmv		1	1
Open Space	GS	SP-2-6	6	24-Sep-02	74-82-8	Methane	7.28	ppmv		1	1
Open Space	GS	SP-2-6	6	24-Sep-02		i-butane	0.24	ppmv		1	1
Open Space	GS	SP-2-6	6	24-Sep-02		Ethene	0.1	ppmv		0	1
Open Space	GS	SP-2-6	6	24-Sep-02		Ethane	0.1	ppmv		0	1
Open Space	GS	SP-2-6	6	24-Sep-02		1-pentene	0.1	ppmv		0	1
Open Space	GS	SP-2-6	6	24-Sep-02		n-butane	1.25	ppmv		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SP-2-6	6	24-Sep-02		Propene	0.1	ppmv		0	1
Open Space	GS	SP-2-6	6	24-Sep-02		2,2-dimethyl propane	0.11	ppmv		1	1
Open Space	GS	SP-2-6	6	24-Sep-02		i-pentane	2.51	ppmv		1	1
Open Space	GS	SP-2-6	6	23-Jul-07	91-20-3	Naphthalene	0.026	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	106-93-4	1,2-Dibromoethane	0.0097	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07		Ethane	0.0025	%		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	179601-23-1	m,p-Xylenes	0.0055	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	98-82-8	Isopropylbenzene	0.0062	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	87-68-3	Hexachlorobutadiene	0.054	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	100-41-4	Ethylbenzene	0.0055	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	74-82-8	Methane	0.00025	%		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	64-17-5	Ethanol	0.0095	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	75-71-8	Dichlorodifluoromethane	0.0062	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	110-82-7	Cyclohexane	0.047	ug/L		1	0
Open Space	GS	SP-2-6	6	23-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.005	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	74-87-3	Chloromethane	0.01	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	67-66-3	Chloroform	0.0062	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	75-00-3	Chloroethane	0.0033	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07		Ethene	0.0025	%		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	75-35-4	1,1-Dichloroethene	0.005	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0069	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	110-54-3	Hexane	0.021	ug/L		1	0
Open Space	GS	SP-2-6	6	23-Jul-07	75-34-3	1,1-Dichloroethane	0.0051	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0062	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	56-23-5	Carbon tetrachloride	0.008	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	75-09-2	Methylene chloride	0.0044	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	108-90-7	Chlorobenzene	0.0058	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0069	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	103-65-1	n-Propylbenzene	0.0062	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	100-44-7	Benzyl chloride	0.0065	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	75-25-2	Bromoform	0.013	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	74-83-9	Bromomethane	0.0049	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07		Carbon Dioxide	5.4	%		1	0
Open Space	GS	SP-2-6	6	23-Jul-07	75-15-0	Carbon Disulfide	0.0039	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07		Carbon Monoxide	0.025	%		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07		Nitrogen	79	%		1	0
Open Space	GS	SP-2-6	6	23-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0052	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07		Oxygen	16	%		1	0
Open Space	GS	SP-2-6	6	23-Jul-07	95-47-6	o-Xylene	0.0055	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	622-96-8	p-Ethyltoluene	0.0062	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	100-42-5	Styrene	0.0054	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	142-82-5	n-Heptane	0.011	ug/L		1	0
Open Space	GS	SP-2-6	6	23-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0076	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	ug/L		0	0

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SP-2-6	6	23-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0076	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	107-06-2	1,2-Dichloroethane	0.0051	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07		1,2-Dichloroethane-d4	107	%		1	0
Open Space	GS	SP-2-6	6	23-Jul-07	78-87-5	1,2-Dichloropropane	0.0058	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0062	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	107-05-1	Allyl chloride	0.016	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0076	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	67-64-1	Acetone	0.013	ug/L		1	0
Open Space	GS	SP-2-6	6	23-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0059	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	78-93-3	2-Butanone	0.0037	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	591-78-6	2-Hexanone	0.021	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07		4-Bromofluorobenzene	89	%		1	0
Open Space	GS	SP-2-6	6	23-Jul-07	75-27-4	Bromodichloromethane	0.0085	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	109-99-9	Tetrahydrofuran	0.0037	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	108-88-3	Toluene	0.005	ug/L		1	0
Open Space	GS	SP-2-6	6	23-Jul-07		Toluene-d8	92	%		1	0
Open Space	GS	SP-2-6	6	23-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.005	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	79-01-6	Trichloroethene	0.0068	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	75-69-4	Trichlorofluoromethane	0.0071	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	108-05-4	Vinyl Acetate	0	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	127-18-4	Tetrachloroethene	0.0086	ug/L		0	0
Open Space	GS	SP-2-6	6	23-Jul-07	71-43-2	Benzene	0.004	ug/L		0	0
Open Space	GS	SV-06-05	5	18-Jul-07		Ethane	0.0026	%		0	1
Open Space	GS	SV-06-05	5	18-Jul-07	110-54-3	Hexane	0.27	ug/L	0.27	1	1
Open Space	GS	SV-06-05	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	74-82-8	Methane	0.00026	%		0	1
Open Space	GS	SV-06-05	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.14	ug/L	0.14	1	1
Open Space	GS	SV-06-05	5	18-Jul-07	98-82-8	Isopropylbenzene	0.052	ug/L	0.052	1	1
Open Space	GS	SV-06-05	5	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	75-09-2	Methylene chloride	0.0046	ug/L	0.0046	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.056	ug/L	0.056	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	100-41-4	Ethylbenzene	0.22	ug/L	0.22	1	1
Open Space	GS	SV-06-05	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	110-82-7	Cyclohexane	0.25	ug/L	0.25	1	1
Open Space	GS	SV-06-05	5	18-Jul-07	64-17-5	Ethanol	0.0099	ug/L	0.0099	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
Open Space	GS	SV-06-05	5	18-Jul-07		Ethene	0.0026	%		0	1
Open Space	GS	SV-06-05	5	18-Jul-07	127-18-4	Tetrachloroethene	0.009	ug/L	0.009	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0052	ug/L		0	1
Open Space	GS	SV-06-05	5	18-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0074	ug/L	0.0074	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	79-01-6	Trichloroethene	0.0071	ug/L	0.0071	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-06-05	5	18-Jul-07		Toluene-d8	96	%		1	1
Open Space	GS	SV-06-05	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0039	ug/L	0.0039	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	142-82-5	n-Heptane	0.57	ug/L	0.57	1	1
Open Space	GS	SV-06-05	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-06-05	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	100-42-5	Styrene	0.0056	ug/L	0.0056	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.06	ug/L	0.06	1	1
Open Space	GS	SV-06-05	5	18-Jul-07	95-47-6	o-Xylene	0.0088	ug/L	0.0088	1	1
Open Space	GS	SV-06-05	5	18-Jul-07		Oxygen	20	%		1	1
Open Space	GS	SV-06-05	5	18-Jul-07	103-65-1	n-Propylbenzene	0.084	ug/L	0.084	1	1
Open Space	GS	SV-06-05	5	18-Jul-07		Nitrogen	79	%		1	1
Open Space	GS	SV-06-05	5	18-Jul-07	108-88-3	Toluene	0.0098	ug/L	0.0098	1	1
Open Space	GS	SV-06-05	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.041	ug/L	0.041	1	1
Open Space	GS	SV-06-05	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0029	ug/L	0.0029	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.027	ug/L	0.027	1	1
Open Space	GS	SV-06-05	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0061	ug/L	0.0061	0	1
Open Space	GS	SV-06-05	5	18-Jul-07		1,2-Dichloroethane-d4	117	%		1	1
Open Space	GS	SV-06-05	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0053	ug/L	0.0053	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.036	ug/L	0.036	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.039	ug/L	0.039	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0053	ug/L	0.0053	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0072	ug/L	0.0072	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0091	ug/L	0.0091	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0072	ug/L	0.0072	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0092	ug/L	0.0092	0	1
Open Space	GS	SV-06-05	5	18-Jul-07		Carbon Dioxide	0.83	%		1	1
Open Space	GS	SV-06-05	5	18-Jul-07	67-66-3	Chloroform	0.0064	ug/L	0.0064	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	108-90-7	Chlorobenzene	0.0061	ug/L	0.0061	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0083	ug/L	0.0083	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	75-15-0	Carbon Disulfide	0.0041	ug/L	0.0041	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	74-83-9	Bromomethane	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.17	ug/L	0.17	1	1
Open Space	GS	SV-06-05	5	18-Jul-07		Carbon Monoxide	0.026	%		0	1
Open Space	GS	SV-06-05	5	18-Jul-07	78-93-3	2-Butanone	0.016	ug/L	0.016	1	1
Open Space	GS	SV-06-05	5	18-Jul-07	75-27-4	Bromodichloromethane	0.0088	ug/L	0.0088	0	1
Open Space	GS	SV-06-05	5	18-Jul-07		4-Bromofluorobenzene	105	%		1	1
Open Space	GS	SV-06-05	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0054	ug/L	0.0054	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	67-64-1	Acetone	0.058	ug/L	0.058	1	1
Open Space	GS	SV-06-05	5	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Open Space	GS	SV-06-05	5	18-Jul-07	71-43-2	Benzene	0.08	ug/L	0.08	1	1
Open Space	GS	SV-06-05	5	18-Jul-07	100-44-7	Benzyl chloride	0.0068	ug/L	0.0068	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	110-54-3	Hexane	0.061	ug/L	0.061	1	1
Open Space	GS	SV-06-15	15	18-Jul-07	74-82-8	Methane	0.00026	%		0	1
Open Space	GS	SV-06-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.058	ug/L	0.058	1	1
Open Space	GS	SV-06-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0046	ug/L	0.0046	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-06-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.056	ug/L	0.056	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.018	ug/L	0.018	1	1
Open Space	GS	SV-06-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-06-15	15	18-Jul-07		Ethene	0.0026	%		0	1
Open Space	GS	SV-06-15	15	18-Jul-07	64-17-5	Ethanol	0.0099	ug/L	0.0099	0	1
Open Space	GS	SV-06-15	15	18-Jul-07		Ethane	0.0026	%		0	1
Open Space	GS	SV-06-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	110-82-7	Cyclohexane	0.063	ug/L	0.063	1	1
Open Space	GS	SV-06-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0052	ug/L		0	1
Open Space	GS	SV-06-15	15	18-Jul-07		Nitrogen	78	%		1	1
Open Space	GS	SV-06-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.0074	ug/L	0.0074	1	1
Open Space	GS	SV-06-15	15	18-Jul-07		Oxygen	17	%		1	1
Open Space	GS	SV-06-15	15	18-Jul-07	95-47-6	o-Xylene	0.031	ug/L	0.031	1	1
Open Space	GS	SV-06-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.027	ug/L	0.027	1	1
Open Space	GS	SV-06-15	15	18-Jul-07	142-82-5	n-Heptane	0.056	ug/L	0.056	1	1
Open Space	GS	SV-06-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.009	ug/L	0.009	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.0039	ug/L	0.0039	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	108-88-3	Toluene	0.02	ug/L	0.02	1	1
Open Space	GS	SV-06-15	15	18-Jul-07		Toluene-d8	98	%		1	1
Open Space	GS	SV-06-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	79-01-6	Trichloroethene	0.0071	ug/L	0.0071	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0074	ug/L	0.0074	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	100-42-5	Styrene	0.0056	ug/L	0.0056	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.039	ug/L	0.039	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.0029	ug/L	0.0029	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.011	ug/L	0.011	1	1
Open Space	GS	SV-06-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0061	ug/L	0.0061	0	1
Open Space	GS	SV-06-15	15	18-Jul-07		1,2-Dichloroethane-d4	108	%		1	1
Open Space	GS	SV-06-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0053	ug/L	0.0053	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0092	ug/L	0.0092	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	78-93-3	2-Butanone	0.032	ug/L	0.032	1	1
Open Space	GS	SV-06-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.033	ug/L	0.033	1	1
Open Space	GS	SV-06-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0053	ug/L	0.0053	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0072	ug/L	0.0072	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0091	ug/L	0.0091	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0072	ug/L	0.0072	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.036	ug/L	0.036	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.0068	ug/L	0.0068	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	67-66-3	Chloroform	0.0089	ug/L	0.0089	1	1
Open Space	GS	SV-06-15	15	18-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0061	ug/L	0.0061	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.0083	ug/L	0.0083	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-06-15	15	18-Jul-07		Carbon Monoxide	0.026	%		0	1
Open Space	GS	SV-06-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.014	ug/L	0.014	1	1
Open Space	GS	SV-06-15	15	18-Jul-07		Carbon Dioxide	5.4	%		1	1
Open Space	GS	SV-06-15	15	18-Jul-07	74-83-9	Bromomethane	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.0088	ug/L	0.0088	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	71-43-2	Benzene	0.084	ug/L	0.084	1	1
Open Space	GS	SV-06-15	15	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	67-64-1	Acetone	0.064	ug/L	0.064	1	1
Open Space	GS	SV-06-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0054	ug/L	0.0054	0	1
Open Space	GS	SV-06-15	15	18-Jul-07		4-Bromofluorobenzene	103	%		1	1
Open Space	GS	SV-06-15	15	18-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-06-15	15	18-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.0056	ug/L	0.0056	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	110-54-3	Hexane	0.039	ug/L	0.039	1	1
Open Space	GS	SV-29-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	74-82-8	Methane	0.00026	%		0	1
Open Space	GS	SV-29-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.0056	ug/L	0.0056	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-29-15	15	18-Jul-07		Ethene	0.0026	%		0	1
Open Space	GS	SV-29-15	15	18-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	110-82-7	Cyclohexane	0.018	ug/L	0.018	1	1
Open Space	GS	SV-29-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-29-15	15	18-Jul-07		Ethane	0.0026	%		0	1
Open Space	GS	SV-29-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
Open Space	GS	SV-29-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-29-15	15	18-Jul-07		Toluene-d8	97	%		1	1
Open Space	GS	SV-29-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.0038	ug/L	0.0038	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	142-82-5	n-Heptane	0.0099	ug/L	0.0099	1	1
Open Space	GS	SV-29-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.0063	ug/L	0.0063	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	95-47-6	o-Xylene	0.0056	ug/L	0.0056	0	1
Open Space	GS	SV-29-15	15	18-Jul-07		Oxygen	20	%		1	1
Open Space	GS	SV-29-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.0063	ug/L	0.0063	0	1
Open Space	GS	SV-29-15	15	18-Jul-07		Nitrogen	80	%		1	1
Open Space	GS	SV-29-15	15	18-Jul-07	108-88-3	Toluene	0.0066	ug/L	0.0066	1	1
Open Space	GS	SV-29-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-29-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
Open Space	GS	SV-29-15	15	18-Jul-07		1,2-Dichloroethane-d4	112	%		1	1
Open Space	GS	SV-29-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	74-87-3	Chloromethane	0.052	ug/L	0.052	1	1
Open Space	GS	SV-29-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
Open Space	GS	SV-29-15	15	18-Jul-07		Carbon Dioxide	0.3	%		1	1
Open Space	GS	SV-29-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	67-66-3	Chloroform	0.014	ug/L	0.014	1	1
Open Space	GS	SV-29-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.006	ug/L	0.006	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.1	ug/L	0.1	1	1
Open Space	GS	SV-29-15	15	18-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Open Space	GS	SV-29-15	15	18-Jul-07		4-Bromofluorobenzene	105	%		1	1
Open Space	GS	SV-29-15	15	18-Jul-07		Carbon Monoxide	0.026	%		0	1
Open Space	GS	SV-29-15	15	18-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.0086	ug/L	0.0086	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	67-64-1	Acetone	0.046	ug/L	0.046	1	1
Open Space	GS	SV-29-15	15	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	71-43-2	Benzene	0.051	ug/L	0.051	1	1
Open Space	GS	SV-29-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
Open Space	GS	SV-29-15	15	18-Jul-07	78-93-3	2-Butanone	0.018	ug/L	0.018	1	1
Open Space	GS	SV-29-5	5	18-Jul-07	110-54-3	Hexane	0.0046	ug/L	0.0046	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	75-09-2	Methylene chloride	0.0046	ug/L	0.0046	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	74-82-8	Methane	0.00026	%		0	1
Open Space	GS	SV-29-5	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.0057	ug/L	0.0057	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	98-82-8	Isopropylbenzene	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.056	ug/L	0.056	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	100-41-4	Ethylbenzene	0.0057	ug/L	0.0057	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-29-5	5	18-Jul-07		Ethene	0.0026	%		0	1
Open Space	GS	SV-29-5	5	18-Jul-07	64-17-5	Ethanol	0.0099	ug/L	0.0099	0	1
Open Space	GS	SV-29-5	5	18-Jul-07		Ethane	0.0026	%		0	1
Open Space	GS	SV-29-5	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	110-82-7	Cyclohexane	0.0097	ug/L	0.0097	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-29-5	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0052	ug/L		0	1
Open Space	GS	SV-29-5	5	18-Jul-07	79-01-6	Trichloroethene	0.0071	ug/L	0.0071	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-29-5	5	18-Jul-07		Toluene-d8	95	%		1	1
Open Space	GS	SV-29-5	5	18-Jul-07	108-88-3	Toluene	0.0063	ug/L	0.0063	1	1
Open Space	GS	SV-29-5	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0074	ug/L	0.0074	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	127-18-4	Tetrachloroethene	0.009	ug/L	0.009	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	100-42-5	Styrene	0.0056	ug/L	0.0056	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	95-47-6	o-Xylene	0.0057	ug/L	0.0057	0	1
Open Space	GS	SV-29-5	5	18-Jul-07		Oxygen	20	%		1	1
Open Space	GS	SV-29-5	5	18-Jul-07	103-65-1	n-Propylbenzene	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-29-5	5	18-Jul-07		Nitrogen	79	%		1	1
Open Space	GS	SV-29-5	5	18-Jul-07	142-82-5	n-Heptane	0.0054	ug/L	0.0054	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0039	ug/L	0.0039	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.039	ug/L	0.039	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	78-93-3	2-Butanone	0.0052	ug/L	0.0052	1	1
Open Space	GS	SV-29-5	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0061	ug/L	0.0061	0	1
Open Space	GS	SV-29-5	5	18-Jul-07		1,2-Dichloroethane-d4	112	%		1	1
Open Space	GS	SV-29-5	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0053	ug/L	0.0053	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0092	ug/L	0.0092	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0053	ug/L	0.0053	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0072	ug/L	0.0072	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0091	ug/L	0.0091	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0072	ug/L	0.0072	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.036	ug/L	0.036	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	75-27-4	Bromodichloromethane	0.0088	ug/L	0.0088	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	67-66-3	Chloroform	0.012	ug/L	0.012	1	1
Open Space	GS	SV-29-5	5	18-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	108-90-7	Chlorobenzene	0.0061	ug/L	0.0061	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0083	ug/L	0.0083	0	1
Open Space	GS	SV-29-5	5	18-Jul-07		Carbon Monoxide	0.026	%		0	1
Open Space	GS	SV-29-5	5	18-Jul-07	75-15-0	Carbon Disulfide	0.0086	ug/L	0.0086	1	1
Open Space	GS	SV-29-5	5	18-Jul-07		Carbon Dioxide	0.52	%		1	1
Open Space	GS	SV-29-5	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0029	ug/L	0.0029	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	100-44-7	Benzyl chloride	0.0068	ug/L	0.0068	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	71-43-2	Benzene	0.0042	ug/L	0.0042	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	67-64-1	Acetone	0.029	ug/L	0.029	1	1
Open Space	GS	SV-29-5	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0054	ug/L	0.0054	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-29-5	5	18-Jul-07		4-Bromofluorobenzene	100	%		1	1
Open Space	GS	SV-29-5	5	18-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-29-5	5	18-Jul-07	74-83-9	Bromomethane	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	75-09-2	Methylene chloride	0.0044	ug/L	0.0044	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	100-41-4	Ethylbenzene	0.028	ug/L	0.028	1	1
Open Space	GS	SV-32-05	5	20-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	74-82-8	Methane	0.00025	%		0	1
Open Space	GS	SV-32-05	5	20-Jul-07	179601-23-1	m,p-Xylenes	0.13	ug/L	0.13	1	1
Open Space	GS	SV-32-05	5	20-Jul-07	142-82-5	n-Heptane	0.0084	ug/L	0.0084	1	1
Open Space	GS	SV-32-05	5	20-Jul-07	98-82-8	Isopropylbenzene	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	87-68-3	Hexachlorobutadiene	0.054	ug/L	0.054	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-32-05	5	20-Jul-07		Nitrogen	78	%		1	1
Open Space	GS	SV-32-05	5	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.005	ug/L	0.005	0	1
Open Space	GS	SV-32-05	5	20-Jul-07		Ethene	0.0025	%		0	1
Open Space	GS	SV-32-05	5	20-Jul-07	64-17-5	Ethanol	0.0095	ug/L	0.0095	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	110-54-3	Hexane	0.016	ug/L	0.016	1	1
Open Space	GS	SV-32-05	5	20-Jul-07	109-99-9	Tetrahydrofuran	0.0037	ug/L	0.0037	0	1
Open Space	GS	SV-32-05	5	20-Jul-07		Carbon Dioxide	3	%		1	1
Open Space	GS	SV-32-05	5	20-Jul-07		Ethane	0.0025	%		0	1
Open Space	GS	SV-32-05	5	20-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0071	ug/L	0.0071	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	79-01-6	Trichloroethene	0.0068	ug/L	0.0068	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	108-88-3	Toluene	0.021	ug/L	0.021	1	1
Open Space	GS	SV-32-05	5	20-Jul-07		Toluene-d8	85	%		1	1
Open Space	GS	SV-32-05	5	20-Jul-07	103-65-1	n-Propylbenzene	0.0094	ug/L	0.0094	1	1
Open Space	GS	SV-32-05	5	20-Jul-07	127-18-4	Tetrachloroethene	0.0086	ug/L	0.0086	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	100-42-5	Styrene	0.0054	ug/L	0.0054	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	622-96-8	p-Ethyltoluene	0.036	ug/L	0.036	1	1
Open Space	GS	SV-32-05	5	20-Jul-07	95-47-6	o-Xylene	0.04	ug/L	0.04	1	1
Open Space	GS	SV-32-05	5	20-Jul-07		Oxygen	19	%		1	1
Open Space	GS	SV-32-05	5	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.058	ug/L	0.058	1	1
Open Space	GS	SV-32-05	5	20-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	78-87-5	1,2-Dichloropropane	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-32-05	5	20-Jul-07		Carbon Monoxide	0.025	%		0	1
Open Space	GS	SV-32-05	5	20-Jul-07	107-06-2	1,2-Dichloroethane	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0059	ug/L	0.0059	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0097	ug/L	0.0097	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.025	ug/L	0.025	1	1
Open Space	GS	SV-32-05	5	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	75-35-4	1,1-Dichloroethene	0.005	ug/L	0.005	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	75-34-3	1,1-Dichloroethane	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0069	ug/L	0.0069	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-32-05	5	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	ug/L	0.0097	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	ug/L	0.0087	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0069	ug/L	0.0069	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	ug/L	0.0088	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	67-66-3	Chloroform	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	110-82-7	Cyclohexane	0.019	ug/L	0.019	1	1
Open Space	GS	SV-32-05	5	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
Open Space	GS	SV-32-05	5	20-Jul-07		1,2-Dichloroethane-d4	89	%		1	1
Open Space	GS	SV-32-05	5	20-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	78-93-3	2-Butanone	0.027	ug/L	0.027	1	1
Open Space	GS	SV-32-05	5	20-Jul-07	75-00-3	Chloroethane	0.0033	ug/L	0.0033	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	108-90-7	Chlorobenzene	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	56-23-5	Carbon tetrachloride	0.008	ug/L	0.008	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	75-15-0	Carbon Disulfide	0.0039	ug/L	0.0039	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	67-64-1	Acetone	0.08	ug/L	0.08	1	1
Open Space	GS	SV-32-05	5	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.005	ug/L		0	1
Open Space	GS	SV-32-05	5	20-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	71-43-2	Benzene	0.0066	ug/L	0.0066	1	1
Open Space	GS	SV-32-05	5	20-Jul-07	100-44-7	Benzyl chloride	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	75-27-4	Bromodichloromethane	0.0085	ug/L	0.0085	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Open Space	GS	SV-32-05	5	20-Jul-07	74-83-9	Bromomethane	0.0049	ug/L	0.0049	0	1
Open Space	GS	SV-32-05	5	20-Jul-07		4-Bromofluorobenzene	85	%		1	1
Open Space	GS	SV-32-15	15	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0067	ug/L	0.0067	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.037	ug/L	0.037	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	107-06-2	1,2-Dichloroethane	0.005	ug/L	0.005	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	ug/L	0.0086	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0095	ug/L	0.0095	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.07	ug/L	0.07	1	1
Open Space	GS	SV-32-15	15	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	75-35-4	1,1-Dichloroethene	0.0049	ug/L	0.0049	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	75-34-3	1,1-Dichloroethane	0.005	ug/L	0.005	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0067	ug/L	0.0067	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.0061	ug/L	0.0061	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	ug/L	0.0085	0	1
Open Space	GS	SV-32-15	15	20-Jul-07		1,2-Dichloroethane-d4	90	%		1	1
Open Space	GS	SV-32-15	15	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	ug/L	0.0095	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	179601-23-1	m,p-Xylenes	0.46	ug/L	0.46	1	1
Open Space	GS	SV-32-15	15	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	103-65-1	n-Propylbenzene	0.015	ug/L	0.015	1	1
Open Space	GS	SV-32-15	15	20-Jul-07		Nitrogen	80	%		1	1
Open Space	GS	SV-32-15	15	20-Jul-07	78-87-5	1,2-Dichloropropane	0.0057	ug/L	0.0057	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	95-47-6	o-Xylene	0.12	ug/L	0.12	1	1
Open Space	GS	SV-32-15	15	20-Jul-07	74-82-8	Methane	0.00025	%		0	1
Open Space	GS	SV-32-15	15	20-Jul-07	622-96-8	p-Ethyltoluene	0.072	ug/L	0.072	1	1
Open Space	GS	SV-32-15	15	20-Jul-07	98-82-8	Isopropylbenzene	0.0073	ug/L	0.0073	1	1
Open Space	GS	SV-32-15	15	20-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	110-54-3	Hexane	0.0087	ug/L	0.0087	1	1
Open Space	GS	SV-32-15	15	20-Jul-07	87-68-3	Hexachlorobutadiene	0.053	ug/L	0.053	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	100-41-4	Ethylbenzene	0.097	ug/L	0.097	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-32-15	15	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1
Open Space	GS	SV-32-15	15	20-Jul-07		Toluene-d8	86	%		1	1
Open Space	GS	SV-32-15	15	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	ug/L	0.034	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0069	ug/L	0.0069	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	79-01-6	Trichloroethene	0.0066	ug/L	0.0066	0	1
Open Space	GS	SV-32-15	15	20-Jul-07		Oxygen	18	%		1	1
Open Space	GS	SV-32-15	15	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0049	ug/L	0.0049	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	75-09-2	Methylene chloride	0.0098	ug/L	0.0098	1	1
Open Space	GS	SV-32-15	15	20-Jul-07	108-88-3	Toluene	0.42	ug/L	0.42	1	1
Open Space	GS	SV-32-15	15	20-Jul-07	109-99-9	Tetrahydrofuran	0.0054	ug/L	0.0054	1	1
Open Space	GS	SV-32-15	15	20-Jul-07	127-18-4	Tetrachloroethene	0.0084	ug/L	0.0084	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	100-42-5	Styrene	0.0053	ug/L	0.0053	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	78-93-3	2-Butanone	0.037	ug/L	0.037	1	1
Open Space	GS	SV-32-15	15	20-Jul-07	71-43-2	Benzene	0.029	ug/L	0.029	1	1
Open Space	GS	SV-32-15	15	20-Jul-07	64-17-5	Ethanol	0.016	ug/L	0.016	1	1
Open Space	GS	SV-32-15	15	20-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
Open Space	GS	SV-32-15	15	20-Jul-07		Ethane	0.0025	%		0	1
Open Space	GS	SV-32-15	15	20-Jul-07	67-64-1	Acetone	0.031	ug/L	0.031	1	1
Open Space	GS	SV-32-15	15	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.005	ug/L	0.005	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	100-44-7	Benzyl chloride	0.0064	ug/L	0.0064	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-32-15	15	20-Jul-07		Ethene	0.0025	%		0	1
Open Space	GS	SV-32-15	15	20-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	142-82-5	n-Heptane	0.0084	ug/L	0.0084	1	1
Open Space	GS	SV-32-15	15	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	106-99-0	1,3-Butadiene	0.0027	ug/L	0.0027	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.037	ug/L	0.037	1	1
Open Space	GS	SV-32-15	15	20-Jul-07		4-Bromofluorobenzene	84	%		1	1
Open Space	GS	SV-32-15	15	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0049	ug/L		0	1
Open Space	GS	SV-32-15	15	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	75-27-4	Bromodichloromethane	0.0083	ug/L	0.0083	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	67-66-3	Chloroform	0.006	ug/L	0.006	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	108-90-7	Chlorobenzene	0.0057	ug/L	0.0057	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	74-83-9	Bromomethane	0.0048	ug/L	0.0048	0	1
Open Space	GS	SV-32-15	15	20-Jul-07		Carbon Monoxide	0.025	%		0	1
Open Space	GS	SV-32-15	15	20-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	75-15-0	Carbon Disulfide	0.031	ug/L	0.031	1	1
Open Space	GS	SV-32-15	15	20-Jul-07		Carbon Dioxide	2	%		1	1
Open Space	GS	SV-32-15	15	20-Jul-07	56-23-5	Carbon tetrachloride	0.0078	ug/L	0.0078	0	1
Open Space	GS	SV-32-15	15	20-Jul-07	110-82-7	Cyclohexane	0.05	ug/L	0.05	1	1
Open Space	GS	SV-32-15	15	20-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	107-06-2	1,2-Dichloroethane	0.0049	ug/L	0.0049	0	1
Open Space	GS	SV-33-05	5	20-Jul-07		1,2-Dichloroethane-d4	92	%		1	1
Open Space	GS	SV-33-05	5	20-Jul-07	78-87-5	1,2-Dichloropropane	0.0056	ug/L	0.0056	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.012	ug/L	0.012	1	1
Open Space	GS	SV-33-05	5	20-Jul-07	106-99-0	1,3-Butadiene	0.0027	ug/L	0.0027	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0073	ug/L	0.0073	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	123-91-1	1,4-Dioxane	0.017	ug/L	0.017	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-33-05	5	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0056	ug/L	0.0056	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0073	ug/L	0.0073	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0093	ug/L	0.0093	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0073	ug/L	0.0073	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0084	ug/L	0.0084	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0093	ug/L	0.0093	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.028	ug/L	0.028	1	1
Open Space	GS	SV-33-05	5	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.036	ug/L	0.036	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.029	ug/L	0.029	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	75-35-4	1,1-Dichloroethene	0.0048	ug/L	0.0048	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0066	ug/L	0.0066	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0083	ug/L	0.0083	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0066	ug/L	0.0066	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.033	ug/L	0.033	0	1
Open Space	GS	SV-33-05	5	20-Jul-07		4-Bromofluorobenzene	83	%		1	1
Open Space	GS	SV-33-05	5	20-Jul-07	75-34-3	1,1-Dichloroethane	0.0049	ug/L	0.0049	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	108-20-3	Isopropyl ether	0.02	ug/L	0.02	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	98-82-8	Isopropylbenzene	0.0059	ug/L	0.0059	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	179601-23-1	m,p-Xylenes	0.18	ug/L	0.18	1	1
Open Space	GS	SV-33-05	5	20-Jul-07	74-82-8	Methane	0.00024	%		0	1
Open Space	GS	SV-33-05	5	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	75-09-2	Methylene chloride	0.0042	ug/L	0.0042	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	91-20-3	Naphthalene	0.025	ug/L	0.025	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	142-82-5	n-Heptane	0.0057	ug/L	0.0057	1	1
Open Space	GS	SV-33-05	5	20-Jul-07		Nitrogen	78	%		1	1
Open Space	GS	SV-33-05	5	20-Jul-07	103-65-1	n-Propylbenzene	0.0084	ug/L	0.0084	1	1
Open Space	GS	SV-33-05	5	20-Jul-07		Oxygen	21	%		1	1
Open Space	GS	SV-33-05	5	20-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	622-96-8	p-Ethyltoluene	0.032	ug/L	0.032	1	1
Open Space	GS	SV-33-05	5	20-Jul-07	100-42-5	Styrene	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.02	ug/L	0.02	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	78-93-3	2-Butanone	0.018	ug/L	0.018	1	1
Open Space	GS	SV-33-05	5	20-Jul-07	127-18-4	Tetrachloroethene	0.0082	ug/L	0.0082	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	109-99-9	Tetrahydrofuran	0.0036	ug/L	0.0036	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	108-88-3	Toluene	0.11	ug/L	0.11	1	1
Open Space	GS	SV-33-05	5	20-Jul-07		Toluene-d8	87	%		1	1
Open Space	GS	SV-33-05	5	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0048	ug/L	0.0048	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0055	ug/L	0.0055	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	79-01-6	Trichloroethene	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0068	ug/L	0.0068	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	75-01-4	Vinyl chloride	0.0031	ug/L	0.0031	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	95-47-6	o-Xylene	0.048	ug/L	0.048	1	1
Open Space	GS	SV-33-05	5	20-Jul-07	75-25-2	Bromoform	0.012	ug/L	0.012	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	110-54-3	Hexane	0.0043	ug/L	0.0043	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.005	ug/L	0.005	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	67-64-1	Acetone	0.048	ug/L	0.048	1	1
Open Space	GS	SV-33-05	5	20-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	71-43-2	Benzene	0.005	ug/L	0.005	1	1
Open Space	GS	SV-33-05	5	20-Jul-07	75-27-4	Bromodichloromethane	0.0081	ug/L	0.0081	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	74-83-9	Bromomethane	0.0047	ug/L	0.0047	0	1
Open Space	GS	SV-33-05	5	20-Jul-07		Carbon Dioxide	0.45	%		1	1
Open Space	GS	SV-33-05	5	20-Jul-07	75-15-0	Carbon Disulfide	0.0038	ug/L	0.0038	0	1
Open Space	GS	SV-33-05	5	20-Jul-07		Carbon Monoxide	0.024	%		0	1
Open Space	GS	SV-33-05	5	20-Jul-07	56-23-5	Carbon tetrachloride	0.0076	ug/L	0.0076	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-33-05	5	20-Jul-07	108-90-7	Chlorobenzene	0.0056	ug/L	0.0056	0	1
Open Space	GS	SV-33-05	5	20-Jul-07		Ethane	0.0024	%		0	1
Open Space	GS	SV-33-05	5	20-Jul-07	87-68-3	Hexachlorobutadiene	0.052	ug/L	0.052	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	100-44-7	Benzyl chloride	0.0063	ug/L	0.0063	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.02	ug/L	0.02	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	64-17-5	Ethanol	0.0091	ug/L	0.0091	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	100-41-4	Ethylbenzene	0.04	ug/L	0.04	1	1
Open Space	GS	SV-33-05	5	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.006	ug/L	0.006	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	110-82-7	Cyclohexane	0.012	ug/L	0.012	1	1
Open Space	GS	SV-33-05	5	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0055	ug/L	0.0055	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0048	ug/L		0	1
Open Space	GS	SV-33-05	5	20-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-33-05	5	20-Jul-07	67-66-3	Chloroform	0.0059	ug/L	0.0059	0	1
Open Space	GS	SV-33-05	5	20-Jul-07		Ethene	0.0024	%		0	1
Open Space	GS	SV-33-12	12	20-Jul-07	142-82-5	n-Heptane	0.074	ug/L	0.074	1	1
Open Space	GS	SV-33-12	12	20-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	98-82-8	Isopropylbenzene	0.0089	ug/L	0.0089	1	1
Open Space	GS	SV-33-12	12	20-Jul-07	75-09-2	Methylene chloride	0.0044	ug/L	0.0044	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	74-82-8	Methane	0.0016	%		1	1
Open Space	GS	SV-33-12	12	20-Jul-07	179601-23-1	m,p-Xylenes	0.2	ug/L	0.2	1	1
Open Space	GS	SV-33-12	12	20-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	110-54-3	Hexane	0.17	ug/L	0.17	1	1
Open Space	GS	SV-33-12	12	20-Jul-07	87-68-3	Hexachlorobutadiene	0.054	ug/L	0.054	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	100-41-4	Ethylbenzene	0.06	ug/L	0.06	1	1
Open Space	GS	SV-33-12	12	20-Jul-07		Ethene	0.0025	%		0	1
Open Space	GS	SV-33-12	12	20-Jul-07		Nitrogen	80	%		1	1
Open Space	GS	SV-33-12	12	20-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	109-99-9	Tetrahydrofuran	0.0047	ug/L	0.0047	1	1
Open Space	GS	SV-33-12	12	20-Jul-07	100-42-5	Styrene	0.0054	ug/L	0.0054	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	79-01-6	Trichloroethene	0.0068	ug/L	0.0068	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.005	ug/L	0.005	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0071	ug/L	0.0071	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	108-88-3	Toluene	0.26	ug/L	0.26	1	1
Open Space	GS	SV-33-12	12	20-Jul-07	103-65-1	n-Propylbenzene	0.012	ug/L	0.012	1	1
Open Space	GS	SV-33-12	12	20-Jul-07	127-18-4	Tetrachloroethene	0.0086	ug/L	0.0086	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	64-17-5	Ethanol	0.011	ug/L	0.011	1	1
Open Space	GS	SV-33-12	12	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	622-96-8	p-Ethyltoluene	0.034	ug/L	0.034	1	1
Open Space	GS	SV-33-12	12	20-Jul-07	95-47-6	o-Xylene	0.046	ug/L	0.046	1	1
Open Space	GS	SV-33-12	12	20-Jul-07		Oxygen	17	%		1	1
Open Space	GS	SV-33-12	12	20-Jul-07		Toluene-d8	89	%		1	1
Open Space	GS	SV-33-12	12	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	ug/L	0.0088	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	78-93-3	2-Butanone	0.041	ug/L	0.041	1	1
Open Space	GS	SV-33-12	12	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.069	ug/L	0.069	1	1
Open Space	GS	SV-33-12	12	20-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	106-99-0	1,3-Butadiene	0.013	ug/L	0.013	1	1
Open Space	GS	SV-33-12	12	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.013	ug/L	0.013	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-33-12	12	20-Jul-07		1,2-Dichloroethane-d4	92	%		1	1
Open Space	GS	SV-33-12	12	20-Jul-07		4-Bromofluorobenzene	81	%		1	1
Open Space	GS	SV-33-12	12	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	78-87-5	1,2-Dichloropropane	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0097	ug/L	0.0097	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.03	ug/L	0.03	1	1
Open Space	GS	SV-33-12	12	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	75-35-4	1,1-Dichloroethene	0.005	ug/L	0.005	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	75-34-3	1,1-Dichloroethane	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0069	ug/L	0.0069	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	ug/L	0.0097	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	ug/L	0.0087	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0069	ug/L	0.0069	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	107-06-2	1,2-Dichloroethane	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	110-82-7	Cyclohexane	0.17	ug/L	0.17	1	1
Open Space	GS	SV-33-12	12	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0079	ug/L		1	1
Open Space	GS	SV-33-12	12	20-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	67-66-3	Chloroform	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	75-00-3	Chloroethane	0.0033	ug/L	0.0033	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	108-90-7	Chlorobenzene	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	56-23-5	Carbon tetrachloride	0.008	ug/L	0.008	0	1
Open Space	GS	SV-33-12	12	20-Jul-07		Carbon Monoxide	0.025	%		0	1
Open Space	GS	SV-33-12	12	20-Jul-07	75-15-0	Carbon Disulfide	0.05	ug/L	0.05	1	1
Open Space	GS	SV-33-12	12	20-Jul-07		Carbon Dioxide	3.1	%		1	1
Open Space	GS	SV-33-12	12	20-Jul-07	74-83-9	Bromomethane	0.0049	ug/L	0.0049	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	75-27-4	Bromodichloromethane	0.0085	ug/L	0.0085	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	67-64-1	Acetone	0.056	ug/L	0.056	1	1
Open Space	GS	SV-33-12	12	20-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	100-44-7	Benzyl chloride	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-33-12	12	20-Jul-07		Ethane	0.0025	%		0	1
Open Space	GS	SV-33-12	12	20-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Open Space	GS	SV-33-12	12	20-Jul-07	71-43-2	Benzene	0.057	ug/L	0.057	1	1
Open Space	GS	SV-34-05	5	20-Jul-07	103-65-1	n-Propylbenzene	0.014	ug/L	0.014	1	1
Open Space	GS	SV-34-05	5	20-Jul-07	108-88-3	Toluene	0.33	ug/L	0.33	1	1
Open Space	GS	SV-34-05	5	20-Jul-07	127-18-4	Tetrachloroethene	0.009	ug/L	0.009	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	75-35-4	1,1-Dichloroethene	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	100-42-5	Styrene	0.0056	ug/L	0.0056	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	622-96-8	p-Ethyltoluene	0.049	ug/L	0.049	1	1
Open Space	GS	SV-34-05	5	20-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-34-05	5	20-Jul-07		Oxygen	20	%		1	1
Open Space	GS	SV-34-05	5	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
Open Space	GS	SV-34-05	5	20-Jul-07		Nitrogen	78	%		1	1
Open Space	GS	SV-34-05	5	20-Jul-07	142-82-5	n-Heptane	0.0091	ug/L	0.0091	1	1
Open Space	GS	SV-34-05	5	20-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	75-09-2	Methylene chloride	0.0046	ug/L	0.0046	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	74-82-8	Methane	0.00026	%		0	1
Open Space	GS	SV-34-05	5	20-Jul-07	179601-23-1	m,p-Xylenes	0.35	ug/L	0.35	1	1
Open Space	GS	SV-34-05	5	20-Jul-07	98-82-8	Isopropylbenzene	0.0066	ug/L	0.0066	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-34-05	5	20-Jul-07	95-47-6	o-Xylene	0.084	ug/L	0.084	1	1
Open Space	GS	SV-34-05	5	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0091	ug/L	0.0091	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0072	ug/L	0.0072	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.036	ug/L	0.036	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0092	ug/L	0.0092	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-34-05	5	20-Jul-07		Toluene-d8	88	%		1	1
Open Space	GS	SV-34-05	5	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.039	ug/L	0.039	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	107-06-2	1,2-Dichloroethane	0.0053	ug/L	0.0053	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0072	ug/L	0.0072	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	75-34-3	1,1-Dichloroethane	0.0053	ug/L	0.0053	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0074	ug/L	0.0074	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	79-01-6	Trichloroethene	0.0071	ug/L	0.0071	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.037	ug/L	0.037	1	1
Open Space	GS	SV-34-05	5	20-Jul-07	78-93-3	2-Butanone	0.015	ug/L	0.015	1	1
Open Space	GS	SV-34-05	5	20-Jul-07	74-83-9	Bromomethane	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	75-27-4	Bromodichloromethane	0.0088	ug/L	0.0088	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	100-44-7	Benzyl chloride	0.0068	ug/L	0.0068	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	71-43-2	Benzene	0.03	ug/L	0.03	1	1
Open Space	GS	SV-34-05	5	20-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	67-64-1	Acetone	0.024	ug/L	0.024	1	1
Open Space	GS	SV-34-05	5	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0054	ug/L	0.0054	0	1
Open Space	GS	SV-34-05	5	20-Jul-07		Carbon Dioxide	1.5	%		1	1
Open Space	GS	SV-34-05	5	20-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0079	ug/L	0.0079	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	109-99-9	Tetrahydrofuran	0.0039	ug/L	0.0039	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.021	ug/L	0.021	1	1
Open Space	GS	SV-34-05	5	20-Jul-07	78-87-5	1,2-Dichloropropane	0.0061	ug/L	0.0061	0	1
Open Space	GS	SV-34-05	5	20-Jul-07		1,2-Dichloroethane-d4	92	%		1	1
Open Space	GS	SV-34-05	5	20-Jul-07		4-Bromofluorobenzene	77	%		1	1
Open Space	GS	SV-34-05	5	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	106-99-0	1,3-Butadiene	0.0029	ug/L	0.0029	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	75-15-0	Carbon Disulfide	0.016	ug/L	0.016	1	1
Open Space	GS	SV-34-05	5	20-Jul-07	110-54-3	Hexane	0.017	ug/L	0.017	1	1
Open Space	GS	SV-34-05	5	20-Jul-07	100-41-4	Ethylbenzene	0.086	ug/L	0.086	1	1
Open Space	GS	SV-34-05	5	20-Jul-07		Ethene	0.0026	%		0	1
Open Space	GS	SV-34-05	5	20-Jul-07	64-17-5	Ethanol	0.0099	ug/L	0.0099	0	1
Open Space	GS	SV-34-05	5	20-Jul-07		Ethane	0.0026	%		0	1
Open Space	GS	SV-34-05	5	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	110-82-7	Cyclohexane	0.023	ug/L	0.023	1	1
Open Space	GS	SV-34-05	5	20-Jul-07	108-90-7	Chlorobenzene	0.0061	ug/L	0.0061	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	87-68-3	Hexachlorobutadiene	0.056	ug/L	0.056	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.006	ug/L	0.006	0	1
Open Space	GS	SV-34-05	5	20-Jul-07		Carbon Monoxide	0.026	%		0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-34-05	5	20-Jul-07	56-23-5	Carbon tetrachloride	0.0083	ug/L	0.0083	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	67-66-3	Chloroform	0.0064	ug/L	0.0064	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-34-05	5	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0052	ug/L		0	1
Open Space	GS	SV-34-15	15	20-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	74-82-8	Methane	0.00026	%		0	1
Open Space	GS	SV-34-15	15	20-Jul-07	142-82-5	n-Heptane	0.0078	ug/L	0.0078	1	1
Open Space	GS	SV-34-15	15	20-Jul-07	179601-23-1	m,p-Xylenes	0.074	ug/L	0.074	1	1
Open Space	GS	SV-34-15	15	20-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-34-15	15	20-Jul-07		Ethene	0.0026	%		0	1
Open Space	GS	SV-34-15	15	20-Jul-07	110-54-3	Hexane	0.0045	ug/L	0.0045	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	100-41-4	Ethylbenzene	0.017	ug/L	0.017	1	1
Open Space	GS	SV-34-15	15	20-Jul-07		Nitrogen	79	%		1	1
Open Space	GS	SV-34-15	15	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	108-88-3	Toluene	0.044	ug/L	0.044	1	1
Open Space	GS	SV-34-15	15	20-Jul-07	109-99-9	Tetrahydrofuran	0.0045	ug/L	0.0045	1	1
Open Space	GS	SV-34-15	15	20-Jul-07	103-65-1	n-Propylbenzene	0.0063	ug/L	0.0063	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	622-96-8	p-Ethyltoluene	0.019	ug/L	0.019	1	1
Open Space	GS	SV-34-15	15	20-Jul-07	95-47-6	o-Xylene	0.018	ug/L	0.018	1	1
Open Space	GS	SV-34-15	15	20-Jul-07		Oxygen	13	%		1	1
Open Space	GS	SV-34-15	15	20-Jul-07		Toluene-d8	84	%		1	1
Open Space	GS	SV-34-15	15	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.006	ug/L	0.006	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0081	ug/L	0.0081	1	1
Open Space	GS	SV-34-15	15	20-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
Open Space	GS	SV-34-15	15	20-Jul-07		1,2-Dichloroethane-d4	88	%		1	1
Open Space	GS	SV-34-15	15	20-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	78-93-3	2-Butanone	0.038	ug/L	0.038	1	1
Open Space	GS	SV-34-15	15	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.02	ug/L	0.02	1	1
Open Space	GS	SV-34-15	15	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-34-15	15	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
Open Space	GS	SV-34-15	15	20-Jul-07		Ethane	0.0026	%		0	1
Open Space	GS	SV-34-15	15	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	67-66-3	Chloroform	0.0063	ug/L	0.0063	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	110-82-7	Cyclohexane	0.017	ug/L	0.017	1	1
Open Space	GS	SV-34-15	15	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
Open Space	GS	SV-34-15	15	20-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
Open Space	GS	SV-34-15	15	20-Jul-07		Carbon Monoxide	0.026	%		0	1
Open Space	GS	SV-34-15	15	20-Jul-07	75-15-0	Carbon Disulfide	0.0074	ug/L	0.0074	1	1
Open Space	GS	SV-34-15	15	20-Jul-07	75-27-4	Bromodichloromethane	0.0086	ug/L	0.0086	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	67-64-1	Acetone	0.037	ug/L	0.037	1	1
Open Space	GS	SV-34-15	15	20-Jul-07		Carbon Dioxide	7.9	%		1	1
Open Space	GS	SV-34-15	15	20-Jul-07	71-43-2	Benzene	0.0041	ug/L	0.0041	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Open Space	GS	SV-34-15	15	20-Jul-07		4-Bromofluorobenzene	81	%		1	1
Open Space	GS	SV-34-15	15	20-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Open Space	GS	SV-34-15	15	20-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.037	ug/L	0.037	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	74-82-8	Methane	0.0018	%		1	1
Open Space	GS	SV-36-05	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.065	ug/L	0.065	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	108-20-3	Isopropyl ether	0.14	ug/L	0.14	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.03	ug/L	0.03	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.083	ug/L	0.083	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	110-54-3	Hexane	8	ug/L	8	1	1
Open Space	GS	SV-36-05	5	18-Jul-07	98-82-8	Isopropylbenzene	0.042	ug/L	0.042	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.36	ug/L	0.36	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	64-17-5	Ethanol	0.064	ug/L	0.064	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.14	ug/L	0.14	0	1
Open Space	GS	SV-36-05	5	18-Jul-07		Ethene	0.0025	%		0	1
Open Space	GS	SV-36-05	5	18-Jul-07	75-09-2	Methylene chloride	0.029	ug/L	0.029	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	108-88-3	Toluene	0.032	ug/L	0.032	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	110-82-7	Cyclohexane	9.8	ug/L	9.8	1	1
Open Space	GS	SV-36-05	5	18-Jul-07		Ethane	0.0025	%		0	1
Open Space	GS	SV-36-05	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.042	ug/L	0.042	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	124-48-1	Dibromochloromethane	0.072	ug/L	0.072	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	100-41-4	Ethylbenzene	0.037	ug/L	0.037	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.1	ug/L	0.1	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	75-01-4	Vinyl chloride	0.022	ug/L	0.022	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.047	ug/L	0.047	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.058	ug/L	0.058	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.038	ug/L	0.038	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.038	ug/L	0.038	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.034	ug/L	0.034	0	1
Open Space	GS	SV-36-05	5	18-Jul-07		Toluene-d8	92	%		1	1
Open Space	GS	SV-36-05	5	18-Jul-07	127-18-4	Tetrachloroethene	0.057	ug/L	0.057	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-36-05	5	18-Jul-07	79-01-6	Trichloroethene	0.045	ug/L	0.045	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	91-20-3	Naphthalene	0.18	ug/L	0.18	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.14	ug/L	0.14	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	100-42-5	Styrene	0.036	ug/L	0.036	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.042	ug/L	0.042	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	95-47-6	o-Xylene	0.037	ug/L	0.037	0	1
Open Space	GS	SV-36-05	5	18-Jul-07		Oxygen	15	%		1	1
Open Space	GS	SV-36-05	5	18-Jul-07	103-65-1	n-Propylbenzene	0.042	ug/L	0.042	0	1
Open Space	GS	SV-36-05	5	18-Jul-07		Nitrogen	80	%		1	1
Open Space	GS	SV-36-05	5	18-Jul-07	142-82-5	n-Heptane	0.13	ug/L	0.13	1	1
Open Space	GS	SV-36-05	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.025	ug/L	0.025	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.039	ug/L	0.039	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.035	ug/L	0.035	0	1
Open Space	GS	SV-36-05	5	18-Jul-07		4-Bromofluorobenzene	101	%		1	1
Open Space	GS	SV-36-05	5	18-Jul-07	591-78-6	2-Hexanone	0.14	ug/L	0.14	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	78-93-3	2-Butanone	0.025	ug/L	0.025	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.034	ug/L		0	1
Open Space	GS	SV-36-05	5	18-Jul-07	123-91-1	1,4-Dioxane	0.12	ug/L	0.12	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.046	ug/L	0.046	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.051	ug/L	0.051	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	67-64-1	Acetone	0.08	ug/L	0.08	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.042	ug/L	0.042	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.039	ug/L	0.039	0	1
Open Space	GS	SV-36-05	5	18-Jul-07		1,2-Dichloroethane-d4	136	%		1	1
Open Space	GS	SV-36-05	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.034	ug/L	0.034	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.051	ug/L	0.051	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.059	ug/L	0.059	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	71-43-2	Benzene	0.15	ug/L	0.15	1	1
Open Space	GS	SV-36-05	5	18-Jul-07	75-27-4	Bromodichloromethane	0.057	ug/L	0.057	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.042	ug/L	0.042	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	100-44-7	Benzyl chloride	0.044	ug/L	0.044	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	106-99-0	1,3-Butadiene	0.019	ug/L	0.019	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	108-90-7	Chlorobenzene	0.039	ug/L	0.039	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	74-87-3	Chloromethane	0.19	ug/L	0.19	1	1
Open Space	GS	SV-36-05	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.051	ug/L	0.051	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	75-00-3	Chloroethane	0.022	ug/L	0.022	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	107-05-1	Allyl chloride	0.1	ug/L	0.1	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.053	ug/L	0.053	0	1
Open Space	GS	SV-36-05	5	18-Jul-07		Carbon Monoxide	0.025	%		0	1
Open Space	GS	SV-36-05	5	18-Jul-07	75-15-0	Carbon Disulfide	0.026	ug/L	0.026	0	1
Open Space	GS	SV-36-05	5	18-Jul-07		Carbon Dioxide	5.4	%		1	1
Open Space	GS	SV-36-05	5	18-Jul-07	74-83-9	Bromomethane	0.033	ug/L	0.033	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.22	ug/L	0.22	1	1
Open Space	GS	SV-36-05	5	18-Jul-07	67-66-3	Chloroform	0.041	ug/L	0.041	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	75-25-2	Bromoform	0.087	ug/L	0.087	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.23	ug/L	0.23	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.065	ug/L	0.065	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.034	ug/L	0.034	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.034	ug/L	0.034	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.2	ug/L	0.2	0	1
Open Space	GS	SV-36-05	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.25	ug/L	0.25	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	95-50-1	1,2-Dichlorobenzene	10	ug/L	10	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	71-55-6	1,1,1-Trichloroethane	9.4	ug/L	9.4	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	96-18-4	1,2,3-Trichloropropane	42	ug/L	42	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	106-93-4	1,2-Dibromoethane	13	ug/L	13	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	8.5	ug/L	8.5	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	51	ug/L	51	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-36-12	12	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	12	ug/L	12	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	75-35-4	1,1-Dichloroethene	6.8	ug/L	6.8	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	75-34-3	1,1-Dichloroethane	7	ug/L	7	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	79-00-5	1,1,2-Trichloroethane	9.4	ug/L	9.4	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	12	ug/L	12	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	48	ug/L	48	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	110-54-3	Hexane	820	ug/L	820	1	1
Open Space	GS	SV-36-12	12	18-Jul-07	107-06-2	1,2-Dichloroethane	7	ug/L	7	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	13	ug/L	13	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	179601-23-1	m,p-Xylenes	7.5	ug/L	7.5	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	64-17-5	Ethanol	13	ug/L	13	0	1
Open Space	GS	SV-36-12	12	18-Jul-07		Nitrogen	84	%		1	1
Open Space	GS	SV-36-12	12	18-Jul-07	142-82-5	n-Heptane	200	ug/L	200	1	1
Open Space	GS	SV-36-12	12	18-Jul-07	91-20-3	Naphthalene	36	ug/L	36	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	75-09-2	Methylene chloride	11	ug/L	11	1	1
Open Space	GS	SV-36-12	12	18-Jul-07		Oxygen	2.3	%		1	1
Open Space	GS	SV-36-12	12	18-Jul-07	74-82-8	Methane	0.52	%		1	1
Open Space	GS	SV-36-12	12	18-Jul-07	95-47-6	o-Xylene	7.5	ug/L	7.5	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	98-82-8	Isopropylbenzene	8.5	ug/L	8.5	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	108-20-3	Isopropyl ether	29	ug/L	29	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	67-63-0	Isopropyl alcohol	17	ug/L	17	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	87-68-3	Hexachlorobutadiene	74	ug/L	74	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	637-92-3	Ethyl tert butyl ether	29	ug/L	29	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	100-41-4	Ethylbenzene	7.5	ug/L	7.5	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	1634-04-4	Methyl tert-butyl ether	6.2	ug/L	6.2	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	108-88-3	Toluene	8.3	ug/L	8.3	1	1
Open Space	GS	SV-36-12	12	18-Jul-07	75-01-4	Vinyl chloride	4.4	ug/L	4.4	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	75-69-4	Trichlorofluoromethane	9.7	ug/L	9.7	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	79-01-6	Trichloroethene	9.3	ug/L	9.3	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	7.8	ug/L	7.8	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	103-65-1	n-Propylbenzene	8.5	ug/L	8.5	0	1
Open Space	GS	SV-36-12	12	18-Jul-07		Toluene-d8	98	%		1	1
Open Space	GS	SV-36-12	12	18-Jul-07		Ethane	0.0087	%		0	1
Open Space	GS	SV-36-12	12	18-Jul-07	109-99-9	Tetrahydrofuran	5.1	ug/L	5.1	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	127-18-4	Tetrachloroethene	12	ug/L	12	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	75-65-0	tert-Butyl alcohol	110	ug/L	110	1	1
Open Space	GS	SV-36-12	12	18-Jul-07	994-05-8	Tert-amyl methyl ether	29	ug/L	29	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	100-42-5	Styrene	7.4	ug/L	7.4	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	622-96-8	p-Ethyltoluene	8.5	ug/L	8.5	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	6.8	ug/L	6.8	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	8.1	ug/L	8.1	0	1
Open Space	GS	SV-36-12	12	18-Jul-07		Ethene	0.0087	%		0	1
Open Space	GS	SV-36-12	12	18-Jul-07	107-05-1	Allyl chloride	22	ug/L	22	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	67-64-1	Acetone	200	ug/L	200	1	1
Open Space	GS	SV-36-12	12	18-Jul-07	108-10-1	4-Methyl-2-pentanone	7.1	ug/L	7.1	0	1
Open Space	GS	SV-36-12	12	18-Jul-07		4-Bromofluorobenzene	101	%		1	1
Open Space	GS	SV-36-12	12	18-Jul-07	100-44-7	Benzyl chloride	9	ug/L	9	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	78-93-3	2-Butanone	9.7	ug/L	9.7	1	1
Open Space	GS	SV-36-12	12	18-Jul-07	75-27-4	Bromodichloromethane	12	ug/L	12	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	123-91-1	1,4-Dioxane	25	ug/L	25	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	106-46-7	1,4-Dichlorobenzene	10	ug/L	10	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	541-73-1	1,3-Dichlorobenzene	10	ug/L	10	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	106-99-0	1,3-Butadiene	3.8	ug/L	3.8	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	8.5	ug/L	8.5	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	78-87-5	1,2-Dichloropropane	8	ug/L	8	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	591-78-6	2-Hexanone	28	ug/L	28	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-36-12	12	18-Jul-07	75-00-3	Chloroethane	4.6	ug/L	4.6	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	75-71-8	Dichlorodifluoromethane	8.6	ug/L	8.6	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	124-48-1	Dibromochloromethane	15	ug/L	15	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	110-82-7	Cyclohexane	420	ug/L	420	1	1
Open Space	GS	SV-36-12	12	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	7.8	ug/L	7.8	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	6.8	ug/L		0	1
Open Space	GS	SV-36-12	12	18-Jul-07	71-43-2	Benzene	280	ug/L	280	1	1
Open Space	GS	SV-36-12	12	18-Jul-07	67-66-3	Chloroform	8.4	ug/L	8.4	0	1
Open Space	GS	SV-36-12	12	18-Jul-07		1,2-Dichloroethane-d4	115	%		1	1
Open Space	GS	SV-36-12	12	18-Jul-07	108-90-7	Chlorobenzene	8	ug/L	8	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	56-23-5	Carbon tetrachloride	11	ug/L	11	0	1
Open Space	GS	SV-36-12	12	18-Jul-07		Carbon Monoxide	0.087	%		0	1
Open Space	GS	SV-36-12	12	18-Jul-07	75-15-0	Carbon Disulfide	5.4	ug/L	5.4	0	1
Open Space	GS	SV-36-12	12	18-Jul-07		Carbon Dioxide	12	%		1	1
Open Space	GS	SV-36-12	12	18-Jul-07	74-83-9	Bromomethane	6.7	ug/L	6.7	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	75-25-2	Bromoform	18	ug/L	18	0	1
Open Space	GS	SV-36-12	12	18-Jul-07	74-87-3	Chloromethane	62	ug/L	62	1	1
Open Space	GS	SV-37-05	5	18-Jul-07	79-01-6	Trichloroethene	0.0068	ug/L	0.0068	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0071	ug/L	0.0071	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
Open Space	GS	SV-37-05	5	18-Jul-07		Toluene-d8	98	%		1	1
Open Space	GS	SV-37-05	5	18-Jul-07	108-88-3	Toluene	0.031	ug/L	0.031	1	1
Open Space	GS	SV-37-05	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0037	ug/L	0.0037	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.005	ug/L	0.005	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	100-42-5	Styrene	0.0054	ug/L	0.0054	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	95-47-6	o-Xylene	0.014	ug/L	0.014	1	1
Open Space	GS	SV-37-05	5	18-Jul-07		Oxygen	20	%		1	1
Open Space	GS	SV-37-05	5	18-Jul-07	103-65-1	n-Propylbenzene	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-37-05	5	18-Jul-07		Nitrogen	78	%		1	1
Open Space	GS	SV-37-05	5	18-Jul-07	142-82-5	n-Heptane	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0086	ug/L	0.0086	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	71-43-2	Benzene	0.0079	ug/L	0.0079	1	1
Open Space	GS	SV-37-05	5	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	67-64-1	Acetone	0.02	ug/L	0.02	1	1
Open Space	GS	SV-37-05	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-37-05	5	18-Jul-07		4-Bromofluorobenzene	103	%		1	1
Open Space	GS	SV-37-05	5	18-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	78-93-3	2-Butanone	0.012	ug/L	0.012	1	1
Open Space	GS	SV-37-05	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0059	ug/L	0.0059	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	75-09-2	Methylene chloride	0.0044	ug/L	0.0044	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	100-44-7	Benzyl chloride	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-37-05	5	18-Jul-07		1,2-Dichloroethane-d4	110	%		1	1
Open Space	GS	SV-37-05	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	ug/L	0.0088	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0097	ug/L	0.0097	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0062	ug/L	0.0062	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-37-05	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.005	ug/L	0.005	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0069	ug/L	0.0069	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	ug/L	0.0097	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	ug/L	0.0087	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0069	ug/L	0.0069	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	98-82-8	Isopropylbenzene	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.023	ug/L	0.023	1	1
Open Space	GS	SV-37-05	5	18-Jul-07	75-27-4	Bromodichloromethane	0.0085	ug/L	0.0085	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	110-54-3	Hexane	0.0044	ug/L	0.0044	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.054	ug/L	0.054	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	100-41-4	Ethylbenzene	0.0055	ug/L	0.0055	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-37-05	5	18-Jul-07		Ethene	0.0025	%		0	1
Open Space	GS	SV-37-05	5	18-Jul-07	64-17-5	Ethanol	0.0095	ug/L	0.0095	0	1
Open Space	GS	SV-37-05	5	18-Jul-07		Ethane	0.0025	%		0	1
Open Space	GS	SV-37-05	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-37-05	5	18-Jul-07		Carbon Dioxide	1.7	%		1	1
Open Space	GS	SV-37-05	5	18-Jul-07	74-82-8	Methane	0.00025	%		0	1
Open Space	GS	SV-37-05	5	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	74-83-9	Bromomethane	0.0049	ug/L	0.0049	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	75-15-0	Carbon Disulfide	0.0039	ug/L	0.0039	0	1
Open Space	GS	SV-37-05	5	18-Jul-07		Carbon Monoxide	0.025	%		0	1
Open Space	GS	SV-37-05	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.008	ug/L	0.008	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	75-00-3	Chloroethane	0.0033	ug/L	0.0033	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	67-66-3	Chloroform	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.005	ug/L		0	1
Open Space	GS	SV-37-05	5	18-Jul-07	108-90-7	Chlorobenzene	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-37-05	5	18-Jul-07	110-82-7	Cyclohexane	0.0097	ug/L	0.0097	1	1
Open Space	GS	SV-37-05	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.018	ug/L	0.018	1	1
Open Space	GS	SV-37-15	15	18-Jul-07	95-47-6	o-Xylene	0.018	ug/L	0.018	1	1
Open Space	GS	SV-37-15	15	18-Jul-07		Oxygen	15	%		1	1
Open Space	GS	SV-37-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.0063	ug/L	0.0063	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	142-82-5	n-Heptane	0.099	ug/L	0.099	1	1
Open Space	GS	SV-37-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	74-82-8	Methane	0.0034	%		1	1
Open Space	GS	SV-37-15	15	18-Jul-07		Nitrogen	81	%		1	1
Open Space	GS	SV-37-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.086	ug/L	0.086	1	1
Open Space	GS	SV-37-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.0038	ug/L	0.0038	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	108-88-3	Toluene	0.13	ug/L	0.13	1	1
Open Space	GS	SV-37-15	15	18-Jul-07		Toluene-d8	98	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-37-15	15	18-Jul-07		Carbon Monoxide	0.026	%		0	1
Open Space	GS	SV-37-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	79-01-6	Trichloroethene	0.0087	ug/L	0.0087	1	1
Open Space	GS	SV-37-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.052	ug/L	0.052	1	1
Open Space	GS	SV-37-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
Open Space	GS	SV-37-15	15	18-Jul-07		4-Bromofluorobenzene	104	%		1	1
Open Space	GS	SV-37-15	15	18-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	78-93-3	2-Butanone	0.031	ug/L	0.031	1	1
Open Space	GS	SV-37-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.06	ug/L	0.06	1	1
Open Space	GS	SV-37-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0075	ug/L	0.0075	1	1
Open Space	GS	SV-37-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
Open Space	GS	SV-37-15	15	18-Jul-07		1,2-Dichloroethane-d4	112	%		1	1
Open Space	GS	SV-37-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-37-15	15	18-Jul-07		Ethane	0.0026	%		0	1
Open Space	GS	SV-37-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.021	ug/L	0.021	1	1
Open Space	GS	SV-37-15	15	18-Jul-07	67-64-1	Acetone	0.049	ug/L	0.049	1	1
Open Space	GS	SV-37-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	110-54-3	Hexane	0.41	ug/L	0.41	1	1
Open Space	GS	SV-37-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.021	ug/L	0.021	1	1
Open Space	GS	SV-37-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	110-82-7	Cyclohexane	0.18	ug/L	0.18	1	1
Open Space	GS	SV-37-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Open Space	GS	SV-37-15	15	18-Jul-07		Ethene	0.0026	%		0	1
Open Space	GS	SV-37-15	15	18-Jul-07	71-43-2	Benzene	0.11	ug/L	0.11	1	1
Open Space	GS	SV-37-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
Open Space	GS	SV-37-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.0086	ug/L	0.0086	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-37-15	15	18-Jul-07		Carbon Dioxide	4.3	%		1	1
Open Space	GS	SV-37-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.13	ug/L	0.13	1	1
Open Space	GS	SV-37-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	67-66-3	Chloroform	0.0063	ug/L	0.0063	0	1
Open Space	GS	SV-37-15	15	18-Jul-07	74-87-3	Chloromethane	0.4	ug/L	0.4	1	1
Open Space	GS	SV-52-10	10	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.0065	UG/L	0.0065	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	107-05-1	Allyl chloride	0.014	UG/L	0.014	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.0065	UG/L	0.0065	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.005	UG/L	0.005	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	106-99-0	1,3-Butadiene	0.0024	UG/L	0.0024	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	78-93-3	2-Butanone	0.0032	UG/L	0.0032	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	591-78-6	2-Hexanone	0.018	UG/L	0.018	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	123-91-1	1,4-Dioxane	0.016	UG/L	0.016	0	1
Open Space	GS	SV-52-10	10	12-Sep-07		4-Bromofluorobenzene	88	%		1	1
Open Space	GS	SV-52-10	10	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.0044	UG/L	0.0044	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	75-15-0	Carbon Disulfide	0.0078	UG/L	0.0078	1	1
Open Space	GS	SV-52-10	10	12-Sep-07	74-83-9	Bromomethane	0.0042	UG/L	0.0042	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	75-27-4	Bromodichloromethane	0.0072	UG/L	0.0072	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	71-43-2	Benzene	0.0034	UG/L	0.0034	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	75-25-2	Bromoform	0.011	UG/L	0.011	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.0053	UG/L	0.0053	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0083	UG/L	0.0083	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	100-44-7	Benzyl chloride	0.0056	UG/L	0.0056	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	67-64-1	Acetone	0.01	UG/L	0.01	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.026	UG/L	0.026	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	0.03	UG/L	0.03	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	108-88-3	Toluene	0.0041	UG/L	0.0041	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	56-23-5	Carbon Tetrachloride	0.0068	UG/L	0.0068	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.0059	UG/L	0.0059	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0074	UG/L	0.0074	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	75-34-3	1,1-Dichloroethane	0.0044	UG/L	0.0044	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	75-35-4	1,1-Dichloroethene	0.0043	UG/L	0.0043	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	78-87-5	1,2-Dichloropropane	0.005	UG/L	0.005	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.032	UG/L	0.032	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.0053	UG/L	0.0053	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	106-93-4	1,2-Dibromoethane	0.0083	UG/L	0.0083	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0076	UG/L	0.0076	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.0065	UG/L	0.0065	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	107-06-2	1,2-Dichloroethane	0.0044	UG/L	0.0044	0	1
Open Space	GS	SV-52-10	10	12-Sep-07		1,2-Dichloroethane-d4	107	%		1	1
Open Space	GS	SV-52-10	10	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.0059	UG/L	0.0059	0	1
Open Space	GS	SV-52-10	10	12-Sep-07		Toluene-d8	98	%		1	1
Open Space	GS	SV-52-10	10	12-Sep-07	127-18-4	Tetrachloroethene	0.0073	UG/L	0.0073	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	142-82-5	n-Heptane	0.0044	UG/L	0.0044	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	103-65-1	n-Propylbenzene	0.0053	UG/L	0.0053	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	95-47-6	o-Xylene	0.0047	UG/L	0.0047	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	622-96-8	p-Ethyltoluene	0.0053	UG/L	0.0053	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	100-42-5	Styrene	0.0046	UG/L	0.0046	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.018	UG/L	0.018	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	75-09-2	Methylene Chloride	0.0038	UG/L	0.0038	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	109-99-9	Tetrahydrofuran	0.0032	UG/L	0.0032	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.0039	UG/L	0.0039	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.0043	UG/L	0.0043	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.0049	UG/L	0.0049	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-52-10	10	12-Sep-07	79-01-6	Trichloroethene	0.0058	UG/L	0.0058	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	75-69-4	Trichlorofluoromethane	0.0061	UG/L	0.0061	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	75-65-0	tert-Butyl alcohol	0.013	UG/L	0.013	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.018	UG/L	0.018	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	75-00-3	Chloroethane	0.0028	UG/L	0.0028	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	67-66-3	Chloroform	0.019	UG/L	0.019	1	1
Open Space	GS	SV-52-10	10	12-Sep-07	74-87-3	Chloromethane	0.0089	UG/L	0.0089	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.0043	UG/L		0	1
Open Space	GS	SV-52-10	10	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.0049	UG/L	0.0049	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	110-82-7	Cyclohexane	0.015	UG/L	0.015	1	1
Open Space	GS	SV-52-10	10	12-Sep-07	124-48-1	Dibromochloromethane	0.0092	UG/L	0.0092	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	91-20-3	Naphthalene	0.023	UG/L	0.023	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	64-17-5	Ethanol	0.0081	UG/L	0.0081	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	108-90-7	Chlorobenzene	0.005	UG/L	0.005	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	100-41-4	Ethylbenzene	0.0047	UG/L	0.0047	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	87-68-3	Hexachlorobutadiene	0.046	UG/L	0.046	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	110-54-3	Hexane	0.0038	UG/L	0.0038	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	67-63-0	Isopropyl alcohol	0.046	UG/L	0.046	1	1
Open Space	GS	SV-52-10	10	12-Sep-07	108-20-3	Isopropyl ether	0.018	UG/L	0.018	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	98-82-8	Isopropylbenzene	0.0053	UG/L	0.0053	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	179601-23-1	m,p-Xylenes	0.0047	UG/L	0.0047	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.0053	UG/L	0.0053	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.006	ug/L	0.006	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	78-93-3	2-Butanone	0.02	ug/L	0.02	1	1
Open Space	GS	SV-52-10	10	20-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
Open Space	GS	SV-52-10	10	20-Jul-07		4-Bromofluorobenzene	89	%		1	1
Open Space	GS	SV-52-10	10	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	67-64-1	Acetone	0.04	ug/L	0.04	1	1
Open Space	GS	SV-52-10	10	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	71-43-2	Benzene	0.012	ug/L	0.012	1	1
Open Space	GS	SV-52-10	10	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	75-27-4	Bromodichloromethane	0.0086	ug/L	0.0086	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
Open Space	GS	SV-52-10	10	20-Jul-07		Carbon Dioxide	1.7	%		1	1
Open Space	GS	SV-52-10	10	20-Jul-07	75-15-0	Carbon Disulfide	0.046	ug/L	0.046	1	1
Open Space	GS	SV-52-10	10	20-Jul-07		Carbon Monoxide	0.026	%		0	1
Open Space	GS	SV-52-10	10	20-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
Open Space	GS	SV-52-10	10	12-Sep-07	75-01-4	Vinyl Chloride	0.0028	UG/L	0.0028	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-52-10	10	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Open Space	GS	SV-52-10	10	20-Jul-07		1,2-Dichloroethane-d4	108	%		1	1
Open Space	GS	SV-52-10	10	20-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0063	ug/L	0.0063	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	142-82-5	n-Heptane	0.0053	ug/L	0.0053	0	1
Open Space	GS	SV-52-10	10	20-Jul-07		Nitrogen	84	%		1	1
Open Space	GS	SV-52-10	10	20-Jul-07	103-65-1	n-Propylbenzene	0.0063	ug/L	0.0063	0	1
Open Space	GS	SV-52-10	10	20-Jul-07		Oxygen	14	%		1	1
Open Space	GS	SV-52-10	10	20-Jul-07	95-47-6	o-Xylene	0.0058	ug/L	0.0058	1	1
Open Space	GS	SV-52-10	10	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	74-82-8	Methane	0.0056	%		1	1
Open Space	GS	SV-52-10	10	20-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	109-99-9	Tetrahydrofuran	0.0042	ug/L	0.0042	1	1
Open Space	GS	SV-52-10	10	20-Jul-07	108-88-3	Toluene	0.0079	ug/L	0.0079	1	1
Open Space	GS	SV-52-10	10	20-Jul-07		Toluene-d8	94	%		1	1
Open Space	GS	SV-52-10	10	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	622-96-8	p-Ethyltoluene	0.0063	ug/L	0.0063	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	67-66-3	Chloroform	0.0078	ug/L	0.0078	1	1
Open Space	GS	SV-52-10	10	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
Open Space	GS	SV-52-10	10	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	110-82-7	Cyclohexane	0.31	ug/L	0.31	1	1
Open Space	GS	SV-52-10	10	20-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
Open Space	GS	SV-52-10	10	20-Jul-07		Ethane	0.0026	%		0	1
Open Space	GS	SV-52-10	10	20-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
Open Space	GS	SV-52-10	10	20-Jul-07		Ethene	0.0026	%		0	1
Open Space	GS	SV-52-10	10	20-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	100-41-4	Ethylbenzene	0.0064	ug/L	0.0064	1	1
Open Space	GS	SV-52-10	10	20-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	110-54-3	Hexane	0.043	ug/L	0.043	1	1
Open Space	GS	SV-52-10	10	20-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1
Open Space	GS	SV-52-10	10	20-Jul-07	179601-23-1	m,p-Xylenes	0.0077	ug/L	0.0077	1	1
Open Space	GS	SV-52-10	10	20-Jul-07	64-17-5	Ethanol	0.013	ug/L	0.013	1	1
Open Space	GS	SV-52-10	10	20-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	98-82-8	Isopropylbenzene	0.041	ug/L	0.041	1	1
Open Space	GS	SV-52-15	15	19-Jul-07		Oxygen	2.8	%		1	1
Open Space	GS	SV-52-15	15	19-Jul-07	103-65-1	n-Propylbenzene	0.066	ug/L	0.066	1	1
Open Space	GS	SV-52-15	15	19-Jul-07		Nitrogen	94	%		1	1
Open Space	GS	SV-52-15	15	19-Jul-07	142-82-5	n-Heptane	1.8	ug/L	1.8	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	91-20-3	Naphthalene	0.06	ug/L	0.06	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	75-09-2	Methylene chloride	0.01	ug/L	0.01	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.01	ug/L	0.01	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.089	UG/L	0.089	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	0.96	ug/L	0.96	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	100-42-5	Styrene	0.012	ug/L	0.012	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	108-20-3	Isopropyl ether	0.048	ug/L	0.048	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-52-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	0.046	ug/L	0.046	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	110-54-3	Hexane	2	ug/L	2	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	0.12	ug/L	0.12	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	100-41-4	Ethylbenzene	0.36	ug/L	0.36	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.048	ug/L	0.048	0	1
Open Space	GS	SV-52-15	15	19-Jul-07		Ethene	0.0058	%		0	1
Open Space	GS	SV-52-15	15	19-Jul-07	64-17-5	Ethanol	0.036	ug/L	0.036	1	1
Open Space	GS	SV-52-15	15	19-Jul-07		Ethane	0.0058	%		0	1
Open Space	GS	SV-52-15	15	19-Jul-07	74-82-8	Methane	0.032	%		1	1
Open Space	GS	SV-52-15	15	19-Jul-07	79-01-6	Trichloroethene	0.016	ug/L	0.016	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.072	UG/L	0.072	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	75-35-4	1,1-Dichloroethene	0.012	UG/L	0.012	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	75-34-3	1,1-Dichloroethane	0.012	UG/L	0.012	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.016	UG/L	0.016	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.023	UG/L	0.023	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.02	UG/L	0.02	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.016	UG/L	0.016	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	0.082	UG/L	0.082	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	75-01-4	Vinyl chloride	0.0074	ug/L	0.0074	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	95-47-6	o-Xylene	0.38	ug/L	0.38	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	0.016	ug/L	0.016	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	0.21	ug/L	0.21	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.013	ug/L	0.013	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.011	ug/L	0.011	0	1
Open Space	GS	SV-52-15	15	19-Jul-07		Toluene-d8	99	%		1	1
Open Space	GS	SV-52-15	15	19-Jul-07	108-88-3	Toluene	1.9	ug/L	1.9	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	0.035	ug/L	0.035	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	127-18-4	Tetrachloroethene	0.02	ug/L	0.02	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	0.12	ug/L	0.12	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.048	ug/L	0.048	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	110-82-7	Cyclohexane	1.2	ug/L	1.2	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.22	ug/L	0.22	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.014	ug/L	0.014	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.017	ug/L	0.017	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	106-99-0	1,3-Butadiene	0.0064	ug/L	0.0064	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.082	ug/L	0.082	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	0.013	ug/L	0.013	0	1
Open Space	GS	SV-52-15	15	19-Jul-07		1,2-Dichloroethane-d4	111	%		1	1
Open Space	GS	SV-52-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	0.012	ug/L	0.012	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.017	ug/L	0.017	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	123-91-1	1,4-Dioxane	0.042	ug/L	0.042	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	0.022	ug/L	0.022	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.4	ug/L	0.4	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.086	ug/L	0.086	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.07	ug/L	0.07	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	0.011	ug/L	0.011	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	0.012	ug/L	0.012	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.016	ug/L	0.016	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.022	ug/L	0.022	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.02	ug/L	0.02	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.016	ug/L	0.016	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.079	ug/L	0.079	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.02	ug/L	0.02	0	1
Open Space	GS	SV-52-15	15	19-Jul-07		Carbon Dioxide	2.8	%		1	1
Open Space	GS	SV-52-15	15	19-Jul-07	71-43-2	Benzene	0.84	ug/L	0.84	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.013	ug/L	0.013	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-52-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.011	ug/L		0	1
Open Space	GS	SV-52-15	15	19-Jul-07	74-87-3	Chloromethane	0.024	ug/L	0.024	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	67-66-3	Chloroform	0.014	ug/L	0.014	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	75-00-3	Chloroethane	0.0076	ug/L	0.0076	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	108-90-7	Chlorobenzene	0.016	ug/L	0.016	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	0.018	ug/L	0.018	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.017	ug/L	0.017	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	75-15-0	Carbon Disulfide	1.4	ug/L	1.4	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	124-48-1	Dibromochloromethane	0.024	ug/L	0.024	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	74-83-9	Bromomethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	75-25-2	Bromoform	0.03	ug/L	0.03	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	75-27-4	Bromodichloromethane	0.019	ug/L	0.019	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	100-44-7	Benzyl chloride	0.015	ug/L	0.015	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	107-05-1	Allyl chloride	0.036	ug/L	0.036	0	1
Open Space	GS	SV-52-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.016	ug/L	0.016	1	1
Open Space	GS	SV-52-15	15	19-Jul-07		4-Bromofluorobenzene	95	%		1	1
Open Space	GS	SV-52-15	15	19-Jul-07	591-78-6	2-Hexanone	0.056	ug/L	0.056	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	78-93-3	2-Butanone	0.27	ug/L	0.27	1	1
Open Space	GS	SV-52-15	15	19-Jul-07		Carbon Monoxide	0.058	%		0	1
Open Space	GS	SV-52-15	15	12-Sep-07	67-63-0	Isopropyl alcohol	0.12	UG/L	0.12	1	1
Open Space	GS	SV-52-15	15	12-Sep-07	124-48-1	Dibromochloromethane	0.025	UG/L	0.025	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	91-20-3	Naphthalene	0.062	UG/L	0.062	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	75-09-2	Methylene Chloride	0.01	UG/L	0.01	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.011	UG/L	0.011	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	179601-23-1	m,p-Xylenes	0.39	UG/L	0.39	1	1
Open Space	GS	SV-52-15	15	12-Sep-07	103-65-1	n-Propylbenzene	0.022	UG/L	0.022	1	1
Open Space	GS	SV-52-15	15	12-Sep-07	108-20-3	Isopropyl ether	0.05	UG/L	0.05	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	622-96-8	p-Ethyltoluene	0.074	UG/L	0.074	1	1
Open Space	GS	SV-52-15	15	12-Sep-07	110-54-3	Hexane	0.09	UG/L	0.09	1	1
Open Space	GS	SV-52-15	15	12-Sep-07	87-68-3	Hexachlorobutadiene	0.13	UG/L	0.13	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	100-41-4	Ethylbenzene	0.084	UG/L	0.084	1	1
Open Space	GS	SV-52-15	15	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.05	UG/L	0.05	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	64-17-5	Ethanol	0.07	UG/L	0.07	1	1
Open Space	GS	SV-52-15	15	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.015	UG/L	0.015	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	98-82-8	Isopropylbenzene	0.017	UG/L	0.017	1	1
Open Space	GS	SV-52-15	15	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.012	UG/L	0.012	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.046	UG/L	0.046	1	1
Open Space	GS	SV-52-15	15	19-Jul-07	67-64-1	Acetone	1.5	ug/L	1.5	1	1
Open Space	GS	SV-52-15	15	12-Sep-07	75-01-4	Vinyl Chloride	0.0076	UG/L	0.0076	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	75-69-4	Trichlorofluoromethane	0.017	UG/L	0.017	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	142-82-5	n-Heptane	0.09	UG/L	0.09	1	1
Open Space	GS	SV-52-15	15	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.014	UG/L	0.014	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	95-47-6	o-Xylene	0.08	UG/L	0.08	1	1
Open Space	GS	SV-52-15	15	12-Sep-07		Toluene-d8	99	%		1	1
Open Space	GS	SV-52-15	15	12-Sep-07	108-88-3	Toluene	0.068	UG/L	0.068	1	1
Open Space	GS	SV-52-15	15	12-Sep-07	109-99-9	Tetrahydrofuran	0.0088	UG/L	0.0088	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	127-18-4	Tetrachloroethene	0.02	UG/L	0.02	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	75-65-0	tert-Butyl alcohol	0.036	UG/L	0.036	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.05	UG/L	0.05	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	79-01-6	Trichloroethene	0.016	UG/L	0.016	0	1
Open Space	GS	SV-52-15	15	12-Sep-07		1,2-Dichloroethane-d4	111	%		1	1
Open Space	GS	SV-52-15	15	12-Sep-07	591-78-6	2-Hexanone	0.049	UG/L	0.049	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	78-93-3	2-Butanone	0.041	UG/L	0.041	1	1
Open Space	GS	SV-52-15	15	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.026	UG/L	0.026	1	1
Open Space	GS	SV-52-15	15	12-Sep-07	123-91-1	1,4-Dioxane	0.043	UG/L	0.043	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.018	UG/L	0.018	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-52-15	15	12-Sep-07		4-Bromofluorobenzene	90	%		1	1
Open Space	GS	SV-52-15	15	12-Sep-07	78-87-5	1,2-Dichloropropane	0.014	UG/L	0.014	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.018	UG/L	0.018	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	107-06-2	1,2-Dichloroethane	0.012	UG/L	0.012	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.018	UG/L	0.018	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	110-82-7	Cyclohexane	0.89	UG/L	0.89	1	1
Open Space	GS	SV-52-15	15	12-Sep-07	100-42-5	Styrene	0.013	UG/L	0.013	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	106-93-4	1,2-Dibromoethane	0.023	UG/L	0.023	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.021	UG/L	0.021	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.022	UG/L	0.022	1	1
Open Space	GS	SV-52-15	15	12-Sep-07	75-00-3	Chloroethane	0.0079	UG/L	0.0079	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.014	UG/L	0.014	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.012	UG/L		0	1
Open Space	GS	SV-52-15	15	12-Sep-07	74-87-3	Chloromethane	0.025	UG/L	0.025	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	106-99-0	1,3-Butadiene	0.0066	UG/L	0.0066	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	67-66-3	Chloroform	0.014	UG/L	0.014	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.012	UG/L	0.012	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	108-90-7	Chlorobenzene	0.014	UG/L	0.014	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	56-23-5	Carbon Tetrachloride	0.019	UG/L	0.019	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	75-15-0	Carbon Disulfide	0.46	UG/L	0.46	1	1
Open Space	GS	SV-52-15	15	12-Sep-07	74-83-9	Bromomethane	0.012	UG/L	0.012	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	75-25-2	Bromoform	0.031	UG/L	0.031	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	75-27-4	Bromodichloromethane	0.02	UG/L	0.02	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	100-44-7	Benzyl chloride	0.015	UG/L	0.015	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	71-43-2	Benzene	0.0095	UG/L	0.0095	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	107-05-1	Allyl chloride	0.037	UG/L	0.037	0	1
Open Space	GS	SV-52-15	15	12-Sep-07	67-64-1	Acetone	1.6	UG/L	1.6	1	1
Open Space	GS	SV-53-15	15	19-Jul-07	71-43-2	Benzene	0.23	ug/L	0.23	1	1
Open Space	GS	SV-53-15	15	19-Jul-07	75-00-3	Chloroethane	0.027	ug/L	0.027	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	108-90-7	Chlorobenzene	0.046	ug/L	0.046	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	0.064	ug/L	0.064	0	1
Open Space	GS	SV-53-15	15	19-Jul-07		Carbon Monoxide	0.025	%		0	1
Open Space	GS	SV-53-15	15	19-Jul-07	75-15-0	Carbon Disulfide	0.23	ug/L	0.23	1	1
Open Space	GS	SV-53-15	15	19-Jul-07		Carbon Dioxide	4.7	%		1	1
Open Space	GS	SV-53-15	15	19-Jul-07	74-83-9	Bromomethane	0.039	ug/L	0.039	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	75-25-2	Bromoform	0.1	ug/L	0.1	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	75-27-4	Bromodichloromethane	0.068	ug/L	0.068	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	107-05-1	Allyl chloride	0.13	ug/L	0.13	0	1
Open Space	GS	SV-53-15	15	19-Jul-07		4-Bromofluorobenzene	92	%		1	1
Open Space	GS	SV-53-15	15	19-Jul-07	67-66-3	Chloroform	0.049	ug/L	0.049	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.041	ug/L	0.041	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	67-64-1	Acetone	0.18	ug/L	0.18	1	1
Open Space	GS	SV-53-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	2.2	ug/L	2.2	1	1
Open Space	GS	SV-53-15	15	19-Jul-07	100-44-7	Benzyl chloride	0.052	ug/L	0.052	0	1
Open Space	GS	SV-53-15	15	19-Jul-07		Ethene	0.0025	%		0	1
Open Space	GS	SV-53-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.3	ug/L	0.3	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	591-78-6	2-Hexanone	0.16	ug/L	0.16	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	74-82-8	Methane	0.023	%		1	1
Open Space	GS	SV-53-15	15	19-Jul-07	98-82-8	Isopropylbenzene	0.05	ug/L	0.05	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	0.099	ug/L	0.099	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	110-54-3	Hexane	0.89	ug/L	0.89	1	1
Open Space	GS	SV-53-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	0.43	ug/L	0.43	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	108-20-3	Isopropyl ether	0.17	ug/L	0.17	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.17	ug/L	0.17	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	74-87-3	Chloromethane	0.083	ug/L	0.083	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	64-17-5	Ethanol	0.076	ug/L	0.076	0	1
Open Space	GS	SV-53-15	15	19-Jul-07		Ethane	0.0025	%		0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-53-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.05	ug/L	0.05	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	124-48-1	Dibromochloromethane	0.086	ug/L	0.086	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	110-82-7	Cyclohexane	0.21	ug/L	0.21	1	1
Open Space	GS	SV-53-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.046	ug/L	0.046	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.04	ug/L		0	1
Open Space	GS	SV-53-15	15	19-Jul-07	100-41-4	Ethylbenzene	0.54	ug/L	0.54	1	1
Open Space	GS	SV-53-15	15	12-Sep-07	75-69-4	Trichlorofluoromethane	0.085	UG/L	0.085	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	75-65-0	tert-Butyl alcohol	0.43	UG/L	0.43	1	1
Open Space	GS	SV-53-15	15	12-Sep-07	127-18-4	Tetrachloroethene	0.1	UG/L	0.1	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	109-99-9	Tetrahydrofuran	0.045	UG/L	0.045	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	108-88-3	Toluene	0.089	UG/L	0.089	1	1
Open Space	GS	SV-53-15	15	12-Sep-07		Toluene-d8	101	%		1	1
Open Space	GS	SV-53-15	15	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.06	UG/L	0.06	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	100-42-5	Styrene	0.064	UG/L	0.064	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	79-01-6	Trichloroethene	0.081	UG/L	0.081	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	622-96-8	p-Ethyltoluene	0.074	UG/L	0.074	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.036	ug/L	0.036	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	75-01-4	Vinyl Chloride	0.039	UG/L	0.039	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.091	UG/L	0.091	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.24	ug/L	0.24	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	0.04	ug/L	0.04	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	0.041	ug/L	0.041	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.055	ug/L	0.055	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.069	UG/L	0.069	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.061	ug/L	0.061	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.23	ug/L	0.23	1	1
Open Space	GS	SV-53-15	15	19-Jul-07	123-91-1	1,4-Dioxane	0.14	ug/L	0.14	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.061	ug/L	0.061	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.061	ug/L	0.061	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	106-99-0	1,3-Butadiene	0.19	ug/L	0.19	1	1
Open Space	GS	SV-53-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.1	ug/L	0.1	1	1
Open Space	GS	SV-53-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	0.047	ug/L	0.047	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.25	UG/L	0.25	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	0.041	ug/L	0.041	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	78-93-3	2-Butanone	0.045	ug/L	0.045	1	1
Open Space	GS	SV-53-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.071	ug/L	0.071	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	0.078	ug/L	0.078	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.14	ug/L	0.14	1	1
Open Space	GS	SV-53-15	15	12-Sep-07	91-20-3	Naphthalene	0.32	UG/L	0.32	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	142-82-5	n-Heptane	0.26	UG/L	0.26	1	1
Open Space	GS	SV-53-15	15	12-Sep-07	103-65-1	n-Propylbenzene	0.074	UG/L	0.074	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	95-47-6	o-Xylene	0.066	UG/L	0.066	0	1
Open Space	GS	SV-53-15	15	19-Jul-07		1,2-Dichloroethane-d4	103	%		1	1
Open Space	GS	SV-53-15	15	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.069	UG/L	0.069	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	123-91-1	1,4-Dioxane	0.22	UG/L	0.22	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.091	UG/L	0.091	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.091	UG/L	0.091	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	106-99-0	1,3-Butadiene	0.034	UG/L	0.034	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.074	UG/L	0.074	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	78-87-5	1,2-Dichloropropane	0.07	UG/L	0.07	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	106-93-4	1,2-Dibromoethane	0.12	UG/L	0.12	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.06	UG/L		0	1
Open Space	GS	SV-53-15	15	12-Sep-07	591-78-6	2-Hexanone	0.25	UG/L	0.25	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	110-82-7	Cyclohexane	4.6	UG/L	4.6	1	1
Open Space	GS	SV-53-15	15	12-Sep-07	124-48-1	Dibromochloromethane	0.13	UG/L	0.13	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.075	UG/L	0.075	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-53-15	15	12-Sep-07	64-17-5	Ethanol	0.94	UG/L	0.94	1	1
Open Space	GS	SV-53-15	15	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.25	UG/L	0.25	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	100-41-4	Ethylbenzene	0.066	UG/L	0.066	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	87-68-3	Hexachlorobutadiene	0.65	UG/L	0.65	0	1
Open Space	GS	SV-53-15	15	12-Sep-07		1,2-Dichloroethane-d4	108	%		1	1
Open Space	GS	SV-53-15	15	12-Sep-07	75-27-4	Bromodichloromethane	0.1	UG/L	0.1	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.077	ug/L	0.077	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	74-87-3	Chloromethane	0.12	UG/L	0.12	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	67-66-3	Chloroform	0.074	UG/L	0.074	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	75-00-3	Chloroethane	0.04	UG/L	0.04	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	108-90-7	Chlorobenzene	0.07	UG/L	0.07	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	56-23-5	Carbon Tetrachloride	0.095	UG/L	0.095	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	75-15-0	Carbon Disulfide	0.44	UG/L	0.44	1	1
Open Space	GS	SV-53-15	15	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.17	UG/L	0.17	1	1
Open Space	GS	SV-53-15	15	12-Sep-07	75-25-2	Bromoform	0.16	UG/L	0.16	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	78-93-3	2-Butanone	0.26	UG/L	0.26	1	1
Open Space	GS	SV-53-15	15	12-Sep-07	100-44-7	Benzyl chloride	0.078	UG/L	0.078	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	71-43-2	Benzene	0.048	UG/L	0.048	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	107-05-1	Allyl chloride	0.19	UG/L	0.19	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	67-64-1	Acetone	1.9	UG/L	1.9	1	1
Open Space	GS	SV-53-15	15	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.062	UG/L	0.062	0	1
Open Space	GS	SV-53-15	15	12-Sep-07		4-Bromofluorobenzene	90	%		1	1
Open Space	GS	SV-53-15	15	12-Sep-07	108-20-3	Isopropyl ether	0.25	UG/L	0.25	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	74-83-9	Bromomethane	0.059	UG/L	0.059	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	100-42-5	Styrene	0.043	ug/L	0.043	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	110-54-3	Hexane	0.75	UG/L	0.75	1	1
Open Space	GS	SV-53-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.046	ug/L	0.046	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.04	ug/L	0.04	0	1
Open Space	GS	SV-53-15	15	19-Jul-07		Toluene-d8	102	%		1	1
Open Space	GS	SV-53-15	15	19-Jul-07	108-88-3	Toluene	2.9	ug/L	2.9	1	1
Open Space	GS	SV-53-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	0.03	ug/L	0.03	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	127-18-4	Tetrachloroethene	0.068	ug/L	0.068	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	0.057	ug/L	0.057	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.17	ug/L	0.17	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	0.3	ug/L	0.3	1	1
Open Space	GS	SV-53-15	15	19-Jul-07	95-47-6	o-Xylene	0.42	ug/L	0.42	1	1
Open Space	GS	SV-53-15	15	19-Jul-07		Oxygen	3.6	%		1	1
Open Space	GS	SV-53-15	15	19-Jul-07	103-65-1	n-Propylbenzene	0.083	ug/L	0.083	1	1
Open Space	GS	SV-53-15	15	19-Jul-07		Nitrogen	92	%		1	1
Open Space	GS	SV-53-15	15	19-Jul-07	142-82-5	n-Heptane	0.6	ug/L	0.6	1	1
Open Space	GS	SV-53-15	15	19-Jul-07	91-20-3	Naphthalene	0.21	ug/L	0.21	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	0.12	ug/L	0.12	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	75-35-4	1,1-Dichloroethene	0.06	UG/L	0.06	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	75-09-2	Methylene chloride	0.035	ug/L	0.035	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	98-82-8	Isopropylbenzene	0.074	UG/L	0.074	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	179601-23-1	m,p-Xylenes	0.094	UG/L	0.094	1	1
Open Space	GS	SV-53-15	15	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.055	UG/L	0.055	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	75-09-2	Methylene Chloride	0.053	UG/L	0.053	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.1	UG/L	0.1	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.074	UG/L	0.074	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	79-01-6	Trichloroethene	0.054	ug/L	0.054	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.36	UG/L	0.36	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	67-63-0	Isopropyl alcohol	0.75	UG/L	0.75	1	1
Open Space	GS	SV-53-15	15	12-Sep-07	75-34-3	1,1-Dichloroethane	0.061	UG/L	0.061	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.083	UG/L	0.083	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.12	UG/L	0.12	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-53-15	15	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.1	UG/L	0.1	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.083	UG/L	0.083	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	0.42	UG/L	0.42	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	75-01-4	Vinyl chloride	0.026	ug/L	0.026	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.45	UG/L	0.45	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.055	ug/L	0.055	0	1
Open Space	GS	SV-53-15	15	12-Sep-07	107-06-2	1,2-Dichloroethane	0.061	UG/L	0.061	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.28	ug/L	0.28	0	1
Open Space	GS	SV-53-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.069	ug/L	0.069	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	75-25-2	Bromoform	0.089	UG/L	0.089	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	67-64-1	Acetone	1.3	UG/L	1.3	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	75-15-0	Carbon Disulfide	0.83	UG/L	0.83	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.052	UG/L	0.052	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.052	UG/L	0.052	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	123-91-1	1,4-Dioxane	0.12	UG/L	0.12	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.04	UG/L	0.04	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	78-93-3	2-Butanone	0.22	UG/L	0.22	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	591-78-6	2-Hexanone	0.14	UG/L	0.14	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.096	UG/L	0.096	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.036	UG/L	0.036	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	78-87-5	1,2-Dichloropropane	0.04	UG/L	0.04	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	107-05-1	Allyl chloride	0.11	UG/L	0.11	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	71-43-2	Benzene	0.07	UG/L	0.07	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	100-44-7	Benzyl chloride	0.045	UG/L	0.045	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	75-27-4	Bromodichloromethane	0.058	UG/L	0.058	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	74-83-9	Bromomethane	0.034	UG/L	0.034	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	74-87-3	Chloromethane	0.04	ug/L	0.04	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	108-90-7	Chlorobenzene	0.04	UG/L	0.04	0	1
Open Space	GS	SV-54-13	13	12-Sep-07		4-Bromofluorobenzene	97	%		1	1
Open Space	GS	SV-54-13	13	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.21	UG/L	0.21	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	75-01-4	Vinyl chloride	0.012	ug/L	0.012	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	0.24	UG/L	0.24	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.047	UG/L	0.047	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.059	UG/L	0.059	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.066	UG/L	0.066	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.047	UG/L	0.047	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	106-99-0	1,3-Butadiene	0.019	UG/L	0.019	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	75-35-4	1,1-Dichloroethene	0.034	UG/L	0.034	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	75-01-4	Vinyl Chloride	0.022	UG/L	0.022	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.26	UG/L	0.26	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.23	UG/L	0.23	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	106-93-4	1,2-Dibromoethane	0.066	UG/L	0.066	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.06	UG/L	0.06	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.052	UG/L	0.052	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	107-06-2	1,2-Dichloroethane	0.035	UG/L	0.035	0	1
Open Space	GS	SV-54-13	13	12-Sep-07		1,2-Dichloroethane-d4	107	%		1	1
Open Space	GS	SV-54-13	13	12-Sep-07	75-34-3	1,1-Dichloroethane	0.035	UG/L	0.035	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.043	UG/L	0.043	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	56-23-5	Carbon Tetrachloride	0.054	UG/L	0.054	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	98-82-8	Isopropylbenzene	0.11	UG/L	0.11	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	108-20-3	Isopropyl ether	0.14	UG/L	0.14	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	67-63-0	Isopropyl alcohol	1.3	UG/L	1.3	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	110-54-3	Hexane	0.47	UG/L	0.47	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	87-68-3	Hexachlorobutadiene	0.37	UG/L	0.37	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	100-41-4	Ethylbenzene	0.4	UG/L	0.4	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.031	UG/L	0.031	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-54-13	13	12-Sep-07	64-17-5	Ethanol	0.067	UG/L	0.067	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	75-09-2	Methylene Chloride	0.03	UG/L	0.03	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	124-48-1	Dibromochloromethane	0.074	UG/L	0.074	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	110-82-7	Cyclohexane	7.9	UG/L	7.9	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.039	UG/L	0.039	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.034	UG/L		0	1
Open Space	GS	SV-54-13	13	12-Sep-07	74-87-3	Chloromethane	0.071	UG/L	0.071	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	67-66-3	Chloroform	0.042	UG/L	0.042	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	75-00-3	Chloroethane	0.023	UG/L	0.023	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.14	UG/L	0.14	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	75-65-0	tert-Butyl alcohol	0.14	UG/L	0.14	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	75-69-4	Trichlorofluoromethane	0.049	UG/L	0.049	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	79-01-6	Trichloroethene	0.046	UG/L	0.046	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.039	UG/L	0.039	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.034	UG/L	0.034	0	1
Open Space	GS	SV-54-13	13	12-Sep-07		Toluene-d8	105	%		1	1
Open Space	GS	SV-54-13	13	12-Sep-07	108-88-3	Toluene	1.1	UG/L	1.1	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	179601-23-1	m,p-Xylenes	1.5	UG/L	1.5	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	127-18-4	Tetrachloroethene	0.059	UG/L	0.059	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.022	ug/L	0.022	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.14	UG/L	0.14	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	100-42-5	Styrene	0.061	UG/L	0.061	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	622-96-8	p-Ethyltoluene	0.3	UG/L	0.3	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	95-47-6	o-Xylene	0.44	UG/L	0.44	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	103-65-1	n-Propylbenzene	0.099	UG/L	0.099	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	142-82-5	n-Heptane	0.49	UG/L	0.49	1	1
Open Space	GS	SV-54-13	13	12-Sep-07	91-20-3	Naphthalene	0.18	UG/L	0.18	0	1
Open Space	GS	SV-54-13	13	12-Sep-07	109-99-9	Tetrahydrofuran	0.026	UG/L	0.026	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.034	ug/L	0.034	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	75-69-4	Trichlorofluoromethane	0.027	ug/L	0.027	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	106-46-7	1,4-Dichlorobenzene	0.029	ug/L	0.029	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	541-73-1	1,3-Dichlorobenzene	0.029	ug/L	0.029	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	106-99-0	1,3-Butadiene	0.48	ug/L	0.48	1	1
Open Space	GS	SV-54-13	13	20-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.046	ug/L	0.046	1	1
Open Space	GS	SV-54-13	13	20-Jul-07	78-87-5	1,2-Dichloropropane	0.022	ug/L	0.022	0	1
Open Space	GS	SV-54-13	13	20-Jul-07		1,2-Dichloroethane-d4	106	%		1	1
Open Space	GS	SV-54-13	13	20-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.023	ug/L	0.023	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	95-50-1	1,2-Dichlorobenzene	0.029	ug/L	0.029	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	78-93-3	2-Butanone	0.88	ug/L	0.88	1	1
Open Space	GS	SV-54-13	13	20-Jul-07	106-93-4	1,2-Dibromoethane	0.037	ug/L	0.037	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.077	ug/L	0.077	1	1
Open Space	GS	SV-54-13	13	20-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.14	ug/L	0.14	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	96-18-4	1,2,3-Trichloropropane	0.12	ug/L	0.12	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	75-35-4	1,1-Dichloroethene	0.019	ug/L	0.019	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	75-34-3	1,1-Dichloroethane	0.02	ug/L	0.02	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	79-00-5	1,1,2-Trichloroethane	0.026	ug/L	0.026	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	107-06-2	1,2-Dichloroethane	0.02	ug/L	0.02	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	75-27-4	Bromodichloromethane	0.032	ug/L	0.032	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	67-66-3	Chloroform	0.024	ug/L	0.024	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	75-00-3	Chloroethane	0.013	ug/L	0.013	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	108-90-7	Chlorobenzene	0.022	ug/L	0.022	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	56-23-5	Carbon tetrachloride	0.03	ug/L	0.03	0	1
Open Space	GS	SV-54-13	13	20-Jul-07		Carbon Monoxide	0.048	%		0	1
Open Space	GS	SV-54-13	13	20-Jul-07	75-15-0	Carbon Disulfide	0.34	ug/L	0.34	1	1
Open Space	GS	SV-54-13	13	20-Jul-07		Carbon Dioxide	4.5	%		1	1
Open Space	GS	SV-54-13	13	20-Jul-07	123-91-1	1,4-Dioxane	0.07	ug/L	0.07	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-54-13	13	20-Jul-07	75-25-2	Bromoform	0.05	ug/L	0.05	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	71-55-6	1,1,1-Trichloroethane	0.026	ug/L	0.026	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	100-44-7	Benzyl chloride	0.025	ug/L	0.025	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	71-43-2	Benzene	0.3	ug/L	0.3	1	1
Open Space	GS	SV-54-13	13	20-Jul-07	107-05-1	Allyl chloride	0.061	ug/L	0.061	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	67-64-1	Acetone	2.2	ug/L	2.2	1	1
Open Space	GS	SV-54-13	13	20-Jul-07	108-10-1	4-Methyl-2-pentanone	0.092	ug/L	0.092	1	1
Open Space	GS	SV-54-13	13	20-Jul-07		4-Bromofluorobenzene	98	%		1	1
Open Space	GS	SV-54-13	13	20-Jul-07	591-78-6	2-Hexanone	0.079	ug/L	0.079	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	74-83-9	Bromomethane	0.019	ug/L	0.019	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	100-42-5	Styrene	0.021	ug/L	0.021	1	1
Open Space	GS	SV-54-13	13	20-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.037	ug/L	0.037	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	75-09-2	Methylene chloride	0.017	ug/L	0.017	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	91-20-3	Naphthalene	0.1	ug/L	0.1	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	142-82-5	n-Heptane	0.5	ug/L	0.5	1	1
Open Space	GS	SV-54-13	13	20-Jul-07		Nitrogen	86	%		1	1
Open Space	GS	SV-54-13	13	20-Jul-07	103-65-1	n-Propylbenzene	0.044	ug/L	0.044	1	1
Open Space	GS	SV-54-13	13	20-Jul-07		Oxygen	9.3	%		1	1
Open Space	GS	SV-54-13	13	20-Jul-07	74-82-8	Methane	0.013	%		1	1
Open Space	GS	SV-54-13	13	20-Jul-07	622-96-8	p-Ethyltoluene	0.15	ug/L	0.15	1	1
Open Space	GS	SV-54-13	13	20-Jul-07	179601-23-1	m,p-Xylenes	1.5	ug/L	1.5	1	1
Open Space	GS	SV-54-13	13	20-Jul-07	994-05-8	Tert-amyl methyl ether	0.081	ug/L	0.081	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	75-65-0	tert-Butyl alcohol	0.3	ug/L	0.3	1	1
Open Space	GS	SV-54-13	13	20-Jul-07	127-18-4	Tetrachloroethene	0.033	ug/L	0.033	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	109-99-9	Tetrahydrofuran	0.061	ug/L	0.061	1	1
Open Space	GS	SV-54-13	13	20-Jul-07	108-88-3	Toluene	2.5	ug/L	2.5	1	1
Open Space	GS	SV-54-13	13	20-Jul-07		Toluene-d8	100	%		1	1
Open Space	GS	SV-54-13	13	20-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.019	ug/L	0.019	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	95-47-6	o-Xylene	0.31	ug/L	0.31	1	1
Open Space	GS	SV-54-13	13	20-Jul-07	64-17-5	Ethanol	0.35	ug/L	0.35	1	1
Open Space	GS	SV-54-13	13	20-Jul-07	79-01-6	Trichloroethene	0.026	ug/L	0.026	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.13	ug/L	0.13	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.019	ug/L		0	1
Open Space	GS	SV-54-13	13	20-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.022	ug/L	0.022	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	110-82-7	Cyclohexane	0.57	ug/L	0.57	1	1
Open Space	GS	SV-54-13	13	20-Jul-07	124-48-1	Dibromochloromethane	0.041	ug/L	0.041	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	1634-04-4	Methyl tert-butyl ether	0.017	ug/L	0.017	0	1
Open Space	GS	SV-54-13	13	20-Jul-07		Ethane	0.0048	%		0	1
Open Space	GS	SV-54-13	13	20-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.033	ug/L	0.033	0	1
Open Space	GS	SV-54-13	13	20-Jul-07		Ethene	0.0048	%		0	1
Open Space	GS	SV-54-13	13	20-Jul-07	637-92-3	Ethyl tert butyl ether	0.081	ug/L	0.081	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	100-41-4	Ethylbenzene	0.34	ug/L	0.34	1	1
Open Space	GS	SV-54-13	13	20-Jul-07	87-68-3	Hexachlorobutadiene	0.21	ug/L	0.21	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	110-54-3	Hexane	0.58	ug/L	0.58	1	1
Open Space	GS	SV-54-13	13	20-Jul-07	67-63-0	Isopropyl alcohol	0.077	ug/L	0.077	1	1
Open Space	GS	SV-54-13	13	20-Jul-07	108-20-3	Isopropyl ether	0.081	ug/L	0.081	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	98-82-8	Isopropylbenzene	0.024	ug/L	0.024	0	1
Open Space	GS	SV-54-13	13	20-Jul-07	75-71-8	Dichlorodifluoromethane	0.024	ug/L	0.024	0	1
Open Space	GS	SV-64-05	5	19-Jul-07		Carbon Dioxide	0.89	%		1	1
Open Space	GS	SV-64-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.027	ug/L	0.027	1	1
Open Space	GS	SV-64-05	5	19-Jul-07	75-09-2	Methylene chloride	0.0043	ug/L	0.0043	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	74-82-8	Methane	0.0005	%		0	1
Open Space	GS	SV-64-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.11	ug/L	0.11	1	1
Open Space	GS	SV-64-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.0061	ug/L	0.0061	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-64-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.053	ug/L	0.053	0	1
Open Space	GS	SV-64-05	5	19-Jul-07		Nitrogen	79	%		1	1
Open Space	GS	SV-64-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-64-05	5	19-Jul-07		Ethene	0.005	%		0	1
Open Space	GS	SV-64-05	5	19-Jul-07	64-17-5	Ethanol	0.0093	ug/L	0.0093	0	1
Open Space	GS	SV-64-05	5	19-Jul-07		Ethane	0.005	%		0	1
Open Space	GS	SV-64-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0061	ug/L	0.0061	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	110-54-3	Hexane	0.012	ug/L	0.012	1	1
Open Space	GS	SV-64-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.0084	ug/L	0.0084	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0069	ug/L	0.0069	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	79-01-6	Trichloroethene	0.0066	ug/L	0.0066	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0049	ug/L	0.0049	0	1
Open Space	GS	SV-64-05	5	19-Jul-07		Toluene-d8	95	%		1	1
Open Space	GS	SV-64-05	5	19-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.0036	ug/L	0.0036	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	142-82-5	n-Heptane	0.021	ug/L	0.021	1	1
Open Space	GS	SV-64-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	100-42-5	Styrene	0.0053	ug/L	0.0053	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.022	ug/L	0.022	1	1
Open Space	GS	SV-64-05	5	19-Jul-07	95-47-6	o-Xylene	0.028	ug/L	0.028	1	1
Open Space	GS	SV-64-05	5	19-Jul-07		Oxygen	20	%		1	1
Open Space	GS	SV-64-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.0061	ug/L	0.0061	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0049	ug/L		0	1
Open Space	GS	SV-64-05	5	19-Jul-07	108-88-3	Toluene	0.16	ug/L	0.16	1	1
Open Space	GS	SV-64-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.023	ug/L	0.023	1	1
Open Space	GS	SV-64-05	5	19-Jul-07	110-82-7	Cyclohexane	0.021	ug/L	0.021	1	1
Open Space	GS	SV-64-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.0027	ug/L	0.0027	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.008	ug/L	0.008	1	1
Open Space	GS	SV-64-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0057	ug/L	0.0057	0	1
Open Space	GS	SV-64-05	5	19-Jul-07		1,2-Dichloroethane-d4	107	%		1	1
Open Space	GS	SV-64-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.005	ug/L	0.005	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.0095	ug/L	0.0095	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.037	ug/L	0.037	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0049	ug/L	0.0049	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.005	ug/L	0.005	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0067	ug/L	0.0067	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	ug/L	0.0095	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	ug/L	0.0085	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0067	ug/L	0.0067	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	ug/L	0.0086	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.0064	ug/L	0.0064	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	67-66-3	Chloroform	0.12	ug/L	0.12	1	1
Open Space	GS	SV-64-05	5	19-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.0057	ug/L	0.0057	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.0078	ug/L	0.0078	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-64-05	5	19-Jul-07		Carbon Monoxide	0.05	%		0	1
Open Space	GS	SV-64-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.0038	ug/L	0.0038	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.0083	ug/L	0.0083	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	ug/L	0.034	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	71-43-2	Benzene	0.026	ug/L	0.026	1	1
Open Space	GS	SV-64-05	5	19-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	67-64-1	Acetone	0.029	ug/L	0.029	1	1
Open Space	GS	SV-64-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.014	ug/L	0.014	1	1
Open Space	GS	SV-64-05	5	19-Jul-07		4-Bromofluorobenzene	92	%		1	1
Open Space	GS	SV-64-05	5	19-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
Open Space	GS	SV-64-05	5	19-Jul-07	78-93-3	2-Butanone	0.0072	ug/L	0.0072	1	1
Open Space	GS	SV-64-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0071	ug/L	0.0071	1	1
Open Space	GS	SV-64-05	5	19-Jul-07	74-83-9	Bromomethane	0.0048	ug/L	0.0048	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-64-15	15	19-Jul-07		Ethene	0.0024	%		0	1
Open Space	GS	SV-64-15	15	19-Jul-07	74-82-8	Methane	0.00024	%		0	1
Open Space	GS	SV-64-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	0.14	ug/L	0.14	1	1
Open Space	GS	SV-64-15	15	19-Jul-07	98-82-8	Isopropylbenzene	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	108-20-3	Isopropyl ether	0.02	ug/L	0.02	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	110-54-3	Hexane	0.018	ug/L	0.018	1	1
Open Space	GS	SV-64-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	0.051	ug/L	0.051	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	74-87-3	Chloromethane	0.0098	ug/L	0.0098	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.02	ug/L	0.02	0	1
Open Space	GS	SV-64-15	15	19-Jul-07		Nitrogen	79	%		1	1
Open Space	GS	SV-64-15	15	19-Jul-07	64-17-5	Ethanol	0.009	ug/L	0.009	0	1
Open Space	GS	SV-64-15	15	19-Jul-07		Ethane	0.0024	%		0	1
Open Space	GS	SV-64-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0059	ug/L	0.0059	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	110-82-7	Cyclohexane	0.016	ug/L	0.016	1	1
Open Space	GS	SV-64-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0054	ug/L	0.0054	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0047	ug/L		0	1
Open Space	GS	SV-64-15	15	19-Jul-07	100-41-4	Ethylbenzene	0.031	ug/L	0.031	1	1
Open Space	GS	SV-64-15	15	19-Jul-07	127-18-4	Tetrachloroethene	0.0081	ug/L	0.0081	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	79-01-6	Trichloroethene	0.0064	ug/L	0.0064	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.033	ug/L	0.033	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	75-01-4	Vinyl chloride	0.003	ug/L	0.003	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0067	ug/L	0.0067	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0054	ug/L	0.0054	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0047	ug/L	0.0047	0	1
Open Space	GS	SV-64-15	15	19-Jul-07		Toluene-d8	97	%		1	1
Open Space	GS	SV-64-15	15	19-Jul-07	75-09-2	Methylene chloride	0.0041	ug/L	0.0041	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	0.0035	ug/L	0.0035	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	142-82-5	n-Heptane	0.041	ug/L	0.041	1	1
Open Space	GS	SV-64-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	0.014	ug/L	0.014	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.02	ug/L	0.02	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	100-42-5	Styrene	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	0.026	ug/L	0.026	1	1
Open Space	GS	SV-64-15	15	19-Jul-07	95-47-6	o-Xylene	0.038	ug/L	0.038	1	1
Open Space	GS	SV-64-15	15	19-Jul-07		Oxygen	20	%		1	1
Open Space	GS	SV-64-15	15	19-Jul-07	103-65-1	n-Propylbenzene	0.0069	ug/L	0.0069	1	1
Open Space	GS	SV-64-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0043	ug/L	0.0043	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	108-88-3	Toluene	0.21	ug/L	0.21	1	1
Open Space	GS	SV-64-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.018	ug/L	0.018	1	1
Open Space	GS	SV-64-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0072	ug/L	0.0072	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	106-99-0	1,3-Butadiene	0.0026	ug/L	0.0026	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-64-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.01	ug/L	0.01	1	1
Open Space	GS	SV-64-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0055	ug/L	0.0055	0	1
Open Space	GS	SV-64-15	15	19-Jul-07		1,2-Dichloroethane-d4	100	%		1	1
Open Space	GS	SV-64-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0048	ug/L	0.0048	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0072	ug/L	0.0072	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0072	ug/L	0.0072	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	0.0091	ug/L	0.0091	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0091	ug/L	0.0091	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.035	ug/L	0.035	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.029	ug/L	0.029	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0047	ug/L	0.0047	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0048	ug/L	0.0048	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	67-66-3	Chloroform	0.13	ug/L	0.13	1	1
Open Space	GS	SV-64-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0082	ug/L	0.0082	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	91-20-3	Naphthalene	0.025	ug/L	0.025	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0083	ug/L	0.0083	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	0.0075	ug/L	0.0075	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	123-91-1	1,4-Dioxane	0.017	ug/L	0.017	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	108-90-7	Chlorobenzene	0.0055	ug/L	0.0055	0	1
Open Space	GS	SV-64-15	15	19-Jul-07		Carbon Monoxide	0.024	%		0	1
Open Space	GS	SV-64-15	15	19-Jul-07	75-15-0	Carbon Disulfide	0.0037	ug/L	0.0037	0	1
Open Space	GS	SV-64-15	15	19-Jul-07		Carbon Dioxide	1	%		1	1
Open Space	GS	SV-64-15	15	19-Jul-07	74-83-9	Bromomethane	0.0046	ug/L	0.0046	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	75-25-2	Bromoform	0.012	ug/L	0.012	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	75-27-4	Bromodichloromethane	0.008	ug/L	0.008	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	100-44-7	Benzyl chloride	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.017	ug/L	0.017	1	1
Open Space	GS	SV-64-15	15	19-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	67-64-1	Acetone	0.012	ug/L	0.012	1	1
Open Space	GS	SV-64-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0074	ug/L	0.0074	1	1
Open Space	GS	SV-64-15	15	19-Jul-07		4-Bromofluorobenzene	98	%		1	1
Open Space	GS	SV-64-15	15	19-Jul-07	591-78-6	2-Hexanone	0.019	ug/L	0.019	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	78-93-3	2-Butanone	0.0048	ug/L	0.0048	1	1
Open Space	GS	SV-64-15	15	19-Jul-07	75-00-3	Chloroethane	0.0031	ug/L	0.0031	0	1
Open Space	GS	SV-64-15	15	19-Jul-07	71-43-2	Benzene	0.011	ug/L	0.011	1	1
Open Space	GS	SV-65-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.054	ug/L	0.054	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	110-54-3	Hexane	0.16	ug/L	0.16	1	1
Open Space	GS	SV-65-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.005	ug/L		0	1
Open Space	GS	SV-65-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	1.1	ug/L	1.1	1	1
Open Space	GS	SV-65-05	5	19-Jul-07		Ethane	0.0025	%		0	1
Open Space	GS	SV-65-05	5	19-Jul-07	74-82-8	Methane	0.00025	%		0	1
Open Space	GS	SV-65-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.016	ug/L	0.016	1	1
Open Space	GS	SV-65-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.26	ug/L	0.26	1	1
Open Space	GS	SV-65-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	64-17-5	Ethanol	0.0095	ug/L	0.0095	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	110-82-7	Cyclohexane	0.12	ug/L	0.12	1	1
Open Space	GS	SV-65-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	108-88-3	Toluene	1.5	ug/L	1.5	1	1
Open Space	GS	SV-65-05	5	19-Jul-07		Ethene	0.0025	%		0	1
Open Space	GS	SV-65-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.0037	ug/L	0.0037	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-65-05	5	19-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0071	ug/L	0.0071	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	79-01-6	Trichloroethene	0.0068	ug/L	0.0068	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.0086	ug/L	0.0086	0	1
Open Space	GS	SV-65-05	5	19-Jul-07		Toluene-d8	96	%		1	1
Open Space	GS	SV-65-05	5	19-Jul-07	75-09-2	Methylene chloride	0.0044	ug/L	0.0044	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	100-42-5	Styrene	0.0054	ug/L	0.0054	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.16	ug/L	0.16	1	1
Open Space	GS	SV-65-05	5	19-Jul-07	95-47-6	o-Xylene	0.21	ug/L	0.21	1	1
Open Space	GS	SV-65-05	5	19-Jul-07		Oxygen	20	%		1	1
Open Space	GS	SV-65-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.041	ug/L	0.041	1	1
Open Space	GS	SV-65-05	5	19-Jul-07	142-82-5	n-Heptane	0.24	ug/L	0.24	1	1
Open Space	GS	SV-65-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.005	ug/L	0.005	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.11	ug/L	0.11	1	1
Open Space	GS	SV-65-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0069	ug/L	0.0069	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.0083	ug/L	0.0083	1	1
Open Space	GS	SV-65-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.058	ug/L	0.058	1	1
Open Space	GS	SV-65-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-65-05	5	19-Jul-07		1,2-Dichloroethane-d4	95	%		1	1
Open Space	GS	SV-65-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	ug/L	0.0087	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.0097	ug/L	0.0097	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.005	ug/L	0.005	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0069	ug/L	0.0069	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	ug/L	0.0097	0	1
Open Space	GS	SV-65-05	5	19-Jul-07		Nitrogen	79	%		1	1
Open Space	GS	SV-65-05	5	19-Jul-07	67-66-3	Chloroform	0.008	ug/L	0.008	1	1
Open Space	GS	SV-65-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.008	ug/L	0.008	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	75-00-3	Chloroethane	0.0033	ug/L	0.0033	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	ug/L	0.0088	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
Open Space	GS	SV-65-05	5	19-Jul-07		Carbon Monoxide	0.025	%		0	1
Open Space	GS	SV-65-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.033	ug/L	0.033	1	1
Open Space	GS	SV-65-05	5	19-Jul-07		Carbon Dioxide	1.4	%		1	1
Open Space	GS	SV-65-05	5	19-Jul-07	74-83-9	Bromomethane	0.0049	ug/L	0.0049	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.0085	ug/L	0.0085	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	78-93-3	2-Butanone	0.0082	ug/L	0.0082	1	1
Open Space	GS	SV-65-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.11	ug/L	0.11	1	1
Open Space	GS	SV-65-05	5	19-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
Open Space	GS	SV-65-05	5	19-Jul-07		4-Bromofluorobenzene	102	%		1	1
Open Space	GS	SV-65-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0052	ug/L	0.0052	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	67-64-1	Acetone	0.03	ug/L	0.03	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-65-05	5	19-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Open Space	GS	SV-65-05	5	19-Jul-07	71-43-2	Benzene	0.084	ug/L	0.084	1	1
Open Space	GS	SV-65-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	0.054	ug/L	0.054	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	74-82-8	Methane	0.00025	%		0	1
Open Space	GS	SV-65-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	0.37	ug/L	0.37	1	1
Open Space	GS	SV-65-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	98-82-8	Isopropylbenzene	0.0062	ug/L	0.0062	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	110-54-3	Hexane	0.017	ug/L	0.017	1	1
Open Space	GS	SV-65-15	15	19-Jul-07	100-41-4	Ethylbenzene	0.084	ug/L	0.084	1	1
Open Space	GS	SV-65-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-65-15	15	19-Jul-07		Ethene	0.0025	%		0	1
Open Space	GS	SV-65-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
Open Space	GS	SV-65-15	15	19-Jul-07		Ethane	0.0025	%		0	1
Open Space	GS	SV-65-15	15	19-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	110-82-7	Cyclohexane	0.031	ug/L	0.031	1	1
Open Space	GS	SV-65-15	15	19-Jul-07	75-09-2	Methylene chloride	0.0044	ug/L	0.0044	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	64-17-5	Ethanol	0.0095	ug/L	0.0095	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	67-66-3	Chloroform	0.012	ug/L	0.012	1	1
Open Space	GS	SV-65-15	15	19-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0071	ug/L	0.0071	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	79-01-6	Trichloroethene	0.0068	ug/L	0.0068	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.005	ug/L	0.005	0	1
Open Space	GS	SV-65-15	15	19-Jul-07		Toluene-d8	100	%		1	1
Open Space	GS	SV-65-15	15	19-Jul-07	108-88-3	Toluene	0.47	ug/L	0.47	1	1
Open Space	GS	SV-65-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	127-18-4	Tetrachloroethene	0.0086	ug/L	0.0086	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	100-42-5	Styrene	0.0054	ug/L	0.0054	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	0.056	ug/L	0.056	1	1
Open Space	GS	SV-65-15	15	19-Jul-07	95-47-6	o-Xylene	0.088	ug/L	0.088	1	1
Open Space	GS	SV-65-15	15	19-Jul-07		Oxygen	19	%		1	1
Open Space	GS	SV-65-15	15	19-Jul-07	103-65-1	n-Propylbenzene	0.015	ug/L	0.015	1	1
Open Space	GS	SV-65-15	15	19-Jul-07		Nitrogen	79	%		1	1
Open Space	GS	SV-65-15	15	19-Jul-07	142-82-5	n-Heptane	0.043	ug/L	0.043	1	1
Open Space	GS	SV-65-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	0.0037	ug/L	0.0037	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.019	ug/L	0.019	1	1
Open Space	GS	SV-65-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-65-15	15	19-Jul-07		1,2-Dichloroethane-d4	103	%		1	1
Open Space	GS	SV-65-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	ug/L	0.0088	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.043	ug/L	0.043	1	1
Open Space	GS	SV-65-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	0.0097	ug/L	0.0097	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	0.005	ug/L	0.005	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0051	ug/L	0.0051	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0069	ug/L	0.0069	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	ug/L	0.0097	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-65-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	ug/L	0.0087	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0069	ug/L	0.0069	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.005	ug/L		0	1
Open Space	GS	SV-65-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	108-90-7	Chlorobenzene	0.0058	ug/L	0.0058	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	75-00-3	Chloroethane	0.0033	ug/L	0.0033	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	0.008	ug/L	0.008	0	1
Open Space	GS	SV-65-15	15	19-Jul-07		Carbon Monoxide	0.025	%		0	1
Open Space	GS	SV-65-15	15	19-Jul-07	75-15-0	Carbon Disulfide	0.0039	ug/L	0.0039	0	1
Open Space	GS	SV-65-15	15	19-Jul-07		Carbon Dioxide	1.6	%		1	1
Open Space	GS	SV-65-15	15	19-Jul-07	74-83-9	Bromomethane	0.0049	ug/L	0.0049	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	75-27-4	Bromodichloromethane	0.0085	ug/L	0.0085	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	78-93-3	2-Butanone	0.0063	ug/L	0.0063	1	1
Open Space	GS	SV-65-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.012	ug/L	0.012	1	1
Open Space	GS	SV-65-15	15	19-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
Open Space	GS	SV-65-15	15	19-Jul-07		4-Bromofluorobenzene	94	%		1	1
Open Space	GS	SV-65-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.015	ug/L	0.015	1	1
Open Space	GS	SV-65-15	15	19-Jul-07	67-64-1	Acetone	0.017	ug/L	0.017	1	1
Open Space	GS	SV-65-15	15	19-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	71-43-2	Benzene	0.034	ug/L	0.034	1	1
Open Space	GS	SV-65-15	15	19-Jul-07	100-44-7	Benzyl chloride	0.0065	ug/L	0.0065	0	1
Open Space	GS	SV-65-15	15	19-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	124-48-1	Dibromochloromethane	1.1	ug/L	1.1	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	110-54-3	Hexane	120	ug/L	120	1	1
Open Space	GS	SV-66-05	5	18-Jul-07	91-20-3	Naphthalene	2.7	ug/L	2.7	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	75-09-2	Methylene chloride	1.9	ug/L	1.9	1	1
Open Space	GS	SV-66-05	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.46	ug/L	0.46	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	74-82-8	Methane	0.16	%		1	1
Open Space	GS	SV-66-05	5	18-Jul-07	179601-23-1	m,p-Xylenes	5.4	ug/L	5.4	1	1
Open Space	GS	SV-66-05	5	18-Jul-07	98-82-8	Isopropylbenzene	1.1	ug/L	1.1	1	1
Open Space	GS	SV-66-05	5	18-Jul-07	108-20-3	Isopropyl ether	2.2	ug/L	2.2	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	100-41-4	Ethylbenzene	0.96	ug/L	0.96	1	1
Open Space	GS	SV-66-05	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	2.2	ug/L	2.2	0	1
Open Space	GS	SV-66-05	5	18-Jul-07		Ethene	0.0026	%		0	1
Open Space	GS	SV-66-05	5	18-Jul-07	64-17-5	Ethanol	0.97	ug/L	0.97	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.51	ug/L		0	1
Open Space	GS	SV-66-05	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.64	ug/L	0.64	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	142-82-5	n-Heptane	140	ug/L	140	1	1
Open Space	GS	SV-66-05	5	18-Jul-07	110-82-7	Cyclohexane	100	ug/L	100	1	1
Open Space	GS	SV-66-05	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.58	ug/L	0.58	0	1
Open Space	GS	SV-66-05	5	18-Jul-07		Ethane	0.0026	%		0	1
Open Space	GS	SV-66-05	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.38	ug/L	0.38	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	74-87-3	Chloromethane	1.7	ug/L	1.7	1	1
Open Space	GS	SV-66-05	5	18-Jul-07	75-01-4	Vinyl chloride	0.33	ug/L	0.33	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.72	ug/L	0.72	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	79-01-6	Trichloroethene	0.69	ug/L	0.69	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.58	ug/L	0.58	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.51	ug/L	0.51	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	87-68-3	Hexachlorobutadiene	5.5	ug/L	5.5	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	108-88-3	Toluene	3.5	ug/L	3.5	1	1
Open Space	GS	SV-66-05	5	18-Jul-07		Nitrogen	81	%		1	1
Open Space	GS	SV-66-05	5	18-Jul-07	127-18-4	Tetrachloroethene	0.88	ug/L	0.88	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-66-05	5	18-Jul-07	75-65-0	tert-Butyl alcohol	26	ug/L	26	1	1
Open Space	GS	SV-66-05	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	2.2	ug/L	2.2	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	100-42-5	Styrene	0.55	ug/L	0.55	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	622-96-8	p-Ethyltoluene	3	ug/L	3	1	1
Open Space	GS	SV-66-05	5	18-Jul-07	95-47-6	o-Xylene	4.3	ug/L	4.3	1	1
Open Space	GS	SV-66-05	5	18-Jul-07		Oxygen	18	%		1	1
Open Space	GS	SV-66-05	5	18-Jul-07	103-65-1	n-Propylbenzene	1.2	ug/L	1.2	1	1
Open Space	GS	SV-66-05	5	18-Jul-07		Toluene-d8	99	%		1	1
Open Space	GS	SV-66-05	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.99	ug/L	0.99	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.78	ug/L	0.78	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.78	ug/L	0.78	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	106-99-0	1,3-Butadiene	0.28	ug/L	0.28	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	1.3	ug/L	1.3	1	1
Open Space	GS	SV-66-05	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.6	ug/L	0.6	0	1
Open Space	GS	SV-66-05	5	18-Jul-07		1,2-Dichloroethane-d4	140	%		1	1
Open Space	GS	SV-66-05	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.52	ug/L	0.52	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	123-91-1	1,4-Dioxane	1.8	ug/L	1.8	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.9	ug/L	0.9	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.88	ug/L	0.88	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.86	ug/L	0.86	1	1
Open Space	GS	SV-66-05	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	3.8	ug/L	3.8	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	3.1	ug/L	3.1	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.51	ug/L	0.51	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.52	ug/L	0.52	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.7	ug/L	0.7	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.99	ug/L	0.99	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	67-63-0	Isopropyl alcohol	1.3	ug/L	1.3	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.78	ug/L	0.78	0	1
Open Space	GS	SV-66-05	5	18-Jul-07		Carbon Dioxide	0.83	%		1	1
Open Space	GS	SV-66-05	5	18-Jul-07	67-66-3	Chloroform	0.63	ug/L	0.63	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	108-90-7	Chlorobenzene	0.59	ug/L	0.59	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.81	ug/L	0.81	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	73	ug/L	73	1	1
Open Space	GS	SV-66-05	5	18-Jul-07	75-15-0	Carbon Disulfide	0.69	ug/L	0.69	1	1
Open Space	GS	SV-66-05	5	18-Jul-07	75-00-3	Chloroethane	0.34	ug/L	0.34	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	74-83-9	Bromomethane	0.5	ug/L	0.5	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	75-25-2	Bromoform	1.3	ug/L	1.3	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	75-27-4	Bromodichloromethane	0.86	ug/L	0.86	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	3.5	ug/L	3.5	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	71-43-2	Benzene	2.3	ug/L	2.3	1	1
Open Space	GS	SV-66-05	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.7	ug/L	0.7	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	107-05-1	Allyl chloride	1.6	ug/L	1.6	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	67-64-1	Acetone	60	ug/L	60	1	1
Open Space	GS	SV-66-05	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.53	ug/L	0.53	0	1
Open Space	GS	SV-66-05	5	18-Jul-07		4-Bromofluorobenzene	104	%		1	1
Open Space	GS	SV-66-05	5	18-Jul-07	591-78-6	2-Hexanone	2.1	ug/L	2.1	0	1
Open Space	GS	SV-66-05	5	18-Jul-07	100-44-7	Benzyl chloride	0.67	ug/L	0.67	0	1
Open Space	GS	SV-66-05	5	18-Jul-07		Carbon Monoxide	0.026	%		0	1
Open Space	GS	SV-66-05	5	18-Jul-07	78-93-3	2-Butanone	3.2	ug/L	3.2	1	1
Open Space	GS	SV-66-15	15	18-Jul-07	75-09-2	Methylene chloride	30	ug/L	30	1	1
Open Space	GS	SV-66-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	140	ug/L	140	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	110-54-3	Hexane	2500	ug/L	2500	1	1
Open Space	GS	SV-66-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	32	ug/L	32	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	108-20-3	Isopropyl ether	54	ug/L	54	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	98-82-8	Isopropylbenzene	16	ug/L	16	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	15	ug/L	15	1	1
Open Space	GS	SV-66-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	12	ug/L	12	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-66-15	15	18-Jul-07	74-82-8	Methane	4.5	%		1	1
Open Space	GS	SV-66-15	15	18-Jul-07	100-41-4	Ethylbenzene	35	ug/L	35	1	1
Open Space	GS	SV-66-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	54	ug/L	54	0	1
Open Space	GS	SV-66-15	15	18-Jul-07		Ethene	0.0026	%		0	1
Open Space	GS	SV-66-15	15	18-Jul-07	64-17-5	Ethanol	24	ug/L	24	0	1
Open Space	GS	SV-66-15	15	18-Jul-07		Ethane	0.0087	%		1	1
Open Space	GS	SV-66-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	16	ug/L	16	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	124-48-1	Dibromochloromethane	27	ug/L	27	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	91-20-3	Naphthalene	68	ug/L	68	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	15	ug/L	15	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	108-88-3	Toluene	29	ug/L	29	1	1
Open Space	GS	SV-66-15	15	18-Jul-07	110-82-7	Cyclohexane	1300	ug/L	1300	1	1
Open Space	GS	SV-66-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	9.5	ug/L	9.5	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	108-90-7	Chlorobenzene	15	ug/L	15	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	13	ug/L		0	1
Open Space	GS	SV-66-15	15	18-Jul-07	75-01-4	Vinyl chloride	8.2	ug/L	8.2	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	18	ug/L	18	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	79-01-6	Trichloroethene	17	ug/L	17	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	15	ug/L	15	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	127-18-4	Tetrachloroethene	22	ug/L	22	0	1
Open Space	GS	SV-66-15	15	18-Jul-07		Toluene-d8	97	%		1	1
Open Space	GS	SV-66-15	15	18-Jul-07	142-82-5	n-Heptane	1200	ug/L	1200	1	1
Open Space	GS	SV-66-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	270	ug/L	270	1	1
Open Space	GS	SV-66-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	54	ug/L	54	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	100-42-5	Styrene	14	ug/L	14	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	16	ug/L	16	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	95-47-6	o-Xylene	14	ug/L	14	0	1
Open Space	GS	SV-66-15	15	18-Jul-07		Oxygen	1.2	%		1	1
Open Space	GS	SV-66-15	15	18-Jul-07	103-65-1	n-Propylbenzene	16	ug/L	16	0	1
Open Space	GS	SV-66-15	15	18-Jul-07		Nitrogen	81	%		1	1
Open Space	GS	SV-66-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	13	ug/L	13	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	78	ug/L	78	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	106-99-0	1,3-Butadiene	7.1	ug/L	7.1	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	16	ug/L	16	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	15	ug/L	15	0	1
Open Space	GS	SV-66-15	15	18-Jul-07		1,2-Dichloroethane-d4	122	%		1	1
Open Space	GS	SV-66-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	13	ug/L	13	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	19	ug/L	19	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	22	ug/L	22	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	25	ug/L	25	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	19	ug/L	19	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	96	ug/L	96	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	25	ug/L	25	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	13	ug/L	13	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	13	ug/L	13	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	18	ug/L	18	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	74-87-3	Chloromethane	28	ug/L	28	1	1
Open Space	GS	SV-66-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	22	ug/L	22	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	67-66-3	Chloroform	16	ug/L	16	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	18	ug/L	18	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	88	ug/L	88	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	16	ug/L	16	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	75-25-2	Bromoform	33	ug/L	33	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	75-00-3	Chloroethane	8.5	ug/L	8.5	0	1
Open Space	GS	SV-66-15	15	18-Jul-07		Carbon Monoxide	0.026	%		0	1
Open Space	GS	SV-66-15	15	18-Jul-07	75-15-0	Carbon Disulfide	11	ug/L	11	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-66-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	19	ug/L	19	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	74-83-9	Bromomethane	12	ug/L	12	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	20	ug/L	20	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	75-27-4	Bromodichloromethane	22	ug/L	22	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	100-44-7	Benzyl chloride	17	ug/L	17	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	107-05-1	Allyl chloride	40	ug/L	40	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	67-64-1	Acetone	470	ug/L	470	1	1
Open Space	GS	SV-66-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	13	ug/L	13	0	1
Open Space	GS	SV-66-15	15	18-Jul-07		4-Bromofluorobenzene	103	%		1	1
Open Space	GS	SV-66-15	15	18-Jul-07	591-78-6	2-Hexanone	53	ug/L	53	0	1
Open Space	GS	SV-66-15	15	18-Jul-07	78-93-3	2-Butanone	34	ug/L	34	1	1
Open Space	GS	SV-66-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	920	ug/L	920	1	1
Open Space	GS	SV-66-15	15	18-Jul-07	71-43-2	Benzene	210	ug/L	210	1	1
Open Space	GS	SV-66-15	15	18-Jul-07		Carbon Dioxide	11	%		1	1
Open Space	GS	SV-66-15	15	18-Jul-07	123-91-1	1,4-Dioxane	46	ug/L	46	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	75-25-2	Bromoform	0.014	UG/L	0.014	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	591-78-6	2-Hexanone	0.022	UG/L	0.022	0	1
Open Space	GS	SV-52-04	4	16-Nov-07		4-Bromofluorobenzene	97	%		1	1
Open Space	GS	SV-52-04	4	16-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0054	UG/L	0.0054	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	67-64-1	Acetone	0.012	UG/L	0.012	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	71-43-2	Benzene	0.0042	UG/L	0.0042	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	78-93-3	2-Butanone	0.0039	UG/L	0.0039	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	75-27-4	Bromodichloromethane	0.0088	UG/L	0.0088	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0079	UG/L	0.0079	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	74-83-9	Bromomethane	0.0051	UG/L	0.0051	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	75-15-0	Carbon Disulfide	0.0041	UG/L	0.0041	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	56-23-5	Carbon Tetrachloride	0.0083	UG/L	0.0083	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	108-90-7	Chlorobenzene	0.0061	UG/L	0.0061	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	75-00-3	Chloroethane	0.0035	UG/L	0.0035	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	100-44-7	Benzyl chloride	0.0068	UG/L	0.0068	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	107-06-2	1,2-Dichloroethane	0.0053	UG/L	0.0053	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	75-34-3	1,1-Dichloroethane	0.0053	UG/L	0.0053	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	75-35-4	1,1-Dichloroethene	0.0052	UG/L	0.0052	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	96-18-4	1,2,3-Trichloropropane	0.032	UG/L	0.032	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.039	UG/L	0.039	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0065	UG/L	0.0065	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	106-93-4	1,2-Dibromoethane	0.01	UG/L	0.01	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0062	UG/L	0.0062	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0079	UG/L	0.0079	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	67-66-3	Chloroform	0.0064	UG/L	0.0064	0	1
Open Space	GS	SV-52-04	4	16-Nov-07		1,2-Dichloroethane-d4	95	%		1	1
Open Space	GS	SV-52-04	4	16-Nov-07	78-87-5	1,2-Dichloropropane	0.0061	UG/L	0.0061	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0065	UG/L	0.0065	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	106-99-0	1,3-Butadiene	0.0029	UG/L	0.0029	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0079	UG/L	0.0079	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.006	UG/L	0.006	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	123-91-1	1,4-Dioxane	0.019	UG/L	0.019	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0092	UG/L	0.0092	0	1
Open Space	GS	SV-52-04	4	16-Nov-07		Toluene-d8	98	%		1	1
Open Space	GS	SV-52-04	4	16-Nov-07	74-87-3	Chloromethane	0.011	UG/L	0.011	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	622-96-8	p-Ethyltoluene	0.0065	UG/L	0.0065	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	100-42-5	Styrene	0.0056	UG/L	0.0056	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	994-05-8	tert-Amyl methyl ether	0.022	UG/L	0.022	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	75-65-0	tert-Butyl alcohol	0.016	UG/L	0.016	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	127-18-4	Tetrachloroethene	0.009	UG/L	0.009	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	103-65-1	n-Propylbenzene	0.0065	UG/L	0.0065	0	1

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Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-52-04	4	16-Nov-07	108-88-3	Toluene	0.0084	UG/L	0.0084	1	1
Open Space	GS	SV-52-04	4	16-Nov-07	142-82-5	n-Heptane	0.0054	UG/L	0.0054	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0052	UG/L	0.0052	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.006	UG/L	0.006	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	79-01-6	Trichloroethene	0.0071	UG/L	0.0071	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	75-69-4	Trichlorofluoromethane	0.0074	UG/L	0.0074	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	75-01-4	Vinyl Chloride	0.0034	UG/L	0.0034	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	109-99-9	Tetrahydrofuran	0.0039	UG/L	0.0039	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	87-68-3	Hexachlorobutadiene	0.056	UG/L	0.056	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0052	UG/L		0	1
Open Space	GS	SV-52-04	4	16-Nov-07	67-63-0	Isopropyl alcohol	0.013	UG/L	0.013	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	110-82-7	Cyclohexane	0.0089	UG/L	0.0089	1	1
Open Space	GS	SV-52-04	4	16-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	75-71-8	Dichlorodifluoromethane	0.0065	UG/L	0.0065	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	64-17-5	Ethanol	0.0099	UG/L	0.0099	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	95-47-6	o-Xylene	0.0057	UG/L	0.0057	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	100-41-4	Ethylbenzene	0.0057	UG/L	0.0057	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0072	UG/L	0.0072	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	110-54-3	Hexane	0.0046	UG/L	0.0046	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	108-20-3	Isopropyl ether	0.022	UG/L	0.022	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	179601-23-1	m,p-Xylenes	0.0057	UG/L	0.0057	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0048	UG/L	0.0048	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	75-09-2	Methylene Chloride	0.0046	UG/L	0.0046	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	91-20-3	Naphthalene	0.028	UG/L	0.028	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	637-92-3	Ethyl tert butyl ether	0.022	UG/L	0.022	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.036	UG/L	0.036	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	98-82-8	Isopropylbenzene	0.0065	UG/L	0.0065	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0091	UG/L	0.0091	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0072	UG/L	0.0072	0	1
Open Space	GS	SV-52-04	4	16-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	UG/L	0.01	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	75-15-0	Carbon Disulfide	0.0038	UG/L	0.0038	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	74-83-9	Bromomethane	0.0047	UG/L	0.0047	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	75-25-2	Bromoform	0.012	UG/L	0.012	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	56-23-5	Carbon Tetrachloride	0.0076	UG/L	0.0076	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	100-44-7	Benzyl chloride	0.0063	UG/L	0.0063	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	71-43-2	Benzene	0.0039	UG/L	0.0039	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	107-05-1	Allyl chloride	0.015	UG/L	0.015	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	67-64-1	Acetone	0.014	UG/L	0.014	1	1
Open Space	GS	SV-52-10	10	16-Nov-07	108-10-1	4-Methyl-2-pentanone	0.005	UG/L	0.005	0	1
Open Space	GS	SV-52-10	10	16-Nov-07		4-Bromofluorobenzene	93	%		1	1
Open Space	GS	SV-52-10	10	16-Nov-07	75-27-4	Bromodichloromethane	0.0081	UG/L	0.0081	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	591-78-6	2-Hexanone	0.02	UG/L	0.02	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	75-00-3	Chloroethane	0.0032	UG/L	0.0032	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	123-91-1	1,4-Dioxane	0.017	UG/L	0.017	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	67-66-3	Chloroform	0.0096	UG/L	0.0096	1	1
Open Space	GS	SV-52-10	10	16-Nov-07	74-87-3	Chloromethane	0.01	UG/L	0.01	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0048	UG/L		0	1
Open Space	GS	SV-52-10	10	16-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0055	UG/L	0.0055	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	124-48-1	Dibromochloromethane	0.01	UG/L	0.01	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	64-17-5	Ethanol	0.0091	UG/L	0.0091	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	637-92-3	Ethyl tert butyl ether	0.02	UG/L	0.02	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	100-41-4	Ethylbenzene	0.0052	UG/L	0.0052	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	108-90-7	Chlorobenzene	0.0056	UG/L	0.0056	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0084	UG/L	0.0084	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.033	UG/L	0.033	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0066	UG/L	0.0066	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-52-10	10	16-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0083	UG/L	0.0083	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0093	UG/L	0.0093	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0066	UG/L	0.0066	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	75-34-3	1,1-Dichloroethane	0.0049	UG/L	0.0049	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	75-35-4	1,1-Dichloroethene	0.0048	UG/L	0.0048	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	96-18-4	1,2,3-Trichloropropane	0.029	UG/L	0.029	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.036	UG/L	0.036	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	78-93-3	2-Butanone	0.0036	UG/L	0.0036	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	106-93-4	1,2-Dibromoethane	0.0093	UG/L	0.0093	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	87-68-3	Hexachlorobutadiene	0.052	UG/L	0.052	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0073	UG/L	0.0073	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	107-06-2	1,2-Dichloroethane	0.0049	UG/L	0.0049	0	1
Open Space	GS	SV-52-10	10	16-Nov-07		1,2-Dichloroethane-d4	100	%		1	1
Open Space	GS	SV-52-10	10	16-Nov-07	78-87-5	1,2-Dichloropropane	0.0056	UG/L	0.0056	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0059	UG/L	0.0059	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	106-99-0	1,3-Butadiene	0.0027	UG/L	0.0027	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0073	UG/L	0.0073	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0073	UG/L	0.0073	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	75-71-8	Dichlorodifluoromethane	0.006	UG/L	0.006	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0056	UG/L	0.0056	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0059	UG/L	0.0059	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0048	UG/L	0.0048	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	110-82-7	Cyclohexane	0.011	UG/L	0.011	1	1
Open Space	GS	SV-52-10	10	16-Nov-07	110-54-3	Hexane	0.0043	UG/L	0.0043	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	75-01-4	Vinyl Chloride	0.0031	UG/L	0.0031	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	75-69-4	Trichlorofluoromethane	0.0068	UG/L	0.0068	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0055	UG/L	0.0055	0	1
Open Space	GS	SV-52-10	10	16-Nov-07		Toluene-d8	96	%		1	1
Open Space	GS	SV-52-10	10	16-Nov-07	108-88-3	Toluene	0.0046	UG/L	0.0046	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	109-99-9	Tetrahydrofuran	0.0036	UG/L	0.0036	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	127-18-4	Tetrachloroethene	0.0082	UG/L	0.0082	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	75-65-0	tert-Butyl alcohol	0.015	UG/L	0.015	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	994-05-8	tert-Amyl methyl ether	0.02	UG/L	0.02	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	100-42-5	Styrene	0.0052	UG/L	0.0052	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	179601-23-1	m,p-Xylenes	0.0052	UG/L	0.0052	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	95-47-6	o-Xylene	0.0052	UG/L	0.0052	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	103-65-1	n-Propylbenzene	0.0059	UG/L	0.0059	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	142-82-5	n-Heptane	0.005	UG/L	0.005	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	91-20-3	Naphthalene	0.025	UG/L	0.025	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	75-09-2	Methylene Chloride	0.0042	UG/L	0.0042	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0044	UG/L	0.0044	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	67-63-0	Isopropyl alcohol	0.012	UG/L	0.012	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	108-20-3	Isopropyl ether	0.02	UG/L	0.02	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	79-01-6	Trichloroethene	0.0065	UG/L	0.0065	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	98-82-8	Isopropylbenzene	0.0059	UG/L	0.0059	0	1
Open Space	GS	SV-52-10	10	16-Nov-07	622-96-8	p-Ethyltoluene	0.0059	UG/L	0.0059	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	67-64-1	Acetone	0.048	UG/L	0.048	1	1
Open Space	GS	SV-52-15	15	16-Nov-07	591-78-6	2-Hexanone	0.021	UG/L	0.021	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	71-43-2	Benzene	0.004	UG/L	0.004	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0059	UG/L	0.0059	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	78-93-3	2-Butanone	0.012	UG/L	0.012	1	1
Open Space	GS	SV-52-15	15	16-Nov-07	100-44-7	Benzyl chloride	0.0065	UG/L	0.0065	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	75-27-4	Bromodichloromethane	0.0085	UG/L	0.0085	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-52-15	15	16-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	75-15-0	Carbon Disulfide	0.06	UG/L	0.06	1	1
Open Space	GS	SV-52-15	15	16-Nov-07	56-23-5	Carbon Tetrachloride	0.008	UG/L	0.008	0	1
Open Space	GS	SV-52-15	15	16-Nov-07		4-Bromofluorobenzene	95	%		1	1
Open Space	GS	SV-52-15	15	16-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	108-90-7	Chlorobenzene	0.0058	UG/L	0.0058	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	UG/L	0.0097	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	74-83-9	Bromomethane	0.0049	UG/L	0.0049	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0062	UG/L	0.0062	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	UG/L	0.0057	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	75-00-3	Chloroethane	0.0033	UG/L	0.0033	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	UG/L	0.035	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0069	UG/L	0.0069	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	UG/L	0.0087	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0069	UG/L	0.0069	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	75-35-4	1,1-Dichloroethene	0.005	UG/L	0.005	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	75-34-3	1,1-Dichloroethane	0.0051	UG/L	0.0051	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.038	UG/L	0.038	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	106-99-0	1,3-Butadiene	0.0028	UG/L	0.0028	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	106-93-4	1,2-Dibromoethane	0.0097	UG/L	0.0097	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	UG/L	0.0088	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	107-06-2	1,2-Dichloroethane	0.0051	UG/L	0.0051	0	1
Open Space	GS	SV-52-15	15	16-Nov-07		1,2-Dichloroethane-d4	95	%		1	1
Open Space	GS	SV-52-15	15	16-Nov-07	78-87-5	1,2-Dichloropropane	0.0058	UG/L	0.0058	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0062	UG/L	0.0062	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	96-18-4	1,2,3-Trichloropropane	0.03	UG/L	0.03	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	622-96-8	p-Ethyltoluene	0.0062	UG/L	0.0062	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	79-01-6	Trichloroethene	0.0068	UG/L	0.0068	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	UG/L	0.0057	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.005	UG/L	0.005	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	108-88-3	Toluene	0.0064	UG/L	0.0064	1	1
Open Space	GS	SV-52-15	15	16-Nov-07	109-99-9	Tetrahydrofuran	0.0037	UG/L	0.0037	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	127-18-4	Tetrachloroethene	0.0086	UG/L	0.0086	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	75-65-0	tert-Butyl alcohol	0.015	UG/L	0.015	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	75-69-4	Trichlorofluoromethane	0.0071	UG/L	0.0071	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	100-42-5	Styrene	0.0054	UG/L	0.0054	0	1
Open Space	GS	SV-52-15	15	16-Nov-07		Toluene-d8	97	%		1	1
Open Space	GS	SV-52-15	15	16-Nov-07	95-47-6	o-Xylene	0.0055	UG/L	0.0055	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	103-65-1	n-Propylbenzene	0.0062	UG/L	0.0062	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	142-82-5	n-Heptane	0.0052	UG/L	0.0052	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	91-20-3	Naphthalene	0.026	UG/L	0.026	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	75-09-2	Methylene Chloride	0.0044	UG/L	0.0044	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0046	UG/L	0.0046	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	67-66-3	Chloroform	0.0062	UG/L	0.0062	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	74-87-3	Chloromethane	0.01	UG/L	0.01	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	994-05-8	tert-Amyl methyl ether	0.021	UG/L	0.021	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	637-92-3	Ethyl tert butyl ether	0.021	UG/L	0.021	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.005	UG/L		0	1
Open Space	GS	SV-52-15	15	16-Nov-07	110-82-7	Cyclohexane	0.094	UG/L	0.094	1	1
Open Space	GS	SV-52-15	15	16-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0052	UG/L	0.0052	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	64-17-5	Ethanol	0.033	UG/L	0.033	1	1
Open Space	GS	SV-52-15	15	16-Nov-07	100-41-4	Ethylbenzene	0.0055	UG/L	0.0055	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	87-68-3	Hexachlorobutadiene	0.054	UG/L	0.054	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	110-54-3	Hexane	0.0044	UG/L	0.0044	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	67-63-0	Isopropyl alcohol	0.015	UG/L	0.015	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-52-15	15	16-Nov-07	108-20-3	Isopropyl ether	0.021	UG/L	0.021	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	98-82-8	Isopropylbenzene	0.0062	UG/L	0.0062	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	179601-23-1	m,p-Xylenes	0.0069	UG/L	0.0069	1	1
Open Space	GS	SV-52-15	15	16-Nov-07	75-01-4	Vinyl Chloride	0.0032	UG/L	0.0032	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space	GS	SV-52-15	15	16-Nov-07	75-71-8	Dichlorodifluoromethane	0.0062	UG/L	0.0062	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	78-93-3	2-Butanone	0.013	UG/L	0.013	1	1
Open Space	GS	SV-53-15	15	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.02	UG/L	0.02	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	106-99-0	1,3-Butadiene	0.0089	UG/L	0.0089	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.024	UG/L	0.024	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.024	UG/L	0.024	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	106-93-4	1,2-Dibromoethane	0.031	UG/L	0.031	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	123-91-1	1,4-Dioxane	0.058	UG/L	0.058	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.17	UG/L	0.17	1	1
Open Space	GS	SV-53-15	15	17-Nov-07	107-06-2	1,2-Dichloroethane	0.016	UG/L	0.016	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	591-78-6	2-Hexanone	0.066	UG/L	0.066	0	1
Open Space	GS	SV-53-15	15	17-Nov-07		4-Bromofluorobenzene	96	%		1	1
Open Space	GS	SV-53-15	15	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.016	UG/L	0.016	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	67-64-1	Acetone	0.053	UG/L	0.053	1	1
Open Space	GS	SV-53-15	15	17-Nov-07	75-34-3	1,1-Dichloroethane	0.016	UG/L	0.016	0	1
Open Space	GS	SV-53-15	15	17-Nov-07		1,2-Dichloroethane-d4	96	%		1	1
Open Space	GS	SV-53-15	15	17-Nov-07	107-05-1	Allyl chloride	0.05	UG/L	0.05	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.024	UG/L	0.024	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.022	UG/L	0.022	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.031	UG/L	0.031	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.028	UG/L	0.028	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.022	UG/L	0.022	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	75-35-4	1,1-Dichloroethene	0.016	UG/L	0.016	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.11	UG/L	0.11	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.097	UG/L	0.097	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.12	UG/L	0.12	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	67-66-3	Chloroform	0.02	UG/L	0.02	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.02	UG/L	0.02	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	78-87-5	1,2-Dichloropropane	0.019	UG/L	0.019	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	109-99-9	Tetrahydrofuran	0.012	UG/L	0.012	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	108-90-7	Chlorobenzene	0.018	UG/L	0.018	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	91-20-3	Naphthalene	0.085	UG/L	0.085	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	142-82-5	n-Heptane	0.29	UG/L	0.29	1	1
Open Space	GS	SV-53-15	15	17-Nov-07	103-65-1	n-Propylbenzene	0.02	UG/L	0.02	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	95-47-6	o-Xylene	0.024	UG/L	0.024	1	1
Open Space	GS	SV-53-15	15	17-Nov-07	622-96-8	p-Ethyltoluene	0.02	UG/L	0.02	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	100-42-5	Styrene	0.017	UG/L	0.017	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.068	UG/L	0.068	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.014	UG/L	0.014	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	127-18-4	Tetrachloroethene	0.027	UG/L	0.027	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	179601-23-1	m,p-Xylenes	0.064	UG/L	0.064	1	1
Open Space	GS	SV-53-15	15	17-Nov-07	108-88-3	Toluene	0.07	UG/L	0.07	1	1
Open Space	GS	SV-53-15	15	17-Nov-07		Toluene-d8	92	%		1	1
Open Space	GS	SV-53-15	15	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.016	UG/L	0.016	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.018	UG/L	0.018	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	79-01-6	Trichloroethene	0.022	UG/L	0.022	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	75-69-4	Trichlorofluoromethane	0.023	UG/L	0.023	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	75-01-4	Vinyl Chloride	0.01	UG/L	0.01	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.028	UG/L	0.028	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	75-65-0	tert-Butyl alcohol	0.049	UG/L	0.049	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	110-82-7	Cyclohexane	3.9	UG/L	3.9	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-53-15	15	17-Nov-07	100-44-7	Benzyl chloride	0.021	UG/L	0.021	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	75-27-4	Bromodichloromethane	0.027	UG/L	0.027	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	75-25-2	Bromoform	0.042	UG/L	0.042	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	74-83-9	Bromomethane	0.016	UG/L	0.016	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	75-15-0	Carbon Disulfide	0.067	UG/L	0.067	1	1
Open Space	GS	SV-53-15	15	17-Nov-07	56-23-5	Carbon Tetrachloride	0.025	UG/L	0.025	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	75-00-3	Chloroethane	0.011	UG/L	0.011	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	74-87-3	Chloromethane	0.033	UG/L	0.033	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	75-09-2	Methylene Chloride	0.014	UG/L	0.014	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.018	UG/L	0.018	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	71-43-2	Benzene	0.013	UG/L	0.013	1	1
Open Space	GS	SV-53-15	15	17-Nov-07	124-48-1	Dibromochloromethane	0.034	UG/L	0.034	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.02	UG/L	0.02	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	64-17-5	Ethanol	0.03	UG/L	0.03	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.068	UG/L	0.068	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	100-41-4	Ethylbenzene	0.026	UG/L	0.026	1	1
Open Space	GS	SV-53-15	15	17-Nov-07	87-68-3	Hexachlorobutadiene	0.17	UG/L	0.17	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	110-54-3	Hexane	0.77	UG/L	0.77	1	1
Open Space	GS	SV-53-15	15	17-Nov-07	67-63-0	Isopropyl alcohol	0.04	UG/L	0.04	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	108-20-3	Isopropyl ether	0.068	UG/L	0.068	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	98-82-8	Isopropylbenzene	0.02	UG/L	0.02	0	1
Open Space	GS	SV-53-15	15	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.016	UG/L		0	1
Open Space	GS	SV-54-13	13	17-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.14	UG/L	0.14	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	100-41-4	Ethylbenzene	0.28	UG/L	0.28	1	1
Open Space	GS	SV-54-13	13	17-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.57	UG/L	0.57	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	1634-04-4	Methyl tert-butyl ether	0.075	UG/L	0.075	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	179601-23-1	m,p-Xylenes	1	UG/L	1	1	1
Open Space	GS	SV-54-13	13	17-Nov-07	98-82-8	Isopropylbenzene	0.15	UG/L	0.15	1	1
Open Space	GS	SV-54-13	13	17-Nov-07	108-20-3	Isopropyl ether	0.35	UG/L	0.35	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	67-63-0	Isopropyl alcohol	8.6	UG/L	8.6	1	1
Open Space	GS	SV-54-13	13	17-Nov-07	91-20-3	Naphthalene	0.44	UG/L	0.44	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	87-68-3	Hexachlorobutadiene	0.88	UG/L	0.88	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	142-82-5	n-Heptane	0.32	UG/L	0.32	1	1
Open Space	GS	SV-54-13	13	17-Nov-07	637-92-3	Ethyl tert butyl ether	0.35	UG/L	0.35	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	64-17-5	Ethanol	0.59	UG/L	0.59	1	1
Open Space	GS	SV-54-13	13	17-Nov-07	75-71-8	Dichlorodifluoromethane	0.1	UG/L	0.1	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	124-48-1	Dibromochloromethane	0.18	UG/L	0.18	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	110-82-7	Cyclohexane	9.2	UG/L	9.2	1	1
Open Space	GS	SV-54-13	13	17-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.094	UG/L	0.094	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.082	UG/L		0	1
Open Space	GS	SV-54-13	13	17-Nov-07	110-54-3	Hexane	0.39	UG/L	0.39	1	1
Open Space	GS	SV-54-13	13	17-Nov-07	109-99-9	Tetrahydrofuran	0.061	UG/L	0.061	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	75-01-4	Vinyl Chloride	0.053	UG/L	0.053	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	75-69-4	Trichlorofluoromethane	0.12	UG/L	0.12	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	79-01-6	Trichloroethene	0.11	UG/L	0.11	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.094	UG/L	0.094	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.082	UG/L	0.082	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	75-09-2	Methylene Chloride	0.072	UG/L	0.072	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	108-88-3	Toluene	0.61	UG/L	0.61	1	1
Open Space	GS	SV-54-13	13	17-Nov-07	75-00-3	Chloroethane	0.055	UG/L	0.055	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	127-18-4	Tetrachloroethene	0.14	UG/L	0.14	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	75-65-0	tert-Butyl alcohol	0.26	UG/L	0.26	1	1
Open Space	GS	SV-54-13	13	17-Nov-07	994-05-8	tert-Amyl methyl ether	0.35	UG/L	0.35	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	100-42-5	Styrene	0.088	UG/L	0.088	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	622-96-8	p-Ethyltoluene	0.24	UG/L	0.24	1	1
Open Space	GS	SV-54-13	13	17-Nov-07	95-47-6	o-Xylene	0.32	UG/L	0.32	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-54-13	13	17-Nov-07	103-65-1	n-Propylbenzene	0.1	UG/L	0.1	0	1
Open Space	GS	SV-54-13	13	17-Nov-07		Toluene-d8	92	%		1	1
Open Space	GS	SV-54-13	13	17-Nov-07	106-93-4	1,2-Dibromoethane	0.16	UG/L	0.16	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	74-87-3	Chloromethane	0.17	UG/L	0.17	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	106-99-0	1,3-Butadiene	0.046	UG/L	0.046	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.1	UG/L	0.1	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	78-87-5	1,2-Dichloropropane	0.096	UG/L	0.096	0	1
Open Space	GS	SV-54-13	13	17-Nov-07		1,2-Dichloroethane-d4	99	%		1	1
Open Space	GS	SV-54-13	13	17-Nov-07	107-06-2	1,2-Dichloroethane	0.084	UG/L	0.084	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	106-46-7	1,4-Dichlorobenzene	0.12	UG/L	0.12	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.14	UG/L	0.14	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	123-91-1	1,4-Dioxane	0.3	UG/L	0.3	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.19	UG/L	0.19	1	1
Open Space	GS	SV-54-13	13	17-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.62	UG/L	0.62	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	96-18-4	1,2,3-Trichloropropane	0.5	UG/L	0.5	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	75-35-4	1,1-Dichloroethene	0.082	UG/L	0.082	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	75-34-3	1,1-Dichloroethane	0.084	UG/L	0.084	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	79-00-5	1,1,2-Trichloroethane	0.11	UG/L	0.11	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.16	UG/L	0.16	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	95-50-1	1,2-Dichlorobenzene	0.12	UG/L	0.12	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	71-43-2	Benzene	0.066	UG/L	0.066	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	71-55-6	1,1,1-Trichloroethane	0.11	UG/L	0.11	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	108-90-7	Chlorobenzene	0.096	UG/L	0.096	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	56-23-5	Carbon Tetrachloride	0.13	UG/L	0.13	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	75-15-0	Carbon Disulfide	3.8	UG/L	3.8	1	1
Open Space	GS	SV-54-13	13	17-Nov-07	74-83-9	Bromomethane	0.08	UG/L	0.08	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	75-25-2	Bromoform	0.21	UG/L	0.21	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	541-73-1	1,3-Dichlorobenzene	0.12	UG/L	0.12	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	100-44-7	Benzyl chloride	0.11	UG/L	0.11	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	67-66-3	Chloroform	0.1	UG/L	0.1	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	107-05-1	Allyl chloride	0.26	UG/L	0.26	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	67-64-1	Acetone	3.7	UG/L	3.7	1	1
Open Space	GS	SV-54-13	13	17-Nov-07	108-10-1	4-Methyl-2-pentanone	0.085	UG/L	0.085	0	1
Open Space	GS	SV-54-13	13	17-Nov-07		4-Bromofluorobenzene	98	%		1	1
Open Space	GS	SV-54-13	13	17-Nov-07	591-78-6	2-Hexanone	0.34	UG/L	0.34	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	78-93-3	2-Butanone	0.2	UG/L	0.2	1	1
Open Space	GS	SV-54-13	13	17-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.097	UG/L	0.097	0	1
Open Space	GS	SV-54-13	13	17-Nov-07	75-27-4	Bromodichloromethane	0.14	UG/L	0.14	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	179601-23-1	m,p-Xylenes	0.016	UG/L	0.016	1	1
Open Space	GS	SV-67-05	5	16-Nov-07	637-92-3	Ethyl tert butyl ether	0.021	UG/L	0.021	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	100-41-4	Ethylbenzene	0.0069	UG/L	0.0069	1	1
Open Space	GS	SV-67-05	5	16-Nov-07	87-68-3	Hexachlorobutadiene	0.053	UG/L	0.053	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	110-54-3	Hexane	0.17	UG/L	0.17	1	1
Open Space	GS	SV-67-05	5	16-Nov-07	67-63-0	Isopropyl alcohol	0.016	UG/L	0.016	1	1
Open Space	GS	SV-67-05	5	16-Nov-07	98-82-8	Isopropylbenzene	0.0061	UG/L	0.0061	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	108-20-3	Isopropyl ether	0.021	UG/L	0.021	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	64-17-5	Ethanol	0.0093	UG/L	0.0093	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	75-71-8	Dichlorodifluoromethane	0.0061	UG/L	0.0061	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	124-48-1	Dibromochloromethane	0.01	UG/L	0.01	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	74-87-3	Chloromethane	0.01	UG/L	0.01	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	110-82-7	Cyclohexane	0.025	UG/L	0.025	1	1
Open Space	GS	SV-67-05	5	16-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0044	UG/L	0.0044	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0049	UG/L		0	1
Open Space	GS	SV-67-05	5	16-Nov-07	109-99-9	Tetrahydrofuran	0.035	UG/L	0.035	1	1
Open Space	GS	SV-67-05	5	16-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	UG/L	0.0056	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	75-01-4	Vinyl Chloride	0.0032	UG/L	0.0032	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	75-27-4	Bromodichloromethane	0.0083	UG/L	0.0083	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-67-05	5	16-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	75-69-4	Trichlorofluoromethane	0.0069	UG/L	0.0069	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	79-01-6	Trichloroethene	0.008	UG/L	0.008	1	1
Open Space	GS	SV-67-05	5	16-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	UG/L	0.0056	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0049	UG/L	0.0049	0	1
Open Space	GS	SV-67-05	5	16-Nov-07		Toluene-d8	96	%		1	1
Open Space	GS	SV-67-05	5	16-Nov-07	75-65-0	tert-Butyl alcohol	0.015	UG/L	0.015	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	127-18-4	Tetrachloroethene	0.0084	UG/L	0.0084	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	75-09-2	Methylene Chloride	0.0043	UG/L	0.0043	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	994-05-8	tert-Amyl methyl ether	0.021	UG/L	0.021	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	100-42-5	Styrene	0.0053	UG/L	0.0053	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	622-96-8	p-Ethyltoluene	0.0061	UG/L	0.0061	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	95-47-6	o-Xylene	0.0071	UG/L	0.0071	1	1
Open Space	GS	SV-67-05	5	16-Nov-07	103-65-1	n-Propylbenzene	0.0061	UG/L	0.0061	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	142-82-5	n-Heptane	0.074	UG/L	0.074	1	1
Open Space	GS	SV-67-05	5	16-Nov-07	91-20-3	Naphthalene	0.026	UG/L	0.026	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	108-88-3	Toluene	0.04	UG/L	0.04	1	1
Open Space	GS	SV-67-05	5	16-Nov-07	75-35-4	1,1-Dichloroethene	0.0049	UG/L	0.0049	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	78-87-5	1,2-Dichloropropane	0.0057	UG/L	0.0057	0	1
Open Space	GS	SV-67-05	5	16-Nov-07		1,2-Dichloroethane-d4	96	%		1	1
Open Space	GS	SV-67-05	5	16-Nov-07	107-06-2	1,2-Dichloroethane	0.005	UG/L	0.005	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	UG/L	0.0086	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	106-93-4	1,2-Dibromoethane	0.0095	UG/L	0.0095	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0061	UG/L	0.0061	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.037	UG/L	0.037	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0061	UG/L	0.0061	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	75-34-3	1,1-Dichloroethane	0.005	UG/L	0.005	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0067	UG/L	0.0067	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	UG/L	0.0095	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	UG/L	0.0085	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0067	UG/L	0.0067	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	74-83-9	Bromomethane	0.0048	UG/L	0.0048	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	67-66-3	Chloroform	0.0069	UG/L	0.0069	1	1
Open Space	GS	SV-67-05	5	16-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	UG/L	0.034	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	108-90-7	Chlorobenzene	0.0057	UG/L	0.0057	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	96-18-4	1,2,3-Trichloropropane	0.03	UG/L	0.03	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	75-00-3	Chloroethane	0.0032	UG/L	0.0032	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	106-99-0	1,3-Butadiene	0.071	UG/L	0.071	1	1
Open Space	GS	SV-67-05	5	16-Nov-07	56-23-5	Carbon Tetrachloride	0.0078	UG/L	0.0078	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	75-15-0	Carbon Disulfide	0.052	UG/L	0.052	1	1
Open Space	GS	SV-67-05	5	16-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	100-44-7	Benzyl chloride	0.0064	UG/L	0.0064	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	71-43-2	Benzene	0.03	UG/L	0.03	1	1
Open Space	GS	SV-67-05	5	16-Nov-07	107-05-1	Allyl chloride	0.015	UG/L	0.015	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.013	UG/L	0.013	1	1
Open Space	GS	SV-67-05	5	16-Nov-07	78-93-3	2-Butanone	0.0083	UG/L	0.0083	1	1
Open Space	GS	SV-67-05	5	16-Nov-07	591-78-6	2-Hexanone	0.02	UG/L	0.02	0	1
Open Space	GS	SV-67-05	5	16-Nov-07		4-Bromofluorobenzene	94	%		1	1
Open Space	GS	SV-67-05	5	16-Nov-07	108-10-1	4-Methyl-2-pentanone	0.005	UG/L	0.005	0	1
Open Space	GS	SV-67-05	5	16-Nov-07	67-64-1	Acetone	0.015	UG/L	0.015	1	1
Open Space	GS	SV-67-05	5	16-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0074	UG/L	0.0074	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	110-82-7	Cyclohexane	0.026	UG/L	0.026	1	1
Open Space	GS	SV-67-15	15	16-Nov-07	87-68-3	Hexachlorobutadiene	0.063	UG/L	0.063	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0053	UG/L	0.0053	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-67-15	15	16-Nov-07	179601-23-1	m,p-Xylenes	0.044	UG/L	0.044	1	1
Open Space	GS	SV-67-15	15	16-Nov-07	98-82-8	Isopropylbenzene	0.0073	UG/L	0.0073	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	108-20-3	Isopropyl ether	0.025	UG/L	0.025	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	67-63-0	Isopropyl alcohol	0.027	UG/L	0.027	1	1
Open Space	GS	SV-67-15	15	16-Nov-07	110-54-3	Hexane	0.07	UG/L	0.07	1	1
Open Space	GS	SV-67-15	15	16-Nov-07	100-41-4	Ethylbenzene	0.011	UG/L	0.011	1	1
Open Space	GS	SV-67-15	15	16-Nov-07	637-92-3	Ethyl tert butyl ether	0.025	UG/L	0.025	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	64-17-5	Ethanol	0.011	UG/L	0.011	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	67-66-3	Chloroform	0.0072	UG/L	0.0072	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	124-48-1	Dibromochloromethane	0.013	UG/L	0.013	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	75-09-2	Methylene Chloride	0.0051	UG/L	0.0051	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0067	UG/L	0.0067	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0059	UG/L		0	1
Open Space	GS	SV-67-15	15	16-Nov-07	75-71-8	Dichlorodifluoromethane	0.0073	UG/L	0.0073	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	127-18-4	Tetrachloroethene	0.01	UG/L	0.01	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	75-00-3	Chloroethane	0.0039	UG/L	0.0039	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	75-01-4	Vinyl Chloride	0.0038	UG/L	0.0038	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	75-69-4	Trichlorofluoromethane	0.0083	UG/L	0.0083	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	79-01-6	Trichloroethene	0.008	UG/L	0.008	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0067	UG/L	0.0067	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0059	UG/L	0.0059	0	1
Open Space	GS	SV-67-15	15	16-Nov-07		Toluene-d8	97	%		1	1
Open Space	GS	SV-67-15	15	16-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	109-99-9	Tetrahydrofuran	0.0047	UG/L	0.0047	1	1
Open Space	GS	SV-67-15	15	16-Nov-07	91-20-3	Naphthalene	0.031	UG/L	0.031	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	75-65-0	tert-Butyl alcohol	0.018	UG/L	0.018	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	994-05-8	tert-Amyl methyl ether	0.025	UG/L	0.025	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	100-42-5	Styrene	0.0063	UG/L	0.0063	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	622-96-8	p-Ethyltoluene	0.012	UG/L	0.012	1	1
Open Space	GS	SV-67-15	15	16-Nov-07	95-47-6	o-Xylene	0.014	UG/L	0.014	1	1
Open Space	GS	SV-67-15	15	16-Nov-07	103-65-1	n-Propylbenzene	0.0073	UG/L	0.0073	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	142-82-5	n-Heptane	0.0061	UG/L	0.0061	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	108-88-3	Toluene	0.043	UG/L	0.043	1	1
Open Space	GS	SV-67-15	15	16-Nov-07	75-35-4	1,1-Dichloroethene	0.0059	UG/L	0.0059	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	78-87-5	1,2-Dichloropropane	0.0068	UG/L	0.0068	0	1
Open Space	GS	SV-67-15	15	16-Nov-07		1,2-Dichloroethane-d4	96	%		1	1
Open Space	GS	SV-67-15	15	16-Nov-07	107-06-2	1,2-Dichloroethane	0.006	UG/L	0.006	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0089	UG/L	0.0089	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.01	UG/L	0.01	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	106-93-4	1,2-Dibromoethane	0.011	UG/L	0.011	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0073	UG/L	0.0073	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.044	UG/L	0.044	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0099	UG/L	0.0099	1	1
Open Space	GS	SV-67-15	15	16-Nov-07	75-34-3	1,1-Dichloroethane	0.006	UG/L	0.006	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0081	UG/L	0.0081	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.011	UG/L	0.011	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.01	UG/L	0.01	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0081	UG/L	0.0081	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	108-90-7	Chlorobenzene	0.0068	UG/L	0.0068	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	74-87-3	Chloromethane	0.012	UG/L	0.012	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.041	UG/L	0.041	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	75-15-0	Carbon Disulfide	0.093	UG/L	0.093	1	1
Open Space	GS	SV-67-15	15	16-Nov-07	96-18-4	1,2,3-Trichloropropane	0.036	UG/L	0.036	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	56-23-5	Carbon Tetrachloride	0.0093	UG/L	0.0093	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	106-99-0	1,3-Butadiene	0.0033	UG/L	0.0033	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	74-83-9	Bromomethane	0.0057	UG/L	0.0057	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	75-25-2	Bromoform	0.015	UG/L	0.015	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-67-15	15	16-Nov-07	75-27-4	Bromodichloromethane	0.0099	UG/L	0.0099	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	100-44-7	Benzyl chloride	0.0077	UG/L	0.0077	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	71-43-2	Benzene	0.015	UG/L	0.015	1	1
Open Space	GS	SV-67-15	15	16-Nov-07	107-05-1	Allyl chloride	0.018	UG/L	0.018	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	123-91-1	1,4-Dioxane	0.021	UG/L	0.021	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0089	UG/L	0.0089	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0069	UG/L	0.0069	0	1
Open Space	GS	SV-67-15	15	16-Nov-07	78-93-3	2-Butanone	0.071	UG/L	0.071	1	1
Open Space	GS	SV-67-15	15	16-Nov-07	591-78-6	2-Hexanone	0.024	UG/L	0.024	0	1
Open Space	GS	SV-67-15	15	16-Nov-07		4-Bromofluorobenzene	98	%		1	1
Open Space	GS	SV-67-15	15	16-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0066	UG/L	0.0066	1	1
Open Space	GS	SV-67-15	15	16-Nov-07	67-64-1	Acetone	0.27	UG/L	0.27	1	1
Open Space	GS	SV-67-15	15	16-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0089	UG/L	0.0089	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	110-54-3	Hexane	0.0056	UG/L	0.0056	1	1
Open Space	GS	SV-68-05	5	16-Nov-07	75-09-2	Methylene Chloride	0.0044	UG/L	0.0044	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0046	UG/L	0.0046	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	179601-23-1	m,p-Xylenes	0.03	UG/L	0.03	1	1
Open Space	GS	SV-68-05	5	16-Nov-07	98-82-8	Isopropylbenzene	0.0062	UG/L	0.0062	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	108-20-3	Isopropyl ether	0.021	UG/L	0.021	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	67-63-0	Isopropyl alcohol	0.024	UG/L	0.024	1	1
Open Space	GS	SV-68-05	5	16-Nov-07	87-68-3	Hexachlorobutadiene	0.054	UG/L	0.054	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	100-41-4	Ethylbenzene	0.012	UG/L	0.012	1	1
Open Space	GS	SV-68-05	5	16-Nov-07	637-92-3	Ethyl tert butyl ether	0.021	UG/L	0.021	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.005	UG/L		0	1
Open Space	GS	SV-68-05	5	16-Nov-07	75-71-8	Dichlorodifluoromethane	0.0062	UG/L	0.0062	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	91-20-3	Naphthalene	0.026	UG/L	0.026	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	110-82-7	Cyclohexane	0.0044	UG/L	0.0044	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	UG/L	0.0057	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	64-17-5	Ethanol	0.0095	UG/L	0.0095	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	75-65-0	tert-Butyl alcohol	0.015	UG/L	0.015	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	75-01-4	Vinyl Chloride	0.0032	UG/L	0.0032	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	75-69-4	Trichlorofluoromethane	0.0071	UG/L	0.0071	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	79-01-6	Trichloroethene	0.0068	UG/L	0.0068	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	UG/L	0.0057	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.005	UG/L	0.005	0	1
Open Space	GS	SV-68-05	5	16-Nov-07		Toluene-d8	95	%		1	1
Open Space	GS	SV-68-05	5	16-Nov-07	108-88-3	Toluene	0.054	UG/L	0.054	1	1
Open Space	GS	SV-68-05	5	16-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	127-18-4	Tetrachloroethene	0.0086	UG/L	0.0086	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	142-82-5	n-Heptane	0.0074	UG/L	0.0074	1	1
Open Space	GS	SV-68-05	5	16-Nov-07	74-87-3	Chloromethane	0.01	UG/L	0.01	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	994-05-8	tert-Amyl methyl ether	0.021	UG/L	0.021	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	UG/L	0.0088	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	100-42-5	Styrene	0.0054	UG/L	0.0054	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	622-96-8	p-Ethyltoluene	0.0079	UG/L	0.0079	1	1
Open Space	GS	SV-68-05	5	16-Nov-07	95-47-6	o-Xylene	0.01	UG/L	0.01	1	1
Open Space	GS	SV-68-05	5	16-Nov-07	103-65-1	n-Propylbenzene	0.0062	UG/L	0.0062	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	109-99-9	Tetrahydrofuran	0.038	UG/L	0.038	1	1
Open Space	GS	SV-68-05	5	16-Nov-07	96-18-4	1,2,3-Trichloropropane	0.03	UG/L	0.03	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	106-99-0	1,3-Butadiene	0.0028	UG/L	0.0028	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0075	UG/L	0.0075	1	1
Open Space	GS	SV-68-05	5	16-Nov-07	78-87-5	1,2-Dichloropropane	0.0058	UG/L	0.0058	0	1
Open Space	GS	SV-68-05	5	16-Nov-07		1,2-Dichloroethane-d4	93	%		1	1
Open Space	GS	SV-68-05	5	16-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	106-93-4	1,2-Dibromoethane	0.0097	UG/L	0.0097	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0076	UG/L	0.0076	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-68-05	5	16-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.038	UG/L	0.038	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	UG/L	0.035	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	75-35-4	1,1-Dichloroethene	0.005	UG/L	0.005	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	75-34-3	1,1-Dichloroethane	0.0051	UG/L	0.0051	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0069	UG/L	0.0069	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	UG/L	0.0097	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	UG/L	0.0087	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0069	UG/L	0.0069	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	67-66-3	Chloroform	0.0062	UG/L	0.0062	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0083	UG/L	0.0083	1	1
Open Space	GS	SV-68-05	5	16-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	107-06-2	1,2-Dichloroethane	0.0051	UG/L	0.0051	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	108-90-7	Chlorobenzene	0.0058	UG/L	0.0058	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	56-23-5	Carbon Tetrachloride	0.008	UG/L	0.008	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	74-83-9	Bromomethane	0.0049	UG/L	0.0049	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	75-00-3	Chloroethane	0.0033	UG/L	0.0033	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	75-27-4	Bromodichloromethane	0.0085	UG/L	0.0085	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	100-44-7	Benzyl chloride	0.0065	UG/L	0.0065	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0059	UG/L	0.0059	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	67-64-1	Acetone	0.22	UG/L	0.22	1	1
Open Space	GS	SV-68-05	5	16-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0052	UG/L	0.0052	0	1
Open Space	GS	SV-68-05	5	16-Nov-07		4-Bromofluorobenzene	96	%		1	1
Open Space	GS	SV-68-05	5	16-Nov-07	591-78-6	2-Hexanone	0.021	UG/L	0.021	0	1
Open Space	GS	SV-68-05	5	16-Nov-07	78-93-3	2-Butanone	0.016	UG/L	0.016	1	1
Open Space	GS	SV-68-05	5	16-Nov-07	71-43-2	Benzene	0.018	UG/L	0.018	1	1
Open Space	GS	SV-68-05	5	16-Nov-07	75-15-0	Carbon Disulfide	0.028	UG/L	0.028	1	1
Open Space	GS	SV-68-05	5	16-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	110-54-3	Hexane	0.4	UG/L	0.4	1	1
Open Space	GS	SV-68-15	15	16-Nov-07	67-63-0	Isopropyl alcohol	0.013	UG/L	0.013	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	108-20-3	Isopropyl ether	0.022	UG/L	0.022	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	98-82-8	Isopropylbenzene	0.0065	UG/L	0.0065	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	179601-23-1	m,p-Xylenes	0.028	UG/L	0.028	1	1
Open Space	GS	SV-68-15	15	16-Nov-07	75-09-2	Methylene Chloride	0.0046	UG/L	0.0046	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0048	UG/L	0.0048	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	87-68-3	Hexachlorobutadiene	0.056	UG/L	0.056	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	637-92-3	Ethyl tert butyl ether	0.022	UG/L	0.022	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	75-71-8	Dichlorodifluoromethane	0.0065	UG/L	0.0065	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	110-82-7	Cyclohexane	0.058	UG/L	0.058	1	1
Open Space	GS	SV-68-15	15	16-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.006	UG/L	0.006	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	91-20-3	Naphthalene	0.028	UG/L	0.028	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	74-87-3	Chloromethane	0.011	UG/L	0.011	0	1
Open Space	GS	SV-68-15	15	16-Nov-07		Toluene-d8	95	%		1	1
Open Space	GS	SV-68-15	15	16-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0052	UG/L		0	1
Open Space	GS	SV-68-15	15	16-Nov-07	108-88-3	Toluene	0.1	UG/L	0.1	1	1
Open Space	GS	SV-68-15	15	16-Nov-07	64-17-5	Ethanol	0.0099	UG/L	0.0099	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	67-66-3	Chloroform	0.0064	UG/L	0.0064	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	75-01-4	Vinyl Chloride	0.0034	UG/L	0.0034	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	75-69-4	Trichlorofluoromethane	0.0074	UG/L	0.0074	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	79-01-6	Trichloroethene	0.018	UG/L	0.018	1	1
Open Space	GS	SV-68-15	15	16-Nov-07	109-99-9	Tetrahydrofuran	0.0039	UG/L	0.0039	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0052	UG/L	0.0052	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	142-82-5	n-Heptane	0.14	UG/L	0.14	1	1
Open Space	GS	SV-68-15	15	16-Nov-07	127-18-4	Tetrachloroethene	0.009	UG/L	0.009	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	GS	SV-68-15	15	16-Nov-07	75-65-0	tert-Butyl alcohol	0.016	UG/L	0.016	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	994-05-8	tert-Amyl methyl ether	0.022	UG/L	0.022	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	100-42-5	Styrene	0.0056	UG/L	0.0056	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	622-96-8	p-Ethyltoluene	0.008	UG/L	0.008	1	1
Open Space	GS	SV-68-15	15	16-Nov-07	95-47-6	o-Xylene	0.011	UG/L	0.011	1	1
Open Space	GS	SV-68-15	15	16-Nov-07	103-65-1	n-Propylbenzene	0.0065	UG/L	0.0065	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.006	UG/L	0.006	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.039	UG/L	0.039	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	106-99-0	1,3-Butadiene	0.51	UG/L	0.51	1	1
Open Space	GS	SV-68-15	15	16-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0065	UG/L	0.0065	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	78-87-5	1,2-Dichloropropane	0.0061	UG/L	0.0061	0	1
Open Space	GS	SV-68-15	15	16-Nov-07		1,2-Dichloroethane-d4	96	%		1	1
Open Space	GS	SV-68-15	15	16-Nov-07	107-06-2	1,2-Dichloroethane	0.0053	UG/L	0.0053	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0079	UG/L	0.0079	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0092	UG/L	0.0092	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0079	UG/L	0.0079	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0065	UG/L	0.0065	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	96-18-4	1,2,3-Trichloropropane	0.032	UG/L	0.032	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	75-35-4	1,1-Dichloroethene	0.0052	UG/L	0.0052	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0072	UG/L	0.0072	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	UG/L	0.01	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0091	UG/L	0.0091	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0072	UG/L	0.0072	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.036	UG/L	0.036	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	75-00-3	Chloroethane	0.0035	UG/L	0.0035	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	100-41-4	Ethylbenzene	0.016	UG/L	0.016	1	1
Open Space	GS	SV-68-15	15	16-Nov-07	106-93-4	1,2-Dibromoethane	0.01	UG/L	0.01	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	100-44-7	Benzyl chloride	0.0068	UG/L	0.0068	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	108-90-7	Chlorobenzene	0.0061	UG/L	0.0061	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	56-23-5	Carbon Tetrachloride	0.0083	UG/L	0.0083	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	75-34-3	1,1-Dichloroethane	0.0053	UG/L	0.0053	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0079	UG/L	0.0079	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	75-15-0	Carbon Disulfide	0.097	UG/L	0.097	1	1
Open Space	GS	SV-68-15	15	16-Nov-07	74-83-9	Bromomethane	0.0051	UG/L	0.0051	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	75-27-4	Bromodichloromethane	0.0088	UG/L	0.0088	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	71-43-2	Benzene	0.091	UG/L	0.091	1	1
Open Space	GS	SV-68-15	15	16-Nov-07	591-78-6	2-Hexanone	0.022	UG/L	0.022	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	123-91-1	1,4-Dioxane	0.019	UG/L	0.019	0	1
Open Space	GS	SV-68-15	15	16-Nov-07	67-64-1	Acetone	0.035	UG/L	0.035	1	1
Open Space	GS	SV-68-15	15	16-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0054	UG/L	0.0054	0	1
Open Space	GS	SV-68-15	15	16-Nov-07		4-Bromofluorobenzene	95	%		1	1
Open Space	GS	SV-68-15	15	16-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.044	UG/L	0.044	1	1
Open Space	GS	SV-68-15	15	16-Nov-07	78-93-3	2-Butanone	0.0085	UG/L	0.0085	1	1
Open Space	GS	SV-68-15	15	16-Nov-07	75-25-2	Bromoform	0.014	UG/L	0.014	0	1
Open Space	Soil	B-140-10	10		64742-47-8	TPHm			96	1	1
Open Space	Soil	B-140-10	10		8006-61-9	TPHg			59	1	1
Open Space	Soil	B-140-10	10		68476-30-2	TPHd			280	1	1
Open Space	Soil	B-140-5	5		68476-30-2	TPHd			290	1	1
Open Space	Soil	B-140-5	5		8006-61-9	TPHg			37	1	1
Open Space	Soil	B-140-5	5		64742-47-8	TPHm			100	1	1
Open Space	Soil	B-148-10	10		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-148-10	10		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-148-10	10		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-150-10	10		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-150-10	10		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-150-10	10		8006-61-9	TPHg			10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-151-10	10		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-151-10	10		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-151-10	10		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-167-10	10		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-167-10	10		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-167-10	10		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-167-5	5		BaP TEQ	BaP TEQ			0.003525	0	1
Open Space	Soil	B-167-5	5		64742-47-8	TPHm			180	1	1
Open Space	Soil	B-167-5	5		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-167-5	5		68476-30-2	TPHd			110	1	1
Open Space	Soil	B-190-10	10		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-190-10	10		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-190-10	10		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-207-10	10		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-207-10	10		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-207-10	10		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-216-10	10		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-216-10	10		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-216-10	10		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-216-5	5		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-216-5	5		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-216-5	5		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-217-10	10		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-217-10	10		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-217-10	10		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-217-5	5		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-217-5	5		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-217-5	5		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-223-10	10		68476-30-2	TPHd			30	1	1
Open Space	Soil	B-223-10	10		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-223-5	5		68476-30-2	TPHd			40	1	1
Open Space	Soil	B-223-5	5		64742-47-8	TPHm			160	1	1
Open Space	Soil	B-224-10	10		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-224-10	10		8006-61-9	TPHg			0.5	0	1
Open Space	Soil	B-224-10	10		64742-47-8	TPHm			50	0	1
Open Space	Soil	B-224-5	5		68476-30-2	TPHd			2.6	1	1
Open Space	Soil	B-224-5	5		8006-61-9	TPHg			0.5	0	1
Open Space	Soil	B-224-5	5		64742-47-8	TPHm			18	1	1
Open Space	Soil	B-229-10	10		8006-61-9	TPHg			0.5	0	1
Open Space	Soil	B-229-10	10		64742-47-8	TPHm			99	1	1
Open Space	Soil	B-229-10	10		68476-30-2	TPHd			27	1	1
Open Space	Soil	B-229-5	5		8006-61-9	TPHg			0.49	0	1
Open Space	Soil	B-229-5	5		64742-47-8	TPHm			500	1	1
Open Space	Soil	B-229-5	5		68476-30-2	TPHd			120	1	1
Open Space	Soil	B-230-10	10		68476-30-2	TPHd			220	1	1
Open Space	Soil	B-230-10	10		8006-61-9	TPHg			3800	1	1
Open Space	Soil	B-230-10	10		64742-47-8	TPHm			13	1	1
Open Space	Soil	B-230-5	5		68476-30-2	TPHd			310	1	1
Open Space	Soil	B-230-5	5		8006-61-9	TPHg			2000	1	1
Open Space	Soil	B-230-5	5		64742-47-8	TPHm			24	1	1
Open Space	Soil	B-231-10	10		8006-61-9	TPHg			0.5	0	1
Open Space	Soil	B-231-10	10		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-231-10	10		64742-47-8	TPHm			50	0	1
Open Space	Soil	B-231-5	5		8006-61-9	TPHg			0.48	0	1
Open Space	Soil	B-231-5	5		64742-47-8	TPHm			24	1	1
Open Space	Soil	B-231-5	5		68476-30-2	TPHd			6.9	1	1
Open Space	Soil	B-24-5	5		68476-30-2	TPHd			10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-24-5	5		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-24-5	5		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-25-10	10		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-25-10	10		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-25-10	10		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-26-10	10		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-26-10	10		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-26-10	10		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-27-5	5		BaP TEQ	BaP TEQ			0.0705	0	1
Open Space	Soil	B-27-5	5		68476-30-2	TPHd			1400	1	1
Open Space	Soil	B-27-5	5		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-27-5	5		64742-47-8	TPHm			1700	1	1
Open Space	Soil	B-28-5	5		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-28-5	5		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-28-5	5		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-29-10	10		BaP TEQ	BaP TEQ			0.0705	0	1
Open Space	Soil	B-29-10	10		68476-30-2	TPHd			2500	1	1
Open Space	Soil	B-29-10	10		8006-61-9	TPHg			2800	1	1
Open Space	Soil	B-29-10	10		64742-47-8	TPHm			540	1	1
Open Space	Soil	B-40-10	10		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-40-10	10		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-40-10	10		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-40-5	5		68476-30-2	TPHd			240	1	1
Open Space	Soil	B-40-5	5		8006-61-9	TPHg			100	1	1
Open Space	Soil	B-40-5	5		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-41-10	10		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-41-10	10		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-41-10	10		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-41-5	5		64742-47-8	TPHm			10	0	1
Open Space	Soil	B-41-5	5		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-41-5	5		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-62-5	5		8006-61-9	TPHg			10	0	1
Open Space	Soil	B-62-5	5		68476-30-2	TPHd			10	0	1
Open Space	Soil	B-62-5	5		64742-47-8	TPHm			10	0	1
Open Space	Soil	GS-1-2.5	2.5		BaP TEQ	BaP TEQ			0.003525	0	1
Open Space	Soil	GS-1-2.5	2.5		68476-30-2	TPHd			15	1	1
Open Space	Soil	GS-1-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	GS-1-2.5	2.5		64742-47-8	TPHm			87	1	1
Open Space	Soil	GS-1-4	4		BaP TEQ	BaP TEQ			0.01057	1	1
Open Space	Soil	GS-1-4	4		68476-30-2	TPHd			49	1	1
Open Space	Soil	GS-1-4	4		8006-61-9	TPHg			10	0	1
Open Space	Soil	GS-1-4	4		64742-47-8	TPHm			190	1	1
Open Space	Soil	GS-3-2	2		64742-47-8	TPHm			10	0	1
Open Space	Soil	GS-3-2	2		8006-61-9	TPHg			10	0	1
Open Space	Soil	GS-3-2	2		68476-30-2	TPHd			10	0	1
Open Space	Soil	GS-3-5	5		68476-30-2	TPHd			10	0	1
Open Space	Soil	GS-3-5	5		64742-47-8	TPHm			12	1	1
Open Space	Soil	GS-3-5	5		8006-61-9	TPHg			10	0	1
Open Space	Soil	GS-3-6	6		68476-30-2	TPHd			10	0	1
Open Space	Soil	GS-3-6	6		8006-61-9	TPHg			10	0	1
Open Space	Soil	GS-3-6	6		64742-47-8	TPHm			15	1	1
Open Space	Soil	GS-4-6	6		64742-47-8	TPHm			10	0	1
Open Space	Soil	GS-4-6	6		8006-61-9	TPHg			10	0	1
Open Space	Soil	GS-4-6	6		68476-30-2	TPHd			10	0	1
Open Space	Soil	GS-5-2.5	2.5		BaP TEQ	BaP TEQ			0.07514	1	1
Open Space	Soil	GS-5-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	GS-5-2.5	2.5		64742-47-8	TPHm			720	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	GS-5-2.5	2.5		68476-30-2	TPHd			110	1	1
Open Space	Soil	S-1-0.5	0.5		64742-47-8	TPHm			60	1	1
Open Space	Soil	S-1-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-1-0.5	0.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-1-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-1-2.5	2.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-1-2.5	2.5		64742-47-8	TPHm			63	1	1
Open Space	Soil	S-1A-01	1		BaP TEQ	BaP TEQ			0.0034545	0	1
Open Space	Soil	S-1A-01	1		68476-30-2	TPHd			5	0	1
Open Space	Soil	S-1A-01	1		8006-61-9	TPHg			0.38	0	1
Open Space	Soil	S-1A-01	1		64742-47-8	TPHm			15	1	1
Open Space	Soil	S-1A-03	3		BaP TEQ	BaP TEQ			0.003626	1	1
Open Space	Soil	S-1A-03	3		68476-30-2	TPHd			7	1	1
Open Space	Soil	S-1A-03	3		64742-47-8	TPHm			47	1	1
Open Space	Soil	S-1A-03	3		8006-61-9	TPHg			0.41	0	1
Open Space	Soil	S-1B-01	1		BaP TEQ	BaP TEQ			0.003807	0	1
Open Space	Soil	S-1B-01	1		8006-61-9	TPHg			0.4	0	1
Open Space	Soil	S-1B-01	1		68476-30-2	TPHd			28	1	1
Open Space	Soil	S-1B-01	1		64742-47-8	TPHm			91	1	1
Open Space	Soil	S-1B-04	4		BaP TEQ	BaP TEQ			0.004196	1	1
Open Space	Soil	S-1B-04	4		68476-30-2	TPHd			22	1	1
Open Space	Soil	S-1B-04	4		64742-47-8	TPHm			64	1	1
Open Space	Soil	S-1B-04	4		8006-61-9	TPHg			0.39	0	1
Open Space	Soil	S-1C-01	1		BaP TEQ	BaP TEQ			0.01846	1	1
Open Space	Soil	S-1C-01	1		64742-47-8	TPHm			32	1	1
Open Space	Soil	S-1C-01	1		8006-61-9	TPHg			0.38	0	1
Open Space	Soil	S-1C-01	1		68476-30-2	TPHd			10	1	1
Open Space	Soil	S-1C-04	4		BaP TEQ	BaP TEQ			0.003525	0	1
Open Space	Soil	S-1C-04	4		64742-47-8	TPHm			28	1	1
Open Space	Soil	S-1C-04	4		8006-61-9	TPHg			0.4	0	1
Open Space	Soil	S-1C-04	4		68476-30-2	TPHd			5	0	1
Open Space	Soil	S-24-0.5	0.5		BaP TEQ	BaP TEQ			0.1322	1	1
Open Space	Soil	S-24-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-24-0.5	0.5		68476-30-2	TPHd			29	1	1
Open Space	Soil	S-24-0.5	0.5		64742-47-8	TPHm			160	1	1
Open Space	Soil	S-24-2.5	2.5		BaP TEQ	BaP TEQ			0.4667	1	1
Open Space	Soil	S-24-2.5	2.5		64742-47-8	TPHm			280	1	1
Open Space	Soil	S-24-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-24-2.5	2.5		68476-30-2	TPHd			55	1	1
Open Space	Soil	S-26-0.5	0.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-26-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-26-0.5	0.5		64742-47-8	TPHm			25	1	1
Open Space	Soil	S-26-2.5	2.5		64742-47-8	TPHm			14	1	1
Open Space	Soil	S-26-2.5	2.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-26-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-27-0.5	0.5		BaP TEQ	BaP TEQ			0.244	1	1
Open Space	Soil	S-27-0.5	0.5		68476-30-2	TPHd			2400	1	1
Open Space	Soil	S-27-0.5	0.5		64742-47-8	TPHm			11000	1	1
Open Space	Soil	S-27-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-27-2.5	2.5		64742-47-8	TPHm			10	0	1
Open Space	Soil	S-27-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-27-2.5	2.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-27A-0.5	0.5		64742-47-8	TPHm			10	0	1
Open Space	Soil	S-27A-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-27A-0.5	0.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-27A-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-27A-2.5	2.5		64742-47-8	TPHm			10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-27A-2.5	2.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-27B-0.5	0.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-27B-0.5	0.5		64742-47-8	TPHm			10	0	1
Open Space	Soil	S-27B-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-27B-2.5	2.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-27B-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-27B-2.5	2.5		64742-47-8	TPHm			10	0	1
Open Space	Soil	S-27C-0.5	0.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-27C-0.5	0.5		64742-47-8	TPHm			10	0	1
Open Space	Soil	S-27C-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-27C-2.5	2.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-27C-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-27C-2.5	2.5		64742-47-8	TPHm			10	0	1
Open Space	Soil	S-27D-0.5	0.5		64742-47-8	TPHm			10	0	1
Open Space	Soil	S-27D-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-27D-0.5	0.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-27D-2.5	2.5		64742-47-8	TPHm			10	0	1
Open Space	Soil	S-27D-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-27D-2.5	2.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-27E-0.5	0.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-27E-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-27E-0.5	0.5		64742-47-8	TPHm			19	1	1
Open Space	Soil	S-27E-2.5	2.5		64742-47-8	TPHm			10	0	1
Open Space	Soil	S-27E-2.5	2.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-27E-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-27F-0.5	0.5		64742-47-8	TPHm			10	0	1
Open Space	Soil	S-27F-0.5	0.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-27F-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-27F-2.5	2.5		64742-47-8	TPHm			10	0	1
Open Space	Soil	S-27F-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-27F-2.5	2.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-27G-0.5	0.5		68476-30-2	TPHd			43	1	1
Open Space	Soil	S-27G-0.5	0.5		64742-47-8	TPHm			180	1	1
Open Space	Soil	S-27G-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-27G-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-27G-2.5	2.5		68476-30-2	TPHd			230	1	1
Open Space	Soil	S-27G-2.5	2.5		64742-47-8	TPHm			480	1	1
Open Space	Soil	S-28-0.5	0.5		64742-47-8	TPHm			16	1	1
Open Space	Soil	S-28-0.5	0.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-28-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-28-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-28-2.5	2.5		64742-47-8	TPHm			10	0	1
Open Space	Soil	S-28-2.5	2.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-29-0.5	0.5		64742-47-8	TPHm			36	1	1
Open Space	Soil	S-29-0.5	0.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-29-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-29-2.5	2.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-29-2.5	2.5		64742-47-8	TPHm			53	1	1
Open Space	Soil	S-29-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-37-0.5	0.5		64742-47-8	TPHm			17	1	1
Open Space	Soil	S-37-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-37-0.5	0.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-37-2.5	2.5		64742-47-8	TPHm			10	0	1
Open Space	Soil	S-37-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-37-2.5	2.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-38-0.5	0.5		BaP TEQ	BaP TEQ			0.243	1	1
Open Space	Soil	S-38-0.5	0.5		64742-47-8	TPHm			6400	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-38-0.5	0.5		68476-30-2	TPHd			3000	1	1
Open Space	Soil	S-38-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-38-2.5	2.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-38-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-38-2.5	2.5		64742-47-8	TPHm			10	0	1
Open Space	Soil	S-38A-01	1		BaP TEQ	BaP TEQ			0.00423	0	1
Open Space	Soil	S-38A-01	1		68476-30-2	TPHd			5	0	1
Open Space	Soil	S-38A-01	1		64742-47-8	TPHm			16	1	1
Open Space	Soil	S-38A-01	1		8006-61-9	TPHg			0.43	0	1
Open Space	Soil	S-38A-03	3		BaP TEQ	BaP TEQ			0.004512	0	1
Open Space	Soil	S-38A-03	3		68476-30-2	TPHd			5	0	1
Open Space	Soil	S-38A-03	3		8006-61-9	TPHg			0.37	0	1
Open Space	Soil	S-38A-03	3		64742-47-8	TPHm			13	1	1
Open Space	Soil	S-38B-01	1		BaP TEQ	BaP TEQ			0.003807	0	1
Open Space	Soil	S-38B-01	1		64742-47-8	TPHm			14	1	1
Open Space	Soil	S-38B-01	1		8006-61-9	TPHg			0.41	0	1
Open Space	Soil	S-38B-01	1		68476-30-2	TPHd			5	0	1
Open Space	Soil	S-38B-03	3		BaP TEQ	BaP TEQ			0.0044415	0	1
Open Space	Soil	S-38B-03	3		8006-61-9	TPHg			0.41	0	1
Open Space	Soil	S-38B-03	3		68476-30-2	TPHd			110	1	1
Open Space	Soil	S-38B-03	3		64742-47-8	TPHm			230	1	1
Open Space	Soil	S-39-0.5	0.5		BaP TEQ	BaP TEQ			0.541	1	1
Open Space	Soil	S-39-0.5	0.5		68476-30-2	TPHd			1600	1	1
Open Space	Soil	S-39-0.5	0.5		64742-47-8	TPHm			5900	1	1
Open Space	Soil	S-39-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-39-2.5	2.5		BaP TEQ	BaP TEQ			0.008025	1	1
Open Space	Soil	S-39-2.5	2.5		68476-30-2	TPHd			28	1	1
Open Space	Soil	S-39-2.5	2.5		64742-47-8	TPHm			82	1	1
Open Space	Soil	S-39-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-45-0.5	0.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-45-0.5	0.5		64742-47-8	TPHm			57	1	1
Open Space	Soil	S-45-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-45-2.5	2.5		64742-47-8	TPHm			10	0	1
Open Space	Soil	S-45-2.5	2.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-45-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-5-0.5	0.5		BaP TEQ	BaP TEQ			0.10699	1	1
Open Space	Soil	S-5-0.5	0.5		68476-30-2	TPHd			87	1	1
Open Space	Soil	S-5-0.5	0.5		64742-47-8	TPHm			470	1	1
Open Space	Soil	S-5-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-5-2.5	2.5		68476-30-2	TPHd			10	0	1
Open Space	Soil	S-5-2.5	2.5		64742-47-8	TPHm			10	0	1
Open Space	Soil	S-5-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-9-0.5	0.5		BaP TEQ	BaP TEQ			0.1655	1	1
Open Space	Soil	S-9-0.5	0.5		64742-47-8	TPHm			710	1	1
Open Space	Soil	S-9-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-9-0.5	0.5		68476-30-2	TPHd			140	1	1
Open Space	Soil	S-9-2.5	2.5		64742-47-8	TPHm			46	1	1
Open Space	Soil	S-9-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space	Soil	S-9-2.5	2.5		68476-30-2	TPHd			11	1	1
Open Space	Soil	SP-2-9	9		8006-61-9	TPHg			67	1	1
Open Space	Soil	SP-2-9	9		68476-30-2	TPHd			140	1	1
Open Space	Soil	SP-2-9	9		64742-47-8	TPHm			34	1	1
Open Space	Soil	STR-10-2-1.5	1.5		68476-30-2	TPHd			3.1	1	1
Open Space	Soil	STR-10-2-1.5	1.5		64742-47-8	TPHm			3.4	1	1
Open Space	Soil	STR-10-3-5.0	5		68476-30-2	TPHd			2.9	1	1
Open Space	Soil	STR-10-3-5.0	5		64742-47-8	TPHm			1.6	1	1
Open Space	Soil	STR-10-4-1.5	1.5		64742-47-8	TPHm			1	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	STR-10-4-1.5	1.5		68476-30-2	TPHd			2	1	1
Open Space	Soil	STR-11-2-1.5	1.5		68476-30-2	TPHd			18	1	1
Open Space	Soil	STR-11-2-1.5	1.5		64742-47-8	TPHm			31	1	1
Open Space	Soil	STR-11-3-4.5	4.5		68476-30-2	TPHd			1	0	1
Open Space	Soil	STR-11-3-4.5	4.5		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-11-4-1.5	1.5		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-11-4-1.5	1.5		68476-30-2	TPHd			1	0	1
Open Space	Soil	STR-12-1-1.5	1.5		64742-47-8	TPHm			6.1	1	1
Open Space	Soil	STR-12-1-1.5	1.5		68476-30-2	TPHd			5.7	1	1
Open Space	Soil	STR-12-2-4.5	4.5		64742-47-8	TPHm			2.4	1	1
Open Space	Soil	STR-12-2-4.5	4.5		68476-30-2	TPHd			4.9	1	1
Open Space	Soil	STR-12-3-1.5	1.5		64742-47-8	TPHm			2.2	1	1
Open Space	Soil	STR-12-3-1.5	1.5		68476-30-2	TPHd			4.5	1	1
Open Space	Soil	STR-1-3-1.5	1.5		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-1-3-1.5	1.5		68476-30-2	TPHd			1	0	1
Open Space	Soil	STR-13-2-1.5	1.5		68476-30-2	TPHd			1	0	1
Open Space	Soil	STR-13-2-1.5	1.5		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-13-3-5.5	5.5		68476-30-2	TPHd			1	0	1
Open Space	Soil	STR-13-3-5.5	5.5		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-13-4-1.5	1.5		64742-47-8	TPHm			51	1	1
Open Space	Soil	STR-13-4-1.5	1.5		68476-30-2	TPHd			9.1	1	1
Open Space	Soil	STR-1-4-1.5	1.5		68476-30-2	TPHd			1	0	1
Open Space	Soil	STR-1-4-1.5	1.5		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-14-2-1.5	1.5		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-14-2-1.5	1.5		68476-30-2	TPHd			1	0	1
Open Space	Soil	STR-14-3-4.0	4		68476-30-2	TPHd			11	0	1
Open Space	Soil	STR-14-3-4.0	4		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-14-4-1.5	1.5		68476-30-2	TPHd			1	0	1
Open Space	Soil	STR-14-4-1.5	1.5		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-2-1-1.5	1.5		68476-30-2	TPHd			1	0	1
Open Space	Soil	STR-2-1-1.5	1.5		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-2-2-7.0	7		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-2-2-7.0	7		68476-30-2	TPHd			0.65	1	1
Open Space	Soil	STR-2-3-1.5	1.5		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-2-3-1.5	1.5		68476-30-2	TPHd			0.66	1	1
Open Space	Soil	STR-3-1-1.5	1.5		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-3-1-1.5	1.5		68476-30-2	TPHd			0.65	1	1
Open Space	Soil	STR-3-2-5.5	5.5		68476-30-2	TPHd			1	0	1
Open Space	Soil	STR-3-2-5.5	5.5		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-3-3-1.5	1.5		68476-30-2	TPHd			0.62	1	1
Open Space	Soil	STR-3-3-1.5	1.5		64742-47-8	TPHm			2.5	1	1
Open Space	Soil	STR-4-3-2.5	2.5		68476-30-2	TPHd			13	1	1
Open Space	Soil	STR-4-3-2.5	2.5		64742-47-8	TPHm			19	1	1
Open Space	Soil	STR-4-4-2.5	2.5		68476-30-2	TPHd			9.8	1	1
Open Space	Soil	STR-4-4-2.5	2.5		64742-47-8	TPHm			22	1	1
Open Space	Soil	STR-5-2-1.5	1.5		68476-30-2	TPHd			0.58	1	1
Open Space	Soil	STR-5-2-1.5	1.5		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-5-3-1.5	1.5		64742-47-8	TPHm			0.5	1	1
Open Space	Soil	STR-5-3-1.5	1.5		68476-30-2	TPHd			0.64	1	1
Open Space	Soil	STR-5-4-1.5	1.5		68476-30-2	TPHd			250	1	1
Open Space	Soil	STR-5-4-1.5	1.5		64742-47-8	TPHm			880	1	1
Open Space	Soil	STR-5-5-5.0	5		68476-30-2	TPHd			1	0	1
Open Space	Soil	STR-5-5-5.0	5		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-6-2-1.5	1.5		64742-47-8	TPHm			5.1	1	1
Open Space	Soil	STR-6-2-1.5	1.5		68476-30-2	TPHd			4.6	1	1
Open Space	Soil	STR-6-3-5	5		64742-47-8	TPHm			1.6	1	1
Open Space	Soil	STR-6-3-5	5		68476-30-2	TPHd			2.8	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	STR-6-4-1.5	1.5		64742-47-8	TPHm			7.6	1	1
Open Space	Soil	STR-6-4-1.5	1.5		68476-30-2	TPHd			3.4	1	1
Open Space	Soil	STR-7-2-1.5	1.5		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-7-2-1.5	1.5		68476-30-2	TPHd			0.57	1	1
Open Space	Soil	STR-7-3-5.0	5		64742-47-8	TPHm			1	0	1
Open Space	Soil	STR-7-3-5.0	5		68476-30-2	TPHd			1	0	1
Open Space	Soil	STR-7-4-1.5	1.5		68476-30-2	TPHd			0.72	1	1
Open Space	Soil	STR-7-4-1.5	1.5		64742-47-8	TPHm			1.8	1	1
Open Space	Soil	STR-8-2-1.5	1.5		68476-30-2	TPHd			6.5	1	1
Open Space	Soil	STR-8-2-1.5	1.5		64742-47-8	TPHm			10	1	1
Open Space	Soil	STR-8-3-8	8		64742-47-8	TPHm			1.2	1	1
Open Space	Soil	STR-8-3-8	8		68476-30-2	TPHd			4.1	1	1
Open Space	Soil	STR-8-4-1.5	1.5		64742-47-8	TPHm			4.9	1	1
Open Space	Soil	STR-8-4-1.5	1.5		68476-30-2	TPHd			4.9	1	1
Open Space	Soil	STR-9-2-1.5	1.5		68476-30-2	TPHd			3.9	1	1
Open Space	Soil	STR-9-2-1.5	1.5		64742-47-8	TPHm			3	1	1
Open Space	Soil	STR-9-3-1.5	1.5		64742-47-8	TPHm			5.9	1	1
Open Space	Soil	STR-9-3-1.5	1.5		68476-30-2	TPHd			2.6	1	1
Open Space	Soil	STR-9-4-5.0	5		68476-30-2	TPHd			2.5	1	1
Open Space	Soil	STR-9-4-5.0	5		64742-47-8	TPHm			1.2	1	1
Open Space	Soil	SV-06-01	1		BaP TEQ	BaP TEQ			0.004512	0	1
Open Space	Soil	SV-06-01	1		68476-30-2	TPHd			5	0	1
Open Space	Soil	SV-06-01	1		64742-47-8	TPHm			5	0	1
Open Space	Soil	SV-06-01	1		8006-61-9	TPHg			0.4	0	1
Open Space	Soil	SV-06-05	5		BaP TEQ	BaP TEQ			0.004512	0	1
Open Space	Soil	SV-06-05	5		68476-30-2	TPHd			5	0	1
Open Space	Soil	SV-06-05	5		64742-47-8	TPHm			5	0	1
Open Space	Soil	SV-06-05	5		8006-61-9	TPHg			0.4	0	1
Open Space	Soil	SV-06-10	10		BaP TEQ	BaP TEQ			0.004935	0	1
Open Space	Soil	SV-06-10	10		64742-47-8	TPHm			5	0	1
Open Space	Soil	SV-06-10	10		8006-61-9	TPHg			0.4	0	1
Open Space	Soil	SV-06-10	10		68476-30-2	TPHd			5	0	1
Open Space	Soil	SV-32-01	1		BaP TEQ	BaP TEQ			0.003948	0	1
Open Space	Soil	SV-32-01	1		8006-61-9	TPHg			0.4	0	1
Open Space	Soil	SV-32-01	1		68476-30-2	TPHd			5	0	1
Open Space	Soil	SV-32-01	1		64742-47-8	TPHm			7.7	1	1
Open Space	Soil	SV-32-05	5		BaP TEQ	BaP TEQ			0.0045825	0	1
Open Space	Soil	SV-32-05	5		68476-30-2	TPHd			5	0	1
Open Space	Soil	SV-32-05	5		64742-47-8	TPHm			5	0	1
Open Space	Soil	SV-32-05	5		8006-61-9	TPHg			0.39	0	1
Open Space	Soil	SV-32-10	10		BaP TEQ	BaP TEQ			0.0040185	0	1
Open Space	Soil	SV-32-10	10		64742-47-8	TPHm			5	0	1
Open Space	Soil	SV-32-10	10		68476-30-2	TPHd			5	0	1
Open Space	Soil	SV-32-10	10		8006-61-9	TPHg			0.39	0	1
Open Space	Soil	SV-36-01	1		BaP TEQ	BaP TEQ			0.33765	1	1
Open Space	Soil	SV-36-01	1		64742-47-8	TPHm			9500	1	1
Open Space	Soil	SV-36-01	1		8006-61-9	TPHg			1.2	0	1
Open Space	Soil	SV-36-01	1		68476-30-2	TPHd			8400	1	1
Open Space	Soil	SV-36-05	5		BaP TEQ	BaP TEQ			0.01746	1	1
Open Space	Soil	SV-36-05	5		68476-30-2	TPHd			320	1	1
Open Space	Soil	SV-36-05	5		8006-61-9	TPHg			0.4	0	1
Open Space	Soil	SV-36-05	5		64742-47-8	TPHm			420	1	1
Open Space	Soil	SV-37-01	1		BaP TEQ	BaP TEQ			0.0037365	0	1
Open Space	Soil	SV-37-01	1		68476-30-2	TPHd			5	0	1
Open Space	Soil	SV-37-01	1		64742-47-8	TPHm			5	0	1
Open Space	Soil	SV-37-01	1		8006-61-9	TPHg			0.39	0	1
Open Space	Soil	SV-37-05	5		BaP TEQ	BaP TEQ			0.0041595	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-37-05	5		68476-30-2	TPHd			5	0	1
Open Space	Soil	SV-37-05	5		64742-47-8	TPHm			5	0	1
Open Space	Soil	SV-37-05	5		8006-61-9	TPHg			0.4	0	1
Open Space	Soil	WL-1-1	0		BaP TEQ	BaP TEQ			0.02343	1	1
Open Space	Soil	WL-1-1	0		68476-30-2	TPHd			54	1	1
Open Space	Soil	WL-1-1	0		8006-61-9	TPHg			10	0	1
Open Space	Soil	WL-1-1	0		64742-47-8	TPHm			170	1	1
Open Space	Soil	WL-1-2	0		BaP TEQ	BaP TEQ			0.0149	1	1
Open Space	Soil	WL-1-2	0		8006-61-9	TPHg			10	0	1
Open Space	Soil	WL-1-2	0		68476-30-2	TPHd			37	1	1
Open Space	Soil	WL-1-2	0		64742-47-8	TPHm			190	1	1
Open Space	Soil	WL-2-1	0		BaP TEQ	BaP TEQ			0.00905	1	1
Open Space	Soil	WL-2-1	0		64742-47-8	TPHm			46	1	1
Open Space	Soil	WL-2-1	0		8006-61-9	TPHg			10	0	1
Open Space	Soil	WL-2-1	0		68476-30-2	TPHd			18	1	1
Open Space	Soil	WL-2-2	0		BaP TEQ	BaP TEQ			0.003525	0	1
Open Space	Soil	WL-2-2	0		8006-61-9	TPHg			10	0	1
Open Space	Soil	WL-2-2	0		68476-30-2	TPHd			46	1	1
Open Space	Soil	WL-2-2	0		64742-47-8	TPHm			57	1	1
Open Space	Soil	B-140-10	10	23-Sep-97	71-43-2	Benzene	0.039	mg/K	0.039	1	1
Open Space	Soil	B-140-10	10	23-Sep-97		C4-C10	59	mg/K	59	1	1
Open Space	Soil	B-140-10	10	23-Sep-97		C25-C40	96	mg/K	96	1	1
Open Space	Soil	B-140-10	10	23-Sep-97		C1-C40	435	mg/K	435	1	1
Open Space	Soil	B-140-10	10	23-Sep-97		C10-C25	280	mg/K	280	1	1
Open Space	Soil	B-140-10	10	23-Sep-97	594-20-7	2,2-Dichloropropane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	106-93-4	1,2-Dibromoethane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	75-69-4	Trichlorofluoromethane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	107-06-2	1,2-Dichloroethane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	78-87-5	1,2-Dichloropropane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	108-67-8	1,3,5-Trimethylbenzene	0.085	mg/K	0.085	1	1
Open Space	Soil	B-140-10	10	23-Sep-97	541-73-1	1,3-Dichlorobenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	74-97-5	Bromochloromethane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	106-46-7	1,4-Dichlorobenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	74-83-9	Bromomethane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/K	0.01	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	95-49-8	2-Chlorotoluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	106-43-4	4-Chlorotoluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	108-86-1	Bromobenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	75-27-4	Bromodichloromethane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	75-25-2	Bromoform	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	142-28-9	1,3-Dichloropropane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	75-09-2	Methylene chloride	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	135-98-8	sec-Butylbenzene	0.049	mg/K	0.049	1	1
Open Space	Soil	B-140-10	10	23-Sep-97	100-42-5	Styrene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	98-06-6	tert-Butylbenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	127-18-4	Tetrachloroethene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	156-60-5	trans-1,2-Dichloroethene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	1330-20-7	Xylenes (total)	0.11	mg/K	0.11	1	1
Open Space	Soil	B-140-10	10	23-Sep-97	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/K	0.01	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	75-01-4	Vinyl chloride	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	95-63-6	1,2,4-Trimethylbenzene	0.39	mg/K	0.39	1	1
Open Space	Soil	B-140-10	10	23-Sep-97	103-65-1	n-Propylbenzene	0.097	mg/K	0.097	1	1
Open Space	Soil	B-140-10	10	23-Sep-97	56-23-5	Carbon tetrachloride	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	91-20-3	Naphthalene	0.023	mg/K	0.023	1	1
Open Space	Soil	B-140-10	10	23-Sep-97	108-90-7	Chlorobenzene	0.005	mg/K	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-140-10	10	23-Sep-97	98-82-8	Isopropylbenzene	0.059	mg/K	0.059	1	1
Open Space	Soil	B-140-10	10	23-Sep-97	87-68-3	Hexachlorobutadiene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	100-41-4	Ethylbenzene	0.1	mg/K	0.1	1	1
Open Space	Soil	B-140-10	10	23-Sep-97	34077-87-7	Dichlorotrifluoroethane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	75-71-8	Dichlorodifluoromethane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	74-95-3	Dibromomethane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	124-48-1	Dibromochloromethane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	156-59-2	cis-1,2-Dichloroethene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	74-87-3	Chloromethane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	67-66-3	Chloroform	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	75-00-3	Chloroethane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	99-87-6	p-Isopropyltoluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	104-51-8	n-Butylbenzene	0.069	mg/K	0.069	1	1
Open Space	Soil	B-140-10	10	23-Sep-97	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/K	0.01	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	71-55-6	1,1,1-Trichloroethane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	79-00-5	1,1,2-Trichloroethane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	75-34-3	1,1-Dichloroethane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	563-58-6	1,1-Dichloropropene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/K	0.01	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	95-50-1	1,2-Dichlorobenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	96-18-4	1,2,3-Trichloropropane	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	75-35-4	1,1-Dichloroethene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-10	10	23-Sep-97	79-01-6	Trichloroethene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-5	5	23-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
Open Space	Soil	B-140-5	5	23-Sep-97	7440-50-8	Copper	3	mg/K	3	1	1
Open Space	Soil	B-140-5	5	23-Sep-97	7440-48-4	Cobalt	1	mg/K	1	0	1
Open Space	Soil	B-140-5	5	23-Sep-97	7440-47-3	Chromium	19	mg/K	19	1	1
Open Space	Soil	B-140-5	5	23-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
Open Space	Soil	B-140-5	5	23-Sep-97		C4-C10	37	mg/K	37	1	1
Open Space	Soil	B-140-5	5	23-Sep-97		C25-C40	100	mg/K	100	1	1
Open Space	Soil	B-140-5	5	23-Sep-97		C10-C25	290	mg/K	290	1	1
Open Space	Soil	B-140-5	5	23-Sep-97	100-41-4	Ethylbenzene	0.072	mg/K	0.072	1	1
Open Space	Soil	B-140-5	5	23-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-140-5	5	23-Sep-97		C1-C40	427	mg/K	427	1	1
Open Space	Soil	B-140-5	5	23-Sep-97	7439-92-1	Lead	3.2	mg/K	3.2	1	1
Open Space	Soil	B-140-5	5	23-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
Open Space	Soil	B-140-5	5	23-Sep-97	7439-98-7	Molybdenum	1.1	mg/K	1.1	1	1
Open Space	Soil	B-140-5	5	23-Sep-97	7440-02-0	Nickel	6	mg/K	6	1	1
Open Space	Soil	B-140-5	5	23-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
Open Space	Soil	B-140-5	5	23-Sep-97	71-43-2	Benzene	0.031	mg/K	0.031	1	1
Open Space	Soil	B-140-5	5	23-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
Open Space	Soil	B-140-5	5	23-Sep-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
Open Space	Soil	B-140-5	5	23-Sep-97	7440-62-2	Vanadium	15	mg/K	15	1	1
Open Space	Soil	B-140-5	5	23-Sep-97	1330-20-7	Xylenes (total)	0.053	mg/K	0.053	1	1
Open Space	Soil	B-140-5	5	23-Sep-97	7440-66-6	Zinc	8.8	mg/K	8.8	1	1
Open Space	Soil	B-140-5	5	23-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
Open Space	Soil	B-140-5	5	23-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
Open Space	Soil	B-140-5	5	23-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
Open Space	Soil	B-140-5	5	23-Sep-97	7440-39-3	Barium	43	mg/K	43	1	1
Open Space	Soil	B-140-5	5	23-Sep-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
Open Space	Soil	B-140-5	5	23-Sep-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
Open Space	Soil	B-140-5	5	23-Sep-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
Open Space	Soil	B-140-5	5	23-Sep-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
Open Space	Soil	B-140-5	5	23-Sep-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-140-5	5	23-Sep-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
Open Space	Soil	B-24-5	5	08-Sep-97		C10-C25	10	mg/K	10	0	1
Open Space	Soil	B-24-5	5	08-Sep-97		C1-C40	10	mg/K	10	0	1
Open Space	Soil	B-24-5	5	08-Sep-97		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-24-5	5	08-Sep-97		C4-C10	10	mg/K	10	0	1
Open Space	Soil	B-24-5	5	08-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-24-5	5	08-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
Open Space	Soil	B-24-5	5	08-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-24-5	5	08-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-24-5	5	08-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Open Space	Soil	B-25-10	10	08-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Open Space	Soil	B-25-10	10	08-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-25-10	10	08-Sep-97		C10-C25	10	mg/K	10	0	1
Open Space	Soil	B-25-10	10	08-Sep-97		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-25-10	10	08-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-25-10	10	08-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
Open Space	Soil	B-25-10	10	08-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-25-10	10	08-Sep-97		C1-C40	10	mg/K	10	0	1
Open Space	Soil	B-25-10	10	08-Sep-97		C4-C10	10	mg/K	10	0	1
Open Space	Soil	B-26-10	10	19-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-26-10	10	19-Sep-97		C4-C10	10	mg/K	10	0	1
Open Space	Soil	B-26-10	10	19-Sep-97		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-26-10	10	19-Sep-97		C1-C40	10	mg/K	10	0	1
Open Space	Soil	B-26-10	10	19-Sep-97		C10-C25	10	mg/K	10	0	1
Open Space	Soil	B-26-10	10	19-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-26-10	10	19-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Open Space	Soil	B-26-10	10	19-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	218-01-9	Chrysene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	7439-92-1	Lead	4.2	mg/K	4.2	1	1
Open Space	Soil	B-27-5	5	26-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	86-73-7	Fluorene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	7439-98-7	Molybdenum	1	mg/K	1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	7440-48-4	Cobalt	1.5	mg/K	1.5	1	1
Open Space	Soil	B-27-5	5	26-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	7440-50-8	Copper	5.9	mg/K	5.9	1	1
Open Space	Soil	B-27-5	5	26-Sep-97	91-20-3	Naphthalene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	7440-02-0	Nickel	8.9	mg/K	8.9	1	1
Open Space	Soil	B-27-5	5	26-Sep-97	78-00-2	Tetraethyl Lead	1	mg/K	1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	7440-47-3	Chromium	19	mg/K	19	1	1
Open Space	Soil	B-27-5	5	26-Sep-97	129-00-0	Pyrene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	7440-62-2	Vanadium	17	mg/K	17	1	1
Open Space	Soil	B-27-5	5	26-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	7440-66-6	Zinc	18	mg/K	18	1	1
Open Space	Soil	B-27-5	5	26-Sep-97	85-01-8	Phenanthrene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	12674-11-2	Aroclor 1016	0.3	mg/K	0.3	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	83-32-9	Acenaphthene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	208-96-8	Acenaphthylene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	206-44-0	Fluoranthene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-27-5	5	26-Sep-97	11104-28-2	Aroclor 1221	0.3	mg/K	0.3	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	11141-16-5	Aroclor 1232	0.3	mg/K	0.3	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	53469-21-9	Aroclor 1242	0.3	mg/K	0.3	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	12672-29-6	Aroclor 1248	0.3	mg/K	0.3	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	11097-69-1	Aroclor 1254	0.3	mg/K	0.3	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	11096-82-5	Aroclor 1260	0.3	mg/K	0.3	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	7440-38-2	Arsenic	17	mg/K	17	1	1
Open Space	Soil	B-27-5	5	26-Sep-97		C1-C40	3100	mg/K	3100	1	1
Open Space	Soil	B-27-5	5	26-Sep-97	120-12-7	Anthracene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	7440-39-3	Barium	46	mg/K	46	1	1
Open Space	Soil	B-27-5	5	26-Sep-97		C4-C10	10	mg/K	10	0	1
Open Space	Soil	B-27-5	5	26-Sep-97		C25-C40	1700	mg/K	1700	1	1
Open Space	Soil	B-27-5	5	26-Sep-97		C10-C25	1400	mg/K	1400	1	1
Open Space	Soil	B-27-5	5	26-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	207-08-9	Benzo(k)fluoranthene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	205-99-2	Benzo(b)fluoranthene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	50-32-8	Benzo(a)pyrene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	56-55-3	Benzo(a)anthracene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-27-5	5	26-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-28-5	5	18-Sep-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
Open Space	Soil	B-28-5	5	18-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-28-5	5	18-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-28-5	5	18-Sep-97		C4-C10	10	mg/K	10	0	1
Open Space	Soil	B-28-5	5	18-Sep-97		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-28-5	5	18-Sep-97		C1-C40	10	mg/K	10	0	1
Open Space	Soil	B-28-5	5	18-Sep-97		C10-C25	10	mg/K	10	0	1
Open Space	Soil	B-28-5	5	18-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Open Space	Soil	B-28-5	5	18-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-28-5	5	18-Sep-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
Open Space	Soil	B-28-5	5	18-Sep-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
Open Space	Soil	B-28-5	5	18-Sep-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
Open Space	Soil	B-28-5	5	18-Sep-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
Open Space	Soil	B-28-5	5	18-Sep-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
Open Space	Soil	B-28-5	5	18-Sep-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	75-34-3	1,1-Dichloroethane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	630-20-6	1,1,1,2-Tetrachloroethane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	71-55-6	1,1,1-Trichloroethane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	124-48-1	Dibromochloromethane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	108-90-7	Chlorobenzene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	87-68-3	Hexachlorobutadiene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	86-73-7	Fluorene	0.5	mg/K	0.5	1	1
Open Space	Soil	B-29-10	10	23-Sep-97	206-44-0	Fluoranthene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	100-41-4	Ethylbenzene	3.5	mg/K	3.5	1	1
Open Space	Soil	B-29-10	10	23-Sep-97	34077-87-7	Dichlorotrifluoroethane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	75-09-2	Methylene chloride	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	74-95-3	Dibromomethane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	91-20-3	Naphthalene	1.2	mg/K	1.2	1	0
Open Space	Soil	B-29-10	10	23-Sep-97	53-70-3	Dibenz(a,h)anthracene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	10061-01-5	cis-1,3-Dichloropropene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	156-59-2	cis-1,2-Dichloroethene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	218-01-9	Chrysene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	74-87-3	Chloromethane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	67-66-3	Chloroform	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	79-34-5	1,1,2,2-Tetrachloroethane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	75-71-8	Dichlorodifluoromethane	0.1	mg/K	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-29-10	10	23-Sep-97	100-42-5	Styrene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	1330-20-7	Xylenes (total)	6	mg/K	6	1	1
Open Space	Soil	B-29-10	10	23-Sep-97	75-01-4	Vinyl chloride	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	75-69-4	Trichlorofluoromethane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	79-01-6	Trichloroethene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	10061-02-6	trans-1,3-Dichloropropene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	156-60-5	trans-1,2-Dichloroethene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	108-88-3	Toluene	0.4	mg/K	0.4	1	1
Open Space	Soil	B-29-10	10	23-Sep-97	98-82-8	Isopropylbenzene	1.4	mg/K	1.4	1	1
Open Space	Soil	B-29-10	10	23-Sep-97	98-06-6	tert-Butylbenzene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	56-23-5	Carbon tetrachloride	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	135-98-8	sec-Butylbenzene	0.8	mg/K	0.8	1	1
Open Space	Soil	B-29-10	10	23-Sep-97	129-00-0	Pyrene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	99-87-6	p-Isopropyltoluene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	85-01-8	Phenanthrene	0.8	mg/K	0.8	1	1
Open Space	Soil	B-29-10	10	23-Sep-97	103-65-1	n-Propylbenzene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	104-51-8	n-Butylbenzene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	91-20-3	Naphthalene	2.6	mg/K	2.6	1	1
Open Space	Soil	B-29-10	10	23-Sep-97	127-18-4	Tetrachloroethene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	96-12-8	1,2-Dibromo-3-chloropropane	0.2	mg/K	0.2	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	75-00-3	Chloroethane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	110-75-8	2-Chloroethyl vinyl ether	0.2	mg/K	0.2	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	594-20-7	2,2-Dichloropropane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	106-46-7	1,4-Dichlorobenzene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	142-28-9	1,3-Dichloropropane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	541-73-1	1,3-Dichlorobenzene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	108-67-8	1,3,5-Trimethylbenzene	2.3	mg/K	2.3	1	1
Open Space	Soil	B-29-10	10	23-Sep-97	106-43-4	4-Chlorotoluene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	95-50-1	1,2-Dichlorobenzene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	83-32-9	Acenaphthene	0.2	mg/K	0.2	1	1
Open Space	Soil	B-29-10	10	23-Sep-97	95-63-6	1,2,4-Trimethylbenzene	8.1	mg/K	8.1	1	1
Open Space	Soil	B-29-10	10	23-Sep-97	120-82-1	1,2,4-Trichlorobenzene	0.2	mg/K	0.2	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	96-18-4	1,2,3-Trichloropropane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	87-61-6	1,2,3-Trichlorobenzene	0.2	mg/K	0.2	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	563-58-6	1,1-Dichloropropene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	75-35-4	1,1-Dichloroethene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	106-93-4	1,2-Dibromoethane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	78-87-5	1,2-Dichloropropane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	207-08-9	Benzo(k)fluoranthene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97		C4-C10	2800	mg/K	2800	1	1
Open Space	Soil	B-29-10	10	23-Sep-97		C25-C40	540	mg/K	540	1	1
Open Space	Soil	B-29-10	10	23-Sep-97		C1-C40	5840	mg/K	5840	1	1
Open Space	Soil	B-29-10	10	23-Sep-97		C10-C25	2500	mg/K	2500	1	1
Open Space	Soil	B-29-10	10	23-Sep-97	74-83-9	Bromomethane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	75-25-2	Bromoform	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	75-27-4	Bromodichloromethane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	95-49-8	2-Chlorotoluene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	108-86-1	Bromobenzene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	79-00-5	1,1,2-Trichloroethane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	191-24-2	Benzo(g,h,i)perylene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	205-99-2	Benzo(b)fluoranthene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	50-32-8	Benzo(a)pyrene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	56-55-3	Benzo(a)anthracene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	71-43-2	Benzene	3.9	mg/K	3.9	1	1
Open Space	Soil	B-29-10	10	23-Sep-97	120-12-7	Anthracene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-29-10	10	23-Sep-97	208-96-8	Acenaphthylene	0.1	mg/K	0.1	1	1
Open Space	Soil	B-29-10	10	23-Sep-97	74-97-5	Bromochloromethane	0.1	mg/K	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-29-10	10	23-Sep-97	107-06-2	1,2-Dichloroethane	0.1	mg/K	0.1	0	1
Open Space	Soil	B-40-10	10	09-Sep-97	100-41-4	Ethylbenzene	0.12	mg/K	0.12	1	1
Open Space	Soil	B-40-10	10	09-Sep-97	1330-20-7	Xylenes (total)	0.66	mg/K	0.66	1	1
Open Space	Soil	B-40-10	10	09-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
Open Space	Soil	B-40-10	10	09-Sep-97		C4-C10	10	mg/K	10	0	1
Open Space	Soil	B-40-10	10	09-Sep-97		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-40-10	10	09-Sep-97		C1-C40	10	mg/K	10	0	1
Open Space	Soil	B-40-10	10	09-Sep-97		C10-C25	10	mg/K	10	0	1
Open Space	Soil	B-40-10	10	09-Sep-97	71-43-2	Benzene	0.064	mg/K	0.064	1	1
Open Space	Soil	B-40-10	10	09-Sep-97	108-88-3	Toluene	0.4	mg/K	0.4	1	1
Open Space	Soil	B-40-5	5	09-Sep-97	7440-22-4	Silver	1	mg/K	1	0	1
Open Space	Soil	B-40-5	5	09-Sep-97	7440-50-8	Copper	4.3	mg/K	4.3	1	1
Open Space	Soil	B-40-5	5	09-Sep-97		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-40-5	5	09-Sep-97		C4-C10	100	mg/K	100	1	1
Open Space	Soil	B-40-5	5	09-Sep-97	7440-43-9	Cadmium	1	mg/K	1	0	1
Open Space	Soil	B-40-5	5	09-Sep-97	7440-47-3	Chromium	22	mg/K	22	1	1
Open Space	Soil	B-40-5	5	09-Sep-97	7440-48-4	Cobalt	1.1	mg/K	1.1	1	1
Open Space	Soil	B-40-5	5	09-Sep-97	7439-92-1	Lead	4.8	mg/K	4.8	1	1
Open Space	Soil	B-40-5	5	09-Sep-97	1634-04-4	Methyl tert-butyl ether	0.1	mg/K	0.1	0	1
Open Space	Soil	B-40-5	5	09-Sep-97	7439-98-7	Molybdenum	1.5	mg/K	1.5	1	1
Open Space	Soil	B-40-5	5	09-Sep-97		C1-C40	340	mg/K	340	1	1
Open Space	Soil	B-40-5	5	09-Sep-97	7782-49-2	Selenium	5	mg/K	5	0	1
Open Space	Soil	B-40-5	5	09-Sep-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
Open Space	Soil	B-40-5	5	09-Sep-97	7440-02-0	Nickel	6.5	mg/K	6.5	1	1
Open Space	Soil	B-40-5	5	09-Sep-97		C10-C25	240	mg/K	240	1	1
Open Space	Soil	B-40-5	5	09-Sep-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
Open Space	Soil	B-40-5	5	09-Sep-97	71-43-2	Benzene	0.1	mg/K	0.1	0	1
Open Space	Soil	B-40-5	5	09-Sep-97	7440-28-0	Thallium	5	mg/K	5	0	1
Open Space	Soil	B-40-5	5	09-Sep-97	7440-38-2	Arsenic	5	mg/K	5	0	1
Open Space	Soil	B-40-5	5	09-Sep-97	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
Open Space	Soil	B-40-5	5	09-Sep-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
Open Space	Soil	B-40-5	5	09-Sep-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
Open Space	Soil	B-40-5	5	09-Sep-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
Open Space	Soil	B-40-5	5	09-Sep-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
Open Space	Soil	B-40-5	5	09-Sep-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
Open Space	Soil	B-40-5	5	09-Sep-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
Open Space	Soil	B-40-5	5	09-Sep-97	7440-36-0	Antimony	5	mg/K	5	0	1
Open Space	Soil	B-40-5	5	09-Sep-97	7440-39-3	Barium	50	mg/K	50	1	1
Open Space	Soil	B-40-5	5	09-Sep-97	108-88-3	Toluene	0.2	mg/K	0.2	1	1
Open Space	Soil	B-40-5	5	09-Sep-97	7440-62-2	Vanadium	18	mg/K	18	1	1
Open Space	Soil	B-40-5	5	09-Sep-97	1330-20-7	Xylenes (total)	4.8	mg/K	4.8	1	1
Open Space	Soil	B-40-5	5	09-Sep-97	7440-66-6	Zinc	13	mg/K	13	1	1
Open Space	Soil	B-40-5	5	09-Sep-97	100-41-4	Ethylbenzene	0.3	mg/K	0.3	1	1
Open Space	Soil	B-41-10	10	08-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-41-10	10	08-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
Open Space	Soil	B-41-10	10	08-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-41-10	10	08-Sep-97		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-41-10	10	08-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Open Space	Soil	B-41-10	10	08-Sep-97		C1-C40	10	mg/K	10	0	1
Open Space	Soil	B-41-10	10	08-Sep-97		C10-C25	10	mg/K	10	0	1
Open Space	Soil	B-41-10	10	08-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-41-10	10	08-Sep-97		C4-C10	10	mg/K	10	0	1
Open Space	Soil	B-41-5	5	08-Sep-97		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-41-5	5	08-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-41-5	5	08-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-41-5	5	08-Sep-97		C4-C10	10	mg/K	10	0	1
Open Space	Soil	B-41-5	5	08-Sep-97		C1-C40	10	mg/K	10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-41-5	5	08-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Open Space	Soil	B-41-5	5	08-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-41-5	5	08-Sep-97		C10-C25	10	mg/K	10	0	1
Open Space	Soil	B-62-5	5	23-Sep-97		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-62-5	5	23-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
Open Space	Soil	B-62-5	5	23-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-62-5	5	23-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Open Space	Soil	B-62-5	5	23-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-62-5	5	23-Sep-97		C4-C10	10	mg/K	10	0	1
Open Space	Soil	B-62-5	5	23-Sep-97		C1-C40	10	mg/K	10	0	1
Open Space	Soil	B-62-5	5	23-Sep-97		C10-C25	10	mg/K	10	0	1
Open Space	Soil	B-62-5	5	23-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-148-10	10	17-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-148-10	10	17-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-148-10	10	17-Nov-97		C10-C25	10	mg/K	10	0	1
Open Space	Soil	B-148-10	10	17-Nov-97		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-148-10	10	17-Nov-97		C4-C10	10	mg/K	10	0	1
Open Space	Soil	B-148-10	10	17-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Open Space	Soil	B-148-10	10	17-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-148-10	10	17-Nov-97		C1-C40	10	mg/K	10	0	1
Open Space	Soil	B-150-10	10	21-Nov-97		C10-C25	10	mg/K	10	0	1
Open Space	Soil	B-150-10	10	21-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-150-10	10	21-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Open Space	Soil	B-150-10	10	21-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-150-10	10	21-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-150-10	10	21-Nov-97		C4-C10	10	mg/K	10	0	1
Open Space	Soil	B-150-10	10	21-Nov-97		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-150-10	10	21-Nov-97		C1-C40	10	mg/K	10	0	1
Open Space	Soil	B-151-10	10	22-Nov-97		C10-C25	10	mg/K	10	0	1
Open Space	Soil	B-151-10	10	22-Nov-97		C1-C40	10	mg/K	10	0	1
Open Space	Soil	B-151-10	10	22-Nov-97		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-151-10	10	22-Nov-97		C4-C10	10	mg/K	10	0	1
Open Space	Soil	B-151-10	10	22-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-151-10	10	22-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-151-10	10	22-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Open Space	Soil	B-151-10	10	22-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-10	10	21-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-10	10	21-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-10	10	21-Nov-97		C4-C10	10	mg/K	10	0	1
Open Space	Soil	B-167-10	10	21-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-10	10	21-Nov-97		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-167-10	10	21-Nov-97		C1-C40	10	mg/K	10	0	1
Open Space	Soil	B-167-10	10	21-Nov-97		C10-C25	10	mg/K	10	0	1
Open Space	Soil	B-167-10	10	21-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97	205-99-2	Benzo(b)fluoranthene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97	191-24-2	Benzo(g,h,i)perylene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97		C10-C25	110	mg/K	110	1	1
Open Space	Soil	B-167-5	5	21-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97		C25-C40	180	mg/K	180	1	1
Open Space	Soil	B-167-5	5	21-Nov-97		C4-C10	10	mg/K	10	0	1
Open Space	Soil	B-167-5	5	21-Nov-97	86-73-7	Fluorene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97	53-70-3	Dibenz(a,h)anthracene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97	206-44-0	Fluoranthene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97	50-32-8	Benzo(a)pyrene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-167-5	5	21-Nov-97	207-08-9	Benzo(k)fluoranthene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97	129-00-0	Pyrene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97	85-01-8	Phenanthrene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97	91-20-3	Naphthalene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97	218-01-9	Chrysene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97	208-96-8	Acenaphthylene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97	120-12-7	Anthracene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97		C1-C40	290	mg/K	290	1	1
Open Space	Soil	B-167-5	5	21-Nov-97	56-55-3	Benzo(a)anthracene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-167-5	5	21-Nov-97	83-32-9	Acenaphthene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-190-10	10	01-Jul-99		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-190-10	10	01-Jul-99		C4-C10	10	mg/K	10	0	1
Open Space	Soil	B-190-10	10	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-190-10	10	01-Jul-99		C1-C40	10	mg/K	10	0	1
Open Space	Soil	B-190-10	10	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-190-10	10	01-Jul-99		C10-C25	10	mg/K	10	0	1
Open Space	Soil	B-190-10	10	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Open Space	Soil	B-190-10	10	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Open Space	Soil	B-207-10	10	01-Mar-01		C4-C10	10	mg/k	10	0	1
Open Space	Soil	B-207-10	10	01-Mar-01		C10-C25	10	mg/k	10	0	1
Open Space	Soil	B-207-10	10	01-Mar-01		C25-C40	10	mg/k	10	0	1
Open Space	Soil	B-207-10	10	01-Mar-01	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-207-10	10	01-Mar-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-207-10	10	01-Mar-01	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	B-207-10	10	01-Mar-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-207-10	10	01-Mar-01		C1-C40	10	mg/K	10	0	1
Open Space	Soil	B-209-6	6	02-Mar-01	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	B-209-6	6	02-Mar-01	7440-66-6	Zinc	34	mg/k	34	1	1
Open Space	Soil	B-209-6	6	02-Mar-01	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	B-209-6	6	02-Mar-01	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	B-209-6	6	02-Mar-01	7440-02-0	Nickel	9.3	mg/k	9.3	1	1
Open Space	Soil	B-209-6	6	02-Mar-01	7439-98-7	Molybdenum	2	mg/k	2	1	1
Open Space	Soil	B-209-6	6	02-Mar-01	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	B-209-6	6	02-Mar-01	7439-92-1	Lead	2.7	mg/k	2.7	1	1
Open Space	Soil	B-209-6	6	02-Mar-01	7440-50-8	Copper	6.8	mg/k	6.8	1	1
Open Space	Soil	B-209-6	6	02-Mar-01	7440-47-3	Chromium	17	mg/k	17	1	1
Open Space	Soil	B-209-6	6	02-Mar-01	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	B-209-6	6	02-Mar-01	7440-39-3	Barium	36	mg/k	36	1	1
Open Space	Soil	B-209-6	6	02-Mar-01	7440-38-2	Arsenic	4.7	mg/k	4.7	1	1
Open Space	Soil	B-209-6	6	02-Mar-01	7440-62-2	Vanadium	12	mg/k	12	1	1
Open Space	Soil	B-209-6	6	02-Mar-01	7440-48-4	Cobalt	1.6	mg/k	1.6	1	1
Open Space	Soil	B-209-6	6	02-Mar-01	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	B-209-6	6	02-Mar-01	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	B-210-10	10	01-Mar-01	7440-47-3	Chromium	9.7	mg/k	9.7	1	1
Open Space	Soil	B-210-10	10	01-Mar-01	7440-62-2	Vanadium	5.8	mg/k	5.8	1	1
Open Space	Soil	B-210-10	10	01-Mar-01	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	B-210-10	10	01-Mar-01	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	B-210-10	10	01-Mar-01	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	B-210-10	10	01-Mar-01	7440-02-0	Nickel	4.5	mg/k	4.5	1	1
Open Space	Soil	B-210-10	10	01-Mar-01	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	B-210-10	10	01-Mar-01	7440-66-6	Zinc	17	mg/k	17	1	1
Open Space	Soil	B-210-10	10	01-Mar-01	7440-50-8	Copper	3.3	mg/k	3.3	1	1
Open Space	Soil	B-210-10	10	01-Mar-01	7439-92-1	Lead	1.7	mg/k	1.7	1	1
Open Space	Soil	B-210-10	10	01-Mar-01	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	B-210-10	10	01-Mar-01	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	B-210-10	10	01-Mar-01	7440-39-3	Barium	25	mg/k	25	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-210-10	10	01-Mar-01	7440-38-2	Arsenic	5.3	mg/k	5.3	1	1
Open Space	Soil	B-210-10	10	01-Mar-01	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	B-210-10	10	01-Mar-01	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	B-210-10	10	01-Mar-01	7440-48-4	Cobalt	1	mg/k	1	0	1
Open Space	Soil	B-210-6	6	01-Mar-01	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	B-210-6	6	01-Mar-01	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	B-210-6	6	01-Mar-01	7440-38-2	Arsenic	11	mg/k	11	1	1
Open Space	Soil	B-210-6	6	01-Mar-01	7440-39-3	Barium	56	mg/k	56	1	1
Open Space	Soil	B-210-6	6	01-Mar-01	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	B-210-6	6	01-Mar-01	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	B-210-6	6	01-Mar-01	7440-47-3	Chromium	12	mg/k	12	1	1
Open Space	Soil	B-210-6	6	01-Mar-01	7440-48-4	Cobalt	1	mg/k	1	0	1
Open Space	Soil	B-210-6	6	01-Mar-01	7440-50-8	Copper	4.2	mg/k	4.2	1	1
Open Space	Soil	B-210-6	6	01-Mar-01	7439-92-1	Lead	3.7	mg/k	3.7	1	1
Open Space	Soil	B-210-6	6	01-Mar-01	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	B-210-6	6	01-Mar-01	7439-98-7	Molybdenum	1.7	mg/k	1.7	1	1
Open Space	Soil	B-210-6	6	01-Mar-01	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	B-210-6	6	01-Mar-01	7440-62-2	Vanadium	7.8	mg/k	7.8	1	1
Open Space	Soil	B-210-6	6	01-Mar-01	7440-66-6	Zinc	33	mg/k	33	1	1
Open Space	Soil	B-210-6	6	01-Mar-01	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	B-210-6	6	01-Mar-01	7440-02-0	Nickel	11	mg/k	11	1	1
Open Space	Soil	B-211-6	6	02-Mar-01	7440-02-0	Nickel	9.8	mg/k	9.8	1	1
Open Space	Soil	B-211-6	6	02-Mar-01	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	B-211-6	6	02-Mar-01	7440-50-8	Copper	4.8	mg/k	4.8	1	1
Open Space	Soil	B-211-6	6	02-Mar-01	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	B-211-6	6	02-Mar-01	7440-66-6	Zinc	27	mg/k	27	1	1
Open Space	Soil	B-211-6	6	02-Mar-01	7440-62-2	Vanadium	10	mg/k	10	1	1
Open Space	Soil	B-211-6	6	02-Mar-01	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	B-211-6	6	02-Mar-01	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	B-211-6	6	02-Mar-01	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	B-211-6	6	02-Mar-01	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	B-211-6	6	02-Mar-01	7439-92-1	Lead	5.6	mg/k	5.6	1	1
Open Space	Soil	B-211-6	6	02-Mar-01	7440-48-4	Cobalt	1.1	mg/k	1.1	1	1
Open Space	Soil	B-211-6	6	02-Mar-01	7440-47-3	Chromium	14	mg/k	14	1	1
Open Space	Soil	B-211-6	6	02-Mar-01	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	B-211-6	6	02-Mar-01	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	B-211-6	6	02-Mar-01	7440-39-3	Barium	57	mg/k	57	1	1
Open Space	Soil	B-211-6	6	02-Mar-01	7440-38-2	Arsenic	4.7	mg/k	4.7	1	1
Open Space	Soil	B-212-6	6	02-Mar-01	7439-98-7	Molybdenum	3.7	mg/k	3.7	1	1
Open Space	Soil	B-212-6	6	02-Mar-01	7440-62-2	Vanadium	16	mg/k	16	1	1
Open Space	Soil	B-212-6	6	02-Mar-01	7440-66-6	Zinc	21	mg/k	21	1	1
Open Space	Soil	B-212-6	6	02-Mar-01	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	B-212-6	6	02-Mar-01	7440-38-2	Arsenic	4.4	mg/k	4.4	1	1
Open Space	Soil	B-212-6	6	02-Mar-01	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	B-212-6	6	02-Mar-01	7440-02-0	Nickel	11	mg/k	11	1	1
Open Space	Soil	B-212-6	6	02-Mar-01	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	B-212-6	6	02-Mar-01	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	B-212-6	6	02-Mar-01	7439-92-1	Lead	6.4	mg/k	6.4	1	1
Open Space	Soil	B-212-6	6	02-Mar-01	7440-50-8	Copper	3.1	mg/k	3.1	1	1
Open Space	Soil	B-212-6	6	02-Mar-01	7440-48-4	Cobalt	1.4	mg/k	1.4	1	1
Open Space	Soil	B-212-6	6	02-Mar-01	7440-47-3	Chromium	16	mg/k	16	1	1
Open Space	Soil	B-212-6	6	02-Mar-01	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	B-212-6	6	02-Mar-01	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	B-212-6	6	02-Mar-01	7440-39-3	Barium	51	mg/k	51	1	1
Open Space	Soil	B-212-6	6	02-Mar-01	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	SP-2-9	9	02-Mar-01	1330-20-7	Xylenes (total)	0.2	mg/k	0.2	1	1
Open Space	Soil	SP-2-9	9	02-Mar-01		C25-C40	34	mg/k	34	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SP-2-9	9	02-Mar-01	108-88-3	Toluene	0.1	mg/k	0.1	0	1
Open Space	Soil	SP-2-9	9	02-Mar-01	100-41-4	Ethylbenzene	0.1	mg/k	0.1	0	1
Open Space	Soil	SP-2-9	9	02-Mar-01		C4-C10	67	mg/k	67	1	1
Open Space	Soil	SP-2-9	9	02-Mar-01		C1-C40	241	mg/K	241	1	1
Open Space	Soil	SP-2-9	9	02-Mar-01		C10-C25	140	mg/k	140	1	1
Open Space	Soil	SP-2-9	9	02-Mar-01	71-43-2	Benzene	0.1	mg/k	0.1	0	1
Open Space	Soil	B-216-10	10	02-Apr-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	B-216-10	10	02-Apr-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-216-10	10	02-Apr-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	B-216-10	10	02-Apr-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-216-10	10	02-Apr-03		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-216-10	10	02-Apr-03		C10-C25	10	mg/K	10	0	1
Open Space	Soil	B-216-10	10	02-Apr-03		C1-C40	10	mg/K	10	0	1
Open Space	Soil	B-216-10	10	02-Apr-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-216-5	5	02-Apr-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	B-216-5	5	02-Apr-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	B-216-5	5	02-Apr-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	B-216-5	5	02-Apr-03	7440-02-0	Nickel	7.7	mg/k	7.7	1	1
Open Space	Soil	B-216-5	5	02-Apr-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-216-5	5	02-Apr-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	B-216-5	5	02-Apr-03		C1-C40	10	mg/K	10	0	1
Open Space	Soil	B-216-5	5	02-Apr-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-216-5	5	02-Apr-03	7440-62-2	Vanadium	24	mg/k	24	1	1
Open Space	Soil	B-216-5	5	02-Apr-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	B-216-5	5	02-Apr-03	7440-66-6	Zinc	7.2	mg/k	7.2	1	1
Open Space	Soil	B-216-5	5	02-Apr-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	B-216-5	5	02-Apr-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	B-216-5	5	02-Apr-03		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-216-5	5	02-Apr-03		C10-C25	10	mg/K	10	0	1
Open Space	Soil	B-216-5	5	02-Apr-03	7439-92-1	Lead	15	mg/k	15	1	1
Open Space	Soil	B-216-5	5	02-Apr-03	7440-38-2	Arsenic	3.4	mg/k	3.4	1	1
Open Space	Soil	B-216-5	5	02-Apr-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	B-216-5	5	02-Apr-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	B-216-5	5	02-Apr-03	7440-47-3	Chromium	38	mg/k	38	1	1
Open Space	Soil	B-216-5	5	02-Apr-03	7440-48-4	Cobalt	1.4	mg/k	1.4	1	1
Open Space	Soil	B-216-5	5	02-Apr-03	7440-50-8	Copper	3.4	mg/k	3.4	1	1
Open Space	Soil	B-216-5	5	02-Apr-03	7440-39-3	Barium	310	mg/k	310	1	1
Open Space	Soil	B-216-5	5	02-Apr-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-216-5	5	02-Apr-03	7440-41-7	Beryllium	0.6	mg/k	0.6	1	1
Open Space	Soil	B-217-10	10	02-Apr-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-217-10	10	02-Apr-03		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-217-10	10	02-Apr-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	B-217-10	10	02-Apr-03		C1-C40	10	mg/K	10	0	1
Open Space	Soil	B-217-10	10	02-Apr-03		C10-C25	10	mg/K	10	0	1
Open Space	Soil	B-217-10	10	02-Apr-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-217-10	10	02-Apr-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-217-10	10	02-Apr-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	B-217-5	5	02-Apr-03	7440-48-4	Cobalt	2.9	mg/k	2.9	1	1
Open Space	Soil	B-217-5	5	02-Apr-03		C1-C40	10	mg/K	10	0	1
Open Space	Soil	B-217-5	5	02-Apr-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	B-217-5	5	02-Apr-03	7439-92-1	Lead	3.2	mg/k	3.2	1	1
Open Space	Soil	B-217-5	5	02-Apr-03	7440-50-8	Copper	4	mg/k	4	1	1
Open Space	Soil	B-217-5	5	02-Apr-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	B-217-5	5	02-Apr-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-217-5	5	02-Apr-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	B-217-5	5	02-Apr-03		C25-C40	10	mg/K	10	0	1
Open Space	Soil	B-217-5	5	02-Apr-03	7440-47-3	Chromium	63	mg/k	63	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-217-5	5	02-Apr-03		C10-C25	10	mg/K	10	0	1
Open Space	Soil	B-217-5	5	02-Apr-03	7440-41-7	Beryllium	0.5	mg/k	0.5	1	1
Open Space	Soil	B-217-5	5	02-Apr-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-217-5	5	02-Apr-03	7440-39-3	Barium	18	mg/k	18	1	1
Open Space	Soil	B-217-5	5	02-Apr-03	7440-38-2	Arsenic	2.5	mg/k	2.5	1	1
Open Space	Soil	B-217-5	5	02-Apr-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	B-217-5	5	02-Apr-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	B-217-5	5	02-Apr-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	B-217-5	5	02-Apr-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	B-217-5	5	02-Apr-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	B-217-5	5	02-Apr-03	7440-02-0	Nickel	14	mg/k	14	1	1
Open Space	Soil	B-217-5	5	02-Apr-03	7440-66-6	Zinc	16	mg/k	16	1	1
Open Space	Soil	B-217-5	5	02-Apr-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	B-217-5	5	02-Apr-03	7440-62-2	Vanadium	21	mg/k	21	1	1
Open Space	Soil	B-217-5	5	02-Apr-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	8.4	mg/k	8.4	1	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	7440-39-3	Barium	82	mg/k	82	1	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	1.1	mg/k	1.1	1	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03		C25-C40	60	mg/k	60	1	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	33	mg/k	33	1	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	7440-66-6	Zinc	66	mg/k	66	1	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	7440-47-3	Chromium	49	mg/k	49	1	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	14	mg/k	14	1	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	7440-50-8	Copper	23	mg/k	23	1	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	7440-02-0	Nickel	130	mg/k	130	1	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	7439-92-1	Lead	8	mg/k	8	1	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.6	mg/k	0.6	1	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	9	mg/k	9	1	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	7440-39-3	Barium	67	mg/k	67	1	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	1.2	mg/k	1.2	1	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03		C25-C40	63	mg/k	63	1	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	7440-02-0	Nickel	66	mg/k	66	1	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	30	mg/k	30	1	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	7440-66-6	Zinc	76	mg/k	76	1	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	7440-47-3	Chromium	32	mg/k	32	1	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	9.7	mg/k	9.7	1	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	7440-50-8	Copper	23	mg/k	23	1	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	7439-92-1	Lead	8.1	mg/k	8.1	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.9	mg/k	0.9	1	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-1-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	7439-92-1	Lead	51	mg/k	51	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.17	mg/k	0.17	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.15	mg/k	0.15	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	7440-02-0	Nickel	8.9	mg/k	8.9	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.057	mg/k	0.057	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	7440-66-6	Zinc	8.5	mg/k	8.5	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	9.5	mg/k	9.5	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	7440-39-3	Barium	48	mg/k	48	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.026	mg/k	0.026	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.011	mg/k	0.011	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	7440-50-8	Copper	2.7	mg/k	2.7	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	30	mg/k	30	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	7440-47-3	Chromium	12	mg/k	12	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.16	mg/k	0.16	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.016	mg/k	0.016	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.13	mg/k	0.13	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.013	mg/k	0.013	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.11	mg/k	0.11	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.1	mg/k	0.1	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.074	mg/k	0.074	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.066	mg/k	0.066	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.065	mg/k	0.065	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03		C10-C25	29	mg/k	29	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03		C25-C40	160	mg/k	160	1	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-24-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	120-12-7	Anthracene	0.024	mg/k	0.024	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	7440-50-8	Copper	3.1	mg/k	3.1	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.04	mg/k	0.04	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	218-01-9	Chrysene	0.44	mg/k	0.44	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.21	mg/k	0.21	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	37	mg/k	37	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	7440-39-3	Barium	48	mg/k	48	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.27	mg/k	0.27	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.38	mg/k	0.38	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03		C25-C40	280	mg/k	280	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.085	mg/k	0.085	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03		C10-C25	55	mg/k	55	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	206-44-0	Fluoranthene	0.31	mg/k	0.31	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.25	mg/k	0.25	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	129-00-0	Pyrene	0.41	mg/k	0.41	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	11	mg/k	11	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	7440-66-6	Zinc	6.9	mg/k	6.9	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	86-73-7	Fluorene	0.016	mg/k	0.016	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.093	mg/k	0.093	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	7439-92-1	Lead	40	mg/k	40	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	7440-02-0	Nickel	9.3	mg/k	9.3	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	85-01-8	Phenanthrene	0.33	mg/k	0.33	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	208-96-8	Acenaphthylene	0.074	mg/k	0.074	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	7440-47-3	Chromium	14	mg/k	14	1	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-24-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	7439-92-1	Lead	7.9	mg/k	7.9	1	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	7440-47-3	Chromium	2.6	mg/k	2.6	1	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	7440-50-8	Copper	0.8	mg/k	0.8	1	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	7440-66-6	Zinc	4.2	mg/k	4.2	1	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	4.2	mg/k	4.2	1	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	7440-02-0	Nickel	4.2	mg/k	4.2	1	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03		C25-C40	25	mg/k	25	1	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	7440-39-3	Barium	21	mg/k	21	1	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	5.9	mg/k	5.9	1	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	7439-92-1	Lead	5.5	mg/k	5.5	1	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	7440-50-8	Copper	0.5	mg/k	0.5	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	7440-47-3	Chromium	3.9	mg/k	3.9	1	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	4.1	mg/k	4.1	1	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	7440-02-0	Nickel	4.8	mg/k	4.8	1	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	7440-66-6	Zinc	1	mg/k	1	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03		C25-C40	14	mg/k	14	1	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	2.1	mg/k	2.1	1	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	7440-39-3	Barium	19	mg/k	19	1	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-26-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	7439-92-1	Lead	46	mg/k	46	1	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	7440-50-8	Copper	11	mg/k	11	1	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	4.5	mg/k	4.5	1	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	7440-47-3	Chromium	17	mg/k	17	1	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	7439-97-6	Mercury	5.1	mg/k	5.1	1	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.4	mg/k	0.4	1	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	7440-66-6	Zinc	63	mg/k	63	1	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	28	mg/k	28	1	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	7440-02-0	Nickel	24	mg/k	24	1	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.2	mg/k	0.2	0	0
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	7440-39-3	Barium	130	mg/k	130	1	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03		C16-C21	140	mg/k	140	1	0
Open Space	Soil	S-27-0.5	0.5	05-Jun-03		C25-C40	11000	mg/k	11000	1	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03		C21-C40	1400	mg/k	1400	1	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03		C16-C21	400	mg/k	400	1	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03		C12-C16	52	mg/k	52	1	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03		C12-C16	10	mg/k	10	0	0
Open Space	Soil	S-27-0.5	0.5	05-Jun-03		C10-C25	2400	mg/k	2400	1	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03		C10-C12	5	mg/k	5	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03		C21-C40	1100	mg/k	1100	1	0
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	7.4	mg/k	7.4	1	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.3	mg/k	0.3	1	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-27-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.2	mg/k	0.2	1	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	1.8	mg/k	1.8	1	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	7440-47-3	Chromium	10	mg/k	10	1	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	7440-50-8	Copper	0.8	mg/k	0.8	1	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	7439-92-1	Lead	3.4	mg/k	3.4	1	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	7440-66-6	Zinc	4.5	mg/k	4.5	1	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	9	mg/k	9	1	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	7440-02-0	Nickel	4.6	mg/k	4.6	1	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03		C25-C40	10	mg/k	10	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	0.8	mg/k	0.8	1	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	7440-39-3	Barium	37	mg/k	37	1	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-27-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	7439-92-1	Lead	9.1	mg/k	9.1	1	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	7440-50-8	Copper	2.7	mg/k	2.7	1	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	2	mg/k	2	1	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	7440-47-3	Chromium	13	mg/k	13	1	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	7440-66-6	Zinc	13	mg/k	13	1	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	9.6	mg/k	9.6	1	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	7440-02-0	Nickel	8.6	mg/k	8.6	1	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03		C25-C40	16	mg/k	16	1	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	7440-39-3	Barium	61	mg/k	61	1	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	2	mg/k	2	1	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	7440-47-3	Chromium	18	mg/k	18	1	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	7439-92-1	Lead	11	mg/k	11	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	7440-02-0	Nickel	17	mg/k	17	1	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	7440-50-8	Copper	2.4	mg/k	2.4	1	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	2.2	mg/k	2.2	1	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	7440-66-6	Zinc	9.6	mg/k	9.6	1	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	13	mg/k	13	1	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-28-2.5	2.5	05-Jun-03		C25-C40	10	mg/k	10	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	7440-39-3	Barium	160	mg/k	160	1	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	3.1	mg/k	3.1	1	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-28-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	7440-39-3	Barium	540	mg/k	540	1	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	2.2	mg/k	2.2	1	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03		C25-C40	36	mg/k	36	1	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	7440-02-0	Nickel	11	mg/k	11	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	44	mg/k	44	1	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	7440-66-6	Zinc	46	mg/k	46	1	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	6.4	mg/k	6.4	1	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	7440-50-8	Copper	13	mg/k	13	1	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	7439-92-1	Lead	8.2	mg/k	8.2	1	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	1	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	7440-47-3	Chromium	14	mg/k	14	1	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	2.9	mg/k	2.9	1	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	7440-39-3	Barium	66	mg/k	66	1	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	7440-02-0	Nickel	25	mg/k	25	1	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03		C25-C40	53	mg/k	53	1	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	27	mg/k	27	1	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	7440-66-6	Zinc	42	mg/k	42	1	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	7440-47-3	Chromium	24	mg/k	24	1	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	7440-50-8	Copper	9.3	mg/k	9.3	1	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	7439-92-1	Lead	9.4	mg/k	9.4	1	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	2.5	mg/k	2.5	1	1
Open Space	Soil	S-29-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	7439-92-1	Lead	13	mg/k	13	1	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	7440-02-0	Nickel	44	mg/k	44	1	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	7440-50-8	Copper	18	mg/k	18	1	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	7.7	mg/k	7.7	1	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	7440-47-3	Chromium	31	mg/k	31	1	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	7440-66-6	Zinc	59	mg/k	59	1	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	63	mg/k	63	1	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03		C25-C40	17	mg/k	17	1	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	3.7	mg/k	3.7	1	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	7440-39-3	Barium	180	mg/k	180	1	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	7439-92-1	Lead	6	mg/k	6	1	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	7440-50-8	Copper	16	mg/k	16	1	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	5.3	mg/k	5.3	1	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	7440-47-3	Chromium	29	mg/k	29	1	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	56	mg/k	56	1	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	7440-02-0	Nickel	39	mg/k	39	1	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	7440-66-6	Zinc	49	mg/k	49	1	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03		C25-C40	10	mg/k	10	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	7440-39-3	Barium	130	mg/k	130	1	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	3.8	mg/k	3.8	1	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-37-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	7440-02-0	Nickel	19	mg/k	19	1	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.2	mg/k	0.2	0	0
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	7439-97-6	Mercury	1.7	mg/k	1.7	1	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	7439-92-1	Lead	11	mg/k	11	1	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03		C21-C40	300	mg/k	300	1	0
Open Space	Soil	S-38-0.5	0.5	05-Jun-03		C16-C21	280	mg/k	280	1	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03		C16-C21	57	mg/k	57	1	0
Open Space	Soil	S-38-0.5	0.5	05-Jun-03		C12-C16	65	mg/k	65	1	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03		C12-C16	10	mg/k	10	0	0
Open Space	Soil	S-38-0.5	0.5	05-Jun-03		C10-C25	3000	mg/k	3000	1	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03		C10-C12	5	mg/k	5	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03		C25-C40	6400	mg/k	6400	1	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.2	mg/k	0.2	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.2	mg/k	0.2	1	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	7440-39-3	Barium	140	mg/k	140	1	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	2.7	mg/k	2.7	1	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	7	mg/k	7	1	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03		C21-C40	820	mg/k	820	1	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	7440-50-8	Copper	8.7	mg/k	8.7	1	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.3	mg/k	0.3	1	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	7440-47-3	Chromium	10	mg/k	10	1	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	30	mg/k	30	1	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	7440-66-6	Zinc	24	mg/k	24	1	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	7439-92-1	Lead	3.5	mg/k	3.5	1	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	7440-50-8	Copper	2.1	mg/k	2.1	1	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	7440-47-3	Chromium	16	mg/k	16	1	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	3.8	mg/k	3.8	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	7440-66-6	Zinc	17	mg/k	17	1	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	18	mg/k	18	1	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	7440-02-0	Nickel	9.5	mg/k	9.5	1	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	7440-39-3	Barium	64	mg/k	64	1	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03		C25-C40	10	mg/k	10	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	0.8	mg/k	0.8	1	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-38-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.6	mg/k	0.6	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03		C25-C40	5900	mg/k	5900	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1.1	mg/k	1.1	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	4.3	mg/k	4.3	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	7440-47-3	Chromium	17	mg/k	17	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	7440-50-8	Copper	9.4	mg/k	9.4	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.1	mg/k	0.1	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.1	mg/k	0.1	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.2	mg/k	0.2	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.1	mg/k	0.1	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03		C10-C25	1600	mg/k	1600	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03		C21-C40	1000	mg/k	1000	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03		C10-C12	6	mg/k	6	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03		C12-C16	12	mg/k	12	0	0
Open Space	Soil	S-39-0.5	0.5	05-Jun-03		C12-C16	15	mg/k	15	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03		C16-C21	83	mg/k	83	1	0
Open Space	Soil	S-39-0.5	0.5	05-Jun-03		C16-C21	150	mg/k	150	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03		C21-C40	940	mg/k	940	1	0
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	34	mg/k	34	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	7440-66-6	Zinc	51	mg/k	51	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.5	mg/k	0.5	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.2	mg/k	0.2	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.1	mg/k	0.1	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.1	mg/k	0.1	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.1	mg/k	0.1	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.3	mg/k	0.3	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	7439-92-1	Lead	28	mg/k	28	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.1	mg/k	0.1	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1.5	mg/k	1.5	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.1	mg/k	0.1	0	0
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	7440-02-0	Nickel	30	mg/k	30	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.1	mg/k	0.1	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.1	mg/k	0.1	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	7440-39-3	Barium	57	mg/k	57	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	2.1	mg/k	2.1	1	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.1	mg/k	0.1	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.1	mg/k	0.1	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	7440-47-3	Chromium	17	mg/k	17	1	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	218-01-9	Chrysene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	3.9	mg/k	3.9	1	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	7440-39-3	Barium	42	mg/k	42	1	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.007	mg/k	0.007	1	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03		C10-C25	28	mg/k	28	1	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03		C25-C40	82	mg/k	82	1	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	129-00-0	Pyrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	1.3	mg/k	1.3	1	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	15	mg/k	15	1	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	7440-66-6	Zinc	19	mg/k	19	1	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	7439-92-1	Lead	4.4	mg/k	4.4	1	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	7440-50-8	Copper	3.6	mg/k	3.6	1	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	7440-02-0	Nickel	14	mg/k	14	1	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	85-01-8	Phenanthrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	206-44-0	Fluoranthene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-39-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	72-20-8	Endrin	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	93-65-2	MCPP	5	mg/k	5	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7421-93-4	Endrin aldehyde	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	53494-70-5	Endrin ketone	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	58-89-9	gamma-BHC	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	76-44-8	Heptachlor	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	1024-57-3	Heptachlor epoxide	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	94-74-6	MCPA	5	mg/k	5	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	1031-07-8	Endosulfan sulfate	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7439-92-1	Lead	47	mg/k	47	1	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	33213-65-9	Endosulfan II	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	115-29-7	Endosulfan I	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	88-85-7	Dinoseb	0.01	mg/k	0.01	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	60-57-1	Dieldrin	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	120-36-5	Dichloroprop	0.05	mg/k	0.05	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	1918-00-9	Dicamba	0.01	mg/k	0.01	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	75-99-0	Dalapon	0.1	mg/k	0.1	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	319-86-8	delta-BHC	0.002	mg/k	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7440-66-6	Zinc	72	mg/k	72	1	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	24	mg/k	24	1	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	8001-35-2	Toxaphene	0.1	mg/k	0.1	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	72-43-5	Methoxychlor	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7440-50-8	Copper	14	mg/k	14	1	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	93-72-1	Silvex	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7440-02-0	Nickel	24	mg/k	24	1	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	94-82-6	2,4-DB	0.5	mg/k	0.5	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	94-75-7	2,4-D	0.05	mg/k	0.05	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	93-76-5	2,4,5-T	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	57-74-9	Chlordane	0.1	mg/k	0.1	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	319-85-7	beta-BHC	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	0.9	mg/k	0.9	1	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03		C25-C40	57	mg/k	57	1	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	50-29-3	4,4'-DDT	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7440-47-3	Chromium	26	mg/k	26	1	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	72-54-8	4,4'-DDD	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	72-55-9	4,4'-DDE	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	309-00-2	Aldrin	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	319-84-6	alpha-BHC	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	9.7	mg/k	9.7	1	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	7440-39-3	Barium	63	mg/k	63	1	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	58-89-9	gamma-BHC	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	72-43-5	Methoxychlor	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	93-65-2	MCPP	5	mg/k	5	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	94-74-6	MCPA	5	mg/k	5	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7439-92-1	Lead	1.3	mg/k	1.3	1	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	8001-35-2	Toxaphene	0.1	mg/k	0.1	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	76-44-8	Heptachlor	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	53494-70-5	Endrin ketone	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7421-93-4	Endrin aldehyde	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	72-20-8	Endrin	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	1031-07-8	Endosulfan sulfate	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	33213-65-9	Endosulfan II	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	115-29-7	Endosulfan I	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	88-85-7	Dinoseb	0.01	mg/k	0.01	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	60-57-1	Dieldrin	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	1024-57-3	Heptachlor epoxide	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7440-66-6	Zinc	7.5	mg/k	7.5	1	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	12	mg/k	12	1	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	93-72-1	Silvex	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7440-02-0	Nickel	9	mg/k	9	1	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	319-85-7	beta-BHC	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7440-39-3	Barium	47	mg/k	47	1	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	3.1	mg/k	3.1	1	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	309-00-2	Aldrin	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	50-29-3	4,4'-DDT	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	72-55-9	4,4'-DDE	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	72-54-8	4,4'-DDD	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	94-82-6	2,4-DB	0.5	mg/k	0.5	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	94-75-7	2,4-D	0.05	mg/k	0.05	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	93-76-5	2,4,5-T	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	319-84-6	alpha-BHC	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	1918-00-9	Dicamba	0.01	mg/k	0.01	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	319-86-8	delta-BHC	0.002	mg/k	0.002	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	75-99-0	Dalapon	0.1	mg/k	0.1	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7440-50-8	Copper	1.4	mg/k	1.4	1	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7440-47-3	Chromium	22	mg/k	22	1	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	120-36-5	Dichloroprop	0.05	mg/k	0.05	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	57-74-9	Chlordane	0.1	mg/k	0.1	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03		C25-C40	10	mg/k	10	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-45-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	14	mg/k	14	1	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.023	mg/k	0.023	1	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	7440-02-0	Nickel	14	mg/k	14	1	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.01	mg/k	0.01	0	0
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	7440-66-6	Zinc	41	mg/k	41	1	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.099	mg/k	0.099	1	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.058	mg/k	0.058	1	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	7440-47-3	Chromium	17	mg/k	17	1	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	7440-39-3	Barium	69	mg/k	69	1	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03		C25-C40	470	mg/k	470	1	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03		C10-C25	87	mg/k	87	1	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	3.1	mg/k	3.1	1	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.018	mg/k	0.018	1	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.011	mg/k	0.011	1	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	7440-50-8	Copper	7.1	mg/k	7.1	1	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	3.4	mg/k	3.4	1	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	7439-92-1	Lead	30	mg/k	30	1	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.069	mg/k	0.069	1	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.01	mg/k	0.01	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-5-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	7439-92-1	Lead	5.1	mg/k	5.1	1	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	7440-50-8	Copper	3.2	mg/k	3.2	1	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	7440-66-6	Zinc	19	mg/k	19	1	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	9.4	mg/k	9.4	1	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	7440-02-0	Nickel	8.6	mg/k	8.6	1	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	7440-47-3	Chromium	16	mg/k	16	1	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03		C25-C40	10	mg/k	10	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	1.1	mg/k	1.1	1	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	7440-39-3	Barium	41	mg/k	41	1	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-5-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	205-99-2	Benzo(b)fluoranthene	0.14	mg/k	0.14	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7440-62-2	Vanadium	55	mg/k	55	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03		C25-C40	710	mg/k	710	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	57-74-9	Chlordane	0.2	mg/k	0.2	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	83-32-9	Acenaphthene	0.02	mg/k	0.02	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7440-43-9	Cadmium	1.4	mg/k	1.4	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03		C10-C25	140	mg/k	140	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.062	mg/k	0.062	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	319-85-7	beta-BHC	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	207-08-9	Benzo(k)fluoranthene	0.087	mg/k	0.087	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03		C4-C10	10	mg/k	10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	319-84-6	alpha-BHC	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	50-29-3	4,4'-DDT	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	72-55-9	4,4'-DDE	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7421-93-4	Endrin aldehyde	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	309-00-2	Aldrin	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	120-12-7	Anthracene	0.02	mg/k	0.02	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7440-38-2	Arsenic	4.4	mg/k	4.4	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7440-39-3	Barium	72	mg/k	72	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	56-55-3	Benzo(a)anthracene	0.076	mg/k	0.076	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	208-96-8	Acenaphthylene	0.02	mg/k	0.02	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	72-54-8	4,4'-DDD	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	93-76-5	2,4,5-T	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	94-75-7	2,4-D	0.05	mg/k	0.05	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	94-82-6	2,4-DB	0.5	mg/k	0.5	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.042	mg/k	0.042	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7440-02-0	Nickel	63	mg/k	63	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.02	mg/k	0.02	0	0
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7439-98-7	Molybdenum	3.7	mg/k	3.7	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	129-00-0	Pyrene	0.13	mg/k	0.13	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	72-43-5	Methoxychlor	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	93-65-2	MCPP	5	mg/k	5	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	94-74-6	MCPA	5	mg/k	5	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7439-92-1	Lead	400	mg/k	400	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	1031-07-8	Endosulfan sulfate	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	8001-35-2	Toxaphene	0.2	mg/k	0.2	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	85-01-8	Phenanthrene	0.061	mg/k	0.061	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	93-72-1	Silvex	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7440-50-8	Copper	120	mg/k	120	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	1918-00-9	Dicamba	0.01	mg/k	0.01	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.02	mg/k	0.02	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	120-36-5	Dichloroprop	0.05	mg/k	0.05	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	75-99-0	Dalapon	0.1	mg/k	0.1	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7440-48-4	Cobalt	4.7	mg/k	4.7	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	218-01-9	Chrysene	0.1	mg/k	0.1	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7440-47-3	Chromium	9.8	mg/k	9.8	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	319-86-8	delta-BHC	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	7440-66-6	Zinc	430	mg/k	430	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	1024-57-3	Heptachlor epoxide	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	76-44-8	Heptachlor	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	58-89-9	gamma-BHC	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	86-73-7	Fluorene	0.02	mg/k	0.02	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	206-44-0	Fluoranthene	0.097	mg/k	0.097	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	53494-70-5	Endrin ketone	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	72-20-8	Endrin	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	50-32-8	Benzo(a)pyrene	0.13	mg/k	0.13	1	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	33213-65-9	Endosulfan II	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	115-29-7	Endosulfan I	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	88-85-7	Dinoseb	0.01	mg/k	0.01	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	60-57-1	Dieldrin	0.004	mg/k	0.004	0	1
Open Space	Soil	S-9-0.5	0.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	7440-66-6	Zinc	39	mg/k	39	1	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	7440-62-2	Vanadium	33	mg/k	33	1	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	7440-48-4	Cobalt	2.3	mg/k	2.3	1	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	7440-47-3	Chromium	8.8	mg/k	8.8	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	7440-02-0	Nickel	58	mg/k	58	1	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	7440-50-8	Copper	9.3	mg/k	9.3	1	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	7439-92-1	Lead	26	mg/k	26	1	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03		C25-C40	46	mg/k	46	1	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03		C10-C25	11	mg/k	11	1	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	7440-39-3	Barium	43	mg/k	43	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	7440-38-2	Arsenic	0.5	mg/k	0.5	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	S-9-2.5	2.5	05-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	7439-92-1	Lead	4	mg/k	4	1	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	206-44-0	Fluoranthene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	129-00-0	Pyrene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	7440-62-2	Vanadium	9.9	mg/k	9.9	1	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	7440-02-0	Nickel	8	mg/k	8	1	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	85-01-8	Phenanthrene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	7440-50-8	Copper	4	mg/k	4	1	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	50-32-8	Benzo(a)pyrene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04		Percent Moisture	18.5	%		1	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	191-24-2	Benzo(g,h,i)perylene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	7440-66-6	Zinc	15	mg/k	15	1	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	205-99-2	Benzo(b)fluoranthene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	7440-39-3	Barium	53	mg/k	53	1	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	7440-48-4	Cobalt	1.9	mg/k	1.9	1	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04		C10-C25	15	mg/k	15	1	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04		C25-C40	87	mg/k	87	1	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	7440-47-3	Chromium	13	mg/k	13	1	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	218-01-9	Chrysene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	7440-38-2	Arsenic	3.3	mg/k	3.3	1	1
Open Space	Soil	GS-1-2.5	2.5	15-Jan-04	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	191-24-2	Benzo(g,h,i)perylene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	7440-48-4	Cobalt	2.3	mg/k	2.3	1	1
Open Space	Soil	GS-1-4	4	15-Jan-04	218-01-9	Chrysene	0.012	mg/k	0.012	1	1
Open Space	Soil	GS-1-4	4	15-Jan-04	7440-47-3	Chromium	20	mg/k	20	1	1
Open Space	Soil	GS-1-4	4	15-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04		C25-C40	190	mg/k	190	1	1
Open Space	Soil	GS-1-4	4	15-Jan-04		C10-C25	49	mg/k	49	1	1
Open Space	Soil	GS-1-4	4	15-Jan-04	7440-50-8	Copper	4.2	mg/k	4.2	1	1
Open Space	Soil	GS-1-4	4	15-Jan-04	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	205-99-2	Benzo(b)fluoranthene	0.017	mg/k	0.017	1	1
Open Space	Soil	GS-1-4	4	15-Jan-04	50-32-8	Benzo(a)pyrene	0.008	mg/k	0.008	1	1
Open Space	Soil	GS-1-4	4	15-Jan-04	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	7440-39-3	Barium	65	mg/k	65	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	GS-1-4	4	15-Jan-04	7440-38-2	Arsenic	4.1	mg/k	4.1	1	1
Open Space	Soil	GS-1-4	4	15-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	7440-66-6	Zinc	16	mg/k	16	1	1
Open Space	Soil	GS-1-4	4	15-Jan-04	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	129-00-0	Pyrene	0.023	mg/k	0.023	1	1
Open Space	Soil	GS-1-4	4	15-Jan-04	85-01-8	Phenanthrene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04		Percent Moisture	20.5	%		1	1
Open Space	Soil	GS-1-4	4	15-Jan-04	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	1	1
Open Space	Soil	GS-1-4	4	15-Jan-04	7439-92-1	Lead	6.2	mg/k	6.2	1	1
Open Space	Soil	GS-1-4	4	15-Jan-04	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	206-44-0	Fluoranthene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-1-4	4	15-Jan-04	7440-02-0	Nickel	9.5	mg/k	9.5	1	1
Open Space	Soil	GS-1-4	4	15-Jan-04	7440-62-2	Vanadium	16	mg/k	16	1	1
Open Space	Soil	GS-3-2	2	15-Jan-04	7440-39-3	Barium	53	mg/k	53	1	1
Open Space	Soil	GS-3-2	2	15-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	GS-3-2	2	15-Jan-04	7440-02-0	Nickel	8.3	mg/k	8.3	1	1
Open Space	Soil	GS-3-2	2	15-Jan-04		Percent Moisture	18.1	%		1	1
Open Space	Soil	GS-3-2	2	15-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	GS-3-2	2	15-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	GS-3-2	2	15-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	GS-3-2	2	15-Jan-04	7440-66-6	Zinc	16	mg/k	16	1	1
Open Space	Soil	GS-3-2	2	15-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	GS-3-2	2	15-Jan-04	7439-92-1	Lead	3.8	mg/k	3.8	1	1
Open Space	Soil	GS-3-2	2	15-Jan-04	7440-62-2	Vanadium	8.5	mg/k	8.5	1	1
Open Space	Soil	GS-3-2	2	15-Jan-04	7440-38-2	Arsenic	3.1	mg/k	3.1	1	1
Open Space	Soil	GS-3-2	2	15-Jan-04	7440-48-4	Cobalt	1.8	mg/k	1.8	1	1
Open Space	Soil	GS-3-2	2	15-Jan-04	7440-47-3	Chromium	12	mg/k	12	1	1
Open Space	Soil	GS-3-2	2	15-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	GS-3-2	2	15-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	GS-3-2	2	15-Jan-04		C25-C40	10	mg/k	10	0	1
Open Space	Soil	GS-3-2	2	15-Jan-04		C10-C25	10	mg/k	10	0	1
Open Space	Soil	GS-3-2	2	15-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	GS-3-2	2	15-Jan-04	7440-50-8	Copper	3.7	mg/k	3.7	1	1
Open Space	Soil	GS-3-2	2	15-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	GS-3-5	5	15-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	GS-3-5	5	15-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	GS-3-5	5	15-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	GS-3-5	5	15-Jan-04		Percent Moisture	18	%		1	1
Open Space	Soil	GS-3-5	5	15-Jan-04	7439-92-1	Lead	4.7	mg/k	4.7	1	1
Open Space	Soil	GS-3-5	5	15-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	GS-3-5	5	15-Jan-04		C25-C40	12	mg/k	12	1	1
Open Space	Soil	GS-3-5	5	15-Jan-04	7440-62-2	Vanadium	14	mg/k	14	1	1
Open Space	Soil	GS-3-5	5	15-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	GS-3-5	5	15-Jan-04	7440-50-8	Copper	4.5	mg/k	4.5	1	1
Open Space	Soil	GS-3-5	5	15-Jan-04	7440-48-4	Cobalt	2.7	mg/k	2.7	1	1
Open Space	Soil	GS-3-5	5	15-Jan-04	7440-47-3	Chromium	18	mg/k	18	1	1
Open Space	Soil	GS-3-5	5	15-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	GS-3-5	5	15-Jan-04		C10-C25	10	mg/k	10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	GS-3-5	5	15-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	GS-3-5	5	15-Jan-04	7440-39-3	Barium	62	mg/k	62	1	1
Open Space	Soil	GS-3-5	5	15-Jan-04	7440-38-2	Arsenic	2.6	mg/k	2.6	1	1
Open Space	Soil	GS-3-5	5	15-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	GS-3-5	5	15-Jan-04	7440-66-6	Zinc	15	mg/k	15	1	1
Open Space	Soil	GS-3-5	5	15-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	GS-3-5	5	15-Jan-04	7440-02-0	Nickel	11	mg/k	11	1	1
Open Space	Soil	GS-3-6	6	15-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	GS-3-6	6	15-Jan-04	7440-62-2	Vanadium	16	mg/k	16	1	1
Open Space	Soil	GS-3-6	6	15-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	GS-3-6	6	15-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	GS-3-6	6	15-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	GS-3-6	6	15-Jan-04		Percent Moisture	19.6	%		1	1
Open Space	Soil	GS-3-6	6	15-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	GS-3-6	6	15-Jan-04	7439-92-1	Lead	6.7	mg/k	6.7	1	1
Open Space	Soil	GS-3-6	6	15-Jan-04	7440-50-8	Copper	4.5	mg/k	4.5	1	1
Open Space	Soil	GS-3-6	6	15-Jan-04	7440-66-6	Zinc	19	mg/k	19	1	1
Open Space	Soil	GS-3-6	6	15-Jan-04	7440-47-3	Chromium	20	mg/k	20	1	1
Open Space	Soil	GS-3-6	6	15-Jan-04	7440-02-0	Nickel	11	mg/k	11	1	1
Open Space	Soil	GS-3-6	6	15-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	GS-3-6	6	15-Jan-04		C25-C40	15	mg/k	15	1	1
Open Space	Soil	GS-3-6	6	15-Jan-04		C10-C25	10	mg/k	10	0	1
Open Space	Soil	GS-3-6	6	15-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	GS-3-6	6	15-Jan-04	7440-39-3	Barium	72	mg/k	72	1	1
Open Space	Soil	GS-3-6	6	15-Jan-04	7440-38-2	Arsenic	3	mg/k	3	1	1
Open Space	Soil	GS-3-6	6	15-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	GS-3-6	6	15-Jan-04	7440-48-4	Cobalt	2.5	mg/k	2.5	1	1
Open Space	Soil	GS-3-6	6	15-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	GS-4-6	6	15-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	GS-4-6	6	15-Jan-04	7440-66-6	Zinc	17	mg/k	17	1	1
Open Space	Soil	GS-4-6	6	15-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	GS-4-6	6	15-Jan-04	7440-39-3	Barium	63	mg/k	63	1	1
Open Space	Soil	GS-4-6	6	15-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	GS-4-6	6	15-Jan-04		Percent Moisture	18.1	%		1	1
Open Space	Soil	GS-4-6	6	15-Jan-04	7440-02-0	Nickel	11	mg/k	11	1	1
Open Space	Soil	GS-4-6	6	15-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	GS-4-6	6	15-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	GS-4-6	6	15-Jan-04	7439-92-1	Lead	5.1	mg/k	5.1	1	1
Open Space	Soil	GS-4-6	6	15-Jan-04	7440-50-8	Copper	4.8	mg/k	4.8	1	1
Open Space	Soil	GS-4-6	6	15-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	GS-4-6	6	15-Jan-04	7440-62-2	Vanadium	13	mg/k	13	1	1
Open Space	Soil	GS-4-6	6	15-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	GS-4-6	6	15-Jan-04		C10-C25	10	mg/k	10	0	1
Open Space	Soil	GS-4-6	6	15-Jan-04		C25-C40	10	mg/k	10	0	1
Open Space	Soil	GS-4-6	6	15-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	GS-4-6	6	15-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	GS-4-6	6	15-Jan-04	7440-47-3	Chromium	18	mg/k	18	1	1
Open Space	Soil	GS-4-6	6	15-Jan-04	7440-48-4	Cobalt	2.6	mg/k	2.6	1	1
Open Space	Soil	GS-4-6	6	15-Jan-04	7440-38-2	Arsenic	2.5	mg/k	2.5	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	7440-62-2	Vanadium	8	mg/k	8	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	7440-50-8	Copper	3.5	mg/k	3.5	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	7440-02-0	Nickel	7.4	mg/k	7.4	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	53-70-3	Dibenz(a,h)anthracene	0.006	mg/k	0.006	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	206-44-0	Fluoranthene	0.017	mg/k	0.017	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	7439-92-1	Lead	3.9	mg/k	3.9	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04		Percent Moisture	13.2	%		1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	85-01-8	Phenanthrene	0.014	mg/k	0.014	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	129-00-0	Pyrene	0.017	mg/k	0.017	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	7440-48-4	Cobalt	1.7	mg/k	1.7	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	7440-66-6	Zinc	47	mg/k	47	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	218-01-9	Chrysene	0.014	mg/k	0.014	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	7440-38-2	Arsenic	2.3	mg/k	2.3	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	7440-39-3	Barium	60	mg/k	60	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	50-32-8	Benzo(a)pyrene	0.074	mg/k	0.074	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	205-99-2	Benzo(b)fluoranthene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	191-24-2	Benzo(g,h,i)perylene	0.014	mg/k	0.014	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	7440-47-3	Chromium	11	mg/k	11	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04		C10-C25	110	mg/k	110	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04		C25-C40	720	mg/k	720	1	1
Open Space	Soil	GS-5-2.5	2.5	15-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	7440-62-2	Vanadium	15	mg/k	15	1	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	7439-92-1	Lead	11	mg/k	11	1	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	7440-02-0	Nickel	13	mg/k	13	1	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	7440-39-3	Barium	60	mg/k	60	1	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	18540-29-9	Hexavalent Chromium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	7440-50-8	Copper	4.7	mg/k	4.7	1	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	7440-48-4	Cobalt	2	mg/k	2	1	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	7440-47-3	Chromium	15	mg/k	15	1	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	7440-66-6	Zinc	20	mg/k	20	1	1
Open Space	Soil	S-11B-0.5	0.5	14-Jan-04	7440-38-2	Arsenic	16	mg/k	16	1	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	7440-02-0	Nickel	6.5	mg/k	6.5	1	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04		Percent Moisture	10.2	%		1	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	7440-62-2	Vanadium	12	mg/k	12	1	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	7439-92-1	Lead	4.8	mg/k	4.8	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	18540-29-9	Hexavalent Chromium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	7440-50-8	Copper	2.7	mg/k	2.7	1	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	7440-48-4	Cobalt	1.5	mg/k	1.5	1	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	7440-39-3	Barium	55	mg/k	55	1	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	7440-38-2	Arsenic	4.4	mg/k	4.4	1	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	7440-66-6	Zinc	12	mg/k	12	1	1
Open Space	Soil	S-11B-2.5	2.5	14-Jan-04	7440-47-3	Chromium	15	mg/k	15	1	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	18540-29-9	Hexavalent Chromium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	7440-66-6	Zinc	71	mg/k	71	1	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	7440-02-0	Nickel	16	mg/k	16	1	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	7440-62-2	Vanadium	16	mg/k	16	1	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	7439-92-1	Lead	32	mg/k	32	1	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	7440-50-8	Copper	8.8	mg/k	8.8	1	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	7440-48-4	Cobalt	2.3	mg/k	2.3	1	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	7440-47-3	Chromium	15	mg/k	15	1	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	7440-39-3	Barium	56	mg/k	56	1	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	7440-38-2	Arsenic	15	mg/k	15	1	1
Open Space	Soil	S-11D-0.5	0.5	14-Jan-04	7439-97-6	Mercury	0.2	mg/k	0.2	1	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	7440-62-2	Vanadium	11	mg/k	11	1	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	18540-29-9	Hexavalent Chromium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	7440-66-6	Zinc	9.1	mg/k	9.1	1	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	7440-02-0	Nickel	7.9	mg/k	7.9	1	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	7440-39-3	Barium	48	mg/k	48	1	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	7440-50-8	Copper	2.3	mg/k	2.3	1	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	7440-48-4	Cobalt	1	mg/k	1	0	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	7440-47-3	Chromium	11	mg/k	11	1	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	7439-92-1	Lead	3.7	mg/k	3.7	1	1
Open Space	Soil	S-11D-2.5	2.5	14-Jan-04	7440-38-2	Arsenic	11	mg/k	11	1	1
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04	7439-92-1	Lead	16	mg/k	16	1	1
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04	7440-38-2	Arsenic	5.2	mg/k	5.2	1	1
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04	7440-39-3	Barium	34	mg/k	34	1	1
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04	7440-47-3	Chromium	13	mg/k	13	1	1
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04	7440-48-4	Cobalt	1.1	mg/k	1.1	1	1
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04	7440-50-8	Copper	2.8	mg/k	2.8	1	1
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04	7440-02-0	Nickel	7	mg/k	7	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04	7440-62-2	Vanadium	8.1	mg/k	8.1	1	1
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04	7440-66-6	Zinc	10	mg/k	10	1	1
Open Space	Soil	S-24A-0.5	0.5	14-Jan-04		Percent Moisture	18	%		1	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04	7440-48-4	Cobalt	1.2	mg/k	1.2	1	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04		Percent Moisture	20.9	%		1	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04	7440-02-0	Nickel	6.9	mg/k	6.9	1	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04	7439-92-1	Lead	11	mg/k	11	1	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04	7440-39-3	Barium	38	mg/k	38	1	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04	7440-38-2	Arsenic	2.8	mg/k	2.8	1	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04	7440-66-6	Zinc	16	mg/k	16	1	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04	7440-47-3	Chromium	13	mg/k	13	1	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04	7440-62-2	Vanadium	8.8	mg/k	8.8	1	1
Open Space	Soil	S-24A-2.5	2.5	14-Jan-04	7440-50-8	Copper	10	mg/k	10	1	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04	7440-02-0	Nickel	17	mg/k	17	1	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04	7440-47-3	Chromium	11	mg/k	11	1	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04	7440-48-4	Cobalt	1.4	mg/k	1.4	1	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04	7440-50-8	Copper	5.7	mg/k	5.7	1	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04	7439-92-1	Lead	25	mg/k	25	1	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04		Percent Moisture	5.6	%		1	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04	7440-39-3	Barium	50	mg/k	50	1	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04	7440-38-2	Arsenic	6.3	mg/k	6.3	1	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04	7440-66-6	Zinc	37	mg/k	37	1	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04	7440-62-2	Vanadium	20	mg/k	20	1	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-24B-0.5	0.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	1	1
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04	7440-66-6	Zinc	9.7	mg/k	9.7	1	1
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04	7439-92-1	Lead	5	mg/k	5	1	1
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04	7440-39-3	Barium	52	mg/k	52	1	1
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04	7440-02-0	Nickel	23	mg/k	23	1	1
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04		Percent Moisture	24	%		1	1
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04	7440-62-2	Vanadium	9.3	mg/k	9.3	1	1
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04	7440-47-3	Chromium	18	mg/k	18	1	1
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04	7440-48-4	Cobalt	1.4	mg/k	1.4	1	1
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04	7440-38-2	Arsenic	2.4	mg/k	2.4	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04	7440-50-8	Copper	2.9	mg/k	2.9	1	1
Open Space	Soil	S-24B-2.5	2.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-24C-0.5	0.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-24C-0.5	0.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-24C-0.5	0.5	14-Jan-04	7440-38-2	Arsenic	22	mg/k	22	1	1
Open Space	Soil	S-24C-0.5	0.5	14-Jan-04	7440-39-3	Barium	79	mg/k	79	1	1
Open Space	Soil	S-24C-0.5	0.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-24C-0.5	0.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-24C-0.5	0.5	14-Jan-04	7440-47-3	Chromium	14	mg/k	14	1	1
Open Space	Soil	S-24C-0.5	0.5	14-Jan-04	7440-48-4	Cobalt	3.3	mg/k	3.3	1	1
Open Space	Soil	S-24C-0.5	0.5	14-Jan-04	7440-50-8	Copper	4.4	mg/k	4.4	1	1
Open Space	Soil	S-24C-0.5	0.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-24C-0.5	0.5	14-Jan-04	7440-02-0	Nickel	23	mg/k	23	1	1
Open Space	Soil	S-24C-0.5	0.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-24C-0.5	0.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-24C-0.5	0.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-24C-0.5	0.5	14-Jan-04	7440-62-2	Vanadium	11	mg/k	11	1	1
Open Space	Soil	S-24C-0.5	0.5	14-Jan-04	7440-66-6	Zinc	14	mg/k	14	1	1
Open Space	Soil	S-24C-0.5	0.5	14-Jan-04	7439-92-1	Lead	9.4	mg/k	9.4	1	1
Open Space	Soil	S-24C-2.5	2.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-24C-2.5	2.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-24C-2.5	2.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-24C-2.5	2.5	14-Jan-04	7440-38-2	Arsenic	22	mg/k	22	1	1
Open Space	Soil	S-24C-2.5	2.5	14-Jan-04	7440-39-3	Barium	78	mg/k	78	1	1
Open Space	Soil	S-24C-2.5	2.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-24C-2.5	2.5	14-Jan-04	7440-66-6	Zinc	13	mg/k	13	1	1
Open Space	Soil	S-24C-2.5	2.5	14-Jan-04	7440-62-2	Vanadium	12	mg/k	12	1	1
Open Space	Soil	S-24C-2.5	2.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-24C-2.5	2.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-24C-2.5	2.5	14-Jan-04	7440-02-0	Nickel	14	mg/k	14	1	1
Open Space	Soil	S-24C-2.5	2.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-24C-2.5	2.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-24C-2.5	2.5	14-Jan-04	7440-50-8	Copper	2.8	mg/k	2.8	1	1
Open Space	Soil	S-24C-2.5	2.5	14-Jan-04	7440-47-3	Chromium	14	mg/k	14	1	1
Open Space	Soil	S-24C-2.5	2.5	14-Jan-04	7440-48-4	Cobalt	1.2	mg/k	1.2	1	1
Open Space	Soil	S-24C-2.5	2.5	14-Jan-04	7439-92-1	Lead	10	mg/k	10	1	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04	7440-66-6	Zinc	7.8	mg/k	7.8	1	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04	7440-62-2	Vanadium	7.9	mg/k	7.9	1	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04	7440-38-2	Arsenic	2.2	mg/k	2.2	1	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04	7440-39-3	Barium	65	mg/k	65	1	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04		C25-C40	10	mg/k	10	0	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04	7440-47-3	Chromium	9.6	mg/k	9.6	1	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04	7440-48-4	Cobalt	2	mg/k	2	1	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04	7440-50-8	Copper	2.5	mg/k	2.5	1	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04	7439-92-1	Lead	5	mg/k	5	1	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04	7440-02-0	Nickel	6.5	mg/k	6.5	1	1
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04		Percent Moisture	19.5	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-27A-0.5	0.5	13-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04	7440-62-2	Vanadium	8.6	mg/k	8.6	1	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04	7440-66-6	Zinc	8.7	mg/k	8.7	1	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04	7440-48-4	Cobalt	1	mg/k	1	0	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04	7440-38-2	Arsenic	1.4	mg/k	1.4	1	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04	7440-39-3	Barium	58	mg/k	58	1	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04		C25-C40	10	mg/k	10	0	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04	7440-47-3	Chromium	11	mg/k	11	1	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04	7440-50-8	Copper	1.1	mg/k	1.1	1	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04	7439-92-1	Lead	4.7	mg/k	4.7	1	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04	7440-02-0	Nickel	5.3	mg/k	5.3	1	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04		Percent Moisture	16.5	%		1	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-27A-2.5	2.5	13-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04	7440-62-2	Vanadium	4.6	mg/k	4.6	1	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04		C25-C40	10	mg/k	10	0	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04	7440-66-6	Zinc	5.1	mg/k	5.1	1	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04	7440-47-3	Chromium	6.6	mg/k	6.6	1	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04	7440-38-2	Arsenic	0.5	mg/k	0.5	0	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04	7440-39-3	Barium	39	mg/k	39	1	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04	7440-48-4	Cobalt	1.4	mg/k	1.4	1	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04	7440-50-8	Copper	0.9	mg/k	0.9	1	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04	7439-92-1	Lead	2.6	mg/k	2.6	1	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04	7440-02-0	Nickel	3.9	mg/k	3.9	1	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-27B-0.5	0.5	13-Jan-04		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04	7440-62-2	Vanadium	5.9	mg/k	5.9	1	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04	7440-66-6	Zinc	5.8	mg/k	5.8	1	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04	7440-47-3	Chromium	8.2	mg/k	8.2	1	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04	7440-39-3	Barium	42	mg/k	42	1	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04	7440-38-2	Arsenic	0.5	mg/k	0.5	0	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04		C25-C40	10	mg/k	10	0	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04	7440-48-4	Cobalt	1.7	mg/k	1.7	1	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04	7440-50-8	Copper	1.2	mg/k	1.2	1	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04	7439-92-1	Lead	2.4	mg/k	2.4	1	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04	7440-02-0	Nickel	4.6	mg/k	4.6	1	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-27B-2.5	2.5	13-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04	7440-50-8	Copper	2.6	mg/k	2.6	1	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04	7439-92-1	Lead	2.7	mg/k	2.7	1	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04	7440-48-4	Cobalt	2.2	mg/k	2.2	1	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04	7440-47-3	Chromium	9.5	mg/k	9.5	1	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04	7440-39-3	Barium	50	mg/k	50	1	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04		C25-C40	10	mg/k	10	0	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04		Percent Moisture	15.5	%		1	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04	7440-38-2	Arsenic	1.1	mg/k	1.1	1	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04	7440-62-2	Vanadium	7.1	mg/k	7.1	1	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04	7440-66-6	Zinc	7.5	mg/k	7.5	1	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-27C-0.5	0.5	14-Jan-04	7440-02-0	Nickel	6	mg/k	6	1	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04		Percent Moisture	8.6	%		1	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04	7440-66-6	Zinc	8.1	mg/k	8.1	1	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04	7440-62-2	Vanadium	8.4	mg/k	8.4	1	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04	7439-92-1	Lead	3	mg/k	3	1	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04	7440-38-2	Arsenic	1.2	mg/k	1.2	1	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04	7440-39-3	Barium	56	mg/k	56	1	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04		C25-C40	10	mg/k	10	0	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04	7440-47-3	Chromium	18	mg/k	18	1	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04	7440-48-4	Cobalt	2.5	mg/k	2.5	1	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04	7440-50-8	Copper	3	mg/k	3	1	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-27C-2.5	2.5	14-Jan-04	7440-02-0	Nickel	7.3	mg/k	7.3	1	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04	7440-62-2	Vanadium	12	mg/k	12	1	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04	7440-66-6	Zinc	13	mg/k	13	1	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04	7440-50-8	Copper	3.1	mg/k	3.1	1	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04	7440-39-3	Barium	69	mg/k	69	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04	7440-38-2	Arsenic	1.7	mg/k	1.7	1	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04		C25-C40	10	mg/k	10	0	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04	7440-47-3	Chromium	14	mg/k	14	1	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04	7440-48-4	Cobalt	1.6	mg/k	1.6	1	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04	7439-92-1	Lead	5.2	mg/k	5.2	1	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-27D-0.5	0.5	14-Jan-04	7440-02-0	Nickel	11	mg/k	11	1	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04	7440-62-2	Vanadium	11	mg/k	11	1	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04	7440-02-0	Nickel	6.6	mg/k	6.6	1	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04	7439-92-1	Lead	4.2	mg/k	4.2	1	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04	7440-50-8	Copper	2.1	mg/k	2.1	1	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04	7440-38-2	Arsenic	1.8	mg/k	1.8	1	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04	7440-47-3	Chromium	14	mg/k	14	1	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04		C25-C40	10	mg/k	10	0	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04	7440-39-3	Barium	38	mg/k	38	1	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04	7440-48-4	Cobalt	1.3	mg/k	1.3	1	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04	7440-66-6	Zinc	10	mg/k	10	1	1
Open Space	Soil	S-27D-2.5	2.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04	7439-92-1	Lead	3.5	mg/k	3.5	1	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04	7440-02-0	Nickel	9.4	mg/k	9.4	1	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04	7440-62-2	Vanadium	8.3	mg/k	8.3	1	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04	7440-47-3	Chromium	12	mg/k	12	1	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04	7440-66-6	Zinc	16	mg/k	16	1	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04	7440-39-3	Barium	52	mg/k	52	1	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04	7440-50-8	Copper	2.5	mg/k	2.5	1	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04	7440-38-2	Arsenic	2.8	mg/k	2.8	1	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04	7440-48-4	Cobalt	2.1	mg/k	2.1	1	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04		C25-C40	19	mg/k	19	1	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-27E-0.5	0.5	13-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04	7440-66-6	Zinc	9	mg/k	9	1	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04		C25-C40	10	mg/k	10	0	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04	7440-38-2	Arsenic	2.6	mg/k	2.6	1	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04	7440-39-3	Barium	52	mg/k	52	1	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04		C10-C25	10	mg/k	10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04	7440-62-2	Vanadium	7.1	mg/k	7.1	1	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04	7440-02-0	Nickel	8.5	mg/k	8.5	1	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04	7439-92-1	Lead	3.2	mg/k	3.2	1	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04	7440-50-8	Copper	2.4	mg/k	2.4	1	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04	7440-48-4	Cobalt	4.6	mg/k	4.6	1	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04	7440-47-3	Chromium	10	mg/k	10	1	1
Open Space	Soil	S-27E-2.5	2.5	13-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04	7440-66-6	Zinc	6	mg/k	6	1	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04	7440-50-8	Copper	0.9	mg/k	0.9	1	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04	7440-62-2	Vanadium	4.4	mg/k	4.4	1	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04		Percent Moisture	15.1	%		1	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04	7440-02-0	Nickel	2.1	mg/k	2.1	1	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04	7439-92-1	Lead	3	mg/k	3	1	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04	7440-39-3	Barium	34	mg/k	34	1	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04		C25-C40	10	mg/k	10	0	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04	7440-47-3	Chromium	6.1	mg/k	6.1	1	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04	7440-48-4	Cobalt	1	mg/k	1	0	1
Open Space	Soil	S-27F-0.5	0.5	13-Jan-04	7440-38-2	Arsenic	1	mg/k	1	1	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04	7440-38-2	Arsenic	2.2	mg/k	2.2	1	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04	7440-39-3	Barium	57	mg/k	57	1	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04		C10-C25	10	mg/k	10	0	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04		C25-C40	10	mg/k	10	0	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04	7440-66-6	Zinc	8.5	mg/k	8.5	1	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04	7440-62-2	Vanadium	9.2	mg/k	9.2	1	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04	7440-47-3	Chromium	12	mg/k	12	1	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04		Percent Moisture	13.2	%		1	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04	7440-02-0	Nickel	4.4	mg/k	4.4	1	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04	7440-48-4	Cobalt	1	mg/k	1	0	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04	7440-50-8	Copper	1.2	mg/k	1.2	1	1
Open Space	Soil	S-27F-2.5	2.5	13-Jan-04	7439-92-1	Lead	5.3	mg/k	5.3	1	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04	7439-92-1	Lead	3.2	mg/k	3.2	1	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04		Percent Moisture	10.1	%		1	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04	7440-62-2	Vanadium	8.6	mg/k	8.6	1	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04	7440-50-8	Copper	2.4	mg/k	2.4	1	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04		C10-C25	43	mg/k	43	1	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04	7440-02-0	Nickel	6.9	mg/k	6.9	1	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04	7440-48-4	Cobalt	1.8	mg/k	1.8	1	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04	7440-47-3	Chromium	12	mg/k	12	1	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04		C25-C40	180	mg/k	180	1	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04	7440-39-3	Barium	55	mg/k	55	1	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04	7440-38-2	Arsenic	1.6	mg/k	1.6	1	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04	7440-66-6	Zinc	10	mg/k	10	1	1
Open Space	Soil	S-27G-0.5	0.5	13-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04		Percent Moisture	15.8	%		1	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04	7440-66-6	Zinc	11	mg/k	11	1	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04	7440-02-0	Nickel	6.4	mg/k	6.4	1	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04	7439-92-1	Lead	3.9	mg/k	3.9	1	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04	7440-50-8	Copper	1.6	mg/k	1.6	1	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04	7440-62-2	Vanadium	9.7	mg/k	9.7	1	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04	7440-48-4	Cobalt	1.7	mg/k	1.7	1	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04	7440-47-3	Chromium	14	mg/k	14	1	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04		C4-C10	10	mg/k	10	0	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04		C25-C40	480	mg/k	480	1	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04		C10-C25	230	mg/k	230	1	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04	7440-39-3	Barium	49	mg/k	49	1	1
Open Space	Soil	S-27G-2.5	2.5	13-Jan-04	7440-38-2	Arsenic	2.6	mg/k	2.6	1	1
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04		Percent Moisture	22.4	%		1	1
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04	7440-66-6	Zinc	31	mg/k	31	1	1
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04	7440-62-2	Vanadium	14	mg/k	14	1	1
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04	7440-39-3	Barium	61	mg/k	61	1	1
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04	7440-02-0	Nickel	10	mg/k	10	1	1
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04	7439-92-1	Lead	16	mg/k	16	1	1
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04	7440-50-8	Copper	5.4	mg/k	5.4	1	1
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04	7440-48-4	Cobalt	1.8	mg/k	1.8	1	1
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04	7440-38-2	Arsenic	1.8	mg/k	1.8	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-9A-0.5	0.5	14-Jan-04	7440-47-3	Chromium	15	mg/k	15	1	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04	7440-02-0	Nickel	6.3	mg/k	6.3	1	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04	7440-38-2	Arsenic	1.1	mg/k	1.1	1	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04	7440-39-3	Barium	47	mg/k	47	1	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04	7440-47-3	Chromium	12	mg/k	12	1	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04	7440-48-4	Cobalt	1.8	mg/k	1.8	1	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04	7440-50-8	Copper	3.8	mg/k	3.8	1	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04	7439-92-1	Lead	2.5	mg/k	2.5	1	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04		Percent Moisture	18.4	%		1	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04	7440-62-2	Vanadium	8	mg/k	8	1	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04	7440-66-6	Zinc	13	mg/k	13	1	1
Open Space	Soil	S-9A-2.5	2.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04	7440-02-0	Nickel	25	mg/k	25	1	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04	7439-92-1	Lead	5.8	mg/k	5.8	1	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04	7440-38-2	Arsenic	0.5	mg/k	0.5	0	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04	7440-39-3	Barium	54	mg/k	54	1	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04	7440-47-3	Chromium	9.9	mg/k	9.9	1	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04	7440-50-8	Copper	5	mg/k	5	1	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04	7440-66-6	Zinc	31	mg/k	31	1	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04		Percent Moisture	16	%		1	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04	7440-62-2	Vanadium	25	mg/k	25	1	1
Open Space	Soil	S-9B-0.5	0.5	14-Jan-04	7440-48-4	Cobalt	2.1	mg/k	2.1	1	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04	7440-39-3	Barium	54	mg/k	54	1	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04	7440-38-2	Arsenic	0.5	mg/k	0.5	0	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04	7440-47-3	Chromium	10	mg/k	10	1	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04	7440-48-4	Cobalt	2.2	mg/k	2.2	1	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04	7440-50-8	Copper	3.7	mg/k	3.7	1	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04	7439-92-1	Lead	3.6	mg/k	3.6	1	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04	7440-66-6	Zinc	14	mg/k	14	1	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04	7440-02-0	Nickel	12	mg/k	12	1	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04		Percent Moisture	12.9	%		1	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-9B-2.5	2.5	14-Jan-04	7440-62-2	Vanadium	22	mg/k	22	1	1
Open Space	Soil	S-9C-0.5	0.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	1	1
Open Space	Soil	S-9C-0.5	0.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-9C-0.5	0.5	14-Jan-04	7440-50-8	Copper	9.1	mg/k	9.1	1	1
Open Space	Soil	S-9C-0.5	0.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-9C-0.5	0.5	14-Jan-04	7440-66-6	Zinc	60	mg/k	60	1	1
Open Space	Soil	S-9C-0.5	0.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-9C-0.5	0.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-9C-0.5	0.5	14-Jan-04	7440-02-0	Nickel	41	mg/k	41	1	1
Open Space	Soil	S-9C-0.5	0.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-9C-0.5	0.5	14-Jan-04	7440-39-3	Barium	76	mg/k	76	1	1
Open Space	Soil	S-9C-0.5	0.5	14-Jan-04	7440-62-2	Vanadium	52	mg/k	52	1	1
Open Space	Soil	S-9C-0.5	0.5	14-Jan-04	7440-38-2	Arsenic	1.9	mg/k	1.9	1	1
Open Space	Soil	S-9C-0.5	0.5	14-Jan-04	7439-92-1	Lead	31	mg/k	31	1	1
Open Space	Soil	S-9C-0.5	0.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-9C-0.5	0.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-9C-0.5	0.5	14-Jan-04	7440-47-3	Chromium	17	mg/k	17	1	1
Open Space	Soil	S-9C-0.5	0.5	14-Jan-04	7440-48-4	Cobalt	1.4	mg/k	1.4	1	1
Open Space	Soil	S-9C-2.5	2.5	14-Jan-04	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	S-9C-2.5	2.5	14-Jan-04	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	S-9C-2.5	2.5	14-Jan-04	7440-62-2	Vanadium	19	mg/k	19	1	1
Open Space	Soil	S-9C-2.5	2.5	14-Jan-04	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	S-9C-2.5	2.5	14-Jan-04	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-9C-2.5	2.5	14-Jan-04	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	S-9C-2.5	2.5	14-Jan-04	7440-02-0	Nickel	8.3	mg/k	8.3	1	1
Open Space	Soil	S-9C-2.5	2.5	14-Jan-04	7440-66-6	Zinc	17	mg/k	17	1	1
Open Space	Soil	S-9C-2.5	2.5	14-Jan-04	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	S-9C-2.5	2.5	14-Jan-04	7439-92-1	Lead	6	mg/k	6	1	1
Open Space	Soil	S-9C-2.5	2.5	14-Jan-04	7440-50-8	Copper	5	mg/k	5	1	1
Open Space	Soil	S-9C-2.5	2.5	14-Jan-04	7440-48-4	Cobalt	1.6	mg/k	1.6	1	1
Open Space	Soil	S-9C-2.5	2.5	14-Jan-04	7440-47-3	Chromium	13	mg/k	13	1	1
Open Space	Soil	S-9C-2.5	2.5	14-Jan-04	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-9C-2.5	2.5	14-Jan-04	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-9C-2.5	2.5	14-Jan-04	7440-38-2	Arsenic	1.3	mg/k	1.3	1	1
Open Space	Soil	S-9C-2.5	2.5	14-Jan-04	7440-39-3	Barium	73	mg/k	73	1	1
Open Space	Soil	B-223-10	10	11-May-04		C10-C25	30	mg/k	30	1	1
Open Space	Soil	B-223-10	10	11-May-04		C25-C40	10	mg/k	10	0	1
Open Space	Soil	B-223-5	5	11-May-04		C10-C25	40	mg/k	40	1	1
Open Space	Soil	B-223-5	5	11-May-04		C25-C40	160	mg/k	160	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	7439-92-1	Lead	17	mg/k	17	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05		Mean Grain Size - Silt	0.004	mm		1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	7439-97-6	Mercury	0.1	mg/k	0.1	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	75-09-2	Methylene Chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05		Particle Size Distribution - Gravel	0	wt. %		1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	7440-02-0	Nickel	14	mg/k	14	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05		Particle Size Distribution - Clay	57.17	wt. %		1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	193-39-5	Indeno(1,2,3-cd)pyrene	0.012	mg/k	0.012	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	206-44-0	Fluoranthene	0.013	mg/k	0.013	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	WL-1-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	0	wt. %		1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	7440-48-4	Cobalt	1.8	mg/k	1.8	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	7440-50-8	Copper	7.5	mg/k	7.5	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	7440-66-6	Zinc	64	mg/k	64	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	75-01-4	Vinyl Chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	7440-62-2	Vanadium	16	mg/k	16	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05		Total organic carbon	18000	mg/K	18000	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	0	wt. %		1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	129-00-0	Pyrene	0.016	mg/k	0.016	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	85-01-8	Phenanthrene	0.013	mg/k	0.013	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05		Percent Moisture	23	%		1	1
Open Space	Soil	WL-1-1	0	24-Feb-05		Particle Size Distribution - Silt & Clay	100	wt. %		1	1
Open Space	Soil	WL-1-1	0	24-Feb-05		Particle Size Distribution - Silt	42.83	wt. %		1	1
Open Space	Soil	WL-1-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	0	wt. %		1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	96-12-8	1,2-Dibromo-3-Chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	WL-1-1	0	24-Feb-05	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	218-01-9	Chrysene	0.013	mg/k	0.013	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	56-23-5	Carbon Tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05		C4-C10	10	mg/k	10	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05		C25-C40	170	mg/k	170	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05		C10-C25	54	mg/k	54	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	7440-39-3	Barium	96	mg/k	96	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	7440-47-3	Chromium	18	mg/k	18	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	7440-38-2	Arsenic	12	mg/k	12	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	56-55-3	Benzo(a)anthracene	0.008	mg/k	0.008	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	50-32-8	Benzo(a)pyrene	0.018	mg/k	0.018	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	205-99-2	Benzo(b)fluoranthene	0.018	mg/k	0.018	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	207-08-9	Benzo(k)fluoranthene	0.015	mg/k	0.015	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-1	0	24-Feb-05	191-24-2	Benzo(g,h,i)perylene	0.024	mg/k	0.024	1	1
Open Space	Soil	WL-1-1	0	24-Feb-05	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	7439-92-1	Lead	9.6	mg/k	9.6	1	1
Open Space	Soil	WL-1-2	0	24-Feb-05		Mean Grain Size - Silt	0.057	mm		1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	7439-97-6	Mercury	0.1	mg/k	0.1	1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	75-09-2	Methylene Chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	7440-02-0	Nickel	11	mg/k	11	1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	91-20-3	Naphthalene	0.01	mg/k	0.01	0	0
Open Space	Soil	WL-1-2	0	24-Feb-05	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	193-39-5	Indeno(1,2,3-cd)pyrene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	86-73-7	Fluorene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	206-44-0	Fluoranthene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05		Particle Size Distribution - Clay	18.54	wt. %		1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	53-70-3	Dibenz(a,h)anthracene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	7440-50-8	Copper	6.8	mg/k	6.8	1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	7440-48-4	Cobalt	1.3	mg/k	1.3	1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	7440-66-6	Zinc	28	mg/k	28	1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	7440-62-2	Vanadium	15	mg/k	15	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	WL-1-2	0	24-Feb-05	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05		Total organic carbon	12000	mg/K	12000	1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	75-01-4	Vinyl Chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05		Particle Size Distribution - Gravel	0	wt. %		1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	129-00-0	Pyrene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	85-01-8	Phenanthrene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05		Percent Moisture	28.4	%		1	1
Open Space	Soil	WL-1-2	0	24-Feb-05		Particle Size Distribution - Silt & Clay	55.25	wt. %		1	1
Open Space	Soil	WL-1-2	0	24-Feb-05		Particle Size Distribution - Silt	36.71	wt. %		1	1
Open Space	Soil	WL-1-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	1.29	wt. %		1	1
Open Space	Soil	WL-1-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	43.46	wt. %		1	1
Open Space	Soil	WL-1-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	0	wt. %		1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	96-12-8	1,2-Dibromo-3-Chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	83-32-9	Acenaphthene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	218-01-9	Chrysene	0.02	mg/k	0.02	1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05		C25-C40	190	mg/k	190	1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	7440-47-3	Chromium	14	mg/k	14	1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	208-96-8	Acenaphthylene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	56-23-5	Carbon Tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05		C4-C10	10	mg/k	10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	WL-1-2	0	24-Feb-05	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05		C10-C25	37	mg/k	37	1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	7440-38-2	Arsenic	9	mg/k	9	1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	7440-39-3	Barium	42	mg/k	42	1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	56-55-3	Benzo(a)anthracene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	50-32-8	Benzo(a)pyrene	0.012	mg/k	0.012	1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	205-99-2	Benzo(b)fluoranthene	0.012	mg/k	0.012	1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	191-24-2	Benzo(g,h,i)perylene	0.017	mg/k	0.017	1	1
Open Space	Soil	WL-1-2	0	24-Feb-05	207-08-9	Benzo(k)fluoranthene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-1-2	0	24-Feb-05	120-12-7	Anthracene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	7439-92-1	Lead	24	mg/k	24	1	1
Open Space	Soil	WL-2-1	0	24-Feb-05		Mean Grain Size - Silt	0.006	mm		1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	75-09-2	Methylene Chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	7440-02-0	Nickel	9.6	mg/k	9.6	1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05		Particle Size Distribution - Clay	44.9	wt. %		1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	206-44-0	Fluoranthene	0.007	mg/k	0.007	1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	7440-50-8	Copper	5.9	mg/k	5.9	1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	7440-48-4	Cobalt	1.9	mg/k	1.9	1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05		Particle Size Distribution - Gravel	0	wt. %		1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	7440-66-6	Zinc	21	mg/k	21	1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	75-01-4	Vinyl Chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	7440-62-2	Vanadium	11	mg/k	11	1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05		Total organic carbon	13000	mg/K	13000	1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	WL-2-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	0	wt. %		1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	129-00-0	Pyrene	0.01	mg/k	0.01	1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	85-01-8	Phenanthrene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05		Percent Moisture	30.7	%		1	1
Open Space	Soil	WL-2-1	0	24-Feb-05		Particle Size Distribution - Silt & Clay	100	wt. %		1	1
Open Space	Soil	WL-2-1	0	24-Feb-05		Particle Size Distribution - Silt	55.1	wt. %		1	1
Open Space	Soil	WL-2-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	0	wt. %		1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	96-12-8	1,2-Dibromo-3-Chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	218-01-9	Chrysene	0.01	mg/k	0.01	1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05		Particle Size Distribution - Sand Size -	0	wt. %		1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05		C4-C10	10	mg/k	10	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	7440-47-3	Chromium	15	mg/k	15	1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	120-12-7	Anthracene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05		C25-C40	46	mg/k	46	1	1
Open Space	Soil	WL-2-1	0	24-Feb-05		C10-C25	18	mg/k	18	1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	7440-39-3	Barium	54	mg/k	54	1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	56-23-5	Carbon Tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	7440-38-2	Arsenic	9.1	mg/k	9.1	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	WL-2-1	0	24-Feb-05	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	50-32-8	Benzo(a)pyrene	0.007	mg/k	0.007	1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	191-24-2	Benzo(g,h,i)perylene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	207-08-9	Benzo(k)fluoranthene	0.006	mg/k	0.006	1	1
Open Space	Soil	WL-2-1	0	24-Feb-05	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-1	0	24-Feb-05	205-99-2	Benzo(b)fluoranthene	0.006	mg/k	0.006	1	1
Open Space	Soil	WL-2-2	0	24-Feb-05		Particle Size Distribution - Gravel	0	wt. %		1	1
Open Space	Soil	WL-2-2	0	24-Feb-05	7439-97-6	Mercury	0.5	mg/k	0.5	1	1
Open Space	Soil	WL-2-2	0	24-Feb-05	75-09-2	Methylene Chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	7440-02-0	Nickel	13	mg/k	13	1	1
Open Space	Soil	WL-2-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	0	wt. %		1	1
Open Space	Soil	WL-2-2	0	24-Feb-05		Particle Size Distribution - Clay	52.12	wt. %		1	1
Open Space	Soil	WL-2-2	0	24-Feb-05	7440-48-4	Cobalt	2.8	mg/k	2.8	1	1
Open Space	Soil	WL-2-2	0	24-Feb-05		Mean Grain Size - Silt	0.005	mm		1	1
Open Space	Soil	WL-2-2	0	24-Feb-05	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	7439-92-1	Lead	170	mg/k	170	1	1
Open Space	Soil	WL-2-2	0	24-Feb-05	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	193-39-5	Indeno(1,2,3-cd)pyrene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	86-73-7	Fluorene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	206-44-0	Fluoranthene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	7440-50-8	Copper	11	mg/k	11	1	1
Open Space	Soil	WL-2-2	0	24-Feb-05	53-70-3	Dibenz(a,h)anthracene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	208-96-8	Acenaphthylene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	7440-66-6	Zinc	73	mg/k	73	1	1
Open Space	Soil	WL-2-2	0	24-Feb-05	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	75-01-4	Vinyl Chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	7440-62-2	Vanadium	9.7	mg/k	9.7	1	1
Open Space	Soil	WL-2-2	0	24-Feb-05	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05		Total organic carbon	15000	mg/K	15000	1	1
Open Space	Soil	WL-2-2	0	24-Feb-05	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	0	wt. %		1	1
Open Space	Soil	WL-2-2	0	24-Feb-05	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	129-00-0	Pyrene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	85-01-8	Phenanthrene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	WL-2-2	0	24-Feb-05		Percent Moisture	32	%		1	1
Open Space	Soil	WL-2-2	0	24-Feb-05		Particle Size Distribution - Silt & Clay	100	wt. %		1	1
Open Space	Soil	WL-2-2	0	24-Feb-05		Particle Size Distribution - Silt	47.88	wt. %		1	1
Open Space	Soil	WL-2-2	0	24-Feb-05		Particle Size Distribution - Sand Size -	0	wt. %		1	1
Open Space	Soil	WL-2-2	0	24-Feb-05	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	96-12-8	1,2-Dibromo-3-Chloropropane	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	7440-38-2	Arsenic	9.3	mg/k	9.3	1	1
Open Space	Soil	WL-2-2	0	24-Feb-05	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	218-01-9	Chrysene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	7440-47-3	Chromium	20	mg/k	20	1	1
Open Space	Soil	WL-2-2	0	24-Feb-05	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	56-23-5	Carbon Tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05		C4-C10	10	mg/k	10	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05		C25-C40	57	mg/k	57	1	1
Open Space	Soil	WL-2-2	0	24-Feb-05		C10-C25	46	mg/k	46	1	1
Open Space	Soil	WL-2-2	0	24-Feb-05	83-32-9	Acenaphthene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	120-12-7	Anthracene	0.006	mg/k	0.006	1	1
Open Space	Soil	WL-2-2	0	24-Feb-05	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	207-08-9	Benzo(k)fluoranthene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	191-24-2	Benzo(g,h,i)perylene	0.028	mg/k	0.028	1	1
Open Space	Soil	WL-2-2	0	24-Feb-05	205-99-2	Benzo(b)fluoranthene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	50-32-8	Benzo(a)pyrene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	56-55-3	Benzo(a)anthracene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	WL-2-2	0	24-Feb-05	7440-39-3	Barium	50	mg/k	50	1	1
Open Space	Soil	WL-2-2	0	24-Feb-05	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	WL-2-2	0	24-Feb-05	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	STR-10-2-1.5	1.5	26-Apr-05		C10-C25	3.1	mg/k	3.1	1	1
Open Space	Soil	STR-10-2-1.5	1.5	26-Apr-05		C25-C40	3.4	mg/k	3.4	1	1
Open Space	Soil	STR-10-2-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-10-3-5.0	5	26-Apr-05		C25-C40	1.6	mg/k	1.6	1	1
Open Space	Soil	STR-10-3-5.0	5	26-Apr-05		C10-C25	2.9	mg/k	2.9	1	1
Open Space	Soil	STR-10-3-5.0	5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-10-4-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-10-4-1.5	1.5	26-Apr-05		C10-C25	2	mg/k	2	1	1
Open Space	Soil	STR-10-4-1.5	1.5	26-Apr-05		C25-C40	1	mg/k	1	1	1
Open Space	Soil	STR-11-2-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-11-2-1.5	1.5	26-Apr-05		C25-C40	31	mg/k	31	1	1
Open Space	Soil	STR-11-2-1.5	1.5	26-Apr-05		C10-C25	18	mg/k	18	1	1
Open Space	Soil	STR-11-3-4.5	4.5	26-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-11-3-4.5	4.5	26-Apr-05		C10-C25	1	mg/k	1	0	1
Open Space	Soil	STR-11-3-4.5	4.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-11-4-1.5	1.5	26-Apr-05		C10-C25	1	mg/k	1	0	1
Open Space	Soil	STR-11-4-1.5	1.5	26-Apr-05		TPH	0.49	mg/k	0.49	1	1
Open Space	Soil	STR-11-4-1.5	1.5	26-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-12-1-1.5	1.5	26-Apr-05		C10-C25	5.7	mg/k	5.7	1	1
Open Space	Soil	STR-12-1-1.5	1.5	26-Apr-05		C25-C40	6.1	mg/k	6.1	1	1
Open Space	Soil	STR-12-1-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-12-2-4.5	4.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-12-2-4.5	4.5	26-Apr-05		C25-C40	2.4	mg/k	2.4	1	1
Open Space	Soil	STR-12-2-4.5	4.5	26-Apr-05		C10-C25	4.9	mg/k	4.9	1	1
Open Space	Soil	STR-12-3-1.5	1.5	26-Apr-05		C10-C25	4.5	mg/k	4.5	1	1
Open Space	Soil	STR-12-3-1.5	1.5	26-Apr-05		C25-C40	2.2	mg/k	2.2	1	1
Open Space	Soil	STR-12-3-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-1-3-1.5	1.5	26-Apr-05		C10-C25	1	mg/k	1	0	1
Open Space	Soil	STR-1-3-1.5	1.5	26-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-1-3-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-13-2-1.5	1.5	26-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-13-2-1.5	1.5	26-Apr-05		C10-C25	1	mg/k	1	0	1
Open Space	Soil	STR-13-2-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-13-3-5.5	5.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-13-3-5.5	5.5	26-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-13-3-5.5	5.5	26-Apr-05		C10-C25	1	mg/k	1	0	1
Open Space	Soil	STR-13-4-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-13-4-1.5	1.5	26-Apr-05		C25-C40	51	mg/k	51	1	1
Open Space	Soil	STR-13-4-1.5	1.5	26-Apr-05		C10-C25	9.1	mg/k	9.1	1	1
Open Space	Soil	STR-1-4-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-1-4-1.5	1.5	26-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-1-4-1.5	1.5	26-Apr-05		C10-C25	1	mg/k	1	0	1
Open Space	Soil	STR-14-2-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-14-2-1.5	1.5	26-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-14-2-1.5	1.5	26-Apr-05		C10-C25	1	mg/k	1	0	1
Open Space	Soil	STR-14-3-4.0	4	26-Apr-05	TPH Diesel	TPH (as Diesel)	10	mg/k	10	0	1
Open Space	Soil	STR-14-3-4.0	4	26-Apr-05		C10-C25	1	mg/k	1	0	1
Open Space	Soil	STR-14-3-4.0	4	26-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-14-3-4.0	4	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-14-4-1.5	1.5	26-Apr-05		C10-C25	1	mg/k	1	0	1
Open Space	Soil	STR-14-4-1.5	1.5	26-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-14-4-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-2-1-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-2-1-1.5	1.5	26-Apr-05		C10-C25	1	mg/k	1	0	1
Open Space	Soil	STR-2-1-1.5	1.5	26-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-2-2-7.0	7	26-Apr-05		TPH	0.2	mg/k	0.2	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	STR-2-2-7.0	7	26-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-2-2-7.0	7	26-Apr-05		C10-C25	0.65	mg/k	0.65	1	1
Open Space	Soil	STR-2-3-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-2-3-1.5	1.5	26-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-2-3-1.5	1.5	26-Apr-05		C10-C25	0.66	mg/k	0.66	1	1
Open Space	Soil	STR-3-1-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-3-1-1.5	1.5	26-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-3-1-1.5	1.5	26-Apr-05		C10-C25	0.65	mg/k	0.65	1	1
Open Space	Soil	STR-3-2-5.5	5.5	26-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-3-2-5.5	5.5	26-Apr-05		C10-C25	1	mg/k	1	0	1
Open Space	Soil	STR-3-2-5.5	5.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-3-3-1.5	1.5	26-Apr-05		C10-C25	0.62	mg/k	0.62	1	1
Open Space	Soil	STR-3-3-1.5	1.5	26-Apr-05		C25-C40	2.5	mg/k	2.5	1	1
Open Space	Soil	STR-3-3-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-4-3-2.5	2.5	26-Apr-05		C25-C40	19	mg/k	19	1	1
Open Space	Soil	STR-4-3-2.5	2.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-4-3-2.5	2.5	26-Apr-05		C10-C25	13	mg/k	13	1	1
Open Space	Soil	STR-4-4-2.5	2.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-4-4-2.5	2.5	26-Apr-05		C10-C25	9.8	mg/k	9.8	1	1
Open Space	Soil	STR-4-4-2.5	2.5	26-Apr-05		C25-C40	22	mg/k	22	1	1
Open Space	Soil	STR-5-2-1.5	1.5	25-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-5-2-1.5	1.5	25-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-5-2-1.5	1.5	25-Apr-05		C10-C25	0.58	mg/k	0.58	1	1
Open Space	Soil	STR-5-3-1.5	1.5	25-Apr-05		C10-C25	0.64	mg/k	0.64	1	1
Open Space	Soil	STR-5-3-1.5	1.5	25-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-5-3-1.5	1.5	25-Apr-05		C25-C40	0.5	mg/k	0.5	1	1
Open Space	Soil	STR-5-4-1.5	1.5	25-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-5-4-1.5	1.5	25-Apr-05		C10-C25	250	mg/k	250	1	1
Open Space	Soil	STR-5-4-1.5	1.5	25-Apr-05		C25-C40	880	mg/k	880	1	1
Open Space	Soil	STR-5-5-5.0	5	25-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-5-5-5.0	5	25-Apr-05		C10-C25	1	mg/k	1	0	1
Open Space	Soil	STR-5-5-5.0	5	25-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-6-2-1.5	1.5	26-Apr-05		C10-C25	4.6	mg/k	4.6	1	1
Open Space	Soil	STR-6-2-1.5	1.5	26-Apr-05		C25-C40	5.1	mg/k	5.1	1	1
Open Space	Soil	STR-6-2-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-6-3-5	5	26-Apr-05		C25-C40	1.6	mg/k	1.6	1	1
Open Space	Soil	STR-6-3-5	5	26-Apr-05		C10-C25	2.8	mg/k	2.8	1	1
Open Space	Soil	STR-6-3-5	5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-6-4-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-6-4-1.5	1.5	26-Apr-05		C10-C25	3.4	mg/k	3.4	1	1
Open Space	Soil	STR-6-4-1.5	1.5	26-Apr-05		C25-C40	7.6	mg/k	7.6	1	1
Open Space	Soil	STR-7-2-1.5	1.5	25-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-7-2-1.5	1.5	25-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-7-2-1.5	1.5	25-Apr-05		C10-C25	0.57	mg/k	0.57	1	1
Open Space	Soil	STR-7-3-5.0	5	25-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-7-3-5.0	5	25-Apr-05		C25-C40	1	mg/k	1	0	1
Open Space	Soil	STR-7-3-5.0	5	25-Apr-05		C10-C25	1	mg/k	1	0	1
Open Space	Soil	STR-7-4-1.5	1.5	25-Apr-05		C10-C25	0.72	mg/k	0.72	1	1
Open Space	Soil	STR-7-4-1.5	1.5	25-Apr-05		C25-C40	1.8	mg/k	1.8	1	1
Open Space	Soil	STR-7-4-1.5	1.5	25-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-8-2-1.5	1.5	26-Apr-05		C10-C25	6.5	mg/k	6.5	1	1
Open Space	Soil	STR-8-2-1.5	1.5	26-Apr-05		C25-C40	10	mg/k	10	1	1
Open Space	Soil	STR-8-2-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-8-3-8	8	26-Apr-05		C10-C25	4.1	mg/k	4.1	1	1
Open Space	Soil	STR-8-3-8	8	26-Apr-05		C25-C40	1.2	mg/k	1.2	1	1
Open Space	Soil	STR-8-3-8	8	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-8-4-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	STR-8-4-1.5	1.5	26-Apr-05		C25-C40	4.9	mg/k	4.9	1	1
Open Space	Soil	STR-8-4-1.5	1.5	26-Apr-05		C10-C25	4.9	mg/k	4.9	1	1
Open Space	Soil	STR-9-2-1.5	1.5	26-Apr-05		C10-C25	3.9	mg/k	3.9	1	1
Open Space	Soil	STR-9-2-1.5	1.5	26-Apr-05		C25-C40	3	mg/k	3	1	1
Open Space	Soil	STR-9-2-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-9-3-1.5	1.5	26-Apr-05		C10-C25	2.6	mg/k	2.6	1	1
Open Space	Soil	STR-9-3-1.5	1.5	26-Apr-05		C25-C40	5.9	mg/k	5.9	1	1
Open Space	Soil	STR-9-3-1.5	1.5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-9-4-5.0	5	26-Apr-05		TPH	0.2	mg/k	0.2	0	1
Open Space	Soil	STR-9-4-5.0	5	26-Apr-05		C10-C25	2.5	mg/k	2.5	1	1
Open Space	Soil	STR-9-4-5.0	5	26-Apr-05		C25-C40	1.2	mg/k	1.2	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07	99-87-6	p-Isopropyltoluene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	7440-38-2	Arsenic	5.7	mg/k	5.7	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07	7440-39-3	Barium	79	mg/k	79	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07	71-43-2	Benzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	56-55-3	Benzo(a)anthracene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	50-32-8	Benzo(a)pyrene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	205-99-2	Benzo(b)fluoranthene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	191-24-2	Benzo(g,h,i)perylene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	207-08-9	Benzo(k)fluoranthene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	7440-41-7	Beryllium	0.66	mg/k	0.66	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07	108-86-1	Bromobenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	74-97-5	Bromochloromethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	75-27-4	Bromodichloromethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	75-25-2	Bromoform	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	135-98-8	sec-Butylbenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		C8-C40	21	mg/k	21	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		C32-C35	4.9	mg/k	4.9	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	74-83-9	Bromomethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	208-96-8	Acenaphthylene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	563-58-6	1,1-Dichloropropene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	106-93-4	1,2-Dibromoethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	95-63-6	1,2,4-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	107-06-2	1,2-Dichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	87-61-6	1,2,3-Trichlorobenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	78-87-5	1,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	75-35-4	1,1-Dichloroethene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	75-34-3	1,1-Dichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	79-00-5	1,1,2-Trichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	71-55-6	1,1,1-Trichloroethane	1.9	ug/kg	0.0019	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-1A-01	1	16-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	96-18-4	1,2,3-Trichloropropane	9.7	ug/kg	0.0097	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	95-49-8	2-Chlorotoluene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	108-90-7	Chlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	83-32-9	Acenaphthene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	106-43-4	4-Chlorotoluene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		4-Bromofluorobenzene	42.1	ug/kg	0.0421	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07		4-Bromofluorobenzene	0.0141	mg/k	0.0141	1	0
Open Space	Soil	S-1A-01	1	16-Jul-07	95-50-1	1,2-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		2-Fluorobiphenyl	680	ug/kg	0.68	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07	120-12-7	Anthracene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	594-20-7	2,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	90-12-0	1-Methylnaphthalene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	106-46-7	1,4-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	142-28-9	1,3-Dichloropropane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	541-73-1	1,3-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	108-67-8	1,3,5-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	91-57-6	2-Methylnaphthalene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	75-65-0	tert-Butyl alcohol	97	ug/kg	0.097	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	7440-02-0	Nickel	63	mg/k	63	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07		Nitrobenzene-d5	610	ug/kg	0.61	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07		n-Octacosane	4.92	mg/k	4.92	1	0
Open Space	Soil	S-1A-01	1	16-Jul-07		n-Octacosane	4.93	mg/k	4.93	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07	103-65-1	n-Propylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		ORO (C25-C40)	15	mg/k	15	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07	95-47-6	o-Xylene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	85-01-8	Phenanthrene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	129-00-0	Pyrene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	100-42-5	Styrene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	91-20-3	Naphthalene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	156-60-5	trans-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	1330-20-7	Xylenes (total)	3.9	ug/kg	0.0039	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.38	mg/k	0.38	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	75-01-4	Vinyl chloride	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	7440-62-2	Vanadium	38	mg/k	38	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07	75-69-4	Trichlorofluoromethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		Terphenyl-d14	1300	ug/kg	1.3	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07	10061-02-6	trans-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	994-05-8	Tert-amyl methyl ether	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		Toluene-d8	51.2	ug/kg	0.0512	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07	108-88-3	Toluene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	127-18-4	Tetrachloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	98-06-6	tert-Butylbenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	91-20-3	Naphthalene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	79-01-6	Trichloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	156-59-2	cis-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	74-95-3	Dibromomethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		Dibromofluoromethane	47.5	ug/kg	0.0475	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07	124-48-1	Dibromochloromethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	53-70-3	Dibenz(a,h)anthracene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	7440-50-8	Copper	21	mg/k	21	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07	104-51-8	n-Butylbenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	10061-01-5	cis-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-1A-01	1	16-Jul-07	637-92-3	Ethyl tert butyl ether	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	218-01-9	Chrysene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	7440-47-3	Chromium	35	mg/k	35	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07	74-87-3	Chloromethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	67-66-3	Chloroform	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	75-00-3	Chloroethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	7440-66-6	Zinc	55	mg/k	55	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07	7440-48-4	Cobalt	10	mg/k	10	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	75-09-2	Methylene chloride	19	ug/kg	0.019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	1634-04-4	Methyl tert-butyl ether	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	7439-97-6	Mercury	1	mg/k	1	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07	179601-23-1	m,p-Xylenes	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	7439-92-1	Lead	8.6	mg/k	8.6	1	1
Open Space	Soil	S-1A-01	1	16-Jul-07	75-71-8	Dichlorodifluoromethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	108-20-3	Isopropyl ether	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	87-68-3	Hexachlorobutadiene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	86-73-7	Fluorene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	206-44-0	Fluoranthene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	100-41-4	Ethylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	56-23-5	Carbon tetrachloride	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1A-01	1	16-Jul-07	98-82-8	Isopropylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	7440-41-7	Beryllium	0.67	mg/k	0.67	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	56-23-5	Carbon tetrachloride	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	7440-38-2	Arsenic	5.9	mg/k	5.9	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	7440-39-3	Barium	80	mg/k	80	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	71-43-2	Benzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	56-55-3	Benzo(a)anthracene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	50-32-8	Benzo(a)pyrene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	205-99-2	Benzo(b)fluoranthene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.4	ug/kg	0.0054	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	207-08-9	Benzo(k)fluoranthene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	108-86-1	Bromobenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	75-27-4	Bromodichloromethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	75-25-2	Bromoform	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	74-83-9	Bromomethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	120-12-7	Anthracene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07		C26-C27	5.5	mg/k	5.5	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	74-97-5	Bromochloromethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07		C8-C40	54	mg/k	54	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07		C36-C40	10	mg/k	10	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07		C32-C35	17	mg/k	17	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07		C28-C29	5.8	mg/k	5.8	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	208-96-8	Acenaphthylene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07		C30-C31	7	mg/k	7	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	78-87-5	1,2-Dichloropropane	2.1	ug/kg	0.0021	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-1A-03	3	16-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	71-55-6	1,1,1-Trichloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	79-00-5	1,1,2-Trichloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	75-34-3	1,1-Dichloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	75-35-4	1,1-Dichloroethene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	563-58-6	1,1-Dichloropropene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	106-93-4	1,2-Dibromoethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	594-20-7	2,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	83-32-9	Acenaphthene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	106-43-4	4-Chlorotoluene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07		4-Bromofluorobenzene	41.2	ug/kg	0.0412	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07		4-Bromofluorobenzene	0.0154	mg/k	0.0154	1	0
Open Space	Soil	S-1A-03	3	16-Jul-07	91-57-6	2-Methylnaphthalene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	95-50-1	1,2-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	95-49-8	2-Chlorotoluene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	107-06-2	1,2-Dichloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	90-12-0	1-Methylnaphthalene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	106-46-7	1,4-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	142-28-9	1,3-Dichloropropane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	541-73-1	1,3-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	108-90-7	Chlorobenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07		2-Fluorobiphenyl	700	ug/kg	0.7	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	95-47-6	o-Xylene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	91-20-3	Naphthalene	5.2	ug/kg	0.0052	0	0
Open Space	Soil	S-1A-03	3	16-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	135-98-8	sec-Butylbenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	129-00-0	Pyrene	7.4	ug/kg	0.0074	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07		Terphenyl-d14	1400	ug/kg	1.4	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	85-01-8	Phenanthrene	5.5	ug/kg	0.0055	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	994-05-8	Tert-amyl methyl ether	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07		ORO (C25-C40)	47	mg/k	47	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	103-65-1	n-Propylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07		n-Octacosane	5.72	mg/k	5.72	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07		Nitrobenzene-d5	640	ug/kg	0.64	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	7440-02-0	Nickel	49	mg/k	49	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	99-87-6	p-Isopropyltoluene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	1330-20-7	Xylenes (total)	4.1	ug/kg	0.0041	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	75-01-4	Vinyl chloride	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	7440-62-2	Vanadium	37	mg/k	37	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	75-69-4	Trichlorofluoromethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	100-42-5	Styrene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	91-20-3	Naphthalene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07		Toluene-d8	52.4	ug/kg	0.0524	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	108-88-3	Toluene	2.1	ug/kg	0.0021	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-1A-03	3	16-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	127-18-4	Tetrachloroethene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	98-06-6	tert-Butylbenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	79-01-6	Trichloroethene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	104-51-8	n-Butylbenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	74-95-3	Dibromomethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07		Dibromofluoromethane	53.4	ug/kg	0.0534	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	124-48-1	Dibromochloromethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07		DRO (C10-C24)	7	mg/k	7	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	7440-48-4	Cobalt	10	mg/k	10	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	637-92-3	Ethyl tert butyl ether	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	218-01-9	Chrysene	5.6	ug/kg	0.0056	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	7440-47-3	Chromium	29	mg/k	29	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	74-87-3	Chloromethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	67-66-3	Chloroform	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	75-00-3	Chloroethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	7440-50-8	Copper	22	mg/k	22	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	108-20-3	Isopropyl ether	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	75-09-2	Methylene chloride	21	ug/kg	0.021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	1634-04-4	Methyl tert-butyl ether	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	7439-97-6	Mercury	0.62	mg/k	0.62	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	179601-23-1	m,p-Xylenes	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	75-71-8	Dichlorodifluoromethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	98-82-8	Isopropylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	7440-66-6	Zinc	60	mg/k	60	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	87-68-3	Hexachlorobutadiene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	86-73-7	Fluorene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	206-44-0	Fluoranthene	6.2	ug/kg	0.0062	1	1
Open Space	Soil	S-1A-03	3	16-Jul-07	100-41-4	Ethylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-1A-03	3	16-Jul-07	7439-92-1	Lead	9	mg/k	9	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	85-01-8	Phenanthrene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	75-71-8	Dichlorodifluoromethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	108-90-7	Chlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	75-09-2	Methylene chloride	19	ug/kg	0.019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	1634-04-4	Methyl tert-butyl ether	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	7439-97-6	Mercury	0.096	mg/k	0.096	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	179601-23-1	m,p-Xylenes	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	7439-92-1	Lead	11	mg/k	11	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	98-82-8	Isopropylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	108-20-3	Isopropyl ether	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	87-68-3	Hexachlorobutadiene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	86-73-7	Fluorene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	206-44-0	Fluoranthene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	100-41-4	Ethylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	91-20-3	Naphthalene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	7440-48-4	Cobalt	2.7	mg/k	2.7	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07		ORO (C25-C40)	91	mg/k	91	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	67-66-3	Chloroform	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	74-87-3	Chloromethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	7440-47-3	Chromium	40	mg/k	40	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-1B-01	1	16-Jul-07	218-01-9	Chrysene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	637-92-3	Ethyl tert butyl ether	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	10061-01-5	cis-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07		DRO (C10-C24)	28	mg/k	28	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	7440-50-8	Copper	7.4	mg/k	7.4	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	124-48-1	Dibromochloromethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07		Dibromofluoromethane	48.3	ug/kg	0.0483	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	74-95-3	Dibromomethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	91-20-3	Naphthalene	5.4	ug/kg	0.0054	0	0
Open Space	Soil	S-1B-01	1	16-Jul-07	156-59-2	cis-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	994-05-8	Tert-amyl methyl ether	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	7440-66-6	Zinc	30	mg/k	30	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	1330-20-7	Xylenes (total)	3.9	ug/kg	0.0039	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	75-01-4	Vinyl chloride	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	7440-62-2	Vanadium	27	mg/k	27	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	75-69-4	Trichlorofluoromethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	79-01-6	Trichloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	10061-02-6	trans-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	156-60-5	trans-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07		Toluene-d8	50.8	ug/kg	0.0508	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	108-88-3	Toluene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	127-18-4	Tetrachloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	129-00-0	Pyrene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	104-51-8	n-Butylbenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	7440-02-0	Nickel	24	mg/k	24	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07		Nitrobenzene-d5	590	ug/kg	0.59	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07		n-Octacosane	7.37	mg/k	7.37	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	103-65-1	n-Propylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	98-06-6	tert-Butylbenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	99-87-6	p-Isopropyltoluene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	75-65-0	tert-Butyl alcohol	97	ug/kg	0.097	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	135-98-8	sec-Butylbenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	100-42-5	Styrene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07		Terphenyl-d14	1500	ug/kg	1.5	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	56-23-5	Carbon tetrachloride	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	95-47-6	o-Xylene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	107-06-2	1,2-Dichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	75-00-3	Chloroethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	83-32-9	Acenaphthene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	106-43-4	4-Chlorotoluene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07		4-Bromofluorobenzene	42.3	ug/kg	0.0423	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07		4-Bromofluorobenzene	0.0163	mg/k	0.0163	1	0
Open Space	Soil	S-1B-01	1	16-Jul-07	91-57-6	2-Methylnaphthalene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07		2-Fluorobiphenyl	820	ug/kg	0.82	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	95-49-8	2-Chlorotoluene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	594-20-7	2,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	90-12-0	1-Methylnaphthalene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	106-46-7	1,4-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	142-28-9	1,3-Dichloropropane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	541-73-1	1,3-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	120-12-7	Anthracene	5.4	ug/kg	0.0054	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-1B-01	1	16-Jul-07	96-18-4	1,2,3-Trichloropropane	9.7	ug/kg	0.0097	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	71-55-6	1,1,1-Trichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	79-00-5	1,1,2-Trichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	75-34-3	1,1-Dichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	75-35-4	1,1-Dichloroethene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	108-67-8	1,3,5-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	87-61-6	1,2,3-Trichlorobenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	78-87-5	1,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	95-63-6	1,2,4-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	106-93-4	1,2-Dibromoethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	95-50-1	1,2-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	563-58-6	1,1-Dichloropropene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07		C28-C29	14	mg/k	14	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	208-96-8	Acenaphthylene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07		C20-C21	6	mg/k	6	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07		C22-C23	8.7	mg/k	8.7	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07		C26-C27	16	mg/k	16	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07		C30-C31	16	mg/k	16	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07		C32-C35	26	mg/k	26	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07		C36-C40	13	mg/k	13	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07		C8-C40	120	mg/k	120	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07		C24-C25	12	mg/k	12	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	207-08-9	Benzo(k)fluoranthene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	7440-38-2	Arsenic	7.1	mg/k	7.1	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	7440-39-3	Barium	210	mg/k	210	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	71-43-2	Benzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	56-55-3	Benzo(a)anthracene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	50-32-8	Benzo(a)pyrene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	191-24-2	Benzo(g,h,i)perylene	11	ug/kg	0.011	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	7440-41-7	Beryllium	0.86	mg/k	0.86	1	1
Open Space	Soil	S-1B-01	1	16-Jul-07	108-86-1	Bromobenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	74-97-5	Bromochloromethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	75-27-4	Bromodichloromethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	75-25-2	Bromoform	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	74-83-9	Bromomethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1B-01	1	16-Jul-07	205-99-2	Benzo(b)fluoranthene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	7439-97-6	Mercury	0.089	mg/k	0.089	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-1B-04	4	16-Jul-07	7439-92-1	Lead	24	mg/k	24	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.5	ug/kg	0.0055	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	86-73-7	Fluorene	5.5	ug/kg	0.0055	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.5	ug/kg	0.0055	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	7440-47-3	Chromium	21	mg/k	21	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	218-01-9	Chrysene	6.1	ug/kg	0.0061	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	206-44-0	Fluoranthene	5.5	ug/kg	0.0055	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	7440-50-8	Copper	5.3	mg/k	5.3	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07		Dibromofluoromethane	50.9	ug/kg	0.0509	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07		DRO (C10-C24)	22	mg/k	22	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	7440-02-0	Nickel	16	mg/k	16	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	7440-48-4	Cobalt	2.1	mg/k	2.1	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	7440-66-6	Zinc	25	mg/k	25	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.39	mg/k	0.39	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	7440-62-2	Vanadium	14	mg/k	14	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07		Toluene-d8	53.1	ug/kg	0.0531	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	91-20-3	Naphthalene	5.5	ug/kg	0.0055	0	0
Open Space	Soil	S-1B-04	4	16-Jul-07	129-00-0	Pyrene	5.5	ug/kg	0.0055	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07		Nitrobenzene-d5	1000	ug/kg	1	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07		n-Octacosane	6.63	mg/k	6.63	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07		ORO (C25-C40)	64	mg/k	64	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07		Terphenyl-d14	1200	ug/kg	1.2	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	85-01-8	Phenanthrene	5.5	ug/kg	0.0055	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	120-12-7	Anthracene	5.5	ug/kg	0.0055	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-1B-04	4	16-Jul-07	208-96-8	Acenaphthylene	5.5	ug/kg	0.0055	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	83-32-9	Acenaphthene	5.5	ug/kg	0.0055	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07		4-Bromofluorobenzene	45.4	ug/kg	0.0454	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07		4-Bromofluorobenzene	0.0141	mg/k	0.0141	1	0
Open Space	Soil	S-1B-04	4	16-Jul-07	91-57-6	2-Methylnaphthalene	5.5	ug/kg	0.0055	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07		2-Fluorobiphenyl	800	ug/kg	0.8	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	90-12-0	1-Methylnaphthalene	5.5	ug/kg	0.0055	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	7440-38-2	Arsenic	9.3	mg/k	9.3	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	7440-39-3	Barium	210	mg/k	210	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07		C32-C35	18	mg/k	18	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07		C20-C21	5.2	mg/k	5.2	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07		C22-C23	6.9	mg/k	6.9	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07		C24-C25	8.2	mg/k	8.2	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07		C26-C27	11	mg/k	11	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07		C30-C31	11	mg/k	11	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07		C36-C40	10	mg/k	10	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07		C8-C40	85	mg/k	85	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07		C28-C29	9.1	mg/k	9.1	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	56-55-3	Benzo(a)anthracene	5.5	ug/kg	0.0055	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	50-32-8	Benzo(a)pyrene	5.5	ug/kg	0.0055	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	205-99-2	Benzo(b)fluoranthene	5.6	ug/kg	0.0056	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	191-24-2	Benzo(g,h,i)perylene	7.3	ug/kg	0.0073	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	7440-41-7	Beryllium	1	mg/k	1	1	1
Open Space	Soil	S-1B-04	4	16-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-1B-04	4	16-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1B-04	4	16-Jul-07	207-08-9	Benzo(k)fluoranthene	5.5	ug/kg	0.0055	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	637-92-3	Ethyl tert butyl ether	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	91-20-3	Naphthalene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	1634-04-4	Methyl tert-butyl ether	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	7439-97-6	Mercury	0.53	mg/k	0.53	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	7439-92-1	Lead	8.9	mg/k	8.9	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	108-20-3	Isopropyl ether	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	12	ug/kg	0.012	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	87-68-3	Hexachlorobutadiene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	86-73-7	Fluorene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	7440-02-0	Nickel	94	mg/k	94	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	53-70-3	Dibenz(a,h)anthracene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	74-87-3	Chloromethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	7440-47-3	Chromium	48	mg/k	48	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	218-01-9	Chrysene	19	ug/kg	0.019	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	206-44-0	Fluoranthene	27	ug/kg	0.027	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	7440-50-8	Copper	23	mg/k	23	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07		Dibromofluoromethane	47.2	ug/kg	0.0472	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	75-71-8	Dichlorodifluoromethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07		DRO (C10-C24)	10	mg/k	10	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07		n-Octacosane	5.85	mg/k	5.85	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	7440-48-4	Cobalt	12	mg/k	12	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	98-06-6	tert-Butylbenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	7440-66-6	Zinc	56	mg/k	56	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	1330-20-7	Xylenes (total)	3.9	ug/kg	0.0039	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.38	mg/k	0.38	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	75-01-4	Vinyl chloride	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	7440-62-2	Vanadium	49	mg/k	49	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	75-69-4	Trichlorofluoromethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07		Toluene-d8	45.6	ug/kg	0.0456	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	0
Open Space	Soil	S-1C-01	1	16-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07		ORO (C25-C40)	32	mg/k	32	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	85-01-8	Phenanthrene	28	ug/kg	0.028	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-1C-01	1	16-Jul-07	135-98-8	sec-Butylbenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07		Terphenyl-d14	1100	ug/kg	1.1	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	994-05-8	Tert-amyl methyl ether	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	75-65-0	tert-Butyl alcohol	98	ug/kg	0.098	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	104-51-8	n-Butylbenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	129-00-0	Pyrene	32	ug/kg	0.032	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07		4-Bromofluorobenzene	0.0165	mg/k	0.0165	1	0
Open Space	Soil	S-1C-01	1	16-Jul-07	7440-38-2	Arsenic	5.7	mg/k	5.7	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	90-12-0	1-Methylnaphthalene	5.3	ug/kg	0.0053	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	95-49-8	2-Chlorotoluene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	91-57-6	2-Methylnaphthalene	6.3	ug/kg	0.0063	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07		4-Bromofluorobenzene	28.4	ug/kg	0.0284	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	106-43-4	4-Chlorotoluene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	83-32-9	Acenaphthene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	208-96-8	Acenaphthylene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	120-12-7	Anthracene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07		2-Fluorobiphenyl	770	ug/kg	0.77	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07		Nitrobenzene-d5	850	ug/kg	0.85	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	75-00-3	Chloroethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	75-35-4	1,1-Dichloroethene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	96-18-4	1,2,3-Trichloropropane	9.8	ug/kg	0.0098	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	87-61-6	1,2,3-Trichlorobenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07		C30-C31	5	mg/k	5	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07		C28-C29	4.3	mg/k	4.3	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07		C32-C35	11	mg/k	11	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07		C36-C40	6.1	mg/k	6.1	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07		C8-C40	44	mg/k	44	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	56-23-5	Carbon tetrachloride	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	7440-39-3	Barium	78	mg/k	78	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07		C26-C27	4.9	mg/k	4.9	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-1C-01	1	16-Jul-07	191-24-2	Benzo(g,h,i)perylene	17	ug/kg	0.017	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	56-55-3	Benzo(a)anthracene	12	ug/kg	0.012	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	205-99-2	Benzo(b)fluoranthene	19	ug/kg	0.019	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	207-08-9	Benzo(k)fluoranthene	9.7	ug/kg	0.0097	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	7440-41-7	Beryllium	0.61	mg/k	0.61	1	1
Open Space	Soil	S-1C-01	1	16-Jul-07	108-86-1	Bromobenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	74-97-5	Bromochloromethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	75-25-2	Bromoform	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	74-83-9	Bromomethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1C-01	1	16-Jul-07	50-32-8	Benzo(a)pyrene	13	ug/kg	0.013	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	91-20-3	Naphthalene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	206-44-0	Fluoranthene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	86-73-7	Fluorene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	87-68-3	Hexachlorobutadiene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	108-20-3	Isopropyl ether	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	98-82-8	Isopropylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	7439-92-1	Lead	8.6	mg/k	8.6	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	179601-23-1	m,p-Xylenes	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	7439-97-6	Mercury	0.88	mg/k	0.88	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	1634-04-4	Methyl tert-butyl ether	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	100-41-4	Ethylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	7440-50-8	Copper	22	mg/k	22	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	75-09-2	Methylene chloride	19	ug/kg	0.019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	7440-48-4	Cobalt	11	mg/k	11	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	75-65-0	tert-Butyl alcohol	93	ug/kg	0.093	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	74-87-3	Chloromethane	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	0
Open Space	Soil	S-1C-04	4	16-Jul-07	7440-47-3	Chromium	42	mg/k	42	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	218-01-9	Chrysene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	124-48-1	Dibromochloromethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	10061-01-5	cis-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	67-66-3	Chloroform	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	53-70-3	Dibenz(a,h)anthracene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07		Dibromofluoromethane	42.6	ug/kg	0.0426	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	74-95-3	Dibromomethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	75-71-8	Dichlorodifluoromethane	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	637-92-3	Ethyl tert butyl ether	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	156-59-2	cis-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	75-69-4	Trichlorofluoromethane	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07		Terphenyl-d14	1300	ug/kg	1.3	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	108-88-3	Toluene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07		Toluene-d8	49.7	ug/kg	0.0497	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	156-60-5	trans-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	98-06-6	tert-Butylbenzene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	79-01-6	Trichloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	994-05-8	Tert-amyl methyl ether	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	7440-62-2	Vanadium	42	mg/k	42	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	75-01-4	Vinyl chloride	4.7	ug/kg	0.0047	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-1C-04	4	16-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	1330-20-7	Xylenes (total)	3.7	ug/kg	0.0037	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	75-00-3	Chloroethane	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	10061-02-6	trans-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	99-87-6	p-Isopropyltoluene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	7440-02-0	Nickel	88	mg/k	88	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07		Nitrobenzene-d5	570	ug/kg	0.57	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07		n-Octacosane	5.75	mg/k	5.75	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	103-65-1	n-Propylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07		ORO (C25-C40)	28	mg/k	28	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	127-18-4	Tetrachloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	85-01-8	Phenanthrene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	104-51-8	n-Butylbenzene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	129-00-0	Pyrene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	135-98-8	sec-Butylbenzene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	100-42-5	Styrene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	7440-66-6	Zinc	64	mg/k	64	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	95-47-6	o-Xylene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	78-87-5	1,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	120-12-7	Anthracene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	208-96-8	Acenaphthylene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	83-32-9	Acenaphthene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	106-43-4	4-Chlorotoluene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07		4-Bromofluorobenzene	43.7	ug/kg	0.0437	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07		4-Bromofluorobenzene	0.0156	mg/k	0.0156	1	0
Open Space	Soil	S-1C-04	4	16-Jul-07	91-57-6	2-Methylnaphthalene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07		2-Fluorobiphenyl	630	ug/kg	0.63	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	95-49-8	2-Chlorotoluene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	594-20-7	2,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	90-12-0	1-Methylnaphthalene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	106-46-7	1,4-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	142-28-9	1,3-Dichloropropane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	71-55-6	1,1,1-Trichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	79-00-5	1,1,2-Trichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	75-34-3	1,1-Dichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	75-35-4	1,1-Dichloroethene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	563-58-6	1,1-Dichloropropene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	541-73-1	1,3-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	96-18-4	1,2,3-Trichloropropane	9.3	ug/kg	0.0093	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	108-67-8	1,3,5-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	95-63-6	1,2,4-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	106-93-4	1,2-Dibromoethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	95-50-1	1,2-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	107-06-2	1,2-Dichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	7440-39-3	Barium	100	mg/k	100	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	87-61-6	1,2,3-Trichlorobenzene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07		C30-C31	4.8	mg/k	4.8	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07		C22-C23	3.5	mg/k	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-1C-04	4	16-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07		C28-C29	4.4	mg/k	4.4	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07		C32-C35	8.6	mg/k	8.6	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07		C36-C40	4.3	mg/k	4.3	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07		C8-C40	33	mg/k	33	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	56-23-5	Carbon tetrachloride	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07		C26-C27	4.9	mg/k	4.9	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	7440-41-7	Beryllium	0.66	mg/k	0.66	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	108-90-7	Chlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	71-43-2	Benzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	56-55-3	Benzo(a)anthracene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	50-32-8	Benzo(a)pyrene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	205-99-2	Benzo(b)fluoranthene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	207-08-9	Benzo(k)fluoranthene	5	ug/kg	0.005	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	7440-38-2	Arsenic	5.1	mg/k	5.1	1	1
Open Space	Soil	S-1C-04	4	16-Jul-07	108-86-1	Bromobenzene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	74-97-5	Bromochloromethane	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	75-27-4	Bromodichloromethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	75-25-2	Bromoform	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	74-83-9	Bromomethane	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space	Soil	S-1C-04	4	16-Jul-07	191-24-2	Benzo(g,h,i)perylene	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	207-08-9	Benzo(k)fluoranthene	6	ug/kg	0.006	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	191-24-2	Benzo(g,h,i)perylene	6	ug/kg	0.006	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	56-55-3	Benzo(a)anthracene	6	ug/kg	0.006	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		C32-C35	9.5	mg/k	9.5	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		C8-C40	18	mg/k	18	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07		C8-C9	3.5	mg/k	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-38A-01	1	17-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	205-99-2	Benzo(b)fluoranthene	6	ug/kg	0.006	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	50-32-8	Benzo(a)pyrene	6	ug/kg	0.006	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		2-Fluorobiphenyl	620	ug/kg	0.62	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07	91-57-6	2-Methylnaphthalene	6	ug/kg	0.006	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		4-Bromofluorobenzene	0.0074	mg/k	0.0074	1	0
Open Space	Soil	S-38A-01	1	17-Jul-07		4-Bromofluorobenzene	40.2	ug/kg	0.0402	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	83-32-9	Acenaphthene	6	ug/kg	0.006	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	208-96-8	Acenaphthylene	6	ug/kg	0.006	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	120-12-7	Anthracene	6	ug/kg	0.006	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	7440-38-2	Arsenic	2.4	mg/k	2.4	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07	7440-39-3	Barium	45	mg/k	45	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	90-12-0	1-Methylnaphthalene	6	ug/kg	0.006	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		ORO (C25-C40)	16	mg/k	16	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	85-01-8	Phenanthrene	6	ug/kg	0.006	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	129-00-0	Pyrene	6	ug/kg	0.006	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		Terphenyl-d14	1600	ug/kg	1.6	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		n-Octacosane	5.25	mg/k	5.25	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		n-Octacosane	5.24	mg/k	5.24	1	0
Open Space	Soil	S-38A-01	1	17-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		Toluene-d8	52	ug/kg	0.052	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-38A-01	1	17-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	7440-62-2	Vanadium	28	mg/k	28	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.43	mg/k	0.43	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	7440-66-6	Zinc	40	mg/k	40	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6	ug/kg	0.006	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	7440-47-3	Chromium	9	mg/k	9	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07	7440-48-4	Cobalt	5	mg/k	5	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07	7440-50-8	Copper	12	mg/k	12	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07	53-70-3	Dibenz(a,h)anthracene	6	ug/kg	0.006	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		Dibromofluoromethane	49.3	ug/kg	0.0493	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	206-44-0	Fluoranthene	6	ug/kg	0.006	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	218-01-9	Chrysene	6	ug/kg	0.006	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	7439-92-1	Lead	4.2	mg/k	4.2	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	7439-97-6	Mercury	0.53	mg/k	0.53	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	91-20-3	Naphthalene	6	ug/kg	0.006	0	0
Open Space	Soil	S-38A-01	1	17-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	7440-02-0	Nickel	9.7	mg/k	9.7	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07		Nitrobenzene-d5	690	ug/kg	0.69	1	1
Open Space	Soil	S-38A-01	1	17-Jul-07	86-73-7	Fluorene	6	ug/kg	0.006	0	1
Open Space	Soil	S-38A-01	1	17-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	7439-98-7	Molybdenum	4	mg/k	4	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	108-20-3	Isopropyl ether	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	98-82-8	Isopropylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	7439-92-1	Lead	4	mg/k	4	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	179601-23-1	m,p-Xylenes	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	7439-97-6	Mercury	0.037	mg/k	0.037	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07	218-01-9	Chrysene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	75-09-2	Methylene chloride	19	ug/kg	0.019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	86-73-7	Fluorene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	91-20-3	Naphthalene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	91-20-3	Naphthalene	6.4	ug/kg	0.0064	0	0
Open Space	Soil	S-38A-03	3	17-Jul-07	104-51-8	n-Butylbenzene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	7440-02-0	Nickel	12	mg/k	12	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07		Nitrobenzene-d5	720	ug/kg	0.72	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07	1634-04-4	Methyl tert-butyl ether	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	74-95-3	Dibromomethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	75-34-3	1,1-Dichloroethane	1.9	ug/kg	0.0019	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-38A-03	3	17-Jul-07	10061-01-5	cis-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	7440-48-4	Cobalt	12	mg/k	12	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07	7440-50-8	Copper	11	mg/k	11	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		Dibromofluoromethane	48.4	ug/kg	0.0484	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07	87-68-3	Hexachlorobutadiene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	75-71-8	Dichlorodifluoromethane	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	637-92-3	Ethyl tert butyl ether	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	100-41-4	Ethylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	206-44-0	Fluoranthene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	103-65-1	n-Propylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	124-48-1	Dibromochloromethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	75-01-4	Vinyl chloride	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		n-Octacosane	4.56	mg/k	4.56	1	0
Open Space	Soil	S-38A-03	3	17-Jul-07		Toluene-d8	51.2	ug/kg	0.0512	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07	156-60-5	trans-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	10061-02-6	trans-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	79-01-6	Trichloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	7440-28-0	Thallium	20	mg/k	20	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	7440-62-2	Vanadium	100	mg/k	100	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07	127-18-4	Tetrachloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.37	mg/k	0.37	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	1330-20-7	Xylenes (total)	3.8	ug/kg	0.0038	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	7440-66-6	Zinc	42	mg/k	42	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07	79-00-5	1,1,2-Trichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	71-55-6	1,1,1-Trichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	75-69-4	Trichlorofluoromethane	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	7782-49-2	Selenium	4	mg/k	4	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	7440-47-3	Chromium	21	mg/k	21	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07		ORO (C25-C40)	13	mg/k	13	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07	95-47-6	o-Xylene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	85-01-8	Phenanthrene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	99-87-6	p-Isopropyltoluene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	108-88-3	Toluene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	135-98-8	sec-Butylbenzene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		n-Octacosane	4.57	mg/k	4.57	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07	7440-22-4	Silver	2	mg/k	2	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	100-42-5	Styrene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		Terphenyl-d14	1700	ug/kg	1.7	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07	994-05-8	Tert-amyl methyl ether	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	75-65-0	tert-Butyl alcohol	95	ug/kg	0.095	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	98-06-6	tert-Butylbenzene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	129-00-0	Pyrene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	83-32-9	Acenaphthene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	56-55-3	Benzo(a)anthracene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	95-49-8	2-Chlorotoluene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		2-Fluorobiphenyl	580	ug/kg	0.58	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07	91-57-6	2-Methylnaphthalene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		4-Bromofluorobenzene	0.0124	mg/k	0.0124	1	0
Open Space	Soil	S-38A-03	3	17-Jul-07	90-12-0	1-Methylnaphthalene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	106-43-4	4-Chlorotoluene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	106-46-7	1,4-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	208-96-8	Acenaphthylene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	120-12-7	Anthracene	6.4	ug/kg	0.0064	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-38A-03	3	17-Jul-07	7440-36-0	Antimony	20	mg/k	20	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	7440-38-2	Arsenic	2.5	mg/k	2.5	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07	7440-39-3	Barium	340	mg/k	340	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07	156-59-2	cis-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		4-Bromofluorobenzene	43.4	ug/kg	0.0434	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07	106-93-4	1,2-Dibromoethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	75-35-4	1,1-Dichloroethene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	563-58-6	1,1-Dichloropropene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	87-61-6	1,2,3-Trichlorobenzene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	96-18-4	1,2,3-Trichloropropane	9.5	ug/kg	0.0095	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	594-20-7	2,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	50-32-8	Benzo(a)pyrene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	95-50-1	1,2-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	107-06-2	1,2-Dichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	78-87-5	1,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	108-67-8	1,3,5-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	541-73-1	1,3-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	142-28-9	1,3-Dichloropropane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	95-63-6	1,2,4-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	71-43-2	Benzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		C32-C35	8.2	mg/k	8.2	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		C8-C40	14	mg/k	14	1	1
Open Space	Soil	S-38A-03	3	17-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	56-23-5	Carbon tetrachloride	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	108-90-7	Chlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	75-00-3	Chloroethane	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	67-66-3	Chloroform	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	74-87-3	Chloromethane	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	75-25-2	Bromoform	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	205-99-2	Benzo(b)fluoranthene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	207-08-9	Benzo(k)fluoranthene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	7440-41-7	Beryllium	1	mg/k	1	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	108-86-1	Bromobenzene	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	75-27-4	Bromodichloromethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	74-83-9	Bromomethane	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38A-03	3	17-Jul-07	74-97-5	Bromochloromethane	4.7	ug/kg	0.0047	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	75-71-8	Dichlorodifluoromethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	1634-04-4	Methyl tert-butyl ether	4.9	ug/kg	0.0049	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-38B-01	1	17-Jul-07	7439-97-6	Mercury	0.028	mg/k	0.028	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	7439-92-1	Lead	4.3	mg/k	4.3	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	108-20-3	Isopropyl ether	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	87-68-3	Hexachlorobutadiene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	86-73-7	Fluorene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	206-44-0	Fluoranthene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	7440-48-4	Cobalt	6.6	mg/k	6.6	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07	75-00-3	Chloroethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	74-87-3	Chloromethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	7440-47-3	Chromium	30	mg/k	30	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07	218-01-9	Chrysene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	637-92-3	Ethyl tert butyl ether	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	7440-50-8	Copper	8.1	mg/k	8.1	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07		Dibromofluoromethane	47.8	ug/kg	0.0478	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	104-51-8	n-Butylbenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	91-20-3	Naphthalene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	98-06-6	tert-Butylbenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	994-05-8	Tert-amyl methyl ether	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07		Terphenyl-d14	1400	ug/kg	1.4	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	75-69-4	Trichlorofluoromethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	7440-62-2	Vanadium	40	mg/k	40	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07	75-01-4	Vinyl chloride	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	7440-66-6	Zinc	27	mg/k	27	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07		Toluene-d8	50.7	ug/kg	0.0507	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07	85-01-8	Phenanthrene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	1330-20-7	Xylenes (total)	3.9	ug/kg	0.0039	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	7440-02-0	Nickel	12	mg/k	12	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07		Nitrobenzene-d5	560	ug/kg	0.56	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07		n-Octacosane	5	mg/k	5	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	75-65-0	tert-Butyl alcohol	98	ug/kg	0.098	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	91-20-3	Naphthalene	5.4	ug/kg	0.0054	0	0
Open Space	Soil	S-38B-01	1	17-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	129-00-0	Pyrene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	135-98-8	sec-Butylbenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-38B-01	1	17-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07		ORO (C25-C40)	14	mg/k	14	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07	56-23-5	Carbon tetrachloride	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	208-96-8	Acenaphthylene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	83-32-9	Acenaphthene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	106-43-4	4-Chlorotoluene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07		4-Bromofluorobenzene	34.5	ug/kg	0.0345	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07		4-Bromofluorobenzene	0.0181	mg/k	0.0181	1	0
Open Space	Soil	S-38B-01	1	17-Jul-07	91-57-6	2-Methylnaphthalene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07		2-Fluorobiphenyl	490	ug/kg	0.49	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07	95-49-8	2-Chlorotoluene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	90-12-0	1-Methylnaphthalene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	120-12-7	Anthracene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	96-18-4	1,2,3-Trichloropropane	9.8	ug/kg	0.0098	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	75-35-4	1,1-Dichloroethene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	87-61-6	1,2,3-Trichlorobenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07		C32-C35	5	mg/k	5	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07		C36-C40	4	mg/k	4	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07		C8-C40	16	mg/k	16	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	7440-39-3	Barium	120	mg/k	120	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	7440-38-2	Arsenic	3.1	mg/k	3.1	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	56-55-3	Benzo(a)anthracene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	50-32-8	Benzo(a)pyrene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	205-99-2	Benzo(b)fluoranthene	5.4	ug/kg	0.0054	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-38B-01	1	17-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	207-08-9	Benzo(k)fluoranthene	5.4	ug/kg	0.0054	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	7440-41-7	Beryllium	0.51	mg/k	0.51	1	1
Open Space	Soil	S-38B-01	1	17-Jul-07	108-86-1	Bromobenzene	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	74-97-5	Bromochloromethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	75-25-2	Bromoform	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-01	1	17-Jul-07	74-83-9	Bromomethane	4.9	ug/kg	0.0049	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	7439-98-7	Molybdenum	4	mg/k	4	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	86-73-7	Fluorene	6.3	ug/kg	0.0063	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	87-68-3	Hexachlorobutadiene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.3	ug/kg	0.0063	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	108-20-3	Isopropyl ether	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	98-82-8	Isopropylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	7439-92-1	Lead	4	mg/k	4	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	179601-23-1	m,p-Xylenes	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	7439-97-6	Mercury	0.092	mg/k	0.092	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	104-51-8	n-Butylbenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	75-09-2	Methylene chloride	21	ug/kg	0.021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	206-44-0	Fluoranthene	6.3	ug/kg	0.0063	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	91-20-3	Naphthalene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	91-20-3	Naphthalene	6.3	ug/kg	0.0063	0	0
Open Space	Soil	S-38B-03	3	17-Jul-07	1634-04-4	Methyl tert-butyl ether	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.3	ug/kg	0.0063	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	108-90-7	Chlorobenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	67-66-3	Chloroform	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	74-87-3	Chloromethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	218-01-9	Chrysene	6.3	ug/kg	0.0063	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	75-00-3	Chloroethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	7440-50-8	Copper	9.5	mg/k	9.5	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	100-41-4	Ethylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	124-48-1	Dibromochloromethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07		Dibromofluoromethane	52.4	ug/kg	0.0524	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	74-95-3	Dibromomethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	75-71-8	Dichlorodifluoromethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07		DRO (C10-C24)	110	mg/k	110	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	637-92-3	Ethyl tert butyl ether	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	7440-48-4	Cobalt	10	mg/k	10	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	79-01-6	Trichloroethene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	127-18-4	Tetrachloroethene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	7440-28-0	Thallium	20	mg/k	20	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	108-88-3	Toluene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07		Toluene-d8	55.8	ug/kg	0.0558	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	994-05-8	Tert-amyl methyl ether	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	75-69-4	Trichlorofluoromethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	7440-62-2	Vanadium	120	mg/k	120	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	75-01-4	Vinyl chloride	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	56-23-5	Carbon tetrachloride	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	1330-20-7	Xylenes (total)	4.2	ug/kg	0.0042	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	208-96-8	Acenaphthylene	6.3	ug/kg	0.0063	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	99-87-6	p-Isopropyltoluene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07		Nitrobenzene-d5	640	ug/kg	0.64	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-38B-03	3	17-Jul-07		n-Octacosane	9.52	mg/k	9.52	1	0
Open Space	Soil	S-38B-03	3	17-Jul-07		n-Octacosane	9.55	mg/k	9.55	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	103-65-1	n-Propylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07		ORO (C25-C40)	230	mg/k	230	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	98-06-6	tert-Butylbenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	85-01-8	Phenanthrene	6.3	ug/kg	0.0063	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	7440-02-0	Nickel	12	mg/k	12	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	129-00-0	Pyrene	6.3	ug/kg	0.0063	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	135-98-8	sec-Butylbenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	7782-49-2	Selenium	4	mg/k	4	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	7440-22-4	Silver	2	mg/k	2	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	100-42-5	Styrene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07		Terphenyl-d14	1700	ug/kg	1.7	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	95-47-6	o-Xylene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	106-93-4	1,2-Dibromoethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	106-43-4	4-Chlorotoluene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07		4-Bromofluorobenzene	50.3	ug/kg	0.0503	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07		4-Bromofluorobenzene	0.0159	mg/k	0.0159	1	0
Open Space	Soil	S-38B-03	3	17-Jul-07	91-57-6	2-Methylnaphthalene	6.3	ug/kg	0.0063	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07		2-Fluorobiphenyl	650	ug/kg	0.65	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	95-49-8	2-Chlorotoluene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	594-20-7	2,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	90-12-0	1-Methylnaphthalene	6.3	ug/kg	0.0063	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	106-46-7	1,4-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	142-28-9	1,3-Dichloropropane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	541-73-1	1,3-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	78-87-5	1,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	7440-36-0	Antimony	20	mg/k	20	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	563-58-6	1,1-Dichloropropene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	7440-66-6	Zinc	43	mg/k	43	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	71-55-6	1,1,1-Trichloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	79-00-5	1,1,2-Trichloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	107-06-2	1,2-Dichloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	75-35-4	1,1-Dichloroethene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	95-50-1	1,2-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	75-34-3	1,1-Dichloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07		C26-C27	43	mg/k	43	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	83-32-9	Acenaphthene	6.3	ug/kg	0.0063	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07		C14-C15	7	mg/k	7	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07		C16-C17	13	mg/k	13	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07		C18-C19	15	mg/k	15	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07		C20-C21	32	mg/k	32	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07		C10-C11	7	mg/k	7	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07		C24-C25	34	mg/k	34	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	74-83-9	Bromomethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07		C28-C29	39	mg/k	39	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07		C30-C31	41	mg/k	41	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07		C32-C35	63	mg/k	63	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	S-38B-03	3	17-Jul-07		C36-C40	26	mg/k	26	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07		C8-C40	340	mg/k	340	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07		C8-C9	7	mg/k	7	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07		C22-C23	27	mg/k	27	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.3	ug/kg	0.0063	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	7440-38-2	Arsenic	2.4	mg/k	2.4	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	7440-39-3	Barium	230	mg/k	230	1	1
Open Space	Soil	S-38B-03	3	17-Jul-07	71-43-2	Benzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	56-55-3	Benzo(a)anthracene	6.3	ug/kg	0.0063	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07		C12-C13	7	mg/k	7	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	205-99-2	Benzo(b)fluoranthene	6.3	ug/kg	0.0063	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	120-12-7	Anthracene	6.3	ug/kg	0.0063	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	207-08-9	Benzo(k)fluoranthene	6.3	ug/kg	0.0063	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	7440-41-7	Beryllium	1	mg/k	1	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	108-86-1	Bromobenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	74-97-5	Bromochloromethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	75-27-4	Bromodichloromethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	75-25-2	Bromoform	5.2	ug/kg	0.0052	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	50-32-8	Benzo(a)pyrene	6.3	ug/kg	0.0063	0	1
Open Space	Soil	S-38B-03	3	17-Jul-07	7440-47-3	Chromium	32	mg/k	32	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07	95-50-1	1,2-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	7440-41-7	Beryllium	1.2	mg/k	1.2	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	74-83-9	Bromomethane	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	75-25-2	Bromoform	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	75-27-4	Bromodichloromethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	74-97-5	Bromochloromethane	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	637-92-3	Ethyl tert butyl ether	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	218-01-9	Chrysene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	75-71-8	Dichlorodifluoromethane	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		Dibromofluoromethane	53.5	ug/kg	0.0535	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07	78-87-5	1,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	7440-50-8	Copper	14	mg/k	14	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07	7440-48-4	Cobalt	20	mg/k	20	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		C8-C40	5	mg/k	5	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	7440-47-3	Chromium	25	mg/k	25	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07	74-87-3	Chloromethane	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	67-66-3	Chloroform	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	75-00-3	Chloroethane	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	108-90-7	Chlorobenzene	2.1	ug/kg	0.0021	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-06-01	1	12-Jul-07	56-23-5	Carbon tetrachloride	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	7440-43-9	Cadmium	0.81	mg/k	0.81	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07	207-08-9	Benzo(k)fluoranthene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	142-28-9	1,3-Dichloropropane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	541-73-1	1,3-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	107-06-2	1,2-Dichloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	106-93-4	1,2-Dibromoethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	108-86-1	Bromobenzene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	96-18-4	1,2,3-Trichloropropane	11	ug/kg	0.011	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	594-20-7	2,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	563-58-6	1,1-Dichloropropene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	75-35-4	1,1-Dichloroethene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	75-34-3	1,1-Dichloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	79-00-5	1,1,2-Trichloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	71-55-6	1,1,1-Trichloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	208-96-8	Acenaphthylene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	205-99-2	Benzo(b)fluoranthene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	50-32-8	Benzo(a)pyrene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	56-55-3	Benzo(a)anthracene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	71-43-2	Benzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	7440-39-3	Barium	130	mg/k	130	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07	7440-38-2	Arsenic	3.9	mg/k	3.9	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07	106-46-7	1,4-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	120-12-7	Anthracene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	90-12-0	1-Methylnaphthalene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	83-32-9	Acenaphthene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	106-43-4	4-Chlorotoluene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		4-Bromofluorobenzene	42.7	ug/kg	0.0427	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07		4-Bromofluorobenzene	0.0144	mg/k	0.0144	1	0
Open Space	Soil	SV-06-01	1	12-Jul-07	91-57-6	2-Methylnaphthalene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		2-Fluorobiphenyl	1200	ug/kg	1.2	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07	95-49-8	2-Chlorotoluene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	74-95-3	Dibromomethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	1634-04-4	Methyl tert-butyl ether	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	100-41-4	Ethylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	103-65-1	n-Propylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		n-Octacosane	5.22	mg/k	5.22	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07		Nitrobenzene-d5	980	ug/kg	0.98	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07	7440-02-0	Nickel	44	mg/k	44	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07	104-51-8	n-Butylbenzene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	91-20-3	Naphthalene	6.4	ug/kg	0.0064	0	0
Open Space	Soil	SV-06-01	1	12-Jul-07	91-20-3	Naphthalene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	99-87-6	p-Isopropyltoluene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	75-09-2	Methylene chloride	21	ug/kg	0.021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	124-48-1	Dibromochloromethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	7439-97-6	Mercury	0.07	mg/k	0.07	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-06-01	1	12-Jul-07	179601-23-1	m,p-Xylenes	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	7439-92-1	Lead	5.4	mg/k	5.4	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07	98-82-8	Isopropylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	108-20-3	Isopropyl ether	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	87-68-3	Hexachlorobutadiene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	86-73-7	Fluorene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	206-44-0	Fluoranthene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	7439-98-7	Molybdenum	3.1	mg/k	3.1	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	7440-66-6	Zinc	49	mg/k	49	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07	1330-20-7	Xylenes (total)	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	75-01-4	Vinyl chloride	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	7440-62-2	Vanadium	46	mg/k	46	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07	75-69-4	Trichlorofluoromethane	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	79-01-6	Trichloroethene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	95-47-6	o-Xylene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	108-88-3	Toluene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	85-01-8	Phenanthrene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	127-18-4	Tetrachloroethene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	98-06-6	tert-Butylbenzene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	75-65-0	tert-Butyl alcohol	110	ug/kg	0.11	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	994-05-8	Tert-amyl methyl ether	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		Terphenyl-d14	1700	ug/kg	1.7	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07	100-42-5	Styrene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07	135-98-8	sec-Butylbenzene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-06-01	1	12-Jul-07		Toluene-d8	53.8	ug/kg	0.0538	1	1
Open Space	Soil	SV-06-01	1	12-Jul-07	129-00-0	Pyrene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	91-20-3	Naphthalene	6.4	ug/kg	0.0064	0	0
Open Space	Soil	SV-06-05	5	12-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	7440-02-0	Nickel	52	mg/k	52	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07		Nitrobenzene-d5	890	ug/kg	0.89	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07		n-Octacosane	5.84	mg/k	5.84	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	85-01-8	Phenanthrene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	129-00-0	Pyrene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	206-44-0	Fluoranthene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	86-73-7	Fluorene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	7439-98-7	Molybdenum	3.2	mg/k	3.2	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-06-05	5	12-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	7439-92-1	Lead	5.8	mg/k	5.8	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	7439-97-6	Mercury	0.066	mg/k	0.066	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		Toluene-d8	48.6	ug/kg	0.0486	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07		Terphenyl-d14	1700	ug/kg	1.7	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	7440-66-6	Zinc	64	mg/k	64	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	7440-62-2	Vanadium	86	mg/k	86	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	205-99-2	Benzo(b)fluoranthene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	7440-38-2	Arsenic	5	mg/k	5	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07	7440-39-3	Barium	160	mg/k	160	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	208-96-8	Acenaphthylene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	50-32-8	Benzo(a)pyrene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	83-32-9	Acenaphthene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	207-08-9	Benzo(k)fluoranthene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	7440-41-7	Beryllium	0.95	mg/k	0.95	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	56-55-3	Benzo(a)anthracene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-06-05	5	12-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	120-12-7	Anthracene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	90-12-0	1-Methylnaphthalene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		2-Fluorobiphenyl	1100	ug/kg	1.1	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07	91-57-6	2-Methylnaphthalene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		4-Bromofluorobenzene	0.0152	mg/k	0.0152	1	0
Open Space	Soil	SV-06-05	5	12-Jul-07		4-Bromofluorobenzene	34.1	ug/kg	0.0341	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	7440-43-9	Cadmium	0.72	mg/k	0.72	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07	218-01-9	Chrysene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	7440-48-4	Cobalt	11	mg/k	11	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07	7440-50-8	Copper	19	mg/k	19	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.4	ug/kg	0.0064	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		Dibromofluoromethane	51.6	ug/kg	0.0516	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07	7440-47-3	Chromium	47	mg/k	47	1	1
Open Space	Soil	SV-06-05	5	12-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		C8-C40	5	mg/k	5	0	1
Open Space	Soil	SV-06-05	5	12-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	129-00-0	Pyrene	7	ug/kg	0.007	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	95-50-1	1,2-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	100-42-5	Styrene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	106-43-4	4-Chlorotoluene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		4-Bromofluorobenzene	50.5	ug/kg	0.0505	1	1
Open Space	Soil	SV-06-10	10	12-Jul-07		4-Bromofluorobenzene	0.016	mg/k	0.016	1	0
Open Space	Soil	SV-06-10	10	12-Jul-07	91-57-6	2-Methylnaphthalene	7	ug/kg	0.007	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		2-Fluorobiphenyl	1200	ug/kg	1.2	1	1
Open Space	Soil	SV-06-10	10	12-Jul-07	95-49-8	2-Chlorotoluene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	594-20-7	2,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	90-12-0	1-Methylnaphthalene	7	ug/kg	0.007	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	106-46-7	1,4-Dichlorobenzene	2.1	ug/kg	0.0021	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-06-10	10	12-Jul-07	142-28-9	1,3-Dichloropropane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	541-73-1	1,3-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	208-96-8	Acenaphthylene	7	ug/kg	0.007	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	71-55-6	1,1,1-Trichloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	79-00-5	1,1,2-Trichloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	75-34-3	1,1-Dichloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	78-87-5	1,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	563-58-6	1,1-Dichloropropene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	107-06-2	1,2-Dichloroethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	106-93-4	1,2-Dibromoethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	120-12-7	Anthracene	7	ug/kg	0.007	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	75-35-4	1,1-Dichloroethene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	75-25-2	Bromoform	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		C8-C40	5	mg/k	5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	83-32-9	Acenaphthene	7	ug/kg	0.007	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	191-24-2	Benzo(g,h,i)perylene	7	ug/kg	0.007	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	7440-36-0	Antimony	20	mg/k	20	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	7440-38-2	Arsenic	0.82	mg/k	0.82	1	1
Open Space	Soil	SV-06-10	10	12-Jul-07	7440-39-3	Barium	19	mg/k	19	1	1
Open Space	Soil	SV-06-10	10	12-Jul-07	71-43-2	Benzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	56-55-3	Benzo(a)anthracene	7	ug/kg	0.007	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	205-99-2	Benzo(b)fluoranthene	7	ug/kg	0.007	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	74-83-9	Bromomethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	207-08-9	Benzo(k)fluoranthene	7	ug/kg	0.007	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	7440-41-7	Beryllium	1	mg/k	1	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	108-86-1	Bromobenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	74-97-5	Bromochloromethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	75-27-4	Bromodichloromethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		Terphenyl-d14	1900	ug/kg	1.9	1	1
Open Space	Soil	SV-06-10	10	12-Jul-07	50-32-8	Benzo(a)pyrene	7	ug/kg	0.007	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	86-73-7	Fluorene	7	ug/kg	0.007	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		Dibromofluoromethane	55.2	ug/kg	0.0552	1	1
Open Space	Soil	SV-06-10	10	12-Jul-07	7439-92-1	Lead	4	mg/k	4	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	98-82-8	Isopropylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	108-20-3	Isopropyl ether	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	7	ug/kg	0.007	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-06-10	10	12-Jul-07	7439-97-6	Mercury	0.042	mg/k	0.042	1	1
Open Space	Soil	SV-06-10	10	12-Jul-07	7782-49-2	Selenium	4	mg/k	4	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	1634-04-4	Methyl tert-butyl ether	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	206-44-0	Fluoranthene	7	ug/kg	0.007	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	100-41-4	Ethylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	637-92-3	Ethyl tert butyl ether	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	75-71-8	Dichlorodifluoromethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	7440-22-4	Silver	2	mg/k	2	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	87-68-3	Hexachlorobutadiene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		Nitrobenzene-d5	700	ug/kg	0.7	1	1
Open Space	Soil	SV-06-10	10	12-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	99-87-6	p-Isopropyltoluene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	85-01-8	Phenanthrene	7	ug/kg	0.007	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	95-47-6	o-Xylene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	179601-23-1	m,p-Xylenes	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		n-Octacosane	5.53	mg/k	5.53	1	1
Open Space	Soil	SV-06-10	10	12-Jul-07	124-48-1	Dibromochloromethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	7440-02-0	Nickel	5.8	mg/k	5.8	1	1
Open Space	Soil	SV-06-10	10	12-Jul-07	104-51-8	n-Butylbenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	91-20-3	Naphthalene	7	ug/kg	0.007	0	0
Open Space	Soil	SV-06-10	10	12-Jul-07	91-20-3	Naphthalene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	7439-98-7	Molybdenum	4	mg/k	4	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	75-09-2	Methylene chloride	21	ug/kg	0.021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	103-65-1	n-Propylbenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	1330-20-7	Xylenes (total)	4.1	ug/kg	0.0041	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	994-05-8	Tert-amyl methyl ether	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	98-06-6	tert-Butylbenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	127-18-4	Tetrachloroethene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	7440-28-0	Thallium	20	mg/k	20	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	108-88-3	Toluene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07		Toluene-d8	56.2	ug/kg	0.0562	1	1
Open Space	Soil	SV-06-10	10	12-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	79-01-6	Trichloroethene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	75-69-4	Trichlorofluoromethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	7440-62-2	Vanadium	82	mg/k	82	1	1
Open Space	Soil	SV-06-10	10	12-Jul-07	74-95-3	Dibromomethane	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	74-87-3	Chloromethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	53-70-3	Dibenz(a,h)anthracene	7	ug/kg	0.007	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	7440-50-8	Copper	13	mg/k	13	1	1
Open Space	Soil	SV-06-10	10	12-Jul-07	7440-48-4	Cobalt	11	mg/k	11	1	1
Open Space	Soil	SV-06-10	10	12-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	75-01-4	Vinyl chloride	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	7440-47-3	Chromium	13	mg/k	13	1	1
Open Space	Soil	SV-06-10	10	12-Jul-07	135-98-8	sec-Butylbenzene	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	67-66-3	Chloroform	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	75-00-3	Chloroethane	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	108-90-7	Chlorobenzene	2.1	ug/kg	0.0021	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	56-23-5	Carbon tetrachloride	5.2	ug/kg	0.0052	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space	Soil	SV-06-10	10	12-Jul-07	7440-66-6	Zinc	58	mg/k	58	1	1
Open Space	Soil	SV-06-10	10	12-Jul-07	218-01-9	Chrysene	7	ug/kg	0.007	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-32-01	1	13-Jul-07	1634-04-4	Methyl tert-butyl ether	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	206-44-0	Fluoranthene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	86-73-7	Fluorene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	87-68-3	Hexachlorobutadiene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	108-20-3	Isopropyl ether	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	7439-92-1	Lead	5.5	mg/k	5.5	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	91-20-3	Naphthalene	5.6	ug/kg	0.0056	0	0
Open Space	Soil	SV-32-01	1	13-Jul-07	91-20-3	Naphthalene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	7440-50-8	Copper	5.6	mg/k	5.6	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	104-51-8	n-Butylbenzene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	75-00-3	Chloroethane	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	74-87-3	Chloromethane	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	218-01-9	Chrysene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	7440-48-4	Cobalt	2	mg/k	2	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07	637-92-3	Ethyl tert butyl ether	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		Dibromofluoromethane	48.3	ug/kg	0.0483	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	75-71-8	Dichlorodifluoromethane	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	994-05-8	Tert-amyl methyl ether	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	7440-66-6	Zinc	16	mg/k	16	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07	7440-47-3	Chromium	26	mg/k	26	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	7440-62-2	Vanadium	28	mg/k	28	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07	75-69-4	Trichlorofluoromethane	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		Toluene-d8	48.8	ug/kg	0.0488	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	75-01-4	Vinyl chloride	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	129-00-0	Pyrene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		Nitrobenzene-d5	1000	ug/kg	1	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07		n-Octacosane	4.03	mg/k	4.03	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		ORO (C25-C40)	7.7	mg/k	7.7	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	98-06-6	tert-Butylbenzene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	135-98-8	sec-Butylbenzene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-32-01	1	13-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		Terphenyl-d14	1500	ug/kg	1.5	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07	7440-02-0	Nickel	12	mg/k	12	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07	85-01-8	Phenanthrene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	91-57-6	2-Methylnaphthalene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	90-12-0	1-Methylnaphthalene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		2-Fluorobiphenyl	990	ug/kg	0.99	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		4-Bromofluorobenzene	0.0157	mg/k	0.0157	1	0
Open Space	Soil	SV-32-01	1	13-Jul-07		4-Bromofluorobenzene	44.7	ug/kg	0.0447	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07	106-43-4	4-Chlorotoluene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	83-32-9	Acenaphthene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	208-96-8	Acenaphthylene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	120-12-7	Anthracene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	95-49-8	2-Chlorotoluene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	56-23-5	Carbon tetrachloride	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	75-35-4	1,1-Dichloroethene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		C8-C40	11	mg/k	11	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		C32-C35	5.9	mg/k	5.9	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	7440-38-2	Arsenic	0.98	mg/k	0.98	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	50-32-8	Benzo(a)pyrene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	7440-39-3	Barium	92	mg/k	92	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-32-01	1	13-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	56-55-3	Benzo(a)anthracene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	205-99-2	Benzo(b)fluoranthene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	207-08-9	Benzo(k)fluoranthene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	74-83-9	Bromomethane	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	7440-41-7	Beryllium	0.64	mg/k	0.64	1	1
Open Space	Soil	SV-32-01	1	13-Jul-07	75-25-2	Bromoform	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	74-97-5	Bromochloromethane	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-01	1	13-Jul-07	108-86-1	Bromobenzene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	7440-38-2	Arsenic	1.7	mg/k	1.7	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07	7440-39-3	Barium	90	mg/k	90	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07	56-55-3	Benzo(a)anthracene	6.5	ug/kg	0.0065	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	205-99-2	Benzo(b)fluoranthene	6.5	ug/kg	0.0065	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.5	ug/kg	0.0065	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	207-08-9	Benzo(k)fluoranthene	6.5	ug/kg	0.0065	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	7440-41-7	Beryllium	1.8	mg/k	1.8	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	50-32-8	Benzo(a)pyrene	6.5	ug/kg	0.0065	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		C8-C40	5	mg/k	5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-32-05	5	13-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	208-96-8	Acenaphthylene	6.5	ug/kg	0.0065	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	83-32-9	Acenaphthene	6.5	ug/kg	0.0065	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		4-Bromofluorobenzene	46.6	ug/kg	0.0466	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07		4-Bromofluorobenzene	0.0163	mg/k	0.0163	1	0
Open Space	Soil	SV-32-05	5	13-Jul-07	91-57-6	2-Methylnaphthalene	6.5	ug/kg	0.0065	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	90-12-0	1-Methylnaphthalene	6.5	ug/kg	0.0065	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	120-12-7	Anthracene	6.5	ug/kg	0.0065	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		2-Fluorobiphenyl	960	ug/kg	0.96	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		Nitrobenzene-d5	670	ug/kg	0.67	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07		n-Octacosane	4.89	mg/k	4.89	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	85-01-8	Phenanthrene	6.5	ug/kg	0.0065	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	129-00-0	Pyrene	6.5	ug/kg	0.0065	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	7440-02-0	Nickel	41	mg/k	41	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	7440-66-6	Zinc	35	mg/k	35	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.39	mg/k	0.39	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		Toluene-d8	50	ug/kg	0.05	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		Terphenyl-d14	1800	ug/kg	1.8	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07	7440-62-2	Vanadium	72	mg/k	72	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07	218-01-9	Chrysene	6.5	ug/kg	0.0065	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		Dibromofluoromethane	52.3	ug/kg	0.0523	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.5	ug/kg	0.0065	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-32-05	5	13-Jul-07	7440-50-8	Copper	8.7	mg/k	8.7	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07	7440-47-3	Chromium	52	mg/k	52	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	7440-48-4	Cobalt	29	mg/k	29	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	7439-97-6	Mercury	0.03	mg/k	0.03	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07	7439-92-1	Lead	7.5	mg/k	7.5	1	1
Open Space	Soil	SV-32-05	5	13-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.5	ug/kg	0.0065	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	86-73-7	Fluorene	6.5	ug/kg	0.0065	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	206-44-0	Fluoranthene	6.5	ug/kg	0.0065	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	SV-32-05	5	13-Jul-07	91-20-3	Naphthalene	6.5	ug/kg	0.0065	0	0
Open Space	Soil	SV-32-10	10	13-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	206-44-0	Fluoranthene	5.7	ug/kg	0.0057	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	86-73-7	Fluorene	5.7	ug/kg	0.0057	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	87-68-3	Hexachlorobutadiene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.7	ug/kg	0.0057	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	108-20-3	Isopropyl ether	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	7439-92-1	Lead	4	mg/k	4	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	1634-04-4	Methyl tert-butyl ether	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	7439-98-7	Molybdenum	4	mg/k	4	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	91-20-3	Naphthalene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	7440-50-8	Copper	4	mg/k	4	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	7440-66-6	Zinc	11	mg/k	11	1	1
Open Space	Soil	SV-32-10	10	13-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	7440-47-3	Chromium	12	mg/k	12	1	1
Open Space	Soil	SV-32-10	10	13-Jul-07	218-01-9	Chrysene	5.7	ug/kg	0.0057	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	74-87-3	Chloromethane	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	7440-48-4	Cobalt	2	mg/k	2	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	637-92-3	Ethyl tert butyl ether	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.7	ug/kg	0.0057	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		Dibromofluoromethane	49	ug/kg	0.049	1	1
Open Space	Soil	SV-32-10	10	13-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	75-71-8	Dichlorodifluoromethane	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	98-06-6	tert-Butylbenzene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-32-10	10	13-Jul-07	7440-28-0	Thallium	20	mg/k	20	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		Toluene-d8	51.3	ug/kg	0.0513	1	1
Open Space	Soil	SV-32-10	10	13-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.39	mg/k	0.39	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		Terphenyl-d14	1500	ug/kg	1.5	1	1
Open Space	Soil	SV-32-10	10	13-Jul-07	75-69-4	Trichlorofluoromethane	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	7440-62-2	Vanadium	14	mg/k	14	1	1
Open Space	Soil	SV-32-10	10	13-Jul-07	75-01-4	Vinyl chloride	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	75-00-3	Chloroethane	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	1330-20-7	Xylenes (total)	4.1	ug/kg	0.0041	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	7440-38-2	Arsenic	1.1	mg/k	1.1	1	1
Open Space	Soil	SV-32-10	10	13-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	104-51-8	n-Butylbenzene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	7440-02-0	Nickel	6.3	mg/k	6.3	1	1
Open Space	Soil	SV-32-10	10	13-Jul-07		Nitrobenzene-d5	550	ug/kg	0.55	1	1
Open Space	Soil	SV-32-10	10	13-Jul-07		n-Octacosane	4.78	mg/k	4.78	1	1
Open Space	Soil	SV-32-10	10	13-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	85-01-8	Phenanthrene	5.7	ug/kg	0.0057	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	994-05-8	Tert-amyl methyl ether	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	129-00-0	Pyrene	5.7	ug/kg	0.0057	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	135-98-8	sec-Butylbenzene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	7782-49-2	Selenium	4	mg/k	4	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	7440-22-4	Silver	2	mg/k	2	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	91-20-3	Naphthalene	5.7	ug/kg	0.0057	0	0
Open Space	Soil	SV-32-10	10	13-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	106-43-4	4-Chlorotoluene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		4-Bromofluorobenzene	48.5	ug/kg	0.0485	1	1
Open Space	Soil	SV-32-10	10	13-Jul-07		4-Bromofluorobenzene	0.0173	mg/k	0.0173	1	0
Open Space	Soil	SV-32-10	10	13-Jul-07	91-57-6	2-Methylnaphthalene	5.7	ug/kg	0.0057	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		2-Fluorobiphenyl	890	ug/kg	0.89	1	1
Open Space	Soil	SV-32-10	10	13-Jul-07	95-49-8	2-Chlorotoluene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	90-12-0	1-Methylnaphthalene	5.7	ug/kg	0.0057	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	208-96-8	Acenaphthylene	5.7	ug/kg	0.0057	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-32-10	10	13-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	120-12-7	Anthracene	5.7	ug/kg	0.0057	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	75-35-4	1,1-Dichloroethene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	83-32-9	Acenaphthene	5.7	ug/kg	0.0057	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		C8-C40	5	mg/k	5	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	7440-43-9	Cadmium	0.99	mg/k	0.99	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	56-23-5	Carbon tetrachloride	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	7440-41-7	Beryllium	0.99	mg/k	0.99	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	7440-36-0	Antimony	20	mg/k	20	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	7440-39-3	Barium	35	mg/k	35	1	1
Open Space	Soil	SV-32-10	10	13-Jul-07	56-55-3	Benzo(a)anthracene	5.7	ug/kg	0.0057	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	50-32-8	Benzo(a)pyrene	5.7	ug/kg	0.0057	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	205-99-2	Benzo(b)fluoranthene	5.7	ug/kg	0.0057	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	207-08-9	Benzo(k)fluoranthene	5.7	ug/kg	0.0057	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	108-86-1	Bromobenzene	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	74-97-5	Bromochloromethane	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	75-25-2	Bromoform	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	74-83-9	Bromomethane	5.1	ug/kg	0.0051	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-32-10	10	13-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.7	ug/kg	0.0057	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	7440-39-3	Barium	56	mg/k	56	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07		DRO (C10-C24)	8400	mg/k	8400	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	91-20-3	Naphthalene	7.9	ug/kg	0.0079	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	75-09-2	Methylene chloride	19	ug/kg	0.019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	1634-04-4	Methyl tert-butyl ether	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	7439-97-6	Mercury	0.53	mg/k	0.53	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	179601-23-1	m,p-Xylenes	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	7439-92-1	Lead	71	mg/k	71	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	98-82-8	Isopropylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	108-20-3	Isopropyl ether	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	300	ug/kg	0.3	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	87-68-3	Hexachlorobutadiene	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	86-73-7	Fluorene	2100	ug/kg	2.1	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	206-44-0	Fluoranthene	580	ug/kg	0.58	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	75-00-3	Chloroethane	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	7440-50-8	Copper	17	mg/k	17	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	67-66-3	Chloroform	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	74-87-3	Chloromethane	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	7440-47-3	Chromium	9.8	mg/k	9.8	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	218-01-9	Chrysene	3600	ug/kg	3.6	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-36-01	1	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	100-41-4	Ethylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	7440-48-4	Cobalt	2.8	mg/k	2.8	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	637-92-3	Ethyl tert butyl ether	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	280	ug/kg	0.28	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	124-48-1	Dibromochloromethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07		Dibromofluoromethane	58.8	ug/kg	0.0588	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	74-95-3	Dibromomethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	75-71-8	Dichlorodifluoromethane	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07		n-Octacosane	27.3	mg/k	27.3	1	0
Open Space	Soil	SV-36-01	1	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	75-69-4	Trichlorofluoromethane	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	104-51-8	n-Butylbenzene	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	108-88-3	Toluene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07		Toluene-d8	42.7	ug/kg	0.0427	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	98-06-6	tert-Butylbenzene	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	79-01-6	Trichloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	75-65-0	tert-Butyl alcohol	93	ug/kg	0.093	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	7440-62-2	Vanadium	23	mg/k	23	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	75-01-4	Vinyl chloride	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	1.2	mg/k	1.2	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	1330-20-7	Xylenes (total)	3.7	ug/kg	0.0037	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	7440-66-6	Zinc	81	mg/k	81	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	129-00-0	Pyrene	3200	ug/kg	3.2	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	91-20-3	Naphthalene	53	ug/kg	0.053	0	0
Open Space	Soil	SV-36-01	1	10-Jul-07		n-Octacosane	46.9	mg/k	46.9	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	103-65-1	n-Propylbenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07		ORO (C25-C40)	9500	mg/k	9500	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	95-47-6	o-Xylene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	127-18-4	Tetrachloroethene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	99-87-6	p-Isopropyltoluene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07		Nitrobenzene-d5	2000	ug/kg	2	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	135-98-8	sec-Butylbenzene	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	100-42-5	Styrene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07		Terphenyl-d14	890	ug/kg	0.89	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	994-05-8	Tert-amyl methyl ether	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	85-01-8	Phenanthrene	1400	ug/kg	1.4	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	91-57-6	2-Methylnaphthalene	480	ug/kg	0.48	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	541-73-1	1,3-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	142-28-9	1,3-Dichloropropane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	106-46-7	1,4-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	90-12-0	1-Methylnaphthalene	530	ug/kg	0.53	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	594-20-7	2,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	7440-38-2	Arsenic	20	mg/k	20	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07		2-Fluorobiphenyl	180	ug/kg	0.18	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	107-06-2	1,2-Dichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07		4-Bromofluorobenzene	0.117	mg/k	0.117	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07		4-Bromofluorobenzene	41.4	ug/kg	0.0414	1	0
Open Space	Soil	SV-36-01	1	10-Jul-07	106-43-4	4-Chlorotoluene	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	83-32-9	Acenaphthene	53	ug/kg	0.053	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	208-96-8	Acenaphthylene	53	ug/kg	0.053	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-36-01	1	10-Jul-07	120-12-7	Anthracene	53	ug/kg	0.053	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	95-49-8	2-Chlorotoluene	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	96-18-4	1,2,3-Trichloropropane	9.3	ug/kg	0.0093	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	7440-02-0	Nickel	27	mg/k	27	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	71-55-6	1,1,1-Trichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	108-90-7	Chlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	79-00-5	1,1,2-Trichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	75-34-3	1,1-Dichloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	75-35-4	1,1-Dichloroethene	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	7.1	ug/kg	0.0071	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	78-87-5	1,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	15	ug/kg	0.015	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	106-93-4	1,2-Dibromoethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	95-50-1	1,2-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	563-58-6	1,1-Dichloropropene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07		C8-C9	35	mg/k	35	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	7440-43-9	Cadmium	0.64	mg/k	0.64	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07		C8-C40	12000	mg/k	12000	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07		C36-C40	250	mg/k	250	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07		C32-C35	850	mg/k	850	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07		C30-C31	780	mg/k	780	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07		C28-C29	990	mg/k	990	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07		C26-C27	1400	mg/k	1400	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07		C24-C25	1400	mg/k	1400	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07		C22-C23	1400	mg/k	1400	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07		C20-C21	1500	mg/k	1500	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07		C18-C19	1200	mg/k	1200	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07		C16-C17	1100	mg/k	1100	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07		C14-C15	830	mg/k	830	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07		C12-C13	510	mg/k	510	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	205-99-2	Benzo(b)fluoranthene	890	ug/kg	0.89	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07		C10-C11	210	mg/k	210	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	56-23-5	Carbon tetrachloride	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	71-43-2	Benzene	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	50-32-8	Benzo(a)pyrene	89	ug/kg	0.089	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	600	ug/kg	0.6	1	1
Open Space	Soil	SV-36-01	1	10-Jul-07	207-08-9	Benzo(k)fluoranthene	53	ug/kg	0.053	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	108-86-1	Bromobenzene	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	74-97-5	Bromochloromethane	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	75-27-4	Bromodichloromethane	1.9	ug/kg	0.0019	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	75-25-2	Bromoform	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	74-83-9	Bromomethane	4.6	ug/kg	0.0046	0	1
Open Space	Soil	SV-36-01	1	10-Jul-07	56-55-3	Benzo(a)anthracene	910	ug/kg	0.91	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	108-20-3	Isopropyl ether	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	100-41-4	Ethylbenzene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	206-44-0	Fluoranthene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	86-73-7	Fluorene	170	ug/kg	0.17	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	87-68-3	Hexachlorobutadiene	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	98-82-8	Isopropylbenzene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	7439-92-1	Lead	8.5	mg/k	8.5	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-36-05	5	10-Jul-07	179601-23-1	m,p-Xylenes	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	7439-97-6	Mercury	0.021	mg/k	0.021	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	637-92-3	Ethyl tert butyl ether	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	75-09-2	Methylene chloride	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	10061-01-5	cis-1,3-Dichloropropene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	1634-04-4	Methyl tert-butyl ether	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	156-59-2	cis-1,2-Dichloroethene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	75-00-3	Chloroethane	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	75-65-0	tert-Butyl alcohol	110	ug/kg	0.11	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	91-20-3	Naphthalene	11	ug/kg	0.011	0	0
Open Space	Soil	SV-36-05	5	10-Jul-07	67-66-3	Chloroform	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	74-87-3	Chloromethane	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	7440-50-8	Copper	3.4	mg/k	3.4	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	218-01-9	Chrysene	140	ug/kg	0.14	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07		DRO (C10-C24)	320	mg/k	320	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	7440-48-4	Cobalt	1	mg/k	1	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	124-48-1	Dibromochloromethane	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07		Dibromofluoromethane	51.2	ug/kg	0.0512	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	74-95-3	Dibromomethane	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	75-71-8	Dichlorodifluoromethane	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	7440-47-3	Chromium	9.5	mg/k	9.5	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	79-01-6	Trichloroethene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07		Terphenyl-d14	1200	ug/kg	1.2	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	127-18-4	Tetrachloroethene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	108-88-3	Toluene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07		Toluene-d8	49	ug/kg	0.049	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	108-90-7	Chlorobenzene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	10061-02-6	trans-1,3-Dichloropropene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	994-05-8	Tert-amyl methyl ether	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	75-69-4	Trichlorofluoromethane	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	7440-62-2	Vanadium	10	mg/k	10	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	75-01-4	Vinyl chloride	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	1330-20-7	Xylenes (total)	8.4	ug/kg	0.0084	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	91-20-3	Naphthalene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	156-60-5	trans-1,2-Dichloroethene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	99-87-6	p-Isopropyltoluene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07		Nitrobenzene-d5	1000	ug/kg	1	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07		n-Octacosane	13.8	mg/k	13.8	1	0
Open Space	Soil	SV-36-05	5	10-Jul-07		n-Octacosane	13.9	mg/k	13.9	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	103-65-1	n-Propylbenzene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07		ORO (C25-C40)	420	mg/k	420	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	98-06-6	tert-Butylbenzene	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	85-01-8	Phenanthrene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	7440-02-0	Nickel	4.5	mg/k	4.5	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	129-00-0	Pyrene	140	ug/kg	0.14	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	135-98-8	sec-Butylbenzene	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	100-42-5	Styrene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	7440-66-6	Zinc	15	mg/k	15	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	95-47-6	o-Xylene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	91-57-6	2-Methylnaphthalene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	541-73-1	1,3-Dichlorobenzene	4.2	ug/kg	0.0042	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-36-05	5	10-Jul-07	142-28-9	1,3-Dichloropropane	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	106-46-7	1,4-Dichlorobenzene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	90-12-0	1-Methylnaphthalene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	594-20-7	2,2-Dichloropropane	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07		2-Fluorobiphenyl	900	ug/kg	0.9	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	107-06-2	1,2-Dichloroethane	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07		4-Bromofluorobenzene	0.0126	mg/k	0.0126	1	0
Open Space	Soil	SV-36-05	5	10-Jul-07		4-Bromofluorobenzene	45.1	ug/kg	0.0451	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	106-43-4	4-Chlorotoluene	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	83-32-9	Acenaphthene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	208-96-8	Acenaphthylene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	120-12-7	Anthracene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	95-49-8	2-Chlorotoluene	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	96-18-4	1,2,3-Trichloropropane	21	ug/kg	0.021	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	56-23-5	Carbon tetrachloride	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	104-51-8	n-Butylbenzene	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	71-55-6	1,1,1-Trichloroethane	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	79-00-5	1,1,2-Trichloroethane	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	75-34-3	1,1-Dichloroethane	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	75-35-4	1,1-Dichloroethene	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	108-67-8	1,3,5-Trimethylbenzene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	87-61-6	1,2,3-Trichlorobenzene	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	78-87-5	1,2-Dichloropropane	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	120-82-1	1,2,4-Trichlorobenzene	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	95-63-6	1,2,4-Trimethylbenzene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	106-93-4	1,2-Dibromoethane	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	95-50-1	1,2-Dichlorobenzene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	563-58-6	1,1-Dichloropropene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07		C26-C27	110	mg/k	110	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07		C12-C13	7	mg/k	7	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07		C14-C15	21	mg/k	21	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07		C16-C17	39	mg/k	39	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07		C18-C19	46	mg/k	46	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07		C20-C21	99	mg/k	99	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07		C10-C11	7	mg/k	7	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07		C24-C25	82	mg/k	82	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07		C8-C40	750	mg/k	750	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07		C28-C29	67	mg/k	67	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07		C30-C31	77	mg/k	77	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07		C32-C35	89	mg/k	89	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07		C36-C40	38	mg/k	38	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07		C8-C9	7	mg/k	7	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07		C22-C23	77	mg/k	77	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	50-32-8	Benzo(a)pyrene	9.4	ug/kg	0.0094	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	7440-39-3	Barium	110	mg/k	110	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	74-83-9	Bromomethane	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	56-55-3	Benzo(a)anthracene	5.6	ug/kg	0.0056	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	7440-38-2	Arsenic	2.2	mg/k	2.2	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	205-99-2	Benzo(b)fluoranthene	26	ug/kg	0.026	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	191-24-2	Benzo(g,h,i)perylene	45	ug/kg	0.045	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	207-08-9	Benzo(k)fluoranthene	35	ug/kg	0.035	1	1
Open Space	Soil	SV-36-05	5	10-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-36-05	5	10-Jul-07	108-86-1	Bromobenzene	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	74-97-5	Bromochloromethane	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	75-27-4	Bromodichloromethane	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	75-25-2	Bromoform	11	ug/kg	0.011	0	1
Open Space	Soil	SV-36-05	5	10-Jul-07	71-43-2	Benzene	4.2	ug/kg	0.0042	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	206-44-0	Fluoranthene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	86-73-7	Fluorene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	7439-92-1	Lead	2.8	mg/k	2.8	1	1
Open Space	Soil	SV-37-01	1	12-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	7440-48-4	Cobalt	3	mg/k	3	1	1
Open Space	Soil	SV-37-01	1	12-Jul-07		Terphenyl-d14	1400	ug/kg	1.4	1	1
Open Space	Soil	SV-37-01	1	12-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	7440-47-3	Chromium	18	mg/k	18	1	1
Open Space	Soil	SV-37-01	1	12-Jul-07	7440-50-8	Copper	4.3	mg/k	4.3	1	1
Open Space	Soil	SV-37-01	1	12-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		Dibromofluoromethane	58.9	ug/kg	0.0589	1	1
Open Space	Soil	SV-37-01	1	12-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	218-01-9	Chrysene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	7440-66-6	Zinc	8	mg/k	8	1	1
Open Space	Soil	SV-37-01	1	12-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	7440-62-2	Vanadium	14	mg/k	14	1	1
Open Space	Soil	SV-37-01	1	12-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.39	mg/k	0.39	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		Toluene-d8	47.4	ug/kg	0.0474	1	1
Open Space	Soil	SV-37-01	1	12-Jul-07	85-01-8	Phenanthrene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	7440-02-0	Nickel	10	mg/k	10	1	1
Open Space	Soil	SV-37-01	1	12-Jul-07		Nitrobenzene-d5	870	ug/kg	0.87	1	1
Open Space	Soil	SV-37-01	1	12-Jul-07		n-Octacosane	5.1	mg/k	5.1	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-37-01	1	12-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	91-20-3	Naphthalene	5.3	ug/kg	0.0053	0	0
Open Space	Soil	SV-37-01	1	12-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	129-00-0	Pyrene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	83-32-9	Acenaphthene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		4-Bromofluorobenzene	40.2	ug/kg	0.0402	1	1
Open Space	Soil	SV-37-01	1	12-Jul-07		4-Bromofluorobenzene	0.0129	mg/k	0.0129	1	0
Open Space	Soil	SV-37-01	1	12-Jul-07	91-57-6	2-Methylnaphthalene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		2-Fluorobiphenyl	930	ug/kg	0.93	1	1
Open Space	Soil	SV-37-01	1	12-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	90-12-0	1-Methylnaphthalene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	208-96-8	Acenaphthylene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		C8-C40	5	mg/k	5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	120-12-7	Anthracene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		C8-C9	3.5	mg/k	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-37-01	1	12-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	7440-38-2	Arsenic	15	mg/k	15	1	1
Open Space	Soil	SV-37-01	1	12-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	7440-39-3	Barium	74	mg/k	74	1	1
Open Space	Soil	SV-37-01	1	12-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	56-55-3	Benzo(a)anthracene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	50-32-8	Benzo(a)pyrene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	205-99-2	Benzo(b)fluoranthene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-01	1	12-Jul-07	207-08-9	Benzo(k)fluoranthene	5.3	ug/kg	0.0053	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	206-44-0	Fluoranthene	5.9	ug/kg	0.0059	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	86-73-7	Fluorene	5.9	ug/kg	0.0059	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.9	ug/kg	0.0059	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	7439-92-1	Lead	5.2	mg/k	5.2	1	1
Open Space	Soil	SV-37-05	5	12-Jul-07	91-20-3	Naphthalene	5.9	ug/kg	0.0059	0	0
Open Space	Soil	SV-37-05	5	12-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		Dibromofluoromethane	59.2	ug/kg	0.0592	1	1
Open Space	Soil	SV-37-05	5	12-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.9	ug/kg	0.0059	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	7440-48-4	Cobalt	1.9	mg/k	1.9	1	1
Open Space	Soil	SV-37-05	5	12-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	218-01-9	Chrysene	5.9	ug/kg	0.0059	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	7440-47-3	Chromium	38	mg/k	38	1	1
Open Space	Soil	SV-37-05	5	12-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	7440-50-8	Copper	4.1	mg/k	4.1	1	1
Open Space	Soil	SV-37-05	5	12-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		Toluene-d8	48.2	ug/kg	0.0482	1	1
Open Space	Soil	SV-37-05	5	12-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	7440-62-2	Vanadium	30	mg/k	30	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-37-05	5	12-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	7440-66-6	Zinc	15	mg/k	15	1	1
Open Space	Soil	SV-37-05	5	12-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	129-00-0	Pyrene	5.9	ug/kg	0.0059	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		Nitrobenzene-d5	950	ug/kg	0.95	1	1
Open Space	Soil	SV-37-05	5	12-Jul-07		n-Octacosane	5.15	mg/k	5.15	1	1
Open Space	Soil	SV-37-05	5	12-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	7440-02-0	Nickel	12	mg/k	12	1	1
Open Space	Soil	SV-37-05	5	12-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		Terphenyl-d14	1500	ug/kg	1.5	1	1
Open Space	Soil	SV-37-05	5	12-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	85-01-8	Phenanthrene	5.9	ug/kg	0.0059	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		4-Bromofluorobenzene	0.0145	mg/k	0.0145	1	0
Open Space	Soil	SV-37-05	5	12-Jul-07	7440-38-2	Arsenic	3.8	mg/k	3.8	1	1
Open Space	Soil	SV-37-05	5	12-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	90-12-0	1-Methylnaphthalene	5.9	ug/kg	0.0059	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	91-57-6	2-Methylnaphthalene	5.9	ug/kg	0.0059	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		4-Bromofluorobenzene	48.6	ug/kg	0.0486	1	1
Open Space	Soil	SV-37-05	5	12-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	83-32-9	Acenaphthene	5.9	ug/kg	0.0059	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	208-96-8	Acenaphthylene	5.9	ug/kg	0.0059	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	120-12-7	Anthracene	5.9	ug/kg	0.0059	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		2-Fluorobiphenyl	1000	ug/kg	1	1	1
Open Space	Soil	SV-37-05	5	12-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		C16-C17	3.5	mg/k	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	SV-37-05	5	12-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		C8-C40	5	mg/k	5	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	7440-39-3	Barium	76	mg/k	76	1	1
Open Space	Soil	SV-37-05	5	12-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	207-08-9	Benzo(k)fluoranthene	5.9	ug/kg	0.0059	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	56-55-3	Benzo(a)anthracene	5.9	ug/kg	0.0059	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	50-32-8	Benzo(a)pyrene	5.9	ug/kg	0.0059	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.9	ug/kg	0.0059	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	7440-41-7	Beryllium	0.53	mg/k	0.53	1	1
Open Space	Soil	SV-37-05	5	12-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
Open Space	Soil	SV-37-05	5	12-Jul-07	205-99-2	Benzo(b)fluoranthene	5.9	ug/kg	0.0059	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	120-82-1	1,2,4-Trichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	637-92-3	Ethyl tert butyl ether	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	64-17-5	Ethanol	5	mg/k	5	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	1634-04-4	Methyl tert-butyl ether	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	108-20-3	Isopropyl ether	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-224-10	10	20-Jun-11	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	75-65-0	tert-Butyl alcohol	0.025	mg/k	0.025	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	994-05-8	Tert-amyl methyl ether	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11		TPH Oil Crude (C25-C40)	50	mg/k	50	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	87-61-6	1,2,3-Trichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11	96-12-8	1,2-Dibromo-3-chloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-10	10	20-Jun-11		TPH Diesel (C10-C25)	10	mg/k	10	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	1634-04-4	Methyl tert-butyl ether	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	637-92-3	Ethyl tert butyl ether	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	64-17-5	Ethanol	5	mg/k	5	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-224-5	5	20-Jun-11	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11		TPH Oil Crude (C25-C40)	18	mg/k	18	1	1
Open Space	Soil	B-224-5	5	20-Jun-11	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	108-20-3	Isopropyl ether	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	87-61-6	1,2,3-Trichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	96-12-8	1,2-Dibromo-3-chloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	994-05-8	Tert-amyl methyl ether	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	120-82-1	1,2,4-Trichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11		TPH Diesel (C10-C25)	2.6	mg/k	2.6	1	1
Open Space	Soil	B-224-5	5	20-Jun-11	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	75-65-0	tert-Butyl alcohol	0.025	mg/k	0.025	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-224-5	5	20-Jun-11	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	75-65-0	tert-Butyl alcohol	0.025	mg/k	0.025	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	75-25-2	Bromoform	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-229-10	10	24-Jun-11	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11		TPH Diesel (C10-C25)	27	mg/k	27	1	1
Open Space	Soil	B-229-10	10	24-Jun-11	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	994-05-8	Tert-amyl methyl ether	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	87-61-6	1,2,3-Trichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	96-12-8	1,2-Dibromo-3-chloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	108-20-3	Isopropyl ether	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	120-82-1	1,2,4-Trichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11		TPH Oil Crude (C25-C40)	99	mg/k	99	1	1
Open Space	Soil	B-229-10	10	24-Jun-11	7439-92-1	Lead	15	mg/k	15	1	1
Open Space	Soil	B-229-10	10	24-Jun-11	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	1634-04-4	Methyl tert-butyl ether	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	64-17-5	Ethanol	5	mg/k	5	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	637-92-3	Ethyl tert butyl ether	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-229-10	10	24-Jun-11	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-10	10	24-Jun-11	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	594-20-7	2,2-Dichloropropane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	75-27-4	Bromodichloromethane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	79-00-5	1,1,2-Trichloroethane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	78-87-5	1,2-Dichloropropane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	75-71-8	Dichlorodifluoromethane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	75-69-4	Trichlorofluoromethane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	75-65-0	tert-Butyl alcohol	0.025	mg/k	0.025	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	74-87-3	Chloromethane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	75-34-3	1,1-Dichloroethane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	87-68-3	Hexachlorobutadiene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	75-25-2	Bromoform	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	75-09-2	Methylene chloride	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	75-01-4	Vinyl chloride	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	75-00-3	Chloroethane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	74-97-5	Bromochloromethane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	74-95-3	Dibromomethane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	75-35-4	1,1-Dichloroethene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	96-18-4	1,2,3-Trichloropropane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	7439-92-1	Lead	13	mg/k	13	1	1
Open Space	Soil	B-229-5	5	24-Jun-11	56-23-5	Carbon tetrachloride	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11		TPH Oil Crude (C25-C40)	500	mg/k	500	1	1
Open Space	Soil	B-229-5	5	24-Jun-11		TPH Diesel (C10-C25)	120	mg/k	120	1	1
Open Space	Soil	B-229-5	5	24-Jun-11	99-87-6	p-Isopropyltoluene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	994-05-8	Tert-amyl methyl ether	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	79-34-5	1,1,2,2-Tetrachloroethane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	98-06-6	tert-Butylbenzene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	87-61-6	1,2,3-Trichlorobenzene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	96-12-8	1,2-Dibromo-3-chloropropane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	95-63-6	1,2,4-Trimethylbenzene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	95-50-1	1,2-Dichlorobenzene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	95-49-8	2-Chlorotoluene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	91-20-3	Naphthalene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	79-01-6	Trichloroethene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	98-82-8	Isopropylbenzene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	104-51-8	n-Butylbenzene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	108-90-7	Chlorobenzene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	108-88-3	Toluene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	108-86-1	Bromobenzene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	108-67-8	1,3,5-Trimethylbenzene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	100-42-5	Styrene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	107-06-2	1,2-Dichloroethane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	120-82-1	1,2,4-Trichlorobenzene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	106-43-4	4-Chlorotoluene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	108-20-3	Isopropyl ether	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	103-65-1	n-Propylbenzene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	10061-02-6	trans-1,3-Dichloropropene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	10061-01-5	cis-1,3-Dichloropropene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	74-83-9	Bromomethane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11		TPH Gasoline (C4-C10)	0.49	mg/k	0.49	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	100-41-4	Ethylbenzene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	106-46-7	1,4-Dichlorobenzene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	64-17-5	Ethanol	4.9	mg/k	4.9	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	71-55-6	1,1,1-Trichloroethane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	71-43-2	Benzene	0.0049	mg/k	0.0049	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-229-5	5	24-Jun-11	106-93-4	1,2-Dibromoethane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	67-66-3	Chloroform	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	124-48-1	Dibromochloromethane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	637-92-3	Ethyl tert butyl ether	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	630-20-6	1,1,1,2-Tetrachloroethane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	563-58-6	1,1-Dichloropropene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	541-73-1	1,3-Dichlorobenzene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	156-60-5	trans-1,2-Dichloroethene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	156-59-2	cis-1,2-Dichloroethene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	142-28-9	1,3-Dichloropropane	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	135-98-8	sec-Butylbenzene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	1330-20-7	Xylenes (total)	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	127-18-4	Tetrachloroethene	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-229-5	5	24-Jun-11	1634-04-4	Methyl tert-butyl ether	0.0049	mg/k	0.0049	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	75-25-2	Bromoform	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	79-34-5	1,1,2,2-Tetrachloroethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	75-00-3	Chloroethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	79-01-6	Trichloroethene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	79-00-5	1,1,2-Trichloroethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	78-87-5	1,2-Dichloropropane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	75-71-8	Dichlorodifluoromethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	75-69-4	Trichlorofluoromethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	75-65-0	tert-Butyl alcohol	2.5	mg/k	2.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	75-35-4	1,1-Dichloroethene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	75-01-4	Vinyl chloride	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	75-27-4	Bromodichloromethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	75-09-2	Methylene chloride	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	74-97-5	Bromochloromethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	87-61-6	1,2,3-Trichlorobenzene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	75-34-3	1,1-Dichloroethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	994-05-8	Tert-amyl methyl ether	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	127-18-4	Tetrachloroethene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	74-95-3	Dibromomethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	95-63-6	1,2,4-Trimethylbenzene	54	mg/k	54	1	1
Open Space	Soil	B-230-10	10	27-Jun-11	1330-20-7	Xylenes (total)	150	mg/k	150	1	1
Open Space	Soil	B-230-10	10	27-Jun-11	108-88-3	Toluene	62	mg/k	62	1	1
Open Space	Soil	B-230-10	10	27-Jun-11		TPH Diesel (C10-C25)	220	mg/k	220	1	1
Open Space	Soil	B-230-10	10	27-Jun-11		TPH Gasoline (C4-C10)	3800	mg/k	3800	1	1
Open Space	Soil	B-230-10	10	27-Jun-11	99-87-6	p-Isopropyltoluene	1.7	mg/k	1.7	1	1
Open Space	Soil	B-230-10	10	27-Jun-11	87-68-3	Hexachlorobutadiene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	98-82-8	Isopropylbenzene	4.1	mg/k	4.1	1	1
Open Space	Soil	B-230-10	10	27-Jun-11	98-06-6	tert-Butylbenzene	0.14	mg/k	0.14	1	1
Open Space	Soil	B-230-10	10	27-Jun-11	96-18-4	1,2,3-Trichloropropane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	96-12-8	1,2-Dibromo-3-chloropropane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	95-50-1	1,2-Dichlorobenzene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	95-49-8	2-Chlorotoluene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	91-20-3	Naphthalene	9.8	mg/k	9.8	1	1
Open Space	Soil	B-230-10	10	27-Jun-11		TPH Oil Crude (C25-C40)	13	mg/k	13	1	1
Open Space	Soil	B-230-10	10	27-Jun-11	103-65-1	n-Propylbenzene	4.3	mg/k	4.3	1	1
Open Space	Soil	B-230-10	10	27-Jun-11	108-90-7	Chlorobenzene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	108-86-1	Bromobenzene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	108-67-8	1,3,5-Trimethylbenzene	8.7	mg/k	8.7	1	1
Open Space	Soil	B-230-10	10	27-Jun-11	108-20-3	Isopropyl ether	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	100-41-4	Ethylbenzene	15	mg/k	15	1	1
Open Space	Soil	B-230-10	10	27-Jun-11	106-93-4	1,2-Dibromoethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	120-82-1	1,2,4-Trichlorobenzene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	104-51-8	n-Butylbenzene	2.1	mg/k	2.1	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-230-10	10	27-Jun-11	107-06-2	1,2-Dichloroethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	10061-02-6	trans-1,3-Dichloropropene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	10061-01-5	cis-1,3-Dichloropropene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	100-42-5	Styrene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	74-87-3	Chloromethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	7439-92-1	Lead	9.2	mg/k	9.2	1	1
Open Space	Soil	B-230-10	10	27-Jun-11	142-28-9	1,3-Dichloropropane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	106-43-4	4-Chlorotoluene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	71-43-2	Benzene	11	mg/k	11	1	1
Open Space	Soil	B-230-10	10	27-Jun-11	106-46-7	1,4-Dichlorobenzene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	71-55-6	1,1,1-Trichloroethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	124-48-1	Dibromochloromethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	67-66-3	Chloroform	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	64-17-5	Ethanol	500	mg/k	500	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	637-92-3	Ethyl tert butyl ether	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	630-20-6	1,1,1,2-Tetrachloroethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	594-20-7	2,2-Dichloropropane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	56-23-5	Carbon tetrachloride	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	541-73-1	1,3-Dichlorobenzene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	1634-04-4	Methyl tert-butyl ether	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	156-60-5	trans-1,2-Dichloroethene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	156-59-2	cis-1,2-Dichloroethene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	135-98-8	sec-Butylbenzene	0.93	mg/k	0.93	1	1
Open Space	Soil	B-230-10	10	27-Jun-11	563-58-6	1,1-Dichloropropene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-10	10	27-Jun-11	74-83-9	Bromomethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	74-97-5	Bromochloromethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	78-87-5	1,2-Dichloropropane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	75-71-8	Dichlorodifluoromethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	75-69-4	Trichlorofluoromethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	75-65-0	tert-Butyl alcohol	2.5	mg/k	2.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	75-35-4	1,1-Dichloroethene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	75-34-3	1,1-Dichloroethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	75-27-4	Bromodichloromethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	75-25-2	Bromoform	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	75-09-2	Methylene chloride	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	75-00-3	Chloroethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	74-95-3	Dibromomethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	74-83-9	Bromomethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	79-00-5	1,1,2-Trichloroethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	75-01-4	Vinyl chloride	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	96-12-8	1,2-Dibromo-3-chloropropane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	71-55-6	1,1,1-Trichloroethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11		TPH Diesel (C10-C25)	310	mg/k	310	1	1
Open Space	Soil	B-230-5	5	27-Jun-11		TPH Oil Crude (C25-C40)	24	mg/k	24	1	1
Open Space	Soil	B-230-5	5	27-Jun-11	99-87-6	p-Isopropyltoluene	1.2	mg/k	1.2	1	1
Open Space	Soil	B-230-5	5	27-Jun-11	994-05-8	Tert-amyl methyl ether	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	98-82-8	Isopropylbenzene	2.3	mg/k	2.3	1	1
Open Space	Soil	B-230-5	5	27-Jun-11		TPH Gasoline (C4-C10)	2000	mg/k	2000	1	1
Open Space	Soil	B-230-5	5	27-Jun-11	96-18-4	1,2,3-Trichloropropane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	79-01-6	Trichloroethene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	95-63-6	1,2,4-Trimethylbenzene	19	mg/k	19	1	1
Open Space	Soil	B-230-5	5	27-Jun-11	95-50-1	1,2-Dichlorobenzene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	95-49-8	2-Chlorotoluene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	91-20-3	Naphthalene	6.7	mg/k	6.7	1	1
Open Space	Soil	B-230-5	5	27-Jun-11	87-68-3	Hexachlorobutadiene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	87-61-6	1,2,3-Trichlorobenzene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	79-34-5	1,1,2,2-Tetrachloroethane	0.5	mg/k	0.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-230-5	5	27-Jun-11	98-06-6	tert-Butylbenzene	0.12	mg/k	0.12	1	1
Open Space	Soil	B-230-5	5	27-Jun-11	104-51-8	n-Butylbenzene	1.5	mg/k	1.5	1	1
Open Space	Soil	B-230-5	5	27-Jun-11	108-88-3	Toluene	7.4	mg/k	7.4	1	1
Open Space	Soil	B-230-5	5	27-Jun-11	108-86-1	Bromobenzene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	108-67-8	1,3,5-Trimethylbenzene	5.5	mg/k	5.5	1	1
Open Space	Soil	B-230-5	5	27-Jun-11	108-20-3	Isopropyl ether	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	107-06-2	1,2-Dichloroethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	106-93-4	1,2-Dibromoethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	108-90-7	Chlorobenzene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	106-43-4	4-Chlorotoluene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	100-41-4	Ethylbenzene	9.9	mg/k	9.9	1	1
Open Space	Soil	B-230-5	5	27-Jun-11	103-65-1	n-Propylbenzene	2.3	mg/k	2.3	1	1
Open Space	Soil	B-230-5	5	27-Jun-11	10061-02-6	trans-1,3-Dichloropropene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	10061-01-5	cis-1,3-Dichloropropene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	100-42-5	Styrene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	7439-92-1	Lead	9.7	mg/k	9.7	1	1
Open Space	Soil	B-230-5	5	27-Jun-11	74-87-3	Chloromethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	71-43-2	Benzene	2.3	mg/k	2.3	1	1
Open Space	Soil	B-230-5	5	27-Jun-11	106-46-7	1,4-Dichlorobenzene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	563-58-6	1,1-Dichloropropene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	67-66-3	Chloroform	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	64-17-5	Ethanol	500	mg/k	500	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	120-82-1	1,2,4-Trichlorobenzene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	594-20-7	2,2-Dichloropropane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	637-92-3	Ethyl tert butyl ether	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	56-23-5	Carbon tetrachloride	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	541-73-1	1,3-Dichlorobenzene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	127-18-4	Tetrachloroethene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	630-20-6	1,1,1,2-Tetrachloroethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	124-48-1	Dibromochloromethane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	1634-04-4	Methyl tert-butyl ether	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	1330-20-7	Xylenes (total)	51	mg/k	51	1	1
Open Space	Soil	B-230-5	5	27-Jun-11	135-98-8	sec-Butylbenzene	0.64	mg/k	0.64	1	1
Open Space	Soil	B-230-5	5	27-Jun-11	142-28-9	1,3-Dichloropropane	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	156-59-2	cis-1,2-Dichloroethene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-230-5	5	27-Jun-11	156-60-5	trans-1,2-Dichloroethene	0.5	mg/k	0.5	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	75-65-0	tert-Butyl alcohol	0.025	mg/k	0.025	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	96-12-8	1,2-Dibromo-3-chloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11		TPH Diesel (C10-C25)	10	mg/k	10	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-231-10	10	27-Jun-11	994-05-8	Tert-amyl methyl ether	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	95-63-6	1,2,4-Trimethylbenzene	0.00096	mg/k	0.00096	1	1
Open Space	Soil	B-231-10	10	27-Jun-11		TPH Oil Crude (C25-C40)	50	mg/k	50	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	87-61-6	1,2,3-Trichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	98-82-8	Isopropylbenzene	0.0023	mg/k	0.0023	1	1
Open Space	Soil	B-231-10	10	27-Jun-11	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	108-20-3	Isopropyl ether	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	120-82-1	1,2,4-Trichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	107-06-2	1,2-Dichloroethane	0.0057	mg/k	0.0057	1	1
Open Space	Soil	B-231-10	10	27-Jun-11	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11		TPH Gasoline (C4-C10)	0.5	mg/k	0.5	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	71-43-2	Benzene	0.043	mg/k	0.043	1	1
Open Space	Soil	B-231-10	10	27-Jun-11	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	64-17-5	Ethanol	5	mg/k	5	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	637-92-3	Ethyl tert butyl ether	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	1330-20-7	Xylenes (total)	0.0056	mg/k	0.0056	1	1
Open Space	Soil	B-231-10	10	27-Jun-11	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-10	10	27-Jun-11	1634-04-4	Methyl tert-butyl ether	0.005	mg/k	0.005	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	75-65-0	tert-Butyl alcohol	0.024	mg/k	0.024	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	74-87-3	Chloromethane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	79-00-5	1,1,2-Trichloroethane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	78-87-5	1,2-Dichloropropane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	75-71-8	Dichlorodifluoromethane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	75-69-4	Trichlorofluoromethane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	79-01-6	Trichloroethene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	75-35-4	1,1-Dichloroethene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	75-34-3	1,1-Dichloroethane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	75-27-4	Bromodichloromethane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	75-25-2	Bromoform	0.0048	mg/k	0.0048	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space	Soil	B-231-5	5	27-Jun-11	75-09-2	Methylene chloride	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	75-01-4	Vinyl chloride	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	75-00-3	Chloroethane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	74-95-3	Dibromomethane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	74-97-5	Bromochloromethane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	96-12-8	1,2-Dibromo-3-chloropropane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	120-82-1	1,2,4-Trichlorobenzene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11		TPH Oil Crude (C25-C40)	24	mg/k	24	1	1
Open Space	Soil	B-231-5	5	27-Jun-11	74-83-9	Bromomethane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	99-87-6	p-Isopropyltoluene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	994-05-8	Tert-amyl methyl ether	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	98-82-8	Isopropylbenzene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11		TPH Diesel (C10-C25)	6.9	mg/k	6.9	1	1
Open Space	Soil	B-231-5	5	27-Jun-11	96-18-4	1,2,3-Trichloropropane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	79-34-5	1,1,2,2-Tetrachloroethane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	95-63-6	1,2,4-Trimethylbenzene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	95-50-1	1,2-Dichlorobenzene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	95-49-8	2-Chlorotoluene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	91-20-3	Naphthalene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	87-68-3	Hexachlorobutadiene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	87-61-6	1,2,3-Trichlorobenzene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11		TPH Gasoline (C4-C10)	0.48	mg/k	0.48	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	98-06-6	tert-Butylbenzene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	104-51-8	n-Butylbenzene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	127-18-4	Tetrachloroethene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	108-86-1	Bromobenzene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	108-67-8	1,3,5-Trimethylbenzene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	108-20-3	Isopropyl ether	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	107-06-2	1,2-Dichloroethane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	106-93-4	1,2-Dibromoethane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	108-90-7	Chlorobenzene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	106-43-4	4-Chlorotoluene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	124-48-1	Dibromochloromethane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	103-65-1	n-Propylbenzene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	10061-02-6	trans-1,3-Dichloropropene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	10061-01-5	cis-1,3-Dichloropropene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	100-42-5	Styrene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	100-41-4	Ethylbenzene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	7439-92-1	Lead	7.2	mg/k	7.2	1	1
Open Space	Soil	B-231-5	5	27-Jun-11	106-46-7	1,4-Dichlorobenzene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	541-73-1	1,3-Dichlorobenzene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	71-43-2	Benzene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	67-66-3	Chloroform	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	64-17-5	Ethanol	4.8	mg/k	4.8	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	637-92-3	Ethyl tert butyl ether	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	630-20-6	1,1,1,2-Tetrachloroethane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	594-20-7	2,2-Dichloropropane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	108-88-3	Toluene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	56-23-5	Carbon tetrachloride	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	71-55-6	1,1,1-Trichloroethane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	1634-04-4	Methyl tert-butyl ether	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	156-60-5	trans-1,2-Dichloroethene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	156-59-2	cis-1,2-Dichloroethene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	142-28-9	1,3-Dichloropropane	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	135-98-8	sec-Butylbenzene	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	1330-20-7	Xylenes (total)	0.0048	mg/k	0.0048	0	1
Open Space	Soil	B-231-5	5	27-Jun-11	563-58-6	1,1-Dichloropropene	0.0048	mg/k	0.0048	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	142-82-5	n-Heptane	0.0078	ug/L	0.0078	1	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	67-64-1	Acetone	0.011	UG/L	0.011	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0071	ug/L	0.0071	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.0069	UG/L	0.0069	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.0069	UG/L	0.0069	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	123-91-1	1,4-Dioxane	0.016	UG/L	0.016	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.0053	UG/L	0.0053	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	78-93-3	2-Butanone	0.0034	UG/L	0.0034	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	591-78-6	2-Hexanone	0.019	UG/L	0.019	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.0056	UG/L	0.0056	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.0047	UG/L	0.0047	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	78-87-5	1,2-Dichloropropane	0.0053	UG/L	0.0053	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	107-05-1	Allyl chloride	0.014	UG/L	0.014	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	71-43-2	Benzene	0.0036	UG/L	0.0036	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	100-44-7	Benzyl chloride	0.0059	UG/L	0.0059	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	75-27-4	Bromodichloromethane	0.0077	UG/L	0.0077	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	75-25-2	Bromoform	0.012	UG/L	0.012	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	74-83-9	Bromomethane	0.0044	UG/L	0.0044	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	75-01-4	Vinyl Chloride	0.0029	UG/L	0.0029	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07		4-Bromofluorobenzene	86	%		1	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.028	UG/L	0.028	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	0.031	UG/L	0.031	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.0062	UG/L	0.0062	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0079	UG/L	0.0079	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0088	UG/L	0.0088	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.0062	UG/L	0.0062	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	106-99-0	1,3-Butadiene	0.0025	UG/L	0.0025	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	75-35-4	1,1-Dichloroethene	0.0045	UG/L	0.0045	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	67-66-3	Chloroform	0.0056	UG/L	0.0056	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.034	UG/L	0.034	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.0056	UG/L	0.0056	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	106-93-4	1,2-Dibromoethane	0.0088	UG/L	0.0088	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.008	UG/L	0.008	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.0069	UG/L	0.0069	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	107-06-2	1,2-Dichloroethane	0.0046	UG/L	0.0046	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07		1,2-Dichloroethane-d4	107	%		1	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	75-34-3	1,1-Dichloroethane	0.0046	UG/L	0.0046	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07		Toluene-d8	99	%		1	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	103-65-1	n-Propylbenzene	0.0056	UG/L	0.0056	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	95-47-6	o-Xylene	0.005	UG/L	0.005	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	622-96-8	p-Ethyltoluene	0.0056	UG/L	0.0056	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	100-42-5	Styrene	0.0049	UG/L	0.0049	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.019	UG/L	0.019	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	75-65-0	tert-Butyl alcohol	0.014	UG/L	0.014	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	127-18-4	Tetrachloroethene	0.0078	UG/L	0.0078	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	56-23-5	Carbon Tetrachloride	0.0072	UG/L	0.0072	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	108-88-3	Toluene	0.0043	UG/L	0.0043	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	75-09-2	Methylene Chloride	0.004	UG/L	0.004	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.0045	UG/L	0.0045	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.0052	UG/L	0.0052	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	79-01-6	Trichloroethene	0.0062	UG/L	0.0062	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	75-69-4	Trichlorofluoromethane	0.0064	UG/L	0.0064	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	75-09-2	Methylene chloride	0.0044	ug/L	0.0044	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	109-99-9	Tetrahydrofuran	0.0034	UG/L	0.0034	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	100-41-4	Ethylbenzene	0.005	UG/L	0.005	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	75-15-0	Carbon Disulfide	0.0036	UG/L	0.0036	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	74-87-3	Chloromethane	0.0094	UG/L	0.0094	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.0045	UG/L		0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.0052	UG/L	0.0052	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	110-82-7	Cyclohexane	0.01	UG/L	0.01	1	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	124-48-1	Dibromochloromethane	0.0098	UG/L	0.0098	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.0057	UG/L	0.0057	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	142-82-5	n-Heptane	0.0047	UG/L	0.0047	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.019	UG/L	0.019	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	91-20-3	Naphthalene	0.024	UG/L	0.024	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	87-68-3	Hexachlorobutadiene	0.049	UG/L	0.049	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	110-54-3	Hexane	0.004	UG/L	0.004	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	67-63-0	Isopropyl alcohol	0.031	UG/L	0.031	1	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	108-20-3	Isopropyl ether	0.019	UG/L	0.019	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	98-82-8	Isopropylbenzene	0.0056	UG/L	0.0056	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	179601-23-1	m,p-Xylenes	0.005	UG/L	0.005	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.0041	UG/L	0.0041	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	75-00-3	Chloroethane	0.003	UG/L	0.003	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	64-17-5	Ethanol	0.0086	UG/L	0.0086	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.0085	ug/L	0.0085	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	78-93-3	2-Butanone	0.01	ug/L	0.01	1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	ug/L	0.0097	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07		4-Bromofluorobenzene	93	%		1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0052	ug/L	0.0052	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	67-64-1	Acetone	0.016	ug/L	0.016	1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	75-00-3	Chloroethane	0.0033	ug/L	0.0033	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.0065	ug/L	0.0065	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	74-83-9	Bromomethane	0.0049	ug/L	0.0049	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07		Carbon Dioxide	1	%		1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.0076	ug/L	0.0076	1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07		Carbon Monoxide	0.051	%		0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.008	ug/L	0.008	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.0058	ug/L	0.0058	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	71-43-2	Benzene	0.004	ug/L	0.004	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.012	ug/L	0.012	1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	ug/L	0.0087	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0069	ug/L	0.0069	0	1
Open Space/NativeG	GS	SV-52-05	5	12-Sep-07	108-90-7	Chlorobenzene	0.0053	UG/L	0.0053	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	79-01-6	Trichloroethene	0.0068	ug/L	0.0068	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0069	ug/L	0.0069	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0051	ug/L	0.0051	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.005	ug/L	0.005	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.0097	ug/L	0.0097	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	ug/L	0.0088	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0051	ug/L	0.0051	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07		1,2-Dichloroethane-d4	100	%		1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0058	ug/L	0.0058	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0073	ug/L	0.0073	1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	74-82-8	Methane	0.00051	%		0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07		Nitrogen	79	%		1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.0062	ug/L	0.0062	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07		Oxygen	20	%		1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	95-47-6	o-Xylene	0.011	ug/L	0.011	1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.021	ug/L	0.021	1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	100-42-5	Styrene	0.0054	ug/L	0.0054	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	108-88-3	Toluene	0.01	ug/L	0.01	1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.0086	ug/L	0.0086	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.0037	ug/L	0.0037	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07		Toluene-d8	99	%		1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0059	ug/L	0.0059	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.005	ug/L	0.005	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.013	ug/L	0.013	1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.0062	ug/L	0.0062	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	67-66-3	Chloroform	0.015	ug/L	0.015	1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.005	ug/L		0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	110-82-7	Cyclohexane	0.035	ug/L	0.035	1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0062	ug/L	0.0062	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07		Ethane	0.0051	%		0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	64-17-5	Ethanol	0.0095	ug/L	0.0095	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.0071	ug/L	0.0071	1	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.054	ug/L	0.054	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	110-54-3	Hexane	0.0044	ug/L	0.0044	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
Open Space/NativeG	GS	SV-52-05	5	19-Jul-07		Ethene	0.0051	%		0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.02	UG/L	0.02	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	100-42-5	Styrene	0.0052	UG/L	0.0052	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	622-96-8	p-Ethyltoluene	0.0059	UG/L	0.0059	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	95-47-6	o-Xylene	0.0052	UG/L	0.0052	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	103-65-1	n-Propylbenzene	0.0059	UG/L	0.0059	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	142-82-5	n-Heptane	0.005	UG/L	0.005	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	91-20-3	Naphthalene	0.025	UG/L	0.025	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	87-68-3	Hexachlorobutadiene	0.052	UG/L	0.052	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	75-09-2	Methylene Chloride	0.0042	UG/L	0.0042	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	108-20-3	Isopropyl ether	0.02	UG/L	0.02	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	110-54-3	Hexane	0.0043	UG/L	0.0043	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	179601-23-1	m,p-Xylenes	0.0052	UG/L	0.0052	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	98-82-8	Isopropylbenzene	0.0059	UG/L	0.0059	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	75-65-0	tert-Butyl alcohol	0.015	UG/L	0.015	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	67-63-0	Isopropyl alcohol	0.012	UG/L	0.012	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.0044	UG/L	0.0044	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	75-01-4	Vinyl Chloride	0.0031	UG/L	0.0031	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	100-41-4	Ethylbenzene	0.0052	UG/L	0.0052	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	95-47-6	o-Xylene	0.0073	ug/L	0.0073	1	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07		Oxygen	18	%		1	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.012	ug/L	0.012	1	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.0086	ug/L	0.0086	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	79-01-6	Trichloroethene	0.0065	UG/L	0.0065	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	108-88-3	Toluene	0.01	ug/L	0.01	1	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	127-18-4	Tetrachloroethene	0.0082	UG/L	0.0082	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	75-69-4	Trichlorofluoromethane	0.0068	UG/L	0.0068	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	100-42-5	Styrene	0.0054	ug/L	0.0054	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.0055	UG/L	0.0055	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.0048	UG/L	0.0048	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07		Toluene-d8	97	%		1	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	108-88-3	Toluene	0.0046	UG/L	0.0046	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	109-99-9	Tetrahydrofuran	0.0036	UG/L	0.0036	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.0037	ug/L	0.0037	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	106-99-0	1,3-Butadiene	0.0027	UG/L	0.0027	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.0073	UG/L	0.0073	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.005	UG/L	0.005	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07		4-Bromofluorobenzene	88	%		1	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	591-78-6	2-Hexanone	0.02	UG/L	0.02	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	78-93-3	2-Butanone	0.0036	UG/L	0.0036	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.0056	UG/L	0.0056	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	123-91-1	1,4-Dioxane	0.017	UG/L	0.017	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	107-05-1	Allyl chloride	0.015	UG/L	0.015	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.0073	UG/L	0.0073	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	71-43-2	Benzene	0.0039	UG/L	0.0039	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.0059	UG/L	0.0059	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	78-87-5	1,2-Dichloropropane	0.0056	UG/L	0.0056	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07		1,2-Dichloroethane-d4	106	%		1	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	107-06-2	1,2-Dichloroethane	0.0049	UG/L	0.0049	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0084	UG/L	0.0084	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.0062	ug/L	0.0062	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.0059	UG/L	0.0059	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	106-93-4	1,2-Dibromoethane	0.0093	UG/L	0.0093	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.0073	UG/L	0.0073	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	67-66-3	Chloroform	0.014	UG/L	0.014	1	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	64-17-5	Ethanol	0.0091	UG/L	0.0091	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.006	UG/L	0.006	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	124-48-1	Dibromochloromethane	0.01	UG/L	0.01	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	110-82-7	Cyclohexane	0.011	UG/L	0.011	1	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.0055	UG/L	0.0055	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.0048	UG/L		0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	75-35-4	1,1-Dichloroethene	0.0048	UG/L	0.0048	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	67-64-1	Acetone	0.011	UG/L	0.011	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.029	UG/L	0.029	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.02	UG/L	0.02	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	75-00-3	Chloroethane	0.0032	UG/L	0.0032	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	108-90-7	Chlorobenzene	0.0056	UG/L	0.0056	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	56-23-5	Carbon Tetrachloride	0.0076	UG/L	0.0076	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	75-15-0	Carbon Disulfide	0.0038	UG/L	0.0038	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	74-83-9	Bromomethane	0.0047	UG/L	0.0047	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	75-25-2	Bromoform	0.012	UG/L	0.012	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	75-27-4	Bromodichloromethane	0.0081	UG/L	0.0081	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	100-44-7	Benzyl chloride	0.0063	UG/L	0.0063	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	74-87-3	Chloromethane	0.01	UG/L	0.01	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0058	ug/L	0.0058	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0073	ug/L	0.0073	1	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.0097	ug/L	0.0097	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	ug/L	0.0088	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0051	ug/L	0.0051	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07		1,2-Dichloroethane-d4	102	%		1	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0069	ug/L	0.0069	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0083	ug/L	0.0083	1	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0059	ug/L	0.0059	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0051	ug/L	0.0051	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.0066	UG/L	0.0066	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0069	ug/L	0.0069	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.005	ug/L	0.005	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.036	UG/L	0.036	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	79-01-6	Trichloroethene	0.0068	ug/L	0.0068	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0071	ug/L	0.0071	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.005	ug/L	0.005	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	0.033	UG/L	0.033	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07		4-Bromofluorobenzene	96	%		1	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07		Toluene-d8	102	%		1	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0083	UG/L	0.0083	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0093	UG/L	0.0093	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.0066	UG/L	0.0066	0	1
Open Space/NativeG	GS	SV-53-05	5	12-Sep-07	75-34-3	1,1-Dichloroethane	0.0049	UG/L	0.0049	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	ug/L	0.0087	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	ug/L	0.0097	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	78-93-3	2-Butanone	0.01	ug/L	0.01	1	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07		Ethane	0.0025	%		0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	64-17-5	Ethanol	0.0095	ug/L	0.0095	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07		Ethene	0.0025	%		0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.0055	ug/L	0.0055	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.054	ug/L	0.054	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	110-82-7	Cyclohexane	0.014	ug/L	0.014	1	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.0062	ug/L	0.0062	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.015	ug/L	0.015	1	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	74-82-8	Methane	0.00025	%		0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	75-09-2	Methylene chloride	0.0044	ug/L	0.0044	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	142-82-5	n-Heptane	0.01	ug/L	0.01	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	110-54-3	Hexane	0.0044	ug/L	0.0044	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.0039	ug/L	0.0039	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0052	ug/L	0.0052	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	67-64-1	Acetone	0.026	ug/L	0.026	1	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	71-43-2	Benzene	0.004	ug/L	0.004	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.0065	ug/L	0.0065	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.0085	ug/L	0.0085	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0062	ug/L	0.0062	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07		Carbon Dioxide	3.2	%		1	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07		Nitrogen	79	%		1	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07		Carbon Monoxide	0.025	%		0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.008	ug/L	0.008	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.0058	ug/L	0.0058	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	75-00-3	Chloroethane	0.0033	ug/L	0.0033	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	67-66-3	Chloroform	0.016	ug/L	0.016	1	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.005	ug/L		0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
Open Space/NativeG	GS	SV-53-05	5	19-Jul-07	74-83-9	Bromomethane	0.0049	ug/L	0.0049	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	75-25-2	Bromoform	0.012	UG/L	0.012	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	0.031	UG/L	0.031	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	110-82-7	Cyclohexane	0.0093	UG/L	0.0093	1	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0078	UG/L	0.0078	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	106-93-4	1,2-Dibromoethane	0.0086	UG/L	0.0086	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.0055	UG/L	0.0055	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.033	UG/L	0.033	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.027	UG/L	0.027	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	75-35-4	1,1-Dichloroethene	0.0044	UG/L	0.0044	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	75-34-3	1,1-Dichloroethane	0.0045	UG/L	0.0045	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.0061	UG/L	0.0061	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0086	UG/L	0.0086	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	107-06-2	1,2-Dichloroethane	0.0045	UG/L	0.0045	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.0061	UG/L	0.0061	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07		1,2-Dichloroethane-d4	105	%		1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0069	ug/L	0.0069	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	79-01-6	Trichloroethene	0.0066	ug/L	0.0066	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0049	ug/L	0.0049	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07		Toluene-d8	98	%		1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	108-88-3	Toluene	0.083	ug/L	0.083	1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.0036	ug/L	0.0036	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.0084	ug/L	0.0084	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0077	UG/L	0.0077	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	67-64-1	Acetone	0.013	UG/L	0.013	1	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.0051	UG/L	0.0051	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.0044	UG/L		0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	74-87-3	Chloromethane	0.0092	UG/L	0.0092	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	67-66-3	Chloroform	0.0055	UG/L	0.0055	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	75-00-3	Chloroethane	0.003	UG/L	0.003	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	108-90-7	Chlorobenzene	0.0052	UG/L	0.0052	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	56-23-5	Carbon Tetrachloride	0.007	UG/L	0.007	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	74-83-9	Bromomethane	0.0043	UG/L	0.0043	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	75-27-4	Bromodichloromethane	0.0075	UG/L	0.0075	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	100-44-7	Benzyl chloride	0.0058	UG/L	0.0058	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.0067	UG/L	0.0067	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	107-05-1	Allyl chloride	0.014	UG/L	0.014	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.02	ug/L	0.02	1	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.0046	UG/L	0.0046	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07		4-Bromofluorobenzene	88	%		1	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	591-78-6	2-Hexanone	0.018	UG/L	0.018	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	78-93-3	2-Butanone	0.0033	UG/L	0.0033	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.0052	UG/L	0.0052	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	123-91-1	1,4-Dioxane	0.016	UG/L	0.016	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.0067	UG/L	0.0067	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.0067	UG/L	0.0067	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	106-99-0	1,3-Butadiene	0.0025	UG/L	0.0025	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.0055	UG/L	0.0055	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	78-87-5	1,2-Dichloropropane	0.0052	UG/L	0.0052	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	71-43-2	Benzene	0.0036	UG/L	0.0036	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	75-15-0	Carbon Disulfide	0.0068	UG/L	0.0068	1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.0057	ug/L	0.0057	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.0078	ug/L	0.0078	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07		Carbon Monoxide	0.025	%		0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.031	ug/L	0.031	1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07		Carbon Dioxide	3.3	%		1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	74-83-9	Bromomethane	0.0048	ug/L	0.0048	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.0083	ug/L	0.0083	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	71-43-2	Benzene	0.05	ug/L	0.05	1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	67-64-1	Acetone	0.03	ug/L	0.03	1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.005	ug/L	0.005	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07		4-Bromofluorobenzene	95	%		1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	78-93-3	2-Butanone	0.015	ug/L	0.015	1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0058	ug/L	0.0058	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.016	ug/L	0.016	1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.01	ug/L	0.01	1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.0064	ug/L	0.0064	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0049	ug/L		0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	95-47-6	o-Xylene	0.021	ug/L	0.021	1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07		Oxygen	19	%		1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.0076	ug/L	0.0076	1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07		Nitrogen	78	%		1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	142-82-5	n-Heptane	0.012	ug/L	0.012	1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	75-09-2	Methylene chloride	0.0043	ug/L	0.0043	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	74-82-8	Methane	0.00025	%		0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.039	ug/L	0.039	1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0057	ug/L	0.0057	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	110-54-3	Hexane	0.11	ug/L	0.11	1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.053	ug/L	0.053	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.022	ug/L	0.022	1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07		Ethene	0.0025	%		0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	64-17-5	Ethanol	0.0093	ug/L	0.0093	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07		Ethane	0.0025	%		0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0061	ug/L	0.0061	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	110-82-7	Cyclohexane	0.085	ug/L	0.085	1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	100-42-5	Styrene	0.0053	ug/L	0.0053	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.009	ug/L	0.009	1	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07		Toluene-d8	98	%		1	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	95-47-6	o-Xylene	0.0049	UG/L	0.0049	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	622-96-8	p-Ethyltoluene	0.0055	UG/L	0.0055	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	100-42-5	Styrene	0.0048	UG/L	0.0048	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.019	UG/L	0.019	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	75-65-0	tert-Butyl alcohol	0.014	UG/L	0.014	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	103-65-1	n-Propylbenzene	0.0055	UG/L	0.0055	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	109-99-9	Tetrahydrofuran	0.0033	UG/L	0.0033	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	108-88-3	Toluene	0.0042	UG/L	0.0042	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.0051	UG/L	0.0051	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	79-01-6	Trichloroethene	0.006	UG/L	0.006	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	75-69-4	Trichlorofluoromethane	0.0063	UG/L	0.0063	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	75-01-4	Vinyl Chloride	0.0029	UG/L	0.0029	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	124-48-1	Dibromochloromethane	0.0095	UG/L	0.0095	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	127-18-4	Tetrachloroethene	0.0076	UG/L	0.0076	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	110-54-3	Hexane	0.0039	UG/L	0.0039	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.0044	UG/L	0.0044	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	142-82-5	n-Heptane	0.0046	UG/L	0.0046	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	64-17-5	Ethanol	0.0084	UG/L	0.0084	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.019	UG/L	0.019	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	87-68-3	Hexachlorobutadiene	0.048	UG/L	0.048	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.0055	UG/L	0.0055	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	67-63-0	Isopropyl alcohol	0.039	UG/L	0.039	1	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.004	UG/L	0.004	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	91-20-3	Naphthalene	0.023	UG/L	0.023	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	100-41-4	Ethylbenzene	0.0049	UG/L	0.0049	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	75-09-2	Methylene Chloride	0.0039	UG/L	0.0039	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	179601-23-1	m,p-Xylenes	0.0049	UG/L	0.0049	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	98-82-8	Isopropylbenzene	0.0055	UG/L	0.0055	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	67-66-3	Chloroform	0.006	ug/L	0.006	0	1
Open Space/NativeG	GS	SV-54-05	5	12-Sep-07	108-20-3	Isopropyl ether	0.019	UG/L	0.019	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.005	ug/L	0.005	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.005	ug/L	0.005	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	ug/L	0.0086	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.0095	ug/L	0.0095	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.017	ug/L	0.017	1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.037	ug/L	0.037	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0049	ug/L	0.0049	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0067	ug/L	0.0067	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	ug/L	0.0095	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	ug/L	0.0085	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0067	ug/L	0.0067	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	ug/L	0.034	0	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07		1,2-Dichloroethane-d4	100	%		1	1
Open Space/NativeG	GS	SV-54-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	100-41-4	Ethylbenzene	0.0055	UG/L	0.0055	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	75-00-3	Chloroethane	0.0033	UG/L	0.0033	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0046	UG/L	0.0046	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	179601-23-1	m,p-Xylenes	0.0055	UG/L	0.0055	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	98-82-8	Isopropylbenzene	0.0062	UG/L	0.0062	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	108-20-3	Isopropyl ether	0.021	UG/L	0.021	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	67-63-0	Isopropyl alcohol	0.027	UG/L	0.027	1	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	91-20-3	Naphthalene	0.026	UG/L	0.026	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	87-68-3	Hexachlorobutadiene	0.054	UG/L	0.054	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	142-82-5	n-Heptane	0.0052	UG/L	0.0052	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	637-92-3	Ethyl tert butyl ether	0.021	UG/L	0.021	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	64-17-5	Ethanol	0.0095	UG/L	0.0095	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	75-71-8	Dichlorodifluoromethane	0.0062	UG/L	0.0062	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	110-82-7	Cyclohexane	0.009	UG/L	0.009	1	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.005	UG/L		0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	74-87-3	Chloromethane	0.01	UG/L	0.01	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	UG/L	0.0057	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	110-54-3	Hexane	0.0044	UG/L	0.0044	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	109-99-9	Tetrahydrofuran	0.0037	UG/L	0.0037	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	75-01-4	Vinyl Chloride	0.0032	UG/L	0.0032	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	75-69-4	Trichlorofluoromethane	0.0071	UG/L	0.0071	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	79-01-6	Trichloroethene	0.0068	UG/L	0.0068	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	UG/L	0.0057	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.005	UG/L	0.005	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	75-09-2	Methylene Chloride	0.0044	UG/L	0.0044	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	108-88-3	Toluene	0.0072	UG/L	0.0072	1	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	108-90-7	Chlorobenzene	0.0058	UG/L	0.0058	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	127-18-4	Tetrachloroethene	0.0086	UG/L	0.0086	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	75-65-0	tert-Butyl alcohol	0.015	UG/L	0.015	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	994-05-8	tert-Amyl methyl ether	0.021	UG/L	0.021	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	100-42-5	Styrene	0.0054	UG/L	0.0054	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	622-96-8	p-Ethyltoluene	0.0062	UG/L	0.0062	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	95-47-6	o-Xylene	0.0055	UG/L	0.0055	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	103-65-1	n-Propylbenzene	0.0062	UG/L	0.0062	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07		Toluene-d8	100	%		1	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.038	UG/L	0.038	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	67-66-3	Chloroform	0.01	UG/L	0.01	1	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	78-87-5	1,2-Dichloropropane	0.0058	UG/L	0.0058	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07		1,2-Dichloroethane-d4	97	%		1	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	107-06-2	1,2-Dichloroethane	0.0051	UG/L	0.0051	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	UG/L	0.0088	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	106-99-0	1,3-Butadiene	0.0028	UG/L	0.0028	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0062	UG/L	0.0062	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	96-18-4	1,2,3-Trichloropropane	0.03	UG/L	0.03	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	75-35-4	1,1-Dichloroethene	0.005	UG/L	0.005	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	75-34-3	1,1-Dichloroethane	0.0051	UG/L	0.0051	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0069	UG/L	0.0069	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	UG/L	0.0097	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	UG/L	0.0087	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0069	UG/L	0.0069	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	106-93-4	1,2-Dibromoethane	0.0097	UG/L	0.0097	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	67-64-1	Acetone	0.023	UG/L	0.023	1	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	56-23-5	Carbon Tetrachloride	0.008	UG/L	0.008	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	75-15-0	Carbon Disulfide	0.0039	UG/L	0.0039	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	74-83-9	Bromomethane	0.0049	UG/L	0.0049	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	75-25-2	Bromoform	0.013	UG/L	0.013	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	75-27-4	Bromodichloromethane	0.0085	UG/L	0.0085	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	100-44-7	Benzyl chloride	0.0065	UG/L	0.0065	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0062	UG/L	0.0062	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	UG/L	0.035	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0052	UG/L	0.0052	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07		4-Bromofluorobenzene	93	%		1	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	591-78-6	2-Hexanone	0.021	UG/L	0.021	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	78-93-3	2-Butanone	0.0057	UG/L	0.0057	1	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0059	UG/L	0.0059	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	123-91-1	1,4-Dioxane	0.018	UG/L	0.018	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0076	UG/L	0.0076	0	1
Open Space/NativeG	GS	SV-53-05	5	16-Nov-07	71-43-2	Benzene	0.004	UG/L	0.004	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	87-68-3	Hexachlorobutadiene	0.056	UG/L	0.056	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	75-09-2	Methylene Chloride	0.0046	UG/L	0.0046	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0048	UG/L	0.0048	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	98-82-8	Isopropylbenzene	0.0065	UG/L	0.0065	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	108-20-3	Isopropyl ether	0.022	UG/L	0.022	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	67-63-0	Isopropyl alcohol	0.015	UG/L	0.015	1	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	110-54-3	Hexane	0.0046	UG/L	0.0046	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	179601-23-1	m,p-Xylenes	0.0057	UG/L	0.0057	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	100-41-4	Ethylbenzene	0.0057	UG/L	0.0057	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	637-92-3	Ethyl tert butyl ether	0.022	UG/L	0.022	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	64-17-5	Ethanol	0.0099	UG/L	0.0099	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	75-71-8	Dichlorodifluoromethane	0.0065	UG/L	0.0065	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.006	UG/L	0.006	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	67-66-3	Chloroform	0.0064	UG/L	0.0064	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	91-20-3	Naphthalene	0.028	UG/L	0.028	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	75-01-4	Vinyl Chloride	0.0034	UG/L	0.0034	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	74-87-3	Chloromethane	0.011	UG/L	0.011	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	109-99-9	Tetrahydrofuran	0.0039	UG/L	0.0039	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0052	UG/L		0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	75-00-3	Chloroethane	0.0035	UG/L	0.0035	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	79-01-6	Trichloroethene	0.0071	UG/L	0.0071	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.006	UG/L	0.006	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0052	UG/L	0.0052	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	75-69-4	Trichlorofluoromethane	0.0074	UG/L	0.0074	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	108-88-3	Toluene	0.005	UG/L	0.005	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	142-82-5	n-Heptane	0.0054	UG/L	0.0054	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	127-18-4	Tetrachloroethene	0.009	UG/L	0.009	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	75-65-0	tert-Butyl alcohol	0.016	UG/L	0.016	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	994-05-8	tert-Amyl methyl ether	0.022	UG/L	0.022	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	100-42-5	Styrene	0.0056	UG/L	0.0056	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	622-96-8	p-Ethyltoluene	0.0065	UG/L	0.0065	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	95-47-6	o-Xylene	0.0057	UG/L	0.0057	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	103-65-1	n-Propylbenzene	0.0065	UG/L	0.0065	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07		Toluene-d8	96	%		1	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	75-34-3	1,1-Dichloroethane	0.0053	UG/L	0.0053	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0065	UG/L	0.0065	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	78-87-5	1,2-Dichloropropane	0.0061	UG/L	0.0061	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07		1,2-Dichloroethane-d4	102	%		1	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	107-06-2	1,2-Dichloroethane	0.0053	UG/L	0.0053	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0079	UG/L	0.0079	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0092	UG/L	0.0092	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0065	UG/L	0.0065	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	106-99-0	1,3-Butadiene	0.0029	UG/L	0.0029	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	75-35-4	1,1-Dichloroethene	0.0052	UG/L	0.0052	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	106-93-4	1,2-Dibromoethane	0.01	UG/L	0.01	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0072	UG/L	0.0072	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	UG/L	0.01	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0091	UG/L	0.0091	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0072	UG/L	0.0072	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	108-90-7	Chlorobenzene	0.0061	UG/L	0.0061	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	110-82-7	Cyclohexane	0.0065	UG/L	0.0065	1	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.036	UG/L	0.036	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	96-18-4	1,2,3-Trichloropropane	0.032	UG/L	0.032	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	71-43-2	Benzene	0.0042	UG/L	0.0042	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	56-23-5	Carbon Tetrachloride	0.0083	UG/L	0.0083	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	75-15-0	Carbon Disulfide	0.0041	UG/L	0.0041	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.039	UG/L	0.039	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0079	UG/L	0.0079	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	75-25-2	Bromoform	0.014	UG/L	0.014	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	100-44-7	Benzyl chloride	0.0068	UG/L	0.0068	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	74-83-9	Bromomethane	0.0051	UG/L	0.0051	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	78-93-3	2-Butanone	0.0039	UG/L	0.0039	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0079	UG/L	0.0079	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0054	UG/L	0.0054	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07		4-Bromofluorobenzene	96	%		1	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	591-78-6	2-Hexanone	0.022	UG/L	0.022	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	67-64-1	Acetone	0.012	UG/L	0.012	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	75-27-4	Bromodichloromethane	0.0088	UG/L	0.0088	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0062	UG/L	0.0062	0	1
Open Space/NativeG	GS	SV-54-05	5	16-Nov-07	123-91-1	1,4-Dioxane	0.019	UG/L	0.019	0	1
Open Space/NativeG	Soil	B-192-10	10		8006-61-9	TPHg			10	0	1
Open Space/NativeG	Soil	B-192-10	10		68476-30-2	TPHd			10	0	1
Open Space/NativeG	Soil	B-192-10	10		64742-47-8	TPHm			10	0	1
Open Space/NativeG	Soil	B-193-5	5		68476-30-2	TPHd			10	0	1
Open Space/NativeG	Soil	B-193-5	5		8006-61-9	TPHg			10	0	1
Open Space/NativeG	Soil	B-193-5	5		64742-47-8	TPHm			11	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5		BaP TEQ	BaP TEQ			0.00968	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5		68476-30-2	TPHd			68	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5		64742-47-8	TPHm			260	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5		8006-61-9	TPHg			10	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5		64742-47-8	TPHm			48	1	1
Open Space/NativeG	Soil	S-10-2.5	2.5		8006-61-9	TPHg			10	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5		68476-30-2	TPHd			10	0	1
Open Space/NativeG	Soil	SV-52-01	1		BaP TEQ	BaP TEQ			0.0037365	0	1
Open Space/NativeG	Soil	SV-52-01	1		64742-47-8	TPHm			5	0	1
Open Space/NativeG	Soil	SV-52-01	1		68476-30-2	TPHd			5	0	1
Open Space/NativeG	Soil	SV-52-01	1		8006-61-9	TPHg			0.42	0	1
Open Space/NativeG	Soil	SV-52-05	5		BaP TEQ	BaP TEQ			0.003948	0	1
Open Space/NativeG	Soil	SV-52-05	5		64742-47-8	TPHm			5	0	1
Open Space/NativeG	Soil	SV-52-05	5		68476-30-2	TPHd			5	0	1
Open Space/NativeG	Soil	SV-52-05	5		8006-61-9	TPHg			0.41	0	1
Open Space/NativeG	Soil	SV-53-01	1		BaP TEQ	BaP TEQ			0.0181685	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	SV-53-01	1		64742-47-8	TPHm			37	1	1
Open Space/NativeG	Soil	SV-53-01	1		8006-61-9	TPHg			0.41	0	1
Open Space/NativeG	Soil	SV-53-01	1		68476-30-2	TPHd			9.3	1	1
Open Space/NativeG	Soil	SV-53-05	5		BaP TEQ	BaP TEQ			0.0045825	0	1
Open Space/NativeG	Soil	SV-53-05	5		68476-30-2	TPHd			5	0	1
Open Space/NativeG	Soil	SV-53-05	5		8006-61-9	TPHg			0.42	0	1
Open Space/NativeG	Soil	SV-53-05	5		64742-47-8	TPHm			5	0	1
Open Space/NativeG	Soil	SV-54-02	2		BaP TEQ	BaP TEQ			0.0043005	0	1
Open Space/NativeG	Soil	SV-54-02	2		68476-30-2	TPHd			5	0	1
Open Space/NativeG	Soil	SV-54-02	2		8006-61-9	TPHg			0.4	0	1
Open Space/NativeG	Soil	SV-54-02	2		64742-47-8	TPHm			5	0	1
Open Space/NativeG	Soil	SV-54-05	5		BaP TEQ	BaP TEQ			0.00423	0	1
Open Space/NativeG	Soil	SV-54-05	5		68476-30-2	TPHd			5	0	1
Open Space/NativeG	Soil	SV-54-05	5		64742-47-8	TPHm			5	0	1
Open Space/NativeG	Soil	SV-54-05	5		8006-61-9	TPHg			0.4	0	1
Open Space/NativeG	Soil	B-192-10	10	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Open Space/NativeG	Soil	B-192-10	10	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Open Space/NativeG	Soil	B-192-10	10	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Open Space/NativeG	Soil	B-192-10	10	01-Jul-99		C4-C10	10	mg/K	10	0	1
Open Space/NativeG	Soil	B-192-10	10	01-Jul-99		C25-C40	10	mg/K	10	0	1
Open Space/NativeG	Soil	B-192-10	10	01-Jul-99		C1-C40	10	mg/K	10	0	1
Open Space/NativeG	Soil	B-192-10	10	01-Jul-99		C10-C25	10	mg/K	10	0	1
Open Space/NativeG	Soil	B-192-10	10	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Open Space/NativeG	Soil	B-193-5	5	01-Jul-99		C25-C40	11	mg/K	11	1	1
Open Space/NativeG	Soil	B-193-5	5	01-Jul-99		C10-C25	10	mg/K	10	0	1
Open Space/NativeG	Soil	B-193-5	5	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Open Space/NativeG	Soil	B-193-5	5	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Open Space/NativeG	Soil	B-193-5	5	01-Jul-99		C4-C10	10	mg/K	10	0	1
Open Space/NativeG	Soil	B-193-5	5	01-Jul-99		C1-C40	11	mg/K	11	1	1
Open Space/NativeG	Soil	B-193-5	5	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Open Space/NativeG	Soil	B-193-5	5	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	93-72-1	Silvex	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	129-00-0	Pyrene	0.018	mg/k	0.018	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7440-02-0	Nickel	14	mg/k	14	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	85-01-8	Phenanthrene	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	8001-35-2	Toxaphene	0.1	mg/k	0.1	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7440-62-2	Vanadium	18	mg/k	18	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7440-66-6	Zinc	18	mg/k	18	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.01	mg/k	0.01	0	0
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	56-55-3	Benzo(a)anthracene	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	72-55-9	4,4'-DDE	0.002	mg/k	0.002	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	319-85-7	beta-BHC	0.002	mg/k	0.002	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7440-41-7	Beryllium	1.1	mg/k	1.1	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	207-08-9	Benzo(k)fluoranthene	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	191-24-2	Benzo(g,h,i)perylene	0.023	mg/k	0.023	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03		C25-C40	260	mg/k	260	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	50-32-8	Benzo(a)pyrene	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7440-39-3	Barium	72	mg/k	72	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7440-38-2	Arsenic	4.7	mg/k	4.7	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	120-12-7	Anthracene	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	319-84-6	alpha-BHC	0.002	mg/k	0.002	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	309-00-2	Aldrin	0.002	mg/k	0.002	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	208-96-8	Acenaphthylene	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	83-32-9	Acenaphthene	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	205-99-2	Benzo(b)fluoranthene	0.012	mg/k	0.012	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	120-36-5	Dichloroprop	0.05	mg/k	0.05	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	1918-00-9	Dicamba	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	53-70-3	Dibenz(a,h)anthracene	0.022	mg/k	0.022	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	319-86-8	delta-BHC	0.002	mg/k	0.002	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	75-99-0	Dalapon	0.1	mg/k	0.1	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7440-50-8	Copper	4.2	mg/k	4.2	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03		C10-C25	68	mg/k	68	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	72-54-8	4,4'-DDD	0.002	mg/k	0.002	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	218-01-9	Chrysene	0.058	mg/k	0.058	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7440-47-3	Chromium	24	mg/k	24	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	57-74-9	Chlordane	0.1	mg/k	0.1	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	76-44-8	Heptachlor	0.002	mg/k	0.002	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	50-29-3	4,4'-DDT	0.002	mg/k	0.002	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	88-85-7	Dinoseb	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	115-29-7	Endosulfan I	0.002	mg/k	0.002	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	33213-65-9	Endosulfan II	0.002	mg/k	0.002	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	1031-07-8	Endosulfan sulfate	0.002	mg/k	0.002	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	72-20-8	Endrin	0.002	mg/k	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7421-93-4	Endrin aldehyde	0.002	mg/k	0.002	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	53494-70-5	Endrin ketone	0.002	mg/k	0.002	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	206-44-0	Fluoranthene	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	58-89-9	gamma-BHC	0.002	mg/k	0.002	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	1024-57-3	Heptachlor epoxide	0.002	mg/k	0.002	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	193-39-5	Indeno(1,2,3-cd)pyrene	0.019	mg/k	0.019	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7439-92-1	Lead	6.6	mg/k	6.6	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	94-74-6	MCPA	5	mg/k	5	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	93-65-2	MCPP	5	mg/k	5	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	1	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	72-43-5	Methoxychlor	0.002	mg/k	0.002	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	86-73-7	Fluorene	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	94-82-6	2,4-DB	0.5	mg/k	0.5	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	94-75-7	2,4-D	0.05	mg/k	0.05	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	93-76-5	2,4,5-T	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	60-57-1	Dieldrin	0.002	mg/k	0.002	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-0.5	0.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	99-87-6	p-Isopropyltoluene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	7440-66-6	Zinc	13	mg/k	13	1	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	7782-49-2	Selenium	5	mg/k	5	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	594-20-7	2,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	110-75-8	2-Chloroethyl vinyl ether	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	95-49-8	2-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	106-43-4	4-Chlorotoluene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	7440-36-0	Antimony	5	mg/k	5	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	7440-38-2	Arsenic	7.6	mg/k	7.6	1	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	142-28-9	1,3-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	541-73-1	1,3-Dichlorobenzene	0.005	mg/k	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	108-86-1	Bromobenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	74-97-5	Bromochloromethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	75-27-4	Bromodichloromethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	75-25-2	Bromoform	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	74-83-9	Bromomethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03		C10-C25	10	mg/k	10	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03		C25-C40	48	mg/k	48	1	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	7440-39-3	Barium	38	mg/k	38	1	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	120-82-1	1,2,4-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	630-20-6	1,1,1,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	71-55-6	1,1,1-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	79-34-5	1,1,2,2-Tetrachloroethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	79-00-5	1,1,2-Trichloroethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	75-34-3	1,1-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	75-35-4	1,1-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	563-58-6	1,1-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	106-46-7	1,4-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	96-18-4	1,2,3-Trichloropropane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	56-23-5	Carbon tetrachloride	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	95-63-6	1,2,4-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	96-12-8	1,2-Dibromo-3-chloropropane	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	106-93-4	1,2-Dibromoethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	95-50-1	1,2-Dichlorobenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	107-06-2	1,2-Dichloroethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	78-87-5	1,2-Dichloropropane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	108-67-8	1,3,5-Trimethylbenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	87-61-6	1,2,3-Trichlorobenzene	0.01	mg/k	0.01	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	127-18-4	Tetrachloroethene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	7439-98-7	Molybdenum	1	mg/k	1	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	91-20-3	Naphthalene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	104-51-8	n-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	7440-02-0	Nickel	9.8	mg/k	9.8	1	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	103-65-1	n-Propylbenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	135-98-8	sec-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	7440-22-4	Silver	1	mg/k	1	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03		C4-C10	10	mg/k	10	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	98-06-6	tert-Butylbenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	7439-92-1	Lead	1	mg/k	1	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	7440-28-0	Thallium	5	mg/k	5	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	156-60-5	trans-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	10061-02-6	trans-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	79-01-6	Trichloroethene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	75-69-4	Trichlorofluoromethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	7440-62-2	Vanadium	15	mg/k	15	1	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	100-42-5	Styrene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	7440-50-8	Copper	2.2	mg/k	2.2	1	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	75-01-4	Vinyl chloride	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	108-90-7	Chlorobenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	75-00-3	Chloroethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	67-66-3	Chloroform	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	74-87-3	Chloromethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	7440-47-3	Chromium	23	mg/k	23	1	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	156-59-2	cis-1,2-Dichloroethene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	75-09-2	Methylene chloride	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	7440-48-4	Cobalt	1	mg/k	1	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	7439-97-6	Mercury	0.1	mg/k	0.1	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	124-48-1	Dibromochloromethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	74-95-3	Dibromomethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	75-71-8	Dichlorodifluoromethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	34077-87-7	Dichlorotrifluoroethane	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	87-68-3	Hexachlorobutadiene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	98-82-8	Isopropylbenzene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	7440-43-9	Cadmium	1	mg/k	1	0	1
Open Space/NativeG	Soil	S-10-2.5	2.5	04-Jun-03	10061-01-5	cis-1,3-Dichloropropene	0.005	mg/k	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	83-32-9	Acenaphthene	5.3	ug/kg	0.0053	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	129-00-0	Pyrene	5.3	ug/kg	0.0053	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	90-12-0	1-Methylnaphthalene	5.3	ug/kg	0.0053	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		2-Fluorobiphenyl	740	ug/kg	0.74	1	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	91-57-6	2-Methylnaphthalene	5.3	ug/kg	0.0053	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		4-Bromofluorobenzene	0.0144	mg/k	0.0144	1	0
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	207-08-9	Benzo(k)fluoranthene	5.3	ug/kg	0.0053	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.3	ug/kg	0.0053	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	205-99-2	Benzo(b)fluoranthene	5.3	ug/kg	0.0053	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		4-Bromofluorobenzene	40	ug/kg	0.04	1	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	56-55-3	Benzo(a)anthracene	5.3	ug/kg	0.0053	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	7440-39-3	Barium	55	mg/k	55	1	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	7440-38-2	Arsenic	1.1	mg/k	1.1	1	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	120-12-7	Anthracene	5.3	ug/kg	0.0053	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	208-96-8	Acenaphthylene	5.3	ug/kg	0.0053	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	50-32-8	Benzo(a)pyrene	5.3	ug/kg	0.0053	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		Terphenyl-d14	1100	ug/kg	1.1	1	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.42	mg/k	0.42	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	7440-62-2	Vanadium	12	mg/k	12	1	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		Toluene-d8	52.3	ug/kg	0.0523	1	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	206-44-0	Fluoranthene	5.3	ug/kg	0.0053	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	86-73-7	Fluorene	5.3	ug/kg	0.0053	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.3	ug/kg	0.0053	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	7439-92-1	Lead	3.2	mg/k	3.2	1	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	7440-02-0	Nickel	8	mg/k	8	1	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	85-01-8	Phenanthrene	5.3	ug/kg	0.0053	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		Nitrobenzene-d5	440	ug/kg	0.44	1	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	91-20-3	Naphthalene	5.3	ug/kg	0.0053	0	0
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.3	ug/kg	0.0053	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		n-Octacosane	5.17	mg/k	5.17	1	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		Dibromofluoromethane	49.2	ug/kg	0.0492	1	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		C8-C40	5	mg/k	5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		C14-C15	3.5	mg/k	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	7440-66-6	Zinc	6	mg/k	6	1	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	7440-50-8	Copper	3.6	mg/k	3.6	1	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	7440-48-4	Cobalt	1	mg/k	1	1	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	7440-47-3	Chromium	16	mg/k	16	1	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-01	1	09-Jul-07	218-01-9	Chrysene	5.3	ug/kg	0.0053	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	75-71-8	Dichlorodifluoromethane	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	75-09-2	Methylene chloride	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	1634-04-4	Methyl tert-butyl ether	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	179601-23-1	m,p-Xylenes	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	7439-92-1	Lead	4.2	mg/k	4.2	1	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	98-82-8	Isopropylbenzene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	108-20-3	Isopropyl ether	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	87-68-3	Hexachlorobutadiene	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	86-73-7	Fluorene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	206-44-0	Fluoranthene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	100-41-4	Ethylbenzene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	91-20-3	Naphthalene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	7440-48-4	Cobalt	1.5	mg/k	1.5	1	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	75-00-3	Chloroethane	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	67-66-3	Chloroform	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	74-87-3	Chloromethane	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	7440-47-3	Chromium	17	mg/k	17	1	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	218-01-9	Chrysene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	637-92-3	Ethyl tert butyl ether	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	10061-01-5	cis-1,3-Dichloropropene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	7440-50-8	Copper	4.1	mg/k	4.1	1	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	124-48-1	Dibromochloromethane	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		Dibromofluoromethane	54.8	ug/kg	0.0548	1	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	74-95-3	Dibromomethane	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	91-20-3	Naphthalene	9.7	ug/kg	0.0097	0	0
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	156-59-2	cis-1,2-Dichloroethene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	994-05-8	Tert-amyl methyl ether	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	7440-66-6	Zinc	13	mg/k	13	1	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	1330-20-7	Xylenes (total)	7.8	ug/kg	0.0078	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	75-01-4	Vinyl chloride	9.7	ug/kg	0.0097	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	7440-62-2	Vanadium	11	mg/k	11	1	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	75-69-4	Trichlorofluoromethane	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	79-01-6	Trichloroethene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	10061-02-6	trans-1,3-Dichloropropene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	156-60-5	trans-1,2-Dichloroethene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		Toluene-d8	48.1	ug/kg	0.0481	1	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	108-88-3	Toluene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	127-18-4	Tetrachloroethene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	85-01-8	Phenanthrene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	104-51-8	n-Butylbenzene	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	7440-02-0	Nickel	8.4	mg/k	8.4	1	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		Nitrobenzene-d5	1400	ug/kg	1.4	1	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		n-Octacosane	5.64	mg/k	5.64	1	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	103-65-1	n-Propylbenzene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	98-06-6	tert-Butylbenzene	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	95-47-6	o-Xylene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	75-65-0	tert-Butyl alcohol	97	ug/kg	0.097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	99-87-6	p-Isopropyltoluene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	129-00-0	Pyrene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	100-42-5	Styrene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		Terphenyl-d14	1100	ug/kg	1.1	1	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	107-06-2	1,2-Dichloroethane	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	208-96-8	Acenaphthylene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	83-32-9	Acenaphthene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	106-43-4	4-Chlorotoluene	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		4-Bromofluorobenzene	45.4	ug/kg	0.0454	1	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		4-Bromofluorobenzene	0.0152	mg/k	0.0152	1	0
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	91-57-6	2-Methylnaphthalene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		2-Fluorobiphenyl	1000	ug/kg	1	1	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	95-49-8	2-Chlorotoluene	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	594-20-7	2,2-Dichloropropane	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	90-12-0	1-Methylnaphthalene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	106-46-7	1,4-Dichlorobenzene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	142-28-9	1,3-Dichloropropane	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	541-73-1	1,3-Dichlorobenzene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	108-90-7	Chlorobenzene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	96-18-4	1,2,3-Trichloropropane	19	ug/kg	0.019	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	135-98-8	sec-Butylbenzene	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	79-00-5	1,1,2-Trichloroethane	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	75-34-3	1,1-Dichloroethane	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	75-35-4	1,1-Dichloroethene	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	108-67-8	1,3,5-Trimethylbenzene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	87-61-6	1,2,3-Trichlorobenzene	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	78-87-5	1,2-Dichloropropane	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	120-82-1	1,2,4-Trichlorobenzene	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	95-63-6	1,2,4-Trimethylbenzene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	106-93-4	1,2-Dibromoethane	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	95-50-1	1,2-Dichlorobenzene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	7440-38-2	Arsenic	3.2	mg/k	3.2	1	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	563-58-6	1,1-Dichloropropene	3.9	ug/kg	0.0039	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	120-12-7	Anthracene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		C8-C40	5	mg/k	5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	71-55-6	1,1,1-Trichloroethane	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	207-08-9	Benzo(k)fluoranthene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	56-23-5	Carbon tetrachloride	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	7440-39-3	Barium	52	mg/k	52	1	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	71-43-2	Benzene	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	56-55-3	Benzo(a)anthracene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	50-32-8	Benzo(a)pyrene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	108-86-1	Bromobenzene	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	74-97-5	Bromochloromethane	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	75-27-4	Bromodichloromethane	3.9	ug/kg	0.0039	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	75-25-2	Bromoform	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	74-83-9	Bromomethane	9.7	ug/kg	0.0097	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	205-99-2	Benzo(b)fluoranthene	5.6	ug/kg	0.0056	0	1
Open Space/NativeG	Soil	SV-52-05	5	09-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		Dibromofluoromethane	51.1	ug/kg	0.0511	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.7	ug/kg	0.0057	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	7440-50-8	Copper	5.8	mg/k	5.8	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	7440-48-4	Cobalt	3	mg/k	3	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	218-01-9	Chrysene	5.7	ug/kg	0.0057	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	7440-47-3	Chromium	16	mg/k	16	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	129-00-0	Pyrene	20	ug/kg	0.02	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		DRO (C10-C24)	9.3	mg/k	9.3	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	7440-43-9	Cadmium	0.66	mg/k	0.66	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		C8-C40	47	mg/k	47	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		C36-C40	7.3	mg/k	7.3	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		C32-C35	11	mg/k	11	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		C30-C31	5.9	mg/k	5.9	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		C28-C29	4.8	mg/k	4.8	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		C26-C27	6.4	mg/k	6.4	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		C24-C25	4.5	mg/k	4.5	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	7439-97-6	Mercury	0.032	mg/k	0.032	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	85-01-8	Phenanthrene	5.7	ug/kg	0.0057	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		ORO (C25-C40)	37	mg/k	37	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		Nitrobenzene-d5	770	ug/kg	0.77	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	91-20-3	Naphthalene	5.7	ug/kg	0.0057	0	0
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	7439-92-1	Lead	7.8	mg/k	7.8	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.7	ug/kg	0.0057	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	86-73-7	Fluorene	5.7	ug/kg	0.0057	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	206-44-0	Fluoranthene	5.7	ug/kg	0.0057	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	90-12-0	1-Methylnaphthalene	5.7	ug/kg	0.0057	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		4-Bromofluorobenzene	0.0134	mg/k	0.0134	1	0
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	50-32-8	Benzo(a)pyrene	14	ug/kg	0.014	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		n-Octacosane	6.56	mg/k	6.56	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		C14-C15	3.5	mg/k	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	207-08-9	Benzo(k)fluoranthene	5.7	ug/kg	0.0057	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		2-Fluorobiphenyl	730	ug/kg	0.73	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	205-99-2	Benzo(b)fluoranthene	6.7	ug/kg	0.0067	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	91-57-6	2-Methylnaphthalene	5.7	ug/kg	0.0057	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	56-55-3	Benzo(a)anthracene	29	ug/kg	0.029	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	7440-39-3	Barium	80	mg/k	80	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	7440-38-2	Arsenic	1.7	mg/k	1.7	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	120-12-7	Anthracene	5.7	ug/kg	0.0057	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	208-96-8	Acenaphthylene	5.7	ug/kg	0.0057	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	83-32-9	Acenaphthene	5.7	ug/kg	0.0057	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		4-Bromofluorobenzene	34.1	ug/kg	0.0341	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	191-24-2	Benzo(g,h,i)perylene	6	ug/kg	0.006	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	7440-62-2	Vanadium	14	mg/k	14	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	7440-02-0	Nickel	13	mg/k	13	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	7440-66-6	Zinc	14	mg/k	14	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		Toluene-d8	50	ug/kg	0.05	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07		Terphenyl-d14	1000	ug/kg	1	1	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.41	mg/k	0.41	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-01	1	09-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	205-99-2	Benzo(b)fluoranthene	6.5	ug/kg	0.0065	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	7440-39-3	Barium	99	mg/k	99	1	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	56-55-3	Benzo(a)anthracene	6.5	ug/kg	0.0065	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	50-32-8	Benzo(a)pyrene	6.5	ug/kg	0.0065	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	7440-38-2	Arsenic	4.1	mg/k	4.1	1	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	120-12-7	Anthracene	6.5	ug/kg	0.0065	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	83-32-9	Acenaphthene	6.5	ug/kg	0.0065	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.5	ug/kg	0.0065	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		C18-C19	3.5	mg/k	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	208-96-8	Acenaphthylene	6.5	ug/kg	0.0065	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	207-08-9	Benzo(k)fluoranthene	6.5	ug/kg	0.0065	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	1	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		4-Bromofluorobenzene	46.2	ug/kg	0.0462	1	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	90-12-0	1-Methylnaphthalene	6.5	ug/kg	0.0065	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		2-Fluorobiphenyl	790	ug/kg	0.79	1	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	91-57-6	2-Methylnaphthalene	6.5	ug/kg	0.0065	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		Terphenyl-d14	1200	ug/kg	1.2	1	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	129-00-0	Pyrene	6.5	ug/kg	0.0065	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	85-01-8	Phenanthrene	6.5	ug/kg	0.0065	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		n-Octacosane	5.31	mg/k	5.31	1	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		Nitrobenzene-d5	530	ug/kg	0.53	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	7440-02-0	Nickel	9.5	mg/k	9.5	1	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	7439-92-1	Lead	6	mg/k	6	1	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	7440-66-6	Zinc	10	mg/k	10	1	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.42	mg/k	0.42	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		4-Bromofluorobenzene	0.0162	mg/k	0.0162	1	0
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		Toluene-d8	52.7	ug/kg	0.0527	1	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	218-01-9	Chrysene	6.5	ug/kg	0.0065	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	7440-47-3	Chromium	21	mg/k	21	1	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	7440-48-4	Cobalt	2.1	mg/k	2.1	1	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		C8-C40	5	mg/k	5	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	91-20-3	Naphthalene	6.5	ug/kg	0.0065	0	0
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	7440-62-2	Vanadium	18	mg/k	18	1	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	7440-50-8	Copper	4.3	mg/k	4.3	1	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.5	ug/kg	0.0065	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	86-73-7	Fluorene	6.5	ug/kg	0.0065	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	206-44-0	Fluoranthene	6.5	ug/kg	0.0065	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.5	ug/kg	0.0065	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
Open Space/NativeG	Soil	SV-53-05	5	09-Jul-07		Dibromofluoromethane	54.1	ug/kg	0.0541	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	98-82-8	Isopropylbenzene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	7439-92-1	Lead	3.2	mg/k	3.2	1	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	179601-23-1	m,p-Xylenes	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	7439-97-6	Mercury	0.06	mg/k	0.06	1	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	1634-04-4	Methyl tert-butyl ether	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	91-20-3	Naphthalene	11	ug/kg	0.011	0	0
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	91-20-3	Naphthalene	6.1	ug/kg	0.0061	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	108-20-3	Isopropyl ether	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		Nitrobenzene-d5	870	ug/kg	0.87	1	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	75-71-8	Dichlorodifluoromethane	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	104-51-8	n-Butylbenzene	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	7440-02-0	Nickel	7.3	mg/k	7.3	1	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	75-09-2	Methylene chloride	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.1	ug/kg	0.0061	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	87-68-3	Hexachlorobutadiene	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	86-73-7	Fluorene	6.1	ug/kg	0.0061	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	206-44-0	Fluoranthene	6.1	ug/kg	0.0061	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	100-41-4	Ethylbenzene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	74-95-3	Dibromomethane	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		Dibromofluoromethane	50.5	ug/kg	0.0505	1	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	124-48-1	Dibromochloromethane	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		n-Octacosane	5.41	mg/k	5.41	1	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	156-60-5	trans-1,2-Dichloroethene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	7440-50-8	Copper	3.3	mg/k	3.3	1	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.1	ug/kg	0.0061	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	637-92-3	Ethyl tert butyl ether	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	98-06-6	tert-Butylbenzene	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	95-50-1	1,2-Dichlorobenzene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	7440-48-4	Cobalt	1.7	mg/k	1.7	1	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	7440-66-6	Zinc	12	mg/k	12	1	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	1330-20-7	Xylenes (total)	8.5	ug/kg	0.0085	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	75-01-4	Vinyl chloride	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	7440-62-2	Vanadium	12	mg/k	12	1	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	75-69-4	Trichlorofluoromethane	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	79-01-6	Trichloroethene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	10061-02-6	trans-1,3-Dichloropropene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		Toluene-d8	50.3	ug/kg	0.0503	1	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	108-88-3	Toluene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	127-18-4	Tetrachloroethene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	103-65-1	n-Propylbenzene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	75-65-0	tert-Butyl alcohol	110	ug/kg	0.11	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	994-05-8	Tert-amyl methyl ether	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		Terphenyl-d14	1400	ug/kg	1.4	1	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	100-42-5	Styrene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	135-98-8	sec-Butylbenzene	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	129-00-0	Pyrene	6.1	ug/kg	0.0061	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	99-87-6	p-Isopropyltoluene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	85-01-8	Phenanthrene	6.1	ug/kg	0.0061	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	95-47-6	o-Xylene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	83-32-9	Acenaphthene	6.1	ug/kg	0.0061	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	90-12-0	1-Methylnaphthalene	6.1	ug/kg	0.0061	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	594-20-7	2,2-Dichloropropane	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	95-49-8	2-Chlorotoluene	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		2-Fluorobiphenyl	790	ug/kg	0.79	1	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	91-57-6	2-Methylnaphthalene	6.1	ug/kg	0.0061	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		4-Bromofluorobenzene	0.0159	mg/k	0.0159	1	0
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	56-55-3	Benzo(a)anthracene	6.1	ug/kg	0.0061	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	106-43-4	4-Chlorotoluene	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	541-73-1	1,3-Dichlorobenzene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	208-96-8	Acenaphthylene	6.1	ug/kg	0.0061	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	120-12-7	Anthracene	6.1	ug/kg	0.0061	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	7440-38-2	Arsenic	4.5	mg/k	4.5	1	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	7440-39-3	Barium	30	mg/k	30	1	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	71-43-2	Benzene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		4-Bromofluorobenzene	48.3	ug/kg	0.0483	1	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	75-35-4	1,1-Dichloroethene	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	78-87-5	1,2-Dichloropropane	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	10061-01-5	cis-1,3-Dichloropropene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	107-06-2	1,2-Dichloroethane	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	106-93-4	1,2-Dibromoethane	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	95-63-6	1,2,4-Trimethylbenzene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	106-46-7	1,4-Dichlorobenzene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	563-58-6	1,1-Dichloropropene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	142-28-9	1,3-Dichloropropane	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	75-34-3	1,1-Dichloroethane	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	79-00-5	1,1,2-Trichloroethane	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	71-55-6	1,1,1-Trichloroethane	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	108-67-8	1,3,5-Trimethylbenzene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	87-61-6	1,2,3-Trichlorobenzene	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	96-18-4	1,2,3-Trichloropropane	21	ug/kg	0.021	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	108-90-7	Chlorobenzene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		C8-C40	5	mg/k	5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	56-23-5	Carbon tetrachloride	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	75-00-3	Chloroethane	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	67-66-3	Chloroform	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	218-01-9	Chrysene	6.1	ug/kg	0.0061	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	7440-47-3	Chromium	15	mg/k	15	1	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	50-32-8	Benzo(a)pyrene	6.1	ug/kg	0.0061	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	120-82-1	1,2,4-Trichlorobenzene	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	156-59-2	cis-1,2-Dichloroethene	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	74-97-5	Bromochloromethane	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.1	ug/kg	0.0061	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	207-08-9	Benzo(k)fluoranthene	6.1	ug/kg	0.0061	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	74-87-3	Chloromethane	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	108-86-1	Bromobenzene	11	ug/kg	0.011	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	205-99-2	Benzo(b)fluoranthene	6.1	ug/kg	0.0061	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	75-27-4	Bromodichloromethane	4.2	ug/kg	0.0042	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	75-25-2	Bromoform	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	74-83-9	Bromomethane	11	ug/kg	0.011	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-02	2	09-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	7439-92-1	Lead	4.6	mg/k	4.6	1	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	179601-23-1	m,p-Xylenes	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	7439-97-6	Mercury	0.052	mg/k	0.052	1	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	1634-04-4	Methyl tert-butyl ether	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	75-09-2	Methylene chloride	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	91-20-3	Naphthalene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	91-20-3	Naphthalene	10	ug/kg	0.01	0	0
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	104-51-8	n-Butylbenzene	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	98-82-8	Isopropylbenzene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	7440-02-0	Nickel	7.1	mg/k	7.1	1	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		Nitrobenzene-d5	770	ug/kg	0.77	1	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	108-20-3	Isopropyl ether	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	87-68-3	Hexachlorobutadiene	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	86-73-7	Fluorene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	206-44-0	Fluoranthene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	637-92-3	Ethyl tert butyl ether	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	75-71-8	Dichlorodifluoromethane	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	74-95-3	Dibromomethane	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		Dibromofluoromethane	50.6	ug/kg	0.0506	1	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	124-48-1	Dibromochloromethane	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	108-88-3	Toluene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	53-70-3	Dibenz(a,h)anthracene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	7440-50-8	Copper	3.1	mg/k	3.1	1	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	100-41-4	Ethylbenzene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	74-97-5	Bromochloromethane	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	7440-48-4	Cobalt	1.9	mg/k	1.9	1	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	7440-66-6	Zinc	12	mg/k	12	1	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	1330-20-7	Xylenes (total)	8	ug/kg	0.008	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	75-01-4	Vinyl chloride	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	7440-62-2	Vanadium	14	mg/k	14	1	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	75-69-4	Trichlorofluoromethane	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	79-01-6	Trichloroethene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	10061-02-6	trans-1,3-Dichloropropene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	156-60-5	trans-1,2-Dichloroethene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		Toluene-d8	49.2	ug/kg	0.0492	1	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	127-18-4	Tetrachloroethene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	98-06-6	tert-Butylbenzene	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		n-Octacosane	5.11	mg/k	5.11	1	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	994-05-8	Tert-amyl methyl ether	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		Terphenyl-d14	1300	ug/kg	1.3	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	100-42-5	Styrene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	135-98-8	sec-Butylbenzene	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	129-00-0	Pyrene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	99-87-6	p-Isopropyltoluene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	85-01-8	Phenanthrene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	95-47-6	o-Xylene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	103-65-1	n-Propylbenzene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		4-Bromofluorobenzene	43.7	ug/kg	0.0437	1	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	142-28-9	1,3-Dichloropropane	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	106-46-7	1,4-Dichlorobenzene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	90-12-0	1-Methylnaphthalene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	594-20-7	2,2-Dichloropropane	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	95-49-8	2-Chlorotoluene	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		2-Fluorobiphenyl	910	ug/kg	0.91	1	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	7440-39-3	Barium	41	mg/k	41	1	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		4-Bromofluorobenzene	0.0163	mg/k	0.0163	1	0
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	78-87-5	1,2-Dichloropropane	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	106-43-4	4-Chlorotoluene	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	83-32-9	Acenaphthene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	208-96-8	Acenaphthylene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	120-12-7	Anthracene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	75-25-2	Bromoform	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	91-57-6	2-Methylnaphthalene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	96-18-4	1,2,3-Trichloropropane	20	ug/kg	0.02	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	71-55-6	1,1,1-Trichloroethane	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	79-00-5	1,1,2-Trichloroethane	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	75-34-3	1,1-Dichloroethane	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	75-35-4	1,1-Dichloroethene	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	541-73-1	1,3-Dichlorobenzene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	87-61-6	1,2,3-Trichlorobenzene	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	108-67-8	1,3,5-Trimethylbenzene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	120-82-1	1,2,4-Trichlorobenzene	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	95-63-6	1,2,4-Trimethylbenzene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	106-93-4	1,2-Dibromoethane	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	95-50-1	1,2-Dichlorobenzene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	107-06-2	1,2-Dichloroethane	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	71-43-2	Benzene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	563-58-6	1,1-Dichloropropene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	108-90-7	Chlorobenzene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		C8-C40	5	mg/k	5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	7440-38-2	Arsenic	3.2	mg/k	3.2	1	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	56-23-5	Carbon tetrachloride	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	75-00-3	Chloroethane	10	ug/kg	0.01	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	67-66-3	Chloroform	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	74-87-3	Chloromethane	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	7440-47-3	Chromium	17	mg/k	17	1	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	218-01-9	Chrysene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	156-59-2	cis-1,2-Dichloroethene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	74-83-9	Bromomethane	10	ug/kg	0.01	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	56-55-3	Benzo(a)anthracene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	50-32-8	Benzo(a)pyrene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	205-99-2	Benzo(b)fluoranthene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	191-24-2	Benzo(g,h,i)perylene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	207-08-9	Benzo(k)fluoranthene	6	ug/kg	0.006	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	75-27-4	Bromodichloromethane	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	10061-01-5	cis-1,3-Dichloropropene	4	ug/kg	0.004	0	1
Open Space/NativeG	Soil	SV-54-05	5	09-Jul-07	108-86-1	Bromobenzene	10	ug/kg	0.01	0	1
Roads	GS	SV-07-05	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.029	ug/L	0.029	0	1
Roads	GS	SV-07-05	5	18-Jul-07	100-41-4	Ethylbenzene	0.018	ug/L	0.018	1	1
Roads	GS	SV-07-05	5	18-Jul-07	75-09-2	Methylene chloride	0.0042	ug/L	0.0042	0	1
Roads	GS	SV-07-05	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1
Roads	GS	SV-07-05	5	18-Jul-07	74-82-8	Methane	0.00059	%		0	1
Roads	GS	SV-07-05	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.069	ug/L	0.069	1	1
Roads	GS	SV-07-05	5	18-Jul-07	98-82-8	Isopropylbenzene	0.0059	ug/L	0.0059	0	1
Roads	GS	SV-07-05	5	18-Jul-07	108-20-3	Isopropyl ether	0.02	ug/L	0.02	0	1
Roads	GS	SV-07-05	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
Roads	GS	SV-07-05	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0055	ug/L	0.0055	0	1
Roads	GS	SV-07-05	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.052	ug/L	0.052	0	1
Roads	GS	SV-07-05	5	18-Jul-07		Oxygen	20	%		1	1
Roads	GS	SV-07-05	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.02	ug/L	0.02	0	1
Roads	GS	SV-07-05	5	18-Jul-07		Ethene	0.0059	%		0	1
Roads	GS	SV-07-05	5	18-Jul-07	64-17-5	Ethanol	0.0091	ug/L	0.0091	0	1
Roads	GS	SV-07-05	5	18-Jul-07		Ethane	0.0059	%		0	1
Roads	GS	SV-07-05	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.006	ug/L	0.006	0	1
Roads	GS	SV-07-05	5	18-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
Roads	GS	SV-07-05	5	18-Jul-07	110-82-7	Cyclohexane	0.032	ug/L	0.032	1	1
Roads	GS	SV-07-05	5	18-Jul-07	110-54-3	Hexane	0.026	ug/L	0.026	1	1
Roads	GS	SV-07-05	5	18-Jul-07	108-88-3	Toluene	0.029	ug/L	0.029	1	1
Roads	GS	SV-07-05	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.033	ug/L	0.033	0	1
Roads	GS	SV-07-05	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0049	ug/L	0.0049	0	1
Roads	GS	SV-07-05	5	18-Jul-07	75-01-4	Vinyl chloride	0.0031	ug/L	0.0031	0	1
Roads	GS	SV-07-05	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Roads	GS	SV-07-05	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0068	ug/L	0.0068	0	1
Roads	GS	SV-07-05	5	18-Jul-07	79-01-6	Trichloroethene	0.0065	ug/L	0.0065	0	1
Roads	GS	SV-07-05	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0055	ug/L	0.0055	0	1
Roads	GS	SV-07-05	5	18-Jul-07	142-82-5	n-Heptane	0.027	ug/L	0.027	1	1
Roads	GS	SV-07-05	5	18-Jul-07		Toluene-d8	97	%		1	1
Roads	GS	SV-07-05	5	18-Jul-07	103-65-1	n-Propylbenzene	0.0059	ug/L	0.0059	0	1
Roads	GS	SV-07-05	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0036	ug/L	0.0036	0	1
Roads	GS	SV-07-05	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0082	ug/L	0.0082	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	GS	SV-07-05	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
Roads	GS	SV-07-05	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.02	ug/L	0.02	0	1
Roads	GS	SV-07-05	5	18-Jul-07	100-42-5	Styrene	0.0052	ug/L	0.0052	0	1
Roads	GS	SV-07-05	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.015	ug/L	0.015	1	1
Roads	GS	SV-07-05	5	18-Jul-07	95-47-6	o-Xylene	0.033	ug/L	0.033	1	1
Roads	GS	SV-07-05	5	18-Jul-07	91-20-3	Naphthalene	0.025	ug/L	0.025	0	1
Roads	GS	SV-07-05	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0048	ug/L	0.0048	0	1
Roads	GS	SV-07-05	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0084	ug/L	0.0084	0	1
Roads	GS	SV-07-05	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0056	ug/L	0.0056	0	1
Roads	GS	SV-07-05	5	18-Jul-07	123-91-1	1,4-Dioxane	0.017	ug/L	0.017	0	1
Roads	GS	SV-07-05	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0073	ug/L	0.0073	0	1
Roads	GS	SV-07-05	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0073	ug/L	0.0073	0	1
Roads	GS	SV-07-05	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0027	ug/L	0.0027	0	1
Roads	GS	SV-07-05	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0086	ug/L	0.0086	1	1
Roads	GS	SV-07-05	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0093	ug/L	0.0093	0	1
Roads	GS	SV-07-05	5	18-Jul-07	78-93-3	2-Butanone	0.011	ug/L	0.011	1	1
Roads	GS	SV-07-05	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0073	ug/L	0.0073	0	1
Roads	GS	SV-07-05	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0056	ug/L	0.0056	0	1
Roads	GS	SV-07-05	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0093	ug/L	0.0093	0	1
Roads	GS	SV-07-05	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.022	ug/L	0.022	1	1
Roads	GS	SV-07-05	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.036	ug/L	0.036	0	1
Roads	GS	SV-07-05	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0048	ug/L	0.0048	0	1
Roads	GS	SV-07-05	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0066	ug/L	0.0066	0	1
Roads	GS	SV-07-05	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0048	ug/L		0	1
Roads	GS	SV-07-05	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0083	ug/L	0.0083	0	1
Roads	GS	SV-07-05	5	18-Jul-07		Nitrogen	79	%		1	1
Roads	GS	SV-07-05	5	18-Jul-07		1,2-Dichloroethane-d4	100	%		1	1
Roads	GS	SV-07-05	5	18-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1
Roads	GS	SV-07-05	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0049	ug/L	0.0049	0	1
Roads	GS	SV-07-05	5	18-Jul-07	67-66-3	Chloroform	0.0059	ug/L	0.0059	0	1
Roads	GS	SV-07-05	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0066	ug/L	0.0066	0	1
Roads	GS	SV-07-05	5	18-Jul-07	108-90-7	Chlorobenzene	0.0056	ug/L	0.0056	0	1
Roads	GS	SV-07-05	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0076	ug/L	0.0076	0	1
Roads	GS	SV-07-05	5	18-Jul-07		Carbon Monoxide	0.059	%		0	1
Roads	GS	SV-07-05	5	18-Jul-07	75-15-0	Carbon Disulfide	0.0038	ug/L	0.0038	0	1
Roads	GS	SV-07-05	5	18-Jul-07		Carbon Dioxide	1	%		1	1
Roads	GS	SV-07-05	5	18-Jul-07	74-83-9	Bromomethane	0.0047	ug/L	0.0047	0	1
Roads	GS	SV-07-05	5	18-Jul-07	75-25-2	Bromoform	0.012	ug/L	0.012	0	1
Roads	GS	SV-07-05	5	18-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
Roads	GS	SV-07-05	5	18-Jul-07	75-27-4	Bromodichloromethane	0.0081	ug/L	0.0081	0	1
Roads	GS	SV-07-05	5	18-Jul-07	100-44-7	Benzyl chloride	0.0063	ug/L	0.0063	0	1
Roads	GS	SV-07-05	5	18-Jul-07	71-43-2	Benzene	0.043	ug/L	0.043	1	1
Roads	GS	SV-07-05	5	18-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
Roads	GS	SV-07-05	5	18-Jul-07	67-64-1	Acetone	0.018	ug/L	0.018	1	1
Roads	GS	SV-07-05	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.005	ug/L	0.005	0	1
Roads	GS	SV-07-05	5	18-Jul-07		4-Bromofluorobenzene	91	%		1	1
Roads	GS	SV-07-05	5	18-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
Roads	GS	SV-07-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
Roads	GS	SV-07-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.02	ug/L	0.02	0	1
Roads	GS	SV-07-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.0059	ug/L	0.0059	0	1
Roads	GS	SV-07-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.058	ug/L	0.058	1	1
Roads	GS	SV-07-15	15	18-Jul-07	74-82-8	Methane	0.00049	%		0	1
Roads	GS	SV-07-15	15	18-Jul-07	110-54-3	Hexane	0.05	ug/L	0.05	1	1
Roads	GS	SV-07-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0042	ug/L	0.0042	0	1
Roads	GS	SV-07-15	15	18-Jul-07		Ethane	0.0049	%		0	1
Roads	GS	SV-07-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1
Roads	GS	SV-07-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.052	ug/L	0.052	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	GS	SV-07-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.011	ug/L	0.011	1	1
Roads	GS	SV-07-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.02	ug/L	0.02	0	1
Roads	GS	SV-07-15	15	18-Jul-07	64-17-5	Ethanol	0.0091	ug/L	0.0091	0	1
Roads	GS	SV-07-15	15	18-Jul-07	91-20-3	Naphthalene	0.025	ug/L	0.025	0	1
Roads	GS	SV-07-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.006	ug/L	0.006	0	1
Roads	GS	SV-07-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
Roads	GS	SV-07-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0055	ug/L	0.0055	0	1
Roads	GS	SV-07-15	15	18-Jul-07		Ethene	0.0049	%		0	1
Roads	GS	SV-07-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.0082	ug/L	0.0082	0	1
Roads	GS	SV-07-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0048	ug/L		0	1
Roads	GS	SV-07-15	15	18-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
Roads	GS	SV-07-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0031	ug/L	0.0031	0	1
Roads	GS	SV-07-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0068	ug/L	0.0068	0	1
Roads	GS	SV-07-15	15	18-Jul-07	79-01-6	Trichloroethene	0.0065	ug/L	0.0065	0	1
Roads	GS	SV-07-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0055	ug/L	0.0055	0	1
Roads	GS	SV-07-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0048	ug/L	0.0048	0	1
Roads	GS	SV-07-15	15	18-Jul-07		Toluene-d8	98	%		1	1
Roads	GS	SV-07-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Roads	GS	SV-07-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.004	ug/L	0.004	1	1
Roads	GS	SV-07-15	15	18-Jul-07	142-82-5	n-Heptane	0.044	ug/L	0.044	1	1
Roads	GS	SV-07-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
Roads	GS	SV-07-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.02	ug/L	0.02	0	1
Roads	GS	SV-07-15	15	18-Jul-07	100-42-5	Styrene	0.0052	ug/L	0.0052	0	1
Roads	GS	SV-07-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.023	ug/L	0.023	1	1
Roads	GS	SV-07-15	15	18-Jul-07	95-47-6	o-Xylene	0.022	ug/L	0.022	1	1
Roads	GS	SV-07-15	15	18-Jul-07		Oxygen	18	%		1	1
Roads	GS	SV-07-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.007	ug/L	0.007	1	1
Roads	GS	SV-07-15	15	18-Jul-07		Nitrogen	79	%		1	1
Roads	GS	SV-07-15	15	18-Jul-07	108-88-3	Toluene	0.11	ug/L	0.11	1	1
Roads	GS	SV-07-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.036	ug/L	0.036	0	1
Roads	GS	SV-07-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.0043	ug/L	0.0043	1	1
Roads	GS	SV-07-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.011	ug/L	0.011	1	1
Roads	GS	SV-07-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0056	ug/L	0.0056	0	1
Roads	GS	SV-07-15	15	18-Jul-07		1,2-Dichloroethane-d4	100	%		1	1
Roads	GS	SV-07-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0049	ug/L	0.0049	0	1
Roads	GS	SV-07-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0073	ug/L	0.0073	0	1
Roads	GS	SV-07-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.033	ug/L	0.033	0	1
Roads	GS	SV-07-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0073	ug/L	0.0073	0	1
Roads	GS	SV-07-15	15	18-Jul-07	67-66-3	Chloroform	0.0059	ug/L	0.0059	0	1
Roads	GS	SV-07-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0084	ug/L	0.0084	0	1
Roads	GS	SV-07-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.029	ug/L	0.029	0	1
Roads	GS	SV-07-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0048	ug/L	0.0048	0	1
Roads	GS	SV-07-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0049	ug/L	0.0049	0	1
Roads	GS	SV-07-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0066	ug/L	0.0066	0	1
Roads	GS	SV-07-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0093	ug/L	0.0093	0	1
Roads	GS	SV-07-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0083	ug/L	0.0083	0	1
Roads	GS	SV-07-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0066	ug/L	0.0066	0	1
Roads	GS	SV-07-15	15	18-Jul-07	110-82-7	Cyclohexane	0.073	ug/L	0.073	1	1
Roads	GS	SV-07-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0093	ug/L	0.0093	0	1
Roads	GS	SV-07-15	15	18-Jul-07	74-83-9	Bromomethane	0.0047	ug/L	0.0047	0	1
Roads	GS	SV-07-15	15	18-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1
Roads	GS	SV-07-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.017	ug/L	0.017	1	1
Roads	GS	SV-07-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0073	ug/L	0.0073	0	1
Roads	GS	SV-07-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.0076	ug/L	0.0076	0	1
Roads	GS	SV-07-15	15	18-Jul-07		Carbon Monoxide	0.049	%		0	1
Roads	GS	SV-07-15	15	18-Jul-07		Carbon Dioxide	2.8	%		1	1
Roads	GS	SV-07-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0056	ug/L	0.0056	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	GS	SV-07-15	15	18-Jul-07	75-25-2	Bromoform	0.012	ug/L	0.012	0	1
Roads	GS	SV-07-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.0081	ug/L	0.0081	0	1
Roads	GS	SV-07-15	15	18-Jul-07	78-93-3	2-Butanone	0.031	ug/L	0.031	1	1
Roads	GS	SV-07-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.017	ug/L	0.017	0	1
Roads	GS	SV-07-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.058	ug/L	0.058	1	1
Roads	GS	SV-07-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.014	ug/L	0.014	1	1
Roads	GS	SV-07-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.0063	ug/L	0.0063	0	1
Roads	GS	SV-07-15	15	18-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
Roads	GS	SV-07-15	15	18-Jul-07		4-Bromofluorobenzene	93	%		1	1
Roads	GS	SV-07-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.005	ug/L	0.005	0	1
Roads	GS	SV-07-15	15	18-Jul-07	67-64-1	Acetone	0.038	ug/L	0.038	1	1
Roads	GS	SV-07-15	15	18-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
Roads	GS	SV-07-15	15	18-Jul-07	71-43-2	Benzene	0.011	ug/L	0.011	1	1
Roads	GS	SV-08-05	5	18-Jul-07	110-54-3	Hexane	0.023	ug/L	0.023	1	1
Roads	GS	SV-08-05	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0044	ug/L	0.0044	0	1
Roads	GS	SV-08-05	5	18-Jul-07	74-82-8	Methane	0.00049	%		0	1
Roads	GS	SV-08-05	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.016	ug/L	0.016	1	1
Roads	GS	SV-08-05	5	18-Jul-07	98-82-8	Isopropylbenzene	0.0061	ug/L	0.0061	0	1
Roads	GS	SV-08-05	5	18-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
Roads	GS	SV-08-05	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.012	ug/L	0.012	0	1
Roads	GS	SV-08-05	5	18-Jul-07	75-09-2	Methylene chloride	0.0043	ug/L	0.0043	0	1
Roads	GS	SV-08-05	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.053	ug/L	0.053	0	1
Roads	GS	SV-08-05	5	18-Jul-07	100-41-4	Ethylbenzene	0.011	ug/L	0.011	1	1
Roads	GS	SV-08-05	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
Roads	GS	SV-08-05	5	18-Jul-07		Ethene	0.0049	%		0	1
Roads	GS	SV-08-05	5	18-Jul-07	64-17-5	Ethanol	0.0093	ug/L	0.0093	0	1
Roads	GS	SV-08-05	5	18-Jul-07		Ethane	0.0049	%		0	1
Roads	GS	SV-08-05	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0061	ug/L	0.0061	0	1
Roads	GS	SV-08-05	5	18-Jul-07	124-48-1	Dibromochloromethane	0.01	ug/L	0.01	0	1
Roads	GS	SV-08-05	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
Roads	GS	SV-08-05	5	18-Jul-07	110-82-7	Cyclohexane	0.026	ug/L	0.026	1	1
Roads	GS	SV-08-05	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0084	ug/L	0.0084	0	1
Roads	GS	SV-08-05	5	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Roads	GS	SV-08-05	5	18-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
Roads	GS	SV-08-05	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0049	ug/L		0	1
Roads	GS	SV-08-05	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0069	ug/L	0.0069	0	1
Roads	GS	SV-08-05	5	18-Jul-07	79-01-6	Trichloroethene	0.0066	ug/L	0.0066	0	1
Roads	GS	SV-08-05	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0056	ug/L	0.0056	0	1
Roads	GS	SV-08-05	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0049	ug/L	0.0049	0	1
Roads	GS	SV-08-05	5	18-Jul-07		Toluene-d8	97	%		1	1
Roads	GS	SV-08-05	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Roads	GS	SV-08-05	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.0036	ug/L	0.0036	0	1
Roads	GS	SV-08-05	5	18-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
Roads	GS	SV-08-05	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
Roads	GS	SV-08-05	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1
Roads	GS	SV-08-05	5	18-Jul-07	100-42-5	Styrene	0.0053	ug/L	0.0053	0	1
Roads	GS	SV-08-05	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.011	ug/L	0.011	1	1
Roads	GS	SV-08-05	5	18-Jul-07	95-47-6	o-Xylene	0.016	ug/L	0.016	1	1
Roads	GS	SV-08-05	5	18-Jul-07		Oxygen	20	%		1	1
Roads	GS	SV-08-05	5	18-Jul-07	103-65-1	n-Propylbenzene	0.0061	ug/L	0.0061	0	1
Roads	GS	SV-08-05	5	18-Jul-07		Nitrogen	79	%		1	1
Roads	GS	SV-08-05	5	18-Jul-07	142-82-5	n-Heptane	0.027	ug/L	0.027	1	1
Roads	GS	SV-08-05	5	18-Jul-07	108-88-3	Toluene	0.0046	ug/L	0.0046	0	1
Roads	GS	SV-08-05	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.037	ug/L	0.037	0	1
Roads	GS	SV-08-05	5	18-Jul-07	78-93-3	2-Butanone	0.013	ug/L	0.013	1	1
Roads	GS	SV-08-05	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0061	ug/L	0.0061	0	1
Roads	GS	SV-08-05	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0057	ug/L	0.0057	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	GS	SV-08-05	5	18-Jul-07		1,2-Dichloroethane-d4	103	%		1	1
Roads	GS	SV-08-05	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.005	ug/L	0.005	0	1
Roads	GS	SV-08-05	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
Roads	GS	SV-08-05	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0086	ug/L	0.0086	0	1
Roads	GS	SV-08-05	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
Roads	GS	SV-08-05	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.016	ug/L	0.016	1	1
Roads	GS	SV-08-05	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0074	ug/L	0.0074	0	1
Roads	GS	SV-08-05	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
Roads	GS	SV-08-05	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0049	ug/L	0.0049	0	1
Roads	GS	SV-08-05	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.005	ug/L	0.005	0	1
Roads	GS	SV-08-05	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0067	ug/L	0.0067	0	1
Roads	GS	SV-08-05	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0095	ug/L	0.0095	0	1
Roads	GS	SV-08-05	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0085	ug/L	0.0085	0	1
Roads	GS	SV-08-05	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0067	ug/L	0.0067	0	1
Roads	GS	SV-08-05	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.034	ug/L	0.034	0	1
Roads	GS	SV-08-05	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0095	ug/L	0.0095	0	1
Roads	GS	SV-08-05	5	18-Jul-07	75-27-4	Bromodichloromethane	0.0083	ug/L	0.0083	0	1
Roads	GS	SV-08-05	5	18-Jul-07	67-66-3	Chloroform	0.006	ug/L	0.006	0	1
Roads	GS	SV-08-05	5	18-Jul-07	75-00-3	Chloroethane	0.0032	ug/L	0.0032	0	1
Roads	GS	SV-08-05	5	18-Jul-07	108-90-7	Chlorobenzene	0.0057	ug/L	0.0057	0	1
Roads	GS	SV-08-05	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0078	ug/L	0.0078	0	1
Roads	GS	SV-08-05	5	18-Jul-07		Carbon Monoxide	0.049	%		0	1
Roads	GS	SV-08-05	5	18-Jul-07	75-15-0	Carbon Disulfide	0.0038	ug/L	0.0038	0	1
Roads	GS	SV-08-05	5	18-Jul-07		Carbon Dioxide	0.66	%		1	1
Roads	GS	SV-08-05	5	18-Jul-07	106-99-0	1,3-Butadiene	0.0027	ug/L	0.0027	0	1
Roads	GS	SV-08-05	5	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Roads	GS	SV-08-05	5	18-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
Roads	GS	SV-08-05	5	18-Jul-07	100-44-7	Benzyl chloride	0.0064	ug/L	0.0064	0	1
Roads	GS	SV-08-05	5	18-Jul-07	71-43-2	Benzene	0.04	ug/L	0.04	1	1
Roads	GS	SV-08-05	5	18-Jul-07	107-05-1	Allyl chloride	0.015	ug/L	0.015	0	1
Roads	GS	SV-08-05	5	18-Jul-07	67-64-1	Acetone	0.02	ug/L	0.02	1	1
Roads	GS	SV-08-05	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.005	ug/L	0.005	0	1
Roads	GS	SV-08-05	5	18-Jul-07		4-Bromofluorobenzene	98	%		1	1
Roads	GS	SV-08-05	5	18-Jul-07	591-78-6	2-Hexanone	0.02	ug/L	0.02	0	1
Roads	GS	SV-08-05	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0058	ug/L	0.0058	0	1
Roads	GS	SV-08-05	5	18-Jul-07	74-83-9	Bromomethane	0.0048	ug/L	0.0048	0	1
Roads	GS	SV-08-15	15	18-Jul-07		Toluene-d8	100	%		1	1
Roads	GS	SV-08-15	15	18-Jul-07		Ethane	0.0025	%		0	1
Roads	GS	SV-08-15	15	18-Jul-07	74-82-8	Methane	0.00025	%		0	1
Roads	GS	SV-08-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.012	ug/L	0.012	1	1
Roads	GS	SV-08-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.0062	ug/L	0.0062	0	1
Roads	GS	SV-08-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.021	ug/L	0.021	0	1
Roads	GS	SV-08-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.014	ug/L	0.014	1	1
Roads	GS	SV-08-15	15	18-Jul-07	110-54-3	Hexane	0.0044	ug/L	0.0044	0	1
Roads	GS	SV-08-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.054	ug/L	0.054	0	1
Roads	GS	SV-08-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.0041	ug/L	0.0041	1	1
Roads	GS	SV-08-15	15	18-Jul-07		Ethene	0.0025	%		0	1
Roads	GS	SV-08-15	15	18-Jul-07	91-20-3	Naphthalene	0.026	ug/L	0.026	0	1
Roads	GS	SV-08-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0062	ug/L	0.0062	0	1
Roads	GS	SV-08-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Roads	GS	SV-08-15	15	18-Jul-07	110-82-7	Cyclohexane	0.012	ug/L	0.012	1	1
Roads	GS	SV-08-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
Roads	GS	SV-08-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.005	ug/L		0	1
Roads	GS	SV-08-15	15	18-Jul-07	74-87-3	Chloromethane	0.01	ug/L	0.01	0	1
Roads	GS	SV-08-15	15	18-Jul-07	67-66-3	Chloroform	0.0062	ug/L	0.0062	0	1
Roads	GS	SV-08-15	15	18-Jul-07	100-41-4	Ethylbenzene	0.0055	ug/L	0.0055	0	1
Roads	GS	SV-08-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.021	ug/L	0.021	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	GS	SV-08-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0032	ug/L	0.0032	0	1
Roads	GS	SV-08-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Roads	GS	SV-08-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0071	ug/L	0.0071	0	1
Roads	GS	SV-08-15	15	18-Jul-07	79-01-6	Trichloroethene	0.0068	ug/L	0.0068	0	1
Roads	GS	SV-08-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0057	ug/L	0.0057	0	1
Roads	GS	SV-08-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.005	ug/L	0.005	0	1
Roads	GS	SV-08-15	15	18-Jul-07	108-88-3	Toluene	0.0048	ug/L	0.0048	0	1
Roads	GS	SV-08-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
Roads	GS	SV-08-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.015	ug/L	0.015	0	1
Roads	GS	SV-08-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0044	ug/L	0.0044	0	1
Roads	GS	SV-08-15	15	18-Jul-07	100-42-5	Styrene	0.0054	ug/L	0.0054	0	1
Roads	GS	SV-08-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.012	ug/L	0.012	1	1
Roads	GS	SV-08-15	15	18-Jul-07	95-47-6	o-Xylene	0.008	ug/L	0.008	1	1
Roads	GS	SV-08-15	15	18-Jul-07		Oxygen	20	%		1	1
Roads	GS	SV-08-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.0062	ug/L	0.0062	0	1
Roads	GS	SV-08-15	15	18-Jul-07		Nitrogen	79	%		1	1
Roads	GS	SV-08-15	15	18-Jul-07	142-82-5	n-Heptane	0.011	ug/L	0.011	1	1
Roads	GS	SV-08-15	15	18-Jul-07	64-17-5	Ethanol	0.0095	ug/L	0.0095	0	1
Roads	GS	SV-08-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.0086	ug/L	0.0086	0	1
Roads	GS	SV-08-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.021	ug/L	0.021	0	1
Roads	GS	SV-08-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Roads	GS	SV-08-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
Roads	GS	SV-08-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0084	ug/L	0.0084	1	1
Roads	GS	SV-08-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0058	ug/L	0.0058	0	1
Roads	GS	SV-08-15	15	18-Jul-07		1,2-Dichloroethane-d4	94	%		1	1
Roads	GS	SV-08-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0051	ug/L	0.0051	0	1
Roads	GS	SV-08-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Roads	GS	SV-08-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0088	ug/L	0.0088	0	1
Roads	GS	SV-08-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0076	ug/L	0.0076	0	1
Roads	GS	SV-08-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0088	ug/L	0.0088	1	1
Roads	GS	SV-08-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0097	ug/L	0.0097	0	1
Roads	GS	SV-08-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.03	ug/L	0.03	0	1
Roads	GS	SV-08-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.005	ug/L	0.005	0	1
Roads	GS	SV-08-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0051	ug/L	0.0051	0	1
Roads	GS	SV-08-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0069	ug/L	0.0069	0	1
Roads	GS	SV-08-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0097	ug/L	0.0097	0	1
Roads	GS	SV-08-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0087	ug/L	0.0087	0	1
Roads	GS	SV-08-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0069	ug/L	0.0069	0	1
Roads	GS	SV-08-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
Roads	GS	SV-08-15	15	18-Jul-07	75-00-3	Chloroethane	0.0033	ug/L	0.0033	0	1
Roads	GS	SV-08-15	15	18-Jul-07	74-83-9	Bromomethane	0.0049	ug/L	0.0049	0	1
Roads	GS	SV-08-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
Roads	GS	SV-08-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Roads	GS	SV-08-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.008	ug/L	0.008	0	1
Roads	GS	SV-08-15	15	18-Jul-07		Carbon Monoxide	0.025	%		0	1
Roads	GS	SV-08-15	15	18-Jul-07		Carbon Dioxide	0.9	%		1	1
Roads	GS	SV-08-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0058	ug/L	0.0058	0	1
Roads	GS	SV-08-15	15	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Roads	GS	SV-08-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.0085	ug/L	0.0085	0	1
Roads	GS	SV-08-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.0065	ug/L	0.0065	0	1
Roads	GS	SV-08-15	15	18-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
Roads	GS	SV-08-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0059	ug/L	0.0059	0	1
Roads	GS	SV-08-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.0039	ug/L	0.0039	0	1
Roads	GS	SV-08-15	15	18-Jul-07	78-93-3	2-Butanone	0.035	ug/L	0.035	1	1
Roads	GS	SV-08-15	15	18-Jul-07		4-Bromofluorobenzene	98	%		1	1
Roads	GS	SV-08-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0052	ug/L	0.0052	0	1
Roads	GS	SV-08-15	15	18-Jul-07	67-64-1	Acetone	0.031	ug/L	0.031	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	GS	SV-08-15	15	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Roads	GS	SV-08-15	15	18-Jul-07	71-43-2	Benzene	0.004	ug/L	0.004	0	1
Roads	GS	SV-38-05	5	18-Jul-07	110-54-3	Hexane	0.42	ug/L	0.42	1	1
Roads	GS	SV-38-05	5	18-Jul-07	64-17-5	Ethanol	0.01	ug/L	0.01	0	1
Roads	GS	SV-38-05	5	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
Roads	GS	SV-38-05	5	18-Jul-07	87-68-3	Hexachlorobutadiene	0.057	ug/L	0.057	0	1
Roads	GS	SV-38-05	5	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
Roads	GS	SV-38-05	5	18-Jul-07	100-41-4	Ethylbenzene	0.072	ug/L	0.072	1	1
Roads	GS	SV-38-05	5	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
Roads	GS	SV-38-05	5	18-Jul-07		Ethene	0.0027	%		0	1
Roads	GS	SV-38-05	5	18-Jul-07		Ethane	0.0027	%		0	1
Roads	GS	SV-38-05	5	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0066	ug/L	0.0066	0	1
Roads	GS	SV-38-05	5	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Roads	GS	SV-38-05	5	18-Jul-07	110-82-7	Cyclohexane	0.42	ug/L	0.42	1	1
Roads	GS	SV-38-05	5	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0053	ug/L		0	1
Roads	GS	SV-38-05	5	18-Jul-07	98-82-8	Isopropylbenzene	0.015	ug/L	0.015	1	1
Roads	GS	SV-38-05	5	18-Jul-07	108-88-3	Toluene	0.019	ug/L	0.019	1	1
Roads	GS	SV-38-05	5	18-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
Roads	GS	SV-38-05	5	18-Jul-07	67-66-3	Chloroform	0.016	ug/L	0.016	1	1
Roads	GS	SV-38-05	5	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0061	ug/L	0.0061	0	1
Roads	GS	SV-38-05	5	18-Jul-07		Oxygen	20	%		1	1
Roads	GS	SV-38-05	5	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0054	ug/L	0.0054	0	1
Roads	GS	SV-38-05	5	18-Jul-07	75-00-3	Chloroethane	0.0035	ug/L	0.0035	0	1
Roads	GS	SV-38-05	5	18-Jul-07		Toluene-d8	98	%		1	1
Roads	GS	SV-38-05	5	18-Jul-07	109-99-9	Tetrahydrofuran	0.004	ug/L	0.004	0	1
Roads	GS	SV-38-05	5	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
Roads	GS	SV-38-05	5	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
Roads	GS	SV-38-05	5	18-Jul-07	100-42-5	Styrene	0.0057	ug/L	0.0057	0	1
Roads	GS	SV-38-05	5	18-Jul-07	127-18-4	Tetrachloroethene	0.0091	ug/L	0.0091	0	1
Roads	GS	SV-38-05	5	18-Jul-07	95-47-6	o-Xylene	0.14	ug/L	0.14	1	1
Roads	GS	SV-38-05	5	18-Jul-07	179601-23-1	m,p-Xylenes	0.14	ug/L	0.14	1	1
Roads	GS	SV-38-05	5	18-Jul-07	103-65-1	n-Propylbenzene	0.025	ug/L	0.025	1	1
Roads	GS	SV-38-05	5	18-Jul-07		Nitrogen	79	%		1	1
Roads	GS	SV-38-05	5	18-Jul-07	142-82-5	n-Heptane	0.39	ug/L	0.39	1	1
Roads	GS	SV-38-05	5	18-Jul-07	91-20-3	Naphthalene	0.028	ug/L	0.028	0	1
Roads	GS	SV-38-05	5	18-Jul-07	75-09-2	Methylene chloride	0.0047	ug/L	0.0047	0	1
Roads	GS	SV-38-05	5	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0048	ug/L	0.0048	0	1
Roads	GS	SV-38-05	5	18-Jul-07	74-82-8	Methane	0.00027	%		0	1
Roads	GS	SV-38-05	5	18-Jul-07	622-96-8	p-Ethyltoluene	0.096	ug/L	0.096	1	1
Roads	GS	SV-38-05	5	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0053	ug/L	0.0053	0	1
Roads	GS	SV-38-05	5	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.049	ug/L	0.049	1	1
Roads	GS	SV-38-05	5	18-Jul-07	78-87-5	1,2-Dichloropropane	0.0062	ug/L	0.0062	0	1
Roads	GS	SV-38-05	5	18-Jul-07		1,2-Dichloroethane-d4	110	%		1	1
Roads	GS	SV-38-05	5	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0054	ug/L	0.0054	0	1
Roads	GS	SV-38-05	5	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
Roads	GS	SV-38-05	5	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0094	ug/L	0.0094	0	1
Roads	GS	SV-38-05	5	18-Jul-07	106-93-4	1,2-Dibromoethane	0.01	ug/L	0.01	0	1
Roads	GS	SV-38-05	5	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.032	ug/L	0.032	0	1
Roads	GS	SV-38-05	5	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.04	ug/L	0.04	0	1
Roads	GS	SV-38-05	5	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
Roads	GS	SV-38-05	5	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0053	ug/L	0.0053	0	1
Roads	GS	SV-38-05	5	12-Sep-07	107-06-2	1,2-Dichloroethane	0.0045	UG/L	0.0045	0	1
Roads	GS	SV-38-05	5	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0073	ug/L	0.0073	0	1
Roads	GS	SV-38-05	5	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	ug/L	0.01	0	1
Roads	GS	SV-38-05	5	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0092	ug/L	0.0092	0	1
Roads	GS	SV-38-05	5	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0073	ug/L	0.0073	0	1
Roads	GS	SV-38-05	5	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.037	ug/L	0.037	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	GS	SV-38-05	5	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.12	ug/L	0.12	1	1
Roads	GS	SV-38-05	5	18-Jul-07	107-05-1	Allyl chloride	0.017	ug/L	0.017	0	1
Roads	GS	SV-38-05	5	18-Jul-07	56-23-5	Carbon tetrachloride	0.0085	ug/L	0.0085	0	1
Roads	GS	SV-38-05	5	18-Jul-07		Carbon Monoxide	0.027	%		0	1
Roads	GS	SV-38-05	5	18-Jul-07	75-15-0	Carbon Disulfide	0.0042	ug/L	0.0042	0	1
Roads	GS	SV-38-05	5	18-Jul-07		Carbon Dioxide	1	%		1	1
Roads	GS	SV-38-05	5	18-Jul-07	74-83-9	Bromomethane	0.0052	ug/L	0.0052	0	1
Roads	GS	SV-38-05	5	18-Jul-07	75-25-2	Bromoform	0.014	ug/L	0.014	0	1
Roads	GS	SV-38-05	5	18-Jul-07	75-27-4	Bromodichloromethane	0.009	ug/L	0.009	0	1
Roads	GS	SV-38-05	5	18-Jul-07	106-99-0	1,3-Butadiene	0.003	ug/L	0.003	0	1
Roads	GS	SV-38-05	5	18-Jul-07	71-43-2	Benzene	0.51	ug/L	0.51	1	1
Roads	GS	SV-38-05	5	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0081	ug/L	0.0081	0	1
Roads	GS	SV-38-05	5	18-Jul-07	67-64-1	Acetone	0.034	ug/L	0.034	1	1
Roads	GS	SV-38-05	5	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0055	ug/L	0.0055	0	1
Roads	GS	SV-38-05	5	18-Jul-07		4-Bromofluorobenzene	94	%		1	1
Roads	GS	SV-38-05	5	18-Jul-07	591-78-6	2-Hexanone	0.022	ug/L	0.022	0	1
Roads	GS	SV-38-05	5	18-Jul-07	78-93-3	2-Butanone	0.018	ug/L	0.018	1	1
Roads	GS	SV-38-05	5	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0063	ug/L	0.0063	0	1
Roads	GS	SV-38-05	5	18-Jul-07	123-91-1	1,4-Dioxane	0.019	ug/L	0.019	0	1
Roads	GS	SV-38-05	5	18-Jul-07	108-90-7	Chlorobenzene	0.0062	ug/L	0.0062	0	1
Roads	GS	SV-38-05	5	18-Jul-07	100-44-7	Benzyl chloride	0.007	ug/L	0.007	0	1
Roads	GS	SV-38-05	5	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.0055	UG/L	0.0055	0	1
Roads	GS	SV-38-05	5	12-Sep-07	179601-23-1	m,p-Xylenes	0.0049	UG/L	0.0049	0	1
Roads	GS	SV-38-05	5	12-Sep-07	98-82-8	Isopropylbenzene	0.0055	UG/L	0.0055	0	1
Roads	GS	SV-38-05	5	12-Sep-07	108-20-3	Isopropyl ether	0.019	UG/L	0.019	0	1
Roads	GS	SV-38-05	5	12-Sep-07	67-63-0	Isopropyl alcohol	0.017	UG/L	0.017	1	1
Roads	GS	SV-38-05	5	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0078	UG/L	0.0078	0	1
Roads	GS	SV-38-05	5	12-Sep-07	87-68-3	Hexachlorobutadiene	0.048	UG/L	0.048	0	1
Roads	GS	SV-38-05	5	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0061	ug/L	0.0061	0	1
Roads	GS	SV-38-05	5	12-Sep-07	108-90-7	Chlorobenzene	0.0052	UG/L	0.0052	0	1
Roads	GS	SV-38-05	5	12-Sep-07	64-17-5	Ethanol	0.0084	UG/L	0.0084	0	1
Roads	GS	SV-38-05	5	12-Sep-07	91-20-3	Naphthalene	0.023	UG/L	0.023	0	1
Roads	GS	SV-38-05	5	12-Sep-07	124-48-1	Dibromochloromethane	0.0095	UG/L	0.0095	0	1
Roads	GS	SV-38-05	5	12-Sep-07	110-82-7	Cyclohexane	0.0069	UG/L	0.0069	1	1
Roads	GS	SV-38-05	5	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.0051	UG/L	0.0051	0	1
Roads	GS	SV-38-05	5	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.0044	UG/L		0	1
Roads	GS	SV-38-05	5	12-Sep-07	74-87-3	Chloromethane	0.0092	UG/L	0.0092	0	1
Roads	GS	SV-38-05	5	12-Sep-07	67-66-3	Chloroform	0.02	UG/L	0.02	1	1
Roads	GS	SV-38-05	5	12-Sep-07	75-00-3	Chloroethane	0.003	UG/L	0.003	0	1
Roads	GS	SV-38-05	5	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.019	UG/L	0.019	0	1
Roads	GS	SV-38-05	5	12-Sep-07	127-18-4	Tetrachloroethene	0.0076	UG/L	0.0076	0	1
Roads	GS	SV-38-05	5	12-Sep-07	75-01-4	Vinyl Chloride	0.0029	UG/L	0.0029	0	1
Roads	GS	SV-38-05	5	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Roads	GS	SV-38-05	5	12-Sep-07	75-69-4	Trichlorofluoromethane	0.0063	UG/L	0.0063	0	1
Roads	GS	SV-38-05	5	12-Sep-07	79-01-6	Trichloroethene	0.006	UG/L	0.006	0	1
Roads	GS	SV-38-05	5	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.0051	UG/L	0.0051	0	1
Roads	GS	SV-38-05	5	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.0044	UG/L	0.0044	0	1
Roads	GS	SV-38-05	5	12-Sep-07		Toluene-d8	100	%		1	1
Roads	GS	SV-38-05	5	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.004	UG/L	0.004	0	1
Roads	GS	SV-38-05	5	12-Sep-07	109-99-9	Tetrahydrofuran	0.0033	UG/L	0.0033	0	1
Roads	GS	SV-38-05	5	12-Sep-07	75-09-2	Methylene Chloride	0.0039	UG/L	0.0039	0	1
Roads	GS	SV-38-05	5	12-Sep-07	75-65-0	tert-Butyl alcohol	0.014	UG/L	0.014	0	1
Roads	GS	SV-38-05	5	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.019	UG/L	0.019	0	1
Roads	GS	SV-38-05	5	12-Sep-07	100-42-5	Styrene	0.0048	UG/L	0.0048	0	1
Roads	GS	SV-38-05	5	12-Sep-07	622-96-8	p-Ethyltoluene	0.0055	UG/L	0.0055	0	1
Roads	GS	SV-38-05	5	12-Sep-07	95-47-6	o-Xylene	0.0049	UG/L	0.0049	0	1
Roads	GS	SV-38-05	5	12-Sep-07	103-65-1	n-Propylbenzene	0.0055	UG/L	0.0055	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	GS	SV-38-05	5	12-Sep-07	142-82-5	n-Heptane	0.0046	UG/L	0.0046	0	1
Roads	GS	SV-38-05	5	12-Sep-07	100-41-4	Ethylbenzene	0.0049	UG/L	0.0049	0	1
Roads	GS	SV-38-05	5	12-Sep-07	108-88-3	Toluene	0.0042	UG/L	0.0042	0	1
Roads	GS	SV-38-05	5	12-Sep-07	56-23-5	Carbon Tetrachloride	0.007	UG/L	0.007	0	1
Roads	GS	SV-38-05	5	12-Sep-07		1,2-Dichloroethane-d4	95	%		1	1
Roads	GS	SV-38-05	5	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.0067	UG/L	0.0067	0	1
Roads	GS	SV-38-05	5	12-Sep-07	106-93-4	1,2-Dibromoethane	0.0086	UG/L	0.0086	0	1
Roads	GS	SV-38-05	5	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.0055	UG/L	0.0055	0	1
Roads	GS	SV-38-05	5	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.033	UG/L	0.033	0	1
Roads	GS	SV-38-05	5	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.027	UG/L	0.027	0	1
Roads	GS	SV-38-05	5	12-Sep-07	75-35-4	1,1-Dichloroethene	0.0044	UG/L	0.0044	0	1
Roads	GS	SV-38-05	5	12-Sep-07	78-87-5	1,2-Dichloropropane	0.0052	UG/L	0.0052	0	1
Roads	GS	SV-38-05	5	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.0061	UG/L	0.0061	0	1
Roads	GS	SV-38-05	5	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0086	UG/L	0.0086	0	1
Roads	GS	SV-38-05	5	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0077	UG/L	0.0077	0	1
Roads	GS	SV-38-05	5	12-Sep-07	110-54-3	Hexane	0.0039	UG/L	0.0039	0	1
Roads	GS	SV-38-05	5	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	0.031	UG/L	0.031	0	1
Roads	GS	SV-38-05	5	18-Jul-07	75-01-4	Vinyl chloride	0.0034	ug/L	0.0034	0	1
Roads	GS	SV-38-05	5	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Roads	GS	SV-38-05	5	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0076	ug/L	0.0076	0	1
Roads	GS	SV-38-05	5	18-Jul-07	79-01-6	Trichloroethene	0.0072	ug/L	0.0072	0	1
Roads	GS	SV-38-05	5	12-Sep-07	75-34-3	1,1-Dichloroethane	0.0045	UG/L	0.0045	0	1
Roads	GS	SV-38-05	5	12-Sep-07	71-43-2	Benzene	0.0036	UG/L	0.0036	0	1
Roads	GS	SV-38-05	5	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.0061	UG/L	0.0061	0	1
Roads	GS	SV-38-05	5	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.0055	UG/L	0.0055	0	1
Roads	GS	SV-38-05	5	12-Sep-07	74-83-9	Bromomethane	0.0043	UG/L	0.0043	0	1
Roads	GS	SV-38-05	5	12-Sep-07	75-15-0	Carbon Disulfide	0.0035	UG/L	0.0035	0	1
Roads	GS	SV-38-05	5	12-Sep-07	75-25-2	Bromoform	0.012	UG/L	0.012	0	1
Roads	GS	SV-38-05	5	12-Sep-07	100-44-7	Benzyl chloride	0.0058	UG/L	0.0058	0	1
Roads	GS	SV-38-05	5	12-Sep-07	107-05-1	Allyl chloride	0.014	UG/L	0.014	0	1
Roads	GS	SV-38-05	5	12-Sep-07	67-64-1	Acetone	0.012	UG/L	0.012	1	1
Roads	GS	SV-38-05	5	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.0046	UG/L	0.0046	0	1
Roads	GS	SV-38-05	5	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.0067	UG/L	0.0067	0	1
Roads	GS	SV-38-05	5	12-Sep-07	591-78-6	2-Hexanone	0.018	UG/L	0.018	0	1
Roads	GS	SV-38-05	5	12-Sep-07	78-93-3	2-Butanone	0.0034	UG/L	0.0034	1	1
Roads	GS	SV-38-05	5	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.0052	UG/L	0.0052	0	1
Roads	GS	SV-38-05	5	12-Sep-07	123-91-1	1,4-Dioxane	0.016	UG/L	0.016	0	1
Roads	GS	SV-38-05	5	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.0067	UG/L	0.0067	0	1
Roads	GS	SV-38-05	5	12-Sep-07		4-Bromofluorobenzene	89	%		1	1
Roads	GS	SV-38-05	5	12-Sep-07	75-27-4	Bromodichloromethane	0.0075	UG/L	0.0075	0	1
Roads	GS	SV-38-05	5	12-Sep-07	106-99-0	1,3-Butadiene	0.0025	UG/L	0.0025	0	1
Roads	GS	SV-38-15	15	18-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
Roads	GS	SV-38-15	15	18-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.099	ug/L	0.099	1	1
Roads	GS	SV-38-15	15	18-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
Roads	GS	SV-38-15	15	18-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Roads	GS	SV-38-15	15	18-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Roads	GS	SV-38-15	15	18-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Roads	GS	SV-38-15	15	18-Jul-07	67-64-1	Acetone	0.047	ug/L	0.047	1	1
Roads	GS	SV-38-15	15	18-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
Roads	GS	SV-38-15	15	18-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
Roads	GS	SV-38-15	15	18-Jul-07		1,2-Dichloroethane-d4	155	%		1	1
Roads	GS	SV-38-15	15	18-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
Roads	GS	SV-38-15	15	18-Jul-07	540-84-1	2,2,4-Trimethylpentane	1.5	ug/L	1.5	1	1
Roads	GS	SV-38-15	15	18-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
Roads	GS	SV-38-15	15	18-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Roads	GS	SV-38-15	15	18-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
Roads	GS	SV-38-15	15	18-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	GS	SV-38-15	15	18-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.15	ug/L	0.15	1	1
Roads	GS	SV-38-15	15	18-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
Roads	GS	SV-38-15	15	18-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
Roads	GS	SV-38-15	15	18-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
Roads	GS	SV-38-15	15	18-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
Roads	GS	SV-38-15	15	18-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
Roads	GS	SV-38-15	15	18-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
Roads	GS	SV-38-15	15	18-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
Roads	GS	SV-38-15	15	18-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Roads	GS	SV-38-15	15	18-Jul-07		4-Bromofluorobenzene	94	%		1	1
Roads	GS	SV-38-15	15	18-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
Roads	GS	SV-38-15	15	12-Sep-07	540-84-1	2,2,4-Trimethylpentane	0.0056	UG/L	0.0056	0	1
Roads	GS	SV-38-15	15	18-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
Roads	GS	SV-38-15	15	12-Sep-07	95-50-1	1,2-Dichlorobenzene	0.0072	UG/L	0.0072	0	1
Roads	GS	SV-38-15	15	12-Sep-07	107-06-2	1,2-Dichloroethane	0.0048	UG/L	0.0048	0	1
Roads	GS	SV-38-15	15	12-Sep-07		1,2-Dichloroethane-d4	100	%		1	1
Roads	GS	SV-38-15	15	12-Sep-07	78-87-5	1,2-Dichloropropane	0.0055	UG/L	0.0055	0	1
Roads	GS	SV-38-15	15	12-Sep-07	108-67-8	1,3,5-Trimethylbenzene	0.0058	UG/L	0.0058	0	1
Roads	GS	SV-38-15	15	12-Sep-07	106-99-0	1,3-Butadiene	0.0026	UG/L	0.0026	0	1
Roads	GS	SV-38-15	15	12-Sep-07	541-73-1	1,3-Dichlorobenzene	0.0072	UG/L	0.0072	0	1
Roads	GS	SV-38-15	15	12-Sep-07	106-93-4	1,2-Dibromoethane	0.0091	UG/L	0.0091	0	1
Roads	GS	SV-38-15	15	12-Sep-07	123-91-1	1,4-Dioxane	0.017	UG/L	0.017	0	1
Roads	GS	SV-38-15	15	12-Sep-07	95-63-6	1,2,4-Trimethylbenzene	0.0058	UG/L	0.0058	0	1
Roads	GS	SV-38-15	15	12-Sep-07	78-93-3	2-Butanone	0.0044	UG/L	0.0044	1	1
Roads	GS	SV-38-15	15	12-Sep-07	591-78-6	2-Hexanone	0.019	UG/L	0.019	0	1
Roads	GS	SV-38-15	15	12-Sep-07		4-Bromofluorobenzene	88	%		1	1
Roads	GS	SV-38-15	15	12-Sep-07	108-10-1	4-Methyl-2-pentanone	0.0049	UG/L	0.0049	0	1
Roads	GS	SV-38-15	15	12-Sep-07	67-64-1	Acetone	0.016	UG/L	0.016	1	1
Roads	GS	SV-38-15	15	12-Sep-07	107-05-1	Allyl chloride	0.015	UG/L	0.015	0	1
Roads	GS	SV-38-15	15	12-Sep-07	71-43-2	Benzene	0.0038	UG/L	0.0038	0	1
Roads	GS	SV-38-15	15	12-Sep-07	100-44-7	Benzyl chloride	0.0062	UG/L	0.0062	0	1
Roads	GS	SV-38-15	15	12-Sep-07	106-46-7	1,4-Dichlorobenzene	0.0072	UG/L	0.0072	0	1
Roads	GS	SV-38-15	15	12-Sep-07	630-20-6	1,1,1,2-Tetrachloroethane	0.033	UG/L	0.033	0	1
Roads	GS	SV-38-15	15	18-Jul-07	127-18-4	Tetrachloroethene	0.029	ug/L	0.029	1	1
Roads	GS	SV-38-15	15	18-Jul-07	109-99-9	Tetrahydrofuran	0.0038	ug/L	0.0038	0	1
Roads	GS	SV-38-15	15	18-Jul-07	108-88-3	Toluene	0.13	ug/L	0.13	1	1
Roads	GS	SV-38-15	15	18-Jul-07		Toluene-d8	94	%		1	1
Roads	GS	SV-38-15	15	18-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
Roads	GS	SV-38-15	15	18-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
Roads	GS	SV-38-15	15	18-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
Roads	GS	SV-38-15	15	18-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
Roads	GS	SV-38-15	15	12-Sep-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0083	UG/L	0.0083	0	1
Roads	GS	SV-38-15	15	18-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
Roads	GS	SV-38-15	15	18-Jul-07	78-93-3	2-Butanone	0.031	ug/L	0.031	1	1
Roads	GS	SV-38-15	15	12-Sep-07	71-55-6	1,1,1-Trichloroethane	0.0065	UG/L	0.0065	0	1
Roads	GS	SV-38-15	15	12-Sep-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0082	UG/L	0.0082	0	1
Roads	GS	SV-38-15	15	12-Sep-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0091	UG/L	0.0091	0	1
Roads	GS	SV-38-15	15	12-Sep-07	79-00-5	1,1,2-Trichloroethane	0.0065	UG/L	0.0065	0	1
Roads	GS	SV-38-15	15	12-Sep-07	75-34-3	1,1-Dichloroethane	0.0048	UG/L	0.0048	0	1
Roads	GS	SV-38-15	15	12-Sep-07	75-35-4	1,1-Dichloroethene	0.0047	UG/L	0.0047	0	1
Roads	GS	SV-38-15	15	12-Sep-07	96-18-4	1,2,3-Trichloropropane	0.029	UG/L	0.029	0	1
Roads	GS	SV-38-15	15	12-Sep-07	120-82-1	1,2,4-Trichlorobenzene	0.035	UG/L	0.035	0	1
Roads	GS	SV-38-15	15	18-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Roads	GS	SV-38-15	15	12-Sep-07	109-99-9	Tetrahydrofuran	0.0035	UG/L	0.0035	0	1
Roads	GS	SV-38-15	15	12-Sep-07	75-09-2	Methylene Chloride	0.0041	UG/L	0.0041	0	1
Roads	GS	SV-38-15	15	12-Sep-07	91-20-3	Naphthalene	0.025	UG/L	0.025	0	1
Roads	GS	SV-38-15	15	12-Sep-07	142-82-5	n-Heptane	0.0049	UG/L	0.0049	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	GS	SV-38-15	15	12-Sep-07	103-65-1	n-Propylbenzene	0.0058	UG/L	0.0058	0	1
Roads	GS	SV-38-15	15	12-Sep-07	95-47-6	o-Xylene	0.0052	UG/L	0.0052	0	1
Roads	GS	SV-38-15	15	12-Sep-07	622-96-8	p-Ethyltoluene	0.0058	UG/L	0.0058	0	1
Roads	GS	SV-38-15	15	12-Sep-07	100-42-5	Styrene	0.0051	UG/L	0.0051	0	1
Roads	GS	SV-38-15	15	12-Sep-07	994-05-8	tert-Amyl methyl ether	0.02	UG/L	0.02	0	1
Roads	GS	SV-38-15	15	18-Jul-07	71-43-2	Benzene	0.5	ug/L	0.5	1	1
Roads	GS	SV-38-15	15	12-Sep-07	127-18-4	Tetrachloroethene	0.0081	UG/L	0.0081	0	1
Roads	GS	SV-38-15	15	12-Sep-07	98-82-8	Isopropylbenzene	0.0058	UG/L	0.0058	0	1
Roads	GS	SV-38-15	15	12-Sep-07	108-88-3	Toluene	0.0045	UG/L	0.0045	0	1
Roads	GS	SV-38-15	15	12-Sep-07		Toluene-d8	98	%		1	1
Roads	GS	SV-38-15	15	12-Sep-07	156-60-5	trans-1,2-Dichloroethene	0.0047	UG/L	0.0047	0	1
Roads	GS	SV-38-15	15	12-Sep-07	10061-02-6	trans-1,3-Dichloropropene	0.0054	UG/L	0.0054	0	1
Roads	GS	SV-38-15	15	12-Sep-07	79-01-6	Trichloroethene	0.0064	UG/L	0.0064	0	1
Roads	GS	SV-38-15	15	12-Sep-07	75-69-4	Trichlorofluoromethane	0.0067	UG/L	0.0067	0	1
Roads	GS	SV-38-15	15	12-Sep-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Roads	GS	SV-38-15	15	12-Sep-07	75-01-4	Vinyl Chloride	0.003	UG/L	0.003	0	1
Roads	GS	SV-38-15	15	12-Sep-07	75-65-0	tert-Butyl alcohol	0.014	UG/L	0.014	0	1
Roads	GS	SV-38-15	15	12-Sep-07	124-48-1	Dibromochloromethane	0.01	UG/L	0.01	0	1
Roads	GS	SV-38-15	15	12-Sep-07	75-27-4	Bromodichloromethane	0.008	UG/L	0.008	0	1
Roads	GS	SV-38-15	15	12-Sep-07	75-15-0	Carbon Disulfide	0.038	UG/L	0.038	1	1
Roads	GS	SV-38-15	15	12-Sep-07	56-23-5	Carbon Tetrachloride	0.0075	UG/L	0.0075	0	1
Roads	GS	SV-38-15	15	12-Sep-07	108-90-7	Chlorobenzene	0.0055	UG/L	0.0055	0	1
Roads	GS	SV-38-15	15	12-Sep-07	75-00-3	Chloroethane	0.0031	UG/L	0.0031	0	1
Roads	GS	SV-38-15	15	12-Sep-07	67-66-3	Chloroform	0.0058	UG/L	0.0058	0	1
Roads	GS	SV-38-15	15	12-Sep-07	74-87-3	Chloromethane	0.0098	UG/L	0.0098	0	1
Roads	GS	SV-38-15	15	12-Sep-07	156-59-2	cis-1,2-Dichloroethene	0.0047	UG/L		0	1
Roads	GS	SV-38-15	15	12-Sep-07	1634-04-4	Methyl tert-butyl ether	0.0043	UG/L	0.0043	0	1
Roads	GS	SV-38-15	15	12-Sep-07	110-82-7	Cyclohexane	0.0078	UG/L	0.0078	1	1
Roads	GS	SV-38-15	15	12-Sep-07	179601-23-1	m,p-Xylenes	0.0052	UG/L	0.0052	0	1
Roads	GS	SV-38-15	15	12-Sep-07	75-71-8	Dichlorodifluoromethane	0.0059	UG/L	0.0059	0	1
Roads	GS	SV-38-15	15	12-Sep-07	64-17-5	Ethanol	0.009	UG/L	0.009	0	1
Roads	GS	SV-38-15	15	12-Sep-07	637-92-3	Ethyl tert butyl ether	0.02	UG/L	0.02	0	1
Roads	GS	SV-38-15	15	12-Sep-07	100-41-4	Ethylbenzene	0.0052	UG/L	0.0052	0	1
Roads	GS	SV-38-15	15	12-Sep-07	87-68-3	Hexachlorobutadiene	0.051	UG/L	0.051	0	1
Roads	GS	SV-38-15	15	12-Sep-07	110-54-3	Hexane	0.0042	UG/L	0.0042	0	1
Roads	GS	SV-38-15	15	12-Sep-07	67-63-0	Isopropyl alcohol	0.012	UG/L	0.012	1	1
Roads	GS	SV-38-15	15	12-Sep-07	108-20-3	Isopropyl ether	0.02	UG/L	0.02	0	1
Roads	GS	SV-38-15	15	12-Sep-07	75-25-2	Bromoform	0.012	UG/L	0.012	0	1
Roads	GS	SV-38-15	15	12-Sep-07	10061-01-5	cis-1,3-Dichloropropene	0.0054	UG/L	0.0054	0	1
Roads	GS	SV-38-15	15	18-Jul-07	74-87-3	Chloromethane	0.32	ug/L	0.32	1	1
Roads	GS	SV-38-15	15	18-Jul-07	98-82-8	Isopropylbenzene	0.21	ug/L	0.21	1	1
Roads	GS	SV-38-15	15	18-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
Roads	GS	SV-38-15	15	18-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
Roads	GS	SV-38-15	15	18-Jul-07	110-54-3	Hexane	2.2	ug/L	2.2	1	1
Roads	GS	SV-38-15	15	18-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
Roads	GS	SV-38-15	15	18-Jul-07	100-41-4	Ethylbenzene	1.1	ug/L	1.1	1	1
Roads	GS	SV-38-15	15	18-Jul-07		Ethene	0.0026	%		0	1
Roads	GS	SV-38-15	15	18-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
Roads	GS	SV-38-15	15	18-Jul-07		Ethane	0.0026	%		0	1
Roads	GS	SV-38-15	15	18-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
Roads	GS	SV-38-15	15	18-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Roads	GS	SV-38-15	15	18-Jul-07	110-82-7	Cyclohexane	2.2	ug/L	2.2	1	1
Roads	GS	SV-38-15	15	18-Jul-07	179601-23-1	m,p-Xylenes	0.59	ug/L	0.59	1	1
Roads	GS	SV-38-15	15	18-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
Roads	GS	SV-38-15	15	18-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
Roads	GS	SV-38-15	15	18-Jul-07	67-66-3	Chloroform	0.0063	ug/L	0.0063	0	1
Roads	GS	SV-38-15	15	18-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	GS	SV-38-15	15	18-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
Roads	GS	SV-38-15	15	18-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
Roads	GS	SV-38-15	15	18-Jul-07		Carbon Monoxide	0.026	%		0	1
Roads	GS	SV-38-15	15	18-Jul-07	75-15-0	Carbon Disulfide	0.2	ug/L	0.2	1	1
Roads	GS	SV-38-15	15	18-Jul-07		Carbon Dioxide	3.6	%		1	1
Roads	GS	SV-38-15	15	18-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
Roads	GS	SV-38-15	15	18-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Roads	GS	SV-38-15	15	18-Jul-07	75-27-4	Bromodichloromethane	0.0086	ug/L	0.0086	0	1
Roads	GS	SV-38-15	15	18-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
Roads	GS	SV-38-15	15	12-Sep-07	74-83-9	Bromomethane	0.0046	UG/L	0.0046	0	1
Roads	GS	SV-38-15	15	18-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
Roads	GS	SV-38-15	15	18-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
Roads	GS	SV-38-15	15	18-Jul-07	100-42-5	Styrene	0.006	ug/L	0.006	1	1
Roads	GS	SV-38-15	15	18-Jul-07	622-96-8	p-Ethyltoluene	0.23	ug/L	0.23	1	1
Roads	GS	SV-38-15	15	18-Jul-07	95-47-6	o-Xylene	0.061	ug/L	0.061	1	1
Roads	GS	SV-38-15	15	18-Jul-07		Oxygen	17	%		1	1
Roads	GS	SV-38-15	15	18-Jul-07	103-65-1	n-Propylbenzene	0.29	ug/L	0.29	1	1
Roads	GS	SV-38-15	15	18-Jul-07		Nitrogen	79	%		1	1
Roads	GS	SV-38-15	15	18-Jul-07	142-82-5	n-Heptane	3.3	ug/L	3.3	1	1
Roads	GS	SV-38-15	15	18-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1
Roads	GS	SV-38-15	15	18-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
Roads	GS	SV-38-15	15	18-Jul-07	74-82-8	Methane	0.0046	%		1	1
Roads	GS	SV-38-15	15	18-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
Roads	GS	SV-57-05	5	19-Jul-07	87-68-3	Hexachlorobutadiene	0.05	ug/L	0.05	0	1
Roads	GS	SV-57-05	5	19-Jul-07	110-54-3	Hexane	0.0088	ug/L	0.0088	1	1
Roads	GS	SV-57-05	5	19-Jul-07	67-63-0	Isopropyl alcohol	0.011	ug/L	0.011	0	1
Roads	GS	SV-57-05	5	19-Jul-07	98-82-8	Isopropylbenzene	0.0057	ug/L	0.0057	0	1
Roads	GS	SV-57-05	5	19-Jul-07	75-01-4	Vinyl chloride	0.003	ug/L	0.003	0	1
Roads	GS	SV-57-05	5	19-Jul-07	74-82-8	Methane	0.00023	%		0	1
Roads	GS	SV-57-05	5	19-Jul-07	179601-23-1	m,p-Xylenes	0.015	ug/L	0.015	1	1
Roads	GS	SV-57-05	5	19-Jul-07	108-20-3	Isopropyl ether	0.019	ug/L	0.019	0	1
Roads	GS	SV-57-05	5	19-Jul-07	100-41-4	Ethylbenzene	0.025	ug/L	0.025	1	1
Roads	GS	SV-57-05	5	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.019	ug/L	0.019	0	1
Roads	GS	SV-57-05	5	19-Jul-07		Ethene	0.0023	%		0	1
Roads	GS	SV-57-05	5	19-Jul-07	64-17-5	Ethanol	0.0088	ug/L	0.0088	0	1
Roads	GS	SV-57-05	5	19-Jul-07		Ethane	0.0023	%		0	1
Roads	GS	SV-57-05	5	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0058	ug/L	0.0058	0	1
Roads	GS	SV-57-05	5	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0053	ug/L	0.0053	0	1
Roads	GS	SV-57-05	5	19-Jul-07	110-82-7	Cyclohexane	0.014	ug/L	0.014	1	1
Roads	GS	SV-57-05	5	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0042	ug/L	0.0042	0	1
Roads	GS	SV-57-05	5	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Roads	GS	SV-57-05	5	19-Jul-07	124-48-1	Dibromochloromethane	0.0099	ug/L	0.0099	0	1
Roads	GS	SV-57-05	5	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.019	ug/L	0.019	0	1
Roads	GS	SV-57-05	5	19-Jul-07	107-05-1	Allyl chloride	0.014	ug/L	0.014	0	1
Roads	GS	SV-57-05	5	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0046	ug/L		0	1
Roads	GS	SV-57-05	5	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0065	ug/L	0.0065	0	1
Roads	GS	SV-57-05	5	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0053	ug/L	0.0053	0	1
Roads	GS	SV-57-05	5	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0046	ug/L	0.0046	0	1
Roads	GS	SV-57-05	5	19-Jul-07		Toluene-d8	101	%		1	1
Roads	GS	SV-57-05	5	19-Jul-07	108-88-3	Toluene	0.0044	ug/L	0.0044	0	1
Roads	GS	SV-57-05	5	19-Jul-07	109-99-9	Tetrahydrofuran	0.0034	ug/L	0.0034	0	1
Roads	GS	SV-57-05	5	19-Jul-07	79-01-6	Trichloroethene	0.0063	ug/L	0.0063	0	1
Roads	GS	SV-57-05	5	19-Jul-07	75-65-0	tert-Butyl alcohol	0.014	ug/L	0.014	0	1
Roads	GS	SV-57-05	5	19-Jul-07	75-09-2	Methylene chloride	0.004	ug/L	0.004	0	1
Roads	GS	SV-57-05	5	19-Jul-07	100-42-5	Styrene	0.005	ug/L	0.005	0	1
Roads	GS	SV-57-05	5	19-Jul-07	622-96-8	p-Ethyltoluene	0.0085	ug/L	0.0085	1	1
Roads	GS	SV-57-05	5	19-Jul-07	95-47-6	o-Xylene	0.005	ug/L	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	GS	SV-57-05	5	19-Jul-07		Oxygen	21	%		1	1
Roads	GS	SV-57-05	5	19-Jul-07	103-65-1	n-Propylbenzene	0.0098	ug/L	0.0098	1	1
Roads	GS	SV-57-05	5	19-Jul-07		Nitrogen	78	%		1	1
Roads	GS	SV-57-05	5	19-Jul-07	142-82-5	n-Heptane	0.026	ug/L	0.026	1	1
Roads	GS	SV-57-05	5	19-Jul-07	91-20-3	Naphthalene	0.024	ug/L	0.024	0	1
Roads	GS	SV-57-05	5	19-Jul-07	127-18-4	Tetrachloroethene	0.0079	ug/L	0.0079	0	1
Roads	GS	SV-57-05	5	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.028	ug/L	0.028	0	1
Roads	GS	SV-57-05	5	19-Jul-07	106-99-0	1,3-Butadiene	0.0026	ug/L	0.0026	0	1
Roads	GS	SV-57-05	5	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0057	ug/L	0.0057	0	1
Roads	GS	SV-57-05	5	19-Jul-07	78-87-5	1,2-Dichloropropane	0.0054	ug/L	0.0054	0	1
Roads	GS	SV-57-05	5	19-Jul-07		1,2-Dichloroethane-d4	103	%		1	1
Roads	GS	SV-57-05	5	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0047	ug/L	0.0047	0	1
Roads	GS	SV-57-05	5	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.007	ug/L	0.007	0	1
Roads	GS	SV-57-05	5	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0081	ug/L	0.0081	0	1
Roads	GS	SV-57-05	5	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.007	ug/L	0.007	0	1
Roads	GS	SV-57-05	5	19-Jul-07	74-87-3	Chloromethane	0.0096	ug/L	0.0096	0	1
Roads	GS	SV-57-05	5	19-Jul-07	106-93-4	1,2-Dibromoethane	0.009	ug/L	0.009	0	1
Roads	GS	SV-57-05	5	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0046	ug/L	0.0046	0	1
Roads	GS	SV-57-05	5	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0047	ug/L	0.0047	0	1
Roads	GS	SV-57-05	5	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.0064	ug/L	0.0064	0	1
Roads	GS	SV-57-05	5	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0089	ug/L	0.0089	0	1
Roads	GS	SV-57-05	5	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.008	ug/L	0.008	0	1
Roads	GS	SV-57-05	5	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.0064	ug/L	0.0064	0	1
Roads	GS	SV-57-05	5	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.032	ug/L	0.032	0	1
Roads	GS	SV-57-05	5	19-Jul-07	100-44-7	Benzyl chloride	0.006	ug/L	0.006	0	1
Roads	GS	SV-57-05	5	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.0057	ug/L	0.0057	0	1
Roads	GS	SV-57-05	5	19-Jul-07		Carbon Dioxide	0.45	%		1	1
Roads	GS	SV-57-05	5	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.034	ug/L	0.034	0	1
Roads	GS	SV-57-05	5	19-Jul-07	67-66-3	Chloroform	0.0057	ug/L	0.0057	0	1
Roads	GS	SV-57-05	5	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.007	ug/L	0.007	0	1
Roads	GS	SV-57-05	5	19-Jul-07	108-90-7	Chlorobenzene	0.0054	ug/L	0.0054	0	1
Roads	GS	SV-57-05	5	19-Jul-07	56-23-5	Carbon tetrachloride	0.0073	ug/L	0.0073	0	1
Roads	GS	SV-57-05	5	19-Jul-07	75-15-0	Carbon Disulfide	0.0036	ug/L	0.0036	0	1
Roads	GS	SV-57-05	5	19-Jul-07	75-00-3	Chloroethane	0.0031	ug/L	0.0031	0	1
Roads	GS	SV-57-05	5	19-Jul-07	74-83-9	Bromomethane	0.0045	ug/L	0.0045	0	1
Roads	GS	SV-57-05	5	19-Jul-07	75-25-2	Bromoform	0.012	ug/L	0.012	0	1
Roads	GS	SV-57-05	5	19-Jul-07	78-93-3	2-Butanone	0.012	ug/L	0.012	1	1
Roads	GS	SV-57-05	5	19-Jul-07		Carbon Monoxide	0.023	%		0	1
Roads	GS	SV-57-05	5	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.0059	ug/L	0.0059	1	1
Roads	GS	SV-57-05	5	19-Jul-07	75-27-4	Bromodichloromethane	0.0078	ug/L	0.0078	0	1
Roads	GS	SV-57-05	5	19-Jul-07	591-78-6	2-Hexanone	0.019	ug/L	0.019	0	1
Roads	GS	SV-57-05	5	19-Jul-07		4-Bromofluorobenzene	94	%		1	1
Roads	GS	SV-57-05	5	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0048	ug/L	0.0048	0	1
Roads	GS	SV-57-05	5	19-Jul-07	67-64-1	Acetone	0.016	ug/L	0.016	1	1
Roads	GS	SV-57-05	5	19-Jul-07	71-43-2	Benzene	0.0052	ug/L	0.0052	1	1
Roads	GS	SV-57-05	5	19-Jul-07	123-91-1	1,4-Dioxane	0.017	ug/L	0.017	0	1
Roads	GS	SV-57-15	15	19-Jul-07	110-54-3	Hexane	0.0045	ug/L	0.0045	0	1
Roads	GS	SV-57-15	15	19-Jul-07	75-09-2	Methylene chloride	0.0045	ug/L	0.0045	0	1
Roads	GS	SV-57-15	15	19-Jul-07	1634-04-4	Methyl tert-butyl ether	0.0046	ug/L	0.0046	0	1
Roads	GS	SV-57-15	15	19-Jul-07	74-82-8	Methane	0.00026	%		0	1
Roads	GS	SV-57-15	15	19-Jul-07	179601-23-1	m,p-Xylenes	0.046	ug/L	0.046	1	1
Roads	GS	SV-57-15	15	19-Jul-07	98-82-8	Isopropylbenzene	0.0063	ug/L	0.0063	0	1
Roads	GS	SV-57-15	15	19-Jul-07	108-20-3	Isopropyl ether	0.022	ug/L	0.022	0	1
Roads	GS	SV-57-15	15	19-Jul-07	67-63-0	Isopropyl alcohol	0.013	ug/L	0.013	0	1
Roads	GS	SV-57-15	15	19-Jul-07	87-68-3	Hexachlorobutadiene	0.055	ug/L	0.055	0	1
Roads	GS	SV-57-15	15	19-Jul-07	100-41-4	Ethylbenzene	0.013	ug/L	0.013	1	1
Roads	GS	SV-57-15	15	19-Jul-07	637-92-3	Ethyl tert butyl ether	0.022	ug/L	0.022	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	GS	SV-57-15	15	19-Jul-07		Ethene	0.0026	%		0	1
Roads	GS	SV-57-15	15	19-Jul-07	64-17-5	Ethanol	0.0097	ug/L	0.0097	0	1
Roads	GS	SV-57-15	15	19-Jul-07		Ethane	0.0026	%		0	1
Roads	GS	SV-57-15	15	19-Jul-07	75-71-8	Dichlorodifluoromethane	0.0064	ug/L	0.0064	0	1
Roads	GS	SV-57-15	15	19-Jul-07	124-48-1	Dibromochloromethane	0.011	ug/L	0.011	0	1
Roads	GS	SV-57-15	15	19-Jul-07	10061-01-5	cis-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
Roads	GS	SV-57-15	15	19-Jul-07	75-01-4	Vinyl chloride	0.0033	ug/L	0.0033	0	1
Roads	GS	SV-57-15	15	19-Jul-07	110-82-7	Cyclohexane	0.014	ug/L	0.014	1	1
Roads	GS	SV-57-15	15	19-Jul-07	75-65-0	tert-Butyl alcohol	0.016	ug/L	0.016	0	1
Roads	GS	SV-57-15	15	19-Jul-07	106-46-7	1,4-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Roads	GS	SV-57-15	15	19-Jul-07	108-05-4	Vinyl Acetate	0	ug/L	0	0	1
Roads	GS	SV-57-15	15	19-Jul-07	156-59-2	cis-1,2-Dichloroethene	0.0051	ug/L		0	1
Roads	GS	SV-57-15	15	19-Jul-07	79-01-6	Trichloroethene	0.0069	ug/L	0.0069	0	1
Roads	GS	SV-57-15	15	19-Jul-07	10061-02-6	trans-1,3-Dichloropropene	0.0058	ug/L	0.0058	0	1
Roads	GS	SV-57-15	15	19-Jul-07	156-60-5	trans-1,2-Dichloroethene	0.0051	ug/L	0.0051	0	1
Roads	GS	SV-57-15	15	19-Jul-07		Toluene-d8	98	%		1	1
Roads	GS	SV-57-15	15	19-Jul-07	108-88-3	Toluene	0.026	ug/L	0.026	1	1
Roads	GS	SV-57-15	15	19-Jul-07	75-69-4	Trichlorofluoromethane	0.0072	ug/L	0.0072	0	1
Roads	GS	SV-57-15	15	19-Jul-07	127-18-4	Tetrachloroethene	0.0088	ug/L	0.0088	0	1
Roads	GS	SV-57-15	15	19-Jul-07	91-20-3	Naphthalene	0.027	ug/L	0.027	0	1
Roads	GS	SV-57-15	15	19-Jul-07	994-05-8	Tert-amyl methyl ether	0.022	ug/L	0.022	0	1
Roads	GS	SV-57-15	15	19-Jul-07	100-42-5	Styrene	0.0055	ug/L	0.0055	0	1
Roads	GS	SV-57-15	15	19-Jul-07	622-96-8	p-Ethyltoluene	0.022	ug/L	0.022	1	1
Roads	GS	SV-57-15	15	19-Jul-07	95-47-6	o-Xylene	0.016	ug/L	0.016	1	1
Roads	GS	SV-57-15	15	19-Jul-07		Oxygen	20	%		1	1
Roads	GS	SV-57-15	15	19-Jul-07	103-65-1	n-Propylbenzene	0.0069	ug/L	0.0069	1	1
Roads	GS	SV-57-15	15	19-Jul-07		Nitrogen	78	%		1	1
Roads	GS	SV-57-15	15	19-Jul-07	142-82-5	n-Heptane	0.0053	ug/L	0.0053	0	1
Roads	GS	SV-57-15	15	19-Jul-07	109-99-9	Tetrahydrofuran	0.0041	ug/L	0.0041	1	1
Roads	GS	SV-57-15	15	19-Jul-07	120-82-1	1,2,4-Trichlorobenzene	0.038	ug/L	0.038	0	1
Roads	GS	SV-57-15	15	19-Jul-07	540-84-1	2,2,4-Trimethylpentane	0.006	ug/L	0.006	0	1
Roads	GS	SV-57-15	15	19-Jul-07	108-67-8	1,3,5-Trimethylbenzene	0.0094	ug/L	0.0094	1	1
Roads	GS	SV-57-15	15	19-Jul-07	78-87-5	1,2-Dichloropropane	0.006	ug/L	0.006	0	1
Roads	GS	SV-57-15	15	19-Jul-07		1,2-Dichloroethane-d4	100	%		1	1
Roads	GS	SV-57-15	15	19-Jul-07	107-06-2	1,2-Dichloroethane	0.0052	ug/L	0.0052	0	1
Roads	GS	SV-57-15	15	19-Jul-07	95-50-1	1,2-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Roads	GS	SV-57-15	15	19-Jul-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.009	ug/L	0.009	0	1
Roads	GS	SV-57-15	15	19-Jul-07	541-73-1	1,3-Dichlorobenzene	0.0078	ug/L	0.0078	0	1
Roads	GS	SV-57-15	15	19-Jul-07	95-63-6	1,2,4-Trimethylbenzene	0.023	ug/L	0.023	1	1
Roads	GS	SV-57-15	15	19-Jul-07	123-91-1	1,4-Dioxane	0.018	ug/L	0.018	0	1
Roads	GS	SV-57-15	15	19-Jul-07	96-18-4	1,2,3-Trichloropropane	0.031	ug/L	0.031	0	1
Roads	GS	SV-57-15	15	19-Jul-07	75-35-4	1,1-Dichloroethene	0.0051	ug/L	0.0051	0	1
Roads	GS	SV-57-15	15	19-Jul-07	75-34-3	1,1-Dichloroethane	0.0052	ug/L	0.0052	0	1
Roads	GS	SV-57-15	15	19-Jul-07	79-00-5	1,1,2-Trichloroethane	0.007	ug/L	0.007	0	1
Roads	GS	SV-57-15	15	19-Jul-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0099	ug/L	0.0099	0	1
Roads	GS	SV-57-15	15	19-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0088	ug/L	0.0088	0	1
Roads	GS	SV-57-15	15	19-Jul-07	71-55-6	1,1,1-Trichloroethane	0.007	ug/L	0.007	0	1
Roads	GS	SV-57-15	15	19-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	0.035	ug/L	0.035	0	1
Roads	GS	SV-57-15	15	19-Jul-07	106-93-4	1,2-Dibromoethane	0.0099	ug/L	0.0099	0	1
Roads	GS	SV-57-15	15	19-Jul-07	75-27-4	Bromodichloromethane	0.0086	ug/L	0.0086	0	1
Roads	GS	SV-57-15	15	19-Jul-07	67-66-3	Chloroform	0.0063	ug/L	0.0063	0	1
Roads	GS	SV-57-15	15	19-Jul-07	75-00-3	Chloroethane	0.0034	ug/L	0.0034	0	1
Roads	GS	SV-57-15	15	19-Jul-07	108-90-7	Chlorobenzene	0.0059	ug/L	0.0059	0	1
Roads	GS	SV-57-15	15	19-Jul-07	56-23-5	Carbon tetrachloride	0.0081	ug/L	0.0081	0	1
Roads	GS	SV-57-15	15	19-Jul-07		Carbon Monoxide	0.026	%		0	1
Roads	GS	SV-57-15	15	19-Jul-07	75-15-0	Carbon Disulfide	0.012	ug/L	0.012	1	1
Roads	GS	SV-57-15	15	19-Jul-07		Carbon Dioxide	1.5	%		1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	GS	SV-57-15	15	19-Jul-07	106-99-0	1,3-Butadiene	0.0028	ug/L	0.0028	0	1
Roads	GS	SV-57-15	15	19-Jul-07	75-25-2	Bromoform	0.013	ug/L	0.013	0	1
Roads	GS	SV-57-15	15	19-Jul-07	74-87-3	Chloromethane	0.011	ug/L	0.011	0	1
Roads	GS	SV-57-15	15	19-Jul-07	100-44-7	Benzyl chloride	0.0067	ug/L	0.0067	0	1
Roads	GS	SV-57-15	15	19-Jul-07	71-43-2	Benzene	0.0041	ug/L	0.0041	0	1
Roads	GS	SV-57-15	15	19-Jul-07	107-05-1	Allyl chloride	0.016	ug/L	0.016	0	1
Roads	GS	SV-57-15	15	19-Jul-07	67-64-1	Acetone	0.032	ug/L	0.032	1	1
Roads	GS	SV-57-15	15	19-Jul-07	108-10-1	4-Methyl-2-pentanone	0.0053	ug/L	0.0053	0	1
Roads	GS	SV-57-15	15	19-Jul-07		4-Bromofluorobenzene	94	%		1	1
Roads	GS	SV-57-15	15	19-Jul-07	591-78-6	2-Hexanone	0.021	ug/L	0.021	0	1
Roads	GS	SV-57-15	15	19-Jul-07	78-93-3	2-Butanone	0.033	ug/L	0.033	1	1
Roads	GS	SV-57-15	15	19-Jul-07	74-83-9	Bromomethane	0.005	ug/L	0.005	0	1
Roads	GS	SV-38-05	5	16-Nov-07	87-68-3	Hexachlorobutadiene	0.059	UG/L	0.059	0	1
Roads	GS	SV-38-05	5	16-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0083	UG/L	0.0083	0	1
Roads	GS	SV-38-05	5	16-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0083	UG/L	0.0083	0	1
Roads	GS	SV-38-05	5	16-Nov-07	123-91-1	1,4-Dioxane	0.02	UG/L	0.02	0	1
Roads	GS	SV-38-05	5	16-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0064	UG/L	0.0064	0	1
Roads	GS	SV-38-05	5	16-Nov-07	78-93-3	2-Butanone	0.0041	UG/L	0.0041	0	1
Roads	GS	SV-38-05	5	16-Nov-07	591-78-6	2-Hexanone	0.023	UG/L	0.023	0	1
Roads	GS	SV-38-05	5	16-Nov-07	75-09-2	Methylene Chloride	0.0048	UG/L	0.0048	0	1
Roads	GS	SV-38-05	5	16-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0056	UG/L	0.0056	0	1
Roads	GS	SV-38-05	5	16-Nov-07	78-87-5	1,2-Dichloropropane	0.0064	UG/L	0.0064	0	1
Roads	GS	SV-38-05	5	16-Nov-07	67-64-1	Acetone	0.013	UG/L	0.013	0	1
Roads	GS	SV-38-05	5	16-Nov-07	67-63-0	Isopropyl alcohol	0.014	UG/L	0.014	0	1
Roads	GS	SV-38-05	5	16-Nov-07	103-65-1	n-Propylbenzene	0.0068	UG/L	0.0068	0	1
Roads	GS	SV-38-05	5	16-Nov-07	98-82-8	Isopropylbenzene	0.0068	UG/L	0.0068	0	1
Roads	GS	SV-38-05	5	16-Nov-07	179601-23-1	m,p-Xylenes	0.006	UG/L	0.006	0	1
Roads	GS	SV-38-05	5	16-Nov-07	1634-04-4	Methyl tert-butyl ether	0.005	UG/L	0.005	0	1
Roads	GS	SV-38-05	5	16-Nov-07		4-Bromofluorobenzene	94	%		1	1
Roads	GS	SV-38-05	5	16-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.041	UG/L	0.041	0	1
Roads	GS	SV-38-05	5	16-Nov-07	71-43-2	Benzene	0.0044	UG/L	0.0044	0	1
Roads	GS	SV-38-05	5	16-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.038	UG/L	0.038	0	1
Roads	GS	SV-38-05	5	16-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0075	UG/L	0.0075	0	1
Roads	GS	SV-38-05	5	16-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0095	UG/L	0.0095	0	1
Roads	GS	SV-38-05	5	16-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	UG/L	0.01	0	1
Roads	GS	SV-38-05	5	16-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0075	UG/L	0.0075	0	1
Roads	GS	SV-38-05	5	16-Nov-07	75-34-3	1,1-Dichloroethane	0.0056	UG/L	0.0056	0	1
Roads	GS	SV-38-05	5	16-Nov-07	106-99-0	1,3-Butadiene	0.003	UG/L	0.003	0	1
Roads	GS	SV-38-05	5	16-Nov-07	96-18-4	1,2,3-Trichloropropane	0.033	UG/L	0.033	0	1
Roads	GS	SV-38-05	5	16-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0068	UG/L	0.0068	0	1
Roads	GS	SV-38-05	5	16-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0068	UG/L	0.0068	0	1
Roads	GS	SV-38-05	5	16-Nov-07	106-93-4	1,2-Dibromoethane	0.011	UG/L	0.011	0	1
Roads	GS	SV-38-05	5	16-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0096	UG/L	0.0096	0	1
Roads	GS	SV-38-05	5	16-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0083	UG/L	0.0083	0	1
Roads	GS	SV-38-05	5	16-Nov-07	107-06-2	1,2-Dichloroethane	0.0056	UG/L	0.0056	0	1
Roads	GS	SV-38-05	5	16-Nov-07		1,2-Dichloroethane-d4	96	%		1	1
Roads	GS	SV-38-05	5	16-Nov-07	108-20-3	Isopropyl ether	0.023	UG/L	0.023	0	1
Roads	GS	SV-38-05	5	16-Nov-07	75-35-4	1,1-Dichloroethene	0.0055	UG/L	0.0055	0	1
Roads	GS	SV-38-05	5	16-Nov-07	109-99-9	Tetrahydrofuran	0.0041	UG/L	0.0041	0	1
Roads	GS	SV-38-05	5	16-Nov-07	637-92-3	Ethyl tert butyl ether	0.023	UG/L	0.023	0	1
Roads	GS	SV-38-05	5	16-Nov-07	75-01-4	Vinyl Chloride	0.0035	UG/L	0.0035	0	1
Roads	GS	SV-38-05	5	16-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Roads	GS	SV-38-05	5	16-Nov-07	91-20-3	Naphthalene	0.029	UG/L	0.029	0	1
Roads	GS	SV-38-05	5	16-Nov-07	79-01-6	Trichloroethene	0.0074	UG/L	0.0074	0	1
Roads	GS	SV-38-05	5	16-Nov-07	110-54-3	Hexane	0.0049	UG/L	0.0049	0	1
Roads	GS	SV-38-05	5	16-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0055	UG/L	0.0055	0	1
Roads	GS	SV-38-05	5	16-Nov-07	64-17-5	Ethanol	0.01	UG/L	0.01	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	GS	SV-38-05	5	16-Nov-07	108-88-3	Toluene	0.0056	UG/L	0.0056	1	1
Roads	GS	SV-38-05	5	16-Nov-07	75-69-4	Trichlorofluoromethane	0.0078	UG/L	0.0078	0	1
Roads	GS	SV-38-05	5	16-Nov-07	107-05-1	Allyl chloride	0.017	UG/L	0.017	0	1
Roads	GS	SV-38-05	5	16-Nov-07	127-18-4	Tetrachloroethene	0.0094	UG/L	0.0094	0	1
Roads	GS	SV-38-05	5	16-Nov-07	75-65-0	tert-Butyl alcohol	0.017	UG/L	0.017	0	1
Roads	GS	SV-38-05	5	16-Nov-07	994-05-8	tert-Amyl methyl ether	0.023	UG/L	0.023	0	1
Roads	GS	SV-38-05	5	16-Nov-07	100-42-5	Styrene	0.0059	UG/L	0.0059	0	1
Roads	GS	SV-38-05	5	16-Nov-07	622-96-8	p-Ethyltoluene	0.0068	UG/L	0.0068	0	1
Roads	GS	SV-38-05	5	16-Nov-07	95-47-6	o-Xylene	0.006	UG/L	0.006	0	1
Roads	GS	SV-38-05	5	16-Nov-07		Toluene-d8	97	%		1	1
Roads	GS	SV-38-05	5	16-Nov-07	75-27-4	Bromodichloromethane	0.0092	UG/L	0.0092	0	1
Roads	GS	SV-38-05	5	16-Nov-07	100-41-4	Ethylbenzene	0.006	UG/L	0.006	0	1
Roads	GS	SV-38-05	5	16-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.0063	UG/L	0.0063	0	1
Roads	GS	SV-38-05	5	16-Nov-07	100-44-7	Benzyl chloride	0.0071	UG/L	0.0071	0	1
Roads	GS	SV-38-05	5	16-Nov-07	75-71-8	Dichlorodifluoromethane	0.0068	UG/L	0.0068	0	1
Roads	GS	SV-38-05	5	16-Nov-07	75-25-2	Bromoform	0.014	UG/L	0.014	0	1
Roads	GS	SV-38-05	5	16-Nov-07	74-83-9	Bromomethane	0.0054	UG/L	0.0054	0	1
Roads	GS	SV-38-05	5	16-Nov-07	75-15-0	Carbon Disulfide	0.0043	UG/L	0.0043	0	1
Roads	GS	SV-38-05	5	16-Nov-07	56-23-5	Carbon Tetrachloride	0.0087	UG/L	0.0087	0	1
Roads	GS	SV-38-05	5	16-Nov-07	75-00-3	Chloroethane	0.0036	UG/L	0.0036	0	1
Roads	GS	SV-38-05	5	16-Nov-07	67-66-3	Chloroform	0.012	UG/L	0.012	1	1
Roads	GS	SV-38-05	5	16-Nov-07	74-87-3	Chloromethane	0.011	UG/L	0.011	0	1
Roads	GS	SV-38-05	5	16-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0055	UG/L		0	1
Roads	GS	SV-38-05	5	16-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.0063	UG/L	0.0063	0	1
Roads	GS	SV-38-05	5	16-Nov-07	110-82-7	Cyclohexane	0.007	UG/L	0.007	1	1
Roads	GS	SV-38-05	5	16-Nov-07	124-48-1	Dibromochloromethane	0.012	UG/L	0.012	0	1
Roads	GS	SV-38-05	5	16-Nov-07	108-90-7	Chlorobenzene	0.0064	UG/L	0.0064	0	1
Roads	GS	SV-38-05	5	16-Nov-07	142-82-5	n-Heptane	0.0056	UG/L	0.0056	0	1
Roads	GS	SV-38-15	15	16-Nov-07	1634-04-4	Methyl tert-butyl ether	0.0048	UG/L	0.0048	0	1
Roads	GS	SV-38-15	15	16-Nov-07	75-71-8	Dichlorodifluoromethane	0.0065	UG/L	0.0065	0	1
Roads	GS	SV-38-15	15	16-Nov-07	64-17-5	Ethanol	0.0099	UG/L	0.0099	0	1
Roads	GS	SV-38-15	15	16-Nov-07	637-92-3	Ethyl tert butyl ether	0.022	UG/L	0.022	0	1
Roads	GS	SV-38-15	15	16-Nov-07	100-41-4	Ethylbenzene	0.0057	UG/L	0.0057	0	1
Roads	GS	SV-38-15	15	16-Nov-07	87-68-3	Hexachlorobutadiene	0.056	UG/L	0.056	0	1
Roads	GS	SV-38-15	15	16-Nov-07	110-54-3	Hexane	0.0046	UG/L	0.0046	0	1
Roads	GS	SV-38-15	15	16-Nov-07	67-63-0	Isopropyl alcohol	0.013	UG/L	0.013	0	1
Roads	GS	SV-38-15	15	16-Nov-07	108-20-3	Isopropyl ether	0.022	UG/L	0.022	0	1
Roads	GS	SV-38-15	15	16-Nov-07	179601-23-1	m,p-Xylenes	0.0057	UG/L	0.0057	0	1
Roads	GS	SV-38-15	15	16-Nov-07	124-48-1	Dibromochloromethane	0.011	UG/L	0.011	0	1
Roads	GS	SV-38-15	15	16-Nov-07	98-82-8	Isopropylbenzene	0.0065	UG/L	0.0065	0	1
Roads	GS	SV-38-15	15	16-Nov-07	95-63-6	1,2,4-Trimethylbenzene	0.0065	UG/L	0.0065	0	1
Roads	GS	SV-38-15	15	16-Nov-07	71-55-6	1,1,1-Trichloroethane	0.0072	UG/L	0.0072	0	1
Roads	GS	SV-38-15	15	16-Nov-07	541-73-1	1,3-Dichlorobenzene	0.0079	UG/L	0.0079	0	1
Roads	GS	SV-38-15	15	16-Nov-07	106-99-0	1,3-Butadiene	0.0029	UG/L	0.0029	0	1
Roads	GS	SV-38-15	15	16-Nov-07	108-67-8	1,3,5-Trimethylbenzene	0.0065	UG/L	0.0065	0	1
Roads	GS	SV-38-15	15	16-Nov-07	78-87-5	1,2-Dichloropropane	0.0061	UG/L	0.0061	0	1
Roads	GS	SV-38-15	15	16-Nov-07		1,2-Dichloroethane-d4	100	%		1	1
Roads	GS	SV-38-15	15	16-Nov-07	107-06-2	1,2-Dichloroethane	0.0053	UG/L	0.0053	0	1
Roads	GS	SV-38-15	15	16-Nov-07	95-50-1	1,2-Dichlorobenzene	0.0079	UG/L	0.0079	0	1
Roads	GS	SV-38-15	15	16-Nov-07	123-91-1	1,4-Dioxane	0.019	UG/L	0.019	0	1
Roads	GS	SV-38-15	15	16-Nov-07	106-93-4	1,2-Dibromoethane	0.01	UG/L	0.01	0	1
Roads	GS	SV-38-15	15	16-Nov-07	540-84-1	2,2,4-Trimethylpentane	0.0062	UG/L	0.0062	0	1
Roads	GS	SV-38-15	15	16-Nov-07	120-82-1	1,2,4-Trichlorobenzene	0.039	UG/L	0.039	0	1
Roads	GS	SV-38-15	15	16-Nov-07	96-18-4	1,2,3-Trichloropropane	0.032	UG/L	0.032	0	1
Roads	GS	SV-38-15	15	16-Nov-07	75-35-4	1,1-Dichloroethene	0.0052	UG/L	0.0052	0	1
Roads	GS	SV-38-15	15	16-Nov-07	75-34-3	1,1-Dichloroethane	0.0053	UG/L	0.0053	0	1
Roads	GS	SV-38-15	15	16-Nov-07	79-00-5	1,1,2-Trichloroethane	0.0072	UG/L	0.0072	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	GS	SV-38-15	15	16-Nov-07	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.01	UG/L	0.01	0	1
Roads	GS	SV-38-15	15	16-Nov-07	79-34-5	1,1,2,2-Tetrachloroethane	0.0091	UG/L	0.0091	0	1
Roads	GS	SV-38-15	15	16-Nov-07	630-20-6	1,1,1,2-Tetrachloroethane	0.036	UG/L	0.036	0	1
Roads	GS	SV-38-15	15	16-Nov-07	75-09-2	Methylene Chloride	0.0046	UG/L	0.0046	0	1
Roads	GS	SV-38-15	15	16-Nov-07	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluroethane	0.0092	UG/L	0.0092	0	1
Roads	GS	SV-38-15	15	16-Nov-07	75-27-4	Bromodichloromethane	0.0088	UG/L	0.0088	0	1
Roads	GS	SV-38-15	15	16-Nov-07	10061-01-5	cis-1,3-Dichloropropene	0.006	UG/L	0.006	0	1
Roads	GS	SV-38-15	15	16-Nov-07	156-59-2	cis-1,2-Dichloroethene	0.0052	UG/L		0	1
Roads	GS	SV-38-15	15	16-Nov-07	74-87-3	Chloromethane	0.011	UG/L	0.011	0	1
Roads	GS	SV-38-15	15	16-Nov-07	67-66-3	Chloroform	0.0064	UG/L	0.0064	0	1
Roads	GS	SV-38-15	15	16-Nov-07	75-00-3	Chloroethane	0.0035	UG/L	0.0035	0	1
Roads	GS	SV-38-15	15	16-Nov-07	108-90-7	Chlorobenzene	0.0061	UG/L	0.0061	0	1
Roads	GS	SV-38-15	15	16-Nov-07	56-23-5	Carbon Tetrachloride	0.0083	UG/L	0.0083	0	1
Roads	GS	SV-38-15	15	16-Nov-07	75-15-0	Carbon Disulfide	0.018	UG/L	0.018	1	1
Roads	GS	SV-38-15	15	16-Nov-07	106-46-7	1,4-Dichlorobenzene	0.0079	UG/L	0.0079	0	1
Roads	GS	SV-38-15	15	16-Nov-07	75-25-2	Bromoform	0.014	UG/L	0.014	0	1
Roads	GS	SV-38-15	15	16-Nov-07	110-82-7	Cyclohexane	0.0045	UG/L	0.0045	0	1
Roads	GS	SV-38-15	15	16-Nov-07	100-44-7	Benzyl chloride	0.0068	UG/L	0.0068	0	1
Roads	GS	SV-38-15	15	16-Nov-07	71-43-2	Benzene	0.0042	UG/L	0.0042	0	1
Roads	GS	SV-38-15	15	16-Nov-07	107-05-1	Allyl chloride	0.016	UG/L	0.016	0	1
Roads	GS	SV-38-15	15	16-Nov-07	67-64-1	Acetone	0.018	UG/L	0.018	1	1
Roads	GS	SV-38-15	15	16-Nov-07	108-10-1	4-Methyl-2-pentanone	0.0054	UG/L	0.0054	0	1
Roads	GS	SV-38-15	15	16-Nov-07		4-Bromofluorobenzene	91	%		1	1
Roads	GS	SV-38-15	15	16-Nov-07	591-78-6	2-Hexanone	0.022	UG/L	0.022	0	1
Roads	GS	SV-38-15	15	16-Nov-07	78-93-3	2-Butanone	0.0039	UG/L	0.0039	0	1
Roads	GS	SV-38-15	15	16-Nov-07	74-83-9	Bromomethane	0.0051	UG/L	0.0051	0	1
Roads	GS	SV-38-15	15	16-Nov-07	127-18-4	Tetrachloroethene	0.009	UG/L	0.009	0	1
Roads	GS	SV-38-15	15	16-Nov-07	91-20-3	Naphthalene	0.028	UG/L	0.028	0	1
Roads	GS	SV-38-15	15	16-Nov-07	103-65-1	n-Propylbenzene	0.0065	UG/L	0.0065	0	1
Roads	GS	SV-38-15	15	16-Nov-07	95-47-6	o-Xylene	0.0057	UG/L	0.0057	0	1
Roads	GS	SV-38-15	15	16-Nov-07	622-96-8	p-Ethyltoluene	0.0065	UG/L	0.0065	0	1
Roads	GS	SV-38-15	15	16-Nov-07	100-42-5	Styrene	0.0056	UG/L	0.0056	0	1
Roads	GS	SV-38-15	15	16-Nov-07	994-05-8	tert-Amyl methyl ether	0.022	UG/L	0.022	0	1
Roads	GS	SV-38-15	15	16-Nov-07	75-65-0	tert-Butyl alcohol	0.016	UG/L	0.016	0	1
Roads	GS	SV-38-15	15	16-Nov-07	142-82-5	n-Heptane	0.0054	UG/L	0.0054	0	1
Roads	GS	SV-38-15	15	16-Nov-07	109-99-9	Tetrahydrofuran	0.0039	UG/L	0.0039	0	1
Roads	GS	SV-38-15	15	16-Nov-07	108-88-3	Toluene	0.0091	UG/L	0.0091	1	1
Roads	GS	SV-38-15	15	16-Nov-07		Toluene-d8	100	%		1	1
Roads	GS	SV-38-15	15	16-Nov-07	156-60-5	trans-1,2-Dichloroethene	0.0052	UG/L	0.0052	0	1
Roads	GS	SV-38-15	15	16-Nov-07	10061-02-6	trans-1,3-Dichloropropene	0.006	UG/L	0.006	0	1
Roads	GS	SV-38-15	15	16-Nov-07	79-01-6	Trichloroethene	0.0071	UG/L	0.0071	0	1
Roads	GS	SV-38-15	15	16-Nov-07	75-69-4	Trichlorofluoromethane	0.0074	UG/L	0.0074	0	1
Roads	GS	SV-38-15	15	16-Nov-07	75-01-4	Vinyl Chloride	0.0034	UG/L	0.0034	0	1
Roads	GS	SV-38-15	15	16-Nov-07	108-05-4	Vinyl Acetate	0	UG/L	0	0	1
Roads	Soil	B-126-10	10		68476-30-2	TPHd			10	1	1
Roads	Soil	B-126-10	10		8006-61-9	TPHg			10	0	1
Roads	Soil	B-126-10	10		64742-47-8	TPHm			26	1	1
Roads	Soil	B-126-5	5		68476-30-2	TPHd			10	0	1
Roads	Soil	B-126-5	5		8006-61-9	TPHg			10	0	1
Roads	Soil	B-126-5	5		64742-47-8	TPHm			10	0	1
Roads	Soil	B-145-9	9		68476-30-2	TPHd			10	0	1
Roads	Soil	B-145-9	9		8006-61-9	TPHg			10	0	1
Roads	Soil	B-145-9	9		64742-47-8	TPHm			10	0	1
Roads	Soil	B-149-10	10		68476-30-2	TPHd			13	1	1
Roads	Soil	B-149-10	10		8006-61-9	TPHg			10	0	1
Roads	Soil	B-149-10	10		64742-47-8	TPHm			65	1	1
Roads	Soil	B-173-10	10		68476-30-2	TPHd			10	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	B-173-10	10		8006-61-9	TPHg			10	0	1
Roads	Soil	B-173-10	10		64742-47-8	TPHm			29	1	1
Roads	Soil	B-183-10	10		68476-30-2	TPHd			10	0	1
Roads	Soil	B-183-10	10		8006-61-9	TPHg			10	0	1
Roads	Soil	B-183-10	10		64742-47-8	TPHm			10	0	1
Roads	Soil	B-198-10	10		68476-30-2	TPHd			10	0	1
Roads	Soil	B-198-10	10		8006-61-9	TPHg			10	0	1
Roads	Soil	B-198-10	10		64742-47-8	TPHm			10	0	1
Roads	Soil	S-40A-01	1		BaP TEQ	BaP TEQ			0.1153	1	1
Roads	Soil	S-40A-01	1		8006-61-9	TPHg			0.4	0	1
Roads	Soil	S-40A-01	1		68476-30-2	TPHd			150	1	1
Roads	Soil	S-40A-01	1		64742-47-8	TPHm			230	1	1
Roads	Soil	S-40A-03	3		BaP TEQ	BaP TEQ			0.0040915	1	1
Roads	Soil	S-40A-03	3		68476-30-2	TPHd			64	1	1
Roads	Soil	S-40A-03	3		8006-61-9	TPHg			0.4	0	1
Roads	Soil	S-40A-03	3		64742-47-8	TPHm			130	1	1
Roads	Soil	S-40B-01	1		BaP TEQ	BaP TEQ			0.0587	1	1
Roads	Soil	S-40B-01	1		68476-30-2	TPHd			35	1	1
Roads	Soil	S-40B-01	1		8006-61-9	TPHg			0.44	0	1
Roads	Soil	S-40B-01	1		64742-47-8	TPHm			140	1	1
Roads	Soil	S-40B-03	3		BaP TEQ	BaP TEQ			0.004653	0	1
Roads	Soil	S-40B-03	3		68476-30-2	TPHd			5	0	1
Roads	Soil	S-40B-03	3		8006-61-9	TPHg			0.4	0	1
Roads	Soil	S-40B-03	3		64742-47-8	TPHm			17	1	1
Roads	Soil	SV-08-01	1		BaP TEQ	BaP TEQ			0.00872	1	1
Roads	Soil	SV-08-01	1		64742-47-8	TPHm			200	1	1
Roads	Soil	SV-08-01	1		8006-61-9	TPHg			0.4	0	1
Roads	Soil	SV-08-01	1		68476-30-2	TPHd			55	1	1
Roads	Soil	SV-08-05	5		BaP TEQ	BaP TEQ			0.0040185	0	1
Roads	Soil	SV-08-05	5		64742-47-8	TPHm			5	0	1
Roads	Soil	SV-08-05	5		68476-30-2	TPHd			5	0	1
Roads	Soil	SV-08-05	5		8006-61-9	TPHg			0.4	0	1
Roads	Soil	SV-38-01	1		BaP TEQ	BaP TEQ			0.0458	1	1
Roads	Soil	SV-38-01	1		64742-47-8	TPHm			480	1	1
Roads	Soil	SV-38-01	1		68476-30-2	TPHd			310	1	1
Roads	Soil	SV-38-01	1		8006-61-9	TPHg			0.39	0	1
Roads	Soil	SV-38-05	5		BaP TEQ	BaP TEQ			0.003948	0	1
Roads	Soil	SV-38-05	5		8006-61-9	TPHg			0.39	0	1
Roads	Soil	SV-38-05	5		68476-30-2	TPHd			5	0	1
Roads	Soil	SV-38-05	5		64742-47-8	TPHm			5	0	1
Roads	Soil	SV-57-01	1		BaP TEQ	BaP TEQ			0.02565	1	1
Roads	Soil	SV-57-01	1		64742-47-8	TPHm			25	1	1
Roads	Soil	SV-57-01	1		8006-61-9	TPHg			0.38	0	1
Roads	Soil	SV-57-01	1		68476-30-2	TPHd			7.9	1	1
Roads	Soil	SV-57-05	5		BaP TEQ	BaP TEQ			0.04226	1	1
Roads	Soil	SV-57-05	5		8006-61-9	TPHg			0.4	0	1
Roads	Soil	SV-57-05	5		64742-47-8	TPHm			5	0	1
Roads	Soil	SV-57-05	5		68476-30-2	TPHd			5	0	1
Roads	Soil	B-126-10	10	26-Aug-97		C10-C25	10	mg/K	10	1	1
Roads	Soil	B-126-10	10	26-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Roads	Soil	B-126-10	10	26-Aug-97		C1-C40	36	mg/K	36	1	1
Roads	Soil	B-126-10	10	26-Aug-97		C25-C40	26	mg/K	26	1	1
Roads	Soil	B-126-10	10	26-Aug-97		C4-C10	10	mg/K	10	0	1
Roads	Soil	B-126-10	10	26-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Roads	Soil	B-126-10	10	26-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Roads	Soil	B-126-10	10	26-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Roads	Soil	B-126-5	5	26-Aug-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	B-126-5	5	26-Aug-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Roads	Soil	B-126-5	5	26-Aug-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Roads	Soil	B-126-5	5	26-Aug-97		C1-C40	10	mg/K	10	0	1
Roads	Soil	B-126-5	5	26-Aug-97		C25-C40	10	mg/K	10	0	1
Roads	Soil	B-126-5	5	26-Aug-97		C10-C25	10	mg/K	10	0	1
Roads	Soil	B-126-5	5	26-Aug-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Roads	Soil	B-126-5	5	26-Aug-97		C4-C10	10	mg/K	10	0	1
Roads	Soil	B-145-9	9	18-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Roads	Soil	B-145-9	9	18-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Roads	Soil	B-145-9	9	18-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Roads	Soil	B-145-9	9	18-Nov-97		C4-C10	10	mg/K	10	0	1
Roads	Soil	B-145-9	9	18-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Roads	Soil	B-145-9	9	18-Nov-97		C1-C40	10	mg/K	10	0	1
Roads	Soil	B-145-9	9	18-Nov-97		C25-C40	10	mg/K	10	0	1
Roads	Soil	B-145-9	9	18-Nov-97		C10-C25	10	mg/K	10	0	1
Roads	Soil	B-149-10	10	25-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Roads	Soil	B-149-10	10	25-Nov-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
Roads	Soil	B-149-10	10	25-Nov-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
Roads	Soil	B-149-10	10	25-Nov-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
Roads	Soil	B-149-10	10	25-Nov-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
Roads	Soil	B-149-10	10	25-Nov-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
Roads	Soil	B-149-10	10	25-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Roads	Soil	B-149-10	10	25-Nov-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
Roads	Soil	B-149-10	10	25-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Roads	Soil	B-149-10	10	25-Nov-97		C10-C25	13	mg/K	13	1	1
Roads	Soil	B-149-10	10	25-Nov-97		C1-C40	78	mg/K	78	1	1
Roads	Soil	B-149-10	10	25-Nov-97		C25-C40	65	mg/K	65	1	1
Roads	Soil	B-149-10	10	25-Nov-97		C4-C10	10	mg/K	10	0	1
Roads	Soil	B-149-10	10	25-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Roads	Soil	B-149-10	10	25-Nov-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
Roads	Soil	B-149-5	5	25-Nov-97	7440-48-4	Cobalt	5.5	mg/K	5.5	1	1
Roads	Soil	B-149-5	5	25-Nov-97	7440-66-6	Zinc	280	mg/K	280	1	1
Roads	Soil	B-149-5	5	25-Nov-97	7440-62-2	Vanadium	270	mg/K	270	1	1
Roads	Soil	B-149-5	5	25-Nov-97	7440-28-0	Thallium	5	mg/K	5	0	1
Roads	Soil	B-149-5	5	25-Nov-97	7440-22-4	Silver	1	mg/K	1	0	1
Roads	Soil	B-149-5	5	25-Nov-97	7440-38-2	Arsenic	5	mg/K	5	0	1
Roads	Soil	B-149-5	5	25-Nov-97	7439-92-1	Lead	130	mg/K	130	1	1
Roads	Soil	B-149-5	5	25-Nov-97	7439-98-7	Molybdenum	3.7	mg/K	3.7	1	1
Roads	Soil	B-149-5	5	25-Nov-97	7439-97-6	Mercury	1.1	mg/K	1.1	1	1
Roads	Soil	B-149-5	5	25-Nov-97	7440-50-8	Copper	38	mg/K	38	1	1
Roads	Soil	B-149-5	5	25-Nov-97	11141-16-5	Aroclor 1232	0.03	mg/K	0.03	0	1
Roads	Soil	B-149-5	5	25-Nov-97	7440-47-3	Chromium	20	mg/K	20	1	1
Roads	Soil	B-149-5	5	25-Nov-97	7440-43-9	Cadmium	1	mg/K	1	1	1
Roads	Soil	B-149-5	5	25-Nov-97	7440-02-0	Nickel	170	mg/K	170	1	1
Roads	Soil	B-149-5	5	25-Nov-97	7440-39-3	Barium	83	mg/K	83	1	1
Roads	Soil	B-149-5	5	25-Nov-97	7782-49-2	Selenium	5	mg/K	5	0	1
Roads	Soil	B-149-5	5	25-Nov-97	11096-82-5	Aroclor 1260	0.03	mg/K	0.03	0	1
Roads	Soil	B-149-5	5	25-Nov-97	11097-69-1	Aroclor 1254	0.03	mg/K	0.03	0	1
Roads	Soil	B-149-5	5	25-Nov-97	12672-29-6	Aroclor 1248	0.03	mg/K	0.03	0	1
Roads	Soil	B-149-5	5	25-Nov-97	53469-21-9	Aroclor 1242	0.03	mg/K	0.03	0	1
Roads	Soil	B-149-5	5	25-Nov-97	7440-36-0	Antimony	5	mg/K	5	0	1
Roads	Soil	B-149-5	5	25-Nov-97	12674-11-2	Aroclor 1016	0.03	mg/K	0.03	0	1
Roads	Soil	B-149-5	5	25-Nov-97	11104-28-2	Aroclor 1221	0.03	mg/K	0.03	0	1
Roads	Soil	B-149-5	5	25-Nov-97	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
Roads	Soil	B-173-10	10	17-Nov-97		C10-C25	10	mg/K	10	0	1
Roads	Soil	B-173-10	10	17-Nov-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Roads	Soil	B-173-10	10	17-Nov-97		C1-C40	29	mg/K	29	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	B-173-10	10	17-Nov-97		C25-C40	29	mg/K	29	1	1
Roads	Soil	B-173-10	10	17-Nov-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Roads	Soil	B-173-10	10	17-Nov-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Roads	Soil	B-173-10	10	17-Nov-97		C4-C10	10	mg/K	10	0	1
Roads	Soil	B-173-10	10	17-Nov-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Roads	Soil	B-183-10	10	01-Jul-99	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Roads	Soil	B-183-10	10	01-Jul-99	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Roads	Soil	B-183-10	10	01-Jul-99	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Roads	Soil	B-183-10	10	01-Jul-99	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Roads	Soil	B-183-10	10	01-Jul-99		C25-C40	10	mg/K	10	0	1
Roads	Soil	B-183-10	10	01-Jul-99		C10-C25	10	mg/K	10	0	1
Roads	Soil	B-183-10	10	01-Jul-99		C4-C10	10	mg/K	10	0	1
Roads	Soil	B-183-10	10	01-Jul-99		C1-C40	10	mg/K	10	0	1
Roads	Soil	B-183-5	5	01-Jul-99	7440-48-4	Cobalt	2.4	mg/K	2.4	1	1
Roads	Soil	B-183-5	5	01-Jul-99	7440-66-6	Zinc	160	mg/K	160	1	1
Roads	Soil	B-183-5	5	01-Jul-99	7440-62-2	Vanadium	16	mg/K	16	1	1
Roads	Soil	B-183-5	5	01-Jul-99	7440-28-0	Thallium	5	mg/K	5	0	1
Roads	Soil	B-183-5	5	01-Jul-99	7440-22-4	Silver	1	mg/K	1	0	1
Roads	Soil	B-183-5	5	01-Jul-99	7782-49-2	Selenium	1	mg/K	1	0	1
Roads	Soil	B-183-5	5	01-Jul-99	7440-02-0	Nickel	9.1	mg/K	9.1	1	1
Roads	Soil	B-183-5	5	01-Jul-99	7439-98-7	Molybdenum	1	mg/K	1	0	1
Roads	Soil	B-183-5	5	01-Jul-99	7439-97-6	Mercury	0.1	mg/K	0.1	0	1
Roads	Soil	B-183-5	5	01-Jul-99	7440-50-8	Copper	9.9	mg/K	9.9	1	1
Roads	Soil	B-183-5	5	01-Jul-99	7440-47-3	Chromium	19	mg/K	19	1	1
Roads	Soil	B-183-5	5	01-Jul-99	7440-43-9	Cadmium	1	mg/K	1	0	1
Roads	Soil	B-183-5	5	01-Jul-99	7440-41-7	Beryllium	0.5	mg/K	0.5	0	1
Roads	Soil	B-183-5	5	01-Jul-99	7440-39-3	Barium	47	mg/K	47	1	1
Roads	Soil	B-183-5	5	01-Jul-99	7440-38-2	Arsenic	2.6	mg/K	2.6	1	1
Roads	Soil	B-183-5	5	01-Jul-99	7440-36-0	Antimony	5	mg/K	5	0	1
Roads	Soil	B-183-5	5	01-Jul-99	7439-92-1	Lead	3.9	mg/K	3.9	1	1
Roads	Soil	B-198-10	10	26-Feb-01	1330-20-7	Xylenes (total)	0.005	mg/k	0.005	0	1
Roads	Soil	B-198-10	10	26-Feb-01	7439-97-6	Mercury	0.1	mg/k	0.1	0	1
Roads	Soil	B-198-10	10	26-Feb-01	7440-66-6	Zinc	24	mg/k	24	1	1
Roads	Soil	B-198-10	10	26-Feb-01	7440-62-2	Vanadium	20	mg/k	20	1	1
Roads	Soil	B-198-10	10	26-Feb-01	7440-28-0	Thallium	5	mg/k	5	0	1
Roads	Soil	B-198-10	10	26-Feb-01	7440-22-4	Silver	1	mg/k	1	0	1
Roads	Soil	B-198-10	10	26-Feb-01	7782-49-2	Selenium	5	mg/k	5	0	1
Roads	Soil	B-198-10	10	26-Feb-01	108-88-3	Toluene	0.005	mg/k	0.005	0	1
Roads	Soil	B-198-10	10	26-Feb-01	7439-98-7	Molybdenum	1.2	mg/k	1.2	1	1
Roads	Soil	B-198-10	10	26-Feb-01	7440-36-0	Antimony	5	mg/k	5	0	1
Roads	Soil	B-198-10	10	26-Feb-01	7439-92-1	Lead	6.5	mg/k	6.5	1	1
Roads	Soil	B-198-10	10	26-Feb-01	100-41-4	Ethylbenzene	0.005	mg/k	0.005	0	1
Roads	Soil	B-198-10	10	26-Feb-01	7440-50-8	Copper	4.8	mg/k	4.8	1	1
Roads	Soil	B-198-10	10	26-Feb-01	7440-47-3	Chromium	23	mg/k	23	1	1
Roads	Soil	B-198-10	10	26-Feb-01	7440-43-9	Cadmium	1	mg/k	1	0	1
Roads	Soil	B-198-10	10	26-Feb-01		C4-C10	10	mg/k	10	0	1
Roads	Soil	B-198-10	10	26-Feb-01		C25-C40	10	mg/k	10	0	1
Roads	Soil	B-198-10	10	26-Feb-01		C1-C40	10	mg/K	10	0	1
Roads	Soil	B-198-10	10	26-Feb-01		C10-C25	10	mg/k	10	0	1
Roads	Soil	B-198-10	10	26-Feb-01	7440-38-2	Arsenic	13	mg/k	13	1	1
Roads	Soil	B-198-10	10	26-Feb-01	7440-48-4	Cobalt	1.1	mg/k	1.1	1	1
Roads	Soil	B-198-10	10	26-Feb-01	7440-39-3	Barium	30	mg/k	30	1	1
Roads	Soil	B-198-10	10	26-Feb-01	7440-02-0	Nickel	43	mg/k	43	1	1
Roads	Soil	B-198-10	10	26-Feb-01	71-43-2	Benzene	0.005	mg/k	0.005	0	1
Roads	Soil	B-198-10	10	26-Feb-01	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07		C18-C19	20	mg/k	20	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	S-40A-01	1	16-Jul-07		C16-C17	11	mg/k	11	1	1
Roads	Soil	S-40A-01	1	16-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Roads	Soil	S-40A-01	1	16-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Roads	Soil	S-40A-01	1	16-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07		C24-C25	56	mg/k	56	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	207-08-9	Benzo(k)fluoranthene	55	ug/kg	0.055	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	191-24-2	Benzo(g,h,i)perylene	140	ug/kg	0.14	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	205-99-2	Benzo(b)fluoranthene	170	ug/kg	0.17	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07		C8-C40	380	mg/k	380	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	7440-47-3	Chromium	32	mg/k	32	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07		C20-C21	35	mg/k	35	1	1
Roads	Soil	S-40A-01	1	16-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Roads	Soil	S-40A-01	1	16-Jul-07		C22-C23	47	mg/k	47	1	1
Roads	Soil	S-40A-01	1	16-Jul-07		C36-C40	18	mg/k	18	1	1
Roads	Soil	S-40A-01	1	16-Jul-07		C32-C35	48	mg/k	48	1	1
Roads	Soil	S-40A-01	1	16-Jul-07		C30-C31	39	mg/k	39	1	1
Roads	Soil	S-40A-01	1	16-Jul-07		C28-C29	38	mg/k	38	1	1
Roads	Soil	S-40A-01	1	16-Jul-07		C26-C27	67	mg/k	67	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	50-32-8	Benzo(a)pyrene	80	ug/kg	0.08	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07		4-Bromofluorobenzene	30.4	ug/kg	0.0304	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	7440-39-3	Barium	69	mg/k	69	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	7440-38-2	Arsenic	4.1	mg/k	4.1	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	120-12-7	Anthracene	55	ug/kg	0.055	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	208-96-8	Acenaphthylene	55	ug/kg	0.055	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	S-40A-01	1	16-Jul-07	56-55-3	Benzo(a)anthracene	55	ug/kg	0.055	0	1
Roads	Soil	S-40A-01	1	16-Jul-07		4-Bromofluorobenzene	0.00286	mg/k	0.00286	1	0
Roads	Soil	S-40A-01	1	16-Jul-07	91-57-6	2-Methylnaphthalene	55	ug/kg	0.055	0	1
Roads	Soil	S-40A-01	1	16-Jul-07		2-Fluorobiphenyl	980	ug/kg	0.98	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	90-12-0	1-Methylnaphthalene	55	ug/kg	0.055	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	83-32-9	Acenaphthene	55	ug/kg	0.055	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07		n-Octacosane	0.975	mg/k	0.975	1	0
Roads	Soil	S-40A-01	1	16-Jul-07		n-Octacosane	1.02	mg/k	1.02	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07		ORO (C25-C40)	230	mg/k	230	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	85-01-8	Phenanthrene	62	ug/kg	0.062	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	129-00-0	Pyrene	160	ug/kg	0.16	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
Roads	Soil	S-40A-01	1	16-Jul-07		Terphenyl-d14	1400	ug/kg	1.4	1	1
Roads	Soil	S-40A-01	1	16-Jul-07		Nitrobenzene-d5	980	ug/kg	0.98	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	218-01-9	Chrysene	630	ug/kg	0.63	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	7440-66-6	Zinc	51	mg/k	51	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07		Toluene-d8	40	ug/kg	0.04	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	7440-62-2	Vanadium	41	mg/k	41	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	7440-02-0	Nickel	22	mg/k	22	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	7440-48-4	Cobalt	2.7	mg/k	2.7	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	7440-50-8	Copper	17	mg/k	17	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	53-70-3	Dibenz(a,h)anthracene	55	ug/kg	0.055	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07		DRO (C10-C24)	150	mg/k	150	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	206-44-0	Fluoranthene	55	ug/kg	0.055	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07		Dibromofluoromethane	55.5	ug/kg	0.0555	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	91-20-3	Naphthalene	55	ug/kg	0.055	0	0

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	S-40A-01	1	16-Jul-07	86-73-7	Fluorene	55	ug/kg	0.055	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	7439-98-7	Molybdenum	3	mg/k	3	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	7439-97-6	Mercury	0.74	mg/k	0.74	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	7439-92-1	Lead	56	mg/k	56	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-01	1	16-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	65	ug/kg	0.065	1	1
Roads	Soil	S-40A-01	1	16-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		C8-C40	200	mg/k	200	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	74-95-3	Dibromomethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	75-71-8	Dichlorodifluoromethane	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		DRO (C10-C24)	64	mg/k	64	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	637-92-3	Ethyl tert butyl ether	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	100-41-4	Ethylbenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	206-44-0	Fluoranthene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	86-73-7	Fluorene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		C36-C40	16	mg/k	16	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		Dibromofluoromethane	51.3	ug/kg	0.0513	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	108-20-3	Isopropyl ether	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	98-82-8	Isopropylbenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	87-68-3	Hexachlorobutadiene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	7440-47-3	Chromium	28	mg/k	28	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	7439-92-1	Lead	4.3	mg/k	4.3	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	108-90-7	Chlorobenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	75-00-3	Chloroethane	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	67-66-3	Chloroform	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	56-23-5	Carbon tetrachloride	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	74-87-3	Chloromethane	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	124-48-1	Dibromochloromethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	218-01-9	Chrysene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	7440-48-4	Cobalt	1.3	mg/k	1.3	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	7440-50-8	Copper	5	mg/k	5	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	79-01-6	Trichloroethene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	127-18-4	Tetrachloroethene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	100-42-5	Styrene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		Terphenyl-d14	1300	ug/kg	1.3	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	994-05-8	Tert-amyl methyl ether	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	129-00-0	Pyrene	7.3	ug/kg	0.0073	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	98-06-6	tert-Butylbenzene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	99-87-6	p-Isopropyltoluene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	83-32-9	Acenaphthene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	108-88-3	Toluene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	75-01-4	Vinyl chloride	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	1330-20-7	Xylenes (total)	4.2	ug/kg	0.0042	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	S-40A-03	3	16-Jul-07	75-65-0	tert-Butyl alcohol	110	ug/kg	0.11	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		Nitrobenzene-d5	610	ug/kg	0.61	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	7439-97-6	Mercury	0.043	mg/k	0.043	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	1634-04-4	Methyl tert-butyl ether	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	75-09-2	Methylene chloride	21	ug/kg	0.021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	91-20-3	Naphthalene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	91-20-3	Naphthalene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	135-98-8	sec-Butylbenzene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	7440-02-0	Nickel	8.2	mg/k	8.2	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	179601-23-1	m,p-Xylenes	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		n-Octacosane	8.32	mg/k	8.32	1	0
Roads	Soil	S-40A-03	3	16-Jul-07		n-Octacosane	8.35	mg/k	8.35	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	103-65-1	n-Propylbenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		ORO (C25-C40)	130	mg/k	130	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	95-47-6	o-Xylene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	85-01-8	Phenanthrene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	104-51-8	n-Butylbenzene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	96-18-4	1,2,3-Trichloropropane	11	ug/kg	0.011	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	120-12-7	Anthracene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	95-49-8	2-Chlorotoluene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	594-20-7	2,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	90-12-0	1-Methylnaphthalene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	106-46-7	1,4-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	142-28-9	1,3-Dichloropropane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	541-73-1	1,3-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	78-87-5	1,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	107-06-2	1,2-Dichloroethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	95-50-1	1,2-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	106-93-4	1,2-Dibromoethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	91-57-6	2-Methylnaphthalene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	71-55-6	1,1,1-Trichloroethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	75-69-4	Trichlorofluoromethane	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	7440-62-2	Vanadium	20	mg/k	20	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	7440-66-6	Zinc	16	mg/k	16	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	79-00-5	1,1,2-Trichloroethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	75-34-3	1,1-Dichloroethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	75-35-4	1,1-Dichloroethene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	563-58-6	1,1-Dichloropropene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		4-Bromofluorobenzene	0.01	mg/k	0.01	1	0
Roads	Soil	S-40A-03	3	16-Jul-07		Toluene-d8	53	ug/kg	0.053	1	1
Roads	Soil	S-40A-03	3	16-Jul-07		C20-C21	15	mg/k	15	1	1
Roads	Soil	S-40A-03	3	16-Jul-07		2-Fluorobiphenyl	770	ug/kg	0.77	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	74-83-9	Bromomethane	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	75-27-4	Bromodichloromethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		C18-C19	8.8	mg/k	8.8	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	S-40A-03	3	16-Jul-07	74-97-5	Bromochloromethane	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		C22-C23	20	mg/k	20	1	1
Roads	Soil	S-40A-03	3	16-Jul-07		C24-C25	23	mg/k	23	1	1
Roads	Soil	S-40A-03	3	16-Jul-07		C26-C27	29	mg/k	29	1	1
Roads	Soil	S-40A-03	3	16-Jul-07		C28-C29	23	mg/k	23	1	1
Roads	Soil	S-40A-03	3	16-Jul-07		C30-C31	20	mg/k	20	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		C16-C17	5.3	mg/k	5.3	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	56-55-3	Benzo(a)anthracene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		4-Bromofluorobenzene	39.1	ug/kg	0.0391	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	106-43-4	4-Chlorotoluene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	208-96-8	Acenaphthylene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	7440-38-2	Arsenic	1.8	mg/k	1.8	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	75-25-2	Bromoform	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	71-43-2	Benzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40A-03	3	16-Jul-07		C32-C35	36	mg/k	36	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	50-32-8	Benzo(a)pyrene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	205-99-2	Benzo(b)fluoranthene	6.2	ug/kg	0.0062	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	191-24-2	Benzo(g,h,i)perylene	8	ug/kg	0.008	1	1
Roads	Soil	S-40A-03	3	16-Jul-07	207-08-9	Benzo(k)fluoranthene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	108-86-1	Bromobenzene	5.3	ug/kg	0.0053	0	1
Roads	Soil	S-40A-03	3	16-Jul-07	7440-39-3	Barium	51	mg/k	51	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	67-66-3	Chloroform	2.7	ug/kg	0.0027	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	637-92-3	Ethyl tert butyl ether	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	91-20-3	Naphthalene	12	ug/kg	0.012	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	91-20-3	Naphthalene	4.8	ug/kg	0.0048	0	0
Roads	Soil	S-40B-01	1	16-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	75-09-2	Methylene chloride	19	ug/kg	0.019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	1634-04-4	Methyl tert-butyl ether	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	7439-97-6	Mercury	1.5	mg/k	1.5	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	179601-23-1	m,p-Xylenes	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	7439-92-1	Lead	37	mg/k	37	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	98-82-8	Isopropylbenzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	108-20-3	Isopropyl ether	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	55	ug/kg	0.055	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	87-68-3	Hexachlorobutadiene	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	86-73-7	Fluorene	5.4	ug/kg	0.0054	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	75-00-3	Chloroethane	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	53-70-3	Dibenz(a,h)anthracene	15	ug/kg	0.015	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	108-90-7	Chlorobenzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	7440-47-3	Chromium	32	mg/k	32	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	218-01-9	Chrysene	120	ug/kg	0.12	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	156-59-2	cis-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	10061-01-5	cis-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	206-44-0	Fluoranthene	54	ug/kg	0.054	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	7440-50-8	Copper	7	mg/k	7	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	100-41-4	Ethylbenzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	124-48-1	Dibromochloromethane	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07		Dibromofluoromethane	45.6	ug/kg	0.0456	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	74-95-3	Dibromomethane	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	75-71-8	Dichlorodifluoromethane	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07		DRO (C10-C24)	35	mg/k	35	1	1
Roads	Soil	S-40B-01	1	16-Jul-07		Nitrobenzene-d5	600	ug/kg	0.6	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	7440-48-4	Cobalt	2	mg/k	2	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	79-01-6	Trichloroethene	1.9	ug/kg	0.0019	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	S-40B-01	1	16-Jul-07	104-51-8	n-Butylbenzene	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	127-18-4	Tetrachloroethene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	108-88-3	Toluene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07		Toluene-d8	46.9	ug/kg	0.0469	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	75-65-0	tert-Butyl alcohol	96	ug/kg	0.096	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	10061-02-6	trans-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	994-05-8	Tert-amyl methyl ether	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	75-69-4	Trichlorofluoromethane	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	7440-62-2	Vanadium	28	mg/k	28	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	75-01-4	Vinyl chloride	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.44	mg/k	0.44	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	1330-20-7	Xylenes (total)	3.9	ug/kg	0.0039	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	7440-66-6	Zinc	45	mg/k	45	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	156-60-5	trans-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	99-87-6	p-Isopropyltoluene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	56-23-5	Carbon tetrachloride	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07		n-Octacosane	6.23	mg/k	6.23	1	0
Roads	Soil	S-40B-01	1	16-Jul-07		n-Octacosane	6.49	mg/k	6.49	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	103-65-1	n-Propylbenzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07		ORO (C25-C40)	140	mg/k	140	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	98-06-6	tert-Butylbenzene	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	85-01-8	Phenanthrene	56	ug/kg	0.056	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	7440-02-0	Nickel	12	mg/k	12	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	129-00-0	Pyrene	80	ug/kg	0.08	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	135-98-8	sec-Butylbenzene	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	100-42-5	Styrene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07		Terphenyl-d14	1100	ug/kg	1.1	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	95-47-6	o-Xylene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	107-06-2	1,2-Dichloroethane	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	74-87-3	Chloromethane	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	83-32-9	Acenaphthene	5.4	ug/kg	0.0054	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	106-43-4	4-Chlorotoluene	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07		4-Bromofluorobenzene	39.7	ug/kg	0.0397	1	1
Roads	Soil	S-40B-01	1	16-Jul-07		4-Bromofluorobenzene	0.00869	mg/k	0.00869	1	0
Roads	Soil	S-40B-01	1	16-Jul-07	91-57-6	2-Methylnaphthalene	8.7	ug/kg	0.0087	1	1
Roads	Soil	S-40B-01	1	16-Jul-07		2-Fluorobiphenyl	660	ug/kg	0.66	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	95-49-8	2-Chlorotoluene	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	594-20-7	2,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	90-12-0	1-Methylnaphthalene	5.4	ug/kg	0.0054	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	106-46-7	1,4-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	142-28-9	1,3-Dichloropropane	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	541-73-1	1,3-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	120-12-7	Anthracene	10	ug/kg	0.01	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	96-18-4	1,2,3-Trichloropropane	9.6	ug/kg	0.0096	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	71-55-6	1,1,1-Trichloroethane	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	79-00-5	1,1,2-Trichloroethane	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	75-34-3	1,1-Dichloroethane	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	75-35-4	1,1-Dichloroethene	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	108-67-8	1,3,5-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	87-61-6	1,2,3-Trichlorobenzene	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	78-87-5	1,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	95-63-6	1,2,4-Trimethylbenzene	1.9	ug/kg	0.0019	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	S-40B-01	1	16-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	106-93-4	1,2-Dibromoethane	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	95-50-1	1,2-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	563-58-6	1,1-Dichloropropene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07		C28-C29	23	mg/k	23	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	208-96-8	Acenaphthylene	15	ug/kg	0.015	1	1
Roads	Soil	S-40B-01	1	16-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-01	1	16-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-01	1	16-Jul-07		C20-C21	7.7	mg/k	7.7	1	1
Roads	Soil	S-40B-01	1	16-Jul-07		C22-C23	12	mg/k	12	1	1
Roads	Soil	S-40B-01	1	16-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-01	1	16-Jul-07		C26-C27	28	mg/k	28	1	1
Roads	Soil	S-40B-01	1	16-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-01	1	16-Jul-07		C30-C31	22	mg/k	22	1	1
Roads	Soil	S-40B-01	1	16-Jul-07		C32-C35	40	mg/k	40	1	1
Roads	Soil	S-40B-01	1	16-Jul-07		C36-C40	18	mg/k	18	1	1
Roads	Soil	S-40B-01	1	16-Jul-07		C8-C40	170	mg/k	170	1	1
Roads	Soil	S-40B-01	1	16-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Roads	Soil	S-40B-01	1	16-Jul-07		C24-C25	16	mg/k	16	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	207-08-9	Benzo(k)fluoranthene	41	ug/kg	0.041	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	7440-38-2	Arsenic	3.4	mg/k	3.4	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	7440-39-3	Barium	51	mg/k	51	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	71-43-2	Benzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	56-55-3	Benzo(a)anthracene	22	ug/kg	0.022	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	50-32-8	Benzo(a)pyrene	39	ug/kg	0.039	1	1
Roads	Soil	S-40B-01	1	16-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	191-24-2	Benzo(g,h,i)perylene	61	ug/kg	0.061	1	1
Roads	Soil	S-40B-01	1	16-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	108-86-1	Bromobenzene	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	74-97-5	Bromochloromethane	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	75-27-4	Bromodichloromethane	1.9	ug/kg	0.0019	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	75-25-2	Bromoform	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	74-83-9	Bromomethane	4.8	ug/kg	0.0048	0	1
Roads	Soil	S-40B-01	1	16-Jul-07	205-99-2	Benzo(b)fluoranthene	67	ug/kg	0.067	1	1
Roads	Soil	S-40B-03	3	16-Jul-07	75-01-4	Vinyl chloride	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	1330-20-7	Xylenes (total)	4.2	ug/kg	0.0042	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	7440-38-2	Arsenic	1.6	mg/k	1.6	1	1
Roads	Soil	S-40B-03	3	16-Jul-07	7440-39-3	Barium	30	mg/k	30	1	1
Roads	Soil	S-40B-03	3	16-Jul-07	71-43-2	Benzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	56-55-3	Benzo(a)anthracene	6.6	ug/kg	0.0066	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	50-32-8	Benzo(a)pyrene	6.6	ug/kg	0.0066	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	205-99-2	Benzo(b)fluoranthene	6.6	ug/kg	0.0066	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	191-24-2	Benzo(g,h,i)perylene	6.6	ug/kg	0.0066	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	207-08-9	Benzo(k)fluoranthene	6.6	ug/kg	0.0066	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	108-86-1	Bromobenzene	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	74-97-5	Bromochloromethane	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	75-27-4	Bromodichloromethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	120-12-7	Anthracene	6.6	ug/kg	0.0066	0	1
Roads	Soil	S-40B-03	3	16-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-03	3	16-Jul-07		C8-C40	22	mg/k	22	1	1
Roads	Soil	S-40B-03	3	16-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-03	3	16-Jul-07		C32-C35	8.4	mg/k	8.4	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	S-40B-03	3	16-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-03	3	16-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	75-25-2	Bromoform	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	74-83-9	Bromomethane	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-03	3	16-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-03	3	16-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-03	3	16-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-03	3	16-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	208-96-8	Acenaphthylene	6.6	ug/kg	0.0066	0	1
Roads	Soil	S-40B-03	3	16-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	78-87-5	1,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	71-55-6	1,1,1-Trichloroethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	79-00-5	1,1,2-Trichloroethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	75-34-3	1,1-Dichloroethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	75-35-4	1,1-Dichloroethene	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	563-58-6	1,1-Dichloropropene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	106-93-4	1,2-Dibromoethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	594-20-7	2,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	83-32-9	Acenaphthene	6.6	ug/kg	0.0066	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	106-43-4	4-Chlorotoluene	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07		4-Bromofluorobenzene	42.5	ug/kg	0.0425	1	1
Roads	Soil	S-40B-03	3	16-Jul-07		4-Bromofluorobenzene	0.0104	mg/k	0.0104	1	0
Roads	Soil	S-40B-03	3	16-Jul-07	91-57-6	2-Methylnaphthalene	6.6	ug/kg	0.0066	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	95-50-1	1,2-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	95-49-8	2-Chlorotoluene	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	107-06-2	1,2-Dichloroethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	90-12-0	1-Methylnaphthalene	6.6	ug/kg	0.0066	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	106-46-7	1,4-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	142-28-9	1,3-Dichloropropane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	541-73-1	1,3-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	56-23-5	Carbon tetrachloride	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07		2-Fluorobiphenyl	570	ug/kg	0.57	1	1
Roads	Soil	S-40B-03	3	16-Jul-07		Terphenyl-d14	1700	ug/kg	1.7	1	1
Roads	Soil	S-40B-03	3	16-Jul-07	91-20-3	Naphthalene	6.6	ug/kg	0.0066	0	0
Roads	Soil	S-40B-03	3	16-Jul-07	104-51-8	n-Butylbenzene	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	7440-02-0	Nickel	6.2	mg/k	6.2	1	1
Roads	Soil	S-40B-03	3	16-Jul-07		Nitrobenzene-d5	760	ug/kg	0.76	1	1
Roads	Soil	S-40B-03	3	16-Jul-07		n-Octacosane	5.47	mg/k	5.47	1	1
Roads	Soil	S-40B-03	3	16-Jul-07	103-65-1	n-Propylbenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07		ORO (C25-C40)	17	mg/k	17	1	1
Roads	Soil	S-40B-03	3	16-Jul-07	95-47-6	o-Xylene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	85-01-8	Phenanthrene	6.6	ug/kg	0.0066	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	99-87-6	p-Isopropyltoluene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	129-00-0	Pyrene	6.6	ug/kg	0.0066	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	135-98-8	sec-Butylbenzene	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	S-40B-03	3	16-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	108-88-3	Toluene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	7440-62-2	Vanadium	17	mg/k	17	1	1
Roads	Soil	S-40B-03	3	16-Jul-07	75-69-4	Trichlorofluoromethane	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	79-01-6	Trichloroethene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
Roads	Soil	S-40B-03	3	16-Jul-07		Toluene-d8	53.6	ug/kg	0.0536	1	1
Roads	Soil	S-40B-03	3	16-Jul-07	100-42-5	Styrene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	127-18-4	Tetrachloroethene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	98-06-6	tert-Butylbenzene	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	994-05-8	Tert-amyl methyl ether	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	75-09-2	Methylene chloride	21	ug/kg	0.021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	218-01-9	Chrysene	6.6	ug/kg	0.0066	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	91-20-3	Naphthalene	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	124-48-1	Dibromochloromethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.6	ug/kg	0.0066	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	7440-50-8	Copper	4	mg/k	4	1	1
Roads	Soil	S-40B-03	3	16-Jul-07	7440-48-4	Cobalt	1	mg/k	1	1	1
Roads	Soil	S-40B-03	3	16-Jul-07	74-95-3	Dibromomethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	75-71-8	Dichlorodifluoromethane	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	7440-47-3	Chromium	23	mg/k	23	1	1
Roads	Soil	S-40B-03	3	16-Jul-07	74-87-3	Chloromethane	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	67-66-3	Chloroform	4.4	ug/kg	0.0044	1	1
Roads	Soil	S-40B-03	3	16-Jul-07	75-00-3	Chloroethane	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	108-90-7	Chlorobenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	7440-66-6	Zinc	13	mg/k	13	1	1
Roads	Soil	S-40B-03	3	16-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	6.6	ug/kg	0.0066	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	1634-04-4	Methyl tert-butyl ether	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	7439-97-6	Mercury	0.023	mg/k	0.023	1	1
Roads	Soil	S-40B-03	3	16-Jul-07	179601-23-1	m,p-Xylenes	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	7439-92-1	Lead	2.8	mg/k	2.8	1	1
Roads	Soil	S-40B-03	3	16-Jul-07		Dibromofluoromethane	50.2	ug/kg	0.0502	1	1
Roads	Soil	S-40B-03	3	16-Jul-07	108-20-3	Isopropyl ether	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	87-68-3	Hexachlorobutadiene	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	86-73-7	Fluorene	6.6	ug/kg	0.0066	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	206-44-0	Fluoranthene	6.6	ug/kg	0.0066	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	100-41-4	Ethylbenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	637-92-3	Ethyl tert butyl ether	5.2	ug/kg	0.0052	0	1
Roads	Soil	S-40B-03	3	16-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Roads	Soil	S-40B-03	3	16-Jul-07	98-82-8	Isopropylbenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	135-98-8	sec-Butylbenzene	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	129-00-0	Pyrene	7.7	ug/kg	0.0077	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	99-87-6	p-Isopropyltoluene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	100-42-5	Styrene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07		Terphenyl-d14	1300	ug/kg	1.3	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	994-05-8	Tert-amyl methyl ether	5.3	ug/kg	0.0053	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	SV-08-01	1	12-Jul-07	75-65-0	tert-Butyl alcohol	110	ug/kg	0.11	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	98-06-6	tert-Butylbenzene	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Roads	Soil	SV-08-01	1	12-Jul-07		Toluene-d8	54.2	ug/kg	0.0542	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	156-60-5	trans-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	79-01-6	Trichloroethene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	75-69-4	Trichlorofluoromethane	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	7440-62-2	Vanadium	19	mg/k	19	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	75-01-4	Vinyl chloride	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	7440-66-6	Zinc	25	mg/k	25	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	127-18-4	Tetrachloroethene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	85-01-8	Phenanthrene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	1330-20-7	Xylenes (total)	4.2	ug/kg	0.0042	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	207-08-9	Benzo(k)fluoranthene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-08-01	1	12-Jul-07		C20-C21	16	mg/k	16	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	83-32-9	Acenaphthene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	208-96-8	Acenaphthylene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	120-12-7	Anthracene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	7440-38-2	Arsenic	3.1	mg/k	3.1	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	7440-39-3	Barium	41	mg/k	41	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	71-43-2	Benzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	56-55-3	Benzo(a)anthracene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	50-32-8	Benzo(a)pyrene	6.4	ug/kg	0.0064	1	1
Roads	Soil	SV-08-01	1	12-Jul-07		4-Bromofluorobenzene	44.6	ug/kg	0.0446	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	191-24-2	Benzo(g,h,i)perylene	12	ug/kg	0.012	1	1
Roads	Soil	SV-08-01	1	12-Jul-07		4-Bromofluorobenzene	0.0156	mg/k	0.0156	1	0
Roads	Soil	SV-08-01	1	12-Jul-07	108-88-3	Toluene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	108-86-1	Bromobenzene	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	95-47-6	o-Xylene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	75-27-4	Bromodichloromethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	75-25-2	Bromoform	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	74-83-9	Bromomethane	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-01	1	12-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-01	1	12-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-01	1	12-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-01	1	12-Jul-07		C18-C19	5.1	mg/k	5.1	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	205-99-2	Benzo(b)fluoranthene	7.5	ug/kg	0.0075	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	95-50-1	1,2-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	71-55-6	1,1,1-Trichloroethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	79-00-5	1,1,2-Trichloroethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	75-34-3	1,1-Dichloroethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	75-35-4	1,1-Dichloroethene	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	563-58-6	1,1-Dichloropropene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	96-18-4	1,2,3-Trichloropropane	11	ug/kg	0.011	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	106-43-4	4-Chlorotoluene	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	106-93-4	1,2-Dibromoethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	74-97-5	Bromochloromethane	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	107-06-2	1,2-Dichloroethane	2.1	ug/kg	0.0021	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	SV-08-01	1	12-Jul-07	78-87-5	1,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	541-73-1	1,3-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	142-28-9	1,3-Dichloropropane	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	106-46-7	1,4-Dichlorobenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	90-12-0	1-Methylnaphthalene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	594-20-7	2,2-Dichloropropane	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	95-49-8	2-Chlorotoluene	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07		2-Fluorobiphenyl	920	ug/kg	0.92	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	91-57-6	2-Methylnaphthalene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	75-09-2	Methylene chloride	21	ug/kg	0.021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	637-92-3	Ethyl tert butyl ether	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	100-41-4	Ethylbenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	206-44-0	Fluoranthene	7.2	ug/kg	0.0072	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	86-73-7	Fluorene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	87-68-3	Hexachlorobutadiene	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	8.8	ug/kg	0.0088	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	108-20-3	Isopropyl ether	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	98-82-8	Isopropylbenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	7439-92-1	Lead	9.6	mg/k	9.6	1	1
Roads	Soil	SV-08-01	1	12-Jul-07		C22-C23	19	mg/k	19	1	1
Roads	Soil	SV-08-01	1	12-Jul-07		DRO (C10-C24)	55	mg/k	55	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	179601-23-1	m,p-Xylenes	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	91-20-3	Naphthalene	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	91-20-3	Naphthalene	5.6	ug/kg	0.0056	0	0
Roads	Soil	SV-08-01	1	12-Jul-07	104-51-8	n-Butylbenzene	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	7440-02-0	Nickel	9.5	mg/k	9.5	1	1
Roads	Soil	SV-08-01	1	12-Jul-07		Nitrobenzene-d5	530	ug/kg	0.53	1	1
Roads	Soil	SV-08-01	1	12-Jul-07		n-Octacosane	9.55	mg/k	9.55	1	0
Roads	Soil	SV-08-01	1	12-Jul-07		n-Octacosane	9.57	mg/k	9.57	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	103-65-1	n-Propylbenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07		ORO (C25-C40)	200	mg/k	200	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	7439-97-6	Mercury	0.17	mg/k	0.17	1	1
Roads	Soil	SV-08-01	1	12-Jul-07		C28-C29	33	mg/k	33	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	1634-04-4	Methyl tert-butyl ether	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07		C26-C27	33	mg/k	33	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	75-71-8	Dichlorodifluoromethane	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07		C30-C31	35	mg/k	35	1	1
Roads	Soil	SV-08-01	1	12-Jul-07		C32-C35	55	mg/k	55	1	1
Roads	Soil	SV-08-01	1	12-Jul-07		C36-C40	27	mg/k	27	1	1
Roads	Soil	SV-08-01	1	12-Jul-07		C8-C40	250	mg/k	250	1	1
Roads	Soil	SV-08-01	1	12-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	56-23-5	Carbon tetrachloride	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	108-90-7	Chlorobenzene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	75-00-3	Chloroethane	5.3	ug/kg	0.0053	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	124-48-1	Dibromochloromethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07		C24-C25	26	mg/k	26	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	67-66-3	Chloroform	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07		Dibromofluoromethane	55.1	ug/kg	0.0551	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	7440-50-8	Copper	4.5	mg/k	4.5	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	7440-48-4	Cobalt	1.7	mg/k	1.7	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	74-87-3	Chloromethane	5.3	ug/kg	0.0053	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	SV-08-01	1	12-Jul-07	156-59-2	cis-1,2-Dichloroethene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	218-01-9	Chrysene	13	ug/kg	0.013	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	7440-47-3	Chromium	27	mg/k	27	1	1
Roads	Soil	SV-08-01	1	12-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-01	1	12-Jul-07	74-95-3	Dibromomethane	2.1	ug/kg	0.0021	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	127-18-4	Tetrachloroethene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	98-06-6	tert-Butylbenzene	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	75-65-0	tert-Butyl alcohol	95	ug/kg	0.095	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	994-05-8	Tert-amyl methyl ether	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	129-00-0	Pyrene	5.7	ug/kg	0.0057	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		Terphenyl-d14	1400	ug/kg	1.4	1	1
Roads	Soil	SV-08-05	5	12-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	135-98-8	sec-Butylbenzene	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	75-01-4	Vinyl chloride	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	100-42-5	Styrene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	108-88-3	Toluene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		Toluene-d8	50.9	ug/kg	0.0509	1	1
Roads	Soil	SV-08-05	5	12-Jul-07	156-60-5	trans-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	10061-02-6	trans-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	79-01-6	Trichloroethene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	7440-62-2	Vanadium	20	mg/k	20	1	1
Roads	Soil	SV-08-05	5	12-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	1330-20-7	Xylenes (total)	3.8	ug/kg	0.0038	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	7440-66-6	Zinc	15	mg/k	15	1	1
Roads	Soil	SV-08-05	5	12-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.7	ug/kg	0.0057	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	99-87-6	p-Isopropyltoluene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	75-69-4	Trichlorofluoromethane	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	207-08-9	Benzo(k)fluoranthene	5.7	ug/kg	0.0057	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		4-Bromofluorobenzene	44.9	ug/kg	0.0449	1	1
Roads	Soil	SV-08-05	5	12-Jul-07	106-43-4	4-Chlorotoluene	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	83-32-9	Acenaphthene	5.7	ug/kg	0.0057	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	208-96-8	Acenaphthylene	5.7	ug/kg	0.0057	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	120-12-7	Anthracene	5.7	ug/kg	0.0057	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	7440-38-2	Arsenic	4	mg/k	4	1	1
Roads	Soil	SV-08-05	5	12-Jul-07	7440-39-3	Barium	31	mg/k	31	1	1
Roads	Soil	SV-08-05	5	12-Jul-07	71-43-2	Benzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	56-55-3	Benzo(a)anthracene	5.7	ug/kg	0.0057	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	205-99-2	Benzo(b)fluoranthene	5.7	ug/kg	0.0057	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		2-Fluorobiphenyl	990	ug/kg	0.99	1	1
Roads	Soil	SV-08-05	5	12-Jul-07	108-86-1	Bromobenzene	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	74-97-5	Bromochloromethane	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	75-27-4	Bromodichloromethane	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	75-25-2	Bromoform	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	74-83-9	Bromomethane	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	50-32-8	Benzo(a)pyrene	5.7	ug/kg	0.0057	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	106-93-4	1,2-Dibromoethane	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	71-55-6	1,1,1-Trichloroethane	1.9	ug/kg	0.0019	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	SV-08-05	5	12-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	79-00-5	1,1,2-Trichloroethane	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	75-34-3	1,1-Dichloroethane	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	75-35-4	1,1-Dichloroethene	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	563-58-6	1,1-Dichloropropene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	87-61-6	1,2,3-Trichlorobenzene	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	96-18-4	1,2,3-Trichloropropane	9.5	ug/kg	0.0095	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	120-82-1	1,2,4-Trichlorobenzene	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		4-Bromofluorobenzene	0.0178	mg/k	0.0178	1	0
Roads	Soil	SV-08-05	5	12-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	91-57-6	2-Methylnaphthalene	5.7	ug/kg	0.0057	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	95-50-1	1,2-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	107-06-2	1,2-Dichloroethane	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	78-87-5	1,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	108-67-8	1,3,5-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	541-73-1	1,3-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	142-28-9	1,3-Dichloropropane	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	106-46-7	1,4-Dichlorobenzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	90-12-0	1-Methylnaphthalene	5.7	ug/kg	0.0057	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	594-20-7	2,2-Dichloropropane	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	95-49-8	2-Chlorotoluene	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	95-63-6	1,2,4-Trimethylbenzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	75-09-2	Methylene chloride	19	ug/kg	0.019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	637-92-3	Ethyl tert butyl ether	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	100-41-4	Ethylbenzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	206-44-0	Fluoranthene	5.7	ug/kg	0.0057	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	86-73-7	Fluorene	5.7	ug/kg	0.0057	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	87-68-3	Hexachlorobutadiene	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.7	ug/kg	0.0057	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	108-20-3	Isopropyl ether	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	98-82-8	Isopropylbenzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	7439-92-1	Lead	2	mg/k	2	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	179601-23-1	m,p-Xylenes	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	1634-04-4	Methyl tert-butyl ether	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	74-95-3	Dibromomethane	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	91-20-3	Naphthalene	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	91-20-3	Naphthalene	5.7	ug/kg	0.0057	0	0
Roads	Soil	SV-08-05	5	12-Jul-07	104-51-8	n-Butylbenzene	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	7440-02-0	Nickel	7.6	mg/k	7.6	1	1
Roads	Soil	SV-08-05	5	12-Jul-07		Nitrobenzene-d5	800	ug/kg	0.8	1	1
Roads	Soil	SV-08-05	5	12-Jul-07		n-Octacosane	5.1	mg/k	5.1	1	1
Roads	Soil	SV-08-05	5	12-Jul-07	103-65-1	n-Propylbenzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	95-47-6	o-Xylene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	67-66-3	Chloroform	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		C8-C40	5	mg/k	5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		C8-C9	3.5	mg/k	3.5	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	SV-08-05	5	12-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	56-23-5	Carbon tetrachloride	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	75-00-3	Chloroethane	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	75-71-8	Dichlorodifluoromethane	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	74-87-3	Chloromethane	4.7	ug/kg	0.0047	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	7440-47-3	Chromium	29	mg/k	29	1	1
Roads	Soil	SV-08-05	5	12-Jul-07	218-01-9	Chrysene	5.7	ug/kg	0.0057	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	156-59-2	cis-1,2-Dichloroethene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	10061-01-5	cis-1,3-Dichloropropene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	7440-48-4	Cobalt	1.4	mg/k	1.4	1	1
Roads	Soil	SV-08-05	5	12-Jul-07	7440-50-8	Copper	3.4	mg/k	3.4	1	1
Roads	Soil	SV-08-05	5	12-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.7	ug/kg	0.0057	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	124-48-1	Dibromochloromethane	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-08-05	5	12-Jul-07		Dibromofluoromethane	48.4	ug/kg	0.0484	1	1
Roads	Soil	SV-08-05	5	12-Jul-07	85-01-8	Phenanthrene	5.7	ug/kg	0.0057	0	1
Roads	Soil	SV-08-05	5	12-Jul-07	108-90-7	Chlorobenzene	1.9	ug/kg	0.0019	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	7439-97-6	Mercury	0.022	mg/k	0.022	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	7439-92-1	Lead	6.9	mg/k	6.9	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	56	ug/kg	0.056	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	86-73-7	Fluorene	56	ug/kg	0.056	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	206-44-0	Fluoranthene	56	ug/kg	0.056	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	7440-47-3	Chromium	28	mg/k	28	1	1
Roads	Soil	SV-38-01	1	12-Jul-07		DRO (C10-C24)	310	mg/k	310	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	7440-48-4	Cobalt	1.9	mg/k	1.9	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	7440-50-8	Copper	4.5	mg/k	4.5	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	53-70-3	Dibenz(a,h)anthracene	56	ug/kg	0.056	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07		Dibromofluoromethane	62	ug/kg	0.062	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	7440-02-0	Nickel	19	mg/k	19	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	218-01-9	Chrysene	130	ug/kg	0.13	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	91-20-3	Naphthalene	56	ug/kg	0.056	0	0
Roads	Soil	SV-38-01	1	12-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	SV-38-01	1	12-Jul-07		Terphenyl-d14	1300	ug/kg	1.3	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	7440-62-2	Vanadium	24	mg/k	24	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.39	mg/k	0.39	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Roads	Soil	SV-38-01	1	12-Jul-07		Toluene-d8	45.3	ug/kg	0.0453	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	85-01-8	Phenanthrene	56	ug/kg	0.056	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	7440-43-9	Cadmium	0.79	mg/k	0.79	1	1
Roads	Soil	SV-38-01	1	12-Jul-07		Nitrobenzene-d5	640	ug/kg	0.64	1	1
Roads	Soil	SV-38-01	1	12-Jul-07		n-Octacosane	10.9	mg/k	10.9	1	0
Roads	Soil	SV-38-01	1	12-Jul-07		n-Octacosane	11	mg/k	11	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	129-00-0	Pyrene	64	ug/kg	0.064	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07		ORO (C25-C40)	480	mg/k	480	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	83-32-9	Acenaphthene	56	ug/kg	0.056	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07		4-Bromofluorobenzene	40.7	ug/kg	0.0407	1	1
Roads	Soil	SV-38-01	1	12-Jul-07		4-Bromofluorobenzene	0.0121	mg/k	0.0121	1	0
Roads	Soil	SV-38-01	1	12-Jul-07	91-57-6	2-Methylnaphthalene	56	ug/kg	0.056	0	1
Roads	Soil	SV-38-01	1	12-Jul-07		2-Fluorobiphenyl	930	ug/kg	0.93	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	90-12-0	1-Methylnaphthalene	56	ug/kg	0.056	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07		C26-C27	150	mg/k	150	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	208-96-8	Acenaphthylene	56	ug/kg	0.056	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	SV-38-01	1	12-Jul-07		C14-C15	9	mg/k	9	1	1
Roads	Soil	SV-38-01	1	12-Jul-07		C16-C17	26	mg/k	26	1	1
Roads	Soil	SV-38-01	1	12-Jul-07		C18-C19	42	mg/k	42	1	1
Roads	Soil	SV-38-01	1	12-Jul-07		C20-C21	71	mg/k	71	1	1
Roads	Soil	SV-38-01	1	12-Jul-07		C10-C11	7	mg/k	7	0	1
Roads	Soil	SV-38-01	1	12-Jul-07		C24-C25	100	mg/k	100	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07		C28-C29	85	mg/k	85	1	1
Roads	Soil	SV-38-01	1	12-Jul-07		C30-C31	82	mg/k	82	1	1
Roads	Soil	SV-38-01	1	12-Jul-07		C32-C35	93	mg/k	93	1	1
Roads	Soil	SV-38-01	1	12-Jul-07		C36-C40	38	mg/k	38	1	1
Roads	Soil	SV-38-01	1	12-Jul-07		C8-C40	800	mg/k	800	1	1
Roads	Soil	SV-38-01	1	12-Jul-07		C8-C9	7	mg/k	7	0	1
Roads	Soil	SV-38-01	1	12-Jul-07		C22-C23	99	mg/k	99	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	191-24-2	Benzo(g,h,i)perylene	130	ug/kg	0.13	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	7440-66-6	Zinc	16	mg/k	16	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	7440-38-2	Arsenic	16	mg/k	16	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	7440-39-3	Barium	53	mg/k	53	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	56-55-3	Benzo(a)anthracene	56	ug/kg	0.056	0	1
Roads	Soil	SV-38-01	1	12-Jul-07		C12-C13	7	mg/k	7	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	205-99-2	Benzo(b)fluoranthene	56	ug/kg	0.056	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	120-12-7	Anthracene	56	ug/kg	0.056	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	207-08-9	Benzo(k)fluoranthene	81	ug/kg	0.081	1	1
Roads	Soil	SV-38-01	1	12-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-01	1	12-Jul-07	50-32-8	Benzo(a)pyrene	56	ug/kg	0.056	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	7439-97-6	Mercury	0.02	mg/k	0.02	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	7439-92-1	Lead	2.2	mg/k	2.2	1	1
Roads	Soil	SV-38-05	5	12-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	86-73-7	Fluorene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	206-44-0	Fluoranthene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	7440-48-4	Cobalt	1.3	mg/k	1.3	1	1
Roads	Soil	SV-38-05	5	12-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	7440-47-3	Chromium	26	mg/k	26	1	1
Roads	Soil	SV-38-05	5	12-Jul-07	218-01-9	Chrysene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	7440-50-8	Copper	3.7	mg/k	3.7	1	1
Roads	Soil	SV-38-05	5	12-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	SV-38-05	5	12-Jul-07		Dibromofluoromethane	61.4	ug/kg	0.0614	1	1
Roads	Soil	SV-38-05	5	12-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		Terphenyl-d14	1500	ug/kg	1.5	1	1
Roads	Soil	SV-38-05	5	12-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	7440-62-2	Vanadium	21	mg/k	21	1	1
Roads	Soil	SV-38-05	5	12-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.39	mg/k	0.39	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		Toluene-d8	48.9	ug/kg	0.0489	1	1
Roads	Soil	SV-38-05	5	12-Jul-07	85-01-8	Phenanthrene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	7440-02-0	Nickel	5.7	mg/k	5.7	1	1
Roads	Soil	SV-38-05	5	12-Jul-07		Nitrobenzene-d5	900	ug/kg	0.9	1	1
Roads	Soil	SV-38-05	5	12-Jul-07		n-Octacosane	5.38	mg/k	5.38	1	1
Roads	Soil	SV-38-05	5	12-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	91-20-3	Naphthalene	5.6	ug/kg	0.0056	0	0
Roads	Soil	SV-38-05	5	12-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	129-00-0	Pyrene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	208-96-8	Acenaphthylene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	83-32-9	Acenaphthene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		4-Bromofluorobenzene	51.5	ug/kg	0.0515	1	1
Roads	Soil	SV-38-05	5	12-Jul-07		4-Bromofluorobenzene	0.0182	mg/k	0.0182	1	0
Roads	Soil	SV-38-05	5	12-Jul-07	91-57-6	2-Methylnaphthalene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		2-Fluorobiphenyl	1000	ug/kg	1	1	1
Roads	Soil	SV-38-05	5	12-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	90-12-0	1-Methylnaphthalene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	SV-38-05	5	12-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	7440-38-2	Arsenic	3.2	mg/k	3.2	1	1
Roads	Soil	SV-38-05	5	12-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	120-12-7	Anthracene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		C8-C40	5	mg/k	5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	207-08-9	Benzo(k)fluoranthene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	7440-66-6	Zinc	13	mg/k	13	1	1
Roads	Soil	SV-38-05	5	12-Jul-07	7440-39-3	Barium	28	mg/k	28	1	1
Roads	Soil	SV-38-05	5	12-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	56-55-3	Benzo(a)anthracene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	50-32-8	Benzo(a)pyrene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-38-05	5	12-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	191-24-2	Benzo(g,h,i)perylene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-38-05	5	12-Jul-07	205-99-2	Benzo(b)fluoranthene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	7440-36-0	Antimony	10	mg/k	10	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	91-20-3	Naphthalene	5.6	ug/kg	0.0056	0	0
Roads	Soil	SV-57-01	1	12-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	7439-97-6	Mercury	0.14	mg/k	0.14	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	7439-92-1	Lead	66	mg/k	66	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	18	ug/kg	0.018	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	86-73-7	Fluorene	5.6	ug/kg	0.0056	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	SV-57-01	1	12-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	53-70-3	Dibenz(a,h)anthracene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	7440-47-3	Chromium	24	mg/k	24	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	218-01-9	Chrysene	19	ug/kg	0.019	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	206-44-0	Fluoranthene	20	ug/kg	0.02	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	7440-50-8	Copper	9.8	mg/k	9.8	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07		Dibromofluoromethane	61.3	ug/kg	0.0613	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07		DRO (C10-C24)	7.9	mg/k	7.9	1	1
Roads	Soil	SV-57-01	1	12-Jul-07		n-Octacosane	5.12	mg/k	5.12	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	7440-48-4	Cobalt	2.2	mg/k	2.2	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	7440-62-2	Vanadium	29	mg/k	29	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	7440-02-0	Nickel	14	mg/k	14	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07		Toluene-d8	47.5	ug/kg	0.0475	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.38	mg/k	0.38	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	7440-66-6	Zinc	160	mg/k	160	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	208-96-8	Acenaphthylene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07		ORO (C25-C40)	25	mg/k	25	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	85-01-8	Phenanthrene	11	ug/kg	0.011	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	7440-28-0	Thallium	10	mg/k	10	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	129-00-0	Pyrene	25	ug/kg	0.025	1	1
Roads	Soil	SV-57-01	1	12-Jul-07		n-Octacosane	5.1	mg/k	5.1	1	0
Roads	Soil	SV-57-01	1	12-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	7440-22-4	Silver	1	mg/k	1	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07		Terphenyl-d14	1300	ug/kg	1.3	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	75-65-0	tert-Butyl alcohol	99	ug/kg	0.099	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	91-57-6	2-Methylnaphthalene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	90-12-0	1-Methylnaphthalene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	7440-39-3	Barium	53	mg/k	53	1	1
Roads	Soil	SV-57-01	1	12-Jul-07		2-Fluorobiphenyl	990	ug/kg	0.99	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	SV-57-01	1	12-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07		4-Bromofluorobenzene	0.0169	mg/k	0.0169	1	0
Roads	Soil	SV-57-01	1	12-Jul-07		4-Bromofluorobenzene	45.1	ug/kg	0.0451	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	83-32-9	Acenaphthene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	120-12-7	Anthracene	5.6	ug/kg	0.0056	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	7440-38-2	Arsenic	4.8	mg/k	4.8	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	96-18-4	1,2,3-Trichloropropane	9.9	ug/kg	0.0099	0	1
Roads	Soil	SV-57-01	1	12-Jul-07		Nitrobenzene-d5	770	ug/kg	0.77	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	7440-43-9	Cadmium	0.51	mg/k	0.51	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-01	1	12-Jul-07		C8-C40	33	mg/k	33	1	1
Roads	Soil	SV-57-01	1	12-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-01	1	12-Jul-07		C32-C35	7.1	mg/k	7.1	1	1
Roads	Soil	SV-57-01	1	12-Jul-07		C30-C31	4.4	mg/k	4.4	1	1
Roads	Soil	SV-57-01	1	12-Jul-07		C28-C29	3.8	mg/k	3.8	1	1
Roads	Soil	SV-57-01	1	12-Jul-07		C26-C27	5.1	mg/k	5.1	1	1
Roads	Soil	SV-57-01	1	12-Jul-07		C24-C25	3.6	mg/k	3.6	1	1
Roads	Soil	SV-57-01	1	12-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-01	1	12-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-01	1	12-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-01	1	12-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-01	1	12-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	191-24-2	Benzo(g,h,i)perylene	18	ug/kg	0.018	1	1
Roads	Soil	SV-57-01	1	12-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	56-55-3	Benzo(a)anthracene	11	ug/kg	0.011	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	205-99-2	Benzo(b)fluoranthene	18	ug/kg	0.018	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	207-08-9	Benzo(k)fluoranthene	7.6	ug/kg	0.0076	1	1
Roads	Soil	SV-57-01	1	12-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-01	1	12-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-01	1	12-Jul-07	50-32-8	Benzo(a)pyrene	20	ug/kg	0.02	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	98-82-8	Isopropylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	206-44-0	Fluoranthene	46	ug/kg	0.046	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	SV-57-05	5	12-Jul-07	86-73-7	Fluorene	5.4	ug/kg	0.0054	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	87-68-3	Hexachlorobutadiene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	193-39-5	Indeno(1,2,3-cd)pyrene	25	ug/kg	0.025	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	108-20-3	Isopropyl ether	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	7439-92-1	Lead	2.9	mg/k	2.9	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	179601-23-1	m,p-Xylenes	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	7439-97-6	Mercury	0.093	mg/k	0.093	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	1634-04-4	Methyl tert-butyl ether	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	100-41-4	Ethylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	7439-98-7	Molybdenum	2	mg/k	2	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	7440-48-4	Cobalt	1.1	mg/k	1.1	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	91-20-3	Naphthalene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	75-09-2	Methylene chloride	20	ug/kg	0.02	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	10061-01-5	cis-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	67-66-3	Chloroform	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	75-65-0	tert-Butyl alcohol	100	ug/kg	0.1	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	91-20-3	Naphthalene	5.4	ug/kg	0.0054	0	0
Roads	Soil	SV-57-05	5	12-Jul-07	74-87-3	Chloromethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	7440-47-3	Chromium	29	mg/k	29	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	53-70-3	Dibenz(a,h)anthracene	6.4	ug/kg	0.0064	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	156-59-2	cis-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	637-92-3	Ethyl tert butyl ether	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	7440-50-8	Copper	3.4	mg/k	3.4	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	124-48-1	Dibromochloromethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		Dibromofluoromethane	60.3	ug/kg	0.0603	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	74-95-3	Dibromomethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	75-71-8	Dichlorodifluoromethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		DRO (C10-C24)	5	mg/k	5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	218-01-9	Chrysene	36	ug/kg	0.036	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	79-01-6	Trichloroethene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		Terphenyl-d14	1300	ug/kg	1.3	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	127-18-4	Tetrachloroethene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	7440-28-0	Thallium	9.9	mg/k	9.9	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	108-88-3	Toluene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		Toluene-d8	48.2	ug/kg	0.0482	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	75-00-3	Chloroethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	10061-02-6	trans-1,3-Dichloropropene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	994-05-8	Tert-amyl methyl ether	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	75-69-4	Trichlorofluoromethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	7440-62-2	Vanadium	25	mg/k	25	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	75-01-4	Vinyl chloride	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	TPHv	Volatile Fuel Hydrocarbons	0.4	mg/k	0.4	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	1330-20-7	Xylenes (total)	4	ug/kg	0.004	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	630-20-6	1,1,1,2-Tetrachloroethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	156-60-5	trans-1,2-Dichloroethene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	99-87-6	p-Isopropyltoluene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	7440-02-0	Nickel	7.5	mg/k	7.5	1	1
Roads	Soil	SV-57-05	5	12-Jul-07		Nitrobenzene-d5	780	ug/kg	0.78	1	1
Roads	Soil	SV-57-05	5	12-Jul-07		n-Octacosane	4.88	mg/k	4.88	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	103-65-1	n-Propylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		ORO (C25-C40)	5	mg/k	5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	98-06-6	tert-Butylbenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	85-01-8	Phenanthrene	28	ug/kg	0.028	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	104-51-8	n-Butylbenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	129-00-0	Pyrene	59	ug/kg	0.059	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	135-98-8	sec-Butylbenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	7782-49-2	Selenium	2	mg/k	2	0	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	SV-57-05	5	12-Jul-07	7440-22-4	Silver	0.99	mg/k	0.99	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	100-42-5	Styrene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	7440-66-6	Zinc	17	mg/k	17	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	95-47-6	o-Xylene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	78-87-5	1,2-Dichloropropane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	120-12-7	Anthracene	5.4	ug/kg	0.0054	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	208-96-8	Acenaphthylene	5.5	ug/kg	0.0055	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	83-32-9	Acenaphthene	5.4	ug/kg	0.0054	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	106-43-4	4-Chlorotoluene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		4-Bromofluorobenzene	45.2	ug/kg	0.0452	1	1
Roads	Soil	SV-57-05	5	12-Jul-07		4-Bromofluorobenzene	0.0131	mg/k	0.0131	1	0
Roads	Soil	SV-57-05	5	12-Jul-07	91-57-6	2-Methylnaphthalene	5.4	ug/kg	0.0054	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		2-Fluorobiphenyl	890	ug/kg	0.89	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	95-49-8	2-Chlorotoluene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	594-20-7	2,2-Dichloropropane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	90-12-0	1-Methylnaphthalene	5.4	ug/kg	0.0054	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	106-46-7	1,4-Dichlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	142-28-9	1,3-Dichloropropane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	79-34-5	1,1,2,2-Tetrachloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	120-82-1	1,2,4-Trichlorobenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	71-55-6	1,1,1-Trichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	79-00-5	1,1,2-Trichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	75-34-3	1,1-Dichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	75-35-4	1,1-Dichloroethene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	563-58-6	1,1-Dichloropropene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	541-73-1	1,3-Dichlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	96-18-4	1,2,3-Trichloropropane	10	ug/kg	0.01	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	108-67-8	1,3,5-Trimethylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	95-63-6	1,2,4-Trimethylbenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	96-12-8	1,2-Dibromo-3-chloropropane	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	106-93-4	1,2-Dibromoethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	95-50-1	1,2-Dichlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	107-06-2	1,2-Dichloroethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	7440-39-3	Barium	36	mg/k	36	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	87-61-6	1,2,3-Trichlorobenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		C30-C31	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	7440-36-0	Antimony	9.9	mg/k	9.9	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		C18-C19	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		C20-C21	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		C22-C23	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		C24-C25	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		C14-C15	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		C28-C29	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		C12-C13	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		C32-C35	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		C36-C40	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		C8-C40	5	mg/k	5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		C8-C9	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	7440-43-9	Cadmium	0.5	mg/k	0.5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	56-23-5	Carbon tetrachloride	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		C26-C27	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	7440-41-7	Beryllium	0.5	mg/k	0.5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	108-90-7	Chlorobenzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	71-43-2	Benzene	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	56-55-3	Benzo(a)anthracene	19	ug/kg	0.019	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	50-32-8	Benzo(a)pyrene	33	ug/kg	0.033	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	205-99-2	Benzo(b)fluoranthene	28	ug/kg	0.028	1	1

Attachment 6
Human Health Risk Assessment Soil and Soil Gas Dataset

Area	Matrix	Sample Name	Depth	Sample Date	CASNO	Analyte	Result	Units	Rresult	Detect	Retain
Roads	Soil	SV-57-05	5	12-Jul-07		C16-C17	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	207-08-9	Benzo(k)fluoranthene	17	ug/kg	0.017	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	7440-38-2	Arsenic	6	mg/k	6	1	1
Roads	Soil	SV-57-05	5	12-Jul-07	108-86-1	Bromobenzene	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	74-97-5	Bromochloromethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	75-27-4	Bromodichloromethane	2	ug/kg	0.002	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	75-25-2	Bromoform	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	74-83-9	Bromomethane	5	ug/kg	0.005	0	1
Roads	Soil	SV-57-05	5	12-Jul-07		C10-C11	3.5	mg/k	3.5	0	1
Roads	Soil	SV-57-05	5	12-Jul-07	191-24-2	Benzo(g,h,i)perylene	23	ug/kg	0.023	1	1
Roads/NativeGarden	Soil	B-138-10	10		8006-61-9	TPHg			10	0	1
Roads/NativeGarden	Soil	B-138-10	10		68476-30-2	TPHd			10	0	1
Roads/NativeGarden	Soil	B-138-10	10		64742-47-8	TPHm			10	0	1
Roads/NativeGarden	Soil	B-139-5	5		64742-47-8	TPHm			10	0	1
Roads/NativeGarden	Soil	B-139-5	5		68476-30-2	TPHd			10	0	1
Roads/NativeGarden	Soil	B-139-5	5		8006-61-9	TPHg			10	0	1
Roads/NativeGarden	Soil	B-20-10	10		68476-30-2	TPHd			10	0	1
Roads/NativeGarden	Soil	B-20-10	10		8006-61-9	TPHg			10	0	1
Roads/NativeGarden	Soil	B-20-10	10		64742-47-8	TPHm			10	0	1
Roads/NativeGarden	Soil	B-138-10	10	05-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
Roads/NativeGarden	Soil	B-138-10	10	05-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Roads/NativeGarden	Soil	B-138-10	10	05-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Roads/NativeGarden	Soil	B-138-10	10	05-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Roads/NativeGarden	Soil	B-138-10	10	05-Sep-97		C25-C40	10	mg/K	10	0	1
Roads/NativeGarden	Soil	B-138-10	10	05-Sep-97		C1-C40	10	mg/K	10	0	1
Roads/NativeGarden	Soil	B-138-10	10	05-Sep-97		C10-C25	10	mg/K	10	0	1
Roads/NativeGarden	Soil	B-138-10	10	05-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Roads/NativeGarden	Soil	B-138-10	10	05-Sep-97		C4-C10	10	mg/K	10	0	1
Roads/NativeGarden	Soil	B-139-5	5	05-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Roads/NativeGarden	Soil	B-139-5	5	05-Sep-97		C4-C10	10	mg/K	10	0	1
Roads/NativeGarden	Soil	B-139-5	5	05-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Roads/NativeGarden	Soil	B-139-5	5	05-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
Roads/NativeGarden	Soil	B-139-5	5	05-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Roads/NativeGarden	Soil	B-139-5	5	05-Sep-97		C10-C25	10	mg/K	10	0	1
Roads/NativeGarden	Soil	B-139-5	5	05-Sep-97		C1-C40	10	mg/K	10	0	1
Roads/NativeGarden	Soil	B-139-5	5	05-Sep-97		C25-C40	10	mg/K	10	0	1
Roads/NativeGarden	Soil	B-139-5	5	05-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Roads/NativeGarden	Soil	B-20-10	10	05-Sep-97	1634-04-4	Methyl tert-butyl ether	0.005	mg/K	0.005	0	1
Roads/NativeGarden	Soil	B-20-10	10	05-Sep-97	71-43-2	Benzene	0.005	mg/K	0.005	0	1
Roads/NativeGarden	Soil	B-20-10	10	05-Sep-97		C10-C25	10	mg/K	10	0	1
Roads/NativeGarden	Soil	B-20-10	10	05-Sep-97		C1-C40	10	mg/K	10	0	1
Roads/NativeGarden	Soil	B-20-10	10	05-Sep-97		C25-C40	10	mg/K	10	0	1
Roads/NativeGarden	Soil	B-20-10	10	05-Sep-97	100-41-4	Ethylbenzene	0.005	mg/K	0.005	0	1
Roads/NativeGarden	Soil	B-20-10	10	05-Sep-97	108-88-3	Toluene	0.005	mg/K	0.005	0	1
Roads/NativeGarden	Soil	B-20-10	10	05-Sep-97	1330-20-7	Xylenes (total)	0.005	mg/K	0.005	0	1
Roads/NativeGarden	Soil	B-20-10	10	05-Sep-97		C4-C10	10	mg/K	10	0	1

ATTACHMENT 7

2012 and 2013 Site Assessment Reports

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

REPORT OF FINDINGS

SUPPLEMENTAL CLIFF AREA CHARACTERIZATION
FORMER UNION OIL COMPANY
OF CALIFORNIA AVILA TERMINAL
AVILA BEACH, SAN LUIS OBISPO COUNTY, CALIFORNIA

Prepared for:
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY

January 2012

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padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

January 31, 2012
Project No. 0801-0896

California Regional Water Quality Control Board
Central Coast Region
895 AeroVista Place, Suite 101
San Luis Obispo, California 93401

Attention: Mr. Dan Niles

Subject: Report of Findings, Supplemental Cliff Area Characterization, Former Union Oil Company of California Avila Terminal, Avila Beach, San Luis Obispo County, California

Dear Mr. Niles:

On behalf of Chevron Environmental Management Company (CEMC) Padre Associates, Inc. (Padre) has prepared this report of findings for submittal to the California Regional Water Quality Control Board, Central Coast Region (RWQCB) documenting and summarizing the results of the supplemental cliff area characterization activities completed at the subject site. CEMC proposes to meet with the RWQCB to discuss the findings of this report in relation to cliff area monitoring activities and the overall Feasibility Study process.

Padre and CEMC appreciate your continued assistance with this project. If you have any questions or comments, or require additional information, please contact Mr. Louis Cappel at (805) 786-2650, ext. 26 or lcappel@padreinc.com.

Sincerely,

PADRE ASSOCIATES, INC.

Louis J. Cappel, P.G., C.Hg.
Senior Geologist

Paul G. Lavelle
Project Geologist

Jerome K. Summerlin, C.E.G., C.Hg.
Principal

cc: Mr. Rik Williams, CEMC
Mr. Robert Van Hyning, P.E., Avocet Environmental, Inc.

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Appendix A: RWQCB Correspondence

Appendix B: Permits

Appendix C: Drill Hole Logs/Groundwater Monitoring Well Construction Diagram

Appendix D: Groundwater Monitoring Field Data Sheets

Appendix E: CD Containing PDF of Subject Report Including Laboratory Analytical Reports and Chain-of-Custody Documentation

1.0 INTRODUCTION

On behalf of Chevron Environmental Management Company (CEMC) Padre Associates, Inc. (Padre) has prepared this document for submittal to the California Regional Water Quality Control Board, Central Coast Region (RWQCB). This document presents the results of the supplemental cliff area characterization activities performed at the former Union Oil Company of California (Unocal) Avila Terminal (Project Site), Avila Beach, San Luis Obispo County, California (Plates 1 and 2).

Prior to performing the characterization activities described herein, the vast majority of characterization necessary to prepare a Feasibility Study had been completed. CEMC, along with its predecessors, has investigated surface and subsurface conditions at the Project Site in detail over the last decade. In general, historical assessment activities have provided enough information to begin considering remedial alternatives for most of the Project Site. However, groundwater monitoring data for Groundwater Monitoring Well B-223-88, and soil gas data for Probe SV-66 indicated that additional characterization was needed in a focused region along the southwestern cliff area (Plate 2). These identified data gaps prompted the supplemental cliff area characterization activities documented within this report.

As part of the supplemental cliff area characterization activities, Padre observed and documented the advancement of eight drill holes (B-224 through B-231), five of which were constructed as groundwater monitoring wells (Plate 3). Additionally, Padre performed a supplemental groundwater monitoring event of the five newly constructed groundwater monitoring wells, as well as existing Groundwater Monitoring Well B-223-88. The prime objective of the cliff area characterization activities was to gain a better understanding of the nature and distribution of petroleum hydrocarbon-related compounds in both soil/bedrock and groundwater located within approximately 600 feet of the southwest facing shore frontage (the cliff area or area of interest) of the Project Site (Plate 2). The objectives of the supplemental cliff area characterization activities have been largely satisfied. CEMC proposes to meet with the RWQCB to discuss the findings of this report in relation to cliff area monitoring activities and the overall Feasibility Study process.

1.1 OBJECTIVES

The specific objectives of the supplemental cliff area characterization activities were:

- To evaluate the source and extent of fuel-hydrocarbon-related groundwater impacts associated with Groundwater Monitoring Well B-223-88 (near Former Tank No. 55614). Groundwater Monitoring Wells B-224, B-225, and B-226 were constructed and sampled to evaluate this objective.
- To assess the extent of total petroleum hydrocarbon (TPH) and related volatile organic compounds (VOCs) in soil/bedrock encountered at the location of Drill Hole B-223 (near Former Tank No. 55614) at the depth interval of approximately 15 to 30 feet below ground surface (bgs). Drill Holes B-224 through B-228 were advanced to evaluate this specific objective.

- To assess and delineate the soil/bedrock source of elevated fuel-related VOCs in soil gas detected in Probe SV-66, as well as to determine potential groundwater impacts at this location (near Former Tank No. 201104). Groundwater Monitoring Wells B-230 and B-231 were constructed and sampled, and Drill Hole B-229 was advanced to evaluate this specific objective.
- To provide adequate information to move forward with the preparation of the Feasibility Study.

1.2 REPORT ORGANIZATION

This report is organized as follows: Section 2.0 presents background information for the Project Site, including a discussion of location, topography, geology, hydrogeology, and results of historical assessment activities; Section 3.0 presents the methodology for the cliff area characterization activities; Section 4.0 presents the results of the cliff area characterization activities; Section 5.0 provides a discussion of the nature and extent of impacted soil/bedrock and groundwater at the cliff area; and Section 6.0 provides Padre's conclusions regarding the subject assessment program.

This report includes five appendices. RWQCB correspondence is included as Appendix A. Copies of the groundwater monitoring well permits are included as Appendix B. Drill hole logs/groundwater monitoring well diagrams are included as Appendix C. Copies of groundwater monitoring field data sheets are attached as Appendix D. Appendix E is a CD-ROM containing Padre's subject report with laboratory analytical reports and chain-of-custody (COC) documentation.

2.0 BACKGROUND

Descriptions of the Project Site, the regional geology and hydrogeology, and the site-specific conditions were originally detailed in the document titled *Site Characterization, Unocal Avila Station, Avila Beach, California* (England & Associates 1998), and further expanded upon in the document titled *Final Supplemental Site Characterization, Unocal Avila Pump Station, Avila Beach, California* (England Geosystem, 2002). Provided below is a summary of those descriptions.

2.1 SITE DESCRIPTION

The Project Site consists of approximately 95 acres in San Luis Obispo County, adjacent to the community of Avila Beach, California (Plate 1). The Project Site is bordered on the north by Avila Beach Drive, on the east by an undeveloped hillside and marine terrace, on the south by the Pacific Ocean, and on the west by the community of Avila Beach (Plate 2). The area of interest is located along the southwestern cliff edge.

The original Avila Tank Farm facilities were initially constructed around 1906. At various times, the Project Site had served as an accumulation and transfer point for petroleum from oil fields in Santa Barbara County, a refinery, and a petroleum storage facility. It was slowly withdrawn from operation during the later decades of the twentieth century, and the last storage tanks were removed from operation by the late 1990s.

2.2 GEOLOGY AND HYDROGEOLOGY

2.2.1 Project Site

The Project Site is directly underlain by unconsolidated sediments and bedrock (Plate 4). Unconsolidated surficial sediments, consisting of mixtures of gravel, sand, silt, and clay, fill the north-south and east-west drainages in the central part of the Project Site, mantle the terraces bordering the cliffs on the south, and occur in the northeast corner of the Project Site where the floodplain of San Luis Obispo Creek encroaches upon the Project Site (refer to Plate 4).

Bedrock units underlie the Project Site and include (listed from youngest to oldest) the Pliocene Gragg Member of the Pismo Formation and the Miocene Obispo Formation (refer to Plate 4). Much of the central portion of the Project Site is underlain directly, or at shallow depth, by the Gragg Member. The Gragg Member consists of a basal conglomerate, which grades upward into a poorly bedded, locally diatomaceous, fine-grained silty sandstone and siltstone.

The Gragg Member unconformably overlies the Obispo Formation. The Obispo Formation consists of fine- to coarse-grained, friable to hard, rhyolitic to dacitic tuff and lapilli tuff, which outcrops primarily along the south, east, and northwest Project Site margins.

Reportedly, fracturing of the consolidated bedrock units is a function of age and hardness of the units. For instance, in the Obispo Formation, the hard silicified (brittle) units are more pervasively fractured than the friable (softer) units, and in general, the older Obispo Formation is more pervasively fractured than the softer and younger Pismo Formation.

Three hydrostratigraphic units have been identified at the Project Site, which include: 1) unconsolidated sediments (colluvium and alluvium); 2) the Gragg Member of the Pismo

Formation; and 3) the Obispo Formation. Groundwater occurs within the Pismo and Obispo Formations in both primary (intergranular) and secondary (fracture) porosity. Groundwater recharge occurs primarily in the higher elevations of the Project Site through vertical fractures in the Pismo Formation and through infiltration into the unconsolidated sediments (colluvium and alluvium) (England Geosystem, 2002).

Based on fluid level measurements recorded within the on-site groundwater monitoring wells, the groundwater flow direction at the Project Site generally follows topography and flows toward: the north to northeast for groundwater monitoring wells completed within the alluvium; southwest for groundwater monitoring wells completed within the colluvium; and north, west, and south, for groundwater monitoring wells completed within the Pismo and Obispo Formations. Groundwater flow within the Pismo and Obispo Formations occurs primarily within fractures with relatively low permeabilities and low storativities (England Geosystem, 2002).

2.2.2 Cliff Area

Generally, the cliff area is directly underlain by colluvium and terrace deposits (Plate 4). Colluvium overlies the terrace deposits in the cliff area. The colluvium and terrace deposits vary in thickness from between approximately 10 to 30 feet and are underlain by the consolidated Obispo Formation. The groundwater potentiometric surface maps illustrate that the general groundwater flow beneath this area is to the south to southwest, away from the topographically high recharge areas. As previously mentioned, groundwater flow within the consolidated formations occurs primarily within fractures with relatively low permeabilities and low storativities.

Cliff springs have been identified at eight locations at the cliff area, which are designated in sequence from northwest to southeast as locations H, G, E, A, B, C, F, and D (England Geosystem, 2001a). Cliff spring monitoring locations in the area of interest are presented on Plate 3. Cliff springs appear to be in hydraulic communication with the groundwater identified at the cliff area based on groundwater elevations documented within cliff area groundwater monitoring wells and the elevations of cliff spring monitoring locations.

2.3 PREVIOUS INVESTIGATIONS AND DATA GAPS WITHIN THE CLIFF AREA

The vast majority of characterization needed to prepare a Feasibility Study has been completed. CEMC, along with its predecessors, has investigated surface and subsurface conditions at the Project Site in detail over the last decade (England & Associates, 1998, 2000; England Geosystem, 2001a, b, 2002, 2003; Avocet, 2005, 2008; Padre, 2011). The investigations have included soil/bedrock sampling, groundwater monitoring, and soil gas sampling throughout the Project Site (Plate 3). In general, those investigations have adequately characterized most of the Project Site. However, soil/bedrock and groundwater analytical results from Groundwater Monitoring Well B-223-88 and soil gas results from Probe SV-66 in the vicinity of Former Tank No. 201104 (Avocet, 2008), combined with the proximity of these impacts to the cliff face, indicated a need for further characterization in this area. Therefore, a scope of work to address these data needs was developed and presented in Avocet's *Work Plan* and *Work Plan Addendum* dated July 24, 2009 and October 5, 2009, respectively. The following data gaps were identified in these subject documents.

2.3.1 Vicinity of Groundwater Monitoring Well B-223

Provided below are the identified data gaps in the area of Groundwater Monitoring Well B-223.

1. Most TPH detected in soil/bedrock samples at the cliff area occurs at a relatively shallow depth (10 feet or less) and consists largely of high molecular weight hydrocarbons with low to non-detectable concentrations of VOCs (Plates 5 through 8). The TPH detected in soil/bedrock samples collected from Drill Hole B-223, however, was detected principally at depths greater than 10 feet (i.e., 15 to 25 feet) and was comprised largely of low molecular weight TPH containing moderate concentrations of fuel-related VOCs. This discovery was unexpected at the time as TPH with similar chemical characteristics had not previously been identified in the area and no known local source of low molecular weight TPH had been identified.
2. It is not uncommon for low to moderate concentrations of TPH to be detected in groundwater samples from cliff area groundwater monitoring wells (Padre, 2011). This TPH is usually comprised of high molecular weight hydrocarbons (>C10 carbon range) and the samples rarely contain elevated concentrations of VOCs. However, Groundwater Monitoring Well B-223 is unique among the cliff area groundwater monitoring wells in that the TPH detected in groundwater samples consists primarily of low molecular weight hydrocarbons (<C10) and contains elevated concentrations of benzene, toluene, ethyl benzene, and total xylenes (BTEX) and other fuel-related VOCs, as well as fuel oxygenate tertiary butyl alcohol (TBA) relative to other nearby groundwater monitoring wells. Neither the source nor the extent of this fuel-related impact had been determined.

2.3.2 Vicinity of Probe SV-66

Provided below is the identified data gap in the area of Former Tank No. 201104.

1. The elevated soil gas VOC and methane concentrations indicated in Probe SV-66 suggest that fuel-related petroleum hydrocarbons are present in soil/bedrock at this location (Avocet, 2008). Soil samples were not collected during construction of Probe SV-66, and the only other drill hole met refusal at approximately 5 feet when the original concrete slab was encountered that was associated with Former Tank No. 201104.

3.0 METHODS OF ASSESSMENT

The cliff area characterization activities were completed in accordance with Avocet's Work Plan and Work Plan Addendum dated July 24, 2009 and October 5, 2009, respectively. The RWQCB conditionally approved the proposed cliff area assessment activities in a letter dated October 21, 2009 (Appendix A). Provided below is a summary of the methods of assessment implemented during the course of the supplemental cliff area characterization activities.

3.1 PROJECT PLANNING

3.1.1 Site Health and Safety Plan

Padre revised and updated the existing site-specific health and safety plan (HASP) for the Project Site. The HASP included procedures, equipment, and materials utilized to protect worker and community health and safety during the course of the subject assessment activities. The HASP also included provisions for daily tailgate safety meetings, safe work permit (SWP) procedures, job safety analysis (JSA), behavior-based safety (BBS) observations, and journey management plans (JMP).

3.1.2 Permitting

To facilitate the cliff area characterization activities, Padre obtained a Coastal Zone Minor Use Permit from the County of San Luis Obispo Planning and Building Department (SLOPBD) to construct a temporary access road and up to five groundwater monitoring wells. Padre also obtained groundwater monitoring well permits required for the five drill holes constructed as groundwater monitoring wells from the County of San Luis Obispo Public Health Department (SLOPHD). Copies of the permits are included as Appendix B – Permits.

3.1.3 Notification

Padre notified the RWQCB several weeks prior to initiating field work at the Project Site.

3.1.4 Underground Service Alert and Private Utility Locator

Each drill hole location was marked with white paint or construction lath painted white, and Underground Service Alert was contacted at least 48 hours prior to the commencement of field activities. Additionally, Padre contracted the private utility-locating contractor Pacific Coast Locators of La Crescenta, California to evaluate the areas of the proposed assessment for subsurface obstructions.

3.2 DRILL HOLE ADVANCEMENT, SOIL SAMPLE COLLECTION, GROUNDWATER MONITORING WELL CONSTRUCTION, DEVELOPMENT, AND SURVEY

Between June 20, 2011 and August 4, 2011 Padre observed and documented the advancement of eight drill holes, five of which were constructed as 2-inch diameter PVC groundwater monitoring wells (B-224, B-225, B-226, B-230, and B-231) at the Project Site (refer to Plate 3). Drill holes were manually cleared to approximate depths of 5 feet utilizing a hand auger. All drill holes were initially advanced and completed using a hollow-stem auger drilling rig operated by S/G Drilling Company of Lompoc, California (C-57 License No. 611394). However, the hollow-stem auger drilling rig met practical mechanical refusal at the locations of

Drill Holes B-230 and B-231 at approximate depths of 52 feet and 46 feet, respectively, due to hard bedrock conditions. Drill Holes B-230 and B-231 were then abandoned in-place by backfilling each hole with cement slurry from the total drilling depth to the ground surface. To attain the desired drilling depths for groundwater monitoring well construction, the locations of abandoned Drill Holes B-230 and B-231 were subsequently over-drilled and completed as groundwater monitoring wells using an air-rotary casing hammer (ARCH) drilling rig operated by Cascade Drilling, L.P., of La Habra, California (C-57 License No. 938110).

Drill holes not completed as groundwater monitoring wells (B-227, B-228, and B-229) were advanced to approximate total depths of 60 feet. Drill holes completed as monitoring wells (B-224, B-225, B-226, B-230, and B-231) were all advanced to approximate total depths of 95 feet with the exception of B-231, which was advanced to a depth of approximately 100 feet. Soil/bedrock samples were collected from each drill hole location at approximately 5-foot intervals from a depth of approximately 5 feet to the total depth of each drill hole with the hollow-stem auger drilling rig, and at 10-foot intervals using the ARCH drilling rig. For drill holes completed using hollow-stem auger drilling methods, discrete-depth soil samples were collected utilizing a split spoon sampler driven into the formation at the desired depth by a 140 pound auto-trip hammer. For drill holes completed using ARCH drilling technology, the soil cuttings were transported by air pressure up the drill hole casing into a cyclone at the ground surface, where soil samples from the desired depths were collected, and containerized in stainless steel soil sampling sleeves. It was not feasible to collect discrete depth samples using the ARCH drilling rig due to the hard bedrock conditions.

Soil/bedrock samples were lithologically logged by Padre using the Unified Soil Classification System (USCS) and bedrock classification terminology, and were screened for the presence of VOCs using a photoionization detector (PID). Selected soil/bedrock samples were submitted for chemical analyses. Soil/bedrock samples that were retained for chemical analyses were sealed, labeled, and preserved on ice in the field. COC forms were used to document sample management procedures.

Each drill hole completed as a groundwater monitoring well was constructed with 2-inch diameter, Schedule 40 PVC casing. Refer to Table 1 for a summary of groundwater monitoring well construction details. The well casings for Groundwater Monitoring Wells B-224, B-225, B-226, and B-230 consist of approximately 30 feet of 0.020-inch slot screen casing, and 65 feet of blank casing. The well casing for B-231 consists of approximately 30 feet of 0.020-inch slot screen casing, and 70 feet of blank casing. Each drill hole annulus was backfilled with No. 3 Monterey Sand from the bottom of the drill hole to approximately 2 to 3 feet above the screened portion. A 4-foot to 5-foot thick layer of bentonite pellets was placed on top of the upper filter pack and hydrated in-place. The remaining annular space to approximately six inches below grade was backfilled with cement slurry. The groundwater monitoring wells were completed at the ground surface with a watertight, above-ground well monument set in concrete. Following the construction of each groundwater monitoring well, the newly constructed groundwater monitoring wells were developed by a combination of surging and bailing. Copies of the drill hole logs/groundwater monitoring well construction diagrams are presented in Appendix C.

A California-licensed land surveyor provided by Rick Engineering of San Luis Obispo, California surveyed the locations and top of casing elevations of the newly constructed

groundwater monitoring wells to a local benchmark. The location and elevation of each well top of casing was surveyed to the nearest 0.01 foot by the licensed surveyor.

3.3 GROUNDWATER MONITORING ACTIVITIES

3.3.1 Fluid Level Measurement

On August 10, 2011 a total of 31 fluid level measurements were recorded from the existing groundwater monitoring well network in the cliff area at the Project Site (including newly constructed Groundwater Monitoring Wells B-224, B-225, B-226, B-230, and B-231) as part of the supplemental groundwater monitoring event. Fluid level measurements were recorded to the nearest 0.01 foot, from the top of the casing at each groundwater monitoring well. Groundwater monitoring field data sheets are included as Appendix D.

3.3.2 Groundwater Purging and Sampling

On August 11 and 12, 2011 groundwater samples were collected from newly constructed Groundwater Monitoring Wells B-224, B-225, B-226, B-230, and B-231, as well as from existing Groundwater Monitoring Well B-223-88. Groundwater monitoring field data sheets are included as Appendix D. Groundwater monitoring well B-231 was purged and sampled using hand bailing methods due to the small volume of groundwater present within the well casing. All of the remaining five groundwater monitoring wells (B-223-88, B-224, B-225, B-226, and B-230) were purged and sampled utilizing low-flow techniques.

Low-Flow Purging and Sampling. Low-flow refers to the groundwater velocity that is imparted during pumping to the formation pore water adjacent to the well screen. Practically speaking, a pump is placed at a discrete-depth within the well and is operated at a rate to minimize drawdown, and to isolate groundwater from the formation adjacent to the well screen. Groundwater quality parameters are continuously monitored to verify that formation-quality groundwater is being obtained.

The equipment required to utilize low-flow purging and sampling techniques included a portable bladder pump, pump controller, a compressed air supply (compressed gas cylinder), and a flow cell with water quality instruments that measured temperature, electrical conductivity (EC), pH, dissolved oxygen (DO), and oxidation-reduction potential (ORP). The compressed air attached to the pump controller via an air hose; polyethylene tubing connects the controller to the pump air inlet. Groundwater was discharged from the pump through polyethylene tubing into the flow cell where purged groundwater parameters were measured and recorded on field forms. An electronic water level indicator was utilized to measure depth to water or drawdown, which provided data regarding the appropriate pumping rate.

The optimum flow rate was established as soon as possible, using groundwater level measurements for confirmation. Groundwater levels were monitored periodically during the course of the purging activities in an attempt to maintain less than approximately 4-inches of drawdown. Purging continued until water quality parameters stabilized, which is defined by three consecutive measurements taken 3 to 5 minutes apart meeting the criteria below.

Parameter	Stability Criteria - Low Flow Purge
temperature	+/-1 ºC
pH	+/-0.1
conductivity	+/-3%
DO	+/-10% or 0.30 mg/L if <1 mg/L
ORP	+/-10 millivolts

Subsequent to when the purged groundwater parameters stabilized, the flow cell was disconnected and the appropriate groundwater sample containers were filled. Groundwater samples were sealed, labeled, and preserved on ice in the field. COC forms were used to document water sample management procedures.

Disposable Bailer Purging and Sampling. Groundwater Monitoring Well B-231 was purged and sampled utilizing disposable bailers as opposed to low-flow techniques due to the limited water column in the casing. Padre used depth to water and total depth measurements collected from the groundwater monitoring well to calculate the well casing volume and required purge volume. A minimum of three well casing volumes of groundwater were purged, while recording physical water quality parameters including pH, temperature, and specific conductance. Upon removal of the three well casing volumes and the general stabilization of water quality parameters, purging was considered to be complete.

Upon recovery of the groundwater level to a minimum of 80 percent of the initial static water level, the purged groundwater monitoring well was sampled using a new disposable bailer which was lowered into the water column for sample retrieval. The groundwater sample within the bailer was then decanted into labeled laboratory-provided containers appropriate for the required chemical analyses. Following the water sample preparation, the water sample was transferred and stored in an on-site cooler packed with ice. Concurrent with the water sample preservation activities, strict COC procedures were implemented.

3.4 LABORATORY ANALYTICAL PROGRAM

All soil/bedrock and groundwater samples were chemically analyzed by Oilfield Environmental and Compliance, Inc. (OEC) located in Santa Maria, California. OEC is certified by the State of California Public Health Department to complete the required analyses, where applicable.

3.4.1 Soil/Bedrock Samples

All soil/bedrock samples submitted for chemical analyses were analyzed for the presence of the following constituents:

- TPH C4-C10, and full list VOCs including fuel oxygenates by U.S. EPA Method 8260B; and
- TPH C10-C25 and C25-C40 using gas chromatography/mass spectrometry (GC/MS) by U.S. EPA Method 8270.

Selected soil/bedrock samples were additionally chemically analyzed for the presence of total lead by U.S. EPA Method 6010B.

3.4.2 Groundwater Samples

All groundwater samples collected from newly constructed groundwater monitoring wells were chemically analyzed for the following constituents:

- TPH C4-C10, and full list VOCs including fuel oxygenates by U.S. EPA Method 8260B;
- TPH C10-C25 and C25-C40 using GC/MS by U.S. EPA Method 8270;
- Polycyclic aromatic hydrocarbons (PAHs) by U.S. EPA Method 8270C-SIM; and
- Dissolved metals by U.S. EPA 6000/7000 series methods.

3.5 QUALITY ASSURANCE/QUALITY CONTROL

Quality assurance / quality control (QA / QC) procedures were utilized in soil/bedrock and groundwater sample collection, and chemical analyses. The purpose of the QA / QC procedures was to ensure the reliability and compatibility of all data generated during the subject assessment program. Additionally, quality control water samples were collected during the field activities, including a groundwater field duplicate, equipment and trip blank water samples.

3.5.1 Field QA / QC Procedures

Field QA / QC procedures were performed at the Project Site, and consisted of the following measures:

- COC forms were used for sample submittal to the laboratory.
- Daily information regarding sample collection was recorded on field data sheets and/or in the field logbooks. Sample types, descriptions, sample identification numbers, and sample times were collected and recorded on field data sheets and/or in the field logbooks.

COC records were utilized to document sample collection and were submitted to the laboratory performing the chemical analyses. A COC record accompanied all samples submitted for chemical analyses.

Field QA / QC samples were collected and submitted for chemical analysis along with the groundwater samples using the following sampling frequency:

- **Trip Blanks.** Trip blank water samples were placed in coolers with aqueous samples to be chemically analyzed for VOCs.
- **Field Duplicates.** Duplicate groundwater samples were collected at a frequency of approximately 10% of the field samples collected during the groundwater monitoring event, and were chemically analyzed for the constituents of its duplicate.
- **Equipment Blanks.** An equipment blank water sample was collected at the end of the groundwater monitoring activities and was chemically analyzed for the same analyses as required for the groundwater samples collected at the Project Site.

Trip Blank Samples. Trip blank water samples consist of a sample of the deionized water provided by the laboratory and stored with the unique samples collected during each day

of field activities. The purpose of the trip blank sample was to evaluate the potential for cross-contamination of aqueous samples during handling. The trip blank samples were handled in the same manner as all other samples and submitted for VOCs analyses.

Field Duplicate Samples. The duplicate groundwater sample was chemically analyzed in order to evaluate the analytical procedures and methods employed by the laboratory. The duplicate groundwater samples were collected concurrently to the corresponding monitoring well sample, and were chemically analyzed for the identical constituents of its duplicate.

Equipment Blanks. The equipment blank was used to determine the efficacy of decontamination procedures for sampling equipment, and was collected when non-dedicated sampling equipment was used. The equipment blank sample consisted of deionized water poured over or pumped through the decontaminated sampling equipment, and the collection of rinsate into the sample containers. The rinsate was then submitted for chemical analyses for the same constituents required for the groundwater samples collected at the Project Site.

3.5.2 Laboratory QA / QC Procedures

Laboratory QA / QC procedures include the following:

- Chemical analyses were performed within the required holding time for all samples;
- A state-certified hazardous waste testing laboratory conducted the required analyses;
- The laboratory provided the following information for each sample:
  - Method blank data;
  - Surrogate recovery, instrument tuning, and calibration data; and
  - Signed laboratory reports including the sample designation, date of sample collection, date of sample analysis, laboratory analytical method employed, sample volume, and the minimum reporting limit (RL).

3.6 DECONTAMINATION PROCEDURES

Field equipment was cleaned before use, between drill hole/groundwater monitoring well locations, and after completion of field work. Cleaning procedures for sampling equipment consisted of a non-phosphate detergent wash, two rinses with tap water, and a final de-ionized water rinse. The auger flights were pressure-washed prior to coming to the Project Site and after the completion of each drill hole.

3.7 ASSESSMENT DERIVED WASTES

Purged groundwater and wash water were appropriately stored in an on-site poly tank. Soil cuttings were appropriately containerized in lined, 20 cubic yard roll-off bins equipped with lids. These assessment derived wastes were subsequently transported for off-site disposal at an appropriate CEMC-approved disposal facility.

4.0 RESULTS AND DISCUSSION

4.1 FIELD OBSERVATIONS

Padre visually observed the soil/bedrock samples collected and soil/bedrock cuttings generated during the course of the subject assessment activities. The maximum depth of assessment at the Project Site by Padre was to approximately 100 feet. Drill hole logs are included in Appendix C. Geologic cross-sections are presented as Plates 6, 7, and 8.

Geologic formations encountered during the course of the supplemental soil/bedrock and groundwater assessment activities consisted of unconsolidated colluvium, marine terrace deposits, and consolidated bedrock of the Obispo Formation. In the area of the subject assessment activities, colluvium and terrace deposits comprise the native surficial soil layers directly overlying bedrock of the Obispo Formation. The colluvium and terrace deposits encountered range in thickness from approximately 2 feet to 30 feet. Colluvial soils including silty sand, clayey sand, silt, and clay, were encountered in seven of the eight drill holes advanced at the Project Site (B-224, B-225, B-226, B-227, B-228, B230, and B-231). Marine terrace deposits underlying the colluvial deposits were encountered in three drill holes advanced at the Project Site (B-225, B-226, and B-231) and consisted of poorly graded sand, and silty sand.

With the exception of Drill Hole B-229, bedrock members of the Obispo Formation were encountered in all drill holes from beneath the unconsolidated sediments to the total depth of each drill hole. Tuff and tuffaceous sandstone to siltstone that is relatively weathered, friable, and massive to moderately fractured was observed in six drill holes (B-224, B-225, B-226, B-227, B-228, and B-229). Siliceous tuff that is hard, slightly weathered, and massive to pervasively fractured was observed in the two drill holes advanced farthest to the southeast (B-230 and B-231) beneath Former Tank No. 201104. In Drill Hole B-229, dark brown claystone was encountered from depths of approximately 23 feet to 47 feet. This claystone deposit underlies tuffaceous sandstone and overlies siliceous tuff of the Obispo Formation along unconformities. Episodic deposition of the volcanic sediments of the Obispo Formation in a marine environment along with other marine sediments, and / or the subsequent extensive folding and faulting of the unit may account for the occurrence of the claystone at this location.

Suspected petroleum hydrocarbon-containing soil/bedrock was observed at the locations of Drill Holes B-224, B-226, B-229, B230, and B-231. Suspected hydrocarbon impacts to soil were most prevalent beneath Former Tank No. 201104, where elevated PID readings and gasoline-like odors from soil cuttings were documented from depths of just below the former tank pad (approximately 3 feet bgs) to approximate maximum depths of 100 feet (B-231).

Groundwater was encountered in Drill Holes B-224 and B-225 at approximate depths of 75 and 90 feet, respectively. However, groundwater was not initially encountered on the date of drilling within any of the drill holes advanced at the Project Site. Groundwater monitoring wells were constructed based on historical groundwater level data and an understanding of the hydrogeological conditions at the cliff area. Within approximately 24-hours of the construction of each groundwater monitoring well, groundwater entered the wells from the formation and gradually elevated, becoming static within approximately 48-hours. However, the groundwater

elevation at Groundwater Monitoring Well B-231 was likely not static approximately one week after groundwater monitoring well construction activities based on a comparison with nearby Groundwater Monitoring Well B-230.

4.2 GROUNDWATER POTENTIOMETRIC SURFACE

As part of the supplemental groundwater sampling event, on August 10, 2011 Padre gauged all of the groundwater monitoring wells completed within the Obispo Formation in the area of interest (Table 5 and Appendix D). Plate 9 depicts the groundwater potentiometric surface of the cliff area for groundwater monitoring wells completed within the Obispo Formation. It should be noted that this plate is simplified as if the area of interest was underlain by unconsolidated sediments (i.e. alluvium) and not by a structurally diverse fractured bedrock unit. Therefore, it should be considered an accurate portrayal of the groundwater potentiometric surface on a macroscopic scale. The groundwater flow direction was calculated to flow toward the south to southwest under an approximate hydraulic gradient of 0.3 feet/foot (Plate 9). Calculated groundwater elevations ranged from -9.91 feet (B-231) to 117.19 feet (B-78) above mean sea level (MSL). The depth to static groundwater levels below the top of well casings ranged from 1.10 feet (B-57-20) to 101.03 feet (B-231).

Although all the groundwater monitoring wells in the cliff area are constructed within the Obispo Formation, there appears to be a significant variability in groundwater elevations. Groundwater Monitoring Wells B-230 and B-231 (completed in siliceous tuff) exhibited a much lower groundwater elevation (approximately 20 feet) in comparison with nearby (250 feet northwest) Groundwater Monitoring Wells B-224, B-225, and B-226 (completed in tuffaceous sandstone) that are constructed at a similar ground surface elevation and with similar groundwater monitoring well construction details. This occurrence is consistent with the fact that the Obispo Formation is a lithologically diverse and structurally complex hydrostratigraphic unit as previously documented at the Project Site. It should be noted the groundwater elevation at Groundwater Monitoring Well B-231 was likely not static at the time of gauging.

4.3 LABORATORY ANALYTICAL RESULTS

Provided below is a summary of analytical laboratory results for soil/bedrock and groundwater samples chemically analyzed as part of the supplemental cliff area characterization activities. The analytical laboratory reports and COC documentation are provided on the CD in Appendix E of this report.

4.3.1 Soil/Bedrock

The soil/bedrock sample laboratory analytical results collected during this assessment are summarized in Tables 2, 3, and 4. The estimated lateral distribution of TPH in soil/bedrock is presented as Plate 5, and geologic-cross sections with the estimated extent of TPH in soil/bedrock are illustrated on Plates 6, 7, and 8. The laboratory analytical results for soil/bedrock were compared to established Commercial U.S. EPA Region IX Regional Screening Levels for Chemical Contaminants at Superfund Sites (Commercial RSL) (U.S. EPA, 2011). It should be noted that soil/bedrock samples collected from the ARCH drilling rig cyclone were disturbed, and therefore may not be representative of subsurface conditions. However, it likely provides an indication if petroleum hydrocarbon contamination is present (refer to notes in

Tables 2 and 3). A discussion of the results for soil/bedrock samples for the various categories of compounds is presented below.

TPH. Concentrations of the sum of total TPH C4-C40 greater than or equal to 100 milligrams per kilogram (mg/kg) were indicated in nine of the ninety-nine (9%) soil samples chemically analyzed, with concentrations ranging from 126 mg/kg (B-229-10') to 6,650 mg/kg (B-230-15') (refer to Table 2). Of these nine soil samples that exceeded 100 mg/kg TPH C4-C40, three soil samples (B-230-5', B-230-10', and B-230-15') indicated concentrations of greater than 1,000 mg/kg TPH C4-C40. Approximately 75% of the reported TPH concentrations consist of TPH in the C4-C10 carbon range (C4-C10), which indicates the majority of TPH is non-asphaltic. TPH in the C10-C25 carbon range (C10-C25) and TPH in the C25-C40 carbon range (C25-C40) account for approximately 12% and 13% of the reported TPH concentrations, respectively.

Quantifiable concentrations (excluding J flag results) of TPH C4-C10 were indicated in 16 of the 99 soil samples chemically analyzed, ranging from 0.53 mg/kg (B-230-70') to 5,800 mg/kg (B-230-15'), with five soil samples indicated at concentrations greater than or equal to 100 mg/kg TPH C4-C10. Quantifiable concentrations of TPH C10-C25 were indicated in 12 of the 99 soil samples chemically analyzed, ranging from 12 mg/kg (B-230-45') to 850 mg/kg (B-230-15'), with five soil samples indicated at concentrations greater than or equal to 100 mg/kg TPH C10-C25. Quantifiable concentrations of TPH C25-C40 were indicated in 16 of the 99 soil samples chemically analyzed, ranging from 53 mg/kg (B-230-55') to 550 mg/kg (B-229-40'), with three soil samples indicated at concentrations greater than or equal to 100 mg/kg TPH C25-C40.

BTEX. Detectable concentrations of BTEX constituents were indicated in 43 of 99 (43%) soil samples chemically analyzed, generally at trace concentrations. BTEX constituents were indicated at maximum concentrations in soil sample B-230-10' at concentrations of 11 mg/kg, 62 mg/kg, 15 mg/kg, and 150 mg/kg, respectively. Indicated concentrations of benzene in Soil Samples B-230-10' (11 mg/kg) and B-230-15' (6.2 mg/kg) exceeded the established Commercial RSL for benzene of 5.4 mg/kg.

Other VOCs and Fuel Oxygenates. For the purpose of this section, the term “other VOCs” refers to VOCs other than BTEX compounds (Table 3). Concentrations of lead scavenger compounds 1,2-dibromoethane (EDB) and 1,2-dichloroethane (EDC) were indicated in one and seventeen of the ninety-nine soil samples chemically analyzed, respectively. EDB was indicated at an estimated concentration of 0.0040J mg/kg in Soil Sample B-229-60'. Quantifiable concentrations of EDC ranged from 0.0050 mg/kg (B-230-75' and B-230-85') to 0.74 mg/kg (B-230-15'). None of the indicated EDB and EDC concentrations exceeded established Commercial RSLs. Fuel component compounds (i.e., n-propylbenzene, isopropylbenzene, and 1,2,4-trimethylbenzene) were indicated at trace concentrations in several soil samples, all of which were below established Commercial RSLs.

Fuel oxygenate MTBE was indicated at quantifiable concentrations of 0.0058 mg/kg (B-225-30’) and 0.0077 mg/kg (B-224-60’), which are below the established Commercial RSL of 220 mg/kg. Quantifiable concentrations of fuel oxygenate TBA ranged from 0.053 mg/kg (B-229-30') to 2.1 mg/kg (B-230-20'). TBA does not have an established Commercial RSL.

Total Lead. Total lead was chemically analyzed in soil samples collected from drill hole locations B-229, B-230, and B-231 because of the occurrence of lead scavengers EDB and EDC in this area (Former Tank No. 201104). Total lead concentrations in soil ranged from 0.058 mg/kg (B-229-40') to 18 mg/kg (B-231-30') (Table 4). Total lead concentrations reported for soil samples chemically analyzed were compared to their respective Total Threshold Limit Concentration (TTLC) values and Soluble Threshold Limit Concentration (STLC) values for toxic hazardous waste, as listed in Title 22 of the California Code of Regulations, Section 66261.24(a)(2)(A) (Title 22, CCR). Total lead concentrations did not exceed their respective TTLC value for any of the soil samples chemically analyzed. Total lead concentrations did not exceed their respective STLC value by more than 10 times or their respective Toxicity Characteristic Leaching Procedure (TCLP) value by more than 20 times. Additionally, indicated total lead concentrations did not exceed the established Commercial RSL.

4.3.2 Groundwater

The groundwater sample laboratory analytical results collected during the course of the subject assessment event (B-223-88, B-224, B-225, B-226, B-230, and B-231) are summarized in Tables 5 through 8. The groundwater sample analytical results are illustrated on Plates 10 through 14, along with results from the second quarter 2011 (2Q11) groundwater monitoring event to allow for a better evaluation of the distribution of dissolved-phase compounds at the cliff area. The laboratory analytical results for groundwater samples were compared to established State of California Primary Maximum Contaminant Levels (MCLs) (California Code of Regulations, Title 22). A discussion of the results for groundwater samples collected as part of the supplemental groundwater monitoring event is presented below.

TPH. TPH C4-C10 was indicated in five of the six groundwater samples chemically analyzed at concentrations ranging from 110 micrograms per liter (µg/L) (B-224) to 14,000 µg/L (B-230), with four (B-223-88, B-226, B-230, and B-231) of the six groundwater samples exceeding 1,000 µg/L (Table 5 and Plate 10). TPH C10-C40 (sum of TPH C10-C25 and TPH C25-C40) were indicated in all six groundwater samples chemically analyzed at concentrations ranging from 100 µg/L (B-226) to 3,750 µg/L (B-230), with four (B-223-88, B-224, B-230, and B-231) of the six groundwater samples exceeding 1,000 µg/L (Plate 11).

BTEX. BTEX constituents were indicated in all of the groundwater samples chemically analyzed, with the exception to the groundwater sample collected from Groundwater Monitoring Well B-224 (Table 5). Maximum BTEX concentrations were indicated in the groundwater sample collected from Groundwater Monitoring Well B-230, at concentrations of 1,800 µg/L, 3,100 µg/L, 330 µg/L, and 2,000 µg/L, respectively. Benzene was indicated in five of the six groundwater samples at concentrations ranging from 0.13 J µg/L (B-225) to 1,800 µg/L (B-230), with four (B-223-88, B-226, B-230, and B-231) of the six groundwater samples exceeding the established MCL for benzene of 1 µg/L (Plate 12). TEX constituents exceeded established MCLs in the groundwater sample collected from Groundwater Monitoring Well B-230.

Other VOCs and Fuel Oxygenates. For the purpose of this section, the term “other VOCs” refers to VOCs other than BTEX compounds (Table 5 and Table 6). Collectively, lead scavenger compounds EDB and EDC were indicated in two of the six groundwater samples collected (Groundwater Monitoring Wells B-230 and B-231) (Plate 14). EDB was indicated at a

concentration of 270 µg/L in the groundwater sample collected from Groundwater Monitoring Well B-230, which exceeds the MCL of 0.05 µg/L. EDC was indicated at concentrations of 60 µg/L (B-231) and 450 µg/L (B-230), which exceed the MCL of 0.5 µg/L. Collectively, fuel component compounds (i.e., n-propylbenzene, isopropylbenzene, and 1,2,4-trimethylbenzene) were indicated in all six of the groundwater samples chemically analyzed. These subject compounds do not have established MCLs.

Collectively, fuel oxygenates MTBE and TBA were indicated in three (B-224, B-230, and B-231) of the six groundwater samples chemically analyzed (Plate 13). MTBE was indicated at a concentration of 53 µg/L in the groundwater sample collected from Groundwater Monitoring Well B-224, which exceeds the MCL of 13 µg/L. TBA was indicated at concentrations of 3,800 µg/L (B-230) and 4,600 µg/L (B-231); TBA does not have an established MCL.

Polycyclic Aromatic Hydrocarbons (PAHs). Three PAH constituents were indicated at relatively low concentrations in the groundwater samples chemically analyzed, which included acenaphthene, fluorene, and naphthalene (Table 7). Acenaphthene was indicated at a concentration of 0.060 J µg/L in the groundwater sample collected from Groundwater Monitoring Well B-231. Fluorene was indicated at a concentration of 0.040 J µg/L in the groundwater sample collected from Groundwater Monitoring Well B-224. Naphthalene was indicated in all the samples chemically analyzed, with a maximum concentration of 48 µg/L in the groundwater sample collected from Groundwater Monitoring Well B-230. None of the subject PAH compounds have established MCLs.

Dissolved Metals. Collectively, dissolved metals antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, and zinc were indicated at detectable concentrations in the groundwater samples chemically analyzed. Three of the indicated metals exceeded established MCLs including arsenic (B-224 at 0.19 milligrams per liter [mg/L]), cadmium (B-230 at 0.0066 mg/L), and lead (B-230 at 0.049 mg/L). These metals concentrations are generally consistent with historical groundwater analytical results for other groundwater monitoring wells constructed at the Project Site, with the exception to dissolved lead.

4.4 QUALITY ASSURANCE / QUALITY CONTROL

4.4.1 Field QA / QC

Field QA / QC samples were collected and submitted for chemical analysis along with the groundwater samples. These QA / QC samples included trip blanks, equipment blanks and field duplicate samples.

Trip blanks were prepared and chemically analyzed for VOC constituents. Detectable concentrations of VOC constituents were not indicated in the trip blank samples, which indicate that cross-contamination did not occur during shipping of the groundwater samples.

Dedicated sampling equipment was not used at Groundwater Monitoring Well B-230 (portable bladder pump was used) due to the limited amount of groundwater in the well casing, so an equipment blank (EB) was collected and chemically analyzed for TPH, VOCs, fuel oxygenates, PAHs, and dissolved metals. TPH, VOCs, fuel oxygenates, and PAHs were not indicated at quantifiable concentrations in the equipment blank sample. Dissolved metals

barium, chromium, and selenium were indicated at trace concentrations in equipment blank sample EB. It can be concluded that the constituents indicated in the equipment blank samples do not significantly affect the data quality and indicates field equipment was properly decontaminated.

A field duplicate (DUP) was collected and chemically analyzed for the constituents of its field groundwater sample (B-226). The field duplicate sample had similar results as its field groundwater samples, and therefore confirms the reliability of the analytical process.

4.4.2 Laboratory QA / QC Results

Standard QA / QC field procedures and laboratory procedures were developed and implemented as part of the monitoring activities completed at the Project Site. The primary quality control feature utilized was data validation. The data from each of the chemical analyses were evaluated in the following areas:

- Data completeness;
- Holding times;
- System monitoring compounds (surrogates);
- Laboratory control standards;
- Matrix spike/matrix spike duplicates (MS/MSD); and
- Compound identification and quantification.

Overall, the data quality was acceptable, and the collected data support the project data quality objectives.

5.0 NATURE AND EXTENT OF IMPACTED SOIL/BEDROCK AND GROUNDWATER AT THE CLIFF AREA

Provided below is a discussion of the nature and extent of impacted soil/bedrock and groundwater at the cliff area of the Project Site.

5.1 SOIL/BEDROCK

This supplemental characterization program and previous investigation activities completed by others allow for the delineation of the extent of petroleum hydrocarbons in soil/bedrock at the cliff area of the Project Site. This interpretation is based primarily upon available soil/bedrock analytical data, and the location and geometry of former potential contaminant sources (tanks, pipelines, etc.). The lateral extent of TPH in soil/bedrock at concentrations greater than 100 mg/kg, 1,000 mg/kg, and 10,000 mg/kg is presented on Plate 5. This plate illustrates two primary discrete areas of TPH in soil/bedrock in the area of interest, which is described below.

5.1.1 Former Tank No. 55614

Although the lateral distribution is depicted as a single, continuous area of TPH-impacted soil measuring approximately 360 feet in length by 60 feet in width, geologic cross-sections graphically presented as Plates 6 and 7, as well as differences in TPH chemistry, show that the plume is comprised of a number of smaller, discrete, overlapping plumes and is likely the result of a number of smaller releases. Most TPH detected in this area occurs at a relatively shallow depth (10 feet or less), and consists largely of high molecular weight hydrocarbons with low to non-detectable concentrations of VOCs. The TPH detected in Drill Hole B-223, however, is detected principally at depths greater than 10 feet (i.e., 15 to 30 feet), and is comprised largely of low molecular weight petroleum hydrocarbons containing moderate concentrations of fuel-related VOCs. The petroleum hydrocarbon source in the area of Drill Hole B-223 appears to be localized and associated with the southwest area of Former Tank No. 55614. The extent of petroleum hydrocarbon-impacted soil/bedrock at this location has been sufficiently defined. The impacted material is primarily located within unconsolidated sediments and not bedrock.

5.1.2 Former Tank No. 201104

A localized, roughly circular area of fuel-related petroleum hydrocarbons approximately 90 feet in diameter is delineated beneath Former Tank No. 201104. The petroleum hydrocarbons encountered in soil/bedrock in this area contain elevated concentrations of TPH C4-C10, BTEX, fuel oxygenate TBA, and lead scavengers EDB and EDC. The impacts to soil/bedrock in this area starts at shallow depths of approximately 5 feet and extends to a maximum depth of approximately 45 feet (Plates 6, 7, and 8). The highest concentrations of petroleum hydrocarbons in soil/bedrock at this location are indicated in Drill Hole B-230 between approximate depths of 5 feet to 15 feet. Former Tank No. 201104 is the likely source of impacted soil/bedrock at this location. The extent of petroleum hydrocarbon-impacted soil/bedrock at this location has been sufficiently defined to the extent feasible. The impacted material is primarily located within unconsolidated sediments and not bedrock.

5.2 GROUNDWATER

Groundwater impacts in the cliff area are concentrated in two locations associated with the likely release points, Former Tank Nos. 55614 and 201104. Unlike most of the affected groundwater at the Project Site, fuel-related compounds are found at elevated concentrations at these locations. Provided below is a discussion of the occurrence of fuel-related impacted groundwater in the area of interest.

5.2.1 Former Tank No. 55614

The likely source of the fuel-related impacted groundwater in this area is localized and adjacent to the southwest area of Former Tank No. 55614. Fuel-related compounds indicated in this area include TPH C4-C10, BTEX, fuel oxygenates MTBE and TBA, and other fuel-related VOC compounds (i.e., n-propylbenzene, isopropylbenzene, and 1,2,4-trimethylbenzene). The center of mass associated with the fuel-related impacts in groundwater is located at Groundwater Monitoring Well B-223-88. Groundwater Monitoring Wells B-224, B-225, and B-226 delineate the lighter-end impacts to groundwater at this location toward the northwest, north and east, respectively. Cliff Spring Monitoring Locations D and F are located toward the west and southwest, respectively, have not historically indicated elevated concentrations of fuel-related compounds (VOCs and TPH C4-C10 not detected; TPH C10-C40 maximum concentrations of 1,690 µg/L at Monitoring Location D and 1,790 µg/L at Monitoring Location F). This data provides an indication that there is not a significant lateral migration of dissolved-phase petroleum hydrocarbons off-site toward the south-southwest of the cliff area.

5.2.2 Former Tank No. 201104

The source of the fuel-related impacted groundwater in this area appears to be localized and associated with Former Tank No. 201104. Fuel-related compounds indicated in groundwater in this area include TPH C4-C10, BTEX, fuel oxygenate TBA, lead scavengers EDB and EDC, other fuel-related VOC compounds (i.e., n-propylbenzene, isopropylbenzene, and 1,2,4-trimethylbenzene), and potentially dissolved lead. Collectively, Groundwater Monitoring Wells B-230 and B-231 contain elevated concentrations of these constituents. Groundwater monitoring wells B-226, B-201, and B-215 delineate the lighter-end impacts to groundwater at this location toward the northwest, north, and northeast, respectively. Since cliff springs have not been identified south-southwest of this area, this location lacks a sentinel monitoring point in this direction. However, the lack of prominent fractures in the cliff face and cliff springs, and slow groundwater recharge characteristics of groundwater monitoring wells B-230 and B-231 argue against any significant lateral migration of dissolved-phase petroleum hydrocarbons in this area, but the lack of quantitative data create sufficient uncertainty to warrant further consideration.

6.0 SUMMARY AND CONCLUSIONS

At the request of CEMC, Padre conducted supplemental cliff area characterization activities at the Project Site. Based on our historical research, observations during the course of field assessment activities, and laboratory analytical results of the supplemental assessment activities, Padre provides the following summary, and makes the conclusions presented below.

Prior to performing the characterization activities described herein, the vast majority of characterization necessary to prepare a Feasibility Study had been completed. CEMC, along with its predecessors, had investigated surface and subsurface conditions at the Project Site in detail over the last decade. In general, historical assessment activities have provided enough information to begin considering remedial alternatives for most of the Project Site. However, groundwater monitoring data for Groundwater Monitoring Well B-223-88, and soil gas data for Probe SV-66 indicated that additional characterization was needed in a focused region along the southwestern cliff area (Plate 2). These identified data gaps prompted the supplemental cliff area characterization activities documented within this report.

As part of the supplemental cliff area characterization activities, Padre observed and documented the advancement of eight drill holes (B-224 through B-231), five of which were constructed as groundwater monitoring wells (Plate 3). Additionally, Padre performed a supplemental groundwater monitoring event of the five newly constructed groundwater monitoring wells, as well as existing Groundwater Monitoring Well B-223-88. The objective of the cliff area characterization activities was to gain a better understanding of the nature and distribution of petroleum hydrocarbon-related compounds in both soil/bedrock and groundwater located within approximately 600 feet of the southwest facing shore frontage (the cliff area or area of interest) of the Project Site (Plate 2). The objectives of the supplemental cliff area characterization activities have been largely satisfied.

The supplemental cliff area characterization activities defined two localized areas of lighter-end petroleum hydrocarbon-impacted soil/bedrock (primarily within soil or unconsolidated sediments) and groundwater (within bedrock fractures) at the cliff area of the Project Site. These areas include the: (1) southwest area adjacent to Former Tank No. 55614 (vicinity of Groundwater Monitoring Well B-223-88); and (2) area of Former Tank No. 201104 (Drill Hole B-229, and Groundwater Monitoring Wells B-230 and B-231) (Plates 5 through 13).

Fuel-related impacted soil/bedrock at Former Tank No. 55614 (vicinity of Groundwater Monitoring Well B-223-88) has been sufficiently defined, and occurs at approximate depths between 15 feet to 30 feet. Fuel-related impacted soil/bedrock at Former Tank No. 201104 (Drill Hole B-229, and Groundwater Monitoring Wells B-230 and B-231) has been sufficiently defined to the extent feasible, and occurs at approximate depths between 5 feet to 45 feet.

Fuel-related impacts to groundwater have been also identified in the cliff area at likely release points, Former Tank Nos. 55614 (Groundwater Monitoring Well B-223-88) and 201104 (Groundwater Monitoring Wells B-230 and B-231). Groundwater monitoring well data indicates that fuel-related impacts are sufficiently defined at these locations to the extent feasible toward the west, north, and east. However, these locations are too near the cliff face to construct additional groundwater monitoring wells toward the south-southwest. In the case of Tank No.

55614 (monitored by Groundwater Monitoring Well B-223-88) Cliff Spring Monitoring Locations D and F historically acted as sentinel monitoring points, and have never detected significant concentrations of dissolved-phase petroleum hydrocarbons associated with historical site operations.

Since cliff springs have not been identified south-southwest of Former Tank No. 201104 (Groundwater Monitoring Wells B-230 and B-231), this location lacks a similar sentinel monitoring point. The lack of prominent fractures in the cliff face, no presence of cliff springs, slow groundwater recharge characteristics and groundwater elevations below MSL at Groundwater Monitoring Wells B-230 and B-231 suggest insignificant lateral migration of dissolved-phase petroleum hydrocarbons in this area.

7.0 LIMITATIONS

This document has been prepared for the sole benefit of Chevron Environmental Management Company. No other persons may rely on the findings of this document without the expressed written consent of the client and Padre Associates, Inc.

In performing our professional services, Padre has attempted to apply present engineering and scientific judgment and use a level of effort consistent with the standard of practice measured on the date of work and in locale of the Project Site for similar type studies. Padre Associates, Inc. makes no warranty, express or implied.

The analyses and interpretations presented in this document have been developed based on the results from the review of existing information pertaining to the site, soil/bedrock and groundwater sampling at discrete locations at the Project Site, and the result from the laboratory analyses of the soil/bedrock and groundwater samples. It should be recognized that contamination can vary between sampling locations and between areas.

8.0 REFERENCES

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TABLES

Table 1
Summary of Groundwater Monitoring Well Construction Details and Survey Data
Former Unocal Avila Terminal - Cliff Area Characterization
10 San Rafael Street, Avila Beach, California

Monitoring Well or Drill Hole ID	Date of Construction	Easting (feet)	Northing (feet)	TOC Elevation (feet AMSL)	Ground Surface Elevation (feet AMSL)	Total Depth (feet bgs)	Screen Interval (feet bgs)	Screen Size (inches)	Casing Diameter (inches)
B-224	6/20/11	5746676.36	2261752.57	89.06	86.51	95	65-95	0.02	2
B-225	6/21/11	5746745.64	2261736.70	92.19	89.20	95	65-95	0.02	2
B-226	6/22/11	5746794.12	2261642.89	90.51	87.68	95	65-95	0.02	2
B-227	6/23/11	5746808.54	2261737.46	NA	87.61	60	NA	NA	NA
B-228	6/23/11	5746853.84	2261695.49	NA	87.23	60	NA	NA	NA
B-229	6/24/11	5747007.54	2261530.38	NA	90.88	60	NA	NA	NA
B-230	6/27/11 & 8/3/11	5746980.38	2261494.44	90.67	87.83	95	65-95	0.02	2
B-231	6/27/11 & 8/4/11	5747021.13	2261492.41	91.12	88.53	100	70-100	0.02	2

Notes:
AMSL = above mean sea level
bgs = below ground surface
TOC = top of casing
NA = not applicable
Survey performed by Rick Engineering of San Luis Obispo, California on August 12, 2011.

Table 2
Summary of Soil/Bedrock Sample Analytical Results
TPH, BTEX, MTBE, TBA, EDB, and EDC
Former Unocal Avila Terminal - Cliff Area Characterization
10 San Rafael Street, Avila Beach, California

Sample ID	Date Collected	TPH (C4-C10)	TPH (C10-C25)	TPH (C25-C40)	TPH (C4-C40)*	B	T	E	X	MTBE	TBA	EDB	EDC
B-224-5'	6/20/2011	<0.5	**2.6 J**	**18 J**	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-224-10'	6/20/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-224-15'	6/20/2011	<0.5	<9.9	<50	<60.4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-224-20'	6/20/2011	<0.5	<9.9	<49	<59.4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-224-30'	6/20/2011	<0.5	<9.9	<50	<60.4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-224-40'	6/20/2011	<0.5	<9.9	<50	<60.4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-224-45'	6/20/2011	**11**	**6.9 J**	<50	**11**	<0.048	<0.048	<0.048	<0.048	<0.048	<0.24	<0.048	<0.048
B-224-50'	6/20/2011	<0.49	<10	<50	<60.49	<0.0049	<0.0049	<0.0049	<0.0049	**0.0034 J**	<0.025	<0.0049	<0.0049
B-224-60'	6/20/2011	<0.5	<9.9	<50	<60.4	<0.005	<0.005	<0.005	<0.005	**0.0077**	<0.025	<0.005	<0.005
B-224-70'	6/20/2011	<0.5	<9.9	<49	<59.4	<0.005	<0.005	<0.005	<0.005	**0.0047 J**	<0.025	<0.005	<0.005
B-224-80'	6/20/2011	<0.5	<9.9	<50	<60.4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-224-90'	6/20/2011	<0.5	<9.9	<49	<59.4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-224-95'	6/20/2011	<0.5	<9.9	<49	<59.4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-225-5'	6/21/2011	<0.49	<10	<50	<60.49	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049
B-225-10'	6/21/2011	<0.49	<9.9	<49	<59.39	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049
B-225-15'	6/21/2011	<0.49	<9.9	<50	<60.39	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049
B-225-20'	6/21/2011	<0.5	<10	<50	<60.5	**0.0022 J**	<0.005	<0.005	<0.005	**0.0011 J**	<0.025	<0.005	<0.005
B-225-30'	6/21/2011	<0.5	<10	<50	<60.5	**0.0069**	<0.005	<0.005	**0.0014 J**	**0.0058**	<0.025	<0.005	<0.005
B-225-40'	6/21/2011	<0.5	<9.9	<50	<60.4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-225-50'	6/21/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-225-60'	6/21/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-225-70'	6/21/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-225-80'	6/21/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-225-90'	6/21/2011	<0.5	<10	<50	<60.5	**0.0032 J**	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-225-95'	6/21/2011	<0.5	<10	<50	<60.5	**0.0025 J**	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-226-5'	6/22/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-226-10'	6/22/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-226-15'	6/22/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005

Table 2
Summary of Soil/Bedrock Sample Analytical Results
TPH, BTEX, MTBE, TBA, EDB, and EDC
Former Unocal Avila Terminal - Cliff Area Characterization
10 San Rafael Street, Avila Beach, California

Sample ID	Date Collected	TPH (C4-C10)	TPH (C10-C25)	TPH (C25-C40)	TPH (C4-C40)*	B	T	E	X	MTBE	TBA	EDB	EDC
B-226-20'	6/22/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-226-30'	6/22/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-226-40'	6/22/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-226-50'	6/22/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-226-60'	6/22/2011	<0.5	**2.6 J**	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-226-70'	6/22/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-226-75'	6/22/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-226-80'	6/22/2011	<0.5	**19**	**34 J**	**19**	**0.0029 J**	**0.0058**	**0.029**	**0.049**	<0.005	<0.025	<0.005	<0.005
B-226-85'	6/22/2011	<0.5	**8.0 J**	**14 J**	<60.5	**0.0020 J**	<0.005	**0.0050**	**0.0067**	<0.005	<0.025	<0.005	<0.005
B-226-95'	6/22/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-227-5'	6/23/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-227-10'	6/23/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-227-15'	6/23/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-227-20'	6/23/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-227-30'	6/23/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-227-40'	6/23/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-227-45'	6/23/2011	<0.49	<10	<50	<60.49	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049
B-227-50'	6/23/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-227-60'	6/23/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-228-5'	6/23/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-228-10'	6/23/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-228-15'	6/23/2011	<0.49	<10	<50	<60.49	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049
B-228-20'	6/23/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-228-25'	6/23/2011	<0.49	<10	<50	<60.49	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049
B-228-35'	6/23/2011	<0.49	<10	<50	<60.49	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049
B-228-45'	6/23/2011	<0.49	<10	<50	<60.49	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049
B-228-55'	6/23/2011	<0.5	<10	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-228-60'	6/23/2011	<0.49	<10	<50	<60.49	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049

Table 2
Summary of Soil/Bedrock Sample Analytical Results
TPH, BTEX, MTBE, TBA, EDB, and EDC
Former Unocal Avila Terminal - Cliff Area Characterization
10 San Rafael Street, Avila Beach, California

Sample ID	Date Collected	TPH (C4-C10)	TPH (C10-C25)	TPH (C25-C40)	TPH (C4-C40)*	B	T	E	X	MTBE	TBA	EDB	EDC
B-229-5'	6/24/2011	<0.49	**120**	**500**	**620**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049
B-229-10'	6/24/2011	<0.5	**27**	**99**	**126**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-229-15'	6/24/2011	<0.5	**2.8 J**	<50	<60.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-229-25'	6/24/2011	**0.30 J**	<10	**13 J**	<60.5	**0.0046 J**	**0.0012 J**	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-229-30'	6/24/2011	**6.1**	**3.3 J**	<50	**6.1**	**0.022**	**0.00068 J**	**0.045**	**0.0056**	<0.005	**0.053**	<0.005	<0.005
B-229-40'	6/24/2011	**0.31 J**	**230**	**550**	**780**	**0.062**	**0.00091 J**	**0.0028 J**	<0.005	<0.005	<0.025	<0.005	**0.0035 J**
B-229-45'	6/24/2011	**0.97**	**70**	**150**	**220.97**	**0.12**	**0.011**	**0.037**	**0.025**	<0.005	<0.025	<0.005	**0.018**
B-229-55'	6/24/2011	<0.5	<10	<50	<60.5	**0.0021 J**	**0.00087 J**	<0.005	**0.0042 J**	<0.005	<0.025	<0.005	**0.0051**
B-229-60'	6/24/2011	**0.26 J**	<10	<50	<60.5	**0.012**	**0.0083**	**0.0055**	**0.060**	<0.005	**0.066**	**0.0040 J**	**0.010**
B-230-5'	6/27/2011	**2000**	**310**	**24 J**	**2310**	**2.3**	**7.4**	**9.9**	**51**	<0.5	<2.5	<0.5	<0.5
B-230-10'	6/27/2011	**3800**	**220**	**13 J**	**4020**	**11**	**62**	**15**	**150**	<0.5	<2.5	<0.5	<0.5
B-230-15'	6/27/2011	**5800**	**850**	**9.7 J**	**6650**	**6.2**	**10**	**6.6**	**40**	<0.5	<2.5	<0.5	**0.74**
B-230-20'	6/27/2011	**250**	**27**	<50	**277**	**0.49**	**2.2**	**2.2**	**9.6**	<0.045	**2.1**	<0.045	<0.045
B-230-30'	6/27/2011	<0.5	**3.7 J**	<50	<60.5	**0.0010 J**	<0.005	<0.005	<0.005	<0.005	**0.15**	<0.005	**0.0065**
B-230-45'	6/27/2011	**12**	**12**	<50	**24**	<0.049	**0.014 J**	**0.056**	**0.33**	<0.049	<0.25	<0.049	<0.049
B-230-50'	6/27/2011	<0.5	**7.8 J**	<50	<60.5	**0.0011 J**	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-230-55'	8/3/2011	<0.5	<10	**50**	**50**	**0.0090**	**0.0079**	<0.005	**0.0092**	<0.005	**0.11**	<0.005	<0.005
B-230-60'	8/3/2011	<0.49	<10	**94**	**94**	**0.011**	**0.020**	**0.0039 J**	**0.026**	<0.0049	**0.088**	<0.0049	<0.0049
B-230-65'	8/3/2011	**0.29 J**	<9.9	**48 J**	<60.4	**0.019**	**0.029**	**0.0054**	**0.036**	<0.005	**0.095**	<0.005	<0.005
B-230-70'	8/3/2011	**0.53**	<10	**67**	**67.53**	**0.013**	**0.027**	**0.0074**	**0.054**	<0.005	**0.085**	<0.005	<0.005
B-230-75'	8/3/2011	**0.27 J**	<9.9	**80**	**80**	**0.0075**	**0.010**	**0.0029 J**	**0.021**	<0.005	**0.19**	<0.005	**0.0050**
B-230-80'	8/3/2011	**0.86**	**4.0 J**	**64**	**64.86**	**0.0083**	**0.024**	**0.011**	**0.058**	<0.005	**0.20**	<0.005	**0.0069**
B-230-85'	8/3/2011	**0.22 J**	<9.9	**90**	**90**	**0.0043 J**	**0.0086**	**0.0023 J**	**0.015**	<0.005	**0.33**	<0.005	**0.0050**
B-230-90'	8/3/2011	**0.56**	<9.9	**72**	**72.56**	**0.0044 J**	**0.019**	**0.0083**	**0.064**	<0.005	**0.64**	<0.005	**0.0070**
B-230-95'	8/3/2011	<0.49	<9.9	**36 J**	<59.39	**0.0014 J**	**0.0028 J**	<0.0049	**0.0070**	<0.0049	<0.025	<0.0049	<0.0049
B-231-5'	6/27/2011	<0.48	**6.9 J**	**24 J**	<60.48	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.024	<0.0048	<0.0048
B-231-10'	6/27/2011	<0.5	<10	<50	<60.5	**0.043**	<0.005	<0.005	**0.0056**	<0.005	<0.025	<0.005	**0.0057**
B-231-15'	6/27/2011	<0.5	<10	<50	<60.5	**0.0012 J**	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	**0.0028 J**

Table 2
Summary of Soil/Bedrock Sample Analytical Results
TPH, BTEX, MTBE, TBA, EDB, and EDC
Former Unocal Avila Terminal - Cliff Area Characterization
10 San Rafael Street, Avila Beach, California

Sample ID	Date Collected	TPH (C4-C10)	TPH (C10-C25)	TPH (C25-C40)	TPH (C4-C40)*	B	T	E	X	MTBE	TBA	EDB	EDC
B-231-20'	6/27/2011	**440**	**42**	**15 J**	**482**	**1.1**	**1.3**	**8.4**	**20**	<0.5	<2.5	<0.5	<0.5
B-231-30'	6/27/2011	<0.49	**4.5 J**	<50	<60.49	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.024	<0.0049	<0.0049
B-231-35'	6/27/2011	<0.49	**4.3 J**	<50	<60.49	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.14**	<0.0049	<0.0049
B-231-40'	6/27/2011	<0.5	**4.0 J**	<49	<59.4	**0.0023 J**	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
B-231-50'	8/4/2011	<0.49	<9.9	**44 J**	<60.39	**0.027**	**0.036**	**0.0039 J**	**0.033**	<0.0049	<0.025	<0.0049	<0.0049
B-231-55'	8/4/2011	**1.5**	<9.9	**53**	**54.5**	**0.036**	**0.073**	**0.028**	**0.21**	<0.005	<0.025	<0.005	**0.0045 J**
B-231-60'	8/4/2011	**1.5**	<9.9	**35 J**	**1.5**	**0.093**	**0.14**	**0.027**	**0.18**	<0.005	**0.20**	<0.005	**0.010**
B-231-65'	8/4/2011	**4.1**	**15**	**68**	**87.1**	**0.036**	**0.11**	**0.066**	**0.45**	<0.0049	**0.16**	<0.0049	**0.0061**
B-231-70'	8/4/2011	<0.49	<9.9	**48 J**	<60.39	**0.021**	**0.016**	**0.0024 J**	**0.013**	<0.0049	**0.16**	<0.0049	<0.0049
B-231-75'	8/4/2011	**0.74**	**3.9 J**	**53**	**53.74**	**0.018**	**0.028**	**0.0097**	**0.077**	<0.0051	<0.025	<0.0051	**0.0050 J**
B-231-80'	8/4/2011	<0.5	<9.9	**60**	**60**	**0.0075**	**0.0075**	**0.0017 J**	**0.022**	<0.005	<0.025	<0.005	<0.005
B-231-85'	8/4/2011	**0.38 J**	<10	**35 J**	<60.49	**0.0089**	**0.012**	**0.0034 J**	**0.033**	<0.0049	<0.025	<0.0049	**0.0060**
B-231-90'	8/4/2011	**0.21 J**	<10	**49 J**	<60.49	**0.0021 J**	**0.0033 J**	<0.0049	**0.0083**	<0.0049	**0.075**	<0.0049	<0.0049
B-231-95'	8/4/2011	<0.5	<9.8	**64**	**64**	**0.0044 J**	**0.0069**	<0.005	**0.012**	<0.005	<0.025	<0.005	<0.005
B-231-100'	8/4/2011	<0.5	<10	**35 J**	<60.5	**0.0041 J**	**0.0061**	<0.005	**0.0080**	<0.005	<0.025	<0.005	<0.005
Commercial RSL:		--	--	--	--	5.4	45,000	27	2,700	220	--	0.17	2.2

Notes:
All results in milligrams per kilogram (mg/kg)
<10 = not indicated at or above the method reporting limit
TPH = total petroleum hydrocarbons
BTEX = benzene, toluene, ethylbenzene, and total xylenes
MTBE = methyl tertiary butl ether
TBA = tertiary butyl ether
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane
* = Column calculated as the sum of the indicated concentrations for TPH in three carbon ranges (C4-C10, C10-C25, and C25-C40).
Sum of TPH does not include J flag or estimated results.
Commercial RSL = Environmental Protection Agency (EPA) Regional Screening Levels for Chemical Contaminants at Superfund Sites.
1.5 = Result ≥ Commercial RSL.
-- = not established
J = Estimated value; results are less than the method reporting limit and above the method detection limit.
Soil samples collected in August 2011 were disturbed because they were collected from an air-rotary drilling rig cyclone.

Table 3
Summary of Soil/Bedrock Sample Results
VOCs Including Fuel Oxygenates
Former Unocal Avila Terminal - Cliff Area Characterization
10 San Rafael Street, Avila Beach, California

Sample ID	Date Sampled	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane (EDC)	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Chlorotoluene	4-Chlorotoluene	4-Isopropyl Toluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene
B-224-5'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-10'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-15'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-20'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-30'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-40'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-45'	6/20/2011	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048
B-224-50'	6/20/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-224-60'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-70'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-80'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-90'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-95'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-225-5'	6/21/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-225-10'	6/21/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-225-15'	6/21/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-225-20'	6/21/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0022 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-225-30'	6/21/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0070**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0069**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-225-40'	6/21/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-225-50'	6/21/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-225-60'	6/21/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-225-70'	6/21/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-225-80'	6/21/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-225-90'	6/21/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0032 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-225-95'	6/21/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0025 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-5'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-10'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-15'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-20'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-30'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-40'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-50'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-60'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-70'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-75'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-80'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.015**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0018 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0029 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-85'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.012**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.00099 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0020 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-95'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-227-5'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-227-10'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-227-15'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-227-20'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-227-30'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Table 3
Summary of Soil/Bedrock Sample Results
VOCs Including Fuel Oxygenates
Former Unocal Avila Terminal - Cliff Area Characterization
10 San Rafael Street, Avila Beach, California

Sample ID	Date Sampled	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Diisopropyl Ether	Ethanol	Ethyl t-Butyl Ether	Ethylbenzene	Hexachlorobutadiene	Isopropylbenzene	Methylene chloride	Methyl-t-butyl ether	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	t-Amyl Methyl Ether	t-Butyl alcohol	tert-Butylbenzene	Tetrachloroethene (PCE)	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene (TCE)	Trichlorofluoromethane	Vinyl chloride	Xylenes (total)
B-224-5'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-10'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-15'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-20'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-30'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-40'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-45'	6/20/2011	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<48	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.24	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048
B-224-50'	6/20/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.0034 J**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-224-60'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0077**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-70'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0047 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-80'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-90'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-224-95'	6/20/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-225-5'	6/21/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-225-10'	6/21/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-225-15'	6/21/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-225-20'	6/21/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0011 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-225-30'	6/21/2011	<0.005	**0.0033 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0058**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0014 J**
B-225-40'	6/21/2011	<0.005	**0.00060 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-225-50'	6/21/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-225-60'	6/21/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-225-70'	6/21/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-225-80'	6/21/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-225-90'	6/21/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-225-95'	6/21/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-5'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-10'	6/22/2011	<0.005	**0.0073**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-15'	6/22/2011	<0.005	**0.00085 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-20'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-30'	6/22/2011	<0.005	**0.021**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-40'	6/22/2011	<0.005	**0.0018 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-50'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-60'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-70'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-75'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-226-80'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	**0.029**	<0.005	**0.0065**	<0.005	<0.005	**0.011**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	**0.0058**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.049**
B-226-85'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	**0.0050**	<0.005	**0.0057**	<0.005	<0.005	**0.0095**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0067**
B-226-95'	6/22/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-227-5'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-227-10'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-227-15'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-227-20'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-227-30'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Table 3
Summary of Soil/Bedrock Sample Results
VOCs Including Fuel Oxygenates
Former Unocal Avila Terminal - Cliff Area Characterization
10 San Rafael Street, Avila Beach, California

Sample ID	Date Sampled	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane (EDC)	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Chlorotoluene	4-Chlorotoluene	4-Isopropyl Toluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene
B-227-40'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-227-45'	6/23/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-227-50'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-227-60'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-228-5'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-228-10'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-228-15'	6/23/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-228-20'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-228-25'	6/23/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-228-35'	6/23/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-228-45'	6/23/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-228-55'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-228-60'	6/23/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-229-5'	6/24/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-229-10'	6/24/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-229-15'	6/24/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-229-25'	6/24/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0046 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-229-30'	6/24/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0023 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0050**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.037**	**0.022**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-229-40'	6/24/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0035 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.062**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-229-45'	6/24/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0092**	<0.005	<0.005	<0.005	**0.018**	<0.005	**0.0014 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0010 J**	**0.12**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-229-55'	6/24/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0048 J**	<0.005	<0.005	<0.005	**0.0051**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0021 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-229-60'	6/24/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.090**	<0.005	**0.0040 J**	<0.005	**0.010**	<0.005	**0.022**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0044 J**	**0.012**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-230-5'	6/27/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**19**	<0.5	<0.5	<0.5	<0.5	<0.5	**5.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.2**	**2.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
B-230-10'	6/27/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**54**	<0.5	<0.5	<0.5	<0.5	<0.5	**8.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.7**	**11**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
B-230-15'	6/27/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**15**	<0.5	<0.5	<0.5	**0.74**	<0.5	**5.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.1**	**6.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
B-230-20'	6/27/2011	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	**5.8**	<0.045	<0.045	<0.045	<0.045	<0.045	**1.6**	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	**0.33 J**	**0.49**	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045
B-230-30'	6/27/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0065**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0010 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-230-45'	6/27/2011	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	**0.72**	<0.049	<0.049	<0.049	<0.049	<0.049	**0.19**	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	**0.084**	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049
B-230-50'	6/27/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0011 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-230-55'	8/3/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0052**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0012 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0090**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-230-60'	8/3/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.0090**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.0023 J**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.011**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-230-65'	8/3/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.019**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0053**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0013 J**	**0.019**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-230-70'	8/3/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.035**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.010**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0024 J**	**0.013**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-230-75'	8/3/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.025**	<0.005	<0.005	<0.005	**0.0050**	<0.005	**0.0080**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0025 J**	**0.0075**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-230-80'	8/3/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.073**	<0.005	<0.005	<0.005	**0.0069**	<0.005	**0.024**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0060**	**0.0083**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-230-85'	8/3/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.021**	<0.005	<0.005	<0.005	**0.0050**	<0.005	**0.0057**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0016 J**	**0.0043 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-230-90'	8/3/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.063**	<0.005	<0.005	<0.005	**0.0070**	<0.005	**0.017**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0041 J**	**0.0044 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-230-95'	8/3/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.0045 J**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.0012 J**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.0014 J**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-231-5'	6/27/2011	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
B-231-10'	6/27/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.00096 J**	<0.005	<0.005	<0.005	**0.0057**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.043**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-231-15'	6/27/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0028 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0012 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-231-20'	6/27/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**18**	<0.5	<0.5	<0.5	<0.5	<0.5	**6.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.4**	**1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
B-231-30'	6/27/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-231-35'	6/27/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049

Table 3
Summary of Soil/Bedrock Sample Results
VOCs Including Fuel Oxygenates
Former Unocal Avila Terminal - Cliff Area Characterization
10 San Rafael Street, Avila Beach, California

Sample ID	Date Sampled	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Diisopropyl Ether	Ethanol	Ethyl t-Butyl Ether	Ethylbenzene	Hexachlorobutadiene	Isopropylbenzene	Methylene chloride	Methyl-t-butyl ether	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	t-Amyl Methyl Ether	t-Butyl alcohol	tert-Butylbenzene	Tetrachloroethene (PCE)	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene (TCE)	Trichlorofluoromethane	Vinyl chloride	Xylenes (total)
B-227-40'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-227-45'	6/23/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-227-50'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-227-60'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-228-5'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-228-10'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-228-15'	6/23/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-228-20'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-228-25'	6/23/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-228-35'	6/23/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-228-45'	6/23/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-228-55'	6/23/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-228-60'	6/23/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-229-5'	6/24/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-229-10'	6/24/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-229-15'	6/24/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-229-25'	6/24/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	**0.0022 J**	<0.005	<0.005	<0.005	**0.00096 J**	<0.005	**0.0014 J**	<0.005	<0.005	<0.025	<0.005	<0.005	**0.0012 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-229-30'	6/24/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	**0.045**	<0.005	**0.034**	<0.005	<0.005	**0.029**	**0.034**	**0.050**	**0.019**	<0.005	<0.005	**0.053**	**0.0021 J**	<0.005	**0.00068 J**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0056**
B-229-40'	6/24/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	**0.0028 J**	<0.005	**0.0014 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	**0.00091 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-229-45'	6/24/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	**0.037**	<0.005	**0.011**	<0.005	<0.005	**0.0088**	**0.0018 J**	**0.012**	**0.00088 J**	<0.005	<0.005	<0.025	<0.005	<0.005	**0.011**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.025**
B-229-55'	6/24/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0078**	**0.00091 J**	<0.005	<0.005	<0.005	**0.0013 J**	<0.025	**0.0016 J**	<0.005	**0.00087 J**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0042 J**
B-229-60'	6/24/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	**0.0055**	<0.005	**0.0034 J**	<0.005	<0.005	**0.079**	**0.010**	**0.0047 J**	**0.0015 J**	<0.005	**0.0088**	**0.066**	**0.013**	<0.005	**0.0083**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.060**
B-230-5'	6/27/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<500	<0.5	**9.9**	<0.5	**2.3**	<0.5	<0.5	**6.7**	**1.5**	**2.3**	**0.64**	<0.5	<0.5	<2.5	**0.12 J**	<0.5	**7.4**	<0.5	<0.5	<0.5	<0.5	<0.5	**51**
B-230-10'	6/27/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<500	<0.5	**15**	<0.5	**4.1**	<0.5	<0.5	**9.8**	**2.1**	**4.3**	**0.93**	<0.5	<0.5	<2.5	**0.14 J**	<0.5	**62**	<0.5	<0.5	<0.5	<0.5	<0.5	**150**
B-230-15'	6/27/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<500	<0.5	**6.6**	<0.5	**2.0**	<0.5	<0.5	**6.2**	**1.6**	**2.6**	**0.67**	<0.5	<0.5	<2.5	**0.11 J**	<0.5	**10**	<0.5	<0.5	<0.5	<0.5	<0.5	**40**
B-230-20'	6/27/2011	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<45	<0.045	**2.2**	<0.045	**0.78**	**0.0098 J**	<0.045	**2.8**	**0.47 J**	**0.86**	**0.17 J**	<0.045	<0.045	**2.1**	<0.045	<0.045	**2.2**	<0.045	<0.045	<0.045	<0.045	<0.045	**9.6**
B-230-30'	6/27/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0076**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.15**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-230-45'	6/27/2011	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<49	<0.049	**0.056**	<0.049	**0.056**	<0.049	<0.049	**0.41**	**0.15**	**0.088**	**0.041 J**	<0.049	<0.049	<0.25	**0.011 J**	<0.049	**0.014 J**	<0.049	<0.049	<0.049	<0.049	<0.049	**0.33**
B-230-50'	6/27/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.017**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-230-55'	8/3/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0053**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.11**	<0.005	<0.005	**0.0079**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0092**
B-230-60'	8/3/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	**0.0039 J**	<0.0049	<0.0049	<0.0049	<0.0049	**0.0045 J**	<0.0049	**0.00098 J**	<0.0049	<0.0049	<0.0049	**0.088**	<0.0049	<0.0049	**0.020**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.026**
B-230-65'	8/3/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	**0.0054**	<0.005	**0.0012 J**	<0.005	<0.005	**0.0090**	**0.0014 J**	**0.0020 J**	**0.00068 J**	<0.005	<0.005	**0.095**	<0.005	<0.005	**0.029**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.036**
B-230-70'	8/3/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	**0.0074**	<0.005	**0.0025 J**	<0.005	<0.005	**0.0098**	**0.0021 J**	**0.0041 J**	**0.0012 J**	<0.005	<0.005	**0.085**	<0.005	<0.005	**0.027**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.054**
B-230-75'	8/3/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	**0.0029 J**	<0.005	**0.0014 J**	<0.005	<0.005	**0.011**	**0.0028 J**	**0.0031 J**	**0.0012 J**	<0.005	<0.005	**0.19**	<0.005	<0.005	**0.010**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.021**
B-230-80'	8/3/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	**0.011**	<0.005	**0.0056**	<0.005	<0.005	**0.022**	**0.0059**	**0.011**	**0.0032 J**	<0.005	<0.005	**0.20**	<0.005	<0.005	**0.024**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.058**
B-230-85'	8/3/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	**0.0023 J**	<0.005	**0.00095 J**	<0.005	<0.005	**0.013**	**0.0016 J**	**0.0018 J**	**0.00076 J**	<0.005	<0.005	**0.33**	<0.005	<0.005	**0.0086**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.015**
B-230-90'	8/3/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	**0.0083**	<0.005	**0.0032 J**	<0.005	<0.005	**0.030**	**0.0041 J**	**0.0057**	**0.0019 J**	<0.005	<0.005	**0.64**	<0.005	<0.005	**0.019**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.064**
B-230-95'	8/3/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.0031 J**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049	**0.0028 J**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.0070**
B-231-5'	6/27/2011	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<4.8	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.024	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
B-231-10'	6/27/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	**0.0023 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0056**
B-231-15'	6/27/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-231-20'	6/27/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<500	<0.5	**8.4**	<0.5	**3.6**	<0.5	<0.5	**3.9**	**2.3**	**4.0**	**0.87**	<0.5	<0.5	<2.5	**0.12 J**	<0.5	**1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	**20**
B-231-30'	6/27/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.024	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-231-35'	6/27/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.0079**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.14**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049

Table 3
Summary of Soil/Bedrock Sample Results
VOCs Including Fuel Oxygenates
Former Unocal Avila Terminal - Cliff Area Characterization
10 San Rafael Street, Avila Beach, California

Sample ID	Date Sampled	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane (EDC)	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Chlorotoluene	4-Chlorotoluene	4-Isopropyl Toluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene
B-231-40'	6/27/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0098**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0023 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-231-50'	8/4/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.0054**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.0015 J**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.027**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-231-55'	8/4/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.16**	<0.005	<0.005	<0.005	**0.0045 J**	<0.005	**0.050**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0071**	**0.036**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-231-60'	8/4/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.089**	<0.005	<0.005	<0.005	**0.010**	<0.005	**0.026**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0051**	**0.093**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-231-65'	8/4/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.37**	<0.0049	<0.0049	<0.0049	**0.0061**	<0.0049	**0.11**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.024**	**0.036**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-231-70'	8/4/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.0040 J**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.0011 J**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.021**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-231-75'	8/4/2011	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	**0.059**	<0.0051	<0.0051	<0.0051	**0.0050 J**	<0.0051	**0.018**	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	**0.0065**	**0.018**	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051
B-231-80'	8/4/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.014**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0039 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0019 J**	**0.0075**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-231-85'	8/4/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.025**	<0.0049	<0.0049	<0.0049	**0.0060**	<0.0049	**0.0074**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.0034 J**	**0.0089**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-231-90'	8/4/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.016**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.0042 J**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.0024 J**	**0.0021 J**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
B-231-95'	8/4/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0042 J**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0012 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0044 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-231-100'	8/4/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0013 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0041 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Commercial RSL:		9.3	38000	2.8	5.2	17	1100	--	490	0.095	99	260	0.069	0.17	9800	2.2	4.7	10000	--	20000	12	--	20000	20000	--	5.4	1800	680	1.4	220	32	3.0	1400

Table 3
Summary of Soil/Bedrock Sample Results
VOCs Including Fuel Oxygenates
Former Unocal Avila Terminal - Cliff Area Characterization
10 San Rafael Street, Avila Beach, California

Sample ID	Date Sampled	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Diisopropyl Ether	Ethanol	Ethyl t-Butyl Ether	Ethylbenzene	Hexachlorobutadiene	Isopropylbenzene	Methylene chloride	Methyl-t-butyl ether	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	t-Amyl Methyl Ether	t-Butyl alcohol	tert-Butylbenzene	Tetrachloroethene (PCE)	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene (TCE)	Trichlorofluoromethane	Vinyl chloride	Xylenes (total)
B-231-40'	6/27/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.012**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-231-50'	8/4/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	**0.0039 J**	<0.0049	<0.0049	<0.0049	<0.0049	**0.0036 J**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.025	<0.0049	<0.0049	**0.036**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.033**
B-231-55'	8/4/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	**0.028**	<0.005	**0.010**	<0.005	<0.005	**0.046**	**0.0086**	**0.017**	**0.0041 J**	<0.005	<0.005	<0.025	<0.005	<0.005	**0.073**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.21**
B-231-60'	8/4/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	**0.027**	<0.005	**0.0063**	<0.005	<0.005	**0.032**	**0.0056**	**0.0099**	**0.0027 J**	<0.005	<0.005	**0.20**	<0.005	<0.005	**0.14**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.18**
B-231-65'	8/4/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	**0.066**	<0.0049	**0.030**	<0.0049	<0.0049	**0.12**	**0.020**	**0.046**	**0.012**	<0.0049	<0.0049	**0.16**	<0.0049	<0.0049	**0.11**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.45**
B-231-70'	8/4/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	**0.0024 J**	<0.0049	<0.0049	<0.0049	<0.0049	**0.0053**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.16**	<0.0049	<0.0049	**0.016**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.013**
B-231-75'	8/4/2011	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<5.1	<0.0051	**0.0097**	<0.0051	**0.0049 J**	<0.0051	<0.0051	**0.021**	**0.0042 J**	**0.0068**	**0.0025 J**	<0.0051	<0.0051	<0.025	<0.0051	<0.0051	**0.028**	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	**0.077**
B-231-80'	8/4/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	**0.0017 J**	<0.005	**0.00084 J**	<0.005	<0.005	**0.0051**	**0.0025 J**	**0.0015 J**	**0.00076 J**	<0.005	<0.005	<0.025	<0.005	<0.005	**0.0075**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.022**
B-231-85'	8/4/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	**0.0034 J**	<0.0049	**0.0017 J**	<0.0049	<0.0049	**0.0093**	**0.0022 J**	**0.0028 J**	**0.0013 J**	<0.0049	<0.0049	<0.025	<0.0049	<0.0049	**0.012**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.033**
B-231-90'	8/4/2011	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<4.9	<0.0049	<0.0049	<0.0049	**0.00079 J**	<0.0049	<0.0049	**0.011**	**0.0020 J**	**0.0012 J**	**0.00087 J**	<0.0049	<0.0049	**0.075**	<0.0049	<0.0049	**0.0033 J**	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**0.0083**
B-231-95'	8/4/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0024 J**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	**0.0069**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.012**
B-231-100'	8/4/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	**0.0061**	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0080**
Commercial RSL:		--	1.5	500	9200	8.3	3.3	110	400	10000	--	--	27	22	--	53	220	18	51000	21000	--	36000	--	--	--	2.6	45000	690	8.3	6.4	3400	1.7	2700

Notes:
All results in milligrams per kilogram (mg/kg)
<0.005 = not indicated at or above the method reporting limit
Commercial RSL = Environmental Protection Agency (EPA) Regional Screening Levels for Chemical Contaminants at Superfund Sites.
1.0 = Result ≥ established Commercial RSL
-- = not established
VOCs = volatile organic compounds
J = Estimated value; results are less than the method reporting limit and above the method detection limit.
Soil samples collected in August 2011 were disturbed because they were collected from an air-rotary rig cyclone.

Table 4
Summary of Soil/Bedrock Sample Analytical Results
Total Lead
Former Unocal Avila Terminal - Cliff Area Characterization
10 San Rafael Street, Avila Beach, California

Sample ID	Date Collected	Total Lead
B-229-5'	6/24/2011	**13**
B-229-10'	6/24/2011	**15**
B-229-40'	6/24/2011	**0.058**
B-229-45'	6/24/2011	**5.6**
B-230-5'	6/27/2011	**9.7**
B-230-10'	6/27/2011	**9.2**
B-230-15'	6/27/2011	**10**
B-230-20'	6/27/2011	**17**
B-230-30'	6/27/2011	**14**
B-231-5'	6/27/2011	**7.2**
B-231-20'	6/27/2011	**7.1**
B-231-30'	6/27/2011	**18**

Commercial RSL	800
TTLC	1,000
TCLP	5
STLC	5

Notes:

All results in milligrams per kilogram (mg/kg), except STLC and TCLP results in milligrams per liter (mg/L)

<15 = not indicated at or above the method reporting limit

Commercial RSL = Environmental Protection Agency (EPA) Regional Screening Levels for Chemical Contaminants at Superfund Sites.

50 = Result that exceeds referenced regulatory criteria

STLC = Soluble Threshold Limit Concentration

TTLC = Total Threshold Limit Concentration

TCLP = Toxicity Characteristic Leaching Procedure

J = Estimated value; results are less than the method reporting limit and above the method detection limit.

Table 5
Summary of Results for Supplemental Groundwater Monitoring Event
Groundwater Elevation, TPH, BTEX, MTBE, TBA, EDB, and EDC
Former Unocal Avila Terminal - Cliff Area Characterization
10 San Rafael Street, Avila Beach, California

Monitoring Well ID	Date Gauged	Date Sampled	TOC Elevation (ft. AMSL)	DTW (ft.)	GWE (ft. AMSL)	LNAPL Thickness (ft.)	TPH (C4-C10)	TPH (C10-C25)	TPH (C25-C40)	TPH (C10-C40)*	B	T	E	X	MTBE	TBA	EDB	EDC
B-223-88	8/10/2011	8/12/2011	88.89	81.06	7.83	0.00	**2600**	**580**	**600**	**1180**	**370**	**65**	**28**	**67**	<0.5	<10	<0.5	<0.5
B-224	8/10/2011	8/10/2011	89.06	71.92	17.14	0.00	**110**	**1200**	**790**	**1990**	<0.5	<0.5	<0.5	<0.5	**53**	<10	<0.5	<0.5
B-225	8/10/2011	8/11/2011	92.19	70.85	21.34	0.00	<50	**22 J**	**170**	**170**	**0.13 J**	**0.090 J**	<0.5	**0.31 J**	<0.5	<10	<0.5	<0.5
B-226	8/10/2011	8/11/2011	90.51	77.01	13.50	0.00	**3400**	**100**	**89 J**	**100**	**36**	**35**	**130**	**240**	<0.5	<10	<0.5	<0.5
B-230	8/10/2011	8/12/2011	90.67	91.44	-0.77	0.00	**14000**	**3300**	**450**	**3750**	**1800**	**3100**	**330**	**2000**	<0.5	**3800**	**270**	**450**
B-231	8/10/2011	8/12/2011	91.12	101.03	-9.91	0.00	**3800**	**2700**	**740**	**3440**	**20**	**26**	<0.5	**980**	<0.5	**4600**	<0.5	**60**
MCL:							--	--	--	--	1	150	300	1750	13	--	0.05	0.5

Notes:
TOC = top of casing elevation
AMSL = above mean sea level
(ft.) = feet
DTW = depth to water
GWE = groundwater elevation
All results in micrograms per liter (ug/L)
TPH = total petroleum hydrocarbons
BTEX = benzene, toluene, ethylbenzene, and total xylenes
MTBE = methyl tertiary butl ether
TBA = tertiary butyl ether
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane
J-flag = estimated result that is above the method detection limit, but below the method reporting limit
<50 = not indicated at or above the method reporting limit
LNAPL = light non-aqueous phase liquid
* = Column calculated as the sum of the indicated concentrations for TPH in C10-C25 and C25-C40, which does not include J-flag results
MCL = Maximum Contaminant Level (State of California)
50 = Result that exceeds MCL
-- = not established

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Table 6
Summary of Groundwater Sample Analytical Results
VOCs Including Fuel Oxygenates
Former Unocal Avila Terminal - Cliff Area Characterization
10 San Rafael Street, Avila Beach, California

Sample ID	Date Sampled	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane (EDC)	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Chlorotoluene	4-Chlorotoluene	4-Isopropyl Toluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene
AT-B-223-88	8/12/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**14**	<0.5	<0.5	<0.5	<0.5	<0.5	**1.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.88**	**370**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
AT-B-224	8/10/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.15 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
AT-B-225	8/11/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.13 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
AT-B-226	8/11/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**190**	<0.5	<0.5	<0.5	<0.5	<0.5	**2.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**7.2**	**36**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
AT-B-230	8/12/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**290**	<0.5	**270**	<0.5	**450**	<0.5	**83**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**14**	**1800**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
AT-B-231	8/12/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.69**	<0.5	<0.5	<0.5	**60**	<0.5	**100**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**13**	**20**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
State MCL/SMCL:		--	200	1	5	5	6	--	5	--	5	--	--	0.05	5	0.5	5	--	--	0.5	5	--	--	--	--	1	--	--	80*	80*	--	0.5	70

Table 6
Summary of Groundwater Sample Analytical Results
VOCs Including Fuel Oxygenates
Former Unocal Avila Terminal - Cliff Area Characterization
10 San Rafael Street, Avila Beach, California

Sample ID	Date Sampled	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Diisopropyl Ether	Ethanol	Ethyl t-Butyl Ether	Ethylbenzene	Hexachlorobutadiene	Isopropylbenzene	Methylene chloride	Methyl-t-butyl ether	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	t-Amyl Methyl Ether	t-Butyl alcohol	tert-Butylbenzene	Tetrachloroethene (PCE)	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene (TCE)	Trichlorofluoromethane	Vinyl chloride	Xylenes (total)
AT-B-223-88	8/12/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<500	<0.5	**28**	<0.5	**7.1**	<1	<0.5	<0.5	**0.20 J**	**3.5**	**0.70**	<0.5	<0.5	<10	**0.26 J**	<0.5	**65**	<0.5	<0.5	<0.5	<0.5	<0.5	**67**
AT-B-224	8/10/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<500	<0.5	<0.5	<0.5	**2.2**	<1	**53**	<0.5	<0.5	<0.5	**0.78**	<0.5	<0.5	<10	**0.64**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
AT-B-225	8/11/2011	<0.5	**1.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<500	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	**0.090 J**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.31 J**
AT-B-226	8/11/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<500	<0.5	**130**	<0.5	**32**	<1	<0.5	**39**	**3.2**	**29**	**3.6**	<0.5	<0.5	<10	**0.47 J**	<0.5	**35**	<0.5	<0.5	<0.5	<0.5	<0.5	**240**
AT-B-230	8/12/2011	**28**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<500	<0.5	**330**	<0.5	**45**	<1	<0.5	**98**	**9.4**	**39**	**7.7**	<0.5	<0.5	**3800**	**0.51**	<0.5	**3100**	<0.5	<0.5	<0.5	<0.5	<0.5	**2000**
AT-B-231	8/12/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<500	<0.5	<0.5	<0.5	<0.5	<1	<0.5	**2.6**	**5.7**	<0.5	<0.5	<0.5	<0.5	**4600**	**0.69**	<0.5	**26**	<0.5	<0.5	<0.5	<0.5	<0.5	**980**
State MCL/SMCL:		--	80*	--	6	--	80*	--	--	--	--	--	300	--	--	5	13	--	--	--	--	100	--	--	--	5	150	10	--	5	150	0.5	1750

Notes:
VOCs = volatile organic compounds
<1.0 = not indicated at or above the method reporting limit
All results in micrograms per liter (ug/L)
MCL = Maximum Contaminant Level (State of California)
SMCL = Secondary Maximum Contaminant Level (State of California)
* = total sum of trihalomethanes
50 = Result that exceeds MCL or SMCL
J = Estimated value; results are less than the method reporting limit and above the method detection limit.
-- = not established

Table 7
Summary of Groundwater Sample Analytical Results
PAHs
Former Unocal Avila Terminal - Cliff Area Characterization
10 San Rafael Street, Avila Beach, California

Sample ID	Date Collected	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Dibenz (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene
AT-B-224	8/10/2011	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.040 J**	<0.1	**0.18**	<0.1	<0.1
AT-B-225	8/11/2011	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.23**	<0.1	<0.1
AT-B-226	8/11/2011	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**21**	<0.1	<0.1
AT-B-230	8/12/2011	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**48**	<0.11	<0.11
AT-B-231	8/12/2011	**0.060 J**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.60**	<0.1	<0.1
MCL:		--	--	--	--	0.2	--	--	--	--	--	--	--	--	--	--	--

Notes:

All results in micrograms per liter (ug/L)

<0.1 = not indicated at or above the method reporting limit

PAHs = polycyclic aromatic hydrocarbons

0.5 = Result that exceeds MCL

MCL = Maximum Contaminant Level (State of California)

-- = not established

J = Estimated value; results are less than the method reporting limit and above the method detection limit.

Table 8
Summary of Groundwater Sample Analytical Results
Dissolved Metals
Former Unocal Avila Terminal - Cliff Area Characterization
10 San Rafael Street, Avila Beach, California

Sample ID	Date Collected	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AT-B-224	8/10/2011	<0.005	**0.19**	**0.14**	<0.001	<0.001	**0.0035**	**0.0023**	**0.0049**	<0.001	<0.0002	**0.019**	**0.034**	**0.038**	<0.001	<0.001	<0.005	**0.017**
AT-B-225	8/11/2011	**0.0034 J**	**0.044**	**0.31**	<0.001	<0.001	**0.0019 J**	**0.0012**	**0.0022**	<0.001	<0.0002	**0.11**	**0.020**	**0.032**	<0.001	<0.001	<0.005	**0.077**
AT-B-226	8/11/2011	<0.005	**0.042**	**0.28**	<0.001	<0.001	**0.0029**	**0.0018**	**0.0023**	<0.001	<0.0002	**0.017**	**0.038**	**0.026**	<0.001	<0.001	<0.005	**0.081**
AT-B-230	8/12/2011	<0.005	**0.0092**	**0.23**	**0.0025**	**0.0066**	**0.0037**	**0.063**	**0.0049**	**0.049**	<0.0002	**0.0012**	**0.077**	<0.002	<0.001	<0.001	<0.005	**0.77**
AT-B-231	8/12/2011	**0.0032 J**	**0.030**	**0.19**	<0.001	<0.001	**0.0043**	**0.0050**	**0.0022**	<0.001	<0.0002	**0.011**	**0.013**	<0.002	<0.001	<0.001	<0.005	**0.082**
	MCL:	0.006	0.05	1	0.004	0.005	0.05	--	--	0.015	0.002	--	0.1	0.05	--	0.002	--	--

Notes:
All results in milligrams per liter (mg/L)
<0.1 = not indicated at or above the method reporting limit
50 = Result that exceeds MCL
MCL = Maximum Contaminant Level (State of California)
-- = not established
J = Estimated value; results are less than the method reporting limit and above the method detection limit.

PLATES

S:\GIS\1252 Chevron EMC-Avila\1252.008 2011 Remediation Support\ArcMapDocuments\019 1252.008 Site Location Map.mxd\8/16/2011

0 1,000 2,000 4,000 FEET

SCALE

PLATE 1

SITE LOCATION MAP

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON EMC
SAN LUIS OBISPO, CALIFORNIA

REFERENCE:
7.5 MINUTE U.S.G.S. TOPOGRAPHIC MAP
OF PISMO BEACH, CALIFORNIA
DATED: 1965
PHOTOREVISED: 1975

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

S:\GIS\1252 Chevron EMC-Avila\1252.008 2011 Remediation Support\ArcMapDocuments\020 1252.008 Site Plan.mxd\10/14/2011

N

Explanation

- Approximate Site Boundary
- Estimated 75-Year Bluff Retreat Line
- Diesel/Gas/Crude Oil Pipelines
- Storage Tanks / Areas

0 150 300 600 FEET

SCALE

PLATE 2

SITE PLAN

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON EMC
SAN LUIS OBISPO, CALIFORNIA

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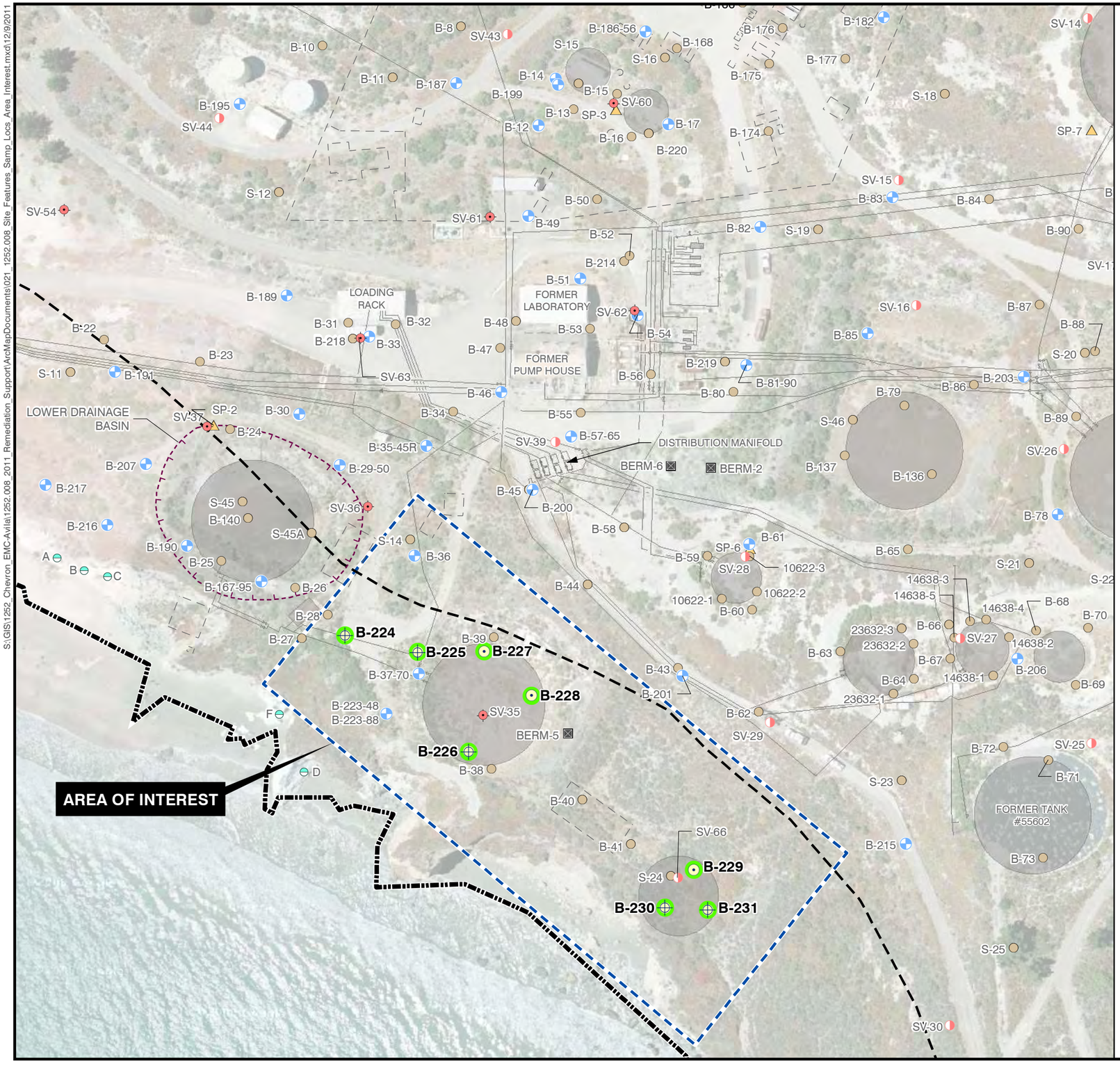

Explanation

- Supplemental Characterization Drill Hole
- Supplemental Characterization Groundwater Monitoring Well
- Nested Soil Gas Probe
- Nested Soil Gas Probe with Soil Sample Collection to 5'
- Nested Soil Gas Probe with Soil Sample Collection to 10'
- Boring with Soil sample Collection to 10'
- Samples Collected and Analzed for One or More COPCs at Depths of ≤ 10 ft
- Groundwater Monitoring Well
- Cliff Spring Monitoring Location
- Soil Sample
- Asphalt Sample
- Soil Gas Monitoring Probe
- Lower Drainage Basin
- Approximate Site Boundary
- Estimated 75-Year Bluff Retreat Line
- Former Infrastructure
- Diesel/Gas/Crude Oil Pipelines
- Storage Tanks / Areas

N

0 50 100 200 FEET

SCALE

PLATE 3

SITE FEATURES AND SAMPLING LOCATIONS WITHIN AREA OF INTEREST

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

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N

Explanation

- Approximate Site Boundary
- Estimated 75-Year Bluff Retreat Line

Local Geology

- Qal - Alluvium
- Qcol - Colluvium
- Qt - Terrace Deposit
- Tppg - Gragg Member, Pismo Formation
- Tmo - Obispo Formation, Tuffaceous Sandstone
- Tmod - Obispo Formation, Diabase
- Diesel / Gas / Crude Oil Pipeline
- Storage Tanks / Areas

0 150 300 600 FEET

SCALE

PLATE 4

SITE GEOLOGY

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

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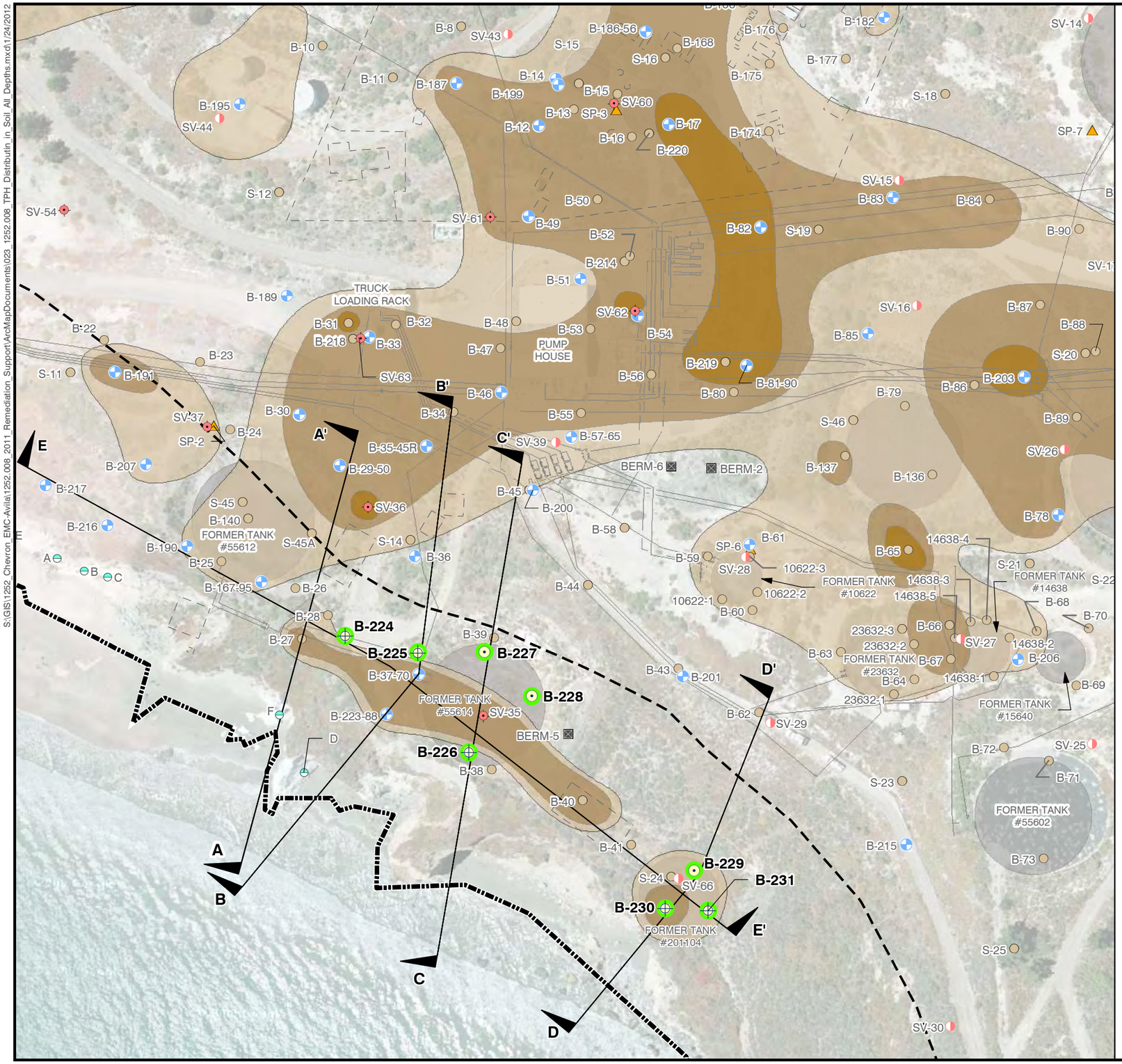

Explanation

- Supplemental Characterization Drill Hole
- Supplemental Characterization Groundwater Monitoring Well
- Cliff Spring Monitoring Location
- Nested Soil Gas Probe
- Nested Soil Gas Probe with Soil Sample Collection to 5'
- Nested Soil Gas Probe with Soil Sample Collection to 10'
- Boring with Soil sample Collection to 10'
- Samples Collected and Analzed for One or More COPCs at Depths of ≤ 10 ft
- Groundwater Monitoring Well
- Soil Sample
- Asphalt Sample
- Soil Gas Monitoring Probe
- Approximate Site Boundary
- Estimated 75-Year Bluff Retreat Line
- Former Infrastructure
- Diesel/Gas/Crude Oil Pipelines
- TPH Concentration > 10,000 mg/kg C4-C40
- TPH Concentration > 1,000 mg/kg C4-C40
- TPH Concentration > 100 mg/kg C4-C40
- Storage Tanks / Areas

N

0 50 100 200 FEET

SCALE

PLATE 5

TPH DISTRIBUTION IN SOIL AT ALL DEPTHS

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

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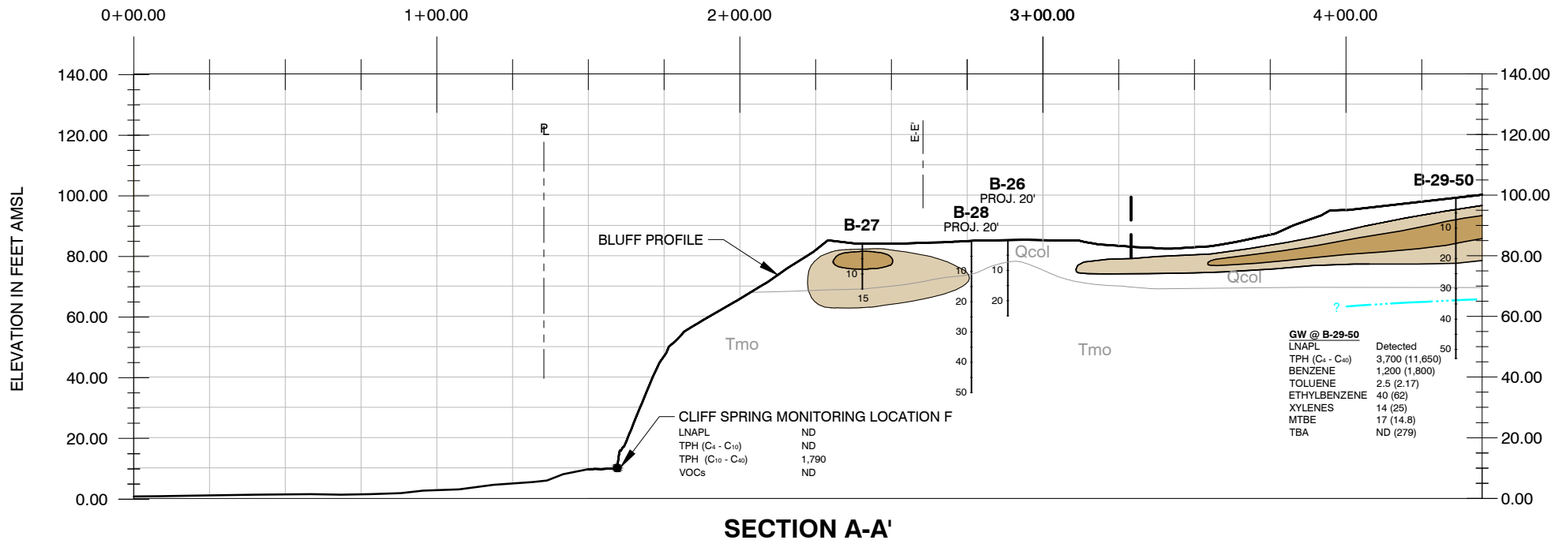
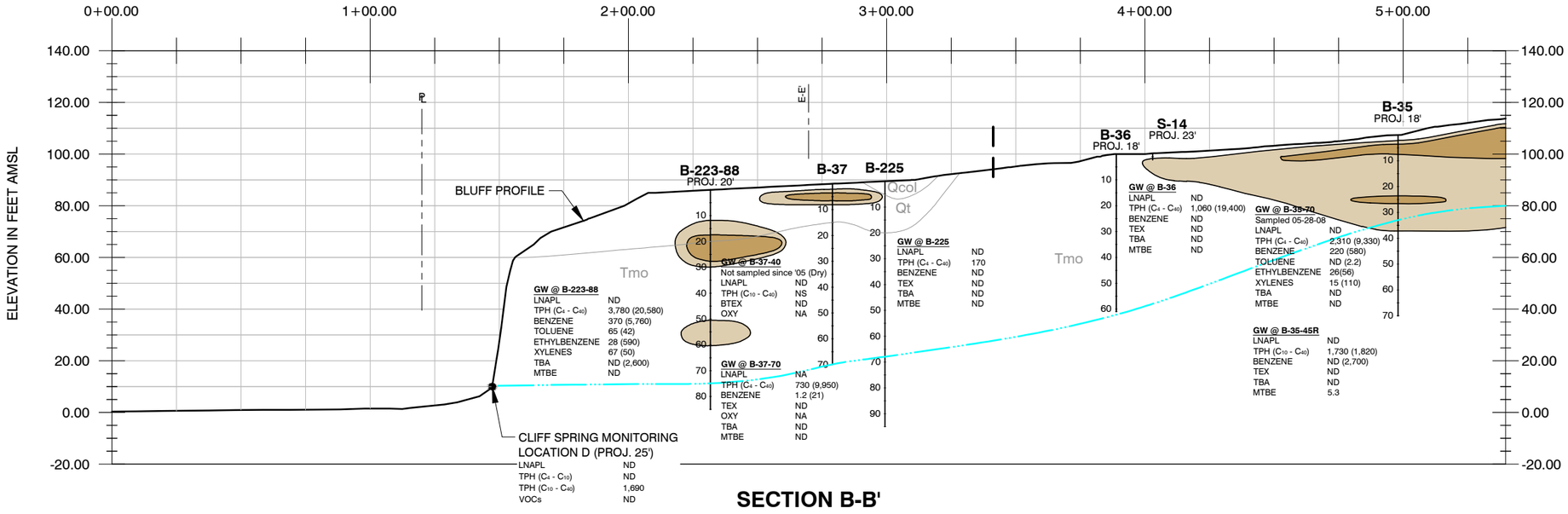


SECTION A-A'



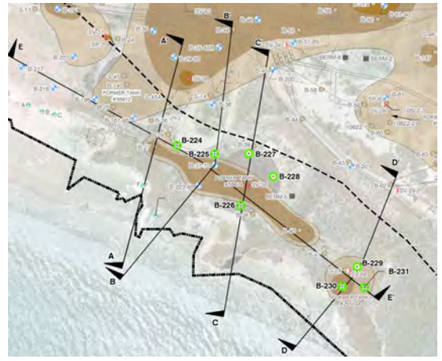
SECTION B-B'

LEGEND

- C_4 - C_{40} TPH IN SOIL >100 mg/kg
- C_4 - C_{40} TPH IN SOIL >1,000 mg/kg
- Tmo — OBISPO FORMATION
- Tppg — GRAGG MEMBER
- Qcol — COLLUVIAL DEPOSITS
- Qt — TERRACE DEPOSITS
- 0.57 (2.17) — CONCENTRATION IN ug/l CORRESPONDING TO MOST RECENT SAMPLE COLLECTED (NUMBER IN PARENTHESIS CORRESPONDS TO MAXIMUM CONCENTRATION DETECTED SINCE SAMPLING INITIATED)
- ESTIMATED 75-YEAR BLUFF RETREAT LINE
- GROUNDWATER ELEVATION (AUGUST 10, 2011)

0 50 100 FEET

SCALE



CROSS SECTION LOCATION MAP

PLATE 6

CROSS SECTIONS A-A' AND B-B'

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

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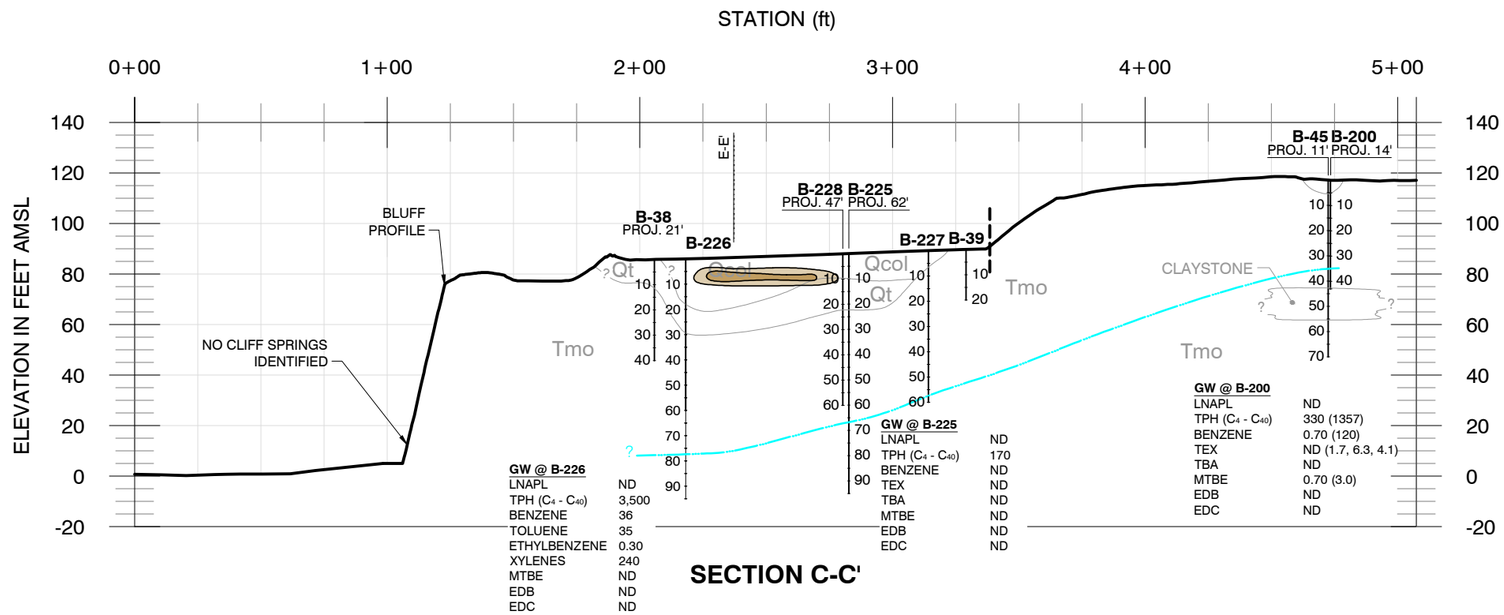
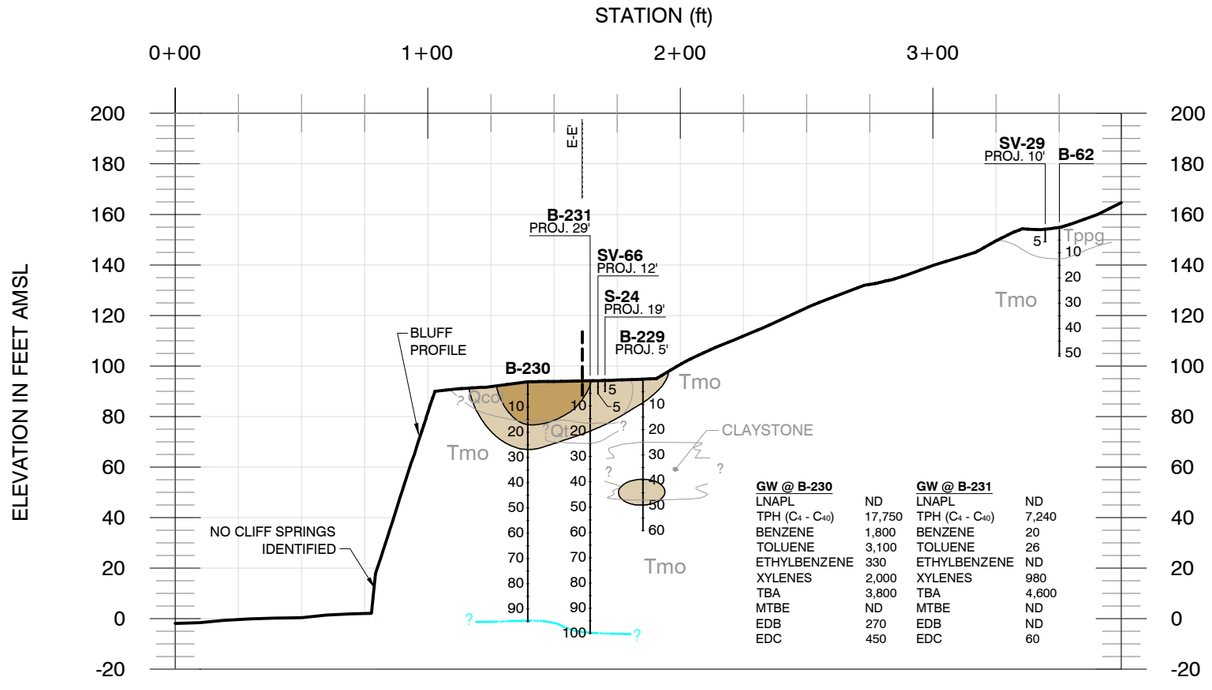


SECTION C-C'

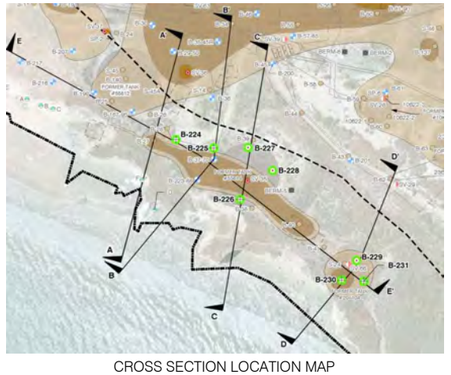


SECTION D-D'

LEGEND

- C_4 - C_{40} TPH IN SOIL >100 mg/kg
- C_4 - C_{40} TPH IN SOIL >1,000 mg/kg
- Tmo — OBISPO FORMATION
- Tppg — GRAGG MEMBER
- Qcol — COLLUVIAL DEPOSITS
- Qt — TERRACE DEPOSITS
- 0.57 (2.17) — CONCENTRATION IN ug/l CORRESPONDING TO MOST RECENT SAMPLE COLLECTED (NUMBER IN PARENTHESIS CORRESPONDS TO MAXIMUM CONCENTRATION DETECTED SINCE SAMPLING INITIATED)
- ESTIMATED 75-YEAR BLUFF RETREAT LINE
- GROUNDWATER ELEVATION (AUGUST 10, 2011)

0 60 120 FEET
SCALE



CROSS SECTION LOCATION MAP

PLATE 7

CROSS SECTIONS C-C' AND D-D'

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

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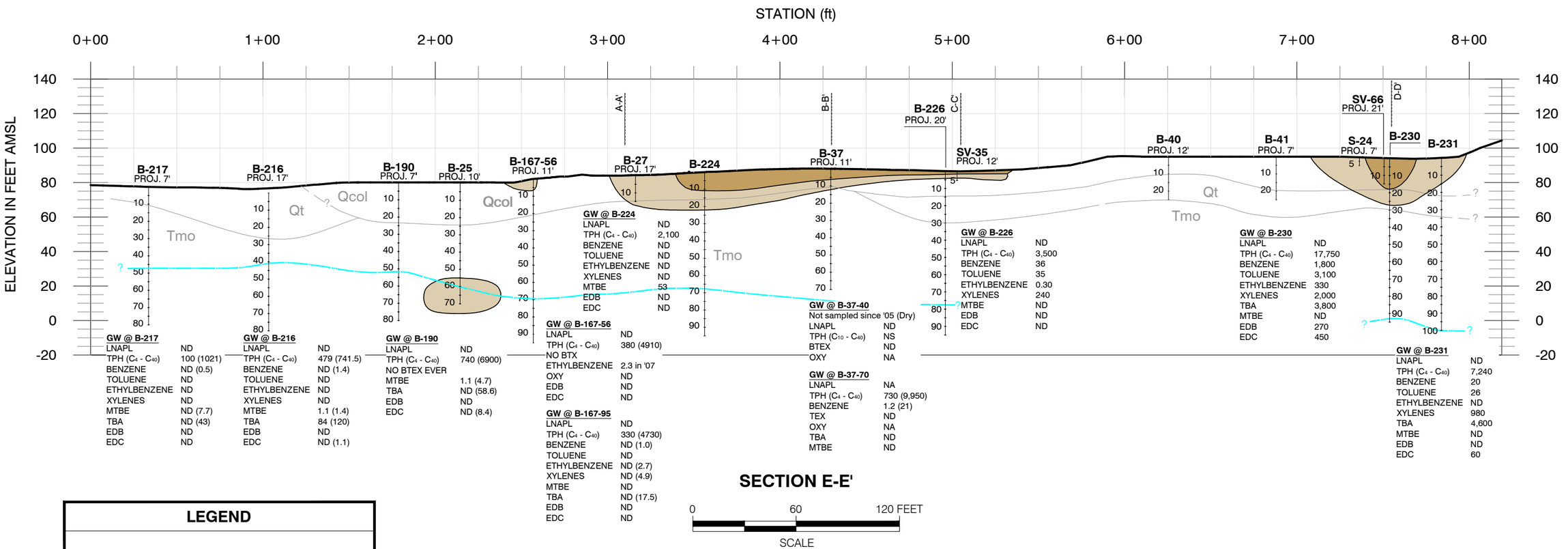


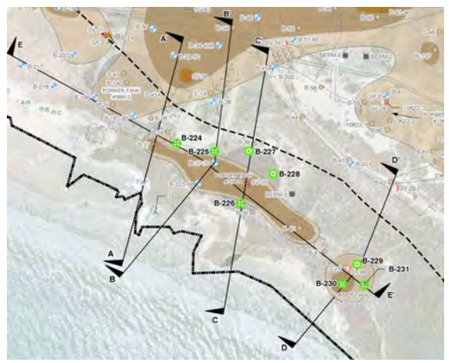
LEGEND

- C_4 - C_{40} TPH IN SOIL >100 mg/kg
- C_4 - C_{40} TPH IN SOIL >1,000 mg/kg
- Tmo — OBISPO FORMATION
- Tppg — GRAGG MEMBER
- Qcol — COLLUVIAL DEPOSITS
- Qt — TERRACE DEPOSITS
- 0.57 (2.17) — CONCENTRATION IN ug/l CORRESPONDING TO MOST RECENT SAMPLE COLLECTED (NUMBER IN PARENTHESIS CORRESPONDS TO MAXIMUM CONCENTRATION DETECTED SINCE SAMPLING INITIATED)
- GROUNDWATER ELEVATION (AUGUST 10, 2011)

SECTION E-E'

0 60 120 FEET

SCALE



CROSS SECTION LOCATION MAP

PLATE 8

CROSS SECTION E-E'

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

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TRUCK LOADING RACK

PUMP HOUSE

B-191 39.00

SP-2 44.02

B-30 60.96

B-35-70 77.29

B-57-20 *114.43

B-57-65 80.31

B-81-67 81.22

B-81-90 78.54

B-207 38.97

B-29-50 66.73

B-217 30.19

B-200 82.36

B-216 33.95

B-190 29.00

FORMER TANK #55612

B-167-56 *36.04

B-36 dry

B-167-95 12.88

A

B

C

40

60

20

100

80

B-78 117.19

FORMER TANK #10622

FORMER TANK #14638

B-224 17.14

B-225 21.34

B-37-40 *45.92

FORMER TANK #55614

B-201 62.76

FORMER TANK #23632

FORMER TANK #15640

B-223-88 7.83

B-37-70 19.32

B-223-48 DRY

B-226 13.50

F

D

FORMER TANK #55602

B-215 DRY

FORMER TANK #201104

B-230 *-0.77

B-231 *-9.91

N

EXPLANATION

- B-30 60.96 — Groundwater Monitoring Well with Groundwater Elevation in Feet AMSL
- Cliff Spring Monitoring Location
- Groundwater Potentiometric Surface Contour in Feet AMSL
- Estimated 75-Year Bluff Retreat Line
- Approximate Site Boundary
- Former Infrastructure
- Diesel/Gas/Crude Oil Pipelines
- Storage Tanks / Areas
- * Not Used in Preparation of Groundwater Contouring
- AMSL Above Mean Sea Level

NOTE:
MONITORING WELLS GAUGED ON AUGUST 10, 2011.

0 50 100 200 FEET

SCALE

PLATE 9

GROUNDWATER POTENTIOMETRIC SURFACE OBISPO FORMATION

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

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SAN LUIS OBISPO, CALIFORNIA

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B-195 <50
B-187 Sheen
B-14 Sheen
B-186-56 13.97
B-186-38 Sheen
B-182 0.01
B-12 0.60
B-17 1.59
SP-7A <50
B-49 0.02
B-83 3.27
B-82 0.06
B-189 Sheen
TRUCK LOADING RACK
B-54 3.10
B-33 Sheen
PUMP HOUSE
B-85 <50
B-191 <50
B-46 Sheen
B-81-90 0.35
B-81-67 7.93
B-203 1.39
B-30 Sheen
SP-2 Sheen
B-35-45R <50
B-57-65 <50
B-35-70 670
B-57-20 870
B-29-50 1400
B-207 0.02
B-217 <50
B-29-30 0.50
B-200 60
B-216 79
FORMER TANK #55612
B-78 1.35
B-167-56 <50
B-190 60
B-36 <50
B-167-95 <50
SP-6 Sheen
FORMER TANK #10622
FORMER TANK #14638
A
B
C
B-224 110
B-225 <50
B-37-70 <50
B-37-40 NS
FORMER TANK #23632
B-206 Sheen
B-201 <50
FORMER TANK #55614
FORMER TANK #15640
F
B-223-88 2600
B-223-48 NS
B-226 3400
D
FORMER TANK #55602
B-215 NS
FORMER TANK #201104
B-230 14000
B-231 3800

N

EXPLANATION

B-200 60 — Groundwater Monitoring Well Showing TPH C4-C10 in ug/l

B-83 3.27 — Groundwater Monitoring Well Showing LNAPL Thickness in Feet or Sheen when present

Cliff Spring Monitoring Location

Approximate Site Boundary

Estimated 75-Year Bluff Retreat Line

Former Infrastructure

Diesel/Gas/Crude Oil Pipelines

Storage Tanks / Areas

TPH — Total Petroleum Hydrocarbons

ug/l — Micrograms per Liter

LNAPL — Light Non-Aqueous Phase Liquid

NS — Not Sampled

NOTE:
RESULTS FOR MONITORING WELLS B-223-88, B-224, B-225, B-226, B-230, AND B-231 ARE FROM AUGUST, 2011. RESULTS FOR ALL OTHER MONITORING WELLS ARE FROM MAY, 2011.

0 50 100 200 FEET

SCALE

PLATE 10

GROUNDWATER RESULTS TPH C4-C10

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON EMC
SAN LUIS OBISPO, CALIFORNIA

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N

EXPLANATION

B-200 270	Groundwater Monitoring Well Showing TPH C10-C40 in ug/l
B-83 3.27	Groundwater Monitoring Well Showing LNAPL Thickness in Feet or Sheen when present
	Cliff Spring Monitoring Location
	Approximate Site Boundary
	Estimated 75-Year Bluff Retreat Line
	Former Infrastructure
	Diesel/Gas/Crude Oil Pipelines
	Storage Tanks / Areas
TPH	Total Petroleum Hydrocarbons
ug/l	Micrograms per Liter
LNAPL	Light Non-Aqueous Phase Liquid
NS	Not Sampled

NOTE:
RESULTS FOR MONITORING WELLS B-223-88, B-224, B-225, B-226, B-230, AND B-231 ARE FROM AUGUST, 2011. RESULTS FOR ALL OTHER MONITORING WELLS ARE FROM MAY, 2011.

0 50 100 200 FEET

SCALE

PLATE 11

GROUNDWATER RESULTS TPH C10-C40

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON EMC
SAN LUIS OBISPO, CALIFORNIA

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N

EXPLANATION

B-200 270	Groundwater Monitoring Well Showing Benzene in ug/l
B-83 3.27	Groundwater Monitoring Well Showing LNAPL Thickness in Feet or Sheen when present
	Cliff Spring Monitoring Location
	Approximate Site Boundary
	Estimated 75-Year Bluff Retreat Line
	Former Infrastructure
	Diesel/Gas/Crude Oil Pipelines
	Storage Tanks / Areas
ug/l	Micrograms per Liter
LNAPL	Light Non-Aqueous Phase Liquid
NS	Not Sampled

NOTE:
RESULTS FOR MONITORING WELLS B-223-88, B-224, B-225, B-226, B-230, AND B-231 ARE FROM AUGUST, 2011. RESULTS FOR ALL OTHER MONITORING WELLS ARE FROM MAY, 2011.

0 50 100 200 FEET

SCALE

PLATE 12

GROUNDWATER RESULTS BENZENE

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON EMC
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B-195
NA
NA

B-187
Sheen

B-14
Sheen

B-186-56
13.97

B-186-38
Sheen

B-182
0.01

B-12
0.60

B-17
1.59

SP-7A
NA
NA

B-83
3.27

B-49
0.02

B-82
0.06

B-189
Sheen

TRUCK
LOADING RACK

B-54
3.10

B-33
Sheen

PUMP
HOUSE

B-85
NA
NA

B-191
NA
NA

B-35-45R
5.3
<10

B-46
Sheen

B-81-90
0.35

B-81-67
7.93

B-203
1.39

B-30
Sheen

SP-2
Sheen

B-35-70
2.4
<10

B-57-20
NA
NA

B-207
0.02

B-29-50
17
<10

B-217
<0.5
<10

B-29-30
0.50

B-57-65
NA
NA

B-200
0.70
<10

B-78
1.35

B-216
1.1
84

FORMER TANK
#55612

B-190
1.1
<10

SP-6
Sheen

B-36
<0.5
<10

A B C

B-167-95
<0.5
<10

B-167-56
<0.5
<10

FORMER TANK
#10622

FORMER TANK
#14638

B-37-40
NS
NS

B-37-70
<0.5
<10

B-225
<0.5
<10

B-224
53
<10

B-201
NA
NA

FORMER TANK
#23632

B-206
Sheen

FORMER TANK
#15640

FORMER TANK
#55614

F

B-223-48
NS
NS

B-226
<0.5
<10

D

B-223-88
<0.5
<10

FORMER TANK
#55602

B-215
NS
NS

FORMER TANK
#201104

B-230
<0.5
3800

B-231
<0.5
4600

EXPLANATION

B-218
1.1
94 — Groundwater Monitoring Well Showing MTBE and TBA in ug/l

B-83
3.27 — Groundwater Monitoring Well Showing LNAPL Thickness in Feet or Sheen when present

Cliff Spring Monitoring Location

Approximate Site Boundary

Estimated 75-Year Bluff Retreat Line

Former Infrastructure

Diesel/Gas/Crude Oil Pipelines

Storage Tanks / Areas

MTBE — Methyl Tertiary Butyl Ether

TBA — Tertiary Butyl Ether

ug/l — Micrograms per Liter

LNAPL — Light Non-Aqueous Phase Liquid

NA — Not Analyzed

NS — Not Sampled

NOTE:
RESULTS FOR MONITORING WELLS B-223-88, B-224, B-225, B-226, B-230, AND B-231 ARE FROM AUGUST, 2011. RESULTS FOR ALL OTHER MONITORING WELLS ARE FROM MAY, 2011.

N

0 50 100 200
FEET
SCALE

PLATE 13

GROUNDWATER RESULTS MTBE AND TBA

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON EMC
SAN LUIS OBISPO, CALIFORNIA

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

S:\GIS\1252_Chevron_EMC-Avila\1252.008_2011_Remediation_Support\ArcMapDocuments\030_1252.008_Groundwater_Results_EDB_EDC.mxd\12/9/2011

B-195
<0.5
<0.5

B-187
Sheen

B-14
Sheen

B-186-38
Sheen
B-186-56
13.97

B-182
0.01

B-12
0.60

B-17
1.59

SP-7A
NA
NA

B-83
3.27

B-49
0.02

B-82
0.06

B-189
Sheen

TRUCK
LOADING RACK

B-54
3.10

B-33
Sheen

PUMP
HOUSE

B-85
NA
NA

B-191
NA
NA

B-35-70
<0.5
<0.5

B-46
Sheen

B-81-67
7.93
B-81-90
0.35

B-203
1.39

SP-2
Sheen

B-30
Sheen

B-35-45R
<0.5
<0.5

B-57-20
<0.5
<0.5

B-207
0.02

B-29-30
0.50

B-57-65
<0.5
1.4

B-217
<0.5
<0.5

B-200
<0.5
<0.5

B-78
1.35

B-216
<0.5
<0.5

B-29-50
<0.5
27

FORMER TANK
#55612

B-190
<0.5
<0.5

B-36
<0.5
<0.5

SP-6
Sheen

FORMER TANK
#10622

FORMER TANK
#14638

A B C

B-167-56
<0.5
<0.5

B-167-95
<0.5
<0.5

B-224
<0.5
<0.5

B-37-40
NS
NS

B-225
<0.5
<0.5

B-37-70
<0.5
<0.5

FORMER TANK
#23632

B-206
Sheen

B-201
NA
NA

FORMER TANK
#55614

FORMER TANK
#15640

F

B-223-48
NS
NS

B-226
<0.5
<0.5

B-223-88
<0.5
<0.5

D

FORMER TANK
#55602

B-215
NS
NS

FORMER TANK
#201104

B-230
270
450

B-231
<0.5
60

N

EXPLANATION

B-230
270
450
Groundwater Monitoring Well Showing EDB and EDC in ug/L

B-83
3.27
Groundwater Monitoring Well Showing LNAPL Thickness in Feet or Sheen when present

Cliff Spring Monitoring Location

Approximate Site Boundary

Estimated 75-Year Bluff Retreat Line

Former Infrastructure

Diesel/Gas/Crude Oil Pipelines

Storage Tanks / Areas

EDB Ethylenedibromide

EDC Ethylenedichloride

ug/l Micrograms per Liter

NA Not Analyzed

NS Not Sampled

NOTE:
RESULTS FOR MONITORING WELLS B-223-88, B-224, B-225, B-226, B-230, AND B-231 ARE FROM AUGUST, 2011. RESULTS FOR ALL OTHER MONITORING WELLS ARE FROM MAY, 2011.

0 50 100 200 FEET

SCALE

PLATE 14

GROUNDWATER RESULTS EDB AND EDC

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON EMC
SAN LUIS OBISPO, CALIFORNIA

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

APPENDIX A
RWQCB CORRESPONDENCE

California Regional Water Quality Control Board
Central Coast Region

895 Aerovista Place, Suite 101, San Luis Obispo, California 93401-7906
(805) 549-3147 • Fax (805) 543-0397
http://www.waterboards.ca.gov/centralcoast

Linda S. Adams
Secretary for
Environmental Protection

Arnold Schwarzenegger
Governor

October 21, 2009

Mr. Kyle Rutherford
kyru@chevron.com
Project Manger
Chevron Environmental Management Company
4051 Broad Street, Suite 230
San Luis Obispo, CA 93401

Dear Mr. Rutherford:

SITE CLEANUP PROGRAM: AVILA TANK FARM — CONCURRENCE WITH PROPOSED SCOPE OF WORK FOR CLIFF AREA CHARACTERIZATION WORKPLAN AND WORKPLAN ADDENDUM

Central Coast Regional Water Quality Control Board (Water Board) staff reviewed the July 24, 2009 "Work Plan for Cliff Area Characterization, Former Avila Tank Farm," and the October 5, 2009 "Cliff Area Characterization Work Plan Addendum, Former Avila Tank Farm." Chevron provided the addendum in response to Water Board staff's comments to the workplan provided in an email dated September 25, 2009. Water Board staff concurs with the scope of work for the proposed investigation detailed in the workplan and addendum, and looks forward to field mobilization.

Staff understands that Chevron needs clearance from the Coastal Commission for creating an access road to reach the easternmost investigation points. Thus, a schedule for commencing field work will be developed based on the Coastal Commission's determination. As such, please provide an investigation report within **90 days** of completing field work, while keeping Water Board staff apprised of your schedule for mobilization and completion of the investigation.

If you have questions please contact **Dan Niles at (805) 549-3355**, or his supervisor Thea Tryon at (805) 542-4776.

Sincerely,

Roger W. Briggs
Executive Officer

S:\Site Cleanup Program\REGULATED SITES\San Luis Obispo Co\Avila Beach\Avila Tank Farm\Letters\Avila Tank Farm Workplan 10-21-2009.doc

Mr. Robert Van Hyning
rvanhyning@avocetenv.com
Avocet Environmental, Inc.
16 Technology Drive, Suite 154
Irvine, CA 92618-2327

Mr. Louis J. Cappel
lcappel@padreinc.com
Padre Associates, Inc.
369 Pacific Street
San Luis Obispo, CA 93401

APPENDIX B
PERMITS

COUNTY OF SAN LUIS OBISPO
PUBLIC HEALTH DEPARTMENT
Environmental Health Services
2156 Sierra Way • P.O. Box 1489
San Luis Obispo, CA 93406-1489
Phone: (805) 781-5544 FAX: (805) 781-4211

OFFICE USE
Permit No. 2011-MW-0185
Submittal Complete ☐
Date 5/23/11
By: CR
Attachments: Yes ☐ No ☐
SR No. 11022

MONITORING WELL PERMIT APPLICATION

Name of Well Owner Chevron EMC Phone No. (805) 546-6920
Name of Property Owner Same as Above Phone No. ( )
Mailing Address of Property Owner P.O. Box 1332, San Luis Obispo, CA 93406
Name of Drilling Contractor Randy Glaze C-57 License No. 611394
Drilling Company Name S/G Drilling
Business Address 308 N. First St., Lompoc, CA Phone No. (805) 735-3454

Proposed Well Site Address 10 San Rafel St. City or Area of County Avila Beach
Assessor's Parcel No. 076-181-047, -058, -059 Township 32 S Range 12 E Section NA
Parcel Size (acres) 72 In Coastal Zone? Yes GPS Coordinates 35° 10' 39.38" N 120° 43' 37.68" W
Is the parcel served water by a public water agency? Yes ☐ No ☑ Is the proposed well located within city limits? Yes ☐ No ☑

Well Type	Purpose of Well		Drilling Method	
☑ Construction	☑ Monitoring	☐ Soil Testing	☑ Rotary	☐ Cable Tool
☐ Repair/Modify	☐ Test well	☐ Cathodic Protection	☐ Reverse Rotary	☐ Other
	☐ Vapor Extraction	☐ Sparging	☐ Air Rotary	

Proposed Depth 95' and 105' Casing Diameter 2" Annular Seal Depth 0-63' (95-foot well)
Number of Wells 5 0-53' (105-foot well)
Agency requiring monitoring well implementation, and/or reason for monitoring well- Regional Water Quality Control Board - Central Coast Region. For further characterization of TPH-containing soil & groundwater at the subject site.

I hereby agree to comply with all applicable laws and regulations of the County of San Luis Obispo and the State of California pertaining to well construction, destruction, repair or modification. Within sixty days after completion of the well, I will furnish Environmental Health Services with a completed well log. This application becomes a valid permit following sign off by Environmental Health Services.
Only the above named C-57 licensed driller may sign this permit application.

Signed _____ Date 2/21/11
Drilling Contractor
Print Drilling Contractor Name _____

Note: The "Well Permit Plot Plan" shall be attached to this application and indicate within a two hundred foot radius around the proposed well the following items: A) Property lines, B) Sewage disposal and/or sewer lines, C) Animal enclosures and/or any other concentrated sources of pollution, D) All intermittent or perennial, natural or artificial water bodies or water courses, E) Surface water drainage pattern of the site, F) Existing wells, G) Access roads. The proposed site shall be designated with a flagged surveyor's stake labeled "Well Site." (See second page) **Drilling shall not commence until this application is approved.**

OFFICE USE ONLY

Received By DJ Date 3-2-2011 Fee Paid $ 400.00 Check # 35349
Well Site Approved Yes ☒ No ☐ By _____ Date 5/24/11
Site Letter _____ X-Conn Letter _____ Final Letter Sent? Yes ☐ No ☐
Well Site Approval GPS Coordinates _____ N _____ W
Special Requirements and /or Comments for Drilling Contractor _____

Water Quality Testing Conducted? Yes ☐ No ☐ Constituents Tested for _____
Well Seal Witnessed? Yes ☐ No ☐ By _____ Date _____ Seal Depth _____
Well Seal GPS Coordinates _____ N _____ W

PERMIT IS VALID FOR SIX MONTHS FROM ISSUANCE

– Use This –

COUNTY OF SAN LUIS OBISPO

PUBLIC HEALTH DEPARTMENT
Environmental Health Services
2156 Sierra Way • P.O. Box 1489
San Luis Obispo, CA 93406-1489
Phone: (805) 781-5544 FAX: (805) 781-4211

OFFICE USE
Permit No 2011-MW-018-022
Submittal Complete ☒
Date 7/18/11 CR
By:
Attachments: Yes ☐ No ☐
SR No. 1022

MONITORING WELL PERMIT APPLICATION

Name of Well Owner CEMC on behalf of Union Oil Phone No. (805 546-6920
Name of Property Owner Same as above Phone No. ( ) —
Mailing Address of Property Owner P.O. Box 1332, San Luis Obispo, CA 93406
Name of Drilling Contractor Cascade Drilling, L.P. C-57 License No. 938110
Drilling Company Name SAME AS ABOVE (PEAN Cshl)
Business Address 555 S. Harbor BLVD. Phone No. (562 929-8176

Proposed Well Site Address 10 San Rafael St. City or Area of County Avila Beach
Assessor's Parcel No. 076-181-047,-58,-55 Township 32S Range 12E Section NA
Parcel Size (acres) 72 In Coastal Zone? YES GPS Coordinates 35°10' 39.38" N 120°43' 37.68" W
Is the parcel served water by a public water agency? Yes ☐ No ☑ Is the proposed well located within city limits? Yes ☐ No ☑

Well Type	Purpose of Well		Drilling Method	
☑ Construction	☑ Monitoring	☐ Soil Testing	☐ Rotary	☐ Cable Tool
☐ Repair/Modify	☐ Test well	☐ Cathodic Protection	☐ Reverse Rotary	☐ Other
	☐ Vapor Extraction	☐ Sparging	☑ Air Rotary	

Proposed Depth 95' Casing Diameter 2-inch Annular Seal Depth 0-63 feet
Number of Wells 2
Agency requiring monitoring well implementation, and/or reason for monitoring well- RWQCB to assess petroleum hydrocarbon-containing soil and groundwater.
• Switched Drillers CR 7/18/11

I hereby agree to comply with all applicable laws and regulations of the County of San Luis Obispo and the State of California pertaining to well construction, destruction, repair or modification. Within sixty days after completion of the well, I will furnish Environmental Health Services with a completed well log. This application becomes a valid permit following sign off by Environmental Health Services.
Only the above named C-57 licensed driller may sign this permit application.

Signed [signature] Date 7/13/11
Drilling Contractor

Note: The "Well Permit Plot Plan" shall be attached to this application and indicate within a two hundred foot radius around the proposed well the following items: A) Property lines, B) Sewage disposal and/or sewer lines, C) Animal enclosures and/or any other concentrated sources of pollution, D) All intermittent or perennial, natural or artificial water bodies or water courses, E) Surface water drainage pattern of the site, F) Existing wells, G) Access roads. The proposed site shall be designated with a flagged surveyor's stake labeled "Well Site." (See second page) **Drilling shall not commence until this application is approved.**

OFFICE USE ONLY

Received By DG Date 3/2/11 Fee Paid $ 460.00 Check # 35349
Well Site Approved Yes ☒ No ☐ By [signature] Date 7/18/11
Site Letter X-Conn Letter Final Letter Sent? Yes ☐ No ☐
Well Site Approval GPS Coordinates N W
Special Requirements and /or Comments for Drilling Contractor

Water Quality Testing Conducted? Yes ☐ No ☐ Constituents Tested for
Well Seal Witnessed? Yes ☐ No ☐ By Date Seal Depth
Well Seal GPS Coordinates N W

PERMIT IS VALID FOR SIX MONTHS FROM ISSUANCE

APPENDIX C
DRILL HOLE LOGS/GROUNDWATER MONITORING WELL CONSTRUCTION DIAGRAM

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

LOG OF DRILL HOLE B-224

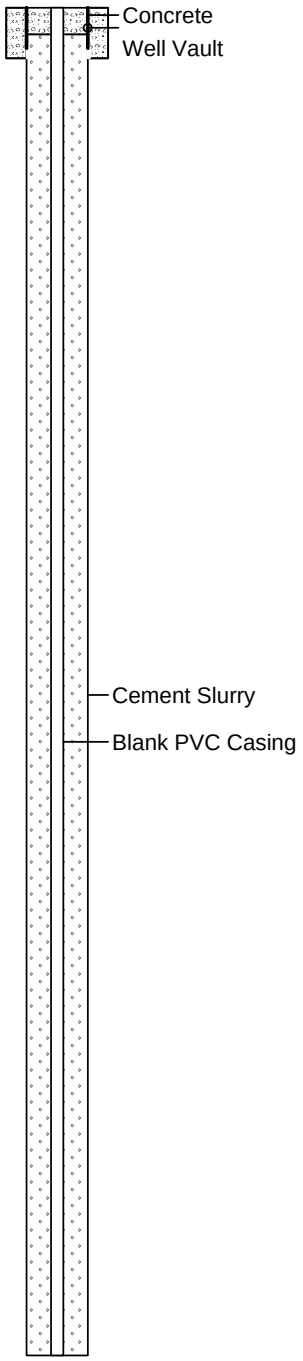
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Boring Total Depth	: 95 feet
Project Name	: Cliff Area Characterization	Drilling Date	: 6/20/11
Logged By	: Paul G. Lavelle	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller/Method	: S/G Drilling / HSA	Static Water Depth	: 71.35 feet (6/21/11)

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
0		AR					Aggregate base material.
		SC					Colluvium (Qcol): Clayey SAND (SC); very dark brown (10YR 2/2); little silt; few fine gravel including fragments of chert and sandstone; loose; dry.
5					0.5	3-4-4	same as above; some angular to subangular fine gravel fragments including chert, and weathered sandstone of Pismo Formation.
		CL					CLAY (CL); brown (10YR 4/3); some fine gravel of weathered Pismo Formation; few fine grained sand; little silt; medium plasticity; soft; damp.
10					0.2	4-5-4	
		ML					Sandy SILT (ML); black (10YR 2/1); some very fine grained sand; trace clay; organic residue and odor; soft; very moist.
15					0.3	1-1-1	
		Tmo					Obispo Formation (Tmo): TUFFACEOUS SANDSTONE; olive gray (5Y 5/2); fine to medium grained; fractured; weathered; damp.
20					0.5	50/6"	<poor recovery>
25					0.2	20-50/6"	

Well Construction Details:



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padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

LOG OF DRILL HOLE B-224

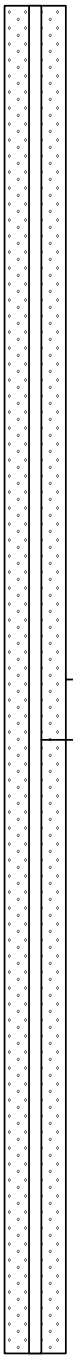
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Boring Total Depth	: 95 feet
Project Name	: Cliff Area Characterization	Drilling Date	: 6/20/11
Logged By	: Paul G. Lavelle	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller/Method	: S/G Drilling / HSA	Static Water Depth	: 71.35 feet (6/21/11)

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
25							TUFFACEOUS SANDSTONE; becomes white (5Y 8/1); fine grained; weathered; friable; damp.
30				■	0.0	50/4"	Becomes pale yellow to white (5Y 7/3 - 5Y 8/1); fine grained; massive; weathered; crumbles easily.
35		Tmo		■	0.0	50/4"	Same as above, with iron oxide staining in veins.
40				■	0.7	50/2"	Becomes pale yellow (5Y 8/2); fine-sandy ash matrix; trace silt; mottled with iron oxide staining.
45				■	21.8	50/3"	Becomes gray (5Y 6/1); massive; damp; slight hydrocarbon staining and odor.
50				■	1.2	50/4"	

Well Construction Details:



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padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

LOG OF DRILL HOLE B-224

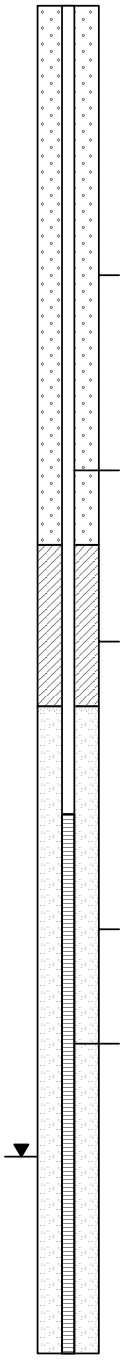
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Boring Total Depth	: 95 feet
Project Name	: Cliff Area Characterization	Drilling Date	: 6/20/11
Logged By	: Paul G. Lavelle	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller/Method	: S/G Drilling / HSA	Static Water Depth	: 71.35 feet (6/21/11)

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
50							TUFFACEOUS SANDSTONE; becomes light olive gray (5Y 6/2); few veins of iron oxide staining; trace fine fragments of volcanic glass; massive; slightly hard; no hydrocarbon staining or odor.
55				■	2.7	50/3"	Becomes light gray (5Y 7/2); some dark green fine grained mineral veins in fractures; slight hydrocarbon odor.
60		Tmo		■	0.7	50/5"	Becomes gray (5Y 6/1); fine to medium grained; no hydrocarbon staining or odor.
65				■	1.0	34-50/2"	Becomes fine grained; fractured; weathered; damp.
70	▼			■	3.3	27-50/4"	Same as above, with few veins of iron oxide staining.
75				■	0.9	28-50/5"	

Well Construction Details:



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padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

LOG OF DRILL HOLE B-224

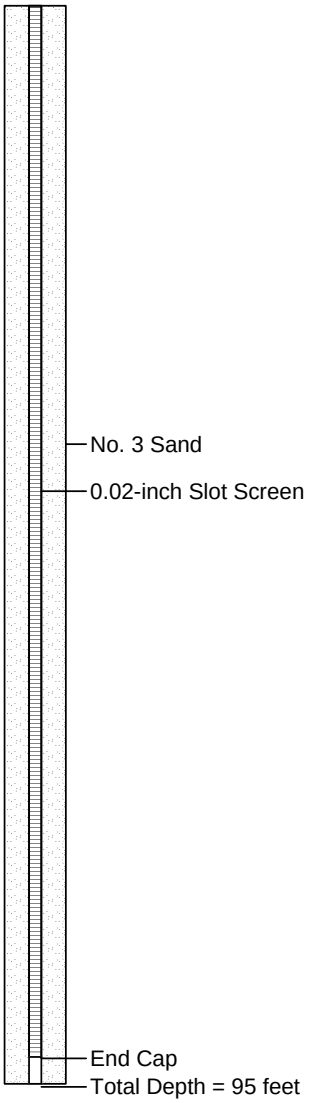
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Boring Total Depth	: 95 feet
Project Name	: Cliff Area Characterization	Drilling Date	: 6/20/11
Logged By	: Paul G. Lavelle	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller/Method	: S/G Drilling / HSA	Static Water Depth	: 71.35 feet (6/21/11)

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
75							TUFFACEOUS SANDSTONE; light gray (5Y 7/1); fine grained; weathered; wet.
80					0.3	50/6"	Same as above, but moderately indurated; damp.
85		Tmo			0.5	50/3"	Becomes gray (5Y 6/1); fine to medium grained; massive; damp.
90					0.2	50/2"	Becomes fine grained; fractured; few veins of iron oxide staining; ash matrix slightly plastic; wet.
95					0.4	50/4"	Same as above with few fine subrounded siliceous clasts; damp.
100							

Well Construction Details:



Notes:
1. HSA = Hollow Stem Auger
2. Suspected hydrocarbon-containing soil observed at apprimate depths of 45 and 55 feet.
3. No free groundwater present in hole on date of drilling.

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padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

LOG OF DRILL HOLE B-225

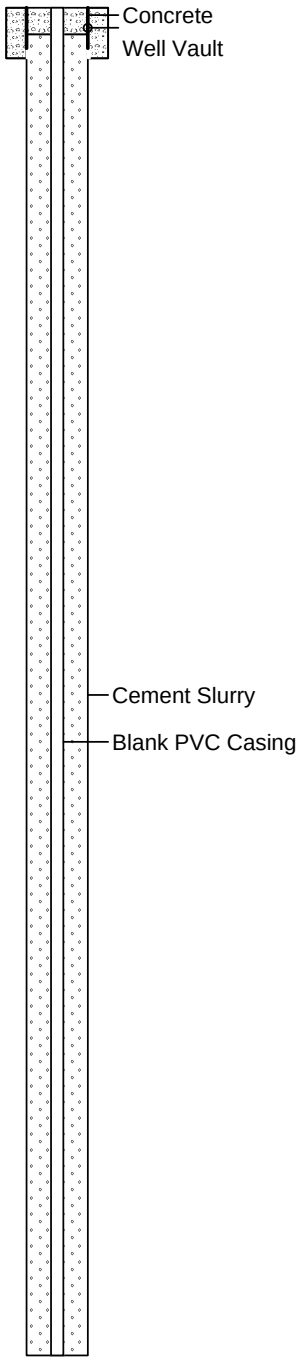
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Boring Total Depth	: 95 feet
Project Name	: Cliff Area Characterization	Drilling Date	: 6/21/11
Logged By	: Paul G. Lavelle	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller/Method	: S/G Drilling / HSA	Static Water Depth	: 77.70 feet (6/22/11)

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
0		AR					Aggregate base material.
		SC					Colluvium (Qcol): Silty SAND (SM); dark brown (10YR 3/3); fine grained sand with silt; some fine to medium angular to subrounded gravel and asphaltic fragments; few fine roots; little clay; loose; dry.
		ML					Sandy SILT (ML); black (10YR 2/1); some fine grained sand; little clay; low plasticity; soft; very moist.
5					0.3	3-6-14	
		SC					Clayey SAND (SC); very dark grayish brown (10YR 3/2); fine to medium grained; little silt and fine to medium gravel including fragments of weathered sandstone (Pismo Formation) and chert; medium dense; damp.
10					0.6	3-7-10	Terrace Deposits (Qt): Poorly-graded SAND (SP); dark yellowish brown (10YR 3/4); fine grained; little silt; few fine gravel; medium dense; damp.
		SP					
15					1.2	5-18-15	Becomes olive brown (2.5Y 4/4); trace silt; no clay; dense; damp.
20					0.2	20-50/6"	Obispo Formation (Tmo): TUFFACEOUS SANDSTONE; light gray (5Y 7/1); fine grained; trace fine angular volcanic glass fragments; massive; moderately hard; dry.
		Tmo					
25					0.0	50/6"	

Well Construction Details:



padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

LOG OF DRILL HOLE B-225

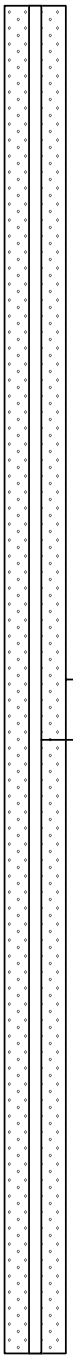
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Boring Total Depth	: 95 feet
Project Name	: Cliff Area Characterization	Drilling Date	: 6/21/11
Logged By	: Paul G. Lavelle	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller/Method	: S/G Drilling / HSA	Static Water Depth	: 77.70 feet (6/22/11)

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
25							TUFFACEOUS SANDSTONE; light gray (5Y 7/1); fine grained; little iron oxide staining and siliceous veins in fractures .
30					0.0	28-50/4"	Becomes fine to medium grained; clayey ash matrix; hard but friable; damp.
35		Tmo			0.1	30-50/2"	Same as above, with few rounded coarse sand sized clasts of ash; weathered; dry.
40					0.4	35-50/3"	Becomes white (5Y 8/1); slightly mottled with iron oxide staining; few siliceous layers in fractures; hard but crumbles easily; damp.
45					0.0	38-50/1"	Same as above.
50					0.0	45-50/1"	

Well Construction Details:



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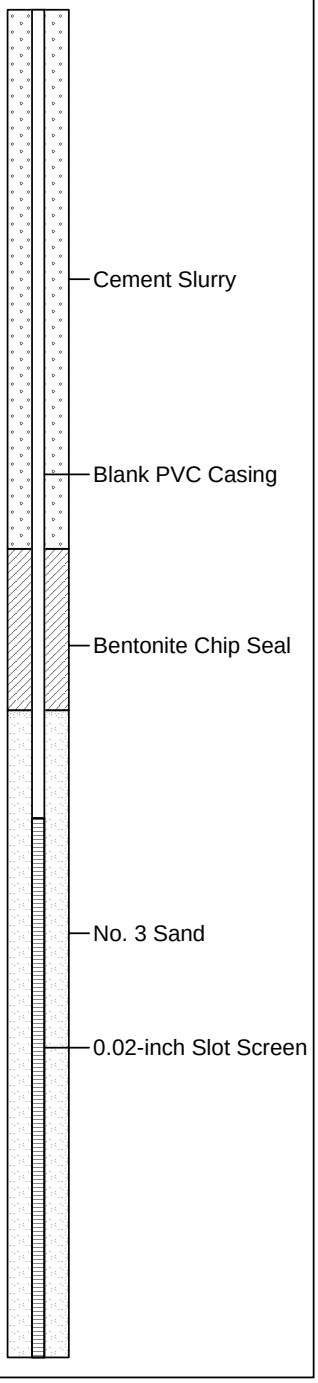
Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
50							TUFFACEOUS SANDSTONE; light gray (5Y 7/1); few fine gravel sized ash clasts and siliceous layers in fractures; slightly hard; weathered; damp.
55					0.3	47-50/2"	Becomes light gray to white (5Y 7/1 - 5Y 8/1).
60		Tmo			0.1	37-50/2"	Same as above.
65					0.0	50/5"	Same as above, with no visible inclusions; friable; damp.
70					0.0	50/6"	Becomes fine grained; massive; few fine subrounded ash clasts.
75					0.4	50/4"	

Well Construction Details:



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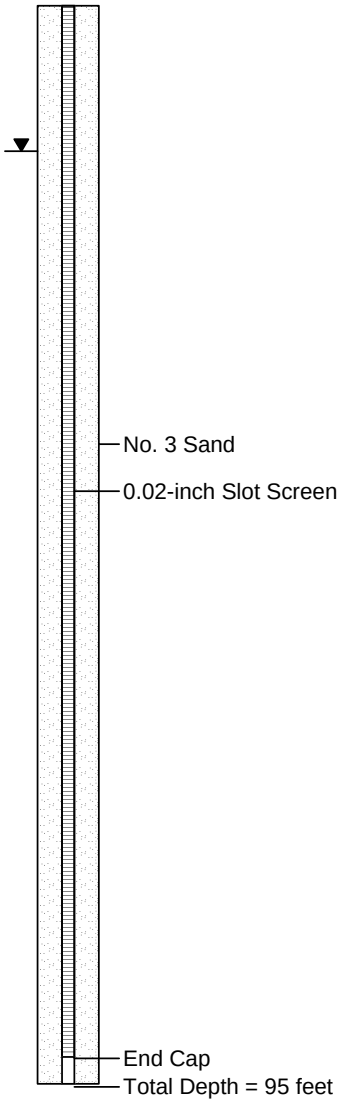
Logged By	: Paul G. Lavelle	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller/Method	: S/G Drilling / HSA	Static Water Depth	: 77.70 feet (6/22/11)

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
75	▼						TUFFACEOUS SANDSTONE; light gray (5Y 7/1); fine grained; few fine fractures; weathered; damp.
80				■	0.0	50/2"	Becomes gray (5Y 6/1); few fine lenses of clayey white ash; massive; hard but weathered; damp.
85		Tmo		■	0.2	50/4"	Becomes olive gray (5Y 5/2); some fine siliceous masses; fractured; damp.
90				■	0.0	50/6"	Becomes wet; cuttings are moderately plastic; weathered; soft.
95				■	0.6	50/6"	Becomes light gray to white (5Y 7/1 to 5Y 8/1); frable; damp.
100							

Well Construction Details:



Notes:
1. HSA = Hollow Stem Auger
2. No suspected hydrocarbon-containing soil observed in drill hole.
3. No free groundwater present in hole on date of drilling.

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LOG OF DRILL HOLE B-226

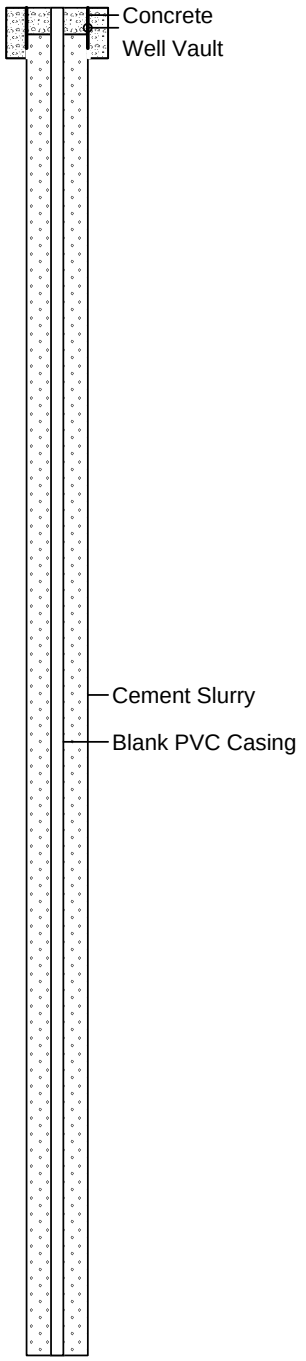
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Boring Total Depth	: 95 feet
Project Name	: Cliff Area Characterization	Drilling Date	: 6/22/11
Logged By	: Paul G. Lavelle	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller/Method	: S/G Drilling / HSA	Static Water Depth	: 77.15 feet (6/23/11)

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
0		SW					Fill Material: Well-graded SAND (SW); light yellowish brown (2.5Y 6/3); fine to very coarse grained; few fine gravel; little silt and fine roots; trace medium gravel; loose; damp.
		ML					Colluvium (Qcol): Sandy SILT (ML); black (10YR 2/1); silt with fine grained sand; organic odor; soft; moist.
5		SM			0.0	27-50/5"	Silty SAND (SM); dark grayish brown (10YR 4/2); fine grained sand with silt; some fine to medium subangular gravel; little clay; dense; damp.
10					1.2	37-43-45	Becomes olive brown (2.5Y 4/4); some fine to coarse angular gravel including fragments of weathered fine sandstone (Pismo Formation); few rootcasts and veins of organic residue; dense; damp.
15					0.3	5-9-11	Terrace Deposits (Qt): Silty SAND (SM); light olive brown (2.5Y 5/4); fine grained sand; subrounded to rounded grains; many quatz grains; trace fine subrounded gravel; medium dense; damp.
20		SM			0.3	27-13-11	
25					0.2	25-50/4"	Same as above, with some fine to coarse rounded to subrounded gravel including graywacke, chert, and quartzite; dense; dry.

Well Construction Details:



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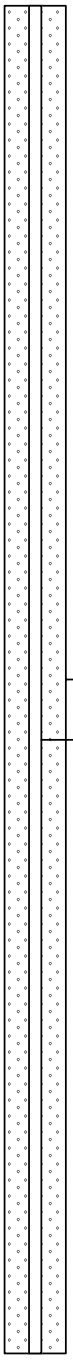
Project Name	: Cliff Area Characterization	Drilling Date	: 6/22/11
Logged By	: Paul G. Lavelle	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller/Method	: S/G Drilling / HSA	Static Water Depth	: 77.15 feet (6/23/11)

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
25		SM					Terrace Deposits (Qt): Silty SAND (SM); light olive brown (2.5Y 5/4); fine to medium grained; subrounded to rounded grains; some fine to coarse subrounded to rounded gravel; dense; dry.
30		Tmo			0.0	32-50/5"	Obispo Formation (Tmo): TUFFACEOUS SILTSTONE; pale yellow (5Y 8/3); very fine grained; mottled with iron oxide staining; few siliceous veins; weathered; massive; dry.
35					0.1	32-50/5"	Same as above, with few medium grains of volcanic glass; weathered; hard but crushes easily; dry.
40					0.0	30-50/4"	Same as above; massive; dry.
45		Tmo			0.4	42-50/3"	TUFFACEOUS SANDSTONE; pale yellow (5Y 7/4); fine grained; some medium to coarse volcanic glass grains; few siliceous veins; mottled with iron oxide staining; weathered; dry.
50					0.1	27-50/4"	

Well Construction Details:



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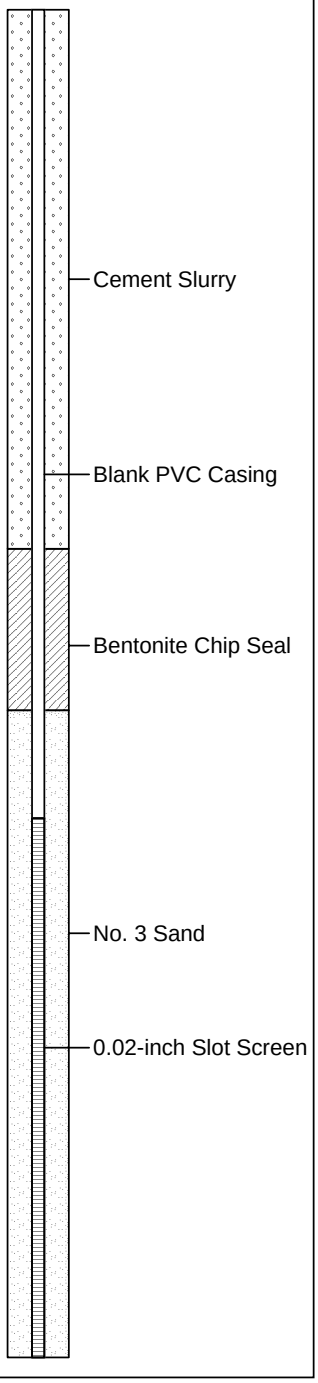
Project Name	: Cliff Area Characterization	Drilling Date	: 6/22/11
Logged By	: Paul G. Lavelle	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller/Method	: S/G Drilling / HSA	Static Water Depth	: 77.15 feet (6/23/11)

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
50		Tmo					TUFFACEOUS SANDSTONE; pale yellow (5Y 7/4); some coarse sand to fine gravel sized volcanic glass fragments; damp.
55		Tmo			0.4	37-50/5"	TUFFACEOUS SILTSTONE; gray to white (5Y 5/1 - 5Y 8/1); very fine grained; few fine fractures lined with dark gray clayey ash layers; crushes to soft powder; weathered; dry.
60					0.3	50/6"	Same as above, with abundant sub-vertical fractures and volcanic glass fragments; becomes slightly harder.
65					0.2	50/4"	TUFFACEOUS SANDSTONE; gray (5Y 6/1); fine to medium grained; some medium grained subangular volcanic glass fragments; moderately indurated; massive; friable.
70		Tmo			0.0	50/4"	Becomes fine to coarse grained; damp; slight hydrocarbon odor.
75					0.0	50/5"	

Well Construction Details:



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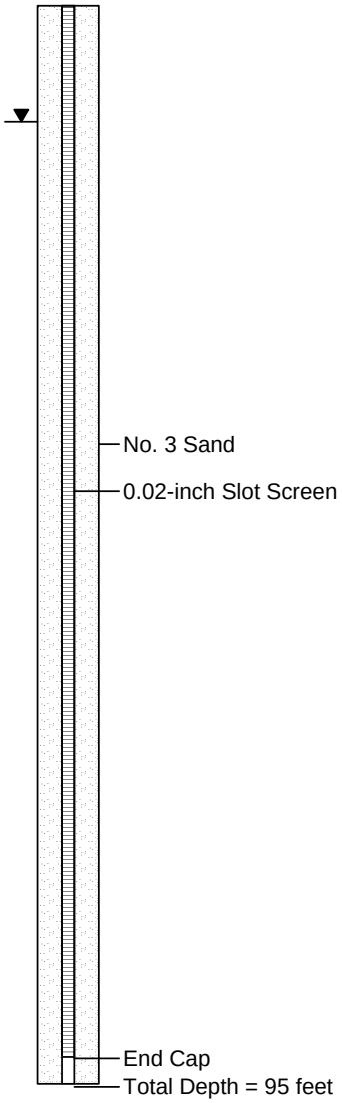
Chevron EMC

Project Number	: 0801-0896	Boring Total Depth	: 95 feet
Project Name	: Cliff Area Characterization	Drilling Date	: 6/22/11
Logged By	: Paul G. Lavelle	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller/Method	: S/G Drilling / HSA	Static Water Depth	: 77.15 feet (6/23/11)

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
75	▼	Tmo					TUFFACEOUS SANDSTONE; gray (5Y 6/1); fine to coarse grained; some subangular to angular volcanic glass grains; massive; hard but weathered; slight hydrocarbon odor.
80				■	1.5	50/5"	
85				■	0.9	50/6"	Becomes fine to medium grained; damp; slight hydrocarbon odor.
90		Tmo		■	0.0	32-50/5"	TUFFACEOUS SILTSTONE; grayish brown (2.5Y 5/2); clayey ash matrix with fine volcanic glass fragments; few fine fractures and siliceous concretions; hardness decreases; no hydrocarbon odor.
95				■	0.2	9-16-22	Becomes olive brown (2.5Y 4/3); few fine fractures lined with dark gray ash and microcrystalline volcanic glass fragments; dense; moist.
100							

Well Construction Details:



Notes:
1. HSA = Hollow Stem Auger
2. Suspected hydrocarbon-containing soil observed from approximately 70 feet to 85 feet.
3. No free groundwater present in hole on date of drilling.

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LOG OF DRILL HOLE B-227

Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Drilling Method	: Hollow Stem Auger
Project Name	: Cliff Area Characterization	Drill Hole Total Depth	: 60 feet
Logged By	: Paul G. Lavelle	Drilling Date	: 6/23/11
Checked By	: Louis J. Cappel	Backfilled With	: Cement Slurry
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
0		SW					Fill Material: Well-graded SAND (SW); light yellowish brown (2.5Y 6/3); very fine to very coarse sand; some fine to medium subrounded gravel; loose; dry.
		SM					Colluvium (Qcol): Silty SAND (SM); fine grained; few fine subangular gravel; trace clay; medium dense; damp.
5		Tmo			1.7	12-17-32	Obispo Formation (Tmo): TUFFACEOUS SANDSTONE; white (5Y 8/1); fine grained; massive; trace iron oxide staining; weathered; dry.
10					0.4	17-28-38	Becomes fine to medium grained; few fine clasts of white ash; dense.
15					0.0	24-38-50/4"	Same as above, with few fine fractures lined with clay and organic residue.
20					0.2	24-33-50/5"	Same as above, with fine to medium subangular clasts of ash; damp.
25					0.4	24-44-50/5"	

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LOG OF DRILL HOLE B-227

Former Unocal Avila Terminal
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Project Number	: 0801-0896	Drilling Method	: Hollow Stem Auger
Project Name	: Cliff Area Characterization	Drill Hole Total Depth	: 60 feet
Logged By	: Paul G. Lavelle	Drilling Date	: 6/23/11
Checked By	: Louis J. Cappel	Backfilled With	: Cement Slurry
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
25							TUFFACEOUS SANDSTONE; white (5Y 8/1); fine grained; few medium subangular clasts of ash; massive; damp.
30					0.3	20-37-50/6"	
35		Tmo			0.2	33-50/4"	Same as above; hard but weathered and friable.
40					0.4	25-50/4"	
45					0.2	34-50/4"	Becomes light gray (5Y 7/1); few fine fractures and siliceous veins; damp.
50					0.4	25-50/3"	

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LOG OF DRILL HOLE B-227

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Logged By	: Paul G. Lavelle	Drilling Date	: 6/23/11
Checked By	: Louis J. Cappel	Backfilled With	: Cement Slurry
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
50							TUFFACEOUS SANDSTONE; light gray (5Y 7/1); fine grained; few iron oxide staining in fine fractures; hard but crumbles easily; damp.
55		Tmo			0.3	27-50/1"	
60					0.2	50/3"	Same as above, with some fine to medium subrounded clasts of white ash; trace siliceous veins; damp.
65							
70							
75							

Notes:
1. No hydrocarbon staining or odor observed in drill hole.
2. No free groundwater present in hole on date of drilling.

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LOG OF DRILL HOLE B-228

Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Drilling Method	: Hollow Stem Auger
Project Name	: Cliff Area Characterization	Drill Hole Total Depth	: 60 feet
Logged By	: Paul G. Lavelle	Drilling Date	: 6/23/11
Checked By	: Louis J. Cappel	Backfilled With	: Cement Slurry
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
0		SW					Fill Material: Well-graded SAND (SW); dark yellowish brown (10YR 4/6); very fine to coarse sand; some fine to medium subrounded gravel; loose; dry.
		SC					Colluvium (Qcol): Clayey SAND (SM); fine grained; some silt; few roots and fine subangular gravel; medium dense; damp.
5		Tmo			0.7	2-7-14	Obispo Formation (Tmo): TUFFACEOUS SANDSTONE; light gray (5Y 7/1); fine grained; massive; some medium subrounded ash clasts; few veins of organic residue; weathered; medium dense; damp.
10					1.1	14-40-50/6"	
15					0.9	7-15-50/6"	Same as above, with few siliceous veins; mottled; hard but weathered; damp.
20					1.0	38-50/2"	Same as above, with some medium sand sized crystals of green mineral; few hard siliceous nodules; weathered; damp.
25					1.1	50/5"	

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LOG OF DRILL HOLE B-228

Former Unocal Avila Terminal
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Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Drilling Method	: Hollow Stem Auger
Project Name	: Cliff Area Characterization	Drill Hole Total Depth	: 60 feet
Logged By	: Paul G. Lavelle	Drilling Date	: 6/23/11
Checked By	: Louis J. Cappel	Backfilled With	: Cement Slurry
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
25							TUFFACEOUS SANDSTONE; light gray to pale yellow (5Y 7/1 - 5Y 7/3); fine grained; few porous veins of soft yellow ash; mottled; hard but crumbles easily.
30				■	0.9	32-50/4"	Becomes pale olive (5Y 6/3); highly weathered; damp.
35		Tmo		■	2.0	39-50/1"	Same as above, with some fine subrounded volcanic glass grains.
40				■	0.4	50/5"	Becomes light gray to white (5Y 7/1 - 5Y 8/1); abundant fine grained green mineral; some fine subrounded ash clasts; poor recovery.
45				■	0.3	50/1"	Same as above, with trace glossy black veins; hard but weathered and frable.
50				■	0.7	50/5"	

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Project Name	: Cliff Area Characterization	Drill Hole Total Depth	: 60 feet
Logged By	: Paul G. Lavelle	Drilling Date	: 6/23/11
Checked By	: Louis J. Cappel	Backfilled With	: Cement Slurry
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
50							TUFFACEOUS SANDSTONE; light gray (5Y 7/1); fine grained; mottled; frable; damp; poor recovery.
55		Tmo			0.3	50/5"	Becomes pale olive (5Y 6/4); some coarse sand to fine gravel sized ash clasts; few volcanic glass fragments; fractured; damp.
60					0.2	34-50/5"	Becomes gray mottled with strong brown (7.5 YR 5/6); fine to medium grained; trace siliceous veins; moist.
65							
70							
75							

Notes:
1. No hydrocarbon staining or odor observed in drill hole.
2. No free groundwater present in hole on date of drilling.

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LOG OF DRILL HOLE B-229

Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Drilling Method	: Hollow Stem Auger
Project Name	: Cliff Area Characterization	Drill Hole Total Depth	: 60 feet
Logged By	: Paul G. Lavelle	Drilling Date	: 6/24/11
Checked By	: Louis J. Cappel	Backfilled With	: Cement Slurry
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
0		SM					Fill Material (colluvial soil derived from on-site grading activities): Silty SAND (SW); very dark grayish brown (10YR 3/2); fine grained; some fine to medium subangular gravel; few fine roots; loose; dry.
5		Tmo			1.4	8-50/3"	Obispo Formation (Tmo): TUFFACEOUS SANDSTONE; brownish yellow (10 YR 6/6); fine to medium grained; some coarse grained angular fragments of volcanic glass; slightly weathered; moderately indurated; hard; dry; slight hydrocarbon odor.
10					0.8	50/1"	Becomes light olive brown (2.5Y 5/6); fine to coarse grained; abundant hard angular volcanic glass fragments; trace green mineral; indurated; hard; slight hydrocarbon odor; poor recovery.
15					2.7	50/1"	Becomes brownish yellow (10YR 6/6); poor recovery.
20					7.8	50/5"	Becomes light greenish gray (Gley 7/10Y); fine to medium grained; mottled with iron oxide staining; few angular glassy fragments; trace organic residue in fractures; hard but weathered; no hydrocarbon odor.
25		CS			84.2	34-40-50/2"	CLAYSTONE; dark brown (10 YR 3/3); very fine grained; some fine fractures; trace organic staining in fractures; veined; moderately indurated; no visible inclusions; hard; dry.

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Project Name	: Cliff Area Characterization	Drill Hole Total Depth	: 60 feet
Logged By	: Paul G. Lavelle	Drilling Date	: 6/24/11
Checked By	: Louis J. Cappel	Backfilled With	: Cement Slurry
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
25							CLAYSTONE; becomes yellowish brown (10 YR 5/4); fine fractures; organic staining in veins and fractures; hard but slightly weathered.
30					375.0	27-44-50/4"	Same as above, with moderate hydrocarbon odor.
35		CS			37.8	50/6"	Same as above, with slight hydrocarbon odor.
40					14.9	50/5"	Becomes very dark grayish brown (10YR 3/2); fractured; slightly fissile; hard; dry; somewhat poor recovery.
45					4.7	50/2"	Becomes yellowish brown (10YR 5/6); hard drilling; poor recovery.
		Tmo					Obispo Formation (Tmo): TUFF; white (lighter than 5Y 8/1); siliceous; brittle; hard; hard drilling; very poor recovery at 50 feet.
50					3.5	50/1"	

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LOG OF DRILL HOLE B-229

Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Drilling Method	: Hollow Stem Auger
Project Name	: Cliff Area Characterization	Drill Hole Total Depth	: 60 feet
Logged By	: Paul G. Lavelle	Drilling Date	: 6/24/11
Checked By	: Louis J. Cappel	Backfilled With	: Cement Slurry
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
50							TUFF; becomes very pale brown (10YR 8/3); siliceous; brittle; fractured; hard; crushes to very fine powder; hard drilling.
55		Tmo			4.5	50/1"	Same as above; poor recovery.
60					51.7	50/2"	Becomes white (5Y 8/1); grinding to soft powder; hard drilling; poor recovery.
65							
70							
75							

Notes:
1. Suspected hydrocarbon-containing soil observed from approximate depths of 5 feet to 60 feet.
2. No free groundwater present in hole on date of drilling.

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LOG OF DRILL HOLE B-230

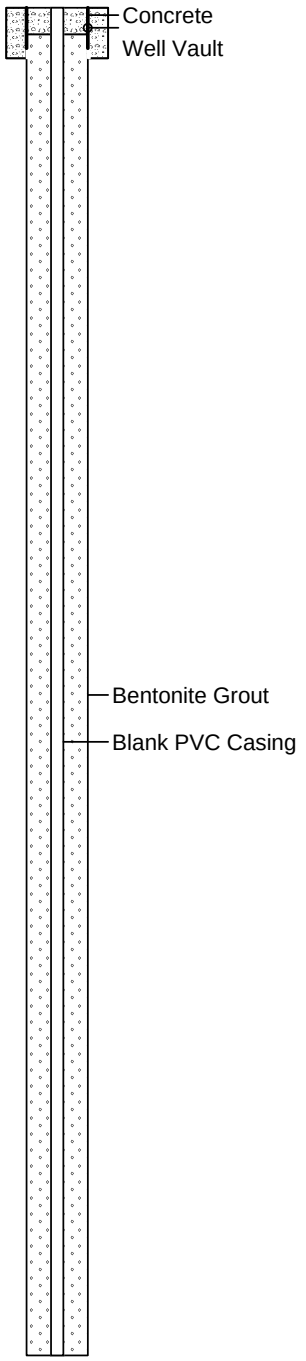
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Boring Total Depth	: 95 feet
Project Name	: Cliff Area Characterization	Drilling Date	: 6/27/11, 8/3/11
Logged By	: Paul G. Lavelle/Louis J. Cappel	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller-Method	: S/G-HSA / Cascade-Air Rotary	Static Water Depth	: 89 feet

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
0		SM					Colluvium (Qcol): Silty SAND (SM); brown (10YR 4/3); fine grained sand with silt; few fine roots and subangular to subrounded gravel; little clay; loose; dry. Becomes dark gray (2.5Y 3/1); strong hydrocarbon odor.
5				■	>999	4-8-12	Becomes black (2.5Y 2.5/1); strong hydrocarbon odor.
10				■	>999	7-11-14	Becomes dark yellowish brown (10YR 4/4); trace fine gravel; dark staining in veins; strong hydrocarbon odor.
15				■	>999	8-10-14	Becomes olive (5Y 4/3); little clay blebs; few fine to medium subangular gravel; slightly mottled; black staining in veins; hydrocarbon odor.
20		Tmo		■	141.0	50/1"	Obispo Formation (Tmo): TUFF; white (5Y 8/1); siliceous; very fine grained; slightly mottled with iron oxide staining in fractures; brittle; hard; crushes to very fine powder. Very poor recovery.
25				■	55.0	50/1"	Becomes light gray (5Y 7/1); fractured; hard; dry.

Well Construction Details:



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LOG OF DRILL HOLE B-230

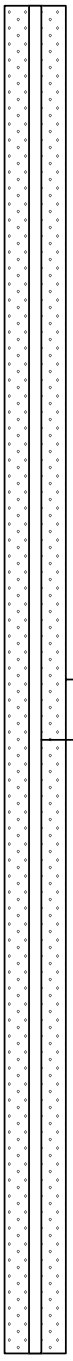
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Boring Total Depth	: 95 feet
Project Name	: Cliff Area Characterization	Drilling Date	: 6/27/11, 8/3/11
Logged By	: Paul G. Lavelle/Louis J. Cappel	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller-Method	: S/G-HSA / Cascade-Air Rotary	Static Water Depth	: 89 feet

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
25							TUFF; light gray (5Y 7/1); siliceous; fractured; brittle; hard; dry.
30				■	32.3	50/1"	Same as above; very fine grained; cuttings in 1/4-inch diameter angular fragments; hard; hard drilling; poor recovery; hydrocarbon odor.
35		Tmo		□	--	50/1"	<No recovery> Cuttings same as above; fractures into 1/4 to 1/2-inch fragments; hydrocarbon odor.
40				□	--	50/1"	<No recovery> Cuttings same as above.
45				■	232.0	50/1"	Same as above; very fine grained; brittle; grinds to soft powder; hard drilling; poor recovery; hydrocarbon odor.
50				■	67.9	50/1"	Same as above; massive; hard; poor recovery.

Well Construction Details:



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LOG OF DRILL HOLE B-230

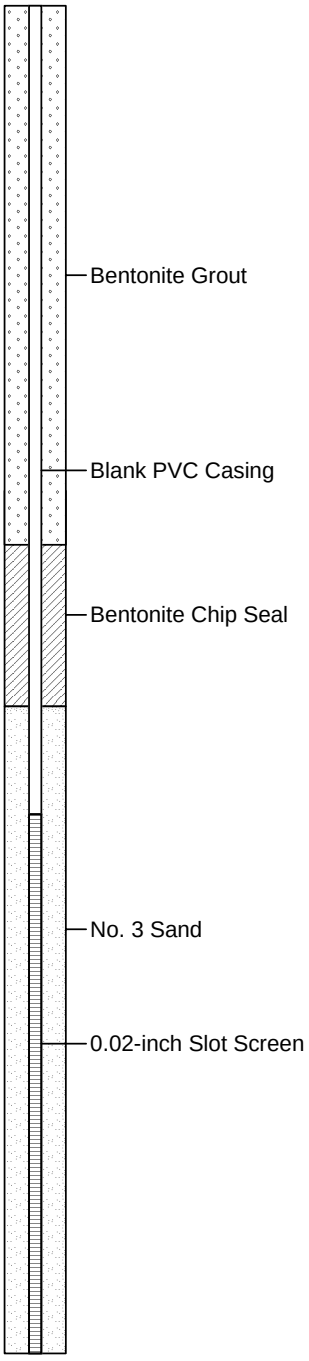
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Boring Total Depth	: 95 feet
Project Name	: Cliff Area Characterization	Drilling Date	: 6/27/11, 8/3/11
Logged By	: Paul G. Lavelle/Louis J. Cappel	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller-Method	: S/G-HSA / Cascade-Air Rotary	Static Water Depth	: 89 feet

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
50							TUFF; light gray (5Y 7/1); siliceous; massive; fractured; brittle; very hard drilling. <Refusal with HSA at 52 feet.>
							<Overdrilled hole with air rotary rig using 9-5/8" casing starting on 8/3/2011. Begin sampling with air rotary at 55 feet.>
55				■	65.1	NA	Same Tuff as above, crushed to 1/16 to 1/4-inch fragments; hard; moist; hydrocarbon odor.
60		Tmo		■	27.1	NA	Same as above.
65				■	78.6	NA	Same as above.
70				■	51.8	NA	Becomes light yellowish brown (2.5Y 6/4); very moist.
75				■	43.9	NA	

Well Construction Details:



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LOG OF DRILL HOLE B-230

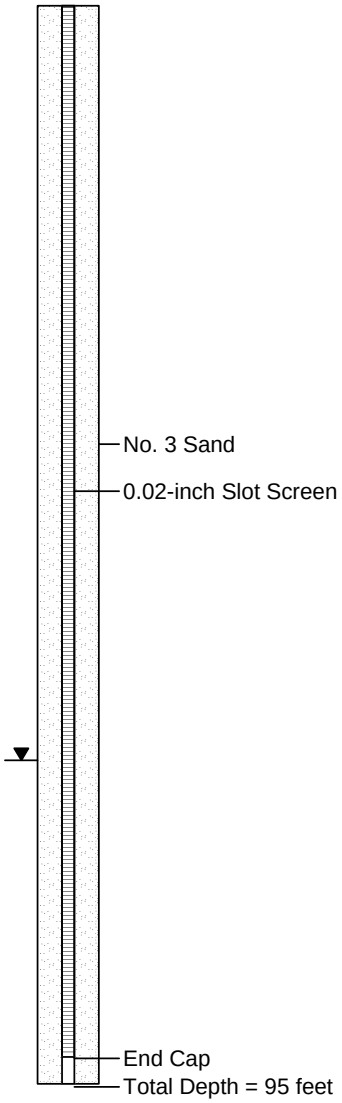
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Boring Total Depth	: 95 feet
Project Name	: Cliff Area Characterization	Drilling Date	: 6/27/11, 8/3/11
Logged By	: Paul G. Lavelle/Louis J. Cappel	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller-Method	: S/G-HSA / Cascade-Air Rotary	Static Water Depth	: 89 feet

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
75							TUFF; light yellowish brown (2.5Y 6/4); hard; brittle; crushes to fine powder; hydrocarbon odor.
80				■	159.9	NA	
85		Tmo		■	176.8	NA	Same as above.
90	▼			■	41.1	NA	
95				■	37.1	NA	Becomes light gray (5Y 7/2); hydrocarbon odor.
100							

Well Construction Details:



Notes:
1. HSA = Hollow Stem Auger
2. Suspected hydrocarbon-containing soil observed at apprimate depths of 3 feet to 95 feet.
3. No free groundwater observed during drilling.
4. HSA drill hole terminated at 52 feet and abandoned with cement slurry on 6/27/11. Drill hole over-drilled to 95 feet utilizing air roatory drilling rig.

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LOG OF DRILL HOLE B-231

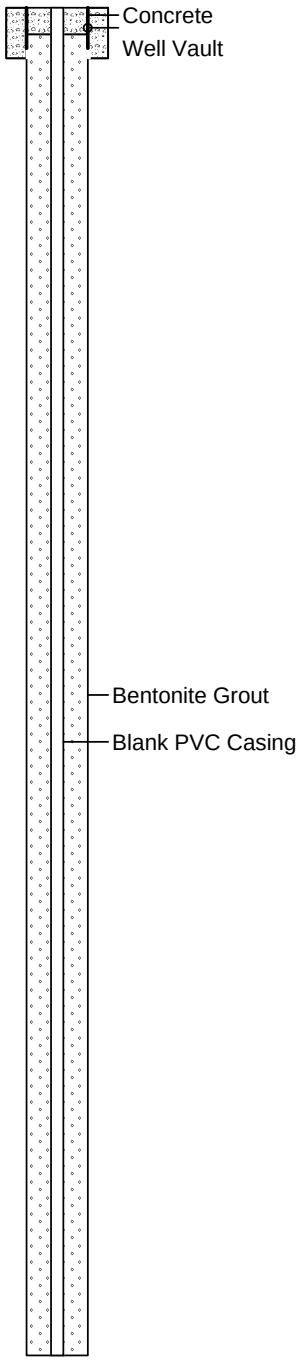
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Boring Total Depth	: 100 feet
Project Name	: Cliff Area Characterization	Drilling Date	: 6/27/11, 8/4/2011
Logged By	: Paul G. Lavelle/Louis J. Cappel	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller-Method	: S/G-HSA / Cascade-Air Rotary	Static Water Depth	: 98.03 feet

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
0		SM					Colluvium (Qcol): Silty SAND (SM); dark yellowish brown (10YR 4/4); fine grained sand with silt; few fine roots and subangular to subrounded gravel including fragments of weathered sandstone (Pismo Formation); trace medium sand and clay; loose; dry.
5		SM		■	0.0	1-3-4	Becomes very dark brown (10 YR 2/2); organic odor; few fine roots; loose; wet.
10		SM		■	18.1	2-3-4	Becomes olive (2.5Y 4/3); little clay; some subrounded weathered fine grained sandstone-siltstone gravel of Pismo Formation.
15		SC		■	466.1	6-5-5	Clayey SAND (SC); dark greenish gray (Gley 3/10Y); very fine sand with clay; little silt; loose; moist; hydrocarbon staining and odor.
20		SP		■	>999	12-20-11	Terrace Deposits: Poorly-graded SAND (SP); fine to medium grained; some subrounded quartz grains; little silt; medium dense; moist; strong hydrocarbon staining and odor.
25		Tmo		■	407.0	50/1"	Obispo Formation (Tmo): TUFF; white (5Y 8/1); siliceous; very fine grained; slightly mottled with iron oxide staining in fractures; brittle; hard; crushes to very fine powder; hard drilling.

Well Construction Details:



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LOG OF DRILL HOLE B-231

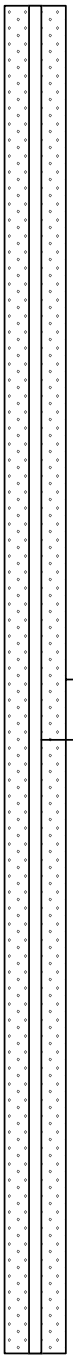
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Boring Total Depth	: 100 feet
Project Name	: Cliff Area Characterization	Drilling Date	: 6/27/11, 8/4/2011
Logged By	: Paul G. Lavelle/Louis J. Cappel	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller-Method	: S/G-HSA / Cascade-Air Rotary	Static Water Depth	: 98.03 feet

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
25							TUFF; white (5Y 8/1); siliceous; fractured; brittle; hard; dry.
30				■	13.2	50/1"	Same as above, with hydrocarbon odor; poor recovery.
35		Tmo		■	73.6	50/2"	Same as above, with few dark green streaks on rock fragments; very hard and brittle; hydrocarbon odor; poor recovery.
40				■	18.7	50/1"	Becomes light gray (5Y 7/1); massive; hard; damp; poor recovery.
45				□	--	50/1"	<No recovery> Cuttings same as above; farctures into 1/4 to 1/2-inch angular fragments. <Refusal with HSA 6/27/11. Backfilled with cement slurry.> <Overdrilled with air rotary rig on 8/4/2011.>
50				■	21.3	NA	Strong petroleum hydrocarbon odor.

Well Construction Details:



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LOG OF DRILL HOLE B-231

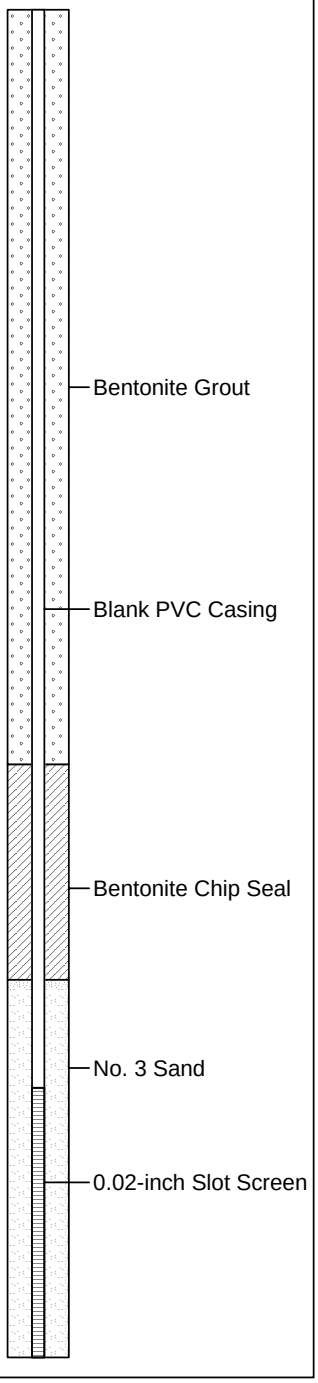
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Boring Total Depth	: 100 feet
Project Name	: Cliff Area Characterization	Drilling Date	: 6/27/11, 8/4/2011
Logged By	: Paul G. Lavelle/Louis J. Cappel	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller-Method	: S/G-HSA / Cascade-Air Rotary	Static Water Depth	: 98.03 feet

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
50		Tmo					TUFF; gray (5Y 7/1); hard; fine grained; brittle; crushes to fine powder; strong hydrocarbon odor.
55				■	273.7	NA	Same as above.
60				■	167.9	NA	Becomes light yellowish brown (2.5Y 6/4); strong hydrocarbon odor.
65				■	370.6	NA	Same as above.
70				■	62.8	NA	Same as above.
75				■	47.1	NA	Same as above.

Well Construction Details:



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LOG OF DRILL HOLE B-231

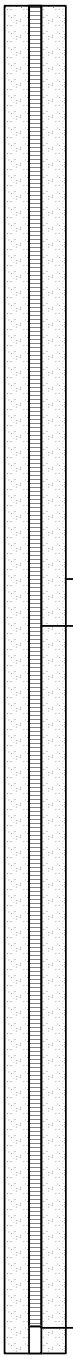
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Boring Total Depth	: 100 feet
Project Name	: Cliff Area Characterization	Drilling Date	: 6/27/11, 8/4/2011
Logged By	: Paul G. Lavelle/Louis J. Cappel	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller-Method	: S/G-HSA / Cascade-Air Rotary	Static Water Depth	: 98.03 feet

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION
75		Tmo					TUFF; light yellowish brown (2.5Y 6/4); hard; fine grained; hydrocarbon odor.
80					90.5	NA	Becomes dark gray (2.5Y 4/1); hydrocarbon odor.
85					250.8	NA	Same as above.
90					331.8	NA	Same as above.
95					24.7	NA	TUFF as above, with slight hydrocarbon odor.
100					20.1	NA	Same as above.

Well Construction Details:



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LOG OF DRILL HOLE B-231

Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0896	Boring Total Depth	: 100 feet
Project Name	: Cliff Area Characterization	Drilling Date	: 6/27/11, 8/4/2011
Logged By	: Paul G. Lavelle/Louis J. Cappel	Completed With	: 2-inch Monitoring Well
Checked By	: Louis J. Cappel	Initial Water Depth	: Dry
Driller-Method	: S/G-HSA / Cascade-Air Rotary	Static Water Depth	: 98.03 feet

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	Blow Count	DESCRIPTION	Well Construction Details:
100								
105								
110								
115								
120								
125								

Notes:

1. HSA = Hollow Stem Auger
2. Suspected hydrocarbon-containing soil observed at approximate depths of 15 feet to 100 feet.
3. No free groundwater present in hole on date of drilling.
4. HSA drill hole terminated at 46 feet due to bedrock refusal, and abandoned with cement slurry on 6/27/11. Abandoned drill hole over-drilled with air rotary rig on 8/4/2011.

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APPENDIX D
GROUNDWATER MONITORING FIELD DATA SHEETS

GROUNDWATER GAUGING/PRODUCT THICKNESS MEASUREMENT FORM

Project Name/Number : Former Unocal Avila Terminal / 0801-0896

Sampler Name: Hackleigh Overton, Adam Arellano **Signature:**

	Well ID	Date	Time	Depth to Product (ft below TOC)	DTW (ft below TOC)	TD	LNAPL Thickness	Well Head Condition -Repairs Needed?	Comments - Sheen?
	B-29-50	8/10/11	1048	—	29.40	—	—	Good	N
IP	B-30		1043	—	36.61	—	—	Good	Y
	B-36		1103	—	DRY	55.65	—	Good	N
	B-35-70		1052	—	27.25	—	—	Good	N
	B-37-40		1134	—	42.21	—	—	NOLID	N
	B-37-70		1128	—	68.78	—	—	NOLID	N
	B-57-20		0935	—	1.10	—	—	2/2 Tabs Stripped	N
	B-57-65		0932	—	35.08	—	—	↓	N
IP	B-78		0837	48.61	49.40	—	0.79	Good	Y
IP	B-81-67		0945	52.20	60.37	—	8.17	2/2 Tabs Stripped	Y
IP	B-81-90		0940	55.38	55.74	—	0.36	↓	Y
	B-167-56		1110	—	45.91	—	—	Noboltz	N
	B-167-95		1105	—	68.99	—	—	Noboltz	N
	B-190		1025	—	51.27	—	—	2/2 Tabs Stripped	N
	B-191		1034	—	62.79	—	—	Good	N
	B-200		0929	—	36.06	—	—	Good	N
	B-201		0920	—	74.37	—	—	Good	N
IP	B-206		0855	—	48.50	—	—	Good	Y
IP	B-207		1018	—	48.41	—	—	Good	Y
	B-215		0910	—	~~131.62~~ DRY H.O 131.62	139.62	—	Good	N
	B-216		1012	—	~~46.62~~ 39.92 H.O	—	—	Needs New lid	N
	B-217		1005	—	46.21	—	—	Needs lid	N
	B-223-48		1143	—	~~44.80~~ DRY H.O	47.96	—	Good	N
	B-223-88		1140	—	81.06	—	—	Good	N
	B-224		1121	—	71.92	—	—	Good	N
	B-225		1125	—	70.85	—	—	Good	N
	B-226		1146	—	77.01	—	—	Good	N
	B-230		1150	—	91.44	97.72	—	Good	N 6.28
	B-231		1155	—	101.03	102.72	—	Good	N 1.69
IP	SP-2		1030	—	48.59	—	—	Good	Sheen Y
IP	SP-6	↓	0845	—	51.85	—	—	Good	Y

DTW = depth to water
TOC = top of casing
LNAPL = light non aqueous phase liquid
TD= total depth
ft = feet
IP= Interface probe

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CALIBRATION LOG FOR HANNA WATER QUALITY INSTRUMENT

Project No. / Name: 0801-0896 / Avila Tank Farm

DATE/TIME	EQUIPMENT #	PARAMETER	STANDARD USED	METER READING	CALIBRATED READING	INITIALS
8/10/11 1253	9828	pH	7.01 4.01 10.01			
		Conductivity	1413 µS/cm	1415 µS/cm	1409 µS/cm	MO
		ORP	236.0 mV	177.9 mV	236.3 mV	MO
		DO	100.0 % 0.0 %	— % 0.0 %	— % 0.0 %	MO
8/11/11 0900	9828	pH	7.01 4.01 10.01	— — 11.60	— — 9.97	MO
		Conductivity	1413 µS/cm	1409 µS/cm	1413 µS/cm	MO
		ORP	240.0 mV	175.2 mV	239.7 mV	MO
		DO	100.0 % 0.0 %	— % 0.0 %	— % 0.0 %	MO
8/12/11 0842	9828	pH	7.01 4.01 10.01	— — 11.21	— — 10.01	MO
		Conductivity	1413 µS/cm	1415 µS/cm	1414 µS/cm	MO
		ORP	240.0 mV	167.9 mV	239.8 mV	MO
		DO	100.0 % 0.0 %	— % 0.0 %	— % 0.0 %	MO

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name: Former Unocal Avila Terminal		Site Location: Avila Beach, CA
Well No. B-223-88	Sample ID: AT-B-223-88	Date: 8-12-11

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: ~~65~~ feet to ~~95~~ feet	WELL TOTAL DEPTH (feet): 87.55	STATIC DEPTH TO WATER (feet): 81.06	PURGE PUMP TYPE OR BAILER: (Portable BP)
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 84.5'	PURGING INITIATED AT: 1232	PURGING ENDED AT: 1312	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? yes

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or ~~µS/cm~~)	DO (circle ~~mg/L~~ or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1240	81.26	8.90	21.46	9289	0.00	-202.5	clear	10	5	40	90
1244	81.37	9.26	20.53	9131	0.00	-241.2	"	10	5	38	40
1248	81.39	8.98	21.23	9057	0.00	-243.6	"	"	"	"	"
1252	81.40	8.58	22.31	9045	0.00	-249.1	"	"	"	"	"
1256	81.42	8.46	22.65	9042	0.00	-249.4	"	"	"	"	"
1300	81.42	8.42	22.84	8940	0.00	-249.3	"	"	"	"	"
1304	81.45	8.29	22.93	9016	0.00	-248.8	"	"	"	"	"
1308	81.44	8.36	21.96	8985	0.00	-241.5	"	"	"	"	"
1312		8.34	21.88	8988	0.00	-241.1	"	"	"	"	"

CONVERSIONS: 1 GAL = 3.79L = 231 IN³ 1 FT³ = 7.48 GAL = 1,728 IN³ VOLUME OF A CYLINDER (V) = πr^2 (h)

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

(pH: +/-0.1) (EC: +/-3%) (DO: +/-10%) (ORP: +/-10 mV) (Temperature: +/-1°C)

SAMPLING DATA

SAMPLED BY: (PRINT) Harleigh Overton, Adam Arellano	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1313
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 84.5'	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 40	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) Filtration Equipment Type:	FILTER SIZE: ____µm DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-223-88	4	AG	1L	None	—	—	TPH C4-C40 (GC/MS)	BP
		CG	120mL	HCl	—	—	VOCs (8260) ~~+ OXYS~~	
							~~N-O PAHs (8270-SIM)~~	
							~~Metals (6000/7000)~~	
							~~MBTE, TBA~~	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

P1/2

Site Name: Former Unocal Avila Terminal		Site Location: Avila Beach, CA
Well No. B-224	Sample ID: AT-B-224	Date: 8/10/11

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 65 feet to 95 feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 71.92	PURGE PUMP TYPE OR BAILER: ~~Portable BP~~ Dedicated BP
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	PURGING INITIATED AT: 1422	PURGING ENDED AT: 1514	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? Yes (ODOR)

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1426	72.17	8.42	21.85	5845	2.27	92.4	clear	10	5	35	20
1430	72.20	8.42	21.07	6144	2.03	-34.1		12	3	40	60
1434	72.25	8.85	21.42	6295	1.44	-85.0		"	"	"	"
1438	72.26	8.78	22.19	6350	0.83	-59.4		10	5	36	30
1442	72.27	8.47	23.24	6414	0.65	-62.6					
1446	72.31	8.45	22.97	6431	0.30	-101.9					
1450	72.32	8.47	21.63	6440	0.14	-114.7					
1454	72.34	8.47	21.47	6381	0.00	-116.4					
1458	72.36	8.47	22.37	6408	0.00	-79.3					

CONVERSIONS: 1 GAL = 3.79L = 231 IN³ 1 FT³ = 7.48 GAL = 1,728 IN³ VOLUME OF A CYLINDER (V) = πr² (h)

PURGE STABILITY CRITERIA: 3 SUCCESSIVE ~~READINGS~~ TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

(pH: +/-0.1) EC: +/-3% DO: +/-10% (ORP: +/-10 mV) (Temperature: +/-1°C)

SAMPLING DATA

SAMPLED BY: (PRINT) Harkley Overton	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1515
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 30	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-224	6	AG, CG, PE	2L, 3x40mL, 1x250mL	None/HCl	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260) + oxys	
							PAHs (8270-SIM)	
							Metals (6000/7000)	
							~~MBTE, TBA~~	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

P4-2

Site Name: Former Unocal Avila Terminal		Site Location: Avila Beach, CA
Well No. B-224	Sample ID: AT-B-224	Date: 8-10-11

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: feet to feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER: Portable BP

SEE P1

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1502	72.37	8.46	23.26	6429	0.00	-95.9	clear	10	5	36	30
1506	72.40	8.46	22.02	6453	0.00	-116.0	↓	↓	↓	↓	↓
1510	72.42	8.45	21.97	6407	0.00	-114.4					
1514	72.44	8.45	22.89	6419	0.00	-111.2	↓	↓	↓	↓	↓

CONVERSIONS: 1 GAL = 3.79L = 231 IN³ 1 FT³ = 7.48 GAL = 1,728 IN³ VOLUME OF A CYLINDER (V) = πr² (h)

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1515
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:
FIELD DECONTAMINATION: YES NO	FIELD FILTERED: YES NO Filtration Equipment Type:	FILTER SIZE: ____µm DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
							TPH C4-C40 (GC/MS)	
							VOCs (8260)	
							PAHs (8270-SIM)	
							Metals (6000/7000)	
							MBTE, TBA	

SEE P2

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name: Former Unocal Avila Terminal		Site Location: Avila Beach, CA
Well No. B-225	Sample ID: AT-B-225	Date: 8/11/11

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 65 feet to 95 feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 70.85	PURGE PUMP TYPE OR BAILER: ~~Portable BP~~ Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 85' Dedicated"	PURGING INITIATED AT: 0940	PURGING ENDED AT: 1015	APPROXIMATE VOLUME PURGED (gallons): —	HYDROCARBON SHEEN OR ODOR? NO

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0943	71.16	6.97	18.84	5,499	1.57	163.6	clear	10	5	39	40
0947	71.21	6.95	18.77	5,514	2.31	165.7	"	"	"	"	"
0951	71.22	6.91	19.11	5,619	1.40	165.7	"	"	"	"	"
0955	71.34	6.91	19.06	5,765	0.41	163.4	"	"	"	"	"
0959	71.41	6.92	19.19	5,772	0.09	161.0	"	"	"	"	65
1003	71.42	7.00	18.62	5,761	0.07	159.1	"	"	"	35	20
1007	71.44	6.96	18.95	5,764	0.04	159.4	"	"	"	35	30 ~~65~~ M.D
1011	71.45	6.96	19.13	5,741	0.00	158.0	"	"	"	"	"
1015	71.52	6.96	18.81	5,754	0.00	158.1	"	"	"	"	"

CONVERSIONS: 1 GAL = 3.79L = 231 IN³ 1 FT³ = 7.48 GAL = 1,728 IN³ VOLUME OF A CYLINDER (V) = πr² (h)

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Harleigh Overton, Adam Arellano	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1016
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 85' (dedicated)	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 30 mL	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-225	6	AG	2L	None	—	—	TPH C4-C40 (GC/MS)	BP
		CG	3x40mL	HCl	—	—	VOCs (8260)	↓
		PE	250mL	None	—	—	PAHs (8270-SIM)	
							Metals (6000/7000)	
							MBTE, TBA	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM P 1/2

Site Name: Former Unocal Avila Terminal	Site Location: Avila Beach, CA
Well No. B-226	Sample ID: AT-B-226
Date: 8/11/11	

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH 65 feet to 85 feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 77.01	PURGE PUMP TYPE OR BAILER: ~~Portable BP~~ Dedicated

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1150	PURGING ENDED AT: 1235	APPROXIMATE VOLUME PURGED (gallons): —	HYDROCARBON SHEEN OR ODOR? YES (ODOR)

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1155	77.18	7.60	20.54	6045	0.00	61.9	clear	10	5	35	60
1159	77.19	7.49	20.29	6027	0.00	-172.4					
1203	77.23	7.60	20.35	6061	0.00	-217.1					
1207	77.22	7.71	20.53	6066	0.00	-234.1					
1211	77.23	7.62	20.42	6083	0.00	-239.0					
1215	77.23	7.52	20.23	6092	0.00	-249.6					
1219	77.25	7.48	20.29	6037	0.00	-259.4					
1223	77.26	7.39	20.40	6048	0.00	-264.7					
1227	77.28	7.33	20.27	6043	0.00	-272.5					

CONVERSIONS: 1 GAL = 3.79L = 231 IN³ 1 FT³ = 7.48 GAL = 1,728 IN³ VOLUME OF A CYLINDER (V) = πr² (h)

PURGE ~~STABILITY~~ CRITERIA: 3 SUCCESSIVE ~~READINGS~~ TAKEN 5 MINUTES ~~APART~~ - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV ~~Temperature~~: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Harletch Overton, Adam Arellano	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1236
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 60	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ___µm Filtration Equipment Type:	DUPLICATE: (YES) ~~NO~~ H-O

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-226	6	AG	2L	None	—	—	TPH C4-C40 (GC/MS)	BP
DUP	"	CG	120mL	HCl	—	—	VOCs (8260) ~~+OXYS~~	
		PE	250mL	—	—	—	PAHs (8270-SIM)	
							Metals (6000/7000)	
							~~MBTE, TBA~~	

REMARKS:

DUP @ 0900

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM P 2/2

Site Name: Former Unocal Avila Terminal		Site Location: Avila Beach, CA	
Well No. B-226	Sample ID: AT-B-226	Date: 8-11-11	

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH 65 feet to 85 feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 71.01	PURGE PUMP TYPE OR BAILER: ~~Portable BP~~ Dedicated BP

SEE P1

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1150	PURGING ENDED AT: 1235	APPROXIMATE VOLUME PURGED (gallons): —	HYDROCARBON SHEEN OR ODOR? YES (ODOR)

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1231	71.28	7.28	20.41	6036	0.00	-276.1	Clear/odor	10	5	35	60
1235	71.35	7.24	20.51	6037	0.00	-279.2	"	"	"	"	"

CONVERSIONS: 1 GAL = 3.79L = 231 IN³ 1 FT³ = 7.48 GAL = 1,728 IN³ VOLUME OF A CYLINDER (V) = πr² (h)

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED
pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Hayleigh Overton, Adam Arellano	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1236
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 60	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) Filtration Equipment Type: FILTER SIZE: ____µm	DUPLICATE: (YES) NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
~~AC~~							TPH C4-C40 (GC/MS)	
							VOCs (8260) +OXYS	
SEE P1							PAHs (8270-SIM)	
							Metals (6000/7000)	
							~~1,4-Dioxane~~ H2O	

REMARKS:

DUP @ 0900

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name: Former Unocal Avila Terminal		Site Location: Avila Beach, CA
Well No. B-230	Sample ID: AT-B-230	Date: 8-12-11

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 65 feet to 95 feet	WELL TOTAL DEPTH (feet): 97.72	STATIC DEPTH TO WATER (feet): 91.57	PURGE PUMP TYPE OR BAILER: Portable BP
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 95'	PURGING INITIATED AT: 0940	PURGING ENDED AT: 1013	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? Yes (Sheen/odor)

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0949	91.60	6.70	18.33	8885	0.00	234.1	clear/odor	10	5	45	75
0953	91.60	6.76	18.19	8835	0.00	234.9					
0957	91.59	6.84	17.39	8856	0.00	234.8					
1001	91.60	6.78	18.46	8890	0.00	232.8					
1005	91.60	6.86	18.14	8878	0.00	229.9					
1009	91.60	6.90	18.16	8885	0.00	227.6					
1013	91.60	6.91	18.42	8905	0.00	224.5					

CONVERSIONS: 1 GAL = 3.79L = 231 IN³ 1 FT³ = 7.48 GAL = 1,728 IN³ VOLUME OF A CYLINDER (V) = πr² (h)

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Harlelsh Overton, Adam Arellano	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1014
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 95'	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 75	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) Filtration Equipment Type: FILTER SIZE: ____µm	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-230	6	AG	2L	None	—	—	TPH C4-C40 (GC/MS)	BP
		CG	120mL	HCl	—	—	VOCs (8260) +OXYS	↓
		PE	250mL	None	—	—	PAHs (8270-SIM)	
							Metals (6000/7000)	
							[redacted] H.e	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

REPORT OF GROUNDWATER PURGING / SAMPLING DATA

Job No.: 0801-0896	Well I.D. No. B-331	Date: 8-11-11	M T W (T) F S S
Client: CEMC		Project: Supplemental GWM	
Location: Avila terminal		Weather: Sunny	
Observer: HO/AA		Observation Period	Start: 1410 Stop: 1605

PURGING DATA

A	Total Depth of Well (ft)	102.65
B	Static Water Level (ft)	100.49
C	Depth of Water Column (ft) (A-B=C)	2.16
D	Volume Multiplier (gal/ft)	0.16
E	Casing Volume, One (gal) (CxD=E)	0.35
F	Casing Volume, Three (gal) (3xE=F)	1.04
G	Purge, Time Start (Military)	1528
H	Purge, Time Stop (Military)	1603
I	Total Time of Purge (hrs, min)	25 min
J	Purge Rate (gal/min)	—
K	Actual Purge Volume (gal)	0.8 gal
L	Drawdown	
M	Type of Purge Pump	Disp. Bailer
N	Comments: Well dewatered @ 0.80 gal DTW 102.62 80% Recharge @ 100.92	

VOLUME MULTIPLIER	
Casing Diameter, 2-inch	0.16 gal/ft
Casing Diameter, 4-inch	0.65 gal/ft
Casing Diameter, 6-inch	1.46 gal/ft

CONVERSION EQUIVALENTS	
1 Gallon	231 inches^3
1 Foot	1,728 inches^3 = 7.5 gallons
Area of Circle	πr^2

INDICATOR DATA

Parameter	Before Purge	0.35	0.70	H.O ~~1.05~~			At Sampling
Temperature (C°)	18.82	18.32	18.66				22.97
Conductivity (microhms)	13.64	14.041	13.83				12.51
pH	7.98	7.76	7.35				8.33
Turbidity	clear	cloudy	cloudy				cloudy
Salinity	—	—	—				—

SAMPLING DATA

Sample No.	Date	Time (Military)	Sampling Device	Type of Container	Number of Containers	Preservative	Laboratory Tests A	B	C	D	E	F
AT-B-231	8-12-11	1505	Disp Bailer	AG	2L	None	X	X	X	X		
				CG	3 x 40mL	HCl						
				PE	1x250mL	None						

Depth of Water at Sampling: 101.05 (23 hrs)

Comments

Test Method

A TPH C4-C40 GC/MS
B VOCs + OXYS 8260
C PAHs (8270-SIM)
D Dis. Metals (6000/7000)
E
F

APPENDIX E
CD CONTAINING PDF OF SUBJECT REPORT INCLUDING LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

Oilfield Environmental and Compliance, INC.

Louis Cappel
Padre Associates, Inc. - SLO
369 Pacific Street
San Luis Obispo, CA 93401

18 August 2011

RE: Former Unocal Avila Terminal

Work Order: 1102999

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on 22-Jun-11 10:15 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Lisa Race

Laboratory Manager

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-224-5'	1102999-01	Solid	20-Jun-11 10:05	22-Jun-11 10:15
B-224-10'	1102999-02	Solid	20-Jun-11 10:11	22-Jun-11 10:15
B-224-15'	1102999-03	Solid	20-Jun-11 10:19	22-Jun-11 10:15
B-224-20'	1102999-04	Solid	20-Jun-11 10:25	22-Jun-11 10:15
B-224-30'	1102999-06	Solid	20-Jun-11 11:20	22-Jun-11 10:15
B-224-40'	1102999-08	Solid	20-Jun-11 11:50	22-Jun-11 10:15
B-224-45'	1102999-09	Solid	20-Jun-11 12:00	22-Jun-11 10:15
B-224-50'	1102999-10	Solid	20-Jun-11 12:20	22-Jun-11 10:15
B-224-60'	1102999-12	Solid	20-Jun-11 12:45	22-Jun-11 10:15
B-224-70'	1102999-14	Solid	20-Jun-11 13:55	22-Jun-11 10:15
B-224-80'	1102999-16	Solid	20-Jun-11 14:30	22-Jun-11 10:15
B-224-90'	1102999-18	Solid	20-Jun-11 15:15	22-Jun-11 10:15
B-224-95'	1102999-19	Solid	20-Jun-11 15:45	22-Jun-11 10:15
B-225-5'	1102999-20	Solid	21-Jun-11 10:45	22-Jun-11 10:15
B-225-10'	1102999-21	Solid	21-Jun-11 10:55	22-Jun-11 10:15
B-225-15'	1102999-22	Solid	21-Jun-11 11:00	22-Jun-11 10:15
B-225-20'	1102999-23	Solid	21-Jun-11 11:06	22-Jun-11 10:15
B-225-30'	1102999-25	Solid	21-Jun-11 12:10	22-Jun-11 10:15
B-225-40'	1102999-27	Solid	21-Jun-11 12:57	22-Jun-11 10:15
B-225-50'	1102999-29	Solid	21-Jun-11 13:33	22-Jun-11 10:15
B-225-60'	1102999-31	Solid	21-Jun-11 14:00	22-Jun-11 10:15
B-225-70'	1102999-33	Solid	21-Jun-11 14:37	22-Jun-11 10:15
B-225-80'	1102999-35	Solid	21-Jun-11 15:07	22-Jun-11 10:15
B-225-90'	1102999-37	Solid	21-Jun-11 15:45	22-Jun-11 10:15
B-225-95'	1102999-38	Solid	21-Jun-11 16:10	22-Jun-11 10:15

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-5'

1102999-01 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	**2.6**	2.6	10	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	J
Surrogate: o-Terphenyl			*78.2 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**18**	6.9	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*80.4 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00070	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-5'

1102999-01 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.00050	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.00040	0.0050	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-5'

1102999-01 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Ethanol	ND	0.79	5.0	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*95.0 %*		*70-130*		"	"	"	
Surrogate: Toluene-d8			*103 %*		*70-130*		"	"	"	
Surrogate: 4-Bromofluorobenzene			*89.3 %*		*70-130*		"	"	"	

B-224-10'

1102999-02 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*61.5 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*65.7 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00091	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-10'

1102999-02 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00091	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00091	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00091	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00091	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-10'

1102999-02 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*98.3 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*102 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*87.6 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-15'

1102999-03 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*76.2 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*81.8 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-15'

1102999-03 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-15'

1102999-03 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*95.2 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*105 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*85.2 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-20'

1102999-04 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*70.5 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.8	49	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*76.0 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-20'

1102999-04 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-20'

1102999-04 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*96.8 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*101 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*84.6 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-30'

1102999-06 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*66.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*69.7 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-30'

1102999-06 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-30'

1102999-06 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*98.1 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*104 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*83.6 %*	*70-130*		"	"	"	"	

B-224-40'

1102999-08 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*57.1 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*62.7 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00069	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-40'

1102999-08 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-40'

1102999-08 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*98.9 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*101 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*88.0 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-45'

1102999-09 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	**6.9**	2.6	9.9	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	J
Surrogate: o-Terphenyl			*68.7 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*76.2 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.0067	0.048	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.0038	0.048	"	"	"	"	"	"	
Bromochloromethane	ND	0.0096	0.048	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0038	0.048	"	"	"	"	"	"	
Bromoform	ND	0.0058	0.048	"	"	"	"	"	"	
Bromomethane	ND	0.016	0.048	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0067	0.048	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0058	0.048	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0087	0.048	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.011	0.048	"	"	"	"	"	"	
Chlorobenzene	ND	0.0058	0.048	"	"	"	"	"	"	
Chloroethane	ND	0.017	0.048	"	"	"	"	"	"	
Chloroform	ND	0.0048	0.048	"	"	"	"	"	"	
Chloromethane	ND	0.019	0.048	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0058	0.048	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0038	0.048	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.012	0.048	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0038	0.048	"	"	"	"	"	"	
Dibromomethane	ND	0.0077	0.048	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0029	0.048	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0038	0.048	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0038	0.048	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.015	0.048	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0077	0.048	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0077	0.048	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.012	0.048	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0048	0.048	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0096	0.048	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0058	0.048	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-45'

1102999-09 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.0038	0.048	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.0087	0.048	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0077	0.048	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0058	0.048	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0038	0.048	"	"	"	"	"	"	
Ethylbenzene	ND	0.0058	0.048	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0058	0.048	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0096	0.048	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0067	0.048	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.0067	0.048	"	"	"	"	"	"	
Methylene chloride	ND	0.0077	0.048	"	"	"	"	"	"	
Naphthalene	ND	0.0077	0.048	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0077	0.048	"	"	"	"	"	"	
Styrene	ND	0.0048	0.048	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0038	0.048	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0048	0.048	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.0087	0.048	"	"	"	"	"	"	
Toluene	ND	0.0048	0.048	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0087	0.048	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0048	0.048	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0087	0.048	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0058	0.048	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.0077	0.048	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.016	0.048	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0096	0.048	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0067	0.048	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0077	0.048	"	"	"	"	"	"	
Vinyl chloride	ND	0.019	0.048	"	"	"	"	"	"	
Xylenes (total)	ND	0.012	0.048	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.0077	0.048	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.023	0.24	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.012	0.048	"	"	"	"	"	"	
Ethanol	ND	7.6	48	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.0077	0.048	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.0058	0.048	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-45'

1102999-09 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	**11**	1.9	4.8	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*94.4 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*102 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*88.3 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-50'

1102999-10 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*69.7 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*74.5 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00069	0.0049	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00098	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00098	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-50'

1102999-10 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00039	0.0049	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00039	0.0049	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00098	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0049	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"	"	"	"	"	"	
Toluene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00098	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.78	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	**0.0034**	0.00059	0.0049	"	"	"	"	"	"	J

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-50'

1102999-10 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.49	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*93.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*89.6 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*99.8 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-60'

1102999-12 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*62.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*67.1 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00069	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-60'

1102999-12 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	**0.0077**	0.00059	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-60'

1102999-12 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*93.7 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*99.9 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*86.7 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-70'

1102999-14 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*51.7 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.8	49	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*55.7 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-70'

1102999-14 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	**0.0047**	0.00060	0.0050	"	"	"	"	"	"	J

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-70'

1102999-14 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*94.2 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*102 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*82.8 %*	*70-130*		"	"	"	"	

B-224-80'

1102999-16 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*66.5 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.8	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*70.7 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00070	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-80'

1102999-16 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-80'

1102999-16 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*94.6 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*87.6 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*100 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-90'

1102999-18 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C
Surrogate: o-Terphenyl			*58.9 %*	*50-150*		"	"	"	"
TPH Oil Crude (C25-C40)	ND	6.8	49	"	"	"	"	"	"
Surrogate: o-Terphenyl			*59.3 %*	*50-150*		"	"	"	"

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00070	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-90'

1102999-18 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-90'

1102999-18 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*95.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*84.9 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*101 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-95'

1102999-19 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*62.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.8	49	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*67.1 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00069	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-95'

1102999-19 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-224-95'

1102999-19 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*97.8 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*83.4 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*102 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-5'

1102999-20 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*63.7 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*66.7 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00069	0.0049	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-5'

1102999-20 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0049	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0049	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0049	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"	"	"	"	"	"	
Toluene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.78	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-5'

1102999-20 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.49	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*95.2 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*83.6 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*101 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-10'

1102999-21 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*60.1 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.8	49	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*64.3 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00069	0.0049	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-10'

1102999-21 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00039	0.0049	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00039	0.0049	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0049	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"	"	"	"	"	"	
Toluene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.78	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-10'

1102999-21 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.49	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*93.8 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*101 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*84.1 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-15'

1102999-22 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*65.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.8	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*70.7 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00069	0.0049	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00098	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00088	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00029	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00098	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-15'

1102999-22 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00039	0.0049	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00088	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00039	0.0049	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00098	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0049	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00088	0.0049	"	"	"	"	"	"	
Toluene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00088	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00088	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00098	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.77	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-15'

1102999-22 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.49	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*100 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*106 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*84.7 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-20'

1102999-23 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*63.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*69.7 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	**0.0022**	0.00070	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-20'

1102999-23 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	**0.0011**	0.00060	0.0050	"	"	"	"	"	"	J

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-20'

1102999-23 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*96.5 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*85.3 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*104 %*	*70-130*		"	"	"	"	

B-225-30'

1102999-25 (Solid)

Oilfield Environmental and Compliance

TEPH by GCMS

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*51.9 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*57.9 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**0.0069**	0.00070	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	**0.0033**	0.00050	0.0050	"	"	"	"	"	"	J
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-30'

1102999-25 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.0070**	0.00070	0.0050	"	"	"	"	"	"	B-06
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.0014**	0.0013	0.0050	"	"	"	"	"	"	J
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	**0.0058**	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-30'

1102999-25 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*95.5 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*104 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*91.2 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-40'

1102999-27 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*57.1 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*61.3 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	**0.00060**	0.00050	0.0050	"	"	"	"	"	"	J
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-40'

1102999-27 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-40'

1102999-27 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*97.3 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*98.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*89.6 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-50'

1102999-29 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106523	27-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*54.9 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*58.7 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00070	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-50'

1102999-29 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-50'

1102999-29 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106433	22-Jun-11	24-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*96.1 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*102 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*86.8 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-60'

1102999-31 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*57.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*61.7 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A106466	23-Jun-11	25-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-60'

1102999-31 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106466	23-Jun-11	25-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-60'

1102999-31 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106466	23-Jun-11	25-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*106 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*96.4 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*95.3 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-70'

1102999-33 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*79.4 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*85.8 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A106466	23-Jun-11	25-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-70'

1102999-33 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106466	23-Jun-11	25-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-70'

1102999-33 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106466	23-Jun-11	25-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*106 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*97.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*94.9 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-80'

1102999-35 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*98.4 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*106 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00069	0.0050	mg/kg	1	A106466	23-Jun-11	25-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-80'

1102999-35 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106466	23-Jun-11	25-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-80'

1102999-35 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106466	23-Jun-11	25-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*113 %*		*70-130*		"	"	"	"
Surrogate: Toluene-d8			*104 %*		*70-130*		"	"	"	"
Surrogate: 4-Bromofluorobenzene			*106 %*		*70-130*		"	"	"	"

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-90'

1102999-37 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*64.9 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*69.9 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	**0.0032**	0.00070	0.0050	mg/kg	1	A106466	23-Jun-11	25-Jun-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-90'

1102999-37 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106466	23-Jun-11	25-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-90'

1102999-37 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106466	23-Jun-11	25-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*108 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*97.5 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*99.5 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-95'

1102999-38 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*66.7 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*71.5 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	**0.0025**	0.00070	0.0050	mg/kg	1	A106466	23-Jun-11	25-Jun-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00091	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-95'

1102999-38 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106466	23-Jun-11	25-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00091	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00091	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00091	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00091	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

B-225-95'

1102999-38 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106466	23-Jun-11	25-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*109 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*95.2 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*99.0 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106523 - EPA 3550B MS											
Blank (A106523-BLK1)					Prepared: 27-Jun-11 Analyzed: 30-Jun-11						
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg							
TPH Oil Crude (C25-C40)	ND	6.9	50	"							
Surrogate: o-Terphenyl	*0.100*			*"*	*0.167*		*59.9*	*50-150*			
Surrogate: o-Terphenyl	*0.110*			*"*	*0.167*		*65.7*	*50-150*			
LCS (A106523-BS1)					Prepared: 27-Jun-11 Analyzed: 30-Jun-11						
TPH Diesel (C10-C25)	24.0	2.6	10	mg/kg	33.3		71.9	53.8-136		20	
Surrogate: o-Terphenyl	*0.134*			*"*	*0.167*		*80.2*	*50-150*			
LCS (A106523-BS2)					Prepared: 27-Jun-11 Analyzed: 30-Jun-11						
TPH Oil Crude (C25-C40)	55.7	6.9	50	mg/kg	66.8		83.3	70-130		20	
Surrogate: o-Terphenyl	*0.129*			*"*	*0.167*		*77.0*	*50-150*			
LCS Dup (A106523-BSD1)					Prepared: 27-Jun-11 Analyzed: 30-Jun-11						
TPH Diesel (C10-C25)	23.6	2.6	10	mg/kg	33.3		70.9	53.8-136	1.36	20	
Surrogate: o-Terphenyl	*0.124*			*"*	*0.167*		*74.3*	*50-150*			
LCS Dup (A106523-BSD2)					Prepared: 27-Jun-11 Analyzed: 30-Jun-11						
TPH Oil Crude (C25-C40)	58.6	6.9	50	mg/kg	66.8		87.7	70-130	5.16	20	
Surrogate: o-Terphenyl	*0.135*			*"*	*0.167*		*80.8*	*50-150*			
Duplicate (A106523-DUP1)	**Source: 1102999-06**				Prepared: 27-Jun-11 Analyzed: 30-Jun-11						
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg		ND				20	
TPH Oil Crude (C25-C40)	ND	6.9	50	"		ND				20	
Surrogate: o-Terphenyl	*0.0870*			*"*	*0.166*		*52.3*	*50-150*			
Surrogate: o-Terphenyl	*0.0917*			*"*	*0.166*		*55.1*	*50-150*			
Matrix Spike (A106523-MS1)	**Source: 1102999-06**				Prepared: 27-Jun-11 Analyzed: 01-Jul-11						
TPH Diesel (C10-C25)	16.7	2.6	9.9	mg/kg	33.0	ND	50.7	70-130		20	
TPH Oil Crude (C25-C40)	ND	6.8	50	"		ND		70-130		20	
Surrogate: o-Terphenyl	*0.0947*			*"*	*0.165*		*57.3*	*50-150*			
Surrogate: o-Terphenyl	*0.00*			*"*	*0.165*			*50-150*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106523 - EPA 3550B MS											
Matrix Spike (A106523-MS2)	**Source: 1102999-08**				Prepared: 27-Jun-11 Analyzed: 01-Jul-11						
TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg		ND		70-130		20	
TPH Oil Crude (C25-C40)	18.4	6.8	49	"	65.9	ND	27.9	70-130		20	J
Surrogate: o-Terphenyl	*0.00*			*"*	*0.165*			*50-150*			
Surrogate: o-Terphenyl	*0.119*			*"*	*0.165*		*72.3*	*50-150*			
Matrix Spike Dup (A106523-MSD1)	**Source: 1102999-06**				Prepared: 27-Jun-11 Analyzed: 01-Jul-11						
TPH Diesel (C10-C25)	20.6	2.6	10	mg/kg	33.9	ND	60.7	70-130	20.5	20	
TPH Oil Crude (C25-C40)	ND	7.0	51	"		ND		70-130		20	
Surrogate: o-Terphenyl	*0.115*			*"*	*0.170*		*67.5*	*50-150*			
Surrogate: o-Terphenyl	*0.00*			*"*	*0.170*			*50-150*			
Matrix Spike Dup (A106523-MSD2)	**Source: 1102999-08**				Prepared: 27-Jun-11 Analyzed: 01-Jul-11						
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg		ND		70-130		20	
TPH Oil Crude (C25-C40)	21.3	6.9	50	"	66.8	ND	31.9	70-130	14.7	20	J
Surrogate: o-Terphenyl	*0.00*			*"*	*0.167*			*50-150*			
Surrogate: o-Terphenyl	*0.132*			*"*	*0.167*		*79.0*	*50-150*			
Batch A106564 - EPA 3550B MS											
Blank (A106564-BLK1)					Prepared: 28-Jun-11 Analyzed: 30-Jun-11						
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg							
TPH Oil Crude (C25-C40)	ND	6.9	50	"							
Surrogate: o-Terphenyl	*0.0923*			*"*	*0.167*		*55.3*	*50-150*			
Surrogate: o-Terphenyl	*0.0993*			*"*	*0.167*		*59.5*	*50-150*			
LCS (A106564-BS1)					Prepared: 28-Jun-11 Analyzed: 30-Jun-11						
TPH Diesel (C10-C25)	24.7	2.6	10	mg/kg	33.3		74.0	53.8-136		20	
Surrogate: o-Terphenyl	*0.130*			*"*	*0.167*		*77.8*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106564 - EPA 3550B MS											
LCS (A106564-BS2)					Prepared: 28-Jun-11 Analyzed: 30-Jun-11						
TPH Oil Crude (C25-C40)	57.3	6.9	50	mg/kg	66.8		85.8	70-130		20	
Surrogate: o-Terphenyl	*0.125*			"	*0.167*		*75.0*	*50-150*			
LCS Dup (A106564-BSD1)					Prepared: 28-Jun-11 Analyzed: 30-Jun-11						
TPH Diesel (C10-C25)	24.9	2.6	10	mg/kg	33.3		74.7	53.8-136	0.812	20	
Surrogate: o-Terphenyl	*0.127*			"	*0.167*		*76.0*	*50-150*			
LCS Dup (A106564-BSD2)					Prepared: 28-Jun-11 Analyzed: 30-Jun-11						
TPH Oil Crude (C25-C40)	59.3	6.9	50	mg/kg	66.8		88.8	70-130	3.40	20	
Surrogate: o-Terphenyl	*0.133*			"	*0.167*		*79.6*	*50-150*			
Duplicate (A106564-DUP1)	**Source: 1103073-01**				Prepared: 28-Jun-11 Analyzed: 30-Jun-11						
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg		ND				20	
TPH Oil Crude (C25-C40)	ND	6.9	50	"		ND				20	
Surrogate: o-Terphenyl	*0.123*			"	*0.167*		*73.9*	*50-150*			
Surrogate: o-Terphenyl	*0.131*			"	*0.167*		*78.6*	*50-150*			
Matrix Spike (A106564-MS1)	**Source: 1103073-01**				Prepared: 28-Jun-11 Analyzed: 01-Jul-11						
TPH Diesel (C10-C25)	24.9	2.6	10	mg/kg	33.3	ND	74.8	70-130		20	
Surrogate: o-Terphenyl	*0.115*			"	*0.167*		*69.1*	*50-150*			
Matrix Spike (A106564-MS2)	**Source: 1103073-02**				Prepared: 28-Jun-11 Analyzed: 01-Jul-11						
TPH Oil Crude (C25-C40)	50.7	6.9	50	mg/kg	66.8	ND	76.0	70-130		20	
Surrogate: o-Terphenyl	*0.132*			"	*0.167*		*79.0*	*50-150*			
Matrix Spike Dup (A106564-MSD1)	**Source: 1103073-01**				Prepared: 28-Jun-11 Analyzed: 01-Jul-11						
TPH Diesel (C10-C25)	23.6	2.6	10	mg/kg	33.3	ND	70.9	70-130	5.35	20	
Surrogate: o-Terphenyl	*0.126*			"	*0.167*		*75.2*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106564 - EPA 3550B MS											
Matrix Spike Dup (A106564-MSD2)	**Source: 1103073-02**				Prepared: 28-Jun-11 Analyzed: 01-Jul-11						
TPH Oil Crude (C25-C40)	53.7	6.9	50	mg/kg	66.8	ND	80.4	70-130	5.63	20	
Surrogate: o-Terphenyl	*0.134*			*"*	*0.167*		*80.2*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106433 - EPA 5035/5030B MEOH											
Blank (A106433-BLK1)					Prepared: 22-Jun-11 Analyzed: 24-Jun-11						
Benzene	ND	0.00070	0.0050	mg/kg							
Bromobenzene	ND	0.00040	0.0050	"							
Bromochloromethane	ND	0.0010	0.0050	"							
Bromodichloromethane	ND	0.00040	0.0050	"							
Bromoform	ND	0.00060	0.0050	"							
Bromomethane	ND	0.0017	0.0050	"							
n-Butylbenzene	ND	0.00070	0.0050	"							
sec-Butylbenzene	ND	0.00060	0.0050	"							
tert-Butylbenzene	ND	0.00090	0.0050	"							
Carbon tetrachloride	ND	0.0011	0.0050	"							
Chlorobenzene	ND	0.00060	0.0050	"							
Chloroethane	ND	0.0018	0.0050	"							
Chloroform	ND	0.00050	0.0050	"							
Chloromethane	ND	0.0020	0.0050	"							
2-Chlorotoluene	ND	0.00060	0.0050	"							
4-Chlorotoluene	ND	0.00040	0.0050	"							
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"							
Dibromochloromethane	ND	0.00040	0.0050	"							
Dibromomethane	ND	0.00080	0.0050	"							
1,2-Dichlorobenzene	ND	0.00030	0.0050	"							
1,3-Dichlorobenzene	ND	0.00040	0.0050	"							
1,4-Dichlorobenzene	ND	0.00040	0.0050	"							
Dichlorodifluoromethane	ND	0.0016	0.0050	"							
1,1-Dichloroethane	ND	0.00080	0.0050	"							
1,2-Dichloroethane	ND	0.00080	0.0050	"							
1,1-Dichloroethene	ND	0.0013	0.0050	"							
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"							
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"							
1,2-Dichloropropane	ND	0.00060	0.0050	"							
1,3-Dichloropropane	ND	0.00040	0.0050	"							
2,2-Dichloropropane	ND	0.00090	0.0050	"							
1,1-Dichloropropene	ND	0.00080	0.0050	"							
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"							
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"							
Ethylbenzene	ND	0.00060	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"							
Hexachlorobutadiene	ND	0.0010	0.0050	"							
Isopropylbenzene	ND	0.00070	0.0050	"							
4-Isopropyl Toluene	ND	0.00070	0.0050	"							
Methylene chloride	0.00208	0.00080	0.0050	"							J

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106433 - EPA 5035/5030B MEOH											
Blank (A106433-BLK1)					Prepared: 22-Jun-11 Analyzed: 24-Jun-11						
Naphthalene	ND	0.00080	0.0050	mg/kg							
n-Propylbenzene	ND	0.00080	0.0050	"							
Styrene	ND	0.00050	0.0050	"							
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"							
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"							
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"							
Toluene	ND	0.00050	0.0050	"							
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"							
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"							
1,1,1-Trichloroethane	ND	0.00090	0.0050	"							
1,1,2-Trichloroethane	ND	0.00060	0.0050	"							
Trichloroethene (TCE)	ND	0.00080	0.0050	"							
Trichlorofluoromethane	ND	0.0017	0.0050	"							
1,2,3-Trichloropropane	ND	0.0010	0.0050	"							
1,2,4-Trimethylbenzene	0.00668	0.00070	0.0050	"							B-06
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"							
Vinyl chloride	ND	0.0020	0.0050	"							
Xylenes (total)	ND	0.0013	0.0050	"							
t-Amyl Methyl Ether	ND	0.00080	0.0050	"							
t-Butyl alcohol	ND	0.0024	0.025	"							
Diisopropyl Ether	ND	0.0013	0.0050	"							
Ethanol	ND	0.79	5.0	"							
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"							
Methyl-t-butyl ether	ND	0.00060	0.0050	"							
TPH Gasoline (C4-C10)	ND	0.20	0.50	"							
Surrogate: Dibromofluoromethane	*0.0951*			*"*	*0.100*		*95.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0922*			*"*	*0.100*		*92.2*	*70-130*			
Surrogate: Toluene-d8	*0.103*			*"*	*0.100*		*103*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106433 - EPA 5035/5030B MEOH											
LCS (A106433-BS1)					Prepared: 22-Jun-11 Analyzed: 24-Jun-11						
Benzene	0.0970	0.00070	0.0050	mg/kg	0.100		97.0	70-130			
Chlorobenzene	0.105	0.00060	0.0050	"	0.100		105	70-130			
1,1-Dichloroethene	0.0912	0.0013	0.0050	"	0.100		91.2	70-130			
Toluene	0.104	0.00050	0.0050	"	0.100		104	70-130			
Trichloroethene (TCE)	0.107	0.00080	0.0050	"	0.100		107	70-130			
Surrogate: Dibromofluoromethane	*0.0918*			"	*0.100*		*91.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0859*			"	*0.100*		*85.9*	*70-130*			
Surrogate: Toluene-d8	*0.104*			"	*0.100*		*104*	*70-130*			
LCS (A106433-BS2)					Prepared: 22-Jun-11 Analyzed: 24-Jun-11						
TPH Gasoline (C4-C10)	2.05	0.20	0.50	mg/kg	2.00		102	70-130			
Surrogate: Dibromofluoromethane	*0.0924*			"	*0.100*		*92.4*	*70-130*			
Surrogate: Toluene-d8	*0.0992*			"	*0.100*		*99.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0877*			"	*0.100*		*87.7*	*70-130*			
LCS Dup (A106433-BSD1)					Prepared: 22-Jun-11 Analyzed: 24-Jun-11						
Benzene	0.0974	0.00070	0.0050	mg/kg	0.100		97.4	70-130	0.412	20	
Chlorobenzene	0.103	0.00060	0.0050	"	0.100		103	70-130	1.42	20	
1,1-Dichloroethene	0.0921	0.0013	0.0050	"	0.100		92.1	70-130	1.00	20	
Toluene	0.104	0.00050	0.0050	"	0.100		104	70-130	0.539	20	
Trichloroethene (TCE)	0.102	0.00080	0.0050	"	0.100		102	70-130	4.97	20	
Surrogate: Dibromofluoromethane	*0.0918*			"	*0.100*		*91.8*	*70-130*			
Surrogate: Toluene-d8	*0.103*			"	*0.100*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0861*			"	*0.100*		*86.1*	*70-130*			
LCS Dup (A106433-BSD2)					Prepared: 22-Jun-11 Analyzed: 24-Jun-11						
TPH Gasoline (C4-C10)	2.03	0.20	0.50	mg/kg	2.00		102	70-130	0.784	20	
Surrogate: Dibromofluoromethane	*0.0931*			"	*0.100*		*93.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0936*			"	*0.100*		*93.6*	*70-130*			
Surrogate: Toluene-d8	*0.0994*			"	*0.100*		*99.4*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106433 - EPA 5035/5030B MEOH											
Duplicate (A106433-DUP1)	**Source: 1102999-23**				Prepared: 22-Jun-11 Analyzed: 24-Jun-11						
Benzene	ND	0.00070	0.0050	mg/kg		0.00220				20	
Bromobenzene	ND	0.00040	0.0050	"		ND				20	
Bromochloromethane	ND	0.0010	0.0050	"		ND				20	
Bromodichloromethane	ND	0.00040	0.0050	"		ND				20	
Bromoform	ND	0.00060	0.0050	"		ND				20	
Bromomethane	ND	0.0017	0.0050	"		ND				20	
n-Butylbenzene	ND	0.00070	0.0050	"		ND				20	
sec-Butylbenzene	ND	0.00060	0.0050	"		ND				20	
tert-Butylbenzene	ND	0.00090	0.0050	"		ND				20	
Carbon tetrachloride	ND	0.0011	0.0050	"		ND				20	
Chlorobenzene	ND	0.00060	0.0050	"		ND				20	
Chloroethane	ND	0.0018	0.0050	"		ND				20	
Chloroform	ND	0.00050	0.0050	"		ND				20	
Chloromethane	ND	0.0020	0.0050	"		ND				20	
2-Chlorotoluene	ND	0.00060	0.0050	"		ND				20	
4-Chlorotoluene	ND	0.00040	0.0050	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"		ND				20	
Dibromochloromethane	ND	0.00040	0.0050	"		ND				20	
Dibromomethane	ND	0.00080	0.0050	"		ND				20	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"		ND				20	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
Dichlorodifluoromethane	ND	0.0016	0.0050	"		ND				20	
1,1-Dichloroethane	ND	0.00080	0.0050	"		ND				20	
1,2-Dichloroethane	ND	0.00080	0.0050	"		ND				20	
1,1-Dichloroethene	ND	0.0013	0.0050	"		ND				20	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"		ND				20	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"		ND				20	
1,2-Dichloropropane	ND	0.00060	0.0050	"		ND				20	
1,3-Dichloropropane	ND	0.00040	0.0050	"		ND				20	
2,2-Dichloropropane	ND	0.00090	0.0050	"		ND				20	
1,1-Dichloropropene	ND	0.00080	0.0050	"		ND				20	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"		ND				20	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"		ND				20	
Ethylbenzene	ND	0.00060	0.0050	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"		ND				20	
Hexachlorobutadiene	ND	0.0010	0.0050	"		ND				20	
Isopropylbenzene	ND	0.00070	0.0050	"		ND				20	
4-Isopropyl Toluene	ND	0.00070	0.0050	"		ND				20	
Methylene chloride	ND	0.00080	0.0050	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106433 - EPA 5035/5030B MEOH											
Duplicate (A106433-DUP1)	**Source: 1102999-23**			Prepared: 22-Jun-11 Analyzed: 24-Jun-11							
Naphthalene	ND	0.00080	0.0050	mg/kg		ND				20	
n-Propylbenzene	ND	0.00080	0.0050	"		ND				20	
Styrene	ND	0.00050	0.0050	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"		ND				20	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"		ND				20	
Toluene	ND	0.00050	0.0050	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"		ND				20	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"		ND				20	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"		ND				20	
Trichloroethene (TCE)	ND	0.00080	0.0050	"		ND				20	
Trichlorofluoromethane	ND	0.0017	0.0050	"		ND				20	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"		ND				20	
Vinyl chloride	ND	0.0020	0.0050	"		ND				20	
Xylenes (total)	ND	0.0013	0.0050	"		ND				20	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"		ND				20	
t-Butyl alcohol	ND	0.0024	0.025	"		ND				20	
Diisopropyl Ether	ND	0.0013	0.0050	"		ND				20	
Ethanol	ND	0.79	5.0	"		ND				20	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"		ND				20	
Methyl-t-butyl ether	ND	0.00060	0.0050	"		0.00108				20	
TPH Gasoline (C4-C10)	ND	0.20	0.50	"		ND				20	
Surrogate: Dibromofluoromethane	*0.0996*			*"*	*0.100*		*99.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0846*			*"*	*0.100*		*84.6*	*70-130*			
Surrogate: Toluene-d8	*0.107*			*"*	*0.100*		*107*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106433 - EPA 5035/5030B MEOH											
Matrix Spike (A106433-MS1)	**Source: 1102999-23**				Prepared: 22-Jun-11 Analyzed: 24-Jun-11						
Benzene	0.100	0.00070	0.0050	mg/kg	0.100	0.00220	98.1	70-130			
Chlorobenzene	0.0915	0.00060	0.0050	"	0.100	ND	91.5	70-130			
1,1-Dichloroethene	0.0886	0.0013	0.0050	"	0.100	ND	88.6	70-130			
Toluene	0.158	0.00050	0.0050	"	0.100	ND	158	70-130			QM-12
Trichloroethene (TCE)	0.0932	0.00080	0.0050	"	0.100	ND	93.2	70-130			
Surrogate: Dibromofluoromethane	*0.0950*			"	*0.100*		*95.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0896*			"	*0.100*		*89.6*	*70-130*			
Surrogate: Toluene-d8	*0.107*			"	*0.100*		*107*	*70-130*			
Matrix Spike (A106433-MS2)	**Source: 1102999-23**				Prepared: 22-Jun-11 Analyzed: 24-Jun-11						
TPH Gasoline (C4-C10)	1.64	0.20	0.50	mg/kg	2.00	ND	81.9	70-130			
Surrogate: Dibromofluoromethane	*0.0926*			"	*0.100*		*92.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0867*			"	*0.100*		*86.7*	*70-130*			
Surrogate: Toluene-d8	*0.105*			"	*0.100*		*105*	*70-130*			
Batch A106466 - EPA 5035/5030B MEOH											
Blank (A106466-BLK1)					Prepared: 23-Jun-11 Analyzed: 24-Jun-11						
Benzene	ND	0.00070	0.0050	mg/kg							
Bromobenzene	ND	0.00040	0.0050	"							
Bromochloromethane	ND	0.0010	0.0050	"							
Bromodichloromethane	ND	0.00040	0.0050	"							
Bromoform	ND	0.00060	0.0050	"							
Bromomethane	ND	0.0017	0.0050	"							
n-Butylbenzene	ND	0.00070	0.0050	"							
sec-Butylbenzene	ND	0.00060	0.0050	"							
tert-Butylbenzene	ND	0.00090	0.0050	"							
Carbon tetrachloride	ND	0.0011	0.0050	"							
Chlorobenzene	ND	0.00060	0.0050	"							
Chloroethane	ND	0.0018	0.0050	"							
Chloroform	ND	0.00050	0.0050	"							
Chloromethane	ND	0.0020	0.0050	"							
2-Chlorotoluene	ND	0.00060	0.0050	"							
4-Chlorotoluene	ND	0.00040	0.0050	"							
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"							
Dibromochloromethane	ND	0.00040	0.0050	"							
Dibromomethane	ND	0.00080	0.0050	"							
1,2-Dichlorobenzene	ND	0.00030	0.0050	"							
1,3-Dichlorobenzene	ND	0.00040	0.0050	"							
1,4-Dichlorobenzene	ND	0.00040	0.0050	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106466 - EPA 5035/5030B MEOH											
Blank (A106466-BLK1)					Prepared: 23-Jun-11 Analyzed: 24-Jun-11						
Dichlorodifluoromethane	ND	0.0016	0.0050	mg/kg							
1,1-Dichloroethane	ND	0.00080	0.0050	"							
1,2-Dichloroethane	ND	0.00080	0.0050	"							
1,1-Dichloroethene	ND	0.0013	0.0050	"							
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"							
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"							
1,2-Dichloropropane	ND	0.00060	0.0050	"							
1,3-Dichloropropane	ND	0.00040	0.0050	"							
2,2-Dichloropropane	ND	0.00090	0.0050	"							
1,1-Dichloropropene	ND	0.00080	0.0050	"							
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"							
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"							
Ethylbenzene	ND	0.00060	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"							
Hexachlorobutadiene	ND	0.0010	0.0050	"							
Isopropylbenzene	ND	0.00070	0.0050	"							
4-Isopropyl Toluene	ND	0.00070	0.0050	"							
Methylene chloride	ND	0.00080	0.0050	"							
Naphthalene	ND	0.00080	0.0050	"							
n-Propylbenzene	ND	0.00080	0.0050	"							
Styrene	ND	0.00050	0.0050	"							
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"							
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"							
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"							
Toluene	ND	0.00050	0.0050	"							
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"							
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"							
1,1,1-Trichloroethane	ND	0.00090	0.0050	"							
1,1,2-Trichloroethane	ND	0.00060	0.0050	"							
Trichloroethene (TCE)	ND	0.00080	0.0050	"							
Trichlorofluoromethane	ND	0.0017	0.0050	"							
1,2,3-Trichloropropane	ND	0.0010	0.0050	"							
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"							
Vinyl chloride	ND	0.0020	0.0050	"							
Xylenes (total)	ND	0.0013	0.0050	"							
t-Amyl Methyl Ether	ND	0.00080	0.0050	"							
t-Butyl alcohol	ND	0.0024	0.025	"							
Diisopropyl Ether	ND	0.0013	0.0050	"							
Ethanol	ND	0.78	5.0	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106466 - EPA 5035/5030B MEOH											
Blank (A106466-BLK1)					Prepared: 23-Jun-11 Analyzed: 24-Jun-11						
Ethyl t-Butyl Ether	ND	0.00080	0.0050	mg/kg							
Methyl-t-butyl ether	ND	0.00060	0.0050	"							
TPH Gasoline (C4-C10)	ND	0.20	0.50	"							
Surrogate: Dibromofluoromethane	*0.107*			*"*	*0.0996*		*108*	*70-130*			
Surrogate: Toluene-d8	*0.101*			*"*	*0.0996*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0922*			*"*	*0.0996*		*92.6*	*70-130*			
LCS (A106466-BS1)					Prepared: 23-Jun-11 Analyzed: 24-Jun-11						
Benzene	0.0880	0.00070	0.0050	mg/kg	0.0994		88.6	70-130			
Chlorobenzene	0.0925	0.00060	0.0050	"	0.0994		93.0	70-130			
1,1-Dichloroethene	0.0837	0.0013	0.0050	"	0.0994		84.2	70-130			
Toluene	0.0899	0.00050	0.0050	"	0.0994		90.5	70-130			
Trichloroethene (TCE)	0.0932	0.00080	0.0050	"	0.0994		93.8	70-130			
Surrogate: Dibromofluoromethane	*0.108*			*"*	*0.0994*		*109*	*70-130*			
Surrogate: Toluene-d8	*0.105*			*"*	*0.0994*		*105*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0945*			*"*	*0.0994*		*95.1*	*70-130*			
LCS (A106466-BS2)					Prepared: 23-Jun-11 Analyzed: 24-Jun-11						
TPH Gasoline (C4-C10)	2.29	0.20	0.50	mg/kg	2.00		114	70-130			
Surrogate: Dibromofluoromethane	*0.112*			*"*	*0.100*		*112*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.111*			*"*	*0.100*		*111*	*70-130*			
Surrogate: Toluene-d8	*0.110*			*"*	*0.100*		*110*	*70-130*			
LCS Dup (A106466-BSD1)					Prepared: 23-Jun-11 Analyzed: 24-Jun-11						
Benzene	0.0841	0.00068	0.0049	mg/kg	0.0978		86.0	70-130	4.51	20	
Chlorobenzene	0.0883	0.00059	0.0049	"	0.0978		90.3	70-130	4.59	20	
1,1-Dichloroethene	0.0794	0.0013	0.0049	"	0.0978		81.2	70-130	5.21	20	
Toluene	0.0846	0.00049	0.0049	"	0.0978		86.4	70-130	6.14	20	
Trichloroethene (TCE)	0.0896	0.00078	0.0049	"	0.0978		91.6	70-130	3.95	20	
Surrogate: Dibromofluoromethane	*0.105*			*"*	*0.0978*		*108*	*70-130*			
Surrogate: Toluene-d8	*0.0978*			*"*	*0.0978*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0985*			*"*	*0.0978*		*101*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106466 - EPA 5035/5030B MEOH											
LCS Dup (A106466-BSD2)					Prepared: 23-Jun-11 Analyzed: 24-Jun-11						
TPH Gasoline (C4-C10)	2.25	0.20	0.51	mg/kg	2.03		111	70-130	1.90	20	
Surrogate: Dibromofluoromethane	*0.107*			*"*	*0.101*		*106*	*70-130*			
Surrogate: Toluene-d8	*0.106*			*"*	*0.101*		*105*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.109*			*"*	*0.101*		*108*	*70-130*			
Duplicate (A106466-DUP1)	**Source: 1102871-15**				Prepared: 23-Jun-11 Analyzed: 24-Jun-11						
Benzene	ND	0.00069	0.0049	mg/kg		ND				20	
Bromobenzene	ND	0.00039	0.0049	"		ND				20	
Bromochloromethane	ND	0.00099	0.0049	"		ND				20	
Bromodichloromethane	ND	0.00039	0.0049	"		ND				20	
Bromoform	ND	0.00059	0.0049	"		ND				20	
Bromomethane	ND	0.0017	0.0049	"		ND				20	
n-Butylbenzene	ND	0.00069	0.0049	"		ND				20	
sec-Butylbenzene	ND	0.00059	0.0049	"		ND				20	
tert-Butylbenzene	ND	0.00089	0.0049	"		ND				20	
Carbon tetrachloride	ND	0.0011	0.0049	"		ND				20	
Chlorobenzene	ND	0.00059	0.0049	"		ND				20	
Chloroethane	ND	0.0018	0.0049	"		ND				20	
Chloroform	ND	0.00049	0.0049	"		ND				20	
Chloromethane	ND	0.0020	0.0049	"		ND				20	
2-Chlorotoluene	ND	0.00059	0.0049	"		ND				20	
4-Chlorotoluene	ND	0.00039	0.0049	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"		ND				20	
Dibromochloromethane	ND	0.00039	0.0049	"		ND				20	
Dibromomethane	ND	0.00079	0.0049	"		ND				20	
1,2-Dichlorobenzene	ND	0.00030	0.0049	"		ND				20	
1,3-Dichlorobenzene	ND	0.00039	0.0049	"		ND				20	
1,4-Dichlorobenzene	ND	0.00039	0.0049	"		ND				20	
Dichlorodifluoromethane	ND	0.0016	0.0049	"		ND				20	
1,1-Dichloroethane	ND	0.00079	0.0049	"		ND				20	
1,2-Dichloroethane	ND	0.00079	0.0049	"		ND				20	
1,1-Dichloroethene	ND	0.0013	0.0049	"		ND				20	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"		ND				20	
trans-1,2-Dichloroethene	ND	0.00099	0.0049	"		ND				20	
1,2-Dichloropropane	ND	0.00059	0.0049	"		ND				20	
1,3-Dichloropropane	ND	0.00039	0.0049	"		ND				20	
2,2-Dichloropropane	ND	0.00089	0.0049	"		ND				20	
1,1-Dichloropropene	ND	0.00079	0.0049	"		ND				20	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"		ND				20	
trans-1,3-Dichloropropene	ND	0.00039	0.0049	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106466 - EPA 5035/5030B MEOH											
Duplicate (A106466-DUP1)	**Source: 1102871-15**			Prepared: 23-Jun-11 Analyzed: 24-Jun-11							
Ethylbenzene	ND	0.00059	0.0049	mg/kg		ND				20	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"		ND				20	
Hexachlorobutadiene	ND	0.00099	0.0049	"		ND				20	
Isopropylbenzene	ND	0.00069	0.0049	"		ND				20	
4-Isopropyl Toluene	ND	0.00069	0.0049	"		ND				20	
Methylene chloride	ND	0.00079	0.0049	"		ND				20	
Naphthalene	ND	0.00079	0.0049	"		ND				20	
n-Propylbenzene	ND	0.00079	0.0049	"		ND				20	
Styrene	ND	0.00049	0.0049	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0049	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"		ND				20	
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"		ND				20	
Toluene	ND	0.00049	0.0049	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"		ND				20	
1,1,1-Trichloroethane	ND	0.00089	0.0049	"		ND				20	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"		ND				20	
Trichloroethene (TCE)	ND	0.00079	0.0049	"		ND				20	
Trichlorofluoromethane	ND	0.0017	0.0049	"		ND				20	
1,2,3-Trichloropropane	ND	0.00099	0.0049	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.00069	0.0049	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.00079	0.0049	"		ND				20	
Vinyl chloride	ND	0.0020	0.0049	"		ND				20	
Xylenes (total)	ND	0.0013	0.0049	"		ND				20	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"		ND				20	
t-Butyl alcohol	ND	0.0024	0.025	"		ND				20	
Diisopropyl Ether	ND	0.0013	0.0049	"		ND				20	
Ethanol	ND	0.78	4.9	"		ND				20	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"		ND				20	
Methyl-t-butyl ether	ND	0.00059	0.0049	"		ND				20	
TPH Gasoline (C4-C10)	ND	0.20	0.49	"		ND				20	
Surrogate: Dibromofluoromethane	*0.109*			*"*	*0.0986*		*110*	*70-130*			
Surrogate: Toluene-d8	*0.101*			*"*	*0.0986*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0982*			*"*	*0.0986*		*99.6*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106466 - EPA 5035/5030B MEOH											
Matrix Spike (A106466-MS1)	**Source: 1102871-15**				Prepared: 23-Jun-11 Analyzed: 24-Jun-11						
Benzene	0.0833	0.00071	0.0050	mg/kg	0.101	ND	82.6	70-130			
Chlorobenzene	0.0840	0.00060	0.0050	"	0.101	ND	83.3	70-130			
1,1-Dichloroethene	0.0779	0.0013	0.0050	"	0.101	ND	77.2	70-130			
Toluene	0.0850	0.00050	0.0050	"	0.101	ND	84.3	70-130			
Trichloroethene (TCE)	0.0854	0.00081	0.0050	"	0.101	ND	84.7	70-130			
TPH Gasoline (C4-C10)	ND	0.20	0.50	"		ND		70-130			
Surrogate: Dibromofluoromethane	*0.110*			"	*0.101*		*109*	*70-130*			
Surrogate: Toluene-d8	*0.103*			"	*0.101*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0999*			"	*0.101*		*99.1*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 - Cliff Area Characterization Activitie	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	18-Aug-11 17:10

Notes and Definitions

QM-12	The spike level was outside acceptance limits. The batch was accepted based on acceptable recovery of the remaining spikes.
J	Detected but below the RL/PQL; therefore, result is an estimated concentration .
B-06	The method blank contains analyte at a concentration above the RL/PQL.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the Method Limit (MDL)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTO

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 Fax No.: 805.786.2651
Project No. / Name: 0801-0896: Former Unocal Avila Terminal - Cliff Area Characterization Activities

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle / Cody Monhya

Invoice To: CEMC
Kyle Rutherford
AFE/WBS#:
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: 8270- TPH C10-C25, C25-C40 by GC/MS	8260- TPH C4-C10, VOCs & Oxys	8270C-SIM- PAHs	6000/7000- Dissolved Metals					NOTES
B-224-5'	6/20/11	1005	1	soil/solid	None	Steel sleeve	X	X							1102999 -1A
B-224-10'		1011					X	X							2A
B-224-15'		1019					X	X							3A
B-224-20'		1025					X	X							4A
B-224-25'		1053													Hold 5A
B-224-30'		1120					X	X							6A
B-224-35'		1139													Hold 7A
B-224-40'		1150					X	X							8A
B-224-45'		1200					X	X							9A
B-224-50'		1220					X	X							10A
B-224-55'		1237													Hold 11A
B-224-60'		1245					X	X							12A
B-224-65'		1305													Hold 13A
B-224-70'		1355					X	X							14A

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
	6/22/11	940am		6-22-11	940am
	6-22-11	1015am		6-22-11	1015

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0896: Former Unocal Avila Terminal - Cliff Area Characterization Activities

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle / Cody Montoya

Invoice To: CEMC
Kyle Rutherford
AFE/WBS#:
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: 8270- TPH C10-C25, C25-C40 by GC/MS	8260- TPH C4-C10, VOCs & Oxys	8270C-SIM- PAHs	6000/7000- Dissolved Metals					NOTES
B-224-75'	6/20/11	1415	1	Soil/solid	None	Steel sleeve	—	—	—	—	—	—	—	—	Hold 1102999-15A
B-224-80'		1430					X	X							16A
B-224-85'		1455					—	—	—	—	—	—	—	—	Hold 17A
B-224-90'		1515					X	X							18A
B-224-95'		1545					X	X							19A
B-225-5'	6/21/11	1045					X	X							20A
B-225-10'		1055					X	X							21A
B-225-15'		1100					X	X							22A
B-225-20'		1106					X	X							23A
B-225-25'		1120					—	—	—	—	—	—	—	—	Hold 24A
B-225-30'		1210					X	X							25A
B-225-35'		1245					—	—	—	—	—	—	—	—	Hold 26A
B-225-40'		1257					X	X							27A
B-225-45'		1330					—	—	—	—	—	—	—	—	Hold 28A

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
	6/22/11	940am		6-22-11	940am
	6-22-11	1045am		6-22-11	1015

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0896: Former Unocal Avila Terminal - Cliff Area Characterization Activities

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle / Cody Montoya

Invoice To: CEMC
Kyle Rutherford
AFE/WBS#:
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: 8270- TPH C10-C25, C25-C40 by GC/MS	8260- TPH C4-C10, VOCs & Oxys	8270C-SIM- PAHs	6000/7000- Dissolved Metals					NOTES
B-225-50'	6/21/11	1333	1	soil/solid	None	Steel Sleeve	X	X							1102999-29A
B-225-55'		1350					—	—	—	—	—	—	—	—	Hold 30A
B-225-60'		1400					X	X							31A
B-225-65'		1415					—	—	—	—	—	—	—	—	Hold 32A
B-225-70'		1437					X	X							33A
B-225-75'		1450					—	—	—	—	—	—	—	—	Hold 34A
B-225-80'		1507					X	X							35A
B-225-85'		1520					—	—	—	—	—	—	—	—	Hold 36A
B-225-90'		1545					X	X							37A
B-225-95'		1610					X	X							38A

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	6/22/11	~~940~~ 940 am	[signature]	6-22-11	940am
[signature]	6-22-11	1015am	[signature]	6-22-11	1015

Turn Around Time (Check)

same day		72 hours	
24 hours		5 days	
48 hours		normal	X

OEC SAMPLE RECEIPT

Rev 01/15/10

CLIENT: Padre SLO OEC ID #: 1102999 Temp: 6 °C

Acceptable Range: 0°C to 6°C

COC RECEIVED DATE/TIME: 6-22-11 1015

RECEIPT LOGIN DATE/TIME: 6-22-11 1034

REFRIGERATOR(s): 8

SAMPLE TRANSPORT, RECEIPT, CONDITION & PRESERVATION:		Yes	No	N/A	(*) PROBLEM CHAIN FORM NEEDED
☒ OEC Courier/Sampler	COC document(s) received with samples	☑	☐*	☐	Custody Seals (circle): Present / Absent
☐ Delivery(Other than OEC Courier)	Correct containers for analysis requested	☒	☐*	☐	Samples / Coolers
☒ Samples Received on Ice	Container(s) intact and in good condition	☒	☐*	☐	Intact / Broken*
☐ Samples Received Outside Temp. Range*	Container label(s) consistent with COC	☒	☐*	☐	Method of Shipment & Tracking #(if applicable)
☐ Samples Direct from field (Outside Temp)	OEC preservative added (**note std ID)	☐**	☐	☒	
☐ After-Hours Outside Drop-off [Brought Inside]	Proper preservation on sample label(s)	☐	☐	☒	(**) OEC Preservative ID:
(Initials/Date/Time):	VOA containers free of headspace	☐	☐*	☑	Dissolved Metals Filtration: (Date/Int/Preserve ID)
	Tedlar Bags free of condensation	☐	☐*	☒	

CONTAINERS, COC CHANGES AND/OR CORRECTIONS **CHANGES AUTHORIZED BY:**

OEC ID	Client ID ***If blank, refer to CoC	Container Description	Preservative	ResCl /pH	Matrix	Date/Time Sampled ***	Comments / Remarks / Condition Notes, Etc.
1-38A		1-TUBE EA	—	—	SOLID		

RECEIPT LOGIN BY: ELH RECEIPT REVIEWED BY: BK

Oilfield Environmental and Compliance, INC.

Louis Cappel
Padre Associates, Inc. - SLO
369 Pacific Street
San Luis Obispo, CA 93401

31 August 2011

RE: Former Unocal Avila Terminal

Work Order: 1103073

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on 24-Jun-11 16:31 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Lisa Race

Laboratory Manager

TEL: (805) 922-4772
307 Roemer Way, Suite 300, Santa Maria, CA 93454 **www.oecusa.com** FAX: (805) 925-3376

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-226-5'	1103073-01	Solid	22-Jun-11 10:45	24-Jun-11 16:31
B-226-10'	1103073-02	Solid	22-Jun-11 10:50	24-Jun-11 16:31
B-226-15'	1103073-03	Solid	22-Jun-11 10:57	24-Jun-11 16:31
B-226-20'	1103073-04	Solid	22-Jun-11 11:10	24-Jun-11 16:31
B-226-30'	1103073-06	Solid	22-Jun-11 11:30	24-Jun-11 16:31
B-226-40'	1103073-08	Solid	22-Jun-11 11:55	24-Jun-11 16:31
B-226-50'	1103073-10	Solid	22-Jun-11 12:20	24-Jun-11 16:31
B-226-60'	1103073-12	Solid	22-Jun-11 12:52	24-Jun-11 16:31
B-226-70'	1103073-14	Solid	22-Jun-11 14:05	24-Jun-11 16:31
B-226-75'	1103073-15	Solid	22-Jun-11 14:30	24-Jun-11 16:31
B-226-80'	1103073-16	Solid	22-Jun-11 14:45	24-Jun-11 16:31
B-226-85'	1103073-17	Solid	22-Jun-11 15:10	24-Jun-11 16:31
B-226-95'	1103073-19	Solid	22-Jun-11 15:45	24-Jun-11 16:31
B-227-5'	1103073-20	Solid	23-Jun-11 09:50	24-Jun-11 16:31
B-227-10'	1103073-21	Solid	23-Jun-11 10:00	24-Jun-11 16:31
B-227-15'	1103073-22	Solid	23-Jun-11 10:11	24-Jun-11 16:31
B-227-20'	1103073-23	Solid	23-Jun-11 10:20	24-Jun-11 16:31
B-227-30'	1103073-25	Solid	23-Jun-11 10:37	24-Jun-11 16:31
B-227-40'	1103073-27	Solid	23-Jun-11 11:07	24-Jun-11 16:31
B-227-45'	1103073-28	Solid	23-Jun-11 11:20	24-Jun-11 16:31
B-227-50'	1103073-29	Solid	23-Jun-11 11:30	24-Jun-11 16:31
B-227-60'	1103073-31	Solid	23-Jun-11 11:55	24-Jun-11 16:31
B-228-5'	1103073-32	Solid	23-Jun-11 13:47	24-Jun-11 16:31
B-228-10'	1103073-33	Solid	23-Jun-11 14:00	24-Jun-11 16:31
B-228-15'	1103073-34	Solid	23-Jun-11 14:02	24-Jun-11 16:31
B-228-20'	1103073-35	Solid	23-Jun-11 14:10	24-Jun-11 16:31

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-228-25'	1103073-36	Solid	23-Jun-11 14:15	24-Jun-11 16:31
B-228-35'	1103073-38	Solid	23-Jun-11 14:40	24-Jun-11 16:31
B-228-45'	1103073-40	Solid	23-Jun-11 15:06	24-Jun-11 16:31
B-228-55'	1103073-42	Solid	23-Jun-11 15:30	24-Jun-11 16:31
B-228-60'	1103073-43	Solid	23-Jun-11 15:45	24-Jun-11 16:31
B-229-5'	1103073-44	Solid	24-Jun-11 11:05	24-Jun-11 16:31
B-229-10'	1103073-45	Solid	24-Jun-11 11:10	24-Jun-11 16:31
B-229-15'	1103073-46	Solid	24-Jun-11 11:20	24-Jun-11 16:31
B-229-25'	1103073-48	Solid	24-Jun-11 11:40	24-Jun-11 16:31
B-229-30'	1103073-49	Solid	24-Jun-11 11:50	24-Jun-11 16:31
B-229-40'	1103073-51	Solid	24-Jun-11 12:15	24-Jun-11 16:31
B-229-45'	1103073-52	Solid	24-Jun-11 12:23	24-Jun-11 16:31
B-229-55'	1103073-54	Solid	24-Jun-11 12:50	24-Jun-11 16:31
B-229-60'	1103073-55	Solid	24-Jun-11 13:05	24-Jun-11 16:31

B-226-5'

1103073-01 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*66.1 %*		*50-150*		"	"	"	"
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*71.1 %*		*50-150*		"	"	"	"

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00070	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-5'

1103073-01 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.00050	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.00040	0.0050	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-5'

1103073-01 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Ethanol	ND	0.79	5.0	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*104 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*88.8 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*78.2 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-10'

1103073-02 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*66.1 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*71.1 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00070	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00091	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	**0.0073**	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-10'

1103073-02 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00091	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00091	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00091	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00091	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-10'

1103073-02 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*102 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*102 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*92.8 %*	*70-130*		"	"	"	"	

B-226-15'

1103073-03 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*67.7 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*72.5 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00071	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00071	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00091	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	**0.00085**	0.00050	0.0050	"	"	"	"	"	"	J
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00081	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00081	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00081	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-15'

1103073-03 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00091	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00081	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00071	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00071	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00081	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00081	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00081	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00091	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00091	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00091	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00081	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00071	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00081	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00081	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00081	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-15'

1103073-03 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*104 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*104 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*95.7 %*	*70-130*		"	"	"	"	

B-226-20'

1103073-04 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*68.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*73.1 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00070	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-20'

1103073-04 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-20'

1103073-04 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*100 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*100 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*93.0 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-30'

1103073-06 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*67.7 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*72.7 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00070	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	**0.021**	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-30'

1103073-06 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-30'

1103073-06 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*106 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*103 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*98.3 %*	*70-130*		"	"	"	"	

B-226-40'

1103073-08 (Solid)

Oilfield Environmental and Compliance

TEPH by GCMS

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*65.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*69.5 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00070	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	**0.0018**	0.00050	0.0050	"	"	"	"	"	"	J
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-40'

1103073-08 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-40'

1103073-08 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*102 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*99.4 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*95.4 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-50'

1103073-10 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*64.1 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*70.1 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-50'

1103073-10 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-50'

1103073-10 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*98.7 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*93.8 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*109 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-60'

1103073-12 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**2.6**	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	J
Surrogate: o-Terphenyl			*67.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*72.5 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00071	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00071	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00091	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00081	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00081	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00081	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-60'

1103073-12 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00091	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00081	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00071	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00071	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00081	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00081	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00081	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00091	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00091	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00091	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00081	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00071	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00081	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00081	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00081	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-60'

1103073-12 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*106 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*101 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*94.1 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-70'

1103073-14 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*68.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*74.1 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-70'

1103073-14 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-70'

1103073-14 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*108 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*96.9 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*104 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-75'

1103073-15 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*64.5 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*69.3 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-75'

1103073-15 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-75'

1103073-15 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*104 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*105 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*104 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-80'

1103073-16 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**19**	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*75.4 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**34**	6.9	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*80.8 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.0029**	0.00070	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-80'

1103073-16 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	**0.029**	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	**0.0065**	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	**0.011**	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	**0.0058**	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.015**	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.0018**	0.00080	0.0050	"	"	"	"	"	"	J
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.049**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.20	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-80'

1103073-16 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*106 %*	*70-130*	*A106567*	*28-Jun-11*	*30-Jun-11*	*EPA 8260B/LUFT*	
Surrogate: 4-Bromofluorobenzene	*98.2 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*99.7 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-85'

1103073-17 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**8.0**	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	J
Surrogate: o-Terphenyl			*80.0 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**14**	6.9	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*85.0 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.0020**	0.00069	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-85'

1103073-17 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	**0.0050**	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	**0.0057**	0.00069	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0050	"	"	"	"	"	"	
Naphthalene	**0.0095**	0.00079	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.012**	0.00069	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.00099**	0.00079	0.0050	"	"	"	"	"	"	J
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.0067**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.20	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-85'

1103073-17 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*104 %*	*70-130*	*A106567*	*28-Jun-11*	*30-Jun-11*	*EPA 8260B/LUFT*	
Surrogate: 4-Bromofluorobenzene	*95.9 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*102 %*	*70-130*	*"*	*"*	*"*	*"*	

B-226-95'

1103073-19 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106564	28-Jun-11	01-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*86.6 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*93.2 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00070	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-95'

1103073-19 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-226-95'

1103073-19 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*105 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*102 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*103 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-5'

1103073-20 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*71.1 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*77.8 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-5'

1103073-20 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-5'

1103073-20 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106567	28-Jun-11	30-Jun-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*98.6 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*98.6 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*96.4 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-10'

1103073-21 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A106564	28-Jun-11	30-Jun-11	EPA 8270C	
Surrogate: o-Terphenyl			*73.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*79.6 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-10'

1103073-21 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-10'

1103073-21 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*107 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*98.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*107 %*	*70-130*		"	"	"	"	

B-227-15'

1103073-22 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*75.8 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*81.6 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-15'

1103073-22 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-15'

1103073-22 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*100 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*106 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*114 %*	*70-130*		"	"	"	"	

B-227-20'

1103073-23 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*73.5 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*78.6 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00069	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-20'

1103073-23 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-20'

1103073-23 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*100 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*103 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*125 %*	*70-130*		"	"	"	"	

B-227-30'

1103073-25 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*71.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*76.4 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-30'

1103073-25 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-30'

1103073-25 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*86.4 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*123 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*110 %*	*70-130*		"	"	"	"	

B-227-40'

1103073-27 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*71.9 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*77.0 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-40'

1103073-27 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-40'

1103073-27 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*107 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*108 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*114 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-45'

1103073-28 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*71.5 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*76.4 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00069	0.0049	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-45'

1103073-28 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0049	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0049	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0049	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"	"	"	"	"	"	
Toluene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.78	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-45'

1103073-28 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.49	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*108 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*111 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*122 %*	*70-130*		"	"	"	"	

B-227-50'

1103073-29 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*73.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*79.0 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-50'

1103073-29 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-50'

1103073-29 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*103 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*132 %*	*70-130*		"	"	"	"	*S-GC*
Surrogate: Toluene-d8			*108 %*	*70-130*		"	"	"	"	

B-227-60'

1103073-31 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*68.7 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*73.7 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-60'

1103073-31 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-227-60'

1103073-31 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*95.2 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*129 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*115 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-5'

1103073-32 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*67.1 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*72.5 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00069	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-5'

1103073-32 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-5'

1103073-32 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*92.7 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*108 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*132 %*	*70-130*		"	"	"	"	*S-GC*

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-10'

1103073-33 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*64.1 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*69.1 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00069	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-10'

1103073-33 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-10'

1103073-33 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*98.9 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*107 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*107 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-15'

1103073-34 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*72.7 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*78.0 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00069	0.0049	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-15'

1103073-34 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0049	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0049	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0049	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"	"	"	"	"	"	
Toluene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.78	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-15'

1103073-34 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.49	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*98.1 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*111 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*127 %*	*70-130*		"	"	"	"	

B-228-20'

1103073-35 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*67.9 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*72.9 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-20'

1103073-35 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-20'

1103073-35 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*98.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*114 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*97.7 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-25'

1103073-36 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*66.7 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*72.5 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00069	0.0049	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00098	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00088	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00029	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00098	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-25'

1103073-36 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00039	0.0049	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00088	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00039	0.0049	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00098	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0049	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00088	0.0049	"	"	"	"	"	"	
Toluene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00088	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00088	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00098	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.77	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-25'

1103073-36 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.49	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*101 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*110 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*81.8 %*	*70-130*		"	"	"	"	

B-228-35'

1103073-38 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*64.9 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*69.5 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00069	0.0049	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00098	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00098	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-35'

1103073-38 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00039	0.0049	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00039	0.0049	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00098	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0049	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"	"	"	"	"	"	
Toluene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00098	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.78	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-35'

1103073-38 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.49	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*106 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*111 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*132 %*	*70-130*		"	"	"	"	*S-GC*

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-45'

1103073-40 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*68.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*73.7 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00069	0.0049	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-45'

1103073-40 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00039	0.0049	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00039	0.0049	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0049	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"	"	"	"	"	"	
Toluene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.78	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-45'

1103073-40 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.49	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*101 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*107 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*105 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-55'

1103073-42 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*66.9 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*71.9 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00069	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-55'

1103073-42 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-55'

1103073-42 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*97.8 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*111 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*110 %*	*70-130*		"	"	"	"	

B-228-60'

1103073-43 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*66.7 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*71.9 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00069	0.0049	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00098	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00098	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-60'

1103073-43 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00039	0.0049	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00039	0.0049	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00098	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0049	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"	"	"	"	"	"	
Toluene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00098	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.78	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-228-60'

1103073-43 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	ND	0.20	0.49	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*105 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*94.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*90.7 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-5'

1103073-44 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Metals by EPA 6000/7000 Series Methods

Lead	**13**	0.49	0.98	mg/kg	1	A108575	29-Aug-11	30-Aug-11	EPA 6010B	

TEPH by GCMS

TPH Diesel (C10-C25)	**120**	13	50	mg/kg	5	A107033	02-Jul-11	05-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*78.8 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**500**	34	250	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*86.8 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00069	0.0049	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT
Bromobenzene	ND	0.00039	0.0049	"	"	"	"	"	"
Bromochloromethane	ND	0.00098	0.0049	"	"	"	"	"	"
Bromodichloromethane	ND	0.00039	0.0049	"	"	"	"	"	"
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"
n-Butylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"
sec-Butylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"
tert-Butylbenzene	ND	0.00088	0.0049	"	"	"	"	"	"
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"
4-Chlorotoluene	ND	0.00039	0.0049	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"
Dibromochloromethane	ND	0.00039	0.0049	"	"	"	"	"	"
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.00029	0.0049	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
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B-229-5'

1103073-44 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.00049	0.0049	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
trans-1,2-Dichloroethene	ND	0.00098	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.00039	0.0049	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.00088	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00039	0.0049	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00098	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0049	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00088	0.0049	"	"	"	"	"	"	
Toluene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00088	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00088	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00098	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-5'

1103073-44 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Ethanol	ND	0.77	4.9	mg/kg	1	A107068	05-Jul-11	05-Jul-11	EPA 8260B/LUFT	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.20	0.49	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*96.0 %*		*70-130*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*102 %*		*70-130*	"	"	"	"	
Surrogate: Toluene-d8			*106 %*		*70-130*	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-10'

1103073-45 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
Total Metals by EPA 6000/7000 Series Methods										
Lead	**15**	0.48	0.96	mg/kg	1	A108575	29-Aug-11	30-Aug-11	EPA 6010B	
TEPH by GCMS										
TPH Diesel (C10-C25)	**27**	2.6	10	mg/kg	1	A107033	02-Jul-11	04-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*77.2 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**99**	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*81.8 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A107068	05-Jul-11	06-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-10'

1103073-45 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.00050	0.0050	mg/kg	1	A107068	05-Jul-11	06-Jul-11	EPA 8260B/LUFT	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.00040	0.0050	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-10'

1103073-45 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Ethanol	ND	0.79	5.0	mg/kg	1	A107068	05-Jul-11	06-Jul-11	EPA 8260B/LUFT	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*82.1 %*		*70-130*		"	"	"	
Surrogate: 4-Bromofluorobenzene			*94.7 %*		*70-130*		"	"	"	
Surrogate: Toluene-d8			*106 %*		*70-130*		"	"	"	

B-229-15'

1103073-46 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**2.8**	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	J
Surrogate: o-Terphenyl			*80.6 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*84.6 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00070	0.0050	mg/kg	1	A107068	05-Jul-11	06-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-15'

1103073-46 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A107068	05-Jul-11	06-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-15'

1103073-46 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A107068	05-Jul-11	06-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*95.7 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*106 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*105 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-25'

1103073-48 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107033	02-Jul-11	03-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*75.8 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**13**	6.9	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*81.4 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	**0.0046**	0.00070	0.0050	mg/kg	1	A106583	29-Jun-11	29-Jun-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	**0.00096**	0.00070	0.0050	"	"	"	"	"	"	J
sec-Butylbenzene	**0.0014**	0.00060	0.0050	"	"	"	"	"	"	J
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-25'

1103073-48 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106583	29-Jun-11	29-Jun-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	**0.0022**	0.00070	0.0050	"	"	"	"	"	"	J
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	**0.0012**	0.00050	0.0050	"	"	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-25'

1103073-48 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	**0.30**	0.20	0.50	mg/kg	1	A106583	29-Jun-11	29-Jun-11	EPA 8260B/LUFT	J
Surrogate: Dibromofluoromethane			*104 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*100 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*100 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-30'

1103073-49 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**3.3**	2.6	10	mg/kg	1	A107039	02-Jul-11	04-Jul-11	EPA 8270C	J
Surrogate: o-Terphenyl			*70.5 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*74.3 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.022**	0.00070	0.0050	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	**0.034**	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	**0.019**	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	**0.0021**	0.00090	0.0050	"	"	"	"	"	"	J
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-30'

1103073-49 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	**0.045**	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	**0.034**	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	**0.037**	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	**0.029**	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	**0.050**	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	**0.00068**	0.00050	0.0050	"	"	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.0023**	0.00070	0.0050	"	"	"	"	"	"	J
1,3,5-Trimethylbenzene	**0.0050**	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.0056**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	**0.053**	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**6.1**	0.20	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-30'

1103073-49 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*100 %*	*70-130*	*A106607*	*30-Jun-11*	*01-Jul-11*	*EPA 8260B/LUFT*	
Surrogate: 4-Bromofluorobenzene	*94.7 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*96.0 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-40'

1103073-51 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
Total Metals by EPA 6000/7000 Series Methods										
Lead	**0.058**	0.0050	0.010	mg/kg	1	A108575	29-Aug-11	30-Aug-11	EPA 6010B	
TEPH by GCMS										
TPH Diesel (C10-C25)	**230**	26	100	mg/kg	10	A107039	02-Jul-11	04-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*79.8 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**550**	69	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*89.8 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.062**	0.00069	0.0050	mg/kg	1	A106583	29-Jun-11	29-Jun-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	**0.0035**	0.00079	0.0050	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-40'

1103073-51 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.00050	0.0050	mg/kg	1	A106583	29-Jun-11	29-Jun-11	EPA 8260B/LUFT	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.00040	0.0050	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	**0.0028**	0.00060	0.0050	"	"	"	"	"	"	J
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	**0.0014**	0.00069	0.0050	"	"	"	"	"	"	J
4-Isopropyl Toluene	ND	0.00069	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00079	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	**0.00091**	0.00050	0.0050	"	"	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-40'

1103073-51 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Ethanol	ND	0.78	5.0	mg/kg	1	A106583	29-Jun-11	29-Jun-11	EPA 8260B/LUFT	
Ethyl t-Butyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**0.31**	0.20	0.50	"	"	"	"	"	"	J
Surrogate: Dibromofluoromethane			*101 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*98.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*96.6 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-45'

1103073-52 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
Total Metals by EPA 6000/7000 Series Methods										
Lead	**5.6**	0.47	0.93	mg/kg	1	A108575	29-Aug-11	30-Aug-11	EPA 6010B	
TEPH by GCMS										
TPH Diesel (C10-C25)	**70**	5.2	20	mg/kg	2	A107039	02-Jul-11	05-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*74.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**150**	6.9	50	"	1	"	"	04-Jul-11	"	
Surrogate: o-Terphenyl			*79.2 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.12**	0.00070	0.0050	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	**0.0018**	0.00070	0.0050	"	"	"	"	"	"	J
sec-Butylbenzene	**0.00088**	0.00060	0.0050	"	"	"	"	"	"	J
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	**0.018**	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-45'

1103073-52 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
trans-1,2-Dichloroethene	ND	0.0010	0.0050	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.00040	0.0050	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	**0.037**	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	**0.011**	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	**0.0010**	0.00070	0.0050	"	"	"	"	"	"	J
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	**0.0088**	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	**0.012**	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	**0.011**	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.0092**	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.0014**	0.00080	0.0050	"	"	"	"	"	"	J
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.025**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-45'

1103073-52 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Methyl-t-butyl ether	ND	0.00060	0.0050	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	**0.97**	0.20	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*103 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*96.8 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*101 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-55'

1103073-54 (Solid)

Oilfield Environmental and Compliance

TEPH by GCMS

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107039	02-Jul-11	04-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*70.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*73.5 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**0.0021**	0.00069	0.0050	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	**0.00091**	0.00069	0.0050	"	"	"	"	"	"	J
sec-Butylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	**0.0016**	0.00089	0.0050	"	"	"	"	"	"	J
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	**0.0051**	0.00079	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-55'

1103073-54 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0050	"	"	"	"	"	"	
Naphthalene	**0.0078**	0.00079	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	**0.00087**	0.00050	0.0050	"	"	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.0048**	0.00069	0.0050	"	"	"	"	"	"	J
1,3,5-Trimethylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.0042**	0.0013	0.0050	"	"	"	"	"	"	J
t-Amyl Methyl Ether	**0.0013**	0.00079	0.0050	"	"	"	"	"	"	J
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.20	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-55'

1103073-54 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*98.3 %*	*70-130*	*A106607*	*30-Jun-11*	*01-Jul-11*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*93.7 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*88.4 %*	*70-130*	*"*	*"*	*"*	*"*	

B-229-60'

1103073-55 (Solid)

Oilfield Environmental and Compliance

TEPH by GCMS

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107039	02-Jul-11	04-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*67.5 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*70.9 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**0.012**	0.00070	0.0050	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	**0.010**	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	**0.0015**	0.00060	0.0050	"	"	"	"	"	"	J
tert-Butylbenzene	**0.013**	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	**0.010**	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-60'

1103073-55 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	**0.0055**	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	**0.0040**	0.00060	0.0050	"	"	"	"	"	"	J
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	**0.0034**	0.00070	0.0050	"	"	"	"	"	"	J
4-Isopropyl Toluene	**0.0044**	0.00070	0.0050	"	"	"	"	"	"	J
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	**0.079**	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	**0.0047**	0.00080	0.0050	"	"	"	"	"	"	J
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	**0.0083**	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.090**	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.022**	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.060**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	**0.0088**	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	**0.066**	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**0.26**	0.20	0.50	"	"	"	"	"	"	J

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

B-229-60'

1103073-55 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*98.8 %*	*70-130*	*A106607*	*30-Jun-11*	*01-Jul-11*	*EPA 8260B/LUFT*	
Surrogate: 4-Bromofluorobenzene	*95.1 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*92.8 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108575 - EPA 3050B											
Blank (A108575-BLK1)					Prepared: 29-Aug-11 Analyzed: 30-Aug-11						
Lead	ND	0.50	1.0	mg/kg							
LCS (A108575-BS1)					Prepared: 29-Aug-11 Analyzed: 30-Aug-11						
Lead	113	0.50	1.0	mg/kg	100		113	85-115			
LCS Dup (A108575-BSD1)					Prepared: 29-Aug-11 Analyzed: 30-Aug-11						
Lead	105	0.50	1.0	mg/kg	100		105	85-115	7.79	20	
Duplicate (A108575-DUP1)	**Source: 1103124-03**				Prepared: 29-Aug-11 Analyzed: 30-Aug-11						
Lead	11.1	0.46	0.92	mg/kg		10.1			9.33	20	
Matrix Spike (A108575-MS1)	**Source: 1103124-03**				Prepared: 29-Aug-11 Analyzed: 30-Aug-11						
Lead	1010	5.0	10	mg/kg	996	10.1	100	79-124			
Matrix Spike Dup (A108575-MSD1)	**Source: 1103124-03**				Prepared: 29-Aug-11 Analyzed: 30-Aug-11						
Lead	943	4.7	9.3	mg/kg	931	10.1	100	79-124	0.229	20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106564 - EPA 3550B MS											
Blank (A106564-BLK1)					Prepared: 28-Jun-11 Analyzed: 30-Jun-11						
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg							
TPH Oil Crude (C25-C40)	ND	6.9	50	"							
Surrogate: o-Terphenyl	*0.0923*			*"*	*0.167*		*55.3*	*50-150*			
Surrogate: o-Terphenyl	*0.0993*			*"*	*0.167*		*59.5*	*50-150*			
LCS (A106564-BS1)					Prepared: 28-Jun-11 Analyzed: 30-Jun-11						
TPH Diesel (C10-C25)	24.7	2.6	10	mg/kg	33.3		74.0	53.8-136		20	
Surrogate: o-Terphenyl	*0.130*			*"*	*0.167*		*77.8*	*50-150*			
LCS (A106564-BS2)					Prepared: 28-Jun-11 Analyzed: 30-Jun-11						
TPH Oil Crude (C25-C40)	57.3	6.9	50	mg/kg	66.8		85.8	70-130		20	
Surrogate: o-Terphenyl	*0.125*			*"*	*0.167*		*75.0*	*50-150*			
LCS Dup (A106564-BSD1)					Prepared: 28-Jun-11 Analyzed: 30-Jun-11						
TPH Diesel (C10-C25)	24.9	2.6	10	mg/kg	33.3		74.7	53.8-136	0.812	20	
Surrogate: o-Terphenyl	*0.127*			*"*	*0.167*		*76.0*	*50-150*			
LCS Dup (A106564-BSD2)					Prepared: 28-Jun-11 Analyzed: 30-Jun-11						
TPH Oil Crude (C25-C40)	59.3	6.9	50	mg/kg	66.8		88.8	70-130	3.40	20	
Surrogate: o-Terphenyl	*0.133*			*"*	*0.167*		*79.6*	*50-150*			
Duplicate (A106564-DUP1)	**Source: 1103073-01**				Prepared: 28-Jun-11 Analyzed: 30-Jun-11						
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg		ND				20	
TPH Oil Crude (C25-C40)	ND	6.9	50	"		ND				20	
Surrogate: o-Terphenyl	*0.123*			*"*	*0.167*		*73.9*	*50-150*			
Surrogate: o-Terphenyl	*0.131*			*"*	*0.167*		*78.6*	*50-150*			
Matrix Spike (A106564-MS1)	**Source: 1103073-01**				Prepared: 28-Jun-11 Analyzed: 01-Jul-11						
TPH Diesel (C10-C25)	24.9	2.6	10	mg/kg	33.3	ND	74.8	70-130		20	
Surrogate: o-Terphenyl	*0.115*			*"*	*0.167*		*69.1*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106564 - EPA 3550B MS											
Matrix Spike (A106564-MS2)	**Source: 1103073-02**				Prepared: 28-Jun-11 Analyzed: 01-Jul-11						
TPH Oil Crude (C25-C40)	50.7	6.9	50	mg/kg	66.8	ND	76.0	70-130		20	
Surrogate: o-Terphenyl	*0.132*			*"*	*0.167*		*79.0*	*50-150*			
Matrix Spike Dup (A106564-MSD1)	**Source: 1103073-01**				Prepared: 28-Jun-11 Analyzed: 01-Jul-11						
TPH Diesel (C10-C25)	23.6	2.6	10	mg/kg	33.3	ND	70.9	70-130	5.35	20	
Surrogate: o-Terphenyl	*0.126*			*"*	*0.167*		*75.2*	*50-150*			
Matrix Spike Dup (A106564-MSD2)	**Source: 1103073-02**				Prepared: 28-Jun-11 Analyzed: 01-Jul-11						
TPH Oil Crude (C25-C40)	53.7	6.9	50	mg/kg	66.8	ND	80.4	70-130	5.63	20	
Surrogate: o-Terphenyl	*0.134*			*"*	*0.167*		*80.2*	*50-150*			
Batch A107033 - EPA 3550B MS											
LCS (A107033-BS1)					Prepared: 02-Jul-11 Analyzed: 03-Jul-11						
TPH Diesel (C10-C25)	26.5	2.6	10	mg/kg	33.3		79.4	53.8-136		20	
Surrogate: o-Terphenyl	*0.137*			*"*	*0.167*		*81.8*	*50-150*			
LCS (A107033-BS2)					Prepared: 02-Jul-11 Analyzed: 03-Jul-11						
TPH Oil Crude (C25-C40)	54.9	6.9	50	mg/kg	66.8		82.1	70-130		20	
Surrogate: o-Terphenyl	*0.150*			*"*	*0.167*		*89.6*	*50-150*			
LCS Dup (A107033-BSD1)					Prepared: 02-Jul-11 Analyzed: 03-Jul-11						
TPH Diesel (C10-C25)	24.0	2.6	10	mg/kg	33.3		71.9	53.8-136	9.91	20	
Surrogate: o-Terphenyl	*0.137*			*"*	*0.167*		*82.2*	*50-150*			
LCS Dup (A107033-BSD2)					Prepared: 02-Jul-11 Analyzed: 03-Jul-11						
TPH Oil Crude (C25-C40)	58.2	6.9	50	mg/kg	66.8		87.2	70-130	5.96	20	
Surrogate: o-Terphenyl	*0.154*			*"*	*0.167*		*92.4*	*50-150*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107033 - EPA 3550B MS											
Matrix Spike (A107033-MS1)	**Source: 1103073-22**				Prepared: 02-Jul-11 Analyzed: 04-Jul-11						
TPH Diesel (C10-C25)	24.9	2.6	10	mg/kg	33.3	ND	74.6	70-130		20	
Surrogate: o-Terphenyl	*0.125*			*"*	*0.167*		*74.7*	*50-150*			
Matrix Spike (A107033-MS2)	**Source: 1103073-23**				Prepared: 02-Jul-11 Analyzed: 04-Jul-11						
TPH Oil Crude (C25-C40)	60.6	6.9	50	mg/kg	66.8	ND	90.8	70-130		20	
Surrogate: o-Terphenyl	*0.129*			*"*	*0.167*		*77.4*	*50-150*			
Matrix Spike Dup (A107033-MSD1)	**Source: 1103073-22**				Prepared: 02-Jul-11 Analyzed: 04-Jul-11						
TPH Diesel (C10-C25)	23.6	2.6	10	mg/kg	33.3	ND	70.9	70-130	5.26	20	
Surrogate: o-Terphenyl	*0.114*			*"*	*0.167*		*68.3*	*50-150*			
Matrix Spike Dup (A107033-MSD2)	**Source: 1103073-23**				Prepared: 02-Jul-11 Analyzed: 04-Jul-11						
TPH Oil Crude (C25-C40)	57.1	6.9	50	mg/kg	66.8	ND	85.5	70-130	5.93	20	
Surrogate: o-Terphenyl	*0.121*			*"*	*0.167*		*72.5*	*50-150*			
Batch A107039 - EPA 3550B MS											
Blank (A107039-BLK1)					Prepared: 02-Jul-11 Analyzed: 04-Jul-11						
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg							
TPH Oil Crude (C25-C40)	ND	6.9	50	"							
Surrogate: o-Terphenyl	*0.0953*			*"*	*0.167*		*57.1*	*50-150*			
Surrogate: o-Terphenyl	*0.0863*			*"*	*0.167*		*51.7*	*50-150*			
LCS (A107039-BS1)					Prepared: 02-Jul-11 Analyzed: 04-Jul-11						
TPH Diesel (C10-C25)	22.5	2.6	10	mg/kg	33.3		67.4	53.8-136		20	
Surrogate: o-Terphenyl	*0.122*			*"*	*0.167*		*73.1*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107039 - EPA 3550B MS											
LCS (A107039-BS2)					Prepared: 02-Jul-11 Analyzed: 04-Jul-11						
TPH Oil Crude (C25-C40)	54.7	6.9	50	mg/kg	66.8		81.9	70-130		20	
Surrogate: o-Terphenyl	*0.144*			"	*0.167*		*86.4*	*50-150*			
LCS Dup (A107039-BSD1)					Prepared: 02-Jul-11 Analyzed: 04-Jul-11						
TPH Diesel (C10-C25)	20.9	2.6	10	mg/kg	33.3		62.6	53.8-136	7.44	20	
Surrogate: o-Terphenyl	*0.115*			"	*0.167*		*68.7*	*50-150*			
LCS Dup (A107039-BSD2)					Prepared: 02-Jul-11 Analyzed: 04-Jul-11						
TPH Oil Crude (C25-C40)	54.7	6.9	50	mg/kg	66.8		81.8	70-130	0.0835	20	
Surrogate: o-Terphenyl	*0.136*			"	*0.167*		*81.2*	*50-150*			
Duplicate (A107039-DUP1)	**Source: 1103073-49**				Prepared: 02-Jul-11 Analyzed: 04-Jul-11						
TPH Diesel (C10-C25)	6.91	2.6	10	mg/kg		3.30			70.7	20	QR-04, J
TPH Oil Crude (C25-C40)	22.0	6.9	50	"		ND				20	J
Surrogate: o-Terphenyl	*0.111*			"	*0.167*		*66.3*	*50-150*			
Surrogate: o-Terphenyl	*0.120*			"	*0.167*		*71.7*	*50-150*			
Matrix Spike (A107039-MS1)	**Source: 1103073-49**				Prepared: 02-Jul-11 Analyzed: 04-Jul-11						
TPH Diesel (C10-C25)	29.3	2.6	10	mg/kg	33.3	3.30	78.0	70-130		20	
Surrogate: o-Terphenyl	*0.123*			"	*0.167*		*73.9*	*50-150*			
Matrix Spike (A107039-MS2)	**Source: 1103073-49**				Prepared: 02-Jul-11 Analyzed: 04-Jul-11						
TPH Oil Crude (C25-C40)	63.2	6.9	50	mg/kg	66.8	ND	94.7	70-130		20	
Surrogate: o-Terphenyl	*0.137*			"	*0.167*		*81.8*	*50-150*			
Matrix Spike Dup (A107039-MSD1)	**Source: 1103073-49**				Prepared: 02-Jul-11 Analyzed: 04-Jul-11						
TPH Diesel (C10-C25)	28.5	2.6	10	mg/kg	33.3	3.30	75.5	70-130	2.89	20	
Surrogate: o-Terphenyl	*0.131*			"	*0.167*		*78.2*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107039 - EPA 3550B MS											
Matrix Spike Dup (A107039-MSD2)	**Source: 1103073-49**				Prepared: 02-Jul-11 Analyzed: 04-Jul-11						
TPH Oil Crude (C25-C40)	64.7	6.9	50	mg/kg	66.6	ND	97.2	70-130	2.37	20	
Surrogate: o-Terphenyl	*0.137*			*"*	*0.167*		*82.0*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106567 - EPA 5035/5030B MEOH											
Blank (A106567-BLK1)					Prepared: 29-Jun-11 Analyzed: 30-Jun-11						
Benzene	ND	0.00070	0.0050	mg/kg							
Bromobenzene	ND	0.00040	0.0050	"							
Bromochloromethane	ND	0.0010	0.0050	"							
Bromodichloromethane	ND	0.00040	0.0050	"							
Bromoform	ND	0.00060	0.0050	"							
Bromomethane	ND	0.0017	0.0050	"							
n-Butylbenzene	ND	0.00070	0.0050	"							
sec-Butylbenzene	ND	0.00060	0.0050	"							
tert-Butylbenzene	ND	0.00091	0.0050	"							
Carbon tetrachloride	ND	0.0011	0.0050	"							
Chlorobenzene	ND	0.00060	0.0050	"							
Chloroethane	ND	0.0018	0.0050	"							
Chloroform	ND	0.00050	0.0050	"							
Chloromethane	ND	0.0020	0.0050	"							
2-Chlorotoluene	ND	0.00060	0.0050	"							
4-Chlorotoluene	ND	0.00040	0.0050	"							
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"							
Dibromochloromethane	ND	0.00040	0.0050	"							
Dibromomethane	ND	0.00080	0.0050	"							
1,2-Dichlorobenzene	ND	0.00030	0.0050	"							
1,3-Dichlorobenzene	ND	0.00040	0.0050	"							
1,4-Dichlorobenzene	ND	0.00040	0.0050	"							
Dichlorodifluoromethane	ND	0.0016	0.0050	"							
1,1-Dichloroethane	ND	0.00080	0.0050	"							
1,2-Dichloroethane	ND	0.00080	0.0050	"							
1,1-Dichloroethene	ND	0.0013	0.0050	"							
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"							
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"							
1,2-Dichloropropane	ND	0.00060	0.0050	"							
1,3-Dichloropropane	ND	0.00040	0.0050	"							
2,2-Dichloropropane	ND	0.00091	0.0050	"							
1,1-Dichloropropene	ND	0.00080	0.0050	"							
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"							
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"							
Ethylbenzene	ND	0.00060	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"							
Hexachlorobutadiene	ND	0.0010	0.0050	"							
Isopropylbenzene	ND	0.00070	0.0050	"							
4-Isopropyl Toluene	ND	0.00070	0.0050	"							
Methylene chloride	ND	0.00080	0.0050	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106567 - EPA 5035/5030B MEOH											
Blank (A106567-BLK1)					Prepared: 29-Jun-11 Analyzed: 30-Jun-11						
Naphthalene	ND	0.00080	0.0050	mg/kg							
n-Propylbenzene	ND	0.00080	0.0050	"							
Styrene	ND	0.00050	0.0050	"							
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"							
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"							
Tetrachloroethene (PCE)	ND	0.00091	0.0050	"							
Toluene	ND	0.00050	0.0050	"							
1,2,3-Trichlorobenzene	ND	0.00091	0.0050	"							
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"							
1,1,1-Trichloroethane	ND	0.00091	0.0050	"							
1,1,2-Trichloroethane	ND	0.00060	0.0050	"							
Trichloroethene (TCE)	ND	0.00080	0.0050	"							
Trichlorofluoromethane	ND	0.0017	0.0050	"							
1,2,3-Trichloropropane	ND	0.0010	0.0050	"							
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"							
Vinyl chloride	ND	0.0020	0.0050	"							
Xylenes (total)	ND	0.0013	0.0050	"							
t-Amyl Methyl Ether	ND	0.00080	0.0050	"							
t-Butyl alcohol	ND	0.0024	0.025	"							
Diisopropyl Ether	ND	0.0013	0.0050	"							
Ethanol	ND	0.79	5.0	"							
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"							
Methyl-t-butyl ether	ND	0.00060	0.0050	"							
TPH Gasoline (C4-C10)	ND	0.20	0.50	"							
Surrogate: Dibromofluoromethane	*0.0985*			*"*	*0.101*		*97.9*	*70-130*			
Surrogate: Toluene-d8	*0.105*			*"*	*0.101*		*105*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0930*			*"*	*0.101*		*92.4*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106567 - EPA 5035/5030B MEOH											
LCS (A106567-BS1)					Prepared & Analyzed: 29-Jun-11						
Benzene	0.0826	0.00069	0.0049	mg/kg	0.0984		83.9	70-130			
Chlorobenzene	0.0874	0.00059	0.0049	"	0.0984		88.8	70-130			
1,1-Dichloroethene	0.0806	0.0013	0.0049	"	0.0984		81.9	70-130			
Toluene	0.0894	0.00049	0.0049	"	0.0984		90.8	70-130			
Trichloroethene (TCE)	0.0949	0.00079	0.0049	"	0.0984		96.4	70-130			
Surrogate: Dibromofluoromethane	*0.0985*			*"*	*0.0984*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0908*			*"*	*0.0984*		*92.3*	*70-130*			
Surrogate: Toluene-d8	*0.103*			*"*	*0.0984*		*105*	*70-130*			
LCS (A106567-BS2)					Prepared: 29-Jun-11 Analyzed: 30-Jun-11						
TPH Gasoline (C4-C10)	1.81	0.20	0.50	mg/kg	1.99		91.0	70-130			
Surrogate: Dibromofluoromethane	*0.104*			*"*	*0.0996*		*105*	*70-130*			
Surrogate: Toluene-d8	*0.0918*			*"*	*0.0996*		*92.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0721*			*"*	*0.0996*		*72.4*	*70-130*			
Duplicate (A106567-DUP1)	**Source: 1103073-20**				Prepared: 29-Jun-11 Analyzed: 30-Jun-11						
Benzene	ND	0.00070	0.0050	mg/kg		ND				20	
Bromobenzene	ND	0.00040	0.0050	"		ND				20	
Bromochloromethane	ND	0.0010	0.0050	"		ND				20	
Bromodichloromethane	ND	0.00040	0.0050	"		ND				20	
Bromoform	ND	0.00060	0.0050	"		ND				20	
Bromomethane	ND	0.0017	0.0050	"		ND				20	
n-Butylbenzene	ND	0.00070	0.0050	"		ND				20	
sec-Butylbenzene	ND	0.00060	0.0050	"		ND				20	
tert-Butylbenzene	ND	0.00090	0.0050	"		ND				20	
Carbon tetrachloride	ND	0.0011	0.0050	"		ND				20	
Chlorobenzene	ND	0.00060	0.0050	"		ND				20	
Chloroethane	ND	0.0018	0.0050	"		ND				20	
Chloroform	ND	0.00050	0.0050	"		ND				20	
Chloromethane	ND	0.0020	0.0050	"		ND				20	
2-Chlorotoluene	ND	0.00060	0.0050	"		ND				20	
4-Chlorotoluene	ND	0.00040	0.0050	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"		ND				20	
Dibromochloromethane	ND	0.00040	0.0050	"		ND				20	
Dibromomethane	ND	0.00080	0.0050	"		ND				20	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"		ND				20	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
Dichlorodifluoromethane	ND	0.0016	0.0050	"		ND				20	
1,1-Dichloroethane	ND	0.00080	0.0050	"		ND				20	

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106567 - EPA 5035/5030B MEOH											
Duplicate (A106567-DUP1)	**Source: 1103073-20**			Prepared: 29-Jun-11 Analyzed: 30-Jun-11							
1,2-Dichloroethane	ND	0.00080	0.0050	mg/kg		ND				20	
1,1-Dichloroethene	ND	0.0013	0.0050	"		ND				20	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"		ND				20	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"		ND				20	
1,2-Dichloropropane	ND	0.00060	0.0050	"		ND				20	
1,3-Dichloropropane	ND	0.00040	0.0050	"		ND				20	
2,2-Dichloropropane	ND	0.00090	0.0050	"		ND				20	
1,1-Dichloropropene	ND	0.00080	0.0050	"		ND				20	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"		ND				20	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"		ND				20	
Ethylbenzene	ND	0.00060	0.0050	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"		ND				20	
Hexachlorobutadiene	ND	0.0010	0.0050	"		ND				20	
Isopropylbenzene	ND	0.00070	0.0050	"		ND				20	
4-Isopropyl Toluene	ND	0.00070	0.0050	"		ND				20	
Methylene chloride	ND	0.00080	0.0050	"		ND				20	
Naphthalene	ND	0.00080	0.0050	"		ND				20	
n-Propylbenzene	ND	0.00080	0.0050	"		ND				20	
Styrene	ND	0.00050	0.0050	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"		ND				20	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"		ND				20	
Toluene	ND	0.00050	0.0050	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"		ND				20	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"		ND				20	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"		ND				20	
Trichloroethene (TCE)	ND	0.00080	0.0050	"		ND				20	
Trichlorofluoromethane	ND	0.0017	0.0050	"		ND				20	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"		ND				20	
Vinyl chloride	ND	0.0020	0.0050	"		ND				20	
Xylenes (total)	ND	0.0013	0.0050	"		ND				20	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"		ND				20	
t-Butyl alcohol	ND	0.0024	0.025	"		ND				20	
Diisopropyl Ether	ND	0.0013	0.0050	"		ND				20	
Ethanol	ND	0.79	5.0	"		ND				20	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"		ND				20	
Methyl-t-butyl ether	ND	0.00060	0.0050	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106567 - EPA 5035/5030B MEOH											
Duplicate (A106567-DUP1)	**Source: 1103073-20**				Prepared: 29-Jun-11 Analyzed: 30-Jun-11						
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg		ND				20	
Surrogate: Dibromofluoromethane	*0.102*			"	*0.100*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0974*			"	*0.100*		*97.4*	*70-130*			
Surrogate: Toluene-d8	*0.0987*			"	*0.100*		*98.7*	*70-130*			
Matrix Spike (A106567-MS1)	**Source: 1103073-20**				Prepared: 29-Jun-11 Analyzed: 30-Jun-11						
Benzene	0.0992	0.00070	0.0050	mg/kg	0.100	ND	99.0	70-130			
Chlorobenzene	0.106	0.00060	0.0050	"	0.100	ND	106	70-130			
1,1-Dichloroethene	0.111	0.0013	0.0050	"	0.100	ND	111	70-130			
Toluene	0.105	0.00050	0.0050	"	0.100	ND	105	70-130			
Trichloroethene (TCE)	0.123	0.00080	0.0050	"	0.100	ND	123	70-130			
Surrogate: Dibromofluoromethane	*0.0968*			"	*0.100*		*96.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0968*			"	*0.100*		*96.6*	*70-130*			
Surrogate: Toluene-d8	*0.0987*			"	*0.100*		*98.5*	*70-130*			
Matrix Spike (A106567-MS2)	**Source: 1103073-20**				Prepared: 29-Jun-11 Analyzed: 30-Jun-11						
TPH Gasoline (C4-C10)	1.94	0.20	0.50	mg/kg	1.99	ND	97.6	70-130			
Surrogate: Dibromofluoromethane	*0.103*			"	*0.0994*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.102*			"	*0.0994*		*103*	*70-130*			
Surrogate: Toluene-d8	*0.102*			"	*0.0994*		*102*	*70-130*			
Batch A106583 - EPA 5035/5030B MEOH											
Blank (A106583-BLK1)					Prepared & Analyzed: 29-Jun-11						
Benzene	ND	0.00070	0.0050	mg/kg							
Bromobenzene	ND	0.00040	0.0050	"							
Bromochloromethane	ND	0.0010	0.0050	"							
Bromodichloromethane	ND	0.00040	0.0050	"							
Bromoform	ND	0.00060	0.0050	"							
Bromomethane	ND	0.0017	0.0050	"							
n-Butylbenzene	ND	0.00070	0.0050	"							
sec-Butylbenzene	ND	0.00060	0.0050	"							
tert-Butylbenzene	ND	0.00090	0.0050	"							
Carbon tetrachloride	ND	0.0011	0.0050	"							
Chlorobenzene	ND	0.00060	0.0050	"							
Chloroethane	ND	0.0018	0.0050	"							
Chloroform	ND	0.00050	0.0050	"							
Chloromethane	ND	0.0020	0.0050	"							
2-Chlorotoluene	ND	0.00060	0.0050	"							
4-Chlorotoluene	ND	0.00040	0.0050	"							
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106583 - EPA 5035/5030B MEOH											
Blank (A106583-BLK1)					Prepared & Analyzed: 29-Jun-11						
Dibromochloromethane	ND	0.00040	0.0050	mg/kg							
Dibromomethane	ND	0.00080	0.0050	"							
1,2-Dichlorobenzene	ND	0.00030	0.0050	"							
1,3-Dichlorobenzene	ND	0.00040	0.0050	"							
1,4-Dichlorobenzene	ND	0.00040	0.0050	"							
Dichlorodifluoromethane	ND	0.0016	0.0050	"							
1,1-Dichloroethane	ND	0.00080	0.0050	"							
1,2-Dichloroethane	ND	0.00080	0.0050	"							
1,1-Dichloroethene	ND	0.0013	0.0050	"							
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"							
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"							
1,2-Dichloropropane	ND	0.00060	0.0050	"							
1,3-Dichloropropane	ND	0.00040	0.0050	"							
2,2-Dichloropropane	ND	0.00090	0.0050	"							
1,1-Dichloropropene	ND	0.00080	0.0050	"							
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"							
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"							
Ethylbenzene	ND	0.00060	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"							
Hexachlorobutadiene	ND	0.0010	0.0050	"							
Isopropylbenzene	ND	0.00070	0.0050	"							
4-Isopropyl Toluene	ND	0.00070	0.0050	"							
Methylene chloride	ND	0.00080	0.0050	"							
Naphthalene	ND	0.00080	0.0050	"							
n-Propylbenzene	ND	0.00080	0.0050	"							
Styrene	ND	0.00050	0.0050	"							
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"							
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"							
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"							
Toluene	ND	0.00050	0.0050	"							
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"							
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"							
1,1,1-Trichloroethane	ND	0.00090	0.0050	"							
1,1,2-Trichloroethane	ND	0.00060	0.0050	"							
Trichloroethene (TCE)	ND	0.00080	0.0050	"							
Trichlorofluoromethane	ND	0.0017	0.0050	"							
1,2,3-Trichloropropane	ND	0.0010	0.0050	"							
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"							
Vinyl chloride	ND	0.0020	0.0050	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106583 - EPA 5035/5030B MEOH											
Blank (A106583-BLK1)					Prepared & Analyzed: 29-Jun-11						
Xylenes (total)	ND	0.0013	0.0050	mg/kg							
t-Amyl Methyl Ether	ND	0.00080	0.0050	"							
t-Butyl alcohol	ND	0.0024	0.025	"							
Diisopropyl Ether	ND	0.0013	0.0050	"							
Ethanol	ND	0.79	5.0	"							
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"							
Methyl-t-butyl ether	ND	0.00060	0.0050	"							
TPH Gasoline (C4-C10)	ND	0.20	0.50	"							
Surrogate: Dibromofluoromethane	*0.104*			"	*0.100*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0896*			"	*0.100*		*89.6*	*70-130*			
Surrogate: Toluene-d8	*0.0995*			"	*0.100*		*99.5*	*70-130*			
LCS (A106583-BS1)					Prepared & Analyzed: 29-Jun-11						
Benzene	0.101	0.00069	0.0049	mg/kg	0.0988		102	70-130			
Chlorobenzene	0.0960	0.00059	0.0049	"	0.0988		97.2	70-130			
1,1-Dichloroethene	0.117	0.0013	0.0049	"	0.0988		118	70-130			
Toluene	0.101	0.00049	0.0049	"	0.0988		102	70-130			
Trichloroethene (TCE)	0.107	0.00079	0.0049	"	0.0988		108	70-130			
Surrogate: Dibromofluoromethane	*0.102*			"	*0.0988*		*103*	*70-130*			
Surrogate: Toluene-d8	*0.0985*			"	*0.0988*		*99.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0881*			"	*0.0988*		*89.2*	*70-130*			
LCS (A106583-BS2)					Prepared & Analyzed: 29-Jun-11						
TPH Gasoline (C4-C10)	1.72	0.20	0.50	mg/kg	2.01		85.6	70-130			
Surrogate: Dibromofluoromethane	*0.0986*			"	*0.100*		*98.2*	*70-130*			
Surrogate: Toluene-d8	*0.0981*			"	*0.100*		*97.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0990*			"	*0.100*		*98.6*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106583 - EPA 5035/5030B MEOH											
LCS Dup (A106583-BSD1)					Prepared & Analyzed: 29-Jun-11						
Benzene	0.100	0.00070	0.0050	mg/kg	0.0996		101	70-130	0.742	20	
Chlorobenzene	0.0954	0.00060	0.0050	"	0.0996		95.8	70-130	0.699	20	
1,1-Dichloroethene	0.115	0.0013	0.0050	"	0.0996		115	70-130	1.78	20	
Toluene	0.101	0.00050	0.0050	"	0.0996		101	70-130	0.424	20	
Trichloroethene (TCE)	0.105	0.00080	0.0050	"	0.0996		106	70-130	1.56	20	
Surrogate: Dibromofluoromethane	*0.102*			*"*	*0.0996*		*103*	*70-130*			
Surrogate: Toluene-d8	*0.0976*			*"*	*0.0996*		*98.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0855*			*"*	*0.0996*		*85.8*	*70-130*			
LCS Dup (A106583-BSD2)					Prepared & Analyzed: 29-Jun-11						
TPH Gasoline (C4-C10)	1.68	0.20	0.49	mg/kg	1.97		85.5	70-130	2.10	20	
Surrogate: Dibromofluoromethane	*0.0953*			*"*	*0.0984*		*96.8*	*70-130*			
Surrogate: Toluene-d8	*0.0958*			*"*	*0.0984*		*97.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0984*			*"*	*0.0984*		*100*	*70-130*			
Duplicate (A106583-DUP1)	**Source: 1103068-03**				Prepared & Analyzed: 29-Jun-11						
Benzene	ND	0.00069	0.0049	mg/kg		ND				20	
Bromobenzene	ND	0.00040	0.0049	"		ND				20	
Bromochloromethane	ND	0.00099	0.0049	"		ND				20	
Bromodichloromethane	ND	0.00040	0.0049	"		ND				20	
Bromoform	ND	0.00059	0.0049	"		ND				20	
Bromomethane	ND	0.0017	0.0049	"		ND				20	
n-Butylbenzene	ND	0.00069	0.0049	"		ND				20	
sec-Butylbenzene	ND	0.00059	0.0049	"		ND				20	
tert-Butylbenzene	ND	0.00089	0.0049	"		ND				20	
Carbon tetrachloride	ND	0.0011	0.0049	"		ND				20	
Chlorobenzene	ND	0.00059	0.0049	"		ND				20	
Chloroethane	ND	0.0018	0.0049	"		ND				20	
Chloroform	ND	0.00049	0.0049	"		ND				20	
Chloromethane	ND	0.0020	0.0049	"		ND				20	
2-Chlorotoluene	ND	0.00059	0.0049	"		ND				20	
4-Chlorotoluene	ND	0.00040	0.0049	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"		ND				20	
Dibromochloromethane	ND	0.00040	0.0049	"		ND				20	
Dibromomethane	ND	0.00079	0.0049	"		ND				20	
1,2-Dichlorobenzene	ND	0.00030	0.0049	"		ND				20	
1,3-Dichlorobenzene	ND	0.00040	0.0049	"		ND				20	
1,4-Dichlorobenzene	ND	0.00040	0.0049	"		ND				20	
Dichlorodifluoromethane	ND	0.0016	0.0049	"		ND				20	
1,1-Dichloroethane	ND	0.00079	0.0049	"		ND				20	

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106583 - EPA 5035/5030B MEOH											
Duplicate (A106583-DUP1)	**Source: 1103068-03**				Prepared & Analyzed: 29-Jun-11						
1,2-Dichloroethane	ND	0.00079	0.0049	mg/kg		ND				20	
1,1-Dichloroethene	ND	0.0013	0.0049	"		ND				20	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"		ND				20	
trans-1,2-Dichloroethene	ND	0.00099	0.0049	"		ND				20	
1,2-Dichloropropane	ND	0.00059	0.0049	"		ND				20	
1,3-Dichloropropane	ND	0.00040	0.0049	"		ND				20	
2,2-Dichloropropane	ND	0.00089	0.0049	"		ND				20	
1,1-Dichloropropene	ND	0.00079	0.0049	"		ND				20	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"		ND				20	
trans-1,3-Dichloropropene	ND	0.00040	0.0049	"		ND				20	
Ethylbenzene	ND	0.00059	0.0049	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"		ND				20	
Hexachlorobutadiene	ND	0.00099	0.0049	"		ND				20	
Isopropylbenzene	ND	0.00069	0.0049	"		ND				20	
4-Isopropyl Toluene	ND	0.00069	0.0049	"		ND				20	
Methylene chloride	ND	0.00079	0.0049	"		ND				20	
Naphthalene	ND	0.00079	0.0049	"		ND				20	
n-Propylbenzene	ND	0.00079	0.0049	"		ND				20	
Styrene	ND	0.00049	0.0049	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0049	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"		ND				20	
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"		ND				20	
Toluene	ND	0.00049	0.0049	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"		ND				20	
1,1,1-Trichloroethane	ND	0.00089	0.0049	"		ND				20	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"		ND				20	
Trichloroethene (TCE)	ND	0.00079	0.0049	"		ND				20	
Trichlorofluoromethane	ND	0.0017	0.0049	"		ND				20	
1,2,3-Trichloropropane	ND	0.00099	0.0049	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.00069	0.0049	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.00079	0.0049	"		ND				20	
Vinyl chloride	ND	0.0020	0.0049	"		ND				20	
Xylenes (total)	ND	0.0013	0.0049	"		ND				20	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"		ND				20	
t-Butyl alcohol	ND	0.0024	0.025	"		ND				20	
Diisopropyl Ether	ND	0.0013	0.0049	"		ND				20	
Ethanol	ND	0.78	4.9	"		ND				20	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"		ND				20	
Methyl-t-butyl ether	ND	0.00059	0.0049	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106583 - EPA 5035/5030B MEOH											
Duplicate (A106583-DUP1)	**Source: 1103068-03**				Prepared & Analyzed: 29-Jun-11						
TPH Gasoline (C4-C10)	ND	0.20	0.49	mg/kg		ND				20	
Surrogate: Dibromofluoromethane	*0.101*			"	*0.0988*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0809*			"	*0.0988*		*81.8*	*70-130*			
Surrogate: Toluene-d8	*0.0935*			"	*0.0988*		*94.6*	*70-130*			
Matrix Spike (A106583-MS1)	**Source: 1103068-03**				Prepared & Analyzed: 29-Jun-11						
Benzene	0.0763	0.00069	0.0050	mg/kg	0.0992	ND	77.0	70-130			
Chlorobenzene	0.0773	0.00060	0.0050	"	0.0992	ND	78.0	70-130			
1,1-Dichloroethene	0.0692	0.0013	0.0050	"	0.0992	ND	69.8	70-130			QM-08
Toluene	0.0776	0.00050	0.0050	"	0.0992	ND	78.2	70-130			
Trichloroethene (TCE)	0.0812	0.00079	0.0050	"	0.0992	ND	81.9	70-130			
Surrogate: Dibromofluoromethane	*0.101*			"	*0.0992*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.0973*			"	*0.0992*		*98.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0866*			"	*0.0992*		*87.3*	*70-130*			
Matrix Spike (A106583-MS2)	**Source: 1103068-03**				Prepared & Analyzed: 29-Jun-11						
TPH Gasoline (C4-C10)	1.64	0.20	0.50	mg/kg	2.00	ND	81.9	70-130			
Surrogate: Dibromofluoromethane	*0.102*			"	*0.100*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0972*			"	*0.100*		*97.2*	*70-130*			
Surrogate: Toluene-d8	*0.100*			"	*0.100*		*100*	*70-130*			
Batch A106607 - EPA 5035/5030B MEOH											
Blank (A106607-BLK1)					Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
Benzene	ND	0.00070	0.0050	mg/kg							
Bromobenzene	ND	0.00040	0.0050	"							
Bromochloromethane	ND	0.0010	0.0050	"							
Bromodichloromethane	ND	0.00040	0.0050	"							
Bromoform	ND	0.00060	0.0050	"							
Bromomethane	ND	0.0017	0.0050	"							
n-Butylbenzene	ND	0.00070	0.0050	"							
sec-Butylbenzene	ND	0.00060	0.0050	"							
tert-Butylbenzene	ND	0.00090	0.0050	"							
Carbon tetrachloride	ND	0.0011	0.0050	"							
Chlorobenzene	ND	0.00060	0.0050	"							
Chloroethane	ND	0.0018	0.0050	"							
Chloroform	ND	0.00050	0.0050	"							
Chloromethane	ND	0.0020	0.0050	"							
2-Chlorotoluene	ND	0.00060	0.0050	"							
4-Chlorotoluene	ND	0.00040	0.0050	"							
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106607 - EPA 5035/5030B MEOH											
Blank (A106607-BLK1)					Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
Dibromochloromethane	ND	0.00040	0.0050	mg/kg							
Dibromomethane	ND	0.00080	0.0050	"							
1,2-Dichlorobenzene	ND	0.00030	0.0050	"							
1,3-Dichlorobenzene	ND	0.00040	0.0050	"							
1,4-Dichlorobenzene	ND	0.00040	0.0050	"							
Dichlorodifluoromethane	ND	0.0016	0.0050	"							
1,1-Dichloroethane	ND	0.00080	0.0050	"							
1,2-Dichloroethane	ND	0.00080	0.0050	"							
1,1-Dichloroethene	ND	0.0013	0.0050	"							
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"							
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"							
1,2-Dichloropropane	ND	0.00060	0.0050	"							
1,3-Dichloropropane	ND	0.00040	0.0050	"							
2,2-Dichloropropane	ND	0.00090	0.0050	"							
1,1-Dichloropropene	ND	0.00080	0.0050	"							
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"							
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"							
Ethylbenzene	ND	0.00060	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"							
Hexachlorobutadiene	ND	0.0010	0.0050	"							
Isopropylbenzene	ND	0.00070	0.0050	"							
4-Isopropyl Toluene	ND	0.00070	0.0050	"							
Methylene chloride	ND	0.00080	0.0050	"							
Naphthalene	ND	0.00080	0.0050	"							
n-Propylbenzene	ND	0.00080	0.0050	"							
Styrene	ND	0.00050	0.0050	"							
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"							
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"							
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"							
Toluene	ND	0.00050	0.0050	"							
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"							
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"							
1,1,1-Trichloroethane	ND	0.00090	0.0050	"							
1,1,2-Trichloroethane	ND	0.00060	0.0050	"							
Trichloroethene (TCE)	ND	0.00080	0.0050	"							
Trichlorofluoromethane	ND	0.0017	0.0050	"							
1,2,3-Trichloropropane	ND	0.0010	0.0050	"							
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"							
Vinyl chloride	ND	0.0020	0.0050	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106607 - EPA 5035/5030B MEOH											
Blank (A106607-BLK1)					Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
Xylenes (total)	ND	0.0013	0.0050	mg/kg							
t-Amyl Methyl Ether	ND	0.00080	0.0050	"							
t-Butyl alcohol	ND	0.0024	0.025	"							
Diisopropyl Ether	ND	0.0013	0.0050	"							
Ethanol	ND	0.79	5.0	"							
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"							
Methyl-t-butyl ether	ND	0.00060	0.0050	"							
TPH Gasoline (C4-C10)	ND	0.20	0.50	"							
Surrogate: Dibromofluoromethane	*0.0959*			"	*0.0998*		*96.1*	*70-130*			
Surrogate: Toluene-d8	*0.0953*			"	*0.0998*		*95.5*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0878*			"	*0.0998*		*88.0*	*70-130*			
LCS (A106607-BS1)					Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
Benzene	0.0922	0.00069	0.0049	mg/kg	0.0984		93.7	70-130			
Chlorobenzene	0.0836	0.00059	0.0049	"	0.0984		85.0	70-130			
1,1-Dichloroethene	0.100	0.0013	0.0049	"	0.0984		102	70-130			
Toluene	0.0872	0.00049	0.0049	"	0.0984		88.6	70-130			
Trichloroethene (TCE)	0.0912	0.00079	0.0049	"	0.0984		92.6	70-130			
Surrogate: Dibromofluoromethane	*0.0967*			"	*0.0984*		*98.2*	*70-130*			
Surrogate: Toluene-d8	*0.0944*			"	*0.0984*		*95.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0897*			"	*0.0984*		*91.2*	*70-130*			
LCS (A106607-BS2)					Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
TPH Gasoline (C4-C10)	1.45	0.20	0.50	mg/kg	1.98		73.5	70-130			
Surrogate: Dibromofluoromethane	*0.0942*			"	*0.0990*		*95.1*	*70-130*			
Surrogate: Toluene-d8	*0.0952*			"	*0.0990*		*96.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0922*			"	*0.0990*		*93.1*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106607 - EPA 5035/5030B MEOH											
LCS Dup (A106607-BSD1)					Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
Benzene	0.0948	0.00069	0.0050	mg/kg	0.0992		95.5	70-130	2.74	20	
Chlorobenzene	0.0851	0.00060	0.0050	"	0.0992		85.8	70-130	1.77	20	
1,1-Dichloroethene	0.105	0.0013	0.0050	"	0.0992		106	70-130	4.46	20	
Toluene	0.0900	0.00050	0.0050	"	0.0992		90.7	70-130	3.16	20	
Trichloroethene (TCE)	0.0931	0.00079	0.0050	"	0.0992		93.9	70-130	2.12	20	
Surrogate: Dibromofluoromethane	*0.0995*			*"*	*0.0992*		*100*	*70-130*			
Surrogate: Toluene-d8	*0.0965*			*"*	*0.0992*		*97.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0917*			*"*	*0.0992*		*92.5*	*70-130*			
LCS Dup (A106607-BSD2)					Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
TPH Gasoline (C4-C10)	1.43	0.20	0.49	mg/kg	1.95		73.3	70-130	1.53	20	
Surrogate: Dibromofluoromethane	*0.0900*			*"*	*0.0977*		*92.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0912*			*"*	*0.0977*		*93.4*	*70-130*			
Surrogate: Toluene-d8	*0.0932*			*"*	*0.0977*		*95.5*	*70-130*			
Duplicate (A106607-DUP1)	**Source: 1103122-01**				Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
Benzene	ND	0.00069	0.0050	mg/kg		ND				20	
Bromobenzene	ND	0.00040	0.0050	"		ND				20	
Bromochloromethane	ND	0.00099	0.0050	"		ND				20	
Bromodichloromethane	ND	0.00040	0.0050	"		ND				20	
Bromoform	ND	0.00060	0.0050	"		ND				20	
Bromomethane	ND	0.0017	0.0050	"		ND				20	
n-Butylbenzene	ND	0.00069	0.0050	"		ND				20	
sec-Butylbenzene	ND	0.00060	0.0050	"		ND				20	
tert-Butylbenzene	ND	0.00089	0.0050	"		ND				20	
Carbon tetrachloride	ND	0.0011	0.0050	"		ND				20	
Chlorobenzene	ND	0.00060	0.0050	"		ND				20	
Chloroethane	ND	0.0018	0.0050	"		ND				20	
Chloroform	ND	0.00050	0.0050	"		ND				20	
Chloromethane	ND	0.0020	0.0050	"		ND				20	
2-Chlorotoluene	ND	0.00060	0.0050	"		ND				20	
4-Chlorotoluene	ND	0.00040	0.0050	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"		ND				20	
Dibromochloromethane	ND	0.00040	0.0050	"		ND				20	
Dibromomethane	ND	0.00079	0.0050	"		ND				20	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"		ND				20	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
Dichlorodifluoromethane	ND	0.0016	0.0050	"		ND				20	
1,1-Dichloroethane	ND	0.00079	0.0050	"		ND				20	

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106607 - EPA 5035/5030B MEOH											
Duplicate (A106607-DUP1)	**Source: 1103122-01**				Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
1,2-Dichloroethane	ND	0.00079	0.0050	mg/kg		ND				20	
1,1-Dichloroethene	ND	0.0013	0.0050	"		ND				20	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"		ND				20	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"		ND				20	
1,2-Dichloropropane	ND	0.00060	0.0050	"		ND				20	
1,3-Dichloropropane	ND	0.00040	0.0050	"		ND				20	
2,2-Dichloropropane	ND	0.00089	0.0050	"		ND				20	
1,1-Dichloropropene	ND	0.00079	0.0050	"		ND				20	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"		ND				20	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"		ND				20	
Ethylbenzene	ND	0.00060	0.0050	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"		ND				20	
Hexachlorobutadiene	ND	0.00099	0.0050	"		ND				20	
Isopropylbenzene	ND	0.00069	0.0050	"		ND				20	
4-Isopropyl Toluene	ND	0.00069	0.0050	"		ND				20	
Methylene chloride	ND	0.00079	0.0050	"		ND				20	
Naphthalene	ND	0.00079	0.0050	"		ND				20	
n-Propylbenzene	ND	0.00079	0.0050	"		ND				20	
Styrene	ND	0.00050	0.0050	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"		ND				20	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"		ND				20	
Toluene	ND	0.00050	0.0050	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"		ND				20	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"		ND				20	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"		ND				20	
Trichloroethene (TCE)	ND	0.00079	0.0050	"		ND				20	
Trichlorofluoromethane	ND	0.0017	0.0050	"		ND				20	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.00069	0.0050	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.00079	0.0050	"		ND				20	
Vinyl chloride	ND	0.0020	0.0050	"		ND				20	
Xylenes (total)	ND	0.0013	0.0050	"		ND				20	
t-Amyl Methyl Ether	ND	0.00079	0.0050	"		ND				20	
t-Butyl alcohol	ND	0.0024	0.025	"		ND				20	
Diisopropyl Ether	ND	0.0013	0.0050	"		ND				20	
Ethanol	ND	0.78	5.0	"		ND				20	
Ethyl t-Butyl Ether	ND	0.00079	0.0050	"		ND				20	
Methyl-t-butyl ether	ND	0.00060	0.0050	"		ND				20	

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106607 - EPA 5035/5030B MEOH											
Duplicate (A106607-DUP1)	**Source: 1103122-01**				Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg		ND				20	
Surrogate: Dibromofluoromethane	*0.0972*			"	*0.0992*		*98.0*	*70-130*			
Surrogate: Toluene-d8	*0.0916*			"	*0.0992*		*92.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0893*			"	*0.0992*		*90.0*	*70-130*			
Matrix Spike (A106607-MS1)	**Source: 1103122-01**				Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
Benzene	0.0879	0.00070	0.0050	mg/kg	0.0994	ND	88.4	70-130			
Chlorobenzene	0.0865	0.00060	0.0050	"	0.0994	ND	87.0	70-130			
1,1-Dichloroethene	0.0990	0.0013	0.0050	"	0.0994	ND	99.6	70-130			
Toluene	0.0836	0.00050	0.0050	"	0.0994	ND	84.1	70-130			
Trichloroethene (TCE)	0.0899	0.00080	0.0050	"	0.0994	ND	90.4	70-130			
Surrogate: Dibromofluoromethane	*0.100*			"	*0.0994*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0868*			"	*0.0994*		*87.3*	*70-130*			
Surrogate: Toluene-d8	*0.0959*			"	*0.0994*		*96.4*	*70-130*			
Matrix Spike (A106607-MS2)	**Source: 1103122-01**				Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
TPH Gasoline (C4-C10)	1.24	0.20	0.49	mg/kg	1.96	ND	63.2	70-130			QM-08
Surrogate: Dibromofluoromethane	*0.0941*			"	*0.0982*		*95.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0921*			"	*0.0982*		*93.8*	*70-130*			
Surrogate: Toluene-d8	*0.0935*			"	*0.0982*		*95.2*	*70-130*			
Batch A107068 - EPA 5035/5030B MEOH											
Blank (A107068-BLK1)					Prepared & Analyzed: 05-Jul-11						
Benzene	ND	0.00070	0.0050	mg/kg							
Bromobenzene	ND	0.00040	0.0050	"							
Bromochloromethane	ND	0.0010	0.0050	"							
Bromodichloromethane	ND	0.00040	0.0050	"							
Bromoform	ND	0.00060	0.0050	"							
Bromomethane	ND	0.0017	0.0050	"							
n-Butylbenzene	ND	0.00070	0.0050	"							
sec-Butylbenzene	ND	0.00060	0.0050	"							
tert-Butylbenzene	ND	0.00090	0.0050	"							
Carbon tetrachloride	ND	0.0011	0.0050	"							
Chlorobenzene	ND	0.00060	0.0050	"							
Chloroethane	ND	0.0018	0.0050	"							
Chloroform	ND	0.00050	0.0050	"							
Chloromethane	ND	0.0020	0.0050	"							
2-Chlorotoluene	ND	0.00060	0.0050	"							
4-Chlorotoluene	ND	0.00040	0.0050	"							
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107068 - EPA 5035/5030B MEOH											
Blank (A107068-BLK1)					Prepared & Analyzed: 05-Jul-11						
Dibromochloromethane	ND	0.00040	0.0050	mg/kg							
Dibromomethane	ND	0.00080	0.0050	"							
1,2-Dichlorobenzene	ND	0.00030	0.0050	"							
1,3-Dichlorobenzene	ND	0.00040	0.0050	"							
1,4-Dichlorobenzene	ND	0.00040	0.0050	"							
Dichlorodifluoromethane	ND	0.0016	0.0050	"							
1,1-Dichloroethane	ND	0.00080	0.0050	"							
1,2-Dichloroethane	ND	0.00080	0.0050	"							
1,1-Dichloroethene	ND	0.0013	0.0050	"							
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"							
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"							
1,2-Dichloropropane	ND	0.00060	0.0050	"							
1,3-Dichloropropane	ND	0.00040	0.0050	"							
2,2-Dichloropropane	ND	0.00090	0.0050	"							
1,1-Dichloropropene	ND	0.00080	0.0050	"							
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"							
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"							
Ethylbenzene	ND	0.00060	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"							
Hexachlorobutadiene	ND	0.0010	0.0050	"							
Isopropylbenzene	ND	0.00070	0.0050	"							
4-Isopropyl Toluene	ND	0.00070	0.0050	"							
Methylene chloride	ND	0.00080	0.0050	"							
Naphthalene	ND	0.00080	0.0050	"							
n-Propylbenzene	ND	0.00080	0.0050	"							
Styrene	ND	0.00050	0.0050	"							
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"							
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"							
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"							
Toluene	ND	0.00050	0.0050	"							
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"							
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"							
1,1,1-Trichloroethane	ND	0.00090	0.0050	"							
1,1,2-Trichloroethane	ND	0.00060	0.0050	"							
Trichloroethene (TCE)	ND	0.00080	0.0050	"							
Trichlorofluoromethane	ND	0.0017	0.0050	"							
1,2,3-Trichloropropane	ND	0.0010	0.0050	"							
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"							
Vinyl chloride	ND	0.0020	0.0050	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107068 - EPA 5035/5030B MEOH											
Blank (A107068-BLK1)					Prepared & Analyzed: 05-Jul-11						
Xylenes (total)	ND	0.0013	0.0050	mg/kg							
t-Amyl Methyl Ether	ND	0.00080	0.0050	"							
t-Butyl alcohol	ND	0.0024	0.025	"							
Diisopropyl Ether	ND	0.0013	0.0050	"							
Ethanol	ND	0.79	5.0	"							
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"							
Methyl-t-butyl ether	ND	0.00060	0.0050	"							
TPH Gasoline (C4-C10)	ND	0.20	0.50	"							
Surrogate: Dibromofluoromethane	*0.0967*			"	*0.100*		*96.7*	*70-130*			
Surrogate: Toluene-d8	*0.102*			"	*0.100*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.112*			"	*0.100*		*112*	*70-130*			
LCS (A107068-BS1)					Prepared & Analyzed: 05-Jul-11						
Benzene	0.107	0.00070	0.0050	mg/kg	0.100		107	70-130			
Chlorobenzene	0.110	0.00060	0.0050	"	0.100		110	70-130			
1,1-Dichloroethene	0.121	0.0013	0.0050	"	0.100		121	70-130			
Toluene	0.117	0.00050	0.0050	"	0.100		117	70-130			
Trichloroethene (TCE)	0.131	0.00080	0.0050	"	0.100		131	70-130			QM-12
Surrogate: Dibromofluoromethane	*0.0973*			"	*0.100*		*97.3*	*70-130*			
Surrogate: Toluene-d8	*0.0996*			"	*0.100*		*99.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.110*			"	*0.100*		*110*	*70-130*			
LCS (A107068-BS2)					Prepared & Analyzed: 05-Jul-11						
TPH Gasoline (C4-C10)	1.97	0.20	0.50	mg/kg	2.00		98.4	70-130			
Surrogate: Dibromofluoromethane	*0.0978*			"	*0.100*		*97.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.118*			"	*0.100*		*118*	*70-130*			
Surrogate: Toluene-d8	*0.113*			"	*0.100*		*113*	*70-130*			

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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107068 - EPA 5035/5030B MEOH											
LCS Dup (A107068-BSD1)					Prepared & Analyzed: 05-Jul-11						
Benzene	0.108	0.00070	0.0050	mg/kg	0.100		108	70-130	0.409	20	
Chlorobenzene	0.108	0.00060	0.0050	"	0.100		108	70-130	1.40	20	
1,1-Dichloroethene	0.120	0.0013	0.0050	"	0.100		120	70-130	0.664	20	
Toluene	0.119	0.00050	0.0050	"	0.100		119	70-130	1.42	20	
Trichloroethene (TCE)	0.130	0.00080	0.0050	"	0.100		130	70-130	0.644	20	
Surrogate: Dibromofluoromethane	*0.101*			*"*	*0.100*		*101*	*70-130*			
Surrogate: Toluene-d8	*0.106*			*"*	*0.100*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.112*			*"*	*0.100*		*112*	*70-130*			
LCS Dup (A107068-BSD2)					Prepared & Analyzed: 05-Jul-11						
TPH Gasoline (C4-C10)	1.95	0.20	0.50	mg/kg	2.00		97.6	70-130	0.816	20	
Surrogate: Dibromofluoromethane	*0.102*			*"*	*0.100*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.110*			*"*	*0.100*		*110*	*70-130*			
Surrogate: Toluene-d8	*0.109*			*"*	*0.100*		*109*	*70-130*			
Duplicate (A107068-DUP1)	**Source: 1103073-46RE1**				Prepared: 05-Jul-11 Analyzed: 06-Jul-11						
Benzene	ND	0.00070	0.0050	mg/kg		ND				20	
Bromobenzene	ND	0.00040	0.0050	"		ND				20	
Bromochloromethane	ND	0.0010	0.0050	"		ND				20	
Bromodichloromethane	ND	0.00040	0.0050	"		ND				20	
Bromoform	ND	0.00060	0.0050	"		ND				20	
Bromomethane	ND	0.0017	0.0050	"		ND				20	
n-Butylbenzene	ND	0.00070	0.0050	"		ND				20	
sec-Butylbenzene	ND	0.00060	0.0050	"		ND				20	
tert-Butylbenzene	ND	0.00090	0.0050	"		ND				20	
Carbon tetrachloride	ND	0.0011	0.0050	"		ND				20	
Chlorobenzene	ND	0.00060	0.0050	"		ND				20	
Chloroethane	ND	0.0018	0.0050	"		ND				20	
Chloroform	ND	0.00050	0.0050	"		ND				20	
Chloromethane	ND	0.0020	0.0050	"		ND				20	
2-Chlorotoluene	ND	0.00060	0.0050	"		ND				20	
4-Chlorotoluene	ND	0.00040	0.0050	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"		ND				20	
Dibromochloromethane	ND	0.00040	0.0050	"		ND				20	
Dibromomethane	ND	0.00080	0.0050	"		ND				20	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"		ND				20	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
Dichlorodifluoromethane	ND	0.0016	0.0050	"		ND				20	
1,1-Dichloroethane	ND	0.00080	0.0050	"		ND				20	

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107068 - EPA 5035/5030B MEOH											
Duplicate (A107068-DUP1)	**Source: 1103073-46RE1**			Prepared: 05-Jul-11 Analyzed: 06-Jul-11							
1,2-Dichloroethane	ND	0.00080	0.0050	mg/kg		ND				20	
1,1-Dichloroethene	ND	0.0013	0.0050	"		ND				20	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"		ND				20	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"		ND				20	
1,2-Dichloropropane	ND	0.00060	0.0050	"		ND				20	
1,3-Dichloropropane	ND	0.00040	0.0050	"		ND				20	
2,2-Dichloropropane	ND	0.00090	0.0050	"		ND				20	
1,1-Dichloropropene	ND	0.00080	0.0050	"		ND				20	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"		ND				20	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"		ND				20	
Ethylbenzene	ND	0.00060	0.0050	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"		ND				20	
Hexachlorobutadiene	ND	0.0010	0.0050	"		ND				20	
Isopropylbenzene	ND	0.00070	0.0050	"		ND				20	
4-Isopropyl Toluene	ND	0.00070	0.0050	"		ND				20	
Methylene chloride	ND	0.00080	0.0050	"		ND				20	
Naphthalene	ND	0.00080	0.0050	"		ND				20	
n-Propylbenzene	ND	0.00080	0.0050	"		ND				20	
Styrene	ND	0.00050	0.0050	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"		ND				20	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"		ND				20	
Toluene	ND	0.00050	0.0050	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"		ND				20	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"		ND				20	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"		ND				20	
Trichloroethene (TCE)	ND	0.00080	0.0050	"		ND				20	
Trichlorofluoromethane	ND	0.0017	0.0050	"		ND				20	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"		ND				20	
Vinyl chloride	ND	0.0020	0.0050	"		ND				20	
Xylenes (total)	ND	0.0013	0.0050	"		ND				20	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"		ND				20	
t-Butyl alcohol	ND	0.0024	0.025	"		ND				20	
Diisopropyl Ether	ND	0.0013	0.0050	"		ND				20	
Ethanol	ND	0.79	5.0	"		ND				20	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"		ND				20	
Methyl-t-butyl ether	ND	0.00060	0.0050	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107068 - EPA 5035/5030B MEOH											
Duplicate (A107068-DUP1)	**Source: 1103073-46RE1**				Prepared: 05-Jul-11 Analyzed: 06-Jul-11						
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg		ND				20	
Surrogate: Dibromofluoromethane	*0.105*			"	*0.100*		*105*	*70-130*			
Surrogate: Toluene-d8	*0.106*			"	*0.100*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0822*			"	*0.100*		*82.2*	*70-130*			
Matrix Spike (A107068-MS1)	**Source: 1103073-46RE1**				Prepared: 05-Jul-11 Analyzed: 06-Jul-11						
Benzene	0.106	0.00070	0.0050	mg/kg	0.100	ND	106	70-130			
Chlorobenzene	0.108	0.00060	0.0050	"	0.100	ND	108	70-130			
1,1-Dichloroethene	0.108	0.0013	0.0050	"	0.100	ND	108	70-130			
Toluene	0.108	0.00050	0.0050	"	0.100	ND	108	70-130			
Trichloroethene (TCE)	0.126	0.00080	0.0050	"	0.100	ND	126	70-130			
Surrogate: Dibromofluoromethane	*0.0960*			"	*0.100*		*96.0*	*70-130*			
Surrogate: Toluene-d8	*0.0974*			"	*0.100*		*97.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0970*			"	*0.100*		*97.0*	*70-130*			
Matrix Spike (A107068-MS2)	**Source: 1103073-46RE1**				Prepared: 05-Jul-11 Analyzed: 06-Jul-11						
TPH Gasoline (C4-C10)	1.82	0.20	0.50	mg/kg	2.00	ND	91.0	70-130			
Surrogate: Dibromofluoromethane	*0.0968*			"	*0.100*		*96.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.112*			"	*0.100*		*112*	*70-130*			
Surrogate: Toluene-d8	*0.125*			"	*0.100*		*125*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896: Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 14:57

Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogates.
QR-04	The RPD exceeded the QC control limits.
QM-12	The spike level was outside acceptance limits. The batch was accepted based on acceptable recovery of the remaining spikes.
QM-08	The spike recovery was outside acceptance limits for the MS and/or MSD. The QC Batch was accepted based on LCS/LCSD percent recoveries and RPD values.
J	Detected but below the RL/PQL; therefore, result is an estimated concentration .
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the Method Limit (MDL)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0896: Former Unocal Avila Terminal - Cliff Area Characterization Activities

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle

Invoice To: CEMC
Kyle Rutherford
AFE/WBS#:
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: 8270- TPH C10-C25, C25-C40 by GC/MS	8260- TPH C4-C10, VOCs & Oxys	8270C-SIM- PAHs	6000/7000- Dissolved Metals					NOTES
B-226-5'	6/22/11	1045	1	Soil/Solid	None	Steel Sleeve	X	X							1103073-1A
B-226-10'		1050					X	X							2A
B-226-15'		1057					X	X							3A
B-226-20'		1110					X	X							4A
B-226-25'		1115													Hold 5A
B-226-30'		1130					X	X							6A
B-226-35'		1140													Hold 7A
B-226-40		1155					X	X							8A
B-226-45'		1207													Hold 9A
B-226-50'		1220					X	X							10A
B-226-55'		1235													Hold 11A
B-226-60'		1252					X	X							12A
B-226-65'		1340													Hold 13A
B-226-70'		1405					X	X							14A

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
	6/24/11	1505		06/24/11	1505
Relinquished by:	Date	Time	Received by:	Date	Time
	06/24/11	1631		6-24-11	1631

Turn Around Time (Check)

same day		72 hours	
24 hours		5 days	
48 hours		normal	X

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 Fax No.: 805.786.2651
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Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: 8270- TPH C10-C25, C25-C40 by GC/MS	8260- TPH C4-C10, VOCs & Oxys	8270C-SIM- PAHs	6000/7000- Dissolved Metals					NOTES
B-226-75'	6/22/11	1430	1	Soil/Solid	None	Steel sleeve	X	X							1103073-15A
B-226-80'		1495					X	X							16A
B-226-85'		1510					X	X							17A
B-226-90'		1525													Hold 18A
B-226-95'		1545					X	X							19A
B-227-5'	6/23/11	0950					X	X							20A
B-227-10'		1000					X	X							21A
B-227-15'		1011					X	X							22A
B-227-20'		1020					X	X							23A
B-227-25'		1030													Hold 24A
B-227-30'		1037					X	X							25A
B-227-35'		1045													Hold 26A
B-227-40'		1107					X	X							27A
B-227-45'		1120					X	X							28A

Special Instructions:
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Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
	6/24/11	1505		06/24/11	1505
Relinquished by:	Date	Time	Received by:	Date	Time
	06/24/11	1631		6-24-11	1631

Turn Around Time (Check)
same day [ ] 72 hours [ ]
24 hours [ ] 5 days [ ]
48 hours [ ] normal [X]

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
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B-227-50'	6/23/11	1130	1	Soil/ Solid	None	Steel/ sleeve	X	X							1103073-29A
B-227-55'		1138													Hold 30A
B-227-60'		1155					X	X							31A
B-228-5'		1347					X	X							32A
B-228-10'		1400					X	X							33A
B-228-15'		1402					X	X							34A
B-228-20'		1410					X	X							35A
B-228-25'		1415					X	X							36A
B-228-30'		1425													Hold 37A
B-228-35'		1440					X	X							38A
B-228-40'		1450													Hold 39A
B-228-45'		1506					X	X							40A
B-228-50'		1515													Hold 41A
B-228-55'		1530					X	X							42A

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	6/24/11	1505	[signature]	06/24/11	1505
[signature]	06/24/11	1631	[signature]	6-24-11	1631

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
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Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0896: Former Unocal Avila Terminal - Cliff Area Characterization Activities

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle

Invoice To: CEMC
Kyle Rutherford
AFE/WBS#:
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: 8270- TPH C10-C25, C25-C40 by GC/MS	8260- TPH C4-C10, VOCs & Oxys	8270C-SIM- PAHs	6000/7000- Dissolved Metals	Lead				NOTES
B-228-60'	6/23/11	1545	1	soil/solid	None	steel sleeve	X	X							1103073-43A
B-229-5'	6/24/11	1105					X	X			Δ				44A
B-229-10'		1110					X	X			Δ				45A
B-229-15'		1120					X	X							46A
B-229-20'		1130													Hold 47A
B-229-25'		1140					X	X							48A
B-229-30'		1150					X	X							49A
B-229-35'		1203													Hold 50A
B-229-40'		1215					X	X			Δ				51A
B-229-45'		1223					X	X			Δ				52A
B-229-50'		1240													Hold 53A
B-229-55'		1250					X	X							54A
B-229-60'		1305					X	X							55A

Special Instructions:
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Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	6/24/11	1505	[signature]	06/24/11	1505
Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	06/24/11	1631	[signature]	6-24-11	1631

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

Lisa Race

From: Louis J. Cappel [lcappel@padreinc.com]
Sent: Wednesday, August 24, 2011 2:34 PM
To: 'Lisa Race'
Subject: Avila - Add Ons

Follow Up Flag: Follow up
Due By: Thursday, August 25, 2011 11:30 AM
Flag Status: Flagged

Lisa,

Please analyze the following on standard TAT for lead by EPA 6010.

ID	OEC ID
B-229-10'	1103073-45
B-229-45'	1103073-52
B-230-20'	1103124-04
B-231-20'	1103124-11
B-229-5'	1103073-44
B-229-40'	1103073-51
B-230-5'	1103124-01
B-230-10'	1103124-02
B-230-15'	1103124-03
B-230-30'	1103124-05
B-231-5'	1103124-08
B-231-30'	1103124-13

Thank you,

Louis

Louis J. Cappel, P.G., C.Hg.|Senior Geologist
PADRE ASSOCIATES, INC.
369 Pacific Street, San Luis Obispo, CA 93401
(805) 786-2650, Ext. 26 (Office)|(805) 712-5842 (Cell)
lcappel@padreinc.com

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0896: Former Unocal Avila Terminal - Cliff Area Characterization Activities

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle

Invoice To: CEMC
Kyle Rutherford
AFE/WBS#:
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: 8270- TPH C10-C25, C25-C40 by GC/MS	8260- TPH C4-C10, VOCs & Oxys	8270C-SIM- PAHs	6000/7000- Dissolved Metals					NOTES
B-226-5'	6/22/11	1045	1	Soil/Solid	None	Steel sleeve	X	X							1103073-1A
B-226-10'		1050					X	X							2A
B-226-15'		1057					X	X							3A
B-226-20'		1110					X	X							4A
B-226-25'		1115													Hold 5A
B-226-30'		1130					X	X							6A
B-226-35'		1140													Hold 7A
B-226-40		1155					X	X							8A
B-226-45'		1207													Hold 9A
B-226-50'		1220					X	X							10A
B-226-55'		1235													Hold 11A
B-226-60'		1252					X	X							12A
B-226-65'		1340													Hold 13A
B-226-70'		1405					X	X							14A

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
	6/24/11	1505		06/24/11	1505
Relinquished by:	Date	Time	Received by:	Date	Time
	06/24/11	1631		6-24-11	1631

Turn Around Time (Check)

same day		72 hours	
24 hours		5 days	
48 hours		normal	X

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0896: Former Unocal Avila Terminal - Cliff Area Characterization Activities

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle

Invoice To: CEMC
Kyle Rutherford
AFE/WBS#:
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: 8270- TPH C10-C25, C25-C40 by GC/MS	8260- TPH C4-C10, VOCs & Oxys	8270C-SIM- PAHs	6000/7000- Dissolved Metals					NOTES
B-226-75'	6/22/11	1430	1	Soil/Solid	None	Steel sleeve	X	X							1103073-15A
B-226-80'		1445					X	X							16A
B-226-85'		1510					X	X							17A
B-226-90'		1525					—	—	—	—	—	—	—	—	Hold 18A
B-226-95'		1545					X	X							19A
B-227-5'	6/23/11	0950					X	X							20A
B-227-10'		1000					X	X							21A
B-227-15'		1011					X	X							22A
B-227-20'		1020					X	X							23A
B-227-25'		1030					—	—	—	—	—	—	—	—	Hold 24A
B-227-30'		1037					X	X							25A
B-227-35'		1045					—	—	—	—	—	—	—	—	Hold 26A
B-227-40'		1107					X	X							27A
B-227-45'		1120					X	X							28A

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
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Relinquished by:	Date	Time	Received by:	Date	Time
	6/24/11	1505		06/24/11	1505
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	06/24/11	1631		6-24-11	1631

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same day		72 hours	
24 hours		5 days	
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Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: 8270- TPH C10-C25, C25-C40 by GC/MS	8260- TPH C4-C10, VOCs & Oxys	8270C-SIM- PAHs	6000/7000- Dissolved Metals					NOTES
B-227-50'	6/23/11	1130	1	Soil/ Solid	None	Steel/ Sleeve	X	X							110373-29A
B-227-55'		1138													Hold 30A
B-227-60'		1155					X	X							31A
B-228-5'		1347					X	X							32A
B-228-10'		1400					X	X							33A
B-228-15'		1402					X	X							34A
B-228-20'		1410					X	X							35A
B-228-25'		1415					X	X							36A
B-228-30'		1425													Hold 37A
B-228-35'		1440					X	X							38A
B-228-40'		1450													Hold 39A
B-228-45'		1506					X	X							40A
B-228-50'		1515													Hold 41A
B-228-55'		1530					X	X							42A

Special Instructions:
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VOCs Free of Headspace? Y N

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24 hours		5 days	
48 hours		normal	X

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B-228-60'	6/23/11	1545	1	soil/solid	None	steel sleeve	X	X							1103073-43A
B-229-5'	6/24/11	1105					X	X							44A
B-229-10'		1110					X	X							45A
B-229-15'		1120					X	X							46A
B-229-20'		1130													Hold 47A
B-229-25'		1140					X	X							48A
B-229-30'		1150					X	X							49A
B-229-35'		1203													Hold 50A
B-229-40'		1215					X	X							51A
B-229-45'		1223					X	X							52A
B-229-50'		1240													Hold 53A
B-229-55'		1250					X	X							54A
B-229-60'		1305					X	X							55A

Special Instructions:
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Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	6/24/11	1505	[signature]	06/24/11	1505
[signature]	06/24/11	1631	[signature]	6-24-11	1631

Turn Around Time (Check)
same day [ ] 72 hours [ ]
24 hours [ ] 5 days [ ]
48 hours [ ] normal [X]

OEC SAMPLE RECEIPT

Rev 01/15/10

CLIENT: PADRE - SLO OEC ID #: 1103073 Temp: 5 °C

Acceptable Range: 0°C to 6°C

COC RECEIVED DATE/TIME: 6-24-11 1631

RECEIPT LOGIN DATE/TIME: 6-27-11 1025

REFRIGERATOR(s): 8

SAMPLE TRANSPORT, RECEIPT, CONDITION & PRESERVATION:		Yes	No	N/A	(*) PROBLEM CHAIN FORM NEEDED
☒ OEC Courier/Sampler	COC document(s) received with samples	☒	☐*	☐	Custody Seals (circle): Present / (Absent)
☐ Delivery(Other than OEC Courier)	Correct containers for analysis requested	☒	☐*	☐	Samples / Coolers
☒ Samples Received on Ice	Container(s) intact and in good condition	☒	☐*	☐	Intact / Broken*
☐ Samples Received Outside Temp. Range*	Container label(s) consistent with COC	☒	☐*	☐	Method of Shipment & Tracking #(if applicable):
☐ Samples Direct from field (Outside Temp)	OEC preservative added (**note std ID)	☐**	☐	☒	
☐ After-Hours Outside Drop-off [Brought Inside]	Proper preservation on sample label(s)	☐	☐	☒	(**) OEC Preservative ID:
(Initials/Date/Time):	VOA containers free of headspace	☐	☐*	☒	Dissolved Metals Filtration. (Date/Init/Preserve ID)
	Tedlar Bags free of condensation	☐	☐*	☒	

CONTAINERS, COC CHANGES AND/OR CORRECTIONS CHANGES AUTHORIZED BY:

OEC ID	Client ID ***If blank, refer to CoC	Container Description	Preservative	ResCl /pH	Matrix	Date/Time Sampled ***	Comments / Remarks / Condition Notes, Etc.
1-55A		1-TUBE EA	—	—	SOLID		

RECEIPT LOGIN BY: ELH RECEIPT REVIEWED BY: [signature]

Oilfield Environmental and Compliance, INC.

Louis Cappel
Padre Associates, Inc. - SLO
369 Pacific Street
San Luis Obispo, CA 93401

31 August 2011

RE: Former Unocal Avila Terminal

Work Order: 1103124

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on 29-Jun-11 12:30 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Lisa Race

Laboratory Manager

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-230-5'	1103124-01	Solid	27-Jun-11 09:15	29-Jun-11 12:30
B-230-10'	1103124-02	Solid	27-Jun-11 09:30	29-Jun-11 12:30
B-230-15'	1103124-03	Solid	27-Jun-11 09:37	29-Jun-11 12:30
B-230-20'	1103124-04	Solid	27-Jun-11 09:45	29-Jun-11 12:30
B-230-30'	1103124-05	Solid	27-Jun-11 10:05	29-Jun-11 12:30
B-230-45'	1103124-06	Solid	27-Jun-11 10:45	29-Jun-11 12:30
B-230-50'	1103124-07	Solid	27-Jun-11 11:10	29-Jun-11 12:30
B-231-5'	1103124-08	Solid	27-Jun-11 14:00	29-Jun-11 12:30
B-231-10'	1103124-09	Solid	27-Jun-11 14:10	29-Jun-11 12:30
B-231-15'	1103124-10	Solid	27-Jun-11 14:15	29-Jun-11 12:30
B-231-20'	1103124-11	Solid	27-Jun-11 14:23	29-Jun-11 12:30
B-231-30'	1103124-13	Solid	27-Jun-11 14:50	29-Jun-11 12:30
B-231-35'	1103124-14	Solid	27-Jun-11 15:00	29-Jun-11 12:30
B-231-40'	1103124-15	Solid	27-Jun-11 15:15	29-Jun-11 12:30
062711	1103124-16	Solid	27-Jun-11 16:50	29-Jun-11 12:30

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-5'

1103124-01 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
Total Metals by EPA 6000/7000 Series Methods										
Lead	**9.7**	0.49	0.97	mg/kg	1	A108575	29-Aug-11	30-Aug-11	EPA 6010B	
TEPH by GCMS										
TPH Diesel (C10-C25)	**310**	26	100	mg/kg	10	A107071	06-Jul-11	08-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*71.9 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**24**	6.9	50	"	1	"	"	07-Jul-11	"	J
Surrogate: o-Terphenyl			*91.4 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										**R-06**
Benzene	**2.3**	0.070	0.50	mg/kg	100	A107005	06-Jul-11	07-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.040	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.040	0.50	"	"	"	"	"	"	
Bromoform	ND	0.060	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.17	0.50	"	"	"	"	"	"	
n-Butylbenzene	**1.5**	0.070	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**0.64**	0.060	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.12**	0.090	0.50	"	"	"	"	"	"	J
Carbon tetrachloride	ND	0.11	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.060	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.18	0.50	"	"	"	"	"	"	
Chloroform	ND	0.050	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.20	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.060	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.040	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.040	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.080	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.030	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.040	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.040	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.16	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.080	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-5'

1103124-01 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT **R-06**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloroethane	ND	0.080	0.50	mg/kg	100	A107005	06-Jul-11	07-Jul-11	EPA 8260B/LUFT	
1,1-Dichloroethene	ND	0.13	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.050	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.060	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.040	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.090	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.080	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.060	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.040	0.50	"	"	"	"	"	"	
Ethylbenzene	**9.9**	0.060	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.060	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.10	0.50	"	"	"	"	"	"	
Isopropylbenzene	**2.3**	0.070	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	**1.2**	0.070	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.080	0.50	"	"	"	"	"	"	
Naphthalene	**6.7**	0.080	0.50	"	"	"	"	"	"	
n-Propylbenzene	**2.3**	0.080	0.50	"	"	"	"	"	"	
Styrene	ND	0.050	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.040	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.050	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.090	0.50	"	"	"	"	"	"	
Toluene	**7.4**	0.050	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.090	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.050	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.090	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.060	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.080	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.17	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.10	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**19**	0.070	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**5.5**	0.080	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.20	0.50	"	"	"	"	"	"	
Xylenes (total)	**51**	0.13	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.080	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.24	2.5	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-5'

1103124-01 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT **R-06**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Diisopropyl Ether	ND	0.13	0.50	mg/kg	100	A107005	06-Jul-11	07-Jul-11	EPA 8260B/LUFT	
Ethanol	ND	79	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.080	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.060	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**2000**	200	500	"	1000	A107099	07-Jul-11	07-Jul-11	"	
Surrogate: Dibromofluoromethane			*97.2 %*		*70-130*	*A107005*	*06-Jul-11*	*07-Jul-11*	"	
Surrogate: Toluene-d8			*102 %*		*70-130*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*110 %*		*70-130*	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-10'

1103124-02 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Metals by EPA 6000/7000 Series Methods

Lead	**9.2**	0.50	0.99	mg/kg	1	A108575	29-Aug-11	30-Aug-11	EPA 6010B	

TEPH by GCMS

TPH Diesel (C10-C25)	**220**	26	100	mg/kg	10	A107071	06-Jul-11	08-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*75.8 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**13**	6.9	50	"	1	"	"	07-Jul-11	"	J
Surrogate: o-Terphenyl			*84.8 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT **R-06**

Benzene	**11**	0.070	0.50	mg/kg	100	A107005	06-Jul-11	07-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.040	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.040	0.50	"	"	"	"	"	"	
Bromoform	ND	0.060	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.17	0.50	"	"	"	"	"	"	
n-Butylbenzene	**2.1**	0.070	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**0.93**	0.060	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.14**	0.090	0.50	"	"	"	"	"	"	J
Carbon tetrachloride	ND	0.11	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.060	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.18	0.50	"	"	"	"	"	"	
Chloroform	ND	0.050	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.20	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.060	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.040	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.040	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.080	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.030	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.040	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.040	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.16	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.080	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.080	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.13	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.050	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-10'

1103124-02 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT **R-06**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
trans-1,2-Dichloroethene	ND	0.10	0.50	mg/kg	100	A107005	06-Jul-11	07-Jul-11	EPA 8260B/LUFT	
1,2-Dichloropropane	ND	0.060	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.040	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.090	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.080	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.060	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.040	0.50	"	"	"	"	"	"	
Ethylbenzene	**15**	0.060	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.060	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.10	0.50	"	"	"	"	"	"	
Isopropylbenzene	**4.1**	0.070	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	**1.7**	0.070	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.080	0.50	"	"	"	"	"	"	
Naphthalene	**9.8**	0.080	0.50	"	"	"	"	"	"	
n-Propylbenzene	**4.3**	0.080	0.50	"	"	"	"	"	"	
Styrene	ND	0.050	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.040	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.050	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.090	0.50	"	"	"	"	"	"	
Toluene	**62**	0.25	2.5	"	500	A107099	07-Jul-11	07-Jul-11	"	
1,2,3-Trichlorobenzene	ND	0.090	0.50	"	100	A107005	06-Jul-11	07-Jul-11	"	
1,2,4-Trichlorobenzene	ND	0.050	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.090	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.060	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.080	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.17	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.10	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**54**	0.35	2.5	"	500	A107099	07-Jul-11	07-Jul-11	"	
1,3,5-Trimethylbenzene	**8.7**	0.080	0.50	"	100	A107005	06-Jul-11	07-Jul-11	"	
Vinyl chloride	ND	0.20	0.50	"	"	"	"	"	"	
Xylenes (total)	**150**	0.65	2.5	"	500	A107099	07-Jul-11	07-Jul-11	"	
t-Amyl Methyl Ether	ND	0.080	0.50	"	100	A107005	06-Jul-11	07-Jul-11	"	
t-Butyl alcohol	ND	0.24	2.5	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.13	0.50	"	"	"	"	"	"	
Ethanol	ND	78	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.080	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-10'

1103124-02 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT **R-06**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methyl-t-butyl ether	ND	0.060	0.50	mg/kg	100	A107005	06-Jul-11	07-Jul-11	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	**3800**	100	250	"	500	A107099	07-Jul-11	07-Jul-11	"	
Surrogate: Dibromofluoromethane			*82.4 %*	*70-130*		*A107005*	*06-Jul-11*	*07-Jul-11*	*"*	
Surrogate: Toluene-d8			*95.2 %*	*70-130*		*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene			*130 %*	*70-130*		*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-15'

1103124-03 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Metals by EPA 6000/7000 Series Methods

Lead	**10**	0.50	0.99	mg/kg	1	A108575	29-Aug-11	30-Aug-11	EPA 6010B	

TEPH by GCMS

TPH Diesel (C10-C25)	**850**	26	100	mg/kg	10	A107071	06-Jul-11	08-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*71.9 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**9.7**	6.9	50	"	1	"	"	07-Jul-11	"	J
Surrogate: o-Terphenyl			*81.2 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT **R-06**

Benzene	**6.2**	0.070	0.50	mg/kg	100	A107005	06-Jul-11	07-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.040	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.040	0.50	"	"	"	"	"	"	
Bromoform	ND	0.060	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.17	0.50	"	"	"	"	"	"	
n-Butylbenzene	**1.6**	0.070	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**0.67**	0.060	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.11**	0.090	0.50	"	"	"	"	"	"	J
Carbon tetrachloride	ND	0.11	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.060	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.18	0.50	"	"	"	"	"	"	
Chloroform	ND	0.050	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.20	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.060	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.040	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.040	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.080	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.030	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.040	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.040	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.16	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.080	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	**0.74**	0.080	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.13	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.050	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-15'

1103124-03 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT **R-06**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
trans-1,2-Dichloroethene	ND	0.10	0.50	mg/kg	100	A107005	06-Jul-11	07-Jul-11	EPA 8260B/LUFT	
1,2-Dichloropropane	ND	0.060	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.040	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.090	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.080	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.060	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.040	0.50	"	"	"	"	"	"	
Ethylbenzene	**6.6**	0.060	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.060	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.10	0.50	"	"	"	"	"	"	
Isopropylbenzene	**2.0**	0.070	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	**1.1**	0.070	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.080	0.50	"	"	"	"	"	"	
Naphthalene	**6.2**	0.080	0.50	"	"	"	"	"	"	
n-Propylbenzene	**2.6**	0.080	0.50	"	"	"	"	"	"	
Styrene	ND	0.050	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.040	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.050	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.090	0.50	"	"	"	"	"	"	
Toluene	**10**	0.050	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.090	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.050	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.090	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.060	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.080	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.17	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.10	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**15**	0.070	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**5.1**	0.080	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.20	0.50	"	"	"	"	"	"	
Xylenes (total)	**40**	0.13	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.080	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.24	2.5	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.13	0.50	"	"	"	"	"	"	
Ethanol	ND	79	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.080	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-15'

1103124-03 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT **R-06**

Methyl-t-butyl ether	ND	0.060	0.50	mg/kg	100	A107005	06-Jul-11	07-Jul-11	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	**5800**	200	500	"	1000	A107099	07-Jul-11	07-Jul-11	"	
Surrogate: Dibromofluoromethane			*86.9 %*	*70-130*		*A107005*	*06-Jul-11*	*07-Jul-11*	*"*	
Surrogate: Toluene-d8			*90.2 %*	*70-130*		*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene			*113 %*	*70-130*		*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-20'

1103124-04 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Metals by EPA 6000/7000 Series Methods										
Lead	**17**	0.45	0.91	mg/kg	1	A108575	29-Aug-11	30-Aug-11	EPA 6010B	
TEPH by GCMS										
TPH Diesel (C10-C25)	**27**	2.6	10	mg/kg	1	A107071	06-Jul-11	07-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*67.9 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*75.0 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.49**	0.069	0.49	mg/kg	100	A107005	06-Jul-11	07-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.0036	0.045	"	1	A107131	08-Jul-11	13-Jul-11	"	O-11
Bromochloromethane	ND	0.0091	0.045	"	"	"	"	"	"	O-11
Bromodichloromethane	ND	0.0036	0.045	"	"	"	"	"	"	O-11
Bromoform	ND	0.0055	0.045	"	"	"	"	"	"	O-11
Bromomethane	ND	0.015	0.045	"	"	"	"	"	"	O-11
n-Butylbenzene	**0.47**	0.069	0.49	"	100	A107005	06-Jul-11	07-Jul-11	"	J
sec-Butylbenzene	**0.17**	0.059	0.49	"	"	"	"	"	"	J
tert-Butylbenzene	ND	0.0082	0.045	"	1	A107131	08-Jul-11	13-Jul-11	"	O-11
Carbon tetrachloride	ND	0.010	0.045	"	"	"	"	"	"	O-11
Chlorobenzene	ND	0.0055	0.045	"	"	"	"	"	"	O-11
Chloroethane	ND	0.016	0.045	"	"	"	"	"	"	O-11
Chloroform	ND	0.0045	0.045	"	"	"	"	"	"	O-11
Chloromethane	ND	0.018	0.045	"	"	"	"	"	"	O-11
2-Chlorotoluene	ND	0.0055	0.045	"	"	"	"	"	"	O-11
4-Chlorotoluene	ND	0.0036	0.045	"	"	"	"	"	"	O-11
1,2-Dibromo-3-chloropropane	ND	0.012	0.045	"	"	"	"	"	"	O-11
Dibromochloromethane	ND	0.0036	0.045	"	"	"	"	"	"	O-11
Dibromomethane	ND	0.0073	0.045	"	"	"	"	"	"	O-11
1,2-Dichlorobenzene	ND	0.0027	0.045	"	"	"	"	"	"	O-11
1,3-Dichlorobenzene	ND	0.0036	0.045	"	"	"	"	"	"	O-11
1,4-Dichlorobenzene	ND	0.0036	0.045	"	"	"	"	"	"	O-11
Dichlorodifluoromethane	ND	0.015	0.045	"	"	"	"	"	"	O-11
1,1-Dichloroethane	ND	0.0073	0.045	"	"	"	"	"	"	O-11
1,2-Dichloroethane	ND	0.0073	0.045	"	"	"	"	"	"	O-11
1,1-Dichloroethene	ND	0.012	0.045	"	"	"	"	"	"	O-11

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-20'

1103124-04 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.0045	0.045	mg/kg	1	A107131	08-Jul-11	13-Jul-11	EPA 8260B/LUFT	O-11
trans-1,2-Dichloroethene	ND	0.0091	0.045	"	"	"	"	"	"	O-11
1,2-Dichloropropane	ND	0.0055	0.045	"	"	"	"	"	"	O-11
1,3-Dichloropropane	ND	0.0036	0.045	"	"	"	"	"	"	O-11
2,2-Dichloropropane	ND	0.0082	0.045	"	"	"	"	"	"	O-11
1,1-Dichloropropene	ND	0.0073	0.045	"	"	"	"	"	"	O-11
cis-1,3-Dichloropropene	ND	0.0055	0.045	"	"	"	"	"	"	O-11
trans-1,3-Dichloropropene	ND	0.0036	0.045	"	"	"	"	"	"	O-11
Ethylbenzene	**2.2**	0.059	0.49	"	100	A107005	06-Jul-11	07-Jul-11	"	
1,2-Dibromoethane (EDB)	ND	0.0055	0.045	"	1	A107131	08-Jul-11	13-Jul-11	"	O-11
Hexachlorobutadiene	ND	0.0091	0.045	"	"	"	"	"	"	O-11
Isopropylbenzene	**0.78**	0.069	0.49	"	100	A107005	06-Jul-11	07-Jul-11	"	
4-Isopropyl Toluene	**0.33**	0.069	0.49	"	"	"	"	"	"	J
Methylene chloride	**0.0098**	0.0073	0.045	"	1	A107131	08-Jul-11	13-Jul-11	"	J, O-11
Naphthalene	**2.8**	0.079	0.49	"	100	A107005	06-Jul-11	07-Jul-11	"	
n-Propylbenzene	**0.86**	0.079	0.49	"	"	"	"	"	"	
Styrene	ND	0.0045	0.045	"	1	A107131	08-Jul-11	13-Jul-11	"	O-11
1,1,1,2-Tetrachloroethane	ND	0.0036	0.045	"	"	"	"	"	"	O-11
1,1,2,2-Tetrachloroethane	ND	0.0045	0.045	"	"	"	"	"	"	O-11
Tetrachloroethene (PCE)	ND	0.0082	0.045	"	"	"	"	"	"	O-11
Toluene	**2.2**	0.049	0.49	"	100	A107005	06-Jul-11	07-Jul-11	"	
1,2,3-Trichlorobenzene	ND	0.0082	0.045	"	1	A107131	08-Jul-11	13-Jul-11	"	O-11
1,2,4-Trichlorobenzene	ND	0.0045	0.045	"	"	"	"	"	"	O-11
1,1,1-Trichloroethane	ND	0.0082	0.045	"	"	"	"	"	"	O-11
1,1,2-Trichloroethane	ND	0.0055	0.045	"	"	"	"	"	"	O-11
Trichloroethene (TCE)	ND	0.0073	0.045	"	"	"	"	"	"	O-11
Trichlorofluoromethane	ND	0.015	0.045	"	"	"	"	"	"	O-11
1,2,3-Trichloropropane	ND	0.0091	0.045	"	"	"	"	"	"	O-11
1,2,4-Trimethylbenzene	**5.8**	0.069	0.49	"	100	A107005	06-Jul-11	07-Jul-11	"	
1,3,5-Trimethylbenzene	**1.6**	0.079	0.49	"	"	"	"	"	"	
Vinyl chloride	ND	0.018	0.045	"	1	A107131	08-Jul-11	13-Jul-11	"	O-11
Xylenes (total)	**9.6**	0.13	0.49	"	100	A107005	06-Jul-11	07-Jul-11	"	
t-Amyl Methyl Ether	ND	0.0073	0.045	"	1	A107131	08-Jul-11	13-Jul-11	"	O-11
t-Butyl alcohol	**2.1**	0.022	0.23	"	"	"	"	"	"	O-11
Diisopropyl Ether	ND	0.012	0.045	"	"	"	"	"	"	O-11
Ethanol	ND	7.2	45	"	"	"	"	"	"	O-11

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-20'

1103124-04 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Ethyl t-Butyl Ether	ND	0.0073	0.045	mg/kg	1	A107131	08-Jul-11	13-Jul-11	EPA 8260B/LUFT	O-11
Methyl-t-butyl ether	ND	0.0055	0.045	"	"	"	"	"	"	O-11
TPH Gasoline (C4-C10)	**250**	20	49	"	100	A107005	06-Jul-11	07-Jul-11	"	
Surrogate: Dibromofluoromethane			*100 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*116 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*97.7 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-30'

1103124-05 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Metals by EPA 6000/7000 Series Methods

Lead	**14**	0.46	0.92	mg/kg	1	A108575	29-Aug-11	30-Aug-11	EPA 6010B	

TEPH by GCMS

TPH Diesel (C10-C25)	**3.7**	2.6	10	mg/kg	1	A107071	06-Jul-11	07-Jul-11	EPA 8270C	J
Surrogate: o-Terphenyl			*54.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*59.9 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	**0.0010**	0.00069	0.0050	mg/kg	1	A107087	07-Jul-11	08-Jul-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	**0.0065**	0.00079	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-30'

1103124-05 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.00050	0.0050	mg/kg	1	A107087	07-Jul-11	08-Jul-11	EPA 8260B/LUFT	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0050	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.00040	0.0050	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0050	"	"	"	"	"	"	
Naphthalene	**0.0076**	0.00079	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	**0.15**	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-30'

1103124-05 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Ethanol	ND	0.78	5.0	mg/kg	1	A107087	07-Jul-11	08-Jul-11	EPA 8260B/LUFT	
Ethyl t-Butyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*111 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*98.6 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*95.5 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-45'

1103124-06 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**12**	2.6	10	mg/kg	1	A107071	06-Jul-11	07-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*66.7 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*73.7 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.0069	0.049	mg/kg	1	A107087	07-Jul-11	08-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.0039	0.049	"	"	"	"	"	"	
Bromochloromethane	ND	0.0098	0.049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0039	0.049	"	"	"	"	"	"	
Bromoform	ND	0.0059	0.049	"	"	"	"	"	"	
Bromomethane	ND	0.017	0.049	"	"	"	"	"	"	
n-Butylbenzene	**0.15**	0.0069	0.049	"	"	"	"	"	"	
sec-Butylbenzene	**0.041**	0.0059	0.049	"	"	"	"	"	"	J
tert-Butylbenzene	**0.011**	0.0088	0.049	"	"	"	"	"	"	J
Carbon tetrachloride	ND	0.011	0.049	"	"	"	"	"	"	
Chlorobenzene	ND	0.0059	0.049	"	"	"	"	"	"	
Chloroethane	ND	0.018	0.049	"	"	"	"	"	"	
Chloroform	ND	0.0049	0.049	"	"	"	"	"	"	
Chloromethane	ND	0.020	0.049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0059	0.049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0039	0.049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.013	0.049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0039	0.049	"	"	"	"	"	"	
Dibromomethane	ND	0.0078	0.049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0029	0.049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0039	0.049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0039	0.049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.016	0.049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0078	0.049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0078	0.049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.013	0.049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0049	0.049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0098	0.049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0059	0.049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-45'

1103124-06 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.0039	0.049	mg/kg	1	A107087	07-Jul-11	08-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.0088	0.049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0078	0.049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0059	0.049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0039	0.049	"	"	"	"	"	"	
Ethylbenzene	**0.056**	0.0059	0.049	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0059	0.049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0098	0.049	"	"	"	"	"	"	
Isopropylbenzene	**0.056**	0.0069	0.049	"	"	"	"	"	"	
4-Isopropyl Toluene	**0.084**	0.0069	0.049	"	"	"	"	"	"	
Methylene chloride	ND	0.0078	0.049	"	"	"	"	"	"	
Naphthalene	**0.41**	0.0078	0.049	"	"	"	"	"	"	
n-Propylbenzene	**0.088**	0.0078	0.049	"	"	"	"	"	"	
Styrene	ND	0.0049	0.049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0039	0.049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0049	0.049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.0088	0.049	"	"	"	"	"	"	
Toluene	**0.014**	0.0049	0.049	"	"	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	0.0088	0.049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0049	0.049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0088	0.049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0059	0.049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.0078	0.049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.017	0.049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0098	0.049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.72**	0.0069	0.049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.19**	0.0078	0.049	"	"	"	"	"	"	
Vinyl chloride	ND	0.020	0.049	"	"	"	"	"	"	
Xylenes (total)	**0.33**	0.013	0.049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.0078	0.049	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.024	0.25	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.013	0.049	"	"	"	"	"	"	
Ethanol	ND	7.7	49	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.0078	0.049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.0059	0.049	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**12**	2.0	4.9	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-45'

1103124-06 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*106 %*	*70-130*	*A107087*	*07-Jul-11*	*08-Jul-11*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*93.8 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*99.7 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-50'

1103124-07 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**7.8**	2.6	10	mg/kg	1	A107071	06-Jul-11	07-Jul-11	EPA 8270C	J
Surrogate: o-Terphenyl			*60.7 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*66.9 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.0011**	0.00069	0.0050	mg/kg	1	A107087	07-Jul-11	08-Jul-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-50'

1103124-07 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A107087	07-Jul-11	08-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0050	"	"	"	"	"	"	
Naphthalene	**0.017**	0.00079	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00069	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00079	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-230-50'

1103124-07 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A107087	07-Jul-11	08-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*114 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*103 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*99.8 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-5'

1103124-08 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Metals by EPA 6000/7000 Series Methods

Lead	**7.2**	0.48	0.97	mg/kg	1	A108575	29-Aug-11	30-Aug-11	EPA 6010B	

TEPH by GCMS

TPH Diesel (C10-C25)	**6.9**	2.6	10	mg/kg	1	A107071	06-Jul-11	08-Jul-11	EPA 8270C	J
Surrogate: o-Terphenyl			*63.5 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**24**	6.9	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*70.3 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00068	0.0048	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT
Bromobenzene	ND	0.00039	0.0048	"	"	"	"	"	"
Bromochloromethane	ND	0.00097	0.0048	"	"	"	"	"	"
Bromodichloromethane	ND	0.00039	0.0048	"	"	"	"	"	"
Bromoform	ND	0.00058	0.0048	"	"	"	"	"	"
Bromomethane	ND	0.0016	0.0048	"	"	"	"	"	"
n-Butylbenzene	ND	0.00068	0.0048	"	"	"	"	"	"
sec-Butylbenzene	ND	0.00058	0.0048	"	"	"	"	"	"
tert-Butylbenzene	ND	0.00087	0.0048	"	"	"	"	"	"
Carbon tetrachloride	ND	0.0011	0.0048	"	"	"	"	"	"
Chlorobenzene	ND	0.00058	0.0048	"	"	"	"	"	"
Chloroethane	ND	0.0017	0.0048	"	"	"	"	"	"
Chloroform	ND	0.00048	0.0048	"	"	"	"	"	"
Chloromethane	ND	0.0019	0.0048	"	"	"	"	"	"
2-Chlorotoluene	ND	0.00058	0.0048	"	"	"	"	"	"
4-Chlorotoluene	ND	0.00039	0.0048	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0048	"	"	"	"	"	"
Dibromochloromethane	ND	0.00039	0.0048	"	"	"	"	"	"
Dibromomethane	ND	0.00077	0.0048	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.00029	0.0048	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.00039	0.0048	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.00039	0.0048	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.0015	0.0048	"	"	"	"	"	"
1,1-Dichloroethane	ND	0.00077	0.0048	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.00077	0.0048	"	"	"	"	"	"
1,1-Dichloroethene	ND	0.0013	0.0048	"	"	"	"	"	"

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-5'

1103124-08 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.00048	0.0048	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT	
trans-1,2-Dichloroethene	ND	0.00097	0.0048	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00058	0.0048	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.00039	0.0048	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.00087	0.0048	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00077	0.0048	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00058	0.0048	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00039	0.0048	"	"	"	"	"	"	
Ethylbenzene	ND	0.00058	0.0048	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00058	0.0048	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00097	0.0048	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00068	0.0048	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00068	0.0048	"	"	"	"	"	"	
Methylene chloride	ND	0.00077	0.0048	"	"	"	"	"	"	
Naphthalene	ND	0.00077	0.0048	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00077	0.0048	"	"	"	"	"	"	
Styrene	ND	0.00048	0.0048	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0048	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00048	0.0048	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00087	0.0048	"	"	"	"	"	"	
Toluene	ND	0.00048	0.0048	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00087	0.0048	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00048	0.0048	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00087	0.0048	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00058	0.0048	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00077	0.0048	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0016	0.0048	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00097	0.0048	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00068	0.0048	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00077	0.0048	"	"	"	"	"	"	
Vinyl chloride	ND	0.0019	0.0048	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0048	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00077	0.0048	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0023	0.024	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0048	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-5'

1103124-08 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Ethanol	ND	0.76	4.8	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT	
Ethyl t-Butyl Ether	ND	0.00077	0.0048	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00058	0.0048	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.19	0.48	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*99.3 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*93.2 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*93.8 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-10'

1103124-09 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107071	06-Jul-11	08-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*65.3 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*72.1 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.043**	0.00070	0.0050	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	**0.0057**	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-10'

1103124-09 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	**0.0023**	0.00070	0.0050	"	"	"	"	"	"	J
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.00096**	0.00070	0.0050	"	"	"	"	"	"	J
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.0056**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-10'

1103124-09 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*100 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*93.8 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*98.2 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-15'

1103124-10 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A107071	06-Jul-11	08-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*63.5 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*70.3 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.0012**	0.00070	0.0050	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	**0.0028**	0.00080	0.0050	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-15'

1103124-10 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-15'

1103124-10 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106607	30-Jun-11	01-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*99.6 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*92.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*90.6 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-20'

1103124-11 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Metals by EPA 6000/7000 Series Methods										
Lead	**7.1**	0.44	0.89	mg/kg	1	A108575	29-Aug-11	30-Aug-11	EPA 6010B	
TEPH by GCMS										
TPH Diesel (C10-C25)	**42**	2.6	10	mg/kg	1	A107071	06-Jul-11	08-Jul-11	EPA 8270C	
Surrogate: o-Terphenyl			*73.7 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**15**	6.9	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*81.2 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										**R-06**
Benzene	**1.1**	0.070	0.50	mg/kg	100	A107099	07-Jul-11	07-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.040	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.040	0.50	"	"	"	"	"	"	
Bromoform	ND	0.060	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.17	0.50	"	"	"	"	"	"	
n-Butylbenzene	**2.3**	0.070	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**0.87**	0.060	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.12**	0.090	0.50	"	"	"	"	"	"	J
Carbon tetrachloride	ND	0.11	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.060	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.18	0.50	"	"	"	"	"	"	
Chloroform	ND	0.050	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.20	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.060	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.040	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.040	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.080	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.030	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.040	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.040	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.16	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.080	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.080	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.13	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.050	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-20'

1103124-11 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT **R-06**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
trans-1,2-Dichloroethene	ND	0.10	0.50	mg/kg	100	A107099	07-Jul-11	07-Jul-11	EPA 8260B/LUFT	
1,2-Dichloropropane	ND	0.060	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.040	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.090	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.080	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.060	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.040	0.50	"	"	"	"	"	"	
Ethylbenzene	**8.4**	0.060	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.060	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.10	0.50	"	"	"	"	"	"	
Isopropylbenzene	**3.6**	0.070	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	**1.4**	0.070	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.080	0.50	"	"	"	"	"	"	
Naphthalene	**3.9**	0.080	0.50	"	"	"	"	"	"	
n-Propylbenzene	**4.0**	0.080	0.50	"	"	"	"	"	"	
Styrene	ND	0.050	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.040	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.050	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.090	0.50	"	"	"	"	"	"	
Toluene	**1.3**	0.050	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.090	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.050	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.090	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.060	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.080	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.17	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.10	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**18**	0.70	5.0	"	1000	"	07-Jul-11	07-Jul-11	"	
1,3,5-Trimethylbenzene	**6.3**	0.080	0.50	"	100	"	07-Jul-11	07-Jul-11	"	
Vinyl chloride	ND	0.20	0.50	"	"	"	"	"	"	
Xylenes (total)	**20**	0.13	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.080	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.24	2.5	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.13	0.50	"	"	"	"	"	"	
Ethanol	ND	79	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.080	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-20'

1103124-11 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT **R-06**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methyl-t-butyl ether	ND	0.060	0.50	mg/kg	100	A107099	07-Jul-11	07-Jul-11	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	**440**	20	50	"	"	A107005	06-Jul-11	07-Jul-11	"	
Surrogate: Dibromofluoromethane			*112 %*	*70-130*		*A107099*	*07-Jul-11*	*07-Jul-11*	"	
Surrogate: Toluene-d8			*102 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*154 %*	*70-130*		"	"	"	"	*S-GC*

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-30'

1103124-13 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Metals by EPA 6000/7000 Series Methods

Lead	**18**	0.50	0.99	mg/kg	1	A108575	29-Aug-11	30-Aug-11	EPA 6010B	

TEPH by GCMS

TPH Diesel (C10-C25)	**4.5**	2.6	10	mg/kg	1	A107071	06-Jul-11	08-Jul-11	EPA 8270C	J
Surrogate: o-Terphenyl			*68.9 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*76.0 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.00068	0.0049	mg/kg	1	A107087	07-Jul-11	08-Jul-11	EPA 8260B/LUFT
Bromobenzene	ND	0.00039	0.0049	"	"	"	"	"	"
Bromochloromethane	ND	0.00097	0.0049	"	"	"	"	"	"
Bromodichloromethane	ND	0.00039	0.0049	"	"	"	"	"	"
Bromoform	ND	0.00058	0.0049	"	"	"	"	"	"
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"
n-Butylbenzene	ND	0.00068	0.0049	"	"	"	"	"	"
sec-Butylbenzene	ND	0.00058	0.0049	"	"	"	"	"	"
tert-Butylbenzene	ND	0.00088	0.0049	"	"	"	"	"	"
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"
Chlorobenzene	ND	0.00058	0.0049	"	"	"	"	"	"
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"
Chloromethane	ND	0.0019	0.0049	"	"	"	"	"	"
2-Chlorotoluene	ND	0.00058	0.0049	"	"	"	"	"	"
4-Chlorotoluene	ND	0.00039	0.0049	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"
Dibromochloromethane	ND	0.00039	0.0049	"	"	"	"	"	"
Dibromomethane	ND	0.00078	0.0049	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.00029	0.0049	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"
1,1-Dichloroethane	ND	0.00078	0.0049	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.00078	0.0049	"	"	"	"	"	"
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-30'

1103124-13 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

cis-1,2-Dichloroethene	ND	0.00049	0.0049	mg/kg	1	A107087	07-Jul-11	08-Jul-11	EPA 8260B/LUFT
trans-1,2-Dichloroethene	ND	0.00097	0.0049	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.00058	0.0049	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.00039	0.0049	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.00088	0.0049	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.00078	0.0049	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.00058	0.0049	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.00039	0.0049	"	"	"	"	"	"
Ethylbenzene	ND	0.00058	0.0049	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.00058	0.0049	"	"	"	"	"	"
Hexachlorobutadiene	ND	0.00097	0.0049	"	"	"	"	"	"
Isopropylbenzene	ND	0.00068	0.0049	"	"	"	"	"	"
4-Isopropyl Toluene	ND	0.00068	0.0049	"	"	"	"	"	"
Methylene chloride	ND	0.00078	0.0049	"	"	"	"	"	"
Naphthalene	ND	0.00078	0.0049	"	"	"	"	"	"
n-Propylbenzene	ND	0.00078	0.0049	"	"	"	"	"	"
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0049	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"
Tetrachloroethene (PCE)	ND	0.00088	0.0049	"	"	"	"	"	"
Toluene	ND	0.00049	0.0049	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.00088	0.0049	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.00088	0.0049	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.00058	0.0049	"	"	"	"	"	"
Trichloroethene (TCE)	ND	0.00078	0.0049	"	"	"	"	"	"
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	0.00097	0.0049	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.00068	0.0049	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.00078	0.0049	"	"	"	"	"	"
Vinyl chloride	ND	0.0019	0.0049	"	"	"	"	"	"
Xylenes (total)	ND	0.0013	0.0049	"	"	"	"	"	"
t-Amyl Methyl Ether	ND	0.00078	0.0049	"	"	"	"	"	"
t-Butyl alcohol	ND	0.0023	0.024	"	"	"	"	"	"
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-30'

1103124-13 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Ethanol	ND	0.77	4.9	mg/kg	1	A107087	07-Jul-11	08-Jul-11	EPA 8260B/LUFT	
Ethyl t-Butyl Ether	ND	0.00078	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00058	0.0049	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.19	0.49	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*116 %*		*70-130*		"	"	"	
Surrogate: Toluene-d8			*99.4 %*		*70-130*		"	"	"	
Surrogate: 4-Bromofluorobenzene			*104 %*		*70-130*		"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-35'

1103124-14 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**4.3**	2.6	10	mg/kg	1	A107071	06-Jul-11	08-Jul-11	EPA 8270C	J
Surrogate: o-Terphenyl			*66.1 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*73.1 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.00068	0.0049	mg/kg	1	A107087	07-Jul-11	08-Jul-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00097	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00058	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00068	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00058	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00088	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00058	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0019	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00058	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00078	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00029	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00078	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00078	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00097	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00058	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-35'

1103124-14 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00039	0.0049	mg/kg	1	A107087	07-Jul-11	08-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00088	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00078	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00058	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00039	0.0049	"	"	"	"	"	"	
Ethylbenzene	ND	0.00058	0.0049	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00058	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00097	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00068	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00068	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.00078	0.0049	"	"	"	"	"	"	
Naphthalene	**0.0079**	0.00078	0.0049	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00078	0.0049	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00088	0.0049	"	"	"	"	"	"	
Toluene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00088	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00088	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00058	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00078	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00097	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00068	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00078	0.0049	"	"	"	"	"	"	
Vinyl chloride	ND	0.0019	0.0049	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00078	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	**0.14**	0.0023	0.024	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.77	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00078	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00058	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-35'

1103124-14 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.19	0.49	mg/kg	1	A107087	07-Jul-11	08-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*112 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*98.5 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*96.1 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-40'

1103124-15 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**4.0**	2.6	9.9	mg/kg	1	A107071	06-Jul-11	08-Jul-11	EPA 8270C	J
Surrogate: o-Terphenyl			*65.5 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	ND	6.8	49	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*72.3 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.0023**	0.00070	0.0050	mg/kg	1	A106611	30-Jun-11	02-Jul-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-40'

1103124-15 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A106611	30-Jun-11	02-Jul-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	**0.012**	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.0098**	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

B-231-40'

1103124-15 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A106611	30-Jun-11	02-Jul-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*107 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*99.8 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*107 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

062711

1103124-16 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Flashpoint , Closed Cup										
Flashpoint	>212	72	72	°F	1	A107097	07-Jul-11	07-Jul-11	EPA 1010	
Wet Chemistry by EPA or APHA Standard Methods										
pH	**7.68**	0.0500	0.100	pH Units	1	A107015	30-Jun-11	30-Jun-11	EPA 9045	HoldX
Reactives										
Cyanide, reactive	ND	0.167	0.500	mg/kg	1	A107115	07-Jul-11	07-Jul-11	SW846. 7.3	
Sulfide, reactive	**5.21**	0.672	2.00	"	"	"	"	"	SW 846 7.3	
Total Metals by EPA 6000/7000 Series Methods										
Antimony	ND	9.8	25	mg/kg	5	A107061	05-Jul-11	06-Jul-11	EPA 6010B	
Arsenic	**13**	2.5	4.9	"	"	"	"	"	"	
Barium	**100**	0.98	2.5	"	"	"	"	"	"	
Beryllium	ND	2.5	4.9	"	"	"	"	"	"	
Cadmium	ND	0.98	2.5	"	"	"	"	"	"	
Chromium	**15**	0.98	2.5	"	"	"	"	"	"	
Cobalt	**1.9**	0.98	2.5	"	"	"	"	"	"	J
Copper	**3.5**	1.5	2.5	"	"	"	"	"	"	
Lead	**17**	2.5	4.9	"	"	"	"	"	"	
Mercury	**0.033**	0.010	0.096	"	1	A107075	06-Jul-11	06-Jul-11	EPA 7471A	J
Molybdenum	ND	2.5	4.9	"	5	A107061	05-Jul-11	06-Jul-11	EPA 6010B	
Nickel	**9.8**	0.98	2.5	"	"	"	"	"	"	
Selenium	ND	4.9	9.8	"	"	"	"	"	"	
Silver	ND	1.5	4.9	"	"	"	"	"	"	
Thallium	ND	2.5	4.9	"	"	"	"	"	"	
Vanadium	**7.1**	4.9	9.8	"	"	"	"	"	"	J
Zinc	**26**	1.7	2.5	"	"	"	"	"	"	B-06

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1103124-16 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TVPH by GC FID										
TPH Gasoline (C4-C12)	**11**	0.91	4.5	mg/kg	1	A106613	30-Jun-11	30-Jun-11	EPA 8015M	
Surrogate: 4-Bromofluorobenzene			*122 %*	*70-130*		"	"	"	"	
DI WET/STLC/ZHE Volatiles										
TPH Gasoline (C4-C12)	**290**	21	50	ug/L	1	A107012	01-Jul-11	05-Jul-11	ZHE-DIWET /EPA 8015M	
Surrogate: 4-Bromofluorobenzene			*102 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C13-C22)	ND	7.6	10	mg/kg	1	A106623	30-Jun-11	01-Jul-11	EPA 8015M	
TPH Motor Oil (C23-C40)	ND	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*116 %*	*50-150*		"	"	"	"	
DI WET/STLC Semi-Volatiles										
TPH Diesel (C13-C22)	ND	0.041	0.050	mg/L	1	A107113	07-Jul-11	08-Jul-11	DIWET/EPA 8015M	
TPH Motor Oil (C23-C40)	**0.11**	0.050	0.10	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*77.9 %*	*50-150*		"	"	"	"	
Polychlorinated Biphenyls by EPA Method 8082										
PCB-1016	ND	0.0040	0.020	mg/kg	1	A107067	05-Jul-11	07-Jul-11	EPA 8082	
PCB-1221	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1232	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1242	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1248	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1254	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1260	ND	0.0040	0.020	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl			*66.8 %*	*60-120*		"	"	"	"	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene			*67.6 %*	*60-120*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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062711

1103124-16 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**0.018**	0.0071	0.051	mg/kg	1	A106611	30-Jun-11	02-Jul-11	EPA 8260B	J
Bromobenzene	ND	0.00039	0.0049	"	"	A107131	08-Jul-11	13-Jul-11	"	O-11
Bromochloromethane	ND	0.00098	0.0049	"	"	"	"	"	"	O-11
Bromodichloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	O-11
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	O-11
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	O-11
n-Butylbenzene	**0.25**	0.0071	0.051	"	"	A106611	30-Jun-11	02-Jul-11	"	
sec-Butylbenzene	**0.11**	0.0061	0.051	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0049	"	"	A107131	08-Jul-11	13-Jul-11	"	O-11
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	O-11
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	O-11
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	O-11
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	O-11
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	O-11
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	O-11
4-Chlorotoluene	ND	0.00039	0.0049	"	"	"	"	"	"	O-11
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	O-11
Dibromochloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	O-11
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	O-11
1,2-Dichlorobenzene	ND	0.00030	0.0049	"	"	"	"	"	"	O-11
1,3-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	O-11
1,4-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	O-11
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	O-11
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	O-11
1,2-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	O-11
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	O-11
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	O-11
trans-1,2-Dichloroethene	ND	0.00098	0.0049	"	"	"	"	"	"	O-11
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	O-11
1,3-Dichloropropane	ND	0.00039	0.0049	"	"	"	"	"	"	O-11
2,2-Dichloropropane	ND	0.00089	0.0049	"	"	"	"	"	"	O-11
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	O-11
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	O-11
trans-1,3-Dichloropropene	ND	0.00039	0.0049	"	"	"	"	"	"	O-11
Ethylbenzene	**0.61**	0.0061	0.051	"	"	A106611	30-Jun-11	02-Jul-11	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	A107131	08-Jul-11	13-Jul-11	"	O-11

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

062711

1103124-16 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Hexachlorobutadiene	ND	0.00098	0.0049	mg/kg	1	A107131	08-Jul-11	13-Jul-11	EPA 8260B	O-11
Isopropylbenzene	**0.27**	0.0071	0.051	"	"	A106611	30-Jun-11	02-Jul-11	"	
4-Isopropyl Toluene	**0.18**	0.0071	0.051	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0049	"	"	A107131	08-Jul-11	13-Jul-11	"	O-11
Naphthalene	**0.69**	0.0082	0.051	"	"	A106611	30-Jun-11	02-Jul-11	"	
n-Propylbenzene	**0.44**	0.0082	0.051	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	A107131	08-Jul-11	13-Jul-11	"	O-11
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0049	"	"	"	"	"	"	O-11
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	O-11
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"	"	"	"	"	"	O-11
Toluene	**0.064**	0.0051	0.051	"	"	A106611	30-Jun-11	02-Jul-11	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"	"	A107131	08-Jul-11	13-Jul-11	"	O-11
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	O-11
1,1,1-Trichloroethane	ND	0.00089	0.0049	"	"	"	"	"	"	O-11
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	O-11
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	O-11
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	O-11
1,2,3-Trichloropropane	ND	0.00098	0.0049	"	"	"	"	"	"	O-11
1,2,4-Trimethylbenzene	**1.8**	0.0071	0.051	"	"	A106611	30-Jun-11	02-Jul-11	"	
1,3,5-Trimethylbenzene	**0.67**	0.0082	0.051	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0049	"	"	A107131	08-Jul-11	13-Jul-11	"	O-11
Xylenes (total)	**1.6**	0.013	0.051	"	"	A106611	30-Jun-11	02-Jul-11	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	A107131	08-Jul-11	13-Jul-11	"	O-11
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	O-11
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	O-11
Ethanol	ND	0.78	4.9	"	"	"	"	"	"	O-11
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	O-11
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	O-11
Surrogate: Dibromofluoromethane			*99.2 %*	*70-130*		*A106611*	*30-Jun-11*	*02-Jul-11*	"	
Surrogate: Toluene-d8			*106 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*105 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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062711

1103124-16 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	ND	0.0047	0.0050	mg/kg	1	A107045	06-Jul-11	07-Jul-11	EPA 8270M SIM	
Acenaphthylene	ND	0.0035	0.0050	"	"	"	"	"	"	
Anthracene	ND	0.0042	0.0050	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.0030	0.0050	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.0040	0.0050	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.0030	0.0050	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.0026	0.0050	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.0050	0.010	"	"	"	"	"	"	
Chrysene	ND	0.0030	0.0050	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.0050	0.010	"	"	"	"	"	"	
Fluoranthene	ND	0.0030	0.0050	"	"	"	"	"	"	
Fluorene	ND	0.0030	0.0050	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.0035	0.0050	"	"	"	"	"	"	
Naphthalene	**0.043**	0.0050	0.010	"	"	"	"	"	"	
Phenanthrene	ND	0.0047	0.0050	"	"	"	"	"	"	
Pyrene	ND	0.0030	0.0050	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*87.5 %*	*0-186*		"	"	"	"	
Organochlorine Pesticides by EPA Method 8081A										
alpha-BHC	ND	0.0010	0.0030	mg/kg	1	A107067	05-Jul-11	07-Jul-11	EPA 8081A	
alpha-Chlordane	ND	0.0010	0.0030	"	"	"	"	"	"	
Aldrin	ND	0.0010	0.0030	"	"	"	"	"	"	
beta-BHC	ND	0.0010	0.0030	"	"	"	"	"	"	
delta-BHC	ND	0.0010	0.0030	"	"	"	"	"	"	
4,4´-DDD	ND	0.0010	0.0030	"	"	"	"	"	"	
4,4´-DDE	ND	0.0010	0.0030	"	"	"	"	"	"	
4,4´-DDT	ND	0.0010	0.0030	"	"	"	"	"	"	
Dieldrin	ND	0.0010	0.0030	"	"	"	"	"	"	
Endosulfan I	ND	0.0010	0.0030	"	"	"	"	"	"	
Endosulfan II	ND	0.0010	0.0030	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0010	0.0030	"	"	"	"	"	"	
Endrin	ND	0.0010	0.0030	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	0.0030	"	"	"	"	"	"	
Endrin ketone	ND	0.0010	0.0030	"	"	"	"	"	"	
gamma-BHC	ND	0.0010	0.0030	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1103124-16 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A										
gamma-Chlordane	ND	0.0010	0.0030	mg/kg	1	A107067	05-Jul-11	07-Jul-11	EPA 8081A	
Heptachlor	ND	0.0010	0.0030	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	0.0030	"	"	"	"	"	"	
Methoxychlor	ND	0.0010	0.0030	"	"	"	"	"	"	
Chlordane (tech)	ND	0.010	0.020	"	"	"	"	"	"	
Toxaphene	ND	0.010	0.020	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl			*68.0 %*	*50-150*		"	"	"	"	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene			*72.4 %*	*50-150*		"	"	"	"	
Semivolatile Organic Compounds by EPA Method 8270C										
Acenaphthene	ND	0.050	0.10	mg/kg	1	A107049	05-Jul-11	05-Jul-11	EPA 8270C	
Acenaphthylene	ND	0.050	0.10	"	"	"	"	"	"	
Aniline	ND	0.050	0.10	"	"	"	"	"	"	
Anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Azobenzene	ND	0.050	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.050	0.10	"	"	"	"	"	"	
Benzoic acid	ND	0.050	0.10	"	"	"	"	"	"	
Benzyl alcohol	ND	0.050	0.10	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	0.050	0.10	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	0.050	0.10	"	"	"	"	"	"	
Bis(2-chloroisopropyl) ether	ND	0.050	0.10	"	"	"	"	"	"	
Bis(2-ethylhexyl) phthalate	ND	0.050	0.10	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.050	0.10	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	0.050	0.10	"	"	"	"	"	"	
4-Chloroaniline	ND	0.050	0.10	"	"	"	"	"	"	
2-Chloronaphthalene	ND	0.050	0.10	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	0.050	0.10	"	"	"	"	"	"	
Chrysene	ND	0.050	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Dibenzofuran	ND	0.050	0.10	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	0.050	0.10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.050	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

062711

1103124-16 (Solid)

Oilfield Environmental and Compliance

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichlorobenzene	ND	0.050	0.10	mg/kg	1	A107049	05-Jul-11	05-Jul-11	EPA 8270C	
1,4-Dichlorobenzene	ND	0.050	0.10	"	"	"	"	"	"	
3,3'-Dichlorobenzidine	ND	0.20	0.50	"	"	"	"	"	"	
Diethyl phthalate	ND	0.050	0.10	"	"	"	"	"	"	
Dimethyl phthalate	ND	0.050	0.10	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	0.060	0.10	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	0.050	0.10	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	0.050	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Fluorene	ND	0.050	0.10	"	"	"	"	"	"	
Hexachlorobenzene	ND	0.050	0.10	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.050	0.10	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.050	0.10	"	"	"	"	"	"	
Hexachloroethane	ND	0.050	0.10	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Isophorone	ND	0.050	0.10	"	"	"	"	"	"	
2-Methylnaphthalene	**0.060**	0.050	0.10	"	"	"	"	"	"	J
Naphthalene	ND	0.050	0.10	"	"	"	"	"	"	
2-Nitroaniline	ND	0.050	0.10	"	"	"	"	"	"	
3-Nitroaniline	ND	0.050	0.10	"	"	"	"	"	"	
4-Nitroaniline	ND	0.050	0.25	"	"	"	"	"	"	
Nitrobenzene	ND	0.050	0.10	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	0.050	0.10	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	0.050	0.10	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.050	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.050	0.10	"	"	"	"	"	"	
Pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Carbazole	ND	0.050	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.050	0.10	"	"	"	"	"	"	
4-Chloro-3-methylphenol (Parachlorometa cresol)	ND	0.050	0.10	"	"	"	"	"	"	
2-Chlorophenol	ND	0.050	0.10	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	0.050	0.10	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	0.050	0.10	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	0.050	0.10	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	0.050	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

062711

1103124-16 (Solid)

Oilfield Environmental and Compliance

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2-Methylphenol	ND	0.050	0.10	mg/kg	1	A107049	05-Jul-11	05-Jul-11	EPA 8270C	
3 & 4-Methylphenol	ND	0.050	0.10	"	"	"	"	"	"	
2-Nitrophenol	ND	0.050	0.10	"	"	"	"	"	"	
4-Nitrophenol	ND	0.050	0.10	"	"	"	"	"	"	
Pentachlorophenol	ND	0.050	0.10	"	"	"	"	"	"	
Phenol	ND	0.050	0.10	"	"	"	"	"	"	
Pyridine	ND	0.050	0.10	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	0.050	0.10	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	0.050	0.10	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol			*72.0 %*	*0-135*		"	"	"	"	
Surrogate: Phenol-d5			*67.0 %*	*1-141*		"	"	"	"	
Surrogate: Nitrobenzene-d5			*78.6 %*	*8-150*		"	"	"	"	
Surrogate: 2-Fluorobiphenyl			*74.8 %*	*22-143*		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol			*66.4 %*	*0-151*		"	"	"	"	
Surrogate: p-Terphenyl-d14			*78.0 %*	*1-160*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Flashpoint , Closed Cup - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107097 - EPA 1010 Prep											
Blank (A107097-BLK1)					Prepared & Analyzed: 07-Jul-11						
Flashpoint	>212	72	72	°F							
LCS (A107097-BS1)					Prepared & Analyzed: 07-Jul-11						
Flashpoint	83	72	72	°F	82.0		101	95-105			
Duplicate (A107097-DUP1)	**Source: 1103124-16**				Prepared & Analyzed: 07-Jul-11						
Flashpoint	>212	72	72	°F		>212				10	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Wet Chemistry by EPA or APHA Standard Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107015 - EPA 9045 pH Prep											
LCS (A107015-BS1)					Prepared & Analyzed: 30-Jun-11						
pH	4.00	0.0500	0.100	pH Units	4.00		100	90-110			
LCS (A107015-BS2)					Prepared & Analyzed: 30-Jun-11						
pH	7.08	0.0500	0.100	pH Units	7.00		101	90-110			
LCS (A107015-BS3)					Prepared & Analyzed: 30-Jun-11						
pH	9.96	0.0500	0.100	pH Units	10.0		99.6	90-110			
Duplicate (A107015-DUP1)	**Source: 1103122-01**				Prepared & Analyzed: 30-Jun-11						
pH	8.90	0.0500	0.100	pH Units		8.90			0.00	10	

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Reactives - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107115 - EPA 9030											
Blank (A107115-BLK1)					Prepared & Analyzed: 07-Jul-11						
Cyanide, reactive	ND	0.167	0.500	mg/kg							
Sulfide, reactive	ND	0.672	2.00	"							
LCS (A107115-BS1)					Prepared & Analyzed: 07-Jul-11						
Cyanide, reactive	0.674	0.167	0.500	mg/kg	0.750		89.9	70-130			
Sulfide, reactive	56.9	0.672	2.00	"	50.0		114	70-130			
Duplicate (A107115-DUP1)	**Source: 1103122-01**				Prepared & Analyzed: 07-Jul-11						
Cyanide, reactive	ND	0.167	0.500	mg/kg		ND				20	
Sulfide, reactive	ND	0.672	2.00	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107061 - EPA 3050B											
Blank (A107061-BLK1)					Prepared: 05-Jul-11 Analyzed: 06-Jul-11						
Antimony	ND	2.0	5.0	mg/kg							
Arsenic	ND	0.50	1.0	"							
Barium	ND	0.20	0.50	"							
Beryllium	ND	0.50	1.0	"							
Cadmium	ND	0.20	0.50	"							
Chromium	ND	0.20	0.50	"							
Cobalt	ND	0.20	0.50	"							
Copper	ND	0.30	0.50	"							
Lead	ND	0.50	1.0	"							
Molybdenum	ND	0.50	1.0	"							
Nickel	ND	0.20	0.50	"							
Selenium	ND	1.0	2.0	"							
Silver	ND	0.30	1.0	"							
Thallium	ND	0.50	1.0	"							
Vanadium	ND	1.0	2.0	"							
Zinc	0.700	0.35	0.50	"							B-06
LCS (A107061-BS1)					Prepared: 05-Jul-11 Analyzed: 06-Jul-11						
Antimony	93.7	2.0	5.0	mg/kg	100		93.7	85-115			
Arsenic	94.5	0.50	1.0	"	100		94.5	85-115			
Barium	105	0.20	0.50	"	100		105	85-115			
Beryllium	99.1	0.50	1.0	"	100		99.1	85-115			
Cadmium	97.0	0.20	0.50	"	100		97.0	85-115			
Chromium	91.5	0.20	0.50	"	100		91.5	85-115			
Cobalt	105	0.20	0.50	"	100		105	85-115			
Copper	95.8	0.30	0.50	"	100		95.8	85-115			
Lead	102	0.50	1.0	"	100		102	85-115			
Molybdenum	95.9	0.50	1.0	"	100		95.9	85-115			
Nickel	101	0.20	0.50	"	100		101	85-115			
Selenium	102	1.0	2.0	"	100		102	85-115			
Silver	93.6	0.30	1.0	"	100		93.6	85-115			
Thallium	101	0.50	1.0	"	100		101	85-115			
Vanadium	92.6	1.0	2.0	"	100		92.6	85-115			
Zinc	104	0.35	0.50	"	100		104	85-115			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107061 - EPA 3050B											
LCS Dup (A107061-BSD1)					Prepared: 05-Jul-11 Analyzed: 06-Jul-11						
Antimony	93.4	2.0	5.0	mg/kg	100		93.4	85-115	0.353	20	
Arsenic	94.0	0.50	1.0	"	100		94.0	85-115	0.552	20	
Barium	106	0.20	0.50	"	100		106	85-115	0.664	20	
Beryllium	99.3	0.50	1.0	"	100		99.3	85-115	0.151	20	
Cadmium	96.4	0.20	0.50	"	100		96.4	85-115	0.579	20	
Chromium	90.5	0.20	0.50	"	100		90.5	85-115	1.13	20	
Cobalt	105	0.20	0.50	"	100		105	85-115	0.0949	20	
Copper	95.1	0.30	0.50	"	100		95.1	85-115	0.828	20	
Lead	102	0.50	1.0	"	100		102	85-115	0.0981	20	
Molybdenum	95.8	0.50	1.0	"	100		95.8	85-115	0.0939	20	
Nickel	101	0.20	0.50	"	100		101	85-115	0.297	20	
Selenium	102	1.0	2.0	"	100		102	85-115	0.0976	20	
Silver	93.2	0.30	1.0	"	100		93.2	85-115	0.385	20	
Thallium	101	0.50	1.0	"	100		101	85-115	0.594	20	
Vanadium	93.2	1.0	2.0	"	100		93.2	85-115	0.613	20	
Zinc	104	0.35	0.50	"	100		104	85-115	0.00	20	
Duplicate (A107061-DUP1)	**Source: 1103106-11**				Prepared: 05-Jul-11 Analyzed: 06-Jul-11						
Antimony	ND	9.5	24	mg/kg		ND				20	
Arsenic	2.94	2.4	4.7	"		2.81			4.41	20	J
Barium	48.7	0.95	2.4	"		53.4			9.29	20	
Beryllium	ND	2.4	4.7	"		ND				20	
Cadmium	1.14	0.95	2.4	"		1.26			10.6	20	J
Chromium	22.9	0.95	2.4	"		22.9			0.102	20	
Cobalt	2.94	0.95	2.4	"		3.56			19.2	20	
Copper	12.3	1.4	2.4	"		9.88			21.5	20	QR-04
Lead	13.9	2.4	4.7	"		14.6			5.15	20	
Molybdenum	ND	2.4	4.7	"		ND				20	
Nickel	15.4	0.95	2.4	"		13.4			14.2	20	
Selenium	ND	4.7	9.5	"		ND				20	
Silver	ND	1.4	4.7	"		ND				20	
Thallium	ND	2.4	4.7	"		ND				20	
Vanadium	19.0	4.7	9.5	"		20.2			6.31	20	
Zinc	67.0	1.7	2.4	"		74.9			11.2	20	

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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107061 - EPA 3050B											
Matrix Spike (A107061-MS1)	**Source: 1103106-11**				Prepared: 05-Jul-11 Analyzed: 06-Jul-11						
Antimony	687	37	93	mg/kg	933	ND	73.6	0-129			
Arsenic	891	9.3	19	"	933	2.81	95.2	70-116			
Barium	1140	3.7	9.3	"	933	53.4	116	48-149			
Beryllium	1000	9.3	19	"	933	ND	108	75-125			
Cadmium	938	3.7	9.3	"	933	1.26	100	76-123			
Chromium	937	3.7	9.3	"	933	22.9	97.9	62-138			
Cobalt	1010	3.7	9.3	"	933	3.56	108	75-125			
Copper	961	5.6	9.3	"	933	9.88	102	68-136			
Lead	1010	9.3	19	"	933	14.6	106	67-137			
Molybdenum	911	9.3	19	"	933	ND	97.7	63-116			
Nickel	996	3.7	9.3	"	933	13.4	105	67-133			
Selenium	990	19	37	"	933	ND	106	68-118			
Silver	600	5.6	19	"	933	ND	64.3	6-154			
Thallium	964	9.3	19	"	933	ND	103	60-146			
Vanadium	971	19	37	"	933	20.2	102	72-124			
Zinc	1090	6.5	9.3	"	933	74.9	109	68-131			
Matrix Spike Dup (A107061-MSD1)	**Source: 1103106-11**				Prepared: 05-Jul-11 Analyzed: 06-Jul-11						
Antimony	715	38	96	mg/kg	956	ND	74.8	0-129	1.64	20	
Arsenic	908	9.6	19	"	956	2.81	94.7	70-116	0.519	20	
Barium	1150	3.8	9.6	"	956	53.4	114	48-149	1.68	20	
Beryllium	1020	9.6	19	"	956	ND	106	75-125	1.22	20	
Cadmium	957	3.8	9.6	"	956	1.26	99.9	76-123	0.496	20	
Chromium	960	3.8	9.6	"	956	22.9	98.0	62-138	0.102	20	
Cobalt	1060	3.8	9.6	"	956	3.56	111	75-125	1.96	20	
Copper	989	5.7	9.6	"	956	9.88	102	68-136	0.416	20	
Lead	1030	9.6	19	"	956	14.6	106	67-137	0.435	20	
Molybdenum	939	9.6	19	"	956	ND	98.3	63-116	0.572	20	
Nickel	1020	3.8	9.6	"	956	13.4	105	67-133	0.166	20	
Selenium	1030	19	38	"	956	ND	108	68-118	1.27	20	
Silver	635	5.7	19	"	956	ND	66.4	6-154	3.21	20	
Thallium	985	9.6	19	"	956	ND	103	60-146	0.271	20	
Vanadium	977	19	38	"	956	20.2	100	72-124	1.81	20	
Zinc	1130	6.7	9.6	"	956	74.9	110	68-131	0.906	20	

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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107075 - EPA 7471A Prep											
Blank (A107075-BLK1)					Prepared & Analyzed: 06-Jul-11						
Mercury	ND	0.011	0.10	mg/kg							
LCS (A107075-BS1)					Prepared & Analyzed: 06-Jul-11						
Mercury	0.862	0.011	0.10	mg/kg	0.833		103	85-115			
LCS Dup (A107075-BSD1)					Prepared & Analyzed: 06-Jul-11						
Mercury	0.885	0.011	0.10	mg/kg	0.833		106	85-115	2.63	20	
Duplicate (A107075-DUP1)		**Source: 1103106-11**			Prepared & Analyzed: 06-Jul-11						
Mercury	0.0191	0.010	0.096	mg/kg		0.0548			96.5	20	J, QR-04
Matrix Spike (A107075-MS1)		**Source: 1103106-11**			Prepared & Analyzed: 06-Jul-11						
Mercury	0.551	0.010	0.093	mg/kg	0.779	0.0548	63.8	75-125			QM-05
Matrix Spike Dup (A107075-MSD1)		**Source: 1103106-11**			Prepared & Analyzed: 06-Jul-11						
Mercury	0.613	0.0098	0.091	mg/kg	0.755	0.0548	73.9	75-125	14.7	20	QM-05
Batch A108575 - EPA 3050B											
Blank (A108575-BLK1)					Prepared: 29-Aug-11 Analyzed: 30-Aug-11						
Lead	ND	0.50	1.0	mg/kg							
LCS (A108575-BS1)					Prepared: 29-Aug-11 Analyzed: 30-Aug-11						
Lead	113	0.50	1.0	mg/kg	100		113	85-115			
LCS Dup (A108575-BSD1)					Prepared: 29-Aug-11 Analyzed: 30-Aug-11						
Lead	105	0.50	1.0	mg/kg	100		105	85-115	7.79	20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108575 - EPA 3050B											
Duplicate (A108575-DUP1)	**Source: 1103124-03**				Prepared: 29-Aug-11 Analyzed: 30-Aug-11						
Lead	11.1	0.46	0.92	mg/kg		10.1			9.33	20	
Matrix Spike (A108575-MS1)	**Source: 1103124-03**				Prepared: 29-Aug-11 Analyzed: 30-Aug-11						
Lead	1010	5.0	10	mg/kg	996	10.1	100	79-124			
Matrix Spike Dup (A108575-MSD1)	**Source: 1103124-03**				Prepared: 29-Aug-11 Analyzed: 30-Aug-11						
Lead	943	4.7	9.3	mg/kg	931	10.1	100	79-124	0.229	20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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TVPH by GC FID - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106613 - EPA 5035/5030B MEOH GC											
Blank (A106613-BLK1)					Prepared & Analyzed: 30-Jun-11						
TPH Gasoline (C4-C12)	ND	0.10	0.51	mg/kg							
Surrogate: 4-Bromofluorobenzene	*0.116*			*"*	*0.126*		*91.7*	*70-130*			
LCS (A106613-BS1)					Prepared & Analyzed: 30-Jun-11						
TPH Gasoline (C4-C12)	0.626	0.099	0.50	mg/kg	0.594		105	70-130			
Surrogate: 4-Bromofluorobenzene	*0.129*			*"*	*0.124*		*105*	*70-130*			
LCS Dup (A106613-BSD1)					Prepared & Analyzed: 30-Jun-11						
TPH Gasoline (C4-C12)	0.607	0.10	0.51	mg/kg	0.606		100	70-130	3.05	20	
Surrogate: 4-Bromofluorobenzene	*0.129*			*"*	*0.126*		*102*	*70-130*			
Duplicate (A106613-DUP1)	**Source: 1103125-01**				Prepared & Analyzed: 30-Jun-11						
TPH Gasoline (C4-C12)	ND	0.10	0.50	mg/kg		ND				20	
Surrogate: 4-Bromofluorobenzene	*0.115*			*"*	*0.125*		*92.0*	*70-130*			
Matrix Spike (A106613-MS1)	**Source: 1103125-01**				Prepared & Analyzed: 30-Jun-11						
TPH Gasoline (C4-C12)	0.451	0.099	0.49	mg/kg	0.592	ND	76.2	70-130			J
Surrogate: 4-Bromofluorobenzene	*0.137*			*"*	*0.123*		*111*	*70-130*			
Matrix Spike Dup (A106613-MSD1)	**Source: 1103125-01**				Prepared & Analyzed: 30-Jun-11						
TPH Gasoline (C4-C12)	0.476	0.10	0.50	mg/kg	0.598	ND	79.6	70-130	5.42	20	J
Surrogate: 4-Bromofluorobenzene	*0.137*			*"*	*0.125*		*110*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

DI WET/STLC/ZHE Volatiles - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107012 - EPA 5030B Leachate											
Blank (A107012-BLK1)					Prepared: 01-Jul-11 Analyzed: 05-Jul-11						
TPH Gasoline (C4-C12)	ND	21	50	ug/L							
Surrogate: 4-Bromofluorobenzene	*111*			*"*	*125*		*88.8*	*70-130*			
LCS (A107012-BS1)					Prepared: 01-Jul-11 Analyzed: 05-Jul-11						
TPH Gasoline (C4-C12)	550	21	50	ug/L	600		91.6	70-130			
Surrogate: 4-Bromofluorobenzene	*129*			*"*	*125*		*103*	*70-130*			
LCS Dup (A107012-BSD1)					Prepared: 01-Jul-11 Analyzed: 05-Jul-11						
TPH Gasoline (C4-C12)	522	21	50	ug/L	600		87.1	70-130	5.07	20	
Surrogate: 4-Bromofluorobenzene	*124*			*"*	*125*		*99.4*	*70-130*			
Duplicate (A107012-DUP1)	**Source: 1103122-01**				Prepared: 01-Jul-11 Analyzed: 05-Jul-11						
TPH Gasoline (C4-C12)	ND	21	50	ug/L		ND				20	
Surrogate: 4-Bromofluorobenzene	*112*			*"*	*125*		*89.9*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
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TEPH by GC FID - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106623 - EPA 3550B											
Blank (A106623-BLK1)					Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
TPH Diesel (C13-C22)	ND	7.6	10	mg/kg							
TPH Motor Oil (C23-C40)	ND	15	50	"							
Surrogate: o-Terphenyl	*55.7*			*"*	*50.0*		*111*	*50-150*			
LCS (A106623-BS1)					Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
TPH Diesel (C13-C22)	461	7.6	10	mg/kg	500		92.2	70-130			
Surrogate: o-Terphenyl	*53.2*			*"*	*50.0*		*106*	*50-150*			
LCS Dup (A106623-BSD1)					Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
TPH Diesel (C13-C22)	519	7.6	10	mg/kg	500		104	70-130	11.7	20	
Surrogate: o-Terphenyl	*54.1*			*"*	*50.0*		*108*	*50-150*			
Duplicate (A106623-DUP1)	**Source: 1103120-02**				Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
TPH Diesel (C13-C22)	ND	7.6	10	mg/kg		ND				20	
TPH Motor Oil (C23-C40)	ND	15	50	"		27.5				20	
Surrogate: o-Terphenyl	*59.3*			*"*	*50.0*		*119*	*50-150*			
Matrix Spike (A106623-MS1)	**Source: 1103120-02**				Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
TPH Diesel (C13-C22)	487	7.6	10	mg/kg	500	ND	97.4	70-130			
Surrogate: o-Terphenyl	*57.4*			*"*	*50.0*		*115*	*50-150*			
Matrix Spike Dup (A106623-MSD1)	**Source: 1103120-02**				Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
TPH Diesel (C13-C22)	529	7.6	10	mg/kg	500	ND	106	70-130	8.23	20	
Surrogate: o-Terphenyl	*58.1*			*"*	*50.0*		*116*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107071 - EPA 3550B MS											
Blank (A107071-BLK1)					Prepared: 06-Jul-11 Analyzed: 07-Jul-11						
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg							
TPH Oil Crude (C25-C40)	ND	6.9	50	"							
Surrogate: o-Terphenyl	*0.0840*			"	*0.167*		*50.3*	*50-150*			
Surrogate: o-Terphenyl	*0.0880*			"	*0.167*		*52.7*	*50-150*			
LCS (A107071-BS1)					Prepared: 06-Jul-11 Analyzed: 07-Jul-11						
TPH Diesel (C10-C25)	26.7	2.6	10	mg/kg	33.3		80.0	53.8-136		20	
Surrogate: o-Terphenyl	*0.115*			"	*0.167*		*69.1*	*50-150*			
LCS (A107071-BS2)					Prepared: 06-Jul-11 Analyzed: 07-Jul-11						
TPH Oil Crude (C25-C40)	48.3	6.9	50	mg/kg	66.8		72.3	70-130		20	J
Surrogate: o-Terphenyl	*0.128*			"	*0.167*		*76.4*	*50-150*			
LCS Dup (A107071-BSD1)					Prepared: 06-Jul-11 Analyzed: 07-Jul-11						
TPH Diesel (C10-C25)	25.0	2.6	10	mg/kg	33.3		75.0	53.8-136	6.48	20	
Surrogate: o-Terphenyl	*0.109*			"	*0.167*		*65.1*	*50-150*			
LCS Dup (A107071-BSD2)					Prepared: 06-Jul-11 Analyzed: 07-Jul-11						
TPH Oil Crude (C25-C40)	51.3	6.9	50	mg/kg	66.8		76.8	70-130	6.03	20	
Surrogate: o-Terphenyl	*0.140*			"	*0.167*		*83.6*	*50-150*			
Duplicate (A107071-DUP1)	**Source: 1103124-01**				Prepared: 06-Jul-11 Analyzed: 07-Jul-11						
TPH Oil Crude (C25-C40)	11.4	6.8	49	mg/kg		23.9			71.3	20	J, QR-04
Surrogate: o-Terphenyl	*0.144*			"	*0.165*		*87.0*	*50-150*			
Duplicate (A107071-DUP2)	**Source: 1103124-01**				Prepared: 06-Jul-11 Analyzed: 08-Jul-11						
TPH Diesel (C10-C25)	205	26	99	mg/kg		275			29.5	20	QR-03
Surrogate: o-Terphenyl	*0.132*			"	*0.165*		*79.8*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107071 - EPA 3550B MS											
Matrix Spike (A107071-MS3)	**Source: 1103124-01**				Prepared: 06-Jul-11 Analyzed: 08-Jul-11						
TPH Diesel (C10-C25)	77.3	26	100	mg/kg	33.3	275	NR	70-130		20	J, QM-08
Surrogate: o-Terphenyl	*0.130*			*"*	*0.167*		*77.8*	*50-150*			
Matrix Spike (A107071-MS4)	**Source: 1103124-02**				Prepared: 06-Jul-11 Analyzed: 08-Jul-11						
TPH Oil Crude (C25-C40)	532	69	500	mg/kg	66.8	13.4	776	70-130		20	QM-08
Surrogate: o-Terphenyl	*0.157*			*"*	*0.167*		*93.8*	*50-150*			
Matrix Spike Dup (A107071-MSD3)	**Source: 1103124-01**				Prepared: 06-Jul-11 Analyzed: 08-Jul-11						
TPH Diesel (C10-C25)	244	26	100	mg/kg	33.3	275	NR	70-130	104	20	QM-08
Surrogate: o-Terphenyl	*0.123*			*"*	*0.167*		*73.9*	*50-150*			
Matrix Spike Dup (A107071-MSD4)	**Source: 1103124-02**				Prepared: 06-Jul-11 Analyzed: 08-Jul-11						
TPH Oil Crude (C25-C40)	496	69	500	mg/kg	66.8	13.4	723	70-130	6.92	20	J, QM-08
Surrogate: o-Terphenyl	*0.170*			*"*	*0.167*		*102*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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DI WET/STLC Semi-Volatiles - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107113 - EPA 3510C Leachate											
Blank (A107113-BLK1)					Prepared & Analyzed: 07-Jul-11						
TPH Diesel (C13-C22)	ND	0.041	0.050	mg/L							
TPH Motor Oil (C23-C40)	ND	0.050	0.10	"							
Surrogate: o-Terphenyl	*0.0837*			*"*	*0.100*		*83.7*	*50-150*			
LCS (A107113-BS1)					Prepared & Analyzed: 07-Jul-11						
TPH Diesel (C13-C22)	0.724	0.041	0.050	mg/L	1.00		72.4	70-130			
Surrogate: o-Terphenyl	*0.102*			*"*	*0.100*		*102*	*50-150*			
LCS Dup (A107113-BSD1)					Prepared & Analyzed: 07-Jul-11						
TPH Diesel (C13-C22)	0.839	0.041	0.050	mg/L	1.00		83.9	70-130	14.7	20	
Surrogate: o-Terphenyl	*0.115*			*"*	*0.100*		*115*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107067 - EPA 3550B											
Blank (A107067-BLK2)					Prepared & Analyzed: 05-Jul-11						**C-01**
PCB-1016	ND	0.0040	0.020	mg/kg							
PCB-1221	ND	0.0040	0.020	"							
PCB-1232	ND	0.0040	0.020	"							
PCB-1242	ND	0.0040	0.020	"							
PCB-1248	ND	0.0040	0.020	"							
PCB-1254	ND	0.0040	0.020	"							
PCB-1260	ND	0.0040	0.020	"							
Surrogate: Decachlorobiphenyl	*0.00625*			"	*0.00833*		*75.0*	*60-120*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00734*			"	*0.00833*		*88.0*	*60-120*			
LCS (A107067-BS2)					Prepared: 05-Jul-11 Analyzed: 06-Jul-11						**C-01**
PCB-1016	0.0599	0.0040	0.020	mg/kg	0.0667		89.8	60-120			
PCB-1260	0.0595	0.0040	0.020	"	0.0667		89.3	60-120			
Surrogate: Decachlorobiphenyl	*0.00680*			"	*0.00833*		*81.6*	*60-120*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00753*			"	*0.00833*		*90.4*	*60-120*			
LCS Dup (A107067-BSD2)					Prepared: 05-Jul-11 Analyzed: 06-Jul-11						**C-01**
PCB-1016	0.0606	0.0040	0.020	mg/kg	0.0667		90.9	60-120	1.25	30	
PCB-1260	0.0595	0.0040	0.020	"	0.0667		89.3	60-120	0.0371	30	
Surrogate: Decachlorobiphenyl	*0.00678*			"	*0.00833*		*81.4*	*60-120*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00759*			"	*0.00833*		*91.1*	*60-120*			
Duplicate (A107067-DUP2)	**Source: 1103120-01**				Prepared: 05-Jul-11 Analyzed: 06-Jul-11						
PCB-1016	ND	0.0040	0.020	mg/kg		ND				30	
PCB-1221	ND	0.0040	0.020	"		ND				30	
PCB-1232	ND	0.0040	0.020	"		ND				30	
PCB-1242	ND	0.0040	0.020	"		ND				30	
PCB-1248	ND	0.0040	0.020	"		ND				30	
PCB-1254	ND	0.0040	0.020	"		ND				30	
PCB-1260	ND	0.0040	0.020	"		ND				30	
Surrogate: Decachlorobiphenyl	*0.00627*			"	*0.00833*		*75.2*	*60-120*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00653*			"	*0.00833*		*78.3*	*60-120*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
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Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107067 - EPA 3550B											
Matrix Spike (A107067-MS2)	**Source: 1103120-01**				Prepared: 05-Jul-11 Analyzed: 06-Jul-11						
PCB-1016	0.0520	0.0040	0.020	mg/kg	0.0667	ND	78.0	60-120			
PCB-1260	0.0567	0.0040	0.020	"	0.0667	ND	85.0	60-120			
Surrogate: Decachlorobiphenyl	*0.00536*			*"*	*0.00833*		*64.3*	*60-120*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00578*			*"*	*0.00833*		*69.3*	*60-120*			
Matrix Spike Dup (A107067-MSD2)	**Source: 1103120-01**				Prepared: 05-Jul-11 Analyzed: 06-Jul-11						
PCB-1016	0.0540	0.0040	0.020	mg/kg	0.0667	ND	80.9	60-120	3.72	30	
PCB-1260	0.0575	0.0040	0.020	"	0.0667	ND	86.2	60-120	1.43	30	
Surrogate: Decachlorobiphenyl	*0.00572*			*"*	*0.00833*		*68.6*	*60-120*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00603*			*"*	*0.00833*		*72.3*	*60-120*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107045 - EPA 3550B MS											
Blank (A107045-BLK1)					Prepared & Analyzed: 06-Jul-11						
Acenaphthene	ND	0.0047	0.0050	mg/kg							
Acenaphthylene	ND	0.0035	0.0050	"							
Anthracene	ND	0.0042	0.0050	"							
Benz(a)anthracene	ND	0.0030	0.0050	"							
Benzo (b) fluoranthene	ND	0.0040	0.0050	"							
Benzo (k) fluoranthene	ND	0.0030	0.0050	"							
Benzo (a) pyrene	ND	0.0026	0.0050	"							
Benzo (g,h,i) perylene	ND	0.0050	0.010	"							
Chrysene	ND	0.0030	0.0050	"							
Dibenz (a,h) anthracene	ND	0.0050	0.010	"							
Fluoranthene	ND	0.0030	0.0050	"							
Fluorene	ND	0.0030	0.0050	"							
Indeno (1,2,3-cd) pyrene	ND	0.0035	0.0050	"							
Naphthalene	ND	0.0050	0.010	"							
Phenanthrene	ND	0.0047	0.0050	"							
Pyrene	ND	0.0030	0.0050	"							
Surrogate: p-Terphenyl-d14	*0.0237*			*"*	*0.0267*		*88.8*	*0-186*			
LCS (A107045-BS1)					Prepared & Analyzed: 06-Jul-11						
Acenaphthene	0.0173	0.0047	0.0050	mg/kg	0.0267		65.0	40-120			
Acenaphthylene	0.0180	0.0035	0.0050	"	0.0267		67.5	40-120			
Anthracene	0.0163	0.0042	0.0050	"	0.0267		61.2	40-120			
Benz(a)anthracene	0.0220	0.0030	0.0050	"	0.0267		82.5	40-120			
Benzo (b) fluoranthene	0.0273	0.0040	0.0050	"	0.0267		102	40-120			
Benzo (k) fluoranthene	0.0263	0.0030	0.0050	"	0.0267		98.7	40-120			
Benzo (a) pyrene	0.0233	0.0026	0.0050	"	0.0267		87.5	40-120			
Benzo (g,h,i) perylene	0.0233	0.0050	0.010	"	0.0267		87.5	40-120			
Chrysene	0.0250	0.0030	0.0050	"	0.0267		93.7	40-120			
Dibenz (a,h) anthracene	0.0237	0.0050	0.010	"	0.0267		88.8	40-120			
Fluoranthene	0.0227	0.0030	0.0050	"	0.0267		85.0	40-120			
Fluorene	0.0180	0.0030	0.0050	"	0.0267		67.5	40-120			
Indeno (1,2,3-cd) pyrene	0.0233	0.0035	0.0050	"	0.0267		87.5	40-120			
Naphthalene	0.0150	0.0050	0.010	"	0.0267		56.2	40-120			
Phenanthrene	0.0183	0.0047	0.0050	"	0.0267		68.7	40-120			
Pyrene	0.0233	0.0030	0.0050	"	0.0267		87.5	40-120			
Surrogate: p-Terphenyl-d14	*0.0220*			*"*	*0.0267*		*82.5*	*0-186*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107045 - EPA 3550B MS											
LCS Dup (A107045-BSD1)					Prepared & Analyzed: 06-Jul-11						
Acenaphthene	0.0143	0.0047	0.0050	mg/kg	0.0267		53.7	40-120	18.9	30	
Acenaphthylene	0.0157	0.0035	0.0050	"	0.0267		58.8	40-120	13.9	30	
Anthracene	0.0150	0.0042	0.0050	"	0.0267		56.2	40-120	8.51	30	
Benz(a)anthracene	0.0257	0.0030	0.0050	"	0.0267		96.3	40-120	15.4	30	
Benzo (b) fluoranthene	0.0297	0.0040	0.0050	"	0.0267		111	40-120	8.19	30	
Benzo (k) fluoranthene	0.0260	0.0030	0.0050	"	0.0267		97.5	40-120	1.27	30	
Benzo (a) pyrene	0.0237	0.0026	0.0050	"	0.0267		88.8	40-120	1.42	30	
Benzo (g,h,i) perylene	0.0243	0.0050	0.010	"	0.0267		91.2	40-120	4.20	30	
Chrysene	0.0230	0.0030	0.0050	"	0.0267		86.2	40-120	8.33	30	
Dibenz (a,h) anthracene	0.0227	0.0050	0.010	"	0.0267		85.0	40-120	4.32	30	
Fluoranthene	0.0227	0.0030	0.0050	"	0.0267		85.0	40-120	0.00	30	
Fluorene	0.0163	0.0030	0.0050	"	0.0267		61.2	40-120	9.71	30	
Indeno (1,2,3-cd) pyrene	0.0223	0.0035	0.0050	"	0.0267		83.7	40-120	4.38	30	
Naphthalene	0.0127	0.0050	0.010	"	0.0267		47.5	40-120	16.9	30	
Phenanthrene	0.0170	0.0047	0.0050	"	0.0267		63.8	40-120	7.55	30	
Pyrene	0.0230	0.0030	0.0050	"	0.0267		86.2	40-120	1.44	30	
Surrogate: p-Terphenyl-d14	*0.0227*			*"*	*0.0267*		*85.0*	*0-186*			
Duplicate (A107045-DUP1)	**Source: 1103125-01**				Prepared & Analyzed: 06-Jul-11						
Acenaphthene	ND	0.0047	0.0050	mg/kg		ND				30	
Acenaphthylene	ND	0.0035	0.0050	"		ND				30	
Anthracene	ND	0.0042	0.0050	"		ND				30	
Benz(a)anthracene	ND	0.0030	0.0050	"		ND				30	
Benzo (b) fluoranthene	ND	0.0040	0.0050	"		ND				30	
Benzo (k) fluoranthene	ND	0.0030	0.0050	"		ND				30	
Benzo (a) pyrene	ND	0.0026	0.0050	"		ND				30	
Benzo (g,h,i) perylene	ND	0.0050	0.010	"		ND				30	
Chrysene	ND	0.0030	0.0050	"		ND				30	
Dibenz (a,h) anthracene	ND	0.0050	0.010	"		ND				30	
Fluoranthene	ND	0.0030	0.0050	"		ND				30	
Fluorene	ND	0.0030	0.0050	"		ND				30	
Indeno (1,2,3-cd) pyrene	ND	0.0035	0.0050	"		ND				30	
Naphthalene	ND	0.0050	0.010	"		ND				30	
Phenanthrene	ND	0.0047	0.0050	"		ND				30	
Pyrene	ND	0.0030	0.0050	"		ND				30	
Surrogate: p-Terphenyl-d14	*0.0286*			*"*	*0.0266*		*108*	*0-186*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107067 - EPA 3550B											
Blank (A107067-BLK1)					Prepared: 05-Jul-11 Analyzed: 06-Jul-11						
alpha-BHC	ND	0.0010	0.0030	mg/kg							
alpha-Chlordane	ND	0.0010	0.0030	"							
Aldrin	ND	0.0010	0.0030	"							
beta-BHC	ND	0.0010	0.0030	"							
delta-BHC	ND	0.0010	0.0030	"							
4,4´-DDD	ND	0.0010	0.0030	"							
4,4´-DDE	ND	0.0010	0.0030	"							
4,4´-DDT	ND	0.0010	0.0030	"							
Dieldrin	ND	0.0010	0.0030	"							
Endosulfan I	ND	0.0010	0.0030	"							
Endosulfan II	ND	0.0010	0.0030	"							
Endosulfan sulfate	ND	0.0010	0.0030	"							
Endrin	ND	0.0010	0.0030	"							
Endrin aldehyde	ND	0.0010	0.0030	"							
Endrin ketone	ND	0.0010	0.0030	"							
gamma-BHC	ND	0.0010	0.0030	"							
gamma-Chlordane	ND	0.0010	0.0030	"							
Heptachlor	ND	0.0010	0.0030	"							
Heptachlor epoxide	ND	0.0010	0.0030	"							
Methoxychlor	ND	0.0010	0.0030	"							
Chlordane (tech)	ND	0.010	0.020	"							
Toxaphene	ND	0.010	0.020	"							
Surrogate: Decachlorobiphenyl	*0.00716*			*"*	*0.00833*		*85.9*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00723*			*"*	*0.00833*		*86.8*	*50-150*			
LCS (A107067-BS1)					Prepared: 05-Jul-11 Analyzed: 06-Jul-11						
alpha-BHC	0.00578	0.0010	0.0030	mg/kg	0.00667		86.8	50-150			
alpha-Chlordane	0.00545	0.0010	0.0030	"	0.00667		81.8	50-150			
Aldrin	0.00549	0.0010	0.0030	"	0.00667		82.4	50-150			
beta-BHC	0.00479	0.0010	0.0030	"	0.00667		71.9	50-150			
delta-BHC	0.00558	0.0010	0.0030	"	0.00667		83.7	50-150			
4,4´-DDD	0.00533	0.0010	0.0030	"	0.00667		79.9	50-150			
4,4´-DDE	0.00551	0.0010	0.0030	"	0.00667		82.7	50-150			
4,4´-DDT	0.00590	0.0010	0.0030	"	0.00667		88.4	50-150			
Dieldrin	0.00623	0.0010	0.0030	"	0.00667		93.5	50-150			
Endosulfan I	0.00536	0.0010	0.0030	"	0.00667		80.4	50-150			
Endosulfan II	0.00542	0.0010	0.0030	"	0.00667		81.3	50-150			
Endosulfan sulfate	0.00509	0.0010	0.0030	"	0.00667		76.3	50-150			
Endrin	0.00553	0.0010	0.0030	"	0.00667		82.9	50-150			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107067 - EPA 3550B											
LCS (A107067-BS1)					Prepared: 05-Jul-11 Analyzed: 06-Jul-11						
Endrin aldehyde	0.00552	0.0010	0.0030	mg/kg	0.00667		82.8	50-150			
Endrin ketone	0.00559	0.0010	0.0030	"	0.00667		83.8	50-150			
gamma-BHC	0.00579	0.0010	0.0030	"	0.00667		86.9	50-150			
gamma-Chlordane	0.00536	0.0010	0.0030	"	0.00667		80.5	50-150			
Heptachlor	0.00541	0.0010	0.0030	"	0.00667		81.1	50-150			
Heptachlor epoxide	0.00523	0.0010	0.0030	"	0.00667		78.5	50-150			
Methoxychlor	0.00517	0.0010	0.0030	"	0.00667		77.5	50-150			
Surrogate: Decachlorobiphenyl	*0.00623*			*"*	*0.00833*		*74.7*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00612*			*"*	*0.00833*		*73.4*	*50-150*			
LCS Dup (A107067-BSD1)					Prepared: 05-Jul-11 Analyzed: 06-Jul-11						
alpha-BHC	0.00580	0.0010	0.0030	mg/kg	0.00667		87.0	50-150	0.261	25	
alpha-Chlordane	0.00551	0.0010	0.0030	"	0.00667		82.6	50-150	1.05	25	
Aldrin	0.00554	0.0010	0.0030	"	0.00667		83.1	50-150	0.855	25	
beta-BHC	0.00531	0.0010	0.0030	"	0.00667		79.7	50-150	10.3	25	
delta-BHC	0.00568	0.0010	0.0030	"	0.00667		85.2	50-150	1.75	25	
4,4´-DDD	0.00534	0.0010	0.0030	"	0.00667		80.1	50-150	0.226	25	
4,4´-DDE	0.00532	0.0010	0.0030	"	0.00667		79.8	50-150	3.56	25	
4,4´-DDT	0.00600	0.0010	0.0030	"	0.00667		90.0	50-150	1.73	25	
Dieldrin	0.00612	0.0010	0.0030	"	0.00667		91.9	50-150	1.73	25	
Endosulfan I	0.00540	0.0010	0.0030	"	0.00667		81.0	50-150	0.671	25	
Endosulfan II	0.00547	0.0010	0.0030	"	0.00667		82.1	50-150	0.956	25	
Endosulfan sulfate	0.00510	0.0010	0.0030	"	0.00667		76.6	50-150	0.357	25	
Endrin	0.00557	0.0010	0.0030	"	0.00667		83.5	50-150	0.724	25	
Endrin aldehyde	0.00565	0.0010	0.0030	"	0.00667		84.7	50-150	2.23	25	
Endrin ketone	0.00562	0.0010	0.0030	"	0.00667		84.4	50-150	0.661	25	
gamma-BHC	0.00592	0.0010	0.0030	"	0.00667		88.8	50-150	2.17	25	
gamma-Chlordane	0.00542	0.0010	0.0030	"	0.00667		81.3	50-150	0.985	25	
Heptachlor	0.00544	0.0010	0.0030	"	0.00667		81.6	50-150	0.563	25	
Heptachlor epoxide	0.00526	0.0010	0.0030	"	0.00667		78.9	50-150	0.525	25	
Methoxychlor	0.00519	0.0010	0.0030	"	0.00667		77.9	50-150	0.484	25	
Surrogate: Decachlorobiphenyl	*0.00624*			*"*	*0.00833*		*74.9*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00608*			*"*	*0.00833*		*72.9*	*50-150*			

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107067 - EPA 3550B											
Duplicate (A107067-DUP1)	**Source: 1103120-01**			Prepared & Analyzed: 05-Jul-11							
alpha-BHC	ND	0.0010	0.0030	mg/kg		ND				25	
alpha-Chlordane	ND	0.0010	0.0030	"		ND				25	
Aldrin	ND	0.0010	0.0030	"		ND				25	
beta-BHC	ND	0.0010	0.0030	"		ND				25	
delta-BHC	ND	0.0010	0.0030	"		ND				25	
4,4´-DDD	ND	0.0010	0.0030	"		ND				25	
4,4´-DDE	ND	0.0010	0.0030	"		ND				25	
4,4´-DDT	ND	0.0010	0.0030	"		ND				25	
Dieldrin	ND	0.0010	0.0030	"		ND				25	
Endosulfan I	ND	0.0010	0.0030	"		ND				25	
Endosulfan II	ND	0.0010	0.0030	"		ND				25	
Endosulfan sulfate	ND	0.0010	0.0030	"		ND				25	
Endrin	ND	0.0010	0.0030	"		ND				25	
Endrin aldehyde	ND	0.0010	0.0030	"		ND				25	
Endrin ketone	ND	0.0010	0.0030	"		ND				25	
gamma-BHC	ND	0.0010	0.0030	"		ND				25	
gamma-Chlordane	ND	0.0010	0.0030	"		ND				25	
Heptachlor	ND	0.0010	0.0030	"		ND				25	
Heptachlor epoxide	ND	0.0010	0.0030	"		ND				25	
Methoxychlor	ND	0.0010	0.0030	"		ND				25	
Surrogate: Decachlorobiphenyl	*0.00628*			*"*	*0.00833*		*75.3*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00660*			*"*	*0.00833*		*79.2*	*50-150*			
Matrix Spike (A107067-MS1)	**Source: 1103120-01**			Prepared & Analyzed: 05-Jul-11							
alpha-BHC	0.00508	0.0010	0.0030	mg/kg	0.00667	ND	76.2	50-150			
alpha-Chlordane	0.00467	0.0010	0.0030	"	0.00667	ND	70.1	50-150			
Aldrin	0.00479	0.0010	0.0030	"	0.00667	ND	71.8	50-150			
beta-BHC	0.00580	0.0010	0.0030	"	0.00667	ND	87.0	50-150			
delta-BHC	0.00515	0.0010	0.0030	"	0.00667	ND	77.2	50-150			
4,4´-DDD	0.00505	0.0010	0.0030	"	0.00667	ND	75.8	50-150			
4,4´-DDE	0.00587	0.0010	0.0030	"	0.00667	ND	88.1	50-150			
4,4´-DDT	0.00567	0.0010	0.0030	"	0.00667	ND	85.1	50-150			
Dieldrin	0.00471	0.0010	0.0030	"	0.00667	ND	70.6	50-150			
Endosulfan I	0.00472	0.0010	0.0030	"	0.00667	ND	70.8	50-150			
Endosulfan II	0.00472	0.0010	0.0030	"	0.00667	ND	70.8	50-150			
Endosulfan sulfate	0.00437	0.0010	0.0030	"	0.00667	ND	65.5	50-150			
Endrin	0.00495	0.0010	0.0030	"	0.00667	ND	74.3	50-150			
Endrin aldehyde	0.00470	0.0010	0.0030	"	0.00667	ND	70.5	50-150			
Endrin ketone	0.00491	0.0010	0.0030	"	0.00667	ND	73.6	50-150			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107067 - EPA 3550B											
Matrix Spike (A107067-MS1)	**Source: 1103120-01**				Prepared & Analyzed: 05-Jul-11						
gamma-BHC	0.00496	0.0010	0.0030	mg/kg	0.00667	ND	74.4	50-150			
gamma-Chlordane	0.00462	0.0010	0.0030	"	0.00667	ND	69.3	50-150			
Heptachlor	0.00484	0.0010	0.0030	"	0.00667	ND	72.6	50-150			
Heptachlor epoxide	0.00586	0.0010	0.0030	"	0.00667	ND	87.9	50-150			
Methoxychlor	0.00483	0.0010	0.0030	"	0.00667	ND	72.4	50-150			
Surrogate: Decachlorobiphenyl	*0.00521*			"	*0.00833*		*62.5*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00544*			"	*0.00833*		*65.3*	*50-150*			
Matrix Spike Dup (A107067-MSD1)	**Source: 1103120-01**				Prepared & Analyzed: 05-Jul-11						
alpha-BHC	0.00520	0.0010	0.0030	mg/kg	0.00667	ND	78.0	50-150	2.37	25	
alpha-Chlordane	0.00473	0.0010	0.0030	"	0.00667	ND	70.9	50-150	1.22	25	
Aldrin	0.00487	0.0010	0.0030	"	0.00667	ND	73.1	50-150	1.71	25	
beta-BHC	0.00427	0.0010	0.0030	"	0.00667	ND	64.0	50-150	30.4	25	QR-02
delta-BHC	0.00542	0.0010	0.0030	"	0.00667	ND	81.4	50-150	5.24	25	
4,4´-DDD	0.00531	0.0010	0.0030	"	0.00667	ND	79.6	50-150	4.94	25	
4,4´-DDE	0.00540	0.0010	0.0030	"	0.00667	ND	81.0	50-150	8.38	25	
4,4´-DDT	0.00585	0.0010	0.0030	"	0.00667	ND	87.7	50-150	3.03	25	
Dieldrin	0.00473	0.0010	0.0030	"	0.00667	ND	70.9	50-150	0.507	25	
Endosulfan I	0.00480	0.0010	0.0030	"	0.00667	ND	72.0	50-150	1.61	25	
Endosulfan II	0.00482	0.0010	0.0030	"	0.00667	ND	72.3	50-150	2.02	25	
Endosulfan sulfate	0.00446	0.0010	0.0030	"	0.00667	ND	66.9	50-150	2.12	25	
Endrin	0.00507	0.0010	0.0030	"	0.00667	ND	76.1	50-150	2.41	25	
Endrin aldehyde	0.00475	0.0010	0.0030	"	0.00667	ND	71.3	50-150	1.10	25	
Endrin ketone	0.00499	0.0010	0.0030	"	0.00667	ND	74.9	50-150	1.72	25	
gamma-BHC	0.00507	0.0010	0.0030	"	0.00667	ND	76.0	50-150	2.21	25	
gamma-Chlordane	0.00469	0.0010	0.0030	"	0.00667	ND	70.4	50-150	1.50	25	
Heptachlor	0.00494	0.0010	0.0030	"	0.00667	ND	74.0	50-150	1.95	25	
Heptachlor epoxide	0.00579	0.0010	0.0030	"	0.00667	ND	86.9	50-150	1.22	25	
Methoxychlor	0.00497	0.0010	0.0030	"	0.00667	ND	74.6	50-150	2.95	25	
Surrogate: Decachlorobiphenyl	*0.00524*			"	*0.00833*		*62.9*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00551*			"	*0.00833*		*66.1*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106607 - EPA 5035/5030B MEOH											
Blank (A106607-BLK1)					Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
Benzene	ND	0.00070	0.0050	mg/kg							
Bromobenzene	ND	0.00040	0.0050	"							
Bromochloromethane	ND	0.0010	0.0050	"							
Bromodichloromethane	ND	0.00040	0.0050	"							
Bromoform	ND	0.00060	0.0050	"							
Bromomethane	ND	0.0017	0.0050	"							
n-Butylbenzene	ND	0.00070	0.0050	"							
sec-Butylbenzene	ND	0.00060	0.0050	"							
tert-Butylbenzene	ND	0.00090	0.0050	"							
Carbon tetrachloride	ND	0.0011	0.0050	"							
Chlorobenzene	ND	0.00060	0.0050	"							
Chloroethane	ND	0.0018	0.0050	"							
Chloroform	ND	0.00050	0.0050	"							
Chloromethane	ND	0.0020	0.0050	"							
2-Chlorotoluene	ND	0.00060	0.0050	"							
4-Chlorotoluene	ND	0.00040	0.0050	"							
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"							
Dibromochloromethane	ND	0.00040	0.0050	"							
Dibromomethane	ND	0.00080	0.0050	"							
1,2-Dichlorobenzene	ND	0.00030	0.0050	"							
1,3-Dichlorobenzene	ND	0.00040	0.0050	"							
1,4-Dichlorobenzene	ND	0.00040	0.0050	"							
Dichlorodifluoromethane	ND	0.0016	0.0050	"							
1,1-Dichloroethane	ND	0.00080	0.0050	"							
1,2-Dichloroethane	ND	0.00080	0.0050	"							
1,1-Dichloroethene	ND	0.0013	0.0050	"							
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"							
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"							
1,2-Dichloropropane	ND	0.00060	0.0050	"							
1,3-Dichloropropane	ND	0.00040	0.0050	"							
2,2-Dichloropropane	ND	0.00090	0.0050	"							
1,1-Dichloropropene	ND	0.00080	0.0050	"							
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"							
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"							
Ethylbenzene	ND	0.00060	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"							
Hexachlorobutadiene	ND	0.0010	0.0050	"							
Isopropylbenzene	ND	0.00070	0.0050	"							
4-Isopropyl Toluene	ND	0.00070	0.0050	"							
Methylene chloride	ND	0.00080	0.0050	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106607 - EPA 5035/5030B MEOH											
Blank (A106607-BLK1)					Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
Naphthalene	ND	0.00080	0.0050	mg/kg							
n-Propylbenzene	ND	0.00080	0.0050	"							
Styrene	ND	0.00050	0.0050	"							
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"							
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"							
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"							
Toluene	ND	0.00050	0.0050	"							
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"							
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"							
1,1,1-Trichloroethane	ND	0.00090	0.0050	"							
1,1,2-Trichloroethane	ND	0.00060	0.0050	"							
Trichloroethene (TCE)	ND	0.00080	0.0050	"							
Trichlorofluoromethane	ND	0.0017	0.0050	"							
1,2,3-Trichloropropane	ND	0.0010	0.0050	"							
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"							
Vinyl chloride	ND	0.0020	0.0050	"							
Xylenes (total)	ND	0.0013	0.0050	"							
t-Amyl Methyl Ether	ND	0.00080	0.0050	"							
t-Butyl alcohol	ND	0.0024	0.025	"							
Diisopropyl Ether	ND	0.0013	0.0050	"							
Ethanol	ND	0.79	5.0	"							
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"							
Methyl-t-butyl ether	ND	0.00060	0.0050	"							
TPH Gasoline (C4-C10)	ND	0.20	0.50	"							
Surrogate: Dibromofluoromethane	*0.0959*			*"*	*0.0998*		*96.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0878*			*"*	*0.0998*		*88.0*	*70-130*			
Surrogate: Toluene-d8	*0.0953*			*"*	*0.0998*		*95.5*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106607 - EPA 5035/5030B MEOH											
LCS (A106607-BS1)					Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
Benzene	0.0922	0.00069	0.0049	mg/kg	0.0984		93.7	70-130			
Chlorobenzene	0.0836	0.00059	0.0049	"	0.0984		85.0	70-130			
1,1-Dichloroethene	0.100	0.0013	0.0049	"	0.0984		102	70-130			
Toluene	0.0872	0.00049	0.0049	"	0.0984		88.6	70-130			
Trichloroethene (TCE)	0.0912	0.00079	0.0049	"	0.0984		92.6	70-130			
Surrogate: Dibromofluoromethane	*0.0967*			*"*	*0.0984*		*98.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0897*			*"*	*0.0984*		*91.2*	*70-130*			
Surrogate: Toluene-d8	*0.0944*			*"*	*0.0984*		*95.9*	*70-130*			
LCS (A106607-BS2)					Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
TPH Gasoline (C4-C10)	1.45	0.20	0.50	mg/kg	1.98		73.5	70-130			
Surrogate: Dibromofluoromethane	*0.0942*			*"*	*0.0990*		*95.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0922*			*"*	*0.0990*		*93.1*	*70-130*			
Surrogate: Toluene-d8	*0.0952*			*"*	*0.0990*		*96.2*	*70-130*			
LCS Dup (A106607-BSD1)					Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
Benzene	0.0948	0.00069	0.0050	mg/kg	0.0992		95.5	70-130	2.74	20	
Chlorobenzene	0.0851	0.00060	0.0050	"	0.0992		85.8	70-130	1.77	20	
1,1-Dichloroethene	0.105	0.0013	0.0050	"	0.0992		106	70-130	4.46	20	
Toluene	0.0900	0.00050	0.0050	"	0.0992		90.7	70-130	3.16	20	
Trichloroethene (TCE)	0.0931	0.00079	0.0050	"	0.0992		93.9	70-130	2.12	20	
Surrogate: Dibromofluoromethane	*0.0995*			*"*	*0.0992*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0917*			*"*	*0.0992*		*92.5*	*70-130*			
Surrogate: Toluene-d8	*0.0965*			*"*	*0.0992*		*97.3*	*70-130*			
LCS Dup (A106607-BSD2)					Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
TPH Gasoline (C4-C10)	1.43	0.20	0.49	mg/kg	1.95		73.3	70-130	1.53	20	
Surrogate: Dibromofluoromethane	*0.0900*			*"*	*0.0977*		*92.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0912*			*"*	*0.0977*		*93.4*	*70-130*			
Surrogate: Toluene-d8	*0.0932*			*"*	*0.0977*		*95.5*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106607 - EPA 5035/5030B MEOH											
Duplicate (A106607-DUP1)	**Source: 1103122-01**				Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
Benzene	ND	0.00069	0.0050	mg/kg		ND				20	
Bromobenzene	ND	0.00040	0.0050	"		ND				20	
Bromochloromethane	ND	0.00099	0.0050	"		ND				20	
Bromodichloromethane	ND	0.00040	0.0050	"		ND				20	
Bromoform	ND	0.00060	0.0050	"		ND				20	
Bromomethane	ND	0.0017	0.0050	"		ND				20	
n-Butylbenzene	ND	0.00069	0.0050	"		ND				20	
sec-Butylbenzene	ND	0.00060	0.0050	"		ND				20	
tert-Butylbenzene	ND	0.00089	0.0050	"		ND				20	
Carbon tetrachloride	ND	0.0011	0.0050	"		ND				20	
Chlorobenzene	ND	0.00060	0.0050	"		ND				20	
Chloroethane	ND	0.0018	0.0050	"		ND				20	
Chloroform	ND	0.00050	0.0050	"		ND				20	
Chloromethane	ND	0.0020	0.0050	"		ND				20	
2-Chlorotoluene	ND	0.00060	0.0050	"		ND				20	
4-Chlorotoluene	ND	0.00040	0.0050	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"		ND				20	
Dibromochloromethane	ND	0.00040	0.0050	"		ND				20	
Dibromomethane	ND	0.00079	0.0050	"		ND				20	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"		ND				20	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
Dichlorodifluoromethane	ND	0.0016	0.0050	"		ND				20	
1,1-Dichloroethane	ND	0.00079	0.0050	"		ND				20	
1,2-Dichloroethane	ND	0.00079	0.0050	"		ND				20	
1,1-Dichloroethene	ND	0.0013	0.0050	"		ND				20	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"		ND				20	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"		ND				20	
1,2-Dichloropropane	ND	0.00060	0.0050	"		ND				20	
1,3-Dichloropropane	ND	0.00040	0.0050	"		ND				20	
2,2-Dichloropropane	ND	0.00089	0.0050	"		ND				20	
1,1-Dichloropropene	ND	0.00079	0.0050	"		ND				20	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"		ND				20	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"		ND				20	
Ethylbenzene	ND	0.00060	0.0050	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"		ND				20	
Hexachlorobutadiene	ND	0.00099	0.0050	"		ND				20	
Isopropylbenzene	ND	0.00069	0.0050	"		ND				20	
4-Isopropyl Toluene	ND	0.00069	0.0050	"		ND				20	
Methylene chloride	ND	0.00079	0.0050	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106607 - EPA 5035/5030B MEOH											
Duplicate (A106607-DUP1)	**Source: 1103122-01**			Prepared: 30-Jun-11 Analyzed: 01-Jul-11							
Naphthalene	ND	0.00079	0.0050	mg/kg		ND				20	
n-Propylbenzene	ND	0.00079	0.0050	"		ND				20	
Styrene	ND	0.00050	0.0050	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"		ND				20	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"		ND				20	
Toluene	ND	0.00050	0.0050	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"		ND				20	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"		ND				20	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"		ND				20	
Trichloroethene (TCE)	ND	0.00079	0.0050	"		ND				20	
Trichlorofluoromethane	ND	0.0017	0.0050	"		ND				20	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.00069	0.0050	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.00079	0.0050	"		ND				20	
Vinyl chloride	ND	0.0020	0.0050	"		ND				20	
Xylenes (total)	ND	0.0013	0.0050	"		ND				20	
t-Amyl Methyl Ether	ND	0.00079	0.0050	"		ND				20	
t-Butyl alcohol	ND	0.0024	0.025	"		ND				20	
Diisopropyl Ether	ND	0.0013	0.0050	"		ND				20	
Ethanol	ND	0.78	5.0	"		ND				20	
Ethyl t-Butyl Ether	ND	0.00079	0.0050	"		ND				20	
Methyl-t-butyl ether	ND	0.00060	0.0050	"		ND				20	
TPH Gasoline (C4-C10)	ND	0.20	0.50	"		ND				20	
Surrogate: Dibromofluoromethane	*0.0972*			*"*	*0.0992*		*98.0*	*70-130*			
Surrogate: Toluene-d8	*0.0916*			*"*	*0.0992*		*92.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0893*			*"*	*0.0992*		*90.0*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106607 - EPA 5035/5030B MEOH											
Matrix Spike (A106607-MS1)	**Source: 1103122-01**				Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
Benzene	0.0879	0.00070	0.0050	mg/kg	0.0994	ND	88.4	70-130			
Chlorobenzene	0.0865	0.00060	0.0050	"	0.0994	ND	87.0	70-130			
1,1-Dichloroethene	0.0990	0.0013	0.0050	"	0.0994	ND	99.6	70-130			
Toluene	0.0836	0.00050	0.0050	"	0.0994	ND	84.1	70-130			
Trichloroethene (TCE)	0.0899	0.00080	0.0050	"	0.0994	ND	90.4	70-130			
Surrogate: Dibromofluoromethane	*0.100*			*"*	*0.0994*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0868*			*"*	*0.0994*		*87.3*	*70-130*			
Surrogate: Toluene-d8	*0.0959*			*"*	*0.0994*		*96.4*	*70-130*			
Matrix Spike (A106607-MS2)	**Source: 1103122-01**				Prepared: 30-Jun-11 Analyzed: 01-Jul-11						
TPH Gasoline (C4-C10)	1.24	0.20	0.49	mg/kg	1.96	ND	63.2	70-130			QM-08
Surrogate: Dibromofluoromethane	*0.0941*			*"*	*0.0982*		*95.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0921*			*"*	*0.0982*		*93.8*	*70-130*			
Surrogate: Toluene-d8	*0.0935*			*"*	*0.0982*		*95.2*	*70-130*			
Batch A106611 - EPA 5035/5030B MEOH											
Blank (A106611-BLK1)					Prepared: 30-Jun-11 Analyzed: 02-Jul-11						
Benzene	ND	0.00070	0.0050	mg/kg							
Bromobenzene	ND	0.00040	0.0050	"							
Bromochloromethane	ND	0.0010	0.0050	"							
Bromodichloromethane	ND	0.00040	0.0050	"							
Bromoform	ND	0.00060	0.0050	"							
Bromomethane	ND	0.0017	0.0050	"							
n-Butylbenzene	ND	0.00070	0.0050	"							
sec-Butylbenzene	ND	0.00060	0.0050	"							
tert-Butylbenzene	ND	0.00090	0.0050	"							
Carbon tetrachloride	ND	0.0011	0.0050	"							
Chlorobenzene	ND	0.00060	0.0050	"							
Chloroethane	ND	0.0018	0.0050	"							
Chloroform	ND	0.00050	0.0050	"							
Chloromethane	ND	0.0020	0.0050	"							
2-Chlorotoluene	ND	0.00060	0.0050	"							
4-Chlorotoluene	ND	0.00040	0.0050	"							
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"							
Dibromochloromethane	ND	0.00040	0.0050	"							
Dibromomethane	ND	0.00080	0.0050	"							
1,2-Dichlorobenzene	ND	0.00030	0.0050	"							
1,3-Dichlorobenzene	ND	0.00040	0.0050	"							
1,4-Dichlorobenzene	ND	0.00040	0.0050	"							

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106611 - EPA 5035/5030B MEOH											
Blank (A106611-BLK1)					Prepared: 30-Jun-11 Analyzed: 02-Jul-11						
Dichlorodifluoromethane	ND	0.0016	0.0050	mg/kg							
1,1-Dichloroethane	ND	0.00080	0.0050	"							
1,2-Dichloroethane	ND	0.00080	0.0050	"							
1,1-Dichloroethene	ND	0.0013	0.0050	"							
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"							
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"							
1,2-Dichloropropane	ND	0.00060	0.0050	"							
1,3-Dichloropropane	ND	0.00040	0.0050	"							
2,2-Dichloropropane	ND	0.00090	0.0050	"							
1,1-Dichloropropene	ND	0.00080	0.0050	"							
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"							
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"							
Ethylbenzene	ND	0.00060	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"							
Hexachlorobutadiene	ND	0.0010	0.0050	"							
Isopropylbenzene	ND	0.00070	0.0050	"							
4-Isopropyl Toluene	ND	0.00070	0.0050	"							
Methylene chloride	ND	0.00080	0.0050	"							
Naphthalene	ND	0.00080	0.0050	"							
n-Propylbenzene	ND	0.00080	0.0050	"							
Styrene	ND	0.00050	0.0050	"							
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"							
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"							
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"							
Toluene	ND	0.00050	0.0050	"							
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"							
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"							
1,1,1-Trichloroethane	ND	0.00090	0.0050	"							
1,1,2-Trichloroethane	ND	0.00060	0.0050	"							
Trichloroethene (TCE)	ND	0.00080	0.0050	"							
Trichlorofluoromethane	ND	0.0017	0.0050	"							
1,2,3-Trichloropropane	ND	0.0010	0.0050	"							
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"							
Vinyl chloride	ND	0.0020	0.0050	"							
Xylenes (total)	ND	0.0013	0.0050	"							
t-Amyl Methyl Ether	ND	0.00080	0.0050	"							
t-Butyl alcohol	ND	0.0024	0.025	"							
Diisopropyl Ether	ND	0.0013	0.0050	"							
Ethanol	ND	0.79	5.0	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106611 - EPA 5035/5030B MEOH											
Blank (A106611-BLK1)					Prepared: 30-Jun-11 Analyzed: 02-Jul-11						
Ethyl t-Butyl Ether	ND	0.00080	0.0050	mg/kg							
Methyl-t-butyl ether	ND	0.00060	0.0050	"							
TPH Gasoline (C4-C10)	ND	0.20	0.50	"							
Surrogate: Dibromofluoromethane	*0.0999*			*"*	*0.100*		*99.5*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0965*			*"*	*0.100*		*96.1*	*70-130*			
Surrogate: Toluene-d8	*0.103*			*"*	*0.100*		*103*	*70-130*			
LCS (A106611-BS1)					Prepared: 30-Jun-11 Analyzed: 02-Jul-11						
Benzene	0.0979	0.00070	0.0050	mg/kg	0.0994		98.5	70-130			
Chlorobenzene	0.116	0.00060	0.0050	"	0.0994		116	70-130			
1,1-Dichloroethene	0.119	0.0013	0.0050	"	0.0994		119	70-130			
Toluene	0.119	0.00050	0.0050	"	0.0994		119	70-130			
Trichloroethene (TCE)	0.137	0.00080	0.0050	"	0.0994		138	70-130			QM-12
Surrogate: Dibromofluoromethane	*0.101*			*"*	*0.0994*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.114*			*"*	*0.0994*		*115*	*70-130*			
Surrogate: Toluene-d8	*0.106*			*"*	*0.0994*		*107*	*70-130*			
LCS (A106611-BS2)					Prepared: 30-Jun-11 Analyzed: 02-Jul-11						
TPH Gasoline (C4-C10)	1.95	0.20	0.50	mg/kg	2.01		97.0	70-130			
Surrogate: Dibromofluoromethane	*0.113*			*"*	*0.101*		*113*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.109*			*"*	*0.101*		*109*	*70-130*			
Surrogate: Toluene-d8	*0.116*			*"*	*0.101*		*116*	*70-130*			
LCS Dup (A106611-BSD1)					Prepared: 30-Jun-11 Analyzed: 02-Jul-11						
Benzene	0.105	0.00070	0.0050	mg/kg	0.0996		106	70-130	7.14	20	
Chlorobenzene	0.113	0.00060	0.0050	"	0.0996		114	70-130	2.20	20	
1,1-Dichloroethene	0.127	0.0013	0.0050	"	0.0996		128	70-130	7.02	20	
Toluene	0.123	0.00050	0.0050	"	0.0996		123	70-130	3.30	20	
Trichloroethene (TCE)	0.146	0.00080	0.0050	"	0.0996		147	70-130	6.69	20	QM-12
Surrogate: Dibromofluoromethane	*0.109*			*"*	*0.0996*		*110*	*70-130*			
Surrogate: Toluene-d8	*0.119*			*"*	*0.0996*		*119*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.103*			*"*	*0.0996*		*103*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106611 - EPA 5035/5030B MEOH											
LCS Dup (A106611-BSD2)					Prepared: 30-Jun-11 Analyzed: 02-Jul-11						
TPH Gasoline (C4-C10)	1.85	0.20	0.51	mg/kg	2.03		91.0	70-130	5.58	20	
Surrogate: Dibromofluoromethane	*0.0984*			*"*	*0.101*		*97.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.116*			*"*	*0.101*		*114*	*70-130*			
Surrogate: Toluene-d8	*0.112*			*"*	*0.101*		*110*	*70-130*			
Duplicate (A106611-DUP1)	**Source: 1103024-29**				Prepared: 30-Jun-11 Analyzed: 02-Jul-11						
Benzene	ND	0.00070	0.0050	mg/kg		ND				20	
Bromobenzene	ND	0.00040	0.0050	"		ND				20	
Bromochloromethane	ND	0.0010	0.0050	"		ND				20	
Bromodichloromethane	ND	0.00040	0.0050	"		ND				20	
Bromoform	ND	0.00060	0.0050	"		ND				20	
Bromomethane	ND	0.0017	0.0050	"		ND				20	
n-Butylbenzene	ND	0.00070	0.0050	"		ND				20	
sec-Butylbenzene	ND	0.00060	0.0050	"		ND				20	
tert-Butylbenzene	ND	0.00090	0.0050	"		ND				20	
Carbon tetrachloride	ND	0.0011	0.0050	"		ND				20	
Chlorobenzene	ND	0.00060	0.0050	"		ND				20	
Chloroethane	ND	0.0018	0.0050	"		ND				20	
Chloroform	ND	0.00050	0.0050	"		ND				20	
Chloromethane	ND	0.0020	0.0050	"		ND				20	
2-Chlorotoluene	ND	0.00060	0.0050	"		ND				20	
4-Chlorotoluene	ND	0.00040	0.0050	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"		ND				20	
Dibromochloromethane	ND	0.00040	0.0050	"		ND				20	
Dibromomethane	ND	0.00080	0.0050	"		ND				20	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"		ND				20	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
Dichlorodifluoromethane	ND	0.0016	0.0050	"		ND				20	
1,1-Dichloroethane	ND	0.00080	0.0050	"		ND				20	
1,2-Dichloroethane	ND	0.00080	0.0050	"		ND				20	
1,1-Dichloroethene	ND	0.0013	0.0050	"		ND				20	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"		ND				20	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"		ND				20	
1,2-Dichloropropane	ND	0.00060	0.0050	"		ND				20	
1,3-Dichloropropane	ND	0.00040	0.0050	"		ND				20	
2,2-Dichloropropane	ND	0.00090	0.0050	"		ND				20	
1,1-Dichloropropene	ND	0.00080	0.0050	"		ND				20	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"		ND				20	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106611 - EPA 5035/5030B MEOH											
Duplicate (A106611-DUP1)	**Source: 1103024-29**			Prepared: 30-Jun-11 Analyzed: 02-Jul-11							
Ethylbenzene	ND	0.00060	0.0050	mg/kg		ND				20	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"		ND				20	
Hexachlorobutadiene	ND	0.0010	0.0050	"		ND				20	
Isopropylbenzene	ND	0.00070	0.0050	"		ND				20	
4-Isopropyl Toluene	ND	0.00070	0.0050	"		ND				20	
Methylene chloride	ND	0.00080	0.0050	"		ND				20	
Naphthalene	ND	0.00080	0.0050	"		ND				20	
n-Propylbenzene	ND	0.00080	0.0050	"		ND				20	
Styrene	ND	0.00050	0.0050	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"		ND				20	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"		ND				20	
Toluene	ND	0.00050	0.0050	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"		ND				20	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"		ND				20	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"		ND				20	
Trichloroethene (TCE)	ND	0.00080	0.0050	"		ND				20	
Trichlorofluoromethane	ND	0.0017	0.0050	"		ND				20	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"		ND				20	
Vinyl chloride	ND	0.0020	0.0050	"		ND				20	
Xylenes (total)	ND	0.0013	0.0050	"		ND				20	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"		ND				20	
t-Butyl alcohol	ND	0.0024	0.025	"		ND				20	
Diisopropyl Ether	ND	0.0013	0.0050	"		ND				20	
Ethanol	ND	0.79	5.0	"		ND				20	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"		ND				20	
Methyl-t-butyl ether	ND	0.00060	0.0050	"		ND				20	
TPH Gasoline (C4-C10)	ND	0.20	0.50	"		ND				20	
Surrogate: Dibromofluoromethane	*0.0995*			*"*	*0.100*		*99.3*	*70-130*			
Surrogate: Toluene-d8	*0.100*			*"*	*0.100*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.102*			*"*	*0.100*		*101*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A106611 - EPA 5035/5030B MEOH											
Matrix Spike (A106611-MS1)	**Source: 1103024-29**				Prepared: 30-Jun-11 Analyzed: 02-Jul-11						
Benzene	0.100	0.00070	0.0050	mg/kg	0.0996	ND	100	70-130			
Chlorobenzene	0.100	0.00060	0.0050	"	0.0996	ND	101	70-130			
1,1-Dichloroethene	0.107	0.0013	0.0050	"	0.0996	ND	108	70-130			
Toluene	0.107	0.00050	0.0050	"	0.0996	ND	108	70-130			
Trichloroethene (TCE)	0.125	0.00080	0.0050	"	0.0996	ND	126	70-130			
Surrogate: Dibromofluoromethane	*0.103*			*"*	*0.0996*		*103*	*70-130*			
Surrogate: Toluene-d8	*0.109*			*"*	*0.0996*		*109*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.102*			*"*	*0.0996*		*102*	*70-130*			
Matrix Spike (A106611-MS2)	**Source: 1103024-29**				Prepared: 30-Jun-11 Analyzed: 02-Jul-11						
TPH Gasoline (C4-C10)	1.85	0.20	0.50	mg/kg	1.98	ND	93.0	70-130			
Surrogate: Dibromofluoromethane	*0.0990*			*"*	*0.0992*		*99.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.104*			*"*	*0.0992*		*105*	*70-130*			
Surrogate: Toluene-d8	*0.105*			*"*	*0.0992*		*106*	*70-130*			
Batch A107005 - EPA 5035/5030B MEOH											
Blank (A107005-BLK1)					Prepared & Analyzed: 06-Jul-11						
Benzene	ND	0.00070	0.0050	mg/kg							
Bromobenzene	ND	0.00040	0.0050	"							
Bromochloromethane	ND	0.0010	0.0050	"							
Bromodichloromethane	ND	0.00040	0.0050	"							
Bromoform	ND	0.00060	0.0050	"							
Bromomethane	ND	0.0017	0.0050	"							
n-Butylbenzene	ND	0.00070	0.0050	"							
sec-Butylbenzene	ND	0.00060	0.0050	"							
tert-Butylbenzene	ND	0.00090	0.0050	"							
Carbon tetrachloride	ND	0.0011	0.0050	"							
Chlorobenzene	ND	0.00060	0.0050	"							
Chloroethane	ND	0.0018	0.0050	"							
Chloroform	ND	0.00050	0.0050	"							
Chloromethane	ND	0.0020	0.0050	"							
2-Chlorotoluene	ND	0.00060	0.0050	"							
4-Chlorotoluene	ND	0.00040	0.0050	"							
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"							
Dibromochloromethane	ND	0.00040	0.0050	"							
Dibromomethane	ND	0.00080	0.0050	"							
1,2-Dichlorobenzene	ND	0.00030	0.0050	"							
1,3-Dichlorobenzene	ND	0.00040	0.0050	"							
1,4-Dichlorobenzene	ND	0.00040	0.0050	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107005 - EPA 5035/5030B MEOH											
Blank (A107005-BLK1)					Prepared & Analyzed: 06-Jul-11						
Dichlorodifluoromethane	ND	0.0016	0.0050	mg/kg							
1,1-Dichloroethane	ND	0.00080	0.0050	"							
1,2-Dichloroethane	ND	0.00080	0.0050	"							
1,1-Dichloroethene	ND	0.0013	0.0050	"							
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"							
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"							
1,2-Dichloropropane	ND	0.00060	0.0050	"							
1,3-Dichloropropane	ND	0.00040	0.0050	"							
2,2-Dichloropropane	ND	0.00090	0.0050	"							
1,1-Dichloropropene	ND	0.00080	0.0050	"							
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"							
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"							
Ethylbenzene	ND	0.00060	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"							
Hexachlorobutadiene	ND	0.0010	0.0050	"							
Isopropylbenzene	ND	0.00070	0.0050	"							
4-Isopropyl Toluene	ND	0.00070	0.0050	"							
Methylene chloride	ND	0.00080	0.0050	"							
Naphthalene	ND	0.00080	0.0050	"							
n-Propylbenzene	ND	0.00080	0.0050	"							
Styrene	ND	0.00050	0.0050	"							
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"							
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"							
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"							
Toluene	ND	0.00050	0.0050	"							
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"							
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"							
1,1,1-Trichloroethane	ND	0.00090	0.0050	"							
1,1,2-Trichloroethane	ND	0.00060	0.0050	"							
Trichloroethene (TCE)	ND	0.00080	0.0050	"							
Trichlorofluoromethane	ND	0.0017	0.0050	"							
1,2,3-Trichloropropane	ND	0.0010	0.0050	"							
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"							
Vinyl chloride	ND	0.0020	0.0050	"							
Xylenes (total)	ND	0.0013	0.0050	"							
t-Amyl Methyl Ether	ND	0.00080	0.0050	"							
t-Butyl alcohol	ND	0.0024	0.025	"							
Diisopropyl Ether	ND	0.0013	0.0050	"							
Ethanol	ND	0.79	5.0	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107005 - EPA 5035/5030B MEOH											
Blank (A107005-BLK1)					Prepared & Analyzed: 06-Jul-11						
Ethyl t-Butyl Ether	ND	0.00080	0.0050	mg/kg							
Methyl-t-butyl ether	ND	0.00060	0.0050	"							
TPH Gasoline (C4-C10)	ND	0.20	0.50	"							
Surrogate: Dibromofluoromethane	*0.100*			*"*	*0.0998*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0894*			*"*	*0.0998*		*89.6*	*70-130*			
Surrogate: Toluene-d8	*0.107*			*"*	*0.0998*		*107*	*70-130*			
LCS (A107005-BS1)					Prepared & Analyzed: 06-Jul-11						
Benzene	0.101	0.00069	0.0049	mg/kg	0.0982		103	70-130			
Chlorobenzene	0.0943	0.00059	0.0049	"	0.0982		96.0	70-130			
1,1-Dichloroethene	0.115	0.0013	0.0049	"	0.0982		117	70-130			
Toluene	0.101	0.00049	0.0049	"	0.0982		103	70-130			
Trichloroethene (TCE)	0.110	0.00079	0.0049	"	0.0982		112	70-130			
Surrogate: Dibromofluoromethane	*0.0992*			*"*	*0.0982*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0857*			*"*	*0.0982*		*87.3*	*70-130*			
Surrogate: Toluene-d8	*0.0990*			*"*	*0.0982*		*101*	*70-130*			
LCS (A107005-BS2)					Prepared & Analyzed: 06-Jul-11						
TPH Gasoline (C4-C10)	1.61	0.20	0.50	mg/kg	1.99		80.9	70-130			
Surrogate: Dibromofluoromethane	*0.0964*			*"*	*0.0996*		*96.8*	*70-130*			
Surrogate: Toluene-d8	*0.101*			*"*	*0.0996*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.101*			*"*	*0.0996*		*102*	*70-130*			
LCS Dup (A107005-BSD1)					Prepared & Analyzed: 06-Jul-11						
Benzene	0.107	0.00069	0.0050	mg/kg	0.0992		108	70-130	5.57	20	
Chlorobenzene	0.101	0.00060	0.0050	"	0.0992		102	70-130	6.61	20	
1,1-Dichloroethene	0.122	0.0013	0.0050	"	0.0992		123	70-130	6.05	20	
Toluene	0.108	0.00050	0.0050	"	0.0992		109	70-130	6.94	20	
Trichloroethene (TCE)	0.116	0.00079	0.0050	"	0.0992		117	70-130	5.18	20	
Surrogate: Dibromofluoromethane	*0.107*			*"*	*0.0992*		*108*	*70-130*			
Surrogate: Toluene-d8	*0.106*			*"*	*0.0992*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0893*			*"*	*0.0992*		*90.0*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107005 - EPA 5035/5030B MEOH											
LCS Dup (A107005-BSD2)					Prepared & Analyzed: 06-Jul-11						
TPH Gasoline (C4-C10)	1.68	0.20	0.50	mg/kg	1.99		84.5	70-130	4.32	20	
Surrogate: Dibromofluoromethane	*0.0941*			*"*	*0.0996*		*94.5*	*70-130*			
Surrogate: Toluene-d8	*0.106*			*"*	*0.0996*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.107*			*"*	*0.0996*		*107*	*70-130*			
Duplicate (A107005-DUP1)	**Source: 1102998-06**				Prepared: 06-Jul-11 Analyzed: 07-Jul-11						
Benzene	0.139	0.070	0.50	mg/kg		0.171			20.5	20	J, QR-04
Bromobenzene	ND	0.040	0.50	"		ND				20	
Bromochloromethane	ND	0.099	0.50	"		ND				20	
Bromodichloromethane	ND	0.040	0.50	"		ND				20	
Bromoform	ND	0.060	0.50	"		ND				20	
Bromomethane	ND	0.17	0.50	"		ND				20	
n-Butylbenzene	1.34	0.070	0.50	"		1.18			12.7	20	
sec-Butylbenzene	0.716	0.060	0.50	"		0.608			16.2	20	
tert-Butylbenzene	0.123	0.089	0.50	"		0.119			3.28	20	J
Carbon tetrachloride	ND	0.11	0.50	"		ND				20	
Chlorobenzene	ND	0.060	0.50	"		ND				20	
Chloroethane	ND	0.18	0.50	"		ND				20	
Chloroform	ND	0.050	0.50	"		ND				20	
Chloromethane	ND	0.20	0.50	"		ND				20	
2-Chlorotoluene	ND	0.060	0.50	"		ND				20	
4-Chlorotoluene	ND	0.040	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"		ND				20	
Dibromochloromethane	ND	0.040	0.50	"		ND				20	
Dibromomethane	ND	0.080	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.030	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.040	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.040	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.16	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.080	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.080	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.13	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.050	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.099	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.060	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.040	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.089	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.080	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.060	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.040	0.50	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107005 - EPA 5035/5030B MEOH											
Duplicate (A107005-DUP1)	**Source: 1102998-06**			Prepared: 06-Jul-11 Analyzed: 07-Jul-11							
Ethylbenzene	1.96	0.060	0.50	mg/kg		1.64			17.5	20	
1,2-Dibromoethane (EDB)	ND	0.060	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.099	0.50	"		ND				20	
Isopropylbenzene	1.14	0.070	0.50	"		0.958			17.1	20	
4-Isopropyl Toluene	1.17	0.070	0.50	"		0.990			16.9	20	
Methylene chloride	ND	0.080	0.50	"		ND				20	
Naphthalene	5.91	0.080	0.50	"		5.50			7.18	20	
n-Propylbenzene	1.68	0.080	0.50	"		1.41			17.8	20	
Styrene	ND	0.050	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.040	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.050	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.089	0.50	"		ND				20	
Toluene	ND	0.050	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.089	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.050	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.089	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.060	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.080	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.17	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.099	0.50	"		ND				20	
1,2,4-Trimethylbenzene	7.37	0.070	0.50	"		6.55			11.8	20	
1,3,5-Trimethylbenzene	0.767	0.080	0.50	"		0.616			21.8	20	QR-04
Vinyl chloride	ND	0.20	0.50	"		ND				20	
Xylenes (total)	2.38	0.13	0.50	"		1.93			20.9	20	QR-04
t-Amyl Methyl Ether	ND	0.080	0.50	"		ND				20	
t-Butyl alcohol	ND	0.24	2.5	"		ND				20	
Diisopropyl Ether	ND	0.13	0.50	"		ND				20	
Ethanol	ND	78	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.080	0.50	"		ND				20	
Methyl-t-butyl ether	ND	0.060	0.50	"		ND				20	
TPH Gasoline (C4-C10)	ND	20	50	"		ND				20	
Surrogate: Dibromofluoromethane	*0.104*			*"*	*0.0994*		*105*	*70-130*			
Surrogate: Toluene-d8	*0.0978*			*"*	*0.0994*		*98.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.121*			*"*	*0.0994*		*122*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107005 - EPA 5035/5030B MEOH											
Matrix Spike (A107005-MS1)	**Source: 1102998-06**				Prepared: 06-Jul-11 Analyzed: 07-Jul-11						
Benzene	9.32	0.070	0.50	mg/kg	9.94	0.171	92.0	70-130			
Chlorobenzene	10.7	0.060	0.50	"	9.94	ND	108	70-130			
1,1-Dichloroethene	11.6	0.13	0.50	"	9.94	ND	117	70-130			
Toluene	10.6	0.050	0.50	"	9.94	ND	107	70-130			
Trichloroethene (TCE)	9.86	0.080	0.50	"	9.94	ND	99.2	70-130			
Surrogate: Dibromofluoromethane	*0.0945*			"	*0.0994*		*95.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.121*			"	*0.0994*		*122*	*70-130*			
Surrogate: Toluene-d8	*0.105*			"	*0.0994*		*106*	*70-130*			
Matrix Spike (A107005-MS2)	**Source: 1102998-06**				Prepared: 06-Jul-11 Analyzed: 07-Jul-11						
TPH Gasoline (C4-C10)	548	20	50	mg/kg	199	ND	276	70-130			QM-08
Surrogate: Dibromofluoromethane	*0.0909*			"	*0.0994*		*91.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.131*			"	*0.0994*		*132*	*70-130*			*S-GC*
Surrogate: Toluene-d8	*0.100*			"	*0.0994*		*101*	*70-130*			
Batch A107087 - EPA 5035/5030B MEOH											
Blank (A107087-BLK1)					Prepared: 07-Jul-11 Analyzed: 08-Jul-11						
Benzene	ND	0.00070	0.0050	mg/kg							
Bromobenzene	ND	0.00040	0.0050	"							
Bromochloromethane	ND	0.0010	0.0050	"							
Bromodichloromethane	ND	0.00040	0.0050	"							
Bromoform	ND	0.00060	0.0050	"							
Bromomethane	ND	0.0017	0.0050	"							
n-Butylbenzene	ND	0.00070	0.0050	"							
sec-Butylbenzene	ND	0.00060	0.0050	"							
tert-Butylbenzene	ND	0.00090	0.0050	"							
Carbon tetrachloride	ND	0.0011	0.0050	"							
Chlorobenzene	ND	0.00060	0.0050	"							
Chloroethane	ND	0.0018	0.0050	"							
Chloroform	ND	0.00050	0.0050	"							
Chloromethane	ND	0.0020	0.0050	"							
2-Chlorotoluene	ND	0.00060	0.0050	"							
4-Chlorotoluene	ND	0.00040	0.0050	"							
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"							
Dibromochloromethane	ND	0.00040	0.0050	"							
Dibromomethane	ND	0.00080	0.0050	"							
1,2-Dichlorobenzene	ND	0.00030	0.0050	"							
1,3-Dichlorobenzene	ND	0.00040	0.0050	"							
1,4-Dichlorobenzene	ND	0.00040	0.0050	"							

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Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107087 - EPA 5035/5030B MEOH											
Blank (A107087-BLK1)					Prepared: 07-Jul-11 Analyzed: 08-Jul-11						
Dichlorodifluoromethane	ND	0.0016	0.0050	mg/kg							
1,1-Dichloroethane	ND	0.00080	0.0050	"							
1,2-Dichloroethane	ND	0.00080	0.0050	"							
1,1-Dichloroethene	ND	0.0013	0.0050	"							
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"							
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"							
1,2-Dichloropropane	ND	0.00060	0.0050	"							
1,3-Dichloropropane	ND	0.00040	0.0050	"							
2,2-Dichloropropane	ND	0.00090	0.0050	"							
1,1-Dichloropropene	ND	0.00080	0.0050	"							
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"							
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"							
Ethylbenzene	ND	0.00060	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"							
Hexachlorobutadiene	ND	0.0010	0.0050	"							
Isopropylbenzene	ND	0.00070	0.0050	"							
4-Isopropyl Toluene	ND	0.00070	0.0050	"							
Methylene chloride	ND	0.00080	0.0050	"							
Naphthalene	ND	0.00080	0.0050	"							
n-Propylbenzene	ND	0.00080	0.0050	"							
Styrene	ND	0.00050	0.0050	"							
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"							
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"							
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"							
Toluene	ND	0.00050	0.0050	"							
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"							
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"							
1,1,1-Trichloroethane	ND	0.00090	0.0050	"							
1,1,2-Trichloroethane	ND	0.00060	0.0050	"							
Trichloroethene (TCE)	ND	0.00080	0.0050	"							
Trichlorofluoromethane	ND	0.0017	0.0050	"							
1,2,3-Trichloropropane	ND	0.0010	0.0050	"							
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"							
Vinyl chloride	ND	0.0020	0.0050	"							
Xylenes (total)	ND	0.0013	0.0050	"							
t-Amyl Methyl Ether	ND	0.00080	0.0050	"							
t-Butyl alcohol	ND	0.0024	0.025	"							
Diisopropyl Ether	ND	0.0013	0.0050	"							
Ethanol	ND	0.79	5.0	"							

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Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107087 - EPA 5035/5030B MEOH											
Blank (A107087-BLK1)					Prepared: 07-Jul-11 Analyzed: 08-Jul-11						
Ethyl t-Butyl Ether	ND	0.00080	0.0050	mg/kg							
Methyl-t-butyl ether	ND	0.00060	0.0050	"							
TPH Gasoline (C4-C10)	ND	0.20	0.50	"							
Surrogate: Dibromofluoromethane	*0.108*			*"*	*0.100*		*107*	*70-130*			
Surrogate: Toluene-d8	*0.0957*			*"*	*0.100*		*95.5*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0949*			*"*	*0.100*		*94.7*	*70-130*			
LCS (A107087-BS1)					Prepared & Analyzed: 07-Jul-11						
Benzene	0.101	0.00070	0.0050	mg/kg	0.100		101	70-130			
Chlorobenzene	0.105	0.00060	0.0050	"	0.100		105	70-130			
1,1-Dichloroethene	0.117	0.0013	0.0050	"	0.100		117	70-130			
Toluene	0.104	0.00050	0.0050	"	0.100		104	70-130			
Trichloroethene (TCE)	0.116	0.00080	0.0050	"	0.100		115	70-130			
Surrogate: Dibromofluoromethane	*0.111*			*"*	*0.100*		*110*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0998*			*"*	*0.100*		*99.4*	*70-130*			
Surrogate: Toluene-d8	*0.101*			*"*	*0.100*		*101*	*70-130*			
LCS (A107087-BS2)					Prepared & Analyzed: 07-Jul-11						
TPH Gasoline (C4-C10)	1.62	0.20	0.50	mg/kg	1.99		81.3	70-130			
Surrogate: Dibromofluoromethane	*0.101*			*"*	*0.0994*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0986*			*"*	*0.0994*		*99.2*	*70-130*			
Surrogate: Toluene-d8	*0.0947*			*"*	*0.0994*		*95.2*	*70-130*			
LCS Dup (A107087-BSD1)					Prepared & Analyzed: 07-Jul-11						
Benzene	0.0943	0.00069	0.0049	mg/kg	0.0988		95.4	70-130	6.98	20	
Chlorobenzene	0.0980	0.00059	0.0049	"	0.0988		99.2	70-130	6.89	20	
1,1-Dichloroethene	0.108	0.0013	0.0049	"	0.0988		109	70-130	8.13	20	
Toluene	0.0986	0.00049	0.0049	"	0.0988		99.8	70-130	5.33	20	
Trichloroethene (TCE)	0.108	0.00079	0.0049	"	0.0988		109	70-130	6.97	20	
Surrogate: Dibromofluoromethane	*0.105*			*"*	*0.0988*		*106*	*70-130*			
Surrogate: Toluene-d8	*0.0959*			*"*	*0.0988*		*97.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0941*			*"*	*0.0988*		*95.2*	*70-130*			

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Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107087 - EPA 5035/5030B MEOH											
LCS Dup (A107087-BSD2)					Prepared: 07-Jul-11 Analyzed: 08-Jul-11						
TPH Gasoline (C4-C10)	1.55	0.20	0.50	mg/kg	2.00		77.8	70-130	4.03	20	
Surrogate: Dibromofluoromethane	*0.106*			*"*	*0.0998*		*106*	*70-130*			
Surrogate: Toluene-d8	*0.0995*			*"*	*0.0998*		*99.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.109*			*"*	*0.0998*		*109*	*70-130*			
Duplicate (A107087-DUP1)	**Source: 1103237-01**				Prepared: 07-Jul-11 Analyzed: 08-Jul-11						
Benzene	ND	0.00069	0.0050	mg/kg		ND				20	
Bromobenzene	ND	0.00040	0.0050	"		ND				20	
Bromochloromethane	ND	0.00099	0.0050	"		ND				20	
Bromodichloromethane	ND	0.00040	0.0050	"		ND				20	
Bromoform	ND	0.00059	0.0050	"		ND				20	
Bromomethane	ND	0.0017	0.0050	"		ND				20	
n-Butylbenzene	ND	0.00069	0.0050	"		ND				20	
sec-Butylbenzene	ND	0.00059	0.0050	"		ND				20	
tert-Butylbenzene	ND	0.00089	0.0050	"		ND				20	
Carbon tetrachloride	ND	0.0011	0.0050	"		ND				20	
Chlorobenzene	ND	0.00059	0.0050	"		ND				20	
Chloroethane	ND	0.0018	0.0050	"		ND				20	
Chloroform	ND	0.00050	0.0050	"		ND				20	
Chloromethane	ND	0.0020	0.0050	"		ND				20	
2-Chlorotoluene	ND	0.00059	0.0050	"		ND				20	
4-Chlorotoluene	ND	0.00040	0.0050	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"		ND				20	
Dibromochloromethane	ND	0.00040	0.0050	"		ND				20	
Dibromomethane	ND	0.00079	0.0050	"		ND				20	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"		ND				20	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
Dichlorodifluoromethane	ND	0.0016	0.0050	"		ND				20	
1,1-Dichloroethane	ND	0.00079	0.0050	"		ND				20	
1,2-Dichloroethane	ND	0.00079	0.0050	"		ND				20	
1,1-Dichloroethene	ND	0.0013	0.0050	"		ND				20	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"		ND				20	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"		ND				20	
1,2-Dichloropropane	ND	0.00059	0.0050	"		ND				20	
1,3-Dichloropropane	ND	0.00040	0.0050	"		ND				20	
2,2-Dichloropropane	ND	0.00089	0.0050	"		ND				20	
1,1-Dichloropropene	ND	0.00079	0.0050	"		ND				20	
cis-1,3-Dichloropropene	ND	0.00059	0.0050	"		ND				20	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"		ND				20	

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Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107087 - EPA 5035/5030B MEOH											
Duplicate (A107087-DUP1)	**Source: 1103237-01**			Prepared: 07-Jul-11 Analyzed: 08-Jul-11							
Ethylbenzene	ND	0.00059	0.0050	mg/kg		ND				20	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0050	"		ND				20	
Hexachlorobutadiene	ND	0.00099	0.0050	"		ND				20	
Isopropylbenzene	ND	0.00069	0.0050	"		ND				20	
4-Isopropyl Toluene	ND	0.00069	0.0050	"		ND				20	
Methylene chloride	ND	0.00079	0.0050	"		ND				20	
Naphthalene	ND	0.00079	0.0050	"		ND				20	
n-Propylbenzene	ND	0.00079	0.0050	"		ND				20	
Styrene	ND	0.00050	0.0050	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"		ND				20	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"		ND				20	
Toluene	ND	0.00050	0.0050	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"		ND				20	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"		ND				20	
1,1,2-Trichloroethane	ND	0.00059	0.0050	"		ND				20	
Trichloroethene (TCE)	ND	0.00079	0.0050	"		ND				20	
Trichlorofluoromethane	ND	0.0017	0.0050	"		ND				20	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.00069	0.0050	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.00079	0.0050	"		ND				20	
Vinyl chloride	ND	0.0020	0.0050	"		ND				20	
Xylenes (total)	ND	0.0013	0.0050	"		ND				20	
t-Amyl Methyl Ether	ND	0.00079	0.0050	"		ND				20	
t-Butyl alcohol	ND	0.0024	0.025	"		ND				20	
Diisopropyl Ether	ND	0.0013	0.0050	"		ND				20	
Ethanol	ND	0.78	5.0	"		ND				20	
Ethyl t-Butyl Ether	ND	0.00079	0.0050	"		ND				20	
Methyl-t-butyl ether	ND	0.00059	0.0050	"		ND				20	
TPH Gasoline (C4-C10)	ND	0.20	0.50	"		ND				20	
Surrogate: Dibromofluoromethane	*0.112*			*"*	*0.0990*		*113*	*70-130*			
Surrogate: Toluene-d8	*0.0964*			*"*	*0.0990*		*97.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0899*			*"*	*0.0990*		*90.8*	*70-130*			

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Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107087 - EPA 5035/5030B MEOH											
Matrix Spike (A107087-MS1)	**Source: 1103237-01**				Prepared: 07-Jul-11 Analyzed: 08-Jul-11						
Benzene	0.0682	0.00071	0.0050	mg/kg	0.101	ND	67.6	70-130			QM-08
Chlorobenzene	0.0514	0.00060	0.0050	"	0.101	ND	51.0	70-130			QM-08
1,1-Dichloroethene	0.0818	0.0013	0.0050	"	0.101	ND	81.2	70-130			
Toluene	0.0565	0.00050	0.0050	"	0.101	ND	56.0	70-130			QM-08
Trichloroethene (TCE)	0.0672	0.00081	0.0050	"	0.101	ND	66.7	70-130			QM-08
Surrogate: Dibromofluoromethane	*0.118*			*"*	*0.101*		*117*	*70-130*			
Surrogate: Toluene-d8	*0.0988*			*"*	*0.101*		*98.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0964*			*"*	*0.101*		*95.6*	*70-130*			
Matrix Spike (A107087-MS2)	**Source: 1103237-01**				Prepared: 07-Jul-11 Analyzed: 08-Jul-11						
TPH Gasoline (C4-C10)	0.610	0.20	0.50	mg/kg	1.98	ND	30.7	70-130			QM-08
Surrogate: Dibromofluoromethane	*0.109*			*"*	*0.0992*		*110*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0959*			*"*	*0.0992*		*96.7*	*70-130*			
Surrogate: Toluene-d8	*0.0950*			*"*	*0.0992*		*95.7*	*70-130*			
Batch A107099 - EPA 5035/5030B MEOH											
Blank (A107099-BLK1)					Prepared & Analyzed: 07-Jul-11						
Benzene	ND	0.00069	0.0049	mg/kg							
Bromobenzene	ND	0.00040	0.0049	"							
Bromochloromethane	ND	0.00099	0.0049	"							
Bromodichloromethane	ND	0.00040	0.0049	"							
Bromoform	ND	0.00059	0.0049	"							
Bromomethane	ND	0.0017	0.0049	"							
n-Butylbenzene	ND	0.00069	0.0049	"							
sec-Butylbenzene	ND	0.00059	0.0049	"							
tert-Butylbenzene	ND	0.00089	0.0049	"							
Carbon tetrachloride	ND	0.0011	0.0049	"							
Chlorobenzene	ND	0.00059	0.0049	"							
Chloroethane	ND	0.0018	0.0049	"							
Chloroform	ND	0.00049	0.0049	"							
Chloromethane	ND	0.0020	0.0049	"							
2-Chlorotoluene	ND	0.00059	0.0049	"							
4-Chlorotoluene	ND	0.00040	0.0049	"							
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"							
Dibromochloromethane	ND	0.00040	0.0049	"							
Dibromomethane	ND	0.00079	0.0049	"							
1,2-Dichlorobenzene	ND	0.00030	0.0049	"							
1,3-Dichlorobenzene	ND	0.00040	0.0049	"							
1,4-Dichlorobenzene	ND	0.00040	0.0049	"							

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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107099 - EPA 5035/5030B MEOH											
Blank (A107099-BLK1)					Prepared & Analyzed: 07-Jul-11						
Dichlorodifluoromethane	ND	0.0016	0.0049	mg/kg							
1,1-Dichloroethane	ND	0.00079	0.0049	"							
1,2-Dichloroethane	ND	0.00079	0.0049	"							
1,1-Dichloroethene	ND	0.0013	0.0049	"							
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"							
trans-1,2-Dichloroethene	ND	0.00099	0.0049	"							
1,2-Dichloropropane	ND	0.00059	0.0049	"							
1,3-Dichloropropane	ND	0.00040	0.0049	"							
2,2-Dichloropropane	ND	0.00089	0.0049	"							
1,1-Dichloropropene	ND	0.00079	0.0049	"							
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"							
trans-1,3-Dichloropropene	ND	0.00040	0.0049	"							
Ethylbenzene	ND	0.00059	0.0049	"							
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"							
Hexachlorobutadiene	ND	0.00099	0.0049	"							
Isopropylbenzene	ND	0.00069	0.0049	"							
4-Isopropyl Toluene	ND	0.00069	0.0049	"							
Methylene chloride	ND	0.00079	0.0049	"							
Naphthalene	ND	0.00079	0.0049	"							
n-Propylbenzene	ND	0.00079	0.0049	"							
Styrene	ND	0.00049	0.0049	"							
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0049	"							
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"							
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"							
Toluene	ND	0.00049	0.0049	"							
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"							
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"							
1,1,1-Trichloroethane	ND	0.00089	0.0049	"							
1,1,2-Trichloroethane	ND	0.00059	0.0049	"							
Trichloroethene (TCE)	ND	0.00079	0.0049	"							
Trichlorofluoromethane	ND	0.0017	0.0049	"							
1,2,3-Trichloropropane	ND	0.00099	0.0049	"							
1,2,4-Trimethylbenzene	ND	0.00069	0.0049	"							
1,3,5-Trimethylbenzene	ND	0.00079	0.0049	"							
Vinyl chloride	ND	0.0020	0.0049	"							
Xylenes (total)	ND	0.0013	0.0049	"							
t-Amyl Methyl Ether	ND	0.00079	0.0049	"							
t-Butyl alcohol	ND	0.0024	0.025	"							
Diisopropyl Ether	ND	0.0013	0.0049	"							
Ethanol	ND	0.78	4.9	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107099 - EPA 5035/5030B MEOH											
Blank (A107099-BLK1)					Prepared & Analyzed: 07-Jul-11						
Ethyl t-Butyl Ether	ND	0.00079	0.0049	mg/kg							
Methyl-t-butyl ether	ND	0.00059	0.0049	"							
TPH Gasoline (C4-C10)	ND	0.20	0.49	"							
Surrogate: Dibromofluoromethane	*0.103*			*"*	*0.0988*		*104*	*70-130*			
Surrogate: Toluene-d8	*0.106*			*"*	*0.0988*		*108*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0953*			*"*	*0.0988*		*96.4*	*70-130*			
LCS (A107099-BS1)					Prepared & Analyzed: 07-Jul-11						
Benzene	0.0965	0.00069	0.0050	mg/kg	0.0990		97.5	70-130			
Chlorobenzene	0.101	0.00059	0.0050	"	0.0990		102	70-130			
1,1-Dichloroethene	0.113	0.0013	0.0050	"	0.0990		114	70-130			
Toluene	0.0871	0.00050	0.0050	"	0.0990		88.0	70-130			
Trichloroethene (TCE)	0.112	0.00079	0.0050	"	0.0990		113	70-130			
Surrogate: Dibromofluoromethane	*0.104*			*"*	*0.0990*		*105*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0888*			*"*	*0.0990*		*89.7*	*70-130*			
Surrogate: Toluene-d8	*0.0851*			*"*	*0.0990*		*85.9*	*70-130*			
LCS (A107099-BS2)					Prepared & Analyzed: 07-Jul-11						
TPH Gasoline (C4-C10)	1.79	0.20	0.49	mg/kg	1.97		90.7	70-130			
Surrogate: Dibromofluoromethane	*0.101*			*"*	*0.0984*		*103*	*70-130*			
Surrogate: Toluene-d8	*0.116*			*"*	*0.0984*		*118*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.110*			*"*	*0.0984*		*112*	*70-130*			
LCS Dup (A107099-BSD1)					Prepared & Analyzed: 07-Jul-11						
Benzene	0.0995	0.00070	0.0050	mg/kg	0.0996		99.9	70-130	3.03	20	
Chlorobenzene	0.0981	0.00060	0.0050	"	0.0996		98.5	70-130	2.92	20	
1,1-Dichloroethene	0.120	0.0013	0.0050	"	0.0996		121	70-130	6.49	20	
Toluene	0.107	0.00050	0.0050	"	0.0996		108	70-130	20.6	20	QR-04
Trichloroethene (TCE)	0.115	0.00080	0.0050	"	0.0996		115	70-130	2.77	20	
Surrogate: Dibromofluoromethane	*0.110*			*"*	*0.0996*		*110*	*70-130*			
Surrogate: Toluene-d8	*0.105*			*"*	*0.0996*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.125*			*"*	*0.0996*		*125*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107099 - EPA 5035/5030B MEOH											
LCS Dup (A107099-BSD2)					Prepared & Analyzed: 07-Jul-11						
TPH Gasoline (C4-C10)	2.09	0.20	0.49	mg/kg	1.97		106	70-130	15.9	20	
Surrogate: Dibromofluoromethane	*0.102*			*"*	*0.0984*		*103*	*70-130*			
Surrogate: Toluene-d8	*0.102*			*"*	*0.0984*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.137*			*"*	*0.0984*		*139*	*70-130*			*S-GC*
Duplicate (A107099-DUP1)	**Source: 1103124-13**				Prepared & Analyzed: 07-Jul-11						
Benzene	ND	0.069	0.49	mg/kg		ND				20	
Bromobenzene	ND	0.039	0.49	"		ND				20	
Bromochloromethane	ND	0.098	0.49	"		ND				20	
Bromodichloromethane	ND	0.039	0.49	"		ND				20	
Bromoform	ND	0.059	0.49	"		ND				20	
Bromomethane	ND	0.17	0.49	"		ND				20	
n-Butylbenzene	ND	0.069	0.49	"		ND				20	
sec-Butylbenzene	ND	0.059	0.49	"		ND				20	
tert-Butylbenzene	ND	0.088	0.49	"		ND				20	
Carbon tetrachloride	ND	0.11	0.49	"		ND				20	
Chlorobenzene	ND	0.059	0.49	"		ND				20	
Chloroethane	ND	0.18	0.49	"		ND				20	
Chloroform	ND	0.049	0.49	"		ND				20	
Chloromethane	ND	0.20	0.49	"		ND				20	
2-Chlorotoluene	ND	0.059	0.49	"		ND				20	
4-Chlorotoluene	ND	0.039	0.49	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.13	0.49	"		ND				20	
Dibromochloromethane	ND	0.039	0.49	"		ND				20	
Dibromomethane	ND	0.078	0.49	"		ND				20	
1,2-Dichlorobenzene	ND	0.029	0.49	"		ND				20	
1,3-Dichlorobenzene	ND	0.039	0.49	"		ND				20	
1,4-Dichlorobenzene	ND	0.039	0.49	"		ND				20	
Dichlorodifluoromethane	ND	0.16	0.49	"		ND				20	
1,1-Dichloroethane	ND	0.078	0.49	"		ND				20	
1,2-Dichloroethane	ND	0.078	0.49	"		ND				20	
1,1-Dichloroethene	ND	0.13	0.49	"		ND				20	
cis-1,2-Dichloroethene	ND	0.049	0.49	"		ND				20	
trans-1,2-Dichloroethene	ND	0.098	0.49	"		ND				20	
1,2-Dichloropropane	ND	0.059	0.49	"		ND				20	
1,3-Dichloropropane	ND	0.039	0.49	"		ND				20	
2,2-Dichloropropane	ND	0.088	0.49	"		ND				20	
1,1-Dichloropropene	ND	0.078	0.49	"		ND				20	
cis-1,3-Dichloropropene	ND	0.059	0.49	"		ND				20	
trans-1,3-Dichloropropene	ND	0.039	0.49	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107099 - EPA 5035/5030B MEOH											
Duplicate (A107099-DUP1)	**Source: 1103124-13**			Prepared & Analyzed: 07-Jul-11							
Ethylbenzene	ND	0.059	0.49	mg/kg		ND				20	
1,2-Dibromoethane (EDB)	ND	0.059	0.49	"		ND				20	
Hexachlorobutadiene	ND	0.098	0.49	"		ND				20	
Isopropylbenzene	ND	0.069	0.49	"		ND				20	
4-Isopropyl Toluene	ND	0.069	0.49	"		ND				20	
Methylene chloride	ND	0.078	0.49	"		ND				20	
Naphthalene	ND	0.078	0.49	"		ND				20	
n-Propylbenzene	ND	0.078	0.49	"		ND				20	
Styrene	ND	0.049	0.49	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.039	0.49	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.049	0.49	"		ND				20	
Tetrachloroethene (PCE)	ND	0.088	0.49	"		ND				20	
Toluene	ND	0.049	0.49	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.088	0.49	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.049	0.49	"		ND				20	
1,1,1-Trichloroethane	ND	0.088	0.49	"		ND				20	
1,1,2-Trichloroethane	ND	0.059	0.49	"		ND				20	
Trichloroethene (TCE)	ND	0.078	0.49	"		ND				20	
Trichlorofluoromethane	ND	0.17	0.49	"		ND				20	
1,2,3-Trichloropropane	ND	0.098	0.49	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.069	0.49	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.078	0.49	"		ND				20	
Vinyl chloride	ND	0.20	0.49	"		ND				20	
Xylenes (total)	ND	0.13	0.49	"		ND				20	
t-Amyl Methyl Ether	ND	0.078	0.49	"		ND				20	
t-Butyl alcohol	ND	0.24	2.5	"		ND				20	
Diisopropyl Ether	ND	0.13	0.49	"		ND				20	
Ethanol	ND	77	490	"		ND				20	
Ethyl t-Butyl Ether	ND	0.078	0.49	"		ND				20	
Methyl-t-butyl ether	ND	0.059	0.49	"		ND				20	
TPH Gasoline (C4-C10)	ND	20	49	"		ND				20	
Surrogate: Dibromofluoromethane	*0.0967*			*"*	*0.0980*		*98.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.130*			*"*	*0.0980*		*132*	*70-130*			*S-GC*
Surrogate: Toluene-d8	*0.108*			*"*	*0.0980*		*110*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107099 - EPA 5035/5030B MEOH											
Matrix Spike (A107099-MS1)	**Source: 1103124-13**				Prepared & Analyzed: 07-Jul-11						
Benzene	9.24	0.069	0.49	mg/kg	9.80	ND	94.3	70-130			
Chlorobenzene	9.13	0.059	0.49	"	9.80	ND	93.2	70-130			
1,1-Dichloroethene	10.2	0.13	0.49	"	9.80	ND	104	70-130			
Toluene	9.32	0.049	0.49	"	9.80	ND	95.0	70-130			
Trichloroethene (TCE)	10.3	0.078	0.49	"	9.80	ND	105	70-130			
Surrogate: Dibromofluoromethane	*0.0959*			"	*0.0980*		*97.8*	*70-130*			
Surrogate: Toluene-d8	*0.0957*			"	*0.0980*		*97.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0980*			"	*0.0980*		*99.9*	*70-130*			
Matrix Spike (A107099-MS2)	**Source: 1103124-13**				Prepared & Analyzed: 07-Jul-11						
TPH Gasoline (C4-C10)	139	20	49	mg/kg	196	ND	70.9	70-130			
Surrogate: Dibromofluoromethane	*0.0990*			"	*0.0980*		*101*	*70-130*			
Surrogate: Toluene-d8	*0.101*			"	*0.0980*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.106*			"	*0.0980*		*109*	*70-130*			
Batch A107131 - EPA 5035/5030B MEOH											
Blank (A107131-BLK1)					Prepared: 08-Jul-11 Analyzed: 12-Jul-11						
Benzene	ND	0.00070	0.0050	mg/kg							
Bromobenzene	ND	0.00040	0.0050	"							
Bromochloromethane	ND	0.0010	0.0050	"							
Bromodichloromethane	ND	0.00040	0.0050	"							
Bromoform	ND	0.00060	0.0050	"							
Bromomethane	ND	0.0017	0.0050	"							
n-Butylbenzene	ND	0.00070	0.0050	"							
sec-Butylbenzene	ND	0.00060	0.0050	"							
tert-Butylbenzene	ND	0.00090	0.0050	"							
Carbon tetrachloride	ND	0.0011	0.0050	"							
Chlorobenzene	ND	0.00060	0.0050	"							
Chloroethane	ND	0.0018	0.0050	"							
Chloroform	ND	0.00050	0.0050	"							
Chloromethane	ND	0.0020	0.0050	"							
2-Chlorotoluene	ND	0.00060	0.0050	"							
4-Chlorotoluene	ND	0.00040	0.0050	"							
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"							
Dibromochloromethane	ND	0.00040	0.0050	"							
Dibromomethane	ND	0.00080	0.0050	"							
1,2-Dichlorobenzene	ND	0.00030	0.0050	"							
1,3-Dichlorobenzene	ND	0.00040	0.0050	"							
1,4-Dichlorobenzene	ND	0.00040	0.0050	"							

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107131 - EPA 5035/5030B MEOH											
Blank (A107131-BLK1)					Prepared: 08-Jul-11 Analyzed: 12-Jul-11						
Dichlorodifluoromethane	ND	0.0016	0.0050	mg/kg							
1,1-Dichloroethane	ND	0.00080	0.0050	"							
1,2-Dichloroethane	ND	0.00080	0.0050	"							
1,1-Dichloroethene	ND	0.0013	0.0050	"							
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"							
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"							
1,2-Dichloropropane	ND	0.00060	0.0050	"							
1,3-Dichloropropane	ND	0.00040	0.0050	"							
2,2-Dichloropropane	ND	0.00090	0.0050	"							
1,1-Dichloropropene	ND	0.00080	0.0050	"							
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"							
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"							
Ethylbenzene	ND	0.00060	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"							
Hexachlorobutadiene	ND	0.0010	0.0050	"							
Isopropylbenzene	ND	0.00070	0.0050	"							
4-Isopropyl Toluene	ND	0.00070	0.0050	"							
Methylene chloride	0.00131	0.00080	0.0050	"							J
Naphthalene	ND	0.00080	0.0050	"							
n-Propylbenzene	ND	0.00080	0.0050	"							
Styrene	ND	0.00050	0.0050	"							
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"							
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"							
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"							
Toluene	ND	0.00050	0.0050	"							
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"							
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"							
1,1,1-Trichloroethane	ND	0.00090	0.0050	"							
1,1,2-Trichloroethane	ND	0.00060	0.0050	"							
Trichloroethene (TCE)	ND	0.00080	0.0050	"							
Trichlorofluoromethane	ND	0.0017	0.0050	"							
1,2,3-Trichloropropane	ND	0.0010	0.0050	"							
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"							
Vinyl chloride	ND	0.0020	0.0050	"							
Xylenes (total)	ND	0.0013	0.0050	"							
t-Amyl Methyl Ether	ND	0.00080	0.0050	"							
t-Butyl alcohol	ND	0.0024	0.025	"							
Diisopropyl Ether	ND	0.0013	0.0050	"							
Ethanol	ND	0.78	5.0	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107131 - EPA 5035/5030B MEOH											
Blank (A107131-BLK1)					Prepared: 08-Jul-11 Analyzed: 12-Jul-11						
Ethyl t-Butyl Ether	ND	0.00080	0.0050	mg/kg							
Methyl-t-butyl ether	ND	0.00060	0.0050	"							
TPH Gasoline (C4-C10)	ND	0.20	0.50	"							
Surrogate: Dibromofluoromethane	*0.0906*			*"*	*0.0996*		*91.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0968*			*"*	*0.0996*		*97.2*	*70-130*			
Surrogate: Toluene-d8	*0.0857*			*"*	*0.0996*		*86.0*	*70-130*			
LCS (A107131-BS1)					Prepared: 08-Jul-11 Analyzed: 12-Jul-11						
Benzene	0.0939	0.00068	0.0049	mg/kg	0.0978		96.0	70-130			
Chlorobenzene	0.104	0.00059	0.0049	"	0.0978		107	70-130			
1,1-Dichloroethene	0.114	0.0013	0.0049	"	0.0978		116	70-130			
Toluene	0.0967	0.00049	0.0049	"	0.0978		98.8	70-130			
Trichloroethene (TCE)	0.104	0.00078	0.0049	"	0.0978		106	70-130			
Surrogate: Dibromofluoromethane	*0.0924*			*"*	*0.0978*		*94.5*	*70-130*			
Surrogate: Toluene-d8	*0.0943*			*"*	*0.0978*		*96.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.107*			*"*	*0.0978*		*110*	*70-130*			
LCS (A107131-BS2)					Prepared: 08-Jul-11 Analyzed: 12-Jul-11						
TPH Gasoline (C4-C10)	1.97	0.20	0.49	mg/kg	1.98		99.4	70-130			
Surrogate: Dibromofluoromethane	*0.103*			*"*	*0.0988*		*104*	*70-130*			
Surrogate: Toluene-d8	*0.102*			*"*	*0.0988*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.109*			*"*	*0.0988*		*111*	*70-130*			
LCS Dup (A107131-BSD1)					Prepared: 08-Jul-11 Analyzed: 12-Jul-11						
Benzene	0.0955	0.00069	0.0050	mg/kg	0.0990		96.4	70-130	1.68	20	
Chlorobenzene	0.108	0.00059	0.0050	"	0.0990		109	70-130	3.15	20	
1,1-Dichloroethene	0.111	0.0013	0.0050	"	0.0990		112	70-130	2.46	20	
Toluene	0.0988	0.00050	0.0050	"	0.0990		99.8	70-130	2.19	20	
Trichloroethene (TCE)	0.106	0.00079	0.0050	"	0.0990		108	70-130	2.76	20	
Surrogate: Dibromofluoromethane	*0.0938*			*"*	*0.0990*		*94.8*	*70-130*			
Surrogate: Toluene-d8	*0.0953*			*"*	*0.0990*		*96.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.106*			*"*	*0.0990*		*107*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107131 - EPA 5035/5030B MEOH											
LCS Dup (A107131-BSD2)					Prepared: 08-Jul-11 Analyzed: 12-Jul-11						
TPH Gasoline (C4-C10)	2.06	0.20	0.49	mg/kg	1.95		106	70-130	4.89	20	
Surrogate: Dibromofluoromethane	*0.0994*			*"*	*0.0977*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.0993*			*"*	*0.0977*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.107*			*"*	*0.0977*		*110*	*70-130*			
Duplicate (A107131-DUP1)	**Source: 1103239-02**				Prepared: 08-Jul-11 Analyzed: 12-Jul-11						
Benzene	ND	0.00070	0.0050	mg/kg		ND				20	
Bromobenzene	ND	0.00040	0.0050	"		ND				20	
Bromochloromethane	ND	0.00099	0.0050	"		ND				20	
Bromodichloromethane	ND	0.00040	0.0050	"		ND				20	
Bromoform	ND	0.00060	0.0050	"		ND				20	
Bromomethane	ND	0.0017	0.0050	"		ND				20	
n-Butylbenzene	ND	0.00070	0.0050	"		ND				20	
sec-Butylbenzene	ND	0.00060	0.0050	"		ND				20	
tert-Butylbenzene	ND	0.00089	0.0050	"		ND				20	
Carbon tetrachloride	ND	0.0011	0.0050	"		ND				20	
Chlorobenzene	ND	0.00060	0.0050	"		ND				20	
Chloroethane	ND	0.0018	0.0050	"		ND				20	
Chloroform	ND	0.00050	0.0050	"		ND				20	
Chloromethane	ND	0.0020	0.0050	"		ND				20	
2-Chlorotoluene	ND	0.00060	0.0050	"		ND				20	
4-Chlorotoluene	ND	0.00040	0.0050	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"		ND				20	
Dibromochloromethane	ND	0.00040	0.0050	"		ND				20	
Dibromomethane	ND	0.00080	0.0050	"		ND				20	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"		ND				20	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
Dichlorodifluoromethane	ND	0.0016	0.0050	"		ND				20	
1,1-Dichloroethane	ND	0.00080	0.0050	"		ND				20	
1,2-Dichloroethane	ND	0.00080	0.0050	"		ND				20	
1,1-Dichloroethene	ND	0.0013	0.0050	"		ND				20	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"		ND				20	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"		ND				20	
1,2-Dichloropropane	ND	0.00060	0.0050	"		ND				20	
1,3-Dichloropropane	ND	0.00040	0.0050	"		ND				20	
2,2-Dichloropropane	ND	0.00089	0.0050	"		ND				20	
1,1-Dichloropropene	ND	0.00080	0.0050	"		ND				20	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"		ND				20	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107131 - EPA 5035/5030B MEOH											
Duplicate (A107131-DUP1)	**Source: 1103239-02**			Prepared: 08-Jul-11 Analyzed: 12-Jul-11							
Ethylbenzene	ND	0.00060	0.0050	mg/kg		ND				20	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"		ND				20	
Hexachlorobutadiene	ND	0.00099	0.0050	"		ND				20	
Isopropylbenzene	ND	0.00070	0.0050	"		ND				20	
4-Isopropyl Toluene	ND	0.00070	0.0050	"		ND				20	
Methylene chloride	0.00107	0.00080	0.0050	"		ND				20	J
Naphthalene	ND	0.00080	0.0050	"		ND				20	
n-Propylbenzene	ND	0.00080	0.0050	"		ND				20	
Styrene	ND	0.00050	0.0050	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"		ND				20	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"		ND				20	
Toluene	ND	0.00050	0.0050	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"		ND				20	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"		ND				20	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"		ND				20	
Trichloroethene (TCE)	ND	0.00080	0.0050	"		ND				20	
Trichlorofluoromethane	ND	0.0017	0.0050	"		ND				20	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"		ND				20	
Vinyl chloride	ND	0.0020	0.0050	"		ND				20	
Xylenes (total)	ND	0.0013	0.0050	"		ND				20	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"		ND				20	
t-Butyl alcohol	ND	0.0024	0.025	"		ND				20	
Diisopropyl Ether	ND	0.0013	0.0050	"		ND				20	
Ethanol	ND	0.78	5.0	"		ND				20	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"		ND				20	
Methyl-t-butyl ether	ND	0.00060	0.0050	"		ND				20	
TPH Gasoline (C4-C10)	ND	0.20	0.50	"		ND				20	
Surrogate: Dibromofluoromethane	*0.0924*			*"*	*0.0994*		*92.9*	*70-130*			
Surrogate: Toluene-d8	*0.0918*			*"*	*0.0994*		*92.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.103*			*"*	*0.0994*		*104*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107131 - EPA 5035/5030B MEOH											
Matrix Spike (A107131-MS1)	**Source: 1103239-02**				Prepared: 08-Jul-11 Analyzed: 12-Jul-11						
Benzene	0.0826	0.00070	0.0050	mg/kg	0.100	ND	82.6	70-130			
Chlorobenzene	0.0825	0.00060	0.0050	"	0.100	ND	82.5	70-130			
1,1-Dichloroethene	0.0965	0.0013	0.0050	"	0.100	ND	96.5	70-130			
Toluene	0.0790	0.00050	0.0050	"	0.100	ND	79.0	70-130			
Trichloroethene (TCE)	0.0877	0.00080	0.0050	"	0.100	ND	87.7	70-130			
Surrogate: Dibromofluoromethane	*0.0917*			"	*0.100*		*91.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.107*			"	*0.100*		*107*	*70-130*			
Surrogate: Toluene-d8	*0.0929*			"	*0.100*		*92.9*	*70-130*			
Matrix Spike (A107131-MS2)	**Source: 1103239-02**				Prepared: 08-Jul-11 Analyzed: 12-Jul-11						
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1.99	ND		70-130			
Surrogate: Dibromofluoromethane	*0.0969*			"	*0.0996*		*97.3*	*70-130*			
Surrogate: Toluene-d8	*0.0961*			"	*0.0996*		*96.5*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.115*			"	*0.0996*		*115*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107049 - EPA 3550B MS											
Blank (A107049-BLK1)				Prepared & Analyzed: 05-Jul-11							
Acenaphthene	ND	0.050	0.10	mg/kg							
Acenaphthylene	ND	0.050	0.10	"							
Aniline	ND	0.050	0.10	"							
Anthracene	ND	0.050	0.10	"							
Azobenzene	ND	0.050	0.10	"							
Benz(a)anthracene	ND	0.050	0.10	"							
Benzo (b) fluoranthene	ND	0.050	0.10	"							
Benzo (k) fluoranthene	ND	0.050	0.10	"							
Benzo (a) pyrene	ND	0.050	0.10	"							
Benzo (g,h,i) perylene	ND	0.050	0.10	"							
Benzoic acid	ND	0.050	0.10	"							
Benzyl alcohol	ND	0.050	0.10	"							
Bis(2-chloroethoxy)methane	ND	0.050	0.10	"							
Bis(2-chloroethyl)ether	ND	0.050	0.10	"							
Bis(2-chloroisopropyl) ether	ND	0.050	0.10	"							
Bis(2-ethylhexyl) phthalate	ND	0.050	0.10	"							
4-Bromophenyl phenyl ether	ND	0.050	0.10	"							
Butyl benzyl phthalate	ND	0.050	0.10	"							
4-Chloroaniline	ND	0.050	0.10	"							
2-Chloronaphthalene	ND	0.050	0.10	"							
4-Chlorophenyl phenyl ether	ND	0.050	0.10	"							
Chrysene	ND	0.050	0.10	"							
Dibenz (a,h) anthracene	ND	0.050	0.10	"							
Dibenzofuran	ND	0.050	0.10	"							
Di-n-butyl phthalate	ND	0.050	0.10	"							
1,2-Dichlorobenzene	ND	0.050	0.10	"							
1,3-Dichlorobenzene	ND	0.050	0.10	"							
1,4-Dichlorobenzene	ND	0.050	0.10	"							
3,3'-Dichlorobenzidine	ND	0.20	0.50	"							
Diethyl phthalate	ND	0.050	0.10	"							
Dimethyl phthalate	ND	0.050	0.10	"							
2,4-Dinitrotoluene	ND	0.060	0.10	"							
2,6-Dinitrotoluene	ND	0.050	0.10	"							
Di-n-octyl phthalate	ND	0.050	0.10	"							
Fluoranthene	ND	0.050	0.10	"							
Fluorene	ND	0.050	0.10	"							
Hexachlorobenzene	ND	0.050	0.10	"							
Hexachlorobutadiene	ND	0.050	0.10	"							
Hexachlorocyclopentadiene	ND	0.050	0.10	"							
Hexachloroethane	ND	0.050	0.10	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107049 - EPA 3550B MS											
Blank (A107049-BLK1)					Prepared & Analyzed: 05-Jul-11						
Indeno (1,2,3-cd) pyrene	ND	0.050	0.10	mg/kg							
Isophorone	ND	0.050	0.10	"							
2-Methylnaphthalene	ND	0.050	0.10	"							
Naphthalene	ND	0.050	0.10	"							
2-Nitroaniline	ND	0.050	0.10	"							
3-Nitroaniline	ND	0.050	0.10	"							
4-Nitroaniline	ND	0.050	0.25	"							
Nitrobenzene	ND	0.050	0.10	"							
N-Nitrosodimethylamine	ND	0.050	0.10	"							
N-Nitrosodi-n-propylamine	ND	0.050	0.10	"							
N-Nitrosodiphenylamine	ND	0.050	0.10	"							
Phenanthrene	ND	0.050	0.10	"							
Pyrene	ND	0.050	0.10	"							
Carbazole	ND	0.050	0.10	"							
1,2,4-Trichlorobenzene	ND	0.050	0.10	"							
4-Chloro-3-methylphenol (Parachlorometa cresol)	ND	0.050	0.10	"							
2-Chlorophenol	ND	0.050	0.10	"							
2,4-Dichlorophenol	ND	0.050	0.10	"							
2,4-Dimethylphenol	ND	0.050	0.10	"							
2,4-Dinitrophenol	ND	0.050	0.10	"							
4,6-Dinitro-2-methylphenol	ND	0.050	0.10	"							
2-Methylphenol	ND	0.050	0.10	"							
3 & 4-Methylphenol	ND	0.050	0.10	"							
2-Nitrophenol	ND	0.050	0.10	"							
4-Nitrophenol	ND	0.050	0.10	"							
Pentachlorophenol	ND	0.050	0.10	"							
Phenol	ND	0.050	0.10	"							
Pyridine	ND	0.050	0.10	"							
2,4,5-Trichlorophenol	ND	0.050	0.10	"							
2,4,6-Trichlorophenol	ND	0.050	0.10	"							
Surrogate: 2-Fluorophenol	*1.49*			*"*	*2.67*		*55.9*	*0-135*			
Surrogate: Phenol-d5	*1.31*			*"*	*2.67*		*49.1*	*1-141*			
Surrogate: Nitrobenzene-d5	*1.40*			*"*	*2.67*		*52.6*	*8-150*			
Surrogate: 2-Fluorobiphenyl	*1.54*			*"*	*2.67*		*57.9*	*22-143*			
Surrogate: 2,4,6-Tribromophenol	*1.35*			*"*	*2.67*		*50.8*	*0-151*			
Surrogate: p-Terphenyl-d14	*1.60*			*"*	*2.67*		*60.0*	*1-160*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107049 - EPA 3550B MS											
LCS (A107049-BS1)					Prepared & Analyzed: 05-Jul-11						
Acenaphthene	1.35	0.050	0.10	mg/kg	2.67		50.8	35-128			
1,4-Dichlorobenzene	1.33	0.050	0.10	"	2.67		50.0	24-117			
2,4-Dinitrotoluene	1.44	0.060	0.10	"	2.67		54.1	39-131			
N-Nitrosodi-n-propylamine	1.38	0.050	0.10	"	2.67		51.8	43-118			
Pyrene	1.46	0.050	0.10	"	2.67		54.6	27-149			
1,2,4-Trichlorobenzene	1.33	0.050	0.10	"	2.67		50.0	33-119			
4-Chloro-3-methylphenol (Parachlorometa cresol)	1.37	0.050	0.10	"	2.67		51.3	44-121			
2-Chlorophenol	1.34	0.050	0.10	"	2.67		50.2	39-114			
4-Nitrophenol	1.32	0.050	0.10	"	2.67		49.6	34-132			
Pentachlorophenol	1.08	0.050	0.10	"	2.67		40.6	36-125			
Phenol	1.27	0.050	0.10	"	2.67		47.6	31-120			
Surrogate: 2-Fluorophenol	*1.33*			*"*	*2.67*		*49.9*	*0-135*			
Surrogate: Phenol-d5	*1.18*			*"*	*2.67*		*44.4*	*1-141*			
Surrogate: Nitrobenzene-d5	*1.35*			*"*	*2.67*		*50.6*	*8-150*			
Surrogate: 2-Fluorobiphenyl	*1.42*			*"*	*2.67*		*53.2*	*22-143*			
Surrogate: 2,4,6-Tribromophenol	*1.39*			*"*	*2.67*		*52.2*	*0-151*			
Surrogate: p-Terphenyl-d14	*1.47*			*"*	*2.67*		*55.2*	*1-160*			
LCS Dup (A107049-BSD1)					Prepared & Analyzed: 05-Jul-11						
Acenaphthene	1.27	0.050	0.10	mg/kg	2.67		47.6	35-128	6.58	30	
1,4-Dichlorobenzene	1.28	0.050	0.10	"	2.67		48.0	24-117	4.03	30	
2,4-Dinitrotoluene	1.35	0.060	0.10	"	2.67		50.5	39-131	6.90	30	
N-Nitrosodi-n-propylamine	1.35	0.050	0.10	"	2.67		50.8	43-118	2.12	30	
Pyrene	1.40	0.050	0.10	"	2.67		52.7	27-149	3.66	30	
1,2,4-Trichlorobenzene	1.26	0.050	0.10	"	2.67		47.3	33-119	5.63	30	
4-Chloro-3-methylphenol (Parachlorometa cresol)	1.26	0.050	0.10	"	2.67		47.3	44-121	7.96	30	
2-Chlorophenol	1.26	0.050	0.10	"	2.67		47.4	39-114	5.74	30	
4-Nitrophenol	1.21	0.050	0.10	"	2.67		45.3	34-132	9.25	30	
Pentachlorophenol	0.971	0.050	0.10	"	2.67		36.4	36-125	10.9	30	
Phenol	1.18	0.050	0.10	"	2.67		44.4	31-120	6.96	30	
Surrogate: 2-Fluorophenol	*1.25*			*"*	*2.67*		*47.0*	*0-135*			
Surrogate: Phenol-d5	*1.09*			*"*	*2.67*		*40.8*	*1-141*			
Surrogate: Nitrobenzene-d5	*1.23*			*"*	*2.67*		*46.0*	*8-150*			
Surrogate: 2-Fluorobiphenyl	*1.35*			*"*	*2.67*		*50.8*	*22-143*			
Surrogate: 2,4,6-Tribromophenol	*1.30*			*"*	*2.67*		*48.6*	*0-151*			
Surrogate: p-Terphenyl-d14	*1.37*			*"*	*2.67*		*51.4*	*1-160*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107049 - EPA 3550B MS											
Duplicate (A107049-DUP1)	**Source: 1103120-01**			Prepared & Analyzed: 05-Jul-11							
Acenaphthene	ND	0.050	0.10	mg/kg		ND				30	
Acenaphthylene	ND	0.050	0.10	"		ND				30	
Aniline	ND	0.050	0.10	"		ND				30	
Anthracene	ND	0.050	0.10	"		ND				30	
Azobenzene	ND	0.050	0.10	"		ND				30	
Benz(a)anthracene	ND	0.050	0.10	"		ND				30	
Benzo (b) fluoranthene	ND	0.050	0.10	"		ND				30	
Benzo (k) fluoranthene	ND	0.050	0.10	"		ND				30	
Benzo (a) pyrene	ND	0.050	0.10	"		ND				30	
Benzo (g,h,i) perylene	ND	0.050	0.10	"		ND				30	
Benzoic acid	ND	0.050	0.10	"		ND				30	
Benzyl alcohol	ND	0.050	0.10	"		ND				30	
Bis(2-chloroethoxy)methane	ND	0.050	0.10	"		ND				30	
Bis(2-chloroethyl)ether	ND	0.050	0.10	"		ND				30	
Bis(2-chloroisopropyl) ether	ND	0.050	0.10	"		ND				30	
Bis(2-ethylhexyl) phthalate	ND	0.050	0.10	"		ND				30	
4-Bromophenyl phenyl ether	ND	0.050	0.10	"		ND				30	
Butyl benzyl phthalate	ND	0.050	0.10	"		ND				30	
4-Chloroaniline	ND	0.050	0.10	"		ND				30	
2-Chloronaphthalene	ND	0.050	0.10	"		ND				30	
4-Chlorophenyl phenyl ether	ND	0.050	0.10	"		ND				30	
Chrysene	ND	0.050	0.10	"		ND				30	
Dibenz (a,h) anthracene	ND	0.050	0.10	"		ND				30	
Dibenzofuran	ND	0.050	0.10	"		ND				30	
Di-n-butyl phthalate	ND	0.050	0.10	"		ND				30	
1,2-Dichlorobenzene	ND	0.050	0.10	"		ND				30	
1,3-Dichlorobenzene	ND	0.050	0.10	"		ND				30	
1,4-Dichlorobenzene	ND	0.050	0.10	"		ND				30	
3,3'-Dichlorobenzidine	ND	0.20	0.50	"		ND				30	
Diethyl phthalate	ND	0.050	0.10	"		ND				30	
Dimethyl phthalate	ND	0.050	0.10	"		ND				30	
2,4-Dinitrotoluene	ND	0.060	0.10	"		ND				30	
2,6-Dinitrotoluene	ND	0.050	0.10	"		ND				30	
Di-n-octyl phthalate	ND	0.050	0.10	"		ND				30	
Fluoranthene	ND	0.050	0.10	"		ND				30	
Fluorene	ND	0.050	0.10	"		ND				30	
Hexachlorobenzene	ND	0.050	0.10	"		ND				30	
Hexachlorobutadiene	ND	0.050	0.10	"		ND				30	
Hexachlorocyclopentadiene	ND	0.050	0.10	"		ND				30	
Hexachloroethane	ND	0.050	0.10	"		ND				30	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107049 - EPA 3550B MS											
Duplicate (A107049-DUP1)	**Source: 1103120-01**			Prepared & Analyzed: 05-Jul-11							
Indeno (1,2,3-cd) pyrene	ND	0.050	0.10	mg/kg		ND				30	
Isophorone	ND	0.050	0.10	"		ND				30	
2-Methylnaphthalene	ND	0.050	0.10	"		ND				30	
Naphthalene	ND	0.050	0.10	"		ND				30	
2-Nitroaniline	ND	0.050	0.10	"		ND				30	
3-Nitroaniline	ND	0.050	0.10	"		ND				30	
4-Nitroaniline	ND	0.050	0.25	"		ND				30	
Nitrobenzene	ND	0.050	0.10	"		ND				30	
N-Nitrosodimethylamine	ND	0.050	0.10	"		ND				30	
N-Nitrosodi-n-propylamine	ND	0.050	0.10	"		ND				30	
N-Nitrosodiphenylamine	ND	0.050	0.10	"		ND				30	
Phenanthrene	ND	0.050	0.10	"		ND				30	
Pyrene	ND	0.050	0.10	"		ND				30	
Carbazole	ND	0.050	0.10	"		ND				30	
1,2,4-Trichlorobenzene	ND	0.050	0.10	"		ND				30	
4-Chloro-3-methylphenol (Parachlorometa cresol)	ND	0.050	0.10	"		ND				30	
2-Chlorophenol	ND	0.050	0.10	"		ND				30	
2,4-Dichlorophenol	ND	0.050	0.10	"		ND				30	
2,4-Dimethylphenol	ND	0.050	0.10	"		ND				30	
2,4-Dinitrophenol	ND	0.050	0.10	"		ND				30	
4,6-Dinitro-2-methylphenol	ND	0.050	0.10	"		ND				30	
2-Methylphenol	ND	0.050	0.10	"		ND				30	
3 & 4-Methylphenol	ND	0.050	0.10	"		ND				30	
2-Nitrophenol	ND	0.050	0.10	"		ND				30	
4-Nitrophenol	ND	0.050	0.10	"		ND				30	
Pentachlorophenol	ND	0.050	0.10	"		ND				30	
Phenol	ND	0.050	0.10	"		ND				30	
Pyridine	ND	0.050	0.10	"		ND				30	
2,4,5-Trichlorophenol	ND	0.050	0.10	"		ND				30	
2,4,6-Trichlorophenol	ND	0.050	0.10	"		ND				30	
Surrogate: 2-Fluorophenol	*1.81*			*"*	*2.66*		*68.0*	*0-135*			
Surrogate: Phenol-d5	*1.66*			*"*	*2.66*		*62.5*	*1-141*			
Surrogate: Nitrobenzene-d5	*1.99*			*"*	*2.66*		*74.8*	*8-150*			
Surrogate: 2-Fluorobiphenyl	*1.93*			*"*	*2.66*		*72.7*	*22-143*			
Surrogate: 2,4,6-Tribromophenol	*1.56*			*"*	*2.66*		*58.7*	*0-151*			
Surrogate: p-Terphenyl-d14	*2.11*			*"*	*2.66*		*79.4*	*1-160*			

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A107049 - EPA 3550B MS											
Matrix Spike (A107049-MS1)	**Source: 1103120-01**				Prepared & Analyzed: 05-Jul-11						
Acenaphthene	1.96	0.050	0.10	mg/kg	2.66	ND	73.8	27-136			
1,4-Dichlorobenzene	1.79	0.050	0.10	"	2.66	ND	67.2	36-110			
2,4-Dinitrotoluene	2.12	0.060	0.10	"	2.66	ND	79.7	21-134			
N-Nitrosodi-n-propylamine	2.22	0.050	0.10	"	2.66	ND	83.4	29-130			
Pyrene	2.17	0.050	0.10	"	2.66	ND	81.6	1-193			
1,2,4-Trichlorobenzene	1.85	0.050	0.10	"	2.66	ND	69.5	37-116			
4-Chloro-3-methylphenol (Parachlorometa cresol)	1.60	0.050	0.10	"	2.66	ND	60.3	28-133			
2-Chlorophenol	1.84	0.050	0.10	"	2.66	ND	69.3	28-122			
4-Nitrophenol	1.53	0.050	0.10	"	2.66	ND	57.6	14-142			
Pentachlorophenol	1.45	0.050	0.10	"	2.66	ND	54.5	12-136			
Phenol	1.81	0.050	0.10	"	2.66	ND	68.2	16-131			
Surrogate: 2-Fluorophenol	*1.81*			*"*	*2.66*		*68.1*	*0-135*			
Surrogate: Phenol-d5	*1.69*			*"*	*2.66*		*63.7*	*1-141*			
Surrogate: Nitrobenzene-d5	*2.01*			*"*	*2.66*		*75.5*	*8-150*			
Surrogate: 2-Fluorobiphenyl	*2.00*			*"*	*2.66*		*75.2*	*22-143*			
Surrogate: 2,4,6-Tribromophenol	*1.82*			*"*	*2.66*		*68.3*	*0-151*			
Surrogate: p-Terphenyl-d14	*2.19*			*"*	*2.66*		*82.1*	*1-160*			
Matrix Spike Dup (A107049-MSD1)	**Source: 1103120-01**				Prepared & Analyzed: 05-Jul-11						
Acenaphthene	1.98	0.050	0.10	mg/kg	2.66	ND	74.6	27-136	1.01	30	
1,4-Dichlorobenzene	1.68	0.050	0.10	"	2.66	ND	63.1	36-110	6.26	30	
2,4-Dinitrotoluene	1.97	0.060	0.10	"	2.66	ND	74.0	21-134	7.43	30	
N-Nitrosodi-n-propylamine	2.08	0.050	0.10	"	2.66	ND	78.0	29-130	6.66	30	
Pyrene	2.17	0.050	0.10	"	2.66	ND	81.4	1-193	0.230	30	
1,2,4-Trichlorobenzene	1.76	0.050	0.10	"	2.66	ND	66.2	37-116	4.90	30	
4-Chloro-3-methylphenol (Parachlorometa cresol)	1.86	0.050	0.10	"	2.66	ND	70.0	28-133	14.8	30	
2-Chlorophenol	1.71	0.050	0.10	"	2.66	ND	64.2	28-122	7.64	30	
4-Nitrophenol	1.40	0.050	0.10	"	2.66	ND	52.5	14-142	9.31	30	
Pentachlorophenol	1.38	0.050	0.10	"	2.66	ND	51.8	12-136	5.08	30	
Phenol	1.67	0.050	0.10	"	2.66	ND	62.6	16-131	8.43	30	
Surrogate: 2-Fluorophenol	*1.65*			*"*	*2.66*		*62.1*	*0-135*			
Surrogate: Phenol-d5	*1.53*			*"*	*2.66*		*57.4*	*1-141*			
Surrogate: Nitrobenzene-d5	*1.89*			*"*	*2.66*		*71.0*	*8-150*			
Surrogate: 2-Fluorobiphenyl	*1.89*			*"*	*2.66*		*70.9*	*22-143*			
Surrogate: 2,4,6-Tribromophenol	*1.73*			*"*	*2.66*		*64.9*	*0-151*			
Surrogate: p-Terphenyl-d14	*2.12*			*"*	*2.66*		*79.5*	*1-160*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	31-Aug-11 15:26

Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogates.
R-06	The Reporting Limit has been raised to account for the presence of high levels of analytes.
QR-04	The RPD exceeded the QC control limits.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-12	The spike level was outside acceptance limits. The batch was accepted based on acceptable recovery of the remaining spikes.
QM-08	The spike recovery was outside acceptance limits for the MS and/or MSD. The QC Batch was accepted based on LCS/LCSD percent recoveries and RPD values.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
O-11	Original analysis done in hold time. Re-analysis done out of hold time.
J	Detected but below the RL/PQL; therefore, result is an estimated concentration .
HoldX	Sample holding time expired.
C-01	To reduce matrix interference, the sample extract has undergone sulfuric acid clean-up, method 3665, which is specific to hydrocarbon contamination.
B-06	The method blank contains analyte at a concentration above the RL/PQL.
>212	>212
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the Method Limit (MDL)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Abalone Coast Bacteriology Lab
141 Suburban Rd, Ste C-1San Luis Obispo CA, 93401
Phone: 595-1080 Fax: 595-1080

Order # 11-3765
Date/Time Rec'd: 6/29/11 1520
Analyst: JH

Hazardous Material Bioassay Screen
Polisini and Miller. CA Fish & Game Lab. 1988

Project: 0801-0896 Former Unocal Avila Terminal

Sample #	Sample description	Date / Time	Analysis	Method	Result	Units	Completed
-1	**OEC # 1103124-16**	6/27/11 1650	Haz. Mat Bioassay (Screen)	Polisini & Miller	**PASS**	LC50% (mg/L)	**7/4/11**
	62711						

The Hazardous Waste Bioassay Screen (Static/Acute) is conducted under the guidelines of Polisini & Miller, 1988. The tests are conducted under the conditions listed below unless noted (*****) and accompanied with written explanation.

Sample Extraction: Mechanical Shaker/ ASTM II Water
Control Water Source: Reverse Osmosis with 5% Tap
Control Water Hardness: 40-48 mg/L CaCO3

Feeding: None
Temperature Range: 18 - 22°C
Photoperiod: 16hr. Light/ 8hr. Dark

Source: Thomas Fish Company
Fish Batch Number: 090

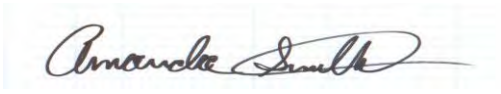
Test Chamber Volume: 10L
Number of Replicates: 2
Fish per Chamber: 10.
Tanks aerated: None
Aeration Rate: (Maintain DO > 4ppm.)

Test Endpoints: Survival at 96 hours
Test Organism: *Pimephales promelas*

Ave. Length (mm) 30. min 28. max 31.
Ave. Wt. (g) .34 min .27 max .42

Results Explained:
State of CA limit for Non-Haz. Designation > 500. mg/L
Pass: LC50 > 750 mg/l (<40% dead in 750 mg/l conc)
Fail>40% dead in 750mg/l (definitive test recommended)
Fail LC50< 400mg/l (>60% dead in 400 mg/l conc.)

Start Bioassay: 6/30/11
Report Completion Date: 7/5/11
Data Review:



Lab Director

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0896: Former Unocal Avila Terminal - Cliff Area Characterization Activities

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle

Invoice To: CEMC
Kyle Rutherford
AFE/WBS#:
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: TPH C10-C25, C25-C40 by GC/MS	ANALYSIS REQUIRED: 8260- TPH C4-C10, VOCs & Oxys	ANALYSIS REQUIRED: LEAD	NOTES
B-230-5'	6/27/11	0915	1	Soil/Solid	None	Steel sleeve	X	X	△	1103124-1A
B-230-10'		0930					X	X	△	2A
B-230-15'		0937					X	X	△	3A
B-230-20'		0945					X	X	△	4A
B-230-30'		1005					X	X	△	5A
B-230-45'		1045					X	X		6A
B-230-50'		1110					X	X		7A
B-231-5'		1400					X	X	△	8A
B-231-10'		1410					X	X		9A
B-231-15'		1415					X	X		10A
B-231-20'		1423					X	X	△	11A
B-231-25'		1435								Hold 12A
B-231-30'		1450					X	X	△	13A
B-231-35'		1500					X	X		14A

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
	6/29/11	1100		6-29-11	1100
Relinquished by:	Date	Time	Received by:	Date	Time
	6-29-11	1230		6-29-11	1230

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

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SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: TPH C10-C25, C25-C40 by GC/MS	8260- TPH C4-C10, VOCs & Oxys	Title 22 Waste Char.	8015- TPH C4-C40 & TPH DI WET	8260- VOCs & Oxys	8270C-SIM- PAHs			NOTES
B-231-40'	6/27/11	1515	1	Soil/Solid	None	Steel sleeve	X	X							1103124-15A
062711	↓	1650	4	↓	↓	Boz. Jars			X	X	X	X			↓ 16A-D

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	6/29/11	1100	[signature]	6/29/11	1100
[signature]	6-29-11	1230	[signature]	6-29-11	1230

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

Lisa Race

From: Louis J. Cappel [lcappel@padreinc.com]
Sent: Wednesday, August 24, 2011 2:34 PM
To: 'Lisa Race'
Subject: Avila - Add Ons

Lisa,

Please analyze the following on standard TAT for lead by EPA 6010.

ID	OEC ID
B-229-10'	1103073-45 ✓
B-229-45'	1103073-52 ✓
B-230-20'	1103124-04 ✓ ←
B-231-20'	1103124-11 ✓ ←
B-229-5'	1103073-44 ✓
B-229-40'	1103073-51 ✓
B-230-5'	1103124-01 ✓ ←
B-230-10'	1103124-02 ✓ ←
B-230-15'	1103124-03 ✓ ←
B-230-30'	1103124-05 ✓ ←
B-231-5'	1103124-08 ✓ ←
B-231-30'	1103124-13 ✓ ←

Thank you,

Louis

Louis J. Cappel, P.G., C.Hg. | Senior Geologist
PADRE ASSOCIATES, INC.
369 Pacific Street, San Luis Obispo, CA 93401
(805) 786-2650, Ext. 26 (Office) | (805) 712-5842 (Cell)
lcappel@padreinc.com

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0896: Former Unocal Avila Terminal - Cliff Area Characterization Activities

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle

Invoice To: CEMC
Kyle Rutherford
AFE/WBS#:
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: TPH C10-C25, C25-C40 by GC/MS	ANALYSIS REQUIRED: 8260- TPH C4-C10, VOCs & Oxys	NOTES
B-230-5'	6/27/11	0915	1	Soil/Solid	None	steel sleeve	X	X	1103124- 1A
B-230-10'		0930					X	X	2A
B-230-15'		0937					X	X	3A
B-230-20'		0945					X	X	4A
B-230-30'		1005					X	X	5A
B-230-45'		1045					X	X	6A
B-230-50'		1110					X	X	7A
B-231-5'		1400					X	X	8A
B-231-10'		1410					X	X	9A
B-231-15'		1415					X	X	10A
B-231-20'		1423					X	X	11A
B-231-25'		1435							Hold 12A
B-231-30'		1450					X	X	13A
B-231-35'		1500					X	X	14A

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
	6/29/11	1100		6/29/11	1100
	6-29-11	1230		6-29-11	1230

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0896: Former Unocal Avila Terminal - Cliff Area Characterization Activities

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle

Invoice To: CEMC
Kyle Rutherford
AFE/WBS#:
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: TPH C10-C25, C25-C40 by GC/MS	8260- TPH C4-C10, VOCs & Oxys	Title 22 Waste Char.	8015- TPH C4-C40 & TPH DI WET	8260- VOCs & Oxys	8270C-SIM- PAHs			NOTES
B-231-40'	6/27/11	1515	1	soil/solid	None	steel sleeve	X	X							110324-15A
06 2711	↓	1650	4	↓	↓	8oz. Jars			X	X	X	X			↓ 16A-D

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
	6/29/11	1100		6/29/11	1100
Relinquished by:	Date	Time	Received by:	Date	Time
	6-29-11	1230		6-29-11	1230

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

OEC SAMPLE RECEIPT

Rev 01/15/10

CLIENT: PAORE SLO OEC ID #: 1103124 Temp: 3 °C

Acceptable Range: 0°C to 6°C

COC RECEIVED DATE/TIME: ~~#03124~~ (LY) 6-29-11 1230

RECEIPT LOGIN DATE/TIME: 6-29-11 1315

REFRIGERATOR(s): 8

SAMPLE TRANSPORT, RECEIPT, CONDITION & PRESERVATION:		Yes	No	N/A	(*) PROBLEM CHAIN FORM NEEDED
☒ OEC Courier/Sampler	COC document(s) received with samples	☒	☐*	☐	Custody Seals (circle): Present / (Absent)
☐ Delivery(Other than OEC Courier)	Correct containers for analysis requested	☒	☐*	☐	Samples / Coolers
☒ Samples Received on Ice	Container(s) intact and in good condition	☒	☐*	☐	Intact / Broken*
☐ Samples Received Outside Temp. Range*	Container label(s) consistent with COC	☒	☐*	☐	Method of Shipment & Tracking #(if applicable)
☐ Samples Direct from field (Outside Temp)	OEC preservative added (**note std ID)	☐**	☐	☒	
☐ After-Hours Outside Drop-off [Brought Inside]	Proper preservation on sample label(s)	☐	☐	☒	(**) OEC Preservative ID:
(Initials/Date/Time):	VOA containers free of headspace	☐	☐*	☒	Dissolved Metals Filtration: (Date/Init/Preserve ID)
	Tedlar Bags free of condensation	☐	☐*	☒	

CONTAINERS, COC CHANGES AND/OR CORRECTIONS — **CHANGES AUTHORIZED BY:**

OEC ID	Client ID ***If blank, refer to CoC	Container Description	Preservative	ResCl /pH	Matrix	Date/Time Sampled ***	Comments / Remarks / Condition Notes, Etc.
1-15A		1 tube ea	–	–	Solid		
16A-D		4-8 oz glass	–	–	↓		~~SUB B TO ABMCONE~~ (ELH)

RECEIPT LOGIN BY: LY RECEIPT REVIEWED BY: ELH

Oilfield Environmental and Compliance, INC.

Louis Cappel
Padre Associates, Inc. - SLO
369 Pacific Street
San Luis Obispo, CA 93401

15 August 2011

RE: Former Unocal Avila Terminal

Work Order: 1103748

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on 05-Aug-11 12:35 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Lisa Race

Laboratory Manager

TEL: (805) 922-4772
307 Roemer Way, Suite 300, Santa Maria, CA 93454 **www.oecusa.com** FAX: (805) 925-3376

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-230-55'	1103748-01	Solid	03-Aug-11 15:40	05-Aug-11 12:35
B-230-60'	1103748-02	Solid	03-Aug-11 15:50	05-Aug-11 12:35
B-230-65'	1103748-03	Solid	03-Aug-11 15:53	05-Aug-11 12:35
B-230-70'	1103748-04	Solid	03-Aug-11 15:55	05-Aug-11 12:35
B-230-75'	1103748-05	Solid	03-Aug-11 16:08	05-Aug-11 12:35
B-230-80'	1103748-06	Solid	03-Aug-11 16:15	05-Aug-11 12:35
B-230-85'	1103748-07	Solid	03-Aug-11 16:40	05-Aug-11 12:35
B-230-90'	1103748-08	Solid	03-Aug-11 16:45	05-Aug-11 12:35
B-230-95'	1103748-09	Solid	03-Aug-11 16:57	05-Aug-11 12:35
B-231-50'	1103748-10	Solid	04-Aug-11 16:05	05-Aug-11 12:35
B-231-55'	1103748-11	Solid	04-Aug-11 16:17	05-Aug-11 12:35
B-231-60'	1103748-12	Solid	04-Aug-11 16:22	05-Aug-11 12:35
B-231-65'	1103748-13	Solid	04-Aug-11 16:30	05-Aug-11 12:35
B-231-70'	1103748-14	Solid	04-Aug-11 16:35	05-Aug-11 12:35
B-231-75'	1103748-15	Solid	04-Aug-11 16:41	05-Aug-11 12:35
B-231-80'	1103748-16	Solid	04-Aug-11 16:47	05-Aug-11 12:35
B-231-85'	1103748-17	Solid	04-Aug-11 16:53	05-Aug-11 12:35
B-231-90'	1103748-18	Solid	04-Aug-11 16:55	05-Aug-11 12:35
B-231-95'	1103748-19	Solid	04-Aug-11 17:00	05-Aug-11 12:35
B-231-100'	1103748-20	Solid	04-Aug-11 17:05	05-Aug-11 12:35

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-55'

1103748-01 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A108239	11-Aug-11	11-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*66.4 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**50**	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*70.0 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	**0.0090**	0.00070	0.0050	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-55'

1103748-01 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.00050	0.0050	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.00040	0.0050	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	**0.0053**	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	**0.0079**	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.0052**	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.0012**	0.00080	0.0050	"	"	"	"	"	"	J
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.0092**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	**0.11**	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-55'

1103748-01 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Ethyl t-Butyl Ether	ND	0.00080	0.0050	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*112 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*107 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*112 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-60'

1103748-02 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A108239	11-Aug-11	11-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*72.2 %*		*50-150*		"	"	"	"
TPH Oil Crude (C25-C40)	**94**	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*76.2 %*		*50-150*		"	"	"	"

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	**0.011**	0.00069	0.0049	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00098	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00088	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00029	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00098	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-60'

1103748-02 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00039	0.0049	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00088	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00039	0.0049	"	"	"	"	"	"	
Ethylbenzene	**0.0039**	0.00059	0.0049	"	"	"	"	"	"	J
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00098	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	**0.0045**	0.00079	0.0049	"	"	"	"	"	"	J
n-Propylbenzene	**0.00098**	0.00079	0.0049	"	"	"	"	"	"	J
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00088	0.0049	"	"	"	"	"	"	
Toluene	**0.020**	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00088	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00088	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00098	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.0090**	0.00069	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.0023**	0.00079	0.0049	"	"	"	"	"	"	J
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	**0.026**	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	**0.088**	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.77	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.20	0.49	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-60'

1103748-02 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*116 %*	*70-130*	*A108155*	*08-Aug-11*	*08-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*114 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*113 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-65'

1103748-03 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A108239	11-Aug-11	11-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*75.4 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**48**	6.8	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*79.4 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	**0.019**	0.00070	0.0050	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	**0.0014**	0.00070	0.0050	"	"	"	"	"	"	J
sec-Butylbenzene	**0.00068**	0.00060	0.0050	"	"	"	"	"	"	J
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-65'

1103748-03 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	**0.0054**	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	**0.0012**	0.00070	0.0050	"	"	"	"	"	"	J
4-Isopropyl Toluene	**0.0013**	0.00070	0.0050	"	"	"	"	"	"	J
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	**0.0090**	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	**0.0020**	0.00080	0.0050	"	"	"	"	"	"	J
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	**0.029**	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.019**	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.0053**	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.036**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	**0.095**	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**0.29**	0.20	0.50	"	"	"	"	"	"	J

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-65'

1103748-03 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*113 %*	*70-130*	*A108155*	*08-Aug-11*	*08-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*111 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*116 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-70'

1103748-04 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A108239	11-Aug-11	11-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*73.2 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**67**	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*77.0 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.013**	0.00070	0.0050	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	**0.0021**	0.00070	0.0050	"	"	"	"	"	"	J
sec-Butylbenzene	**0.0012**	0.00060	0.0050	"	"	"	"	"	"	J
tert-Butylbenzene	ND	0.00091	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-70'

1103748-04 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00091	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	**0.0074**	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	**0.0025**	0.00070	0.0050	"	"	"	"	"	"	J
4-Isopropyl Toluene	**0.0024**	0.00070	0.0050	"	"	"	"	"	"	J
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	**0.0098**	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	**0.0041**	0.00080	0.0050	"	"	"	"	"	"	J
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00091	0.0050	"	"	"	"	"	"	
Toluene	**0.027**	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00091	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00091	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.035**	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.010**	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.054**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	**0.085**	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**0.53**	0.20	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-70'

1103748-04 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*113 %*	*70-130*	*A108155*	*08-Aug-11*	*08-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*111 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*116 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-75'

1103748-05 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A108239	11-Aug-11	11-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*73.2 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**80**	6.8	49	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*77.2 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	**0.0075**	0.00070	0.0050	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	**0.0028**	0.00070	0.0050	"	"	"	"	"	"	J
sec-Butylbenzene	**0.0012**	0.00060	0.0050	"	"	"	"	"	"	J
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	**0.0050**	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-75'

1103748-05 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	**0.0029**	0.00060	0.0050	"	"	"	"	"	"	J
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	**0.0014**	0.00070	0.0050	"	"	"	"	"	"	J
4-Isopropyl Toluene	**0.0025**	0.00070	0.0050	"	"	"	"	"	"	J
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	**0.011**	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	**0.0031**	0.00080	0.0050	"	"	"	"	"	"	J
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	**0.010**	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.025**	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.0080**	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.021**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	**0.19**	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**0.27**	0.20	0.50	"	"	"	"	"	"	J

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-75'

1103748-05 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*116 %*	*70-130*	*A108155*	*08-Aug-11*	*08-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*114 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*111 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-80'

1103748-06 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**4.0**	2.6	10	mg/kg	1	A108239	11-Aug-11	12-Aug-11	EPA 8270C	J
Surrogate: o-Terphenyl			*72.8 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**64**	6.9	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*76.8 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.0083**	0.00070	0.0050	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	**0.0059**	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	**0.0032**	0.00060	0.0050	"	"	"	"	"	"	J
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	**0.0069**	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-80'

1103748-06 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	**0.011**	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	**0.0056**	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	**0.0060**	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	**0.022**	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	**0.011**	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	**0.024**	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.073**	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.024**	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.058**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	**0.20**	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**0.86**	0.20	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-80'

1103748-06 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*110 %*	*70-130*	*A108155*	*08-Aug-11*	*08-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*110 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*112 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-85'

1103748-07 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A108239	11-Aug-11	12-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*75.6 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**90**	6.8	49	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*79.8 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.0043**	0.00070	0.0050	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	**0.0016**	0.00070	0.0050	"	"	"	"	"	"	J
sec-Butylbenzene	**0.00076**	0.00060	0.0050	"	"	"	"	"	"	J
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	**0.0050**	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-85'

1103748-07 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	**0.0023**	0.00060	0.0050	"	"	"	"	"	"	J
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	**0.00095**	0.00070	0.0050	"	"	"	"	"	"	J
4-Isopropyl Toluene	**0.0016**	0.00070	0.0050	"	"	"	"	"	"	J
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	**0.013**	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	**0.0018**	0.00080	0.0050	"	"	"	"	"	"	J
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	**0.0086**	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.021**	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.0057**	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.015**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	**0.33**	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**0.22**	0.20	0.50	"	"	"	"	"	"	J

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-85'

1103748-07 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Dibromofluoromethane			*115 %*	*70-130*		*A108155*	*08-Aug-11*	*08-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8			*111 %*	*70-130*		*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene			*115 %*	*70-130*		*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-90'

1103748-08 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A108239	11-Aug-11	12-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*71.8 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**72**	6.8	49	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*75.6 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.0044**	0.00071	0.0050	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	**0.0041**	0.00071	0.0050	"	"	"	"	"	"	J
sec-Butylbenzene	**0.0019**	0.00060	0.0050	"	"	"	"	"	"	J
tert-Butylbenzene	ND	0.00091	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00081	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00081	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	**0.0070**	0.00081	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-90'

1103748-08 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00091	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00081	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	**0.0083**	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	**0.0032**	0.00071	0.0050	"	"	"	"	"	"	J
4-Isopropyl Toluene	**0.0041**	0.00071	0.0050	"	"	"	"	"	"	J
Methylene chloride	ND	0.00081	0.0050	"	"	"	"	"	"	
Naphthalene	**0.030**	0.00081	0.0050	"	"	"	"	"	"	
n-Propylbenzene	**0.0057**	0.00081	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00091	0.0050	"	"	"	"	"	"	
Toluene	**0.019**	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00091	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00091	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00081	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.063**	0.00071	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.017**	0.00081	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.064**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00081	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	**0.64**	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00081	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**0.56**	0.20	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-90'

1103748-08 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*113 %*	*70-130*	*A108155*	*08-Aug-11*	*08-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: 4-Bromofluorobenzene	*115 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*111 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-95'

1103748-09 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A108239	11-Aug-11	12-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*72.4 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**36**	6.8	49	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*76.8 %*	*50-150*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	**0.0014**	0.00069	0.0049	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-95'

1103748-09 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0049	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0049	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	**0.0031**	0.00079	0.0049	"	"	"	"	"	"	J
n-Propylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"	"	"	"	"	"	
Toluene	**0.0028**	0.00049	0.0049	"	"	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.0045**	0.00069	0.0049	"	"	"	"	"	"	J
1,3,5-Trimethylbenzene	**0.0012**	0.00079	0.0049	"	"	"	"	"	"	J
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	**0.0070**	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.78	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.20	0.49	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-230-95'

1103748-09 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*111 %*	*70-130*	*A108155*	*08-Aug-11*	*08-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: 4-Bromofluorobenzene	*113 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*108 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-50'

1103748-10 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A108239	11-Aug-11	12-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*75.2 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**44**	6.9	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*79.2 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.027**	0.00069	0.0049	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-50'

1103748-10 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00039	0.0049	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00039	0.0049	"	"	"	"	"	"	
Ethylbenzene	**0.0039**	0.00059	0.0049	"	"	"	"	"	"	J
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	**0.0036**	0.00079	0.0049	"	"	"	"	"	"	J
n-Propylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"	"	"	"	"	"	
Toluene	**0.036**	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.0054**	0.00069	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.0015**	0.00079	0.0049	"	"	"	"	"	"	J
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	**0.033**	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.78	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.20	0.49	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-50'

1103748-10 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*112 %*	*70-130*	*A108155*	*08-Aug-11*	*08-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: 4-Bromofluorobenzene	*113 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*110 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-55'

1103748-11 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A108239	11-Aug-11	12-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*75.6 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**53**	6.8	49	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*79.6 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.036**	0.00070	0.0050	mg/kg	1	A108155	08-Aug-11	09-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	**0.0086**	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	**0.0041**	0.00060	0.0050	"	"	"	"	"	"	J
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	**0.0045**	0.00080	0.0050	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-55'

1103748-11 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A108155	08-Aug-11	09-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	**0.028**	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	**0.010**	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	**0.0071**	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	**0.046**	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	**0.017**	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	**0.073**	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.16**	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.050**	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.21**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**1.5**	0.20	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-55'

1103748-11 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*111 %*	*70-130*	*A108155*	*08-Aug-11*	*09-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*110 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*115 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-60'

1103748-12 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A108239	11-Aug-11	12-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*71.4 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**35**	6.8	49	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*75.4 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.093**	0.00070	0.0050	mg/kg	1	A108155	08-Aug-11	09-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	**0.0056**	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	**0.0027**	0.00060	0.0050	"	"	"	"	"	"	J
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	**0.010**	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-60'

1103748-12 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A108155	08-Aug-11	09-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	**0.027**	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	**0.0063**	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	**0.0051**	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	**0.032**	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	**0.0099**	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	**0.14**	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.089**	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.026**	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.18**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	**0.20**	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**1.5**	0.20	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-60'

1103748-12 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*111 %*	*70-130*	*A108155*	*08-Aug-11*	*09-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*109 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*113 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-65'

1103748-13 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**15**	2.6	9.9	mg/kg	1	A108239	11-Aug-11	12-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*74.4 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**68**	6.8	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*78.4 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.036**	0.00069	0.0049	mg/kg	1	A108155	08-Aug-11	09-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	**0.020**	0.00069	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	**0.012**	0.00059	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	**0.0061**	0.00079	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-65'

1103748-13 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0049	mg/kg	1	A108155	08-Aug-11	09-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0049	"	"	"	"	"	"	
Ethylbenzene	**0.066**	0.00059	0.0049	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0049	"	"	"	"	"	"	
Isopropylbenzene	**0.030**	0.00069	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	**0.024**	0.00069	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	**0.12**	0.00079	0.0049	"	"	"	"	"	"	
n-Propylbenzene	**0.046**	0.00079	0.0049	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"	"	"	"	"	"	
Toluene	**0.11**	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.37**	0.00069	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.11**	0.00079	0.0049	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	**0.45**	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	**0.16**	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.78	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**4.1**	0.20	0.49	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-65'

1103748-13 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*114 %*	*70-130*	*A108155*	*08-Aug-11*	*09-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*113 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*118 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-70'

1103748-14 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A108239	11-Aug-11	12-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*76.8 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**48**	6.9	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*81.0 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.021**	0.00069	0.0049	mg/kg	1	A108155	08-Aug-11	09-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-70'

1103748-14 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0049	mg/kg	1	A108155	08-Aug-11	09-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0049	"	"	"	"	"	"	
Ethylbenzene	**0.0024**	0.00059	0.0049	"	"	"	"	"	"	J
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00069	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00069	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	**0.0053**	0.00079	0.0049	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00079	0.0049	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"	"	"	"	"	"	
Toluene	**0.016**	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.0040**	0.00069	0.0049	"	"	"	"	"	"	J
1,3,5-Trimethylbenzene	**0.0011**	0.00079	0.0049	"	"	"	"	"	"	J
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	**0.013**	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	**0.16**	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.78	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.20	0.49	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-70'

1103748-14 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*113 %*	*70-130*	*A108155*	*08-Aug-11*	*09-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: 4-Bromofluorobenzene	*115 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*110 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-75'

1103748-15 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**3.9**	2.6	9.9	mg/kg	1	A108239	11-Aug-11	12-Aug-11	EPA 8270C	J
Surrogate: o-Terphenyl			*81.0 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**53**	6.8	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*85.2 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.018**	0.00071	0.0051	mg/kg	1	A108155	08-Aug-11	09-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0051	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0051	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0051	"	"	"	"	"	"	
Bromoform	ND	0.00061	0.0051	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0051	"	"	"	"	"	"	
n-Butylbenzene	**0.0042**	0.00071	0.0051	"	"	"	"	"	"	J
sec-Butylbenzene	**0.0025**	0.00061	0.0051	"	"	"	"	"	"	J
tert-Butylbenzene	ND	0.00091	0.0051	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0051	"	"	"	"	"	"	
Chlorobenzene	ND	0.00061	0.0051	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0051	"	"	"	"	"	"	
Chloroform	ND	0.00051	0.0051	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0051	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00061	0.0051	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0051	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0051	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0051	"	"	"	"	"	"	
Dibromomethane	ND	0.00081	0.0051	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0051	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0051	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0051	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0051	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00081	0.0051	"	"	"	"	"	"	
1,2-Dichloroethane	**0.0050**	0.00081	0.0051	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.0013	0.0051	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00051	0.0051	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0051	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00061	0.0051	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-75'

1103748-15 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0051	mg/kg	1	A108155	08-Aug-11	09-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00091	0.0051	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00081	0.0051	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00061	0.0051	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0051	"	"	"	"	"	"	
Ethylbenzene	**0.0097**	0.00061	0.0051	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00061	0.0051	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0051	"	"	"	"	"	"	
Isopropylbenzene	**0.0049**	0.00071	0.0051	"	"	"	"	"	"	J
4-Isopropyl Toluene	**0.0065**	0.00071	0.0051	"	"	"	"	"	"	
Methylene chloride	ND	0.00081	0.0051	"	"	"	"	"	"	
Naphthalene	**0.021**	0.00081	0.0051	"	"	"	"	"	"	
n-Propylbenzene	**0.0068**	0.00081	0.0051	"	"	"	"	"	"	
Styrene	ND	0.00051	0.0051	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0051	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00051	0.0051	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00091	0.0051	"	"	"	"	"	"	
Toluene	**0.028**	0.00051	0.0051	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00091	0.0051	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00051	0.0051	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00091	0.0051	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00061	0.0051	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00081	0.0051	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0051	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0051	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.059**	0.00071	0.0051	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.018**	0.00081	0.0051	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0051	"	"	"	"	"	"	
Xylenes (total)	**0.077**	0.0013	0.0051	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00081	0.0051	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0051	"	"	"	"	"	"	
Ethanol	ND	0.80	5.1	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00081	0.0051	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00061	0.0051	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**0.74**	0.20	0.51	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-75'

1103748-15 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*114 %*	*70-130*	*A108155*	*08-Aug-11*	*09-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*112 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*113 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-80'

1103748-16 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg	1	A108239	11-Aug-11	12-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*75.4 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**60**	6.8	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*79.6 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.0075**	0.00070	0.0050	mg/kg	1	A108173	09-Aug-11	10-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	**0.0025**	0.00070	0.0050	"	"	"	"	"	"	J
sec-Butylbenzene	**0.00076**	0.00060	0.0050	"	"	"	"	"	"	J
tert-Butylbenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-80'

1103748-16 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A108173	09-Aug-11	10-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	**0.0017**	0.00060	0.0050	"	"	"	"	"	"	J
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	**0.00084**	0.00070	0.0050	"	"	"	"	"	"	J
4-Isopropyl Toluene	**0.0019**	0.00070	0.0050	"	"	"	"	"	"	J
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	**0.0051**	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	**0.0015**	0.00080	0.0050	"	"	"	"	"	"	J
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"	"	"	"	"	"	
Toluene	**0.0075**	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00090	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.014**	0.00070	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.0039**	0.00080	0.0050	"	"	"	"	"	"	J
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.022**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.20	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-80'

1103748-16 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Dibromofluoromethane			*114 %*	*70-130*		*A108173*	*09-Aug-11*	*10-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: 4-Bromofluorobenzene			*111 %*	*70-130*		*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8			*112 %*	*70-130*		*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-85'

1103748-17 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A108239	11-Aug-11	12-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*72.4 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**35**	6.9	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*76.2 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.0089**	0.00069	0.0049	mg/kg	1	A108173	09-Aug-11	10-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	**0.0022**	0.00069	0.0049	"	"	"	"	"	"	J
sec-Butylbenzene	**0.0013**	0.00059	0.0049	"	"	"	"	"	"	J
tert-Butylbenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	**0.0060**	0.00079	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-85'

1103748-17 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0049	mg/kg	1	A108173	09-Aug-11	10-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0049	"	"	"	"	"	"	
Ethylbenzene	**0.0034**	0.00059	0.0049	"	"	"	"	"	"	J
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0049	"	"	"	"	"	"	
Isopropylbenzene	**0.0017**	0.00069	0.0049	"	"	"	"	"	"	J
4-Isopropyl Toluene	**0.0034**	0.00069	0.0049	"	"	"	"	"	"	J
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	**0.0093**	0.00079	0.0049	"	"	"	"	"	"	
n-Propylbenzene	**0.0028**	0.00079	0.0049	"	"	"	"	"	"	J
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"	"	"	"	"	"	
Toluene	**0.012**	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.025**	0.00069	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.0074**	0.00079	0.0049	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	**0.033**	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.78	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**0.38**	0.20	0.49	"	"	"	"	"	"	J

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-85'

1103748-17 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*117 %*	*70-130*	*A108173*	*09-Aug-11*	*10-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: 4-Bromofluorobenzene	*114 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*113 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-90'

1103748-18 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A108239	11-Aug-11	12-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*75.6 %*		*50-150*		"	"	"	"
TPH Oil Crude (C25-C40)	**49**	6.9	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*79.6 %*		*50-150*		"	"	"	"

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	**0.0021**	0.00069	0.0049	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	**0.0020**	0.00069	0.0049	"	"	"	"	"	"	J
sec-Butylbenzene	**0.00087**	0.00059	0.0049	"	"	"	"	"	"	J
tert-Butylbenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00079	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-90'

1103748-18 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0049	mg/kg	1	A108155	08-Aug-11	08-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00079	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0049	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0049	"	"	"	"	"	"	
Isopropylbenzene	**0.00079**	0.00069	0.0049	"	"	"	"	"	"	J
4-Isopropyl Toluene	**0.0024**	0.00069	0.0049	"	"	"	"	"	"	J
Methylene chloride	ND	0.00079	0.0049	"	"	"	"	"	"	
Naphthalene	**0.011**	0.00079	0.0049	"	"	"	"	"	"	
n-Propylbenzene	**0.0012**	0.00079	0.0049	"	"	"	"	"	"	J
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0049	"	"	"	"	"	"	
Toluene	**0.0033**	0.00049	0.0049	"	"	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	0.00089	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00079	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.016**	0.00069	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.0042**	0.00079	0.0049	"	"	"	"	"	"	J
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	**0.0083**	0.0013	0.0049	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
t-Butyl alcohol	**0.075**	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0049	"	"	"	"	"	"	
Ethanol	ND	0.78	4.9	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00079	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**0.21**	0.20	0.49	"	"	"	"	"	"	J

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-90'

1103748-18 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*117 %*	*70-130*	*A108155*	*08-Aug-11*	*08-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: 4-Bromofluorobenzene	*116 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*109 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-95'

1103748-19 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	9.8	mg/kg	1	A108239	11-Aug-11	12-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*76.2 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**64**	6.8	49	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*80.0 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.0044**	0.00071	0.0050	mg/kg	1	A108173	09-Aug-11	10-Aug-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.0010	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00071	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00091	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00081	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00081	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00081	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-95'

1103748-19 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A108173	09-Aug-11	10-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00091	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00081	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0010	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00071	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00071	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00081	0.0050	"	"	"	"	"	"	
Naphthalene	**0.0024**	0.00081	0.0050	"	"	"	"	"	"	J
n-Propylbenzene	ND	0.00081	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00091	0.0050	"	"	"	"	"	"	
Toluene	**0.0069**	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00091	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00091	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00081	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0010	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.0042**	0.00071	0.0050	"	"	"	"	"	"	J
1,3,5-Trimethylbenzene	**0.0012**	0.00081	0.0050	"	"	"	"	"	"	J
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.012**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00081	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.79	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00081	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.20	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-95'

1103748-19 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*115 %*	*70-130*	*A108173*	*09-Aug-11*	*10-Aug-11*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*113 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*112 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-100'

1103748-20 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg	1	A108239	11-Aug-11	12-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*74.0 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**35**	6.9	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*78.0 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.0041**	0.00070	0.0050	mg/kg	1	A108173	09-Aug-11	10-Aug-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromochloromethane	ND	0.00099	0.0050	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Bromoform	ND	0.00060	0.0050	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0050	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0050	"	"	"	"	"	"	
Chlorobenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0050	"	"	"	"	"	"	
Chloroform	ND	0.00050	0.0050	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0050	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00060	0.0050	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00040	0.0050	"	"	"	"	"	"	
Dibromomethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0050	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00080	0.0050	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0050	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-100'

1103748-20 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichloropropane	ND	0.00040	0.0050	mg/kg	1	A108173	09-Aug-11	10-Aug-11	EPA 8260B/LUFT	
2,2-Dichloropropane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00080	0.0050	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.00060	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.00099	0.0050	"	"	"	"	"	"	
Isopropylbenzene	ND	0.00070	0.0050	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00070	0.0050	"	"	"	"	"	"	
Methylene chloride	ND	0.00080	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.00080	0.0050	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Styrene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"	"	"	"	"	"	
Toluene	**0.0061**	0.00050	0.0050	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00080	0.0050	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0050	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.0013**	0.00070	0.0050	"	"	"	"	"	"	J
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0050	"	"	"	"	"	"	
Xylenes (total)	**0.0080**	0.0013	0.0050	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.0024	0.025	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.0013	0.0050	"	"	"	"	"	"	
Ethanol	ND	0.78	5.0	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00060	0.0050	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

B-231-100'

1103748-20 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	ND	0.20	0.50	mg/kg	1	A108173	09-Aug-11	10-Aug-11	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*114 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*112 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*115 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108239 - EPA 3550B MS											
Blank (A108239-BLK1)					Prepared & Analyzed: 11-Aug-11						
TPH Diesel (C10-C25)	ND	2.6	10	mg/kg							
TPH Oil Crude (C25-C40)	ND	6.9	50	"							
Surrogate: o-Terphenyl	*0.101*			"	*0.167*		*60.4*	*50-150*			
Surrogate: o-Terphenyl	*0.106*			"	*0.167*		*63.6*	*50-150*			
LCS (A108239-BS1)					Prepared & Analyzed: 11-Aug-11						
TPH Diesel (C10-C25)	26.6	2.6	10	mg/kg				53.8-136		20	
Surrogate: o-Terphenyl	*0.136*			"	*0.167*		*81.6*	*50-150*			
LCS (A108239-BS2)					Prepared & Analyzed: 11-Aug-11						
TPH Oil Crude (C25-C40)	56.7	6.9	50	mg/kg	66.7		85.1	70-130		20	
Surrogate: o-Terphenyl	*0.145*			"	*0.167*		*87.0*	*50-150*			
LCS Dup (A108239-BSD1)					Prepared & Analyzed: 11-Aug-11						
TPH Diesel (C10-C25)	22.8	2.6	10	mg/kg				53.8-136	15.4	20	
Surrogate: o-Terphenyl	*0.121*			"	*0.167*		*72.8*	*50-150*			
LCS Dup (A108239-BSD2)					Prepared & Analyzed: 11-Aug-11						
TPH Oil Crude (C25-C40)	47.9	6.9	50	mg/kg	66.7		71.9	70-130	16.8	20	J
Surrogate: o-Terphenyl	*0.127*			"	*0.167*		*76.4*	*50-150*			
Duplicate (A108239-DUP1)	**Source: 1103748-01**				Prepared: 11-Aug-11 Analyzed: 12-Aug-11						
TPH Diesel (C10-C25)	ND	2.6	9.9	mg/kg		ND				20	
TPH Oil Crude (C25-C40)	48.4	6.8	49	"		50.3			3.85	20	J
Surrogate: o-Terphenyl	*0.117*			"	*0.165*		*70.8*	*50-150*			
Surrogate: o-Terphenyl	*0.123*			"	*0.165*		*74.4*	*50-150*			
Matrix Spike (A108239-MS1)	**Source: 1103748-02**				Prepared: 11-Aug-11 Analyzed: 12-Aug-11						
TPH Diesel (C10-C25)	27.4	2.6	9.9	mg/kg		ND		70-130		20	
Surrogate: o-Terphenyl	*0.143*			"	*0.166*		*86.4*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108239 - EPA 3550B MS											
Matrix Spike Dup (A108239-MSD1)	**Source: 1103748-02**				Prepared: 11-Aug-11 Analyzed: 12-Aug-11						
TPH Diesel (C10-C25)	27.0	2.6	9.9	mg/kg		ND		70-130	1.58	20	
Surrogate: o-Terphenyl	*0.140*			*"*	*0.165*		*85.0*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108155 - EPA 5035/5030B MEOH											
Blank (A108155-BLK1)					Prepared & Analyzed: 08-Aug-11						
Benzene	ND	0.00070	0.0050	mg/kg							
Bromobenzene	ND	0.00040	0.0050	"							
Bromochloromethane	ND	0.0010	0.0050	"							
Bromodichloromethane	ND	0.00040	0.0050	"							
Bromoform	ND	0.00060	0.0050	"							
Bromomethane	ND	0.0017	0.0050	"							
n-Butylbenzene	ND	0.00070	0.0050	"							
sec-Butylbenzene	ND	0.00060	0.0050	"							
tert-Butylbenzene	ND	0.00090	0.0050	"							
Carbon tetrachloride	ND	0.0011	0.0050	"							
Chlorobenzene	ND	0.00060	0.0050	"							
Chloroethane	ND	0.0018	0.0050	"							
Chloroform	ND	0.00050	0.0050	"							
Chloromethane	ND	0.0020	0.0050	"							
2-Chlorotoluene	ND	0.00060	0.0050	"							
4-Chlorotoluene	ND	0.00040	0.0050	"							
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"							
Dibromochloromethane	ND	0.00040	0.0050	"							
Dibromomethane	ND	0.00080	0.0050	"							
1,2-Dichlorobenzene	ND	0.00030	0.0050	"							
1,3-Dichlorobenzene	ND	0.00040	0.0050	"							
1,4-Dichlorobenzene	ND	0.00040	0.0050	"							
Dichlorodifluoromethane	ND	0.0016	0.0050	"							
1,1-Dichloroethane	ND	0.00080	0.0050	"							
1,2-Dichloroethane	ND	0.00080	0.0050	"							
1,1-Dichloroethene	ND	0.0013	0.0050	"							
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"							
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"							
1,2-Dichloropropane	ND	0.00060	0.0050	"							
1,3-Dichloropropane	ND	0.00040	0.0050	"							
2,2-Dichloropropane	ND	0.00090	0.0050	"							
1,1-Dichloropropene	ND	0.00080	0.0050	"							
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"							
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"							
Ethylbenzene	ND	0.00060	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"							
Hexachlorobutadiene	ND	0.0010	0.0050	"							
Isopropylbenzene	ND	0.00070	0.0050	"							
4-Isopropyl Toluene	ND	0.00070	0.0050	"							
Methylene chloride	ND	0.00080	0.0050	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108155 - EPA 5035/5030B MEOH											
Blank (A108155-BLK1)					Prepared & Analyzed: 08-Aug-11						
Naphthalene	ND	0.00080	0.0050	mg/kg							
n-Propylbenzene	ND	0.00080	0.0050	"							
Styrene	ND	0.00050	0.0050	"							
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"							
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"							
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"							
Toluene	ND	0.00050	0.0050	"							
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"							
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"							
1,1,1-Trichloroethane	ND	0.00090	0.0050	"							
1,1,2-Trichloroethane	ND	0.00060	0.0050	"							
Trichloroethene (TCE)	ND	0.00080	0.0050	"							
Trichlorofluoromethane	ND	0.0017	0.0050	"							
1,2,3-Trichloropropane	ND	0.0010	0.0050	"							
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"							
Vinyl chloride	ND	0.0020	0.0050	"							
Xylenes (total)	ND	0.0013	0.0050	"							
t-Amyl Methyl Ether	ND	0.00080	0.0050	"							
t-Butyl alcohol	ND	0.0024	0.025	"							
Diisopropyl Ether	ND	0.0013	0.0050	"							
Ethanol	ND	0.78	5.0	"							
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"							
Methyl-t-butyl ether	ND	0.00060	0.0050	"							
TPH Gasoline (C4-C10)	ND	0.20	0.50	"							
Surrogate: Dibromofluoromethane	*0.113*			*"*	*0.0996*		*113*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.109*			*"*	*0.0996*		*110*	*70-130*			
Surrogate: Toluene-d8	*0.111*			*"*	*0.0996*		*111*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108155 - EPA 5035/5030B MEOH											
LCS (A108155-BS1)					Prepared & Analyzed: 08-Aug-11						
Benzene	0.108	0.00070	0.0050	mg/kg	0.100		107	70-130			
Chlorobenzene	0.111	0.00060	0.0050	"	0.100		111	70-130			
1,1-Dichloroethene	0.115	0.0013	0.0050	"	0.100		115	70-130			
Toluene	0.110	0.00050	0.0050	"	0.100		110	70-130			
Trichloroethene (TCE)	0.117	0.00080	0.0050	"	0.100		117	70-130			
Surrogate: Dibromofluoromethane	*0.118*			"	*0.100*		*118*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.117*			"	*0.100*		*116*	*70-130*			
Surrogate: Toluene-d8	*0.113*			"	*0.100*		*113*	*70-130*			
LCS (A108155-BS2)					Prepared & Analyzed: 08-Aug-11						
TPH Gasoline (C4-C10)	1.80	0.20	0.49	mg/kg	1.97		91.6	70-130			
Surrogate: Dibromofluoromethane	*0.110*			"	*0.0984*		*112*	*70-130*			
Surrogate: Toluene-d8	*0.109*			"	*0.0984*		*111*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.112*			"	*0.0984*		*114*	*70-130*			
LCS Dup (A108155-BSD1)					Prepared & Analyzed: 08-Aug-11						
Benzene	0.109	0.00070	0.0050	mg/kg	0.101		109	70-130	1.44	20	
Chlorobenzene	0.114	0.00060	0.0050	"	0.101		114	70-130	2.57	20	
1,1-Dichloroethene	0.111	0.0013	0.0050	"	0.101		110	70-130	3.79	20	
Toluene	0.113	0.00050	0.0050	"	0.101		112	70-130	2.82	20	
Trichloroethene (TCE)	0.120	0.00080	0.0050	"	0.101		119	70-130	2.23	20	
Surrogate: Dibromofluoromethane	*0.115*			"	*0.101*		*114*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.115*			"	*0.101*		*115*	*70-130*			
Surrogate: Toluene-d8	*0.110*			"	*0.101*		*109*	*70-130*			
LCS Dup (A108155-BSD2)					Prepared & Analyzed: 08-Aug-11						
TPH Gasoline (C4-C10)	1.87	0.20	0.49	mg/kg	1.98		94.5	70-130	3.45	20	
Surrogate: Dibromofluoromethane	*0.113*			"	*0.0988*		*115*	*70-130*			
Surrogate: Toluene-d8	*0.105*			"	*0.0988*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.113*			"	*0.0988*		*114*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108155 - EPA 5035/5030B MEOH											
Duplicate (A108155-DUP1)	**Source: 1103748-18**			Prepared: 08-Aug-11 Analyzed: 09-Aug-11							
Benzene	0.00915	0.00070	0.0050	mg/kg		0.00206			127	20	QR-04
Bromobenzene	ND	0.00040	0.0050	"		ND				20	
Bromochloromethane	ND	0.00099	0.0050	"		ND				20	
Bromodichloromethane	ND	0.00040	0.0050	"		ND				20	
Bromoform	ND	0.00060	0.0050	"		ND				20	
Bromomethane	ND	0.0017	0.0050	"		ND				20	
n-Butylbenzene	0.00421	0.00070	0.0050	"		0.00202			70.6	20	QR-04, J
sec-Butylbenzene	0.00207	0.00060	0.0050	"		0.000870			81.6	20	QR-04, J
tert-Butylbenzene	ND	0.00089	0.0050	"		ND				20	
Carbon tetrachloride	ND	0.0011	0.0050	"		ND				20	
Chlorobenzene	ND	0.00060	0.0050	"		ND				20	
Chloroethane	ND	0.0018	0.0050	"		ND				20	
Chloroform	ND	0.00050	0.0050	"		ND				20	
Chloromethane	ND	0.0020	0.0050	"		ND				20	
2-Chlorotoluene	ND	0.00060	0.0050	"		ND				20	
4-Chlorotoluene	ND	0.00040	0.0050	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"		ND				20	
Dibromochloromethane	ND	0.00040	0.0050	"		ND				20	
Dibromomethane	ND	0.00080	0.0050	"		ND				20	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"		ND				20	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
Dichlorodifluoromethane	ND	0.0016	0.0050	"		ND				20	
1,1-Dichloroethane	ND	0.00080	0.0050	"		ND				20	
1,2-Dichloroethane	ND	0.00080	0.0050	"		ND				20	
1,1-Dichloroethene	ND	0.0013	0.0050	"		ND				20	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"		ND				20	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"		ND				20	
1,2-Dichloropropane	ND	0.00060	0.0050	"		ND				20	
1,3-Dichloropropane	ND	0.00040	0.0050	"		ND				20	
2,2-Dichloropropane	ND	0.00089	0.0050	"		ND				20	
1,1-Dichloropropene	ND	0.00080	0.0050	"		ND				20	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"		ND				20	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"		ND				20	
Ethylbenzene	0.00318	0.00060	0.0050	"		ND				20	J
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"		ND				20	
Hexachlorobutadiene	ND	0.00099	0.0050	"		ND				20	
Isopropylbenzene	0.00191	0.00070	0.0050	"		0.000791			82.8	20	QR-04, J
4-Isopropyl Toluene	0.00537	0.00070	0.0050	"		0.00237			77.4	20	QR-04
Methylene chloride	ND	0.00080	0.0050	"		ND				20	

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108155 - EPA 5035/5030B MEOH											
Duplicate (A108155-DUP1)	**Source: 1103748-18**			Prepared: 08-Aug-11 Analyzed: 09-Aug-11							
Naphthalene	0.0211	0.00080	0.0050	mg/kg		0.0109			63.2	20	QR-04
n-Propylbenzene	0.00306	0.00080	0.0050	"		0.00123			85.7	20	QR-04, J
Styrene	ND	0.00050	0.0050	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"		ND				20	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"		ND				20	
Toluene	0.0118	0.00050	0.0050	"		0.00328			113	20	QR-04
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"		ND				20	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"		ND				20	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"		ND				20	
Trichloroethene (TCE)	ND	0.00080	0.0050	"		ND				20	
Trichlorofluoromethane	ND	0.0017	0.0050	"		ND				20	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"		ND				20	
1,2,4-Trimethylbenzene	0.0399	0.00070	0.0050	"		0.0164			83.6	20	QR-04
1,3,5-Trimethylbenzene	0.0106	0.00080	0.0050	"		0.00419			86.5	20	QR-04
Vinyl chloride	ND	0.0020	0.0050	"		ND				20	
Xylenes (total)	0.0237	0.0013	0.0050	"		0.00834			95.7	20	QR-04
t-Amyl Methyl Ether	ND	0.00080	0.0050	"		ND				20	
t-Butyl alcohol	0.103	0.0024	0.025	"		0.0751			31.6	20	QR-04
Diisopropyl Ether	ND	0.0013	0.0050	"		ND				20	
Ethanol	ND	0.78	5.0	"		ND				20	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"		ND				20	
Methyl-t-butyl ether	ND	0.00060	0.0050	"		ND				20	
TPH Gasoline (C4-C10)	0.427	0.20	0.50	"		0.212			67.2	20	QR-04, J
Surrogate: Dibromofluoromethane	*0.113*			*"*	*0.0994*		*113*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.111*			*"*	*0.0994*		*112*	*70-130*			
Surrogate: Toluene-d8	*0.110*			*"*	*0.0994*		*110*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108155 - EPA 5035/5030B MEOH											
Matrix Spike (A108155-MS1)	**Source: 1103748-18**				Prepared & Analyzed: 08-Aug-11						
Benzene	0.114	0.00070	0.0050	mg/kg	0.0994	0.00206	113	70-130			
Chlorobenzene	0.110	0.00060	0.0050	"	0.0994	ND	111	70-130			
1,1-Dichloroethene	0.114	0.0013	0.0050	"	0.0994	ND	115	70-130			
Toluene	0.116	0.00050	0.0050	"	0.0994	0.00328	113	70-130			QR-04
Trichloroethene (TCE)	0.116	0.00080	0.0050	"	0.0994	ND	117	70-130			
Surrogate: Dibromofluoromethane	*0.110*			*"*	*0.0994*		*111*	*70-130*			
Surrogate: Toluene-d8	*0.109*			*"*	*0.0994*		*110*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.115*			*"*	*0.0994*		*116*	*70-130*			
Matrix Spike (A108155-MS2)	**Source: 1103748-18**				Prepared: 08-Aug-11 Analyzed: 09-Aug-11						
TPH Gasoline (C4-C10)	2.27	0.20	0.49	mg/kg	1.98	0.212	104	70-130			
Surrogate: Dibromofluoromethane	*0.110*			*"*	*0.0988*		*111*	*70-130*			
Surrogate: Toluene-d8	*0.110*			*"*	*0.0988*		*111*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.113*			*"*	*0.0988*		*114*	*70-130*			
Batch A108173 - EPA 5035/5030B MEOH											
Blank (A108173-BLK1)					Prepared & Analyzed: 09-Aug-11						
Benzene	ND	0.00069	0.0050	mg/kg							
Bromobenzene	ND	0.00040	0.0050	"							
Bromochloromethane	ND	0.00099	0.0050	"							
Bromodichloromethane	ND	0.00040	0.0050	"							
Bromoform	ND	0.00059	0.0050	"							
Bromomethane	ND	0.0017	0.0050	"							
n-Butylbenzene	ND	0.00069	0.0050	"							
sec-Butylbenzene	ND	0.00059	0.0050	"							
tert-Butylbenzene	ND	0.00089	0.0050	"							
Carbon tetrachloride	ND	0.0011	0.0050	"							
Chlorobenzene	ND	0.00059	0.0050	"							
Chloroethane	ND	0.0018	0.0050	"							
Chloroform	ND	0.00050	0.0050	"							
Chloromethane	ND	0.0020	0.0050	"							
2-Chlorotoluene	ND	0.00059	0.0050	"							
4-Chlorotoluene	ND	0.00040	0.0050	"							
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"							
Dibromochloromethane	ND	0.00040	0.0050	"							
Dibromomethane	ND	0.00079	0.0050	"							
1,2-Dichlorobenzene	ND	0.00030	0.0050	"							
1,3-Dichlorobenzene	ND	0.00040	0.0050	"							
1,4-Dichlorobenzene	ND	0.00040	0.0050	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108173 - EPA 5035/5030B MEOH											
Blank (A108173-BLK1)					Prepared & Analyzed: 09-Aug-11						
Dichlorodifluoromethane	ND	0.0016	0.0050	mg/kg							
1,1-Dichloroethane	ND	0.00079	0.0050	"							
1,2-Dichloroethane	ND	0.00079	0.0050	"							
1,1-Dichloroethene	ND	0.0013	0.0050	"							
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"							
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"							
1,2-Dichloropropane	ND	0.00059	0.0050	"							
1,3-Dichloropropane	ND	0.00040	0.0050	"							
2,2-Dichloropropane	ND	0.00089	0.0050	"							
1,1-Dichloropropene	ND	0.00079	0.0050	"							
cis-1,3-Dichloropropene	ND	0.00059	0.0050	"							
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"							
Ethylbenzene	ND	0.00059	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.00059	0.0050	"							
Hexachlorobutadiene	ND	0.00099	0.0050	"							
Isopropylbenzene	ND	0.00069	0.0050	"							
4-Isopropyl Toluene	ND	0.00069	0.0050	"							
Methylene chloride	ND	0.00079	0.0050	"							
Naphthalene	ND	0.00079	0.0050	"							
n-Propylbenzene	ND	0.00079	0.0050	"							
Styrene	ND	0.00050	0.0050	"							
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"							
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"							
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"							
Toluene	ND	0.00050	0.0050	"							
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"							
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"							
1,1,1-Trichloroethane	ND	0.00089	0.0050	"							
1,1,2-Trichloroethane	ND	0.00059	0.0050	"							
Trichloroethene (TCE)	ND	0.00079	0.0050	"							
Trichlorofluoromethane	ND	0.0017	0.0050	"							
1,2,3-Trichloropropane	ND	0.00099	0.0050	"							
1,2,4-Trimethylbenzene	ND	0.00069	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.00079	0.0050	"							
Vinyl chloride	ND	0.0020	0.0050	"							
Xylenes (total)	ND	0.0013	0.0050	"							
t-Amyl Methyl Ether	ND	0.00079	0.0050	"							
t-Butyl alcohol	ND	0.0024	0.025	"							
Diisopropyl Ether	ND	0.0013	0.0050	"							
Ethanol	ND	0.78	5.0	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108173 - EPA 5035/5030B MEOH											
Blank (A108173-BLK1)					Prepared & Analyzed: 09-Aug-11						
Ethyl t-Butyl Ether	ND	0.00079	0.0050	mg/kg							
Methyl-t-butyl ether	ND	0.00059	0.0050	"							
TPH Gasoline (C4-C10)	ND	0.20	0.50	"							
Surrogate: Dibromofluoromethane	*0.112*			*"*	*0.0990*		*113*	*70-130*			
Surrogate: Toluene-d8	*0.108*			*"*	*0.0990*		*109*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.115*			*"*	*0.0990*		*116*	*70-130*			
LCS (A108173-BS1)					Prepared & Analyzed: 09-Aug-11						
Benzene	0.108	0.00069	0.0049	mg/kg	0.0988		109	70-130			
Chlorobenzene	0.113	0.00059	0.0049	"	0.0988		114	70-130			
1,1-Dichloroethene	0.114	0.0013	0.0049	"	0.0988		115	70-130			
Toluene	0.112	0.00049	0.0049	"	0.0988		113	70-130			
Trichloroethene (TCE)	0.121	0.00079	0.0049	"	0.0988		122	70-130			
Surrogate: Dibromofluoromethane	*0.114*			*"*	*0.0988*		*115*	*70-130*			
Surrogate: Toluene-d8	*0.112*			*"*	*0.0988*		*113*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.111*			*"*	*0.0988*		*113*	*70-130*			
LCS (A108173-BS2)					Prepared & Analyzed: 09-Aug-11						
TPH Gasoline (C4-C10)	2.08	0.20	0.50	mg/kg	1.99		104	70-130			
Surrogate: Dibromofluoromethane	*0.116*			*"*	*0.0996*		*116*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.120*			*"*	*0.0996*		*120*	*70-130*			
Surrogate: Toluene-d8	*0.120*			*"*	*0.0996*		*120*	*70-130*			
LCS Dup (A108173-BSD1)					Prepared & Analyzed: 09-Aug-11						
Benzene	0.109	0.00069	0.0050	mg/kg	0.0990		110	70-130	0.636	20	
Chlorobenzene	0.110	0.00059	0.0050	"	0.0990		111	70-130	2.86	20	
1,1-Dichloroethene	0.114	0.0013	0.0050	"	0.0990		115	70-130	0.337	20	
Toluene	0.110	0.00050	0.0050	"	0.0990		111	70-130	2.27	20	
Trichloroethene (TCE)	0.120	0.00079	0.0050	"	0.0990		121	70-130	0.295	20	
Surrogate: Dibromofluoromethane	*0.110*			*"*	*0.0990*		*111*	*70-130*			
Surrogate: Toluene-d8	*0.111*			*"*	*0.0990*		*112*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.105*			*"*	*0.0990*		*106*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108173 - EPA 5035/5030B MEOH											
LCS Dup (A108173-BSD2)					Prepared & Analyzed: 09-Aug-11						
TPH Gasoline (C4-C10)	2.00	0.20	0.50	mg/kg	2.00		100	70-130	4.07	20	
Surrogate: Dibromofluoromethane	*0.115*			"	*0.0998*		*115*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.120*			"	*0.0998*		*120*	*70-130*			
Surrogate: Toluene-d8	*0.114*			"	*0.0998*		*114*	*70-130*			
Duplicate (A108173-DUP1)	**Source: 1103718-05**				Prepared & Analyzed: 09-Aug-11						
Benzene	ND	0.00070	0.0050	mg/kg		ND				20	
Bromobenzene	ND	0.00040	0.0050	"		ND				20	
Bromochloromethane	ND	0.00099	0.0050	"		ND				20	
Bromodichloromethane	ND	0.00040	0.0050	"		ND				20	
Bromoform	ND	0.00060	0.0050	"		ND				20	
Bromomethane	ND	0.0017	0.0050	"		ND				20	
n-Butylbenzene	ND	0.00070	0.0050	"		ND				20	
sec-Butylbenzene	ND	0.00060	0.0050	"		ND				20	
tert-Butylbenzene	ND	0.00089	0.0050	"		ND				20	
Carbon tetrachloride	ND	0.0011	0.0050	"		ND				20	
Chlorobenzene	ND	0.00060	0.0050	"		ND				20	
Chloroethane	ND	0.0018	0.0050	"		ND				20	
Chloroform	ND	0.00050	0.0050	"		ND				20	
Chloromethane	ND	0.0020	0.0050	"		ND				20	
2-Chlorotoluene	ND	0.00060	0.0050	"		ND				20	
4-Chlorotoluene	ND	0.00040	0.0050	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"		ND				20	
Dibromochloromethane	ND	0.00040	0.0050	"		ND				20	
Dibromomethane	ND	0.00080	0.0050	"		ND				20	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"		ND				20	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
Dichlorodifluoromethane	ND	0.0016	0.0050	"		ND				20	
1,1-Dichloroethane	ND	0.00080	0.0050	"		ND				20	
1,2-Dichloroethane	ND	0.00080	0.0050	"		ND				20	
1,1-Dichloroethene	ND	0.0013	0.0050	"		ND				20	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"		ND				20	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"		ND				20	
1,2-Dichloropropane	ND	0.00060	0.0050	"		ND				20	
1,3-Dichloropropane	ND	0.00040	0.0050	"		ND				20	
2,2-Dichloropropane	ND	0.00089	0.0050	"		ND				20	
1,1-Dichloropropene	ND	0.00080	0.0050	"		ND				20	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"		ND				20	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108173 - EPA 5035/5030B MEOH											
Duplicate (A108173-DUP1)	**Source: 1103718-05**			Prepared & Analyzed: 09-Aug-11							
Ethylbenzene	ND	0.00060	0.0050	mg/kg		ND				20	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"		ND				20	
Hexachlorobutadiene	ND	0.00099	0.0050	"		ND				20	
Isopropylbenzene	ND	0.00070	0.0050	"		ND				20	
4-Isopropyl Toluene	ND	0.00070	0.0050	"		ND				20	
Methylene chloride	ND	0.00080	0.0050	"		ND				20	
Naphthalene	ND	0.00080	0.0050	"		ND				20	
n-Propylbenzene	ND	0.00080	0.0050	"		ND				20	
Styrene	ND	0.00050	0.0050	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"		ND				20	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"		ND				20	
Toluene	ND	0.00050	0.0050	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"		ND				20	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"		ND				20	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"		ND				20	
Trichloroethene (TCE)	ND	0.00080	0.0050	"		ND				20	
Trichlorofluoromethane	ND	0.0017	0.0050	"		ND				20	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"		ND				20	
Vinyl chloride	ND	0.0020	0.0050	"		ND				20	
Xylenes (total)	ND	0.0013	0.0050	"		ND				20	
t-Amyl Methyl Ether	ND	0.00080	0.0050	"		ND				20	
t-Butyl alcohol	ND	0.0024	0.025	"		ND				20	
Diisopropyl Ether	ND	0.0013	0.0050	"		ND				20	
Ethanol	ND	0.78	5.0	"		ND				20	
Ethyl t-Butyl Ether	ND	0.00080	0.0050	"		ND				20	
Methyl-t-butyl ether	ND	0.00060	0.0050	"		ND				20	
TPH Gasoline (C4-C10)	ND	0.20	0.50	"		ND				20	
Surrogate: Dibromofluoromethane	*0.115*			*"*	*0.0994*		*115*	*70-130*			
Surrogate: Toluene-d8	*0.111*			*"*	*0.0994*		*112*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.113*			*"*	*0.0994*		*114*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108173 - EPA 5035/5030B MEOH											
Matrix Spike (A108173-MS1)	**Source: 1103718-05**				Prepared & Analyzed: 09-Aug-11						
Benzene	0.110	0.00069	0.0050	mg/kg	0.0992	ND	111	70-130			
Chlorobenzene	0.112	0.00060	0.0050	"	0.0992	ND	113	70-130			
1,1-Dichloroethene	0.116	0.0013	0.0050	"	0.0992	ND	117	70-130			
Toluene	0.113	0.00050	0.0050	"	0.0992	ND	114	70-130			
Trichloroethene (TCE)	0.120	0.00079	0.0050	"	0.0992	ND	121	70-130			
Surrogate: Dibromofluoromethane	*0.112*			"	*0.0992*		*113*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.112*			"	*0.0992*		*113*	*70-130*			
Surrogate: Toluene-d8	*0.112*			"	*0.0992*		*113*	*70-130*			
Matrix Spike (A108173-MS2)	**Source: 1103718-05**				Prepared & Analyzed: 09-Aug-11						
TPH Gasoline (C4-C10)	2.10	0.20	0.50	mg/kg	2.00	ND	105	70-130			
Surrogate: Dibromofluoromethane	*0.115*			"	*0.100*		*115*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.115*			"	*0.100*		*115*	*70-130*			
Surrogate: Toluene-d8	*0.115*			"	*0.100*		*115*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	15-Aug-11 16:35

Notes and Definitions

QR-04	The RPD exceeded the QC control limits.
J	Detected but below the RL/PQL; therefore, result is an estimated concentration .
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the Method Limit (MDL)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0896: Former Unocal Avila Terminal - Cliff Area Characterization Activities

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Louis Cappel

Invoice To: CEMC
Kyle Rutherford
AFE/WBS#:
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: 8270- TPH C10-C25, C25-C40 by GC/MS	8260- TPH C4-C10, VOCs & Oxys	8270C-SIM- PAHs	6000/7000- Dissolved Metals					NOTES
B-230-55'	8-3-2011	1540	1	SOIL	-	SS RING	X	X							1103748-1A
B-230-60'		1550													2A
B-230-65'		1553													3A
B-230-70'		1555													4A
B-230-75'		1608													5A
B-230-80'		1615													6A
B-230-85'		1640													7A
B-230-90'		1645													8A
B-230-95'		1657													9A
B-231-50'	8-4-2011	1605													10A
B-231-55'		1617													11A
B-231-60'		1622													12A
B-231-65'		1630													13A
B-231-70'		1635													14A

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
Louis Cappel	8-5-11	1135		8-5-11	1135
Relinquished by:	Date	Time	Received by:	Date	Time
	8-5-11	1235	Lynnette Yeo	8-5-11	1235

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0896: Former Unocal Avila Terminal - Cliff Area Characterization Activities

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Louis Cappel

Invoice To: CEMC
Kyle Rutherford
AFE/WBS#:
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: 8270- TPH C10-C25, C25-C40 by GC/MS	8260- TPH C4-C10, VOCs & Oxys	8270C-SIM- PAHs	6000/7000- Dissolved Metals					NOTES
B-231-75'	B-4-11	1641	1	Soil	-	55 Sleeve	X	X							1103748-15A
B-231-80'		1647													16A
B-231-85'		1653													17A
B-231-90'		1655													18A
B-231-95'		1700													19A
B-231-100'		1705													20A

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	8-5-11	1135	[signature]	8-5-11	1135
Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	8-5-11	1235	Lynnette Yee	8-5-11	1235

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

OEC SAMPLE RECEIPT

Rev. 01/15/10

CLIENT: Padre SLO OEC ID #: 1103748 Temp: 5 °C

Acceptable Range: 0°C to 6°C

COC RECEIVED DATE/TIME: 8-5-11 1235

RECEIPT LOGIN DATE/TIME: 8-5-11 1320

REFRIGERATOR(s): 8

SAMPLE TRANSPORT, RECEIPT, CONDITION & PRESERVATION:		Yes	No	N/A	(*) PROBLEM CHAIN FORM NEEDED
☒ OEC Courier/Sampler	COC document(s) received with samples	☒	☐*	☐	Custody Seals (circle): Present / Absent
☐ Delivery(Other than OEC Courier)	Correct containers for analysis requested	☒	☐*	☐	Samples / Coolers
☒ Samples Received on Ice	Container(s) intact and in good condition	☒	☐*	☐	Intact / Broken*
☐ Samples Received Outside Temp. Range*	Container label(s) consistent with COC	☒	☐*	☐	Method of Shipment & Tracking #(if applicable):
☐ Samples Direct from field (Outside Temp)	OEC preservative added (**note std ID)	☐**	☐	☒	
☐ After-Hours Outside Drop-off [Brought Inside]	Proper preservation on sample label(s)	☐	☐	☒	(**) OEC Preservative ID:
(Initials/Date/Time):	VOA containers free of headspace	☐	☐*	☒	Dissolved Metals Filtration: (Date/Init/Preserve ID)
	Tedlar Bags free of condensation	☐	☐*	☒	

CONTAINERS, COC CHANGES AND/OR CORRECTIONS — **CHANGES AUTHORIZED BY:**

OEC ID	Client ID ***If blank, refer to CoC	Container Description	Preservative	ResCl /pH	Matrix	Date/Time Sampled ***	Comments / Remarks / Condition Notes, Etc.
1-20 A		1-Metal Tube ea	—		Solid		

RECEIPT LOGIN BY: CA

RECEIPT REVIEWED BY: LY

Oilfield Environmental and Compliance, INC.

Louis Cappel
Padre Associates, Inc. - SLO
369 Pacific Street
San Luis Obispo, CA 93401

23 August 2011

RE: Former Unocal Avila Terminal

Work Order: 1103877

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on 12-Aug-11 16:52 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Lisa Race

Laboratory Manager

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AT-B-223-88	1103877-01	Water	12-Aug-11 13:13	12-Aug-11 16:52
AT-B-224	1103877-02	Water	10-Aug-11 15:15	12-Aug-11 16:52
AT-B-225	1103877-03	Water	11-Aug-11 10:16	12-Aug-11 16:52
AT-B-226	1103877-04	Water	11-Aug-11 12:36	12-Aug-11 16:52
AT-B-230	1103877-05	Water	12-Aug-11 10:14	12-Aug-11 16:52
AT-B-231	1103877-06	Water	12-Aug-11 15:05	12-Aug-11 16:52
DUP	1103877-07	Water	11-Aug-11 09:00	12-Aug-11 16:52
EB	1103877-08	Water	12-Aug-11 14:05	12-Aug-11 16:52
TB-080811-01	1103877-09	Water	10-Aug-11 00:00	12-Aug-11 16:52
TB-080811-02	1103877-10	Water	10-Aug-11 00:00	12-Aug-11 16:52

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

AT-B-223-88

1103877-01 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.58**	0.020	0.050	mg/L	1	A108337	16-Aug-11	17-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*88.2 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**0.60**	0.020	0.10	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*84.0 %*	*50-150*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**370**	1.6	25	ug/L	50	A108369	18-Aug-11	18-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.065	0.50	"	1	A108320	16-Aug-11	16-Aug-11	"	
Bromochloromethane	ND	0.12	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.087	0.50	"	"	"	"	"	"	
Bromoform	ND	0.076	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.29	0.50	"	"	"	"	"	"	
n-Butylbenzene	**0.20**	0.071	0.50	"	"	"	"	"	"	J
sec-Butylbenzene	**0.70**	0.067	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.26**	0.076	0.50	"	"	"	"	"	"	J
Carbon tetrachloride	ND	0.054	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.060	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.17	0.50	"	"	"	"	"	"	
Chloroform	ND	0.12	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.21	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.057	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.076	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.039	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.11	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.11	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.061	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.057	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.16	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.057	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.046	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.057	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

AT-B-223-88

1103877-01 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.063	0.50	ug/L	1	A108320	16-Aug-11	16-Aug-11	EPA 8260B/LUFT	
trans-1,2-Dichloroethene	ND	0.071	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.081	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.056	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.087	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.074	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.075	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.062	0.50	"	"	"	"	"	"	
Ethylbenzene	**28**	0.060	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.083	0.50	"	"	"	"	"	"	
Isopropylbenzene	**7.1**	0.064	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	**0.88**	0.077	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.21	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.23	0.50	"	"	"	"	"	"	
n-Propylbenzene	**3.5**	0.086	0.50	"	"	"	"	"	"	
Styrene	ND	0.057	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.057	0.50	"	"	"	"	"	"	
Toluene	**65**	2.8	25	"	50	A108369	18-Aug-11	18-Aug-11	"	
1,2,3-Trichlorobenzene	ND	0.17	0.50	"	1	A108320	16-Aug-11	16-Aug-11	"	
1,2,4-Trichlorobenzene	ND	0.15	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.060	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.11	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.024	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.044	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.093	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**14**	0.053	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**1.9**	0.064	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.053	0.50	"	"	"	"	"	"	
Xylenes (total)	**67**	0.13	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.096	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.10	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.26	0.50	"	"	"	"	"	"	
Ethanol	ND	140	500	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

AT-B-223-88

1103877-01 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Ethyl t-Butyl Ether	ND	0.096	0.50	ug/L	1	A108320	16-Aug-11	16-Aug-11	EPA 8260B/LUFT	
Methyl-t-butyl ether	ND	0.096	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**2600**	40	100	"	2	A108432	22-Aug-11	22-Aug-11	"	
Surrogate: Dibromofluoromethane			*106 %*	*70-130*		*A108320*	*16-Aug-11*	*16-Aug-11*	"	
Surrogate: Toluene-d8			*109 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*117 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
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Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.0020	0.0050	mg/L	1	A108429	22-Aug-11	22-Aug-11	EPA 6020	
Arsenic	**0.19**	0.0020	0.0050	"	"	"	"	23-Aug-11	"	
Barium	**0.14**	0.00070	0.0010	"	"	"	"	22-Aug-11	"	B-06
Beryllium	ND	0.00078	0.0010	"	"	"	"	23-Aug-11	"	
Cadmium	ND	0.00050	0.0010	"	"	"	"	22-Aug-11	"	
Chromium	**0.0035**	0.0011	0.0020	"	"	"	"	"	"	B-06
Cobalt	**0.0023**	0.00050	0.0010	"	"	"	"	"	"	
Copper	**0.0049**	0.00071	0.0010	"	"	"	"	"	"	
Lead	ND	0.00080	0.0010	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	"	A108430	22-Aug-11	22-Aug-11	EPA 7470A	
Molybdenum	**0.019**	0.00085	0.0010	"	"	A108429	22-Aug-11	22-Aug-11	EPA 6020	
Nickel	**0.034**	0.00050	0.0010	"	"	"	"	"	"	
Selenium	**0.038**	0.0011	0.0020	"	"	"	"	"	"	
Silver	ND	0.00073	0.0010	"	"	"	"	"	"	
Thallium	ND	0.00072	0.0010	"	"	"	"	23-Aug-11	"	
Vanadium	ND	0.0030	0.0050	"	"	"	"	22-Aug-11	"	
Zinc	**0.017**	0.0025	0.0050	"	"	"	"	"	"	B-06
TEPH by GCMS										
TPH Diesel (C10-C25)	**1.2**	0.020	0.050	mg/L	1	A108337	16-Aug-11	17-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*90.4 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**0.79**	0.020	0.10	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*86.2 %*	*50-150*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	ND	0.036	0.10	ug/L	1	A108306	15-Aug-11	16-Aug-11	EPA 8270M SIM	
Acenaphthylene	ND	0.047	0.10	"	"	"	"	"	"	
Anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.060	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.062	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.025	0.10	"	"	"	"	"	"	
Chrysene	ND	0.025	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.038	0.10	"	"	"	"	"	"	

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Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Fluorene	**0.040**	0.040	0.10	ug/L	1	A108306	15-Aug-11	16-Aug-11	EPA 8270M SIM	J
Indeno (1,2,3-cd) pyrene	ND	0.035	0.10	"	"	"	"	"	"	
Naphthalene	**0.18**	0.050	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.060	0.10	"	"	"	"	"	"	
Pyrene	ND	0.036	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*77.5 %*	*50-142*		*"*	*"*	*"*	*"*	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.031	0.50	ug/L	1	A108432	22-Aug-11	22-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.065	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.12	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.087	0.50	"	"	"	"	"	"	
Bromoform	ND	0.076	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.29	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.071	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**0.78**	0.067	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.64**	0.076	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.054	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.060	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.17	0.50	"	"	"	"	"	"	
Chloroform	ND	0.12	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.21	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.057	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.076	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.039	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.11	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.11	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.061	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.057	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.16	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.057	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.046	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.057	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.063	0.50	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
trans-1,2-Dichloroethene	ND	0.071	0.50	ug/L	1	A108432	22-Aug-11	22-Aug-11	EPA 8260B/LUFT	
1,2-Dichloropropane	ND	0.081	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.056	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.087	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.074	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.075	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.062	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.060	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.083	0.50	"	"	"	"	"	"	
Isopropylbenzene	**2.2**	0.064	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.077	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.21	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.23	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.086	0.50	"	"	"	"	"	"	
Styrene	ND	0.057	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.057	0.50	"	"	"	"	"	"	
Toluene	ND	0.056	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.17	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.15	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.060	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.11	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.024	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.044	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.093	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.15**	0.053	0.50	"	"	"	"	"	"	J
1,3,5-Trimethylbenzene	ND	0.064	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.053	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.13	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.096	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.10	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.26	0.50	"	"	"	"	"	"	
Ethanol	ND	140	500	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Ethyl t-Butyl Ether	ND	0.096	0.50	ug/L	1	A108432	22-Aug-11	22-Aug-11	EPA 8260B/LUFT	
Methyl-t-butyl ether	**53**	0.19	1.0	"	2	"	"	22-Aug-11	"	
TPH Gasoline (C4-C10)	**110**	20	50	"	1	"	"	22-Aug-11	"	
Surrogate: Dibromofluoromethane			*111 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*104 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*94.7 %*	*70-130*		"	"	"	"	

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Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	**0.0034**	0.0020	0.0050	mg/L	1	A108429	22-Aug-11	22-Aug-11	EPA 6020	J
Arsenic	**0.044**	0.0020	0.0050	"	"	"	"	23-Aug-11	"	
Barium	**0.31**	0.0014	0.0020	"	2	"	"	23-Aug-11	"	B-06
Beryllium	ND	0.00078	0.0010	"	1	"	"	23-Aug-11	"	
Cadmium	ND	0.00050	0.0010	"	"	"	"	22-Aug-11	"	
Chromium	**0.0019**	0.0011	0.0020	"	"	"	"	"	"	J
Cobalt	**0.0012**	0.00050	0.0010	"	"	"	"	"	"	
Copper	**0.0022**	0.00071	0.0010	"	"	"	"	"	"	
Lead	ND	0.00080	0.0010	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	"	A108430	22-Aug-11	22-Aug-11	EPA 7470A	
Molybdenum	**0.11**	0.00085	0.0010	"	"	A108429	22-Aug-11	22-Aug-11	EPA 6020	
Nickel	**0.020**	0.00050	0.0010	"	"	"	"	"	"	
Selenium	**0.032**	0.0011	0.0020	"	"	"	"	"	"	
Silver	ND	0.00073	0.0010	"	"	"	"	"	"	
Thallium	ND	0.00072	0.0010	"	"	"	"	23-Aug-11	"	
Vanadium	ND	0.0030	0.0050	"	"	"	"	22-Aug-11	"	
Zinc	**0.077**	0.0025	0.0050	"	"	"	"	"	"	B-06
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.022**	0.021	0.052	mg/L	1	A108337	16-Aug-11	17-Aug-11	EPA 8270C	J
Surrogate: o-Terphenyl			*77.8 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**0.17**	0.021	0.10	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*74.4 %*	*50-150*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	ND	0.036	0.10	ug/L	1	A108306	15-Aug-11	16-Aug-11	EPA 8270M SIM	
Acenaphthylene	ND	0.047	0.10	"	"	"	"	"	"	
Anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.060	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.062	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.025	0.10	"	"	"	"	"	"	
Chrysene	ND	0.025	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.038	0.10	"	"	"	"	"	"	

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Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Fluorene	ND	0.040	0.10	ug/L	1	A108306	15-Aug-11	16-Aug-11	EPA 8270M SIM	
Indeno (1,2,3-cd) pyrene	ND	0.035	0.10	"	"	"	"	"	"	
Naphthalene	**0.23**	0.050	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.060	0.10	"	"	"	"	"	"	
Pyrene	ND	0.036	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*93.8 %*	*50-142*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.13**	0.031	0.50	ug/L	1	A108320	16-Aug-11	17-Aug-11	EPA 8260B/LUFT	J
Bromobenzene	ND	0.065	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.12	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.087	0.50	"	"	"	"	"	"	
Bromoform	ND	0.076	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.29	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.071	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.067	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.076	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.054	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.060	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.17	0.50	"	"	"	"	"	"	
Chloroform	**1.9**	0.12	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.21	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.057	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.076	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.039	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.11	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.11	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.061	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.057	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.16	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.057	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.046	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.057	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.063	0.50	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
trans-1,2-Dichloroethene	ND	0.071	0.50	ug/L	1	A108320	16-Aug-11	17-Aug-11	EPA 8260B/LUFT	
1,2-Dichloropropane	ND	0.081	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.056	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.087	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.074	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.075	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.062	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.060	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.083	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.064	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.077	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.21	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.23	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.086	0.50	"	"	"	"	"	"	
Styrene	ND	0.057	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.057	0.50	"	"	"	"	"	"	
Toluene	**0.090**	0.056	0.50	"	"	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	0.17	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.15	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.060	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.11	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.024	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.044	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.093	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.053	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.064	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.053	0.50	"	"	"	"	"	"	
Xylenes (total)	**0.31**	0.13	0.50	"	"	"	"	"	"	J
t-Amyl Methyl Ether	ND	0.096	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.10	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.26	0.50	"	"	"	"	"	"	
Ethanol	ND	140	500	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

AT-B-225

1103877-03 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Ethyl t-Butyl Ether	ND	0.096	0.50	ug/L	1	A108320	16-Aug-11	17-Aug-11	EPA 8260B/LUFT	
Methyl-t-butyl ether	ND	0.096	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*107 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*104 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*111 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

AT-B-226

1103877-04 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.0020	0.0050	mg/L	1	A108429	22-Aug-11	22-Aug-11	EPA 6020	
Arsenic	**0.042**	0.0020	0.0050	"	"	"	"	23-Aug-11	"	
Barium	**0.28**	0.0014	0.0020	"	2	"	"	23-Aug-11	"	B-06
Beryllium	ND	0.00078	0.0010	"	1	"	"	23-Aug-11	"	
Cadmium	ND	0.00050	0.0010	"	"	"	"	22-Aug-11	"	
Chromium	**0.0029**	0.0011	0.0020	"	"	"	"	"	"	B-06
Cobalt	**0.0018**	0.00050	0.0010	"	"	"	"	"	"	
Copper	**0.0023**	0.00071	0.0010	"	"	"	"	"	"	
Lead	ND	0.00080	0.0010	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	"	A108430	22-Aug-11	22-Aug-11	EPA 7470A	
Molybdenum	**0.017**	0.00085	0.0010	"	"	A108429	22-Aug-11	22-Aug-11	EPA 6020	
Nickel	**0.038**	0.00050	0.0010	"	"	"	"	"	"	
Selenium	**0.026**	0.0011	0.0020	"	"	"	"	"	"	
Silver	ND	0.00073	0.0010	"	"	"	"	"	"	
Thallium	ND	0.00072	0.0010	"	"	"	"	23-Aug-11	"	
Vanadium	ND	0.0030	0.0050	"	"	"	"	22-Aug-11	"	
Zinc	**0.081**	0.0025	0.0050	"	"	"	"	"	"	B-06
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.10**	0.021	0.053	mg/L	1	A108337	16-Aug-11	17-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*76.2 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**0.089**	0.021	0.11	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*72.8 %*	*50-150*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	ND	0.036	0.10	ug/L	1	A108306	15-Aug-11	16-Aug-11	EPA 8270M SIM	
Acenaphthylene	ND	0.047	0.10	"	"	"	"	"	"	
Anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.060	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.062	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.025	0.10	"	"	"	"	"	"	
Chrysene	ND	0.025	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.038	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

AT-B-226

1103877-04 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Fluorene	ND	0.040	0.10	ug/L	1	A108306	15-Aug-11	16-Aug-11	EPA 8270M SIM	
Indeno (1,2,3-cd) pyrene	ND	0.035	0.10	"	"	"	"	"	"	
Naphthalene	**21**	1.0	2.0	"	20	"	"	16-Aug-11	"	
Phenanthrene	ND	0.060	0.10	"	1	"	"	16-Aug-11	"	
Pyrene	ND	0.036	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*67.5 %*	*50-142*		*"*	*"*	*"*	*"*	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**36**	0.031	0.50	ug/L	1	A108320	16-Aug-11	17-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.065	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.12	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.087	0.50	"	"	"	"	"	"	
Bromoform	ND	0.076	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.29	0.50	"	"	"	"	"	"	
n-Butylbenzene	**3.2**	0.071	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**3.6**	0.067	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.47**	0.076	0.50	"	"	"	"	"	"	J
Carbon tetrachloride	ND	0.054	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.060	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.17	0.50	"	"	"	"	"	"	
Chloroform	ND	0.12	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.21	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.057	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.076	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.039	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.11	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.11	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.061	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.057	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.16	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.057	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.046	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.057	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.063	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
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1103877-04 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
trans-1,2-Dichloroethene	ND	0.071	0.50	ug/L	1	A108320	16-Aug-11	17-Aug-11	EPA 8260B/LUFT	
1,2-Dichloropropane	ND	0.081	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.056	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.087	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.074	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.075	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.062	0.50	"	"	"	"	"	"	
Ethylbenzene	**130**	0.30	2.5	"	5	A108369	18-Aug-11	18-Aug-11	"	
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"	1	A108320	16-Aug-11	17-Aug-11	"	
Hexachlorobutadiene	ND	0.083	0.50	"	"	"	"	"	"	
Isopropylbenzene	**32**	0.064	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	**7.2**	0.077	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.21	1.0	"	"	"	"	"	"	
Naphthalene	**39**	0.23	0.50	"	"	"	"	"	"	
n-Propylbenzene	**29**	0.086	0.50	"	"	"	"	"	"	
Styrene	ND	0.057	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.057	0.50	"	"	"	"	"	"	
Toluene	**35**	0.056	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.17	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.15	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.060	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.11	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.024	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.044	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.093	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**190**	0.26	2.5	"	5	A108369	18-Aug-11	18-Aug-11	"	
1,3,5-Trimethylbenzene	**2.4**	0.064	0.50	"	1	A108320	16-Aug-11	17-Aug-11	"	
Vinyl chloride	ND	0.053	0.50	"	"	"	"	"	"	
Xylenes (total)	**240**	0.64	2.5	"	5	A108369	18-Aug-11	18-Aug-11	"	
t-Amyl Methyl Ether	ND	0.096	0.50	"	1	A108320	16-Aug-11	17-Aug-11	"	
t-Butyl alcohol	ND	0.10	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.26	0.50	"	"	"	"	"	"	
Ethanol	ND	140	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.096	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

AT-B-226

1103877-04 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methyl-t-butyl ether	ND	0.096	0.50	ug/L	1	A108320	16-Aug-11	17-Aug-11	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	**3400**	100	250	"	5	A108369	18-Aug-11	18-Aug-11	"	
Surrogate: Dibromofluoromethane			*104 %*	*70-130*		*A108320*	*16-Aug-11*	*17-Aug-11*	*"*	
Surrogate: Toluene-d8			*104 %*	*70-130*		*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene			*114 %*	*70-130*		*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

AT-B-230

1103877-05 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.0020	0.0050	mg/L	1	A108429	22-Aug-11	22-Aug-11	EPA 6020	
Arsenic	**0.0092**	0.0020	0.0050	"	"	"	"	23-Aug-11	"	
Barium	**0.23**	0.00070	0.0010	"	"	"	"	22-Aug-11	"	B-06
Beryllium	**0.0025**	0.00078	0.0010	"	"	"	"	23-Aug-11	"	
Cadmium	**0.0066**	0.00050	0.0010	"	"	"	"	22-Aug-11	"	
Chromium	**0.0037**	0.0011	0.0020	"	"	"	"	"	"	B-06
Cobalt	**0.063**	0.00050	0.0010	"	"	"	"	"	"	
Copper	**0.0049**	0.00071	0.0010	"	"	"	"	"	"	
Lead	**0.049**	0.00080	0.0010	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	"	A108430	22-Aug-11	22-Aug-11	EPA 7470A	
Molybdenum	**0.0012**	0.00085	0.0010	"	"	A108429	22-Aug-11	22-Aug-11	EPA 6020	
Nickel	**0.077**	0.00050	0.0010	"	"	"	"	"	"	
Selenium	ND	0.0011	0.0020	"	"	"	"	"	"	
Silver	ND	0.00073	0.0010	"	"	"	"	"	"	
Thallium	ND	0.00072	0.0010	"	"	"	"	23-Aug-11	"	
Vanadium	ND	0.0030	0.0050	"	"	"	"	22-Aug-11	"	
Zinc	**0.77**	0.012	0.025	"	5	"	"	23-Aug-11	"	B-06
TEPH by GCMS										
TPH Diesel (C10-C25)	**3.3**	0.10	0.25	mg/L	5	A108337	16-Aug-11	18-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*99.4 %*	*50-150*		"	"	*17-Aug-11*	"	
TPH Oil Crude (C25-C40)	**0.45**	0.020	0.10	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*95.0 %*	*50-150*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	ND	0.039	0.11	ug/L	1	A108306	15-Aug-11	16-Aug-11	EPA 8270M SIM	
Acenaphthylene	ND	0.050	0.11	"	"	"	"	"	"	
Anthracene	ND	0.053	0.11	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.054	0.11	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.064	0.11	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.055	0.11	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.066	0.11	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.026	0.11	"	"	"	"	"	"	
Chrysene	ND	0.026	0.11	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.053	0.11	"	"	"	"	"	"	
Fluoranthene	ND	0.041	0.11	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

AT-B-230

1103877-05 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Fluorene	ND	0.043	0.11	ug/L	1	A108306	15-Aug-11	16-Aug-11	EPA 8270M SIM	
Indeno (1,2,3-cd) pyrene	ND	0.037	0.11	"	"	"	"	"	"	
Naphthalene	**48**	1.1	2.1	"	20	"	"	16-Aug-11	"	
Phenanthrene	ND	0.064	0.11	"	1	"	"	16-Aug-11	"	
Pyrene	ND	0.038	0.11	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*98.8 %*	*50-142*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**1800**	3.1	50	ug/L	100	A108415	20-Aug-11	20-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.065	0.50	"	1	A108320	16-Aug-11	17-Aug-11	"	
Bromochloromethane	ND	0.12	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.087	0.50	"	"	"	"	"	"	
Bromoform	ND	0.076	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.29	0.50	"	"	"	"	"	"	
n-Butylbenzene	**9.4**	0.071	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**7.7**	0.067	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.51**	0.076	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.054	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.060	0.50	"	"	"	"	"	"	
Chloroethane	**28**	0.17	0.50	"	"	"	"	"	"	
Chloroform	ND	0.12	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.21	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.057	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.076	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.039	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.11	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.11	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.061	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.057	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.16	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.057	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	**450**	0.92	10	"	20	A108369	18-Aug-11	18-Aug-11	"	
1,1-Dichloroethene	ND	0.057	0.50	"	1	A108320	16-Aug-11	17-Aug-11	"	
cis-1,2-Dichloroethene	ND	0.063	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

AT-B-230

1103877-05 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
trans-1,2-Dichloroethene	ND	0.071	0.50	ug/L	1	A108320	16-Aug-11	17-Aug-11	EPA 8260B/LUFT	
1,2-Dichloropropane	ND	0.081	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.056	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.087	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.074	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.075	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.062	0.50	"	"	"	"	"	"	
Ethylbenzene	**330**	1.2	10	"	20	A108369	18-Aug-11	18-Aug-11	"	
1,2-Dibromoethane (EDB)	**270**	1.1	10	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.083	0.50	"	1	A108320	16-Aug-11	17-Aug-11	"	
Isopropylbenzene	**45**	0.064	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	**14**	0.077	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.21	1.0	"	"	"	"	"	"	
Naphthalene	**98**	4.5	10	"	20	A108369	18-Aug-11	18-Aug-11	"	
n-Propylbenzene	**39**	0.086	0.50	"	1	A108320	16-Aug-11	17-Aug-11	"	
Styrene	ND	0.057	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.057	0.50	"	"	"	"	"	"	
Toluene	**3100**	5.6	50	"	100	A108415	20-Aug-11	20-Aug-11	"	
1,2,3-Trichlorobenzene	ND	0.17	0.50	"	1	A108320	16-Aug-11	17-Aug-11	"	
1,2,4-Trichlorobenzene	ND	0.15	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.060	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.11	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.024	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.044	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.093	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**290**	1.1	10	"	20	A108369	18-Aug-11	18-Aug-11	"	
1,3,5-Trimethylbenzene	**83**	0.064	0.50	"	1	A108320	16-Aug-11	17-Aug-11	"	
Vinyl chloride	ND	0.053	0.50	"	"	"	"	"	"	
Xylenes (total)	**2000**	2.6	10	"	20	A108369	18-Aug-11	18-Aug-11	"	
t-Amyl Methyl Ether	ND	0.096	0.50	"	1	A108320	16-Aug-11	17-Aug-11	"	
t-Butyl alcohol	**3800**	2.1	200	"	20	A108369	18-Aug-11	18-Aug-11	"	
Diisopropyl Ether	ND	0.26	0.50	"	1	A108320	16-Aug-11	17-Aug-11	"	
Ethanol	ND	140	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.096	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

AT-B-230

1103877-05 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methyl-t-butyl ether	ND	0.096	0.50	ug/L	1	A108320	16-Aug-11	17-Aug-11	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	**14000**	400	1000	"	20	A108369	18-Aug-11	18-Aug-11	"	
Surrogate: Dibromofluoromethane			*114 %*	*70-130*		*A108320*	*16-Aug-11*	*17-Aug-11*	*"*	
Surrogate: Toluene-d8			*128 %*	*70-130*		*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene			*121 %*	*70-130*		*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

AT-B-231

1103877-06 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	**0.0032**	0.0020	0.0050	mg/L	1	A108429	22-Aug-11	22-Aug-11	EPA 6020	J
Arsenic	**0.030**	0.0020	0.0050	"	"	"	"	23-Aug-11	"	
Barium	**0.19**	0.00070	0.0010	"	"	"	"	22-Aug-11	"	B-06
Beryllium	ND	0.00078	0.0010	"	"	"	"	23-Aug-11	"	
Cadmium	ND	0.00050	0.0010	"	"	"	"	22-Aug-11	"	
Chromium	**0.0043**	0.0011	0.0020	"	"	"	"	"	"	B-06
Cobalt	**0.0050**	0.00050	0.0010	"	"	"	"	"	"	
Copper	**0.0022**	0.00071	0.0010	"	"	"	"	"	"	
Lead	ND	0.00080	0.0010	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	"	A108430	22-Aug-11	22-Aug-11	EPA 7470A	
Molybdenum	**0.011**	0.00085	0.0010	"	"	A108429	22-Aug-11	22-Aug-11	EPA 6020	
Nickel	**0.013**	0.00050	0.0010	"	"	"	"	"	"	
Selenium	ND	0.0011	0.0020	"	"	"	"	"	"	
Silver	ND	0.00073	0.0010	"	"	"	"	"	"	
Thallium	ND	0.00072	0.0010	"	"	"	"	23-Aug-11	"	
Vanadium	ND	0.0030	0.0050	"	"	"	"	22-Aug-11	"	
Zinc	**0.082**	0.0025	0.0050	"	"	"	"	"	"	B-06
TEPH by GCMS										
TPH Diesel (C10-C25)	**2.7**	0.11	0.27	mg/L	5	A108337	16-Aug-11	18-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*94.0 %*	*50-150*		"	"	*17-Aug-11*	"	
TPH Oil Crude (C25-C40)	**0.74**	0.021	0.11	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*88.4 %*	*50-150*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	**0.060**	0.036	0.10	ug/L	1	A108306	15-Aug-11	16-Aug-11	EPA 8270M SIM	J
Acenaphthylene	ND	0.047	0.10	"	"	"	"	"	"	
Anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.060	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.062	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.025	0.10	"	"	"	"	"	"	
Chrysene	ND	0.025	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.038	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

AT-B-231

1103877-06 (Water)

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Fluorene	ND	0.040	0.10	ug/L	1	A108306	15-Aug-11	16-Aug-11	EPA 8270M SIM	
Indeno (1,2,3-cd) pyrene	ND	0.035	0.10	"	"	"	"	"	"	
Naphthalene	**0.60**	0.050	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.060	0.10	"	"	"	"	"	"	
Pyrene	ND	0.036	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*100 %*	*50-142*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	**20**	0.031	0.50	ug/L	1	A108339	16-Aug-11	16-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.065	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.12	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.087	0.50	"	"	"	"	"	"	
Bromoform	ND	0.076	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.29	0.50	"	"	"	"	"	"	
n-Butylbenzene	**5.7**	0.071	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.067	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.69**	0.076	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.054	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.060	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.17	0.50	"	"	"	"	"	"	
Chloroform	ND	0.12	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.21	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.057	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.076	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.039	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.11	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.11	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.061	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.057	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.16	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.057	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	**60**	0.92	10	"	20	A108350	17-Aug-11	17-Aug-11	"	
1,1-Dichloroethene	ND	0.057	0.50	"	1	A108339	16-Aug-11	16-Aug-11	"	
cis-1,2-Dichloroethene	ND	0.063	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1103877-06 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
trans-1,2-Dichloroethene	ND	0.071	0.50	ug/L	1	A108339	16-Aug-11	16-Aug-11	EPA 8260B/LUFT	
1,2-Dichloropropane	ND	0.081	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.056	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.087	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.074	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.075	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.062	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.060	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.083	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.064	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	**13**	0.077	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.21	1.0	"	"	"	"	"	"	
Naphthalene	**2.6**	0.23	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.086	0.50	"	"	"	"	"	"	
Styrene	ND	0.057	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.057	0.50	"	"	"	"	"	"	
Toluene	**26**	0.056	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.17	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.15	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.060	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.11	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.024	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.044	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.093	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.69**	0.053	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**100**	1.3	10	"	20	A108350	17-Aug-11	17-Aug-11	"	
Vinyl chloride	ND	0.053	0.50	"	1	A108339	16-Aug-11	16-Aug-11	"	
Xylenes (total)	**980**	2.6	10	"	20	A108350	17-Aug-11	17-Aug-11	"	
t-Amyl Methyl Ether	ND	0.096	0.50	"	1	A108339	16-Aug-11	16-Aug-11	"	
t-Butyl alcohol	**4600**	2.1	200	"	20	A108350	17-Aug-11	17-Aug-11	"	
Diisopropyl Ether	ND	0.26	0.50	"	1	A108339	16-Aug-11	16-Aug-11	"	
Ethanol	ND	140	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.096	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

AT-B-231

1103877-06 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methyl-t-butyl ether	ND	0.096	0.50	ug/L	1	A108339	16-Aug-11	16-Aug-11	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	**3800**	400	1000	"	20	A108350	17-Aug-11	17-Aug-11	"	
Surrogate: Dibromofluoromethane			*125 %*	*70-130*		*A108339*	*16-Aug-11*	*16-Aug-11*	"	
Surrogate: Toluene-d8			*118 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*109 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

DUP

1103877-07 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.0020	0.0050	mg/L	1	A108429	22-Aug-11	22-Aug-11	EPA 6020	
Arsenic	**0.052**	0.0020	0.0050	"	"	"	"	23-Aug-11	"	
Barium	**0.21**	0.00070	0.0010	"	"	"	"	22-Aug-11	"	B-06
Beryllium	ND	0.00078	0.0010	"	"	"	"	23-Aug-11	"	
Cadmium	ND	0.00050	0.0010	"	"	"	"	22-Aug-11	"	
Chromium	**0.0028**	0.0011	0.0020	"	"	"	"	"	"	B-06
Cobalt	**0.0017**	0.00050	0.0010	"	"	"	"	"	"	
Copper	**0.0023**	0.00071	0.0010	"	"	"	"	"	"	
Lead	ND	0.00080	0.0010	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	"	A108430	22-Aug-11	22-Aug-11	EPA 7470A	
Molybdenum	**0.016**	0.00085	0.0010	"	"	A108429	22-Aug-11	22-Aug-11	EPA 6020	
Nickel	**0.039**	0.00050	0.0010	"	"	"	"	"	"	
Selenium	**0.028**	0.0011	0.0020	"	"	"	"	"	"	
Silver	ND	0.00073	0.0010	"	"	"	"	"	"	
Thallium	ND	0.00072	0.0010	"	"	"	"	23-Aug-11	"	
Vanadium	ND	0.0030	0.0050	"	"	"	"	22-Aug-11	"	
Zinc	**0.078**	0.0025	0.0050	"	"	"	"	"	"	B-06
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.097**	0.021	0.053	mg/L	1	A108337	16-Aug-11	17-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*75.4 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**0.086**	0.021	0.11	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*72.2 %*	*50-150*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	ND	0.036	0.10	ug/L	1	A108306	15-Aug-11	16-Aug-11	EPA 8270M SIM	
Acenaphthylene	ND	0.047	0.10	"	"	"	"	"	"	
Anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.060	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.062	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.025	0.10	"	"	"	"	"	"	
Chrysene	ND	0.025	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.038	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

DUP

1103877-07 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Fluorene	ND	0.040	0.10	ug/L	1	A108306	15-Aug-11	16-Aug-11	EPA 8270M SIM	
Indeno (1,2,3-cd) pyrene	ND	0.035	0.10	"	"	"	"	"	"	
Naphthalene	**20**	1.0	2.0	"	20	"	"	16-Aug-11	"	
Phenanthrene	ND	0.060	0.10	"	1	"	"	16-Aug-11	"	
Pyrene	ND	0.036	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*75.0 %*	*50-142*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**38**	0.031	0.50	ug/L	1	A108339	16-Aug-11	17-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.065	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.12	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.087	0.50	"	"	"	"	"	"	
Bromoform	ND	0.076	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.29	0.50	"	"	"	"	"	"	
n-Butylbenzene	**3.4**	0.071	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**3.5**	0.067	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.63**	0.076	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.054	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.060	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.17	0.50	"	"	"	"	"	"	
Chloroform	ND	0.12	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.21	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.057	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.076	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.039	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.11	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.11	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.061	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.057	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.16	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.057	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.046	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.057	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.063	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

DUP

1103877-07 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
trans-1,2-Dichloroethene	ND	0.071	0.50	ug/L	1	A108339	16-Aug-11	17-Aug-11	EPA 8260B/LUFT	
1,2-Dichloropropane	ND	0.081	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.056	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.087	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.074	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.075	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.062	0.50	"	"	"	"	"	"	
Ethylbenzene	**110**	0.60	5.0	"	10	A108350	17-Aug-11	17-Aug-11	"	
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"	1	A108339	16-Aug-11	17-Aug-11	"	
Hexachlorobutadiene	ND	0.083	0.50	"	"	"	"	"	"	
Isopropylbenzene	**29**	0.064	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	**7.5**	0.077	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.21	1.0	"	"	"	"	"	"	
Naphthalene	**45**	0.23	0.50	"	"	"	"	"	"	
n-Propylbenzene	**27**	0.086	0.50	"	"	"	"	"	"	
Styrene	ND	0.057	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.057	0.50	"	"	"	"	"	"	
Toluene	**36**	0.056	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.17	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.15	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.060	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.11	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.024	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.044	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.093	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**160**	0.53	5.0	"	10	A108350	17-Aug-11	17-Aug-11	"	
1,3,5-Trimethylbenzene	**4.0**	0.064	0.50	"	1	A108339	16-Aug-11	17-Aug-11	"	
Vinyl chloride	ND	0.053	0.50	"	"	"	"	"	"	
Xylenes (total)	**240**	0.13	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.096	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.10	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.26	0.50	"	"	"	"	"	"	
Ethanol	ND	140	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.096	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
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DUP

1103877-07 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methyl-t-butyl ether	ND	0.096	0.50	ug/L	1	A108339	16-Aug-11	17-Aug-11	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	**2400**	200	500	"	10	A108350	17-Aug-11	17-Aug-11	"	
Surrogate: Dibromofluoromethane			*112 %*	*70-130*		*A108339*	*16-Aug-11*	*17-Aug-11*	"	
Surrogate: Toluene-d8			*107 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*98.7 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

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1103877-08 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.0020	0.0050	mg/L	1	A108429	22-Aug-11	22-Aug-11	EPA 6020	
Arsenic	ND	0.0020	0.0050	"	"	"	"	23-Aug-11	"	
Barium	**0.12**	0.00070	0.0010	"	"	"	"	22-Aug-11	"	B-06
Beryllium	ND	0.00078	0.0010	"	"	"	"	23-Aug-11	"	
Cadmium	ND	0.00050	0.0010	"	"	"	"	22-Aug-11	"	
Chromium	**0.0035**	0.0011	0.0020	"	"	"	"	"	"	B-06
Cobalt	ND	0.00050	0.0010	"	"	"	"	"	"	
Copper	ND	0.00071	0.0010	"	"	"	"	"	"	
Lead	ND	0.00080	0.0010	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	"	A108430	22-Aug-11	22-Aug-11	EPA 7470A	
Molybdenum	ND	0.00085	0.0010	"	"	A108429	22-Aug-11	22-Aug-11	EPA 6020	
Nickel	ND	0.00050	0.0010	"	"	"	"	"	"	
Selenium	**0.0036**	0.0011	0.0020	"	"	"	"	"	"	
Silver	ND	0.00073	0.0010	"	"	"	"	"	"	
Thallium	ND	0.00072	0.0010	"	"	"	"	23-Aug-11	"	
Vanadium	ND	0.0030	0.0050	"	"	"	"	22-Aug-11	"	
Zinc	ND	0.0025	0.0050	"	"	"	"	"	"	
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L	1	A108337	16-Aug-11	17-Aug-11	EPA 8270C	
Surrogate: o-Terphenyl			*55.6 %*	*50-150*		"	"	"	"	
TPH Oil Crude (C25-C40)	**0.042**	0.020	0.10	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*53.2 %*	*50-150*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	ND	0.039	0.11	ug/L	1	A108306	15-Aug-11	16-Aug-11	EPA 8270M SIM	
Acenaphthylene	ND	0.051	0.11	"	"	"	"	"	"	
Anthracene	ND	0.054	0.11	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.055	0.11	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.065	0.11	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.055	0.11	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.067	0.11	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.027	0.11	"	"	"	"	"	"	
Chrysene	ND	0.027	0.11	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.054	0.11	"	"	"	"	"	"	

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Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Fluoranthene	ND	0.041	0.11	ug/L	1	A108306	15-Aug-11	16-Aug-11	EPA 8270M SIM	
Fluorene	ND	0.043	0.11	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.038	0.11	"	"	"	"	"	"	
Naphthalene	ND	0.054	0.11	"	"	"	"	"	"	
Phenanthrene	ND	0.065	0.11	"	"	"	"	"	"	
Pyrene	ND	0.038	0.11	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*91.2 %*		*50-142*	"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.031	0.50	ug/L	1	A108350	17-Aug-11	17-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.065	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.12	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.087	0.50	"	"	"	"	"	"	
Bromoform	ND	0.076	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.29	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.071	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.067	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.076	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.054	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.060	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.17	0.50	"	"	"	"	"	"	
Chloroform	ND	0.12	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.21	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.057	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.076	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.039	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.11	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.11	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.061	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.057	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.16	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.057	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.046	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.057	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.063	0.50	ug/L	1	A108350	17-Aug-11	17-Aug-11	EPA 8260B/LUFT	
trans-1,2-Dichloroethene	ND	0.071	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.081	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.056	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.087	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.074	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.075	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.062	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.060	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.083	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.064	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.077	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.21	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.23	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.086	0.50	"	"	"	"	"	"	
Styrene	ND	0.057	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.057	0.50	"	"	"	"	"	"	
Toluene	ND	0.056	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.17	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.15	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.060	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.11	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.024	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.044	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.093	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.053	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.064	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.053	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.13	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.096	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.10	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.26	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1103877-08 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Ethanol	ND	140	500	ug/L	1	A108350	17-Aug-11	17-Aug-11	EPA 8260B/LUFT	
Ethyl t-Butyl Ether	ND	0.096	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.096	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*107 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*98.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*86.2 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1103877-09 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.031	0.50	ug/L	1	A108339	16-Aug-11	16-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.065	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.12	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.087	0.50	"	"	"	"	"	"	
Bromoform	ND	0.076	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.29	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.071	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.067	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.076	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.054	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.060	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.17	0.50	"	"	"	"	"	"	
Chloroform	ND	0.12	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.21	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.057	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.076	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.039	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.11	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.11	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.061	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.057	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.16	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.057	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.046	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.057	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.063	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.071	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.081	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.056	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.087	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.074	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.075	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.062	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.060	0.50	"	"	"	"	"	"	

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Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dibromoethane (EDB)	ND	0.056	0.50	ug/L	1	A108339	16-Aug-11	16-Aug-11	EPA 8260B/LUFT	
Hexachlorobutadiene	ND	0.083	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.064	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.077	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.21	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.23	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.086	0.50	"	"	"	"	"	"	
Styrene	ND	0.057	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.057	0.50	"	"	"	"	"	"	
Toluene	ND	0.056	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.17	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.15	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.060	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.11	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.024	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.044	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.093	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.053	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.064	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.053	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.13	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.096	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.10	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.26	0.50	"	"	"	"	"	"	
Ethanol	ND	140	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.096	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.096	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*107 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*100 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*91.4 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

TB-080811-02

1103877-10 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.031	0.50	ug/L	1	A108339	16-Aug-11	17-Aug-11	EPA 8260B/LUFT	
Bromobenzene	ND	0.065	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.12	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.087	0.50	"	"	"	"	"	"	
Bromoform	ND	0.076	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.29	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.071	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.067	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.076	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.054	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.060	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.17	0.50	"	"	"	"	"	"	
Chloroform	ND	0.12	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.21	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.057	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.076	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.039	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.11	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.11	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.061	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.057	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.16	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.057	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.046	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.057	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.063	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.071	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.081	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.056	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.087	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.074	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.075	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.062	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.060	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

TB-080811-02

1103877-10 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dibromoethane (EDB)	ND	0.056	0.50	ug/L	1	A108339	16-Aug-11	17-Aug-11	EPA 8260B/LUFT	
Hexachlorobutadiene	ND	0.083	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.064	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.077	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.21	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.23	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.086	0.50	"	"	"	"	"	"	
Styrene	ND	0.057	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.057	0.50	"	"	"	"	"	"	
Toluene	ND	0.056	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.17	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.15	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.060	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.11	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.024	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.044	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.093	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.053	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.064	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.053	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.13	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.096	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	0.10	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.26	0.50	"	"	"	"	"	"	
Ethanol	ND	140	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.096	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.096	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*106 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*100 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*91.6 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108429 - EPA 3005A											
Blank (A108429-BLK1)					Prepared & Analyzed: 22-Aug-11						
Antimony	ND	0.0020	0.0050	mg/L							
Arsenic	ND	0.0020	0.0050	"							
Barium	ND	0.00070	0.0010	"							
Beryllium	ND	0.00078	0.0010	"							
Cadmium	ND	0.00050	0.0010	"							
Chromium	ND	0.0011	0.0020	"							
Cobalt	ND	0.00050	0.0010	"							
Copper	ND	0.00071	0.0010	"							
Lead	ND	0.00080	0.0010	"							
Molybdenum	ND	0.00085	0.0010	"							
Nickel	ND	0.00050	0.0010	"							
Selenium	ND	0.0011	0.0020	"							
Silver	ND	0.00073	0.0010	"							
Thallium	ND	0.00072	0.0010	"							
Vanadium	ND	0.0030	0.0050	"							
Zinc	ND	0.0025	0.0050	"							
Blank (A108429-BLK2)					Prepared & Analyzed: 22-Aug-11						
Antimony	ND	0.0020	0.0050	mg/L							
Arsenic	ND	0.0020	0.0050	"							
Barium	0.0713	0.00070	0.0010	"							B-06
Beryllium	ND	0.00078	0.0010	"							
Cadmium	ND	0.00050	0.0010	"							
Chromium	0.00366	0.0011	0.0020	"							B-06
Cobalt	ND	0.00050	0.0010	"							
Copper	ND	0.00071	0.0010	"							
Lead	ND	0.00080	0.0010	"							
Molybdenum	ND	0.00085	0.0010	"							
Nickel	ND	0.00050	0.0010	"							
Selenium	ND	0.0011	0.0020	"							
Silver	0.00183	0.00073	0.0010	"							B-06
Thallium	ND	0.00072	0.0010	"							
Vanadium	ND	0.0030	0.0050	"							
Zinc	0.0290	0.0025	0.0050	"							B-06

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108429 - EPA 3005A											
LCS (A108429-BS1)					Prepared & Analyzed: 22-Aug-11						
Antimony	0.145	0.0020	0.0050	mg/L	0.150		96.9	85-115			
Arsenic	0.144	0.0020	0.0050	"	0.150		96.1	85-115			
Barium	0.155	0.00070	0.0010	"	0.150		103	85-115			
Beryllium	0.156	0.00078	0.0010	"	0.150		104	85-115			
Cadmium	0.142	0.00050	0.0010	"	0.150		94.7	85-115			
Chromium	0.150	0.0011	0.0020	"	0.150		100	85-115			
Cobalt	0.149	0.00050	0.0010	"	0.150		99.6	85-115			
Copper	0.153	0.00071	0.0010	"	0.150		102	85-115			
Lead	0.145	0.00080	0.0010	"	0.150		96.7	85-115			
Molybdenum	0.148	0.00085	0.0010	"	0.150		98.6	85-115			
Nickel	0.150	0.00050	0.0010	"	0.150		99.9	85-115			
Selenium	0.147	0.0011	0.0020	"	0.150		97.9	85-115			
Silver	0.149	0.00073	0.0010	"	0.150		99.0	85-115			
Thallium	0.156	0.00072	0.0010	"	0.150		104	85-115			
Vanadium	0.148	0.0030	0.0050	"	0.150		98.6	85-115			
Zinc	0.147	0.0025	0.0050	"	0.150		98.1	85-115			
LCS Dup (A108429-BSD1)					Prepared & Analyzed: 22-Aug-11						
Antimony	0.150	0.0020	0.0050	mg/L	0.150		99.8	85-115	2.96	20	
Arsenic	0.139	0.0020	0.0050	"	0.150		92.5	85-115	3.81	20	
Barium	0.146	0.00070	0.0010	"	0.150		97.0	85-115	6.34	20	
Beryllium	0.143	0.00078	0.0010	"	0.150		95.3	85-115	8.60	20	
Cadmium	0.142	0.00050	0.0010	"	0.150		94.9	85-115	0.155	20	
Chromium	0.148	0.0011	0.0020	"	0.150		98.5	85-115	1.51	20	
Cobalt	0.150	0.00050	0.0010	"	0.150		100	85-115	0.439	20	
Copper	0.149	0.00071	0.0010	"	0.150		99.2	85-115	2.75	20	
Lead	0.151	0.00080	0.0010	"	0.150		101	85-115	4.39	20	
Molybdenum	0.140	0.00085	0.0010	"	0.150		93.4	85-115	5.39	20	
Nickel	0.151	0.00050	0.0010	"	0.150		101	85-115	0.816	20	
Selenium	0.141	0.0011	0.0020	"	0.150		94.0	85-115	3.99	20	
Silver	0.152	0.00073	0.0010	"	0.150		101	85-115	2.20	20	
Thallium	0.145	0.00072	0.0010	"	0.150		96.6	85-115	7.39	20	
Vanadium	0.149	0.0030	0.0050	"	0.150		99.6	85-115	1.09	20	
Zinc	0.143	0.0025	0.0050	"	0.150		95.1	85-115	3.05	20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108429 - EPA 3005A											
Duplicate (A108429-DUP1)	**Source: 1103877-03**				Prepared & Analyzed: 22-Aug-11						
Antimony	0.00338	0.0020	0.0050	mg/L		0.00343			1.47	20	J
Arsenic	0.0419	0.0020	0.0050	"		0.0436			4.01	20	
Barium	0.290	0.0014	0.0020	"		0.307			5.63	20	
Beryllium	ND	0.00078	0.0010	"		ND				20	
Cadmium	ND	0.00050	0.0010	"		ND				20	
Chromium	0.00223	0.0011	0.0020	"		0.00186			17.8	20	
Cobalt	0.00134	0.00050	0.0010	"		0.00120			10.6	20	
Copper	0.00221	0.00071	0.0010	"		0.00219			0.863	20	
Lead	ND	0.00080	0.0010	"		ND				20	
Molybdenum	0.103	0.00085	0.0010	"		0.106			3.68	20	
Nickel	0.0200	0.00050	0.0010	"		0.0196			2.09	20	
Selenium	0.0346	0.0011	0.0020	"		0.0322			7.48	20	
Silver	ND	0.00073	0.0010	"		ND				20	
Thallium	ND	0.00072	0.0010	"		ND				20	
Vanadium	ND	0.0030	0.0050	"		ND				20	
Zinc	0.00912	0.0025	0.0050	"		0.0765			157	20	QR-04
Matrix Spike (A108429-MS1)	**Source: 1103877-03**				Prepared & Analyzed: 22-Aug-11						
Antimony	6.32	0.080	0.20	mg/L	6.00	0.00343	105	78-137			
Arsenic	5.77	0.080	0.20	"	6.00	0.0436	95.4	80-133			
Barium	6.01	0.028	0.040	"	6.00	0.307	95.0	57-143			
Beryllium	7.15	0.031	0.040	"	6.00	ND	119	60-156			
Cadmium	5.65	0.020	0.040	"	6.00	ND	94.1	79-129			
Chromium	5.93	0.044	0.080	"	6.00	0.00186	98.8	74-132			
Cobalt	6.08	0.020	0.040	"	6.00	0.00120	101	72-132			
Copper	6.23	0.028	0.040	"	6.00	0.00219	104	63-136			
Lead	6.62	0.032	0.040	"	6.00	ND	110	87-129			
Molybdenum	7.06	0.034	0.040	"	6.00	0.106	116	75-139			
Nickel	6.32	0.020	0.040	"	6.00	0.0196	105	64-137			
Selenium	5.78	0.044	0.080	"	6.00	0.0322	95.9	75-131			
Silver	6.24	0.029	0.040	"	6.00	ND	104	45-154			
Thallium	6.04	0.029	0.040	"	6.00	ND	101	74-128			
Vanadium	6.06	0.12	0.20	"	6.00	ND	101	57-148			
Zinc	5.87	0.10	0.20	"	6.00	0.0765	96.6	62-133			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108429 - EPA 3005A											
Matrix Spike Dup (A108429-MSD1)	**Source: 1103877-03**				Prepared & Analyzed: 22-Aug-11						
Antimony	6.29	0.080	0.20	mg/L	6.00	0.00343	105	78-137	0.496	20	
Arsenic	5.70	0.080	0.20	"	6.00	0.0436	94.2	80-133	1.28	20	
Barium	5.68	0.028	0.040	"	6.00	0.307	89.5	57-143	5.91	20	
Beryllium	7.27	0.031	0.040	"	6.00	ND	121	60-156	1.73	20	
Cadmium	5.70	0.020	0.040	"	6.00	ND	95.0	79-129	0.983	20	
Chromium	5.78	0.044	0.080	"	6.00	0.00186	96.3	74-132	2.59	20	
Cobalt	6.10	0.020	0.040	"	6.00	0.00120	102	72-132	0.383	20	
Copper	6.13	0.028	0.040	"	6.00	0.00219	102	63-136	1.55	20	
Lead	6.54	0.032	0.040	"	6.00	ND	109	87-129	1.19	20	
Molybdenum	6.69	0.034	0.040	"	6.00	0.106	110	75-139	5.48	20	
Nickel	6.30	0.020	0.040	"	6.00	0.0196	105	64-137	0.439	20	
Selenium	5.63	0.044	0.080	"	6.00	0.0322	93.2	75-131	2.79	20	
Silver	6.23	0.029	0.040	"	6.00	ND	104	45-154	0.166	20	
Thallium	6.08	0.029	0.040	"	6.00	ND	101	74-128	0.635	20	
Vanadium	6.13	0.12	0.20	"	6.00	ND	102	57-148	1.12	20	
Zinc	5.89	0.10	0.20	"	6.00	0.0765	96.8	62-133	0.244	20	
Batch A108430 - EPA 7470A Prep											
Blank (A108430-BLK1)					Prepared & Analyzed: 22-Aug-11						
Mercury	ND	0.000100	0.000200	mg/L							
Blank (A108430-BLK2)					Prepared & Analyzed: 22-Aug-11						
Mercury	ND	0.000100	0.000200	mg/L							
LCS (A108430-BS1)					Prepared & Analyzed: 22-Aug-11						
Mercury	0.00973	0.000100	0.000200	mg/L	0.0100		97.3	85-115			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108430 - EPA 7470A Prep											
LCS Dup (A108430-BSD1)					Prepared & Analyzed: 22-Aug-11						
Mercury	0.00953	0.000100	0.000200	mg/L	0.0100		95.3	85-115	2.16	20	
Duplicate (A108430-DUP1)		**Source: 1103877-03**			Prepared & Analyzed: 22-Aug-11						
Mercury	ND	0.000100	0.000200	mg/L		ND				25	
Matrix Spike (A108430-MS1)		**Source: 1103877-03**			Prepared & Analyzed: 22-Aug-11						
Mercury	0.00899	0.000100	0.000200	mg/L	0.0100	ND	89.9	75-125			
Matrix Spike Dup (A108430-MSD1)		**Source: 1103877-03**			Prepared & Analyzed: 22-Aug-11						
Mercury	0.00910	0.000100	0.000200	mg/L	0.0100	ND	91.0	75-125	1.22	20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108337 - EPA 3510C MS											
Blank (A108337-BLK1)					Prepared: 16-Aug-11 Analyzed: 17-Aug-11						
TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L							
TPH Oil Crude (C25-C40)	0.0458	0.020	0.10	"							J
Surrogate: o-Terphenyl	*0.00406*			*"*	*0.00500*		*81.2*	*50-150*			
Surrogate: o-Terphenyl	*0.00388*			*"*	*0.00500*		*77.6*	*50-150*			
LCS (A108337-BS1)					Prepared: 16-Aug-11 Analyzed: 17-Aug-11						
TPH Diesel (C10-C25)	0.799	0.020	0.050	mg/L				70-130		20	
Surrogate: o-Terphenyl	*0.00473*			*"*	*0.00500*		*94.6*	*50-150*			
LCS (A108337-BS2)					Prepared: 16-Aug-11 Analyzed: 17-Aug-11						
TPH Oil Crude (C25-C40)	1.43	0.020	0.10	mg/L	2.00		71.3	70-130		20	
Surrogate: o-Terphenyl	*0.00432*			*"*	*0.00500*		*86.4*	*50-150*			
LCS Dup (A108337-BSD1)					Prepared: 16-Aug-11 Analyzed: 17-Aug-11						
TPH Diesel (C10-C25)	0.777	0.020	0.050	mg/L				70-130	2.86	20	
Surrogate: o-Terphenyl	*0.00445*			*"*	*0.00500*		*89.0*	*50-150*			
LCS Dup (A108337-BSD2)					Prepared: 16-Aug-11 Analyzed: 17-Aug-11						
TPH Oil Crude (C25-C40)	1.52	0.020	0.10	mg/L	2.00		75.9	70-130	6.24	20	
Surrogate: o-Terphenyl	*0.00431*			*"*	*0.00500*		*86.2*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108306 - EPA 3510C MS											
Blank (A108306-BLK1)					Prepared & Analyzed: 15-Aug-11						
Acenaphthene	ND	0.036	0.10	ug/L							
Acenaphthylene	ND	0.047	0.10	"							
Anthracene	ND	0.050	0.10	"							
Benz(a)anthracene	ND	0.051	0.10	"							
Benzo (b) fluoranthene	ND	0.060	0.10	"							
Benzo (k) fluoranthene	ND	0.051	0.10	"							
Benzo (a) pyrene	ND	0.062	0.10	"							
Benzo (g,h,i) perylene	ND	0.025	0.10	"							
Chrysene	ND	0.025	0.10	"							
Dibenz (a,h) anthracene	ND	0.050	0.10	"							
Fluoranthene	ND	0.038	0.10	"							
Fluorene	ND	0.040	0.10	"							
Indeno (1,2,3-cd) pyrene	ND	0.035	0.10	"							
Naphthalene	ND	0.050	0.10	"							
Phenanthrene	ND	0.060	0.10	"							
Pyrene	ND	0.036	0.10	"							
Surrogate: p-Terphenyl-d14	*0.700*			*"*	*0.800*		*87.5*	*50-142*			
LCS (A108306-BS1)					Prepared & Analyzed: 15-Aug-11						
Acenaphthene	0.550	0.036	0.10	ug/L	0.800		68.8	40-120			
Acenaphthylene	0.530	0.047	0.10	"	0.800		66.2	40-120			
Anthracene	0.580	0.050	0.10	"	0.800		72.5	40-120			
Benz(a)anthracene	0.710	0.051	0.10	"	0.800		88.8	40-120			
Benzo (b) fluoranthene	0.740	0.060	0.10	"	0.800		92.5	40-120			
Benzo (k) fluoranthene	0.690	0.051	0.10	"	0.800		86.2	40-120			
Benzo (a) pyrene	0.680	0.062	0.10	"	0.800		85.0	40-120			
Benzo (g,h,i) perylene	0.630	0.025	0.10	"	0.800		78.8	40-120			
Chrysene	0.690	0.025	0.10	"	0.800		86.2	40-120			
Dibenz (a,h) anthracene	0.790	0.050	0.10	"	0.800		98.8	40-120			
Fluoranthene	0.680	0.038	0.10	"	0.800		85.0	40-120			
Fluorene	0.580	0.040	0.10	"	0.800		72.5	40-120			
Indeno (1,2,3-cd) pyrene	0.700	0.035	0.10	"	0.800		87.5	40-120			
Naphthalene	0.510	0.050	0.10	"	0.800		63.8	40-120			
Phenanthrene	0.610	0.060	0.10	"	0.800		76.2	40-120			
Pyrene	0.690	0.036	0.10	"	0.800		86.2	40-120			
Surrogate: p-Terphenyl-d14	*0.720*			*"*	*0.800*		*90.0*	*50-142*			

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108306 - EPA 3510C MS											
LCS Dup (A108306-BSD1)					Prepared & Analyzed: 15-Aug-11						
Acenaphthene	0.530	0.036	0.10	ug/L	0.800		66.2	40-120	3.70	30	
Acenaphthylene	0.520	0.047	0.10	"	0.800		65.0	40-120	1.90	30	
Anthracene	0.540	0.050	0.10	"	0.800		67.5	40-120	7.14	30	
Benz(a)anthracene	0.700	0.051	0.10	"	0.800		87.5	40-120	1.42	30	
Benzo (b) fluoranthene	0.730	0.060	0.10	"	0.800		91.2	40-120	1.36	30	
Benzo (k) fluoranthene	0.690	0.051	0.10	"	0.800		86.2	40-120	0.00	30	
Benzo (a) pyrene	0.660	0.062	0.10	"	0.800		82.5	40-120	2.99	30	
Benzo (g,h,i) perylene	0.610	0.025	0.10	"	0.800		76.2	40-120	3.23	30	
Chrysene	0.680	0.025	0.10	"	0.800		85.0	40-120	1.46	30	
Dibenz (a,h) anthracene	0.770	0.050	0.10	"	0.800		96.2	40-120	2.56	30	
Fluoranthene	0.650	0.038	0.10	"	0.800		81.2	40-120	4.51	30	
Fluorene	0.540	0.040	0.10	"	0.800		67.5	40-120	7.14	30	
Indeno (1,2,3-cd) pyrene	0.680	0.035	0.10	"	0.800		85.0	40-120	2.90	30	
Naphthalene	0.500	0.050	0.10	"	0.800		62.5	40-120	1.98	30	
Phenanthrene	0.570	0.060	0.10	"	0.800		71.2	40-120	6.78	30	
Pyrene	0.660	0.036	0.10	"	0.800		82.5	40-120	4.44	30	
Surrogate: p-Terphenyl-d14	*0.720*			*"*	*0.800*		*90.0*	*50-142*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108320 - EPA 5030B VOCGCMS											
Blank (A108320-BLK1)					Prepared & Analyzed: 16-Aug-11						
Benzene	ND	0.031	0.50	ug/L							
Bromobenzene	ND	0.065	0.50	"							
Bromochloromethane	ND	0.12	0.50	"							
Bromodichloromethane	ND	0.087	0.50	"							
Bromoform	ND	0.076	0.50	"							
Bromomethane	ND	0.29	0.50	"							
n-Butylbenzene	ND	0.071	0.50	"							
sec-Butylbenzene	ND	0.067	0.50	"							
tert-Butylbenzene	ND	0.076	0.50	"							
Carbon tetrachloride	ND	0.054	0.50	"							
Chlorobenzene	ND	0.060	0.50	"							
Chloroethane	ND	0.17	0.50	"							
Chloroform	ND	0.12	0.50	"							
Chloromethane	ND	0.21	0.50	"							
2-Chlorotoluene	ND	0.057	0.50	"							
4-Chlorotoluene	ND	0.076	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"							
Dibromochloromethane	ND	0.039	0.50	"							
Dibromomethane	ND	0.11	0.50	"							
1,2-Dichlorobenzene	ND	0.11	0.50	"							
1,3-Dichlorobenzene	ND	0.061	0.50	"							
1,4-Dichlorobenzene	ND	0.057	0.50	"							
Dichlorodifluoromethane	ND	0.16	0.50	"							
1,1-Dichloroethane	ND	0.057	0.50	"							
1,2-Dichloroethane	ND	0.046	0.50	"							
1,1-Dichloroethene	ND	0.057	0.50	"							
cis-1,2-Dichloroethene	ND	0.063	0.50	"							
trans-1,2-Dichloroethene	ND	0.071	0.50	"							
1,2-Dichloropropane	ND	0.081	0.50	"							
1,3-Dichloropropane	ND	0.056	0.50	"							
2,2-Dichloropropane	ND	0.087	0.50	"							
1,1-Dichloropropene	ND	0.074	0.50	"							
cis-1,3-Dichloropropene	ND	0.075	0.50	"							
trans-1,3-Dichloropropene	ND	0.062	0.50	"							
Ethylbenzene	ND	0.060	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"							
Hexachlorobutadiene	ND	0.083	0.50	"							
Isopropylbenzene	ND	0.064	0.50	"							
4-Isopropyl Toluene	ND	0.077	0.50	"							
Methylene chloride	ND	0.21	1.0	"							

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108320 - EPA 5030B VOCGCMS											
Blank (A108320-BLK1)					Prepared & Analyzed: 16-Aug-11						
Naphthalene	ND	0.23	0.50	ug/L							
n-Propylbenzene	ND	0.086	0.50	"							
Styrene	ND	0.057	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"							
Tetrachloroethene (PCE)	ND	0.057	0.50	"							
Toluene	ND	0.056	0.50	"							
1,2,3-Trichlorobenzene	ND	0.17	0.50	"							
1,2,4-Trichlorobenzene	ND	0.15	0.50	"							
1,1,1-Trichloroethane	ND	0.060	0.50	"							
1,1,2-Trichloroethane	ND	0.11	0.50	"							
Trichloroethene (TCE)	ND	0.024	0.50	"							
Trichlorofluoromethane	ND	0.044	0.50	"							
1,2,3-Trichloropropane	ND	0.093	0.50	"							
1,2,4-Trimethylbenzene	ND	0.053	0.50	"							
1,3,5-Trimethylbenzene	ND	0.064	0.50	"							
Vinyl chloride	ND	0.053	0.50	"							
Xylenes (total)	ND	0.13	0.50	"							
t-Amyl Methyl Ether	ND	0.096	0.50	"							
t-Butyl alcohol	ND	0.10	10	"							
Diisopropyl Ether	ND	0.26	0.50	"							
Ethanol	ND	140	500	"							
Ethyl t-Butyl Ether	ND	0.096	0.50	"							
Methyl-t-butyl ether	ND	0.096	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*25.8*			*"*	*25.0*		*103*	*70-130*			
Surrogate: Toluene-d8	*24.8*			*"*	*25.0*		*99.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*26.9*			*"*	*25.0*		*108*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108320 - EPA 5030B VOCGCMS											
LCS (A108320-BS1)					Prepared & Analyzed: 16-Aug-11						
Benzene	26.2	0.031	0.50	ug/L	25.0		105	70-130			
Chlorobenzene	29.6	0.060	0.50	"	25.0		118	70-130			
1,1-Dichloroethene	28.9	0.057	0.50	"	25.0		116	70-130			
Toluene	26.6	0.056	0.50	"	25.0		106	70-130			
Trichloroethene (TCE)	29.6	0.024	0.50	"	25.0		118	70-130			
Surrogate: Dibromofluoromethane	*25.6*			"	*25.0*		*103*	*70-130*			
Surrogate: Toluene-d8	*25.1*			"	*25.0*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*28.1*			"	*25.0*		*113*	*70-130*			
LCS (A108320-BS2)					Prepared & Analyzed: 16-Aug-11						
TPH Gasoline (C4-C10)	529	20	50	ug/L	500		106	70-130			
Surrogate: Dibromofluoromethane	*25.5*			"	*25.0*		*102*	*70-130*			
Surrogate: Toluene-d8	*25.5*			"	*25.0*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*26.4*			"	*25.0*		*106*	*70-130*			
LCS Dup (A108320-BSD1)					Prepared & Analyzed: 16-Aug-11						
Benzene	25.4	0.031	0.50	ug/L	25.0		102	70-130	3.18	20	
Chlorobenzene	28.7	0.060	0.50	"	25.0		115	70-130	2.99	20	
1,1-Dichloroethene	28.5	0.057	0.50	"	25.0		114	70-130	1.64	20	
Toluene	26.6	0.056	0.50	"	25.0		106	70-130	0.188	20	
Trichloroethene (TCE)	29.0	0.024	0.50	"	25.0		116	70-130	2.05	20	
Surrogate: Dibromofluoromethane	*25.3*			"	*25.0*		*101*	*70-130*			
Surrogate: Toluene-d8	*25.5*			"	*25.0*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*27.6*			"	*25.0*		*110*	*70-130*			
LCS Dup (A108320-BSD2)					Prepared & Analyzed: 16-Aug-11						
TPH Gasoline (C4-C10)	495	20	50	ug/L	500		99.1	70-130	6.67	20	
Surrogate: Dibromofluoromethane	*25.5*			"	*25.0*		*102*	*70-130*			
Surrogate: Toluene-d8	*25.2*			"	*25.0*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*28.5*			"	*25.0*		*114*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108320 - EPA 5030B VOCGCMS											
Duplicate (A108320-DUP1)	**Source: 1103888-01**				Prepared & Analyzed: 16-Aug-11						
Benzene	ND	0.031	0.50	ug/L		ND				20	
Bromobenzene	ND	0.065	0.50	"		ND				20	
Bromochloromethane	ND	0.12	0.50	"		ND				20	
Bromodichloromethane	1.47	0.087	0.50	"		1.40			4.88	20	
Bromoform	ND	0.076	0.50	"		ND				20	
Bromomethane	ND	0.29	0.50	"		ND				20	
n-Butylbenzene	ND	0.071	0.50	"		ND				20	
sec-Butylbenzene	ND	0.067	0.50	"		ND				20	
tert-Butylbenzene	ND	0.076	0.50	"		ND				20	
Carbon tetrachloride	ND	0.054	0.50	"		ND				20	
Chlorobenzene	ND	0.060	0.50	"		ND				20	
Chloroethane	ND	0.17	0.50	"		ND				20	
Chloroform	3.07	0.12	0.50	"		3.12			1.62	20	
Chloromethane	ND	0.21	0.50	"		ND				20	
2-Chlorotoluene	ND	0.057	0.50	"		ND				20	
4-Chlorotoluene	ND	0.076	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"		ND				20	
Dibromochloromethane	ND	0.039	0.50	"		ND				20	
Dibromomethane	ND	0.11	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.11	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.061	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.057	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.16	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.057	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.046	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.057	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.063	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.071	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.081	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.056	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.087	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.074	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.075	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.062	0.50	"		ND				20	
Ethylbenzene	ND	0.060	0.50	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.083	0.50	"		ND				20	
Isopropylbenzene	ND	0.064	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.077	0.50	"		ND				20	
Methylene chloride	ND	0.21	1.0	"		ND				20	

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108320 - EPA 5030B VOCGCMS											
Duplicate (A108320-DUP1)	**Source: 1103888-01**			Prepared & Analyzed: 16-Aug-11							
Naphthalene	ND	0.23	0.50	ug/L		ND				20	
n-Propylbenzene	ND	0.086	0.50	"		ND				20	
Styrene	ND	0.057	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.057	0.50	"		ND				20	
Toluene	ND	0.056	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.17	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.15	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.060	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.11	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.024	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.044	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.093	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.053	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.064	0.50	"		ND				20	
Vinyl chloride	ND	0.053	0.50	"		ND				20	
Xylenes (total)	ND	0.13	0.50	"		ND				20	
t-Amyl Methyl Ether	ND	0.096	0.50	"		ND				20	
t-Butyl alcohol	ND	0.10	10	"		ND				20	
Diisopropyl Ether	ND	0.26	0.50	"		ND				20	
Ethanol	ND	140	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.096	0.50	"		ND				20	
Methyl-t-butyl ether	ND	0.096	0.50	"		ND				20	
TPH Gasoline (C4-C10)	ND	20	50	"		ND				20	
Surrogate: Dibromofluoromethane	*26.4*			*"*	*25.0*		*106*	*70-130*			
Surrogate: Toluene-d8	*25.0*			*"*	*25.0*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*27.0*			*"*	*25.0*		*108*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108320 - EPA 5030B VOCGCMS											
Matrix Spike (A108320-MS1)	**Source: 1103888-01**				Prepared & Analyzed: 16-Aug-11						
Benzene	26.0	0.031	0.50	ug/L	25.0	ND	104	70-130			
Chlorobenzene	29.1	0.060	0.50	"	25.0	ND	117	70-130			
1,1-Dichloroethene	28.0	0.057	0.50	"	25.0	ND	112	70-130			
Toluene	26.7	0.056	0.50	"	25.0	ND	107	70-130			
Trichloroethene (TCE)	29.5	0.024	0.50	"	25.0	ND	118	70-130			
Surrogate: Dibromofluoromethane	*26.0*			"	*25.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*25.4*			"	*25.0*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*28.5*			"	*25.0*		*114*	*70-130*			
Matrix Spike (A108320-MS2)	**Source: 1103888-01**				Prepared & Analyzed: 16-Aug-11						
TPH Gasoline (C4-C10)	549	20	50	ug/L	500	ND	110	70-130			
Surrogate: Dibromofluoromethane	*27.5*			"	*25.0*		*110*	*70-130*			
Surrogate: Toluene-d8	*26.0*			"	*25.0*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*28.3*			"	*25.0*		*113*	*70-130*			
Batch A108339 - EPA 5030B VOCGCMS											
Blank (A108339-BLK1)					Prepared & Analyzed: 16-Aug-11						
Benzene	ND	0.031	0.50	ug/L							
Bromobenzene	ND	0.065	0.50	"							
Bromochloromethane	ND	0.12	0.50	"							
Bromodichloromethane	ND	0.087	0.50	"							
Bromoform	ND	0.076	0.50	"							
Bromomethane	ND	0.29	0.50	"							
n-Butylbenzene	ND	0.071	0.50	"							
sec-Butylbenzene	ND	0.067	0.50	"							
tert-Butylbenzene	ND	0.076	0.50	"							
Carbon tetrachloride	ND	0.054	0.50	"							
Chlorobenzene	ND	0.060	0.50	"							
Chloroethane	ND	0.17	0.50	"							
Chloroform	ND	0.12	0.50	"							
Chloromethane	ND	0.21	0.50	"							
2-Chlorotoluene	ND	0.057	0.50	"							
4-Chlorotoluene	ND	0.076	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"							
Dibromochloromethane	ND	0.039	0.50	"							
Dibromomethane	ND	0.11	0.50	"							
1,2-Dichlorobenzene	ND	0.11	0.50	"							
1,3-Dichlorobenzene	ND	0.061	0.50	"							
1,4-Dichlorobenzene	ND	0.057	0.50	"							

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108339 - EPA 5030B VOCGCMS											
Blank (A108339-BLK1)					Prepared & Analyzed: 16-Aug-11						
Dichlorodifluoromethane	ND	0.16	0.50	ug/L							
1,1-Dichloroethane	ND	0.057	0.50	"							
1,2-Dichloroethane	ND	0.046	0.50	"							
1,1-Dichloroethene	ND	0.057	0.50	"							
cis-1,2-Dichloroethene	ND	0.063	0.50	"							
trans-1,2-Dichloroethene	ND	0.071	0.50	"							
1,2-Dichloropropane	ND	0.081	0.50	"							
1,3-Dichloropropane	ND	0.056	0.50	"							
2,2-Dichloropropane	ND	0.087	0.50	"							
1,1-Dichloropropene	ND	0.074	0.50	"							
cis-1,3-Dichloropropene	ND	0.075	0.50	"							
trans-1,3-Dichloropropene	ND	0.062	0.50	"							
Ethylbenzene	ND	0.060	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"							
Hexachlorobutadiene	ND	0.083	0.50	"							
Isopropylbenzene	ND	0.064	0.50	"							
4-Isopropyl Toluene	ND	0.077	0.50	"							
Methylene chloride	ND	0.21	1.0	"							
Naphthalene	ND	0.23	0.50	"							
n-Propylbenzene	ND	0.086	0.50	"							
Styrene	ND	0.057	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"							
Tetrachloroethene (PCE)	ND	0.057	0.50	"							
Toluene	ND	0.056	0.50	"							
1,2,3-Trichlorobenzene	ND	0.17	0.50	"							
1,2,4-Trichlorobenzene	ND	0.15	0.50	"							
1,1,1-Trichloroethane	ND	0.060	0.50	"							
1,1,2-Trichloroethane	ND	0.11	0.50	"							
Trichloroethene (TCE)	ND	0.024	0.50	"							
Trichlorofluoromethane	ND	0.044	0.50	"							
1,2,3-Trichloropropane	ND	0.093	0.50	"							
1,2,4-Trimethylbenzene	ND	0.053	0.50	"							
1,3,5-Trimethylbenzene	ND	0.064	0.50	"							
Vinyl chloride	ND	0.053	0.50	"							
Xylenes (total)	ND	0.13	0.50	"							
t-Amyl Methyl Ether	ND	0.096	0.50	"							
t-Butyl alcohol	ND	0.10	10	"							
Diisopropyl Ether	ND	0.26	0.50	"							
Ethanol	ND	140	500	"							

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108339 - EPA 5030B VOCGCMS											
Blank (A108339-BLK1)					Prepared & Analyzed: 16-Aug-11						
Ethyl t-Butyl Ether	ND	0.096	0.50	ug/L							
Methyl-t-butyl ether	ND	0.096	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*27.4*			*"*	*25.0*		*110*	*70-130*			
Surrogate: Toluene-d8	*25.6*			*"*	*25.0*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*23.0*			*"*	*25.0*		*92.1*	*70-130*			
LCS (A108339-BS1)					Prepared & Analyzed: 16-Aug-11						
Benzene	25.4	0.031	0.50	ug/L	25.0		101	70-130			
Chlorobenzene	29.1	0.060	0.50	"	25.0		116	70-130			
1,1-Dichloroethene	25.0	0.057	0.50	"	25.0		99.9	70-130			
Toluene	25.8	0.056	0.50	"	25.0		103	70-130			
Trichloroethene (TCE)	24.4	0.024	0.50	"	25.0		97.5	70-130			
Surrogate: Dibromofluoromethane	*26.9*			*"*	*25.0*		*108*	*70-130*			
Surrogate: Toluene-d8	*25.2*			*"*	*25.0*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*23.2*			*"*	*25.0*		*92.6*	*70-130*			
LCS (A108339-BS2)					Prepared & Analyzed: 16-Aug-11						
TPH Gasoline (C4-C10)	417	20	50	ug/L	500		83.4	70-130			
Surrogate: Dibromofluoromethane	*26.1*			*"*	*25.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*24.5*			*"*	*25.0*		*98.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*23.4*			*"*	*25.0*		*93.4*	*70-130*			
LCS Dup (A108339-BSD1)					Prepared & Analyzed: 16-Aug-11						
Benzene	24.8	0.031	0.50	ug/L	25.0		99.0	70-130	2.47	20	
Chlorobenzene	27.0	0.060	0.50	"	25.0		108	70-130	7.52	20	
1,1-Dichloroethene	25.1	0.057	0.50	"	25.0		101	70-130	0.599	20	
Toluene	24.7	0.056	0.50	"	25.0		98.6	70-130	4.60	20	
Trichloroethene (TCE)	23.7	0.024	0.50	"	25.0		94.7	70-130	2.87	20	
Surrogate: Dibromofluoromethane	*26.8*			*"*	*25.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*24.9*			*"*	*25.0*		*99.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*21.9*			*"*	*25.0*		*87.6*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108339 - EPA 5030B VOCGCMS											
LCS Dup (A108339-BSD2)					Prepared & Analyzed: 16-Aug-11						
TPH Gasoline (C4-C10)	419	20	50	ug/L	500		83.9	70-130	0.521	20	
Surrogate: Dibromofluoromethane	*26.4*			*"*	*25.0*		*106*	*70-130*			
Surrogate: Toluene-d8	*24.8*			*"*	*25.0*		*99.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*23.8*			*"*	*25.0*		*95.2*	*70-130*			
Duplicate (A108339-DUP1)	**Source: 1103892-01**				Prepared: 16-Aug-11 Analyzed: 17-Aug-11						
Benzene	ND	0.031	0.50	ug/L		ND				20	
Bromobenzene	ND	0.065	0.50	"		ND				20	
Bromochloromethane	ND	0.12	0.50	"		ND				20	
Bromodichloromethane	ND	0.087	0.50	"		ND				20	
Bromoform	ND	0.076	0.50	"		ND				20	
Bromomethane	ND	0.29	0.50	"		ND				20	
n-Butylbenzene	ND	0.071	0.50	"		ND				20	
sec-Butylbenzene	ND	0.067	0.50	"		ND				20	
tert-Butylbenzene	ND	0.076	0.50	"		ND				20	
Carbon tetrachloride	ND	0.054	0.50	"		ND				20	
Chlorobenzene	ND	0.060	0.50	"		ND				20	
Chloroethane	ND	0.17	0.50	"		ND				20	
Chloroform	ND	0.12	0.50	"		ND				20	
Chloromethane	ND	0.21	0.50	"		ND				20	
2-Chlorotoluene	ND	0.057	0.50	"		ND				20	
4-Chlorotoluene	ND	0.076	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"		ND				20	
Dibromochloromethane	ND	0.039	0.50	"		ND				20	
Dibromomethane	ND	0.11	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.11	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.061	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.057	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.16	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.057	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.046	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.057	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.063	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.071	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.081	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.056	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.087	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.074	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.075	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.062	0.50	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108339 - EPA 5030B VOCGCMS											
Duplicate (A108339-DUP1)	**Source: 1103892-01**			Prepared: 16-Aug-11 Analyzed: 17-Aug-11							
Ethylbenzene	ND	0.060	0.50	ug/L		ND				20	
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.083	0.50	"		ND				20	
Isopropylbenzene	ND	0.064	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.077	0.50	"		ND				20	
Methylene chloride	ND	0.21	1.0	"		ND				20	
Naphthalene	ND	0.23	0.50	"		ND				20	
n-Propylbenzene	ND	0.086	0.50	"		ND				20	
Styrene	ND	0.057	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.057	0.50	"		ND				20	
Toluene	ND	0.056	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.17	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.15	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.060	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.11	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.024	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.044	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.093	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.053	0.50	"		0.470				20	
1,3,5-Trimethylbenzene	ND	0.064	0.50	"		ND				20	
Vinyl chloride	ND	0.053	0.50	"		ND				20	
Xylenes (total)	ND	0.13	0.50	"		ND				20	
t-Amyl Methyl Ether	ND	0.096	0.50	"		ND				20	
t-Butyl alcohol	ND	0.10	10	"		ND				20	
Diisopropyl Ether	ND	0.26	0.50	"		ND				20	
Ethanol	ND	140	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.096	0.50	"		ND				20	
Methyl-t-butyl ether	ND	0.096	0.50	"		ND				20	
TPH Gasoline (C4-C10)	ND	20	50	"		ND				20	
Surrogate: Dibromofluoromethane	*27.6*			*"*	*25.0*		*110*	*70-130*			
Surrogate: Toluene-d8	*25.4*			*"*	*25.0*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*23.9*			*"*	*25.0*		*95.7*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108339 - EPA 5030B VOCGCMS											
Matrix Spike (A108339-MS1)	**Source: 1103892-01**				Prepared: 16-Aug-11 Analyzed: 17-Aug-11						
Benzene	24.8	0.031	0.50	ug/L	25.0	ND	99.4	70-130			
Chlorobenzene	27.4	0.060	0.50	"	25.0	ND	110	70-130			
1,1-Dichloroethene	24.3	0.057	0.50	"	25.0	ND	97.2	70-130			
Toluene	25.1	0.056	0.50	"	25.0	ND	101	70-130			
Trichloroethene (TCE)	24.2	0.024	0.50	"	25.0	ND	96.6	70-130			
Surrogate: Dibromofluoromethane	*26.8*			"	*25.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*25.0*			"	*25.0*		*99.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*22.5*			"	*25.0*		*89.9*	*70-130*			
Matrix Spike (A108339-MS2)	**Source: 1103892-01**				Prepared: 16-Aug-11 Analyzed: 17-Aug-11						
TPH Gasoline (C4-C10)	372	20	50	ug/L	500	ND	74.4	70-130			
Surrogate: Dibromofluoromethane	*27.3*			"	*25.0*		*109*	*70-130*			
Surrogate: Toluene-d8	*26.0*			"	*25.0*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*24.4*			"	*25.0*		*97.8*	*70-130*			
Batch A108350 - EPA 5030B VOCGCMS											
Blank (A108350-BLK1)					Prepared & Analyzed: 17-Aug-11						
Benzene	ND	0.031	0.50	ug/L							
Bromobenzene	ND	0.065	0.50	"							
Bromochloromethane	ND	0.12	0.50	"							
Bromodichloromethane	ND	0.087	0.50	"							
Bromoform	ND	0.076	0.50	"							
Bromomethane	ND	0.29	0.50	"							
n-Butylbenzene	ND	0.071	0.50	"							
sec-Butylbenzene	ND	0.067	0.50	"							
tert-Butylbenzene	ND	0.076	0.50	"							
Carbon tetrachloride	ND	0.054	0.50	"							
Chlorobenzene	ND	0.060	0.50	"							
Chloroethane	ND	0.17	0.50	"							
Chloroform	ND	0.12	0.50	"							
Chloromethane	ND	0.21	0.50	"							
2-Chlorotoluene	ND	0.057	0.50	"							
4-Chlorotoluene	ND	0.076	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"							
Dibromochloromethane	ND	0.039	0.50	"							
Dibromomethane	ND	0.11	0.50	"							
1,2-Dichlorobenzene	ND	0.11	0.50	"							
1,3-Dichlorobenzene	ND	0.061	0.50	"							
1,4-Dichlorobenzene	ND	0.057	0.50	"							

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108350 - EPA 5030B VOCGCMS											
Blank (A108350-BLK1)					Prepared & Analyzed: 17-Aug-11						
Dichlorodifluoromethane	ND	0.16	0.50	ug/L							
1,1-Dichloroethane	ND	0.057	0.50	"							
1,2-Dichloroethane	ND	0.046	0.50	"							
1,1-Dichloroethene	ND	0.057	0.50	"							
cis-1,2-Dichloroethene	ND	0.063	0.50	"							
trans-1,2-Dichloroethene	ND	0.071	0.50	"							
1,2-Dichloropropane	ND	0.081	0.50	"							
1,3-Dichloropropane	ND	0.056	0.50	"							
2,2-Dichloropropane	ND	0.087	0.50	"							
1,1-Dichloropropene	ND	0.074	0.50	"							
cis-1,3-Dichloropropene	ND	0.075	0.50	"							
trans-1,3-Dichloropropene	ND	0.062	0.50	"							
Ethylbenzene	ND	0.060	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"							
Hexachlorobutadiene	ND	0.083	0.50	"							
Isopropylbenzene	ND	0.064	0.50	"							
4-Isopropyl Toluene	ND	0.077	0.50	"							
Methylene chloride	ND	0.21	1.0	"							
Naphthalene	ND	0.23	0.50	"							
n-Propylbenzene	ND	0.086	0.50	"							
Styrene	ND	0.057	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"							
Tetrachloroethene (PCE)	ND	0.057	0.50	"							
Toluene	ND	0.056	0.50	"							
1,2,3-Trichlorobenzene	ND	0.17	0.50	"							
1,2,4-Trichlorobenzene	ND	0.15	0.50	"							
1,1,1-Trichloroethane	ND	0.060	0.50	"							
1,1,2-Trichloroethane	ND	0.11	0.50	"							
Trichloroethene (TCE)	ND	0.024	0.50	"							
Trichlorofluoromethane	ND	0.044	0.50	"							
1,2,3-Trichloropropane	ND	0.093	0.50	"							
1,2,4-Trimethylbenzene	ND	0.053	0.50	"							
1,3,5-Trimethylbenzene	ND	0.064	0.50	"							
Vinyl chloride	ND	0.053	0.50	"							
Xylenes (total)	ND	0.13	0.50	"							
t-Amyl Methyl Ether	ND	0.096	0.50	"							
t-Butyl alcohol	ND	0.10	10	"							
Diisopropyl Ether	ND	0.26	0.50	"							
Ethanol	ND	140	500	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108350 - EPA 5030B VOCGCMS											
Blank (A108350-BLK1)					Prepared & Analyzed: 17-Aug-11						
Ethyl t-Butyl Ether	ND	0.096	0.50	ug/L							
Methyl-t-butyl ether	ND	0.096	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*26.9*			*"*	*25.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*24.5*			*"*	*25.0*		*98.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*22.6*			*"*	*25.0*		*90.6*	*70-130*			
LCS (A108350-BS1)					Prepared & Analyzed: 17-Aug-11						
Benzene	24.5	0.031	0.50	ug/L	25.0		98.0	70-130			
Chlorobenzene	27.7	0.060	0.50	"	25.0		111	70-130			
1,1-Dichloroethene	24.7	0.057	0.50	"	25.0		98.8	70-130			
Toluene	24.9	0.056	0.50	"	25.0		99.6	70-130			
Trichloroethene (TCE)	23.2	0.024	0.50	"	25.0		92.7	70-130			
Surrogate: Dibromofluoromethane	*26.7*			*"*	*25.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*24.8*			*"*	*25.0*		*99.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*21.5*			*"*	*25.0*		*85.8*	*70-130*			
LCS (A108350-BS2)					Prepared & Analyzed: 17-Aug-11						
TPH Gasoline (C4-C10)	399	20	50	ug/L	500		79.8	70-130			
Surrogate: Dibromofluoromethane	*26.7*			*"*	*25.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*24.4*			*"*	*25.0*		*97.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*22.6*			*"*	*25.0*		*90.2*	*70-130*			
LCS Dup (A108350-BSD1)					Prepared & Analyzed: 17-Aug-11						
Benzene	25.1	0.031	0.50	ug/L	25.0		101	70-130	2.58	20	
Chlorobenzene	28.0	0.060	0.50	"	25.0		112	70-130	0.898	20	
1,1-Dichloroethene	25.8	0.057	0.50	"	25.0		103	70-130	4.32	20	
Toluene	25.4	0.056	0.50	"	25.0		102	70-130	1.99	20	
Trichloroethene (TCE)	24.0	0.024	0.50	"	25.0		96.2	70-130	3.64	20	
Surrogate: Dibromofluoromethane	*27.7*			*"*	*25.0*		*111*	*70-130*			
Surrogate: Toluene-d8	*25.2*			*"*	*25.0*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*21.7*			*"*	*25.0*		*86.9*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108350 - EPA 5030B VOCGCMS											
LCS Dup (A108350-BSD2)					Prepared & Analyzed: 17-Aug-11						
TPH Gasoline (C4-C10)	419	20	50	ug/L	500		83.9	70-130	4.96	20	
Surrogate: Dibromofluoromethane	*27.2*			*"*	*25.0*		*109*	*70-130*			
Surrogate: Toluene-d8	*24.6*			*"*	*25.0*		*98.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*22.2*			*"*	*25.0*		*88.8*	*70-130*			
Duplicate (A108350-DUP1)	**Source: 1103912-05**				Prepared & Analyzed: 17-Aug-11						
Benzene	ND	0.031	0.50	ug/L		ND				20	
Bromobenzene	ND	0.065	0.50	"		ND				20	
Bromochloromethane	ND	0.12	0.50	"		ND				20	
Bromodichloromethane	ND	0.087	0.50	"		ND				20	
Bromoform	ND	0.076	0.50	"		ND				20	
Bromomethane	ND	0.29	0.50	"		ND				20	
n-Butylbenzene	ND	0.071	0.50	"		ND				20	
sec-Butylbenzene	ND	0.067	0.50	"		ND				20	
tert-Butylbenzene	ND	0.076	0.50	"		ND				20	
Carbon tetrachloride	ND	0.054	0.50	"		ND				20	
Chlorobenzene	ND	0.060	0.50	"		ND				20	
Chloroethane	ND	0.17	0.50	"		ND				20	
Chloroform	ND	0.12	0.50	"		ND				20	
Chloromethane	ND	0.21	0.50	"		ND				20	
2-Chlorotoluene	ND	0.057	0.50	"		ND				20	
4-Chlorotoluene	ND	0.076	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"		ND				20	
Dibromochloromethane	ND	0.039	0.50	"		ND				20	
Dibromomethane	ND	0.11	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.11	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.061	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.057	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.16	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.057	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.046	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.057	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.063	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.071	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.081	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.056	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.087	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.074	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.075	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.062	0.50	"		ND				20	

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108350 - EPA 5030B VOCGCMS											
Duplicate (A108350-DUP1)	**Source: 1103912-05**			Prepared & Analyzed: 17-Aug-11							
Ethylbenzene	ND	0.060	0.50	ug/L		ND				20	
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.083	0.50	"		ND				20	
Isopropylbenzene	ND	0.064	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.077	0.50	"		ND				20	
Methylene chloride	ND	0.21	1.0	"		ND				20	
Naphthalene	ND	0.23	0.50	"		ND				20	
n-Propylbenzene	ND	0.086	0.50	"		ND				20	
Styrene	ND	0.057	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.057	0.50	"		ND				20	
Toluene	ND	0.056	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.17	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.15	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.060	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.11	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.024	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.044	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.093	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.053	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.064	0.50	"		ND				20	
Vinyl chloride	ND	0.053	0.50	"		ND				20	
Xylenes (total)	ND	0.13	0.50	"		ND				20	
t-Amyl Methyl Ether	ND	0.096	0.50	"		ND				20	
t-Butyl alcohol	ND	0.10	10	"		ND				20	
Diisopropyl Ether	ND	0.26	0.50	"		ND				20	
Ethanol	ND	140	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.096	0.50	"		ND				20	
Methyl-t-butyl ether	ND	0.096	0.50	"		ND				20	
TPH Gasoline (C4-C10)	ND	20	50	"		ND				20	
Surrogate: Dibromofluoromethane	*28.4*			*"*	*25.0*		*113*	*70-130*			
Surrogate: Toluene-d8	*25.7*			*"*	*25.0*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*23.6*			*"*	*25.0*		*94.3*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108350 - EPA 5030B VOCGCMS											
Matrix Spike (A108350-MS1)	**Source: 1103912-05**				Prepared: 17-Aug-11 Analyzed: 18-Aug-11						
Benzene	26.4	0.031	0.50	ug/L	25.0	ND	106	70-130			
Chlorobenzene	29.6	0.060	0.50	"	25.0	ND	118	70-130			
1,1-Dichloroethene	26.0	0.057	0.50	"	25.0	ND	104	70-130			
Toluene	27.3	0.056	0.50	"	25.0	ND	109	70-130			
Trichloroethene (TCE)	25.4	0.024	0.50	"	25.0	ND	102	70-130			
Surrogate: Dibromofluoromethane	*28.6*			*"*	*25.0*		*114*	*70-130*			
Surrogate: Toluene-d8	*26.6*			*"*	*25.0*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*23.6*			*"*	*25.0*		*94.2*	*70-130*			
Matrix Spike (A108350-MS2)	**Source: 1103912-05**				Prepared: 17-Aug-11 Analyzed: 18-Aug-11						
TPH Gasoline (C4-C10)	388	20	50	ug/L	500	ND	77.6	70-130			
Surrogate: Dibromofluoromethane	*26.4*			*"*	*25.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*25.4*			*"*	*25.0*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*23.1*			*"*	*25.0*		*92.5*	*70-130*			
Batch A108369 - EPA 5030B VOCGCMS											
Blank (A108369-BLK1)					Prepared & Analyzed: 18-Aug-11						
Benzene	ND	0.031	0.50	ug/L							
Bromobenzene	ND	0.065	0.50	"							
Bromochloromethane	ND	0.12	0.50	"							
Bromodichloromethane	ND	0.087	0.50	"							
Bromoform	ND	0.076	0.50	"							
Bromomethane	ND	0.29	0.50	"							
n-Butylbenzene	ND	0.071	0.50	"							
sec-Butylbenzene	ND	0.067	0.50	"							
tert-Butylbenzene	ND	0.076	0.50	"							
Carbon tetrachloride	ND	0.054	0.50	"							
Chlorobenzene	ND	0.060	0.50	"							
Chloroethane	ND	0.17	0.50	"							
Chloroform	ND	0.12	0.50	"							
Chloromethane	ND	0.21	0.50	"							
2-Chlorotoluene	ND	0.057	0.50	"							
4-Chlorotoluene	ND	0.076	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"							
Dibromochloromethane	ND	0.039	0.50	"							
Dibromomethane	ND	0.11	0.50	"							
1,2-Dichlorobenzene	ND	0.11	0.50	"							
1,3-Dichlorobenzene	ND	0.061	0.50	"							
1,4-Dichlorobenzene	ND	0.057	0.50	"							

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108369 - EPA 5030B VOCGCMS											
Blank (A108369-BLK1)					Prepared & Analyzed: 18-Aug-11						
Dichlorodifluoromethane	ND	0.16	0.50	ug/L							
1,1-Dichloroethane	ND	0.057	0.50	"							
1,2-Dichloroethane	ND	0.046	0.50	"							
1,1-Dichloroethene	ND	0.057	0.50	"							
cis-1,2-Dichloroethene	ND	0.063	0.50	"							
trans-1,2-Dichloroethene	ND	0.071	0.50	"							
1,2-Dichloropropane	ND	0.081	0.50	"							
1,3-Dichloropropane	ND	0.056	0.50	"							
2,2-Dichloropropane	ND	0.087	0.50	"							
1,1-Dichloropropene	ND	0.074	0.50	"							
cis-1,3-Dichloropropene	ND	0.075	0.50	"							
trans-1,3-Dichloropropene	ND	0.062	0.50	"							
Ethylbenzene	ND	0.060	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"							
Hexachlorobutadiene	ND	0.083	0.50	"							
Isopropylbenzene	ND	0.064	0.50	"							
4-Isopropyl Toluene	ND	0.077	0.50	"							
Methylene chloride	ND	0.21	1.0	"							
Naphthalene	ND	0.23	0.50	"							
n-Propylbenzene	ND	0.086	0.50	"							
Styrene	ND	0.057	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"							
Tetrachloroethene (PCE)	ND	0.057	0.50	"							
Toluene	ND	0.056	0.50	"							
1,2,3-Trichlorobenzene	ND	0.17	0.50	"							
1,2,4-Trichlorobenzene	ND	0.15	0.50	"							
1,1,1-Trichloroethane	ND	0.060	0.50	"							
1,1,2-Trichloroethane	ND	0.11	0.50	"							
Trichloroethene (TCE)	ND	0.024	0.50	"							
Trichlorofluoromethane	ND	0.044	0.50	"							
1,2,3-Trichloropropane	ND	0.093	0.50	"							
1,2,4-Trimethylbenzene	ND	0.053	0.50	"							
1,3,5-Trimethylbenzene	ND	0.064	0.50	"							
Vinyl chloride	ND	0.053	0.50	"							
Xylenes (total)	ND	0.13	0.50	"							
t-Amyl Methyl Ether	ND	0.096	0.50	"							
t-Butyl alcohol	ND	0.10	10	"							
Diisopropyl Ether	ND	0.26	0.50	"							
Ethanol	ND	140	500	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108369 - EPA 5030B VOCGCMS											
Blank (A108369-BLK1)					Prepared & Analyzed: 18-Aug-11						
Ethyl t-Butyl Ether	ND	0.096	0.50	ug/L							
Methyl-t-butyl ether	ND	0.096	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*27.0*			*"*	*25.0*		*108*	*70-130*			
Surrogate: Toluene-d8	*24.1*			*"*	*25.0*		*96.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*21.9*			*"*	*25.0*		*87.7*	*70-130*			
LCS (A108369-BS1)					Prepared & Analyzed: 18-Aug-11						
Benzene	25.0	0.031	0.50	ug/L	25.0		100	70-130			
Chlorobenzene	28.3	0.060	0.50	"	25.0		113	70-130			
1,1-Dichloroethene	26.8	0.057	0.50	"	25.0		107	70-130			
Toluene	25.5	0.056	0.50	"	25.0		102	70-130			
Trichloroethene (TCE)	24.5	0.024	0.50	"	25.0		98.0	70-130			
Surrogate: Dibromofluoromethane	*27.7*			*"*	*25.0*		*111*	*70-130*			
Surrogate: Toluene-d8	*24.9*			*"*	*25.0*		*99.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*21.8*			*"*	*25.0*		*87.3*	*70-130*			
LCS (A108369-BS2)					Prepared & Analyzed: 18-Aug-11						
TPH Gasoline (C4-C10)	418	20	50	ug/L	500		83.6	70-130			
Surrogate: Dibromofluoromethane	*26.5*			*"*	*25.0*		*106*	*70-130*			
Surrogate: Toluene-d8	*24.2*			*"*	*25.0*		*97.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*22.0*			*"*	*25.0*		*88.2*	*70-130*			
LCS Dup (A108369-BSD1)					Prepared & Analyzed: 18-Aug-11						
Benzene	24.9	0.031	0.50	ug/L	25.0		99.8	70-130	0.240	20	
Chlorobenzene	28.2	0.060	0.50	"	25.0		113	70-130	0.248	20	
1,1-Dichloroethene	25.6	0.057	0.50	"	25.0		102	70-130	4.47	20	
Toluene	25.4	0.056	0.50	"	25.0		101	70-130	0.472	20	
Trichloroethene (TCE)	24.5	0.024	0.50	"	25.0		98.1	70-130	0.163	20	
Surrogate: Dibromofluoromethane	*27.7*			*"*	*25.0*		*111*	*70-130*			
Surrogate: Toluene-d8	*25.3*			*"*	*25.0*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*22.3*			*"*	*25.0*		*89.2*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108369 - EPA 5030B VOCGCMS											
LCS Dup (A108369-BSD2)					Prepared & Analyzed: 18-Aug-11						
TPH Gasoline (C4-C10)	405	20	50	ug/L	500		80.9	70-130	3.25	20	
Surrogate: Dibromofluoromethane	*26.3*			*"*	*25.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*24.3*			*"*	*25.0*		*97.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*22.3*			*"*	*25.0*		*89.2*	*70-130*			
Duplicate (A108369-DUP1)	**Source: 1103913-07**				Prepared & Analyzed: 18-Aug-11						
Benzene	ND	0.031	0.50	ug/L		ND				20	
Bromobenzene	ND	0.065	0.50	"		ND				20	
Bromochloromethane	ND	0.12	0.50	"		ND				20	
Bromodichloromethane	ND	0.087	0.50	"		ND				20	
Bromoform	ND	0.076	0.50	"		ND				20	
Bromomethane	ND	0.29	0.50	"		ND				20	
n-Butylbenzene	ND	0.071	0.50	"		ND				20	
sec-Butylbenzene	ND	0.067	0.50	"		ND				20	
tert-Butylbenzene	ND	0.076	0.50	"		ND				20	
Carbon tetrachloride	8.82	0.054	0.50	"		9.26			4.87	20	
Chlorobenzene	ND	0.060	0.50	"		ND				20	
Chloroethane	ND	0.17	0.50	"		ND				20	
Chloroform	1.80	0.12	0.50	"		1.88			4.35	20	
Chloromethane	ND	0.21	0.50	"		ND				20	
2-Chlorotoluene	ND	0.057	0.50	"		ND				20	
4-Chlorotoluene	ND	0.076	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"		ND				20	
Dibromochloromethane	ND	0.039	0.50	"		ND				20	
Dibromomethane	ND	0.11	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.11	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.061	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.057	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.16	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.057	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.046	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.057	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.063	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.071	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.081	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.056	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.087	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.074	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.075	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.062	0.50	"		ND				20	

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108369 - EPA 5030B VOCGCMS											
Duplicate (A108369-DUP1)	**Source: 1103913-07**			Prepared & Analyzed: 18-Aug-11							
Ethylbenzene	ND	0.060	0.50	ug/L		ND				20	
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.083	0.50	"		ND				20	
Isopropylbenzene	ND	0.064	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.077	0.50	"		ND				20	
Methylene chloride	ND	0.21	1.0	"		ND				20	
Naphthalene	ND	0.23	0.50	"		ND				20	
n-Propylbenzene	ND	0.086	0.50	"		ND				20	
Styrene	ND	0.057	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.057	0.50	"		ND				20	
Toluene	ND	0.056	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.17	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.15	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.060	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.11	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.024	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.044	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.093	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.053	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.064	0.50	"		ND				20	
Vinyl chloride	ND	0.053	0.50	"		ND				20	
Xylenes (total)	ND	0.13	0.50	"		ND				20	
t-Amyl Methyl Ether	ND	0.096	0.50	"		ND				20	
t-Butyl alcohol	ND	0.10	10	"		ND				20	
Diisopropyl Ether	ND	0.26	0.50	"		ND				20	
Ethanol	ND	140	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.096	0.50	"		ND				20	
Methyl-t-butyl ether	ND	0.096	0.50	"		ND				20	
TPH Gasoline (C4-C10)	ND	20	50	"		ND				20	
Surrogate: Dibromofluoromethane	*27.8*			*"*	*25.0*		*111*	*70-130*			
Surrogate: Toluene-d8	*24.8*			*"*	*25.0*		*99.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*23.2*			*"*	*25.0*		*92.7*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108369 - EPA 5030B VOCGCMS											
Matrix Spike (A108369-MS1)	**Source: 1103913-07**				Prepared & Analyzed: 18-Aug-11						
Benzene	29.9	0.031	0.50	ug/L	25.0	ND	120	70-130			
Chlorobenzene	29.5	0.060	0.50	"	25.0	ND	118	70-130			
1,1-Dichloroethene	26.2	0.057	0.50	"	25.0	ND	105	70-130			
Toluene	26.9	0.056	0.50	"	25.0	ND	107	70-130			
Trichloroethene (TCE)	25.6	0.024	0.50	"	25.0	ND	102	70-130			
Surrogate: Dibromofluoromethane	*28.8*			"	*25.0*		*115*	*70-130*			
Surrogate: Toluene-d8	*25.5*			"	*25.0*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*24.0*			"	*25.0*		*95.8*	*70-130*			
Matrix Spike (A108369-MS2)	**Source: 1103913-07**				Prepared & Analyzed: 18-Aug-11						
TPH Gasoline (C4-C10)	403	20	50	ug/L	500	ND	80.7	70-130			
Surrogate: Dibromofluoromethane	*27.7*			"	*25.0*		*111*	*70-130*			
Surrogate: Toluene-d8	*25.3*			"	*25.0*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*24.3*			"	*25.0*		*97.2*	*70-130*			
Batch A108415 - EPA 5030B VOCGCMS											
Blank (A108415-BLK1)					Prepared & Analyzed: 20-Aug-11						
Benzene	ND	0.031	0.50	ug/L							
Bromobenzene	ND	0.065	0.50	"							
Bromochloromethane	ND	0.12	0.50	"							
Bromodichloromethane	ND	0.087	0.50	"							
Bromoform	ND	0.076	0.50	"							
Bromomethane	ND	0.29	0.50	"							
n-Butylbenzene	ND	0.071	0.50	"							
sec-Butylbenzene	ND	0.067	0.50	"							
tert-Butylbenzene	ND	0.076	0.50	"							
Carbon tetrachloride	ND	0.054	0.50	"							
Chlorobenzene	ND	0.060	0.50	"							
Chloroethane	ND	0.17	0.50	"							
Chloroform	ND	0.12	0.50	"							
Chloromethane	ND	0.21	0.50	"							
2-Chlorotoluene	ND	0.057	0.50	"							
4-Chlorotoluene	ND	0.076	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"							
Dibromochloromethane	ND	0.039	0.50	"							
Dibromomethane	ND	0.11	0.50	"							
1,2-Dichlorobenzene	ND	0.11	0.50	"							
1,3-Dichlorobenzene	ND	0.061	0.50	"							
1,4-Dichlorobenzene	ND	0.057	0.50	"							

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108415 - EPA 5030B VOCGCMS											
Blank (A108415-BLK1)					Prepared & Analyzed: 20-Aug-11						
Dichlorodifluoromethane	ND	0.16	0.50	ug/L							
1,1-Dichloroethane	ND	0.057	0.50	"							
1,2-Dichloroethane	ND	0.046	0.50	"							
1,1-Dichloroethene	ND	0.057	0.50	"							
cis-1,2-Dichloroethene	ND	0.063	0.50	"							
trans-1,2-Dichloroethene	ND	0.071	0.50	"							
1,2-Dichloropropane	ND	0.081	0.50	"							
1,3-Dichloropropane	ND	0.056	0.50	"							
2,2-Dichloropropane	ND	0.087	0.50	"							
1,1-Dichloropropene	ND	0.074	0.50	"							
cis-1,3-Dichloropropene	ND	0.075	0.50	"							
trans-1,3-Dichloropropene	ND	0.062	0.50	"							
Ethylbenzene	ND	0.060	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"							
Hexachlorobutadiene	ND	0.083	0.50	"							
Isopropylbenzene	ND	0.064	0.50	"							
4-Isopropyl Toluene	ND	0.077	0.50	"							
Methylene chloride	ND	0.21	1.0	"							
Naphthalene	ND	0.23	0.50	"							
n-Propylbenzene	ND	0.086	0.50	"							
Styrene	ND	0.057	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"							
Tetrachloroethene (PCE)	ND	0.057	0.50	"							
Toluene	ND	0.056	0.50	"							
1,2,3-Trichlorobenzene	ND	0.17	0.50	"							
1,2,4-Trichlorobenzene	ND	0.15	0.50	"							
1,1,1-Trichloroethane	ND	0.060	0.50	"							
1,1,2-Trichloroethane	ND	0.11	0.50	"							
Trichloroethene (TCE)	ND	0.024	0.50	"							
Trichlorofluoromethane	ND	0.044	0.50	"							
1,2,3-Trichloropropane	ND	0.093	0.50	"							
1,2,4-Trimethylbenzene	ND	0.053	0.50	"							
1,3,5-Trimethylbenzene	ND	0.064	0.50	"							
Vinyl chloride	ND	0.053	0.50	"							
Xylenes (total)	ND	0.13	0.50	"							
t-Amyl Methyl Ether	ND	0.096	0.50	"							
t-Butyl alcohol	ND	0.10	10	"							
Diisopropyl Ether	ND	0.26	0.50	"							
Ethanol	ND	140	500	"							

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108415 - EPA 5030B VOCGCMS											
Blank (A108415-BLK1)					Prepared & Analyzed: 20-Aug-11						
Ethyl t-Butyl Ether	ND	0.096	0.50	ug/L							
Methyl-t-butyl ether	ND	0.096	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*27.4*			*"*	*25.0*		*110*	*70-130*			
Surrogate: Toluene-d8	*25.1*			*"*	*25.0*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*22.2*			*"*	*25.0*		*88.7*	*70-130*			
LCS (A108415-BS1)					Prepared & Analyzed: 20-Aug-11						
Benzene	25.0	0.031	0.50	ug/L	25.0		100	70-130			
Chlorobenzene	28.5	0.060	0.50	"	25.0		114	70-130			
1,1-Dichloroethene	25.5	0.057	0.50	"	25.0		102	70-130			
Toluene	25.3	0.056	0.50	"	25.0		101	70-130			
Trichloroethene (TCE)	24.2	0.024	0.50	"	25.0		96.8	70-130			
Surrogate: Dibromofluoromethane	*26.3*			*"*	*25.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*24.6*			*"*	*25.0*		*98.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*21.9*			*"*	*25.0*		*87.6*	*70-130*			
LCS (A108415-BS2)					Prepared & Analyzed: 20-Aug-11						
TPH Gasoline (C4-C10)	419	20	50	ug/L	500		83.8	70-130			
Surrogate: Dibromofluoromethane	*26.8*			*"*	*25.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*23.9*			*"*	*25.0*		*95.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*22.6*			*"*	*25.0*		*90.3*	*70-130*			
LCS Dup (A108415-BSD1)					Prepared & Analyzed: 20-Aug-11						
Benzene	25.1	0.031	0.50	ug/L	25.0		100	70-130	0.199	20	
Chlorobenzene	28.5	0.060	0.50	"	25.0		114	70-130	0.0702	20	
1,1-Dichloroethene	25.8	0.057	0.50	"	25.0		103	70-130	1.25	20	
Toluene	25.9	0.056	0.50	"	25.0		104	70-130	2.34	20	
Trichloroethene (TCE)	24.4	0.024	0.50	"	25.0		97.4	70-130	0.577	20	
Surrogate: Dibromofluoromethane	*26.0*			*"*	*25.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*24.1*			*"*	*25.0*		*96.5*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*21.2*			*"*	*25.0*		*84.8*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108415 - EPA 5030B VOCGCMS											
LCS Dup (A108415-BSD2)					Prepared & Analyzed: 20-Aug-11						
TPH Gasoline (C4-C10)	419	20	50	ug/L	500		83.7	70-130	0.0931	20	
Surrogate: Dibromofluoromethane	*25.7*			*"*	*25.0*		*103*	*70-130*			
Surrogate: Toluene-d8	*24.6*			*"*	*25.0*		*98.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*22.6*			*"*	*25.0*		*90.2*	*70-130*			
Duplicate (A108415-DUP1)	**Source: 1103977-03RE1**				Prepared & Analyzed: 20-Aug-11						
Benzene	ND	0.031	0.50	ug/L		ND				20	
Bromobenzene	ND	0.065	0.50	"		ND				20	
Bromochloromethane	ND	0.12	0.50	"		ND				20	
Bromodichloromethane	ND	0.087	0.50	"		ND				20	
Bromoform	ND	0.076	0.50	"		ND				20	
Bromomethane	ND	0.29	0.50	"		ND				20	
n-Butylbenzene	ND	0.071	0.50	"		ND				20	
sec-Butylbenzene	ND	0.067	0.50	"		ND				20	
tert-Butylbenzene	ND	0.076	0.50	"		ND				20	
Carbon tetrachloride	ND	0.054	0.50	"		ND				20	
Chlorobenzene	ND	0.060	0.50	"		ND				20	
Chloroethane	ND	0.17	0.50	"		ND				20	
Chloroform	ND	0.12	0.50	"		ND				20	
Chloromethane	ND	0.21	0.50	"		ND				20	
2-Chlorotoluene	ND	0.057	0.50	"		ND				20	
4-Chlorotoluene	ND	0.076	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"		ND				20	
Dibromochloromethane	ND	0.039	0.50	"		ND				20	
Dibromomethane	ND	0.11	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.11	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.061	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.057	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.16	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.057	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.046	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.057	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.063	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.071	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.081	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.056	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.087	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.074	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.075	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.062	0.50	"		ND				20	

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108415 - EPA 5030B VOCGCMS											
Duplicate (A108415-DUP1)	**Source: 1103977-03RE1**			Prepared & Analyzed: 20-Aug-11							
Ethylbenzene	ND	0.060	0.50	ug/L		ND				20	
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.083	0.50	"		ND				20	
Isopropylbenzene	ND	0.064	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.077	0.50	"		ND				20	
Methylene chloride	ND	0.21	1.0	"		ND				20	
Naphthalene	ND	0.23	0.50	"		ND				20	
n-Propylbenzene	ND	0.086	0.50	"		ND				20	
Styrene	ND	0.057	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.057	0.50	"		ND				20	
Toluene	ND	0.056	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.17	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.15	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.060	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.11	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.024	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.044	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.093	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.053	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.064	0.50	"		ND				20	
Vinyl chloride	ND	0.053	0.50	"		ND				20	
Xylenes (total)	ND	0.13	0.50	"		ND				20	
t-Amyl Methyl Ether	ND	0.096	0.50	"		ND				20	
t-Butyl alcohol	ND	0.10	10	"		ND				20	
Diisopropyl Ether	ND	0.26	0.50	"		ND				20	
Ethanol	ND	140	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.096	0.50	"		ND				20	
Methyl-t-butyl ether	ND	0.096	0.50	"		ND				20	
TPH Gasoline (C4-C10)	ND	20	50	"		ND				20	
Surrogate: Dibromofluoromethane	*28.7*			*"*	*25.0*		*115*	*70-130*			
Surrogate: Toluene-d8	*26.4*			*"*	*25.0*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*23.8*			*"*	*25.0*		*95.1*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108415 - EPA 5030B VOCGCMS											
Matrix Spike (A108415-MS1)	**Source: 1103977-03RE1**				Prepared & Analyzed: 20-Aug-11						
Benzene	25.0	0.031	0.50	ug/L	25.0	ND	100	70-130			
Chlorobenzene	28.5	0.060	0.50	"	25.0	ND	114	70-130			
1,1-Dichloroethene	24.2	0.057	0.50	"	25.0	ND	96.7	70-130			
Toluene	26.5	0.056	0.50	"	25.0	ND	106	70-130			
Trichloroethene (TCE)	24.6	0.024	0.50	"	25.0	ND	98.3	70-130			
Surrogate: Dibromofluoromethane	*26.3*			"	*25.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*25.0*			"	*25.0*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*23.4*			"	*25.0*		*93.7*	*70-130*			
Matrix Spike (A108415-MS2)	**Source: 1103977-03RE1**				Prepared & Analyzed: 20-Aug-11						
TPH Gasoline (C4-C10)	397	20	50	ug/L	500	ND	79.5	70-130			
Surrogate: Dibromofluoromethane	*27.7*			"	*25.0*		*111*	*70-130*			
Surrogate: Toluene-d8	*26.9*			"	*25.0*		*108*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*25.4*			"	*25.0*		*102*	*70-130*			
Batch A108432 - EPA 5030B VOCGCMS											
Blank (A108432-BLK1)					Prepared & Analyzed: 22-Aug-11						
Benzene	ND	0.031	0.50	ug/L							
Bromobenzene	ND	0.065	0.50	"							
Bromochloromethane	ND	0.12	0.50	"							
Bromodichloromethane	ND	0.087	0.50	"							
Bromoform	ND	0.076	0.50	"							
Bromomethane	ND	0.29	0.50	"							
n-Butylbenzene	ND	0.071	0.50	"							
sec-Butylbenzene	ND	0.067	0.50	"							
tert-Butylbenzene	ND	0.076	0.50	"							
Carbon tetrachloride	ND	0.054	0.50	"							
Chlorobenzene	ND	0.060	0.50	"							
Chloroethane	ND	0.17	0.50	"							
Chloroform	ND	0.12	0.50	"							
Chloromethane	ND	0.21	0.50	"							
2-Chlorotoluene	ND	0.057	0.50	"							
4-Chlorotoluene	ND	0.076	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.13	0.50	"							
Dibromochloromethane	ND	0.039	0.50	"							
Dibromomethane	ND	0.11	0.50	"							
1,2-Dichlorobenzene	ND	0.11	0.50	"							
1,3-Dichlorobenzene	ND	0.061	0.50	"							
1,4-Dichlorobenzene	ND	0.057	0.50	"							

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108432 - EPA 5030B VOCGCMS											
Blank (A108432-BLK1)					Prepared & Analyzed: 22-Aug-11						
Dichlorodifluoromethane	ND	0.16	0.50	ug/L							
1,1-Dichloroethane	ND	0.057	0.50	"							
1,2-Dichloroethane	ND	0.046	0.50	"							
1,1-Dichloroethene	ND	0.057	0.50	"							
cis-1,2-Dichloroethene	ND	0.063	0.50	"							
trans-1,2-Dichloroethene	ND	0.071	0.50	"							
1,2-Dichloropropane	ND	0.081	0.50	"							
1,3-Dichloropropane	ND	0.056	0.50	"							
2,2-Dichloropropane	ND	0.087	0.50	"							
1,1-Dichloropropene	ND	0.074	0.50	"							
cis-1,3-Dichloropropene	ND	0.075	0.50	"							
trans-1,3-Dichloropropene	ND	0.062	0.50	"							
Ethylbenzene	ND	0.060	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.056	0.50	"							
Hexachlorobutadiene	ND	0.083	0.50	"							
Isopropylbenzene	ND	0.064	0.50	"							
4-Isopropyl Toluene	ND	0.077	0.50	"							
Methylene chloride	ND	0.21	1.0	"							
Naphthalene	ND	0.23	0.50	"							
n-Propylbenzene	ND	0.086	0.50	"							
Styrene	ND	0.057	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.062	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.079	0.50	"							
Tetrachloroethene (PCE)	ND	0.057	0.50	"							
Toluene	ND	0.056	0.50	"							
1,2,3-Trichlorobenzene	ND	0.17	0.50	"							
1,2,4-Trichlorobenzene	ND	0.15	0.50	"							
1,1,1-Trichloroethane	ND	0.060	0.50	"							
1,1,2-Trichloroethane	ND	0.11	0.50	"							
Trichloroethene (TCE)	ND	0.024	0.50	"							
Trichlorofluoromethane	ND	0.044	0.50	"							
1,2,3-Trichloropropane	ND	0.093	0.50	"							
1,2,4-Trimethylbenzene	ND	0.053	0.50	"							
1,3,5-Trimethylbenzene	ND	0.064	0.50	"							
Vinyl chloride	ND	0.053	0.50	"							
Xylenes (total)	ND	0.13	0.50	"							
t-Amyl Methyl Ether	ND	0.096	0.50	"							
t-Butyl alcohol	ND	0.10	10	"							
Diisopropyl Ether	ND	0.26	0.50	"							
Ethanol	ND	140	500	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108432 - EPA 5030B VOCGCMS											
Blank (A108432-BLK1)					Prepared & Analyzed: 22-Aug-11						
Ethyl t-Butyl Ether	ND	0.096	0.50	ug/L							
Methyl-t-butyl ether	ND	0.096	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*26.5*			*"*	*25.0*		*106*	*70-130*			
Surrogate: Toluene-d8	*24.7*			*"*	*25.0*		*98.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*21.7*			*"*	*25.0*		*86.9*	*70-130*			
LCS (A108432-BS1)					Prepared & Analyzed: 22-Aug-11						
Benzene	23.7	0.031	0.50	ug/L	25.0		94.9	70-130			
Chlorobenzene	27.3	0.060	0.50	"	25.0		109	70-130			
1,1-Dichloroethene	24.6	0.057	0.50	"	25.0		98.4	70-130			
Toluene	24.8	0.056	0.50	"	25.0		99.0	70-130			
Trichloroethene (TCE)	23.4	0.024	0.50	"	25.0		93.4	70-130			
Surrogate: Dibromofluoromethane	*25.4*			*"*	*25.0*		*102*	*70-130*			
Surrogate: Toluene-d8	*23.7*			*"*	*25.0*		*94.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*21.7*			*"*	*25.0*		*86.8*	*70-130*			
LCS (A108432-BS2)					Prepared & Analyzed: 22-Aug-11						
TPH Gasoline (C4-C10)	375	20	50	ug/L	500		74.9	70-130			
Surrogate: Dibromofluoromethane	*25.2*			*"*	*25.0*		*101*	*70-130*			
Surrogate: Toluene-d8	*23.6*			*"*	*25.0*		*94.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*23.0*			*"*	*25.0*		*92.0*	*70-130*			
LCS Dup (A108432-BSD1)					Prepared & Analyzed: 22-Aug-11						
Benzene	23.9	0.031	0.50	ug/L	25.0		95.8	70-130	0.923	20	
Chlorobenzene	27.0	0.060	0.50	"	25.0		108	70-130	0.994	20	
1,1-Dichloroethene	25.4	0.057	0.50	"	25.0		102	70-130	3.28	20	
Toluene	24.3	0.056	0.50	"	25.0		97.2	70-130	1.88	20	
Trichloroethene (TCE)	23.4	0.024	0.50	"	25.0		93.8	70-130	0.427	20	
Surrogate: Dibromofluoromethane	*25.4*			*"*	*25.0*		*102*	*70-130*			
Surrogate: Toluene-d8	*23.7*			*"*	*25.0*		*94.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*21.1*			*"*	*25.0*		*84.4*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A108432 - EPA 5030B VOCGCMS											
LCS Dup (A108432-BSD2)					Prepared & Analyzed: 22-Aug-11						
TPH Gasoline (C4-C10)	374	20	50	ug/L	500		74.8	70-130	0.195	20	
Surrogate: Dibromofluoromethane	*25.3*			*"*	*25.0*		*101*	*70-130*			
Surrogate: Toluene-d8	*23.9*			*"*	*25.0*		*95.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*21.7*			*"*	*25.0*		*86.9*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Cliff Area Characterization Activities	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	23-Aug-11 16:22

Notes and Definitions

QR-04	The RPD exceeded the QC control limits.
J	Detected but below the RL/PQL; therefore, result is an estimated concentration .
B-06	The method blank contains analyte at a concentration above the RL/PQL.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the Method Limit (MDL)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTC

Client Name/Account #: Padre Associates, Inc.

Address: 369 Pacific Street

City/State/Zip: San Luis Obispo, California 93401

Telephone Number: 805.786.2650 Fax No.: 805.786.2651

Project No. / Name: 0801-0896: Former Unocal Avila Terminal - Cliff Area Characterization Activities

Report To: Louis Cappel (lcappel@padreinc.com)

Sampler: Hayley Overton, Adam Aiello

Invoice To: CEMC
Kyle Rutherford

AFE/WBS#:

SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: 8270- TPH C10-C25, C25-C40 by GC/MS	8260- TPH C4-C10, VOCs & Oxys	8270C-SIM- PAHs	6000/7000- Dissolved Metals					NOTES
AT-B-223-88	8-12-11	1313	4	Ag	~~HCl~~ None	~~VOA~~ AG	X	X							1103877-1A-D
AT-B-224	8-10-11	1515	6	Ag	~~HCl~~ None	VOA, PE, AG	X	X	X	X					2A-F
AT-B-225	8-11-11	1016	↓	↓	↓	↓	X	X	X	X					3A-F
AT-B-226	8-11-11	1236					X	X	X	X					4A-F
AT-B-230	8-12-11	1014					X	X	X	X					5A-F
AT-B-231	8-12-11	1505					X	X	X	X					6A-F
DUP	8-11-11	0900					X	X	X	X					7A-F
EB	8-12-11	1405	↓		↓	↓	X	X	X	X					8A-F
TB-080811-01	8-10-11	—	1		HCl	VOA	~~X~~	X	~~X~~	~~X~~					9A
TB-080811-02	8-10-11	—	1	↓	HCl	VOA		X							10A

Received @ 5°C

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	8/12/11	1652	[signature]	8-12-11	1652
Relinquished by:	Date	Time	Received by:	Date	Time

Turn Around Time (Check)

same day		72 hours	
24 hours		5 days	
48 hours		normal	X

OEC SAMPLE RECEIPT

Rev. 01/15/10

CLIENT: PADRE-SLO OEC ID #: 1103877 Temp: 5 °C

Acceptable Range: 0°C to 6°C

COC RECEIVED DATE/TIME: 8-12-11 1652

RECEIPT LOGIN DATE/TIME: 8-15-11 1045

REFRIGERATOR(s): 8, 3

SAMPLE TRANSPORT, RECEIPT, CONDITION & PRESERVATION:		Yes	No	N/A	(*) PROBLEM CHAIN FORM NEEDED
☐ OEC Courier/Sampler	COC document(s) received with samples	☒	☐*	☐	Custody Seals (circle): ~~Present~~ / Absent
☒ Delivery(Other than OEC Courier)	Correct containers for analysis requested	☒	☐*	☐	Samples / Coolers
☒ Samples Received on Ice	Container(s) intact and in good condition	☒	☐*	☐	Intact / Broken*
☐ Samples Received Outside Temp. Range*	Container label(s) consistent with COC	☒	☐*	☐	Method of Shipment & Tracking #(if applicable):
☐ Samples Direct from field (Outside Temp)	OEC preservative added (**note std ID)	☐**	☐	☒	
☐ After-Hours Outside Drop-off [Brought Inside]	Proper preservation on sample label(s)	☒	☐	☐	(**) OEC Preservative ID:
(Initials/Date/Time):	VOA containers free of headspace	☒	☐*	☐	Dissolved Metals Filtration: (Date/Init/Preserve ID)
	Tedlar Bags free of condensation	☐	☐*	☒	

CONTAINERS, COC CHANGES AND/OR CORRECTIONS — **CHANGES AUTHORIZED BY:**

OEC ID	Client ID ***If blank, refer to CoC	Container Description	Preservative	ResCl /pH	Matrix	Date/Time Sampled ***	Comments / Remarks / Condition Notes, Etc.
1-8A		1-1L amber ea	—	—	aq		
1B-D		3 VOA	HCl				
2-8B		1-1L amber ea	—				
28C-E		3 VOA ea	HCl				
9-10A		1 VOA ea	↓	↓	↓		
2-8F		1-8 oz poly ea	—	↓	↓		

RECEIPT LOGIN BY: MJ RECEIPT REVIEWED BY: ELH

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

REPORT OF FINDINGS

SUPPLEMENTAL SOIL GAS ASSESSMENT
FORMER UNOCAL AVILA TERMINAL
10 SAN RAFAEL STREET, AVILA BEACH
SAN LUIS OBISPO COUNTY, CALIFORNIA

Prepared for:
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY

August 2012

369 Pacific Street ■ San Luis Obispo, California 93401 ■ (805) 786-2650 ■ FAX (805) 786-2651

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

August 22, 2012
Project No. 0801-0897

Chevron Environmental Management Company
276 Tank Farm Road
San Luis Obispo, California 93401

Attention: Mr. Rik Williams
Project Manager

Subject: Report of Findings, Supplemental Soil Gas Assessment, Former Unocal Avila Terminal, 10 San Rafael Street, Avila Beach, San Luis Obispo County, California

Dear Mr. Williams:

Padre Associates, Inc. (Padre) is pleased to submit to Chevron Environmental Management Company (CEMC) this report documenting the results of Padre's supplemental soil gas assessment activities recently completed at the subject site.

If you have any questions or comments please contact Mr. Louis Cappel at (805) 786-2650, ext. 26 or lcappel@padreinc.com.

Sincerely,

PADRE ASSOCIATES, INC.

PROFESSIONAL GEOLOGIST
LOUIS J. CAPPEL
No. 911
Certified
Hydrogeologist
STATE OF CALIFORNIA

Louis J. Cappel, P.G., C.Hg.
Senior Geologist

Paul G. Lavelle
Project Geologist

Jerome K. Summerlin, C.E.G., C.Hg.
Principal

cc: Mr. Robert Van Hyning, P.E., Avocet Environmental, Inc.
Mr. Chuck Lambert, McDaniel Lambert, Inc.

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APPENDICES

APPENDIX A: DRILL HOLE / SOIL GAS PROBE CONSTRUCTION LOGS

APPENDIX B: CD-ROM CONTAINING SUBJECT REPORT WITH LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION FOR SOIL GAS SAMPLES AND SOIL PHYSICAL PARAMETERS

1.0 INTRODUCTION

Padre Associates, Inc. (Padre) has prepared this Report of Findings for submittal to Chevron Environmental Management Company (CEMC) documenting the results of the supplemental soil gas assessment activities recently completed at the former Unocal Avila Terminal (Project Site), which is located adjacent to Avila Beach at 10 San Rafael Street in San Luis Obispo County, California (refer to Plate 1). The supplemental soil gas assessment activities described herein were conducted in direct response to the County of San Luis Obispo Environmental Health Services (EHS) Action Determination Letter dated March 16, 2012.

1.1 OVERVIEW AND OBJECTIVE

In 2011 McDaniel Lambert, Inc. (McDaniel Lambert) prepared a Supplemental Human Health Risk Assessment (sHHRA) to evaluate the potential cancer risks and noncancer hazards from chemicals known to be present at the Project Site to future site users in specific exposure areas identified in the Development Plan. The exposure areas or Development Risk Evaluation Areas are illustrated on Plate 2. The sHHRA was prepared to supplement the 2005 Baseline Human Health Risk Assessment (HHRA) prepared for the Project Site.

The sHHRA was reviewed by EHS, San Luis Obispo County Air Pollution Control District (APCD), and the California Regional Water Control Board, Central Coast Region (RWQCB). Comments were provided on the sHHRA by the aforementioned agencies in the Action Determination Letter issued by EHS dated March 16, 2012. The Action Determination Letter identified that there was insufficient soil gas samples to calculate potential risk, using conservative U.S. Environmental Protection Agency (EPA) default criteria, in Development Risk Evaluation Areas A, K, N, Ma, and Mb.

Therefore, to satisfy this supplemental soil gas data request identified in the Action Determination Letter, Padre observed and documented the construction and sampling of 21 soil gas probes (SV-71 through SV-91) at the identified Development Risk Evaluation Areas at the Project Site (refer to Plate 2). Each drill hole was constructed as either an individual, or dual-nested soil gas probe. Individual soil gas probes were completed at a depth of either 5 feet or 15 feet. Dual-nested soil gas probes were completed at depths of 5 feet (shallow) and 15 feet (deep). The supplemental soil gas assessment data collected at the Project Site by Padre will be used by McDaniel Lambert to provide an addendum to the sHHRA.

1.2 REPORT ORGANIZATION

This report is organized as follows: Section 2.0 presents background information pertaining to the Project Site; Section 3.0 presents the methodology for the construction and sampling of the soil gas probes; Section 4.0 presents the results of the supplemental soil gas assessment activities; and Section 5.0 provides a summary and Padre's conclusions regarding the subsurface conditions encountered during the course of the subject soil gas assessment activities completed at the Project Site.

This report includes two appendices. Drill Hole/Soil Gas Probe Construction Logs are included as Appendix A. Appendix B is a CD-ROM containing Padre's subject report, with laboratory analytical reports and chain-of-custody (COC) documentation for soil gas samples and soil physical parameters.

2.0 BACKGROUND

Descriptions of the Project Site, the regional geology and hydrogeology, and the site-specific conditions were originally detailed in the document titled *Site Characterization, Unocal Avila Station, Avila Beach, California* (England & Associates 1998), and further expanded upon in the document titled *Final Supplemental Site Characterization, Unocal Avila Pump Station, Avila Beach, California* (England Geosystem, 2002). Provided below is a summary of those descriptions.

2.1 SITE DESCRIPTION

The Project Site consists of approximately 95 acres in San Luis Obispo County, located adjacent to the community of Avila Beach, California (Plate 1). The Project Site is bordered on the north by Avila Beach Drive, on the east by an undeveloped hillside and marine terrace, on the south by the Pacific Ocean, and on the west by the community of Avila Beach (Plate 2).

The original Avila Tank Farm facilities were initially constructed around 1906. At various times, the Project Site had served as an accumulation and transfer point for petroleum from oil fields located in Santa Barbara County, a refinery, and a petroleum storage facility. It was slowly withdrawn from operation during the later decades of the twentieth century, and the last storage tanks were removed from operation by the late 1990s.

2.2 GEOLOGY AND HYDROGEOLOGY

The Project Site is directly underlain by unconsolidated sediments and bedrock. Unconsolidated surficial sediments, consisting of mixtures of gravel, sand, silt, and clay, fill the north-south and east-west drainages in the central part of the Project Site, mantle the terraces bordering the cliffs on the south, and occur in the northeast corner of the Project Site where the floodplain of San Luis Obispo Creek encroaches upon the Project Site.

Bedrock units underlie the Project Site and include (listed from youngest to oldest) the Pliocene Gragg Member of the Pismo Formation and the Miocene Obispo Formation. Much of the central portion of the Project Site is underlain directly, or at shallow depth, by the Gragg Member. The Gragg Member consists of a basal conglomerate, which grades upward into a poorly bedded, locally diatomaceous, fine-grained silty sandstone and siltstone.

The Gragg Member unconformably overlies the Obispo Formation. The Obispo Formation consists of fine- to coarse-grained, friable to hard, rhyolitic to dacitic tuff and lapilli tuff, which outcrops primarily along the south, east, and northwest Project Site margins.

Reportedly, fracturing of the consolidated bedrock units is a function of age and hardness of the units. For instance, in the Obispo Formation, the hard silicified (brittle) units are more pervasively fractured than the friable (softer) units, and in general, the older Obispo Formation is more pervasively fractured than the softer and younger Pismo Formation.

Three hydrostratigraphic units have been identified at the Project Site, which include: 1) unconsolidated sediments (colluvium and alluvium); 2) the Gragg Member of the Pismo Formation; and 3) the Obispo Formation. Groundwater occurs within the Pismo and Obispo Formations in both primary (intergranular) and secondary (fracture) porosity. Groundwater recharge occurs primarily in the higher elevations of the Project Site through vertical fractures in the Pismo Formation and through infiltration into the unconsolidated sediments (colluvium and alluvium) (England Geosystem, 2002).

Based on fluid level measurements recorded within the on-site groundwater monitoring wells, the groundwater flow direction at the Project Site generally follows topography and flows toward: the north to northeast for groundwater monitoring wells completed within the alluvium; southwest for groundwater monitoring wells completed within the colluvium; and north, west, and south, for groundwater monitoring wells completed within the Pismo and Obispo Formations. Groundwater flow within the Pismo and Obispo Formations occurs primarily within fractures with relatively low permeabilities and low storativities (England Geosystem, 2002).

2.3 HISTORICAL SOIL GAS ASSESSMENT ACTIVITIES

CEMC, along with its predecessors, has investigated surface and subsurface conditions at the Project Site in detail over the last decade. The assessment activities have included soil/bedrock sampling, groundwater monitoring, and soil gas sampling throughout the Project Site. In general, those investigations have adequately characterized the nature and distribution of chemicals of potential concern (COPCs) at the Project Site. The discussion below only pertains to historical soil gas assessment activities.

Avocet Environmental Inc. (Avocet) performed preliminary soil gas assessment activities at the Project Site between July and November, 2007 (Avocet, 2008). These soil gas assessment activities consisted of the construction and sampling of 70 semi-permanent, dual-nested soil gas probes (SV-1 through SV-70) located throughout the Project Site (refer to Plate 2). The soil gas probes were constructed using hollow stem auger (HSA) or direct-push drilling methods. Each dual-nested probe generally consisted of 5-foot and 15-foot soil gas probe completions.

The analytical results for total volatile organic compounds (VOCs) from the preliminary soil gas investigation indicated that concentrations of COPCs in soil gas are distributed primarily around the central and southern former operational areas of the Project Site (south of the refinery, south and west of the pump house and fuel loading rack, and surrounding several former tank locations and pipeline corridor areas). In general, the indicated COPCs in soil gas are of greater occurrence and broader distribution within deep (15-foot) soil gas probes than within shallow (5-foot) soil gas probes. The indicated VOCs were subdivided by Avocet into four

categories based on their constituents: Fuel-Related VOCs; Solvent-Related VOCs; Fire Extinguishing Agent VOCs; and Fixed Gases. The following summarizes the indicated compounds categorized, and their basic distribution at the Project Site. Distribution maps of COPCs in soil gas were presented by Avocet (2008) and McDaniel Lambert (2011).

- Fuel-related VOCs include benzene, toluene, ethyl benzene, total xylenes (BTEX), 1,2,4-trimethylbenzene, 1,2-dichloroethane (EDC), 1,2-dichloropropane, 1,3,5-trimethylbenzene, cyclohexane, hexane, naphthalene, propylbenzene, and fuel oxygenates ethyl tert-butyl ether (ETBE), methyl tert-butyl ether (MTBE), tert-amyl methyl ether (TAME), and tert-butyl alcohol (TBA). Within both shallow (5-foot) and deep (15-foot) probes, indicated concentrations of fuel-related VOCs are distributed around the central and southern former operational areas of the Project Site (south of the refinery, south and west of the pump house and fuel loading rack, and surrounding several former tank locations and pipeline corridor areas).

- Solvent-related VOCs include tetrachloroethene (PCE), trichloroethene (TCE), 1,1-dichloroethene, chlorobenzene, chloromethane, chloroethane, methylene chloride, 1,1,2,2,-tetrachloroethane, and 1,1,1-trichloroethane. Within shallow soil gas, solvent-related VOCs were identified at one discrete area of the Project Site, along the southern margin of the property near the cliff area, surrounding former tank No. 201104. Within deep soil gas, solvent-related VOCs are distributed around the central, southern and eastern former operational areas of the Project Site (south of the refinery, south and west of the pump house and fuel loading rack, and surrounding several former tank locations and pipeline corridor areas).

- Fire Extinguishing Agent VOCs include bromodichloromethane, bromoform, carbon tetrachloride, chloroform, and dibromochloromethane. Fire extinguishing agent VOCs in shallow soil gas were identified at one discrete area located at the southern-central portion of the former tank farm (surrounding former tank Nos. 10622, and 14638.) Within deep soil gas, fire extinguishing agent VOCs are located at three separate operational areas of the site associated with former tanks (south of the refinery; surrounding former tank Nos. 10622, 23632, 14638, and 15640; and at the southern portion of former tank No. 80616 and an adjacent pipeline corridor).

- Fixed Gases and Methane. The preliminary soil gas assessment report documented the occurrence of a methane plume at the Project Site concentrated around the former fueling rack and pump house area. Methane production, along with elevated concentrations of carbon dioxide and depressed concentrations of oxygen may be indicators of biological degradation of hydrocarbon compounds within the subsurface of the Project Site.

3.0 METHODS OF ASSESSMENT

Provided below is a description of the supplemental soil gas assessment methodology utilized by Padre. Soil gas probe construction and sample collection activities were performed in accordance to the methods outlined in the Department of Toxic Substances Control / State of California Regional Water Quality Control Board – Los Angeles Region (DTSC/LARWQCB) document titled *Advisory – Active Soil Gas Investigations*, dated January 28, 2003.

3.1 PRE-FIELD ACTIVITIES

3.1.1 Site Health and Safety Plan

Padre revised and implemented the existing site-specific health and safety plan (HASP) for the Project Site. The HASP included procedures, equipment, and materials utilized to protect worker and community health and safety during the course of the subject assessment activities. The HASP also included provisions for daily tailgate safety meetings, safe work permit (SWP) procedures, job safety analysis (JSA), behavior-based safety (BBS) observations, and journey management plans (JMPs).

3.1.2 Permitting

No permits were required to complete the subject scope of work.

3.1.3 Notification

EHS was notified by CEMC at least 48-hours prior to initiating the supplemental soil gas assessment activities.

3.1.4 Underground Service Alert and Private Utility Locator

The areas of the proposed assessment were delineated in white paint, and Underground Service Alert (USA) was contacted at least 48-hours prior to the commencement of field activities. Padre also contracted a private utility locator, Pacific Coast Locators of La Crescenta, California, to evaluate the areas of the proposed assessment.

3.2 SOIL GAS PROBE CONSTRUCTION ACTIVITIES

From June 4 through 7, 2012 Padre observed and documented the advancement of 21 drill holes (SV-71 through SV-91) at the Project Site (refer to Plate 2). Each drill hole was constructed as either an individual, or dual-nested soil gas probe. Individual soil gas probes were completed at a depth of either 5 feet or 15 feet. Dual-nested soil gas probes were completed at depths of 5 feet (shallow) and 15 feet (deep). A direct-push or HSA drilling rig operated by S/G Drilling Company of Lompoc, California was utilized to advance the drill holes at the Project Site depending on their location and site-specific geology. The direct push drilling rig was generally utilized for drilling in unconsolidated sediments (alluvium and colluvium), while

the HSA drilling rig was utilized for drilling in areas underlain by shallow consolidated sediments (bedrock of the Pismo and Obispo Formations).

3.2.1 Drilling and Soil Sampling

Soil gas probes were constructed at the locations of a total of five Development Risk Evaluation Areas at the Project Site (Areas A, K, N, Ma, and Mb). At each Development Risk Evaluation Area assessed, one soil sample was collected from a single drill hole for soil physical parameter analyses. At the locations of both individual and dual-nested soil gas probes the soil samples were collected at the probe completion depths (5-feet or 15-feet for individual probes; 5-feet and 15-feet for dual-nested probes).

Soil samples obtained using direct-push drilling techniques were collected in 5-foot long, 1.5-inch diameter, clear acetate liners contained within a stainless steel Geoprobe® Macro-Core sampler. Soil samples obtained using HSA drilling were collected in 1.5-inch by 6-inch brass sleeves contained within an 18-inch California-modified split-spoon drive sampler. To procure soil samples for laboratory shipment Padre either cut the acetate liner, or divided the brass sleeves containing the appropriate sample volume. Teflon® tape was then placed at each and of the sample sleeve, and plastic end caps were affixed over the tape. After the selected soil samples were retained for chemical analyses, the remaining soil core was exposed and geologically logged by Padre using the Unified Soil Classification System (USCS), and screened for the presence of VOCs using a photoionization detector (PID). Soil samples that were retained for chemical analyses were sealed, labeled, and preserved on ice in the field. COC forms were used to document sample management procedures.

3.2.2 Soil Gas Probe Construction

The soil gas probes consist of individual, polymerized ceramic probe tips set at depths of 5-feet and/or 15-feet within each drill hole. A 1/8-inch outside diameter (OD) Nylon tubing extends from each probe tip to approximately 2.5 feet above grade, where it is sealed with a gas-tight Luer® type valve. The ceramic probe tips (subsurface termination) are gas permeable, but fine enough to exclude fine material that could potentially clog the nylon tubing. Each soil gas probe assembly consisting of the probe tip, nylon tubing, valve, and zip tie connectors was pre-measured and assembled prior to field work to ensure that each drill hole received a soil gas probe with the proper corresponding length. For ease of identification, the above-grade Luer® valve and tubing connections were secured with white zip ties for 5-foot completions, and black zip ties for 15-foot completions.

The soil gas probe tips were placed at the desired down-hole depth, in the center of an approximately 12-inch thick sand pack consisting of No. 2/12 Monterey Sand. A 6-inch layer of sand was placed starting from the base of the hole, then the gas probe tip was installed. The remainder of the sand pack was added to cover the soil gas probe tip and complete the 12-inch sand pack interval. Approximately 1-foot of dry granular bentonite was placed above the sand pack. The remainder of the annular space was backfilled in 1-foot lifts with granular bentonite, and hydrated in-place with the appropriate volume of water. For dual nested probes, a second

6-inch bed of No. 2/12 Monterey Sand was installed beginning at 5.5 feet. The 5-foot soil gas implant was lowered down-hole to an approximate depth of 5 feet, and sand was backfilled to cover the soil gas implant and complete the 12-inch sand pack interval. The sand pack was topped with approximately 1-foot of dry granular bentonite, and the remainder of the annulus was sealed with hydrated granular bentonite to the existing grade. Each drill hole was completed with a 2-foot long segment of 2-inch diameter PVC casing set in concrete to protect the above-ground probe assemblies.

3.3 SOIL GAS SAMPLE COLLECTION

On June 20, 2012 Padre sampled soil gas probes SV-71 through SV-91 in accordance with the methods described in the DTSC/LARWQCB guidelines for active soil gas investigations (January 28, 2003). The soil gas probes were allowed to equilibrate for a minimum of 48-hours prior to performing soil gas sampling activities. Soil gas sampling activities were performed during the dry season for the Project Site, with no recent or forecasted rain events within a minimum of two days of the sampling event. A total of 27 soil gas samples were collected from the 21 soil gas sample probe locations.

3.3.1 Soil Gas Probe Purge and Set-Up

Prior to the collection of the individual soil gas samples, each soil gas probe was purged to remove approximately three times the volume of air contained within the tubing and filter pack pore space. The calculated tubing and filter pack pore space volumes for the nominal 2-inch diameter direct-push drill holes, and the HSA drill holes (drilled with 3-inch solid stem augers) were approximately 200 cubic centimeters (cc), and 350 cc, respectively. Therefore, to remove the necessary three volumes of air, the respective volumes purged from 2-inch diameter, and 3-inch diameter drill holes were approximately 600 cc and 1,000 cc.

Soil gas samples were collected in 100% laboratory-certified “clean” 400 milliliter (mL) SUMMA canisters, which were provided by H&P Mobile Geochemistry, Inc. (H&P) of Carlsbad, California. The flow regulators that were connected to the SUMMA canisters were set in the laboratory by H&P to achieve a flow-rate of approximately 150 milliliters per minute (ml/min).

After each soil gas probe was appropriately purged, the sampling components were connected to the probe assembly with the Luer® type 3-way valves closed. With the tubing valves closed, the SUMMA canister valve was opened and checked for its initial vacuum pressure and connection integrity. The initial SUMMA canister vacuum reading (typically around 30 inches of mercury); canister and regulator serial numbers; soil gas probe ID and depth; sample time; date; weather conditions; PID ambient air reading; and purge volume were recorded prior to opening the valves and beginning sample collection.

3.3.2 Leak Detection Testing and Sample Collection

Padre utilized the leak detection compound 1,1-difluoroethane. At locations away from the soil gas probe sampling locations, Padre applied 1,1-difluoroethane to paper towels that were placed inside a Ziploc bag. At each soil gas probe location, a towel impregnated with 1,1-

difluoroethane was placed at the ground surface in the immediate vicinity of the sampling connections and soil gas probe surface completion. Once the leak detection compound was in place and all initial readings verified, the Luer® valves were opened and the soil gas samples collected. Sampling continued until the vacuum remaining in each SUMMA canister approached 2 inches of mercury. Once the sampling activities were completed, the valves to the canister and the probe were closed; the final vacuum reading was recorded; and the SUMMA canister was sealed, labeled, and secured for transportation.

3.3.3 Field QA/QC

In addition to the soil gas samples collected from the soil gas probes, the following quality assurance / quality control (QA/QC) samples were utilized during the sampling event: two duplicate samples, and two trip blank samples. All SUMMA canisters were shipped by overnight express to H&P for analyses following standard COC procedures.

3.4 LABORATORY ANALYTICAL PROGRAM

3.4.1 Soil Samples

A total of eight soil samples collected at the Project Site were analyzed for physical properties by PTS Laboratories, Inc. (PTS), located in Santa Fe Springs, California. The soil samples were tested for the following physical parameters to support the potential use of the Johnson & Ettinger model for subsurface vapor intrusion:

- Bulk density by method ASTM D2937;
- Grain density by method ASTM D854;
- Soil moisture content by method ASTM D2216;
- Total organic carbon and fraction organic carbon by Walkley-Black method;
- Grain size distribution by method ASTM D422;
- Soil description by USCS; and
- Permeability to air (native moisture, vertical orientation) by API RP40.

3.4.2 Soil Gas Samples

All soil gas samples collected at the Project Site were submitted to H&P for the following chemical analyses:

- Total petroleum hydrocarbons - volatile fraction (TPHv) and VOCs (including fuel oxygenates and naphthalene) by U.S. EPA method TO-15;
- TPHv speciation, including aliphatic (C_5-C_8, C_9-C_{12}) and aromatic (C_6-C_8, C_9-C_{10}) hydrocarbons by Massachusetts method;
- Fixed gases oxygen, nitrogen, and carbon dioxide by method ASTM 1946; and
- Methane by U.S. EPA method 8015M.

3.5 DECONTAMINATION PROCEDURES

Field equipment was cleaned before use, between drill hole locations, and after completion of field work. Cleaning procedures for sampling equipment excluding auger flights consisted of a non-phosphate detergent wash, two rinses with tap water, and a final de-ionized water rinse. Augers were pressure washed before use, between each drill hole location and at the completion of field activities.

3.6 ASSESSMENT-DERIVED WASTES

Limited soil cuttings were temporarily containerized on-site within an appropriately labeled, 20-cubic yard roll-off bin equipped with a lid. Decontamination wash water was transferred into an on-site 500-gallon polyethylene container that is appropriately labeled and equipped with secondary containment. The soil cuttings and decontamination water were appropriately transported and disposed of off-site at a CEMC-approved disposal facility.

3.7 SURVEY

All soil gas probe locations, pertinent site features, and topography were professionally surveyed by a State of California-licensed Professional Land Surveyor provided by Rick Engineering of San Luis Obispo, California (refer to Table 1). The horizontal datum used was the State Plane Coordinate System Zone 5, which references the North American Datum of 1983 (NAD83). The vertical datum used was the North American Vertical Datum of 1988 (NAVD88).

4.0 RESULTS AND DISCUSSION

4.1 FIELD OBSERVATIONS DURING DRILLING ACTIVITIES

Padre visually observed the soil samples collected and soil cuttings generated during the course of drilling and sampling activities. Drill Hole Logs, which include the details of soil gas probe construction, are presented as Appendix B. The maximum depth of drilling was to approximately 15.5 feet. Earth materials encountered during the course of the subject assessment activities consisted of alluvium (silt, clay, and clayey sand), colluvium (silt, and silty sand), the Gragg Member of the Pismo Formation (weathered sandstone), and the Obispo Formation (tuff). Groundwater was not encountered during the course of the drilling activities. However, based on the known occurrence of shallow groundwater at Areas Ma and N, within alluvium of the San Luis Obispo Creek (depth to groundwater within nearby monitoring wells B-146, B-147, B-172, and B-202 was gauged at depths of approximately 1 foot to 7 feet below the ground surface on June 4, 2012), soil gas probes SV-71 through SV-78 were constructed at depths of 5-feet and not 15-feet in order to avoid saturated soil. Suspected TPH-containing soils were not observed within soil samples and/or soil cuttings at the locations of drill holes SV-71 through SV-91.

4.2 LABORATORY ANALYTICAL RESULTS

The laboratory analytical results for soil gas samples collected during the course of the subject assessment activities are described below. Refer to Table 2 for a summary of soil gas analytical results for full-list VOCs; and Table 3 for a summary of soil gas analytical results for TPHv, TPHv speciation, fixed gases, and methane. Refer to Appendix B for the laboratory analytical reports and COC documentation for soil samples and soil gas samples collected during the subject assessment program. Laboratory analytical results for VOCs were compared to Shallow Soil Gas (5 feet) California Human Health Screening Levels for Commercial Land Use (Shallow Soil Gas Commercial CHHSLs) (California EPA, 2005).

4.2.1 Full-List VOCs

Trace concentrations of VOCs were indicated in several soil gas samples, the majority of which are below established Shallow Soil Gas Commercial CHHSLs. Soil gas samples SV-89-15' and SV-90-15' exceeded the Shallow Soil Gas Commercial CHHSL for PCE of 603 micrograms per cubic meter (µg/m^3), with concentrations of 960 µg/m^3 and 1,200 µg/m^3, respectively.

4.2.2 TPHv

TPHv does not have an established Shallow Soil Gas Commercial CHHSL. TPHv in the gasoline carbon range (C_5-C_{11}) was indicated in all of the soil gas samples chemically analyzed at concentrations ranging from 1,300 ug/m^3 (SV-71-5') to 53,000 ug/m^3 (SV-89-15'). Aliphatic TPHv (C_5-C_8) was indicated in all of the soil gas samples chemically analyzed at concentrations

ranging from 710 ug/m^3 (SV-71-5' and SV-79-5') to 75,000 ug/m^3 (SV-89-15'). Aliphatic TPHv (C_9-C_{12}) was indicated 25 of the 27 soil gas samples chemically analyzed at concentrations ranging from 290 ug/m^3 (SV-84-15') to 2,200 ug/m^3 (SV-86-15'). Aromatic TPHv (C_6-C_8) was indicated above the laboratory method reporting limit in three of the 27 soil gas samples chemically analyzed at concentrations ranging from 110 ug/m^3 (SV-85-5') to 340 ug/m^3 (SV-88-15'). Aromatic TPHv (C_9-C_{10}) was indicated above the laboratory method reporting limit in six of the 27 soil gas samples chemically analyzed at concentrations ranging from 100 ug/m^3 (SV-78-5') to 180 ug/m^3 (SV-73-5').

4.2.3 Fixed Gases

Carbon dioxide concentrations ranged from 0.3% (SV-88-15' and SV-90-15') to 14% (SV-79-5'). Oxygen concentrations ranged from 8.4% (SV-89-15') to 20% (SV-71-5', SV-72-5', SV-74-5', SV-75-5', SV-80-5', SV-81-5', SV-82-5', SV-82-15', and SV-85-5'). Nitrogen concentrations ranged from 73% (SV-79-5') to 83% (SV-90-15').

4.2.4 Methane

Methane was indicated in two of the twenty-seven soil gas samples chemically analyzed at relatively low concentrations (<0.01%) of 20 ppmv (SV-90-15') and 53 ppmv (SV-88-15').

4.2.5 Quality Control / Quality Assurance Samples

The two field duplicate samples DUP-1 and DUP-2 (duplicates of samples SV-83-5' and SV-83-15', respectively) had similar results for VOCs, TPHv, fixed gases, and methane as samples SV-83-5' and SV-83-15'. Therefore, the reliability of the analytical process is confirmed.

Detectable concentrations of VOCs were not indicated in either of the two trip blank samples (Trip Blank A, and Trip Blank B), with exception to chloroform. Chloroform was indicated in samples Trip Blank A and Trip Blank B at concentrations of 12 ug/m^3, and 13 ug/m^3, respectively. H&P released the following case narrative statement regarding the indicated chloroform concentrations in the trip blank samples: "The elevated levels of chloroform present in samples SV-89-15' and SV-90-15' are suspected of contaminating the TO-15 system with chloroform. H&P believes that the chloroform concentrations reported in Trip Blank A and Trip Blank B are the result of this system contamination." The lack of indicated VOCs aside from the chloroform within the trip blank samples confirms that cross-contamination did not occur during shipping of the soil gas samples.

4.2.6 Leak Detection Compound

The leak detection compound utilized during sampling activities, 1,1-difluoroethane, was not indicated at detectable concentrations within any of the soil gas samples chemically analyzed, which indicates the soil gas samples were not affected by ambient air entering the sampling system or the drill hole annulus.

4.3 SOIL PHYSICAL TESTING PARAMETERS RESULTS

Eight soil samples (SV-71-5', SV-71-15', SV-77-5', SV-81-5', SV-81-15', SV-83-5', SV-83-15', and SV-86-15') were tested for selected physical parameters to support the possible use of the Johnson & Ettinger model to evaluate the potential of subsurface vapor intrusion. The soil physical testing parameter report and COC documentation are presented within Appendix B.

5.0 SUMMARY AND CONCLUSIONS

At the request of CEMC, Padre conducted supplemental soil gas assessment activities at the Project Site. Based on the results of field assessment activities and the results of chemical analyses conducted on the soil gas samples collected during the course of the supplemental soil gas assessment activities, Padre provides the following summary, and makes the conclusions presented below.

- Padre performed the supplemental soil gas assessment activities to satisfy the request identified in the Action Determination Letter for additional soil gas sampling at Development Risk Evaluation Areas A, K, N, Ma, and Mb at the Project Site (refer to Plate 2). The supplemental soil gas assessment data will be used by McDaniel Lambert to provide an addendum to the sHHRA.
- As part of the supplemental soil gas assessment activities, Padre observed and documented the construction and sampling of 21 soil gas probes (SV-71 through SV-91) (refer to Plate 2). Each drill hole was constructed as either an individual, or dual-nested soil gas probe. Individual soil gas probes were completed at a depth of either 5 feet or 15 feet. Dual-nested soil gas probes were completed at depths of 5 feet (shallow) and 15 feet (deep). A total of 27 soil gas samples collected at the Project Site were analyzed for the presence of TPHv and VOCs (including fuel oxygenates and naphthalene); TPHv aliphatic (C_5-C_8, C_9-C_{12}) and aromatic (C_6-C_8, C_9-C_{10}) hydrocarbons; fixed gases oxygen, nitrogen, and carbon dioxide; and methane. Additionally, eight representative soil samples were analyzed for soil physical parameters.
- Soil gas probes at Development Risk Evaluation Areas Ma and N were constructed at 5 feet instead of the requested 15 feet because groundwater was observed in nearby groundwater monitoring wells (B-146, B-147, B-172, and B-202) in May and June 2012 between approximate depths of 1 foot to 7 feet. Based on a review of historical groundwater monitoring data over the last decade, groundwater occurs at shallow depths at Areas Ma and N. Historical soil gas probes (SV-02, SV-03, and SV-70) constructed at 15 feet at these locations appear to have been constructed beneath the groundwater table, and the soil gas samples are likely not representative of soil gas within the vadose zone.
- Trace concentrations of VOCs were indicated in several soil gas samples, the majority of which are below established Shallow Soil Gas Commercial CHHSLs. It

should be noted that Shallow Soil Gas Commercial CHHSLs were developed for soil gas samples collected in shallow soil (< 5 feet) and the subject samples were collected at an approximate depth of 15 feet, and will therefore be further evaluated (attenuation factor will be applied) by McDaniel Lambert in the addendum to the sHHRA.

- TPHv concentrations were indicated in all soil gas samples, which does not have an established Shallow Soil Gas Commercial CHHSLs. TPHv concentrations will be further evaluated by McDaniel Lambert in the addendum to the sHHRA.
- Methane was indicated in soil gas samples at non-detectable to relatively low concentrations (<0.01%).
- Standard QA/QC field procedures and laboratory procedures were developed and implemented as part of the completed soil gas sampling program. Overall, the data quality is acceptable, and the collected data support the project data quality objectives.

6.0 LIMITATIONS

This report has been prepared for the sole benefit of Chevron Environmental Management Company. No other persons may rely on the findings of this report without the expressed written consent of the client and Padre Associates, Inc.

In performing our professional services, we have attempted to apply present engineering and scientific judgment and use a level of effort consistent with the standard of practice measured on the date of work and in locale of the Project Site for similar type studies. Padre Associates, Inc. makes no warranty, express or implied.

The analyses and interpretations presented in this report have been developed based on the results from the review of existing information pertaining to the site and soil gas sampling at discrete locations at the Project Site, and the result from the laboratory analyses of the subject samples. It should be recognized that contamination can vary between sampling locations and between areas.

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7.0 REFERENCES

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McDaniel Lambert, Inc., 2005, *Baseline Human Health Risk Assessment for the Avila Tank Farm Property, Version 2.0*, dated February 28, 2005.

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California Department of Toxic Substances Control (DTSC), 2003, *Advisory - Active Soil Gas Investigation. Jointly issued by the Regional Water Quality Control Board, Los Angeles Region and the Department of Toxic Substances Control*, dated January 28, 2003.

California Environmental Protection Agency (California EPA), 2005, *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties*, dated January 2005.

England & Associates, 1998, *Site Characterization, Unocal Avila Station, Avila Beach, California, England & Associates Project No. 526-A*, dated February 16, 1998.

_____, 2002, *Final Supplemental Site Characterization, Unocal Avila Pump Station, Avila Beach, California. Project No. 526.001*, dated April 30, 2002.

TABLES

Table 1
Summary of Survey Data
Former Unocal Avila Terminal
10 San Rafael Street, Avila Beach, California

Assessment ID	Northing (feet)	Easting (feet)	Elevation (feet AMSL)
SV-71	2263248.65	5748082.87	20.94
SV-72	2263154.16	5748040.90	17.19
SV-73	2263079.46	5748019.59	16.21
SV-74	2263067.93	5748088.86	22.12
SV-75	2262956.32	5748073.02	25.64
SV-76	2262854.76	5748019.85	23.68
SV-77	2262741.36	5747956.76	28.15
SV-78	2262644.19	5747966.46	37.00
SV-79	2262715.40	5747734.94	22.10
SV-80	2262696.92	5748173.68	70.12
SV-81	2262930.61	5748377.95	111.61
SV-82	2263171.53	5748293.06	57.04
SV-83	2262917.28	5746491.59	105.48
SV-84	2262867.28	5746357.73	100.32
SV-85	2262908.96	5746286.03	95.86
SV-86	2261367.43	5747341.51	216.60
SV-87	2261473.90	5747347.83	224.34
SV-88	2261620.81	5747489.07	214.20
SV-89	2261645.50	5747318.92	210.23
SV-90	2261569.09	5747281.48	209.03
SV-91	2261557.20	5747359.25	210.61

Notes:
AMSL = above mean sea level.
Survey performed by Rick Engineering of San Luis Obispo, CA.
Survey Data in California State Coordinate Zone 5 NAD 83.

Table 2
Summary of Soil Gas Sample Results
VOCs
Former Unocal Avila Terminal
10 San Rafael Street, Avila Beach, California

Sample ID	Date	1,1-Difluoroethane (LCC)	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1,2-Trichlorotrifluoroethane (F113)	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane (EDC)	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Butadiene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	1,4-Dioxane	2,2,4-Trimethylpentane	2,2-Dichloropropane	2-Butanone (MEK)	2-Chlorotoluene	2-Hexanone (MBK)	4-Chlorotoluene	4-Ethyltoluene	4-Methyl-2-pentanone (MIBK)	Acetone	Benzene	Benzyl chloride	Bromobenzene	Bromodichloromethane
SV-71-5'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**4.4 J**	<9.8	<7.8	<12	<4.1	<9.4	**2.0 J**	<4.5	<12	<4.7	<12	**17**	**20**	<4.7	**83**	<11	**2.0 J**	<11	<5	**44**	**48**	**1.8 J**	<10	<6.5	<6.8
SV-72-5'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**7.6**	<9.8	<7.8	<12	<4.1	<9.4	**3.1 J**	<4.5	<12	<4.7	<12	<7.3	**27**	<4.7	**180**	<11	**3.3 J**	<11	**2.6 J**	**100**	**250**	**3.1 J**	<10	<6.5	<6.8
SV-73-5'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**8.3**	<9.8	<7.8	<12	<4.1	<9.4	**2.6 J**	<4.5	<12	<4.7	<12	<7.3	**12**	<4.7	**110**	<11	**2.4 J**	<11	**2.9 J**	**61**	**62**	**9.0**	<10	<6.5	<6.8
SV-74-5'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**6.7**	<9.8	<7.8	<12	<4.1	<9.4	**2.4 J**	<4.5	<12	<4.7	<12	<7.3	**34**	<4.7	**84**	<11	**2.5 J**	<11	**2.3 J**	**47**	**50**	**2.2 J**	<10	<6.5	<6.8
SV-75-5'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**6.4**	<9.8	<7.8	<12	<4.1	<9.4	**3.7 J**	<4.5	<12	<4.7	<12	<7.3	**20**	<4.7	**69**	<11	<8.3	<11	**4.5 J**	**40**	**42**	**15**	<10	<6.5	<6.8
SV-76-5'	6/20/2012	<2.7	**4.5 J**	<5.5	<7	<5.5	**3.6 J**	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**5.5**	<9.8	<7.8	<12	<4.1	<9.4	**2.4 J**	<4.5	<12	<4.7	<12	<7.3	**24**	<4.7	**94**	<11	<8.3	<11	**2.1 J**	**50**	**51**	**4.2**	<10	<6.5	<6.8
SV-77-5'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**5.8**	<9.8	<7.8	<12	<4.1	<9.4	**2.3 J**	<4.5	<12	<4.7	<12	<7.3	**7.2**	<4.7	**77**	<11	**2.4 J**	<11	**2.1 J**	**50**	**45**	**3.2 J**	<10	<6.5	<6.8
SV-78-5'	6/20/2012	<2.7	**2.9 J**	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**5.6**	<9.8	<7.8	<12	<4.1	<9.4	**2.3 J**	<4.5	<12	<4.7	<12	<7.3	**10**	<4.7	**72**	<11	**2.3 J**	<11	**2.1 J**	**54**	**46**	**5.8**	<10	<6.5	<6.8
SV-79-5'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**5.4**	<9.8	<7.8	<12	<4.1	<9.4	**2.0 J**	<4.5	<12	<4.7	<12	<7.3	**3.7 J**	<4.7	**62**	<11	**1.9 J**	<11	<5	**36**	**43**	**2.6 J**	<10	<6.5	<6.8
SV-80-15'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	<5	<9.8	<7.8	<12	<4.1	<9.4	**2.3 J**	<4.5	<12	<4.7	<12	<7.3	**4.6 J**	<4.7	**81**	<11	**2.2 J**	<11	**2.2 J**	**33**	**54**	**3.2 J**	<10	<6.5	<6.8
SV-80-5'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**5.2**	<9.8	<7.8	<12	<4.1	<9.4	**2.1 J**	<4.5	<12	<4.7	<12	<7.3	**5.7**	<4.7	**70**	<11	**2.3 J**	<11	**2.0 J**	**37**	**48**	**2.7 J**	<10	<6.5	<6.8
SV-81-15'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**6.1**	<9.8	<7.8	<12	<4.1	<9.4	**2.3 J**	<4.5	<12	<4.7	<12	<7.3	**4.6 J**	<4.7	**85**	<11	**2.4 J**	<11	**2.6 J**	**34**	**46**	**4.2**	<10	<6.5	<6.8
SV-81-5'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**4.7 J**	<9.8	<7.8	<12	<4.1	<9.4	**2.0 J**	<4.5	<12	<4.7	<12	<7.3	**4.6 J**	<4.7	**50**	<11	**1.8 J**	<11	<5	**30**	**46**	**2.4 J**	<10	<6.5	<6.8
SV-82-15'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**5.7**	<9.8	<7.8	<12	<4.1	<9.4	**2.1 J**	<4.5	<12	<4.7	<12	<7.3	**3.3 J**	<4.7	**100**	<11	**2.6 J**	<11	<5	**43**	**69**	**4.3**	<10	<6.5	<6.8
SV-82-5'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**14**	<9.8	<7.8	<12	<4.1	<9.4	**4.1 J**	<4.5	<12	<4.7	<12	<7.3	**6.2**	<4.7	**78**	<11	**2.6 J**	<11	**3.3 J**	**43**	**49**	**4.5**	<10	<6.5	<6.8
SV-83-15'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**9.3**	<9.8	<7.8	<12	<4.1	<9.4	**4.4 J**	**5.5**	<12	<4.7	<12	<7.3	**67**	<4.7	**200**	<11	**2.4 J**	<11	**3.6 J**	**44**	**79**	**46**	<10	<6.5	<6.8
SV-83-5'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**4.5 J**	<9.8	<7.8	<12	<4.1	<9.4	**2.2 J**	<4.5	<12	<4.7	<12	<7.3	**6.1**	<4.7	**110**	<11	**2.2 J**	<11	<5	**40**	**55**	**2.1 J**	<10	<6.5	<6.8
SV-84-15'	6/20/2012	<2.7	**5.0 J**	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**18**	<9.8	<7.8	<12	<4.1	<9.4	**3.6 J**	<4.5	<12	<4.7	<12	<7.3	**220**	<4.7	**25 J**	<11	<8.3	<11	**3.9 J**	<8.3	**77**	**4.2**	<10	<6.5	<6.8
SV-84-5'	6/20/2012	<2.7	**5.4 J**	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**8.8**	<9.8	<7.8	<12	<4.1	<9.4	**3.7 J**	<4.5	<12	<4.7	<12	<7.3	**17**	<4.7	**12 J**	<11	**1.8 J**	<11	**3.4 J**	<8.3	**53**	**9.1**	<10	<6.5	<6.8
SV-85-15'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	<5	<9.8	<7.8	<12	<4.1	<9.4	**2.2 J**	<4.5	<12	<4.7	<12	<7.3	**6.3**	<4.7	**78**	<11	<8.3	<11	**1.6 J**	**34**	**43**	**1.9 J**	<10	<6.5	<6.8
SV-85-5'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**12**	<9.8	<7.8	<12	<4.1	<9.4	**3.2 J**	<4.5	<12	<4.7	<12	<7.3	**34**	<4.7	**50**	<11	<8.3	<11	**2.5 J**	**27**	**62**	**4.7**	<10	<6.5	<6.8
SV-86-15'	6/20/2012	<2.7	**6.6 J**	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**7.7**	<9.8	<7.8	<12	<4.1	<9.4	<5	<4.5	<12	<4.7	<12	<7.3	**8.1**	<4.7	**100**	<11	**1.9 J**	<11	**1.8 J**	**51**	**84**	**7.7**	<10	<6.5	<6.8
SV-87-15'	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	**1.8 J**	<7.5	**5.3**	<9.8	<7.8	<12	<4.1	<9.4	<5	<4.5	<12	<4.7	<12	<7.3	**7.8**	<4.7	**100**	<11	<8.3	<11	<5	**44**	**61**	**5.8**	<10	<6.5	<6.8
SV-88-15'	6/20/2012	<2.7	<7	<5.5	**2.9 J**	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**14**	<9.8	<7.8	<12	<4.1	<9.4	**2.7 J**	<4.5	<12	<4.7	<12	<7.3	**12**	<4.7	**110**	<11	<8.3	<11	**3.5 J**	**46**	**82**	**20**	<10	<6.5	<6.8
SV-89-15'	6/20/2012	<2.7	<700	<550	<700	<550	<770	<410	<400	<460	<750	<610	<750	<500	<980	<780	<1200	<410	<940	<500	<450	<1200	<470	<1200	<730	<470	<470	<3000	<1100	<830	<1100	<500	<830	<2400	<320	<1000	<650	**810**
SV-90-15'	6/20/2012	<2.7	<700	<550	<700	<550	<770	<410	<400	<460	<750	<610	<750	<500	<980	<780	<1200	<410	<940	<500	<450	<1200	<470	<1200	<730	<470	<470	<3000	<1100	<830	<1100	<500	<830	<2400	<320	<1000	<650	<680
SV-91-15'	6/20/2012	<2.7	<7	**16**	<7	<5.5	<7.7	**2.5 J**	**6.4**	<4.6	<7.5	<6.1	<7.5	**9.7**	<9.8	<7.8	<12	<4.1	<9.4	**2.4 J**	<4.5	<12	<4.7	<12	**3.4 J**	<4.7	<4.7	**110**	<11	**2.2 J**	<11	<5	**30**	**85**	**4.6**	<10	<6.5	<6.8
DUP-1	6/20/2012	<2.7	<7	<5.5	<7	<5.5	**7.1 J**	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**8.9**	<9.8	<7.8	<12	<4.1	<9.4	**2.3 J**	<4.5	<12	<4.7	<12	<7.3	**7.4**	<4.7	**51**	<11	<8.3	<11	<5	**19**	**63**	**4.0**	<10	<6.5	<6.8
DUP-2	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	**2.1 J**	<9.8	<7.8	<12	<4.1	<9.4	**3.2 J**	<4.5	<12	<4.7	<12	<7.3	**7.8**	<4.7	**150**	<11	<8.3	<11	<5	**33**	**52**	**36**	<10	<6.5	<6.8
Trip Blank A	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	<5	<9.8	<7.8	<12	<4.1	<9.4	<5	<4.5	<12	<4.7	<12	<7.3	<4.7	<4.7	<30	<11	<8.3	<11	<5	<8.3	<24	<3.2	<10	<6.5	<6.8
Trip Blank B	6/20/2012	<2.7	<7	<5.5	<7	<5.5	<7.7	<4.1	<4	<4.6	<7.5	<6.1	<7.5	<5	<9.8	<7.8	<12	<4.1	<9.4	<5	<4.5	<12	<4.7	<12	<7.3	<4.7	<4.7	<30	<11	<8.3	<11	<5	<8.3	<24	<3.2	<10	<6.5	<6.8
CHHSLs:		--	--	**2790000**	--	--	--	--	--	--	--	--	--	--	--	--	--	**167**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**122**	--	--	--

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Table 2
Summary of Soil Gas Sample Results
VOCs
Former Unocal Avila Terminal
10 San Rafael Street, Avila Beach, California

Sample ID	Date	Bromoform	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Cyclohexane	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane (F12)	Dichlorotetrafluoroethane (F114)	Diisopropyl ether (DIPE)	Ethanol	Ethyl acetate	Ethyl tert-butyl ether (ETBE)	Ethylbenzene	Hexachlorobutadiene	Isopropyl alcohol	Isopropylbenzene (Cumene)	m,p-Xylene	Methyl tertiary-butyl ether (MTBE)	Methylene chloride (Dichloromethane)	Naphthalene	n-Butylbenzene	n-Heptane	n-Hexane	n-Propylbenzene	o-Xylene	p-Isopropyltoluene	Propene
SV-71-5'	6/20/2012	<10	<16	<6.3	<6.4	<4.7	<8	<4.9	<2.1	<4	<4.6	<17	<8.6	<7.2	**3.8 J**	<7.1	<4.2	**29**	**12 J**	<4.2	**4.9**	<11	**10 J**	**32**	**13**	<3.6	**2.2 J**	<5.3	<5.6	**1.9 J**	<3.6	<5	**4.2 J**	<5.6	**1.2 J**
SV-72-5'	6/20/2012	<10	<16	<6.3	<6.4	<4.7	<8	<4.9	<2.1	<4	<4.6	<17	<8.6	<7.2	**4.0 J**	<7.1	<4.2	**53**	**33**	<4.2	**9.5**	<11	**21 J**	**53**	**29**	<3.6	**4.2**	**4.6 J**	<5.6	**5.2**	**5.8**	**2.1 J**	**8.0**	<5.6	**2.4 J**
SV-73-5'	6/20/2012	<10	<16	**2.1 J**	<6.4	<4.7	<8	**5.4**	<2.1	<4	<4.6	<17	<8.6	<7.2	**3.6 J**	<7.1	<4.2	**45**	**17 J**	<4.2	**31**	<11	**11 J**	**45**	**21**	<3.6	**2.8 J**	**6.7**	**5.1 J**	**3.6 J**	**2.8 J**	**8.5**	**6.2**	<5.6	**1.6 J**
SV-74-5'	6/20/2012	<10	<16	**2.1 J**	<6.4	<4.7	<8	**3.8 J**	**3.4**	<4	<4.6	<17	<8.6	<7.2	**3.5 J**	<7.1	<4.2	**47**	**16 J**	<4.2	**8.0**	<11	**9.6 J**	**36**	**24**	<3.6	**3.3 J**	**5.3 J**	<5.6	**3.9 J**	**5.7**	**2.0 J**	**7.4**	<5.6	**2.1 J**
SV-75-5'	6/20/2012	<10	<16	<6.3	<6.4	<4.7	<8	**2.4 J**	<2.1	<4	<4.6	<17	<8.6	<7.2	**3.6 J**	<7.1	<4.2	**25**	**12 J**	<4.2	**9.5**	<11	**7.8 J**	**35**	**32**	<3.6	**2.4 J**	<5.3	<5.6	**44**	**36**	<5	**7.6**	<5.6	**1.6 J**
SV-76-5'	6/20/2012	<10	<16	**7.0**	<6.4	<4.7	<8	**9.5**	<2.1	<4	<4.6	<17	<8.6	<7.2	**3.9 J**	<7.1	<4.2	**31**	**14 J**	<4.2	**6.2**	<11	**9.9 J**	**38**	**17**	<3.6	**2.9 J**	<5.3	<5.6	**2.0 J**	**4.0**	<5	**5.5**	<5.6	**13**
SV-77-5'	6/20/2012	<10	<16	<6.3	<6.4	<4.7	<8	**5.0**	<2.1	<4	<4.6	<17	<8.6	<7.2	**3.7 J**	<7.1	<4.2	**39**	**13 J**	<4.2	**5.6**	<11	**10 J**	**44**	**16**	<3.6	**3.1 J**	<5.3	<5.6	<4.1	**2.1 J**	<5	**5.3**	<5.6	**2.9 J**
SV-78-5'	6/20/2012	<10	<16	**3.3 J**	<6.4	<4.7	<8	**2.1 J**	<2.1	<4	<4.6	<17	<8.6	<7.2	**3.6 J**	<7.1	<4.2	**29**	**18 J**	<4.2	**5.6**	<11	**8.4 J**	**47**	**16**	<3.6	**2.1 J**	<5.3	<5.6	**1.8 J**	**2.4 J**	<5	**5.4**	<5.6	**4.2 J**
SV-79-5'	6/20/2012	<10	<16	<6.3	<6.4	<4.7	<8	**4.6 J**	<2.1	<4	<4.6	<17	<8.6	<7.2	**2.9 J**	<7.1	<4.2	**99**	**16 J**	<4.2	**4.4 J**	<11	**9.0 J**	**29**	**12**	<3.6	**2.3 J**	<5.3	<5.6	<4.1	<3.6	<5	**4.0 J**	<5.6	**2.1 J**
SV-80-15'	6/20/2012	<10	<16	**2.6 J**	<6.4	<4.7	<8	**7.7**	<2.1	<4	<4.6	<17	<8.6	<7.2	**3.8 J**	<7.1	<4.2	**31**	**12 J**	<4.2	**4.7**	<11	**6.5 J**	**30**	**14**	<3.6	**2.2 J**	<5.3	<5.6	**2.4 J**	**2.0 J**	<5	**4.4**	<5.6	**2.9 J**
SV-80-5'	6/20/2012	<10	<16	**3.5 J**	<6.4	<4.7	<8	**6.2**	<2.1	<4	<4.6	<17	<8.6	<7.2	**3.5 J**	<7.1	<4.2	**30**	**18 J**	<4.2	**4.9**	<11	**8.3 J**	**32**	**14**	<3.6	**2.4 J**	**4.1 J**	<5.6	<4.1	**2.0 J**	<5	**4.4**	<5.6	**2.1 J**
SV-81-15'	6/20/2012	<10	<16	<6.3	<6.4	<4.7	<8	**5.3**	<2.1	<4	<4.6	<17	<8.6	<7.2	**3.6 J**	<7.1	<4.2	**39**	**15 J**	<4.2	**4.9**	<11	**7.3 J**	**30**	**13**	<3.6	**2.4 J**	<5.3	<5.6	<4.1	**2.1 J**	<5	**4.6**	<5.6	**3.0 J**
SV-81-5'	6/20/2012	<10	<16	<6.3	<6.4	<4.7	<8	**2.2 J**	**1.3 J**	<4	<4.6	<17	<8.6	<7.2	**3.8 J**	<7.1	<4.2	**32**	**13 J**	<4.2	**4.0 J**	<11	**8.1 J**	**27**	**11**	<3.6	**1.8 J**	<5.3	<5.6	**1.8 J**	**1.6 J**	<5	**3.8 J**	<5.6	**1.2 J**
SV-82-15'	6/20/2012	<10	<16	<6.3	<6.4	<4.7	<8	<4.9	<2.1	<4	<4.6	<17	<8.6	<7.2	**3.6 J**	<7.1	<4.2	**48**	**19**	<4.2	**5.5**	<11	**9.8 J**	**37**	**15**	<3.6	**2.5 J**	**5.3**	<5.6	<4.1	**2.0 J**	<5	**4.7**	<5.6	**1.8 J**
SV-82-5'	6/20/2012	<10	<16	<6.3	<6.4	<4.7	<8	<4.9	**1.2 J**	<4	<4.6	<17	<8.6	<7.2	**3.7 J**	<7.1	<4.2	**44**	**14 J**	<4.2	**8.6**	<11	**8.9 J**	**37**	**29**	<3.6	**2.6 J**	<5.3	**3.1 J**	**2.4 J**	**2.6 J**	**2.4 J**	**9.5**	<5.6	**1.7 J**
SV-83-15'	6/20/2012	<10	<16	**28**	<6.4	<4.7	<8	**2.6 J**	**1.5 J**	<4	<4.6	<17	<8.6	<7.2	**3.9 J**	<7.1	<4.2	**31**	**23**	<4.2	**13**	<11	**7.4 J**	**32**	**39**	<3.6	**3.3 J**	<5.3	<5.6	**8.4**	**22**	**2.5 J**	**11**	<5.6	**43**
SV-83-5'	6/20/2012	<10	<16	**4.9 J**	<6.4	<4.7	<8	**2.8 J**	<2.1	<4	<4.6	<17	<8.6	<7.2	**3.7 J**	<7.1	<4.2	**26**	**18 J**	<4.2	**5.2**	<11	**7.2 J**	**31**	**13**	<3.6	**2.2 J**	<5.3	<5.6	<4.1	<3.6	<5	**4.3 J**	<5.6	**2.3 J**
SV-84-15'	6/20/2012	<10	<16	<6.3	<6.4	<4.7	<8	**15**	<2.1	<4	<4.6	<17	<8.6	<7.2	**10**	<7.1	<4.2	**52**	<18	<4.2	**11**	<11	<25	**4.5 J**	**42**	**11**	<3.5	<5.3	<5.6	**24**	**22**	**5.1**	**12**	<5.6	**3.1 J**
SV-84-5'	6/20/2012	<10	<16	**23**	<6.4	<4.7	<8	**15**	**0.93 J**	<4	<4.6	<17	<8.6	<7.2	**7.2**	<7.1	<4.2	**26**	**7.8 J**	<4.2	**10**	<11	**2.3 J**	**2.6 J**	**32**	<3.6	**1.8 J**	<5.3	<5.6	**3.2 J**	**5.3**	**2.3 J**	**12**	**2.4 J**	**5.4 J**
SV-85-15'	6/20/2012	<10	<16	**2.7 J**	<6.4	<4.7	<8	**2.4 J**	<2.1	<4	<4.6	<17	<8.6	<7.2	**2.9 J**	<7.1	<4.2	**47**	**10 J**	<4.2	**5.6**	<11	**6.5 J**	**26**	**17**	<3.6	**2.2 J**	<5.3	<5.6	<4.1	<3.6	<5	**6.1**	<5.6	**5.5 J**
SV-85-5'	6/20/2012	<10	<16	<6.3	<6.4	<4.7	<8	**5.1**	<2.1	<4	<4.6	<17	<8.6	<7.2	**2.9 J**	<7.1	<4.2	**150**	<18	<4.2	**11**	<11	**8.4 J**	**19**	**38**	**6.4**	**6.9**	**3.8 J**	<5.6	**4.1 J**	**3.2 J**	<5	**12**	<5.6	**3.3 J**
SV-86-15'	6/20/2012	<10	<16	**14**	<6.4	<4.7	<8	<4.9	<2.1	<4	<4.6	<17	<8.6	<7.2	**2.6 J**	<7.1	<4.2	**42**	**17 J**	<4.2	**7.3**	<11	**11 J**	**40**	**18**	<3.6	**1.9 J**	<5.3	<5.6	<4.1	**2.1 J**	<5	**6.4**	<5.6	**12**
SV-87-15'	6/20/2012	<10	<16	**2.6 J**	<6.4	<4.7	<8	**65**	<2.1	<4	<4.6	<17	<8.6	<7.2	**2.4 J**	<7.1	<4.2	**32**	**15 J**	<4.2	**5.3**	<11	**8.7 J**	**35**	**16**	<3.6	<3.5	<5.3	<5.6	<4.1	<3.6	<5	**4.6**	<5.6	**2.1 J**
SV-88-15'	6/20/2012	<10	<16	**170**	<6.4	<4.7	<8	<4.9	<2.1	<4	<4.6	<17	<8.6	<7.2	**3.2 J**	<7.1	<4.2	**86**	**21**	<4.2	**70**	<11	**10 J**	**47**	**23**	<3.6	**2.2 J**	**18**	**8.9**	**4.1**	**3.9**	**14**	**6.2**	<5.6	**590**
SV-89-15'	6/20/2012	<1000	<1600	**790**	<640	<470	<800	**42000**	<210	<400	<460	<1700	<860	<720	<500	<710	<420	<1900	<1800	<420	<440	<1100	<2500	<500	<880	<360	<350	<530	<560	<410	<360	<500	<440	<560	**720 J**
SV-90-15'	6/20/2012	<1000	<1600	**1000**	<640	<470	<800	**62000**	<210	<400	<460	<1700	<860	<720	<500	<710	<420	<1900	<1800	<420	<440	<1100	<2500	<500	<880	<360	<350	<530	<560	<410	<360	<500	<440	<560	**2300**
SV-91-15'	6/20/2012	<10	<16	**16**	<6.4	<4.7	<8	**1300**	<2.1	**40**	<4.6	<17	<8.6	<7.2	**2.3 J**	<7.1	<4.2	**61**	<18	<4.2	**5.4**	<11	**7.7 J**	**25**	**17**	<3.6	**2.4 J**	**4.0 J**	<5.6	**1.3 J**	<3.6	**1.2 J**	**5.4**	<5.6	<8.7
DUP-1	6/20/2012	<10	<16	**4.4 J**	<6.4	<4.7	<8	**3.5 J**	<2.1	<4	<4.6	<17	<8.6	<7.2	**3.9 J**	<7.1	<4.2	**380**	<18	<4.2	**8.4**	<11	**15 J**	**15**	**28**	<3.6	**9.7**	<5.3	<5.6	**6.2**	**12**	**1.2 J**	**9.8**	<5.6	<8.7
DUP-2	6/20/2012	<10	<16	**31**	<6.4	<4.7	<8	**2.4 J**	<2.1	**1.6 J**	<4.6	<17	<8.6	<7.2	**2.5 J**	<7.1	<4.2	**41**	<18	<4.2	**9.5**	<11	**5.0 J**	**28**	**29**	<3.6	<3.5	<5.3	<5.6	**1.2 J**	**12**	**1.2 J**	**8.9**	**1.6 J**	**34**
Trip Blank A	6/20/2012	<10	<16	<6.3	<6.4	<4.7	<8	**12**	<2.1	<4	<4.6	<17	<8.6	<7.2	<5	<7.1	<4.2	<19	<18	<4.2	<4.4	<11	<25	<5	<8.8	<3.6	<3.5	<5.3	<5.6	<4.1	<3.6	<5	<4.4	<5.6	<8.7
Trip Blank B	6/20/2012	<10	<16	<6.3	<6.4	<4.7	<8	**13**	<2.1	<4	<4.6	<17	<8.6	<7.2	<5	<7.1	<4.2	<19	<18	<4.2	<4.4	<11	<25	<5	<8.8	<3.6	<3.5	<5.3	<5.6	<4.1	<3.6	<5	<4.4	<5.6	<8.7

CHHSLs:	--	--	--	**84.6**	--	--	--	--	**44400**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**887000**	**13400**	--	**106**	--	--	--	--	**879000**	--	--

Table 2
Summary of Soil Gas Sample Results
VOCs
Former Unocal Avila Terminal
10 San Rafael Street, Avila Beach, California

Sample ID	Date	sec-Butylbenzene	Styrene	tert-Butylbenzene	Tertiary-amyl methyl ether (TAME)	Tertiary-butyl alcohol (TBA)	Tetrachloroethene	Tetrahydrofuran	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane (F11)	Vinyl acetate	Vinyl chloride
SV-71-5'	6/20/2012	<5.6	**2.8 J**	<5.6	<4.2	**1.4 J**	**3.0 J**	**22 J**	**20**	<8	<4.6	<5.5	**2.4 J**	<3.6	<2.6
SV-72-5'	6/20/2012	<5.6	**4.3 J**	<5.6	<4.2	**1.8 J**	**3.0 J**	**58**	**43**	<8	<4.6	<5.5	**2.4 J**	<3.6	**1.5 J**
SV-73-5'	6/20/2012	**3.4 J**	**4.1 J**	**2.3 J**	<4.2	<6.1	**3.1 J**	**32**	**28**	<8	<4.6	<5.5	**2.3 J**	<3.6	<2.6
SV-74-5'	6/20/2012	<5.6	**4.1 J**	<5.6	<4.2	**1.3 J**	**3.2 J**	**27 J**	**27**	<8	<4.6	<5.5	**2.5 J**	<3.6	<2.6
SV-75-5'	6/20/2012	<5.6	**3.4 J**	**2.3 J**	<4.2	<6.1	<6.9	**22 J**	**30**	<8	<4.6	<5.5	**2.4 J**	<3.6	<2.6
SV-76-5'	6/20/2012	<5.6	**3.2 J**	<5.6	<4.2	**1.4 J**	**9.0**	**29 J**	**24**	<8	<4.6	<5.5	**3.2 J**	<3.6	<2.6
SV-77-5'	6/20/2012	<5.6	**3.5 J**	<5.6	<4.2	**1.4 J**	<6.9	**24 J**	**22**	<8	<4.6	<5.5	**2.4 J**	<3.6	<2.6
SV-78-5'	6/20/2012	<5.6	**2.7 J**	<5.6	<4.2	**1.3 J**	**4.8 J**	**21 J**	**23**	<8	<4.6	<5.5	**2.7 J**	<3.6	<2.6
SV-79-5'	6/20/2012	<5.6	**2.4 J**	<5.6	<4.2	<6.1	<6.9	**19 J**	**18**	<8	<4.6	<5.5	<5.6	<3.6	<2.6
SV-80-15'	6/20/2012	<5.6	**2.5 J**	<5.6	<4.2	<6.1	<6.9	**15 J**	**17**	<8	<4.6	<5.5	<5.6	<3.6	<2.6
SV-80-5'	6/20/2012	<5.6	**2.5 J**	<5.6	<4.2	**1.5 J**	**21**	**20 J**	**22**	<8	<4.6	<5.5	**2.5 J**	<3.6	<2.6
SV-81-15'	6/20/2012	<5.6	**2.2 J**	<5.6	<4.2	**1.3 J**	**4.4 J**	**19 J**	**19**	<8	<4.6	<5.5	**2.3 J**	<3.6	<2.6
SV-81-5'	6/20/2012	<5.6	**2.1 J**	<5.6	<4.2	<6.1	<6.9	**14 J**	**17**	<8	<4.6	<5.5	<5.6	<3.6	<2.6
SV-82-15'	6/20/2012	<5.6	**2.9 J**	<5.6	<4.2	**1.4 J**	<6.9	**24 J**	**27**	<8	<4.6	<5.5	<5.6	<3.6	<2.6
SV-82-5'	6/20/2012	<5.6	**2.5 J**	**3.1 J**	<4.2	**1.9 J**	<6.9	**22 J**	**28**	<8	<4.6	<5.5	**2.4 J**	<3.6	<2.6
SV-83-15'	6/20/2012	<5.6	**3.8 J**	**2.4 J**	<4.2	**1.3 J**	**9.4**	**100**	**57**	<8	<4.6	<5.5	**2.7 J**	<3.6	<2.6
SV-83-5'	6/20/2012	<5.6	**2.9 J**	<5.6	<4.2	**2.1 J**	**5.1 J**	**50**	**20**	<8	<4.6	<5.5	**2.4 J**	<3.6	<2.6
SV-84-15'	6/20/2012	<5.6	<4.3	**2.3 J**	<4.2	<6.1	<6.9	<30	**17**	<8	<4.6	<5.5	**46**	<3.6	<2.6
SV-84-5'	6/20/2012	<5.6	<4.3	**2.3 J**	<4.2	**1.6 J**	**7.0**	<30	**30**	<8	<4.6	<5.5	**23**	<3.6	<2.6
SV-85-15'	6/20/2012	<5.6	<4.3	<5.6	<4.2	<6.1	<6.9	**21 J**	**22**	<8	<4.6	<5.5	<5.6	<3.6	<2.6
SV-85-5'	6/20/2012	<5.6	<4.3	<5.6	<4.2	**2.3 J**	<6.9	**16 J**	**46**	<8	<4.6	<5.5	<5.6	<3.6	<2.6
SV-86-15'	6/20/2012	<5.6	**2.1 J**	<5.6	<4.2	<6.1	**9.8**	**26 J**	**27**	<8	<4.6	<5.5	<5.6	<3.6	<2.6
SV-87-15'	6/20/2012	<5.6	**2.9 J**	<5.6	<4.2	<6.1	**7.5**	**26 J**	**25**	<8	<4.6	<5.5	<5.6	<3.6	<2.6
SV-88-15'	6/20/2012	**3.8 J**	**2.5 J**	<5.6	<4.2	<6.1	<6.9	**25 J**	**29**	<8	<4.6	<5.5	**2.3 J**	<3.6	<2.6
SV-89-15'	6/20/2012	<560	<430	<560	<420	<610	**960**	<3000	<380	<800	<460	<550	<560	<360	<260
SV-90-15'	6/20/2012	<560	<430	<560	<420	<610	**1200**	<3000	<380	<800	<460	<550	<560	<360	<260
SV-91-15'	6/20/2012	<5.6	**2.1 J**	<5.6	<4.2	**2.0 J**	**120**	**14 J**	**21**	<8	<4.6	**89**	<5.6	<3.6	<2.6
DUP-1	6/20/2012	<5.6	**1.7 J**	<5.6	<4.2	**2.8 J**	**2.7 J**	**15 J**	**55**	<8	<4.6	**3.3 J**	<5.6	<3.6	<2.6
DUP-2	6/20/2012	**1.8 J**	**2.4 J**	<5.6	<4.2	<6.1	**11**	**56**	**47**	<8	<4.6	**6.4**	**1.7 J**	<3.6	<2.6
Trip Blank A	6/20/2012	<5.6	<4.3	<5.6	<4.2	<6.1	<6.9	<30	<3.8	<8	<4.6	<5.5	<5.6	<3.6	<2.6
Trip Blank B	6/20/2012	<5.6	<4.3	<5.6	<4.2	<6.1	<6.9	<30	<3.8	<8	<4.6	<5.5	<5.6	<3.6	<2.6
CHHSLs:		**--**	**--**	**--**	**--**	**--**	**603**	**--**	**378,000**	**88700**	**--**	**1770**	**--**	**--**	**44.8**

Notes:
All results in micrograms per cubic meter
<10 = not indicated at or above the reporting limit
-- = not established
VOCs = volatile organic compounds
CHHSLs = California Human Health Screening Levels, Shallow Soil Gas, Commercial Land Use
50 = Result that exceeds CHSSL
J = result below the method reporting limit but above the method detection limit

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Table 3
Summary of Soil Gas Sample Analytical Results
TPHv, TPHv Speciation, Fixed Gases, and Methane
Former Unocal Avila Terminal
10 San Rafael Street, Avila Beach, California

Sample ID	Date Collected	TPHv (C5 - C11) (ug/m3)	TPHv (C5 - C8) aliphatic (ug/m3)	TPHv (C6 - C8) aromatic (ug/m3)	TPHv (C9 - C10) aromatic (ug/m3)	TPHv (C9 - C12) aliphatic (ug/m3)	Methane (ppmv)	Carbon Dioxide (%)	Nitrogen (%)	Oxygen (%)
SV-71-5'	6/20/2012	**1300**	**710**	<100	**72 J**	**930**	<10	**1.5**	**76**	**20**
SV-72-5'	6/20/2012	**2600**	**1700**	**93 J**	**110**	**1500**	<10	**1.7**	**76**	**20**
SV-73-5'	6/20/2012	**2300**	**880**	**96 J**	**180**	**1400**	<10	**2.1**	**76**	**19**
SV-74-5'	6/20/2012	**1800**	**910**	**72 J**	**78 J**	**990**	<10	**0.6**	**76**	**20**
SV-75-5'	6/20/2012	**2300**	**1600**	**94 J**	**87 J**	**1000**	<10	**1.1**	**75**	**20**
SV-76-5'	6/20/2012	**2500**	**1100**	**56 J**	**90 J**	**1500**	<10	**2.9**	**77**	**17**
SV-77-5'	6/20/2012	**2000**	**720**	**52 J**	**86 J**	**1300**	<10	**3.9**	**75**	**18**
SV-78-5'	6/20/2012	**2700**	**820**	**55 J**	**100**	**1700**	<10	**1.7**	**78**	**18**
SV-79-5'	6/20/2012	**1400**	**710**	<100	**68 J**	**820**	<10	**14**	**73**	**12**
SV-80-15'	6/20/2012	**1700**	**1300**	<100	**73 J**	**820**	<10	**3.7**	**76**	**18**
SV-80-5'	6/20/2012	**1500**	**1000**	<100	**65 J**	**710**	<10	**1.4**	**76**	**20**
SV-81-15'	6/20/2012	**2000**	**1600**	<100	**77 J**	**970**	<10	**1.3**	**78**	**19**
SV-81-5'	6/20/2012	**1400**	**740**	<100	**59 J**	**800**	<10	**0.4**	**76**	**20**
SV-82-15'	6/20/2012	**2000**	**1500**	**57 J**	**81 J**	**1000**	<10	**1.5**	**76**	**20**
SV-82-5'	6/20/2012	**1900**	**900**	**79 J**	**110**	**1000**	<10	**1.0**	**76**	**20**
SV-83-15'	6/20/2012	**2200**	**2000**	**170**	**87 J**	**800**	<10	**2.2**	**76**	**19**
SV-83-5'	6/20/2012	**1400**	**870**	<100	**62 J**	**710**	<10	**2.5**	**77**	**19**
SV-84-15'	6/20/2012	**2500**	**3500**	**86 J**	**110**	**290**	<10	**7.1**	**81**	**12**
SV-84-5'	6/20/2012	**1300**	**1100**	**93 J**	**51 J**	**530**	<10	**4.7**	**78**	**16**
SV-85-15'	6/20/2012	**1500**	**1100**	**53 J**	**68 J**	**710**	<10	**5.5**	**77**	**17**
SV-85-5'	6/20/2012	**1400**	**940**	**110**	**88 J**	**740**	<10	**1.1**	**76**	**20**

Table 3
Summary of Soil Gas Sample Analytical Results
TPHv, TPHv Speciation, Fixed Gases, and Methane
Former Unocal Avila Terminal
10 San Rafael Street, Avila Beach, California

Sample ID	Date Collected	TPHv (C5 - C11) (ug/m3)	TPHv (C5 - C8) aliphatic (ug/m3)	TPHv (C6 - C8) aromatic (ug/m3)	TPHv (C9 - C10) aromatic (ug/m3)	TPHv (C9 - C12) aliphatic (ug/m3)	Methane (ppmv)	Carbon Dioxide (%)	Nitrogen (%)	Oxygen (%)
SV-86-15'	6/20/2012	**3600**	**1900**	**66 J**	**88 J**	**2200**	<10	**4.7**	**78**	**17**
SV-87-15'	6/20/2012	**2400**	**1500**	**57 J**	**76 J**	**1300**	<10	**3.2**	**77**	**18**
SV-88-15'	6/20/2012	**2800**	**1700**	**340**	**150**	**1300**	**53**	**0.3**	**82**	**16**
SV-89-15'	6/20/2012	**53000**	**75000**	<10000	<10000	<10000	<10	**11**	**80**	**8.4**
SV-90-15'	6/20/2012	**35000**	**49000**	<10000	<10000	<10000	**20**	**0.3**	**83**	**16**
SV-91-15'	6/20/2012	**2800**	**3100**	**53 J**	**73 J**	**900**	<10	**5.8**	**77**	**16**
DUP-1	6/20/2012	**1000**	**960**	**100**	**59 J**	**460**	<10	**2.0**	**76**	**19**
DUP-2	6/20/2012	**1900**	**1200**	**130**	**69 J**	**1000**	<10	**2.1**	**77**	**19**
Trip Blank A	6/20/2012	<100	<100	<100	<100	<100	NA	NA	NA	NA
Trip Blank B	6/20/2012	<100	<100	<100	<100	<100	NA	NA	NA	NA

Notes:

TPHv = total petroleum hydrocarbons, volatile fraction

<0.10 = not indicated at or above the method reporting limit

J = result below the method reporting limit but above the method detection limit

ug/m^3 = micrograms per cubic meter

ppmv = parts per million by volume

% = percent

NA = not chemically analyzed

PLATES

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0 1,000 2,000 4,000

FEET

SCALE

PLATE 1

SITE LOCATION MAP

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON EMC
SAN LUIS OBISPO, CALIFORNIA

REFERENCE:
7.5 MINUTE U.S.G.S. TOPOGRAPHIC MAP
OF PISMO BEACH, CALIFORNIA
DATED: 1965
PHOTOREVISED: 1975

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S:\GIS\1273 Avila Development Support\1273.005_2012_Support-BRES\ArcMapDocuments\013_1273.005_Site_Plan_Showing_Soil_Gas_Probe_Locations_all_historical_locs.mxd\7/16/2012

PLATE 2

SITE PLAN SHOWING SOIL GAS PROBE LOCATIONS

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON, INC.
SAN LUIS OBISPO, CALIFORNIA

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APPENDIX A
DRILL HOLE / SOIL GAS PROBE CONSTRUCTION LOGS

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LOG OF DRILL HOLE SV-71

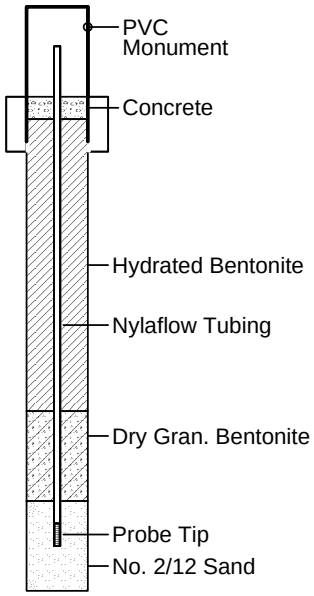
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: Hand Auger / Direct Push
Project Name	: Supplemental Soil Gas Assmt.	Drill Hole Total Depth	: 5.5 feet
Logged By	: Paul G. Lavelle	Drilling Date	: 6/4/12
Checked By	: Louis J. Cappel	Completed With	: Soil Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	DESCRIPTION
0		SC				Clayey SAND (SC): very dark gray (7.5 YR 3/1); fine grained sand with clay; some angular fragments of chert; little silt; loose; damp; no hydrocarbon staining or odor.
5					0.4	Becomes slightly moist; increased volume of rock fragments.
10						
15						

SV-71-5'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 4 feet.

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LOG OF DRILL HOLE SV-72

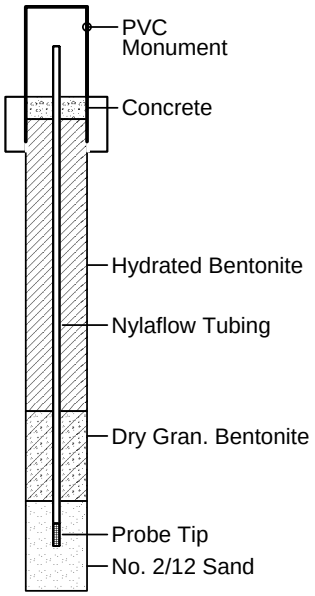
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: Hand Auger / Direct Push
Project Name	: Supplemental Soil Gas Assmt.	Drill Hole Total Depth	: 5.5 feet
Logged By	: Paul G. Lavelle	Drilling Date	: 6/4/12
Checked By	: Louis J. Cappel	Completed With	: Soil Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	DESCRIPTION
0		SC				Clayey SAND (SC): dark brown (7.5 YR 3/2); medium to coarse grained sand with clay; some angular gravel; slightly organic; loose; damp; no hydrocarbon staining or odor.
		ML				SILT (ML): light yellowish brown (2.5 Y 6/4); some fine grained sand; few rounded gravel; friable; soft; damp; no hydrocarbon staining or odor.
5		SC			0.2	Clayey SAND (SC): dark brown (7.5 YR 3/2); some fine angular gravel; slightly moist; medium dense; no hydrocarbon staining or odor.
10						
15						

SV-72-5'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 4 feet.
3. No soil samples collected.

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LOG OF DRILL HOLE SV-73

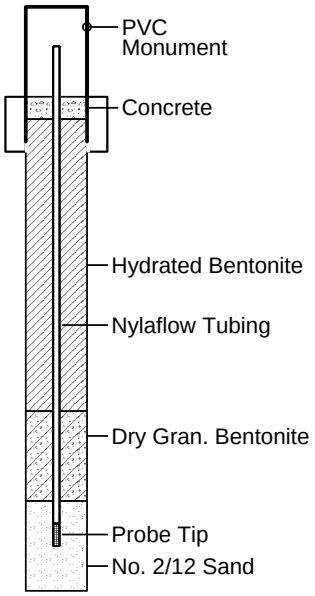
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: Hand Auger / Direct Push
Project Name	: Supplemental Soil Gas Assmt.	Drill Hole Total Depth	: 5.5 feet
Logged By	: Paul G. Lavelle	Drilling Date	: 6/4/12
Checked By	: Louis J. Cappel	Completed With	: Soil Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	DESCRIPTION
0		SC				Clayey SAND (SC): very dark gray (7.5 YR 3/1); medium to coarse grained sand with clay; some angular gravel; slightly organic; loose; damp; no hydrocarbon staining or odor.
		ML				SILT (ML): light yellowish brown (2.5 Y 6/4); some fine grained sand; few subrounded gravel; soft; dry; no hydrocarbon staining or odor.
		CH				CLAY (CH): black (7.5 YR 2.5/1); high plasticity; few rootlets; trace silt; firm; damp.
5					1.1	
10						
15						

SV-73-5'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 4 feet.
3. No soil samples collected.

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LOG OF DRILL HOLE SV-74

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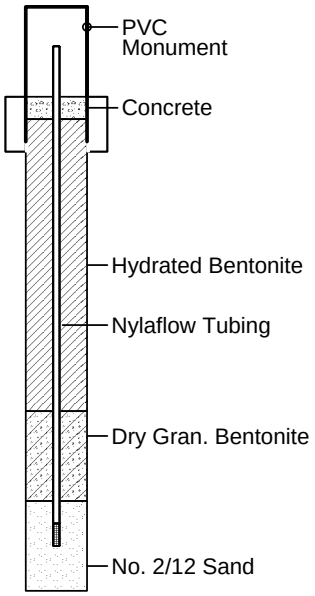
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: Hand Auger / Direct Push
Project Name	: Supplemental Soil Gas Assmt.	Drill Hole Total Depth	: 5.5 feet
Logged By	: Paul G. Lavelle	Drilling Date	: 6/4/12
Checked By	: Louis J. Cappel	Completed With	: Soil Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	DESCRIPTION
0		CH			1.7	CLAY (CH): very dark brown (7.5 YR 2.5/3); high plasticity; few rootlets and fine gravel; trace silt; firm; damp; no hydrocarbon staining or odor. Becomes black (7.5 YR 2.5/1).
5						
10						
15						

SV-74-5'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 4 feet.
3. No soil samples collected.

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LOG OF DRILL HOLE SV-75

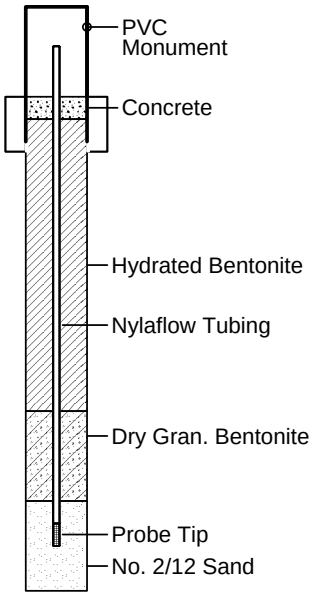
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: Hand Auger / Direct Push
Project Name	: Supplemental Soil Gas Assmt.	Drill Hole Total Depth	: 5.5 feet
Logged By	: Paul G. Lavelle	Drilling Date	: 6/4/12
Checked By	: Louis J. Cappel	Completed With	: Soil Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	DESCRIPTION
0		CH			0.8	CLAY (CH): very dark gray (7.5 YR 3/1); high plasticity; trace silt and rootlets; few fine to medium subrounded gravel; stiff; damp; no hydrocarbon staining or odor. Becomes black (7.5 YR 2.5/1); few fine gravel; very stiff.
5						
10						
15						

SV-75-5'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 3.5 feet.
3. No soil samples collected.

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LOG OF DRILL HOLE SV-76

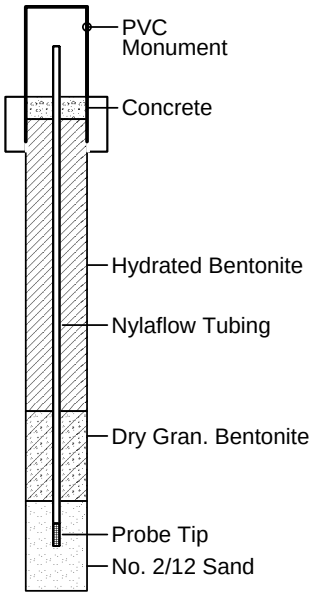
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: Hand Auger / Direct Push
Project Name	: Supplemental Soil Gas Assmt.	Drill Hole Total Depth	: 5.5 feet
Logged By	: Paul G. Lavelle	Drilling Date	: 6/4/12
Checked By	: Louis J. Cappel	Completed With	: Soil Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	DESCRIPTION
0		CH			0.2	CLAY (CH): black (7.5 YR 2.5/1); high plasticity; little silt; trace gravel including fragments of tuff; stiff; damp; no hydrocarbon staining or odor. Becomes very dark grayish brown (7.5 YR 3/2); little silt and fine grained sand; trace gysum in veins; very stiff.
5						
10						
15						

SV-76-5'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 3.5 feet.
3. No soil samples collected.

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LOG OF DRILL HOLE SV-77

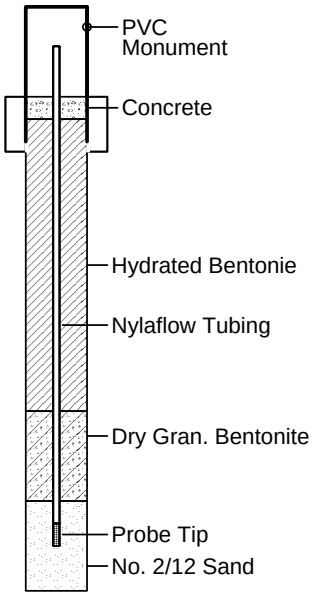
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: Hand Auger / Direct Push
Project Name	: Supplemental Soil Gas Assmt.	Drill Hole Total Depth	: 5.5 feet
Logged By	: Paul G. Lavelle	Drilling Date	: 6/4/12
Checked By	: Louis J. Cappel	Completed With	: Soil Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	DESCRIPTION
0		SM				Silty SAND (SM): light olive brown (2.5 Y 5/6); fine to medium grained; few roots and iron oxide staining in veins; slightly mottled; loose; damp; no hydrocarbon staining or odor.
		CH			4.1	CLAY (CH): very dark gray (7.5 YR 3/1); few very fine gravel fragments; very stiff; damp; no hydrocarbon staining or odor.
5						
10						
15						

SV-77-5'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 4 feet.

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LOG OF DRILL HOLE SV-78

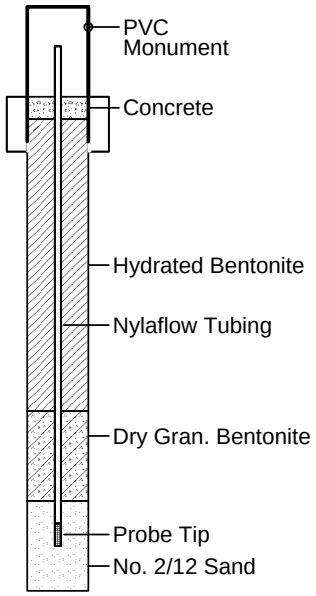
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: Hand Auger / Direct Push
Project Name	: Supplemental Soil Gas Assmt.	Drill Hole Total Depth	: 5.5 feet
Logged By	: Paul G. Lavelle	Drilling Date	: 6/4/12
Checked By	: Louis J. Cappel	Completed With	: Soil Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	DESCRIPTION
0		CH			0.5	CLAY (CH): very dark gray (10 YR 3/1); high plasticity - fat clay; trace fine sand and silt; little iron oxide staining in veins; firm; damp; no hydrocarbon staining or odor. Becomes black (7.5 YR 2.5/1).
5						
10						
15						

SV-78-5'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 4 feet.
3. No soil samples collected.

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LOG OF DRILL HOLE SV-79

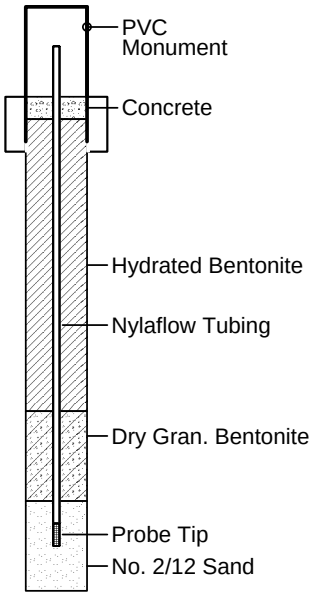
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: Hand Auger / Direct Push
Project Name	: Supplemental Soil Gas Assmt.	Drill Hole Total Depth	: 5.5 feet
Logged By	: Paul G. Lavelle	Drilling Date	: 6/5/12
Checked By	: Louis J. Cappel	Completed With	: Soil Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Samples Collected	PID (ppmv)	DESCRIPTION
0		SC			0.3	Clayey SAND (SC): black (7.5 YR 2.5/1); fine grained sand with clay; some silt; trace coarse angular sand grains; slightly organic; friable; damp; no hydrocarbon staining or odor.
5						
10						
15						

SV-79-5'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 4 feet.
3. No soil samples collected.

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LOG OF DRILL HOLE SV-80

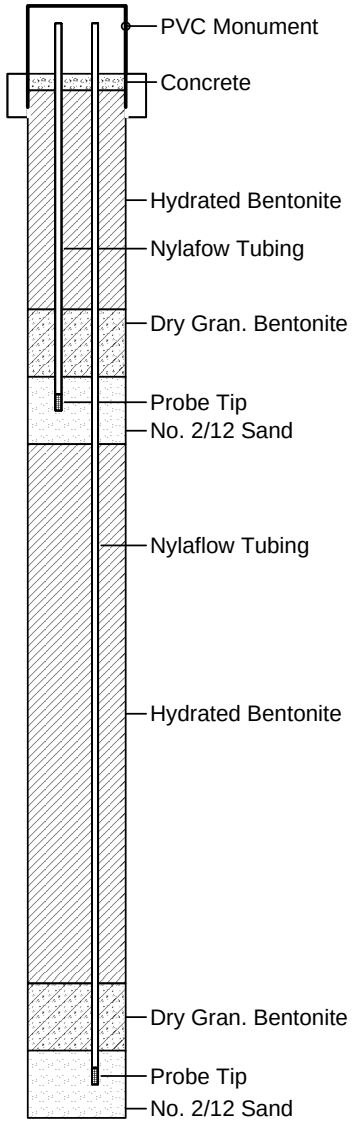
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: Hand Auger / Direct Push
Project Name	: Supplemental Soil Gas Assmt.	Drilling Date	: 6/5/12
Logged By	: Paul G. Lavelle	Drill Hole Total Depth	: 15.5 feet
Checked By	: Louis Cappel	Completed With	: Dual-Nested Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Sample Interval	PID (ppmv)	DESCRIPTION
0						Silty SAND (SM): yellow (10 YR 7/6); fine to medium grained sand with silt; some fragments of subangular fine grained sandstone; loose; dry; no hydrocarbon staining or odor.
5		SM			0.2	Becomes dense.
						Becomes very dense.
10		Tppg				Pismo Formation (Tppg): fine grained sandstone; olive yellow (2.5 Y 6/6); weathered; some fragments are brittle; very fine subangular grains; no hydrocarbon staining or odor.
15					0.8	Same as above with some iron oxide staining; cuttings damp; no hydrocarbon staining or odor.
20						

SV-80-5'
SV-80-15'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 4 feet. Drilled with direct push and met refusal at 9.5 feet. Completed drill hole to total depth with hand auger.
3. No soil samples collected.

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LOG OF DRILL HOLE SV-81

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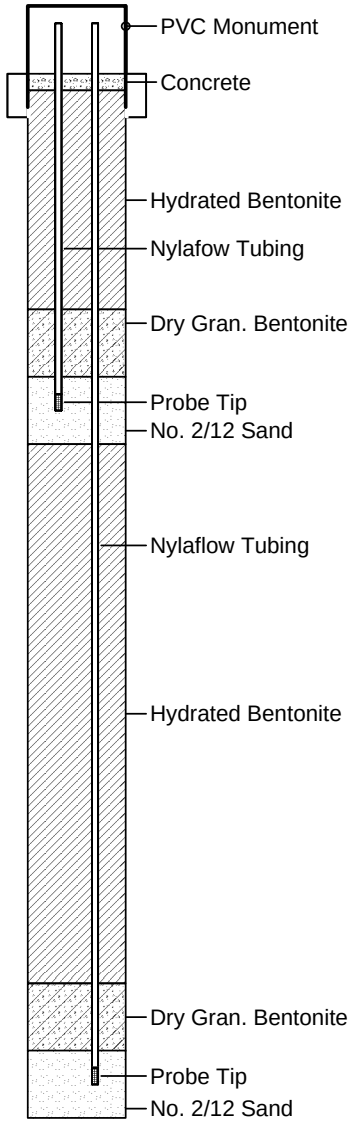
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: Hand Auger / Direct Push
Project Name	: Supplemental Soil Gas Assmt.	Drilling Date	: 6/5/12
Logged By	: Paul G. Lavelle	Drill Hole Total Depth	: 15.5 feet
Checked By	: Louis Cappel	Completed With	: Dual-Nested Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Sample Interval	PID (ppmv)	DESCRIPTION
0		ML				Sandy SILT (ML): pale yellow (5Y 8/4); medium dense; fragments of weathered Tuff; damp; no hydrocarbon staining or odor.
5		Tmo			0.1	Obispo Formation (Tmo): fine grained; slightly mottled; iron oxide staining and organic residue in veins; damp; firm.
10						
15					0.0	Same as above; with fragments of friable ash and harder tuff; moist; firm; no hydrocarbon staining or odor.
20						

SV-81-5'
SV-81-15'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 5 feet. Completed drill hole to total depth with direct push.

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LOG OF DRILL HOLE SV-82

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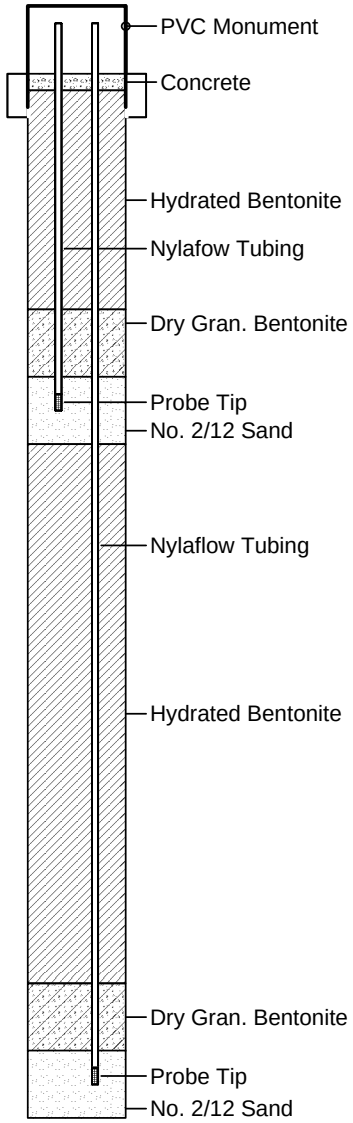
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: Hand Auger / Direct Push
Project Name	: Supplemental Soil Gas Assmt.	Drilling Date	: 6/5/12
Logged By	: Cody Montoya	Drill Hole Total Depth	: 15.5 feet
Checked By	: Louis Cappel	Completed With	: Dual-Nested Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Sample Interval	PID (ppmv)	DESCRIPTION
0						Clayey SAND (SC): black (10YR 2/1); fine grained; trace silt; slightly moist; no hydrocarbon staining or odor.
5		SC			0.2	
10						Becomes dark brown (7.5YR 3/2); moist; no hydrocarbon staining or odor.
15					0.4	Same as above; with fragments of chert; slightly moist.
20						

SV-82-5'
SV-82-15'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 5 feet. Completed drill hole to total depth with direct push.
3. No soil samples collected.

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LOG OF DRILL HOLE SV-83

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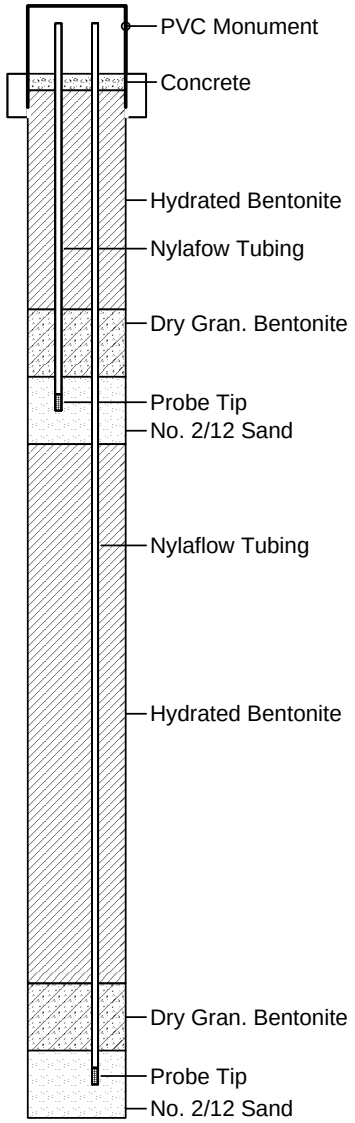
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: HSA
Project Name	: Supplemental Soil Gas Assmt.	Drilling Date	: 6/5/12
Logged By	: Paul G. Lavelle	Drill Hole Total Depth	: 15.5 feet
Checked By	: Louis Cappel	Completed With	: Dual-Nested Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Sample Interval	PID (ppmv)	DESCRIPTION
0		SM				Silty SAND(SM): very dark grayish brown (10YR 3/2); fine grained sand with silt; some fragments of white (10YR 8/1) to light gray fine grained sandstone; dry; no hydrocarbon staining or odor.
5					1.1	Pismo Formation (Tppg): fine grained sandstone; brittle; fractured; slightly weathered; iron oxide staining lines fractures; dry; no hydrocarbon staining or odor.
10		Tppg				Becomes brownish yellow (10YR 6/6); hard drilling.
15					2.9	Becomes reddish yellow (7.5YR 6/6); hard drilling; grinds into silty sand; no hydrocarbon staining or odor.
20						

SV-83-5'
SV-83-15'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 5 feet.
3. HSA = hollow stem auder.

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LOG OF DRILL HOLE SV-84

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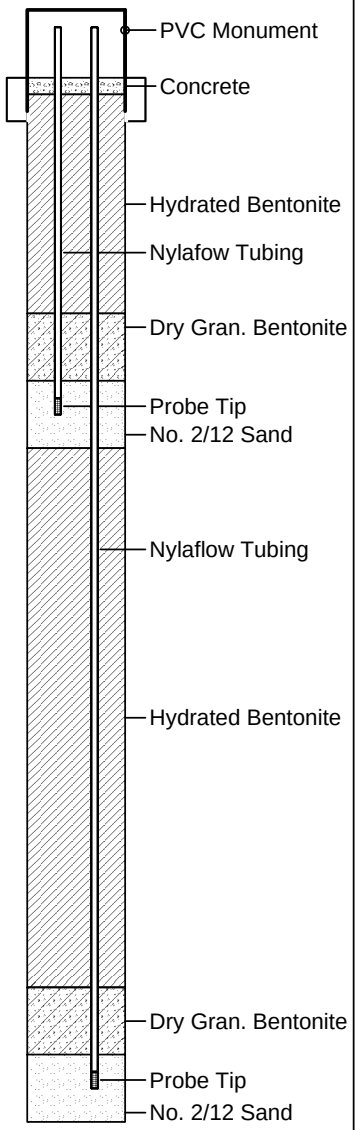
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: HSA
Project Name	: Supplemental Soil Gas Assmt.	Drilling Date	: 6/6/12
Logged By	: Paul G. Lavelle	Drill Hole Total Depth	: 15.5 feet
Checked By	: Louis Cappel	Completed With	: Dual-Nested Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	USCS	Sample Interval	PID (ppmv)	DESCRIPTION
0	SM			Silty SAND (SM): very dark grayish brown (10YR 3/2); fine grained sand with silt; some angular fragments of Pismo Formation- fine grained hard sandstone; medium dense; dry; no hydrocarbon staining or odor.
	SC			Clayey SAND (SC): pale yellow (2.5Y 7/3); fine grained sand with clay; little silt, organic residue in veins; few small fragments of subrounded weathered sandstone, damp; no hydrocarbon staining or odor.
5	Tppg		0.8	Pismo Formation (Tppg): grinds into fine grained sand with silt, very slight mottling; friable; damp; no hydrocarbon staining or odor.
10	Tmo		1.0	Obispo Formation (Tmo): tuff; white to pinkish white (7.5YR 8/2); very fine grained; weathered; soft and crumbly; no hydrocarbon staining or odor.
15				
20				

SV-84-5'
SV-84-15'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 5 feet.
3. No soil samples collected.
4. HSA = hollow stem auger.

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LOG OF DRILL HOLE SV-85

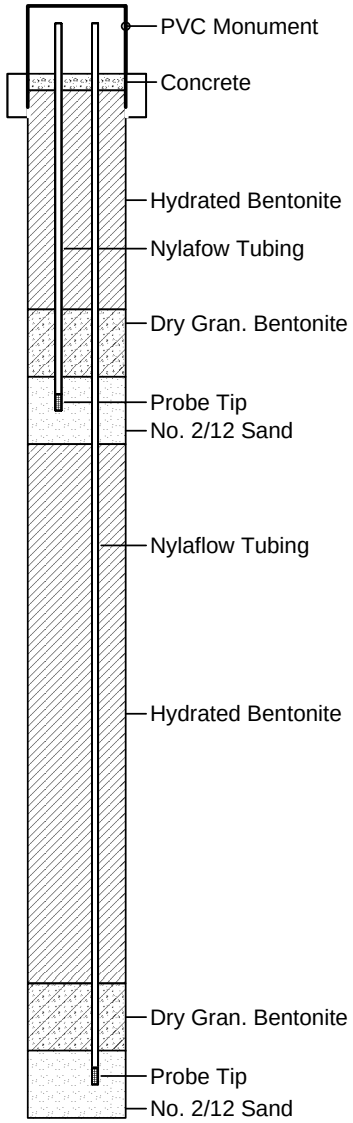
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: Hand Auger / HSA
Project Name	: Supplemental Soil Gas Assmt.	Drilling Date	: 6/6/12
Logged By	: Paul G. Lavelle	Drill Hole Total Depth	: 15.5 feet
Checked By	: Louis Cappel	Completed With	: Dual-Nested Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	USCS	Sample Interval	PID (ppmv)	DESCRIPTION
0				Silty SAND (SM); very dark grayish brown (10YR 3/2) ; fine grained sand with silt, some fragments of fine grained sandstone; loose; dry.
				Same as above, with large angular fragments of sandstone; damp.
5	SM		0.0	
				Becomes dense; trace clay; no hydrocarbon staining or odor.
10				
	Tmo			Obispo Formation (Tmo); tuff; white to pinkish white (7.5YR 8/2); fine grained; indurated but crumbles easily; weathered; soft; damp; no hydrocarbon staining or odor.
15			0.2	
20				

SV-85-5'
SV-85-15'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 5 feet.
3. No soil samples collected.
4. HSA = hollow stem auger.

06-27-2012 Z:\Current Projects\0801-0897 CEMC Avila Tank Farm - 2012\Reports\Supplemental Soil Gas Assessment\Drill Hole Logs\SV-85.bor

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

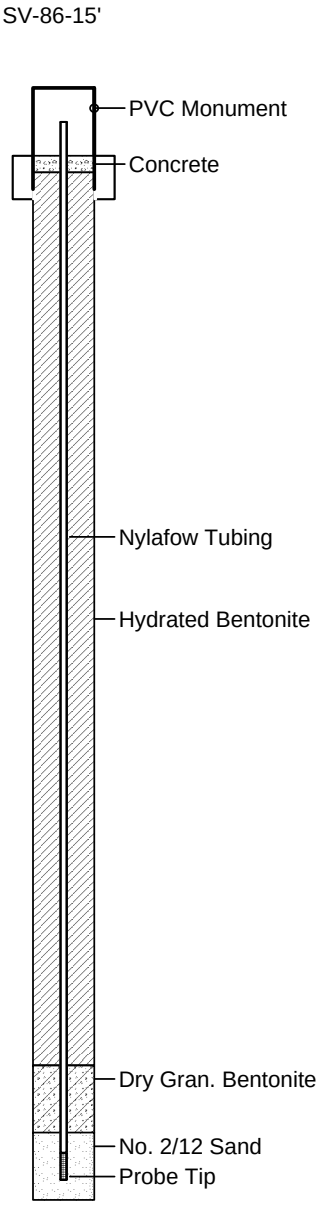
LOG OF DRILL HOLE SV-86

Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: HSA
Project Name	: Supplemental Soil Gas Assmt.	Drilling Date	: 6/6/12
Logged By	: Paul G. Lavelle	Drill Hole Total Depth	: 15.5 feet
Checked By	: Louis Cappel	Completed With	: Soil Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Sample Interval	Blow Count	PID (ppmv)	DESCRIPTION
0		Tppg					Pismo Formation (Tppg): sandstone - siltstone; white to pale yellow (2.5Y 8/2); very fine grained; weathered; dry; no hydrocarbon staining or odor.
5							Becomes slightly darker pale yellow (2.5Y 7/3); soft; grinds into sandy silt; damp; trace iron oxide staining.
10							
15					6-18-21	2.1	Same as above, with fine fractures; slightly less weathered; hard; no hydrocarbon staining or odor.
20							



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 5 feet.
3. HSA = hollow stem auger.

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LOG OF DRILL HOLE SV-87

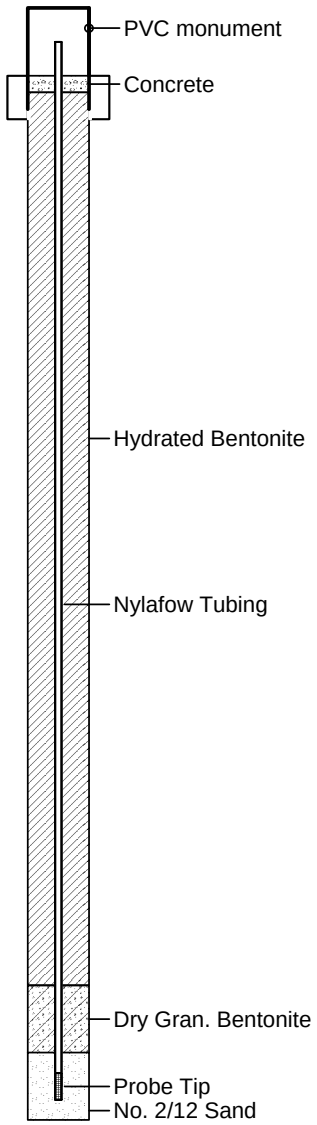
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: HSA
Project Name	: Supplemental Soil Gas Assmt.	Drilling Date	: 6/6/12
Logged By	: Paul G. Lavelle	Drill Hole Total Depth	: 15.5 feet
Checked By	: Louis Cappel	Completed With	: Soil Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Sample Interval	PID (ppmv)	DESCRIPTION
0						Pismo Formation (Tppg): siltstone; white to pale yellow (2.5Y 8/2); very fine grained; some fine sand; weathered; fractured; dry; no hydrocarbon staining or odor.
5		Tppg				Becomes light yellowish brown (2.5Y 6/4); grinds to silt with very fine sand; rounded grains; soft; friable; damp; no hydrocarbon staining or odor.
10						
15					0.3	
20						

SV-87-15'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 5 feet.
3. No soil samples collected.
4. HSA = hollow stem auger.

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LOG OF DRILL HOLE SV-88

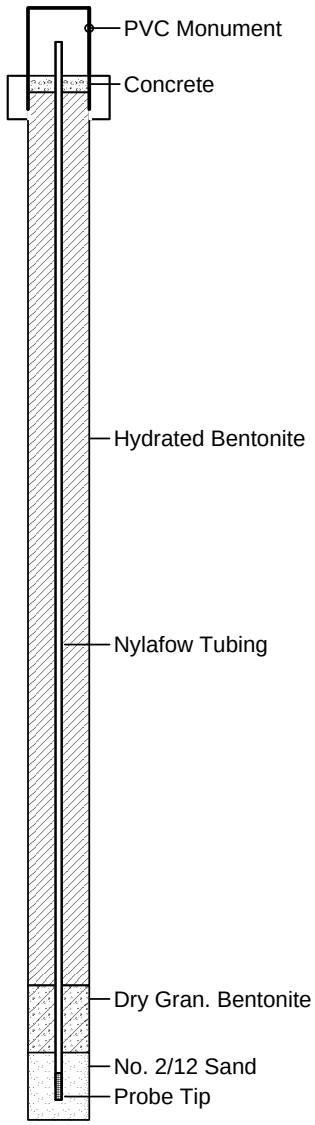
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: HSA
Project Name	: Supplemental Soil Gas Assmt.	Drilling Date	: 6/6/12
Logged By	: Paul G. Lavelle	Drill Hole Total Depth	: 15.5 feet
Checked By	: Louis Cappel	Completed With	: Soil Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Sample Interval	PID (ppmv)	DESCRIPTION
0						Pismo Formation (Tppg): sandstone-siltstone; pale yellow (2.5Y 5/3); very fine grained; massive; friable; fractured; dry; no hydrocarbon staining or odor.
5		Tppg				Becomes light yellowsh brown (10YR 6/4); grinds to silty very fine grained sand; slight iron oxide staining; damp; no hydrocarbon staining or odor.
10						
15					0.7	
20						

SV-88-15'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 5 feet.
3. No soil samples collected.
4. HSA = hollow stem auger.

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LOG OF DRILL HOLE SV-89

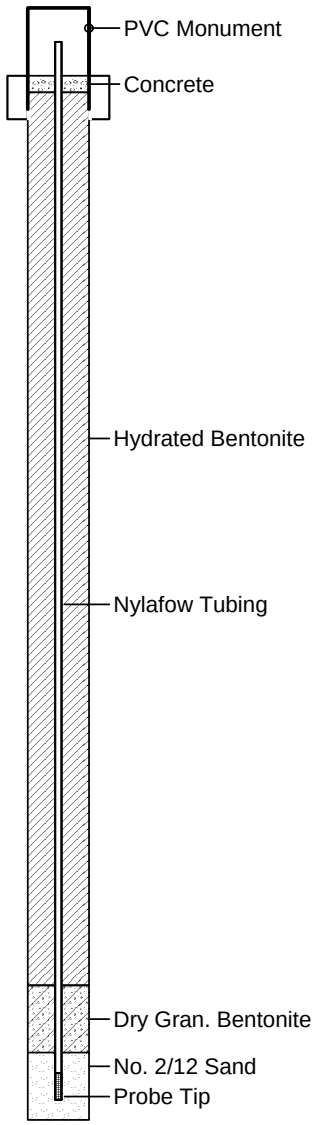
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: HSA
Project Name	: Supplemental Soil Gas Assmt.	Drilling Date	: 6/7/12
Logged By	: Paul G. Lavelle	Drill Hole Total Depth	: 15.5 feet
Checked By	: Louis Cappel	Completed With	: Soil Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Sample Interval	PID (ppmv)	DESCRIPTION
0						Pismo Formation (Tppg): white to pale yellow (2.5Y 5/3); fractured; slightly weathered; fine grained; dry; no hydrocarbon staining or odor.
5		Tppg				Becomes light yellowish brown (2.5Y 6/4); siltstone; grinds to powdery fine sandy silt; soft; dry; no hydrocarbon staining or odor.
10						Becomes damp.
15					2.1	
20						

SV-89-15'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 5 feet.
3. No soil samples collected.
4. HSA = hollow stem auger.

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LOG OF DRILL HOLE SV-90

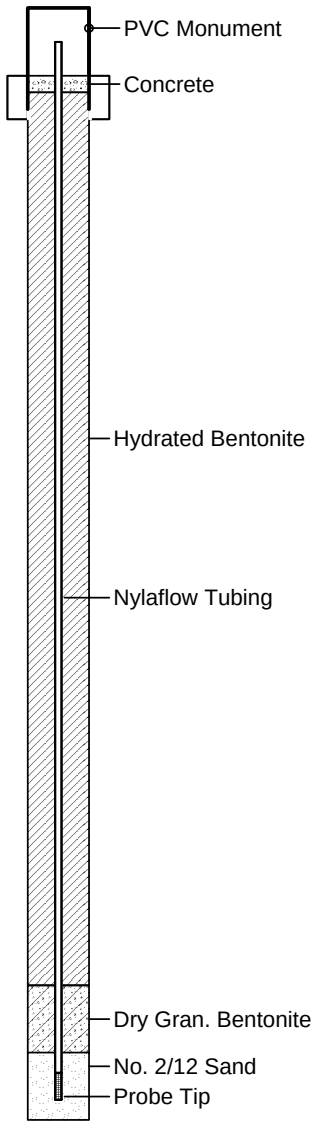
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: HSA
Project Name	: Supplemental Soil Gas Assmt.	Drilling Date	: 6/7/12
Logged By	: Paul G. Lavelle	Drill Hole Total Depth	: 15.5 feet
Checked By	: Louis Cappel	Completed With	: Soil Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Sample Interval	PID (ppmv)	DESCRIPTION
0						Pismo Formation (Tppg): silty sandstone; very fine grained; white to pale yellow (2.5Y 5/3); fractured; weathered; dry; no hydrocarbon staining or odor.
5		Tppg				Becomes yellowish brown (2.5Y 6/4); grinds to silty very fine sand; damp; weathered.
15					2.1	Becomes olive brown (2.5Y 5/4); increased sand content; fine grained; no hydrocarbon staining or odor.
20						

SV-90-15'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 5 feet.
3. No soil samples collected.
4. HSA = hollow stem auger.

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LOG OF DRILL HOLE SV-91

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ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

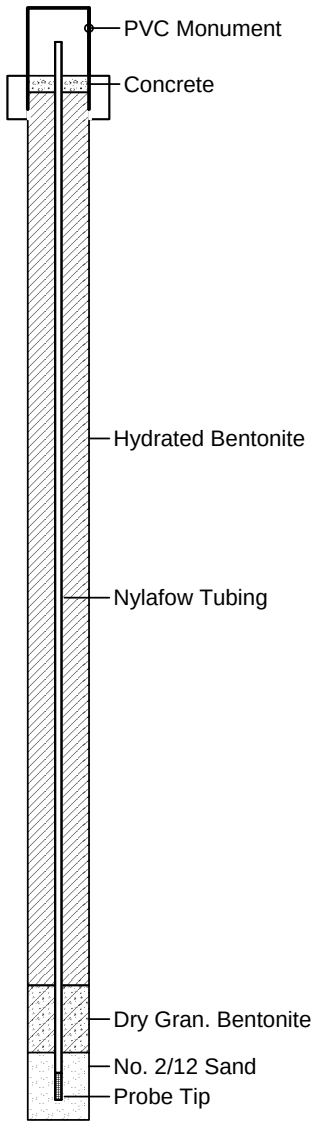
Former Unocal Avila Terminal
10 San Rafael Street
Avila Beach, CA

Chevron EMC

Project Number	: 0801-0897	Drilling Method	: HSA
Project Name	: Supplemental Soil Gas Assmt.	Drilling Date	: 6/7/12
Logged By	: Paul G. Lavelle	Drill Hole Total Depth	: 15.5 feet
Checked By	: Louis Cappel	Completed With	: Soil Vapor Probe
Driller	: S/G Drilling	Depth to Groundwater	: Not Encountered

Depth in Feet	Water Level	USCS	GRAPHIC	Sample Interval	PID (ppmv)	DESCRIPTION
0		AR				Artificial Fill Material (AR-SW): fine to coarse sand; light yellowish brown (10YR 6/6); loose; dry; no hydrocarbon staining or odor.
						Pismo Formation (Tppg): white to pale yellow (2.5Y 5/3); fractured; weathered; fine grained.
5						Becomes yellowish brown (2.5Y 6/4); grinds to silty very fine sand; damp; friable; no hydrocarbon staining or odor.
		Tppg				
10						
15					0.0	Becomes light olive brown (2.5Y 6/4); no hydrocarbon staining or odor.
20						

SV-91-15'



Notes:

1. No suspected hydrocarbon-containing soils observed in drill hole.
2. Drill hole hand augered to approximately 5 feet.
3. No soil samples collected.
4. HSA = hollow stem auger.

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APPENDIX B
CD-ROM CONTAINING SUBJECT REPORT WITH LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION FOR SOIL GAS SAMPLES AND SOIL PHYSICAL PARAMETERS

H&P Mobile Geochemistry Inc.

30 July 2012

Mr. Louis Cappel
Padre Associates, Inc.
369 Pacific Street
San Luis Obispo, CA 93401

RE: PAD062212-14 Rev
Client Project: 0801-0897 / Avila Terminal

Dear Mr. Louis Cappel:

Enclosed is the analytical report for the above referenced project. The data herein applies to samples as received by H&P Mobile Geochemistry, Inc. on 22-Jun-12 which were analyzed in accordance with the attached Chain of Custody record(s).

The results for all sample analyses and required QA/QC analyses are presented in the following sections and summarized in the documents:

- Sample Summary
- Case Narrative (if applicable)
- Sample Results
- Quality Control Summary
- Notes and Definitions / Appendix
- Chain of Custody

Unless otherwise noted, all analyses were performed and reviewed in compliance with our Quality Systems Manual and Standard Operating Procedures. This report shall not be reproduced, except in full, without the written approval of H&P Mobile Geochemistry, Inc.

We at H&P Mobile Geochemistry, Inc. sincerely appreciate the opportunity to provide analytical services to you on this project. If you have any questions or concerns regarding this analytical report, please contact me at your convenience at 760-804-9678.

Sincerely,

Janis Villarreal
Laboratory Director

H&P Mobile Geochemistry, Inc. operates under CA Environmental Lab Accreditation Program Numbers 2579, 2740, 2741, 2742, 2743, 2745 and 2754. National Environmental Laboratory Accreditation Conference (NELAC) Standards Lab #11845

2470 Impala Drive, Carlsbad, California 92010 ┌ 760.804.9678 — Fax 760.804.9159
1855 Coronado Avenue, Signal Hill, California 90755
www.HandPmg.com ┌ 1-800-834-9888

Mobile Geochemistry Inc.

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Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SV-71-5'	E206093-01	Vapor	20-Jun-12	22-Jun-12
SV-72-5'	E206093-02	Vapor	20-Jun-12	22-Jun-12
SV-73-5'	E206093-03	Vapor	20-Jun-12	22-Jun-12
SV-74-5'	E206093-04	Vapor	20-Jun-12	22-Jun-12
SV-75-5'	E206093-05	Vapor	20-Jun-12	22-Jun-12
SV-76-5'	E206093-06	Vapor	20-Jun-12	22-Jun-12
SV-77-5'	E206093-07	Vapor	20-Jun-12	22-Jun-12
SV-78-5'	E206093-08	Vapor	20-Jun-12	22-Jun-12
SV-79-5'	E206093-09	Vapor	20-Jun-12	22-Jun-12
SV-80-5'	E206093-10	Vapor	20-Jun-12	22-Jun-12
SV-80-15'	E206093-11	Vapor	20-Jun-12	22-Jun-12
SV-81-5'	E206093-12	Vapor	20-Jun-12	22-Jun-12
SV-81-15'	E206093-13	Vapor	20-Jun-12	22-Jun-12
SV-82-5'	E206093-14	Vapor	20-Jun-12	22-Jun-12
SV-82-15'	E206093-15	Vapor	20-Jun-12	22-Jun-12
SV-83-5'	E206093-16	Vapor	20-Jun-12	22-Jun-12
SV-83-15'	E206093-17	Vapor	20-Jun-12	22-Jun-12
SV-84-5'	E206093-18	Vapor	20-Jun-12	22-Jun-12
SV-84-15'	E206093-19	Vapor	20-Jun-12	22-Jun-12
SV-85-5'	E206093-20	Vapor	20-Jun-12	22-Jun-12
SV-85-15'	E206093-21	Vapor	20-Jun-12	22-Jun-12
SV-86-15'	E206093-22	Vapor	20-Jun-12	22-Jun-12
SV-87-15'	E206093-23	Vapor	20-Jun-12	22-Jun-12
SV-88-15'	E206093-24	Vapor	20-Jun-12	22-Jun-12
SV-89-15'	E206093-25	Vapor	20-Jun-12	22-Jun-12
SV-90-15'	E206093-26	Vapor	20-Jun-12	22-Jun-12
SV-91-15'	E206093-27	Vapor	20-Jun-12	22-Jun-12
DUP-1	E206093-28	Vapor	20-Jun-12	22-Jun-12

Mobile Geochemistry Inc.

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Carlsbad, CA 92010
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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DUP-2	E206093-29	Vapor	20-Jun-12	22-Jun-12
Trip Blank A	E206093-30	Vapor	20-Jun-12	22-Jun-12
Trip Blank B	E206093-31	Vapor	20-Jun-12	22-Jun-12

The elevated levels of chloroform present in samples SV-89-15 and SV-90-15 are suspected of contaminating the TO-15 system with chloroform. H&P believes that the chloroform concentrations reported in Trip Blank A and Trip Blank B are the result of this system contamination.

H&P Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Soil Gas and Vapor Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-71-5' (E206093-01) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								
Carbon dioxide	**1.5**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**20**		0.2	"	"	"	"	"	"	
Nitrogen	**76**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-72-5' (E206093-02) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								
Carbon dioxide	**1.7**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**20**		0.2	"	"	"	"	"	"	
Nitrogen	**76**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-73-5' (E206093-03) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								
Carbon dioxide	**2.1**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**19**		0.2	"	"	"	"	"	"	
Nitrogen	**76**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-74-5' (E206093-04) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								
Carbon dioxide	**0.6**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**20**		0.2	"	"	"	"	"	"	
Nitrogen	**76**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-75-5' (E206093-05) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								
Carbon dioxide	**1.1**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**20**		0.2	"	"	"	"	"	"	
Nitrogen	**75**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	

H&P Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Soil Gas and Vapor Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-76-5' (E206093-06) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								
Carbon dioxide	**2.9**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**17**		0.2	"	"	"	"	"	"	
Nitrogen	**77**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-77-5' (E206093-07) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								
Carbon dioxide	**3.9**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**18**		0.2	"	"	"	"	"	"	
Nitrogen	**75**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-78-5' (E206093-08) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								
Carbon dioxide	**1.7**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**18**		0.2	"	"	"	"	"	"	
Nitrogen	**78**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-79-5' (E206093-09) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								
Carbon dioxide	**14**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**12**		0.2	"	"	"	"	"	"	
Nitrogen	**73**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-80-5' (E206093-10) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								
Carbon dioxide	**1.4**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**20**		0.2	"	"	"	"	"	"	
Nitrogen	**76**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	

H&P Mobile Geochemistry Inc.

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Carlsbad, CA 92010
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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Soil Gas and Vapor Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-80-15' (E206093-11) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										
Carbon dioxide	**3.7**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**18**		0.2	"	"	"	"	"	"	
Nitrogen	**76**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-81-5' (E206093-12) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										
Carbon dioxide	**0.4**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**20**		0.2	"	"	"	"	"	"	
Nitrogen	**76**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-81-15' (E206093-13) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										
Carbon dioxide	**1.3**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**19**		0.2	"	"	"	"	"	"	
Nitrogen	**78**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-82-5' (E206093-14) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										
Carbon dioxide	**1.0**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**20**		0.2	"	"	"	"	"	"	
Nitrogen	**76**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-82-15' (E206093-15) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										
Carbon dioxide	**1.5**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**20**		0.2	"	"	"	"	"	"	
Nitrogen	**76**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	

H&P Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Soil Gas and Vapor Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-83-5' (E206093-16) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										
Carbon dioxide	**2.5**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**19**		0.2	"	"	"	"	"	"	
Nitrogen	**77**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-83-15' (E206093-17) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										
Carbon dioxide	**2.2**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**19**		0.2	"	"	"	"	"	"	
Nitrogen	**76**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-84-5' (E206093-18) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										
Carbon dioxide	**4.7**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**16**		0.2	"	"	"	"	"	"	
Nitrogen	**78**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-84-15' (E206093-19) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										
Carbon dioxide	**7.1**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**12**		0.2	"	"	"	"	"	"	
Nitrogen	**81**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-85-5' (E206093-20) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										
Carbon dioxide	**1.1**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**20**		0.2	"	"	"	"	"	"	
Nitrogen	**76**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Soil Gas and Vapor Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-85-15' (E206093-21) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								
Carbon dioxide	**5.5**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**17**		0.2	"	"	"	"	"	"	
Nitrogen	**77**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-86-15' (E206093-22) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								
Carbon dioxide	**4.7**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**17**		0.2	"	"	"	"	"	"	
Nitrogen	**78**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-87-15' (E206093-23) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								
Carbon dioxide	**3.2**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**18**		0.2	"	"	"	"	"	"	
Nitrogen	**77**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-88-15' (E206093-24) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								
Carbon dioxide	**0.3**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**16**		0.2	"	"	"	"	"	"	
Nitrogen	**82**		0.2	"	"	"	"	"	"	
Methane	**53**		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-89-15' (E206093-25) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								
Carbon dioxide	**11**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**8.4**		0.2	"	"	"	"	"	"	
Nitrogen	**80**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	

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369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Soil Gas and Vapor Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-90-15' (E206093-26) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										
Carbon dioxide	**0.3**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**16**		0.2	"	"	"	"	"	"	
Nitrogen	**83**		0.2	"	"	"	"	"	"	
Methane	**20**		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
SV-91-15' (E206093-27) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										
Carbon dioxide	**5.8**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**16**		0.2	"	"	"	"	"	"	
Nitrogen	**77**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
DUP-1 (E206093-28) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										
Carbon dioxide	**2.0**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**19**		0.2	"	"	"	"	"	"	
Nitrogen	**76**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	
DUP-2 (E206093-29) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										
Carbon dioxide	**2.1**		0.2	%	1	EF22806	28-Jun-12	28-Jun-12	ASTM 1945-96	
Oxygen	**19**		0.2	"	"	"	"	"	"	
Nitrogen	**77**		0.2	"	"	"	"	"	"	
Methane	ND		10	ppmv	"	EF22805	28-Jun-12	28-Jun-12	EPA 8015M	

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San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-71-5' (E206093-01) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	28-Jun-12	EPA TO-15	
Propene	**1.2**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**3.8**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**29**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	**2.4**	1.5	5.6	"	"	"	"	"	"	J
Acetone	**48**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**10**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	**1.4**	0.80	6.1	"	"	"	"	"	"	J
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**2.2**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	ND	0.63	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.89	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**83**	2.3	30	"	"	"	"	"	"	
n-Hexane	ND	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**12**	2.0	18	"	"	"	"	"	"	J
Chloroform	ND	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**22**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**1.8**	0.52	3.2	"	"	"	"	"	"	J
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-71-5' (E206093-01) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
Dibromomethane	ND	1.4	7.2	ug/m3	1	EF22904	28-Jun-12	28-Jun-12	EPA TO-15	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**20**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	**1.9**	1.2	4.1	"	"	"	"	"	"	J
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	**17**	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**44**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**20**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**2.0**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	**3.0**	2.1	6.9	"	"	"	"	"	"	J
1,2-Dibromoethane (EDB)	ND	1.0	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**4.9**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**13**	2.2	8.8	"	"	"	"	"	"	
Styrene	**2.8**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**4.2**	1.1	4.4	"	"	"	"	"	"	J
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
4-Ethyltoluene	ND	1.1	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**32**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.0**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	

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369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-71-5' (E206093-01) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,2,4-Trimethylbenzene	**4.4**	1.2	5.0	ug/m3	1	EF22904	28-Jun-12	28-Jun-12	EPA TO-15	J
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*97.4 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*95.6 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*105 %*	*77-127*		"	"	"	"	
SV-72-5' (E206093-02) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	28-Jun-12	EPA TO-15	
Propene	**2.4**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**4.0**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	**1.5**	0.73	2.6	"	"	"	"	"	"	J
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**53**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	**2.4**	1.5	5.6	"	"	"	"	"	"	J
Acetone	**250**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**21**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	**1.8**	0.80	6.1	"	"	"	"	"	"	J
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**4.2**	1.4	3.5	"	"	"	"	"	"	
Carbon disulfide	ND	0.63	6.3	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-72-5' (E206093-02) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
trans-1,2-Dichloroethene	ND	0.89	8.0	ug/m3	1	EF22904	28-Jun-12	28-Jun-12	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**180**	2.3	30	"	"	"	"	"	"	
n-Hexane	**5.8**	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**33**	2.0	18	"	"	"	"	"	"	
Chloroform	ND	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**58**	0.72	30	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**3.1**	0.52	3.2	"	"	"	"	"	"	J
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**27**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	**5.2**	1.2	4.1	"	"	"	"	"	"	
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**100**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**43**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**3.3**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	**3.0**	2.1	6.9	"	"	"	"	"	"	J

H&P Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-72-5' (E206093-02) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
1,2-Dibromoethane (EDB)	ND	1.0	7.8	ug/m3	1	EF22904	28-Jun-12	28-Jun-12	EPA TO-15	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**9.5**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**29**	2.2	8.8	"	"	"	"	"	"	
Styrene	**4.3**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**8.0**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
4-Ethyltoluene	**2.6**	1.1	5.0	"	"	"	"	"	"	J
Isopropylbenzene (Cumene)	**53**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	**2.1**	1.1	5.0	"	"	"	"	"	"	J
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**3.1**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**7.6**	1.2	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	**4.6**	3.6	5.3	"	"	"	"	"	"	J
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*94.5 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*97.0 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*106 %*	*77-127*		"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-73-5' (E206093-03) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	28-Jun-12	EPA TO-15	
Propene	**1.6**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**3.6**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**45**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	**2.3**	1.5	5.6	"	"	"	"	"	"	J
Acetone	**62**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**11**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	0.80	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**2.8**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	**2.1**	0.63	6.3	"	"	"	"	"	"	J
trans-1,2-Dichloroethene	ND	0.89	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**110**	2.3	30	"	"	"	"	"	"	
n-Hexane	**2.8**	0.96	3.6	"	"	"	"	"	"	J
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**17**	2.0	18	"	"	"	"	"	"	J
Chloroform	**5.4**	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**32**	0.72	30	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**9.0**	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-73-5' (E206093-03) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
Dibromomethane	ND	1.4	7.2	ug/m3	1	EF22904	28-Jun-12	28-Jun-12	EPA TO-15	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**12**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	**3.6**	1.2	4.1	"	"	"	"	"	"	J
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**61**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**28**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**2.4**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	**3.1**	2.1	6.9	"	"	"	"	"	"	J
1,2-Dibromoethane (EDB)	ND	1.0	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**31**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**21**	2.2	8.8	"	"	"	"	"	"	
Styrene	**4.1**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**6.2**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
4-Ethyltoluene	**2.9**	1.1	5.0	"	"	"	"	"	"	J
Isopropylbenzene (Cumene)	**45**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	**8.5**	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.6**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	**2.3**	1.2	5.6	"	"	"	"	"	"	J

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-73-5' (E206093-03) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,2,4-Trimethylbenzene	**8.3**	1.2	5.0	ug/m3	1	EF22904	28-Jun-12	28-Jun-12	EPA TO-15	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	**3.4**	0.72	5.6	"	"	"	"	"	"	J
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	**5.1**	1.5	5.6	"	"	"	"	"	"	J
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	**6.7**	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*89.3 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*97.5 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*104 %*	*77-127*		"	"	"	"	
SV-74-5' (E206093-04) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	28-Jun-12	EPA TO-15	
Propene	**2.1**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**3.5**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	**3.4**	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**47**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	**2.5**	1.5	5.6	"	"	"	"	"	"	J
Acetone	**50**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**9.6**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	**1.3**	0.80	6.1	"	"	"	"	"	"	J
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**3.3**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	**2.1**	0.63	6.3	"	"	"	"	"	"	J

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369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-74-5' (E206093-04) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
trans-1,2-Dichloroethene	ND	0.89	8.0	ug/m3	1	EF22904	28-Jun-12	28-Jun-12	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**84**	2.3	30	"	"	"	"	"	"	
n-Hexane	**5.7**	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**16**	2.0	18	"	"	"	"	"	"	J
Chloroform	**3.8**	1.9	4.9	"	"	"	"	"	"	J
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**27**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**2.2**	0.52	3.2	"	"	"	"	"	"	J
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**34**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	**3.9**	1.2	4.1	"	"	"	"	"	"	J
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**47**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**27**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**2.5**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	**3.2**	2.1	6.9	"	"	"	"	"	"	J

H&P Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-74-5' (E206093-04) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
1,2-Dibromoethane (EDB)	ND	1.0	7.8	ug/m3	1	EF22904	28-Jun-12	28-Jun-12	EPA TO-15	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**8.0**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**24**	2.2	8.8	"	"	"	"	"	"	
Styrene	**4.1**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**7.4**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
4-Ethyltoluene	**2.3**	1.1	5.0	"	"	"	"	"	"	J
Isopropylbenzene (Cumene)	**36**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	**2.0**	1.1	5.0	"	"	"	"	"	"	J
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.4**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**6.7**	1.2	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	**5.3**	3.6	5.3	"	"	"	"	"	"	J
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*86.7 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*97.6 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*103 %*	*77-127*		"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-75-5' (E206093-05) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Propene	**1.6**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**3.6**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**25**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	**2.4**	1.5	5.6	"	"	"	"	"	"	J
Acetone	**42**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**7.8**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	0.80	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**2.4**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	ND	0.63	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.89	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**69**	2.3	30	"	"	"	"	"	"	
n-Hexane	**36**	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**12**	2.0	18	"	"	"	"	"	"	J
Chloroform	**2.4**	1.9	4.9	"	"	"	"	"	"	J
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**22**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**15**	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-75-5' (E206093-05) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
Cyclohexane	ND	0.59	17	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**20**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	**44**	1.2	4.1	"	"	"	"	"	"	
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**40**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**30**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	1.5	8.3	"	"	"	"	"	"	
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	2.1	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**9.5**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**32**	2.2	8.8	"	"	"	"	"	"	
Styrene	**3.4**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**7.6**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
4-Ethyltoluene	**4.5**	1.1	5.0	"	"	"	"	"	"	J
Isopropylbenzene (Cumene)	**35**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**3.7**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	**2.3**	1.2	5.6	"	"	"	"	"	"	J

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-75-5' (E206093-05) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,2,4-Trimethylbenzene	**6.4**	1.2	5.0	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*87.1 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*97.2 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*104 %*	*77-127*		"	"	"	"	
SV-76-5' (E206093-06) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Propene	**13**	0.42	8.7	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	**3.9**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**31**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	**3.2**	1.5	5.6	"	"	"	"	"	"	J
Acetone	**51**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**9.9**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	**1.4**	0.80	6.1	"	"	"	"	"	"	J
1,1,2-Trichlorotrifluoroethane (F113)	**3.6**	2.2	7.7	"	"	"	"	"	"	J
Methylene chloride (Dichloromethane)	**2.9**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	**7.0**	0.63	6.3	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-76-5' (E206093-06) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
trans-1,2-Dichloroethene	ND	0.89	8.0	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**94**	2.3	30	"	"	"	"	"	"	
n-Hexane	**4.0**	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**14**	2.0	18	"	"	"	"	"	"	J
Chloroform	**9.5**	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**29**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**4.2**	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**24**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	**2.0**	1.2	4.1	"	"	"	"	"	"	J
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**50**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**24**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	1.5	8.3	"	"	"	"	"	"	
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	**9.0**	2.1	6.9	"	"	"	"	"	"	

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369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-76-5' (E206093-06) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
1,2-Dibromoethane (EDB)	ND	1.0	7.8	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
1,1,1,2-Tetrachloroethane	**4.5**	1.3	7.0	"	"	"	"	"	"	J
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**6.2**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**17**	2.2	8.8	"	"	"	"	"	"	
Styrene	**3.2**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**5.5**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
4-Ethyltoluene	**2.1**	1.1	5.0	"	"	"	"	"	"	J
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**38**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.4**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**5.5**	1.2	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*88.4 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8			*97.9 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*104 %*		*77-127*	"	"	"	"	

Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-77-5' (E206093-07) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Propene	**2.9**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**3.7**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**39**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	**2.4**	1.5	5.6	"	"	"	"	"	"	J
Acetone	**45**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**10**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	**1.4**	0.80	6.1	"	"	"	"	"	"	J
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**3.1**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	ND	0.63	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.89	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**77**	2.3	30	"	"	"	"	"	"	
n-Hexane	**2.1**	0.96	3.6	"	"	"	"	"	"	J
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**13**	2.0	18	"	"	"	"	"	"	J
Chloroform	**5.0**	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**24**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**3.2**	0.52	3.2	"	"	"	"	"	"	J
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-77-5' (E206093-07) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
Dibromomethane	ND	1.4	7.2	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**7.2**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	ND	1.2	4.1	"	"	"	"	"	"	
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**50**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**22**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**2.4**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	2.1	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**5.6**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**16**	2.2	8.8	"	"	"	"	"	"	
Styrene	**3.5**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**5.3**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
4-Ethyltoluene	**2.1**	1.1	5.0	"	"	"	"	"	"	J
Isopropylbenzene (Cumene)	**44**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.3**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-77-5' (E206093-07) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,2,4-Trimethylbenzene	**5.8**	1.2	5.0	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*87.4 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*96.2 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*103 %*	*77-127*		"	"	"	"	
SV-78-5' (E206093-08) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Propene	**4.2**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**3.6**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**29**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	**2.7**	1.5	5.6	"	"	"	"	"	"	J
Acetone	**46**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**8.4**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	**1.3**	0.80	6.1	"	"	"	"	"	"	J
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**2.1**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	**3.3**	0.63	6.3	"	"	"	"	"	"	J

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-78-5' (E206093-08) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
trans-1,2-Dichloroethene	ND	0.89	8.0	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**72**	2.3	30	"	"	"	"	"	"	
n-Hexane	**2.4**	0.96	3.6	"	"	"	"	"	"	J
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**18**	2.0	18	"	"	"	"	"	"	J
Chloroform	**2.1**	1.9	4.9	"	"	"	"	"	"	J
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**21**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**5.8**	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**10**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	**1.8**	1.2	4.1	"	"	"	"	"	"	J
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**54**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**23**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**2.3**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	**4.8**	2.1	6.9	"	"	"	"	"	"	J

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-78-5' (E206093-08) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
1,2-Dibromoethane (EDB)	ND	1.0	7.8	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
1,1,1,2-Tetrachloroethane	**2.9**	1.3	7.0	"	"	"	"	"	"	J
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**5.6**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**16**	2.2	8.8	"	"	"	"	"	"	
Styrene	**2.7**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**5.4**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
4-Ethyltoluene	**2.1**	1.1	5.0	"	"	"	"	"	"	J
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**47**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.3**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**5.6**	1.2	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*86.7 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*96.3 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*102 %*	*77-127*		"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-79-5' (E206093-09) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Propene	**2.1**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**2.9**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**99**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.5	5.6	"	"	"	"	"	"	
Acetone	**43**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**9.0**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	0.80	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**2.3**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	ND	0.63	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.89	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**62**	2.3	30	"	"	"	"	"	"	
n-Hexane	ND	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**16**	2.0	18	"	"	"	"	"	"	J
Chloroform	**4.6**	1.9	4.9	"	"	"	"	"	"	J
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**19**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**2.6**	0.52	3.2	"	"	"	"	"	"	J
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	

H&P Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-79-5' (E206093-09) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
Cyclohexane	ND	0.59	17	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**3.7**	0.95	4.7	"	"	"	"	"	"	J
n-Heptane	ND	1.2	4.1	"	"	"	"	"	"	
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**36**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**18**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**1.9**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	2.1	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**4.4**	1.6	4.4	"	"	"	"	"	"	J
m,p-Xylene	**12**	2.2	8.8	"	"	"	"	"	"	
Styrene	**2.4**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**4.0**	1.1	4.4	"	"	"	"	"	"	J
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	1.1	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**29**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.0**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	

H&P Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-79-5' (E206093-09) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,2,4-Trimethylbenzene	**5.4**	1.2	5.0	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*85.7 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*96.0 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*103 %*	*77-127*		"	"	"	"	
SV-80-5' (E206093-10) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Propene	**2.1**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**3.5**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**30**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	**2.5**	1.5	5.6	"	"	"	"	"	"	J
Acetone	**48**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**8.3**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	**1.5**	0.80	6.1	"	"	"	"	"	"	J
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**2.4**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	**3.5**	0.63	6.3	"	"	"	"	"	"	J

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-80-5' (E206093-10) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
trans-1,2-Dichloroethene	ND	0.89	8.0	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**70**	2.3	30	"	"	"	"	"	"	
n-Hexane	**2.0**	0.96	3.6	"	"	"	"	"	"	J
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**18**	2.0	18	"	"	"	"	"	"	J
Chloroform	**6.2**	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**20**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**2.7**	0.52	3.2	"	"	"	"	"	"	J
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**5.7**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	ND	1.2	4.1	"	"	"	"	"	"	
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**37**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**22**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**2.3**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	**21**	2.1	6.9	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-80-5' (E206093-10) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
1,2-Dibromoethane (EDB)	ND	1.0	7.8	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**4.9**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**14**	2.2	8.8	"	"	"	"	"	"	
Styrene	**2.5**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**4.4**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
4-Ethyltoluene	**2.0**	1.1	5.0	"	"	"	"	"	"	J
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**32**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.1**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**5.2**	1.2	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	**4.1**	3.6	5.3	"	"	"	"	"	"	J
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*86.1 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8			*95.4 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*103 %*		*77-127*	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-80-15' (E206093-11) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Propene	**2.9**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**3.8**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**31**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.5	5.6	"	"	"	"	"	"	
Acetone	**54**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**6.5**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	0.80	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**2.2**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	**2.6**	0.63	6.3	"	"	"	"	"	"	J
trans-1,2-Dichloroethene	ND	0.89	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**81**	2.3	30	"	"	"	"	"	"	
n-Hexane	**2.0**	0.96	3.6	"	"	"	"	"	"	J
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**12**	2.0	18	"	"	"	"	"	"	J
Chloroform	**7.7**	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**15**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**3.2**	0.52	3.2	"	"	"	"	"	"	J
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	

H&P Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-80-15' (E206093-11) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
Cyclohexane	ND	0.59	17	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**4.6**	0.95	4.7	"	"	"	"	"	"	J
n-Heptane	**2.4**	1.2	4.1	"	"	"	"	"	"	J
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**33**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**17**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**2.2**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	2.1	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**4.7**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**14**	2.2	8.8	"	"	"	"	"	"	
Styrene	**2.5**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**4.4**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
4-Ethyltoluene	**2.2**	1.1	5.0	"	"	"	"	"	"	J
Isopropylbenzene (Cumene)	**30**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.3**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-80-15' (E206093-11) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,2,4-Trimethylbenzene	ND	1.2	5.0	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*89.3 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*96.6 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*103 %*	*77-127*		"	"	"	"	
SV-81-5' (E206093-12) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Propene	**1.2**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**3.8**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	**1.3**	0.89	2.1	"	"	"	"	"	"	J
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**32**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.5	5.6	"	"	"	"	"	"	
Acetone	**46**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**8.1**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	0.80	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**1.8**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	ND	0.63	6.3	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-81-5' (E206093-12) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
trans-1,2-Dichloroethene	ND	0.89	8.0	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**50**	2.3	30	"	"	"	"	"	"	
n-Hexane	**1.6**	0.96	3.6	"	"	"	"	"	"	J
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**13**	2.0	18	"	"	"	"	"	"	J
Chloroform	**2.2**	1.9	4.9	"	"	"	"	"	"	J
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**14**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**2.4**	0.52	3.2	"	"	"	"	"	"	J
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**4.6**	0.95	4.7	"	"	"	"	"	"	J
n-Heptane	**1.8**	1.2	4.1	"	"	"	"	"	"	J
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**30**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**17**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**1.8**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	2.1	6.9	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-81-5' (E206093-12) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
1,2-Dibromoethane (EDB)	ND	1.0	7.8	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**4.0**	1.6	4.4	"	"	"	"	"	"	J
m,p-Xylene	**11**	2.2	8.8	"	"	"	"	"	"	
Styrene	**2.1**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**3.8**	1.1	4.4	"	"	"	"	"	"	J
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	1.1	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**27**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.0**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**4.7**	1.2	5.0	"	"	"	"	"	"	J
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*86.0 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8			*97.4 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*101 %*		*77-127*	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-81-15' (E206093-13) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Propene	**3.0**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**3.6**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**39**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	**2.3**	1.5	5.6	"	"	"	"	"	"	J
Acetone	**46**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**7.3**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	**1.3**	0.80	6.1	"	"	"	"	"	"	J
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**2.4**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	ND	0.63	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.89	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**85**	2.3	30	"	"	"	"	"	"	
n-Hexane	**2.1**	0.96	3.6	"	"	"	"	"	"	J
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**15**	2.0	18	"	"	"	"	"	"	J
Chloroform	**5.3**	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**19**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**4.2**	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-81-15' (E206093-13) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
Cyclohexane	ND	0.59	17	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**4.6**	0.95	4.7	"	"	"	"	"	"	J
n-Heptane	ND	1.2	4.1	"	"	"	"	"	"	
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**34**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**19**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**2.4**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	**4.4**	2.1	6.9	"	"	"	"	"	"	J
1,2-Dibromoethane (EDB)	ND	1.0	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**4.9**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**13**	2.2	8.8	"	"	"	"	"	"	
Styrene	**2.2**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**4.6**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
4-Ethyltoluene	**2.6**	1.1	5.0	"	"	"	"	"	"	J
Isopropylbenzene (Cumene)	**30**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.3**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	

H&P Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-81-15' (E206093-13) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,2,4-Trimethylbenzene	**6.1**	1.2	5.0	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*87.1 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*96.4 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*101 %*	*77-127*		"	"	"	"	
SV-82-5' (E206093-14) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Propene	**1.7**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**3.7**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	**1.2**	0.89	2.1	"	"	"	"	"	"	J
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**44**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	**2.4**	1.5	5.6	"	"	"	"	"	"	J
Acetone	**49**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**8.9**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	**1.9**	0.80	6.1	"	"	"	"	"	"	J
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**2.6**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	ND	0.63	6.3	"	"	"	"	"	"	

H&P Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-82-5' (E206093-14) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
trans-1,2-Dichloroethene	ND	0.89	8.0	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**78**	2.3	30	"	"	"	"	"	"	
n-Hexane	**2.6**	0.96	3.6	"	"	"	"	"	"	J
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**14**	2.0	18	"	"	"	"	"	"	J
Chloroform	ND	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**22**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**4.5**	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**6.2**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	**2.4**	1.2	4.1	"	"	"	"	"	"	J
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**43**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**28**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**2.6**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	2.1	6.9	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-82-5' (E206093-14) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
1,2-Dibromoethane (EDB)	ND	1.0	7.8	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**8.6**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**29**	2.2	8.8	"	"	"	"	"	"	
Styrene	**2.5**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**9.5**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
4-Ethyltoluene	**3.3**	1.1	5.0	"	"	"	"	"	"	J
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**37**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	**2.4**	1.1	5.0	"	"	"	"	"	"	J
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**4.1**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	**3.1**	1.2	5.6	"	"	"	"	"	"	J
1,2,4-Trimethylbenzene	**14**	1.2	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	**3.1**	1.5	5.6	"	"	"	"	"	"	J
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*86.5 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*98.0 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*101 %*	*77-127*		"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-82-15' (E206093-15) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Propene	**1.8**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**3.6**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**48**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.5	5.6	"	"	"	"	"	"	
Acetone	**69**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**9.8**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	**1.4**	0.80	6.1	"	"	"	"	"	"	J
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**2.5**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	ND	0.63	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.89	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**100**	2.3	30	"	"	"	"	"	"	
n-Hexane	**2.0**	0.96	3.6	"	"	"	"	"	"	J
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**19**	2.0	18	"	"	"	"	"	"	
Chloroform	ND	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**24**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**4.3**	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	

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369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-82-15' (E206093-15) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
Cyclohexane	ND	0.59	17	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**3.3**	0.95	4.7	"	"	"	"	"	"	J
n-Heptane	ND	1.2	4.1	"	"	"	"	"	"	
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**43**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**27**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**2.6**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	2.1	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**5.5**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**15**	2.2	8.8	"	"	"	"	"	"	
Styrene	**2.9**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**4.7**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
4-Ethyltoluene	ND	1.1	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**37**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.1**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	

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369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-82-15' (E206093-15) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,2,4-Trimethylbenzene	**5.7**	1.2	5.0	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	**5.3**	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*85.7 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*95.8 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*101 %*	*77-127*		"	"	"	"	
SV-83-5' (E206093-16) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Propene	**2.3**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**3.7**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**26**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	**2.4**	1.5	5.6	"	"	"	"	"	"	J
Acetone	**55**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**7.2**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	**2.1**	0.80	6.1	"	"	"	"	"	"	J
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**2.2**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	**4.9**	0.63	6.3	"	"	"	"	"	"	J

H&P Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-83-5' (E206093-16) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
trans-1,2-Dichloroethene	ND	0.89	8.0	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**110**	2.3	30	"	"	"	"	"	"	
n-Hexane	ND	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**18**	2.0	18	"	"	"	"	"	"	J
Chloroform	**2.8**	1.9	4.9	"	"	"	"	"	"	J
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**50**	0.72	30	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**2.1**	0.52	3.2	"	"	"	"	"	"	J
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**6.1**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	ND	1.2	4.1	"	"	"	"	"	"	
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**40**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**20**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**2.2**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	**5.1**	2.1	6.9	"	"	"	"	"	"	J

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-83-5' (E206093-16) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
1,2-Dibromoethane (EDB)	ND	1.0	7.8	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**5.2**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**13**	2.2	8.8	"	"	"	"	"	"	
Styrene	**2.9**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**4.3**	1.1	4.4	"	"	"	"	"	"	J
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
4-Ethyltoluene	ND	1.1	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**31**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.2**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**4.5**	1.2	5.0	"	"	"	"	"	"	J
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*86.4 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8			*96.4 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*103 %*		*77-127*	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-83-15' (E206093-17) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Propene	**43**	0.42	8.7	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	**3.9**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	**1.5**	0.89	2.1	"	"	"	"	"	"	J
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	**5.5**	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**31**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	**2.7**	1.5	5.6	"	"	"	"	"	"	J
Acetone	**79**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**7.4**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	**1.3**	0.80	6.1	"	"	"	"	"	"	J
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**3.3**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	**28**	0.63	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.89	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**200**	2.3	30	"	"	"	"	"	"	
n-Hexane	**22**	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**23**	2.0	18	"	"	"	"	"	"	
Chloroform	**2.6**	1.9	4.9	"	"	"	"	"	"	J
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**100**	0.72	30	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**46**	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-83-15' (E206093-17) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
Cyclohexane	ND	0.59	17	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**67**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	**8.4**	1.2	4.1	"	"	"	"	"	"	
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**44**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**57**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**2.4**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	**9.4**	2.1	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**13**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**39**	2.2	8.8	"	"	"	"	"	"	
Styrene	**3.8**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**11**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
4-Ethyltoluene	**3.6**	1.1	5.0	"	"	"	"	"	"	J
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**32**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	**2.5**	1.1	5.0	"	"	"	"	"	"	J
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**4.4**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	**2.4**	1.2	5.6	"	"	"	"	"	"	J

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369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-83-15' (E206093-17) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,2,4-Trimethylbenzene	**9.3**	1.2	5.0	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*89.2 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*96.8 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*104 %*	*77-127*		"	"	"	"	
SV-84-5' (E206093-18) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Propene	**5.4**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**7.2**	1.5	5.0	"	"	"	"	"	"	
Chloromethane	**0.93**	0.89	2.1	"	"	"	"	"	"	J
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**26**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	**23**	1.5	5.6	"	"	"	"	"	"	
Acetone	**53**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**2.3**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	**1.6**	0.80	6.1	"	"	"	"	"	"	J
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**1.8**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	**23**	0.63	6.3	"	"	"	"	"	"	

H&P Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-84-5' (E206093-18) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
trans-1,2-Dichloroethene	ND	0.89	8.0	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**12**	2.3	30	"	"	"	"	"	"	J
n-Hexane	**5.3**	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**7.8**	2.0	18	"	"	"	"	"	"	J
Chloroform	**15**	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	ND	0.72	30	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**9.1**	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**17**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	**3.2**	1.2	4.1	"	"	"	"	"	"	J
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**30**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**1.8**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	**7.0**	2.1	6.9	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-84-5' (E206093-18) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
1,2-Dibromoethane (EDB)	ND	1.0	7.8	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	EPA TO-15	
1,1,1,2-Tetrachloroethane	**5.4**	1.3	7.0	"	"	"	"	"	"	J
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**10**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**32**	2.2	8.8	"	"	"	"	"	"	
Styrene	ND	1.3	4.3	"	"	"	"	"	"	
o-Xylene	**12**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
4-Ethyltoluene	**3.4**	1.1	5.0	"	"	"	"	"	"	J
Isopropylbenzene (Cumene)	**2.6**	1.9	5.0	"	"	"	"	"	"	J
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	**2.3**	1.1	5.0	"	"	"	"	"	"	J
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**3.7**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	**2.3**	1.2	5.6	"	"	"	"	"	"	J
1,2,4-Trimethylbenzene	**8.8**	1.2	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	**2.4**	1.2	5.6	"	"	"	"	"	"	J
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*84.1 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*98.1 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*103 %*	*77-127*		"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-84-15' (E206093-19) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Propene	**3.1**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**10**	1.5	5.0	"	"	"	"	"	"	
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**52**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	**46**	1.5	5.6	"	"	"	"	"	"	
Acetone	**77**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	ND	1.3	25	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	0.80	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	1.4	3.5	"	"	"	"	"	"	
Carbon disulfide	ND	0.63	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.89	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	**11**	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**25**	2.3	30	"	"	"	"	"	"	J
n-Hexane	**22**	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	ND	2.0	18	"	"	"	"	"	"	
Chloroform	**15**	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	ND	0.72	30	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**4.2**	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-84-15' (E206093-19) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
Cyclohexane	ND	0.59	17	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**220**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	**24**	1.2	4.1	"	"	"	"	"	"	
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**17**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	1.5	8.3	"	"	"	"	"	"	
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	2.1	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	**5.0**	1.3	7.0	"	"	"	"	"	"	J
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**11**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**42**	2.2	8.8	"	"	"	"	"	"	
Styrene	ND	1.3	4.3	"	"	"	"	"	"	
o-Xylene	**12**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
4-Ethyltoluene	**3.9**	1.1	5.0	"	"	"	"	"	"	J
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**4.5**	1.9	5.0	"	"	"	"	"	"	J
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	**5.1**	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**3.6**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	**2.3**	1.2	5.6	"	"	"	"	"	"	J

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369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-84-15' (E206093-19) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,2,4-Trimethylbenzene	**18**	1.2	5.0	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*101 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*100 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*106 %*	*77-127*		"	"	"	"	
SV-85-5' (E206093-20) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Propene	**3.3**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**2.9**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**150**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.5	5.6	"	"	"	"	"	"	
Acetone	**62**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**8.4**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	**2.3**	0.80	6.1	"	"	"	"	"	"	J
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**6.9**	1.4	3.5	"	"	"	"	"	"	
Carbon disulfide	ND	0.63	6.3	"	"	"	"	"	"	

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369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-85-5' (E206093-20) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
trans-1,2-Dichloroethene	ND	0.89	8.0	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	**6.4**	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**50**	2.3	30	"	"	"	"	"	"	
n-Hexane	**3.2**	0.96	3.6	"	"	"	"	"	"	J
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	ND	2.0	18	"	"	"	"	"	"	
Chloroform	**5.1**	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**16**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**4.7**	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**34**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	**4.1**	1.2	4.1	"	"	"	"	"	"	J
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**27**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**46**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	1.5	8.3	"	"	"	"	"	"	
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	2.1	6.9	"	"	"	"	"	"	

H&P Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-85-5' (E206093-20) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
1,2-Dibromoethane (EDB)	ND	1.0	7.8	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**11**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**38**	2.2	8.8	"	"	"	"	"	"	
Styrene	ND	1.3	4.3	"	"	"	"	"	"	
o-Xylene	**12**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
4-Ethyltoluene	**2.5**	1.1	5.0	"	"	"	"	"	"	J
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**19**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**3.2**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**12**	1.2	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	**3.8**	3.6	5.3	"	"	"	"	"	"	J
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*102 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8			*96.5 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*108 %*		*77-127*	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-85-15' (E206093-21) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Propene	**5.5**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**2.9**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**47**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.5	5.6	"	"	"	"	"	"	
Acetone	**43**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**6.5**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	0.80	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**2.2**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	**2.7**	0.63	6.3	"	"	"	"	"	"	J
trans-1,2-Dichloroethene	ND	0.89	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**78**	2.3	30	"	"	"	"	"	"	
n-Hexane	ND	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**10**	2.0	18	"	"	"	"	"	"	J
Chloroform	**2.4**	1.9	4.9	"	"	"	"	"	"	J
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**21**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**1.9**	0.52	3.2	"	"	"	"	"	"	J
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-85-15' (E206093-21) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
Dibromomethane	ND	1.4	7.2	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**6.3**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	ND	1.2	4.1	"	"	"	"	"	"	
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**34**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**22**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	1.5	8.3	"	"	"	"	"	"	
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	2.1	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**5.6**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**17**	2.2	8.8	"	"	"	"	"	"	
Styrene	ND	1.3	4.3	"	"	"	"	"	"	
o-Xylene	**6.1**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
4-Ethyltoluene	**1.6**	1.1	5.0	"	"	"	"	"	"	J
Isopropylbenzene (Cumene)	**26**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.2**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-85-15' (E206093-21) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,2,4-Trimethylbenzene	ND	1.2	5.0	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*98.0 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*95.3 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*109 %*	*77-127*		"	"	"	"	
SV-86-15' (E206093-22) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Propene	**12**	0.42	8.7	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	**2.6**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**42**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.5	5.6	"	"	"	"	"	"	
Acetone	**84**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**11**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	0.80	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**1.9**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	**14**	0.63	6.3	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-86-15' (E206093-22) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
trans-1,2-Dichloroethene	ND	0.89	8.0	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**100**	2.3	30	"	"	"	"	"	"	
n-Hexane	**2.1**	0.96	3.6	"	"	"	"	"	"	J
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**17**	2.0	18	"	"	"	"	"	"	J
Chloroform	ND	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**26**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**7.7**	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**8.1**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	ND	1.2	4.1	"	"	"	"	"	"	
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**51**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**27**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**1.9**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	**9.8**	2.1	6.9	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-86-15' (E206093-22) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
1,2-Dibromoethane (EDB)	ND	1.0	7.8	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
1,1,1,2-Tetrachloroethane	**6.6**	1.3	7.0	"	"	"	"	"	"	J
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**7.3**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**18**	2.2	8.8	"	"	"	"	"	"	
Styrene	**2.1**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**6.4**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
4-Ethyltoluene	**1.8**	1.1	5.0	"	"	"	"	"	"	J
Isopropylbenzene (Cumene)	**40**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.65	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**7.7**	1.2	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*95.2 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8			*97.6 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*107 %*		*77-127*	"	"	"	"	

H&P Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-87-15' (E206093-23) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Propene	**2.1**	0.42	8.7	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	**2.4**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**32**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.5	5.6	"	"	"	"	"	"	
Acetone	**61**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**8.7**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	0.80	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	1.4	3.5	"	"	"	"	"	"	
Carbon disulfide	**2.6**	0.63	6.3	"	"	"	"	"	"	J
trans-1,2-Dichloroethene	ND	0.89	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**100**	2.3	30	"	"	"	"	"	"	
n-Hexane	ND	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**15**	2.0	18	"	"	"	"	"	"	J
Chloroform	**65**	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**26**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**5.8**	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-87-15' (E206093-23) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
Dibromomethane	ND	1.4	7.2	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**7.8**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	ND	1.2	4.1	"	"	"	"	"	"	
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**44**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**25**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	1.5	8.3	"	"	"	"	"	"	
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	**7.5**	2.1	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**5.3**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**16**	2.2	8.8	"	"	"	"	"	"	
Styrene	**2.9**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**4.6**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	1.1	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	**1.8**	0.61	6.1	"	"	"	"	"	"	J
Isopropylbenzene (Cumene)	**35**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.65	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-87-15' (E206093-23) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,2,4-Trimethylbenzene	**5.3**	1.2	5.0	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*86.8 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8			*96.4 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*107 %*		*77-127*	"	"	"	"	
SV-88-15' (E206093-24) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Propene	**590**	0.42	8.7	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	**3.2**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**86**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	**2.3**	1.5	5.6	"	"	"	"	"	"	J
Acetone	**82**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**10**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	0.80	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**2.2**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	**170**	0.63	6.3	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-88-15' (E206093-24) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
trans-1,2-Dichloroethene	ND	0.89	8.0	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**110**	2.3	30	"	"	"	"	"	"	
n-Hexane	**3.9**	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	**21**	2.0	18	"	"	"	"	"	"	
Chloroform	ND	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**25**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**20**	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**12**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	**4.1**	1.2	4.1	"	"	"	"	"	"	
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**46**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**29**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	1.5	8.3	"	"	"	"	"	"	
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	2.1	6.9	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-88-15' (E206093-24) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
1,2-Dibromoethane (EDB)	ND	1.0	7.8	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**70**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**23**	2.2	8.8	"	"	"	"	"	"	
Styrene	**2.5**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**6.2**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	**2.9**	0.84	7.0	"	"	"	"	"	"	J
4-Ethyltoluene	**3.5**	1.1	5.0	"	"	"	"	"	"	J
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**47**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	**14**	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.7**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**14**	1.2	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	**3.8**	0.72	5.6	"	"	"	"	"	"	J
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	**8.9**	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	**18**	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*88.0 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*96.0 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*106 %*	*77-127*		"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-89-15' (E206093-25) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	100	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Propene	**720**	42	870	"	"	"	"	"	"	J
Dichlorodifluoromethane (F12)	ND	150	500	"	"	"	"	"	"	
Chloromethane	ND	89	210	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	190	710	"	"	"	"	"	"	
Vinyl chloride	ND	73	260	"	"	"	"	"	"	
1,3-Butadiene	ND	94	450	"	"	"	"	"	"	
Bromomethane	ND	100	1600	"	"	"	"	"	"	
Chloroethane	ND	140	800	"	"	"	"	"	"	
Ethanol	ND	140	1900	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	150	560	"	"	"	"	"	"	
Acetone	ND	360	2400	"	"	"	"	"	"	
Isopropyl alcohol	ND	130	2500	"	"	"	"	"	"	
1,1-Dichloroethene	ND	97	400	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	80	610	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	220	770	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	140	350	"	"	"	"	"	"	
Carbon disulfide	**790**	63	630	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	89	800	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	69	360	"	"	"	"	"	"	
Vinyl acetate	ND	110	360	"	"	"	"	"	"	
1,1-Dichloroethane	ND	120	410	"	"	"	"	"	"	
2-Butanone (MEK)	ND	230	3000	"	"	"	"	"	"	
n-Hexane	ND	96	360	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	89	400	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	130	420	"	"	"	"	"	"	
Ethyl acetate	ND	200	1800	"	"	"	"	"	"	
Chloroform	**42000**	190	490	"	"	"	"	"	"	
2,2-Dichloropropane	ND	160	470	"	"	"	"	"	"	
Tetrahydrofuran	ND	72	3000	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	80	420	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	150	550	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	99	410	"	"	"	"	"	"	
1,1-Dichloropropene	ND	87	460	"	"	"	"	"	"	
Benzene	ND	52	320	"	"	"	"	"	"	
Carbon tetrachloride	ND	240	640	"	"	"	"	"	"	

H&P Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-89-15' (E206093-25) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
Cyclohexane	ND	59	1700	ug/m3	100	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Dibromomethane	ND	140	720	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	51	420	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	95	470	"	"	"	"	"	"	
n-Heptane	ND	120	410	"	"	"	"	"	"	
Trichloroethene	ND	130	550	"	"	"	"	"	"	
1,2-Dichloropropane	ND	130	940	"	"	"	"	"	"	
1,4-Dioxane	ND	150	730	"	"	"	"	"	"	
Bromodichloromethane	**810**	230	680	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	150	460	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	170	830	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	110	460	"	"	"	"	"	"	
1,3-Dichloropropane	ND	180	470	"	"	"	"	"	"	
Toluene	ND	61	380	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	94	550	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	150	830	"	"	"	"	"	"	
Dibromochloromethane	ND	250	860	"	"	"	"	"	"	
Tetrachloroethene	**960**	210	690	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	100	780	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	130	700	"	"	"	"	"	"	
Chlorobenzene	ND	80	470	"	"	"	"	"	"	
Ethylbenzene	ND	160	440	"	"	"	"	"	"	
m,p-Xylene	ND	220	880	"	"	"	"	"	"	
Styrene	ND	130	430	"	"	"	"	"	"	
o-Xylene	ND	110	440	"	"	"	"	"	"	
Bromoform	ND	200	1000	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	84	700	"	"	"	"	"	"	
4-Ethyltoluene	ND	110	500	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	61	610	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	190	500	"	"	"	"	"	"	
Bromobenzene	ND	190	650	"	"	"	"	"	"	
2-Chlorotoluene	ND	150	1100	"	"	"	"	"	"	
n-Propylbenzene	ND	110	500	"	"	"	"	"	"	
4-Chlorotoluene	ND	120	1100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	65	500	"	"	"	"	"	"	
tert-Butylbenzene	ND	120	560	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-89-15' (E206093-25) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,2,4-Trimethylbenzene	ND	120	500	ug/m3	100	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
1,3-Dichlorobenzene	ND	190	1200	"	"	"	"	"	"	
Benzyl chloride	ND	130	1000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	120	1200	"	"	"	"	"	"	
sec-Butylbenzene	ND	72	560	"	"	"	"	"	"	
p-Isopropyltoluene	ND	120	560	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	130	1200	"	"	"	"	"	"	
n-Butylbenzene	ND	150	560	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	240	980	"	"	"	"	"	"	
Naphthalene	ND	360	530	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	560	750	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	410	750	"	"	"	"	"	"	
Hexachlorobutadiene	ND	210	1100	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*96.4 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*95.0 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*107 %*	*77-127*		"	"	"	"	
SV-90-15' (E206093-26) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	100	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Propene	**2300**	42	870	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	ND	150	500	"	"	"	"	"	"	
Chloromethane	ND	89	210	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	190	710	"	"	"	"	"	"	
Vinyl chloride	ND	73	260	"	"	"	"	"	"	
1,3-Butadiene	ND	94	450	"	"	"	"	"	"	
Bromomethane	ND	100	1600	"	"	"	"	"	"	
Chloroethane	ND	140	800	"	"	"	"	"	"	
Ethanol	ND	140	1900	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	150	560	"	"	"	"	"	"	
Acetone	ND	360	2400	"	"	"	"	"	"	
Isopropyl alcohol	ND	130	2500	"	"	"	"	"	"	
1,1-Dichloroethene	ND	97	400	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	80	610	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	220	770	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	140	350	"	"	"	"	"	"	
Carbon disulfide	**1000**	63	630	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-90-15' (E206093-26) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
trans-1,2-Dichloroethene	ND	89	800	ug/m3	100	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	ND	69	360	"	"	"	"	"	"	
Vinyl acetate	ND	110	360	"	"	"	"	"	"	
1,1-Dichloroethane	ND	120	410	"	"	"	"	"	"	
2-Butanone (MEK)	ND	230	3000	"	"	"	"	"	"	
n-Hexane	ND	96	360	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	89	400	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	130	420	"	"	"	"	"	"	
Ethyl acetate	ND	200	1800	"	"	"	"	"	"	
Chloroform	**62000**	190	490	"	"	"	"	"	"	
2,2-Dichloropropane	ND	160	470	"	"	"	"	"	"	
Tetrahydrofuran	ND	72	3000	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	80	420	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	150	550	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	99	410	"	"	"	"	"	"	
1,1-Dichloropropene	ND	87	460	"	"	"	"	"	"	
Benzene	ND	52	320	"	"	"	"	"	"	
Carbon tetrachloride	ND	240	640	"	"	"	"	"	"	
Dibromomethane	ND	140	720	"	"	"	"	"	"	
Cyclohexane	ND	59	1700	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	51	420	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	95	470	"	"	"	"	"	"	
n-Heptane	ND	120	410	"	"	"	"	"	"	
Trichloroethene	ND	130	550	"	"	"	"	"	"	
1,2-Dichloropropane	ND	130	940	"	"	"	"	"	"	
1,4-Dioxane	ND	150	730	"	"	"	"	"	"	
Bromodichloromethane	ND	230	680	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	150	460	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	170	830	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	110	460	"	"	"	"	"	"	
1,3-Dichloropropane	ND	180	470	"	"	"	"	"	"	
Toluene	ND	61	380	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	94	550	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	150	830	"	"	"	"	"	"	
Dibromochloromethane	ND	250	860	"	"	"	"	"	"	
Tetrachloroethene	**1200**	210	690	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-90-15' (E206093-26) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,2-Dibromoethane (EDB)	ND	100	780	ug/m3	100	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
1,1,1,2-Tetrachloroethane	ND	130	700	"	"	"	"	"	"	
Chlorobenzene	ND	80	470	"	"	"	"	"	"	
Ethylbenzene	ND	160	440	"	"	"	"	"	"	
m,p-Xylene	ND	220	880	"	"	"	"	"	"	
Styrene	ND	130	430	"	"	"	"	"	"	
o-Xylene	ND	110	440	"	"	"	"	"	"	
Bromoform	ND	200	1000	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	84	700	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	61	610	"	"	"	"	"	"	
4-Ethyltoluene	ND	110	500	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	190	500	"	"	"	"	"	"	
Bromobenzene	ND	190	650	"	"	"	"	"	"	
2-Chlorotoluene	ND	150	1100	"	"	"	"	"	"	
n-Propylbenzene	ND	110	500	"	"	"	"	"	"	
4-Chlorotoluene	ND	120	1100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	65	500	"	"	"	"	"	"	
tert-Butylbenzene	ND	120	560	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	120	500	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	190	1200	"	"	"	"	"	"	
Benzyl chloride	ND	130	1000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	120	1200	"	"	"	"	"	"	
sec-Butylbenzene	ND	72	560	"	"	"	"	"	"	
p-Isopropyltoluene	ND	120	560	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	130	1200	"	"	"	"	"	"	
n-Butylbenzene	ND	150	560	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	240	980	"	"	"	"	"	"	
Naphthalene	ND	360	530	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	560	750	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	410	750	"	"	"	"	"	"	
Hexachlorobutadiene	ND	210	1100	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*101 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8			*97.2 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*105 %*		*77-127*	"	"	"	"	

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369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-91-15' (E206093-27) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EG21205	12-Jul-12	12-Jul-12	EPA TO-15	
Propene	ND	0.42	8.7	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	**2.3**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**61**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.5	5.6	"	"	"	"	"	"	
Acetone	**85**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**7.7**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	**6.4**	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	**2.0**	0.80	6.1	"	"	"	"	"	"	J
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**2.4**	1.4	3.5	"	"	"	"	"	"	J
Carbon disulfide	**16**	0.63	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.89	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	**2.5**	1.2	4.1	"	"	"	"	"	"	J
2-Butanone (MEK)	**110**	2.3	30	"	"	"	"	"	"	
n-Hexane	ND	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	**40**	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	ND	2.0	18	"	"	"	"	"	"	
Chloroform	**1300**	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**14**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	**16**	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**4.6**	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-91-15' (E206093-27) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
Cyclohexane	ND	0.59	17	ug/m3	1	EG21205	12-Jul-12	12-Jul-12	EPA TO-15	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	0.95	4.7	"	"	"	"	"	"	
n-Heptane	**1.3**	1.2	4.1	"	"	"	"	"	"	J
Trichloroethene	**89**	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	**3.4**	1.5	7.3	"	"	"	"	"	"	J
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**30**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**21**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	**2.2**	1.5	8.3	"	"	"	"	"	"	J
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	**120**	2.1	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**5.4**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**17**	2.2	8.8	"	"	"	"	"	"	
Styrene	**2.1**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**5.4**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	1.1	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**25**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	**1.2**	1.1	5.0	"	"	"	"	"	"	J
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.4**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	

H&P Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-91-15' (E206093-27) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,2,4-Trimethylbenzene	**9.7**	1.2	5.0	ug/m3	1	EG21205	12-Jul-12	12-Jul-12	EPA TO-15	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	**4.0**	3.6	5.3	"	"	"	"	"	"	J
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*88.3 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*91.5 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*107 %*	*77-127*		"	"	"	"	
DUP-1 (E206093-28) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EG21205	12-Jul-12	12-Jul-12	EPA TO-15	
Propene	ND	0.42	8.7	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	**3.9**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**380**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.5	5.6	"	"	"	"	"	"	
Acetone	**63**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**15**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	**2.8**	0.80	6.1	"	"	"	"	"	"	J
1,1,2-Trichlorotrifluoroethane (F113)	**7.1**	2.2	7.7	"	"	"	"	"	"	J
Methylene chloride (Dichloromethane)	**9.7**	1.4	3.5	"	"	"	"	"	"	
Carbon disulfide	**4.4**	0.63	6.3	"	"	"	"	"	"	J

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
DUP-1 (E206093-28) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
trans-1,2-Dichloroethene	ND	0.89	8.0	ug/m3	1	EG21205	12-Jul-12	12-Jul-12	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**51**	2.3	30	"	"	"	"	"	"	
n-Hexane	**12**	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	ND	2.0	18	"	"	"	"	"	"	
Chloroform	**3.5**	1.9	4.9	"	"	"	"	"	"	J
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**15**	0.72	30	"	"	"	"	"	"	J
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**4.0**	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**7.4**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	**6.2**	1.2	4.1	"	"	"	"	"	"	
Trichloroethene	**3.3**	1.3	5.5	"	"	"	"	"	"	J
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**19**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**55**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	1.5	8.3	"	"	"	"	"	"	
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	**2.7**	2.1	6.9	"	"	"	"	"	"	J

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
DUP-1 (E206093-28) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,2-Dibromoethane (EDB)	ND	1.0	7.8	ug/m3	1	EG21205	12-Jul-12	12-Jul-12	EPA TO-15	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**8.4**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**28**	2.2	8.8	"	"	"	"	"	"	
Styrene	**1.7**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**9.8**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
4-Ethyltoluene	ND	1.1	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**15**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	**1.2**	1.1	5.0	"	"	"	"	"	"	J
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.3**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**8.9**	1.2	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*102 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8			*93.2 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*108 %*		*77-127*	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
DUP-2 (E206093-29) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EG21205	12-Jul-12	12-Jul-12	EPA TO-15	
Propene	**34**	0.42	8.7	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	**2.5**	1.5	5.0	"	"	"	"	"	"	J
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	**41**	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	**1.7**	1.5	5.6	"	"	"	"	"	"	J
Acetone	**52**	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	**5.0**	1.3	25	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	0.80	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	1.4	3.5	"	"	"	"	"	"	
Carbon disulfide	**31**	0.63	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.89	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	**150**	2.3	30	"	"	"	"	"	"	
n-Hexane	**12**	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	**1.6**	0.89	4.0	"	"	"	"	"	"	J
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	ND	2.0	18	"	"	"	"	"	"	
Chloroform	**2.4**	1.9	4.9	"	"	"	"	"	"	J
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	**56**	0.72	30	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	**36**	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
DUP-2 (E206093-29) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
Cyclohexane	ND	0.59	17	ug/m3	1	EG21205	12-Jul-12	12-Jul-12	EPA TO-15	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	**7.8**	0.95	4.7	"	"	"	"	"	"	
n-Heptane	**1.2**	1.2	4.1	"	"	"	"	"	"	J
Trichloroethene	**6.4**	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**33**	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	**47**	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	1.5	8.3	"	"	"	"	"	"	
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	**11**	2.1	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	**9.5**	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	**29**	2.2	8.8	"	"	"	"	"	"	
Styrene	**2.4**	1.3	4.3	"	"	"	"	"	"	J
o-Xylene	**8.9**	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	1.1	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	**28**	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	**1.2**	1.1	5.0	"	"	"	"	"	"	J
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**3.2**	0.65	5.0	"	"	"	"	"	"	J
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	

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369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
DUP-2 (E206093-29) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,2,4-Trimethylbenzene	**2.1**	1.2	5.0	ug/m3	1	EG21205	12-Jul-12	12-Jul-12	EPA TO-15	J
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	**1.8**	0.72	5.6	"	"	"	"	"	"	J
p-Isopropyltoluene	**1.6**	1.2	5.6	"	"	"	"	"	"	J
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*92.8 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8			*93.6 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*106 %*		*77-127*	"	"	"	"	
Trip Blank A (E206093-30) Vapor Sampled: 20-Jun-12 Received: 22-Jun-12										**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Propene	ND	0.42	8.7	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	ND	1.5	5.0	"	"	"	"	"	"	
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	ND	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.5	5.6	"	"	"	"	"	"	
Acetone	ND	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	ND	1.3	25	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	0.80	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	1.4	3.5	"	"	"	"	"	"	
Carbon disulfide	ND	0.63	6.3	"	"	"	"	"	"	

H&P Mobile Geochemistry Inc.

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
Trip Blank A (E206093-30) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
trans-1,2-Dichloroethene	ND	0.89	8.0	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	ND	2.3	30	"	"	"	"	"	"	
n-Hexane	ND	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	ND	2.0	18	"	"	"	"	"	"	
Chloroform	**12**	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	ND	0.72	30	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	ND	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	
Dibromomethane	ND	1.4	7.2	"	"	"	"	"	"	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	0.95	4.7	"	"	"	"	"	"	
n-Heptane	ND	1.2	4.1	"	"	"	"	"	"	
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	ND	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	1.5	8.3	"	"	"	"	"	"	
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	2.1	6.9	"	"	"	"	"	"	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
Trip Blank A (E206093-30) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
1,2-Dibromoethane (EDB)	ND	1.0	7.8	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	ND	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	ND	2.2	8.8	"	"	"	"	"	"	
Styrene	ND	1.3	4.3	"	"	"	"	"	"	
o-Xylene	ND	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
4-Ethyltoluene	ND	1.1	5.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.65	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.2	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*90.3 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*93.9 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*104 %*	*77-127*		"	"	"	"	

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San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
Trip Blank B (E206093-31) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
1,1-Difluoroethane (LCC)	ND		2.7	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Propene	ND	0.42	8.7	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	ND	1.5	5.0	"	"	"	"	"	"	
Chloromethane	ND	0.89	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	1.9	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	0.73	2.6	"	"	"	"	"	"	
1,3-Butadiene	ND	0.94	4.5	"	"	"	"	"	"	
Bromomethane	ND	1.0	16	"	"	"	"	"	"	
Chloroethane	ND	1.4	8.0	"	"	"	"	"	"	
Ethanol	ND	1.4	19	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.5	5.6	"	"	"	"	"	"	
Acetone	ND	3.6	24	"	"	"	"	"	"	
Isopropyl alcohol	ND	1.3	25	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.97	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	0.80	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	2.2	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	1.4	3.5	"	"	"	"	"	"	
Carbon disulfide	ND	0.63	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.89	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.69	3.6	"	"	"	"	"	"	
Vinyl acetate	ND	1.1	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.2	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	ND	2.3	30	"	"	"	"	"	"	
n-Hexane	ND	0.96	3.6	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.89	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.3	4.2	"	"	"	"	"	"	
Ethyl acetate	ND	2.0	18	"	"	"	"	"	"	
Chloroform	**13**	1.9	4.9	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.6	4.7	"	"	"	"	"	"	
Tetrahydrofuran	ND	0.72	30	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.80	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.5	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.99	4.1	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.87	4.6	"	"	"	"	"	"	
Benzene	ND	0.52	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.4	6.4	"	"	"	"	"	"	

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369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
Trip Blank B (E206093-31) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
Dibromomethane	ND	1.4	7.2	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
Cyclohexane	ND	0.59	17	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.51	4.2	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	0.95	4.7	"	"	"	"	"	"	
n-Heptane	ND	1.2	4.1	"	"	"	"	"	"	
Trichloroethene	ND	1.3	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	9.4	"	"	"	"	"	"	
1,4-Dioxane	ND	1.5	7.3	"	"	"	"	"	"	
Bromodichloromethane	ND	2.3	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.5	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	1.7	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.1	4.6	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.8	4.7	"	"	"	"	"	"	
Toluene	ND	0.61	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.94	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	1.5	8.3	"	"	"	"	"	"	
Dibromochloromethane	ND	2.5	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	2.1	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.3	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.80	4.7	"	"	"	"	"	"	
Ethylbenzene	ND	1.6	4.4	"	"	"	"	"	"	
m,p-Xylene	ND	2.2	8.8	"	"	"	"	"	"	
Styrene	ND	1.3	4.3	"	"	"	"	"	"	
o-Xylene	ND	1.1	4.4	"	"	"	"	"	"	
Bromoform	ND	2.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.84	7.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	1.1	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.61	6.1	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	1.9	5.0	"	"	"	"	"	"	
Bromobenzene	ND	1.9	6.5	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.5	11	"	"	"	"	"	"	
n-Propylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.2	11	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.65	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.2	5.6	"	"	"	"	"	"	

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369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
Trip Blank B (E206093-31) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
1,2,4-Trimethylbenzene	ND	1.2	5.0	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	EPA TO-15	
1,3-Dichlorobenzene	ND	1.9	12	"	"	"	"	"	"	
Benzyl chloride	ND	1.3	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.72	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.2	5.6	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.3	12	"	"	"	"	"	"	
n-Butylbenzene	ND	1.5	5.6	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.4	9.8	"	"	"	"	"	"	
Naphthalene	ND	3.6	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.6	7.5	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	4.1	7.5	"	"	"	"	"	"	
Hexachlorobutadiene	ND	2.1	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4			*97.3 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8			*94.0 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*103 %*	*77-127*		"	"	"	"	

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369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

TPHv / APH on Vapors by EPA Method TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-71-5' (E206093-01) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**710**	50	100	ug/m3	1	EF22904	28-Jun-12	28-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**930**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**72**	50	100	"	"	"	"	"	"	J
TPHv (C6 - C8) aromatic	ND	50	100	"	"	"	"	"	"	
TPHv (C5 - C11)	**1300**	50	100	"	"	"	"	"	EPA TO-15	
SV-72-5' (E206093-02) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**1700**	50	100	ug/m3	1	EF22904	28-Jun-12	28-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**1500**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**110**	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	**93**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**2600**	50	100	"	"	"	"	"	EPA TO-15	
SV-73-5' (E206093-03) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**880**	50	100	ug/m3	1	EF22904	28-Jun-12	28-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**1400**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**180**	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	**96**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**2300**	50	100	"	"	"	"	"	EPA TO-15	
SV-74-5' (E206093-04) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**910**	50	100	ug/m3	1	EF22904	28-Jun-12	28-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**990**	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	**72**	50	100	"	"	"	"	"	"	J
TPHv (C9 - C10) aromatic	**78**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**1800**	50	100	"	"	"	"	"	EPA TO-15	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

TPHv / APH on Vapors by EPA Method TO-15

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Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-75-5' (E206093-05) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**1600**	50	100	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**1000**	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	**94**	50	100	"	"	"	"	"	"	J
TPHv (C9 - C10) aromatic	**87**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**2300**	50	100	"	"	"	"	"	EPA TO-15	
SV-76-5' (E206093-06) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**1100**	50	100	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**1500**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**90**	50	100	"	"	"	"	"	"	J
TPHv (C6 - C8) aromatic	**56**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**2500**	50	100	"	"	"	"	"	EPA TO-15	
SV-77-5' (E206093-07) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**720**	50	100	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**1300**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**86**	50	100	"	"	"	"	"	"	J
TPHv (C6 - C8) aromatic	**52**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**2000**	50	100	"	"	"	"	"	EPA TO-15	
SV-78-5' (E206093-08) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**820**	50	100	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**1700**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**100**	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	**55**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**2700**	50	100	"	"	"	"	"	EPA TO-15	

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369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

TPHv / APH on Vapors by EPA Method TO-15

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Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-79-5' (E206093-09) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**710**	50	100	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**820**	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	ND	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**68**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**1400**	50	100	"	"	"	"	"	EPA TO-15	
SV-80-5' (E206093-10) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**1000**	50	100	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**710**	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	ND	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**65**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**1500**	50	100	"	"	"	"	"	EPA TO-15	
SV-80-15' (E206093-11) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**1300**	50	100	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**820**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**73**	50	100	"	"	"	"	"	"	J
TPHv (C6 - C8) aromatic	ND	50	100	"	"	"	"	"	"	
TPHv (C5 - C11)	**1700**	50	100	"	"	"	"	"	EPA TO-15	
SV-81-5' (E206093-12) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**740**	50	100	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**800**	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	ND	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**59**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**1400**	50	100	"	"	"	"	"	EPA TO-15	

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San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

TPHv / APH on Vapors by EPA Method TO-15

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Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-81-15' (E206093-13) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**1600**	50	100	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**970**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**77**	50	100	"	"	"	"	"	"	J
TPHv (C6 - C8) aromatic	ND	50	100	"	"	"	"	"	"	
TPHv (C5 - C11)	**2000**	50	100	"	"	"	"	"	EPA TO-15	
SV-82-5' (E206093-14) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**900**	50	100	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**1000**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**110**	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	**79**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**1900**	50	100	"	"	"	"	"	EPA TO-15	
SV-82-15' (E206093-15) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**1500**	50	100	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**1000**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**81**	50	100	"	"	"	"	"	"	J
TPHv (C6 - C8) aromatic	**57**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**2000**	50	100	"	"	"	"	"	EPA TO-15	
SV-83-5' (E206093-16) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**870**	50	100	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**710**	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	ND	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**62**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**1400**	50	100	"	"	"	"	"	EPA TO-15	

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369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

TPHv / APH on Vapors by EPA Method TO-15

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Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-83-15' (E206093-17) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**2000**	50	100	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**800**	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	**170**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**87**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**2200**	50	100	"	"	"	"	"	EPA TO-15	
SV-84-5' (E206093-18) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**1100**	50	100	ug/m3	1	EF22904	28-Jun-12	29-Jun-12	MA APHm	
TPHv (C9 - C12) aliphatic	**530**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**51**	50	100	"	"	"	"	"	"	J
TPHv (C6 - C8) aromatic	**93**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**1300**	50	100	"	"	"	"	"	EPA TO-15	
SV-84-15' (E206093-19) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**3500**	50	100	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	MA APHm	
TPHv (C9 - C12) aliphatic	**290**	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	**86**	50	100	"	"	"	"	"	"	J
TPHv (C9 - C10) aromatic	**110**	50	100	"	"	"	"	"	"	
TPHv (C5 - C11)	**2500**	50	100	"	"	"	"	"	EPA TO-15	
SV-85-5' (E206093-20) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**940**	50	100	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	MA APHm	
TPHv (C9 - C12) aliphatic	**740**	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	**110**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**88**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**1400**	50	100	"	"	"	"	"	EPA TO-15	

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369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
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TPHv / APH on Vapors by EPA Method TO-15

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Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-85-15' (E206093-21) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**1100**	50	100	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	MA APHm	
TPHv (C9 - C12) aliphatic	**710**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**68**	50	100	"	"	"	"	"	"	J
TPHv (C6 - C8) aromatic	**53**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**1500**	50	100	"	"	"	"	"	EPA TO-15	
SV-86-15' (E206093-22) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**1900**	50	100	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	MA APHm	
TPHv (C9 - C12) aliphatic	**2200**	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	**66**	50	100	"	"	"	"	"	"	J
TPHv (C9 - C10) aromatic	**88**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**3600**	50	100	"	"	"	"	"	EPA TO-15	
SV-87-15' (E206093-23) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**1500**	50	100	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	MA APHm	
TPHv (C9 - C12) aliphatic	**1300**	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	**57**	50	100	"	"	"	"	"	"	J
TPHv (C9 - C10) aromatic	**76**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**2400**	50	100	"	"	"	"	"	EPA TO-15	
SV-88-15' (E206093-24) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**1700**	50	100	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	MA APHm	
TPHv (C9 - C12) aliphatic	**1300**	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	**340**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**150**	50	100	"	"	"	"	"	"	
TPHv (C5 - C11)	**2800**	50	100	"	"	"	"	"	EPA TO-15	

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TPHv / APH on Vapors by EPA Method TO-15

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Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SV-89-15' (E206093-25) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**75000**	5000	10000	ug/m3	100	EG20304	02-Jul-12	02-Jul-12	MA APHm	
TPHv (C9 - C12) aliphatic	ND	5000	10000	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	ND	5000	10000	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	ND	5000	10000	"	"	"	"	"	"	
TPHv (C5 - C11)	**53000**	5000	10000	"	"	"	"	"	EPA TO-15	
SV-90-15' (E206093-26) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**49000**	5000	10000	ug/m3	100	EG20304	02-Jul-12	02-Jul-12	MA APHm	
TPHv (C9 - C12) aliphatic	ND	5000	10000	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	ND	5000	10000	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	ND	5000	10000	"	"	"	"	"	"	
TPHv (C5 - C11)	**35000**	5000	10000	"	"	"	"	"	EPA TO-15	
SV-91-15' (E206093-27) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**3100**	50	100	ug/m3	1	EG21205	12-Jul-12	12-Jul-12	MA APHm	
TPHv (C9 - C12) aliphatic	**900**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**73**	50	100	"	"	"	"	"	"	J
TPHv (C6 - C8) aromatic	**53**	50	100	"	"	"	"	"	"	J
TPHv (C5 - C11)	**2800**	50	100	"	"	"	"	"	EPA TO-15	
DUP-1 (E206093-28) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**960**	50	100	ug/m3	1	EG21205	12-Jul-12	12-Jul-12	MA APHm	
TPHv (C9 - C12) aliphatic	**460**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**59**	50	100	"	"	"	"	"	"	J
TPHv (C6 - C8) aromatic	**100**	50	100	"	"	"	"	"	"	
TPHv (C5 - C11)	**1000**	50	100	"	"	"	"	"	EPA TO-15	

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Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
DUP-2 (E206093-29) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	**1200**	50	100	ug/m3	1	EG21205	12-Jul-12	12-Jul-12	MA APHm	
TPHv (C9 - C12) aliphatic	**1000**	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	**69**	50	100	"	"	"	"	"	"	J
TPHv (C6 - C8) aromatic	**130**	50	100	"	"	"	"	"	"	
TPHv (C5 - C11)	**1900**	50	100	"	"	"	"	"	EPA TO-15	
Trip Blank A (E206093-30) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	ND	50	100	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	MA APHm	
TPHv (C9 - C12) aliphatic	ND	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	ND	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	ND	50	100	"	"	"	"	"	"	
TPHv (C5 - C11)	ND	50	100	"	"	"	"	"	EPA TO-15	
Trip Blank B (E206093-31) Vapor	**Sampled: 20-Jun-12**	**Received: 22-Jun-12**								**J- Report**
TPHv (C5 - C8) aliphatic	ND	50	100	ug/m3	1	EG20304	02-Jul-12	02-Jul-12	MA APHm	
TPHv (C9 - C12) aliphatic	ND	50	100	"	"	"	"	"	"	
TPHv (C9 - C10) aromatic	ND	50	100	"	"	"	"	"	"	
TPHv (C6 - C8) aromatic	ND	50	100	"	"	"	"	"	"	
TPHv (C5 - C11)	ND	50	100	"	"	"	"	"	EPA TO-15	

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Soil Gas and Vapor Analysis - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EF22805 - GC										
Blank (EF22805-BLK1)				Prepared & Analyzed: 28-Jun-12						
Methane	ND	10	ppmv							
Blank (EF22805-BLK2)				Prepared & Analyzed: 28-Jun-12						
Methane	ND	10	ppmv							
Batch EF22806 - GC										
Blank (EF22806-BLK1)				Prepared & Analyzed: 28-Jun-12						
Carbon dioxide	ND	0.2	%							
Blank (EF22806-BLK2)				Prepared & Analyzed: 28-Jun-12						
Carbon dioxide	ND	0.2	%							

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San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EF22904 - TO-15										
Blank (EF22904-BLK1)				Prepared & Analyzed: 28-Jun-12						
1,1-Difluoroethane (LCC)	ND	2.7	ug/m3							
Propene	ND	8.7	"							
Dichlorodifluoromethane (F12)	ND	5.0	"							
Chloromethane	ND	2.1	"							
Dichlorotetrafluoroethane (F114)	ND	7.1	"							
Vinyl chloride	ND	2.6	"							
1,3-Butadiene	ND	4.5	"							
Bromomethane	ND	16	"							
Chloroethane	ND	8.0	"							
Ethanol	ND	19	"							
Trichlorofluoromethane (F11)	ND	5.6	"							
Acetone	ND	24	"							
Isopropyl alcohol	ND	25	"							
1,1-Dichloroethene	ND	4.0	"							
Tertiary-butyl alcohol (TBA)	ND	6.1	"							
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"							
Methylene chloride (Dichloromethane)	ND	3.5	"							
Carbon disulfide	ND	6.3	"							
trans-1,2-Dichloroethene	ND	8.0	"							
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"							
Vinyl acetate	ND	3.6	"							
1,1-Dichloroethane	ND	4.1	"							
2-Butanone (MEK)	ND	30	"							
n-Hexane	ND	3.6	"							
cis-1,2-Dichloroethene	ND	4.0	"							
Diisopropyl ether (DIPE)	ND	4.2	"							
Ethyl acetate	ND	18	"							
Chloroform	ND	4.9	"							
2,2-Dichloropropane	ND	4.7	"							
Tetrahydrofuran	ND	30	"							
Ethyl tert-butyl ether (ETBE)	ND	4.2	"							
1,1,1-Trichloroethane	ND	5.5	"							
1,2-Dichloroethane (EDC)	ND	4.1	"							
1,1-Dichloropropene	ND	4.6	"							

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San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EF22904 - TO-15										
Blank (EF22904-BLK1)				Prepared & Analyzed: 28-Jun-12						
Benzene	ND	3.2	ug/m3							
Carbon tetrachloride	ND	6.4	"							
Dibromomethane	ND	7.2	"							
Cyclohexane	ND	17	"							
Tertiary-amyl methyl ether (TAME)	ND	4.2	"							
2,2,4-Trimethylpentane	ND	4.7	"							
n-Heptane	ND	4.1	"							
Trichloroethene	ND	5.5	"							
1,2-Dichloropropane	ND	9.4	"							
1,4-Dioxane	ND	7.3	"							
Bromodichloromethane	ND	6.8	"							
cis-1,3-Dichloropropene	ND	4.6	"							
4-Methyl-2-pentanone (MIBK)	ND	8.3	"							
trans-1,3-Dichloropropene	ND	4.6	"							
1,3-Dichloropropane	ND	4.7	"							
Toluene	ND	3.8	"							
1,1,2-Trichloroethane	ND	5.5	"							
2-Hexanone (MBK)	ND	8.3	"							
Dibromochloromethane	ND	8.6	"							
Tetrachloroethene	ND	6.9	"							
1,2-Dibromoethane (EDB)	ND	7.8	"							
1,1,1,2-Tetrachloroethane	ND	7.0	"							
Chlorobenzene	ND	4.7	"							
Ethylbenzene	ND	4.4	"							
m,p-Xylene	ND	8.8	"							
Styrene	ND	4.3	"							
o-Xylene	ND	4.4	"							
Bromoform	ND	10	"							
1,1,2,2-Tetrachloroethane	ND	7.0	"							
1,2,3-Trichloropropane	ND	6.1	"							
4-Ethyltoluene	ND	5.0	"							
Isopropylbenzene (Cumene)	ND	5.0	"							
Bromobenzene	ND	6.5	"							
2-Chlorotoluene	ND	11	"							

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Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EF22904 - TO-15										
Blank (EF22904-BLK1)				Prepared & Analyzed: 28-Jun-12						
n-Propylbenzene	ND	5.0	ug/m3							
4-Chlorotoluene	ND	11	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
tert-Butylbenzene	ND	5.6	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
1,3-Dichlorobenzene	ND	12	"							
Benzyl chloride	ND	10	"							
1,4-Dichlorobenzene	ND	12	"							
sec-Butylbenzene	ND	5.6	"							
p-Isopropyltoluene	ND	5.6	"							
1,2-Dichlorobenzene	ND	12	"							
n-Butylbenzene	ND	5.6	"							
1,2-Dibromo-3-chloropropane	ND	9.8	"							
Naphthalene	ND	5.3	"							
1,2,4-Trichlorobenzene	ND	7.5	"							
1,2,3-Trichlorobenzene	ND	7.5	"							
Hexachlorobutadiene	ND	11	"							
Surrogate: 1,2-Dichloroethane-d4	*186*		*"*	*214*		*86.6*	*76-134*			
Surrogate: Toluene-d8	*195*		*"*	*207*		*94.1*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*365*		*"*	*364*		*100*	*77-127*			
LCS (EF22904-BS1)				Prepared & Analyzed: 28-Jun-12						
Dichlorodifluoromethane (F12)	96	5.0	ug/m3	101		95.4	65-135			
Vinyl chloride	46	2.6	"	52.0		88.2	65-135			
Chloroethane	56	8.0	"	53.6		104	65-135			
Trichlorofluoromethane (F11)	110	5.6	"	113		96.5	65-135			
1,1-Dichloroethene	69	4.0	"	80.8		85.7	65-135			
1,1,2-Trichlorotrifluoroethane (F113)	140	7.7	"	155		91.6	65-135			
Methylene chloride (Dichloromethane)	61	3.5	"	70.8		86.4	65-135			
trans-1,2-Dichloroethene	63	8.0	"	80.8		77.5	65-135			
1,1-Dichloroethane	67	4.1	"	82.4		81.4	65-135			
cis-1,2-Dichloroethene	64	4.0	"	80.0		79.9	65-135			
Chloroform	89	4.9	"	99.2		90.2	65-135			

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San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EF22904 - TO-15										
LCS (EF22904-BS1)				Prepared & Analyzed: 28-Jun-12						
1,1,1-Trichloroethane	95	5.5	ug/m3	111		85.4	65-135			
1,2-Dichloroethane (EDC)	69	4.1	"	82.4		84.2	65-135			
Benzene	53	3.2	"	64.8		82.3	65-135			
Carbon tetrachloride	120	6.4	"	128		91.6	65-135			
Trichloroethene	97	5.5	"	110		88.7	65-135			
Toluene	65	3.8	"	76.8		85.0	65-135			
1,1,2-Trichloroethane	95	5.5	"	111		85.7	65-135			
Tetrachloroethene	130	6.9	"	138		96.4	65-135			
1,1,1,2-Tetrachloroethane	140	7.0	"	140		103	65-135			
Ethylbenzene	79	4.4	"	88.4		89.4	65-135			
m,p-Xylene	160	8.8	"	177		91.7	65-135			
o-Xylene	81	4.4	"	88.4		91.7	65-135			
1,1,2,2-Tetrachloroethane	130	7.0	"	140		90.9	65-135			
Surrogate: 1,2-Dichloroethane-d4	*194*		*"*	*214*		*90.5*	*76-134*			
Surrogate: Toluene-d8	*200*		*"*	*207*		*96.6*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*387*		*"*	*364*		*106*	*77-127*			
Batch EG20304 - TO-15										
Blank (EG20304-BLK1)				Prepared & Analyzed: 02-Jul-12						
1,1-Difluoroethane (LCC)	ND	2.7	ug/m3							
Propene	ND	8.7	"							
Dichlorodifluoromethane (F12)	ND	5.0	"							
Chloromethane	ND	2.1	"							
Dichlorotetrafluoroethane (F114)	ND	7.1	"							
Vinyl chloride	ND	2.6	"							
1,3-Butadiene	ND	4.5	"							
Bromomethane	ND	16	"							
Chloroethane	ND	8.0	"							
Ethanol	ND	19	"							
Trichlorofluoromethane (F11)	ND	5.6	"							
Acetone	ND	24	"							
Isopropyl alcohol	ND	25	"							

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Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG20304 - TO-15										
Blank (EG20304-BLK1)				Prepared & Analyzed: 02-Jul-12						
1,1-Dichloroethene	ND	4.0	ug/m3							
Tertiary-butyl alcohol (TBA)	ND	6.1	"							
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"							
Methylene chloride (Dichloromethane)	ND	3.5	"							
Carbon disulfide	ND	6.3	"							
trans-1,2-Dichloroethene	ND	8.0	"							
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"							
Vinyl acetate	ND	3.6	"							
1,1-Dichloroethane	ND	4.1	"							
2-Butanone (MEK)	ND	30	"							
n-Hexane	ND	3.6	"							
cis-1,2-Dichloroethene	ND	4.0	"							
Diisopropyl ether (DIPE)	ND	4.2	"							
Ethyl acetate	ND	18	"							
Chloroform	ND	4.9	"							
2,2-Dichloropropane	ND	4.7	"							
Tetrahydrofuran	ND	30	"							
Ethyl tert-butyl ether (ETBE)	ND	4.2	"							
1,1,1-Trichloroethane	ND	5.5	"							
1,2-Dichloroethane (EDC)	ND	4.1	"							
1,1-Dichloropropene	ND	4.6	"							
Benzene	ND	3.2	"							
Carbon tetrachloride	ND	6.4	"							
Cyclohexane	ND	17	"							
Dibromomethane	ND	7.2	"							
Tertiary-amyl methyl ether (TAME)	ND	4.2	"							
2,2,4-Trimethylpentane	ND	4.7	"							
n-Heptane	ND	4.1	"							
Trichloroethene	ND	5.5	"							
1,2-Dichloropropane	ND	9.4	"							
1,4-Dioxane	ND	7.3	"							
Bromodichloromethane	ND	6.8	"							
cis-1,3-Dichloropropene	ND	4.6	"							
4-Methyl-2-pentanone (MIBK)	ND	8.3	"							

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Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG20304 - TO-15										
Blank (EG20304-BLK1)				Prepared & Analyzed: 02-Jul-12						
trans-1,3-Dichloropropene	ND	4.6	ug/m3							
1,3-Dichloropropane	ND	4.7	"							
Toluene	ND	3.8	"							
1,1,2-Trichloroethane	ND	5.5	"							
2-Hexanone (MBK)	ND	8.3	"							
Dibromochloromethane	ND	8.6	"							
Tetrachloroethene	ND	6.9	"							
1,2-Dibromoethane (EDB)	ND	7.8	"							
1,1,1,2-Tetrachloroethane	ND	7.0	"							
Chlorobenzene	ND	4.7	"							
Ethylbenzene	ND	4.4	"							
m,p-Xylene	ND	8.8	"							
Styrene	ND	4.3	"							
o-Xylene	ND	4.4	"							
Bromoform	ND	10	"							
1,1,2,2-Tetrachloroethane	ND	7.0	"							
4-Ethyltoluene	ND	5.0	"							
1,2,3-Trichloropropane	ND	6.1	"							
Isopropylbenzene (Cumene)	ND	5.0	"							
Bromobenzene	ND	6.5	"							
2-Chlorotoluene	ND	11	"							
n-Propylbenzene	ND	5.0	"							
4-Chlorotoluene	ND	11	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
tert-Butylbenzene	ND	5.6	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
1,3-Dichlorobenzene	ND	12	"							
Benzyl chloride	ND	10	"							
1,4-Dichlorobenzene	ND	12	"							
sec-Butylbenzene	ND	5.6	"							
p-Isopropyltoluene	ND	5.6	"							
1,2-Dichlorobenzene	ND	12	"							
n-Butylbenzene	ND	5.6	"							
1,2-Dibromo-3-chloropropane	ND	9.8	"							

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Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG20304 - TO-15										
Blank (EG20304-BLK1)				Prepared & Analyzed: 02-Jul-12						
Naphthalene	ND	5.3	ug/m3							
1,2,4-Trichlorobenzene	ND	7.5	"							
1,2,3-Trichlorobenzene	ND	7.5	"							
Hexachlorobutadiene	ND	11	"							
Surrogate: 1,2-Dichloroethane-d4	*216*		*"*	*214*		*101*	*76-134*			
Surrogate: Toluene-d8	*199*		*"*	*207*		*95.9*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*384*		*"*	*364*		*105*	*77-127*			
LCS (EG20304-BS1)				Prepared & Analyzed: 02-Jul-12						
Dichlorodifluoromethane (F12)	97	5.0	ug/m3	101		96.5	65-135			
Vinyl chloride	50	2.6	"	52.0		95.5	65-135			
Chloroethane	55	8.0	"	53.6		102	65-135			
Trichlorofluoromethane (F11)	120	5.6	"	113		102	65-135			
1,1-Dichloroethene	63	4.0	"	80.8		78.2	65-135			
1,1,2-Trichlorotrifluoroethane (F113)	140	7.7	"	155		88.3	65-135			
Methylene chloride (Dichloromethane)	52	3.5	"	70.8		73.2	65-135			
trans-1,2-Dichloroethene	59	8.0	"	80.8		73.6	65-135			
1,1-Dichloroethane	63	4.1	"	82.4		76.9	65-135			
cis-1,2-Dichloroethene	61	4.0	"	80.0		75.7	65-135			
Chloroform	87	4.9	"	99.2		87.3	65-135			
1,1,1-Trichloroethane	98	5.5	"	111		87.9	65-135			
1,2-Dichloroethane (EDC)	74	4.1	"	82.4		89.5	65-135			
Benzene	47	3.2	"	64.8		72.4	65-135			
Carbon tetrachloride	130	6.4	"	128		98.1	65-135			
Trichloroethene	98	5.5	"	110		89.0	65-135			
Toluene	62	3.8	"	76.8		80.7	65-135			
1,1,2-Trichloroethane	88	5.5	"	111		79.4	65-135			
Tetrachloroethene	130	6.9	"	138		91.9	65-135			
1,1,1,2-Tetrachloroethane	140	7.0	"	140		101	65-135			
Ethylbenzene	75	4.4	"	88.4		84.9	65-135			
m,p-Xylene	160	8.8	"	177		87.8	65-135			
o-Xylene	78	4.4	"	88.4		87.8	65-135			
1,1,2,2-Tetrachloroethane	120	7.0	"	140		84.9	65-135			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG20304 - TO-15										
LCS (EG20304-BS1)				Prepared & Analyzed: 02-Jul-12						
Surrogate: 1,2-Dichloroethane-d4	*215*		*ug/m3*	*214*		*100*	*76-134*			
Surrogate: Toluene-d8	*191*		*"*	*207*		*92.1*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*406*		*"*	*364*		*111*	*77-127*			
Batch EG21205 - TO-15										
Blank (EG21205-BLK1)				Prepared & Analyzed: 11-Jul-12						
1,1-Difluoroethane (LCC)	ND	10000	ug/m3							
Propene	ND	8.7	"							
Dichlorodifluoromethane (F12)	ND	5.0	"							
Chloromethane	ND	2.1	"							
Dichlorotetrafluoroethane (F114)	ND	7.1	"							
Vinyl chloride	ND	2.6	"							
1,3-Butadiene	ND	4.5	"							
Bromomethane	ND	16	"							
Chloroethane	ND	8.0	"							
Ethanol	ND	19	"							
Trichlorofluoromethane (F11)	ND	5.6	"							
Acetone	ND	24	"							
Isopropyl alcohol	ND	25	"							
1,1-Dichloroethene	ND	4.0	"							
Tertiary-butyl alcohol (TBA)	ND	6.1	"							
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"							
Methylene chloride (Dichloromethane)	ND	3.5	"							
Carbon disulfide	ND	6.3	"							
trans-1,2-Dichloroethene	ND	8.0	"							
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"							
Vinyl acetate	ND	3.6	"							
1,1-Dichloroethane	ND	4.1	"							
2-Butanone (MEK)	ND	30	"							
n-Hexane	ND	3.6	"							
cis-1,2-Dichloroethene	ND	4.0	"							
Diisopropyl ether (DIPE)	ND	4.2	"							

H&P Mobile Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG21205 - TO-15										
Blank (EG21205-BLK1)				Prepared & Analyzed: 11-Jul-12						
Ethyl acetate	ND	18	ug/m3							
Chloroform	ND	4.9	"							
2,2-Dichloropropane	ND	4.7	"							
Tetrahydrofuran	ND	30	"							
Ethyl tert-butyl ether (ETBE)	ND	4.2	"							
1,1,1-Trichloroethane	ND	5.5	"							
1,2-Dichloroethane (EDC)	ND	4.1	"							
1,1-Dichloropropene	ND	4.6	"							
Benzene	ND	3.2	"							
Carbon tetrachloride	ND	6.4	"							
Cyclohexane	ND	17	"							
Dibromomethane	ND	7.2	"							
Tertiary-amyl methyl ether (TAME)	ND	4.2	"							
2,2,4-Trimethylpentane	ND	4.7	"							
n-Heptane	ND	4.1	"							
Trichloroethene	ND	5.5	"							
1,2-Dichloropropane	ND	9.4	"							
1,4-Dioxane	ND	7.3	"							
Bromodichloromethane	ND	6.8	"							
cis-1,3-Dichloropropene	ND	4.6	"							
4-Methyl-2-pentanone (MIBK)	ND	8.3	"							
trans-1,3-Dichloropropene	ND	4.6	"							
1,3-Dichloropropane	ND	4.7	"							
Toluene	ND	3.8	"							
1,1,2-Trichloroethane	ND	5.5	"							
2-Hexanone (MBK)	ND	8.3	"							
Dibromochloromethane	ND	8.6	"							
Tetrachloroethene	ND	6.9	"							
1,2-Dibromoethane (EDB)	ND	7.8	"							
1,1,1,2-Tetrachloroethane	ND	7.0	"							
Chlorobenzene	ND	4.7	"							
Ethylbenzene	ND	4.4	"							
m,p-Xylene	ND	8.8	"							
Styrene	ND	4.3	"							

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG21205 - TO-15										
Blank (EG21205-BLK1)				Prepared & Analyzed: 11-Jul-12						
o-Xylene	ND	4.4	ug/m3							
Bromoform	ND	10	"							
1,1,2,2-Tetrachloroethane	ND	7.0	"							
4-Ethyltoluene	ND	5.0	"							
1,2,3-Trichloropropane	ND	6.1	"							
Isopropylbenzene (Cumene)	ND	5.0	"							
Bromobenzene	ND	6.5	"							
2-Chlorotoluene	ND	11	"							
n-Propylbenzene	ND	5.0	"							
4-Chlorotoluene	ND	11	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
tert-Butylbenzene	ND	5.6	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
1,3-Dichlorobenzene	ND	12	"							
Benzyl chloride	ND	10	"							
1,4-Dichlorobenzene	ND	12	"							
sec-Butylbenzene	ND	5.6	"							
p-Isopropyltoluene	ND	5.6	"							
1,2-Dichlorobenzene	ND	12	"							
n-Butylbenzene	ND	5.6	"							
1,2-Dibromo-3-chloropropane	ND	9.8	"							
Naphthalene	ND	5.3	"							
1,2,4-Trichlorobenzene	ND	7.5	"							
1,2,3-Trichlorobenzene	ND	7.5	"							
Hexachlorobutadiene	ND	11	"							
Surrogate: 1,2-Dichloroethane-d4	*191*		"	*214*		*89.3*	*76-134*			
Surrogate: Toluene-d8	*192*		"	*207*		*92.6*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*378*		"	*364*		*104*	*77-127*			

H&P Mobile Geochemistry Inc.

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Carlsbad, CA 92010
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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG21205 - TO-15										
LCS (EG21205-BS1)				Prepared: 11-Jul-12 Analyzed: 12-Jul-12						
Dichlorodifluoromethane (F12)	91	5.0	ug/m3	101		90.2	65-135			
Vinyl chloride	36	2.6	"	52.0		70.0	65-135			
Chloroethane	41	8.0	"	53.6		75.8	65-135			
Trichlorofluoromethane (F11)	120	5.6	"	113		105	65-135			
1,1-Dichloroethene	68	4.0	"	80.8		84.0	65-135			
1,1,2-Trichlorotrifluoroethane (F113)	150	7.7	"	155		94.5	65-135			
Methylene chloride (Dichloromethane)	57	3.5	"	70.8		80.3	65-135			
trans-1,2-Dichloroethene	64	8.0	"	80.8		79.7	65-135			
1,1-Dichloroethane	72	4.1	"	82.4		87.0	65-135			
cis-1,2-Dichloroethene	67	4.0	"	80.0		83.5	65-135			
Chloroform	89	4.9	"	99.2		89.6	65-135			
1,1,1-Trichloroethane	100	5.5	"	111		91.1	65-135			
1,2-Dichloroethane (EDC)	71	4.1	"	82.4		86.0	65-135			
Benzene	46	3.2	"	64.8		70.8	65-135			
Carbon tetrachloride	130	6.4	"	128		102	65-135			
Trichloroethene	99	5.5	"	110		90.3	65-135			
Toluene	59	3.8	"	76.8		77.3	65-135			
1,1,2-Trichloroethane	91	5.5	"	111		82.0	65-135			
Tetrachloroethene	130	6.9	"	138		96.8	65-135			
1,1,1,2-Tetrachloroethane	160	7.0	"	140		116	65-135			
Ethylbenzene	82	4.4	"	88.4		92.8	65-135			
m,p-Xylene	170	8.8	"	177		94.1	65-135			
o-Xylene	85	4.4	"	88.4		96.1	65-135			
1,1,2,2-Tetrachloroethane	130	7.0	"	140		91.3	65-135			
Surrogate: 1,2-Dichloroethane-d4	*200*		*"*	*214*		*93.3*	*76-134*			
Surrogate: Toluene-d8	*194*		*"*	*207*		*93.5*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*400*		*"*	*364*		*110*	*77-127*			

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

TPHv / APH on Vapors by EPA Method TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EF22904 - TO-15										
Blank (EF22904-BLK1)				Prepared & Analyzed: 28-Jun-12						
TPHv (C5 - C8) aliphatic	ND	100	ug/m3							
TPHv (C5 - C11)	ND	100	"							
TPHv (C9 - C12) aliphatic	ND	100	"							
TPHv (C6 - C8) aromatic	ND	100	"							
TPHv (C9 - C10) aromatic	ND	100	"							
Batch EG20304 - TO-15										
Blank (EG20304-BLK1)				Prepared & Analyzed: 02-Jul-12						
TPHv (C5 - C8) aliphatic	ND	100	ug/m3							
TPHv (C9 - C12) aliphatic	ND	100	"							
TPHv (C5 - C11)	ND	100	"							
TPHv (C6 - C8) aromatic	ND	100	"							
TPHv (C9 - C10) aromatic	ND	100	"							
Batch EG21205 - TO-15										
Blank (EG21205-BLK1)				Prepared & Analyzed: 11-Jul-12						
TPHv (C5 - C8) aliphatic	ND	100	ug/m3							
TPHv (C9 - C12) aliphatic	ND	100	"							
TPHv (C5 - C11)	ND	100	"							
TPHv (C9 - C10) aromatic	ND	100	"							
TPHv (C6 - C8) aromatic	ND	100	"							

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Notes and Definitions

J- Report	This sample is reported to the standard MDL determined for this method. All confirmed hits above the reported MDL value and below the RL, will be flagged with a "J" result.
J	Detected but below the RL; therefore, result is an estimated concentration.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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Padre Associates, Inc.	Project: PAD062212-14 Rev	
369 Pacific Street	Project Number: 0801-0897 / Avila Terminal	Reported:
San Luis Obispo, CA 93401	Project Manager: Mr. Louis Cappel	30-Jul-12 13:35

Appendix

H&P Mobile Geochemistry, Inc. is approved as an Environmental Laboratory in conformance with the Environmental Laboratory Accreditation Program (CA) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste for the following methods:

Certificate# 2741, 2743, 2579, 2754 & 2740 approved for EPA 8260 and LUFT GC/MS
Certificate# 2742, 2745, & 2741 approved for LUFT
Certificate# 2745 & 2742 approved for EPA 418.1

H&P Mobile Geochemistry, Inc. is approved as an Environmental Laboratory in conformance with the National Environmental Accreditation Conference Standards for the category Environmental Analysis Air and Emissions for the following analytes and methods:

1,2,4-Trichlorobenzene by EPA TO-15 & TO-14A
Hexachlorobutadiene by EPA TO-15 & TO-14A
1,2,4-Trimethylbenzene by EPA TO -14A
1,2-Dichlorobenzene by EPA TO-15 & TO-14A
1,3,5-Trimethylbenzene by EPA TO -14A
1,4-Dichlorobenzene by EPA TO-15 & TO-14A
Benzene by EPA TO-15 & TO-14A
Chlorobenzene by EPA TO-15 & TO-14A
Ethyl benzene by EPA TO-15 & TO-14A
Styrene by EPA TO-15 & TO-14A
Toluene by EPA TO-15 & TO-14A
Total Xylenes by EPA TO-15 & TO-14A
1,1,1-Trichloroethane by EPA TO-15 & TO-14A
1,1,2,2-Tetrachloroethane by EPA TO-15 & TO-14A
1,1,2-Trichloroethane by EPA TO-15 & TO-14A
1,1-Dichloroethane by EPA TO-15 & TO-14A
1,1-Dichloroethene by EPA TO-15 & TO-14A
1,2-Dichloroethane by EPA TO-15 & TO-14A
1,2-Dichloropropane by EPA TO-15 & TO-14A
Benzyl Chloride by EPA TO-15 & TO-14A
Bromoform by EPA TO-15
Bromomethane by EPA TO-15 & TO-14A
Carbon tetrachloride by EPA TO-15 & TO-14A
Chloroethane by EPA TO-15
Chloroform by EPA TO-15 & TO-14A
Chloromethane by EPA TO-15 & TO-14A
cis-1,2-Dichloroethene by EPA TO-15
cis-1,2-Dichloropropene by EPA TO-15 & TO-14A
Methylene chloride by EPA TO -15 & TO-14A
Tetrachloroethane by EPA TO-15 & TO-14A
trans-1,2-Dichloroethene by EPA TO-15
trans-1,2-Dichloropropene by EPA TO-15 & TO-14A
Trichloroethene by EPA TO-15 & TO-14A
Vinyl chloride by EPA TO -15 & TO-14A
2-Butanone by EPA TO-15
4-Methyl-2-Pentanone by EPA TO-15
Hexane by EPA TO-15
Methyl tert-butyl ether by EPA TO-15
Vinyl acetate by EPA TO-15
Dibromochloromethane by EPA TO-15
Dichlorodifluoromethane by EPA TO-15 & TO-14A
Trichlorofluoromethane by EPA TO-15 & TO-14A
Naphthalene by EPA TO-15 & TO-14A
m&p Xylenes by EPA TO-15
o-Xylene by EPA TO-15
1,3-Butadiene by EPA TO-15
1,1,2-Trichlorotrifluoroethane by EPA TO-15 & TO-14A
Carbon disulfide by EPA TO-15
1,4-Dioxane by EPA TO-15
Cyclohexane by EPA TO-15
tert-Butyl Alcohol by EPA TO-15
1,3-Dichlorobenzene by EPA TO-15 & TO-14A
Heptane by EPA TO-15
Bromodichloromethane by EPA TO-15 & TO-14A

This certification applies to samples analyzed in summa canisters.

Chain of Custody Record

H&P Mobile Geochemistry Inc.
☐ 2470 Impala Dr., Carlsbad, CA 92010 • ph 760.804.9678 • fax 760.804.9159
☐ 1855 Coronado Ave., Signal Hill, CA 90755 • ph 800.834.9888

Date: 6-21-12
H&P Project # PAD062212-14
Outside Lab:

Client: Padre Associates, Inc. | Collector: Paul Lavelle / Cody Montoya | Page: 1 of 4
Address: 365 Pacific St. S.L.O., CA 93401 | Client Project # 0801-0897 | Project Contact: Louis Cappel
Location: Avila Terminal
Email: Lcappel@padreinc.com | Phone: 805-786-2650 | Fax: 805-786-2651 | Turn around time: Normal

Geotracker EDF: Yes ☐ No ☐
Global ID:
Excel EDD: Yes ☒ No ☐

Sample Receipt
Intact: ☒ Yes ☐ No
Seal Intact: ☐ Yes ☐ No ☐ N/A
Cold: ☐ Yes ☐ No ☒ N/A
Temperature:

Special Instructions: ANALYZE PER ATTACHED QUOTE (REPORT IN ug/m3, WITH J-FLAGS TO MDL)
UPS TRACK: 1Z9J7T618446734292 and 1Z9J7T618446734292

Lab Work Order # E206093

Sample Name	Field Point Name	Purge Vol	Time	Date	Sample Type	Container Type	Total # of containers	8260B Full List	8260B ☐ BTEX/OXY ☐ TPH gas	8015M TPH ☐ g ☐ d ☐ ext	418.1 TRPH	VOC's: Full List ☐ 8260B ☒ TO-15	VOC's: Short List/DTSC ☐ 8260B ☐ TO-15	VOC's: SAM, 8260B ☐ SAM A ☐ SAM B	Naphthalene ☐ 8260B ☒ TO-15	Oxygenates ☐ 8260B ☒ TO-15	TPHv gas +APH ☐ 8260B ☒ TO-15	Ketones ☐ 8260B ☐ TO-15	Other ____ ☐ 8260B ☐ TO-15	Leak Check Compound ☒ 1,1 DFA ☐ OTHER	Methane	Fixed Gases ☒ CO_2 ☒ O_2 ☒ N_2	CAN#	VAC
								SOIL/GW				SOIL VAPOR/AIR ANALYSIS												
SV-71-5'		600cc	1105	6/20/12	gas	400 mL Summa	1					X			X	X	X			X	X	X	130	-1.1
SV-72-5'			1140				1																201	-7.2
SV-73-5'			1155																				376	-.9
SV-74-5'			1210																				316	-1.4
SV-75-5'			1225																				144	-.3
SV-76-5'			1240																				170	-1.2
SV-77-5'			1255																				059	-2.1
SV-78-5'			1330																				313	-.6
SV-79-5'			1347																				147	-1.4
SV-80-5'			1405																				041	-2.2

Relinquished by: (Signature) Louis Cappel	(company) PADRE	Received by: (Signature)	(company) H&P
Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)
Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)

Date: 6/22/12 | Time: 1315
Date: | Time:
Date: | Time:

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back.

Sample disposal instruction: ☐ Disposal ☐ Return to client ☐ Pickup

Chain of Custody Record

Mobile Geochemistry Inc.

☐ 2470 Impala Dr., Carlsbad, CA 92010 • ph 760.804.9678 • fax 760.804.9159
☐ 1855 Coronado Ave., Signal Hill, CA 90755 • ph 800.834.9888

Date: 6-21-12
H&P Project #: ~~PAD062012-MC~~
~~Outside Lab:~~ PAD062212-14

Client: Padre Associates, Inc.
Address: 369 Pacific St.
S.L.O, CA 93401
Email: L cuppel @ padre inc.com

Collector: Paul Lavelle / Cody Montoya
Client Project #: 0801-0897
Location: Avila Terminal
Phone: 805-786-2650 Fax: 805-786-2651

Page: 2 of 4
Project Contact: Louis Cuppel
Turn around time: Normal

Geotracker EDF: Yes ☐ No ☐
Global ID:
Excel EDD: Yes ☒ No ☐

Sample Receipt
Intact: ☒ Yes ☐ No
Seal Intact: ☐ Yes ☐ No ☒ N/A
Cold: ☐ Yes ☐ No ☒ N/A
Temperature: RT

Special Instructions:

Lab Work Order # E206093

Sample Name	Field Point Name	Purge Vol	Time	Date	Sample Type	Container Type	Total # of containers	8260B Full List	8260B ☐ BTEX/OXY ☐ TPH gas	8015M TPH ☐ g ☐ d ☐ ext	418.1 TRPH	VOC's: Full List ☐ 8260B ☒ TO-15	VOC's: Short List/DTSC ☐ 8260B ☐ TO-15	VOC's: SAM, 8260B ☐ SAM A ☐ SAM B	Naphthalene ☐ 8260B ☒ TO-15	Oxygenates ☐ 8260B ☒ TO-15	TPHv gas ☒ 8260B ☒ TO-15	Ketones ☐ 8260B ☐ TO-15	Other ____ ☐ 8260B ☐ TO-15	Leak Check Compound ☒ 1,1 DFA ☐ OTHER	Methane	Fixed Gases ☒ CO_2 ☒ O_2 ☒ N_2	CAN #	VAC
								SOIL/GW				SOIL VAPOR/AIR ANALYSIS												
SV-80-15'		600cc	1407	6/20/12	gas	400mL Summa	1					X			X	X	X			X	X	X	210	-2.1
SV-81-5'			1430																				040	-1.2
SV-81-15'			1435																				042	-1.8
SV-82-5'			1455																				007	-.3
SV-82-15'			1500																				094	-1.4
SV-83-5'		700cc	1000																				380	-.6
SV-83-15'			1002																				124	-1.0
SV-84-5'			0933																				015	-2.1
SV-84-15'			0935																				350	-1.2
SV-85-5'			1041																				006	-2.2

Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date	Time
[signature]	PADRE	[signature]	H&P	6/22/12	1315
Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date	Time
Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date	Time

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back.

Sample disposal instruction: ☐ Disposal ☐ Return to client ☐ Pickup

Chain of Custody Record

Mobile Geochemistry Inc.

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☐ 1855 Coronado Ave., Signal Hill, CA 90755 • ph 800.834.9888

Date: 6-21-12
H&P Project # ~~PAD062212-MC~~
Outside Lab: PAD062212-14

Client: Padre Associates, Inc.
Collector: Paul Lavelle / Cody Montoya
Page: 3 of 4
Address: 369 Pacific St.
S.L.O., CA 93401
Client Project # 0801-0897
Project Contact: Louis Cappel
Location: Avila Terminal
Email: Lcappel@padreinc.com
Phone: 805-786-2650
Fax: 805-786-2651
Turn around time: Normal

Geotracker EDF: Yes ☐ No ☐
Global ID:
Excel EDD: Yes ☒ No ☐

Sample Receipt
Intact: ☒ Yes ☐ No
Seal Intact: ☐ Yes ☐ No ☒ N/A
Cold: ☐ Yes ☐ No ☒ N/A
Temperature: RT

Special Instructions:

Lab Work Order # E206093

Sample Name	Field Point Name	Purge Vol	Time	Date	Sample Type	Container Type	Total # of containers	8260B Full List	8260B ☐ BTEX/OXY ☐ TPH gas	8015M TPH ☐ g ☐ d ☐ ext	418.1 TRPH	VOC's: Full List ☐ 8260B ☒ TO-15	VOC's: Short List/DTSC ☐ 8260B ☐ TO-15	VOC's: SAM, 8260B ☐ SAM A ☐ SAM B ☐ TO-15	Naphthalene ☐ 8260B ☒ TO-15	Oxygenates ☐ 8260B ☒ TO-15	TPHv gas+TAPH ☐ 8260B ☒ TO-15	Ketones ☐ 8260B ☐ TO-15	Other ____ ☐ 8260B ☐ TO-15	Leak Check Compound ☒ 1,1 DFA ☐ OTHER	Methane	Fixed Gases ☒ CO_2 ☒ O_2 ☒ N_2	CAN #	VAC
								SOIL/GW				SOIL VAPOR/AIR ANALYSIS												
SV-85-15'		700cc	1040	6/20/12	gas	400 mL Summa	1					X			X	X	X			X	X	X	233	-2.4
SV-86-15'			1550																				029	-1.8
SV-87-15'			1605																				353	-1.8
SV-88-15'			1525																				340	-7.5
SV-89-15'			1640																				003	-1.3
SV-90-15'			1620																				257	-3.2
SV-91-15'			1630																				026	-.1
DUP-1			1100																				323	-.4
DUP-2			1200																				207	-1.1
Trip Blank A		—	—	—																			091	—

Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date	Time
	PADRE		H&P	6/22/12	1315
Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:
Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back.

Sample disposal instruction: ☐ Disposal ☐ Return to client ☐ Pickup

Chain of Custody Record

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☐ 1855 Coronado Ave., Signal Hill, CA 90755 • ph 800.834.9888

Date: 6-21-12
H&P Project # ~~PAD062212-MC~~
Outside Lab: PAD062212-14

Client: Padre Associates, Inc. | Collector: Paul Lavelle / Cody Montoya | Page: 4 of 4
Address: 369 Pacific St. S.L.O., CA 93401 | Client Project # 0801-0897 | Project Contact: Louis Cappel
Location: Avila Terminal
Email: Lcappel@padreinc.com | Phone: 805-786-2650 | Fax: 805-786-2651 | Turn around time: Normal

Geotracker EDF: Yes ☐ No ☐
Global ID:
Excel EDD: Yes ☒ No ☐

Sample Receipt
Intact: ☒ Yes ☐ No
Seal Intact: ☐ Yes ☐ No ☐ N/A
Cold: ☐ Yes ☐ No ☒ N/A
Temperature: 13

Special Instructions:

Lab Work Order # E206093

Sample Name	Field Point Name	Purge Vol	Time	Date	Sample Type	Container Type	Total # of containers	8260B Full List	8260B ☐ BTEX/OXY ☐ TPH gas	8015M TPH ☐ g ☐ d ☐ ext	418.1 TRPH	VOC's: Full List ☐ 8260B ☒ TO-15	VOC's: Short List/DTSC ☐ 8260B ☐ TO-15	VOC's: SAM, 8260B ☐ SAM A ☐ SAM B	Naphthalene ☐ 8260B ☒ TO-15	Oxygenates ☐ 8260B ☒ TO-15	TPHv gas ☐ 8260B ☒ TO-15	Ketones ☐ 8260B ☐ TO-15	Other ____ ☐ 8260B ☐ TO-15	Leak Check Compound ☒ 1,1 DFA ☐ OTHER	Methane	Fixed Gases ☒ CO_2 ☐ N_2	@ANR#	VAC
								SOIL/GW				SOIL VAPOR/AIR ANALYSIS												
Trip Blank B	—	—	—	—	gas	400 mL Summa	1					X			X	X	X			X	~~MMM~~ LC	X	319	-

Relinquished by: (Signature)	(company) PADRE	Received by: (Signature)	(company) H&P
Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)
Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)

Date	Time
6/22/12	1315

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back.

Sample disposal instruction: ☐ Disposal ☐ Return to client ☐ Pickup

PAD062212-14 (PG1/2)

H&P

H&P Mobile Geochemistry, Inc. 2470 Impala Drive, Carlsbad, CA 92010
LA Field Office: 1855 Coronado Avenue, Signal Hill, CA 90755
Ph: 800-834-9888 www.handpmg.com

EPA Method TO-15
Project Specific VOCs + CH4/CO2/O2/N2

★REPORT IN µg/m³ W/ d-FLAGS

Compound	400mL RLs Vapor (ppbv)	400mL MDL Vapor (ppbv)	400mL RLs Vapor (µg/m³)	400mL MDL Vapor (µg/m³)
1,1,1,2-Tetrachloroethane	1.0	0.17	7.0	1.19
1,1,1-Trichloroethane	1.0	0.23	5.5	1.27
1,1,2,2-Tetrachloroethane	1.0	0.11	7.0	0.77
1,1,2-Trichloroethane	1.0	0.27	5.5	1.49
1,1,2-Trichlorotrifluoroethane (F113)	1.0	0.09	7.7	0.70
1,1-Dichloroethane	1.0	0.18	4.1	0.74
1,1-Dichloroethene	1.0	0.41	4.0	1.65
1,2,4-Trichlorobenzene	1.0	0.18	7.5	1.35
1,2,4-Trimethylbenzene	1.0	0.23	5.0	1.15
1,2-Dibromoethane (EDB)	1.0	0.11	7.8	0.86
1,2-Dichlorobenzene	2.0	0.34	12.2	2.08
1,2-Dichloroethane (EDC)	1.0	0.22	4.1	0.91
1,2-Dichloropropane	2.0	0.37	9.4	1.74
1,3,5-Trimethylbenzene	1.0	0.26	5.0	1.30
1,3-Dichlorobenzene	2.0	0.35	12.2	2.14
1,4-Dichlorobenzene	2.0	0.38	12.2	2.32
2-Butanone (MEK)	10.0	1.2	29.9	3.59
2-Hexanone (MBK)	2.0	0.35	8.3	1.46
4-Ethyltoluene	1.0	0.26	5.0	1.30
4-Methyl-2-pentanone (MIBK)	2.0	0.11	8.4	0.46
Acetone	10.0	3.43	24.1	8.27
Benzene	1.0	0.22	3.2	0.71
Bromodichloromethane	1.0	0.14	6.8	0.95
Bromoform	1.0	0.5	10.5	5.26
Bromomethane	4.0	1.16	15.8	4.58
Carbon disulfide	2.0	0.31	6.3	0.98
Carbon tetrachloride	1.0	0.2	6.4	1.28
Chlorobenzene	1.0	0.12	4.7	0.56
Chloroethane	3.0	0.85	8.1	2.28
Chloroform	1.0	0.13	5.0	0.64
Chloromethane	1.0	0.15	2.1	0.31
cis-1,2-Dichloroethene	1.0	0.31	4.0	1.25
cis-1,3-Dichloropropene	1.0	0.19	4.6	0.88
Dibromochloromethane	1.0	0.09	8.7	0.78
Dichlorodifluoromethane (F12)	1.0	0.13	5.0	0.65
Dichlorotetrafluoroethane (F114)	1.0	0.16	7.1	1.13
Ethylbenzene	1.0	0.21	4.4	0.93
Hexachlorobutadiene	1.0	0.15	10.7	1.61

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m,p-Xylene	2.0	0.15	8.8	0.66
Methylene chloride (Dichloromethane)	1.0	0.23	3.5	0.81
o-Xylene	1.0	0.23	4.4	1.01
Styrene	1.0	0.2	4.3	0.86
Tetrachloroethene	1.0	0.13	6.9	0.90
Toluene	1.0	0.16	3.8	0.61
trans-1,2-Dichloroethene	2.0	0.41	8.1	1.65
trans-1,3-Dichloropropene	1.0	0.33	4.6	1.52
Trichloroethene	1.0	0.14	5.5	0.76
Trichlorofluoromethane (F11)	1.0	0.19	5.7	1.07
Vinyl chloride	1.0	0.18	2.6	0.47

Additional Compounds by TO-15	***400mL RLs*** *Vapor (ppbv)*	***400mL MDL*** *Vapor (ppbv)*	***400mL RLs*** *Vapor (µg/m³)*	***400mL MDL*** *Vapor (µg/m³)*
1,1-Dichloropropene	1.0	0.25	4.6	1.15
1,2,3-Trichlorobenzene	1.0	0.18	7.5	1.36
1,2,3-Trichloropropane	1.0	0.19	6.1	1.16
1,2-Dibromo-3-chloropropane	1.0	0.26	9.8	2.55
1,3-Butadiene	2.0	0.14	4.5	0.31
1,3-Dichloropropane	1.0	0.25	4.7	1.17
1,4-Dioxane	2.0	0.33	7.3	1.21
2,2,4-Trimethylpentane	1.0	0.23	4.7	1.09
2,2-Dichloropropane	1.0	0.16	4.7	0.75
2-Chlorotoluene	2.0	0.31	10.5	1.63
4-Chlorotoluene	2.0	0.38	10.5	2.00
Benzyl chloride	2.0	0.38	10.5	1.99
Bromobenzene	1.0	0.23	6.5	1.50
Cyclohexane	5.0	0.16	17.5	0.56
Dibromomethane	1.0	0.32	7.2	2.31
Ethyl acetate	5.0	3.07	18.3	11.23
Isopropylbenzene (Cumene)	1.0	0.15	5.0	0.75
n-Butylbenzene	1.0	0.17	5.6	0.95
n-Heptane	1.0	0.31	4.2	1.29
n-Hexane	1.0	0.42	3.6	1.50
n-Propylbenzene	1.0	0.17	5.0	0.85
p-Isopropyltoluene	1.0	0.21	5.6	1.17
Propene	5.0	0.24	8.7	0.42
sec-Butylbenzene	1.0	0.25	5.6	1.40
tert-Butylbenzene	1.0	0.23	5.6	1.28
Tetrahydrofuran	10.0	1.8	29.9	5.39
Vinyl acetate	1.0	0.35	3.6	1.25
TPH gas (C5-C11)			100	

PAD062212-14 (Pg 2/2)

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	400mL RLs	400mL MDL	400mL RLs	400mL MDL
Oxygenates	*Vapor (ppbv)*		*Vapor (µg/m³)*	
Diisopropyl ether (DIPE)	1.0	0.17	4.2	0.72
Ethyl tertiary-butyl ether (ETBE)	1.0	0.22	4.2	0.93
Methyl tertiary-butyl ether (MTBE)	1.0	0.29	3.7	1.06
Tertiary-amyl methyl ether (TAME)	1.0	0.22	4.2	0.93
Tertiary-butyl alcohol (TBA)	2.0	0.48	6.2	1.48
Additional Compounds by TO-15				
Naphthalene	1	0.15	5.3	0.80
Isopropyl Alcohol	10	0.77	25	1.92
Ethanol	10	2.2	19	4.21
Leak Check Compound				
1,1-Difluoroethane (LCC)	1		2.7	

Luft/8015M	
Methane	10 ppmv
ASTM 1945-96	
CO_2	0.2%
O_2	0.2%
N_2	0.2%

OPTIONAL: APH by Massachusetts method	
(C5-C8) Aliphatics	100
(C9-C12) Aliphatics	100
(C6-C8) Aromatics	100
(C9-C10) Aromatics	100

YES, INCLUDE APH

PTS Laboratories, Inc.

8100 Secura Way • Santa Fe Springs, CA 90670
Telephone (562) 347-2500 • Fax (562) 907-3610

June 28, 2012

Louis J. Cappel
Padre Associates, Inc.
369 Pacific Street
San Luis Obispo, CA 93401

Re: PTS File No: 42435
Physical Properties Data
Former Avila Terminal - Supplemental Soil Gas Assessment; 0801-0897

Dear Mr. Cappel:

Please find enclosed report for Physical Properties analyses conducted upon samples received from your Former Avila Terminal - Supplemental Soil Gas Assessment; 0801-0897 project. All analyses were performed by applicable ASTM, EPA, or API methodologies. An electronic version of the report has previously been sent to your attention via the internet. The samples are currently in storage and will be retained for thirty days past completion of testing at no charge. Please note that the samples will be disposed of at that time. You may contact me regarding storage, disposal, or return of the samples.

PTS Laboratories appreciates the opportunity to be of service. If you have any questions or require additional information, please contact Rachel Spitz at (562) 347-2504.

Sincerely,
PTS Laboratories

for Rachel Spitz

Michael Mark Brady, P.G.
District Manager

Encl.

PTS Laboratories

Project Name: Former Avila Terminal - Supplemental Soil Gas Assessment
Project Number: 0801-0897

PTS File No: 42435
Client: Padre Associates, Inc.

TEST PROGRAM - 20120612

CORE ID	Depth ft.	Core Recovery ft.	Vapor Transport Package					Notes
		Plugs:	Various					
Date Received: 20120612								
SV-71-5'	5	0.80	X					
SV-71-15'	15	0.90	X					
SV-77-5'	5	0.80	X					
SV-81-5'	5	0.90	X					
SV-81-15'	15	0.90	X					
SV-83-5'	5	1.00	X					
SV-83-15'	15	0.50	X					
SV-86-15'	15	0.50	X					
TOTALS:	9 cores	6.30	8					9

Laboratory Test Program Notes

Contaminant identification: _____

Standard TAT for basic analysis is 10 business days.

Vapor Transport Package (Johnson-Ettinger): Input parameters for Johnson-Ettinger Model; Air permeability (native + specific); porosity (total, effective, air-filled, water-filled), volumetric air and water, moisture content, intrinsic permeability/hydraulic conductivity, grain density, dry bulk density, TOC/foc, soil classification USDA/USCS (grain size + Atterberg limits).

PTS File No: 42435
Client: Padre Associates, Inc.

PTS Laboratories

PHYSICAL PROPERTIES DATA - VAPOR TRANSPORT PACKAGE

PROJECT NAME: Former Avila Terminal - Supplemental Soil Gas Assessment
PROJECT NO: 0801-0897

			METHODS: API RP40/ASTM D2216			API RP40		API RP40	API RP40		Mod. ASTM D425	API RP40
								POROSITY (2)				TOTAL
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	ANALYSIS DATE	MOISTURE CONTENT, % weight	MOISTURE CONTENT, cm^3/cm^3	DENSITY DRY BULK, g/cm^3	DENSITY GRAIN, g/cm^3	TOTAL, cm^3/cm^3	AIR FILLED, cm^3/cm^3	WATER FILLED, cm^3/cm^3	EFFECTIVE, cm^3/cm^3	PORE FLUID (3) SATURATIONS, % Pv
SV-71-5'	5	V	20120621	25.2	0.239	0.95	2.29	0.586	0.347	0.239	0.204	40.8
SV-71-15'	15	V	20120621	36.2	0.338	0.93	2.29	0.592	0.254	0.338	0.191	57.1
SV-77-5'	5.0	V	20120621	49.8	0.504	1.01	2.49	0.593	0.089	0.504	0.046	85.0
SV-81-5'	5.0	V	20120621	51.8	0.403	0.78	2.45	0.683	0.279	0.403	0.206	59.1
SV-81-15'	15.0	V	20120621	48.1	0.479	0.99	2.52	0.606	0.127	0.479	0.157	79.0
SV-83-5'	5.0	V	20120621	7.9	0.107	1.35	2.30	0.412	0.305	0.107	0.198	25.9
SV-83-15'	15	V	20120621	13.1	0.160	1.22	2.25	0.458	0.297	0.160	0.235	35.0
SV-86-15'	15	V	20120621	20.9	0.284	1.36	2.58	0.474	0.190	0.284	0.196	60.0

(1) Sample Orientation: H = horizontal; V = vertical; R = remold
(2) Total Porosity = no pore fluids in place; all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids, native sample; Effective = drainage porosity
(3) Water = 0.9996 g/cc; Pv = Pore Volume; ND = Not Detected

PTS File No: 42435
Client: Padre Associates, Inc.

PERMEABILITY DATA - VAPOR TRANSPORT PACKAGE

PROJECT NAME: Former Avila Terminal - Supplemental Soil Gas Assessment
PROJECT NO: 0801-0897

		METHODOLOGY:	API RP40		API RP40 / EPA 9100		
			25 PSI CONFINING PRESSURE		25 PSI CONFINING PRESSURE		
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	EFFECTIVE PERMEABILITY TO AIR (2), millidarcy	SPECIFIC PERMEABILITY TO AIR (3), millidarcy	SPECIFIC PERMEABILITY TO WATER (4), millidarcy	HYDRAULIC CONDUCTIVITY (4), cm/s	INTRINSIC PERMEABILITY TO WATER (4), cm^2
SV-71-5'	5	V	16200	21300	1170	1.18E-03	1.15E-08
SV-71-15'	15	V	124	1680	20.1	2.03E-05	1.99E-10
SV-77-5'	5.0	V	0.92	34000	4.17	4.24E-06	4.11E-11
SV-81-5'	5.0	V	5770	16900	98.7	9.80E-05	9.75E-10
SV-81-15'	15.0	V	111	7410	23.7	2.36E-05	2.34E-10
SV-83-5'	5.0	V	713	1110	104	1.03E-04	1.03E-09
SV-83-15'	15	V	3380	3860	646	6.39E-04	6.38E-09
SV-86-15'	15	V	50.7	569	11.3	1.11E-05	1.11E-10

(1) Sample Orientation: H = horizontal, V = vertical, R = remold
(2) Native State = As received with pore fluids in place
(3) Specific = without moisture
(4) Permeability to water and conductivity measured at saturated conditions
Air = Nitrogen gas.

PTS File No: 42435
Client: Padre Associates, Inc.

PTS Laboratories

SOIL CLASSIFICATION DATA - VAPOR TRANSPORT PACKAGE

PROJECT NAME: Former Avila Terminal - Supplemental Soil Gas Assessment
PROJECT NO: 0801-0897

METHODS:		ASTM D4318			ASTM D4318	ASTM D2487	USDA
		ATTERBERG LIMITS (1)			USCS / PLASTICITY	USCS	USDA/SCS (2)
SAMPLE ID.	DEPTH, ft.	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	CHART SYMBOL (Fines: <#40 Sieve)	CLASSIFICATION, Group Symbol: Name	SOIL TEXTURE SCHEME
SV-71-5'	5	57.5	34.6	22.9	MH	SW-SM: Well-graded sand with silt and gravel	Sand
SV-71-15'	15	50.4	32.5	17.9	MH	SW-SM: Well-graded sand with silt and gravel	Sand
SV-77-5'	5	119.8	33.8	86.0	CH	CH: Fat clay	Silty clay loam
SV-81-5'	5	51.8	50.3	1.5	MH	SW-SM: Well-graded sand with silt	Sand
SV-81-15'	15	58.1	47.5	10.6	MH	SW-SM: Well-graded sand with silt	Sand
SV-83-5'	5	24.6	18.5	6.1	CL-ML	SC-SM: Silty, clayey sand with gravel	Loamy sand
SV-83-15'	15	19.8	N/A	NON-PLASTIC	NP	SW-SM: Well-graded sand with silt and gravel	Sand
SV-86-15'	15	46.3	30.3	16.0	ML	ML: Sandy silt	Sandy clay

USCS: Unified Soil Classification System
USDA: US Department of Agriculture
SCS: Soil Conservation Service

(1) Silt assumed as fine fraction for NON-PLASTIC (NP) samples. (2) Sand considered to be >No. 200 sieve for USDA SOIL TEXTURE SCHEME.

PTS File No: 42435
Client: Padre Associates, Inc.

ORGANIC CARBON DATA - TOC (foc)

(METHODOLOGY: WALKLEY-BLACK)

PROJECT NAME: Former Avila Terminal - Supplemental Soil Gas Assessment
PROJECT NO: 0801-0897

SAMPLE ID.	DEPTH, ft.	ANALYSIS DATE	ANALYSIS TIME	SAMPLE MATRIX	TOTAL ORGANIC CARBON, mg/kg	FRACTION ORGANIC CARBON, g/g
SV-71-5'	5	20120627	1320	SOIL	13900	1.39E-02
SV-71-15'	15	20120627	1320	SOIL	3850	3.85E-03
SV-77-5'	5	20120627	1320	SOIL	10200	1.02E-02
SV-81-5'	5	20120627	1320	SOIL	600	6.00E-04
SV-81-15'	15	20120627	1320	SOIL	400	4.00E-04
SV-83-5'	5	20120627	1320	SOIL	1250	1.25E-03
SV-83-15'	15	20120627	1320	SOIL	1550	1.55E-03
SV-86-15'	15	20120627	1320	SOIL	790	7.90E-04
Blank	N/A	20120627	1320	BLANK	ND	ND
SRM D076-542	N/A	20120627	1320	SRM	2830	2.83E-03
				Reporting Limit:	100	1.00E-04

QC DATA

SRM ID/Lot No.	REC (%)	Control Limits	Certified Concentration mg/kg	QC Performance Acceptance Limits, mg/kg Lower	Upper
D076-542	103	75-125	2750	2063	3438

ND = Not Detected

PTS Laboratories, Inc.

Padre Associates, Inc.
PTS File No: 42435

PARTICLE SIZE SUMMARY

(METHODOLOGY: ASTM D422/D4464M)

PROJECT NAME: Former Avila Terminal - Supplemental Soil Gas Assessment
PROJECT NO: 0801-0897

Sample ID	Depth, ft.	Mean Grain Size Description (1)	Median Grain Size mm	Particle Size Distribution, wt. percent						Silt & Clay
				Gravel	Sand Size			Silt	Clay	
					Coarse	Medium	Fine			
SV-71-5'	5	Coarse sand	1.453	26.99	15.32	35.29	17.11	(2)	(2)	5.28
SV-71-15'	15	Coarse sand	1.588	27.76	16.09	34.27	15.85	(2)	(2)	6.04
SV-77-5'	5	Silt	0.012	0.00	0.00	0.00	13.29	58.70	28.01	86.71
SV-81-5'	5	Medium sand	0.586	4.02	10.51	44.32	32.57	(2)	(2)	8.58
SV-81-15'	15	Medium sand	0.405	0.00	3.96	44.92	39.20	(2)	(2)	11.92
SV-83-5'	5	Coarse sand	2.239	36.30	15.40	17.45	17.74	(2)	(2)	13.10
SV-83-15'	15	Medium sand	0.864	18.74	16.02	26.62	30.26	(2)	(2)	8.35
SV-86-15'	15	Silt	0.058	0.00	0.00	0.00	46.05	39.92	14.04	53.95

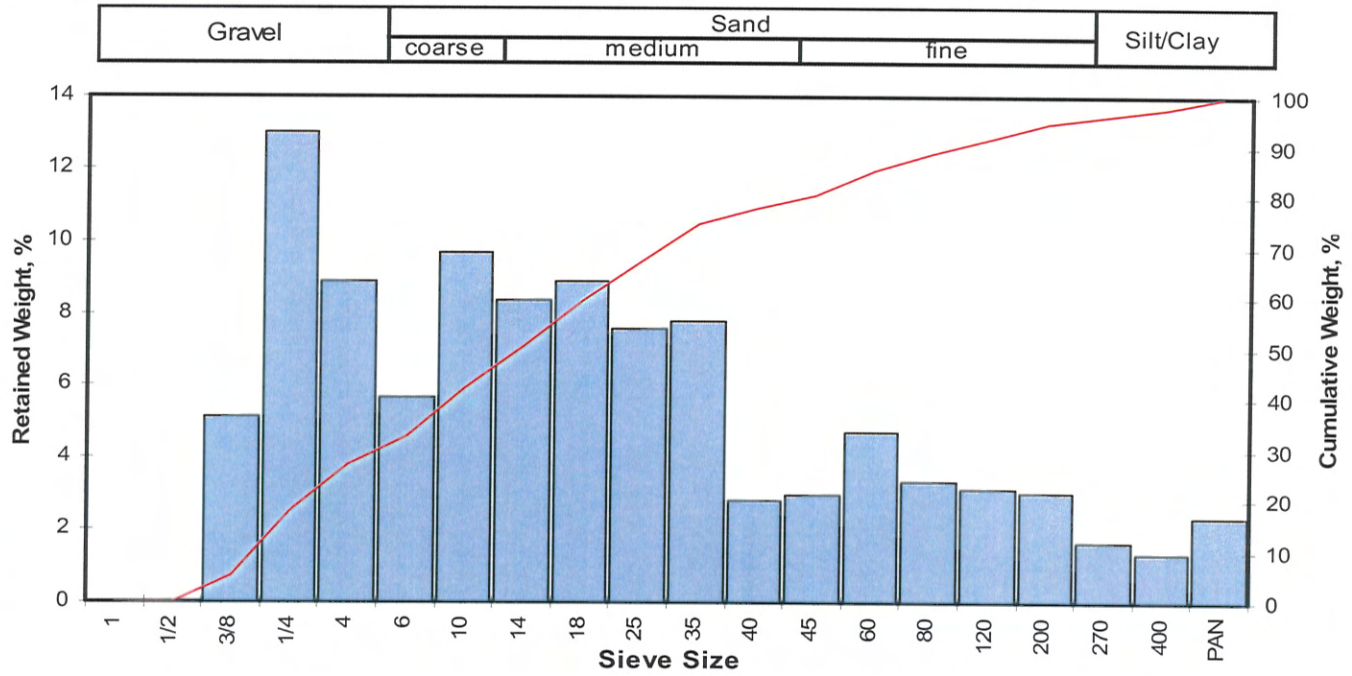
(1) Based on Mean from Trask
(2) Mechanical sieve does not differentiate silt/clay fractions

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D422M

Client: Padre Associates, Inc.
Project: Former Avila Terminal - Supplemental Soil Gas Assessment
Project No: 0801-0897

PTS File No: 42435
Sample ID: SV-71-5'
Depth, ft: 5



Opening		Phi of	U.S. Sieve	Sample Weight	Incremental Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.9844	25.002	-4.64	1	0.00	0.00	0.00
0.4922	12.501	-3.64	1/2	0.00	0.00	0.00
0.3740	9.500	-3.25	3/8	1.29	5.12	5.12
0.2500	6.351	-2.67	1/4	3.27	12.98	18.10
0.1873	4.757	-2.25	4	2.24	8.89	26.99
0.1324	3.364	-1.75	6	1.43	5.68	32.67
0.0787	2.000	-1.00	10	2.43	9.65	42.32
0.0557	1.414	-0.50	14	2.10	8.34	50.66
0.0394	1.000	0.00	18	2.23	8.85	59.51
0.0278	0.707	0.50	25	1.90	7.54	67.05
0.0197	0.500	1.00	35	1.95	7.74	74.79
0.0166	0.420	1.25	40	0.71	2.82	77.61
0.0139	0.354	1.50	45	0.74	2.94	80.55
0.0098	0.250	2.00	60	1.19	4.72	85.27
0.0070	0.177	2.50	80	0.84	3.33	88.61
0.0049	0.125	3.00	120	0.78	3.10	91.70
0.0029	0.074	3.75	200	0.76	3.02	94.72
0.0021	0.053	4.25	270	0.41	1.63	96.35
0.0015	0.037	4.75	400	0.33	1.31	97.66
			PAN	0.59	2.34	100.00
TOTALS				25.19	100.00	100.00

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	-3.26	0.3765	9.562
10	-3.03	0.3215	8.166
16	-2.76	0.2669	6.779
25	-2.34	0.1998	5.075
40	-1.18	0.0892	2.266
50	-0.54	0.0572	1.453
60	0.03	0.0385	0.978
75	1.02	0.0194	0.494
84	1.87	0.0108	0.274
90	2.73	0.0060	0.151
95	3.84	0.0028	0.070

Measure	Trask	Inman	Folk-Ward
Median, phi	-0.54	-0.54	-0.54
Median, in.	0.0572	0.0572	0.0572
Median, mm	1.453	1.453	1.453
Mean, phi	-1.48	-0.45	-0.48
Mean, in.	0.1096	0.0537	0.0548
Mean, mm	2.785	1.364	1.393
Sorting	3.207	2.313	2.231
Skewness	1.089	0.040	0.137
Kurtosis	0.286	0.533	0.865

Grain Size Description (ASTM-USCS Scale)	Coarse sand (based on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	26.99
Coarse Sand	10	15.32
Medium Sand	40	35.29
Fine Sand	200	17.11
Silt/Clay	<200	5.28
	Total	100

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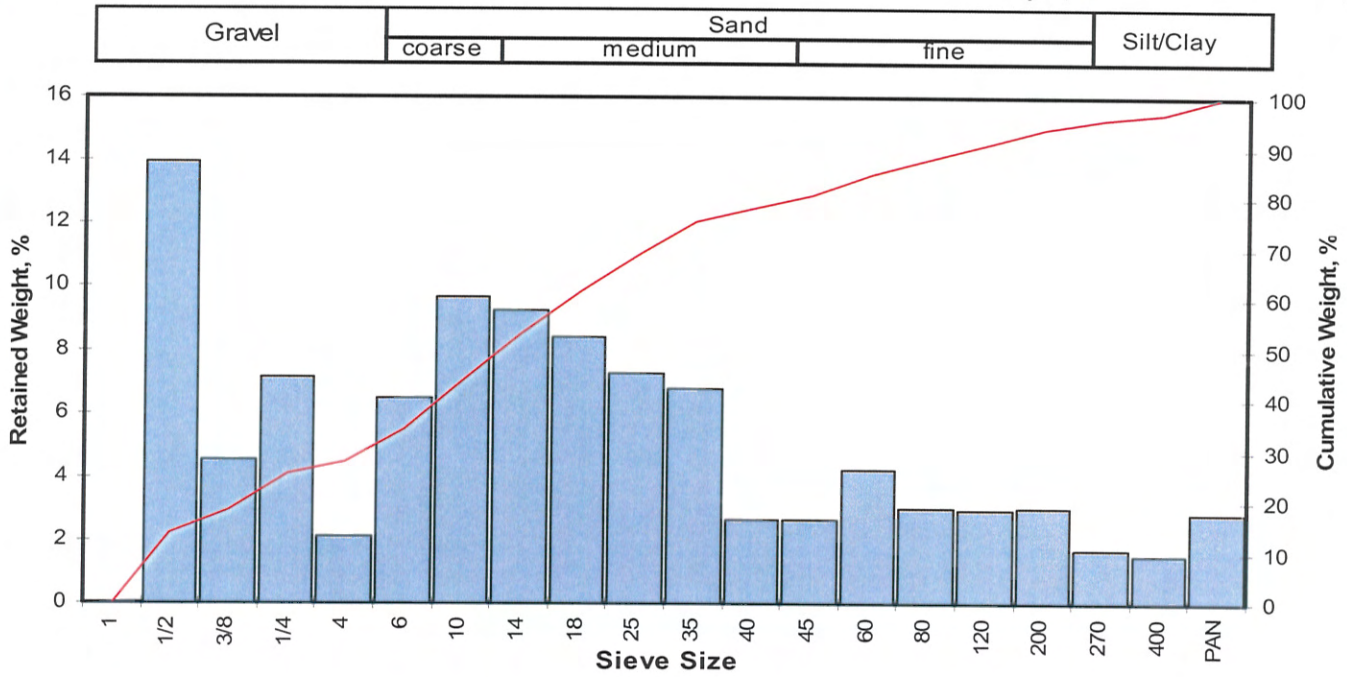
Particle Size Analysis - ASTM D422M

Client: Padre Associates, Inc.
Project: Former Avila Terminal - Supplemental Soil Gas Assessment
Project No: 0801-0897

PTS File No: 42435
Sample ID: SV-71-15'
Depth, ft: 15



Opening		Phi of	U.S. Sieve	Sample Weight	Incremental Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.9844	25.002	-4.64	1	0.00	0.00	0.00
0.4922	12.501	-3.64	1/2	4.14	13.96	13.96
0.3740	9.500	-3.25	3/8	1.35	4.55	18.52
0.2500	6.351	-2.67	1/4	2.11	7.12	25.63
0.1873	4.757	-2.25	4	0.63	2.12	27.76
0.1324	3.364	-1.75	6	1.91	6.44	34.20
0.0787	2.000	-1.00	10	2.86	9.65	43.84
0.0557	1.414	-0.50	14	2.74	9.24	53.09
0.0394	1.000	0.00	18	2.48	8.36	61.45
0.0278	0.707	0.50	25	2.14	7.22	68.67
0.0197	0.500	1.00	35	2.01	6.78	75.45
0.0166	0.420	1.25	40	0.79	2.66	78.11
0.0139	0.354	1.50	45	0.78	2.63	80.74
0.0098	0.250	2.00	60	1.25	4.22	84.96
0.0070	0.177	2.50	80	0.90	3.04	87.99
0.0049	0.125	3.00	120	0.87	2.93	90.93
0.0029	0.074	3.75	200	0.90	3.04	93.96
0.0021	0.053	4.25	270	0.51	1.72	95.68
0.0015	0.037	4.75	400	0.44	1.48	97.17
			PAN	0.84	2.83	100.00
TOTALS				29.65	100.00	100.00

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	-4.29	0.7680	19.507
10	-3.93	0.5992	15.219
16	-3.47	0.4353	11.057
25	-2.72	0.2592	6.582
40	-1.30	0.0969	2.460
50	-0.67	0.0625	1.588
60	-0.09	0.0418	1.062
75	0.97	0.0201	0.512
84	1.89	0.0106	0.270
90	2.84	0.0055	0.139
95	4.05	0.0024	0.060

Measure	Trask	Inman	Folk-Ward
Median, phi	-0.67	-0.67	-0.67
Median, in.	0.0625	0.0625	0.0625
Median, mm	1.588	1.588	1.588
Mean, phi	-1.83	-0.79	-0.75
Mean, in.	0.1396	0.0681	0.0662
Mean, mm	3.547	1.729	1.681
Sorting	3.587	2.677	2.602
Skewness	1.156	-0.046	0.043
Kurtosis	0.201	0.557	0.927

Grain Size Description (ASTM-USCS Scale)	Coarse sand (based on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	27.76
Coarse Sand	10	16.09
Medium Sand	40	34.27
Fine Sand	200	15.85
Silt/Clay	<200	6.04
	Total	100

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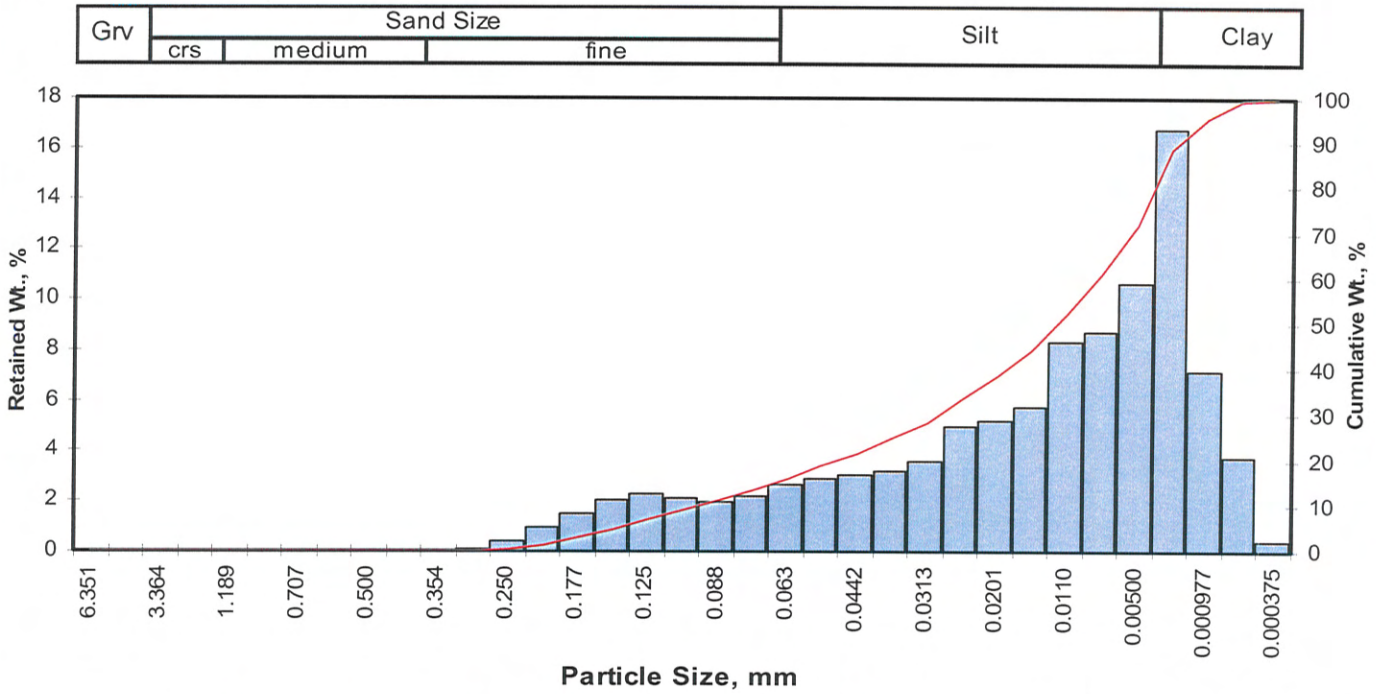
Particle Size Analysis - ASTM D4464M

Client: Padre Associates, Inc.
Project: Former Avila Terminal - Supplemental Soil Gas Assessment
Project No: 0801-0897

PTS File No: 42435
Sample ID: SV-77-5'
Depth, ft: 5



Opening		Phi of	U.S.	Sample Weight,	Increment Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.00	0.00	0.00
0.0278	0.707	0.50	25	0.00	0.00	0.00
0.0234	0.595	0.75	30	0.00	0.00	0.00
0.0197	0.500	1.00	35	0.00	0.00	0.00
0.0166	0.420	1.25	40	0.00	0.00	0.00
0.0139	0.354	1.50	45	0.00	0.00	0.00
0.0117	0.297	1.75	50	0.05	0.05	0.05
0.0098	0.250	2.00	60	0.37	0.37	0.42
0.0083	0.210	2.25	70	0.92	0.92	1.34
0.0070	0.177	2.50	80	1.48	1.48	2.82
0.0059	0.149	2.75	100	2.01	2.01	4.83
0.0049	0.125	3.00	120	2.22	2.22	7.05
0.0041	0.105	3.25	140	2.07	2.07	9.12
0.0035	0.088	3.50	170	1.97	1.97	11.09
0.0029	0.074	3.75	200	2.20	2.20	13.29
0.0025	0.063	4.00	230	2.60	2.60	15.89
0.0021	0.053	4.25	270	2.87	2.87	18.76
0.00174	0.0442	4.50	325	2.99	2.99	21.75
0.00146	0.0372	4.75	400	3.18	3.18	24.93
0.00123	0.0313	5.00	450	3.54	3.54	28.47
0.000986	0.0250	5.32	500	5.00	5.00	33.47
0.000790	0.0201	5.64	635	5.21	5.21	38.67
0.000615	0.0156	6.00		5.73	5.73	44.40
0.000435	0.0110	6.50		8.30	8.30	52.70
0.000308	0.00781	7.00		8.69	8.69	61.39
0.000197	0.00500	7.65		10.60	10.60	71.99
0.000077	0.00195	9.00		16.80	16.80	88.78
0.000038	0.000977	10.00		7.11	7.11	95.89
0.000019	0.000488	11.00		3.72	3.72	99.61
0.000015	0.000375	11.38		0.39	0.39	100.00
TOTALS				**100.00**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	2.77	0.0058	0.147
10	3.36	0.0038	0.097
16	4.01	0.0024	0.062
25	4.76	0.0015	0.037
40	5.72	0.0007	0.019
50	6.34	0.0005	0.012
60	6.92	0.0003	0.008
75	7.89	0.0002	0.004
84	8.61	0.0001	0.003
90	9.17	0.0001	0.002
95	9.87	0.0000	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	6.34	6.34	6.34
Median, in.	0.0005	0.0005	0.0005
Median, mm	0.012	0.012	0.012
Mean, phi	5.60	6.31	6.32
Mean, in.	0.0008	0.0005	0.0005
Mean, mm	0.021	0.013	0.013
Sorting	2.962	2.302	2.228
Skewness	1.011	-0.011	-0.008
Kurtosis	0.172	0.543	0.930
Grain Size Description (ASTM-USCS Scale)		Silt (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	0.00
Fine Sand	200	13.29
Silt	>0.005 mm	58.70
Clay	<0.005 mm	28.01
	Total	**100**

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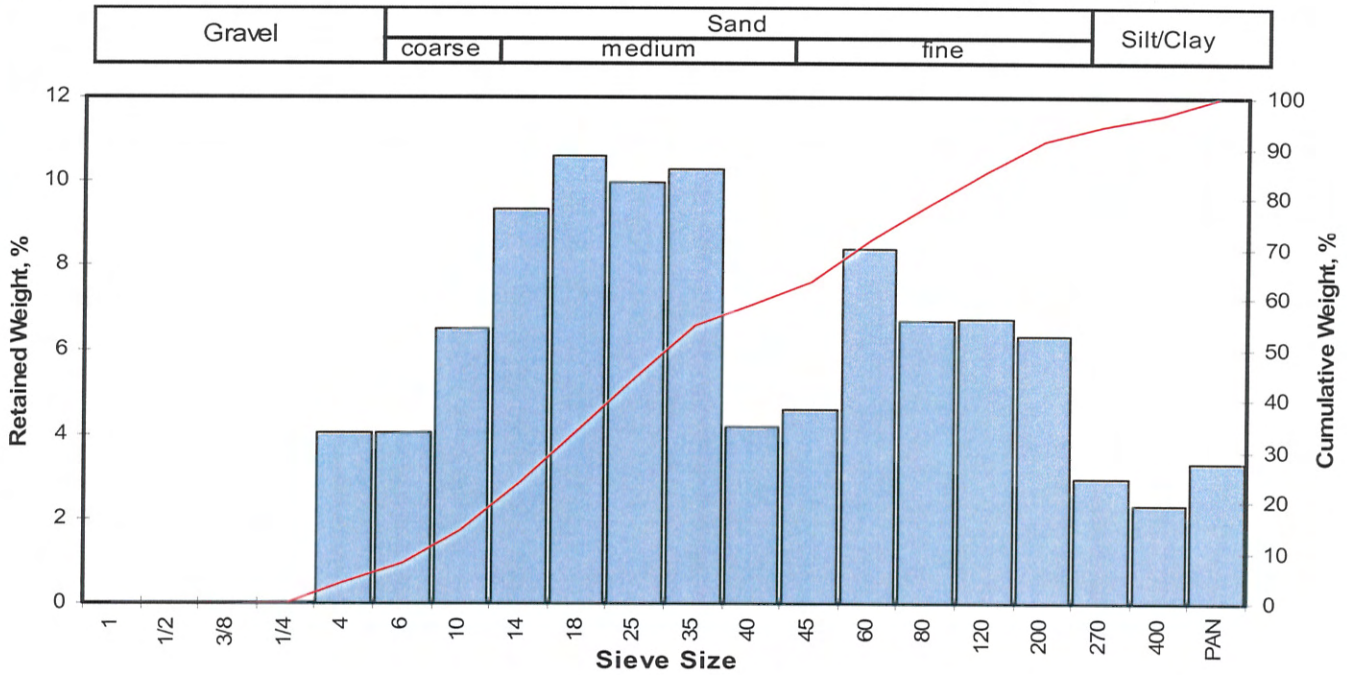
Particle Size Analysis - ASTM D422M

Client:	Padre Associates, Inc.	**PTS File No:**	42435
Project:	Former Avila Terminal - Supplemental Soil Gas Assessment	**Sample ID:**	SV-81-5'
Project No:	0801-0897	**Depth, ft:**	5



Opening		Phi of	U.S. Sieve	Sample Weight	Incremental Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.9844	25.002	-4.64	1	0.00	0.00	0.00
0.4922	12.501	-3.64	1/2	0.00	0.00	0.00
0.3740	9.500	-3.25	3/8	0.00	0.00	0.00
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.81	4.02	4.02
0.1324	3.364	-1.75	6	0.81	4.02	8.03
0.0787	2.000	-1.00	10	1.31	6.49	14.53
0.0557	1.414	-0.50	14	1.88	9.32	23.85
0.0394	1.000	0.00	18	2.14	10.61	34.46
0.0278	0.707	0.50	25	2.01	9.97	44.42
0.0197	0.500	1.00	35	2.07	10.26	54.69
0.0166	0.420	1.25	40	0.84	4.16	58.85
0.0139	0.354	1.50	45	0.92	4.56	63.41
0.0098	0.250	2.00	60	1.69	8.38	71.79
0.0070	0.177	2.50	80	1.34	6.64	78.43
0.0049	0.125	3.00	120	1.35	6.69	85.13
0.0029	0.074	3.75	200	1.27	6.30	91.42
0.0021	0.053	4.25	270	0.59	2.93	94.35
0.0015	0.037	4.75	400	0.47	2.33	96.68
			PAN	0.67	3.32	100.00
TOTALS				20.17	100.00	100.00

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	-2.13	0.1720	4.370
10	-1.52	0.1131	2.873
16	-0.92	0.0745	1.893
25	-0.45	0.0536	1.362
40	0.28	0.0325	0.825
50	0.77	0.0231	0.586
60	1.31	0.0158	0.402
75	2.24	0.0083	0.211
84	2.92	0.0052	0.133
90	3.58	0.0033	0.084
95	4.39	0.0019	0.048

Measure	Trask	Inman	Folk-Ward
Median, phi	0.77	0.77	0.77
Median, in.	0.0231	0.0231	0.0231
Median, mm	0.586	0.586	0.586
Mean, phi	0.35	1.00	0.92
Mean, in.	0.0310	0.0197	0.0208
Mean, mm	0.787	0.501	0.528
Sorting	2.538	1.918	1.947
Skewness	0.916	0.118	0.114
Kurtosis	0.206	0.699	0.994

Grain Size Description (ASTM-USCS Scale)	Medium sand (based on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	4.02
Coarse Sand	10	10.51
Medium Sand	40	44.32
Fine Sand	200	32.57
Silt/Clay	<200	8.58
	Total	100

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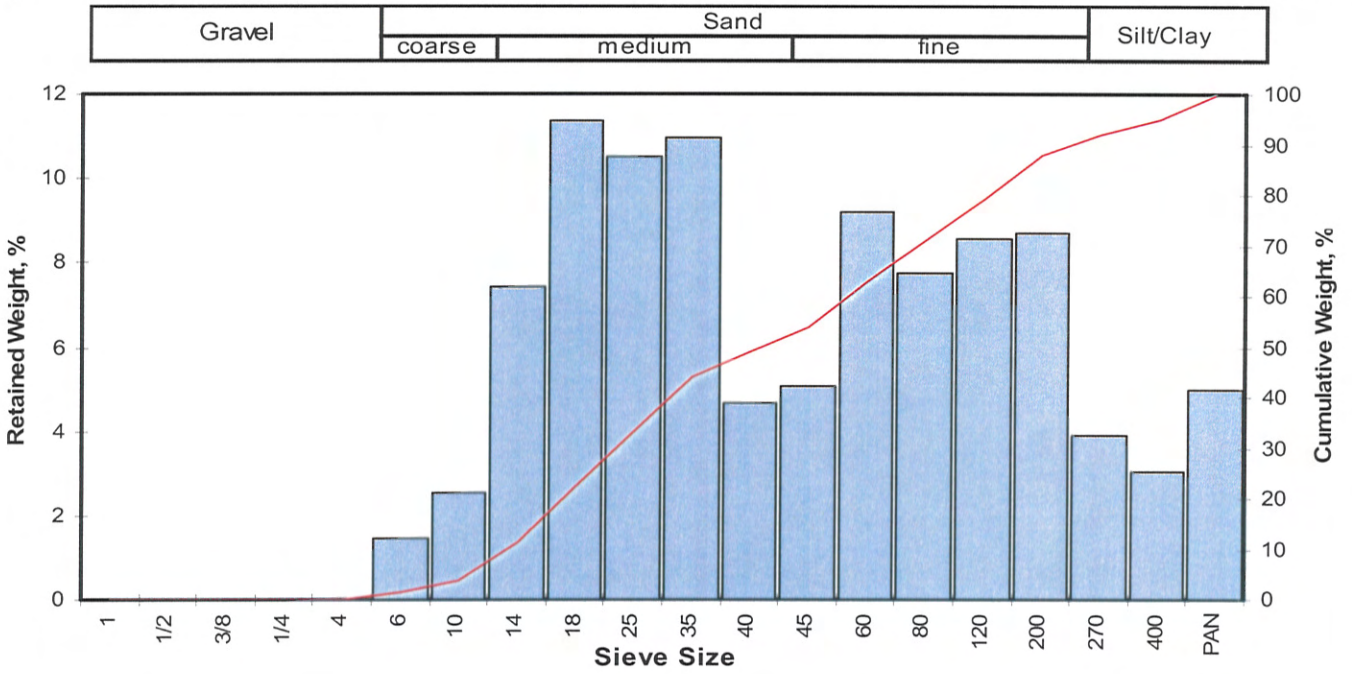
Particle Size Analysis - ASTM D422M

Client:	Padre Associates, Inc.	**PTS File No:**	42435
Project:	Former Avila Terminal - Supplemental Soil Gas Assessment	**Sample ID:**	SV-81-15'
Project No:	0801-0897	**Depth, ft:**	15



Opening		Phi of	U.S. Sieve	Sample Weight	Incremental Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.9844	25.002	-4.64	1	0.00	0.00	0.00
0.4922	12.501	-3.64	1/2	0.00	0.00	0.00
0.3740	9.500	-3.25	3/8	0.00	0.00	0.00
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.30	1.43	1.43
0.0787	2.000	-1.00	10	0.53	2.53	3.96
0.0557	1.414	-0.50	14	1.56	7.44	11.40
0.0394	1.000	0.00	18	2.38	11.35	22.75
0.0278	0.707	0.50	25	2.20	10.49	33.24
0.0197	0.500	1.00	35	2.30	10.97	44.21
0.0166	0.420	1.25	40	0.98	4.67	48.88
0.0139	0.354	1.50	45	1.06	5.05	53.93
0.0098	0.250	2.00	60	1.93	9.20	63.14
0.0070	0.177	2.50	80	1.62	7.73	70.86
0.0049	0.125	3.00	120	1.79	8.54	79.40
0.0029	0.074	3.75	200	1.82	8.68	88.08
0.0021	0.053	4.25	270	0.82	3.91	91.99
0.0015	0.037	4.75	400	0.64	3.05	95.04
			PAN	1.04	4.96	100.00
TOTALS				20.97	100.00	100.00

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	-0.93	0.0750	1.905
10	-0.59	0.0594	1.509
16	-0.30	0.0484	1.229
25	0.11	0.0365	0.928
40	0.81	0.0225	0.571
50	1.31	0.0159	0.405
60	1.83	0.0111	0.281
75	2.74	0.0059	0.149
84	3.40	0.0037	0.095
90	4.00	0.0025	0.063
95	4.74	0.0015	0.037

Measure	Trask	Inman	Folk-Ward
Median, phi	1.31	1.31	1.31
Median, in.	0.0159	0.0159	0.0159
Median, mm	0.405	0.405	0.405
Mean, phi	0.89	1.55	1.47
Mean, in.	0.0212	0.0134	0.0142
Mean, mm	0.539	0.341	0.361
Sorting	2.492	1.847	1.783
Skewness	0.921	0.132	0.172
Kurtosis	0.269	0.535	0.882

Grain Size Description (ASTM-USCS Scale)	Medium sand (based on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	3.96
Medium Sand	40	44.92
Fine Sand	200	39.20
Silt/Clay	<200	11.92
	Total	100

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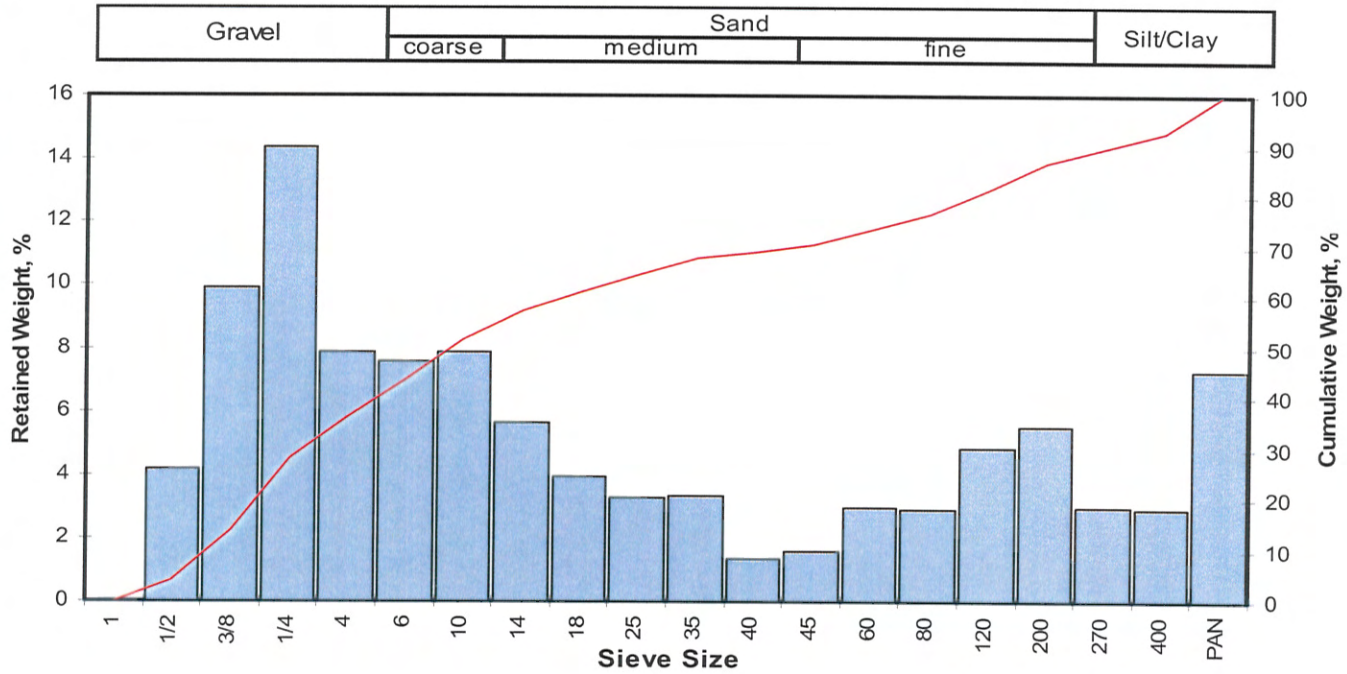
Particle Size Analysis - ASTM D422M

Client:	Padre Associates, Inc.	**PTS File No:**	42435
Project:	Former Avila Terminal - Supplemental Soil Gas Assessment	**Sample ID:**	SV-83-5'
Project No:	0801-0897	**Depth, ft:**	5



Opening		Phi of	U.S. Sieve	Sample Weight	Incremental Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.9844	25.002	-4.64	1	0.00	0.00	0.00
0.4922	12.501	-3.64	1/2	2.42	4.16	4.16
0.3740	9.500	-3.25	3/8	5.78	9.93	14.08
0.2500	6.351	-2.67	1/4	8.38	14.39	28.47
0.1873	4.757	-2.25	4	4.56	7.83	36.30
0.1324	3.364	-1.75	6	4.39	7.54	43.84
0.0787	2.000	-1.00	10	4.58	7.87	51.71
0.0557	1.414	-0.50	14	3.28	5.63	57.34
0.0394	1.000	0.00	18	2.27	3.90	61.24
0.0278	0.707	0.50	25	1.90	3.26	64.50
0.0197	0.500	1.00	35	1.92	3.30	67.80
0.0166	0.420	1.25	40	0.79	1.36	69.16
0.0139	0.354	1.50	45	0.91	1.56	70.72
0.0098	0.250	2.00	60	1.71	2.94	73.66
0.0070	0.177	2.50	80	1.68	2.89	76.54
0.0049	0.125	3.00	120	2.82	4.84	81.38
0.0029	0.074	3.75	200	3.21	5.51	86.90
0.0021	0.053	4.25	270	1.72	2.95	89.85
0.0015	0.037	4.75	400	1.68	2.89	92.74
			PAN	4.23	7.26	100.00
TOTALS				58.23	100.00	100.00

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	-3.61	0.4808	12.213
10	-3.41	0.4187	10.636
16	-3.17	0.3545	9.004
25	-2.81	0.2756	6.999
40	-2.00	0.1580	4.014
50	-1.16	0.0882	2.239
60	-0.16	0.0440	1.117
75	2.23	0.0084	0.213
84	3.36	0.0038	0.098
90	4.28	0.0020	0.052
95			

Measure	Trask	Inman	Folk-Ward
Median, phi	-1.16	-1.16	-1.16
Median, in.	0.0882	0.0882	0.0882
Median, mm	2.239	2.239	2.239
Mean, phi	-1.85	0.09	-0.33
Mean, in.	0.1420	0.0369	0.0493
Mean, mm	3.606	0.938	1.253
Sorting	5.736	3.263	2.674
Skewness	0.545	0.385	0.337
Kurtosis	0.321	0.054	0.559

Grain Size Description (ASTM-USCS Scale)	Coarse sand (based on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	36.30
Coarse Sand	10	15.40
Medium Sand	40	17.45
Fine Sand	200	17.74
Silt/Clay	<200	13.10
	Total	100

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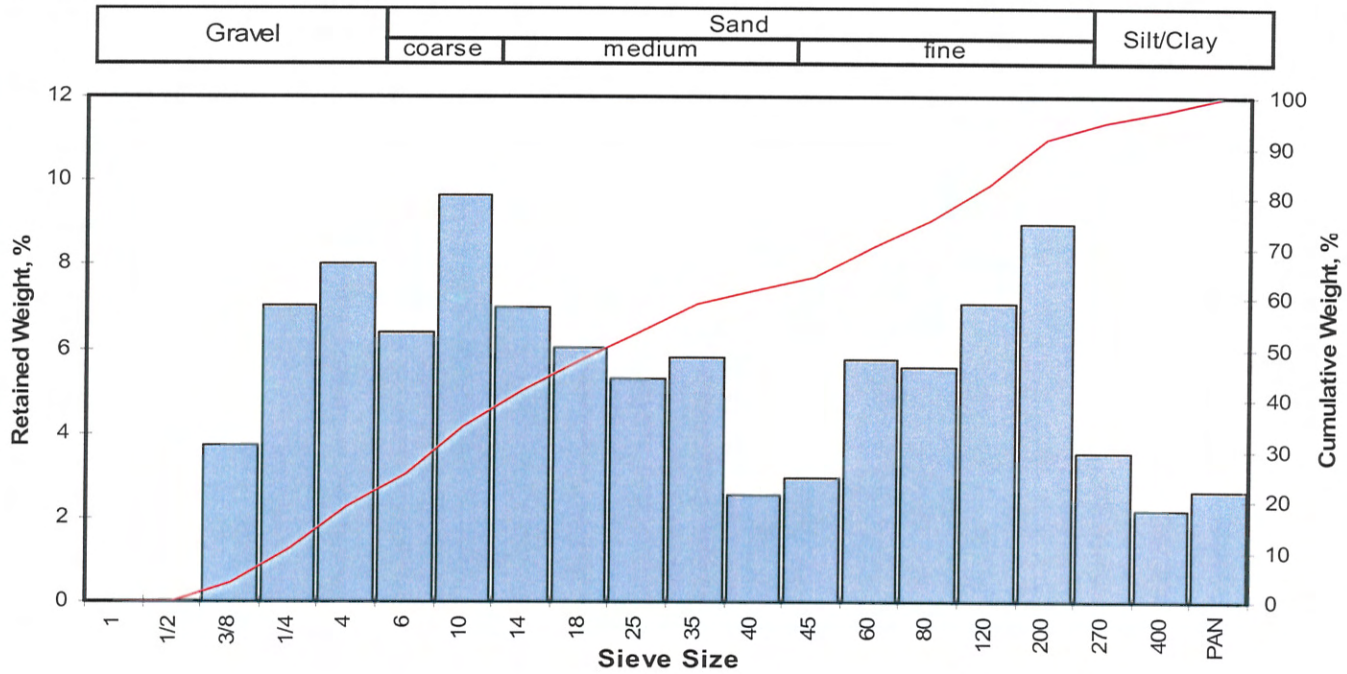
Particle Size Analysis - ASTM D422M

Client: Padre Associates, Inc.
Project: Former Avila Terminal - Supplemental Soil Gas Assessment
Project No: 0801-0897

PTS File No: 42435
Sample ID: SV-83-15'
Depth, ft: 15



Opening		Phi of	U.S. Sieve	Sample Weight	Incremental Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.9844	25.002	-4.64	1	0.00	0.00	0.00
0.4922	12.501	-3.64	1/2	0.00	0.00	0.00
0.3740	9.500	-3.25	3/8	1.25	3.70	3.70
0.2500	6.351	-2.67	1/4	2.37	7.02	10.72
0.1873	4.757	-2.25	4	2.71	8.02	18.74
0.1324	3.364	-1.75	6	2.16	6.40	25.14
0.0787	2.000	-1.00	10	3.25	9.62	34.76
0.0557	1.414	-0.50	14	2.35	6.96	41.72
0.0394	1.000	0.00	18	2.04	6.04	47.76
0.0278	0.707	0.50	25	1.79	5.30	53.06
0.0197	0.500	1.00	35	1.95	5.77	58.84
0.0166	0.420	1.25	40	0.86	2.55	61.39
0.0139	0.354	1.50	45	0.99	2.93	64.32
0.0098	0.250	2.00	60	1.94	5.74	70.06
0.0070	0.177	2.50	80	1.88	5.57	75.63
0.0049	0.125	3.00	120	2.38	7.05	82.68
0.0029	0.074	3.75	200	3.03	8.97	91.65
0.0021	0.053	4.25	270	1.19	3.52	95.17
0.0015	0.037	4.75	400	0.74	2.19	97.36
			PAN	0.89	2.64	100.00
TOTALS				33.77	100.00	100.00

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	-3.14	0.3472	8.818
10	-2.73	0.2606	6.619
16	-2.39	0.2067	5.251
25	-1.76	0.1334	3.389
40	-0.62	0.0607	1.541
50	0.21	0.0340	0.864
60	1.11	0.0182	0.462
75	2.44	0.0072	0.184
84	3.11	0.0046	0.116
90	3.61	0.0032	0.082
95	4.23	0.0021	0.053

Measure	Trask	Inman	Folk-Ward
Median, phi	0.21	0.21	0.21
Median, in.	0.0340	0.0340	0.0340
Median, mm	0.864	0.864	0.864
Mean, phi	-0.84	0.36	0.31
Mean, in.	0.0703	0.0307	0.0318
Mean, mm	1.787	0.780	0.807
Sorting	4.294	2.752	2.492
Skewness	0.914	0.054	0.072
Kurtosis	0.245	0.338	0.718

Grain Size Description (ASTM-USCS Scale)	Medium sand (based on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	18.74
Coarse Sand	10	16.02
Medium Sand	40	26.62
Fine Sand	200	30.26
Silt/Clay	<200	8.35
	Total	100

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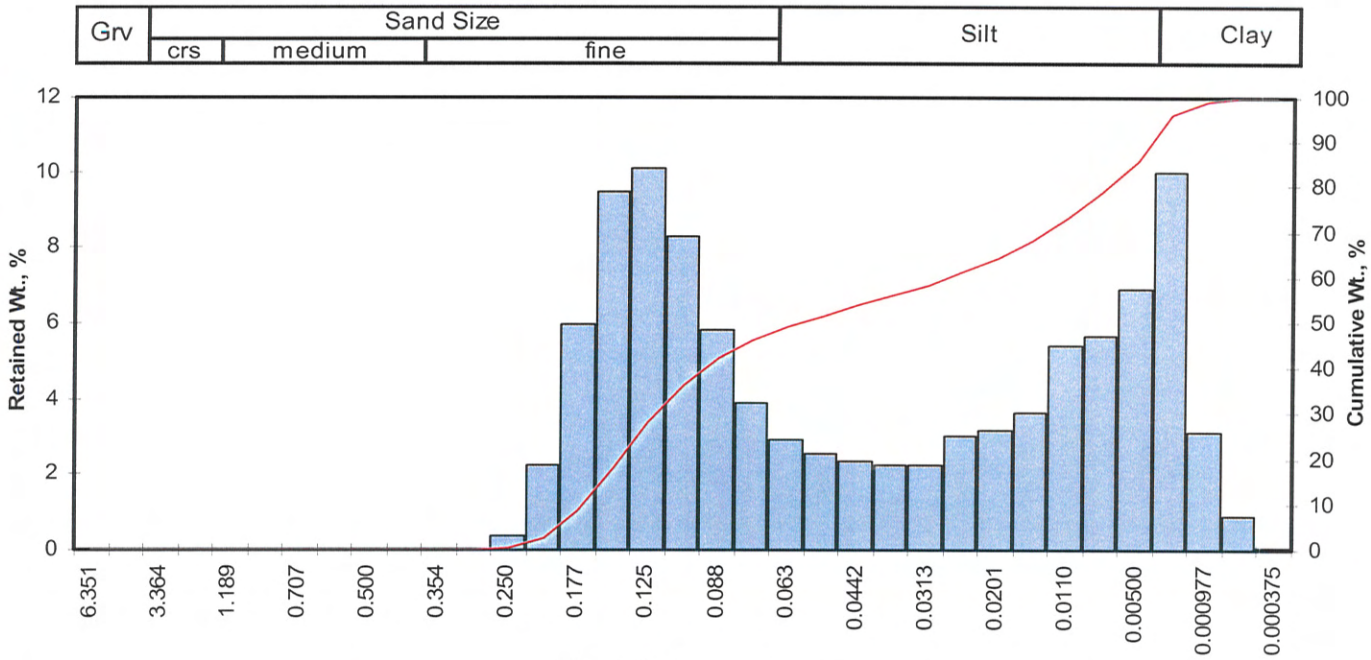
PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client: Padre Associates, Inc.
Project: Former Avila Terminal - Supplemental Soil Gas Assessment
Project No: 0801-0897

PTS File No: 42435
Sample ID: SV-86-15'
Depth, ft: 15



Opening		Phi of	U.S.	Sample Weight,	Increment Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.00	0.00	0.00
0.0278	0.707	0.50	25	0.00	0.00	0.00
0.0234	0.595	0.75	30	0.00	0.00	0.00
0.0197	0.500	1.00	35	0.00	0.00	0.00
0.0166	0.420	1.25	40	0.00	0.00	0.00
0.0139	0.354	1.50	45	0.00	0.00	0.00
0.0117	0.297	1.75	50	0.01	0.01	0.01
0.0098	0.250	2.00	60	0.34	0.34	0.35
0.0083	0.210	2.25	70	2.24	2.24	2.59
0.0070	0.177	2.50	80	5.95	5.95	8.54
0.0059	0.149	2.75	100	9.45	9.45	17.99
0.0049	0.125	3.00	120	10.10	10.10	28.09
0.0041	0.105	3.25	140	8.29	8.29	36.39
0.0035	0.088	3.50	170	5.77	5.77	42.16
0.0029	0.074	3.75	200	3.89	3.89	46.05
0.0025	0.063	4.00	230	2.92	2.92	48.97
0.0021	0.053	4.25	270	2.51	2.51	51.48
0.00174	0.0442	4.50	325	2.33	2.33	53.81
0.00146	0.0372	4.75	400	2.22	2.22	56.03
0.00123	0.0313	5.00	450	2.24	2.24	58.27
0.000986	0.0250	5.32	500	2.99	2.99	61.26
0.000790	0.0201	5.64	635	3.16	3.16	64.42
0.000615	0.0156	6.00		3.63	3.63	68.05
0.000435	0.0110	6.50		5.38	5.38	73.43
0.000308	0.00781	7.00		5.66	5.66	79.09
0.000197	0.00500	7.65		6.87	6.87	85.96
0.000077	0.00195	9.00		9.98	9.98	95.95
0.000038	0.000977	10.00		3.10	3.10	99.05
0.000019	0.000488	11.00		0.89	0.89	99.94
0.000015	0.000375	11.38		0.06	0.06	100.00
TOTALS				**100.00**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	2.35	0.0077	0.196
10	2.54	0.0068	0.172
16	2.70	0.0061	0.154
25	2.92	0.0052	0.132
40	3.41	0.0037	0.094
50	4.10	0.0023	0.058
60	5.19	0.0011	0.027
75	6.64	0.0004	0.010
84	7.46	0.0002	0.006
90	8.19	0.0001	0.003
95	8.87	0.0001	0.002

Measure	Trask	Inman	Folk-Ward
Median, phi	4.10	4.10	4.10
Median, in.	0.0023	0.0023	0.0023
Median, mm	0.058	0.058	0.058
Mean, phi	3.82	5.08	4.75
Mean, in.	0.0028	0.0012	0.0015
Mean, mm	0.071	0.030	0.037
Sorting	3.624	2.382	2.179
Skewness	0.625	0.410	0.436
Kurtosis	0.361	0.369	0.719
Grain Size Description (ASTM-USCS Scale)		Silt (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	0.00
Fine Sand	200	46.05
Silt	>0.005 mm	39.92
Clay	<0.005 mm	14.04
	Total	**100**

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ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

42435

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 Fax No.: 805.786.2651
Project No. / Name: 0801-0897 / Former Avila Terminal - Supplemental Soil Gas Assessment

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Louis Cappel / Paul Lavelle

Invoice To: Louis Cappel
Padre Associates, Inc.
AFE/WBS#: NA
D7I#: NA

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: Vapor Transport Package								NOTES
SV-71-5'	6/4/12	1055	1	Soil / solid	None	Acetate sleeve	X								
SV-71-15'	↓	1110	↓	↓	↓	↓	↓								
SV-77-5'	↓	1500	↓	↓	↓	↓	↓								
SV-81-5'	6/5/12	1150	↓	↓	↓	↓	↓								
SV-81-15'	↓	1200	↓	↓	↓	↓	↓								
SV-83-5'	↓	1530	2	↓	↓	Brass sleeves	↓								
SV-83-15'	↓	1545	↓	↓	↓	↓	↓								
SV-86-15'	6/6/12	1245	↓	↓	↓	↓	↓								

Special Instructions:

Laboratory Comments:
Temperature Upon Receipt: 37°F
VOCs Free of Headspace? N/A Y N

Relinquished by:	Date	Time	Received by:	Date	Time
Paul Lavelle	6/11/12	0926	Joel R PTS Labs Inc	6/12/12	1432
Relinquished by:	Date	Time	Received by:	Date	Time

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

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ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

REPORT OF FINDINGS

SECOND SEMI-ANNUAL 2012 GROUNDWATER, CLIFF SPRINGS, AND INTERTIDAL ZONE MONITORING EVENT FORMER UNOCAL AVILA TERMINAL 10 SAN RAFAEL STREET, AVILA BEACH, SAN LUIS OBISPO COUNTY, CALIFORNIA

Prepared for:
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY

January 2013

369 Pacific Street ■ San Luis Obispo, California 93401 ■ (805) 786-2650 ■ FAX (805) 786-2651

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

January 17, 2013
Project No. 0801-0899

California Regional Water Quality Control Board
Central Coast Region
895 AeroVista Place, Suite 101
San Luis Obispo, California 93401

Attention: Mr. Dan Niles

Subject: Report of Findings, Second Semi-Annual 2012 Groundwater, Cliff Springs, and Intertidal Zone Monitoring Event, Former Unocal Avila Terminal, 10 San Rafael Street, Avila Beach, San Luis Obispo County, California

Dear Mr. Niles:

Padre Associates, Inc. (Padre), on behalf of Chevron Environmental Management Company (CEMC), has prepared this document for submittal to the California Regional Water Quality Control Board, Central Coast Region documenting and summarizing the results of the second semi-annual 2012 groundwater, cliff springs, and intertidal zone monitoring activities completed at the subject site.

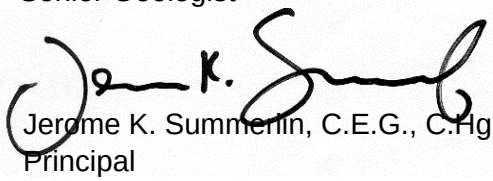
Padre and CEMC appreciate your assistance with this project. If you have any questions or require additional information, please contact Mr. Louis Cappel at extension 26 or lcappel@padreinc.com.

Sincerely,

PADRE ASSOCIATES, INC.

Louis J. Cappel, P.G., C.Hg.
Senior Geologist

Cody R. Montoya
Staff Scientist



Jerome K. Summerlin, C.E.G., C.Hg.
Principal

cc: Mr. Rik Williams, CEMC
Mr. Robert Van Hyning, Avocet Environmental, Inc.

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APPENDICES

Appendix A: CD-ROM Containing Subject Report (Appendices A-1 through A-6 are included within the electronic PDF version of the subject report)

- A-1. Groundwater Monitoring Well Construction Details;
- A-2. Summary of Historical Fluid Level Data;
- A-3. Summary of Historical Groundwater Analytical Data;
- A-4. Summary of Historical Cliff Springs Observations and Analytical Data;
- A-5. Summary of Historical Intertidal Zone Observations and Analytical Data; and
- A-6. Analytical Laboratory Reports and Chain-of-Custody Forms.

Appendix B: 3Q12 Groundwater Monitoring Field Observation Forms

Appendix C: 4Q12 Groundwater Monitoring Field Observation Forms

Appendix D: 2S12 Cliff Spring Monitoring Forms

Appendix E: 2S12 Intertidal Zone Monitoring Field Observation Forms

Appendix F: Groundwater Monitoring Well Hydrographs for Selected Wells with Measureable LNAPL

1.0 INTRODUCTION

Padre Associates, Inc. (Padre), on behalf of Chevron Environmental Management Company (CEMC), has prepared this document for submittal to the California Regional Water Quality Control Board, Central Coast Region (RWQCB), which presents the results of the second semi-annual 2012 (2S12) groundwater, cliff springs, and intertidal zone monitoring activities completed at the former Unocal Avila Terminal (Project Site). The Project Site is located adjacent to Avila Beach at 10 San Rafael Street in San Luis Obispo County, California (refer to Plate 1). The locations of groundwater monitoring wells, cliff springs, and intertidal zone observation areas are illustrated on Plate 2 – Site Plan.

1.1 OVERVIEW

The groundwater, cliff spring, and intertidal zone monitoring activities were implemented to further assess the Project Site hydrogeology, as well as to assess the distribution of petroleum hydrocarbons in groundwater at the Project Site. Groundwater and cliff spring monitoring activities were conducted in general accordance with Avocet Environmental, Inc.'s (Avocet) letter titled *Revised Ground Water Monitoring and Reporting Program*, dated February 10, 2005 (MRP) (Avocet, 2005), which was conditionally-approved by the RWQCB in a letter dated March 8, 2005 (RWQCB, 2005). Additionally, Padre followed the assessment methodology for groundwater and cliff spring monitoring activities as detailed in the Parsons Corporation (Parsons) document titled *Groundwater Monitoring Workplan Former Unocal Terminal Avila Beach, California, Former Unocal Tank Farm*, dated February 23, 2006 (Workplan). Intertidal zone monitoring activities were conducted in accordance with Padre's *Intertidal Zone Observation Monitoring Plan* (IZOMP; Padre, 2012b) and *Revised IZOMP* (Padre, 2012c) dated May 15, 2012 and June 29, 2012, respectively.

The RWQCB-approved MRP requires site-wide gauging and sampling to be performed on a semi-annual basis during the 2nd and 4th quarters annually. The semi-annual site-wide groundwater monitoring is supplemented by limited gauging and sampling activities to be conducted at the Project Site during the 1st and 3rd quarters. The 2S12 monitoring activities included the following tasks:

- During the third quarter 2012 (3Q12) groundwater monitoring event, fluid levels were gauged at the locations of 15 groundwater monitoring wells, and groundwater samples were collected for chemical analyses from 14 groundwater monitoring wells. All groundwater samples were chemically analyzed for the presence of total petroleum hydrocarbons (TPH) in three carbon ranges (C4-C10; C10-C25; and C25-C40), as well as for the presence of benzene, toluene, ethylbenzene and total xylenes (BTEX). Selected groundwater samples were additionally chemically analyzed for the presence of polycyclic aromatic hydrocarbons (PAHs), full-list volatile organic compounds (VOCs) including fuel oxygenates methyl tertiary butyl ether (MTBE) and tertiary butyl alcohol (TBA), dissolved metals, and organic lead;

- During the fourth quarter 2012 (4Q12) groundwater monitoring event, fluid levels were gauged at the locations of 93 groundwater monitoring wells, and groundwater samples were collected for chemical analyses from 56 groundwater monitoring wells. All groundwater samples were chemically analyzed for the presence of TPH (C4-C10; C10-C25; and C25-C40) and BTEX. Selected groundwater samples were additionally chemically analyzed for the presence of PAHs, full-list VOCs including MTBE and TBA, dissolved metals, and organic lead;
- Monthly cliff spring inspections were completed by Padre from July 2012 through December 2012 at eight locations (A through H) to monitor potential spring flow emanating from the cliffs at the southern boundary of the Project Site. Cliff springs were dry or there was an insufficient flow of spring water to collect aqueous samples for chemical analyses; and
- Intertidal zone observation monitoring was completed at three locations (IZ-1, IZ-2, and IZ-3) from July 2012 through December 2012 to monitor potential petroleum hydrocarbon sheen and/or odor. Upon discovery of petroleum hydrocarbon sheen and odor at intertidal zone monitoring location IZ-3, an initial sampling event was performed on May 8, 2012 at intertidal zone monitoring locations IZ-1, IZ-2, and IZ-3. Following the initial sampling event, additional sampling events were completed by Padre at the location of IZ-3. Samples were collected only when hydrocarbon sheen was observed and other intertidal zone assessment activities were not being performed. The aqueous samples were chemically analyzed for the presence of TPH (C4-C10; C10-C25; and C25-C40) PAHs, full-list VOCs including MTBE and TBA, dissolved lead, and organic lead. It should be noted that other studies are being performed related to the intertidal zone area, which have and will be submitted under separate cover.

1.2 REPORT ORGANIZATION

This report is organized as follows: Section 2.0 presents the physical setting of the Project Site; Section 3.0 presents the methodology for the groundwater, cliff springs, and intertidal zone monitoring activities; Section 4.0 presents the results and a discussion of the monitoring activities; and Section 5.0 provides Padre's conclusions regarding the hydrogeologic conditions at the Project Site.

This report includes six appendices. Electronic information (historical data; laboratory reports and chain of custody [COC] documentation for 2S12 sampling activities; and a copy of the subject report) is contained within an electronic copy of the subject report on a CD-ROM, which is attached as Appendix A. Copies of 3Q12 groundwater monitoring field forms are included as Appendix B. Copies of 4Q12 groundwater monitoring field forms are included as Appendix C. Copies of 2S12 cliff spring monitoring field forms are included as Appendix D. Copies of 2S12 intertidal zone monitoring field observation forms are included as Appendix E. Groundwater monitoring well hydrographs for selected groundwater monitoring wells containing measureable thicknesses of light non-aqueous phase liquid (LNAPL) are included as Appendix F.

2.0 PHYSICAL SETTING

Descriptions of the Project Site, the regional geology and hydrogeology, and the site-specific conditions were originally detailed in the document titled *Site Characterization, Unocal Avila Station, Avila Beach, California* (England & Associates 1998), and further expanded upon in the document titled *Final Supplemental Site Characterization, Unocal Avila Pump Station, Avila Beach, California* (England Geosystem, 2002). Provided below is a summary of those descriptions.

2.1 SITE DESCRIPTION

The Project Site is located on the east-end of the community of Avila Beach in an unincorporated portion of San Luis Obispo County, California (Plate 1). For nearly 90 years, the Project Site was utilized as Unocal's tidewater gathering location for pipeline transfer of crude oil and semi-refined petroleum products. In addition to supporting petroleum pipeline and bulk storage operations, at various times the Project Site also included a small refinery and bulk plant for storing and distributing refined fuels to Central Coast retail outlets. In late 1997, the Project Site was officially decommissioned and the aboveground storage tanks were cleaned and permanently removed at the Project Site.

2.2 GEOLOGY

The Project Site is directly underlain by unconsolidated sediments and bedrock. Unconsolidated surficial sediments, consisting of mixtures of gravel, sand, silt, and clay, fill the north-south and east-west drainages in the central part of the site, mantle the terraces bordering the cliffs on the south, and occur in the northeast corner of the Project Site where the floodplain of San Luis Obispo Creek encroaches upon the Project Site (refer to Plate 2).

Bedrock units underlie the Project Site and include (listed from youngest to oldest) the Pliocene Gragg Member of the Pismo Formation, and the Miocene Obispo Formation (refer to Plate 2). Much of the central portion of the Project Site is underlain directly, or at shallow depth, by the Gragg Member. The Gragg Member consists of a basal conglomerate, which grades upward into a poorly bedded, locally diatomaceous, fine-grained silty sandstone and siltstone.

The Gragg Member unconformably overlies the Obispo Formation. The Obispo Formation consists of fine- to coarse-grained, friable to hard, rhyolitic to dacitic tuff and lapilli tuff and outcrops primarily along the south, east, and northwest Project Site margins.

Reportedly, fracturing of the consolidated bedrock units is a function of age and hardness of the units. For instance, in the Obispo Formation, the hard silicified (brittle) units are more pervasively fractured than the friable (softer) units, and in general, the older Obispo Formation is more pervasively fractured than the softer and younger Pismo Formation.

2.3 HYDROGEOLOGY

Three hydrostratigraphic units have been identified at the Project Site, which include: 1) unconsolidated sediments (colluvium and alluvium); 2) the Gragg Member of the Pismo Formation; and 3) the Obispo Formation. Groundwater occurs within the Pismo and Obispo Formations in both primary (intergranular) and secondary (fracture) porosity. Groundwater recharge occurs primarily in the higher elevations of the Project Site through vertical fractures in the Pismo Formation and through infiltration into the unconsolidated sediments (colluvium and alluvium) (England Geosystem, 2002).

Based on fluid level measurements recorded within the groundwater monitoring wells, the groundwater flow direction at the Project Site generally flows away from topographic highs toward: the north to northeast for groundwater monitoring wells completed within the alluvium; the west to southwest for groundwater monitoring wells completed within the colluvium; and the north, west, and south for groundwater monitoring wells completed within the Pismo and Obispo Formations. Groundwater flow within the Pismo and Obispo Formations occurs primarily within fractures with relatively low hydraulic conductivities and low storativities (England Geosystem, 2002).

3.0 METHODOLOGY FOR GROUNDWATER, CLIFF SPRINGS, AND INTERTIDAL ZONE MONITORING

Groundwater monitoring and sampling activities completed during 3Q12 and 4Q12 were performed by Padre, with field support provided by Blaine Technical Services Inc. (Blaine Tech) of San Jose, California during the 4Q12 monitoring event. Cliff spring and intertidal zone observation monitoring during 2S12 were performed by Padre. A summarized description of the monitoring methodology is presented in the subsequent sections.

3.1 GROUNDWATER MONITORING ACTIVITIES

3.1.1 Fluid Level Measurement

Fluid level measurements were recorded at the locations of the specified groundwater monitoring wells at the Project Site on September 17, 2012 as part of the 3Q12 monitoring event, and on November 5, 2012 as part of the 4Q12 monitoring event. During both events a MMC® oil-water interface probe was utilized to measure the depths to the air-LNAPL interface, and the LNAPL-groundwater interface to calculate the LNAPL thickness, if present. Fluid level measurements were recorded to the nearest 0.01 foot from the top of casing at each groundwater monitoring well. Groundwater monitoring field forms for the 3Q12 (September 2012) and 4Q12 (November 2012) monitoring events are included as Appendix B and Appendix C, respectively.

For wells with LNAPL present, corrected potentiometric elevations were calculated assuming an LNAPL specific gravity of 0.90 because the specific gravity and viscosity of the LNAPL most closely resembles crude oil, and it is consistent with previous practice at the

Project Site. Note that the LNAPL characteristics at groundwater monitoring well B-230 are more similar to gasoline; therefore a LNAPL density of 0.75 was used. The groundwater corrected potentiometric elevations were calculated using the following formula:

$$WTE = TCE - DTW + (T_{LNAPL} \times \rho_{LNAPL})$$

Where:
- WTE = Water Table Elevation
- TCE = Top of Casing Elevation
- DTW = Depth to Water Surface
- T_{LNAPL} = LNAPL Thickness
- ρ_{LNAPL} = LNAPL Density (0.90 g/cc)

3.1.2 Groundwater Purging and Sampling

Groundwater samples were collected from the specified groundwater monitoring wells on September 17, 18, and 19, 2012 as part of the 3Q12 monitoring event, and from November 6 through November 9, 2012 as part of the 4Q12 monitoring event. Groundwater monitoring well construction details are summarized in Appendix A-1. Copies of groundwater monitoring field forms for the 3Q12 (September 2012) and 4Q12 (November 2012) monitoring events are included as Appendix B and Appendix C, respectively.

Low-Flow Purge and Sampling. The majority of groundwater monitoring wells were purged utilizing low-flow or micro-purge techniques; however, groundwater monitoring wells containing less than approximately 3 feet of water within the well casing were purged and sampled utilizing disposable bailers. All groundwater monitoring well purging and sampling activities were performed in accordance to the Workplan.

Low-flow refers to the groundwater velocity that is imparted during pumping of the formation pore water adjacent to the well screen. Practically speaking, a bladder pump (portable or dedicated) is placed at a discrete-depth within the well and is operated at a rate to minimize drawdown to isolate groundwater from the formation adjacent to the well screen. Groundwater quality parameters are continuously monitored throughout purging to verify that formation-quality groundwater is being obtained.

The equipment required to utilize low-flow/micro-purge sampling techniques included: a dedicated or portable bladder pump; pump controller; a compressed air supply (compressed gas cylinder); an electronic water level indicator; and a flow cell containing water quality instruments. Water quality parameters measured included: temperature; conductivity; pH; dissolved oxygen (DO); and oxidation-reduction potential (ORP). The compressed air was attached to the pump controller via an air hose and polyethylene tubing connected the controller to the pump air inlet. Groundwater was discharged from the pump through polyethylene tubing into the flow cell where purged groundwater quality parameters were measured and recorded on field forms. An electronic water level indicator was utilized to measure depth to water and monitor drawdown, which enabled adjustment for the appropriate pumping rate.

The optimum flow rate was established as soon as possible, using groundwater level measurements for calibration and confirmation. Groundwater levels were monitored and recorded periodically during the course of the purging activities in an attempt to maintain less than approximately 0.33 feet of drawdown; however, low-yielding wells may have exhibited greater than 0.33 feet of drawdown. Purging continued until water quality parameters stabilized, which was defined by three consecutive measurements taken 4 minutes apart meeting the criteria below.

Parameter	Stability Criteria - Low Flow Purge
temperature	+/-1 ºC
pH	+/-0.1
conductivity	+/-3%
DO	+/-10%
ORP	+/-10 millivolts

Subsequent to when the purged groundwater parameters stabilized, the flow cell was disconnected and the appropriate groundwater sample containers were filled. Groundwater samples were sealed, labeled, and preserved on ice in the field. COC forms were used to document water sample management procedures.

Disposable Bailer Purge and Sampling. Groundwater monitoring wells containing less than approximately 3 feet of water within the well casing were purged and sampled utilizing disposable bailers. Padre used depth to water and total depth measurements collected from the groundwater monitoring wells to calculate the well casing volume and required purge volume. A minimum of three well casing volumes of groundwater were purged, or to when the well was dewatered, while recording physical water quality parameters including pH, temperature, and specific conductance. Upon removal of the three well casing volumes and the general stabilization of water quality parameters, or to when the well was dewatered, purging was considered to be complete.

Upon recovery of the groundwater level to a minimum of 80 percent of the initial static water level, or within 24 hours after purging was completed, the purged groundwater monitoring wells were sampled using a new disposable bailer which was lowered into the water column for sample retrieval. The groundwater sample within the bailer was then decanted into labeled laboratory-provided containers appropriate for the required chemical analyses. Following the water sample preparation, the water sample was transferred and stored in an on-site cooler packed with ice. Concurrent with the water sample preservation activities, strict COC procedures were implemented.

3.2 CLIFF SPRING OBSERVATION AND POTENTIAL SAMPLING ACTIVITIES

Cliff springs inspections were completed monthly from July 2012 to December 2012 at eight locations, designated in sequence from northwest to southeast as locations H, G, E, A, B, C, F, and D (refer to Plate 2). Cliff spring monitoring activities were performed in accordance to the Workplan. The cliff spring inspections were documented by Padre on field forms, and are attached as Appendix D.

3.3 INTERTIDAL ZONE OBSERVATION MONITORING ACTIVITIES

Intertidal zone observation monitoring activities were performed by Padre during low tide events (≤ -0.5 feet) from July 2012 through December 2012 at intertidal zone monitoring locations IZ-1, IZ-2, and IZ-3 (refer to Plate 2). Intertidal zone monitoring activities were performed in accordance to the IZOMP and Revised IZOMP. The intertidal zone observation monitoring activities are summarized on field forms attached as Appendix E. The 2S12 intertidal zone observations were performed by Padre on July 5, 6, 19, and 20; August 2; October 15 and 16; November 12 and 13; and December 10 and 11, 2012.

3.4 LABORATORY ANALYTICAL PROGRAM

3.4.1 Groundwater

Groundwater samples collected as part of the 3Q12 and 4Q12 groundwater monitoring events were chemically analyzed by Oilfield Environmental and Compliance, Inc. (OEC) located in Santa Maria, California. OEC is certified by the State of California Public Health Department to complete the required analyses, where applicable. All groundwater samples submitted for chemical analyses during the 3Q12 and 4Q12 groundwater monitoring events were chemically analyzed for the presence of the following constituents:

- TPH C4-C10 by U.S. Environmental Protection Agency (EPA) method 8260B and TPH C10-C25 and C25-C40 by U.S. EPA method 8270; and
- BTEX by U.S. EPA method 8260B.

Selected groundwater samples were additionally chemically analyzed for the presence of the following constituents:

- Full-List VOCs including MTBE and TBA by U.S. EPA method 8260B;
- PAHs by U.S. EPA method 8270C-SIM;
- Dissolved metals by U.S. EPA 6000 / 7000 series methods; and
- Organic lead by GFAA (HML 939-M).

3.4.2 Cliff Springs

Cliff spring locations were dry or there was insufficient flow to collect aqueous samples for chemical analyses. The cliff spring aqueous sample analytical program is provided below:

- TPH C4-C10 by U.S. EPA method 8260B and TPH C10-C25 and C25-C40 by U.S. EPA method 8270. If TPH is indicated at a detectable concentration, then a silica-gel treatment was utilized and the water sample was re-analyzed for TPH.
- Full-list VOCs and fuel oxygenates MTBE and TBA by U.S. EPA method 8260B; and

- PAHs by U.S. EPA method 8270C-SIM.

3.4.3 Intertidal Zone

Aqueous samples were collected at intertidal zone monitoring location IZ-3, and were chemically analyzed by OEC for the presence of the following constituents:

- TPH C4-C10 by U.S. EPA method 8260B and TPH C10-C25 and C25-C40 by U.S. EPA method 8270;
- Full-List VOCs including MTBE and TBA by U.S. EPA method 8260B;
- PAHs by U.S. EPA method 8270C-SIM;
- Dissolved and total lead by U.S. EPA method 6010B; and
- Organic lead by GFAA (HML 939-M).

3.5 QUALITY ASSURANCE / QUALITY CONTROL

Quality assurance / quality control (QA / QC) procedures were utilized in both water sample collection and chemical analyses. The purpose of the QA / QC procedures was to ensure reliability and compatibility of all data generated during the subject assessment program. Additionally, quality control samples were collected during the field activities, including groundwater field duplicates, equipment and trip blank water samples.

3.5.1 Field QA / QC Procedures

Field QA / QC procedures were performed at the Project Site and consist of the following measures:

- COC forms were used for sample submittal to the laboratory; and
- Daily information regarding sample collection was recorded on field data sheets. Sample types, descriptions, sample identification numbers, and sample times were collected and recorded on field data sheets.

Field QA / QC samples were collected and submitted for chemical analysis along with the groundwater samples using the following sampling frequency:

- **Trip Blanks.** Trip blank water samples were placed in all coolers with aqueous samples to be chemically analyzed for VOCs;
- **Field Duplicates.** Duplicate groundwater samples were collected at a frequency of approximately 10% of the field samples collected during the groundwater monitoring event, and were chemically analyzed for the constituents of its duplicate; and
- **Equipment Blanks.** Equipment blank water samples were collected at the end of the groundwater monitoring activities and were chemically analyzed for the same

analyses as required for the environmental water samples collected at the Project Site.

Trip Blank Samples. Trip blank water samples consist of a sample of the deionized water provided by the laboratory and stored with the unique samples collected during each day of field activities. The purpose of the trip blank sample was to evaluate the potential for cross-contamination of aqueous samples during handling. The trip blank samples were handled in the same manner as all other samples and submitted for VOC analyses.

Field Duplicate Samples. The duplicate groundwater samples were chemically analyzed in order to evaluate the analytical procedures and methods employed by the laboratory. The duplicate groundwater samples were collected concurrently to the prescribed monitoring well sample, and were chemically analyzed for the identical constituents of its duplicate.

Equipment Blanks. Equipment blanks were used to determine the efficiency of decontamination procedures for sampling equipment, and were collected when disposable and/or dedicated sampling equipment was not used. The equipment blank samples consisted of deionized water poured over or pumped through the decontaminated sampling equipment, and collection of the rinsate into the appropriate sample containers. The rinsate was then submitted for analysis for the same constituents as requested for the environmental water samples collected at the Project Site.

3.5.2 Laboratory QA / QC Procedures

Laboratory QA / QC procedures include the following:

- Chemical analyses were performed within the required holding time for all samples; and
- A state-certified hazardous waste testing laboratory conducted the required analysis.

The laboratory provided the following information for each sample:

- Method blank data;
- Surrogate recovery, instrument tuning, and calibration data; and
- Signed laboratory reports including the sample designation, date of sample collection, date of sample analysis, laboratory analytical method employed, sample volume, and the minimum reporting limit (RL).

3.6 DECONTAMINATION PROCEDURES

Field equipment was cleaned before use, between groundwater monitoring well locations, and after completion of field work. Cleaning procedures for sampling equipment

consisted of a non-phosphate detergent wash, two rinses with tap water, and a final de-ionized water rinse.

3.7 ASSESSMENT DERIVED WASTES

Purged groundwater and decontamination wash water was stored in a 1,000-gallon capacity polyethylene aboveground storage tank at the Project Site, and is pending disposal at a CEMC-approved disposal facility.

4.0 RESULTS AND DISCUSSION

Presented below are the results and a discussion of the groundwater elevations, LNAPL occurrence, and laboratory analytical results of aqueous samples collected during the 3Q12 and 4Q12 monitoring events. The discussion of calculated groundwater elevations and the interpreted potentiometric surfaces within the referenced hydrostratigraphic units at the Project Site pertain to the corrected groundwater elevation if LNAPL was present at a measureable thickness within any given groundwater monitoring well. It should be noted that the potentiometric surface maps for fractured bedrock units, including the Pismo Formation (Plate 5) and Obispo Formation (Plate 6), are generalized or simplified as if the area of interest was underlain by unconsolidated sediments (i.e. alluvium) and not by a structurally diverse fractured bedrock unit. Therefore, it should be considered more of an accurate portrayal of the groundwater potentiometric surfaces in a generalized sense.

4.1 GROUNDWATER ELEVATIONS AND LNAPL OCCURRENCE

4.1.1 3Q12

A total of 14 of the 15 groundwater monitoring wells gauged during the 3Q12 (September 2012) monitoring event are completed within the Obispo Formation, and one groundwater monitoring well is completed within the Pismo Formation. Due to the linear spatial distribution of groundwater monitoring wells gauged during the 3Q12, the groundwater flow direction and hydraulic gradient were not calculated for 3Q12 (refer to Plate 3). Depth to water, LNAPL thickness, LNAPL-groundwater interface elevation, and corrected groundwater elevation data for the 3Q12 (September 2012) monitoring event are summarized in Table 1. A historical compilation of groundwater elevation monitoring data is provided in Appendix A-2. The groundwater elevations for the groundwater monitoring wells gauged within the Obispo Formation are illustrated on Plate 3.

Groundwater elevations for the groundwater monitoring wells completed within the Obispo Formation ranged from 3.66 feet above mean sea level (MSL) (B-230) to 63.13 feet (B-201) above MSL, and groundwater monitoring well B-223-48 was observed to be “dry”. The groundwater elevation for the groundwater monitoring well completed within the Pismo Formation (B-210) was 33.96 feet above MSL. No wells gauged during the 3Q12 groundwater monitoring event indicated measureable LNAPL or sheen.

A comparison of measurements of groundwater elevation at the locations of groundwater monitoring wells completed within the Obispo Formation (where applicable) between 3Q12 (September 2012) and third quarter 2011 (3Q11) (September 2011) indicates an average groundwater elevation decrease of approximately 0.33 feet. Groundwater monitoring well B-223-48 was "dry" during 3Q12 (September 2012) and 3Q11 (September 2011). Groundwater monitoring well B-210 (Pismo Formation) had a groundwater elevation decrease of 2.82 feet between the 3Q12 (September 2012) and 3Q11 (September 2011) groundwater monitoring events.

4.1.2 4Q12

Depth to water, LNAPL thickness, LNAPL-groundwater interface elevation, and groundwater elevation data for the 4Q12 (November 2012) monitoring event are summarized in Table 2. A historical compilation of groundwater elevation monitoring data is included as Appendix A-2. Groundwater elevation data for the 4Q12 (November 2012) monitoring event were used to construct separate groundwater potentiometric surface maps for groundwater monitoring wells completed in Unconsolidated Deposits (alluvium and colluvium) (refer to Plate 4), the Gragg Member of the Pismo Formation (refer to Plate 5), and the Obispo Formation (refer to Plate 6). The occurrence of LNAPL or sheen within groundwater monitoring wells gauged during the 4Q12 (November 2012) groundwater monitoring event is illustrated on Plate 7. Groundwater monitoring well hydrographs for selected wells that historically have contained measurable LNAPL are included as Appendix F.

The groundwater elevation in all hydrogeologic units (alluvium; colluvium; Pismo Formation; and Obispo Formation) beneath the Project Site during the 4Q12 (November 2012) monitoring event ranged from 3.53 feet above MSL (B-212, located at the northern boundary of the Project Site) to 170.54 feet above MSL (B-213-50), located near the eastern boundary of the Project Site). Groundwater monitoring wells B-12, B-14, B-36, B-82, B-213-80, and B-215 contained no measurable groundwater or were "dry" during the 4Q12 (November 2012) monitoring event.

Alluvium. Calculated groundwater elevations at the locations of groundwater monitoring wells completed within alluvium ranged from 8.31 feet (B-147) to 14.14 feet (B-146) above MSL. A comparison of measurements of groundwater elevations at the locations of groundwater monitoring wells completed within the alluvium from the 4Q12 (November 2012) and fourth quarter 2011 (4Q11) (November 2011) monitoring events indicates an average groundwater elevation decrease of approximately 4.17 feet. The groundwater flow direction within groundwater monitoring wells constructed within alluvium was calculated to flow toward the northeast under an approximate hydraulic gradient of 0.05 feet/foot (ft/ft). A comparison of the groundwater flow directions from 4Q12 (November 2012) and 4Q11 (November 2011) monitoring events indicates that the groundwater flow direction generally remained consistent.

Colluvium. Calculated groundwater elevations within groundwater monitoring wells completed within colluvium ranged from 68.06 feet (B-29-30) to 115.21 feet (B-186-38) above MSL. A comparison of measurements of groundwater elevations at the locations of

groundwater monitoring wells completed within the colluvium from the 4Q12 (November 2012) and 4Q11 (November 2011) monitoring events indicates an average groundwater elevation decrease of approximately 1.77 feet. The groundwater flow direction within groundwater monitoring wells constructed in colluvium was calculated to flow toward the southwest to west, generally following topography, under an approximate hydraulic gradient of 0.1 ft/ft. A comparison of the groundwater flow directions from 4Q12 (November 2012) and 4Q11 (November 2011) monitoring events indicates that the groundwater flow direction generally remained consistent.

Pismo Formation. Calculated groundwater elevations within groundwater monitoring wells completed within the Pismo Formation ranged from 3.53 feet (B-212) to 170.54 feet (B-213-50) above MSL. A comparison of measurements of groundwater elevations within groundwater monitoring wells completed within the Pismo Formation from 4Q12 (November 2012) and 4Q11 (November 2011) monitoring events indicates that 31 of the 42 groundwater monitoring wells exhibited a decrease in groundwater elevation ranging from 0.20 feet (B-211) to 19.49 feet (B-195), with six groundwater monitoring wells with an increase in groundwater elevation ranging from 0.06 feet (B-148) to 0.63 feet (B-203) Groundwater monitoring well SP-6 showed no change in groundwater elevation. Four groundwater monitoring wells (B-12, B-14, B-82, and B-213-80) were dry during the 4Q12 (November 2012) monitoring event.

The groundwater flow direction for wells completed in the Pismo Formation is toward the north, west, and south, typically away from topographic highs. The calculated hydraulic gradient within the Pismo Formation varied from approximately 0.05 ft/ft to 0.2 ft/ft. A comparison of the groundwater flow directions from 4Q12 (November 2012) and 4Q11 (November 2011) monitoring events indicates that the groundwater flow direction generally remained consistent.

Obispo Formation. Calculated groundwater elevations within groundwater monitoring wells completed within the Obispo Formation ranged from 3.53 feet (B-212) to 149.11 feet (B-173) above MSL. A comparison of measurements of groundwater elevations within groundwater monitoring wells completed within the Obispo Formation from 4Q12 (November 2012) and 4Q11 (November 2011) monitoring events indicates that 29 of the 42 groundwater monitoring wells exhibited a decrease in groundwater elevation ranging from 0.11 feet (B-224) to 9.07 feet (B-37-40), with 11 groundwater monitoring wells showing an increase in groundwater elevations ranging from 0.01 feet (B-217) to 0.42 feet (B-201 and B-223-88). Two groundwater monitoring wells (B-36 and B-215) were dry during the 4Q12 (November 2012) monitoring event.

The groundwater flow direction for wells completed in the Obispo Formation is toward the north, west, and south, typically away from topographic highs. The calculated hydraulic gradient within the Obispo Formation varied from approximately 0.1 ft/ft to 0.5 ft/ft. A comparison of the groundwater flow directions from 4Q12 (November 2012) and 4Q11 (November 2011) monitoring events indicates that the groundwater flow direction generally remained consistent.

LNAPL. The physical properties of the majority of LNAPL at the Project Site are consistent with crude oil. The occurrence of LNAPL in groundwater monitoring wells is generally limited to the area of the former refinery, truck loading rack, and associated pipelines (Plate 7). An exception to this is the LNAPL identified at groundwater monitoring well B-230, which is located near the cliff area along the southwest boundary of the Project Site (Plate 7). The LNAPL physical properties at groundwater monitoring well B-230 are similar to gasoline. Hydrographs for selected groundwater monitoring wells containing LNAPL are included as Appendix F.

Measurable LNAPL was observed at the locations of 14 of the 93 groundwater monitoring wells gauged during the 4Q12 (November 2012) monitoring event at the following locations (presented in order of increasing LNAPL thickness): B-17; B-46; B-189; B-230; B-49; B-81-90; B-78; B-187; B-163; B-54; B-83; B-203; B-186-56; and B-81-67. Measurable LNAPL thickness ranged from 0.01 feet (B-17) to 5.82 feet (B-81-67), with five (B-54; B-83; B-203; B-186-56; and B-81-67) of the fourteen groundwater monitoring wells indicating a LNAPL thickness greater than 1 foot. A LNAPL sheen (<0.01 feet) was observed at 10 of the 93 groundwater monitoring wells during the 4Q12 (November 2012) monitoring event at the following locations: B-29-30; B-29-50; B-30; B-33; B-182; B-186-38; B-206; B-207; SP-2; and SP-6.

A comparison of the occurrence of LNAPL in wells from the 4Q12 (November 2012) and 4Q11 (November 2011) monitoring events indicates that the occurrence and thickness of LNAPL in groundwater monitoring wells generally remained consistent at the Project Site. Exceptions include the following for monitoring wells where LNAPL thicknesses changed by 1 foot or greater:

- Decrease of LNAPL thickness at monitoring well locations: B-54 (2.51 feet); B-163 (6.63 feet); B-186-56 (3.11 feet); and B-81-67 (2.35 feet).
- Increase of LNAPL thickness at monitoring well location B-203 (1.15 feet).

It should be noted that Padre performed three LNAPL baildown tests at the Project Site on January 5, 2011, February 9, 2011, and July 27, 2011 at the locations of groundwater monitoring wells B-78, B-83, B-203, and B-163. LNAPL in the subject groundwater monitoring wells have not rebounded to their initial LNAPL thickness prior to initiating the LNAPL baildown pilot test on January 5, 2011. The results of this study are summarized in Padre's document titled *LNAPL Recovery and Mobility Pilot Test*, dated January 3, 2012.

On October 5, 2012 LNAPL was observed for the first time at the location of groundwater monitoring well B-230 at a thickness of 0.52 feet. Since that time, Padre has performed weekly fluid level monitoring and LNAPL baildown events if the LNAPL thickness is ≥ 0.10 feet. A total of approximately 0.4 gallons of LNAPL has been recovered during this time period. Since the first baildown event, LNAPL has not recovered to its initial thickness at monitoring well B-230 (refer to hydrograph in Appendix F).

4.2 GROUNDWATER LABORATORY ANALYTICAL RESULTS

4.2.1 3Q12

The groundwater analytical results for the 3Q12 (September 2012) monitoring event are summarized in the following tables: Table 1 includes results for TPH and BTEX; Table 3 includes results for selected VOCs; Table 4 includes results for PAHs; and Table 5 includes results for dissolved metals. The analytical results for TPH C4-C10, TPH C10-C40, benzene, MTBE, and TBA are graphically illustrated on Plates 8, 9, 10, 11, and 12, respectively. Historical analytical results are included on a CD-ROM as Appendix A-3. Refer to Appendix A-6 (CD-ROM) for the laboratory analytical report and COC documentation for groundwater samples collected and chemically analyzed during the 3Q12 (September 2012) groundwater monitoring event.

The groundwater sample results for the 3Q12 monitoring event indicate two localized areas of lighter-end petroleum hydrocarbon-impacted groundwater at the cliff area of the Project Site. These areas include the: (1) southwest area adjacent to Former Tank No. 55614 (vicinity of groundwater monitoring well B-223-88); and (2) area of Former Tank No. 201104 (groundwater monitoring wells B-230 and B-231).

TPH. TPH C4-C10 was indicated (discounting J-flag results) in nine of the fourteen groundwater samples chemically analyzed at concentrations ranging from 72 micrograms per liter (µg/L) (B-225) to 15,000 µg/L (B-231) (refer to Plate 8). TPH C10-C40 (sum of TPH C10-C25 and TPH C25-C40 not including J-flag results) were indicated in 11 of the 14 groundwater samples chemically analyzed at concentrations ranging from 67 µg/L (B-225) to 2,300 µg/L (B-224) (refer to Plate 9). A comparison of the groundwater laboratory analytical data for TPH C4-C40 (C4-C10 and C10-C40) from the 3Q12 (September 2012) and 3Q11 (September 2011) monitoring events indicates that TPH C4-C40 concentrations generally remained similar.

BTEX. BTEX constituents were indicated in four of the fourteen groundwater samples chemically analyzed during the 3Q12 monitoring event (refer to Table 1). Benzene was indicated in four of the fourteen groundwater samples chemically analyzed at concentrations ranging from 18 µg/L (B-226) to 3,800 µg/L (B-231) (refer to Plate 10). Toluene was indicated in four of the fourteen groundwater samples chemically analyzed at concentrations ranging from 7 µg/L (B-226) to 510 µg/L (B-230). Ethylbenzene was indicated in four of the fourteen groundwater samples chemically analyzed at concentrations ranging from 8 µg/L (B-223-88) to 150 µg/L (B-231). Total xylenes were indicated in four of the fourteen groundwater samples chemically analyzed at concentrations ranging from 12 µg/L (B-223-88) to 350 µg/L (B-230). A comparison of the groundwater laboratory analytical data for BTEX from the 3Q12 (September 2012) and 3Q11 (September 2011) monitoring events indicates that BTEX concentrations generally remained similar.

Selected VOCs, MTBE, and TBA. For the purpose of this section, the term “selected VOCs” refers to VOCs other than BTEX compounds that are of interest, and are indicated in Table 3. A total of 10 of the 14 groundwater samples chemically analyzed indicated the

presence of selected VOCs constituents during the 3Q12 monitoring event. Collectively, these indicated concentrations of VOCs primarily consist of fuel-related components, including: fuel oxygenates MTBE and TBA; 1,2-dichloroethane (1,2-DCA); and other fuel-related VOC compounds (i.e., n-propylbenzene, isopropylbenzene, and 1,2,4-trimethylbenzene). MTBE was indicated in groundwater samples B-190 (2.1 µg/L), B-216 (2.0 µg/L), and B-224 (51 µg/L).

TBA was detected in groundwater samples B-190, B-216, B-224, B-225, B-226, B-223-88, and B-231 at concentrations ranging from 4.8 J µg/L (B-190) to 4,300 µg/L (B-231). 1,2-DCA was indicated in groundwater samples B-224 (0.27 J µg/L), B-216 (0.72 µg/L), and B-230 (26 µg/L). The VOCs results are generally consistent with those of previous monitoring events.

PAHs. Collectively, PAHs acenaphthylene, fluorene, and naphthalene were indicated in five of the six groundwater samples chemically analyzed for these constituents. Acenapthylene was indicated in groundwater samples B-224 and B-231 at concentrations of 0.062 J µg/L and 0.10 µg/l, respectively. Flourene was indicated in groundwater samples B-230 and B-231 at concentrations of 0.073 J µg/L and 0.061 J µg/L, respectively. Naphthalene was indicated in groundwater samples B-223-88, B-226, B-230, and B-231 at concentrations of 0.3 µg/L, 8.5 µg/L, 230 µg/L and 63 µg/L, respectively. The PAHs results are generally consistent with those of previous monitoring events.

Dissolved Metals. Collectively, metals arsenic, barium, beryllium, cadmium, chromium ,cobalt, copper, lead, molybdenum, nickel, selenium, vanadium, and zinc were indicated in the nine groundwater samples chemically analyzed (refer to Table 5). Dissolved lead was indicated at a concentration of 0.063 milligrams per liter (mg/L) in groundwater sample B-230. These metals concentrations are generally consistent with historical groundwater analytical results for other groundwater monitoring wells constructed at the Project Site.

4.2.2 4Q12

The groundwater analytical results for the 4Q12 (November 2012) monitoring event are summarized in the following tables: Table 2 includes results for TPH and BTEX; Table 6 includes results for selected VOCs; Table 7 includes results for PAHs; and Table 8 includes results for dissolved metals. The analytical results for TPH C4-C10, TPH C10-C40, benzene, MTBE, and TBA are graphically illustrated on Plates 13, 14, 15, 16, and 17, respectively. Historical analytical results are included on a CD-ROM as Appendix A-3. Refer to Appendix A-6 (CD-ROM) for the laboratory analytical report and COC documentation for groundwater samples collected and chemically analyzed during the 4Q12 (November 2012) groundwater monitoring event.

The majority of dissolved-phase petroleum hydrocarbons indicated at the Project Site are associated with mid- to high-molecular weight petroleum hydrocarbons, which are indicated in groundwater monitoring wells located around the margin of the area containing LNAPL, in the vicinity of the former refinery, former pump house, and appurtenant fuel pipelines. Additionally, there are three localized areas of lighter-end petroleum hydrocarbon-impacted groundwater at the Project Site. These areas include the: (1) truck-loading rack; (2) southwest area adjacent to

Former Tank No. 55614 (vicinity of groundwater monitoring well B-223-88); and (3) area of Former Tank No. 201104 (groundwater monitoring wells B-230 and B-231).

TPH. TPH C4-C10 was indicated (not including J flags) at detectable concentrations in 25 of the 56 groundwater samples chemically analyzed at concentrations ranging from 51 µg/L (B-169) to 1,100 µg/L (B-231). One groundwater sample contained TPH C4-C10 (B-231) in excess of 1,000 µg/L (refer to Table 2 and Plate 13). TPH C10-C40 (sum of TPH C10-C25 and TPH C25-C40 not including J-flag results) was indicated at concentrations greater than 1,000 µg/L in four of the fifty-six groundwater samples chemically analyzed during the 4Q12 monitoring event, at concentrations of 1,040 µg/L (B-224), 1,200 µg/L (B-35-45R), 1,600 µg/L (B-223-88), and 8,100 µg/L (B-231) (refer to Table 2 and Plate 14). A comparison of the groundwater laboratory analytical data for TPH C4-C40 (C4-C10 and C10-C40) from the 4Q12 (November 2012) and 4Q11 (November 2011) monitoring events indicates that TPH C4-C40 concentrations generally remained similar.

BTEX. One or more of the BTEX constituents were indicated at detectable concentrations in 20 of the 56 groundwater samples chemically analyzed (refer to Table 2 and Plate 15). Benzene, toluene, ethylbenzene, and total xylenes were indicated at maximum concentrations at monitoring well B-231 at concentrations of 2,700 µg/L, 48 µg/L, 65 µg/L, and 85 µg/L, respectively. BTEX concentrations are similar to the 4Q11 (November 2011) monitoring event.

Selected VOCs, MTBE, and TBA. For the purpose of this section, the term “selected VOCs” refers to VOCs other than BTEX compounds, and are identified in Table 6. Of the 56 groundwater samples collected during the 4Q12 monitoring event, 27 were chemically analyzed for the presence of VOCs, and 17 groundwater samples were chemically analyzed for the presence of fuel oxygenates MTBE and TBA.

A total of 19 of the 27 groundwater samples chemically analyzed indicated the presence of selected VOCs constituents during the 4Q12 monitoring event. Collectively, these indicated concentrations of VOCs primarily consist of fuel-related components, including: fuel oxygenates MTBE and TBA; 1,2-DCA; and other fuel-related VOC compounds (i.e., n-propylbenzene, isopropylbenzene, and 1,2,4-trimethylbenzene). MTBE was indicated in seven groundwater samples ranging in concentration from 0.92 µg/L (B-200) to 53 µg/L (B-224). TBA was indicated in seven groundwater samples ranging in concentration from 11 µg/L (B-57-20) to 5,200 µg/L (B-231). 1,2-DCA was indicated in two groundwater samples at concentrations of 0.57 µg/L (B-216) and 0.66 µg/L (B-57-65). The VOCs results are generally consistent with those of previous monitoring events.

PAHs. Of the 56 groundwater samples collected during the 4Q12 monitoring event, 19 were chemically analyzed for PAH constituents. Thirteen of the nineteen groundwater samples chemically analyzed indicated the presence of PAH constituents during the 4Q12 monitoring event (refer to Table 7). Collectively, the following PAH constituents were indicated at detectable concentrations: acenaphthene; acenaphthylene; fluorene; naphthalene; and

phenanthrene. The PAH results are generally consistent with those of previous monitoring events.

Dissolved Metals. Of the 56 groundwater samples collected during the 4Q12 monitoring event, 22 were chemically analyzed for dissolved metals (refer to Table 8). Dissolved metals arsenic, barium, cadmium, chromium, cobalt, copper, molybdenum, mercury, nickel, selenium, and zinc were indicated at a detectable concentration in at least one of the groundwater samples chemically analyzed for dissolved metals. Groundwater sample B-231 was additionally analyzed for organic lead, but was not indicated at a detectable concentration. The detected metal concentrations are generally consistent with those of previous monitoring events.

4.3 CLIFF SPRINGS FIELD OBSERVATIONS AND LABORATORY ANALYTICAL RESULTS

Padre conducted cliff spring observations at eight locations, designated in sequence from northwest to southeast as H, G, E, A, B, C, F, and D. The location of each of the cliff springs is presented on Plate 2. The cliff spring inspections were documented by Padre on field forms attached as Appendix D. Field observations completed during the course of 2S12 are summarized in Table 9, and historical observations and analytical results for cliff spring water samples are included on a CD-ROM as Appendix A-4. Presented below are field observations during the 2S12 monitoring event.

None of the cliff spring locations had a petroleum hydrocarbon odor or sheen. Cliff spring locations A, C, and E had spring water emanating from bedrock fractures at flow rates that were too low to sample. Cliff spring location B had no measurable flow emanating from the bedrock fractures, but the cliff face was moist. Cliff spring locations D, G, and H were either dry or partially covered by rockfall. Cliff spring location F was inaccessible due to a rock fall that occurred in January 2010.

4.4 INTERTIDAL ZONE FIELD OBSERVATIONS AND LABORATORY ANALYTICAL RESULTS

Intertidal zone observation monitoring activities were performed during low tide events (≤ -0.5 feet) from July 2012 through December 2012 at intertidal zone monitoring locations IZ-1, IZ-2, and IZ-3 (refer to Plate 2). The intertidal zone observation monitoring activities are summarized on field forms attached as Appendix E. Field observations completed during the course of 1S12 are summarized in Table 10, analytical results are summarized in Table 11, and historical observations and analytical results are included on a CD-ROM as Appendix A-5. The laboratory analytical reports are included on the CD-ROM as Appendix A-6.

The 2S12 intertidal zone observations were performed by Padre on July 5, 6, 19, and 20; August 2; October 15 and 16; November 12 and 13; and December 10 and 11, 2012. Provided below is a summary of field observations:

- Beach deposits were present with no tide pools during each monitoring event performed between July 5, 2012 and August 2, 2012;
- The intertidal zone area was partially scoured of beach deposits during the October 15 and 16, 2012 monitoring events, and fully scoured during the December 10 and 11, 2012 monitoring events. Tide pools were present at the intertidal area during the aforementioned events;
- No hydrocarbon sheen or odor was observed at monitoring locations IZ-1 and IZ-2;
- Hydrocarbon odor was noted at monitoring location IZ-3 during each of the 2S12 monitoring events; and
- Hydrocarbon sheen was observed in tide pool(s) at monitoring location IZ-3 on the following monitoring events: October 15, 2012; October 16, 2012; and December 11, 2012.

The results for aqueous samples collected at intertidal zone monitoring location IZ-3 are presented below. Note that the assessment of tide pools at the intertidal area was performed on December 11, 2012 under Padre's *Revised Intertidal Zone Assessment Technical Work Plan*, dated June 29, 2012. Results of this sampling event and two additional planned tide pool sampling events will be submitted under separate cover as an addendum to Padre's *Intertidal Zone Assessment Report*, dated December 19, 2012.

TPH. TPH C4-C10 was indicated in sample IZ-3 at concentrations of 730 µg/L (October 15, 2012) and 82 µg/L (October 16, 2012). TPH C10-C25 and TPH C25-C40 were indicated at concentrations of 140 µg/L and 1,200 µg/L in the sample collected at IZ-3 on October 16, 2012. TPH C10-C25 and TPH C25-C40 were not detected in the sample collected at IZ-3 on October 16, 2012.

VOCs Including Fuel Oxygenates. Sample IZ-3 was indicated with VOCs that consist of fuel-related components, including: BTEX; fuel oxygenate TBA; and other fuel-related VOC compounds (i.e., n-propylbenzene, isopropylbenzene, and 1,2,4-trimethylbenzene). Maximum BTEX and TBA concentrations were indicated in the sample collected at IZ-3 on October 15, 2012 at concentrations of 110 µg/L, 4.5 µg/L, 6.8 µg/L, 13 µg/L, and 450 µg/L, respectively.

PAHs. Benzo (a) pyrene was not present at detectable concentrations in either of the samples collected on October 15 and 16, 2012. The maximum PAH concentration was for naphthalene, which was indicated at a concentration of 0.220 µg/L (October 16, 2012). Various other PAH compounds were indicated slightly above the reporting limit for both samples.

Dissolved Lead, Total Lead, and Organic Lead. There was an insufficient volume of water within the tide pool at IZ-3 on October 15, 2012 to perform the analyses of dissolved lead, total lead, and organic lead. Detectable concentrations of dissolved lead, total lead, and organic lead were not indicated in the sample collected at monitoring location IZ-3 on October 16, 2012.

4.5 QUALITY ASSURANCE / QUALITY CONTROL

4.5.1 Field QA / QC

3Q12. Field QA / QC samples were collected and submitted for chemical analysis along with the groundwater samples. These QA / QC samples included trip blanks and field duplicate samples. Equipment blank samples were not necessary as all groundwater samples were collected using dedicated equipment.

Trip blank samples were prepared and chemically analyzed for VOC constituents. Detectable concentrations of VOC constituents were not indicated in the trip blank samples, which indicate cross-contamination did not likely occur during shipping of the groundwater samples.

The field duplicate sample (a duplicate of sample B-226), sample DUP, generally had similar results for TPH, VOCs, PAHs, and dissolved metals which confirms the reliability of the analytical process.

4Q12. Field QA / QC samples were collected and submitted for chemical analysis along with the groundwater samples. These QA / QC samples included trip blanks, equipment blanks and field duplicate samples.

Trip blanks were prepared and chemically analyzed for VOCs. Quantifiable concentrations of VOCs were not indicated in the trip blank samples, which indicate that cross-contamination did not occur during shipping of the groundwater samples.

Two equipment blanks (EB-1, and EB-2) were collected and chemically analyzed for TPH, VOCs, PAHs, and dissolved metals. Quantifiable concentrations of TPH and VOCs were not indicated in the equipment blank samples. Trace PAHs and metals concentrations were indicated in the equipment blank samples. It can be concluded that the constituents indicated in the equipment blank samples do not significantly affect the data quality and indicates field equipment was properly decontaminated.

Four duplicates (DUP-1, DUP-2, DUP-3, and DUP-4) were collected and chemically analyzed for the constituents of its field groundwater sample. The field duplicate samples had similar indicated concentrations as its field groundwater samples, and therefore confirms the reliability of the analytical process.

4.5.2 Laboratory QA / QC Results

Standard QA / QC field procedures and laboratory procedures were developed and implemented as part of the monitoring activities completed at the Project Site. The primary quality control feature utilized was data validation. The data from each of the chemical analyses were evaluated in the following areas:

- Data completeness;

- Holding times;
- System monitoring compounds (surrogates);
- Laboratory control standards;
- Matrix spike/matrix spike duplicates (MS/MSD); and
- Compound identification and quantification.

Overall, the data quality was acceptable, and the collected data support the project data quality objectives.

5.0 CONCLUSIONS

Based on the results of the 2S12 groundwater, cliff spring, and intertidal zone monitoring activities, as well as a review of available historical data, Padre makes the conclusions presented below.

The groundwater flow directions documented at the Project Site during the 4Q12 (November 2012) monitoring event are similar to historical groundwater flow patterns documented at the Project Site. Based on fluid level measurements recorded within the groundwater monitoring wells, the groundwater flow direction at the Project Site generally flows away from topographic highs toward: the north to northeast for groundwater monitoring wells completed within the alluvium (refer to Plate 4); west to southwest for groundwater monitoring wells completed within the colluvium (refer to Plate 4); and north, west, and south, for groundwater monitoring wells completed within the Pismo Formation (refer to Plate 5) and Obispo Formation (refer to Plate 6).

The Project Site is in a prolonged period of low precipitation, relative to the 1997 inception of groundwater monitoring, resulting in historically low or near historically low groundwater elevations in 2009. Groundwater elevations rebounded from above average precipitation in 2011 similar to that of groundwater elevations observed in 2005 at the Project Site. A decreasing trend of groundwater elevations is now occurring due to below average precipitation in 2012 (refer to Appendix F for hydrographs).

A comparison of measurements of groundwater elevations within groundwater monitoring wells completed within the alluvium and colluvium from 4Q12 (November 2012) and 4Q11 (November 2011) monitoring events indicates a groundwater elevation decrease of 4.17 feet and 1.77 feet, respectively.

Calculated groundwater elevations within groundwater monitoring wells completed within the Pismo Formation ranged from 3.53 feet (B-212) to 170.54 feet (B-213-50) above MSL. A comparison of measurements of groundwater elevations within groundwater monitoring wells completed within the Pismo Formation from 4Q12 (November 2012) and 4Q11 (November 2011) monitoring events indicates that 31 of the 42 groundwater monitoring wells exhibited a decrease in groundwater elevation ranging from 0.20 feet (B-211) to 19.49 feet (B-195), with six groundwater monitoring wells observed with an increase in groundwater elevation ranging from

0.06 feet (B-148) to 0.63 feet (B-203) Groundwater monitoring well SP-6 showed no change in groundwater elevation. Four groundwater monitoring wells (B-12, B-14, B-82, and B-213-80) were dry during the 4Q12 (November 2012) monitoring event.

Calculated groundwater elevations within groundwater monitoring wells completed within the Obispo Formation ranged from 3.96 feet (B-230) to 149.11 feet (B-173) above MSL. A comparison of measurements of groundwater elevations within groundwater monitoring wells completed within the Obispo Formation from 4Q12 (November 2012) and 4Q11 (November 2011) monitoring events indicates that 29 of the 42 groundwater monitoring wells exhibited a decrease in groundwater elevation ranging from 0.11 feet (B-224) to 9.07 feet (B-37-40), with 11 groundwater monitoring wells showing an increase in groundwater elevations ranging from 0.01 feet (B-217) to 0.42 feet (B-201 and B-223-88). Two groundwater monitoring wells (B-36 and B-215) were dry during the 4Q12 (November 2012) monitoring event.

The occurrence of LNAPL in groundwater monitoring wells is generally limited to the area of the former refinery, truck loading rack, and associated pipelines (refer to Plate 7). The LNAPL at the Project Site is generally characterized as viscous, weathered crude oil. The lateral extent of LNAPL appears to be stable and not migrating.

The physical properties of the majority of LNAPL at the Project Site are consistent with crude oil. The occurrence of LNAPL in groundwater monitoring wells is generally limited to the area of the former refinery, truck loading rack, and associated pipelines (Plate 7). An exception to this is the LNAPL identified at the location of groundwater monitoring well B-230, which is located near the cliff area along the southwest boundary of the Project Site (Plate 7). The LNAPL physical properties at groundwater monitoring well B-230 are similar to gasoline.

Measurable LNAPL was observed at the locations of 14 of the 93 groundwater monitoring wells gauged during the 4Q12 (November 2012) monitoring event at the following locations (presented in order of increasing LNAPL thickness): B-17; B-46; B-189; B-230; B-49; B-81-90; B-78; B-187; B-163; B-54; B-83; B-203; B-186-56; and B-81-67. Measurable LNAPL thickness ranged from 0.01 feet (B-17) to 5.82 feet (B-81-67), with five (B-54; B-83; B-203; B-186-56; and B-81-67) of the fourteen groundwater monitoring wells indicating a LNAPL thickness greater than 1 foot. A LNAPL sheen (<0.01 feet) was observed at 10 of the 93 groundwater monitoring wells during the 4Q12 (November 2012) monitoring event at the following locations: B-29-30; B-29-50; B-30; B-33; B-182; B-186-38; B-206; B-207; SP-2; and SP-6.

The primary chemicals of potential concern in groundwater at the Project Site are related to unrefined petroleum and refined petroleum, including fuel additives. The majority of petroleum hydrocarbon impacts are associated with mid- to high-molecular weight petroleum hydrocarbons, which are indicated in the vicinity of the former refinery, former pump house, and appurtenant fuel pipelines. Additionally, there are three localized areas of lighter-end petroleum hydrocarbon-impacted groundwater at the Project Site. These areas include the: (1) truck-loading rack; (2) southwest area adjacent to Former Tank No. 55614 (vicinity of groundwater

monitoring well B-223-88); and (3) area of Former Tank No. 201104 (groundwater monitoring wells B-230 and B-231). Refer to Plates 8 through 17.

The east, west, and north limits of dissolved-phase petroleum hydrocarbon impacts to groundwater beneath the Project Site are well defined since sentinel groundwater monitoring wells in those directions have never detected significant concentrations of constituents attributable to historical site operations in over two decades of monitoring. For most of the impacted areas described above, the groundwater monitoring well network provides sentinel groundwater monitoring wells that will detect a significant movement of impacted groundwater to the south-southwest should it ever occur.

However, the two localized groundwater impacts associated with Former Tank Nos. 55614 and 201104 are too near the cliff face to provide additional groundwater monitoring wells at this location. In the case of Tank No. 55614 (monitoring by well B-223-88) the cliff springs historically acted as sentinel monitoring points, and have never detected significant concentrations of dissolved-phase petroleum hydrocarbons associated with historical site operations.

In the case of Former Tank No. 201104 (groundwater monitoring wells B-230 and B-231), aboveground cliff springs have not been identified to the south to southwest of this location. On May 8, 2012 fuel-related impacts were identified within tide pools located adjacent to the toe of the cliff south of Former Tank No. 201104 (groundwater monitoring wells B-230 and B-231). The assessment of ambient air, beach deposits, interstitial water, and tide pool water in this area has been performed and is currently ongoing (Padre, 2012d and 2012e).

In January 2013 CEMC intends to implement interim remedial actions at the area of former Tank No. 201104 utilizing existing groundwater monitoring well B-230 as a soil vapor extraction point, which was outlined in Avocet Environmental, Inc.'s (Avocet) *Work Plan for Cliff Area Interim Remedial Actions* dated October 18, 2012. Additionally, CEMC also plans on performing a multi-phase extraction pilot test at the area of former Tank No. 201104 to facilitate the design of a longer-term remediation system at this area of the Project Site.

6.0 LIMITATIONS

This document has been prepared for the sole benefit of Chevron Environmental Management Company. No other persons may rely on the findings of this document without the expressed written consent of the client and Padre Associates, Inc.

In performing our professional services, Padre has attempted to apply present engineering and scientific judgment and use a level of effort consistent with the standard of practice measured on the date of work and in locale of the Project Site for similar type studies. Padre Associates, Inc. makes no warranty, express or implied.

The analyses and interpretations presented in this document have been developed based on the results from the review of existing information pertaining to the site, soil and groundwater sampling at discrete locations at the Project Site, and the result from the laboratory analyses of the soil and groundwater samples. It should be recognized that contamination can vary between sampling locations and between areas.

7.0 REFERENCES

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_____, 2012d, *Revised Technical Work Plan, Intertidal Zone Assessment, Former Unocal Avila, Terminal, 10 San Rafael Street, Avila Beach, San Luis Obispo County, California*, dated June 29, 2012.

_____, 2012e, *Report of Findings, Intertidal Zone Assessment Activities, Area South of Former Tank No. 201104, Former Unocal Avila Terminal, 10 San Rafael Street, Avila Beach, San Luis Obispo County, California*, dated December 19, 2012.

Parsons Corporation (Parsons), 2006, *Groundwater Monitoring Workplan Former Unocal Terminal Avila Beach, California, Former Unocal Tank Farm*, dated February 23, 2006.

TABLES

Table 1
Groundwater Monitoring Event Summary
Third Quarter 2012
Former Unocal Terminal, Avila Beach, CA

Well ID	Zone of Completion	Date Measured	LNAPL / Groundwater Interface Elevation (ft. MSL)	LNAPL Thickness (ft.)	Groundwater Elevation After LNAPL Correction (ft. MSL)	Date Sampled	TPH-Gasoline C4 - C10 (ug/L)	TPH-Diesel C10 - C25 (ug/L)	TPH-Oil C25 - C40 (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)
B-37-70	O	9/17/2012	18.50	0.00	18.50	9/18/2012	**80**	**170**	**350 J**	**0.43 J**	<0.50	<0.50	<0.50
B-167-56	O	9/17/2012	31.05	0.00	31.05	9/18/2012	**20 J**	**110**	<540	<0.50	<0.50	<0.50	<0.50
B-167-95	O	9/17/2012	10.85	0.00	10.85	9/19/2012	**27 J**	**190**	**220 J**	<0.50	<0.50	<0.50	<0.50
B-190	O	9/17/2012	29.21	0.00	29.21	9/18/2012	**170**	**310**	**310 J**	<0.50	<0.50	<0.50	<0.50
B-201	O	9/17/2012	63.13	0.00	63.13	9/17/2012	<50	**32 J**	<550	<0.50	<0.50	<0.50	<0.50
B-210	P	9/17/2012	33.96	0.00	33.96	9/17/2012	<50	**47 J**	<520	<0.50	<0.50	<0.50	<0.50
B-216	O	9/17/2012	33.72	0.00	33.72	9/18/2012	**180**	**150**	**240 J**	<0.50	<0.50	<0.50	<0.50
B-217	O	9/17/2012	29.98	0.00	29.98	9/18/2012	**25 J**	**46 J**	**300 J**	<0.50	<0.50	<0.50	<0.50
B-223-48	O	9/17/2012	Dry	0.00	Dry	--	NS	NS	NS	NS	NS	NS	NS
B-223-88	O	9/17/2012	8.04	0.00	8.04	9/18/2012	**2,000**	**310**	<52	**160**	**18**	**8**	**12**
B-224	O	9/17/2012	15.49	0.00	15.49	9/19/2012	**220**	**1,300**	**1,000**	**0.32 J**	<0.50	<0.50	**0.33 J**
B-225	O	9/17/2012	20.61	0.00	20.61	9/18/2012	**72**	**67**	<530	<0.50	<0.50	<0.50	<0.50
B-226	O	9/17/2012	13.76	0.00	13.76	9/19/2012	**1,700**	**90**	<560	**18**	**7**	**49**	**49**
B-230	O	9/17/2012	3.66	0.00	3.66	9/19/2012	**6,600**	**1,200**	**220 J**	**180**	**510**	**66**	**350**
B-231	O	9/17/2012	7.14	0.00	7.14	9/19/2012	**15,000**	**1,800**	**230 J**	**3,800**	**160**	**150**	**270**
DUP*	O	--	--	--	--	9/19/2012	**1,600**	**92**	<560	**18**	**7**	**60**	**47**

Notes:
ft. MSL = feet above mean sea level
Unit Abbreviations: A = Alluvium, C = Colluvium, O = Obispo Formation, P = Pismo Formation
LNAPL = Light non-aqueous phase liquid
µg/L = Micrograms per liter
NS = not sampled
<0.50 = Not Detected Above Reporting Limit
* = Duplicate of B-226
J = estimated value; results are less than the method reporting limit and above the method detection limit

Table 2
Groundwater Monitoring Event Summary
Fourth Quarter 2012
Former Unocal Terminal, Avila Beach, CA

Well ID	Zone of Completion	Date Measured	LNAPL / Groundwater Interface Elevation (ft. MSL)	LNAPL Thickness (ft.)	Groundwater Elevation After Correction (ft. MSL)	Date Sampled	TPH-Gasoline C4 - C10 (ug/L)	TPH-Diesel C10 - C25 (ug/L)	TPH-Oil C25 - C40 (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)
B-12	P	11/05/12	DRY	--	DRY	--	NS	NS	NS	NS	NS	NS	NS
B-14	P	11/05/12	DRY	--	DRY	--	NS	NS	NS	NS	NS	NS	NS
B-17	P	11/05/12	104.24	0.01	104.25	--	NS	NS	NS	NS	NS	NS	NS
B-29-30	C	11/05/12	68.06	Sheen	68.06	--	NS	NS	NS	NS	NS	NS	NS
B-29-50	O	11/05/12	63.26	Sheen	63.26	--	NS	NS	NS	NS	NS	NS	NS
B-30	O	11/05/12	55.25	Sheen	55.25	--	NS	NS	NS	NS	NS	NS	NS
B-33	P	11/05/12	96.73	Sheen	96.73	--	NS	NS	NS	NS	NS	NS	NS
B-35-45R	C	11/05/12	89.45	0.00	89.45	11/8/2012	**600**	**33 J**	**1,200**	<0.50	<0.50	<0.50	<0.50
B-35-70	O	11/05/12	74.64	0.00	74.64	11/8/2012	**1,200**	**880**	**300 J**	**190**	**17**	**0.34 J**	**15**
B-36	O	11/05/12	DRY	--	DRY	--	NS	NS	NS	NS	NS	NS	NS
B-37-40	O	11/05/12	45.81	0.00	45.81	--	NS	NS	NS	NS	NS	NS	NS
B-37-70	O	11/05/12	17.83	0.00	17.83	11/8/2012	**160**	**98**	**390 J**	**0.47 J**	<0.50	<0.50	<0.50
B-46	C	11/05/12	100.03	0.01	100.04	--	NS	NS	NS	NS	NS	NS	NS
B-49	C	11/05/12	102.40	0.28	102.65	--	NS	NS	NS	NS	NS	NS	NS
B-54	P	11/05/12	103.75	1.09	104.73	--	NS	NS	NS	NS	NS	NS	NS
B-57-20	O	11/05/12	113.54	0.00	113.54	11/8/2012	**510**	**870**	**360 J**	<0.50	<0.50	**0.49 J**	**0.38 J**
DUP-3* **	--	--	--	--	--	11/8/2012	**550**	**740**	**360 J**	<0.50	<0.50	**0.34 J**	**0.34 J**
B-57-65	O	11/05/12	78.27	0.00	78.27	11/8/2012	**180**	<50	**230 J**	<0.50	<0.50	<0.50	<0.50
B-78	O	11/05/12	111.94	0.56	112.44	--	NS	NS	NS	NS	NS	NS	NS
B-81-67	O	11/05/12	76.36	5.82	81.60	--	NS	NS	NS	NS	NS	NS	NS
B-81-90	O	11/05/12	76.26	0.32	76.55	--	NS	NS	NS	NS	NS	NS	NS
B-82	P	11/05/12	DRY	--	DRY	--	NS	NS	NS	NS	NS	NS	NS
B-83	P	11/05/12	102.27	1.09	103.25	--	NS	NS	NS	NS	NS	NS	NS
B-85	P	11/05/12	102.50	0.00	102.50	11/8/2012	**93**	**20 J**	<510	<0.50	<0.50	<0.50	<0.50
B-139	P	11/05/12	67.74	0.00	67.74	11/7/2012	**29 J**	<50	<520	<0.50	<0.50	<0.50	<0.50
B-143-45	O	11/05/12	53.18	0.00	53.18	--	NS	NS	NS	NS	NS	NS	NS
B-143-70	O	11/05/12	53.80	0.00	53.80	--	NS	NS	NS	NS	NS	NS	NS
B-144-50	O	11/05/12	49.77	0.00	49.77	11/6/2012	<53	<50	<530	<0.50	<0.50	**0.29 J**	<0.50
B-144-75	O	11/05/12	49.59	0.00	49.59	--	NS	NS	NS	NS	NS	NS	NS
B-145	O	11/05/12	31.66	0.00	31.66	11/7/2012	<51	<50	<510	<0.50	<0.50	<0.50	<0.50
B-146	A	11/05/12	14.14	0.00	14.14	11/6/2012	<52	<50	<520	<0.50	<0.50	**0.26 J**	<0.50
B-147	A	11/05/12	8.31	0.00	8.31	11/6/2012	<50	<50	<500	<0.50	<0.50	**0.30 J**	<0.50
B-148	P	11/05/12	9.42	0.00	9.42	11/7/2012	<53	<50	<530	<0.50	<0.50	<0.50	<0.50
B-149	P	11/05/12	77.16	0.00	77.16	11/7/2012	**180**	<50	<510	<0.50	<0.50	<0.50	<0.50
B-150	P	11/05/12	64.54	0.00	64.54	11/7/2012	<50	<50	<500	<0.50	<0.50	<0.50	<0.50
B-151	P	11/05/12	81.08	0.00	81.08	11/7/2012	<51	<50	<510	<0.50	<0.50	**0.82**	<0.50
B-153	P	11/05/12	80.84	0.00	80.84	11/8/2012	150	**31 J**	<520	<0.50	<0.50	<0.50	<0.50
B-163	P	11/05/12	88.38	0.98	89.26	--	NS	NS	NS	NS	NS	NS	NS
B-167-56	O	11/05/12	29.71	0.00	29.71	11/9/2012	**93**	<50	**210 J**	<0.50	<0.50	<0.50	<0.50
B-167-95	O	11/05/12	9.99	0.00	9.99	11/8/2012	**120**	<50	<510	<0.50	<0.50	<0.50	<0.50
B-169	O	11/05/12	125.90	0.00	125.90	11/8/2012	**51**	<50	<510	<0.50	<0.50	<0.50	<0.50
B-172	A	11/05/12	11.04	0.00	11.04	--	NS	NS	NS	NS	NS	NS	NS
B-173	O	11/05/12	149.11	0.00	149.11	11/7/2012	<50	<50	<500	<0.50	<0.50	<0.50	<0.50
B-182	P	11/05/12	88.97	Sheen	88.97	--	NS	NS	NS	NS	NS	NS	NS
B-183	P	11/05/12	78.84	0.00	78.84	11/7/2012	**320**	**64**	<510	<0.50	<0.50	**0.27 J**	<0.50
B-184	P	11/05/12	67.16	0.00	67.16	11/6/2012	**88**	**26 J**	<510	<0.50	<0.50	<0.50	<0.50
B-185	P	11/05/12	101.12	0.00	101.12	11/6/2012	**170**	**77**	**230 J**	<0.50	<0.50	<0.50	<0.50
B-186-38	C	11/05/12	115.21	Sheen	115.21	--	NS	NS	NS	NS	NS	NS	NS
B-186-56	P	11/05/12	101.90	5.25	106.63	--	NS	NS	NS	NS	NS	NS	NS
B-187	P	11/05/12	102.54	0.70	103.17	--	NS	NS	NS	NS	NS	NS	NS
B-189	P	11/05/12	93.20	0.01	93.21	--	NS	NS	NS	NS	NS	NS	NS
B-190	O	11/05/12	28.81	0.00	28.81	11/8/2012	**280**	**110**	**320 J**	<0.50	<0.50	<0.50	<0.50
B-191	O	11/05/12	39.02	0.00	39.02	11/8/2012	<50	**20 J**	<500	<0.50	<0.50	<0.50	<0.50
B-192	P	11/05/12	76.91	0.00	76.91	11/6/2012	<51	<50	<510	<0.50	<0.50	**0.26 J**	<0.50

Table 2
Groundwater Monitoring Event Summary
Fourth Quarter 2012
Former Unocal Terminal, Avila Beach, CA

Well ID	Zone of Completion	Date Measured	LNAPL / Groundwater Interface Elevation (ft. MSL)	LNAPL Thickness (ft.)	Groundwater Elevation After Correction (ft. MSL)	Date Sampled	TPH-Gasoline C4 - C10 (ug/L)	TPH-Diesel C10 - C25 (ug/L)	TPH-Oil C25 - C40 (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)
B-193	P	11/05/12	51.84	0.00	51.84	11/6/2012	<51	<50	<510	<0.50	<0.50	**0.26 J**	<0.50
B-194	P	11/05/12	93.43	0.00	93.43	11/6/2012	<51	<50	<510	<0.50	<0.50	**0.26 J**	<0.50
B-195	P	11/05/12	99.85	0.00	99.85	11/7/2012	**37 J**	**<50**	**300 J**	<0.50	<0.50	<0.50	<0.50
B-196	P	11/05/12	115.11	0.00	115.11	11/6/2012	**190**	**54**	<520	<0.50	<0.50	**0.25 J**	<0.50
B-197	O	11/05/12	37.88	0.00	37.88	11/7/2012	**79**	**200**	**260 J**	<0.50	<0.50	<0.50	<0.50
DUP-1*	--	--	--	--	--	11/7/2012	**73**	**210**	**250 J**	<0.50	<0.50	<0.50	<0.50
B-200	O	11/05/12	79.25	0.00	79.25	11/8/2012	**110**	<50	**390 J**	<0.50	<0.50	<0.50	<0.50
B-201	O	11/05/12	63.37	0.00	63.37	11/8/2012	<52	<50	<520	<0.50	<0.50	<0.50	<0.50
B-202	A	11/05/12	9.99	0.00	9.99	11/6/2012	<53	<50	<530	<0.50	<0.50	**0.25 J**	<0.50
B-203	P	11/05/12	96.86	2.89	99.46	--	NS	NS	NS	NS	NS	NS	NS
B-204-85	P	11/05/12	139.90	0.00	139.90	11/7/2012	<50	<50	<500	<0.50	<0.50	<0.50	<0.50
B-204-150	P	11/05/12	71.86	0.00	71.86	11/7/2012	**29 J**	<50	<500	<0.50	<0.50	<0.50	<0.50
B-205-90	O	11/05/12	148.91	0.00	148.91	11/7/2012	**75**	<50	<530	<0.50	<0.50	<0.50	<0.50
B-205-120	O	11/05/12	133.96	0.00	133.96	11/7/2012	**42 J**	<50	<540	<0.50	<0.50	<0.50	<0.50
B-206	P/O	11/05/12	122.50	Sheen	122.50	--	NS	NS	NS	NS	NS	NS	NS
B-207	O	11/05/12	38.72	Sheen	38.72	--	NS	NS	NS	NS	NS	NS	NS
B-208	P	11/05/12	100.60	0.00	100.60	11/6/2012	**160**	<50	**280 J**	<0.50	<0.50	**0.27 J**	<0.50
B-209	P	11/05/12	27.13	0.00	27.13	11/6/2012	<52	<50	<520	<0.50	<0.50	<0.50	<0.50
B-210	P	11/05/12	32.28	0.00	32.28	11/6/2012	**26 J**	<50	<520	<0.50	<0.50	<0.50	<0.50
B-211	P	11/05/12	4.43	0.00	4.43	11/6/2012	**32 J**	<50	<500	<0.50	<0.50	<0.50	<0.50
B-212	P	11/05/12	3.53	0.00	3.53	11/6/2012	<50	<50	<500	<0.50	<0.50	<0.50	<0.50
B-213-50	P	11/05/12	170.54	0.00	170.54	--	NS	NS	NS	NS	NS	NS	NS
B-213-80	P	11/05/12	DRY	0.00	DRY	--	NS	NS	NS	NS	NS	NS	NS
B-215	O	11/05/12	DRY	--	DRY	--	NS	NS	NS	NS	NS	NS	NS
B-216	O	11/05/12	33.98	0.00	33.98	11/8/2012	**130**	**150**	<520	<0.50	<0.50	<0.50	<0.50
DUP-2**	--	--	--	--	--	11/8/2012	**130**	**160**	<530	<0.50	<0.50	<0.50	<0.50
B-217	O	11/05/12	30.25	0.00	30.25	11/8/2012	**32 J**	**76**	<520	<0.50	<0.50	<0.50	<0.50
B-223-48	O	11/05/12	40.94	0.00	40.94	--	NS	NS	NS	NS	NS	NS	NS
B-223-88	O	11/05/12	8.14	0.00	8.14	11/9/2012	**160**	**1,600**	<520	**130**	**8.3**	**15**	**11**
B-224	O	11/05/12	14.85	0.00	14.85	11/8/2012	**980**	**110**	**930**	<0.50	<0.50	<0.50	<0.50
B-225	O	11/05/12	19.49	0.00	19.49	11/9/2012	**41 J**	**23 J**	<500	<0.50	<0.50	<0.50	<0.50
B-226	O	11/05/12	13.25	0.00	13.25	11/9/2012	**48 J**	**950**	<520	**15**	**44**	**5.3**	**33**
DUP-4**	--	--	--	--	--	11/9/2012	**47 J**	**860**	<500	**13**	**36**	**4.3**	**26**
B-230	O	11/05/12	3.88	0.11	3.96	--	NS	NS	NS	NS	NS	NS	NS
B-231	O	11/05/12	6.50	0.00	6.50	11/9/2012	**1,100**	**8,100**	**220 J**	**2,700**	**48**	**65**	**85**
GMW-14	P	11/05/12	53.28	0.00	53.28	11/6/2012	<50	<50	<500	<0.50	<0.50	<0.50	<0.50
GMW-15	O	11/05/12	56.62	0.00	56.62	11/6/2012	**22 J**	<50	<500	<0.50	<0.50	<0.50	<0.50
GMW-16	O	11/05/12	53.66	0.00	53.66	11/6/2012	**25 J**	**110**	<510	<0.50	<0.50	<0.50	<0.50
SP-1	P	11/05/12	54.21	0.00	54.21	11/6/2012	<51	<50	<510	<0.50	<0.50	**0.25 J**	<0.50
SP-2	O	11/05/12	43.79	Sheen	43.79	--	NS	NS	NS	NS	NS	NS	NS
SP-6	P/O	11/05/12	101.79	Sheen	101.79	--	NS	NS	NS	NS	NS	NS	NS
SP-7A	P	11/05/12	103.17	0.00	103.17	11/6/2012	**250**	**56**	<530	<0.50	<0.50	**0.32 J**	<0.50
SP-9	O	11/05/12	120.85	0.00	120.85	11/7/2012	**160**	**150**	<500	<0.50	<0.50	<0.50	<0.50
EB-1	--	--	--	--	--	11/8/2012	<50	**25 J**	<500	<0.50	<0.50	<0.50	<0.50
EB-2	--	--	--	--	--	11/8/2012	<52	<50	<520	<0.50	<0.50	<0.50	<0.50

Notes:
ft. MSL = feet above mean sea level
Unit Abbreviations: A = Alluvium, C = Colluvium, O = Obispo Formation, P = Pismo Formation
LNAPL = Light non-aqueous phase liquid
µg/L = Micrograms per liter
NS = Not sampled
NA = Not chemically analyzed
<50 = Not Detected Above Reporting Limit
* = Duplicate of B-197
** = Duplicate of B-216
*** = Duplicate of B-57-20
**** = Duplicate of B-226
J = estimated value; results are less than the method reporting limit and above the method detection limit

Table 3
Summary of Groundwater Analytical Results
Selected Volatile Organic Compounds (VOCs)
Third Quarter 2012
Former Unocal Terminal, Avila Beach, CA

Well Name	Date Collected	Bromochloromethane (ug/L)	Bromoform (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon tetrachloride (ug/L)	Chloroform (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	1,1-Dichloroethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	t-Butyl Alcohol (ug/L)	Methyl tert-Butyl Ether (ug/L)	Acetone (ug/L)	1,2-Dichloroethane (ug/L)
B-37-70	9/18/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	NA	<0.50
B-167-56	9/18/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	NA	<0.50
B-167-95	9/19/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	NA	<0.50
B-190	9/18/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**4.8 J**	**2.1**	NA	<0.50
B-201	9/17/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	NA	<0.50
B-210	9/17/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.30 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	NA	<0.50
B-216	9/18/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**95**	**2**	NA	**0.72**
B-217	9/18/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.28 J**	<0.50	<0.50	<0.50	<10	<0.50	NA	<0.50
B-223-88	9/18/2012	<0.50	<0.50	<0.50	**1.1**	**0.52**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**3.6**	<0.50	**0.75**	**2.2**	**3.3**	**0.44 J**	**990**	<0.50	NA	<0.50
B-224	9/19/2012	<0.50	<0.50	<0.50	**0.41 J**	**0.62**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.2**	<0.50	**0.28 J**	**0.31 J**	<0.50	<0.50	**18**	**51**	NA	**0.27 J**
B-225	9/18/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.66**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**8.4 J**	<0.50	NA	<0.50
B-226	9/19/2012	<0.50	<0.50	**1.2**	**2.9**	**0.43 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**21**	**5.5**	**15**	**18**	**68**	**0.40 J**	**12**	<0.50	NA	<0.50
B-230	9/19/2012	<2.5	<2.5	**6.4**	**6.8**	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	**77**	**13**	**230**	**79**	**50**	**180**	<50	<2.5	NA	**26**
B-231	9/19/2012	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**12**	<10	**53**	**9.0 J**	**120**	**8.0 J**	**4,300**	<10	**NA**	<10
DUP*	9/19/2012	<0.50	<0.50	**1.2**	**2.8**	**0.46 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**21**	**5.5**	**16**	**18**	**81**	**0.47 J**	**12**	<0.50	NA	<0.50
091412-01	9/17/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	NA	<0.50
091412-02	9/17/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	NA	<0.50

Notes:
µg/L = Micrograms per liter
<0.5 = Not Detected Above Reporting Limit
* = Duplicate Sample of B-226
NA = not analyzed
J = estimated value; results are less than the method reporting limit and above the method detection limit

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Table 4
Summary of Groundwater Analytical Results
Polycyclic Aromatic Hydrocarbon (PAH) Concentrations
Third Quarter 2012
Former Unocal Terminal, Avila Beach, CA

Well Name	Date Collected	Acenaphthene	Acenaphthylene	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Chrysene	Dibenzo[a,h]anthracene	Fluoranthene	Fluorene	Indeno[1,2,3-cd]pyrene	1-Methylnaphthalene	2-Methylnapthalene	Naphthalene	Phenanthrene	Pyrene
B-223-88	9/18/12	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**NA**	**NA**	**0.3**	<0.10	<0.10
B-224	9/19/12	<0.10	**0.062 J**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**NA**	**NA**	<0.10	<0.10	<0.10
B-225	9/18/12	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**NA**	**NA**	<0.10	<0.10	<0.10
B-226	9/19/12	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**NA**	**NA**	**8.5**	<0.10	<0.10
B-230	9/19/12	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.073 J**	<0.10	**NA**	**NA**	**230**	<0.10	<0.10
B-231	9/19/12	<0.10	**0.1**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.061 J**	<0.10	**NA**	**NA**	**63**	<0.10	<0.10
DUP*	9/19/12	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**NA**	**NA**	**6.8**	<0.11	<0.11

Notes:
<0.11 = Not Detected Above Reporting Limit
Results in micrograms per liter (µg/L)
* = Duplicate Sample of B-226
J = estimated value; results are less than the method reporting limit and above the method detection limit

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Table 5
Summary of Groundwater Analytical Results
Dissolved Metals
Third Quarter 2012
Former Unocal Terminal, Avila Beach, CA

Well Name	Date Collected	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
B-37-70	9/18/2012	<0.025	<0.025	**0.034**	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.000200	**0.016**	**0.0031 J**	**0.0091 J**	<0.005	<0.002	<0.025	<0.025
B-167-95	9/19/2012	<0.025	**0.016 J**	**0.15**	<0.005	<0.005	**0.006 J**	<0.005	<0.005	<0.005	<0.000200	**0.044**	**0.043**	**0.021**	<0.005	<0.002	<0.025	**0.039**
B-210	9/17/2012	<0.025	<0.025	**0.009**	<0.005	<0.005	**0.0092 J**	<0.005	<0.005	<0.005	<0.000200	**0.018**	**0.041**	**0.0056 J**	<0.005	<0.002	**0.018 J**	<0.025
B-223-88	9/18/2012	<0.025	<0.025	**0.053**	<0.005	<0.005	**0.0071 J**	**0.005**	<0.005	<0.005	<0.000200	<0.005	**0.0048 J**	**0.024**	<0.005	<0.002	<0.025	**0.014 J**
B-224	9/19/2012	<0.025	**0.16**	**0.100**	<0.005	<0.005	<0.010	**0.0037 J**	<0.005	<0.005	<0.000200	**0.019**	**0.024**	**0.018**	<0.005	<0.002	<0.025	<0.025
B-225	9/18/2012	<0.025	**0.09**	**0.059**	<0.005	<0.005	<0.010	**0.0029 J**	<0.005	<0.005	<0.000200	**0.077**	**0.0047 J**	**0.015**	<0.005	<0.002	<0.025	<0.025
B-226	9/19/2012	<0.025	<0.025	**0.048**	<0.005	<0.005	**0.0064 J**	**0.0036 J**	**0.0048 J**	<0.005	<0.000200	<0.005	**0.0026 J**	**0.011**	<0.005	<0.002	<0.025	<0.025
B-230	9/19/2012	<0.025	<0.025	**0.032**	**0.011**	**0.0099**	**0.0079 J**	**0.12**	**0.014**	**0.063**	<0.000200	<0.005	**0.15**	**0.025**	<0.005	<0.002	<0.025	**1.4**
B-231	9/19/2012	<0.025	**0.013 J**	**0.170**	<0.005	<0.005	<0.010	**0.0044 J**	<0.005	<0.005	<0.000200	<0.005	**0.008**	**0.039**	<0.005	<0.002	<0.025	<0.025
DUP*	9/19/2012	<0.025	<0.025	**0.044**	<0.005	<0.005	<0.010	**0.0032 J**	**0.0040 J**	<0.005	<0.000200	<0.005	<0.005	**0.012**	<0.005	<0.002	<0.025	<0.025

Notes:
Results in milligrams per liter (mg/L)
<0.05 = Not Detected Above Reporting Limit
NS = Not Sampled
NA = Not Analyzed
* = Duplicate Sample of B-226
J = estimated value; results are less than the method reporting limit and above the method detection limit

Table 6
Summary of Groundwater Analytical Results
Volatile Organic Compounds
Fourth Quarter 2012
Former Unocal Terminal, Avila Beach, CA

Well Name	Date Collected	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Chlorotoluene	4-Chlorotoluene	4-Isopropyl Toluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane
B-35-45R	11/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-35-70	11/8/2012	<0.50	<0.50	<0.50	<0.50	**0.79**	<0.50	<0.50	<0.50	<0.50	<0.50	**2.3**	<1.0	<0.50	<0.50	<0.50	<0.50	**2.3**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.33 J**	**190**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-37-70	11/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.47 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-57-20	11/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-57-65	11/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	**0.66**	**0.37 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-149	11/7/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-153	11/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-167-56	11/9/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-167-95	11/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-183	11/7/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-184	11/6/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-185	11/6/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-190	11/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-191	11/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-195	11/7/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-197	11/7/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-200	11/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-208	11/6/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-210	11/6/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.29 J**	<0.50	<0.50	<0.50	<0.50	<0.50
B-216	11/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	**0.57**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-217	11/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-223-88	11/9/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**3.7**	<1.0	<0.50	<0.50	<0.50	<0.50	**0.47 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**130**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-224	11/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-225	11/9/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.43 J**	<0.50	<0.50	<0.50	<0.50	<0.50
B-226	11/9/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**80**	<1.0	<0.50	<0.50	<0.50	<0.50	**0.34 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**4.3**	**15**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-231	11/9/2012	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**43**	<20	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**2700**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
SP-9	11/7/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DUP-1	11/7/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DUP-2	11/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	**0.54**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DUP-3	11/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	**0.37 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DUP-4	11/9/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**86**	<1.0	<0.50	<0.50	<0.50	<0.50	**0.26 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**3.4**	**13**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
EB-1	11/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
EB-2	11/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Table 6
Summary of Groundwater Analytical Results
Volatile Organic Compounds
Fourth Quarter 2012
Former Unocal Terminal, Avila Beach, CA

Well Name	Date Collected	Ethylbenzene	Hexachlorobutadiene	Isopropylbenzene	Methylene chloride	Methyl-t-butyl ether	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	t-Butyl alcohol	tert-Butylbenzene	Tetrachloroethene (PCE)	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene (TCE)	Trichlorofluoromethane	Vinyl chloride	Xylenes (total)
B-35-45R	11/8/2012	<0.50	<0.50	<0.50	<1.0	**2.5**	**0.34 J**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-35-70	11/8/2012	**17**	<0.50	**13**	**0.76 J**	**3.2**	**28**	**0.59**	**4.3**	**2.8**	<0.50	**45**	**0.40 J**	<0.50	**0.34 J**	<0.50	<0.50	<0.50	<0.50	<0.50	**15**
B-37-70	11/8/2012	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-57-20	11/8/2012	<0.50	<0.50	**13**	<1.0	<0.50	<0.50	**0.94**	**8.3**	**3.5**	<0.50	**11**	**0.64**	<0.50	**0.49 J**	<0.50	<0.50	<0.50	<0.50	<0.50	**0.38 J**
B-57-65	11/8/2012	<0.50	<0.50	<0.50	<1.0	**1.2**	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-149	11/7/2012	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-153	11/8/2012	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-167-56	11/9/2012	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-167-95	11/8/2012	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-183	11/7/2012	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	**0.61**	<0.50	NA	**1.0**	<0.50	**0.27 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-184	11/6/2012	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-185	11/6/2012	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	<0.50	<0.50	NA	**1.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-190	11/8/2012	<0.50	<0.50	<0.50	<1.0	**2.3**	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-191	11/8/2012	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-195	11/7/2012	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-197	11/7/2012	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-200	11/8/2012	<0.50	<0.50	<0.50	<1.0	**0.92**	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-208	11/6/2012	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	**0.27 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-210	11/6/2012	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-216	11/8/2012	<0.50	<0.50	<0.50	<1.0	**2.2**	<0.50	<0.50	<0.50	<0.50	<0.50	**100**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-217	11/8/2012	<0.50	<0.50	<0.50	<1.0	<0.50	**0.41 J**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-223-88	11/9/2012	**8.3**	<0.50	**3.7**	<1.0	<0.50	**0.77**	<0.50	**2.0**	**0.89**	<0.50	**1100**	**0.43 J**	<0.50	**15**	<0.50	<0.50	<0.50	<0.50	<0.50	**11**
B-224	11/8/2012	<0.50	<0.50	**0.69**	<1.0	**53**	<0.50	<0.50	<0.50	<0.50	<0.50	**18**	**0.40 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-225	11/9/2012	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
B-226	11/9/2012	**44**	<0.50	**15**	<1.0	<0.50	**10**	**0.90**	**13**	**2.1**	<0.50	**14**	**0.34 J**	<0.50	**5.3**	<0.50	<0.50	<0.50	<0.50	<0.50	**33**
B-231	11/9/2012	**48**	<10	<10	<20	<10	**30**	<10	<10	<10	<10	**5200**	<10	<10	**65**	<10	<10	<10	<10	<10	**85**
SP-9	11/7/2012	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	**0.37 J**	<0.50	NA	**0.25 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DUP-1	11/7/2012	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DUP-2	11/8/2012	<0.50	<0.50	<0.50	<1.0	2.1	<0.50	<0.50	<0.50	<0.50	<0.50	95	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DUP-3	11/8/2012	<0.50	<0.50	**12**	<1.0	<0.50	<0.50	**0.87**	**7.9**	**3.3**	<0.50	**10**	**0.59**	<0.50	**0.34 J**	<0.50	<0.50	<0.50	<0.50	<0.50	**0.34 J**
DUP-4	11/9/2012	**36**	<0.50	**12**	<1.0	<0.50	**8.2**	**0.71**	**10**	**1.7**	<0.50	**12**	**0.27 J**	<0.50	**4.3**	<0.50	<0.50	<0.50	<0.50	<0.50	**26**
EB-1	11/8/2012	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
EB-2	11/8/2012	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Notes:
All results in micrograms per liter (µg/L)
<0.50 = Not Detected Above Reporting Limit
NA = Not analyzed
DUP-1 = Duplicate of B-197
DUP-2 = Duplicate of B-216
DUP-3 = Duplicate of B-57-20
DUP-4 = Duplicate of B-226
J = estimated value; results are less than the method reporting limit and above the method detection limit

Table 7
Summary of Groundwater Analytical Results
Polycyclic Aromatic Hydrocarbon (PAH)
Fourth Quarter 2012
Former Unocal Terminal, Avila Beach, CA

Well Name	Date Collected	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Dibenz (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Napthalene	Phenanthrene	Pyrene
B-35-45R	11/8/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
B-35-70	11/8/2012	**0.070 J**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.15**	<0.10	**13**	**0.20**	<0.10
B-57-20	11/8/2012	**0.36**	**0.070 J**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.50**	<0.10	**0.46**	**0.050 J**	<0.10
B-153	11/8/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.12**	<0.10	<0.10
B-183	11/7/2012	**0.23**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.62**	<0.10	<0.10
B-184	11/6/2012	**0.061 J**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.092 J**	<0.10	<0.10	<0.10	<0.10
B-185	11/6/2012	**0.25**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.41**	<0.10	<0.10
B-195	11/7/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
B-197	11/7/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
B-200	11/8/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
B-216	11/8/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
B-217	11/8/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.083 J**	<0.10	<0.10
B-223-88	11/9/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.27**	<0.10	<0.10
B-224	11/8/2012	<0.10	**0.15**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
B-225	11/9/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
B-226	11/9/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**7.5**	<0.10	<0.10
B-231	11/9/2012	<0.10	**0.092 J**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**24**	**0.062 J**	<0.10
SP-7A	11/6/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.080 J**	<0.10	<0.10
SP-9	11/7/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.14**	**0.080 J**	<0.10
DUP-1	11/7/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
DUP-2	11/8/2012	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
DUP-3	11/8/2012	**0.34**	**0.071 J**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.49**	<0.10	**0.41**	**0.061 J**	<0.10
DUP-4	11/9/2012	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**9.6**	<1.0	<1.0
EB-1	11/8/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.14**	<0.10	<0.10
EB-2	11/8/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.11**	<0.10	<0.10

Notes:

DUP-1 = Duplicate of B-197
DUP-2 = Duplicate of B-216
DUP-3 = Duplicate of B-57-20
DUP-4 = Duplicate of B-226

<0.11 = Not Detected Above Reporting Limit
Results in micrograms per liter (µg/L)
J = estimated value; results are less than the method reporting limit and above the method detection limit
NA = not analyzed

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Table 8
Summary of Groundwater Analytical Results
Dissolved Metals
Fourth Quarter 2012
Former Unocal Terminal, Avila Beach, CA

Well Name	Date Collected	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
B-35-45R	11/8/2012	<0.025	**0.017 J**	<0.010	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.010	**0.000122 J**	<0.010	<0.0050	<0.010	<0.010	<0.0050	<0.025	<0.025
B-37-70	11/8/2012	<0.025	<0.025	**0.029**	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.010	<0.000200	**0.012**	<0.0050	**0.0064 J**	<0.010	<0.0050	<0.025	<0.025
B-57-20	11/8/2012	<0.010	**0.11**	<0.010	<0.0020	<0.010	**0.0050**	<0.0020	<0.0020	<0.010	<0.000200	**0.032**	**0.0026**	<0.0040	<0.010	<0.0020	<0.010	<0.025
B-139	11/7/2012	<0.025	<0.025	**0.023**	<0.0050	<0.0050	<0.020	**0.0051**	<0.0050	<0.0050	<0.000200	**0.069**	**0.066**	<0.020	<0.0050	<0.0020	<0.025	<0.050
B-149	11/7/2012	<0.025	<0.025	<0.010	<0.0050	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.000200	**0.012**	**0.035**	<0.020	<0.0050	<0.0020	<0.025	<0.050
B-167-95	11/8/2012	<0.025	**0.014 J**	**0.15**	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.010	<0.000200	**0.039**	**0.036**	**0.016**	<0.010	<0.0050	<0.025	**0.039**
B-185	11/6/2012	<0.025	<0.025	<0.010	<0.0050	<0.0050	**0.012 J**	<0.0050	<0.0050	<0.0050	<0.000200	<0.0050	<0.0050	<0.020	<0.0050	<0.0020	<0.025	**0.027 J**
B-192	11/6/2012	<0.025	<0.025	**0.012**	<0.0050	**0.012**	<0.020	**0.011**	<0.0050	<0.0050	<0.000200	<0.0050	**0.22**	<0.020	<0.0050	<0.0020	<0.025	<0.050
B-193	11/6/2012	<0.025	<0.025	**0.0094 J**	<0.0050	**0.0095**	<0.020	<0.0050	**0.0049 J**	<0.0050	<0.000200	**0.046**	**0.26**	<0.020	<0.0050	<0.0020	<0.025	**0.043 J**
B-195	11/7/2012	<0.025	<0.025	<0.010	<0.0050	**0.0084**	**0.016 J**	**0.011**	**0.0046 J**	<0.0050	<0.000200	<0.0050	**0.041**	<0.020	<0.0050	<0.0020	<0.025	**0.034 J**
B-197	11/7/2012	<0.025	<0.025	**0.0089 J**	<0.0050	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.000200	<0.0050	<0.0050	<0.020	<0.0050	<0.0020	<0.025	<0.050
B-204-85	11/7/2012	<0.025	<0.025	**0.038**	<0.0050	**0.0067**	<0.020	<0.0050	<0.0050	<0.0050	<0.000200	<0.0050	**0.079**	**0.013 J**	<0.0050	<0.0020	<0.025	<0.050
B-205-120	11/7/2012	<0.025	<0.025	**0.019**	<0.0050	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.000200	**0.049**	**0.31**	<0.020	<0.0050	<0.0020	<0.025	<0.050
B-209	11/6/2012	<0.025	**0.011 J**	**0.027**	<0.0050	**0.013**	<0.020	<0.0050	<0.0050	<0.0050	<0.000200	**0.020**	**0.11**	<0.020	<0.0050	<0.0020	<0.025	<0.050
B-210	11/6/2012	<0.025	<0.025	**0.0085 J**	<0.0050	<0.0050	**0.012 J**	<0.0050	<0.0050	<0.0050	**0.000102 J**	**0.016**	**0.041**	<0.020	<0.0050	<0.0020	<0.025	<0.050
B-216	11/8/2012	<0.010	<0.010	**0.041**	<0.0020	<0.010	**0.0026 J**	<0.0020	**0.0019 J**	<0.010	<0.000200	<0.010	**0.0028**	**0.0074**	<0.010	<0.0020	<0.010	<0.025
B-217	11/8/2012	<0.010	<0.010	**0.051**	<0.0020	<0.010	**0.0023 J**	<0.0020	**0.0025**	<0.010	<0.000200	<0.010	**0.0040**	**0.0052**	<0.010	<0.0020	<0.010	<0.025
B-223-88	11/9/2012	<0.025	<0.025	**0.043**	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.010	<0.000200	<0.010	<0.0050	**0.014**	<0.010	<0.0050	<0.025	<0.025
B-224	11/8/2012	<0.025	**0.16**	**0.11**	<0.0050	<0.010	**0.0056 J**	<0.0050	<0.0050	<0.010	<0.000200	**0.018**	**0.020**	**0.016**	<0.010	<0.0050	<0.025	<0.025
B-225	11/9/2012	<0.025	**0.086**	**0.064**	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.010	<0.000200	**0.074**	**0.0034 J**	**0.012**	<0.010	<0.0050	<0.025	<0.025
B-226	11/9/2012	<0.025	<0.025	**0.047**	<0.0050	<0.010	<0.010	<0.0050	**0.0041 J**	<0.010	<0.000200	<0.010	<0.0050	**0.0094 J**	<0.010	<0.0050	<0.025	<0.025
B-231	11/9/2012	<0.025	<0.025	**0.18**	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.010	<0.000200	<0.010	<0.0050	**0.0076 J**	<0.010	<0.0050	<0.025	<0.025
DUP-1	11/7/2012	<0.025	<0.025	**0.0095 J**	<0.0050	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.000200	<0.0050	<0.0050	<0.020	<0.0050	<0.0020	<0.025	<0.050
DUP-2	11/8/2012	<0.010	<0.010	**0.040**	<0.0020	<0.010	**0.0034 J**	<0.0020	**0.0020**	<0.010	<0.000200	<0.010	**0.0032**	**0.0076**	<0.010	<0.0020	<0.010	<0.025
DUP-3	11/8/2012	<0.010	**0.11**	<0.010	<0.0020	<0.010	**0.0056**	<0.0020	<0.0020	<0.010	<0.000200	**0.032**	**0.0029**	<0.0040	<0.010	<0.0020	<0.010	<0.025
DUP-4	11/9/2012	<0.025	<0.025	**0.049**	<0.0050	<0.010	**0.0076 J**	<0.0050	<0.0050	<0.010	<0.000200	<0.010	**0.0057**	**0.030**	<0.010	<0.0050	<0.025	<0.025
EB-1	11/8/2012	<0.010	<0.010	**0.0098 J**	<0.0020	<0.010	**0.0032 J**	<0.0020	<0.0020	<0.010	<0.000200	<0.010	**0.0011 J**	<0.0040	<0.010	<0.0020	<0.010	<0.025
EB-2	11/8/2012	<0.010	<0.010	**0.011**	<0.0020	<0.010	**0.0032 J**	<0.0020	<0.0020	<0.010	<0.000200	<0.010	**0.0016 J**	<0.0040	<0.010	<0.0020	<0.010	<0.025

Notes:
Results in milligrams per liter (mg/L)
<0.005 = Not Detected Above Reporting Limit
DUP-1 = Duplicate of B-197
DUP-2 = Duplicate of B-216
DUP-3 = Duplicate of B-57-20
DUP-4 = Duplicate of B-226
J = estimated value; results are above the method detection limit and below the method reporting limit

Table 9
Cliff Spring Field Inspection Data
2S12
Former Unocal Terminal, Avila Beach, CA

Location ID	Date Measured	Estimated Flow (gpm)	Sample Collected	Sample ID	Comments
A	07/20/12	0.02	N	- -	No hydrocarbon odor or sheen; 15' x 15' wet area on cliff face; ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
	08/23/12	0.05	N	- -	No hydrocarbon odor or sheen; 16' x 14' wet area on cliff face; ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
	09/21/12	0.10	N	- -	No hydrocarbon odor or sheen; 20' x 20' wet area on cliff face; ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
	10/26/12	- -	N	- -	No hydrocarbon odor or sheen; 9' x 17' wet area on cliff face; abundant vegetation; slight sulfur odor; insufficient flow to collect sample.
	11/09/12	0.05	N	- -	No hydrocarbon odor or sheen; 15' x 15' wet area on cliff face; ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
	12/21/12	0.04	N	- -	No hydrocarbon odor or sheen; 10' x 15' wet area on cliff face; no ponded water; vegetation; insufficient flow to collect sample.
B	07/20/12	- -	N	- -	No hydrocarbon odor or sheen; 3' x 4' moist area on cliff face; vegetation; no drips; no sample collected.
	08/23/12	- -	N	- -	No hydrocarbon odor or sheen; 2' x 6' damp area on cliff face; vegetation; no drips; no sample collected.
	09/21/12	- -	N	- -	No hydrocarbon odor or sheen; 8' x 8' damp area on cliff face; vegetation; no drips; no sample collected.
	10/26/12	- -	N	- -	No hydrocarbon odor or sheen; 5' x 10' damp area on cliff face; vegetation; no drips; no sample collected.
	11/09/12	- -	N	- -	No hydrocarbon odor or sheen; 2' x 5' damp area on cliff face; vegetation; no drips; no sample collected.
	12/21/12	- -	N	- -	No hydrocarbon odor or sheen; 2' x 4' damp area on cliff face; vegetation; no drips; no sample collected.
C	07/20/12	0.01	N	- -	No hydrocarbon odor or sheen; 12' x 8' moist area on cliff face;ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
	08/23/12	0.02	N	- -	No hydrocarbon odor or sheen; 7' x 4' wet area on cliff face;ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
	09/21/12	0.05	N	- -	No hydrocarbon odor or sheen; 18' x 10' wet area on cliff face; ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
	10/26/12	- -	N	- -	No hydrocarbon odor or sheen; 4' x 8' wet area on cliff face; ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
	11/09/12	- -	N	- -	No hydrocarbon odor or sheen; 5' x 5' wet area on cliff face; ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
	12/21/12	- -	N	- -	No hydrocarbon odor or sheen; 10' x 6' wet area on cliff face; ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
D	07/20/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
	08/23/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
	09/21/12	- -	N	- -	Unable to access location due to incoming tide
	10/26/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
	11/09/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
	12/21/12	- -	N	- -	Unable to access location due to incoming tide
E	07/20/12	0.01	N	- -	No hydrocarbon odor or sheen; 8' x 10' wet area on cliff face;ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
	08/23/12	- -	N	- -	No hydrocarbon odor or sheen; 6' x 8' wet area on cliff face; tall vegetation; no drips; insufficient flow to collect sample.
	09/21/12	- -	N	- -	No hydrocarbon odor or sheen; 15' x 10' wet area on cliff face; tall vegetation; no drips; ponded water at toe; insufficient flow to sample.
	10/26/12	- -	N	- -	No hydrocarbon odor or sheen; 6' x 8' wet area on cliff face; tall vegetation; ponded water at toe of cliff; insufficient flow to collect sample.
	11/09/12	- -	N	- -	No hydrocarbon odor or sheen; 4' x 4' damp area on cliff face; tall vegetation; insufficient flow to collect sample
	12/21/12	- -	N	- -	No hydrocarbon odor or sheen; 2' x 4' damp area on cliff face; tall vegetation; no drips; no sample collected.

Table 9
Cliff Spring Field Inspection Data
2S12
Former Unocal Terminal, Avila Beach, CA

Location ID	Date Measured	Estimated Flow (gpm)	Sample Collected	Sample ID	Comments
F	07/20/12	- -	N	- -	No hydrocarbon odor or sheen; spring location covered by rock fall.
	08/23/12	- -	N	- -	No hydrocarbon odor or sheen; spring location covered by rock fall.
	09/21/12	- -	N	- -	No hydrocarbon odor or sheen; spring location covered by rock fall.
	10/26/12	- -	N	- -	No hydrocarbon odor or sheen; spring location covered by rock fall.
	11/09/12	- -	N	- -	No hydrocarbon odor or sheen; spring location covered by rock fall.
	12/21/12	- -	N	- -	No hydrocarbon odor or sheen; spring location covered by rock fall.
G	07/20/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
	08/23/12	- -	N	- -	No hydrocarbon odor or sheen; location mostly covered by rock fall; location is dry.
	09/21/12	- -	N	- -	No hydrocarbon odor or sheen; location covered by rock fall.
	10/26/12	- -	N	- -	No hydrocarbon odor or sheen; location mostly covered by rock fall; location is dry.
	11/09/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
	12/21/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
H	07/20/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
	08/23/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
	09/21/12	- -	N	- -	No hydrocarbon odor or sheen; location covered by rock fall.
	10/26/12	- -	N	- -	No hydrocarbon odor or sheen; yellow sulfur like deposits at location; location is dry.
	11/09/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
	12/21/12	- -	N	- -	No hydrocarbon odor or sheen; location covered by rock fall.

Notes:
gpm = gallons per minute

Table 10
Intertidal Zone Field Inspection Data
2S12
Former Unocal Terminal, Avila Beach, CA

Location ID	Date	Hydrocarbon Sheen	Hydrocarbon Odor
IZ-1	7/5/2012	No	No
IZ-1	7/6/2012	No	No
IZ-1	7/19/2012	No	No
IZ-1	7/20/2012	No	No
IZ-1	8/2/2012	No	No
IZ-1	10/15/2012	No	No
IZ-1	10/16/2012	No	No
IZ-1	11/12/2012	No	No
IZ-1	11/13/2012	No	No
IZ-1	12/10/2012	No	No
IZ-1	12/11/2012	No	No
IZ-2	7/5/2012	No	No
IZ-2	7/6/2012	No	No
IZ-2	7/19/2012	No	No
IZ-2	7/20/2012	No	No
IZ-2	8/2/2012	No	No
IZ-2	10/15/2012	No	No
IZ-2	10/16/2012	No	No
IZ-2	11/12/2012	No	No
IZ-2	11/13/2012	No	No
IZ-2	12/10/2012	No	No
IZ-2	12/11/2012	No	No
IZ-3	7/5/2012	No	Yes
IZ-3	7/6/2012	No	Yes
IZ-3	7/19/2012	No	Yes
IZ-3	7/20/2012	No	Yes
IZ-3	8/2/2012	No	Yes
IZ-3	10/15/2012	Yes	Yes
IZ-3	10/16/2012	Yes	Yes
IZ-3	11/12/2012	No	Yes
IZ-3	11/13/2012	No	Yes
IZ-3	12/10/2012	No	Yes
IZ-3	12/11/2012	Yes	Yes

Table 11
Summary of Intertidal Zone Water Sample Results
TPH, VOCs, PAHs, and Lead
Former Unocal Terminal, Avila Beach, CA

Sample ID	Sample Date	TPH					VOCs																										
		TPH Gasoline (C4-C10)	TPH Diesel (C10-C25)	TPH Diesel (C10-C25) (SGC)	TPH Oil Crude (C25-C40)	TPH Oil Crude (C25-C40) (SGC)	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromo-3-Chloropropane (504)	1,2-Dibromoethane (EDB)	1,2-Dibromoethane (EDB) (504)	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Chlorotoluene	4-Chlorotoluene	4-Isopropyl Toluene
IZ-3	10/15/2012	**730**	**140**	**130**	**1200**	**1300**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**3.5**	<1.0	<0.010	<0.50	**0.099**	<0.50	**6.8**	<0.50	**0.67**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
IZ-3	10/16/2012	**82**	<52	NA	<520	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.49 J**	<1.0	<0.010	<0.50	**0.036**	<0.50	**1.9**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Table 11
Summary of Intertidal Zone Water Sample Results
TPH, VOCs, PAHs, and Lead
Former Unocal Terminal, Avila Beach, CA

Sample ID	Sample Date	VOCs (Continued)																														
		Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Diisopropyl Ether	Ethanol	Ethyl t-Butyl Ether	Ethylbenzene	Hexachlorobutadiene	Isopropylbenzene	Methylene chloride	Methyl-t-butyl ether	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	t-Amyl Methyl Ether	t-Butyl alcohol
IZ-3	10/15/2012	**110**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.31 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<500	<0.50	**4.5**	<0.50	**3.2**	<1.0	<0.50	**1.6**	<0.50	**1.3**	<0.50	<0.50	<0.50	**450**
IZ-3	10/16/2012	**9.0**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<500	<0.50	**0.53**	<0.50	<0.50	<1.0	<0.50	**0.57**	<0.50	<0.50	<0.50	<0.50	<0.50	**46**

Table 11
Summary of Intertidal Zone Water Sample Results
TPH, VOCs, PAHs, and Lead
Former Unocal Terminal, Avila Beach, CA

Sample ID	Sample Date	VOCs (Continued)									PAHs													
		tert-Butylbenzene	Tetrachloroethene (PCE)	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene (TCE)	Trichlorofluoromethane	Vinyl chloride	Xylenes (total)	1-Methylnaphthalene (8270M)	2-Methylnaphthalene (8270M)	Acenaphthene	Acenaphthene (8270M)	Acenaphthylene	Acenaphthylene (8270M)	Anthracene	Anthracene (8270M)	Benz(a)anthracene	Benz(a)anthracene (8270M)	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene
IZ-3	10/15/2012	<0.50	<0.50	**6.8**	<0.50	<0.50	<0.50	<0.50	<0.50	**13**	<0.05	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	**0.06**	NA	NA	NA	NA
IZ-3	10/16/2012	<0.50	<0.50	**1.5**	<0.50	<0.50	<0.50	<0.50	<0.50	**2.4**	**0.032 J**	**0.038 J**	NA	**0.050**	NA	<0.05	NA	**0.047 J**	NA	<0.05	NA	NA	NA	NA

Table 11
Summary of Intertidal Zone Water Sample Results
TPH, VOCs, PAHs, and Lead
Former Unocal Terminal, Avila Beach, CA

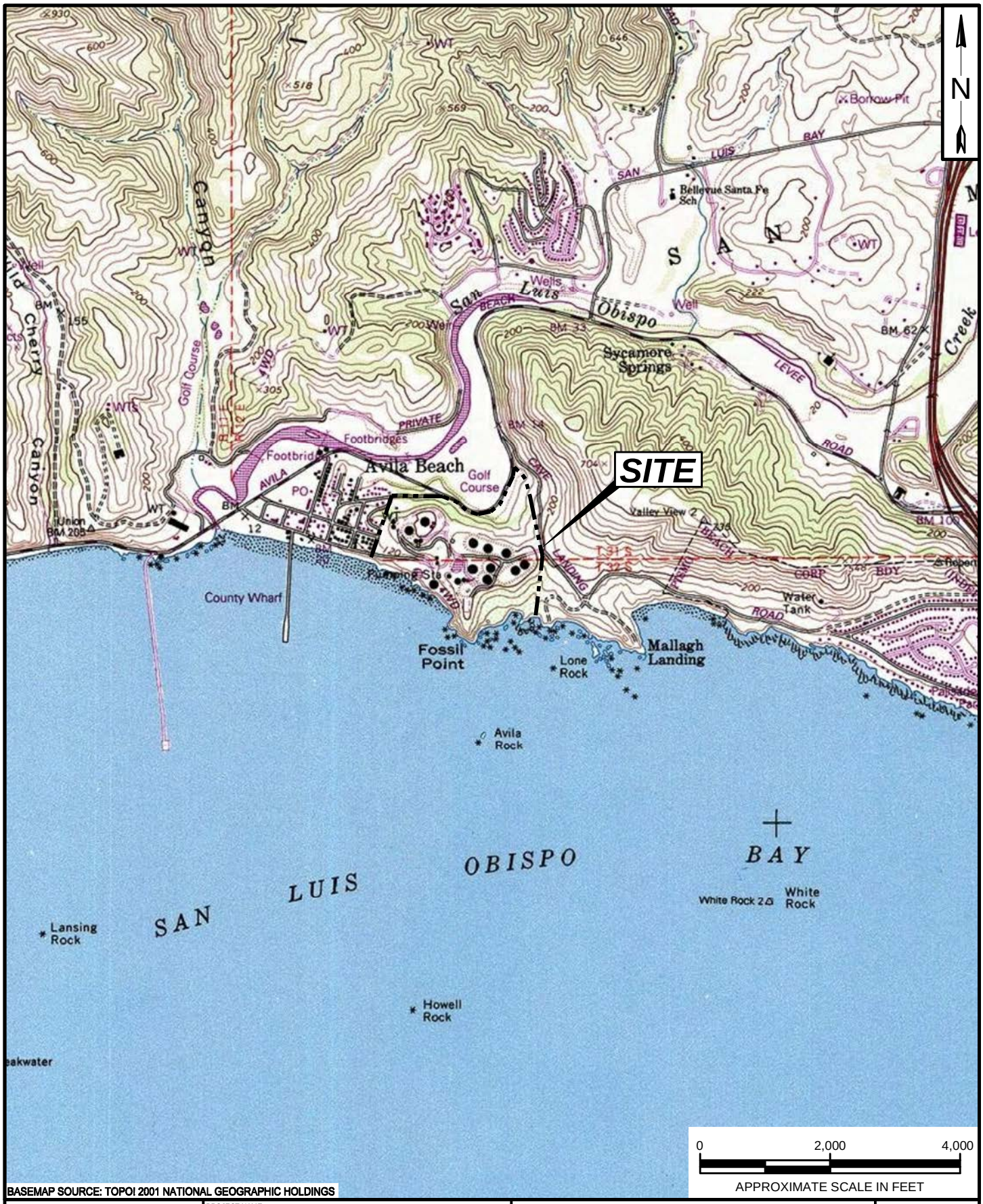
Sample ID	Sample Date	PAHs (Continued)																														
		Benzo(a)pyrene (8270M)	Benzo(b)fluoranthene (8270M)	Benzo(e)pyrene (8270M)	Benzo(g,h,i)perylene (8270M)	Benzo(k)fluoranthene (8270M)	Benzothiophene (8270M)	Biphenyl (8270M)	C1 Benzothiophenes (8270M)	C1 Chrysenes (8270M)	C1 Dibenzothiophenes (8270M)	C1 Fluorenes (8270M)	C1 Phenanthrenes/Anthracenes (8270M)	C1 Pyrenes/Fluoranthenes (8270M)	C2 Benzothiophenes (8270M)	C2 Chrysenes (8270M)	C2 Dibenzothiophenes (8270M)	C2 Fluorenes (8270M)	C2 Naphthalenes (8270M)	C2 Phenanthrenes/Anthracenes (8270M)	C2 Pyrenes/Fluoranthenes (8270M)	C3 Benzothiophenes (8270M)	C3 Chrysenes (8270M)	C3 Dibenzothiophenes (8270M)	C3 Fluorenes (8270M)	C3 Naphthalenes (8270M)	C3 Phenanthrenes/Anthracenes (8270M)	C3 Pyrenes/Fluoranthenes (8270M)	C4 Benzothiophenes (8270M)	C4 Chrysenes (8270M)	C4 Dibenzothiophenes (8270M)	C4 Naphthalenes (8270M)
IZ-3	10/15/2012	<0.05	<0.05	<0.05	<0.05	<0.05	**0.032 J**	<0.05	<0.05	<0.05	<0.05	<0.05	**0.060**	**0.12**	<0.05	<0.05	<0.05	<0.05	<0.05	**0.090**	**0.08**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
IZ-3	10/16/2012	<0.05	<0.05	<0.05	<0.05	<0.05	**0.060**	<0.05	**0.034 J**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Table 11
Summary of Intertidal Zone Water Sample Results
TPH, VOCs, PAHs, and Lead
Former Unocal Terminal, Avila Beach, CA

Sample ID	Sample Date	PAHs (Continued)																			Lead		
		C4 Phenanthrenes/Anthracenes (8270M)	Chrysene	Chrysene (8270M)	Dibenz (a,h) anthracene	Dibenz(a,h)anthracene (8270M)	Dibenzofuran (8270M)	Dibenzothiophene (8270M)	Fluoranthene	Fluoranthene (8270M)	Fluorene	Fluorene (8270M)	Indeno (1,2,3-cd) pyrene	Indeno(1,2,3-c,d)pyrene (8270M)	Naphthalene (8270M)	Napthalene PNA	Perylene (8270M)	Phenanthrene	Phenanthrene (8270M)	Pyrene	Pyrene (8270M)	Lead Dissolved	Lead Total	Organic Lead
IZ-3	10/15/2012	<0.05	NA	**0.045 J**	NA	<0.05	<0.05	<0.05	NA	**0.27**	NA	<0.05	NA	<0.05	**0.090**	NA	<0.05	NA	**0.060**	NA	**0.32**	NA	NA	NA
IZ-3	10/16/2012	<0.05	NA	<0.05	NA	<0.05	<0.05	<0.05	NA	**0.048 J**	NA	**0.045 J**	NA	<0.05	**0.220**	NA	<0.05	NA	**0.070**	NA	**0.039 J**	<5.0	<5.0	<13

Notes:
TPH = total petroleum hydrocarbons
SGC = silica gel cleanup
VOCs = volatile organic compounds. Analyzed by U.S. EPA method 8260 unless noted.
PAHs = polycyclic aromatic hydrocarbons. Analyzed by U.S. EPA method 8270C-SIM unless noted.
<1.0 = not indicated at or above the method reporting limit
All results in micrograms per liter (ug/L)
J = Estimated value; results are less than the method reporting limit and above the method detection limit.
NA = not chemically analyzed

PLATES



BASEMAP SOURCE: TOPO! 2001 NATIONAL GEOGRAPHIC HOLDINGS

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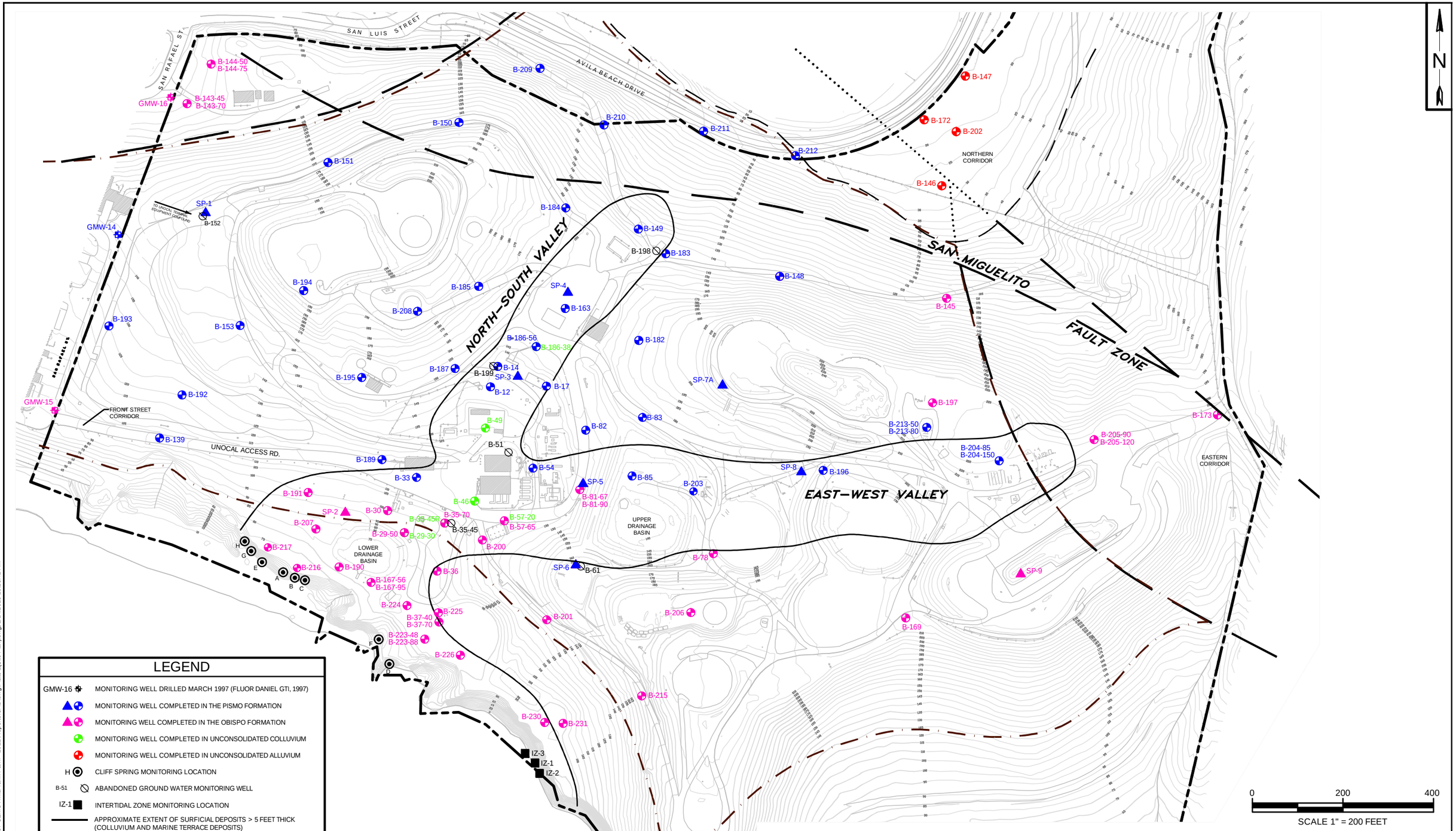
PROJECT NAME:
CEMC
FORMER UNOCAL
AVILA TERMINAL
AVILA BEACH, CA

PROJECT NUMBER: 0801-0898

DATE: January 2013

SITE LOCATION MAP

PLATE
1



LEGEND

- GMW-16 — MONITORING WELL DRILLED MARCH 1997 (FLUOR DANIEL GTI, 1997)
- MONITORING WELL COMPLETED IN THE PISMO FORMATION
- MONITORING WELL COMPLETED IN THE OBISPO FORMATION
- MONITORING WELL COMPLETED IN UNCONSOLIDATED COLLUVIUM
- MONITORING WELL COMPLETED IN UNCONSOLIDATED ALLUVIUM
- H — CLIFF SPRING MONITORING LOCATION
- B-51 — ABANDONED GROUND WATER MONITORING WELL
- IZ-1 — INTERTIDAL ZONE MONITORING LOCATION
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS > 5 FEET THICK (COLLUVIUM AND MARINE TERRACE DEPOSITS)
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS OF ALLUVIUM
- APPROXIMATE EXTENT OF PISMO FORMATION

NOTE:
TOPOGRAPHIC BASE MAP PROVIDED BY CANNON & ASSOCIATES, 02/13/03. DRAWING NO. 010901.03
TOPOGRAPHIC CONTOURS IN 5 FOOT INTERVALS.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

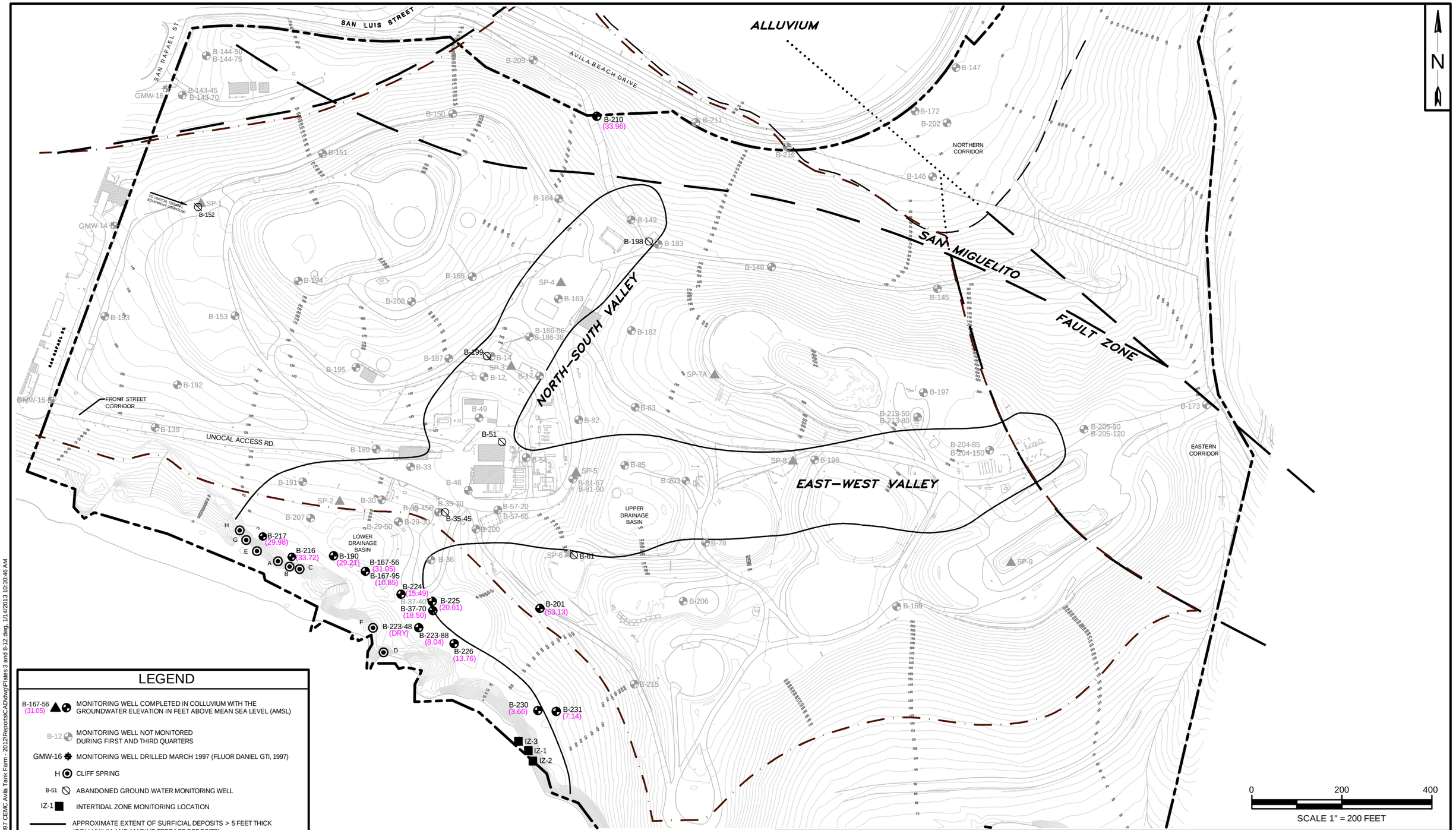
PROJECT NAME:
CEMC
FORMER UNOCAL
AVILA TERMINAL
AVILA BEACH, CA

PROJECT NUMBER: 0801-0898
DATE: January 2013

SITE PLAN

PLATE 2

Z:\Current Projects\0801-0897 CEMC Avila Tank Farm - 2012\Reports\CAD\dwg\Plate 2(Site Plan).dwg, 1/14/2013 10:23:41 AM



LEGEND

- B-167-56 (31.05) — MONITORING WELL COMPLETED IN COLLUVIUM WITH THE GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (AMSL)
- B-12 — MONITORING WELL NOT MONITORED DURING FIRST AND THIRD QUARTERS
- GMW-16 — MONITORING WELL DRILLED MARCH 1997 (FLUOR DANIEL GTI, 1997)
- H — CLIFF SPRING
- B-51 — ABANDONED GROUND WATER MONITORING WELL
- IZ-1 — INTERTIDAL ZONE MONITORING LOCATION
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS > 5 FEET THICK (COLLUVIUM AND MARINE TERRACE DEPOSITS)
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS OF ALLUVIUM
- APPROXIMATE EXTENT OF PISMO FORMATION

NOTE:
TOPOGRAPHIC BASE MAP PROVIDED BY CANNON & ASSOCIATES, 02/13/03. DRAWING NO. 010901.03
TOPOGRAPHIC CONTOURS IN 5 FOOT INTERVALS.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CEMC FORMER UNOCAL AVILA TERMINAL AVILA BEACH, CA

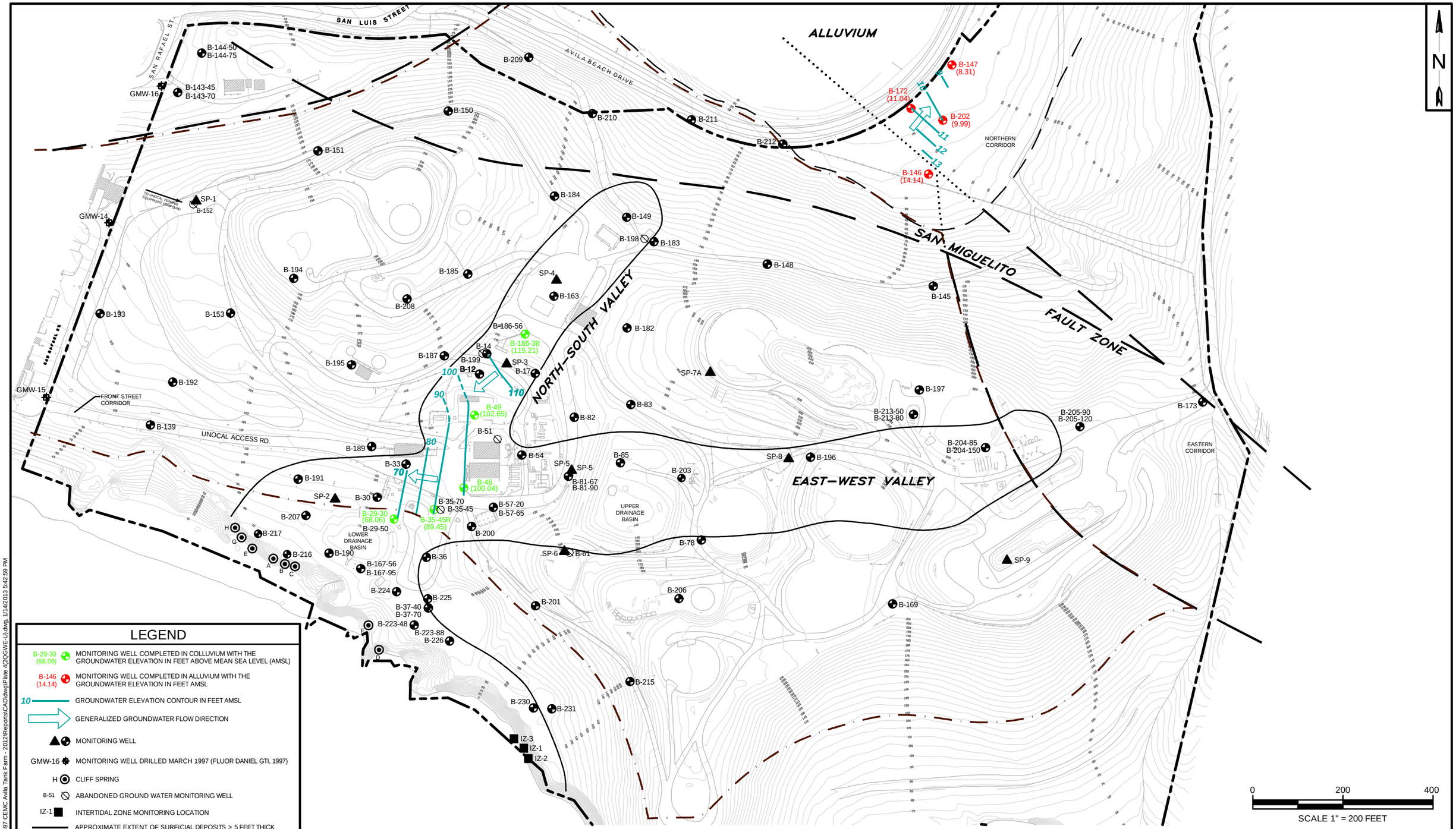
PROJECT NUMBER: 0801-0898

DATE: January 2013

GROUNDWATER ELEVATION MAP OBISPO FORMATION 3Q12

PLATE 3

Z:\Current Projects\0801-0897 CEMC Avila Tank Farm - 2012\Reports\CAD\dwg\Plates 3 and 8-12.dwg, 1/14/2013 10:30:46 AM



LEGEND

- B-29-30 (68.06) — MONITORING WELL COMPLETED IN COLLUVIUM WITH THE GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (AMSL)
- B-146 (14.14) — MONITORING WELL COMPLETED IN ALLUVIUM WITH THE GROUNDWATER ELEVATION IN FEET AMSL
- 10 — GROUNDWATER ELEVATION CONTOUR IN FEET AMSL
- GENERALIZED GROUNDWATER FLOW DIRECTION
- MONITORING WELL
- GMW-16 — MONITORING WELL DRILLED MARCH 1997 (FLUOR DANIEL GTI, 1997)
- H — CLIFF SPRING
- B-51 — ABANDONED GROUND WATER MONITORING WELL
- IZ-1 — INTERTIDAL ZONE MONITORING LOCATION
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS > 5 FEET THICK (COLLUVIUM AND MARINE TERRACE DEPOSITS)
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS OF ALLUVIUM
- APPROXIMATE EXTENT OF PISMO FORMATION

NOTE:
TOPOGRAPHIC BASE MAP PROVIDED BY CANNON & ASSOCIATES, 02/13/03. DRAWING NO. 010901.03
TOPOGRAPHIC CONTOURS IN 5 FOOT INTERVALS.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CEMC FORMER UNOCAL AVILA TERMINAL AVILA BEACH, CA

PROJECT NUMBER: 0801-0898

DATE: January 2013

GROUNDWATER ELEVATION MAP UNCONSOLIDATED SEDIMENTS 4Q12

PLATE 4

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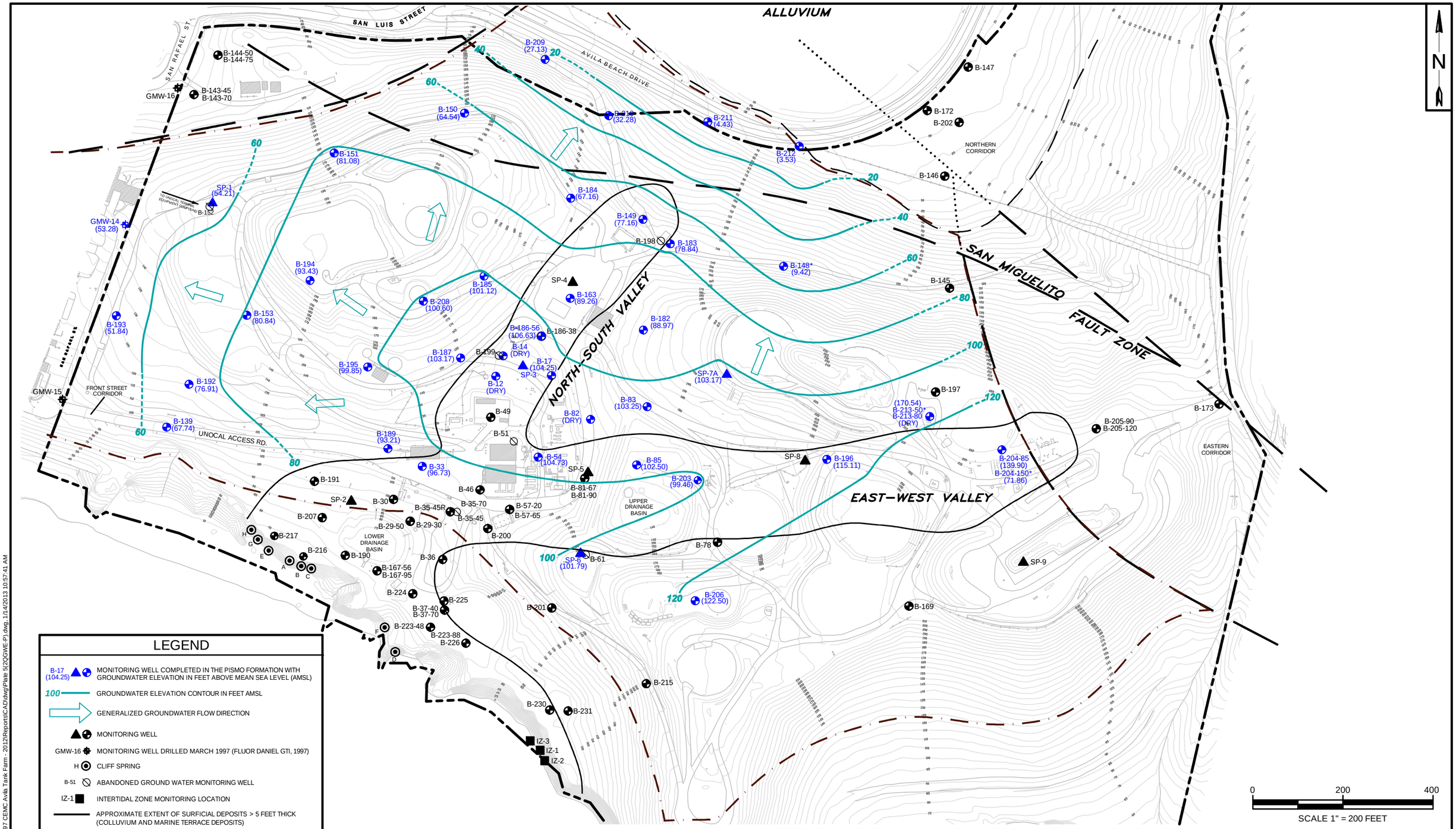

LEGEND

- B-17 (104.25) — MONITORING WELL COMPLETED IN THE PISMO FORMATION WITH GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (AMSL)
- 100 — GROUNDWATER ELEVATION CONTOUR IN FEET AMSL
- GENERALIZED GROUNDWATER FLOW DIRECTION
- MONITORING WELL
- GMW-16 — MONITORING WELL DRILLED MARCH 1997 (FLUOR DANIEL GTI, 1997)
- H — CLIFF SPRING
- B-51 — ABANDONED GROUND WATER MONITORING WELL
- IZ-1 — INTERTIDAL ZONE MONITORING LOCATION
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS > 5 FEET THICK (COLLUVIUM AND MARINE TERRACE DEPOSITS)
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS OF ALLUVIUM
- APPROXIMATE EXTENT OF PISMO FORMATION

*INDICATES NOT INCLUDED IN GROUNDWATER CONTOUR INTERPRETATION

NOTE:
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TOPOGRAPHIC CONTOURS IN 5 FOOT INTERVALS.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CEMC FORMER UNOCAL AVILA TERMINAL AVILA BEACH, CA

PROJECT NUMBER: 0801-0898

DATE: January 2013

GROUNDWATER ELEVATION MAP PISMO FORMATION 4Q12

PLATE 5

Z:\Current Projects\0801-0897 CEMC Avila Tank Farm - 2012\Reports\CAD\dwg\Plate 5(2QGWE-P).dwg, 1/14/2013 10:57:41 AM

ALLUVIUM

SAN LUIS STREET

SAN RAFAEL ST.

AVILA BEACH DRIVE

SAN MIGUELITO FAULT ZONE

NORTH-SOUTH VALLEY

EAST-WEST VALLEY

NORTHERN CORRIDOR

EASTERN CORRIDOR

FRONT STREET CORRIDOR

UNOCAL ACCESS RD.

UPPER DRAINAGE BASIN

LOWER DRAINAGE BASIN

TO DIGCEL TOPSOIL EQUIPMENT DISPOSAL

(49.77) B-144-50

B-144-75 (49.59)

(53.18) B-143-45

B-143-70 (53.80)

GMW-16 (53.66)

GMW-14

GMW-15 (56.62)

SP-1

B-152

B-209

B-210

B-211

B-212

B-147

B-172

B-202

B-146

B-150

B-151

B-184

B-149

B-198

B-183

B-148

B-145 (31.66)

B-194

B-185

SP-4

B-163

B-208

B-193

B-153

B-186-56

B-186-38

B-182

B-187

B-199

B-14

SP-3

B-17

B-12

B-195

B-192

SP-7A

B-197 (37.88)

B-213-50

B-213-80

B-83

B-49

B-82

B-139

B-51

B-189

B-33

B-54

SP-5

B-81-90 (76.55)

B-85

B-81-67 (81.60)

B-203

SP-8

B-196

B-204-85

B-204-150

(148.91) B-205-90*

B-205-120 (133.96)

B-173 (149.11)

B-46

B-191 (39.02)

(43.79) SP-2

B-30 (55.25)

(74.64) B-35-70

B-57-20* (113.54)

B-35-45R

B-35-45

B-29-30

B-29-50 (63.26)

B-200 (79.26)

B-57-65 (78.27)

B-207 (38.72)

B-78 (112.44)

B-217 (30.25)

B-216 (33.98)

B-190 (28.81)

B-167-95* (9.99)

B-167-56 (29.71)

B-36 (DRY)

SP-6 (101.79)

B-61

SP-9 (120.85)

B-206 (122.50)

B-169 (125.90)

B-224 (14.85)

B-225 (19.49)

(45.81) B-37-40*

B-37-70 (17.83)

B-223-48* (40.94)

B-223-88 (8.14)

B-226 (13.25)

B-201 (63.37)

B-215 (DRY)

B-230 (3.96)

B-231 (6.50)

IZ-3

IZ-1

IZ-2

A B C D E F G H

40 60 80 100 120 140

20

LEGEND

- B-167-56 (29.71) — MONITORING WELL COMPLETED IN THE OBISPO FORMATION WITH GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (AMSL)
- 60 — GROUNDWATER ELEVATION CONTOUR IN FEET AMSL
- GENERALIZED GROUNDWATER FLOW DIRECTION
- MONITORING WELL
- MONITORING WELL DRILLED MARCH 1997 (FLUOR DANIEL GTI, 1997)
- CLIFF SPRING
- B-51 — ABANDONED GROUND WATER MONITORING WELL
- IZ-1 — INTERTIDAL ZONE MONITORING LOCATION
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS > 5 FEET THICK (COLLUVIUM AND MARINE TERRACE DEPOSITS)
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS OF ALLUVIUM
- APPROXIMATE EXTENT OF PISMO FORMATION

*INDICATES NOT INCLUDED IN GROUNDWATER CONTOUR INTERPRETATION

NOTE:
TOPOGRAPHIC BASE MAP PROVIDED BY CANNON & ASSOCIATES, 02/13/03. DRAWING NO. 010901.03
TOPOGRAPHIC CONTOURS IN 5 FOOT INTERVALS.

N

0 200 400

SCALE 1" = 200 FEET

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CEMC FORMER UNOCAL AVILA TERMINAL AVILA BEACH, CA

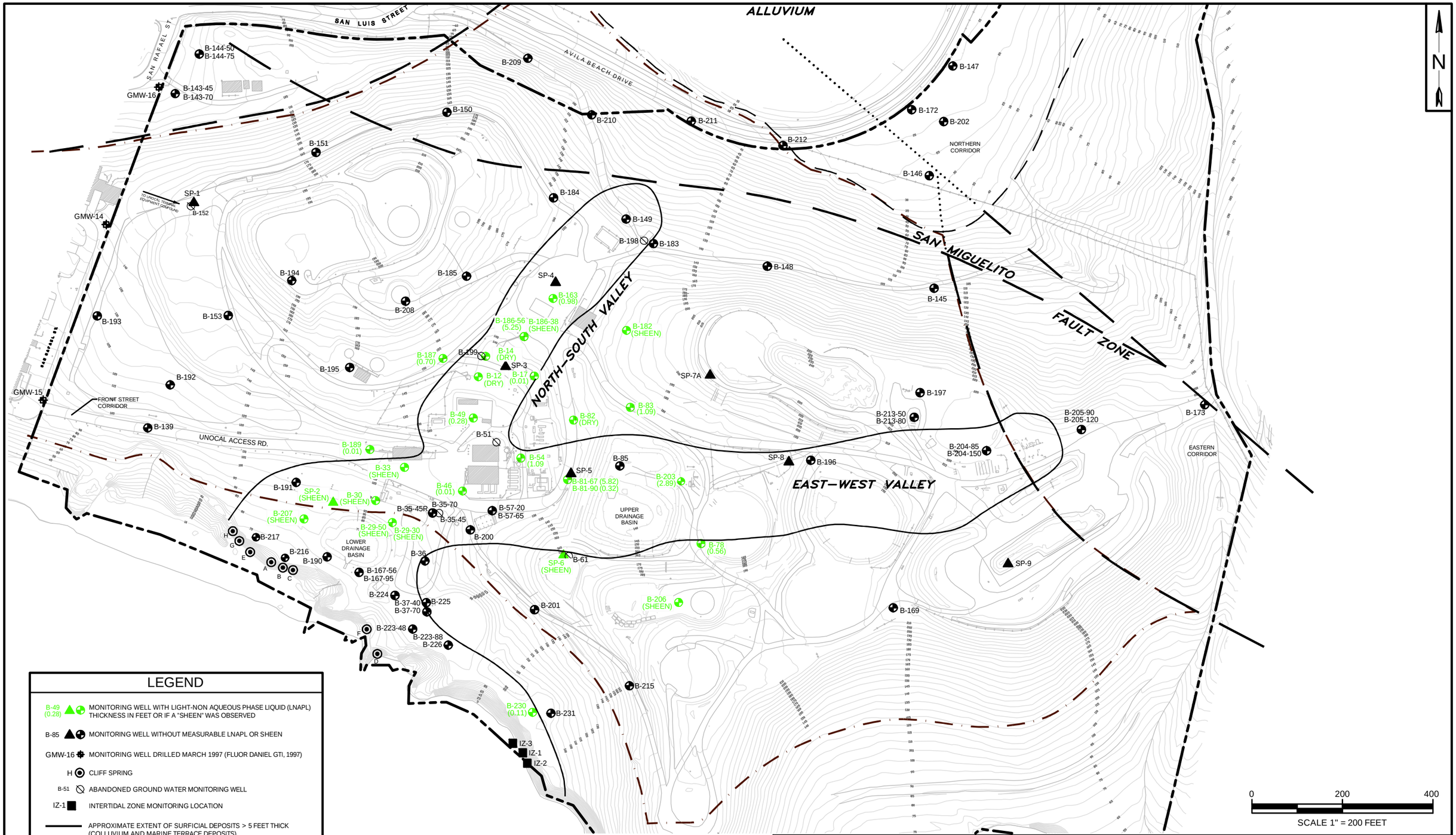
PROJECT NUMBER: 0801-0898

DATE: January 2013

GROUNDWATER ELEVATION MAP OBISPO FORMATION 4Q12

PLATE 6

Z:\Current Projects\0801-0897 CEMC Avila Tank Farm - 2012\Reports\CAD\dwg\Plate 6(2QGWE-O).dwg, 1/14/2013 11:08:35 AM



LEGEND

- B-49 (0.28) — MONITORING WELL WITH LIGHT-NON AQUEOUS PHASE LIQUID (LNAPL) THICKNESS IN FEET OR IF A "SHEEN" WAS OBSERVED
- B-85 — MONITORING WELL WITHOUT MEASURABLE LNAPL OR SHEEN
- GMW-16 — MONITORING WELL DRILLED MARCH 1997 (FLUOR DANIEL GTI, 1997)
- H — CLIFF SPRING
- B-51 — ABANDONED GROUND WATER MONITORING WELL
- IZ-1 — INTERTIDAL ZONE MONITORING LOCATION
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS > 5 FEET THICK (COLLUVIUM AND MARINE TERRACE DEPOSITS)
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS OF ALLUVIUM
- APPROXIMATE EXTENT OF PISMO FORMATION

NOTE:
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TOPOGRAPHIC CONTOURS IN 5 FOOT INTERVALS.

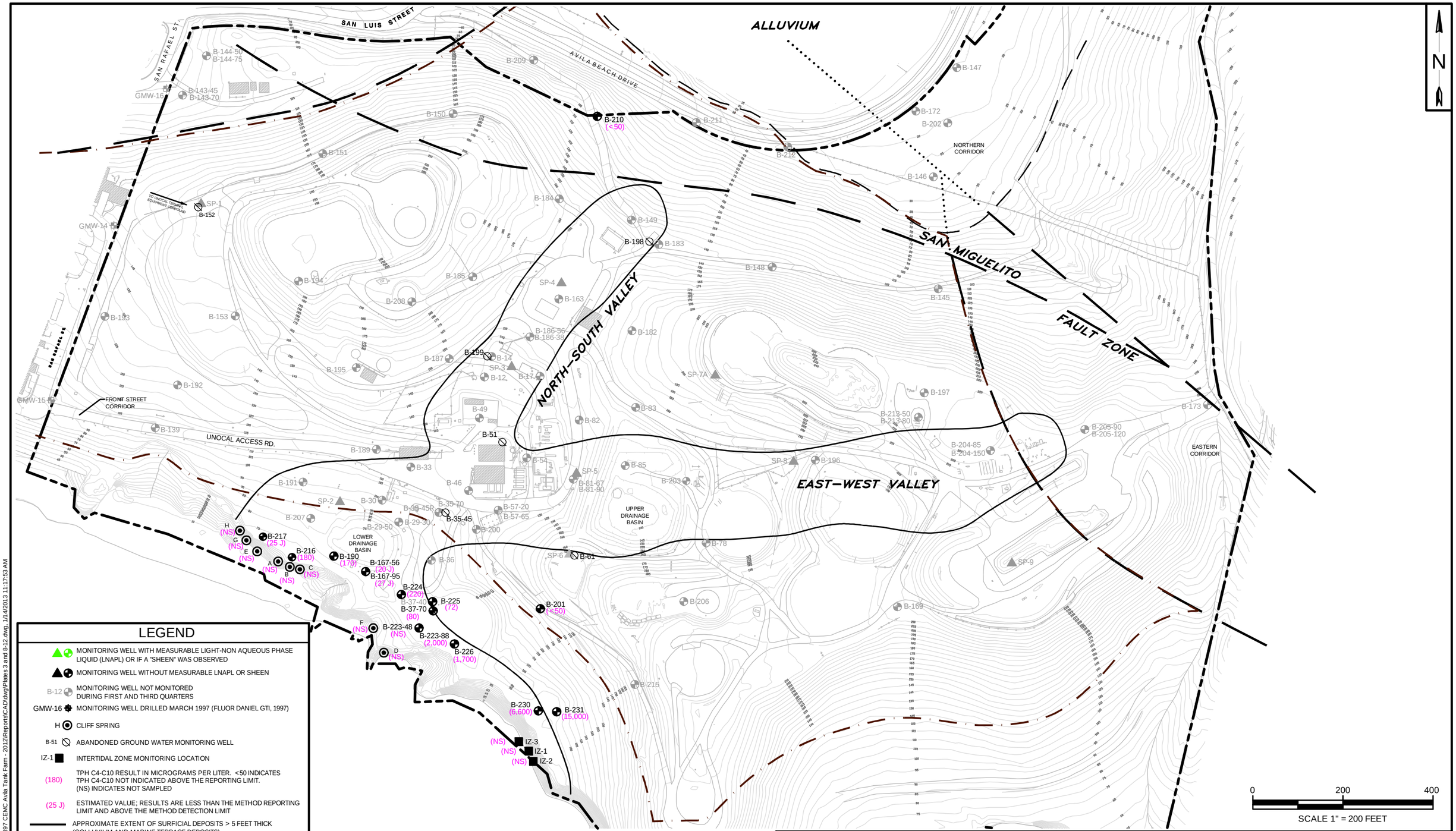
padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME:
CEMC
FORMER UNOCAL
AVILA TERMINAL
AVILA BEACH, CA

PROJECT NUMBER: 0801-0898
DATE: January 2013

LNAPL OCCURENCE MAP 4Q12

PLATE 7



LEGEND

- MONITORING WELL WITH MEASURABLE LIGHT-NON AQUEOUS PHASE LIQUID (LNAPL) OR IF A "SHEEN" WAS OBSERVED
- MONITORING WELL WITHOUT MEASURABLE LNAPL OR SHEEN
- B-12 — MONITORING WELL NOT MONITORED DURING FIRST AND THIRD QUARTERS
- GMW-16 — MONITORING WELL DRILLED MARCH 1997 (FLUOR DANIEL GTI, 1997)
- H — CLIFF SPRING
- B-51 — ABANDONED GROUND WATER MONITORING WELL
- IZ-1 — INTERTIDAL ZONE MONITORING LOCATION
- (180) — TPH C4-C10 RESULT IN MICROGRAMS PER LITER. <50 INDICATES TPH C4-C10 NOT INDICATED ABOVE THE REPORTING LIMIT. (NS) INDICATES NOT SAMPLED
- (25 J) — ESTIMATED VALUE; RESULTS ARE LESS THAN THE METHOD REPORTING LIMIT AND ABOVE THE METHOD DETECTION LIMIT
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS > 5 FEET THICK (COLLUVIUM AND MARINE TERRACE DEPOSITS)
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS OF ALLUVIUM
- APPROXIMATE EXTENT OF PISMO FORMATION

NOTE:
TOPOGRAPHIC BASE MAP PROVIDED BY CANNON & ASSOCIATES, 02/13/03. DRAWING NO. 010901.03
TOPOGRAPHIC CONTOURS IN 5 FOOT INTERVALS.

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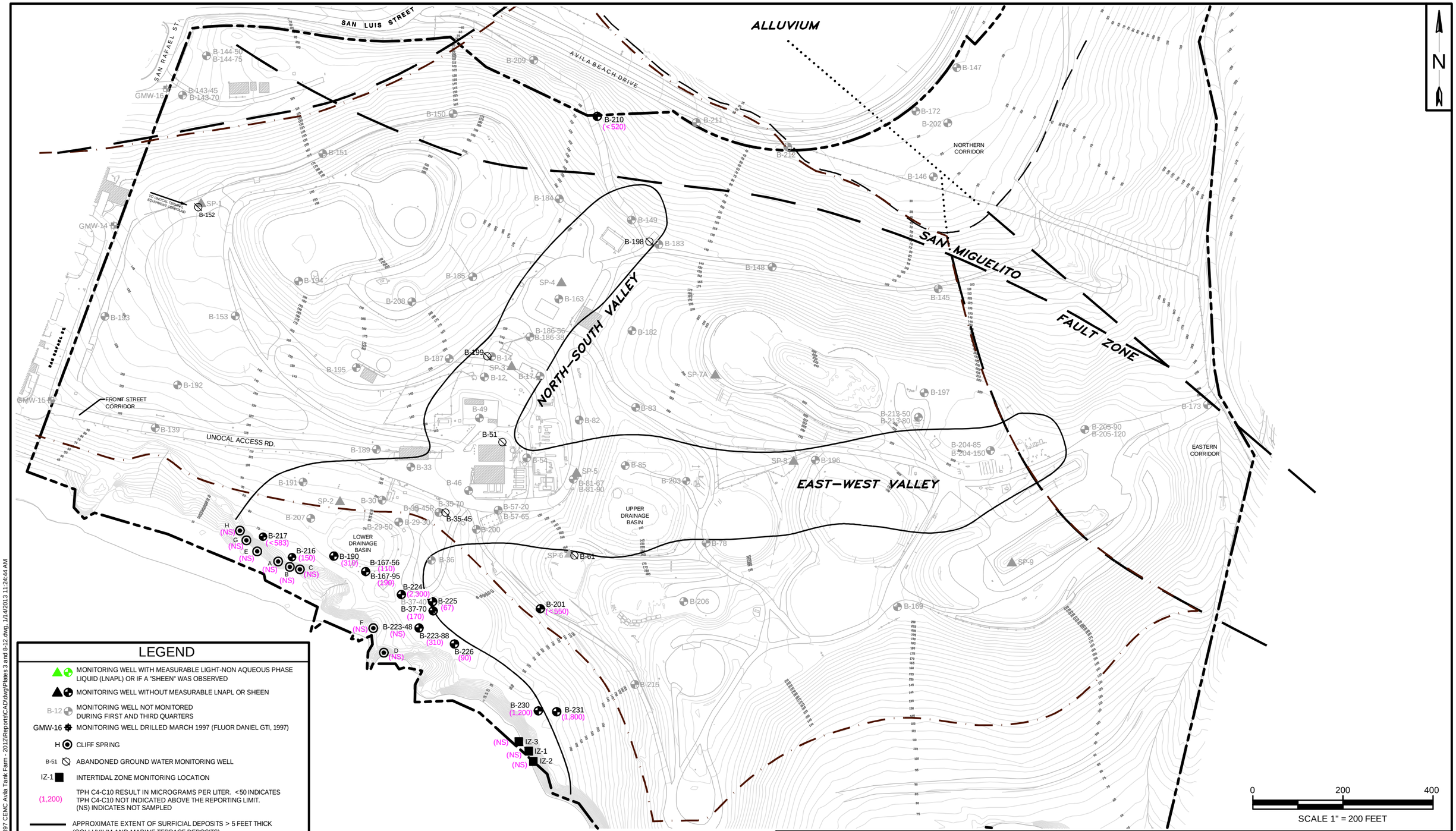
PROJECT NUMBER: 0801-0898

DATE: January 2013

TPH C4-C10 RESULTS MAP 3Q12

PLATE 8

Z:\Current Projects\0801-0897 CEMC Avila Tank Farm - 2012\Reports\CAD\dwg\Plates 3 and 8-12.dwg, 1/14/2013 11:17:53 AM



LEGEND

- MONITORING WELL WITH MEASURABLE LIGHT-NON AQUEOUS PHASE LIQUID (LNAPL) OR IF A "SHEEN" WAS OBSERVED
- MONITORING WELL WITHOUT MEASURABLE LNAPL OR SHEEN
- B-12 — MONITORING WELL NOT MONITORED DURING FIRST AND THIRD QUARTERS
- GMW-16 — MONITORING WELL DRILLED MARCH 1997 (FLUOR DANIEL GTI, 1997)
- H — CLIFF SPRING
- B-51 — ABANDONED GROUND WATER MONITORING WELL
- IZ-1 — INTERTIDAL ZONE MONITORING LOCATION
- (1,200) — TPH C4-C10 RESULT IN MICROGRAMS PER LITER. <50 INDICATES TPH C4-C10 NOT INDICATED ABOVE THE REPORTING LIMIT. (NS) INDICATES NOT SAMPLED
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS > 5 FEET THICK (COLLUVIUM AND MARINE TERRACE DEPOSITS)
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS OF ALLUVIUM
- APPROXIMATE EXTENT OF PISMO FORMATION

NOTE:
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TOPOGRAPHIC CONTOURS IN 5 FOOT INTERVALS.

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ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CEMC FORMER UNOCAL AVILA TERMINAL AVILA BEACH, CA

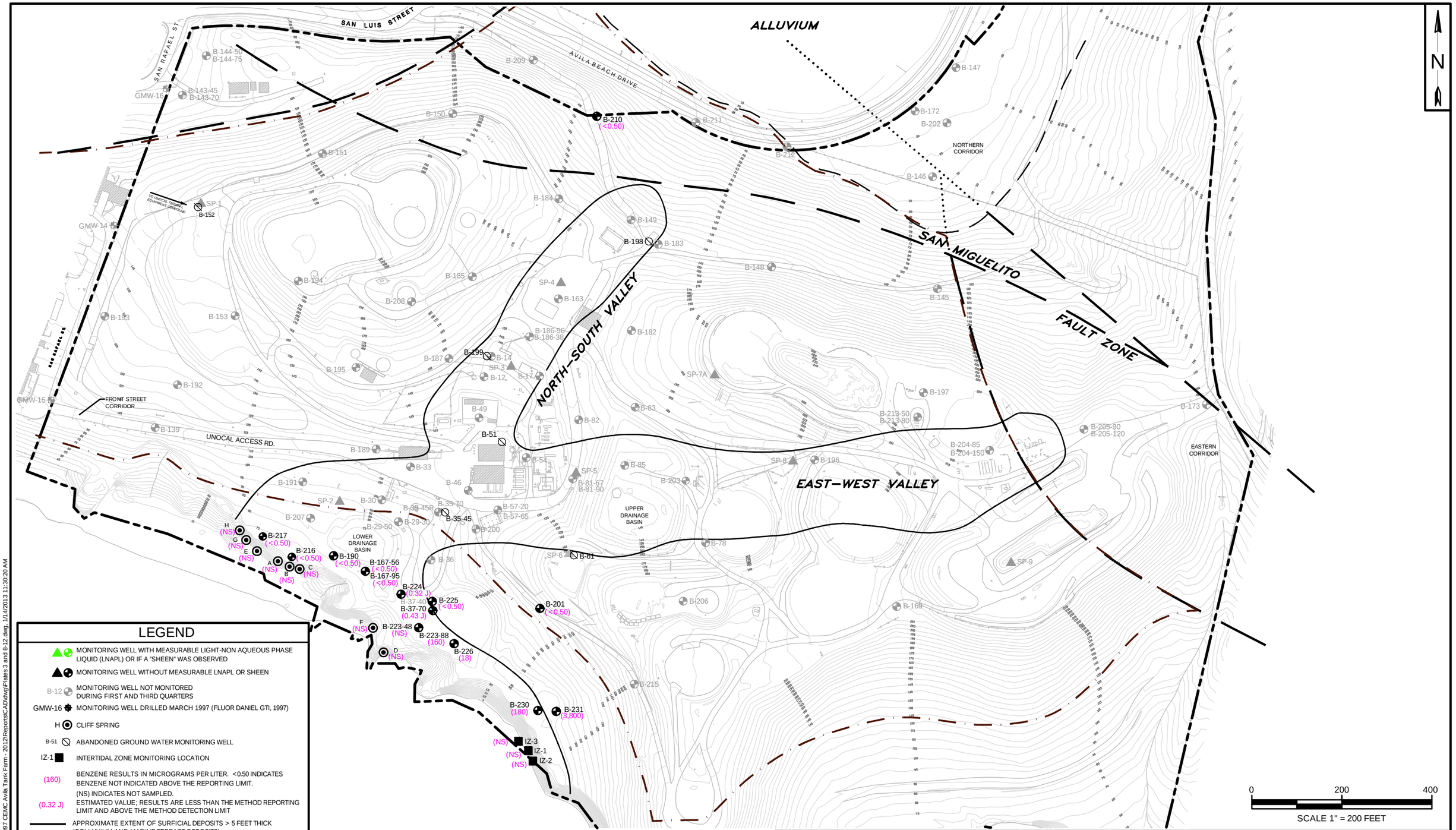
PROJECT NUMBER: 0801-0898

DATE: January 2013

TPH C10-C40 RESULTS MAP 3Q12

PLATE 9

Z:\Current Projects\0801-0897 CEMC Avila Tank Farm - 2012\Reports\CAD\dwg\Plates 3 and 8-12.dwg, 1/14/2013 11:24:44 AM



LEGEND

- MONITORING WELL WITH MEASURABLE LIGHT-NON AQUEOUS PHASE LIQUID (LNAPL) OR IF A "SHEEN" WAS OBSERVED
- MONITORING WELL WITHOUT MEASURABLE LNAPL OR SHEEN
- B-12 — MONITORING WELL NOT MONITORED DURING FIRST AND THIRD QUARTERS
- GMW-16 — MONITORING WELL DRILLED MARCH 1997 (FLUOR DANIEL GTI, 1997)
- H — CLIFF SPRING
- B-51 — ABANDONED GROUND WATER MONITORING WELL
- IZ-1 — INTERTIDAL ZONE MONITORING LOCATION
- (160) — BENZENE RESULTS IN MICROGRAMS PER LITER. <0.50 INDICATES BENZENE NOT INDICATED ABOVE THE REPORTING LIMIT. (NS) INDICATES NOT SAMPLED.
- (0.32 J) — ESTIMATED VALUE; RESULTS ARE LESS THAN THE METHOD REPORTING LIMIT AND ABOVE THE METHOD DETECTION LIMIT
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS > 5 FEET THICK (COLLUVIUM AND MARINE TERRACE DEPOSITS)
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS OF ALLUVIUM
- APPROXIMATE EXTENT OF PISMO FORMATION

NOTE:
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TOPOGRAPHIC CONTOURS IN 5 FOOT INTERVALS.

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PROJECT NAME: CEMC FORMER UNOCAL AVILA TERMINAL AVILA BEACH, CA

PROJECT NUMBER: 0801-0898

DATE: January 2013

BENZENE RESULTS MAP 3Q12

PLATE 10

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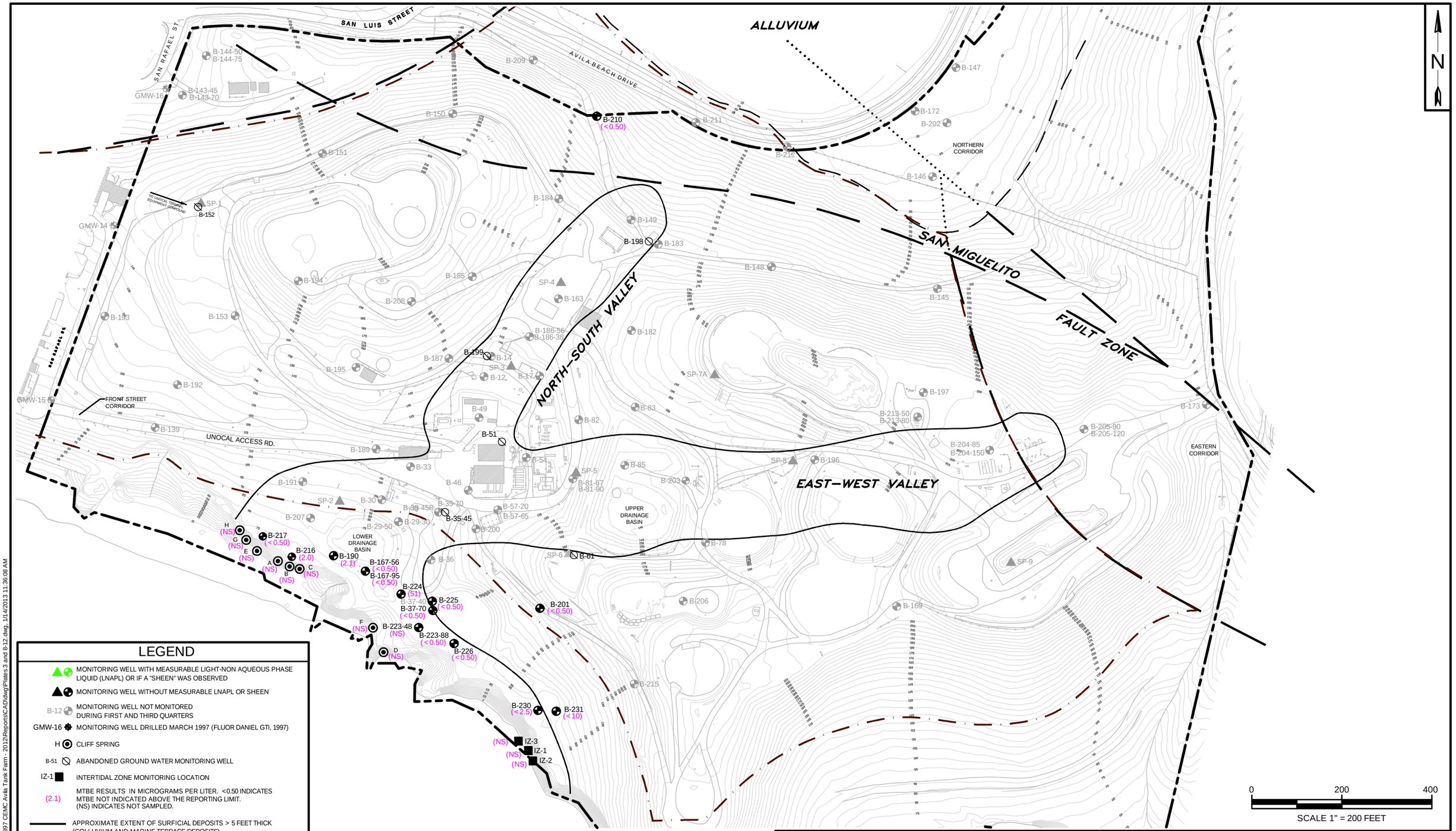

LEGEND

- MONITORING WELL WITH MEASURABLE LIGHT-NON AQUEOUS PHASE LIQUID (LNAPL) OR IF A "SHEEN" WAS OBSERVED
- MONITORING WELL WITHOUT MEASURABLE LNAPL OR SHEEN
- B-12 — MONITORING WELL NOT MONITORED DURING FIRST AND THIRD QUARTERS
- GMW-16 — MONITORING WELL DRILLED MARCH 1997 (FLUOR DANIEL GTI, 1997)
- H — CLIFF SPRING
- B-51 — ABANDONED GROUND WATER MONITORING WELL
- IZ-1 — INTERTIDAL ZONE MONITORING LOCATION
- (2.1) — MTBE RESULTS IN MICROGRAMS PER LITER. <0.50 INDICATES MTBE NOT INDICATED ABOVE THE REPORTING LIMIT. (NS) INDICATES NOT SAMPLED.
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS > 5 FEET THICK (COLLUVIUM AND MARINE TERRACE DEPOSITS)
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS OF ALLUVIUM
- APPROXIMATE EXTENT OF PISMO FORMATION

NOTE:
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TOPOGRAPHIC CONTOURS IN 5 FOOT INTERVALS.

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PROJECT NAME: CEMC FORMER UNOCAL AVILA TERMINAL AVILA BEACH, CA

PROJECT NUMBER: 0801-0898

DATE: January 2013

MTBE RESULTS MAP 3Q12

PLATE 11

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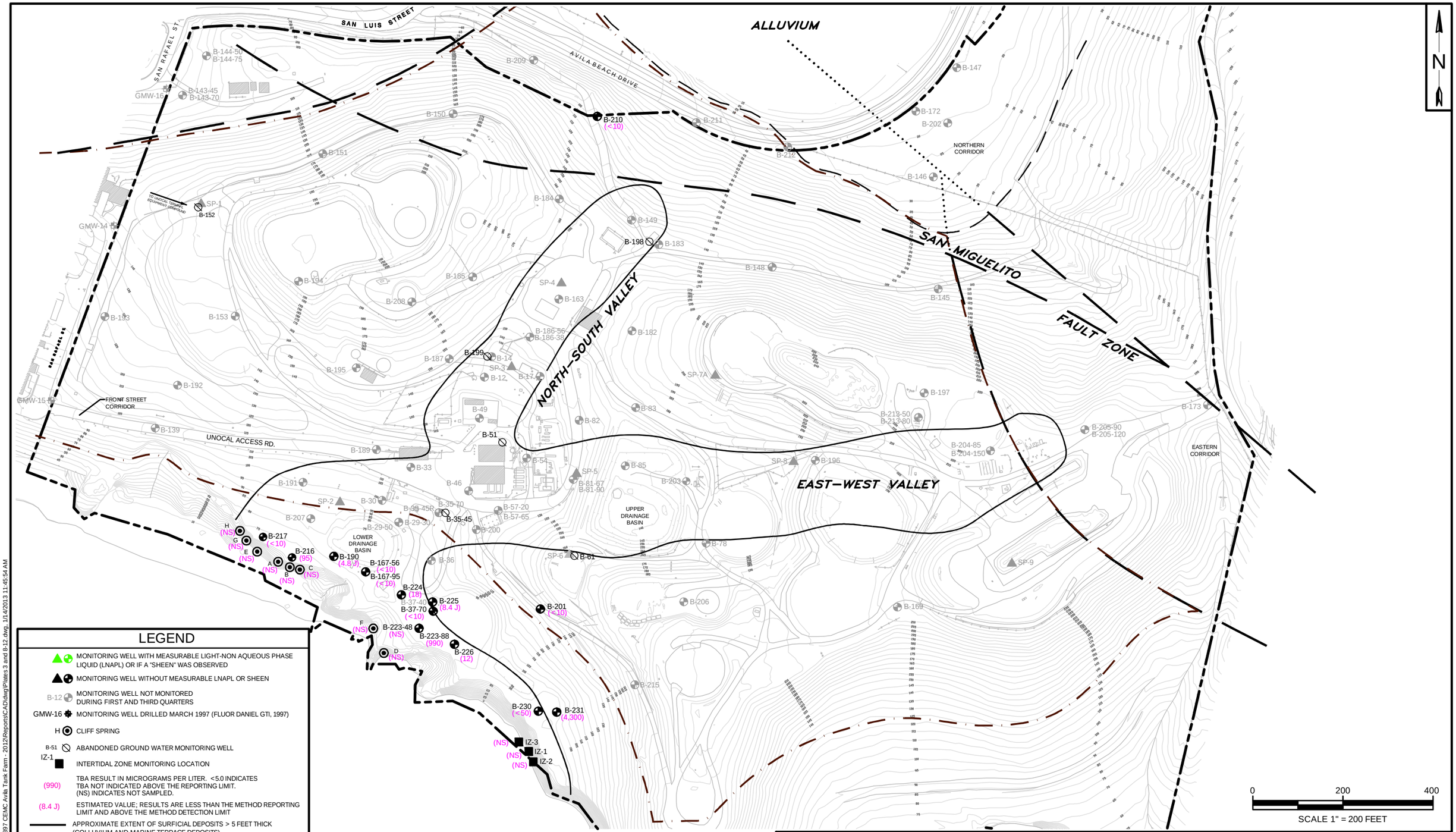

LEGEND

- MONITORING WELL WITH MEASURABLE LIGHT-NON AQUEOUS PHASE LIQUID (LNAPL) OR IF A "SHEEN" WAS OBSERVED
- MONITORING WELL WITHOUT MEASURABLE LNAPL OR SHEEN
- B-12 — MONITORING WELL NOT MONITORED DURING FIRST AND THIRD QUARTERS
- GMW-16 — MONITORING WELL DRILLED MARCH 1997 (FLUOR DANIEL GTI, 1997)
- H — CLIFF SPRING
- B-51 — ABANDONED GROUND WATER MONITORING WELL
- IZ-1 — INTERTIDAL ZONE MONITORING LOCATION
- (990) — TBA RESULT IN MICROGRAMS PER LITER. <5.0 INDICATES TBA NOT INDICATED ABOVE THE REPORTING LIMIT. (NS) INDICATES NOT SAMPLED.
- (8.4 J) — ESTIMATED VALUE; RESULTS ARE LESS THAN THE METHOD REPORTING LIMIT AND ABOVE THE METHOD DETECTION LIMIT
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS > 5 FEET THICK (COLLUVIUM AND MARINE TERRACE DEPOSITS)
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS OF ALLUVIUM
- APPROXIMATE EXTENT OF PISMO FORMATION

NOTE:
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TOPOGRAPHIC CONTOURS IN 5 FOOT INTERVALS.

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PROJECT NAME: CEMC FORMER UNOCAL AVILA TERMINAL AVILA BEACH, CA

PROJECT NUMBER: 0801-0898

DATE: January 2013

TBA RESULTS MAP 3Q12

PLATE 12

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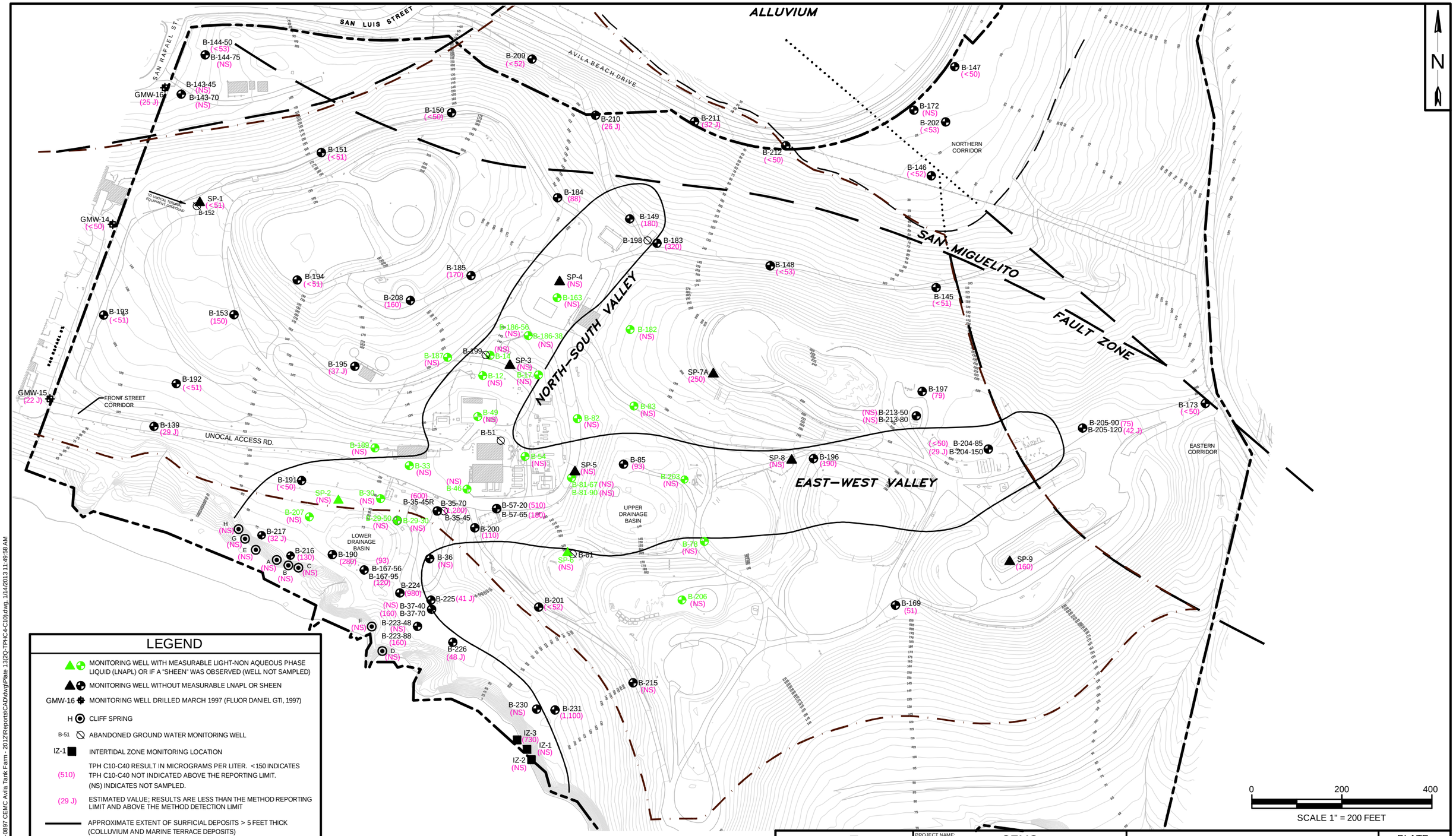


LEGEND

- MONITORING WELL WITH MEASURABLE LIGHT-NON AQUEOUS PHASE LIQUID (LNAPL) OR IF A "SHEEN" WAS OBSERVED (WELL NOT SAMPLED)
- MONITORING WELL WITHOUT MEASURABLE LNAPL OR SHEEN
- GMW-16 — MONITORING WELL DRILLED MARCH 1997 (FLUOR DANIEL GTI, 1997)
- H — CLIFF SPRING
- B-51 — ABANDONED GROUND WATER MONITORING WELL
- IZ-1 — INTERTIDAL ZONE MONITORING LOCATION
- (510) — TPH C10-C40 RESULT IN MICROGRAMS PER LITER. <150 INDICATES TPH C10-C40 NOT INDICATED ABOVE THE REPORTING LIMIT. (NS) INDICATES NOT SAMPLED.
- (29 J) — ESTIMATED VALUE; RESULTS ARE LESS THAN THE METHOD REPORTING LIMIT AND ABOVE THE METHOD DETECTION LIMIT
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS > 5 FEET THICK (COLLUVIUM AND MARINE TERRACE DEPOSITS)
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS OF ALLUVIUM
- APPROXIMATE EXTENT OF PISMO FORMATION

NOTE:
TOPOGRAPHIC BASE MAP PROVIDED BY CANNON & ASSOCIATES, 02/13/03. DRAWING NO. 010901.03
TOPOGRAPHIC CONTOURS IN 5 FOOT INTERVALS.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CEMC FORMER UNOCAL AVILA TERMINAL AVILA BEACH, CA

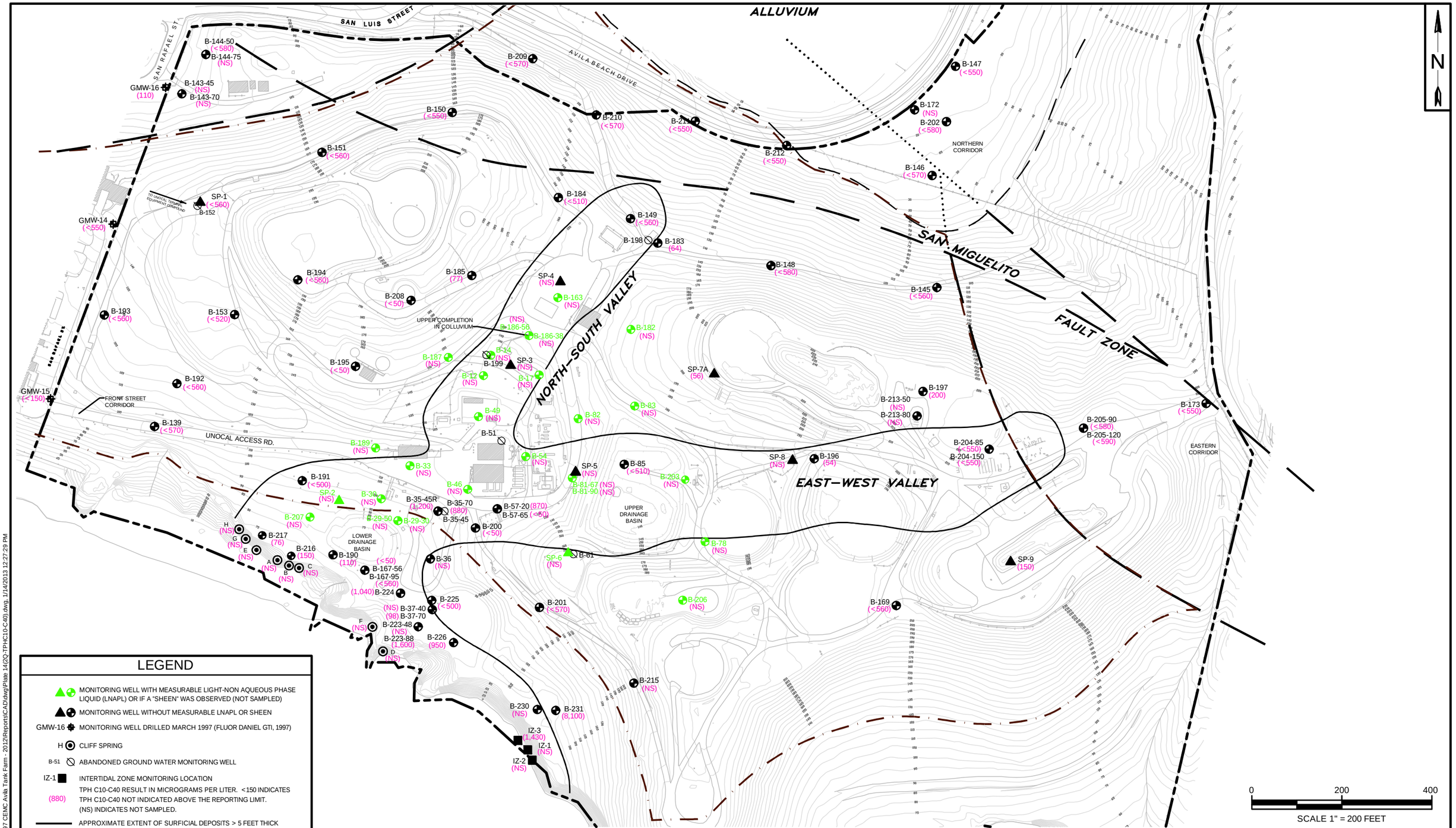
PROJECT NUMBER: 0801-0898

DATE: January 2013

TPH C4-C10 RESULTS MAP 4Q12

PLATE 13

Z:\Current Projects\0801-0897 CEMC Avila Tank Farm - 2012\Reports\CAD\dwg\Plate 13(2Q-TPHC4-C10).dwg, 1/14/2013 11:49:58 AM



LEGEND

- MONITORING WELL WITH MEASURABLE LIGHT-NON AQUEOUS PHASE LIQUID (LNAPL) OR IF A "SHEEN" WAS OBSERVED (NOT SAMPLED)
- MONITORING WELL WITHOUT MEASURABLE LNAPL OR SHEEN
- GMW-16 — MONITORING WELL DRILLED MARCH 1997 (FLUOR DANIEL GTI, 1997)
- H — CLIFF SPRING
- B-51 — ABANDONED GROUND WATER MONITORING WELL
- IZ-1 — INTERTIDAL ZONE MONITORING LOCATION
- (880) — TPH C10-C40 RESULT IN MICROGRAMS PER LITER. <150 INDICATES TPH C10-C40 NOT INDICATED ABOVE THE REPORTING LIMIT. (NS) INDICATES NOT SAMPLED.
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS > 5 FEET THICK (COLLUVIUM AND MARINE TERRACE DEPOSITS)
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS OF ALLUVIUM
- APPROXIMATE EXTENT OF PISMO FORMATION

NOTE:
TOPOGRAPHIC BASE MAP PROVIDED BY CANNON & ASSOCIATES, 02/13/03. DRAWING NO. 010901.03
TOPOGRAPHIC CONTOURS IN 5 FOOT INTERVALS.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CEMC FORMER UNOCAL AVILA TERMINAL AVILA BEACH, CA

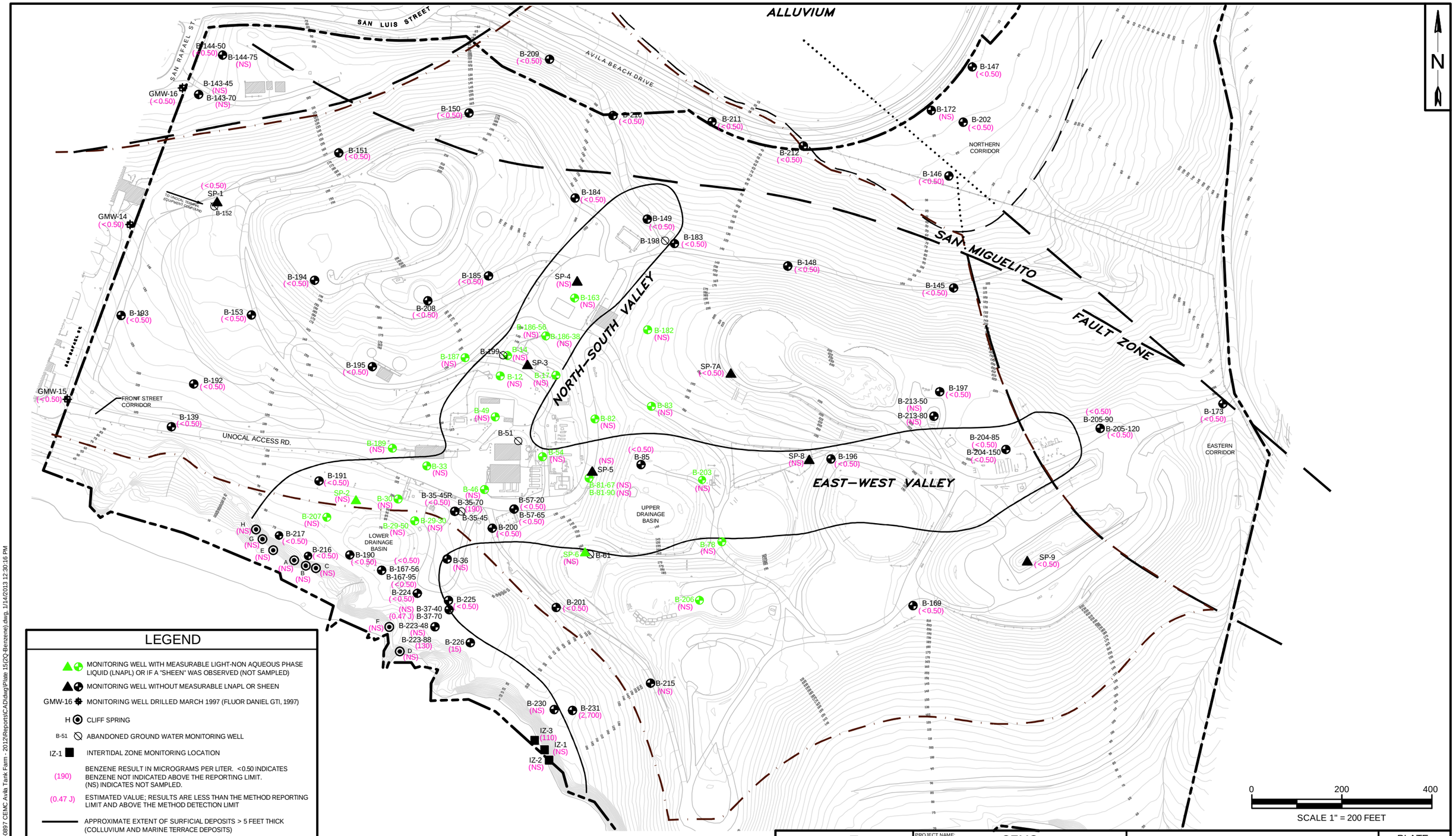
PROJECT NUMBER: 0801-0898

DATE: January 2013

TPH C10-C40 RESULTS MAP 4Q12

PLATE 14

Z:\Current Projects\0801-0897 CEMC Avila Tank Farm - 2012\Reports\CAD\dwg\Plate 14(2Q-TPHC10-C40).dwg, 1/14/2013 12:27:29 PM



LEGEND

- MONITORING WELL WITH MEASURABLE LIGHT-NON AQUEOUS PHASE LIQUID (LNAPL) OR IF A "SHEEN" WAS OBSERVED (NOT SAMPLED)
- MONITORING WELL WITHOUT MEASURABLE LNAPL OR SHEEN
- GMW-16 — MONITORING WELL DRILLED MARCH 1997 (FLUOR DANIEL GTI, 1997)
- H — CLIFF SPRING
- B-51 — ABANDONED GROUND WATER MONITORING WELL
- IZ-1 — INTERTIDAL ZONE MONITORING LOCATION
- (190) — BENZENE RESULT IN MICROGRAMS PER LITER. <0.50 INDICATES BENZENE NOT INDICATED ABOVE THE REPORTING LIMIT. (NS) INDICATES NOT SAMPLED.
- (0.47 J) — ESTIMATED VALUE; RESULTS ARE LESS THAN THE METHOD REPORTING LIMIT AND ABOVE THE METHOD DETECTION LIMIT
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS > 5 FEET THICK (COLLUVIUM AND MARINE TERRACE DEPOSITS)
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS OF ALLUVIUM
- APPROXIMATE EXTENT OF PISMO FORMATION

NOTE:
TOPOGRAPHIC BASE MAP PROVIDED BY CANNON & ASSOCIATES, 02/13/03. DRAWING NO. 010901.03
TOPOGRAPHIC CONTOURS IN 5 FOOT INTERVALS.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CEMC FORMER UNOCAL AVILA TERMINAL AVILA BEACH, CA

PROJECT NUMBER: 0801-0898

DATE: January 2013

BENZENE RESULTS MAP 4Q12

PLATE 15

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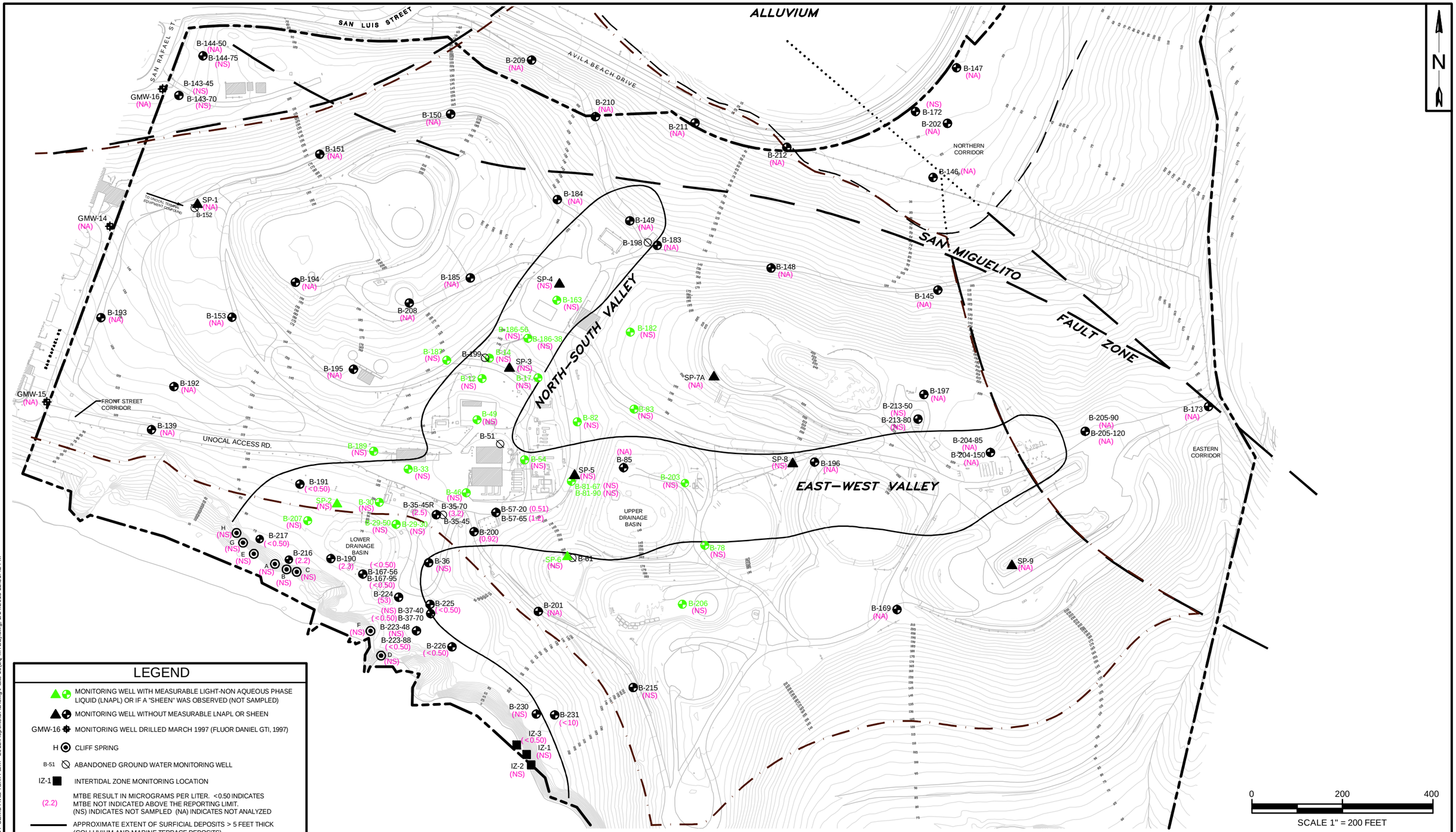


LEGEND

- MONITORING WELL WITH MEASURABLE LIGHT-NON AQUEOUS PHASE LIQUID (LNAPL) OR IF A "SHEEN" WAS OBSERVED (NOT SAMPLED)
- MONITORING WELL WITHOUT MEASURABLE LNAPL OR SHEEN
- GMW-16 — MONITORING WELL DRILLED MARCH 1997 (FLUOR DANIEL GTI, 1997)
- H — CLIFF SPRING
- B-51 — ABANDONED GROUND WATER MONITORING WELL
- IZ-1 — INTERTIDAL ZONE MONITORING LOCATION
- (2.2) — MTBE RESULT IN MICROGRAMS PER LITER. <0.50 INDICATES MTBE NOT INDICATED ABOVE THE REPORTING LIMIT. (NS) INDICATES NOT SAMPLED (NA) INDICATES NOT ANALYZED
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS > 5 FEET THICK (COLLUVIUM AND MARINE TERRACE DEPOSITS)
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS OF ALLUVIUM
- APPROXIMATE EXTENT OF PISMO FORMATION

NOTE:
TOPOGRAPHIC BASE MAP PROVIDED BY CANNON & ASSOCIATES, 02/13/03. DRAWING NO. 010901.03
TOPOGRAPHIC CONTOURS IN 5 FOOT INTERVALS.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CEMC FORMER UNOCAL AVILA TERMINAL AVILA BEACH, CA

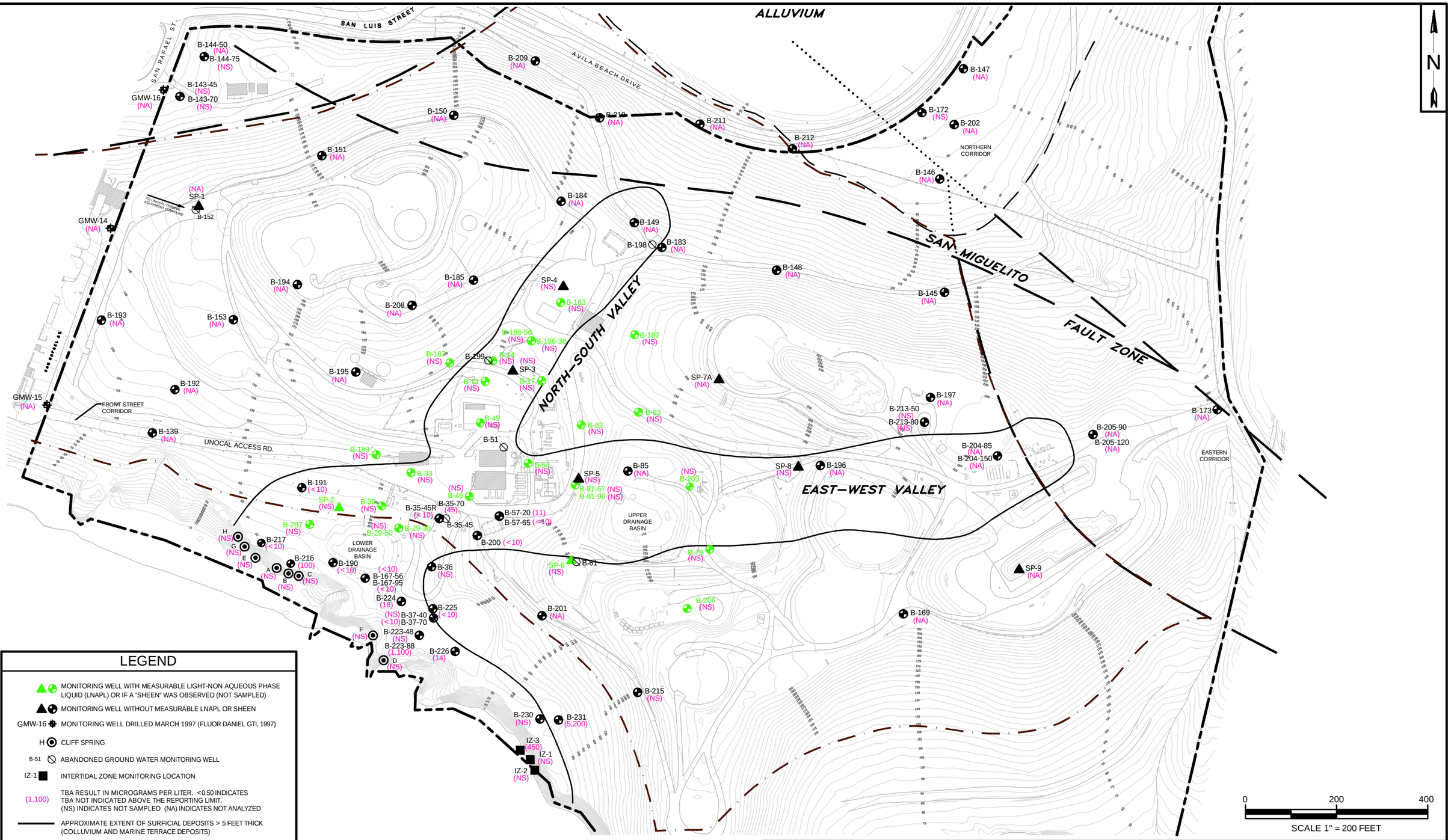
PROJECT NUMBER: 0801-0898

DATE: January 2013

MTBE RESULTS MAP 4Q12

PLATE 16

Z:\Current Projects\0801-0897 CEMC Avila Tank Farm - 2012\Reports\CAD\dwg\Plate 16(2Q MTBE).dwg, 1/14/2013 12:31:42 PM



LEGEND

- MONITORING WELL WITH MEASURABLE LIGHT-NON AQUEOUS PHASE LIQUID (LNAPL) OR IF A "SHEEN" WAS OBSERVED (NOT SAMPLED)
- MONITORING WELL WITHOUT MEASURABLE LNAPL OR SHEEN
- GMW-16 — MONITORING WELL DRILLED MARCH 1997 (FLUOR DANIEL GTI, 1997)
- H — CLIFF SPRING
- B-51 — ABANDONED GROUND WATER MONITORING WELL
- IZ-1 — INTERTIDAL ZONE MONITORING LOCATION
- (1,100) — TBA RESULT IN MICROGRAMS PER LITER. <0.50 INDICATES TBA NOT INDICATED ABOVE THE REPORTING LIMIT. (NS) INDICATES NOT SAMPLED (NA) INDICATES NOT ANALYZED
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS > 5 FEET THICK (COLLUVIUM AND MARINE TERRACE DEPOSITS)
- APPROXIMATE EXTENT OF SURFICIAL DEPOSITS OF ALLUVIUM
- APPROXIMATE EXTENT OF PISMO FORMATION

NOTE:
TOPOGRAPHIC BASE MAP PROVIDED BY CANNON & ASSOCIATES, 02/13/03. DRAWING NO. 010901.03
TOPOGRAPHIC CONTOURS IN 5 FOOT INTERVALS.

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ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CEMC FORMER UNOCAL AVILA TERMINAL AVILA BEACH, CA

PROJECT NUMBER: 0801-0898

DATE: January 2013

TBA RESULTS MAP 4Q12

PLATE 17

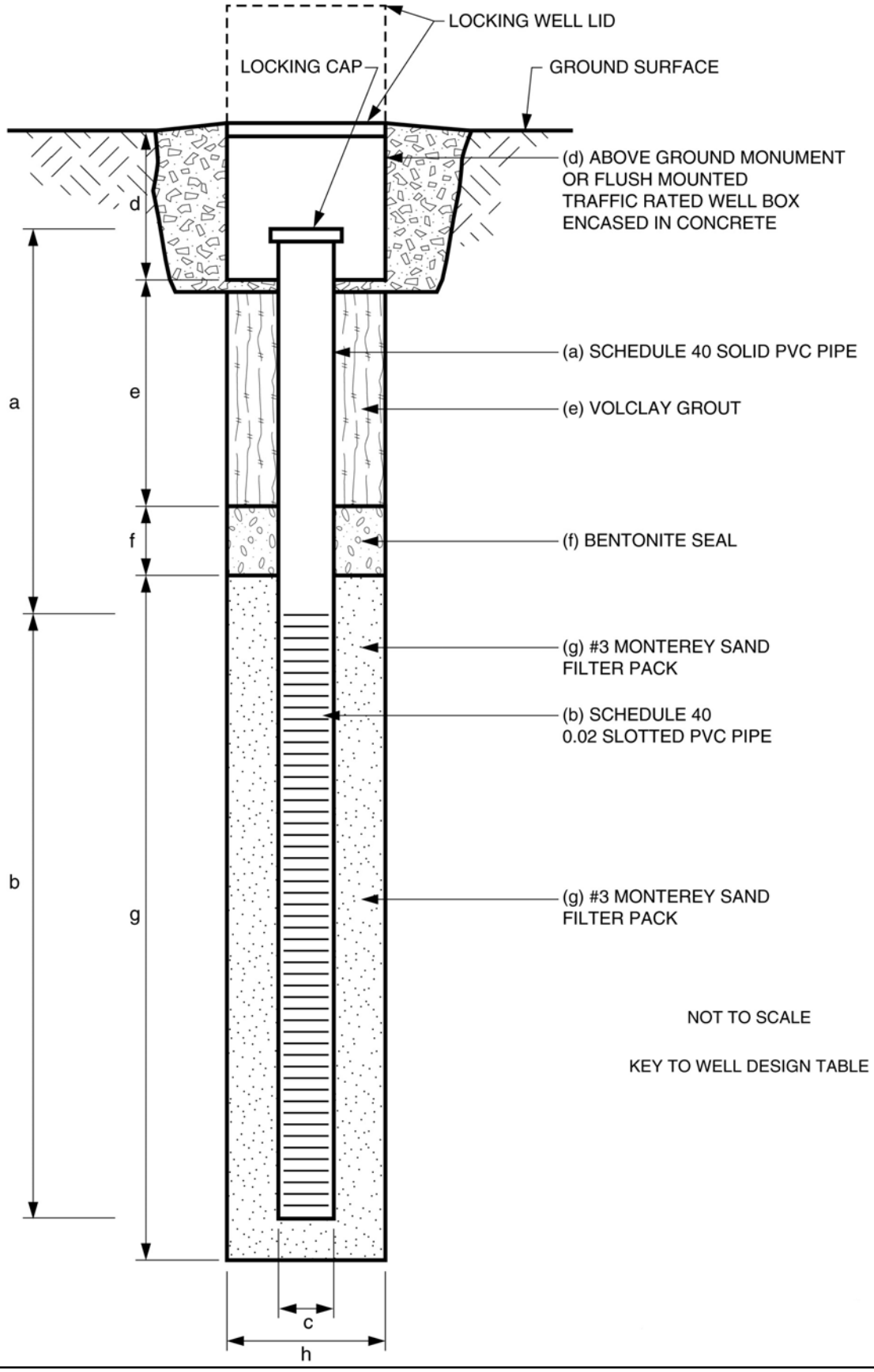
Z:\Current Projects\0801-0897 CEMC Avila Tank Farm - 2012\Reports\CAD\dwg\Plate 17(2Q-TBA).dwg, 1/14/2013 12:34:02 PM

APPENDIX A
CD-ROM CONTAINING SUBJECT REPORT
(APPENDICES A-1 THROUGH A-6 ARE INCLUDED WITHIN THE ELECTRONIC PDF VERSION OF THE SUBJECT REPORT)

- A-1. Groundwater Monitoring Well Construction Details;
- A-2. Summary of Historical Fluid Level Data;
- A-3. Summary of Historical Groundwater Analytical Data;
- A-4. Summary of Historical Cliff Springs Observations and Analytical Data;
- A-5. Summary of Historical Intertidal Zone Observations and Analytical Data; and
- A-6. Analytical Laboratory Reports and Chain-of-Custody Forms.

APPENDIX A-1
Groundwater Monitoring Well Construction Details

May 2010
Project No. 0801-0896



NOT TO SCALE

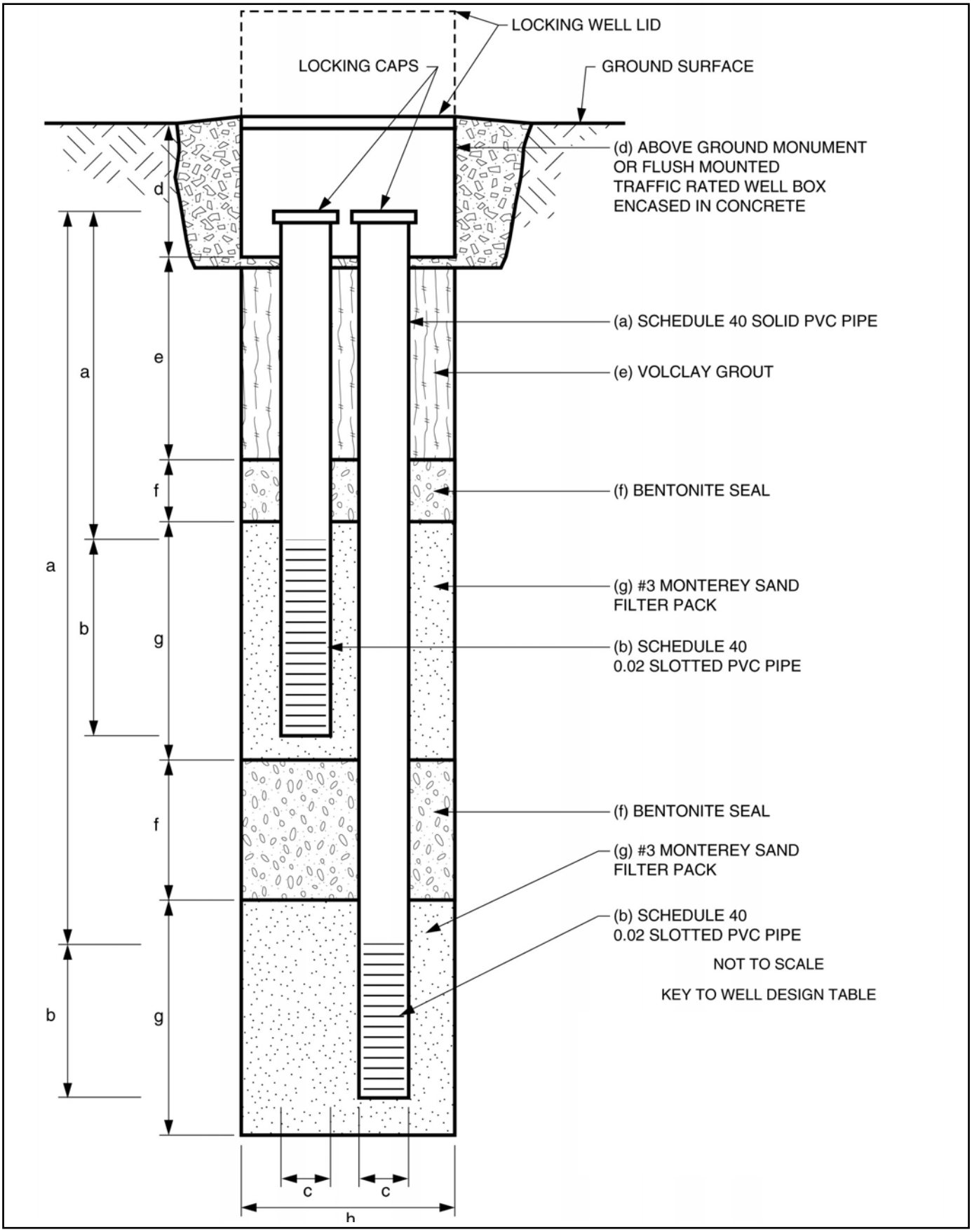
KEY TO WELL DESIGN TABLE

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

TYPICAL GROUNDWATER MONITORING WELL

Chevron EMC - Former Unocal Avila Terminal, Avila Beach, California

May 2010
Project No. 0801-0896



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TYPICAL NESTED GROUNDWATER MONITORING WELL

Chevron EMC - Former Unocal Avila Terminal, Avila Beach, California

GROUND WATER MONITORING WELL CONSTRUCTION DATA

Former Unocal Terminal, Avila Beach, CA

WELL NO.	DATE DRILLED	EASTING	NORTHING	TOTAL DEPTH (ft)		WELL TYPE		DEPTH INTERVALS (See attached typical well construction details for explanation)								TOC ELEV.	WELL HEAD COMPLETION
						CASING (ft)		ANNULUS (ft)									
				BORING	WELL	SINGLE	NESTED	a	b	c	d	e	f	g	h	(ft a.m.s.l.)	
B-12	9/24/97	5746860.451	2262235.647	30	30	X		0-20	20-30	0.17	0-1	1-13	13-18	18-30	0.67	136.317	Monument
B-14	9/24/97	5746876.757	2262280.369	55	27	X		0-17	17-27	0.17	0-1	1-10	10-15;28-55	15-28	0.67	138.074	Monument
B-17	9/24/97	5746983.654	2262237.086	35	35	X		0-20	20-35	0.17	0-1	1-13	13-18	18-35	0.67	136.876	Monument
B-29-30	9/23/97	5746671.427	2261914.163	53	50		X	0-10	10-30	0.17	0-1	1-5	5-8	8-30	0.67	96.133	Monument
B-29-50		5746671.427	2261914.163					0-40	40-50	0.17	0-1	1-5	30-38	38-50	0.67	96.039	Monument
B-30	9/7/97	5746632.886	2261962.107	55	45	X		0-25	25-45	0.17	0-1	1-20	20-23;46-55	23-46	0.67	97.565	Monument
B-33	9/6/97	5746699.516	2262035.808	25	25	X		0-5	5-25	0.17	0-1	-	1-5	5-25	0.67	110.702	Flush
B-35-45[4]	9/18/97	5746760.675	2261931.825	56	45		Dual[1]	0-20	20-45	0.17	0-1	1-15	15-18;45-56	18-45	0.67	104.842	Monument
B-35-70	9/18/97	5746760.675	2261931.825	70	70			0-50	50-70	0.17	0-1	1-45	45-48	48-70	0.67	104.542	Monument
B-36	9/23/97	5746742.825	2261828.439	60	60	X		0-30	30-60	0.17	0-1	1-25	25-28	28-60	0.67	93.429	Monument
B-37-40	9/18/97	5746746.571	2261716.571	70	70		X	0-20	20-40	0.17	0-1	1-15	15-18	18-40	0.67	88.130	Monument
B-37-70		5746746.571	2261716.571					0-50	50-70	0.17	0-1	15-Jan	40-48	48-70	0.67	88.100	Monument
B-46	9/6/97	5746824.931	2261983.183	55	40	X		0-25	25-40	0.17	0-1	1-20	20-23;41-55	23-41	0.67	112.465	Flush
B-49	9/25/97	5746850.550	2262149.816	55	25	X		0-10	10-25	0.17	0-1	-	2-8;26-30	8-26	0.67	122.557	Flush
B-51[4]	9/10/97	5746899.934	2262090.671	35	35	X		0-15	15-35	0.17	0-1	1-10	10-13	13-35	0.67	115.273	Monument
B-54	9/25/97	5746954.352	2262055.996	30	30	X		0-20	20-30	0.17	0-1	1-13	13-18	18-30	0.67	124.603	Flush
B-57-20	9/24/97	5746891.198	2261940.762	70	65		X	0-10	10-20	0.17	0-1	-	2-8;21-38	8-21	0.67	115.526	Flush
B-57-65		5746891.198	2261940.762					0-40	40-65	0.17	0-1	-	65-70	38-65	0.67	115.391	Flush
B-61[4]	9/22/97	5747060.486	2261839.099	50	50	X		0-40	40-50	0.17	0-1	1-33	33-38	38-50	0.67	152.335	Monument
B-78	9/22/97	5747353.472	2261867.225	75	75	X		0-40	40-75	0.17	0-1	1-35	35-38	38-75	0.67	165.875	Monument
B-81-67	9/26/97	5747057.551	2262008.816	90	90		X	0-47	47-67	0.17	0-1	1-40	40-45	45-68	0.67	134.235	Flush
B-81-90		5747057.551	2262008.816					0-80	80-90	0.17	0-1	1-40	68-78	78-90	0.67	133.960	Flush
B-82	9/26/97	5747071.071	2262139.764	35	35	X		0-20	20-35	0.17	0-1	1-13	13-18	18-35	0.67	145.245	Flush
B-83	9/23/97	5747196.422	2262167.829	95	95	X		0-40	40-95	0.17	0-1	1-33	33-38	38-95	0.67	171.704	Flush
B-85	9/19/97	5747172.536	2262038.610	70	70	X		0-55	55-70	0.17	0-1	1-48	48-53	53-70	0.67	144.476	Monument
B-139	9/5/97	5746130.737	2262123.109	45	44	X		0-34	34-44	0.17	0-1	1-29	29-32	32-45	0.67	98.649	Flush
B-143-45	10/27/97	5746169.808	2262869.788	70	70		X	0-35	35-45	0.17	0-1	1-28	28-32	33-46	0.67	80.354	Monument
B-143-70		5746169.808	2262869.788					0-60	60-70	0.17	0-1	1-28	46-57	57-70	0.67	80.144	Monument
B-144-50	10/28/97	5746204.431	2262939.273	75	75		X	0-40	40-50	0.17	0-1	1-35	35-40;52-63	38-52;63-75	0.67	78.433	Monument
B-144-75		5746204.431	2262939.273					0-65	65-75	0.17	0-1	1-35	52-63	63-75	0.67	78.080	Monument
B-145	11/18/97	5747858.390	2262435.596	109	109	X		0-79	79-109	0.17	0-1	1-74	74-77	77-109	0.67	107.242	Flush
B-146	11/24/97	5747857.200	2262679.726	50	42	X		0-12	12-42	0.17	0-1	-	1-10	10-42	0.67	27.360	Monument
B-147	11/24/97	5747909.169	2262922.011	42	42	X		0-12	12-42	0.17	0-1	-	1-10	10-42	0.67	15.055	Monument
B-148	11/17/97	5747506.969	2262504.360	131	130	X		0-90	90-130	0.17	0-1	1-85	85-88	88-131	0.67	134.194	Flush
B-149	11/25/97	5747187.125	2262583.899	90	90	X		0-50	50-90	0.17	0-1	1-45	45-48	48-90	0.67	138.454	Monument
B-150	11/21/97	5746791.211	2262819.673	135	135	X		0-105	105-135	0.17	0-1	1-98	98-103	103-135	0.67	166.934	Flush
B-151	11/22/97	5746502.079	2262730.579	150	120	X		0-90	90-120	0.17	0-1	1-85	85-88;121-151	88-121	0.67	163.149	Flush
B-152[4]	11/23/97	5746225.411	2262612.978	140	140	X		0-100	100-140	0.33	0-1	2-93	93-98	98-140	0.67	170.495	Monument
B-153	11/26/97	5746307.860	2262370.973	111	110	X		0-75	75-110	0.17	0-1	1-70	70-73	73-111	0.67	156.502	Flush
B-163	11/20/97	5747025.768	2262408.574	91	90	X		0-55	55-90	0.17	0-1	1-50	50-53	53-91	0.67	152.147	Flush
B-167-56	11/21/97	5746597.047	2261803.649	95	95		X	0-36	36-56	0.17	0-1	2-29	29-34	34-56	0.67	81.947	Flush
B-167-95		5746597.047	2261803.649					0-65	65-95	0.17	0-1	2-29	56-63	63-95	0.67	81.873	Flush
B-169	11/19/97	5747774.699	2261728.631	120	120	X		0-80	80-120	0.33	0-1	1-73	73-78	78-120	0.67	213.158	Monument
B-172	11/25/97	5747818.679	2262825.482	42	42	X		0-12	12-42	0.17	0-1	-	1-10	10-42	0.67	17.024	Monument
B-173	11/17/97	5748478.479	2262175.178	95	95	X		0-65	65-95	0.33	0-1	1-58	58-63	63-95	0.67	202.642	Flush
B-182	7/27/99	5747188.072	2262338.095	110	110	X		0-60	60-110	0.17	0-2	2-56	56-58	58-110	0.67	181.944	Monument
B-183	7/26/99	5747248.046	2262529.572	90	90	X		0-50	50-90	0.17	0-1	1-44	44-48	48-90	0.67	144.760	Monument
B-184	7/22/99	5747026.927	2262630.859	120	120	X		0-45	45-120	0.17	0-2	2-40	40-43	43-120	0.67	163.770	Monument

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

GROUND WATER MONITORING WELL CONSTRUCTION DATA

Former Unocal Terminal, Avila Beach, CA

WELL NO.	DATE DRILLED	EASTING	NORTHING	TOTAL DEPTH (ft)		WELL TYPE		DEPTH INTERVALS (See attached typical well construction details for explanation)								TOC ELEV.	WELL HEAD COMPLETION
								CASING (ft)		ANNULUS (ft)							
				BORING	WELL	SINGLE	NESTED	a	b	c	d	e	f	g	h	(ft a.m.s.l.)	
B-185	7/23/99	5746834.612	2262457.717	100	100	X		0-50	50-100	0.17	0-2	2-45	45-48	48-100	0.67	174.255	Flush
B-186-38	7/26/99	5746961.951	2262324.330	38	56		X	0-18	18-38	0.17	0-1	1-13	13-16	16-38	0.67	151.670	Monument
B-186-56	7/26/99	5746961.951	2262324.330	56	56			0-46	46-56	0.17	0-1	-	38-45	45-56	0.67	151.670	Monument
B-187	7/23/99	5746782.478	2262276.086	65	65	X		0-35	35-65	0.17	0-2	2-30	30-33	33-65	0.67	150.999	Monument
B-189	7/22/99	5746621.093	2262074.870	40	40	X		0-10	10-40	0.17	0-2	2-8	-	8-40	0.67	115.056	Monument
B-190	7/27/99	5746526.480	2261837.861	80	80	X		0-50	50-80	0.17	0-2	2-45	45-48	48-80	0.67	80.270	Flush
B-191	7/27/99	5746458.050	2262002.294	110	110	X		0-65	65-110	0.17	0-2	2-58	58-63	63-110	0.67	101.788	Monument
B-192	7/27/99	5746179.647	2262217.710	70	70	X		0-40	40-70	0.17	0-1	1-35	35-38	38-70	0.67	122.051	Monument
B-193	7/27/99	5746018.333	2262370.018	90	90	X		0-50	50-90	0.17	0-1	1-45	45-48	48-90	0.67	126.761	Monument
B-194	7/19/99	5746448.192	2262448.118	110	110	X		0-80	80-110	0.17	0-1	1-75	75-78	78-110	0.67	186.324	Monument
B-195	7/20/99	5746576.431	2262256.143	58	58	X		0-28	28-58	0.17	0-1	1-23	23-26	26-58	0.67	151.869	Flush
B-196	7/21/99	5747595.288	2262051.104	127	127	X		0-77	77-127	0.17	0-1	1-72	72-75	75-127	0.67	194.577	Monument
B-197	7/22/99	5747836.997	2262200.568	195	195	X		0-145	145-195	0.17	0-1	1-140	140-143	143-195	0.67	224.930	Monument
B-35-45R	2/28/01	5746754.005	2261932.083	31	30	X		0-5	5-30	0.17	0-1	1-3	-	3-30	0.67	103.321	Monument
B-198[2]	2/26/01	5747238.809	2262528.992	175	175	X		0-165	165-175	0.17	0-1	1-161	161-163	163-175	0.67	145.524	Monument
B-199[2]	2/27/01	5746879.048	2262274.296	115	115	X		0-105	105-115	0.17	0-1	1-101	101-103	103-115	0.67	136.540	Monument
B-200	2/28/01	5746854.816	2261890.353	46	43	X		0-3	3-43	0.17	0-1	1-3	-	3-45	0.67	118.419	Monument
B-201	2/27/01	5746996.863	2261714.137	85	85	X		0-50	50-85	0.17	0-1	1-45.5	45.5-47.5	47.5-85	0.67	137.129	Flush
B-202	5/29/02	5747882.673	2262797.081	25	23	X		0-3	3-23	0.17	0-1	1-2	-	2-23	0.67	21.702	Monument
B-203	2/26/01	5747320.854	2261997.689	81	80	X		0-30	30-80	0.17	0-1	1-26	26-28	28-80	0.67	160.518	Monument
B-204-85	2/27/01	5747995.831	2262065.231	121	85		X	0-20	20-85	0.17	0-1	1-16	16-18	18-86	0.83	220.088	Monument
B-204-150		5747995.696	2262065.512		150			0-115	115-150	0.17	-	-	86-113	113-150		220.240	Monument
B-205-90	2/26/01	5748205.082	2262111.786	120	90		X	0-70	70-90	0.17	0-1	1-65.5	65.5-67.5	67.5-91	0.83	226.259	Monument
B-205-120		5748205.382	2262111.986		120			0-110	110-120	0.17	-	-	91-107	107-120		226.270	Monument
B-206	2/27/01	5747315.167	2261730.086	85	85	X		0-35	35-85	0.17	0-1	1-28	28-30	30-85	0.67	180.860	Monument
B-207	3/1/01	5746487.243	2261914.606	75	75	X		0-35	35-75	0.17	0-1	1-31	31-33	33-75	0.67	87.377	Monument
B-208	3/1/01	5746711.713	2262395.472	95	95	X		0-50	50-95	0.17	0-1	1-45.5	45.5-47.5	47.5-95	0.67	188.149	Monument
B-209	3/2/01	5746982.122	2262931.984	55	55	X		0-20	20-55	0.17	0-1	1-15.5	15.5-17.5	17.5-55	0.67	75.420	Flush
B-210	3/1/01	5747108.450	2262811.642	75	75	X		0-30	30-75	0.17	0-1	1-26	26-28	28-75	0.67	100.450	Flush
B-211	3/2/01	5747344.627	2262795.586	40	40	X		0-5	5-40	0.17	0-1	1-3.5	-	3.5-40	0.67	36.027	Flush
B-212	3/2/01	5747547.446	2262746.874	30	30	X		0-5	5-30	0.17	0-1	1-3.5	-	3.5-30	0.67	24.887	Flush
B-213-50	3/5/01	5747835.822	2262139.083	80	50		X	0-20	20-50	0.17	0-1	1-16	16-18	18-51	0.83	222.767	Monument
B-213-80		5747835.840	2262138.824		80			0-60	60-80	0.17	-	-	51-58	58-80		222.787	Monument
B-215	5/30/02	5747202.685	2261549.425	140	140	X		0-90	90-140	0.17	0-1	1-80	80-83	83-140	0.67	173.75	Flush
B-216	4/4/03	5746450.560	2261857.329	80	77.5	X		0-37.5	37.5-77.5	0.17	0-1	-	1-35.5	35.5-77.5	0.67	73.87	Monument
B-217	4/3/03	5746391.997	2261895.207	80	79.5	X		0-39.5	39.5-79.5	0.17	0-1	-	1-37.5	37.5-79.5	0.67	76.4	Monument
B-223-48	5/11/04	5746715.842	2261678.311	86	45		X	0-10	10-45	0.17	0-1	-	0-9	9-45	0.67	88.935	Monument
B-223-88		5746715.591	2261678.458	86	86			0-55	55-85	0.17	0-1	-	45-53.5	53.5-85	0.67	88.892	Monument
B-224	6/20/11	5746676.36	2261752.57	95	95	X		0-65	65-95	0.17	0-1	1-60	60-63	63-95	0.67	89.060	Monument
B-225	6/21/11	5746745.64	2261736.70	95	95	X		0-65	65-95	0.17	0-1	1-60	60-63	63-95	0.67	92.190	Monument
B-226	6/22/11	5746794.12	2261642.89	95	95	X		0-65	65-95	0.17	0-1	1-60	60-63	63-95	0.67	90.510	Monument
B-230	8/3/11	5746980.38	2261494.44	95	95	X		0-65	65-95	0.17	0-1	1-60	60-63	63-95	0.67	94.039	Flush
B-231	8/4/11	5747021.13	2261492.41	100	100	X		0-70	70-100	0.17	0-1	1-65	65-68	68-100	0.67	94.050	Flush
SP-1[3]	3/2/01	5746243.671	2262612.716	120	120	X		0-95	95-120	0.17	0-1	-	1-94	94-120	0.67	171.748	Monument
SP-2[3]	3/2/01	5746551.744	2261951.607	50.5	50	X		0-30	30-50	0.17	0-1	-	1-29	29-50.5	0.67	92.612	Monument
SP-3[3]	3/2/01	5746934.062	2262251.257	25	25	X		0-20	20-25	0.17	0-1	-	1-19	19-25	0.67	136.785	Monument
SP-4[3]	3/2/01	5747043.436	2262437.708	60.5	60	X		0-40	40-60	0.17	0-1	-	1-39	39-60	0.67	151.986	Flush
SP-5[3]	3/4/01	5747059.235	2262015.298	60.5	60	X		0-40	40-60	0.17	0-1	-	1-38	38-60	0.67	134.754	Flush

GROUND WATER MONITORING WELL CONSTRUCTION DATA

Former Unocal Terminal, Avila Beach, CA

WELL NO.	DATE DRILLED	EASTING	NORTHING	TOTAL DEPTH (ft)		WELL TYPE		DEPTH INTERVALS (See attached typical well construction details for explanation)								TOC ELEV.	WELL HEAD COMPLETION
								CASING (ft)		ANNULUS (ft)							
				BORING	WELL	SINGLE	NESTED	a	b	c	d	e	f	g	h	(ft a.m.s.l.)	
SP-6[3]	3/3/01	5747061.248	2261834.592	50.5	50	X		0-25	25-50	0.17	0-1	-	1-24	24-50	0.67	153.673	Monument
SP-7[3]	3/4/01	5747385.538	2262231.911	125	125	X		0-50	50-125	0.17	0-1	-	1-49	49-125	0.67	217.541	Monument
SP-8[3]	3/6/01	5747538.798	2262051.277	100.5	100	X		0-45	45-100	0.17	0-1	-	1-43.5	43.5-100	0.67	182.584	Monument
SP-9[3]	3/5/01	5748044.320	2261815.113	115.5	115	X		0-75	75-115	0.17	0-1	-	1-74	74-115	0.67	223.528	Flush
GMW-14	3/18/97	5746038.333	2262574.978	130	130	X		0-65	65-130	0.33	0-1	1-60	60-62	62-130	0.92	135.76	Flush
GMW-15	3/20/97	5745914.737	2262195.109	70	65	X		0-15	15-65	0.33	0-1	-	1-13	13-65	0.92	84.93	Flush
GMW-16	3/22/94	5746137.440	2262875.681	75	75	X		0-15	15-75	0.33	0.1	-	1-13	13-75	0.92	76.95	Flush

Notes:

(1) Well B-35 (dual well) installed in two separate boreholes side by side.

(2) Wells B-198 and B-199 installed with conductor casing to depths of 136 and 55 feet, respectively.

(3) SP- wells were constructed as combination multi-level soil gas probes and ground water monitoring wells. These wells were constructed with multiple sand zones within the sanitary seal.

(4) Wells B-35-45, B-51, B-61, and B-152 have been destroyed for various reasons.

APPENDIX A-2
Summary of Historical Fluid Level Data

Summary of Historical Groundwater Elevation Data
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

Well ID	Zone of Completion	Date Measured	Measuring Pt. Elevation (ft MSL)	Depth to Ground Water (ft)	LNAPL Thickness (ft)	LNAPL-Groundwater Interface Elevation (ft MSL)	Corrected Groundwater Elevation (ft MSL) **
B-12	Pismo Fm.	10/14/1997	136.32	17.63	Sheen	118.69	118.69
B-12	Pismo Fm.	10/30/1997	136.32	17.91	Sheen	118.41	118.41
B-12	Pismo Fm.	12/5/1997	136.32	12.64	Sheen	123.68	123.68
B-12	Pismo Fm.	2/16/1998	136.32	5.55	Sheen	130.77	130.77
B-12	Pismo Fm.	5/18/1998	136.32	11.41	Trace after purging	124.91	124.91
B-12	Pismo Fm.	6/19/1998	136.32	14.64	NA	121.68	121.68
B-12	Pismo Fm.	7/23/1998	136.32	16.81	NA	119.51	119.51
B-12	Pismo Fm.	8/17/1998	136.32	17.97	Trace after purging	118.35	118.35
B-12	Pismo Fm.	9/29/1998	136.32	19.88	NA	116.44	116.44
B-12	Pismo Fm.	10/25/1998	136.32	21.04	Sheen	115.28	115.28
B-12	Pismo Fm.	11/22/1998	136.32	19.89	Trace while purging	116.43	116.43
B-12	Pismo Fm.	12/23/1998	136.32	13.86	Sheen	122.46	122.46
B-12	Pismo Fm.	1/29/1999	136.32	13.05	Sheen	123.27	123.27
B-12	Pismo Fm.	2/25/1999	136.32	13.16	Sheen	123.16	123.16
B-12	Pismo Fm.	3/5/1999	136.32	13.97	Sheen	122.35	122.35
B-12	Pismo Fm.	4/9/1999	136.32	11.88	Sheen	124.44	124.44
B-12	Pismo Fm.	5/27/1999	136.32	16.54	Sheen	119.78	119.78
B-12	Pismo Fm.	6/17/1999	136.32	17.22	Sheen	119.10	119.10
B-12	Pismo Fm.	8/2/1999	136.32	20.07	Sheen	116.25	116.25
B-12	Pismo Fm.	8/25/1999	136.32	21.64	Sheen	114.68	114.68
B-12	Pismo Fm.	9/22/1999	136.32	23.03	Sheen	113.29	113.29
B-12	Pismo Fm.	11/4/1999	136.32	23.96	Sheen	112.36	112.36
B-12	Pismo Fm.	11/18/1999	136.32	25.65	Sheen	110.67	110.67
B-12	Pismo Fm.	12/23/1999	136.32	24.13	Sheen	112.19	112.19
B-12	Pismo Fm.	1/24/2000	136.32	25.19	Sheen	111.13	111.13
B-12	Pismo Fm.	2/22/2000	136.32	13.72	Sheen	122.60	122.60
B-12	Pismo Fm.	3/23/2000	136.32	13.65	Sheen	122.67	122.67
B-12	Pismo Fm.	4/29/2000	136.32	14.04	Sheen	122.28	122.28
B-12	Pismo Fm.	5/22/2000	136.32	16.68	Sheen	119.64	119.64
B-12	Pismo Fm.	6/22/2000	136.32	19.08	Sheen	117.24	117.24
B-12	Pismo Fm.	7/20/2000	136.32	19.18	Sheen	117.14	117.14
B-12	Pismo Fm.	8/28/2000	136.32	21.42	Sheen	114.90	114.90
B-12	Pismo Fm.	9/26/2000	136.32	23.27	Sheen	113.05	113.05
B-12	Pismo Fm.	10/31/2000	136.32	24.72	Trace	111.60	111.60
B-12	Pismo Fm.	11/27/2000	136.32	25.76	Trace	110.56	110.56
B-12	Pismo Fm.	2/19/2001	136.32	18.75	Trace	117.57	117.57
B-12	Pismo Fm.	5/2/2001	136.32	17.62	0.09	118.70	118.78
B-12	Pismo Fm.	8/20/2001	136.32	24.04	0.05	112.28	112.32
B-12	Pismo Fm.	12/7/2001	136.32	22.27	0.17	114.05	114.20
B-12	Pismo Fm.	2/9/2002	136.32	9.83	0.16	126.49	126.63
B-12	Pismo Fm.	5/28/2002	136.32	23.12	0.16	113.20	113.34
B-12	Pismo Fm.	8/26/2002	136.32	28.72	0.67	107.60	108.21
B-12	Pismo Fm.	11/12/2002	136.32	30.16	0.66	106.16	106.75
B-12	Pismo Fm.	3/10/2003	136.32	20.20	0.77	116.12	116.81
B-12	Pismo Fm.	6/9/2003	136.32	21.02	0.63	115.30	115.86
B-12	Pismo Fm.	8/18/2003	136.32	25.75	0.45	110.57	110.97
B-12	Pismo Fm.	11/10/2003	136.32	29.91	0.33	106.41	106.70

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Summary of Historical Groundwater Elevation Data
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

Well ID	Zone of Completion	Date Measured	Measuring Pt. Elevation (ft MSL)	Depth to Ground Water (ft)	LNAPL Thickness (ft)	LNAPL-Groundwater Interface Elevation (ft MSL)	Corrected Groundwater Elevation (ft MSL) **
B-12	Pismo Fm.	2/23/2004	136.32	26.55	0.95	109.77	110.62
B-12	Pismo Fm.	5/17/2004	136.32	29.70	1.90	106.62	108.33
B-12	Pismo Fm.	8/9/2004	136.32	30.05	0.15	106.27	106.41
B-12	Pismo Fm.	12/6/2004	136.32	30.15	0.44	106.17	106.56
B-12	Pismo Fm.	3/7/2005	136.32	13.35	0.61	122.97	123.52
B-12	Pismo Fm.	6/23/2005	136.32	21.79	0.58	114.53	115.05
B-12	Pismo Fm.	9/26/2005	136.32	-	NA	NA	NA
B-12	Pismo Fm.	11/28/2005	136.32	30.12	0.09	106.20	106.28
B-12	Pismo Fm.	3/1/2006	136.32	-	NA	NA	NA
B-12	Pismo Fm.	6/6/2006	136.32	16.29	0.09	120.03	120.11
B-12	Pismo Fm.	11/21/2006	136.32	29.98	Trace	106.34	106.34
B-12	Pismo Fm.	5/22/2007	136.32	28.91	0.70	107.41	108.04
B-12	Pismo Fm.	11/20/2007	136.32	Dry	NA	NA	NA
B-12	Pismo Fm.	5/19/2007	136.32	Dry	NA	NA	NA
B-12	Pismo Fm.	5/19/2008	136.32	28.82	NA	107.50	107.50
B-12	Pismo Fm.	9/15/2008	136.32	-	NA	NA	NA
B-12	Pismo Fm.	11/17/2008	136.32	Dry	NA	NA	NA
B-12	Pismo Fm.	5/4/2009	136.32	Dry	NA	NA	NA
B-12	Pismo Fm.	11/16/2009	136.32	Dry	NA	NA	NA
B-12	Pismo Fm.	4/26/2010	136.32	21.00	0.91	115.32	116.14
B-12	Pismo Fm.	11/15/2010	136.32	30.15	0.91	106.17	106.17
B-12	Pismo Fm.	5/2/2011	136.32	18.21	0.60	118.11	118.65
B-12	Pismo Fm.	11/14/2011	136.32	30.14	0.02	106.18	106.20
B-12	Pismo Fm.	5/7/2012	136.32	20.32	0.67	116.71	117.31
B-12	Pismo Fm.	11/5/2012	136.32	Dry	NA	NA	NA
B-14	Pismo Fm.	10/14/1997	138.07	16.65	NA	121.42	121.42
B-14	Pismo Fm.	10/30/1997	138.07	17.01	NA	121.06	121.06
B-14	Pismo Fm.	12/5/1997	138.07	11.88	0.06	126.19	126.25
B-14	Pismo Fm.	2/16/1998	138.07	3.08	0.10	134.99	135.08
B-14	Pismo Fm.	5/18/1998	138.07	9.62	Sheen	128.45	128.45
B-14	Pismo Fm.	6/19/1998	138.07	13.42	Sheen	124.65	124.65
B-14	Pismo Fm.	7/23/1998	138.07	16.02	Sheen	122.05	122.05
B-14	Pismo Fm.	8/17/1998	138.07	17.54	Trace	120.53	120.53
B-14	Pismo Fm.	9/29/1998	138.07	19.85	Trace	118.22	118.22
B-14	Pismo Fm.	10/25/1998	138.07	21.09	0.08	116.98	117.06
B-14	Pismo Fm.	11/22/1998	138.07	18.82	Trace	119.25	119.25
B-14	Pismo Fm.	12/23/1998	138.07	14.96	Sheen	123.11	123.11
B-14	Pismo Fm.	1/29/1999	138.07	12.00	Sheen	126.07	126.07
B-14	Pismo Fm.	2/25/1999	138.07	11.64	Sheen	126.43	126.43
B-14	Pismo Fm.	3/5/1999	138.07	12.62	Sheen	125.45	125.45
B-14	Pismo Fm.	4/9/1999	138.07	10.20	Sheen	127.87	127.87
B-14	Pismo Fm.	5/27/1999	138.07	15.48	Sheen	122.59	122.59
B-14	Pismo Fm.	6/17/1999	138.07	16.46	Sheen	121.61	121.61
B-14	Pismo Fm.	8/2/1999	138.07	19.83	Trace	118.24	118.24
B-14	Pismo Fm.	8/25/1999	138.07	21.75	Trace	116.32	116.32
B-14	Pismo Fm.	9/22/1999	138.07	23.17	Sheen	114.90	114.90

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Avila Beach, CA

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B-14	Pismo Fm.	11/4/1999	138.07	24.12	Sheen	113.95	113.95
B-14	Pismo Fm.	11/18/1999	138.07	23.56	Sheen	114.51	114.51
B-14	Pismo Fm.	12/23/1999	138.07	24.30	Sheen	113.77	113.77
B-14	Pismo Fm.	1/24/2000	138.07	22.13	Trace	115.94	115.94
B-14	Pismo Fm.	2/22/2000	138.07	12.75	Sheen	125.32	125.32
B-14	Pismo Fm.	3/23/2000	138.07	11.52	Trace	126.55	126.55
B-14	Pismo Fm.	4/29/2000	138.07	13.15	Sheen	124.92	124.92
B-14	Pismo Fm.	5/22/2000	138.07	15.16	Sheen	122.91	122.91
B-14	Pismo Fm.	6/22/2000	138.07	16.28	Sheen	121.79	121.79
B-14	Pismo Fm.	7/20/2000	138.07	16.95	Sheen	121.12	121.12
B-14	Pismo Fm.	8/28/2000	138.07	21.38	Sheen	116.69	116.70
B-14	Pismo Fm.	9/26/2000	138.07	23.47	Sheen	114.60	114.60
B-14	Pismo Fm.	10/31/2000	138.07	23.44	Trace	114.63	114.63
B-14	Pismo Fm.	11/27/2000	138.07	25.32	Trace	112.75	112.75
B-14	Pismo Fm.	2/19/2001	138.07	17.25	Sheen	120.82	120.82
B-14	Pismo Fm.	5/2/2001	138.07	16.88	0.03	121.19	121.22
B-14	Pismo Fm.	8/20/2001	138.07	24.67	Trace	113.40	113.40
B-14	Pismo Fm.	12/7/2001	138.07	21.23	Sheen	116.84	116.84
B-14	Pismo Fm.	2/9/2002	138.07	8.44	Sheen	129.63	129.63
B-14	Pismo Fm.	5/28/2002	138.07	23.58	Sheen	114.49	114.49
B-14	Pismo Fm.	8/26/2002	138.07	28.26	Trace	109.81	109.81
B-14	Pismo Fm.	11/12/2002	138.07	26.07	0.01	112.00	112.01
B-14	Pismo Fm.	3/10/2003	138.07	19.13	Sheen	118.94	118.94
B-14	Pismo Fm.	6/9/2003	138.07	20.38	Trace	117.69	117.69
B-14	Pismo Fm.	8/18/2003	138.07	23.52	Trace	114.55	114.55
B-14	Pismo Fm.	11/10/2003	138.07	28.71	Trace	109.36	109.36
B-14	Pismo Fm.	2/23/2004	138.07	23.45	Trace	114.62	114.62
B-14	Pismo Fm.	5/17/2004	138.07	28.05	Trace	110.02	110.02
B-14	Pismo Fm.	8/9/2004	138.07	29.15	Trace	108.92	108.92
B-14	Pismo Fm.	12/6/2004	138.07	27.07	Sheen	111.00	111.00
B-14	Pismo Fm.	3/7/2005	138.07	10.73	Sheen	127.34	127.34
B-14	Pismo Fm.	6/23/2005	138.07	21.54	Sheen	116.53	116.53
B-14	Pismo Fm.	9/26/2005	138.07	-	NA	NA	NA
B-14	Pismo Fm.	11/28/2005	138.07	28.88	Trace	109.19	109.19
B-14	Pismo Fm.	3/1/2006	138.07	-	NA	NA	NA
B-14	Pismo Fm.	6/6/2006	138.07	15.33	NA	122.74	122.74
B-14	Pismo Fm.	11/21/2006	138.07	Dry	NA	NA	NA
B-14	Pismo Fm.	5/22/2007	138.07	27.83	Sheen	110.24	110.24
B-14	Pismo Fm.	11/20/2007	138.07	Dry	NA	NA	NA
B-14	Pismo Fm.	5/19/2008	138.07	28.72	NA	109.35	109.35
B-14	Pismo Fm.	9/15/2008	138.07	-	NA	NA	NA
B-14	Pismo Fm.	11/17/2008	138.07	Dry	NA	NA	NA
B-14	Pismo Fm.	5/4/2009	138.07	28.89	NA	109.18	109.18
B-14	Pismo Fm.	11/16/2009	138.07	Dry	NA	NA	NA
B-14	Pismo Fm.	4/26/2010	138.07	19.90	0.01	118.17	118.18
B-14	Pismo Fm.	11/15/2010	138.07	28.48	Sheen	109.59	109.59
B-14	Pismo Fm.	5/2/2011	138.07	16.78	Sheen	121.29	121.29

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B-14	Pismo Fm.	11/14/2011	138.07	29.10	0.01	108.97	108.98
B-14	Pismo Fm.	5/7/2012	138.07	18.82	Sheen	119.25	119.25
B-14	Pismo Fm.	11/5/2012	138.07	Dry	NA	NA	NA
B-17	Pismo Fm.	10/14/1997	136.88	15.64	Trace	121.24	121.24
B-17	Pismo Fm.	10/30/1997	136.88	16.15	Trace	120.73	120.73
B-17	Pismo Fm.	12/5/1997	136.88	5.82	Sheen	131.06	131.06
B-17	Pismo Fm.	2/16/1998	136.88	0.00	Sheen	136.88	136.88
B-17	Pismo Fm.	5/18/1998	136.88	6.51	0.02	130.37	130.38
B-17	Pismo Fm.	6/19/1998	136.88	10.31	0.02	126.57	126.58
B-17	Pismo Fm.	7/23/1998	136.88	13.16	Trace	123.72	123.72
B-17	Pismo Fm.	8/17/1998	136.88	14.94	0.01	121.94	121.95
B-17	Pismo Fm.	9/29/1998	136.88	17.41	0.01	119.47	119.48
B-17	Pismo Fm.	10/25/1998	136.88	18.75	0.01	118.13	118.14
B-17	Pismo Fm.	11/22/1998	136.88	17.81	Trace	119.07	119.07
B-17	Pismo Fm.	12/23/1998	136.88	14.25	Trace	122.63	122.63
B-17	Pismo Fm.	1/29/1999	136.88	9.73	Trace	127.15	127.15
B-17	Pismo Fm.	2/25/1999	136.88	7.93	Sheen	128.95	128.95
B-17	Pismo Fm.	3/5/1999	136.88	8.76	Trace	128.12	128.12
B-17	Pismo Fm.	4/9/1999	136.88	6.58	Trace	130.30	130.30
B-17	Pismo Fm.	5/27/1999	136.88	12.04	Sheen	124.84	124.84
B-17	Pismo Fm.	6/17/1999	136.88	13.06	Sheen	123.82	123.82
B-17	Pismo Fm.	8/2/1999	136.88	16.68	Sheen	120.20	120.20
B-17	Pismo Fm.	8/25/1999	136.88	18.99	Sheen	117.89	117.89
B-17	Pismo Fm.	9/22/1999	136.88	20.94	Trace	115.94	115.94
B-17	Pismo Fm.	11/4/1999	136.88	22.81	Trace	114.07	114.07
B-17	Pismo Fm.	11/18/1999	136.88	23.35	Trace	113.53	113.53
B-17	Pismo Fm.	12/23/1999	136.88	22.87	Trace	114.01	114.01
B-17	Pismo Fm.	1/24/2000	136.88	21.53	Sheen	115.35	115.35
B-17	Pismo Fm.	2/22/2000	136.88	5.37	Sheen	131.51	131.51
B-17	Pismo Fm.	3/23/2000	136.88	7.60	0.01	129.28	129.29
B-17	Pismo Fm.	4/29/2000	136.88	9.58	0.01	127.30	127.31
B-17	Pismo Fm.	5/22/2000	136.88	11.32	Trace	125.56	125.56
B-17	Pismo Fm.	6/22/2000	136.88	13.19	0.01	123.69	123.70
B-17	Pismo Fm.	7/20/2000	136.88	14.14	0.01	122.74	122.75
B-17	Pismo Fm.	8/28/2000	136.88	18.50	Sheen	118.38	118.38
B-17	Pismo Fm.	9/26/2000	136.88	21.08	Sheen	115.80	115.80
B-17	Pismo Fm.	10/31/2000	136.88	22.50	Sheen	114.38	114.38
B-17	Pismo Fm.	11/27/2000	136.88	23.98	Trace	112.90	112.90
B-17	Pismo Fm.	2/19/2001	136.88	12.06	Trace	124.82	124.82
B-17	Pismo Fm.	5/2/2001	136.88	12.92	Heavy Sheen	123.96	123.96
B-17	Pismo Fm.	8/20/2001	136.88	22.85	0.02	114.03	114.04
B-17	Pismo Fm.	12/7/2001	136.88	15.54	Trace	121.34	121.34
B-17	Pismo Fm.	2/9/2002	136.88	7.46	Heavy Sheen	129.42	129.42
B-17	Pismo Fm.	5/28/2002	136.88	20.71	0.01	116.17	116.18
B-17	Pismo Fm.	8/26/2002	136.88	26.78	Trace	110.10	110.10
B-17	Pismo Fm.	11/12/2002	136.88	24.32	0.01	112.56	112.57

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B-17	Pismo Fm.	3/10/2003	136.88	14.87	0.01	122.01	122.02
B-17	Pismo Fm.	6/9/2003	136.88	16.56	0.01	120.32	120.33
B-17	Pismo Fm.	8/18/2003	136.88	21.33	Trace	115.55	115.55
B-17	Pismo Fm.	11/10/2003	136.88	28.00	0.01	108.88	108.89
B-17	Pismo Fm.	2/23/2004	136.88	19.17	Trace	117.71	117.71
B-17	Pismo Fm.	5/17/2004	136.88	26.72	Trace	110.16	110.16
B-17	Pismo Fm.	8/9/2004	136.88	33.73	1.5	103.15	104.50
B-17	Pismo Fm.	12/6/2004	136.88	25.71	Trace	111.17	111.17
B-17	Pismo Fm.	3/7/2005	136.88	7.44	0.08	129.44	129.51
B-17	Pismo Fm.	6/23/2005	136.88	17.89	0.38	118.99	119.33
B-17	Pismo Fm.	9/26/2005	136.88	-	NA	NA	NA
B-17	Pismo Fm.	11/28/2005	136.88	31.40	0.61	105.48	106.03
B-17	Pismo Fm.	3/1/2006	136.88	-	NA	NA	NA
B-17	Pismo Fm.	6/6/2006	136.88	12.05	0.05	124.83	124.88
B-17	Pismo Fm.	11/21/2006	136.88	31.15	0.36	105.73	106.05
B-17	Pismo Fm.	5/22/2007	136.88	27.22	0.18	109.66	109.82
B-17	Pismo Fm.	11/20/2007	136.88	34.75	NA	102.13	102.13
B-17	Pismo Fm.	5/19/2008	136.88	26.65	0.01	110.23	110.46
B-17	Pismo Fm.	9/15/2008	136.88	-	NA	NA	NA
B-17	Pismo Fm.	11/17/2008	136.88	24.99	Sheen	111.89	111.89
B-17	Pismo Fm.	5/4/5009	136.88	29.73	0.06	107.15	107.20
B-17	Pismo Fm.	11/16/2009	136.88	Dry	NA	NA	NA
B-17	Pismo Fm.	4/26/2010	136.88	16.71	0.07	120.17	120.23
B-17	Pismo Fm.	11/15/2010	136.88	31.32	0.38	105.56	105.90
B-17	Pismo Fm.	5/2/2011	136.88	14.15	1.59	122.73	124.16
B-17	Pismo Fm.	11/14/2011	136.88	29.22	0.4	107.66	108.02
B-17	Pismo Fm.	5/7/2012	136.88	16.54	1.41	121.75	123.02
B-17	Pismo Fm.	11/5/2012	136.88	32.74	0.1	104.24	104.33
B-29-30	Obispo Fm.	10/14/1997	96.13	19.26	Sheen	76.87	76.87
B-29-30	Obispo Fm.	10/30/1997	96.13	19.70	Sheen	76.43	76.43
B-29-30	Obispo Fm.	12/5/1997	96.13	19.19	Sheen	76.94	76.94
B-29-30	Obispo Fm.	2/16/1998	96.13	13.85	Sheen	82.28	82.28
B-29-30	Obispo Fm.	5/18/1998	96.13	14.04	Trace	82.09	82.09
B-29-30	Obispo Fm.	6/19/1998	96.13	14.75	Slight Trace	81.38	81.38
B-29-30	Obispo Fm.	7/23/1998	96.13	15.69	Slight Trace	80.44	80.44
B-29-30	Obispo Fm.	8/17/1998	96.13	16.19	Slight Trace	79.94	79.94
B-29-30	Obispo Fm.	9/29/1998	96.13	17.43	Trace	78.70	78.70
B-29-30	Obispo Fm.	10/25/1998	96.13	18.23	Slight Trace	77.90	77.90
B-29-30	Obispo Fm.	11/22/1998	96.13	18.43	Slight Trace	77.70	77.70
B-29-30	Obispo Fm.	12/23/1998	96.13	18.30	Slight Trace	77.83	77.83
B-29-30	Obispo Fm.	1/29/1999	96.13	17.24	Slight Trace	78.89	78.89
B-29-30	Obispo Fm.	2/25/1999	96.13	15.63	Slight Trace	80.50	80.50
B-29-30	Obispo Fm.	3/5/1999	96.13	15.48	Slight Trace	80.65	80.65
B-29-30	Obispo Fm.	4/9/1999	96.13	15.06	Slight Trace	81.07	81.07
B-29-30	Obispo Fm.	5/27/1999	96.13	15.80	Slight Trace	80.33	80.33
B-29-30	Obispo Fm.	6/17/1999	96.13	15.92	Slight Trace	80.21	80.21

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B-29-30	Obispo Fm.	8/2/1999	96.13	16.41	Sheen	79.72	79.72
B-29-30	Obispo Fm.	8/25/1999	96.13	16.84	Sheen	79.29	79.29
B-29-30	Obispo Fm.	9/22/1999	96.13	17.44	Sheen	78.69	78.69
B-29-30	Obispo Fm.	11/4/1999	96.13	18.32	Sheen	77.81	77.81
B-29-30	Obispo Fm.	11/18/1999	96.13	17.32	Sheen	78.81	78.81
B-29-30	Obispo Fm.	12/23/1999	96.13	18.50	Sheen	77.63	77.63
B-29-30	Obispo Fm.	1/24/2000	96.13	16.46	Sheen	79.67	79.67
B-29-30	Obispo Fm.	2/22/2000	96.13	15.31	Sheen	80.82	80.82
B-29-30	Obispo Fm.	3/23/2000	96.13	15.40	Trace	80.73	80.73
B-29-30	Obispo Fm.	4/29/2000	96.13	15.98	Trace	80.15	80.15
B-29-30	Obispo Fm.	5/22/2000	96.13	15.61	Trace	80.52	80.52
B-29-30	Obispo Fm.	6/22/2000	96.13	16.12	Trace	80.01	80.01
B-29-30	Obispo Fm.	7/20/2000	96.13	17.08	Trace	79.05	79.05
B-29-30	Obispo Fm.	8/28/2000	96.13	18.05	Sheen	78.08	78.08
B-29-30	Obispo Fm.	9/26/2000	96.13	18.85	Sheen	77.28	77.28
B-29-30	Obispo Fm.	10/31/2000	96.13	22.54	Sheen	73.59	73.59
B-29-30	Obispo Fm.	11/27/2000	96.13	20.32	Sheen	75.81	75.81
B-29-30	Obispo Fm.	2/19/2001	96.13	17.88	Sheen/Trace	78.25	78.25
B-29-30	Obispo Fm.	5/2/2001	96.13	16.44	Sheen	79.69	79.69
B-29-30	Obispo Fm.	8/20/2001	96.13	19.87	Heavy Sheen	76.26	76.26
B-29-30	Obispo Fm.	12/7/2001	96.13	21.06	Trace	75.07	75.07
B-29-30	Obispo Fm.	2/9/2002	96.13	16.34	Sheen	79.79	79.79
B-29-30	Obispo Fm.	5/28/2002	96.13	17.96	Sheen	78.17	78.17
B-29-30	Obispo Fm.	8/26/2002	96.13	20.27	Trace	75.86	75.86
B-29-30	Obispo Fm.	11/12/2002	96.13	22.87	Trace	73.26	73.26
B-29-30	Obispo Fm.	3/10/2003	96.13	17.16	Trace	78.97	78.97
B-29-30	Obispo Fm.	6/9/2003	96.13	17.98	Trace	78.15	78.15
B-29-30	Obispo Fm.	8/18/2003	96.13	20.16	Trace	75.97	75.97
B-29-30	Obispo Fm.	11/10/2003	96.13	23.66	Trace	72.47	72.47
B-29-30	Obispo Fm.	2/23/2004	96.13	20.06	Trace	76.07	76.07
B-29-30	Obispo Fm.	5/17/2004	96.13	22.90	Trace	73.23	73.23
B-29-30	Obispo Fm.	8/9/2004	96.13	28.67	1.67	67.46	68.96
B-29-30	Obispo Fm.	12/6/2004	96.13	23.71	0.70	72.42	64.85
B-29-30	Obispo Fm.	3/7/2005	96.13	20.58	0.69	75.55	76.17
B-29-30	Obispo Fm.	6/23/2005	96.13	22.23	0.82	73.90	74.64
B-29-30	Obispo Fm.	9/26/2005	96.13	-	NA	NA	NA
B-29-30	Obispo Fm.	11/28/2005	96.13	28.86	1.16	67.27	68.31
B-29-30	Obispo Fm.	3/1/2006	96.13	-	NA	NA	NA
B-29-30	Obispo Fm.	6/6/2006	96.13	19.61	0.28	76.52	76.77
B-29-30	Obispo Fm.	11/21/2006	96.13	28.52	1.32	67.61	68.80
B-29-30	Obispo Fm.	5/22/2007	96.13	26.88	1.75	69.25	70.83
B-29-30	Obispo Fm.	11/20/2007	96.13	30.29	0.03	65.84	65.87
B-29-30	Obispo Fm.	5/19/2008	96.13	28.67	1.77	67.46	69.05
B-29-30	Obispo Fm.	9/15/2008	96.13	-	NA	NA	NA
B-29-30	Obispo Fm.	11/17/2008	96.13	32.59	2.11	63.54	65.44
B-29-30	Obispo Fm.	5/4/2009	96.13	29.39	2.26	66.74	68.77
B-29-30	Obispo Fm.	11/16/2009	96.13	32.18	1.38	63.95	65.19

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B-29-30	Obispo Fm.	4/26/2010	96.13	22.60	0.10	73.53	73.62
B-29-30	Obispo Fm.	11/15/2010	96.13	29.55	Sheen	66.58	66.58
B-29-30	Obispo Fm.	5/2/2011	96.13	20.60	0.50	75.53	75.98
B-29-30	Obispo Fm.	11/14/2011	96.13	25.79	0.01	70.34	70.35
B-29-30	Obispo Fm.	5/7/2012	96.13	20.60	Sheen	75.53	75.53
B-29-30	Obispo Fm.	11/5/2012	96.13	28.07	Sheen	68.06	68.06
B-29-50	Obispo Fm.	10/14/1997	96.04	21.88	Trace	74.16	74.16
B-29-50	Obispo Fm.	10/30/1997	96.04	22.15	Trace	73.89	73.89
B-29-50	Obispo Fm.	12/5/1997	96.04	21.59	Trace	74.45	74.45
B-29-50	Obispo Fm.	2/16/1998	96.04	19.00	Sheen	77.04	77.04
B-29-50	Obispo Fm.	5/18/1998	96.04	18.57	Sheen	77.47	77.47
B-29-50	Obispo Fm.	6/19/1998	96.04	18.67	Sheen	77.37	77.37
B-29-50	Obispo Fm.	7/23/1998	96.04	19.31	NA	76.73	76.73
B-29-50	Obispo Fm.	8/17/1998	96.04	19.57	Sheen	76.47	76.47
B-29-50	Obispo Fm.	9/29/1998	96.04	20.31	Sheen	75.73	75.73
B-29-50	Obispo Fm.	10/25/1998	96.04	20.84	Sheen	75.20	75.20
B-29-50	Obispo Fm.	11/22/1998	96.04	20.82	Sheen	75.22	75.22
B-29-50	Obispo Fm.	12/23/1998	96.04	20.93	Sheen	75.11	75.11
B-29-50	Obispo Fm.	1/29/1999	96.04	20.34	Sheen	75.70	75.70
B-29-50	Obispo Fm.	2/25/1999	96.04	19.69	Sheen	76.35	76.35
B-29-50	Obispo Fm.	3/5/1999	96.04	19.51	Sheen	76.53	76.53
B-29-50	Obispo Fm.	4/9/1999	96.04	19.22	Sheen	76.82	76.82
B-29-50	Obispo Fm.	5/27/1999	96.04	19.31	Sheen	76.73	76.73
B-29-50	Obispo Fm.	6/17/1999	96.04	19.37	Sheen	76.67	76.67
B-29-50	Obispo Fm.	8/2/1999	96.04	19.67	Sheen	76.37	76.37
B-29-50	Obispo Fm.	8/25/1999	96.04	20.03	Sheen	76.01	76.01
B-29-50	Obispo Fm.	9/22/1999	96.04	20.71	Sheen	75.33	75.33
B-29-50	Obispo Fm.	11/4/1999	96.04	21.18	Sheen	74.86	74.86
B-29-50	Obispo Fm.	11/18/1999	96.04	21.14	Slight Trace	74.90	74.90
B-29-50	Obispo Fm.	12/23/1999	96.04	21.63	Sheen	74.41	74.41
B-29-50	Obispo Fm.	1/24/2000	96.04	21.34	Sheen	74.70	74.70
B-29-50	Obispo Fm.	2/22/2000	96.04	20.95	Sheen	75.09	75.09
B-29-50	Obispo Fm.	3/23/2000	96.04	20.51	Sheen	75.53	75.53
B-29-50	Obispo Fm.	4/29/2000	96.04	20.18	Sheen	75.86	75.86
B-29-50	Obispo Fm.	5/22/2000	96.04	19.98	Sheen	76.06	76.06
B-29-50	Obispo Fm.	6/22/2000	96.04	20.10	Sheen	75.94	75.94
B-29-50	Obispo Fm.	7/20/2000	96.04	29.75	Sheen	66.29	66.29
B-29-50	Obispo Fm.	8/28/2000	96.04	21.42	Sheen	74.62	74.62
B-29-50	Obispo Fm.	9/26/2000	96.04	21.92	Sheen	74.12	74.12
B-29-50	Obispo Fm.	10/31/2000	96.04	19.84	Sheen	76.20	76.20
B-29-50	Obispo Fm.	11/27/2000	96.04	23.22	Sheen	72.82	72.82
B-29-50	Obispo Fm.	2/19/2001	96.04	23.00	Sheen	73.04	73.04
B-29-50	Obispo Fm.	5/2/2001	96.04	21.10	Sheen	74.94	74.94
B-29-50	Obispo Fm.	8/20/2001	96.04	23.25	Sheen	72.79	72.79
B-29-50	Obispo Fm.	12/7/2001	96.04	24.28	Sheen	71.76	71.76
B-29-50	Obispo Fm.	2/9/2002	96.04	22.29	Sheen	73.75	73.75

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B-29-50	Obispo Fm.	5/28/2002	96.04	22.46	Sheen	73.58	73.58
B-29-50	Obispo Fm.	8/26/2002	96.04	23.68	Sheen	72.36	72.36
B-29-50	Obispo Fm.	11/12/2002	96.04	25.42	Sheen	70.62	70.62
B-29-50	Obispo Fm.	3/10/2003	96.04	23.84	Sheen	72.20	72.20
B-29-50	Obispo Fm.	6/9/2003	96.04	28.84	0.03	67.20	68.75
B-29-50	Obispo Fm.	8/18/2003	96.04	33.28	0.01	62.76	64.29
B-29-50	Obispo Fm.	11/10/2003	96.04	37.50	0.05	58.54	60.11
B-29-50	Obispo Fm.	2/23/2004	96.04	40.20	Trace	55.84	57.37
B-29-50	Obispo Fm.	5/17/2004	96.04	41.30	Trace	54.74	56.27
B-29-50	Obispo Fm.	8/9/2004	96.04	42.90	Sheen	53.14	54.67
B-29-50	Obispo Fm.	12/6/2004	96.04	44.30	Sheen	51.74	53.27
B-29-50	Obispo Fm.	3/7/2005	96.04	34.52	Trace	61.52	63.05
B-29-50	Obispo Fm.	6/23/2005	96.04	34.34	0.05	61.70	63.28
B-29-50	Obispo Fm.	9/26/2005	96.04	-	NA	NA	NA
B-29-50	Obispo Fm.	6/9/2003	96.04	23.42	Sheen	72.62	72.62
B-29-50	Obispo Fm.	8/18/2003	96.04	24.68	Sheen	71.36	71.36
B-29-50	Obispo Fm.	11/10/2003	96.04	26.62	Sheen	69.42	69.42
B-29-50	Obispo Fm.	2/23/2004	96.04	29.35	Sheen	66.69	66.69
B-29-50	Obispo Fm.	5/17/2004	96.04	30.50	Sheen	65.54	65.54
B-29-50	Obispo Fm.	8/9/2004	96.04	32.48	Sheen	63.56	63.56
B-29-50	Obispo Fm.	12/6/2004	96.04	31.28	Sheen	64.76	64.76
B-29-50	Obispo Fm.	3/7/2005	96.04	28.88	Sheen	67.16	67.16
B-29-50	Obispo Fm.	6/23/2005	96.04	28.70	Sheen	67.34	67.34
B-29-50	Obispo Fm.	9/26/2005	96.04	-	NA	NA	NA
B-29-50	Obispo Fm.	11/28/2005	96.04	31.19	Sheen	64.85	64.85
B-29-50	Obispo Fm.	3/1/2006	96.04	-	NA	NA	NA
B-29-50	Obispo Fm.	6/6/2006	96.04	27.17	NA	68.87	68.87
B-29-50	Obispo Fm.	11/21/2006	96.04	30.77	NA	65.27	65.27
B-29-50	Obispo Fm.	5/22/2007	96.04	30.27	Sheen*	65.77	65.77
B-29-50	Obispo Fm.	11/20/2007	96.04	33.73	NA	62.31	62.31
B-29-50	Obispo Fm.	5/19/2008	96.04	31.92	NA	64.12	64.12
B-29-50	Obispo Fm.	9/15/2008	96.04	-	NA	NA	NA
B-29-50	Obispo Fm.	11/17/2008	96.04	33.76	NA	62.28	62.28
B-29-50	Obispo Fm.	5/4/2009	96.04	33.46	Sheen	62.58	62.58
B-29-50	Obispo Fm.	11/16/2009	96.04	34.50	Sheen	61.54	61.54
B-29-50	Obispo Fm.	4/26/2010	96.04	31.65	0.01	64.39	64.40
B-29-50	Obispo Fm.	11/15/2010	96.04	33.10	NA	62.94	62.94
B-29-50	Obispo Fm.	5/2/2011	96.04	28.78	NA	67.26	67.26
B-29-50	Obispo Fm.	11/14/2011	96.04	30.77	NA	65.27	65.27
B-29-50	Obispo Fm.	5/7/2012	96.04	29.70	Sheen	66.34	66.34
B-29-50	Obispo Fm.	11/5/2012	96.04	32.78	Sheen	63.26	63.26
B-30	Obispo Fm.	10/14/1997	97.57	24.58	NA	72.99	72.99
B-30	Obispo Fm.	10/30/1997	97.57	24.88	NA	72.69	72.69
B-30	Obispo Fm.	12/5/1997	97.57	23.24	NA	74.33	74.33
B-30	Obispo Fm.	2/16/1998	97.57	19.52	NA	78.05	78.05
B-30	Obispo Fm.	5/18/1998	97.57	19.01	NA	78.56	78.56

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B-30	Obispo Fm.	6/19/1998	97.57	19.57	NA	78.00	78.00
B-30	Obispo Fm.	7/23/1998	97.57	20.53	NA	77.04	77.04
B-30	Obispo Fm.	8/17/1998	97.57	21.22	NA	76.35	76.35
B-30	Obispo Fm.	9/29/1998	97.57	22.66	NA	74.91	74.91
B-30	Obispo Fm.	10/25/1998	97.57	23.90	NA	73.67	73.67
B-30	Obispo Fm.	11/22/1998	97.57	24.80	NA	72.77	72.77
B-30	Obispo Fm.	12/23/1998	97.57	23.33	NA	74.24	74.24
B-30	Obispo Fm.	1/29/1999	97.57	21.52	NA	76.05	76.05
B-30	Obispo Fm.	2/25/1999	97.57	20.44	NA	77.13	77.13
B-30	Obispo Fm.	3/5/1999	97.57	20.26	NA	77.31	77.31
B-30	Obispo Fm.	4/9/1999	97.57	19.98	NA	77.59	77.59
B-30	Obispo Fm.	5/27/1999	97.57	20.38	NA	77.19	77.19
B-30	Obispo Fm.	6/17/1999	97.57	20.48	NA	77.09	77.09
B-30	Obispo Fm.	8/2/1999	97.57	22.13	NA	75.44	75.44
B-30	Obispo Fm.	8/25/1999	97.57	23.49	NA	74.08	74.08
B-30	Obispo Fm.	9/22/1999	97.57	25.29	NA	72.28	72.28
B-30	Obispo Fm.	11/4/1999	97.57	26.20	NA	71.37	71.37
B-30	Obispo Fm.	11/18/1999	97.57	29.09	NA	68.48	68.48
B-30	Obispo Fm.	12/23/1999	97.57	26.78	NA	70.79	70.79
B-30	Obispo Fm.	1/24/2000	97.57	30.52	NA	67.05	67.05
B-30	Obispo Fm.	2/22/2000	97.57	28.42	NA	69.15	69.15
B-30	Obispo Fm.	3/23/2000	97.57	23.94	NA	73.63	73.63
B-30	Obispo Fm.	4/29/2000	97.57	22.84	NA	74.73	74.73
B-30	Obispo Fm.	5/22/2000	97.57	22.33	NA	75.24	75.24
B-30	Obispo Fm.	6/22/2000	97.57	22.30	NA	75.27	75.27
B-30	Obispo Fm.	7/20/2000	97.57	24.57	NA	73.00	73.00
B-30	Obispo Fm.	8/28/2000	97.57	26.52	NA	71.05	71.05
B-30	Obispo Fm.	9/26/2000	97.57	28.24	NA	69.33	69.33
B-30	Obispo Fm.	10/31/2000	97.57	31.45	NA	66.12	66.12
B-30	Obispo Fm.	11/27/2000	97.57	31.96	NA	65.61	65.61
B-30	Obispo Fm.	2/19/2001	97.57	22.98	Sheen	74.59	74.59
B-30	Obispo Fm.	5/2/2001	97.57	25.34	Heavy Sheen	72.23	72.23
B-30	Obispo Fm.	8/20/2001	97.57	30.82	Sheen	66.75	66.75
B-30	Obispo Fm.	12/7/2001	97.57	33.75	Sheen	63.82	63.82
B-30	Obispo Fm.	2/9/2002	97.57	26.35	Heavy Sheen	71.22	71.22
B-30	Obispo Fm.	5/28/2002	97.57	27.50	0.01	70.07	70.07
B-30	Obispo Fm.	8/26/2002	97.57	32.99	Trace	64.58	64.58
B-30	Obispo Fm.	11/12/2002	97.57	35.10	Trace	62.47	62.47
B-30	Obispo Fm.	3/10/2003	97.57	30.28	Trace	67.29	67.29
B-30	Obispo Fm.	6/9/2003	97.57	28.84	0.03	68.73	68.75
B-30	Obispo Fm.	8/18/2003	97.57	33.28	0.01	64.29	64.29
B-30	Obispo Fm.	11/10/2003	97.57	37.50	0.05	60.07	60.11
B-30	Obispo Fm.	2/23/2004	97.57	40.20	Trace	57.37	57.37
B-30	Obispo Fm.	5/17/2004	97.57	41.30	Trace	56.27	56.27
B-30	Obispo Fm.	8/9/2004	97.57	42.90	Sheen	54.67	54.67
B-30	Obispo Fm.	12/6/2004	97.57	44.30	Sheen	53.27	53.27
B-30	Obispo Fm.	3/7/2005	97.57	34.52	Trace	63.05	63.05

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B-30	Obispo Fm.	6/23/2005	97.57	34.34	0.05	63.23	63.28
B-30	Obispo Fm.	9/26/2005	97.57	-	NA	NA	NA
B-30	Obispo Fm.	11/28/2005	97.57	42.42	0.01	55.15	55.16
B-30	Obispo Fm.	3/1/2006	97.57	-	NA	NA	NA
B-30	Obispo Fm.	6/6/2006	97.57	30.25	Trace	67.32	67.32
B-30	Obispo Fm.	11/21/2006	97.57	40.76	0.11	56.81	56.91
B-30	Obispo Fm.	5/22/2007	97.57	40.57	0.02	57.00	57.02
B-30	Obispo Fm.	11/20/2007	97.57	44.14	NA	53.43	53.43
B-30	Obispo Fm.	5/19/2008	97.57	41.51	0.01	56.06	56.07
B-30	Obispo Fm.	9/15/2008	97.57	-	NA	NA	NA
B-30	Obispo Fm.	11/17/2008	97.57	45.13	Sheen	52.44	52.44
B-30	Obispo Fm.	5/4/2009	97.57	45.25	Sheen	52.32	52.32
B-30	Obispo Fm.	11/16/2009	97.57	46.29	Sheen	51.28	51.28
B-30	Obispo Fm.	4/26/2010	97.57	39.01	Sheen	58.56	58.56
B-30	Obispo Fm.	11/15/2010	97.57	44.33	Sheen	53.24	53.24
B-30	Obispo Fm.	5/2/2011	97.57	32.54	Sheen	65.03	65.03
B-30	Obispo Fm.	11/14/2011	97.57	40.84	Sheen	56.73	56.73
B-30	Obispo Fm.	5/7/2012	97.57	32.72	Sheen	64.85	64.85
B-30	Obispo Fm.	11/5/2012	97.57	42.32	Sheen	55.25	55.25
B-33	Pismo Fm.	10/14/1997	110.70	6.62	NA	104.08	104.08
B-33	Pismo Fm.	10/30/1997	110.70	6.90	NA	103.80	103.80
B-33	Pismo Fm.	12/5/1997	110.70	NA	NA	NA	NA
B-33	Pismo Fm.	2/16/1998	110.70	3.17	Sheen	107.53	107.53
B-33	Pismo Fm.	5/18/1998	110.70	4.51	Sheen	106.19	106.19
B-33	Pismo Fm.	6/19/1998	110.70	5.59	Sheen	105.11	105.11
B-33	Pismo Fm.	7/23/1998	110.70	6.43	Sheen	104.27	104.27
B-33	Pismo Fm.	8/17/1998	110.70	6.96	Sheen	103.74	103.74
B-33	Pismo Fm.	9/29/1998	110.70	8.06	Sheen	102.64	102.64
B-33	Pismo Fm.	10/25/1998	110.70	9.01	Sheen	101.69	101.69
B-33	Pismo Fm.	11/22/1998	110.70	8.42	Sheen	102.28	102.28
B-33	Pismo Fm.	12/23/1998	110.70	6.11	Sheen	104.59	104.59
B-33	Pismo Fm.	1/29/1999	110.70	5.05	Sheen	105.65	105.65
B-33	Pismo Fm.	2/25/1999	110.70	5.60	Sheen	105.10	105.10
B-33	Pismo Fm.	3/5/1999	110.70	5.64	Sheen	105.06	105.06
B-33	Pismo Fm.	4/9/1999	110.70	4.21	Sheen	106.49	106.49
B-33	Pismo Fm.	5/27/1999	110.70	6.85	Sheen	103.85	103.85
B-33	Pismo Fm.	6/17/1999	110.70	7.26	Sheen	103.44	103.44
B-33	Pismo Fm.	8/2/1999	110.70	8.89	Sheen	101.81	101.81
B-33	Pismo Fm.	8/25/1999	110.70	9.16	Sheen	101.54	101.54
B-33	Pismo Fm.	9/22/1999	110.70	10.83	Trace	99.87	99.87
B-33	Pismo Fm.	11/4/1999	110.70	11.99	Trace	98.71	98.71
B-33	Pismo Fm.	11/18/1999	110.70	12.15	Sheen	98.55	98.55
B-33	Pismo Fm.	12/23/1999	110.70	12.29	Trace	98.41	98.41
B-33	Pismo Fm.	1/24/2000	110.70	NA	NA	NA	NA
B-33	Pismo Fm.	2/22/2000	110.70	5.16	Sheen	105.54	105.54
B-33	Pismo Fm.	3/23/2000	110.70	4.78	Sheen	105.92	105.92

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B-33	Pismo Fm.	4/29/2000	110.70	5.39	Sheen	105.31	105.31
B-33	Pismo Fm.	5/22/2000	110.70	5.92	Sheen	104.78	104.78
B-33	Pismo Fm.	6/22/2000	110.70	6.23	Sheen	104.47	104.47
B-33	Pismo Fm.	7/20/2000	110.70	7.87	Sheen	102.83	102.83
B-33	Pismo Fm.	8/28/2000	110.70	9.68	Sheen	101.03	101.03
B-33	Pismo Fm.	9/26/2000	110.70	10.83	Sheen	99.87	99.87
B-33	Pismo Fm.	10/31/2000	110.70	NA	NA	NA	NA
B-33	Pismo Fm.	11/27/2000	110.70	11.83	Sheen	98.87	98.87
B-33	Pismo Fm.	2/19/2001	110.70	6.51	Sheen	104.19	104.19
B-33	Pismo Fm.	5/2/2001	110.70	6.80	Trace	103.90	103.90
B-33	Pismo Fm.	8/20/2001	110.70	10.72	Sheen/Trace	99.98	99.98
B-33	Pismo Fm.	12/7/2001	110.70	8.51	Trace	102.19	102.19
B-33	Pismo Fm.	2/9/2002	110.70	4.88	Heavy Sheen	105.82	105.82
B-33	Pismo Fm.	5/28/2002	110.70	9.52	0.01	101.18	101.19
B-33	Pismo Fm.	8/26/2002	110.70	12.55	Trace	98.15	98.15
B-33	Pismo Fm.	11/12/2002	110.70	13.13	0.01	97.57	97.58
B-33	Pismo Fm.	3/10/2003	110.70	7.08	0.01	103.62	103.63
B-33	Pismo Fm.	6/9/2003	110.70	8.02	0.06	102.68	102.74
B-33	Pismo Fm.	8/18/2003	110.70	10.59	0.10	100.11	100.20
B-33	Pismo Fm.	11/10/2003	110.70	12.74	0.11	97.96	98.06
B-33	Pismo Fm.	2/23/2004	110.70	-	Flooded		
B-33	Pismo Fm.	5/17/2004	110.70	11.26	Trace	99.44	99.44
B-33	Pismo Fm.	8/9/2004	110.70	13.79	0.11	96.91	97.01
B-33	Pismo Fm.	12/6/2004	110.70	-	Inaccessible		
B-33	Pismo Fm.	3/7/2005	110.70	-	Inaccessible		
B-33	Pismo Fm.	6/22/2005	110.70	7.27	0.02	103.43	103.45
B-33	Pismo Fm.	9/26/2005	110.70	-	NA	NA	NA
B-33	Pismo Fm.	11/28/2005	110.70	12.79	Sheen	97.91	97.91
B-33	Pismo Fm.	3/1/2006	110.70	-	NA	NA	NA
B-33	Pismo Fm.	6/6/2006	110.70	5.27	Trace	105.43	105.43
B-33	Pismo Fm.	11/21/2006	110.70	12.71	NA	97.99	97.99
B-33	Pismo Fm.	5/21/2007	110.70	11.08	Sheen	99.62	99.62
B-33	Pismo Fm.	11/20/2007	110.70	14.44	0.01	96.26	96.27
B-33	Pismo Fm.	5/19/2008	110.70	10.11	0.01	100.59	100.60
B-33	Pismo Fm.	9/15/2008	110.70	-	NA	NA	NA
B-33	Pismo Fm.	11/17/2008	110.70	14.4	Sheen	96.30	96.30
B-33	Pismo Fm.	5/4/2009	110.70	11.38	Sheen	99.32	99.32
B-33	Pismo Fm.	11/16/2009	110.70	15.22	Sheen	95.48	95.48
B-33	Pismo Fm.	4/26/2010	110.70	5.42	Sheen	105.28	105.28
B-33	Pismo Fm.	11/15/2010	110.70	13.51	Sheen	97.19	97.19
B-33	Pismo Fm.	5/2/2011	110.70	5.54	Sheen	105.16	105.16
B-33	Pismo Fm.	11/14/2011	110.70	12.36	Sheen	98.34	98.34
B-33	Pismo Fm.	5/7/2012	110.70	7.34	Sheen	103.36	103.36
B-33	Pismo Fm.	11/5/2012	110.70	13.97	Sheen	96.73	96.73
B-35-45	Obispo Fm.	10/14/1997	104.84	20.10	0.30	84.74	85.01
B-35-45	Obispo Fm.	10/30/1997	104.84	20.14	0.02	84.70	84.72

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B-35-45	Obispo Fm.	12/5/1997	104.84	19.81	0.22	85.03	85.23
B-35-45	Obispo Fm.	2/16/1998	104.84	16.30	0.20	88.54	88.72
B-35-45	Obispo Fm.	5/18/1998	104.84	15.61	Trace	89.23	89.23
B-35-45	Obispo Fm.	6/19/1998	104.84	16.01	Trace	88.83	88.83
B-35-45	Obispo Fm.	7/23/1998	104.84	16.80	Trace	88.04	88.04
B-35-45	Obispo Fm.	8/17/1998	104.84	16.98	0.08	87.86	87.93
B-35-45	Obispo Fm.	9/29/1998	104.84	18.00	0.15	86.84	86.98
B-35-45	Obispo Fm.	10/25/1998	104.84	18.61	0.28	86.23	86.48
B-35-45	Obispo Fm.	11/22/1998	104.84	18.79	0.48	86.05	86.48
B-35-45	Obispo Fm.	12/23/1998	104.84	19.00	0.53	85.84	86.32
B-35-45	Obispo Fm.	1/29/1999	104.84	18.05	0.48	86.79	87.22
B-35-45	Obispo Fm.	2/25/1999	104.84	16.66	0.39	88.18	88.53
B-35-45	Obispo Fm.	3/5/1999	104.84	17.86	0.56	86.98	87.49
B-35-45	Obispo Fm.	4/9/1999	104.84	17.21	0.63	87.63	88.20
B-35-45	Obispo Fm.	5/27/1999	104.84	17.37	0.6	87.47	88.01
B-35-45	Obispo Fm.	6/17/1999	104.84	17.19	0.57	87.65	87.65
B-35-45	Obispo Fm.	8/2/1999	104.84	18.54	1.52	86.30	87.67
B-35-45	Obispo Fm.	8/25/1999	104.84	18.78	1.60	86.06	87.50
B-35-45	Obispo Fm.	9/22/1999	104.84	18.40	0.60	86.44	86.98
B-35-45	Obispo Fm.	11/4/1999	104.84	18.69	1.05	86.15	87.10
B-35-45	Obispo Fm.	11/18/1999	104.84	19.50	0.67	85.34	85.95
B-35-45	Obispo Fm.	12/23/1999	104.84	18.92	0.68	85.92	86.53
B-35-45	Obispo Fm.	1/24/2000	104.84	20.11	0.56	84.73	85.24
B-35-45	Obispo Fm.	2/22/2000	104.84	19.23	0.64	85.61	86.19
B-35-45	Obispo Fm.	3/23/2000	104.84	18.42	0.57	86.42	86.94
B-35-45	Obispo Fm.	4/29/2000	104.84	18.15	0.59	86.69	87.22
B-35-45	Obispo Fm.	5/22/2000	104.84	18.11	0.57	86.73	87.25
B-35-45	Obispo Fm.	6/22/2000	104.84	18.71	0.63	86.13	86.70
B-35-45	Obispo Fm.	7/20/2000	104.84	19.11	0.65	85.73	86.32
B-35-45	Obispo Fm.	8/28/2000	104.84	19.69	0.688	85.15	85.77
B-35-45	Obispo Fm.	9/26/2000	104.84	20.28	0.70	84.56	85.19
B-35-45	Obispo Fm.	10/31/2000	104.84	20.99	0.74	83.85	84.52
B-35-45	Obispo Fm.	11/27/2000	104.84	21.33	0.70	83.51	84.14
B-35-45	Obispo Fm.	2/19/2001	104.84	20.89	0.81	83.95	84.68
B-35-45R	Alluvium	5/2/2001	103.32	8.22	Sheen	95.10	95.10
B-35-45R	Alluvium	8/20/2001	103.32	10.32	Slight Sheen	93.00	93.00
B-35-45R	Alluvium	12/7/2001	103.32	6.69	Sheen	96.63	96.63
B-35-45R	Alluvium	2/9/2002	103.32	4.92	NA	98.40	98.40
B-35-45R	Alluvium	5/28/2002	103.32	9.62	Sheen	93.70	93.70
B-35-45R	Alluvium	8/26/2002	103.32	11.83	Sheen	91.49	91.49
B-35-45R	Alluvium	11/12/2002	103.32	8.52	Sheen	94.80	94.80
B-35-45R	Alluvium	3/10/2003	103.32	5.51	Sheen	97.81	97.81
B-35-45R	Alluvium	6/9/2003	103.32	6.80	Sheen	96.52	96.52
B-35-45R	Alluvium	8/18/2003	103.32	6.80	Sheen	96.52	96.52
B-35-45R	Alluvium	11/10/2003	103.32	12.22	NA	91.10	91.10
B-35-45R	Alluvium	2/23/2004	103.32	5.13	NA	98.19	98.19

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B-35-45R	Alluvium	5/17/2004	103.32	12.00	NA	91.32	91.32
B-35-45R	Alluvium	8/9/2004	103.32	14.32	NA	89.00	89.00
B-35-45R	Alluvium	12/6/2004	103.32	9.75	Sheen	93.57	93.57
B-35-45R	Alluvium	3/7/2005	103.32	5.60	Sheen	97.72	97.72
B-35-45R	Alluvium	6/14/2005	103.32	9.17	NA	94.15	94.15
B-35-45R	Alluvium	9/26/2005	103.32	-	NA	NA	NA
B-35-45R	Alluvium	11/28/2005	103.32	13.63	NA	89.69	89.69
B-35-45R	Alluvium	3/1/2006	103.32	-	NA	NA	NA
B-35-45R	Alluvium	6/6/2006	103.32	6.09	NA	97.28	97.28
B-35-45R	Alluvium	11/21/2006	103.32	13.45	NA	89.87	89.87
B-35-45R	Alluvium	5/21/2007	103.32	11.90	Sheen*	91.42	91.42
B-35-45R	Alluvium	11/20/2007	103.32	16.80	0.01	86.52	86.53
B-35-45R	Alluvium	5/19/2008	103.32	13.20	NA	90.12	90.12
B-35-45R	Alluvium	9/15/2008	103.32	-	NA	NA	NA
B-35-45R	Alluvium	11/17/2008	103.32	17.83	NA	85.49	85.49
B-35-45R	Alluvium	5/4/2009	103.32	13.84	NA	89.48	89.48
B-35-45R	Alluvium	11/16/2009	103.32	16.10	NA	87.22	87.22
B-35-45R	Alluvium	4/26/2010	103.32	7.65	NA	95.67	95.67
B-35-45R	Alluvium	11/15/2010	103.32	14.12	NA	89.20	89.20
B-35-45R	Alluvium	5/2/2011	103.32	5.92	NA	97.40	97.40
B-35-45R	Alluvium	11/14/2011	103.32	12.53	NA	90.79	90.79
B-35-45R	Alluvium	5/7/2012	103.32	9.51	NA	93.81	93.81
B-35-45R	Alluvium	11/5/2012	103.32	13.87	NA	89.45	89.45
B-35-70	Obispo Fm.	10/14/1997	104.54	20.41	NA	84.13	84.13
B-35-70	Obispo Fm.	10/30/1997	104.54	20.66	NA	83.88	83.88
B-35-70	Obispo Fm.	12/5/1997	104.54	20.29	NA	84.25	84.25
B-35-70	Obispo Fm.	2/16/1998	104.54	17.15	NA	87.39	87.39
B-35-70	Obispo Fm.	5/18/1998	104.54	16.38	NA	88.16	88.16
B-35-70	Obispo Fm.	6/19/1998	104.54	16.78	NA	87.76	87.76
B-35-70	Obispo Fm.	7/23/1998	104.54	17.29	NA	87.25	87.25
B-35-70	Obispo Fm.	8/17/1998	104.54	17.58	NA	86.96	86.96
B-35-70	Obispo Fm.	9/29/1998	104.54	18.34	NA	86.20	86.20
B-35-70	Obispo Fm.	10/25/1998	104.54	18.86	NA	85.68	85.68
B-35-70	Obispo Fm.	11/22/1998	104.54	19.10	NA	85.44	85.44
B-35-70	Obispo Fm.	12/23/1998	104.54	19.22	NA	85.32	85.32
B-35-70	Obispo Fm.	1/29/1999	104.54	18.82	NA	85.72	85.72
B-35-70	Obispo Fm.	2/25/1999	104.54	18.15	NA	86.39	86.39
B-35-70	Obispo Fm.	3/5/1999	104.54	17.99	NA	86.55	86.55
B-35-70	Obispo Fm.	4/9/1999	104.54	17.45	NA	87.09	87.09
B-35-70	Obispo Fm.	5/27/1999	104.54	17.40	NA	87.14	87.14
B-35-70	Obispo Fm.	6/17/1999	104.54	17.36	NA	87.18	87.18
B-35-70	Obispo Fm.	8/2/1999	104.54	17.75	NA	86.79	86.79
B-35-70	Obispo Fm.	8/25/1999	104.54	18.15	NA	86.39	86.39
B-35-70	Obispo Fm.	9/22/1999	104.54	18.62	NA	85.92	85.92
B-35-70	Obispo Fm.	11/4/1999	104.54	18.90	NA	85.64	85.64
B-35-70	Obispo Fm.	11/18/1999	104.54	19.77	NA	84.77	84.77

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B-35-70	Obispo Fm.	12/23/1999	104.54	19.15	NA	85.39	85.39
B-35-70	Obispo Fm.	1/24/2000	104.54	20.53	NA	84.01	84.01
B-35-70	Obispo Fm.	2/22/2000	104.54	19.62	NA	84.92	84.92
B-35-70	Obispo Fm.	3/23/2000	104.54	18.79	NA	85.75	85.75
B-35-70	Obispo Fm.	4/29/2000	104.54	18.45	NA	86.09	86.09
B-35-70	Obispo Fm.	5/22/2000	104.54	18.27	NA	86.27	86.27
B-35-70	Obispo Fm.	6/22/2000	104.54	18.16	NA	86.38	86.38
B-35-70	Obispo Fm.	7/20/2000	104.54	19.09	NA	85.45	85.45
B-35-70	Obispo Fm.	8/28/2000	104.54	19.80	NA	84.74	84.74
B-35-70	Obispo Fm.	9/26/2000	104.54	20.28	NA	84.26	84.26
B-35-70	Obispo Fm.	10/31/2000	104.54	20.98	NA	83.56	83.56
B-35-70	Obispo Fm.	11/27/2000	104.54	21.11	NA	83.43	83.43
B-35-70	Obispo Fm.	2/19/2001	104.54	21.13	NA	83.41	83.41
B-35-70	Obispo Fm.	5/2/2001	104.54	19.53	NA	85.01	85.01
B-35-70	Obispo Fm.	8/20/2001	104.54	21.27	NA	83.27	83.27
B-35-70	Obispo Fm.	12/7/2001	104.54	22.12	NA	82.42	82.42
B-35-70	Obispo Fm.	2/9/2002	104.54	20.96	NA	83.58	83.58
B-35-70	Obispo Fm.	5/28/2002	104.54	21.12	NA	83.42	83.42
B-35-70	Obispo Fm.	8/26/2002	104.54	22.63	NA	81.91	81.91
B-35-70	Obispo Fm.	11/12/2002	104.54	23.87	NA	80.67	80.67
B-35-70	Obispo Fm.	3/10/2003	104.54	23.21	NA	81.33	81.33
B-35-70	Obispo Fm.	6/9/2003	104.54	22.36	NA	82.18	82.18
B-35-70	Obispo Fm.	8/18/2003	104.54	23.33	NA	81.21	81.21
B-35-70	Obispo Fm.	11/10/2003	104.54	24.91	NA	79.63	79.63
B-35-70	Obispo Fm.	2/23/2004	104.54	26.65	NA	77.89	77.89
B-35-70	Obispo Fm.	5/17/2004	104.54	27.70	NA	76.84	76.84
B-35-70	Obispo Fm.	8/9/2004	104.54	29.55	NA	74.99	74.99
B-35-70	Obispo Fm.	12/6/2004	104.54	30.35	NA	74.19	74.19
B-35-70	Obispo Fm.	3/7/2005	104.54	26.37	NA	78.17	78.17
B-35-70	Obispo Fm.	6/14/2005	104.54	25.50	NA	79.04	79.04
B-35-70	Obispo Fm.	9/26/2005	104.54	-	NA	NA	NA
B-35-70	Obispo Fm.	11/28/2005	104.54	29.01	NA	75.53	75.53
B-35-70	Obispo Fm.	3/1/2006	104.54	-	NA	NA	NA
B-35-70	Obispo Fm.	6/6/2006	104.54	25.18	NA	79.36	79.36
B-35-70	Obispo Fm.	11/21/2006	104.54	28.08	NA	76.46	76.46
B-35-70	Obispo Fm.	5/21/2007	104.54	28.84	NA	75.70	75.70
B-35-70	Obispo Fm.	11/20/2007	104.54	31.75	NA	72.79	72.79
B-35-70	Obispo Fm.	5/19/2008	104.54	30.55	NA	73.99	73.99
B-35-70	Obispo Fm.	11/17/2008	104.54	32.94	Sheen	71.60	71.60
B-35-70	Obispo Fm.	5/4/2009	104.54	32.74	0.01	71.80	71.81
B-35-70	Obispo Fm.	11/16/2009	104.54	34.30	NA	70.24	70.24
B-35-70	Obispo Fm.	4/26/2010	104.54	29.83	NA	74.71	74.71
B-35-70	Obispo Fm.	11/15/2010	104.54	31.96	NA	72.58	72.58
B-35-70	Obispo Fm.	5/2/2011	104.54	26.48	NA	78.06	78.06
B-35-70	Obispo Fm.	11/14/2011	104.54	28.35	NA	76.19	76.19
B-35-70	Obispo Fm.	5/7/2012	104.54	27.55	NA	76.99	76.99
B-35-70	Obispo Fm.	11/5/2012	104.54	29.90	NA	74.64	74.64

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B-36	Obispo Fm.	10/14/1997	93.43	54.43	NA	39.00	39.00
B-36	Obispo Fm.	10/30/1997	93.43	57.06	NA	36.37	36.37
B-36	Obispo Fm.	12/5/1997	93.43	54.71	NA	38.72	38.72
B-36	Obispo Fm.	2/16/1998	93.43	26.91	NA	66.52	66.52
B-36	Obispo Fm.	5/18/1998	93.43	36.49	0.12	56.94	57.05
B-36	Obispo Fm.	6/19/1998	93.43	48.50	Slight Trace	44.93	44.93
B-36	Obispo Fm.	7/23/1998	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	8/17/1998	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	9/29/1998	93.43	Dry	Dry - Sheen	NA	NA
B-36	Obispo Fm.	10/25/1998	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	11/22/1998	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	12/23/1998	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	1/29/1999	93.43	51.57	Sheen	41.86	41.86
B-36	Obispo Fm.	2/25/1999	93.43	45.87	Sheen	47.56	47.56
B-36	Obispo Fm.	3/5/1999	93.43	48.63	Sheen	44.80	44.80
B-36	Obispo Fm.	4/9/1999	93.43	39.07	Sheen	54.36	54.36
B-36	Obispo Fm.	5/27/1999	93.43	52.18	Sheen	41.25	41.25
B-36	Obispo Fm.	6/17/1999	93.43	Dry	Sheen	NA	NA
B-36	Obispo Fm.	8/2/1999	93.43	Dry	Sheen	NA	NA
B-36	Obispo Fm.	8/25/1999	93.43	Dry	Sheen	NA	NA
B-36	Obispo Fm.	9/22/1999	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	11/4/1999	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	11/18/1999	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	12/23/1999	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	1/24/2000	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	2/22/2000	93.43	37.95	Sheen	55.48	55.48
B-36	Obispo Fm.	3/23/2000	93.43	33.71	Trace	59.72	59.72
B-36	Obispo Fm.	4/29/2000	93.43	40.46	Sheen	52.97	52.97
B-36	Obispo Fm.	5/22/2000	93.43	44.42	Trace	49.01	49.01
B-36	Obispo Fm.	6/22/2000	93.43	49.13	Sheen	44.30	44.30
B-36	Obispo Fm.	7/20/2000	93.43	53.18	Sheen	40.25	40.25
B-36	Obispo Fm.	8/28/2000	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	9/26/2000	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	10/31/2000	93.43	56.56	NA	36.87	36.87
B-36	Obispo Fm.	11/27/2000	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	2/19/2001	93.43	35.44	Sheen	57.99	57.99
B-36	Obispo Fm.	5/2/2001	93.43	46.70	Sheen	46.73	46.73
B-36	Obispo Fm.	8/20/2001	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	12/7/2001	93.43	44.62	Sheen	48.81	48.81
B-36	Obispo Fm.	2/9/2002	93.43	47.84	Sheen	45.59	45.59
B-36	Obispo Fm.	5/28/2002	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	8/26/2002	93.43	56.63	Sheen	36.80	36.80
B-36	Obispo Fm.	11/12/2002	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	3/10/2003	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	6/9/2003	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	8/18/2003	93.43	Dry	NA	NA	NA

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B-36	Obispo Fm.	11/10/2003	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	2/23/2004	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	5/17/2004	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	8/9/2004	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	12/6/2004	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	3/7/2005	93.43	36.38	Trace	57.05	57.05
B-36	Obispo Fm.	6/22/2005	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	9/26/2005	93.43	-	NA	NA	NA
B-36	Obispo Fm.	11/28/2005	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	3/1/2006	93.43	-	NA	NA	NA
B-36	Obispo Fm.	6/6/2006	93.43	47.30	NA	46.13	46.13
B-36	Obispo Fm.	11/20/2006	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	5/21/2007	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	11/19/2007	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	15/19/2008	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	9/15/2008	93.43	-	NA	NA	NA
B-36	Obispo Fm.	11/17/2008	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	5/4/2009	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	11/16/2009	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	4/26/2010	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	11/15/2010	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	5/2/2011	93.43	43.76	NA	49.67	49.67
B-36	Obispo Fm.	11/14/2011	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	5/7/2012	93.43	Dry	NA	NA	NA
B-36	Obispo Fm.	11/5/2012	93.43	Dry	NA	NA	NA
B-37-40	Obispo Fm.	10/14/1997	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	10/30/1997	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	12/5/1997	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	2/16/1998	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	5/18/1998	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	6/19/1998	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	7/23/1998	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	8/17/1998	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	9/29/1998	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	10/25/1998	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	11/22/1998	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	12/23/1998	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	1/29/1999	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	2/25/1999	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	3/5/1999	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	4/9/1999	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	5/27/1999	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	6/17/1999	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	8/2/1999	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	8/25/1999	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	9/22/1999	88.13	Dry	NA	NA	NA

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B-37-40	Obispo Fm.	11/4/1999	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	11/18/1999	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	12/23/1999	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	1/24/2000	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	2/22/2000	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	3/23/2000	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	4/29/2000	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	5/22/2000	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	6/22/2000	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	7/20/2000	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	8/28/2000	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	9/26/2000	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	10/31/2000	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	11/27/2000	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	2/19/2001	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	5/2/2001	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	8/20/2001	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	12/7/2001	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	2/9/2002	88.13	42.34	NA	45.79	45.79
B-37-40	Obispo Fm.	5/28/2002	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	8/26/2002	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	11/12/2002	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	3/10/2003	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	6/9/2003	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	8/18/2003	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	11/10/2003	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	2/23/2004	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	5/17/2004	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	8/9/2004	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	12/6/2004	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	3/7/2005	88.13	24.77	NA	63.30	63.30
B-37-40	Obispo Fm.	6/14/2005	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	9/26/2005	88.13	-	NA	NA	NA
B-37-40	Obispo Fm.	11/28/2005	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	3/1/2006	88.13	-	NA	NA	NA
B-37-40	Obispo Fm.	6/6/2006	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	11/20/2006	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	5/21/2007	88.13	42.29	Sheen*	45.84	45.84
B-37-40	Obispo Fm.	11/20/2007	88.13	42.36	NA	45.77	45.77
B-37-40	Obispo Fm.	5/20/2008	88.13	42.25	NA	45.88	45.88
B-37-40	Obispo Fm.	9/15/2005	88.13	-	NA	NA	NA
B-37-40	Obispo Fm.	11/17/2008	88.13	42.32	NA	45.81	45.81
B-37-40	Obispo Fm.	5/4/2009	88.13	42.22	NA	45.91	45.91
B-37-40	Obispo Fm.	11/16/2009	88.13	Dry	NA	NA	NA
B-37-40	Obispo Fm.	4/26/2010	88.13	36.45	NA	51.68	51.68
B-37-40	Obispo Fm.	11/15/2010	88.13	42.21	NA	45.92	45.92
B-37-40	Obispo Fm.	5/2/2011	88.13	41.50	NA	46.63	46.63

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B-37-40	Obispo Fm.	11/14/2011	88.13	33.25	NA	54.88	54.88
B-37-40	Obispo Fm.	5/7/2012	88.13	42.08	NA	46.05	46.05
B-37-40	Obispo Fm.	11/5/2012	88.13	42.32	NA	45.81	45.81
B-37-70	Obispo Fm.	10/14/1997	88.1	68.86	NA	19.24	19.24
B-37-70	Obispo Fm.	10/30/1997	88.1	68.88	NA	19.22	19.22
B-37-70	Obispo Fm.	12/5/1997	88.1	68.92	NA	19.18	19.18
B-37-70	Obispo Fm.	2/16/1998	88.1	67.86	NA	20.24	20.24
B-37-70	Obispo Fm.	5/18/1998	88.1	61.63	NA	26.47	26.47
B-37-70	Obispo Fm.	6/19/1998	88.1	61.92	NA	26.18	26.18
B-37-70	Obispo Fm.	7/23/1998	88.1	62.23	NA	25.87	25.87
B-37-70	Obispo Fm.	8/17/1998	88.1	62.72	NA	25.38	25.38
B-37-70	Obispo Fm.	9/29/1998	88.1	63.83	NA	24.27	24.27
B-37-70	Obispo Fm.	10/25/1998	88.1	64.69	NA	23.41	23.41
B-37-70	Obispo Fm.	11/22/1998	88.1	65.48	NA	22.62	22.62
B-37-70	Obispo Fm.	12/23/1998	88.1	66.31	NA	21.79	21.79
B-37-70	Obispo Fm.	1/29/1999	88.1	66.75	NA	21.35	21.35
B-37-70	Obispo Fm.	2/25/1999	88.1	66.82	NA	21.28	21.28
B-37-70	Obispo Fm.	3/5/1999	88.1	66.67	NA	21.43	21.43
B-37-70	Obispo Fm.	4/9/1999	88.1	66.36	NA	21.74	21.74
B-37-70	Obispo Fm.	5/27/1999	88.1	64.96	NA	23.14	23.14
B-37-70	Obispo Fm.	6/17/1999	88.1	64.70	NA	23.40	23.40
B-37-70	Obispo Fm.	8/2/1999	88.1	65.23	NA	22.87	22.87
B-37-70	Obispo Fm.	8/25/1999	88.1	65.48	NA	22.62	22.62
B-37-70	Obispo Fm.	9/22/1999	88.1	65.73	NA	22.37	22.37
B-37-70	Obispo Fm.	11/4/1999	88.1	65.88	NA	22.22	22.22
B-37-70	Obispo Fm.	11/18/1999	88.1	66.74	NA	21.36	21.36
B-37-70	Obispo Fm.	12/23/1999	88.1	66.03	NA	22.07	22.07
B-37-70	Obispo Fm.	1/24/2000	88.1	67.39	NA	20.71	20.71
B-37-70	Obispo Fm.	2/22/2000	88.1	67.40	NA	20.70	20.70
B-37-70	Obispo Fm.	3/23/2000	88.1	66.51	NA	21.59	21.59
B-37-70	Obispo Fm.	4/29/2000	88.1	65.88	NA	22.22	22.22
B-37-70	Obispo Fm.	5/22/2000	88.1	64.07	NA	24.03	24.03
B-37-70	Obispo Fm.	6/22/2000	88.1	63.89	NA	24.21	24.21
B-37-70	Obispo Fm.	7/20/2000	88.1	64.11	NA	23.99	23.99
B-37-70	Obispo Fm.	8/28/2000	88.1	64.91	NA	23.19	23.19
B-37-70	Obispo Fm.	9/26/2000	88.1	65.64	NA	22.46	22.46
B-37-70	Obispo Fm.	10/31/2000	88.1	66.25	NA	21.85	21.85
B-37-70	Obispo Fm.	11/27/2000	88.1	66.81	NA	21.29	21.29
B-37-70	Obispo Fm.	2/19/2001	88.1	68.50	NA	19.60	19.60
B-37-70	Obispo Fm.	5/2/2001	88.1	64.57	NA	23.53	23.53
B-37-70	Obispo Fm.	8/20/2001	88.1	64.70	NA	23.40	23.40
B-37-70	Obispo Fm.	12/7/2001	88.1	67.44	NA	20.66	20.66
B-37-70	Obispo Fm.	2/9/2002	88.1	66.89	NA	21.21	21.21
B-37-70	Obispo Fm.	5/28/2002	88.1	67.18	NA	20.92	20.92
B-37-70	Obispo Fm.	8/26/2002	88.1	67.64	NA	20.46	20.46
B-37-70	Obispo Fm.	11/12/2002	88.1	68.50	NA	19.60	19.60

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B-37-70	Obispo Fm.	3/10/2003	88.1	68.90	NA	19.20	19.20
B-37-70	Obispo Fm.	6/9/2003	88.1	68.79	NA	19.31	19.31
B-37-70	Obispo Fm.	8/18/2003	88.1	68.94	NA	19.16	19.16
B-37-70	Obispo Fm.	11/10/2003	88.1	69.74	NA	18.36	18.36
B-37-70	Obispo Fm.	2/23/2004	88.1	69.59	NA	18.51	18.51
B-37-70	Obispo Fm.	5/17/2004	88.1	Dry	NA	NA	NA
B-37-70	Obispo Fm.	8/9/2004	88.1	Dry	NA	NA	NA
B-37-70	Obispo Fm.	12/6/2004	88.1	Dry	NA	NA	NA
B-37-70	Obispo Fm.	3/7/2005	88.1	69.43	NA	18.67	18.67
B-37-70	Obispo Fm.	6/14/2005	88.1	Dry	NA	NA	NA
B-37-70	Obispo Fm.	9/26/2005	88.1	Dry	NA	NA	NA
B-37-70	Obispo Fm.	11/28/2005	88.1	Dry	NA	NA	NA
B-37-70	Obispo Fm.	3/1/2006	88.1	Dry	NA	NA	NA
B-37-70	Obispo Fm.	9/12/2006	88.1	Dry	NA	NA	NA
B-37-70	Obispo Fm.	6/6/2006	88.1	Dry	NA	NA	NA
B-37-70	Obispo Fm.	11/20/2006	88.1	Dry	NA	NA	NA
B-37-70	Obispo Fm.	3/21/2007	88.1	Dry	NA	NA	NA
B-37-70	Obispo Fm.	5/21/2007	88.1	72.43	Sheen*	15.67	15.67
B-37-70	Obispo Fm.	9/18/2007	88.1	72.31	NA	15.79	15.79
B-37-70	Obispo Fm.	11/20/2007	88.1	72.74	NA	15.36	15.36
B-37-70	Obispo Fm.	3/19/2008	88.1	Dry	NA	NA	NA
B-37-70	Obispo Fm.	5/20/2008	88.1	72.52	NA	15.58	15.58
B-37-70	Obispo Fm.	9/15/2008	88.1	72.59	NA	15.51	15.51
B-37-70	Obispo Fm.	11/17/2008	88.1	Dry	NA	NA	NA
B-37-70	Obispo Fm.	2/24/2009	88.1	68.71	NA	19.39	19.39
B-37-70	Obispo Fm.	5/4/2009	88.1	72.72	NA	15.38	15.38
B-37-70	Obispo Fm.	9/23/2009	88.1	73.20	NA	14.90	14.90
B-37-70	Obispo Fm.	11/16/2009	88.1	73.36	NA	14.74	14.74
B-37-70	Obispo Fm.	2/25/2010	88.1	72.65	NA	15.45	15.45
B-37-70	Obispo Fm.	4/26/2010	88.1	70.32	NA	17.78	17.78
B-37-70	Obispo Fm.	9/16/2010	88.1	72.05	NA	16.05	16.05
B-37-70	Obispo Fm.	11/15/2010	88.1	72.30	NA	15.80	15.80
B-37-70	Obispo Fm.	2/17/2011	88.1	69.35	NA	18.75	18.75
B-37-70	Obispo Fm.	5/2/2011	88.1	67.99	NA	20.11	20.11
B-37-70	Obispo Fm.	9/20/2011	88.1	69.41	NA	18.69	18.69
B-37-70	Obispo Fm.	11/14/2011	88.1	69.73	NA	18.37	18.37
B-37-70	Obispo Fm.	2/15/2012	88.1	67.91	NA	20.19	20.19
B-37-70	Obispo Fm.	5/7/2012	88.1	67.60	NA	20.50	20.50
B-37-70	Obispo Fm.	9/17/2012	88.1	69.60	NA	18.50	18.50
B-37-70	Obispo Fm.	11/5/2012	88.1	70.27	NA	17.83	17.83
B-46	Colluvium	10/14/1997	112.47	8.62	0.38	103.85	104.19
B-46	Colluvium	10/30/1997	112.47	8.40	0.35	104.07	104.38
B-46	Colluvium	12/5/1997	112.47	4.21	0.35	108.26	108.57
B-46	Colluvium	2/16/1998	112.47	2.65	0.43	109.82	110.20
B-46	Colluvium	5/18/1998	112.47	6.60	1.50	105.87	107.22
B-46	Colluvium	6/19/1998	112.47	6.61	0.02	105.86	105.87

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B-46	Colluvium	7/23/1998	112.47	6.48	0.02	105.99	106.00
B-46	Colluvium	8/17/1998	112.47	6.83	0.03	105.64	105.66
B-46	Colluvium	9/29/1998	112.47	7.41	0.03	105.06	105.08
B-46	Colluvium	10/25/1998	112.47	8.80	0.04	103.67	103.70
B-46	Colluvium	11/22/1998	112.47	6.80	0.03	105.67	105.69
B-46	Colluvium	12/23/1998	112.47	7.08	0.03	105.39	105.41
B-46	Colluvium	1/29/1999	112.47	6.96	0.04	105.51	105.54
B-46	Colluvium	2/25/1999	112.47	6.90	0.03	105.57	105.59
B-46	Colluvium	3/5/1999	112.47	6.93	0.02	105.54	105.55
B-46	Colluvium	4/9/1999	112.47	6.19	0.04	106.28	106.31
B-46	Colluvium	5/27/1999	112.47	6.63	0.02	105.84	105.85
B-46	Colluvium	6/17/1999	112.47	6.79	0.03	105.68	105.68
B-46	Colluvium	8/2/1999	112.47	7.15	0.13	105.32	105.43
B-46	Colluvium	8/25/1999	112.47	7.53	0.05	104.94	104.98
B-46	Colluvium	9/22/1999	112.47	7.92	0.04	104.55	104.58
B-46	Colluvium	11/4/1999	112.47	8.26	0.05	104.21	104.25
B-46	Colluvium	11/18/1999	112.47	8.30	0.01	104.17	104.17
B-46	Colluvium	12/23/1999	112.47	8.55	0.05	103.92	103.96
B-46	Colluvium	1/24/2000	112.47	8.13	0.02	104.34	104.35
B-46	Colluvium	2/22/2000	112.47	7.86	0.04	104.61	104.64
B-46	Colluvium	3/23/2000	112.47	7.96	0.01	104.51	104.51
B-46	Colluvium	4/29/2000	112.47	7.83	0.02	104.64	104.65
B-46	Colluvium	5/22/2000	112.47	7.58	0.02	104.89	104.90
B-46	Colluvium	6/22/2000	112.47	8.13	0.02	104.34	104.35
B-46	Colluvium	7/20/2000	112.47	8.10	0.02	104.37	104.38
B-46	Colluvium	8/28/2000	112.47	8.04	0.073	104.43	104.49
B-46	Colluvium	9/26/2000	112.47	8.29	Sheen	104.18	104.18
B-46	Colluvium	10/31/2000	112.47	8.34	Trace	104.13	104.13
B-46	Colluvium	11/27/2000	112.47	8.46	0.01	104.01	104.01
B-46	Colluvium	2/19/2001	112.47	8.80	0.01	103.67	103.67
B-46	Colluvium	5/2/2001	112.47	8.01	Heavy Sheen	104.46	104.46
B-46	Colluvium	8/20/2001	112.47	8.56	Heavy Sheen	103.91	103.91
B-46	Colluvium	12/7/2001	112.47	9.68	0.02	102.79	102.80
B-46	Colluvium	2/9/2002	112.47	8.79	Heavy Sheen	103.68	103.68
B-46	Colluvium	5/28/2002	112.47	3.68	Trace	108.79	108.79
B-46	Colluvium	8/26/2002	112.47	9.58	Trace	102.89	102.89
B-46	Colluvium	11/12/2002	112.47	11.04	Trace	101.43	101.43
B-46	Colluvium	3/10/2003	112.47	9.00	Trace	103.47	103.47
B-46	Colluvium	6/9/2003	112.47	8.56	Trace	103.91	103.91
B-46	Colluvium	8/18/2003	112.47	8.97	Trace	103.50	103.50
B-46	Colluvium	11/10/2003	112.47	10.18	Trace	102.29	102.29
B-46	Colluvium	2/23/2004	112.47	9.09	Trace	103.38	103.38
B-46	Colluvium	5/17/2004	112.47	9.31	Trace	103.16	103.16
B-46	Colluvium	8/9/2004	112.47	11.15	Trace	101.32	101.32
B-46	Colluvium	12/6/2004	112.47	10.93	Trace	101.54	101.54
B-46	Colluvium	3/7/2005	112.47	-	Inaccessible		
B-46	Colluvium	6/23/2005	112.47	8.63	Sheen	103.84	103.84

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B-46	Colluvium	9/26/2005	112.47	-	NA	NA	NA
B-46	Colluvium	11/28/2005	112.47	10.92	Trace	101.55	101.55
B-46	Colluvium	3/1/2006	112.47	-	NA	NA	NA
B-46	Colluvium	6/6/2006	112.47	-	NA	NA	NA
B-46	Colluvium	11/21/2006	112.47	10.33	Trace*	102.14	102.14
B-46	Colluvium	5/22/2007	112.47	9.80	Sheen*	102.67	102.67
B-46	Colluvium	11/20/2007	112.47	13.00	Sheen*	99.47	99.47
B-46	Colluvium	5/19/2007	112.47	10.00	NA	102.47	102.47
B-46	Colluvium	9/15/2008	112.47	-	NA	NA	NA
B-46	Colluvium	11/17/2008	112.47	13.68	Sheen	98.79	98.79
B-46	Colluvium	5/4/2009	112.47	11.62	Sheen	100.85	100.85
B-46	Colluvium	11/16/2009	112.47	14.24	Sheen	98.23	98.23
B-46	Colluvium	4/26/2010	112.47	10.33	Sheen	102.14	102.14
B-46	Colluvium	11/15/2010	112.47	13.17	Sheen	99.30	99.30
B-46	Colluvium	5/2/2011	112.47	8.08	Sheen	104.39	104.39
B-46	Colluvium	11/14/2011	112.47	11.44	0.01	101.03	101.04
B-46	Colluvium	5/7/2012	112.47	10.84	Sheen	101.63	101.63
B-46	Colluvium	11/5/2012	112.47	12.45	0.01	100.03	100.04
B-49	Colluvium	10/14/1997	122.56	4.68	Trace	117.88	117.88
B-49	Colluvium	10/30/1997	122.56	5.32	Sheen	117.24	117.24
B-49	Colluvium	12/5/1997	122.56	0.00	Sheen	122.56	122.56
B-49	Colluvium	2/16/1998	122.56	0.00	Sheen	122.56	122.56
B-49	Colluvium	5/18/1998	122.56	0.00	Sheen	122.56	122.56
B-49	Colluvium	6/19/1998	122.56	1.49	Sheen	121.07	121.07
B-49	Colluvium	7/23/1998	122.56	2.80	Sheen	119.76	119.76
B-49	Colluvium	8/17/1998	122.56	3.77	Sheen	118.79	118.79
B-49	Colluvium	9/29/1998	122.56	6.05	Sheen	116.51	116.51
B-49	Colluvium	10/25/1998	122.56	7.32	Sheen	115.24	115.24
B-49	Colluvium	11/22/1998	122.56	6.99	Sheen	115.57	115.57
B-49	Colluvium	12/23/1998	122.56	2.16	Sheen	120.40	120.40
B-49	Colluvium	1/29/1999	122.56	1.57	Sheen	120.99	120.99
B-49	Colluvium	2/25/1999	122.56	1.55	Sheen	121.01	121.01
B-49	Colluvium	3/5/1999	122.56	1.99	Sheen	120.57	120.57
B-49	Colluvium	4/9/1999	122.56	0.76	Sheen	121.80	121.80
B-49	Colluvium	5/27/1999	122.56	3.21	Sheen	119.35	119.35
B-49	Colluvium	6/17/1999	122.56	3.80	Trace	118.76	118.76
B-49	Colluvium	8/2/1999	122.56	6.03	Trace	116.53	116.53
B-49	Colluvium	8/25/1999	122.56	7.55	Trace	115.01	115.01
B-49	Colluvium	9/22/1999	122.56	9.51	Sheen	113.05	113.05
B-49	Colluvium	11/4/1999	122.56	10.33	Sheen	112.23	112.23
B-49	Colluvium	11/18/1999	122.56	11.38	Sheen	111.18	111.18
B-49	Colluvium	12/23/1999	122.56	10.61	Sheen	111.95	111.95
B-49	Colluvium	1/24/2000	122.56	9.96	Sheen	112.60	112.60
B-49	Colluvium	2/22/2000	122.56	0.97	Sheen	121.59	121.59
B-49	Colluvium	3/23/2000	122.56	1.81	Sheen	120.75	120.75
B-49	Colluvium	4/29/2000	122.56	1.97	Sheen	120.59	120.59

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B-49	Colluvium	5/22/2000	122.56	3.65	Slight Sheen	118.91	118.91
B-49	Colluvium	6/22/2000	122.56	5.78	Sheen	116.78	116.78
B-49	Colluvium	7/20/2000	122.56	6.66	Sheen	115.90	115.90
B-49	Colluvium	8/28/2000	122.56	7.60	Sheen	114.95	114.95
B-49	Colluvium	9/26/2000	122.56	9.83	Trace	112.73	112.73
B-49	Colluvium	10/31/2000	122.56	10.41	Sheen	112.15	112.15
B-49	Colluvium	11/27/2000	122.56	11.83	Sheen	110.73	110.73
B-49	Colluvium	2/19/2001	122.56	6.25	Sheen	116.31	116.31
B-49	Colluvium	5/2/2001	122.56	5.07	Sheen	117.49	117.49
B-49	Colluvium	8/20/2001	122.56	10.68	Heavy Sheen	111.88	111.88
B-49	Colluvium	12/7/2001	122.56	7.63	Trace	114.93	114.93
B-49	Colluvium	2/9/2002	122.56	2.83	Sheen	119.73	119.73
B-49	Colluvium	5/28/2002	122.56	9.32	Trace	113.24	113.24
B-49	Colluvium	8/26/2002	122.56	14.83	Trace	107.73	107.73
B-49	Colluvium	11/12/2002	122.56	14.27	Trace	108.29	108.29
B-49	Colluvium	3/10/2003	122.56	7.77	Sheen	114.79	114.79
B-49	Colluvium	6/9/2003	122.56	6.81	0.01	115.75	115.76
B-49	Colluvium	8/18/2003	122.56	9.91	Trace	112.65	112.65
B-49	Colluvium	11/10/2003	122.56	16.09	Sheen	106.47	106.47
B-49	Colluvium	2/23/2004	122.56	11.77	Trace	110.79	110.79
B-49	Colluvium	5/17/2004	122.56	14.22	Trace	108.34	108.34
B-49	Colluvium	8/9/2004	122.56	22.75	Sheen	99.81	99.81
B-49	Colluvium	12/6/2004	122.56	15.45	0.16	107.11	107.25
B-49	Colluvium	3/7/2005	122.56	1.00	Trace	121.56	121.56
B-49	Colluvium	6/23/2005	122.56	7.14	0.28	115.42	115.67
B-49	Colluvium	9/26/2005	122.56	-	NA	NA	NA
B-49	Colluvium	11/28/2005	122.56	17.83	0.57	104.73	105.24
B-49	Colluvium	3/1/2006	122.56	-	NA	NA	NA
B-49	Colluvium	6/6/2006	122.56	3.23	0.02	119.33	119.35
B-49	Colluvium	11/20/2006	122.56	17.20	0.46	105.36	105.77
B-49	Colluvium	5/22/2007	122.56	15.08	0.34	107.48	107.79
B-49	Colluvium	11/20/2007	122.56	24.55	0.55	98.01	98.51
B-49	Colluvium	5/19/2008	122.56	14.17	0.32	108.39	108.68
B-49	Colluvium	9/15/2008	122.56	-	NA	NA	NA
B-49	Colluvium	11/17/2008	122.56	24.80	0.30	97.76	98.03
B-49	Colluvium	5/4/2009	122.56	17.74	0.39	104.82	105.17
B-49	Colluvium	11/16/2009	122.56	24.71	0.06	97.85	97.90
B-49	Colluvium	4/26/2010	122.56	6.26	0.01	116.30	116.31
B-49	Colluvium	11/15/2010	122.56	19.37	0.22	103.19	103.39
B-49	Colluvium	5/2/2011	122.56	4.12	0.02	118.44	118.46
B-49	Colluvium	11/14/2011	122.56	16.37	0.15	106.19	106.33
B-49	Colluvium	5/7/2012	122.56	6.57	0.51	116.50	116.96
B-49	Colluvium	11/5/2012	122.56	20.44	0.28	102.40	102.65
B-51	Pismo Fm.	10/14/1997	115.27	3.33	Sheen	111.94	111.94
B-51	Pismo Fm.	10/30/1997	115.27	0.84	Sheen	114.43	114.43
B-51	Pismo Fm.	12/5/1997	115.27	0.00	Sheen	115.27	115.27

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B-51	Pismo Fm.	2/16/1998	115.27	0.00	0.05	115.27	115.32
B-51	Pismo Fm.	5/18/1998	115.27	0.00	0.22	115.27	115.47
B-51	Pismo Fm.	6/19/1998	115.27	0.00	0.20	115.27	115.45
B-51	Pismo Fm.	7/23/1998	115.27	1.83	0.75	113.44	114.12
B-51	Pismo Fm.	8/17/1998	115.27	2.23	1.10	113.04	114.03
B-51	Pismo Fm.	9/29/1998	115.27	3.02	1.45	112.25	113.56
B-51	Pismo Fm.	10/25/1998	115.27	8.23	2.67	107.04	109.45
B-51	Pismo Fm.	11/22/1998	115.27	8.29	3.25	106.98	109.91
B-51	Pismo Fm.	12/23/1998	115.27	2.32	2.88	112.95	115.55
B-51	Pismo Fm.	1/29/1999	115.27	1.51	2.05	113.76	115.61
B-51	Pismo Fm.	2/25/1999	115.27	0.00	2.1	115.27	117.16
B-51	Pismo Fm.	3/5/1999	115.27	0.00	0.05	115.27	115.32
B-51	Pismo Fm.	4/9/1999	115.27	0.00	0.08	115.27	115.35
B-51	Pismo Fm.	5/27/1999	115.27	2.86	1.1	112.41	113.40
B-51	Pismo Fm.	6/17/1999	115.27	3.71	2.17	111.56	111.56
B-51	Pismo Fm.	8/2/1999	115.27	7.53	3.00	107.74	110.44
B-51	Pismo Fm.	8/25/1999	115.27	7.75	3.11	107.52	110.32
B-51	Pismo Fm.	9/22/1999	115.27	17.15	3.82	98.12	101.56
B-51	Pismo Fm.	11/4/1999	115.27	19.56	4.00	95.71	99.31
B-51	Pismo Fm.	11/18/1999	115.27	14.38	4.82	100.89	105.23
B-51	Pismo Fm.	12/23/1999	115.27	19.86	4.13	95.41	99.13
B-51	Pismo Fm.	1/24/2000	115.27	20.80	5.55	94.47	99.47
B-51	Pismo Fm.	2/22/2000	115.27	12.85	5.69	102.42	107.54
B-51	Pismo Fm.	3/23/2000	115.27	6.24	1.57	109.03	110.45
B-51	Pismo Fm.	4/29/2000	115.27	6.48	1.68	108.79	110.30
B-51	Pismo Fm.	5/22/2000	115.27	6.40	0.33	108.87	109.17
B-51	Pismo Fm.	6/22/2000	115.27	-	Not measured - well abandoned		
B-54	Pismo Fm.	10/14/1997	124.60	6.30	Sheen	118.30	118.30
B-54	Pismo Fm.	10/30/1997	124.60	6.53	Sheen	118.07	118.07
B-54	Pismo Fm.	12/6/1997	124.60	2.45	Sheen	122.15	122.15
B-54	Pismo Fm.	2/16/1998	124.60	1.36	Sheen	123.24	123.24
B-54	Pismo Fm.	5/18/1998	124.60	2.43	Sheen	122.17	122.17
B-54	Pismo Fm.	6/19/1998	124.60	3.47	Sheen	121.13	121.13
B-54	Pismo Fm.	7/23/1998	124.60	4.66	NA	119.94	119.94
B-54	Pismo Fm.	8/17/1998	124.60	5.27	Slight Sheen	119.33	119.33
B-54	Pismo Fm.	9/29/1998	124.60	7.63	Sheen	116.97	116.97
B-54	Pismo Fm.	10/25/1998	124.60	8.83	Sheen	115.77	115.77
B-54	Pismo Fm.	11/22/1998	124.60	7.25	Slight Sheen	117.35	117.35
B-54	Pismo Fm.	12/23/1998	124.60	5.91	Slight Sheen	118.69	118.69
B-54	Pismo Fm.	1/29/1999	124.60	3.96	Slight Sheen	120.64	120.64
B-54	Pismo Fm.	2/25/1999	124.60	3.60	Slight Sheen	121.00	121.00
B-54	Pismo Fm.	3/5/1999	124.60	3.71	Slight Sheen	120.89	120.89
B-54	Pismo Fm.	4/9/1999	124.60	3.15	Slight Sheen	121.45	121.45
B-54	Pismo Fm.	5/27/1999	124.60	4.70	Slight Sheen	119.90	119.90
B-54	Pismo Fm.	6/17/1999	124.60	5.03	Slight Sheen	119.57	119.57
B-54	Pismo Fm.	8/2/1999	124.60	7.07	Sheen	117.53	117.53

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

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B-54	Pismo Fm.	8/25/1999	124.60	8.59	Sheen	116.01	116.01
B-54	Pismo Fm.	9/22/1999	124.60	10.31	Sheen	114.29	114.29
B-54	Pismo Fm.	11/4/1999	124.60	11.87	Sheen	112.73	112.73
B-54	Pismo Fm.	11/18/1999	124.60	11.25	Slight Sheen	113.35	113.35
B-54	Pismo Fm.	12/23/1999	124.60	12.56	Sheen	112.04	112.04
B-54	Pismo Fm.	1/24/2000	124.60	7.49	NA	117.11	117.11
B-54	Pismo Fm.	2/22/2000	124.60	3.01	Sheen	121.59	121.59
B-54	Pismo Fm.	3/23/2000	124.60	3.38	Sheen	121.22	121.22
B-54	Pismo Fm.	4/29/2000	124.60	3.54	Sheen	121.06	121.06
B-54	Pismo Fm.	5/22/2000	124.60	4.30	Slight Sheen	120.30	120.30
B-54	Pismo Fm.	6/22/2000	124.60	6.81	Sheen	117.79	117.79
B-54	Pismo Fm.	7/20/2000	124.60	7.38	Sheen	117.22	117.22
B-54	Pismo Fm.	8/28/2000	124.60	8.08	Sheen	116.52	116.52
B-54	Pismo Fm.	9/26/2000	124.60	9.82	Trace	114.78	114.78
B-54	Pismo Fm.	10/31/2000	124.60	8.62	Trace	115.98	115.98
B-54	Pismo Fm.	11/27/2000	124.60	11.24	Sheen	113.36	113.36
B-54	Pismo Fm.	2/19/2001	124.60	4.56	Sheen	120.04	120.04
B-54	Pismo Fm.	5/2/2001	124.60	5.02	Sheen	119.58	119.58
B-54	Pismo Fm.	8/20/2001	124.60	10.93	Slight Sheen	113.67	113.67
B-54	Pismo Fm.	12/7/2001	124.60	5.86	Sheen	118.74	118.74
B-54	Pismo Fm.	2/9/2002	124.60	3.71	Sheen	120.89	120.89
B-54	Pismo Fm.	5/28/2002	124.60	10.22	Sheen	114.38	114.38
B-54	Pismo Fm.	8/26/2002	124.60	15.65	Sheen	108.95	108.95
B-54	Pismo Fm.	11/12/2002	124.60	9.08	Sheen	115.52	115.52
B-54	Pismo Fm.	3/10/2003	124.60	6.11	Sheen	118.49	118.49
B-54	Pismo Fm.	6/9/2003	124.60	7.27	Sheen	117.33	117.33
B-54	Pismo Fm.	8/18/2003	124.60	34.74	Sheen	89.86	89.86
B-54	Pismo Fm.	11/10/2003	124.60	15.82	Sheen	108.78	108.78
B-54	Pismo Fm.	2/23/2004	124.60	9.36	Sheen	115.24	115.24
B-54	Pismo Fm.	5/17/2004	124.60	15.80	Trace	108.80	108.80
B-54	Pismo Fm.	8/9/2004	124.60	22.06	Sheen	102.54	102.54
B-54	Pismo Fm.	12/6/2004	124.60	17.61	5.93	106.99	112.33
B-54	Pismo Fm.	3/7/2005	124.60	8.47	6.22	116.13	121.73
B-54	Pismo Fm.	6/23/2005	124.60	13.87	6.86	110.73	116.90
B-54	Pismo Fm.	9/26/2005	124.60	-	NA	NA	NA
B-54	Pismo Fm.	11/28/2005	124.60	20.40	2.56	104.20	106.50
B-54	Pismo Fm.	3/1/2006	124.60	-	NA	NA	NA
B-54	Pismo Fm.	6/6/2006	124.60	7.03	3.31	117.57	120.55
B-54	Pismo Fm.	11/21/2006	124.60	20.87	3.00	103.73	106.43
B-54	Pismo Fm.	5/22/2007	124.60	19.91	5.12	104.69	109.30
B-54	Pismo Fm.	11/20/2007	124.60	27.45	1.96	97.15	98.91
B-54	Pismo Fm.	5/20/2008	124.60	19.24	4.44	105.36	109.36
B-54	Pismo Fm.	9/15/2008	124.60	-	NA	NA	NA
B-54	Pismo Fm.	11/17/2008	124.60	26.86	1.21	97.74	98.83
B-54	Pismo Fm.	5/4/2009	124.60	20.52	2.38	104.08	106.22
B-54	Pismo Fm.	11/16/2009	124.60	24.68	1.12	99.92	100.93
B-54	Pismo Fm.	4/26/2010	124.60	10.23	3.34	114.37	117.38

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B-54	Pismo Fm.	11/15/2010	124.60	20.02	2.55	104.58	106.88
B-54	Pismo Fm.	5/2/2011	124.60	7.61	3.10	116.99	119.78
B-54	Pismo Fm.	11/14/2011	124.60	19.70	3.60	104.90	108.14
B-54	Pismo Fm.	5/7/2012	124.60	10.52	4.22	118.30	122.10
B-54	Pismo Fm.	11/5/2012	124.60	21.94	1.09	103.75	104.73
B-57-20	Obispo Fm.	10/14/1997	115.53	1.93	NA	113.60	113.60
B-57-20	Obispo Fm.	10/30/1997	115.53	2.08	NA	113.45	113.45
B-57-20	Obispo Fm.	12/6/1997	115.53	0.00	NA	115.53	115.53
B-57-20	Obispo Fm.	2/16/1998	115.53	0.00	NA	115.53	115.53
B-57-20	Obispo Fm.	5/18/1998	115.53	0.00	NA	115.53	115.53
B-57-20	Obispo Fm.	6/19/1998	115.53	0.00	NA	115.53	115.53
B-57-20	Obispo Fm.	7/23/1998	115.53	0.50	NA	115.03	115.03
B-57-20	Obispo Fm.	8/17/1998	115.53	0.60	NA	114.93	114.93
B-57-20	Obispo Fm.	9/29/1998	115.53	1.30	NA	114.23	114.23
B-57-20	Obispo Fm.	10/25/1998	115.53	1.57	NA	113.96	113.96
B-57-20	Obispo Fm.	11/22/1998	115.53	1.71	NA	113.82	113.82
B-57-20	Obispo Fm.	12/23/1998	115.53	1.27	NA	114.26	114.26
B-57-20	Obispo Fm.	1/29/1999	115.53	0.38	NA	115.15	115.15
B-57-20	Obispo Fm.	2/25/1999	115.53	0.00	NA	115.53	115.53
B-57-20	Obispo Fm.	3/5/1999	115.53	0.28	Slight Sheen	115.25	115.25
B-57-20	Obispo Fm.	4/9/1999	115.53	0.00	NA	115.53	115.53
B-57-20	Obispo Fm.	5/27/1999	115.53	0.69	Slight Sheen	114.84	114.84
B-57-20	Obispo Fm.	6/17/1999	115.53	0.90	Slight Sheen	114.63	114.63
B-57-20	Obispo Fm.	8/2/1999	115.53	1.37	Sheen	114.16	114.16
B-57-20	Obispo Fm.	8/25/1999	115.53	1.69	Sheen	113.84	113.84
B-57-20	Obispo Fm.	9/22/1999	115.53	1.66	Sheen	113.87	113.87
B-57-20	Obispo Fm.	11/4/1999	115.53	1.81	Sheen	113.72	113.72
B-57-20	Obispo Fm.	11/18/1999	115.53	3.61	Sheen	111.92	111.92
B-57-20	Obispo Fm.	12/23/1999	115.53	2.10	Sheen	113.43	113.43
B-57-20	Obispo Fm.	1/24/2000	115.53	2.42	Sheen	113.11	113.11
B-57-20	Obispo Fm.	2/22/2000	115.53	0.00	Sheen	115.53	115.53
B-57-20	Obispo Fm.	3/23/2000	115.53	0.00	Sheen	115.53	115.53
B-57-20	Obispo Fm.	4/29/2000	115.53	0.00	Sheen	115.53	115.53
B-57-20	Obispo Fm.	5/22/2000	115.53	0.43	Sheen	115.10	115.10
B-57-20	Obispo Fm.	6/22/2000	115.53	1.72	Sheen	113.81	113.81
B-57-20	Obispo Fm.	7/20/2000	115.53	1.76	Sheen	113.77	113.77
B-57-20	Obispo Fm.	8/28/2000	115.53	1.79	Sheen	113.73	113.73
B-57-20	Obispo Fm.	9/26/2000	115.53	1.99	Trace	113.54	113.54
B-57-20	Obispo Fm.	10/31/2000	115.53	2.24	Sheen	113.29	113.29
B-57-20	Obispo Fm.	11/27/2000	115.53	2.42	Sheen	113.11	113.11
B-57-20	Obispo Fm.	2/19/2001	115.53	1.11	Sheen	114.42	114.42
B-57-20	Obispo Fm.	5/2/2001	115.53	0.80	Sheen	114.73	114.73
B-57-20	Obispo Fm.	8/20/2001	115.53	1.85	Sheen	113.68	113.68
B-57-20	Obispo Fm.	12/7/2001	115.53	1.17	Sheen	114.36	114.36
B-57-20	Obispo Fm.	2/9/2002	115.53	1.26	NA	114.27	114.27
B-57-20	Obispo Fm.	5/28/2002	115.53	2.07	Sheen	113.46	113.46

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B-57-20	Obispo Fm.	8/26/2002	115.53	3.25	Sheen	112.28	112.28
B-57-20	Obispo Fm.	11/12/2002	115.53	3.19	Sheen	112.34	112.34
B-57-20	Obispo Fm.	3/10/2003	115.53	1.42	Sheen	114.11	114.11
B-57-20	Obispo Fm.	6/9/2003	115.53	1.43	Sheen	114.10	114.10
B-57-20	Obispo Fm.	8/18/2003	115.53	2.20	Sheen	113.33	113.33
B-57-20	Obispo Fm.	11/10/2003	115.53	3.11	Sheen	112.42	112.42
B-57-20	Obispo Fm.	2/23/2004	115.53	1.59	Sheen	113.94	113.94
B-57-20	Obispo Fm.	5/17/2004	115.53	2.00	Sheen	113.53	113.53
B-57-20	Obispo Fm.	8/9/2004	115.53	3.25	Sheen	112.28	112.28
B-57-20	Obispo Fm.	12/6/2004	115.53	1.38	Sheen	114.15	114.15
B-57-20	Obispo Fm.	3/7/2005	115.53	0.00	NA	115.53	115.53
B-57-20	Obispo Fm.	6/22/2005	115.53	0.50	Sheen	115.03	115.03
B-57-20	Obispo Fm.	9/26/2005	115.53	-	NA	NA	NA
B-57-20	Obispo Fm.	11/28/2005	115.53	2.64	NA	112.89	112.89
B-57-20	Obispo Fm.	3/1/2006	115.53	-	NA	NA	NA
B-57-20	Obispo Fm.	6/6/2006	115.53	-	NA	NA	NA
B-57-20	Obispo Fm.	11/20/2006	115.53	1.73	NA	113.80	113.80
B-57-20	Obispo Fm.	5/22/2007	115.53	2.12	NA	113.41	113.41
B-57-20	Obispo Fm.	11/19/2007	115.53	4.83	NA	110.70	110.70
B-57-20	Obispo Fm.	5/19/2008	115.53	1.85	NA	113.68	113.68
B-57-20	Obispo Fm.	9/15/2008	115.53	-	NA	NA	NA
B-57-20	Obispo Fm.	11/17/2008	115.53	4.70	NA	110.83	110.83
B-57-20	Obispo Fm.	5/4/2009	115.53	2.86	0.01	112.67	112.68
B-57-20	Obispo Fm.	11/16/2009	115.53	5.20	NA	110.33	110.33
B-57-20	Obispo Fm.	4/26/2010	115.53	0.00	Sheen	115.53	115.53
B-57-20	Obispo Fm.	11/15/2010	115.53	2.67	NA	112.86	112.86
B-57-20	Obispo Fm.	5/2/2011	115.53	0.00	NA	115.53	115.53
B-57-20	Obispo Fm.	11/14/2011	115.53	2.05	NA	113.48	113.48
B-57-20	Obispo Fm.	5/7/2012	115.53	0.01	NA	115.52	115.52
B-57-20	Obispo Fm.	11/5/2012	115.53	1.99	NA	113.54	113.54
B-57-65	Obispo Fm.	10/14/1997	115.39	27.60	NA	87.79	87.79
B-57-65	Obispo Fm.	10/30/1997	115.39	27.65	NA	87.74	87.74
B-57-65	Obispo Fm.	12/6/1997	115.39	27.58	NA	87.81	87.81
B-57-65	Obispo Fm.	2/16/1998	115.39	26.08	NA	89.31	89.31
B-57-65	Obispo Fm.	5/18/1998	115.39	24.14	NA	91.25	91.25
B-57-65	Obispo Fm.	6/19/1998	115.39	24.06	NA	91.33	91.33
B-57-65	Obispo Fm.	7/23/1998	115.39	24.25	NA	91.14	91.14
B-57-65	Obispo Fm.	8/17/1998	115.39	24.42	NA	90.97	90.97
B-57-65	Obispo Fm.	9/29/1998	115.39	25.39	NA	90.00	90.00
B-57-65	Obispo Fm.	10/25/1998	115.39	25.63	NA	89.76	89.76
B-57-65	Obispo Fm.	11/22/1998	115.39	25.84	NA	89.55	89.55
B-57-65	Obispo Fm.	12/23/1998	115.39	26.26	NA	89.13	89.13
B-57-65	Obispo Fm.	1/29/1999	115.39	26.31	NA	89.08	89.08
B-57-65	Obispo Fm.	2/25/1999	115.39	25.78	NA	89.61	89.61
B-57-65	Obispo Fm.	3/5/1999	115.39	25.55	NA	89.84	89.84
B-57-65	Obispo Fm.	4/9/1999	115.39	25.21	NA	90.18	90.18

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Well ID	Zone of Completion	Date Measured	Measuring Pt. Elevation (ft MSL)	Depth to Ground Water (ft)	LNAPL Thickness (ft)	LNAPL-Groundwater Interface Elevation (ft MSL)	Corrected Groundwater Elevation (ft MSL) **
B-57-65	Obispo Fm.	5/27/1999	115.39	23.96	NA	91.43	91.43
B-57-65	Obispo Fm.	6/17/1999	115.39	23.60	NA	91.79	91.79
B-57-65	Obispo Fm.	8/2/1999	115.39	25.04	NA	90.35	90.35
B-57-65	Obispo Fm.	8/25/1999	115.39	25.27	NA	90.12	90.12
B-57-65	Obispo Fm.	9/22/1999	115.39	25.68	NA	89.71	89.71
B-57-65	Obispo Fm.	11/4/1999	115.39	25.95	NA	89.44	89.44
B-57-65	Obispo Fm.	11/18/1999	115.39	26.76	NA	88.63	88.63
B-57-65	Obispo Fm.	12/23/1999	115.39	26.71	NA	88.68	88.68
B-57-65	Obispo Fm.	1/24/2000	115.39	27.84	NA	87.55	87.55
B-57-65	Obispo Fm.	2/22/2000	115.39	27.79	NA	87.60	87.60
B-57-65	Obispo Fm.	3/23/2000	115.39	26.76	NA	88.63	88.63
B-57-65	Obispo Fm.	4/29/2000	115.39	26.43	NA	88.96	88.96
B-57-65	Obispo Fm.	5/22/2000	115.39	26.07	NA	89.32	89.32
B-57-65	Obispo Fm.	6/22/2000	115.39	25.77	NA	89.62	89.62
B-57-65	Obispo Fm.	7/20/2000	115.39	26.09	NA	89.30	89.30
B-57-65	Obispo Fm.	8/28/2000	115.39	26.66	Sheen	88.73	88.73
B-57-65	Obispo Fm.	9/26/2000	115.39	27.22	NA	88.17	88.17
B-57-65	Obispo Fm.	10/31/2000	115.39	28.13	NA	87.26	87.26
B-57-65	Obispo Fm.	11/27/2000	115.39	28.30	NA	87.09	87.09
B-57-65	Obispo Fm.	2/19/2001	115.39	29.15	Sheen	86.24	86.24
B-57-65	Obispo Fm.	5/2/2001	115.39	27.92	NA	87.47	87.47
B-57-65	Obispo Fm.	8/20/2001	115.39	28.31	Sheen	87.08	87.08
B-57-65	Obispo Fm.	12/7/2001	115.39	29.63	Sheen	85.76	85.76
B-57-65	Obispo Fm.	2/9/2002	115.39	29.18	Sheen	86.21	86.21
B-57-65	Obispo Fm.	5/28/2002	115.39	29.26	NA	86.13	86.13
B-57-65	Obispo Fm.	8/26/2002	115.39	30.07	NA	85.32	85.32
B-57-65	Obispo Fm.	11/12/2002	115.39	40.11	NA	75.28	75.28
B-57-65	Obispo Fm.	3/10/2003	115.39	31.30	NA	84.09	84.09
B-57-65	Obispo Fm.	6/9/2003	115.39	30.33	NA	85.06	85.06
B-57-65	Obispo Fm.	8/18/2003	115.39	30.78	NA	84.61	84.61
B-57-65	Obispo Fm.	11/10/2003	115.39	32.27	NA	83.12	83.12
B-57-65	Obispo Fm.	2/23/2004	115.39	34.53	NA	80.86	80.86
B-57-65	Obispo Fm.	5/17/2004	115.39	35.45	NA	79.94	79.94
B-57-65	Obispo Fm.	8/9/2004	115.39	36.81	NA	78.58	78.58
B-57-65	Obispo Fm.	12/6/2004	115.39	38.72	NA	76.67	76.67
B-57-65	Obispo Fm.	3/7/2005	115.39	35.43	NA	79.96	79.96
B-57-65	Obispo Fm.	6/14/2005	115.39	33.79	NA	81.60	81.60
B-57-65	Obispo Fm.	9/26/2005	115.39	-	NA	NA	NA
B-57-65	Obispo Fm.	11/28/2005	115.39	35.84	NA	79.55	79.55
B-57-65	Obispo Fm.	3/1/2006	115.39	-	NA	NA	NA
B-57-65	Obispo Fm.	6/6/2006	115.39	34.11	NA	81.28	81.28
B-57-65	Obispo Fm.	11/20/2006	115.39	35.05	NA	80.34	80.34
B-57-65	Obispo Fm.	5/22/2007	115.39	36.95	NA	78.44	78.44
B-57-65	Obispo Fm.	11/19/2007	115.39	39.19	NA	76.20	76.20
B-57-65	Obispo Fm.	5/19/2008	115.39	38.63	NA	76.76	76.76
B-57-65	Obispo Fm.	9/15/2008	115.39	-	NA	NA	NA
B-57-65	Obispo Fm.	11/17/2008	115.39	40.19	NA	75.20	75.20

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B-57-65	Obispo Fm.	5/4/2009	115.39	41.09	NA	74.30	74.30
B-57-65	Obispo Fm.	11/16/2009	115.39	42.33	NA	73.06	73.06
B-57-65	Obispo Fm.	4/26/2010	115.39	39.22	NA	76.17	76.17
B-57-65	Obispo Fm.	11/15/2010	115.39	40.02	NA	75.37	75.37
B-57-65	Obispo Fm.	5/2/2011	115.39	36.01	NA	79.38	79.38
B-57-65	Obispo Fm.	11/14/2011	115.39	35.74	NA	79.65	79.65
B-57-65	Obispo Fm.	5/7/2012	115.39	35.90	NA	79.49	79.49
B-57-65	Obispo Fm.	11/5/2012	115.39	37.12	NA	78.27	78.27
B-61	Pismo Fm.	10/14/1997	153.34	35.60	Sheen	117.74	117.74
B-61	Pismo Fm.	10/30/1997	153.34	36.05	Sheen	117.29	117.29
B-61	Pismo Fm.	12/6/1997	153.34	31.14	Sheen	122.20	122.20
B-61	Pismo Fm.	2/16/1998	153.34	23.98	Sheen	129.36	129.36
B-61	Pismo Fm.	5/18/1998	153.34	26.36	0.03	126.98	127.00
B-61	Pismo Fm.	6/19/1998	153.34	29.24	0.01	124.10	124.10
B-61	Pismo Fm.	7/23/1998	153.34	31.67	0.11	121.67	121.76
B-61	Pismo Fm.	8/17/1998	153.34	32.97	0.36	120.37	120.69
B-61	Pismo Fm.	9/29/1998	153.34	34.33	0.45	119.01	119.41
B-61	Pismo Fm.	10/25/1998	153.34	35.15	0.51	118.19	118.64
B-61	Pismo Fm.	11/22/1998	153.34	34.24	0.57	119.10	119.61
B-61	Pismo Fm.	12/23/1998	153.34	31.35	0.53	121.99	122.46
B-61	Pismo Fm.	1/29/1999	153.34	29.86	0.57	123.48	123.99
B-61	Pismo Fm.	2/25/1999	153.34	28.32	0.52	125.02	125.48
B-61	Pismo Fm.	3/5/1999	153.34	28.92	0.57	124.42	124.93
B-61	Pismo Fm.	4/9/1999	153.34	27.50	0.33	125.84	126.13
B-61	Pismo Fm.	5/27/1999	153.34	30.11	0.48	123.23	123.66
B-61	Pismo Fm.	6/17/1999	153.34	30.63	0.54	122.71	122.71
B-61	Pismo Fm.	8/2/1999	153.34	32.92	0.48	120.42	120.85
B-61	Pismo Fm.	8/25/1999	153.34	33.18	0.50	120.16	120.61
B-61	Pismo Fm.	9/22/1999	153.34	34.57	0.43	118.77	119.15
B-61	Pismo Fm.	11/4/1999	153.34	35.35	0.45	117.99	118.39
B-61	Pismo Fm.	11/18/1999	153.34	35.47	0.44	117.87	118.26
B-61	Pismo Fm.	12/23/1999	153.34	35.82	0.31	117.52	117.79
B-61	Pismo Fm.	1/24/2000	153.34	34.63	0.24	118.71	118.92
B-61	Pismo Fm.	2/22/2000	153.34	26.15	0.23	127.19	127.39
B-61	Pismo Fm.	3/23/2000	153.34	27.30	0.24	126.04	126.25
B-61	Pismo Fm.	4/29/2000	153.34	28.59	0.28	124.75	125.00
B-61	Pismo Fm.	5/22/2000	153.34	29.73	0.26	123.61	123.84
B-61	Pismo Fm.	6/22/2000	153.34	31.46	0.30	121.88	122.15
B-61	Pismo Fm.	7/20/2000	153.34	32.86	0.33	120.48	120.77
B-61	Pismo Fm.	8/28/2000	153.34	34.49	0.365	118.85	119.17
B-61	Pismo Fm.	9/26/2000	153.34	35.62	Trace	117.72	117.72
B-61	Pismo Fm.	10/31/2000	153.34	35.60	0.01	117.74	117.74
B-61	Pismo Fm.	11/27/2000	153.34	31.52	0.02	121.82	121.83
B-61	Pismo Fm.	2/19/2001	153.34	29.27	0.14	124.07	124.19
B-78	Obispo Fm.	10/14/1997	165.88	49.21	Sheen	116.67	116.67

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B-78	Obispo Fm.	10/30/1997	165.88	52.44	Sheen	113.44	113.44
B-78	Obispo Fm.	12/6/1997	165.88	52.03	Sheen	113.85	113.85
B-78	Obispo Fm.	2/16/1998	165.88	47.84	Trace	118.04	118.04
B-78	Obispo Fm.	5/18/1998	165.88	44.90	0.06	120.98	121.03
B-78	Obispo Fm.	6/19/1998	165.88	45.16	0.05	120.72	120.76
B-78	Obispo Fm.	7/23/1998	165.88	45.91	0.09	119.97	120.05
B-78	Obispo Fm.	8/17/1998	165.88	46.50	0.06	119.38	119.43
B-78	Obispo Fm.	9/29/1998	165.88	47.75	0.18	118.13	118.29
B-78	Obispo Fm.	10/25/1998	165.88	48.60	0.18	117.28	117.44
B-78	Obispo Fm.	11/22/1998	165.88	48.95	Trace	116.93	116.93
B-78	Obispo Fm.	12/23/1998	165.88	48.40	Trace	117.48	117.48
B-78	Obispo Fm.	1/29/1999	165.88	48.54	Trace	117.34	117.34
B-78	Obispo Fm.	2/25/1999	165.88	47.64	0.02	118.24	118.25
B-78	Obispo Fm.	3/5/1999	165.88	47.25	Trace	118.63	118.63
B-78	Obispo Fm.	4/9/1999	165.88	46.91	0.01	118.97	118.97
B-78	Obispo Fm.	5/27/1999	165.88	46.67	0.01	119.21	119.21
B-78	Obispo Fm.	6/17/1999	165.88	46.58	0.02	119.30	119.30
B-78	Obispo Fm.	8/2/1999	165.88	47.80	0.17	118.08	118.23
B-78	Obispo Fm.	8/25/1999	165.88	48.06	0.15	117.82	117.95
B-78	Obispo Fm.	9/22/1999	165.88	48.87	0.38	117.01	117.35
B-78	Obispo Fm.	11/4/1999	165.88	49.13	0.42	116.75	117.12
B-78	Obispo Fm.	11/18/1999	165.88	50.47	0.01	115.41	115.41
B-78	Obispo Fm.	12/23/1999	165.88	49.48	0.45	116.40	116.80
B-78	Obispo Fm.	1/24/2000	165.88	50.91	Trace	114.97	114.97
B-78	Obispo Fm.	2/22/2000	165.88	50.30	Trace	115.58	115.58
B-78	Obispo Fm.	3/23/2000	165.88	48.85	0.02	117.03	117.04
B-78	Obispo Fm.	4/29/2000	165.88	47.10	0.02	118.78	118.79
B-78	Obispo Fm.	5/22/2000	165.88	47.62	0.02	118.26	118.27
B-78	Obispo Fm.	6/22/2000	165.88	48.33	0.04	117.55	117.58
B-78	Obispo Fm.	7/20/2000	165.88	48.76	0.03	117.12	117.14
B-78	Obispo Fm.	8/28/2000	165.88	49.30	Sheen	116.58	116.58
B-78	Obispo Fm.	9/26/2000	165.88	50.23	0.04	115.65	115.68
B-78	Obispo Fm.	10/31/2000	165.88	51.43	0.08	114.45	114.52
B-78	Obispo Fm.	11/27/2000	165.88	51.38	0.07	114.50	114.56
B-78	Obispo Fm.	2/19/2001	165.88	51.23	0.01	114.65	114.65
B-78	Obispo Fm.	5/2/2001	165.88	48.47	0.12	117.41	117.51
B-78	Obispo Fm.	8/20/2001	165.88	50.49	0.23	115.39	115.59
B-78	Obispo Fm.	12/7/2001	165.88	52.66	0.12	113.22	113.32
B-78	Obispo Fm.	2/9/2002	165.88	50.17	0.15	115.71	115.84
B-78	Obispo Fm.	5/28/2002	165.88	50.18	0.40	115.70	116.06
B-78	Obispo Fm.	8/26/2002	165.88	52.74	0.36	113.14	113.46
B-78	Obispo Fm.	11/12/2002	165.88	55.31	0.63	110.57	111.13
B-78	Obispo Fm.	3/10/2003	165.88	51.52	0.42	114.36	114.73
B-78	Obispo Fm.	6/9/2003	165.88	51.68	0.75	114.20	114.87
B-78	Obispo Fm.	8/18/2003	165.88	53.06	0.60	112.82	113.36
B-78	Obispo Fm.	11/10/2003	165.88	54.12	1.56	111.76	113.16
B-78	Obispo Fm.	2/23/2004	165.88	54.50	0.80	111.38	112.10

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B-78	Obispo Fm.	5/17/2004	165.88	54.00	2.45	111.88	114.08
B-78	Obispo Fm.	8/9/2004	165.88	57.40	1.05	108.48	109.43
B-78	Obispo Fm.	12/6/2004	165.88	57.31	0.86	108.57	109.34
B-78	Obispo Fm.	3/7/2005	165.88	51.50	0.98	114.38	115.26
B-78	Obispo Fm.	6/23/2005	165.88	49.70	1.36	116.18	117.40
B-78	Obispo Fm.	9/26/2005	165.88	-	NA	NA	NA
B-78	Obispo Fm.	11/28/2005	165.88	55.09	1.21	110.79	111.88
B-78	Obispo Fm.	3/1/2006	165.88	-	NA	NA	NA
B-78	Obispo Fm.	6/6/2006	165.88	48.70	1.55	117.18	118.58
B-78	Obispo Fm.	11/20/2006	165.88	53.92	1.46	111.96	113.27
B-78	Obispo Fm.	5/21/2007	165.88	51.42	1.33	114.46	115.66
B-78	Obispo Fm.	11/20/2007	165.88	57.18	1.29	108.70	109.34
B-78	Obispo Fm.	5/20/2008	165.88	54.04	1.79	111.84	113.45
B-78	Obispo Fm.	9/15/2008	165.88	-	NA	NA	NA
B-78	Obispo Fm.	11/17/2008	165.88	60.55	2.61	105.33	107.68
B-78	Obispo Fm.	5/4/2009	165.88	56.12	2.19	109.76	111.73
B-78	Obispo Fm.	11/16/2009	165.88	61.91	3.07	103.97	106.74
B-78	Obispo Fm.	4/26/2010	165.88	53.19	2.38	112.69	114.83
B-78	Obispo Fm.	9/16/2010	165.88	56.61	1.97	109.27	109.27
B-78	Obispo Fm.	11/15/2010	165.88	58.02	2.37	107.86	109.99
B-78	Obispo Fm.	5/2/2011	165.88	48.18	1.35	117.70	118.92
B-78	Obispo Fm.	9/20/2011	165.88	50.67	0.56	115.21	115.71
B-78	Obispo Fm.	11/14/2011	165.88	52.42	0.41	113.46	113.83
B-78	Obispo Fm.	2/15/2012	165.88	50.89	0.46	114.99	115.40
B-78	Obispo Fm.	5/7/2012	165.88	49.65	0.58	116.81	117.33
B-78	Obispo Fm.	9/17/2012	165.88	53.16	0.73	112.72	113.37
B-78	Obispo Fm.	11/5/2012	165.88	54.50	0.56	111.94	112.44
B-81-67	Obispo Fm.	10/14/1997	134.24	46.35	0.75	87.89	88.56
B-81-67	Obispo Fm.	10/30/1997	134.24	47.19	0.86	87.05	87.82
B-81-67	Obispo Fm.	12/6/1997	134.24	46.71	0.84	87.53	88.28
B-81-67	Obispo Fm.	2/16/1998	134.24	46.49	1.52	87.75	89.11
B-81-67	Obispo Fm.	5/18/1998	134.24	45.51	2.53	88.73	91.00
B-81-67	Obispo Fm.	6/19/1998	134.24	44.79	1.45	89.45	90.75
B-81-67	Obispo Fm.	7/23/1998	134.24	45.46	2.03	88.78	90.60
B-81-67	Obispo Fm.	8/17/1998	134.24	46.07	2.37	88.17	90.30
B-81-67	Obispo Fm.	9/29/1998	134.24	47.02	2.55	87.22	89.51
B-81-67	Obispo Fm.	10/25/1998	134.24	47.95	3.20	86.29	89.17
B-81-67	Obispo Fm.	11/22/1998	134.24	48.36	3.03	85.88	88.60
B-81-67	Obispo Fm.	12/23/1998	134.24	48.67	3.15	85.57	88.40
B-81-67	Obispo Fm.	1/29/1999	134.24	47.20	3.91	87.04	90.55
B-81-67	Obispo Fm.	2/25/1999	134.24	45.81	3.8	88.43	91.85
B-81-67	Obispo Fm.	3/5/1999	134.24	48.79	4.46	85.45	89.46
B-81-67	Obispo Fm.	4/9/1999	134.24	49.13	4.9	85.11	89.52
B-81-67	Obispo Fm.	5/27/1999	134.24	49.20	5.42	85.04	89.91
B-81-67	Obispo Fm.	6/17/1999	134.24	49.38	5.98	84.86	84.86
B-81-67	Obispo Fm.	8/2/1999	134.24	50.08	8.01	84.16	91.36

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B-81-67	Obispo Fm.	8/25/1999	134.24	50.23	7.68	84.01	90.92
B-81-67	Obispo Fm.	9/22/1999	134.24	50.49	5.67	83.75	88.85
B-81-67	Obispo Fm.	11/4/1999	134.24	50.72	5.80	83.52	88.74
B-81-67	Obispo Fm.	11/18/1999	134.24	52.15	6.07	82.09	87.55
B-81-67	Obispo Fm.	12/23/1999	134.24	51.10	5.93	83.14	88.47
B-81-67	Obispo Fm.	1/24/2000	134.24	53.22	6.27	81.02	86.66
B-81-67	Obispo Fm.	2/22/2000	134.24	53.61	6.77	80.63	86.72
B-81-67	Obispo Fm.	3/23/2000	134.24	53.52	7.87	80.72	87.80
B-81-67	Obispo Fm.	4/29/2000	134.24	53.87	8.44	80.37	87.96
B-81-67	Obispo Fm.	5/22/2000	134.24	53.42	8.97	80.82	88.89
B-81-67	Obispo Fm.	6/22/2000	134.24	54.18	9.22	80.06	88.35
B-81-67	Obispo Fm.	7/20/2000	134.24	54.31	9.10	79.93	88.12
B-81-67	Obispo Fm.	8/28/2000	134.24	54.44	8.92	79.80	87.82
B-81-67	Obispo Fm.	9/26/2000	134.24	57.04	2.21	77.20	79.18
B-81-67	Obispo Fm.	10/31/2000	134.24	59.13	2.65	75.11	77.49
B-81-67	Obispo Fm.	11/27/2000	134.24	61.15	4.33	73.09	76.98
B-81-67	Obispo Fm.	2/19/2001	134.24	57.11	8.98	77.13	85.21
B-81-67	Obispo Fm.	5/2/2001	134.24	58.48	14.13	75.76	88.47
B-81-67	Obispo Fm.	8/20/2001	134.24	62.94	17.23	71.30	86.80
B-81-67	Obispo Fm.	12/7/2001	134.24	65.41	18.01	68.83	85.03
B-81-67	Obispo Fm.	2/9/2002	134.24	64.43	18.62	69.81	86.56
B-81-67	Obispo Fm.	5/28/2002	134.24	54.32	8.52	79.92	87.58
B-81-67	Obispo Fm.	8/26/2002	134.24	58.32	10.61	75.92	85.46
B-81-67	Obispo Fm.	11/12/2002	134.24	56.13	3.48	78.11	81.24
B-81-67	Obispo Fm.	3/10/2003	134.24	61.63	12.12	72.61	83.51
B-81-67	Obispo Fm.	6/9/2003	134.24	61.30	14.01	72.94	85.54
B-81-67	Obispo Fm.	8/18/2003	134.24	65.42	8.40	68.82	76.38
B-81-67	Obispo Fm.	11/10/2003	134.24	65.11	8.08	69.13	76.40
B-81-67	Obispo Fm.	2/23/2004	134.24	60.23	8.57	74.01	81.72
B-81-67	Obispo Fm.	5/17/2004	134.24	62.35	9.97	71.89	80.86
B-81-67	Obispo Fm.	8/9/2004	134.24	65.48	11.21	68.76	78.85
B-81-67	Obispo Fm.	12/6/2004	134.24	65.63	9.45	68.61	77.11
B-81-67	Obispo Fm.	3/7/2005	134.24	62.05	9.95	72.19	81.14
B-81-67	Obispo Fm.	6/23/2005	134.24	62.35	11.58	71.89	82.31
B-81-67	Obispo Fm.	9/26/2005	134.24	-	NA	NA	NA
B-81-67	Obispo Fm.	11/28/2005	134.24	65.02	10.77	69.22	78.91
B-81-67	Obispo Fm.	3/1/2006	134.24	-	NA	NA	NA
B-81-67	Obispo Fm.	6/6/2006	134.24	57.90	3.67	76.34	79.64
B-81-67	Obispo Fm.	11/21/2006	134.24	58.85	3.19	75.39	78.26
B-81-67	Obispo Fm.	5/22/2007	134.24	64.84	11.26	69.40	79.53
B-81-67	Obispo Fm.	5/22/2007	134.24	65.32	8.14	68.92	76.25
B-81-67	Obispo Fm.	5/19/2008	134.24	61.55	7.00	72.69	78.99
B-81-67	Obispo Fm.	9/15/2008	134.24	-	NA	NA	NA
B-81-67	Obispo Fm.	11/17/2008	134.24	63.75	5.25	70.49	75.22
B-81-67	Obispo Fm.	5/4/2009	134.24	64.86	7.06	69.38	75.73
B-81-67	Obispo Fm.	11/16/2009	134.24	-	7.25	NA	NA
B-81-67	Obispo Fm.	4/26/2010	134.24	61.42	6.71	72.82	78.86

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B-81-67	Obispo Fm.	11/15/2010	134.24	60.27	0.28	73.97	74.22
B-81-67	Obispo Fm.	5/2/2011	134.24	59.65	7.93	74.59	81.73
B-81-67	Obispo Fm.	11/14/2011	134.24	61.70	8.17	72.54	79.89
B-81-67	Obispo Fm.	5/7/2012	134.24	59.01	2.24	75.23	77.25
B-81-67	Obispo Fm.	11/5/2012	134.24	63.70	5.82	76.36	81.60
B-81-90	Obispo Fm.	10/14/1997	133.96	47.31	0.05	86.65	86.70
B-81-90	Obispo Fm.	10/30/1997	133.96	47.69	Sheen	86.27	86.27
B-81-90	Obispo Fm.	12/6/1997	133.96	47.44	Sheen	86.52	86.52
B-81-90	Obispo Fm.	2/16/1998	133.96	45.98	Sheen	87.98	87.98
B-81-90	Obispo Fm.	5/18/1998	133.96	44.21	Trace	89.75	89.75
B-81-90	Obispo Fm.	6/19/1998	133.96	44.08	Sheen	89.88	89.88
B-81-90	Obispo Fm.	7/23/1998	133.96	44.24	NA	89.72	89.72
B-81-90	Obispo Fm.	8/17/1998	133.96	44.67	Trace after purging	89.29	89.29
B-81-90	Obispo Fm.	9/29/1998	133.96	45.25	NA	88.71	88.71
B-81-90	Obispo Fm.	10/25/1998	133.96	45.28	NA	88.68	88.68
B-81-90	Obispo Fm.	11/22/1998	133.96	46.04	Trace while purging	87.92	87.92
B-81-90	Obispo Fm.	12/23/1998	133.96	46.90	NA	87.06	87.06
B-81-90	Obispo Fm.	1/29/1999	133.96	46.48	Sheen	87.48	87.48
B-81-90	Obispo Fm.	2/25/1999	133.96	46.00	Trace	87.96	87.96
B-81-90	Obispo Fm.	3/5/1999	133.96	45.92	Trace	88.04	88.04
B-81-90	Obispo Fm.	4/9/1999	133.96	45.51	Sheen	88.45	88.45
B-81-90	Obispo Fm.	5/27/1999	133.96	45.00	Sheen	88.96	88.96
B-81-90	Obispo Fm.	6/17/1999	133.96	44.78	Sheen	89.18	89.18
B-81-90	Obispo Fm.	8/2/1999	133.96	45.21	Trace	88.75	88.75
B-81-90	Obispo Fm.	8/25/1999	133.96	45.39	Trace	88.57	88.57
B-81-90	Obispo Fm.	9/22/1999	133.96	45.91	Trace	88.05	88.05
B-81-90	Obispo Fm.	11/4/1999	133.96	46.30	Trace	87.66	87.66
B-81-90	Obispo Fm.	11/18/1999	133.96	47.25	Trace	86.71	86.71
B-81-90	Obispo Fm.	12/23/1999	133.96	46.65	Trace	87.31	87.31
B-81-90	Obispo Fm.	1/24/2000	133.96	48.42	Trace	85.54	85.54
B-81-90	Obispo Fm.	2/22/2000	133.96	48.47	Sheen	85.49	85.49
B-81-90	Obispo Fm.	3/23/2000	133.96	47.34	Trace	86.62	86.62
B-81-90	Obispo Fm.	4/29/2000	133.96	43.65	Trace	90.31	90.31
B-81-90	Obispo Fm.	5/22/2000	133.96	40.33	Trace	93.63	93.63
B-81-90	Obispo Fm.	6/22/2000	133.96	42.60	Trace	91.36	91.36
B-81-90	Obispo Fm.	7/20/2000	133.96	44.32	Trace	89.64	89.64
B-81-90	Obispo Fm.	8/28/2000	133.96	46.83	Sheen	87.13	87.13
B-81-90	Obispo Fm.	9/26/2000	133.96	47.19	Sheen	86.77	86.77
B-81-90	Obispo Fm.	10/31/2000	133.96	48.29	0.01	85.67	85.68
B-81-90	Obispo Fm.	11/27/2000	133.96	48.75	0.10	85.21	85.30
B-81-90	Obispo Fm.	2/19/2001	133.96	49.46	0.14	84.50	84.63
B-81-90	Obispo Fm.	5/2/2001	133.96	48.58	4.15	85.38	89.12
B-81-90	Obispo Fm.	8/20/2001	133.96	-	No Reading		
B-81-90	Obispo Fm.	12/7/2001	133.96	51.34	1.30	82.62	83.79
B-81-90	Obispo Fm.	2/9/2002	133.96	49.84	1.32	84.12	85.31
B-81-90	Obispo Fm.	5/28/2002	133.96	49.63	1.35	84.33	85.55

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B-81-90	Obispo Fm.	8/26/2002	133.96	51.82	1.98	82.14	83.92
B-81-90	Obispo Fm.	11/12/2002	133.96	53.36	1.67	80.60	82.10
B-81-90	Obispo Fm.	3/10/2003	133.96	52.91	1.92	81.05	82.78
B-81-90	Obispo Fm.	6/9/2003	133.96	51.93	1.98	82.03	83.81
B-81-90	Obispo Fm.	8/18/2003	133.96	52.67	2.09	81.29	83.17
B-81-90	Obispo Fm.	11/10/2003	133.96	54.60	2.26	79.36	81.39
B-81-90	Obispo Fm.	2/23/2004	133.96	58.67	2.57	75.29	77.60
B-81-90	Obispo Fm.	5/17/2004	133.96	58.80	3.59	75.16	78.39
B-81-90	Obispo Fm.	8/9/2004	133.96	60.45	2.85	73.51	76.08
B-81-90	Obispo Fm.	12/6/2004	133.96	62.31	2.11	71.65	73.55
B-81-90	Obispo Fm.	3/7/2005	133.96	59.93	3.03	74.03	76.76
B-81-90	Obispo Fm.	6/23/2005	133.96	58.11	3.32	75.85	78.84
B-81-90	Obispo Fm.	9/26/2005	133.96	-	NA	NA	NA
B-81-90	Obispo Fm.	11/28/2005	133.96	60.55	3.38	73.41	60.21
B-81-90	Obispo Fm.	3/1/2006	133.96	-	NA	NA	NA
B-81-90	Obispo Fm.	6/6/2006	133.96	61.40	11.62	72.56	83.02
B-81-90	Obispo Fm.	11/21/2006	133.96	63.55	10.76	70.41	80.09
B-81-90	Obispo Fm.	5/22/2007	133.96	60.41	3.63	73.55	76.82
B-81-90	Obispo Fm.	11/20/2007	133.96	59.60	0.02	74.36	74.68
B-81-90	Obispo Fm.	5/19/2008	133.96	58.60	1.75	75.36	76.94
B-81-90	Obispo Fm.	9/15/2008	133.96	-	NA	NA	NA
B-81-90	Obispo Fm.	11/17/2008	133.96	60.26	0.10	73.70	73.79
B-81-90	Obispo Fm.	5/4/2009	133.96	61.33	0.40	72.63	72.99
B-81-90	Obispo Fm.	11/16/2009	133.96	62.54	0.10	71.42	71.51
B-81-90	Obispo Fm.	4/26/2010	133.96	59.49	0.27	74.47	74.71
B-81-90	Obispo Fm.	11/15/2010	133.96	64.31	7.36	69.65	76.27
B-81-90	Obispo Fm.	5/2/2011	133.96	56.17	0.35	77.79	78.11
B-81-90	Obispo Fm.	11/14/2011	133.96	56.34	0.21	77.62	77.81
B-81-90	Obispo Fm.	5/7/2012	133.96	56.82	0.24	77.14	77.36
B-81-90	Obispo Fm.	11/5/2012	133.96	58.02	0.32	76.26	76.55
B-82	Pismo Fm.	10/14/1997	145.25	24.19	Trace	121.06	121.06
B-82	Pismo Fm.	10/30/1997	145.25	24.55	Trace	120.70	120.70
B-82	Pismo Fm.	12/6/1997	145.25	13.64	Trace	131.61	131.61
B-82	Pismo Fm.	2/16/1998	145.25	5.21	Sheen	140.04	140.04
B-82	Pismo Fm.	5/18/1998	145.25	14.52	Trace	130.73	130.73
B-82	Pismo Fm.	6/19/1998	145.25	18.46	Slight Trace	126.79	126.79
B-82	Pismo Fm.	7/23/1998	145.25	21.38	NA	123.87	123.87
B-82	Pismo Fm.	8/17/1998	145.25	23.22	Sheen	122.03	122.03
B-82	Pismo Fm.	9/29/1998	145.25	25.56	Sheen	119.69	119.69
B-82	Pismo Fm.	10/25/1998	145.25	26.91	Sheen	118.34	118.34
B-82	Pismo Fm.	11/22/1998	145.25	26.14	Sheen	119.11	119.11
B-82	Pismo Fm.	12/23/1998	145.25	22.37	Sheen	122.88	122.88
B-82	Pismo Fm.	1/29/1999	145.25	17.68	Sheen	127.57	127.57
B-82	Pismo Fm.	2/25/1999	145.25	15.63	Sheen	129.62	129.62
B-82	Pismo Fm.	3/5/1999	145.25	16.46	Sheen	128.79	128.79
B-82	Pismo Fm.	4/9/1999	145.25	14.21	Sheen	131.04	131.04

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B-82	Pismo Fm.	5/27/1999	145.25	19.89	Sheen	125.36	125.36
B-82	Pismo Fm.	6/17/1999	145.25	21.08	Sheen	124.17	124.17
B-82	Pismo Fm.	8/2/1999	145.25	25.25	Sheen	120.00	120.00
B-82	Pismo Fm.	8/25/1999	145.25	25.50	Sheen	119.75	119.75
B-82	Pismo Fm.	9/22/1999	145.25	29.16	Sheen	116.09	116.09
B-82	Pismo Fm.	11/4/1999	145.25	29.93	Sheen	115.32	115.32
B-82	Pismo Fm.	11/18/1999	145.25	37.80	Sheen	107.45	107.45
B-82	Pismo Fm.	12/23/1999	145.25	30.33	Sheen	114.92	114.92
B-82	Pismo Fm.	1/24/2000	145.25	30.89	0.32	114.36	114.64
B-82	Pismo Fm.	2/22/2000	145.25	13.46	0.4	131.79	132.15
B-82	Pismo Fm.	3/23/2000	145.25	16.06	0.65	129.19	129.77
B-82	Pismo Fm.	4/29/2000	145.25	18.18	0.89	127.07	127.87
B-82	Pismo Fm.	5/22/2000	145.25	20.49	1.26	124.76	125.89
B-82	Pismo Fm.	6/22/2000	145.25	22.05	1.38	123.20	124.44
B-82	Pismo Fm.	7/20/2000	145.25	24.55	0.97	120.70	121.57
B-82	Pismo Fm.	8/28/2000	145.25	26.97	0.292	118.28	118.54
B-82	Pismo Fm.	9/26/2000	145.25	29.84	0.55	115.41	115.90
B-82	Pismo Fm.	10/31/2000	145.25	31.29	0.27	113.96	114.20
B-82	Pismo Fm.	11/27/2000	145.25	32.50	0.29	112.75	113.01
B-82	Pismo Fm.	2/19/2001	145.25	20.25	Trace	125.00	125.00
B-82	Pismo Fm.	5/2/2001	145.25	21.40	0.52	123.85	124.31
B-82	Pismo Fm.	8/20/2001	145.25	30.95	0.85	114.30	115.06
B-82	Pismo Fm.	12/7/2001	145.25	23.79	Trace	121.46	121.46
B-82	Pismo Fm.	2/9/2002	145.25	15.42	0.04	129.83	129.86
B-82	Pismo Fm.	5/28/2002	145.25	29.65	0.86	115.60	116.37
B-82	Pismo Fm.	8/26/2002	145.25	34.28	0.12	110.97	111.07
B-82	Pismo Fm.	11/12/2002	145.25	33.46	0.17	111.79	111.94
B-82	Pismo Fm.	3/10/2003	145.25	23.04	0.09	122.21	122.29
B-82	Pismo Fm.	6/9/2003	145.25	25.37	0.79	119.88	120.59
B-82	Pismo Fm.	8/18/2003	145.25	30.55	0.86	114.70	115.47
B-82	Pismo Fm.	11/10/2003	145.25	34.33	0.04	110.92	110.95
B-82	Pismo Fm.	2/23/2004	145.25	27.60	Trace	117.65	117.65
B-82	Pismo Fm.	5/17/2004	145.25	34.30	0.5	110.95	111.40
B-82	Pismo Fm.	8/9/2004	145.25	-	3.96	LNAPL	LNAPL
B-82	Pismo Fm.	12/6/2004	145.25	34.11	3.11	111.14	113.93
B-82	Pismo Fm.	3/7/2005	145.25	15.35	0.07	129.90	129.96
B-82	Pismo Fm.	6/23/2005	145.25	26.88	0.07	118.37	118.43
B-82	Pismo Fm.	9/26/2005	145.25	-	NA	NA	NA
B-82	Pismo Fm.	11/28/2005	145.25	Dry	NA	NA	NA
B-82	Pismo Fm.	3/1/2006	145.25	-	NA	NA	NA
B-82	Pismo Fm.	6/6/2006	145.25	52.64	20.71	92.61	
B-82	Pismo Fm.	11/21/2006	145.25	34.29	Trace	NA	NA
B-82	Pismo Fm.	5/22/2007	145.25	34.34	0.09	110.91	110.99
B-82	Pismo Fm.	11/20/2007	145.25	Dry	NA	NA	NA
B-82	Pismo Fm.	5/19/2008	145.25	34.35	0.23	110.90	111.11
B-82	Pismo Fm.	9/15/2008	145.25	-	NA	NA	NA
B-82	Pismo Fm.	11/17/2008	145.25	Dry	NA	NA	NA

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B-82	Pismo Fm.	5/4/2009	145.25	34.35	0.06	110.90	110.95
B-82	Pismo Fm.	11/16/2009	145.25	Dry	NA	NA	NA
B-82	Pismo Fm.	4/26/2010	145.25	25.07	0.23	120.18	120.39
B-82	Pismo Fm.	11/15/2010	145.25	Dry	NA	NA	NA
B-82	Pismo Fm.	5/2/2011	145.25	20.90	0.06	124.35	124.40
B-82	Pismo Fm.	11/14/2011	145.25	34.34	0.01	110.91	110.92
B-82	Pismo Fm.	5/7/2012	145.25	23.69	0.29	121.85	122.11
B-82	Pismo Fm.	11/5/2012	145.25	Dry	NA	NA	NA
B-83	Pismo Fm.	10/14/1997	171.70	51.72	Sheen	119.98	119.98
B-83	Pismo Fm.	10/30/1997	171.70	56.12	0.21	115.58	115.77
B-83	Pismo Fm.	12/6/1997	171.70	53.89	0.78	117.81	118.52
B-83	Pismo Fm.	2/16/1998	171.70	35.55	1.38	136.15	137.40
B-83	Pismo Fm.	5/18/1998	171.70	40.27	0.17	131.43	131.59
B-83	Pismo Fm.	6/19/1998	171.70	44.90	0.32	126.80	127.09
B-83	Pismo Fm.	7/23/1998	171.70	48.38	0.39	123.32	123.68
B-83	Pismo Fm.	8/17/1998	171.70	50.60	0.63	121.10	121.67
B-83	Pismo Fm.	9/29/1998	171.70	53.11	0.86	118.59	119.37
B-83	Pismo Fm.	10/25/1998	171.70	56.13	1.51	115.57	116.93
B-83	Pismo Fm.	11/22/1998	171.70	57.36	1.8	114.34	115.96
B-83	Pismo Fm.	12/23/1998	171.70	55.63	2.04	116.07	117.91
B-83	Pismo Fm.	1/29/1999	171.70	48.93	1.88	122.77	124.47
B-83	Pismo Fm.	2/25/1999	171.70	48.05	2.75	123.65	126.13
B-83	Pismo Fm.	3/5/1999	171.70	49.48	3.01	122.22	124.93
B-83	Pismo Fm.	4/9/1999	171.70	47.01	3.35	124.69	127.71
B-83	Pismo Fm.	5/27/1999	171.70	50.90	3.73	120.80	124.16
B-83	Pismo Fm.	6/17/1999	171.70	52.00	4.02	119.70	119.70
B-83	Pismo Fm.	8/2/1999	171.70	56.60	4.22	115.10	118.90
B-83	Pismo Fm.	8/25/1999	171.70	56.89	4.3	114.81	118.68
B-83	Pismo Fm.	9/22/1999	171.70	60.52	4.39	111.18	115.14
B-83	Pismo Fm.	11/4/1999	171.70	61.96	4.60	109.74	113.88
B-83	Pismo Fm.	11/18/1999	171.70	63.25	4.00	108.45	112.05
B-83	Pismo Fm.	12/23/1999	171.70	62.22	4.78	109.48	113.79
B-83	Pismo Fm.	1/24/2000	171.70	65.11	4.22	106.59	110.39
B-83	Pismo Fm.	2/22/2000	171.70	57.77	4.78	113.93	118.24
B-83	Pismo Fm.	3/23/2000	171.70	51.67	5.41	120.03	124.90
B-83	Pismo Fm.	4/29/2000	171.70	53.70	5.89	118.00	123.31
B-83	Pismo Fm.	5/22/2000	171.70	54.18	6.24	117.52	123.14
B-83	Pismo Fm.	6/22/2000	171.70	55.17	6.51	116.53	122.39
B-83	Pismo Fm.	7/20/2000	171.70	58.03	6.63	113.67	119.64
B-83	Pismo Fm.	8/28/2000	171.70	60.16	5.98	111.54	116.94
B-83	Pismo Fm.	9/26/2000	171.70	62.13	5.84	109.57	114.83
B-83	Pismo Fm.	10/31/2000	171.70	63.17	5.72	108.53	113.68
B-83	Pismo Fm.	11/27/2000	171.70	60.10	5.92	111.60	116.93
B-83	Pismo Fm.	2/19/2001	171.70	62.02	6.33	109.68	115.38
B-83	Pismo Fm.	5/2/2001	171.70	51.65	1.67	120.05	121.56
B-83	Pismo Fm.	8/20/2001	171.70	59.90	2.16	111.80	113.75

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B-83	Pismo Fm.	12/7/2001	171.70	61.54	2.08	110.16	112.04
B-83	Pismo Fm.	2/9/2002	171.70	53.99	3.87	117.71	121.20
B-83	Pismo Fm.	5/28/2002	171.70	59.02	2.47	112.68	114.91
B-83	Pismo Fm.	8/26/2002	171.70	64.39	1.66	107.31	108.81
B-83	Pismo Fm.	11/12/2002	171.70	67.96	1.69	103.74	105.27
B-83	Pismo Fm.	3/10/2003	171.70	57.48	2.05	114.22	116.07
B-83	Pismo Fm.	6/9/2003	171.70	57.40	2.82	114.30	116.84
B-83	Pismo Fm.	8/18/2003	171.70	61.55	3.13	110.15	112.97
B-83	Pismo Fm.	11/10/2003	171.70	67.80	3.30	103.90	106.87
B-83	Pismo Fm.	2/23/2004	171.70	70.00	7.75	101.70	108.68
B-83	Pismo Fm.	5/17/2004	171.70	68.80	6.2	102.90	108.48
B-83	Pismo Fm.	8/9/2004	171.70	76.00	5.10	95.70	100.29
B-83	Pismo Fm.	12/6/2004	171.70	72.08	3.98	99.62	103.21
B-83	Pismo Fm.	3/7/2005	171.70	51.95	3.92	119.75	123.28
B-83	Pismo Fm.	6/23/2005	171.70	64.19	9.53	107.51	116.09
B-83	Pismo Fm.	9/26/2005	171.70	-	NA	NA	NA
B-83	Pismo Fm.	11/28/2005	171.70	72.51	5.69	99.19	104.31
B-83	Pismo Fm.	3/1/2006	171.70	-	NA	NA	NA
B-83	Pismo Fm.	6/6/2006	171.70	57.80	8.15	113.90	121.24
B-83	Pismo Fm.	11/20/2006	171.70	69.45	4.09	102.25	105.93
B-83	Pismo Fm.	5/22/2007	171.70	69.95	6.43	101.75	107.54
B-83	Pismo Fm.	11/20/2007	171.70	81.50	6.25	90.20	95.83
B-83	Pismo Fm.	5/19/2008	171.70	69.25	7.55	102.45	109.25
B-83	Pismo Fm.	9/15/2008	171.70	-	NA	NA	NA
B-83	Pismo Fm.	11/17/2008	171.70	81.14	7.16	90.56	97.00
B-83	Pismo Fm.	5/4/2009	171.70	74.47	8.37	97.23	104.76
B-83	Pismo Fm.	11/16/2009	171.70	83.56	8.31	88.14	95.62
B-83	Pismo Fm.	4/26/2010	171.70	62.06	8.09	109.64	116.92
B-83	Pismo Fm.	9/16/2010	171.70	71.73	5.82	99.97	99.97
B-83	Pismo Fm.	11/15/2010	171.70	74.16	6.1	97.54	103.03
B-83	Pismo Fm.	5/2/2011	171.70	51.03	3.27	120.67	123.61
B-83	Pismo Fm.	9/20/2011	171.70	62.45	0.88	109.25	110.04
B-83	Pismo Fm.	11/14/2011	171.70	65.70	0.66	106.00	106.59
B-83	Pismo Fm.	2/15/2012	171.70	62.32	1.46	109.38	110.69
B-83	Pismo Fm.	5/7/2012	171.70	58.04	2.79	116.45	118.96
B-83	Pismo Fm.	9/17/2012	171.70	67.15	2.1	104.55	106.44
B-83	Pismo Fm.	11/5/2012	171.70	70.52	1.09	102.27	103.25
B-85	Pismo Fm.	10/14/1997	144.48	33.92	Sheen	110.56	110.56
B-85	Pismo Fm.	10/30/1997	144.48	34.62	Sheen	109.86	109.86
B-85	Pismo Fm.	12/6/1997	144.48	33.07	Sheen	111.41	111.41
B-85	Pismo Fm.	2/16/1998	144.48	22.68	NA	121.80	121.80
B-85	Pismo Fm.	5/18/1998	144.48	24.92	NA	119.56	119.56
B-85	Pismo Fm.	6/19/1998	144.48	27.07	NA	117.41	117.41
B-85	Pismo Fm.	7/23/1998	144.48	29.25	NA	115.23	115.23
B-85	Pismo Fm.	8/17/1998	144.48	30.56	NA	113.92	113.92
B-85	Pismo Fm.	9/29/1998	144.48	32.35	NA	112.13	112.13

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B-85	Pismo Fm.	10/25/1998	144.48	33.40	NA	111.08	111.08
B-85	Pismo Fm.	11/22/1998	144.48	33.41	NA	111.07	111.07
B-85	Pismo Fm.	12/23/1998	144.48	31.28	NA	113.20	113.20
B-85	Pismo Fm.	1/29/1999	144.48	29.85	NA	114.63	114.63
B-85	Pismo Fm.	2/25/1999	144.48	27.16	NA	117.32	117.32
B-85	Pismo Fm.	3/5/1999	144.48	27.11	NA	117.37	117.37
B-85	Pismo Fm.	4/9/1999	144.48	25.70	NA	118.78	118.78
B-85	Pismo Fm.	5/27/1999	144.48	27.37	NA	117.11	117.11
B-85	Pismo Fm.	6/17/1999	144.48	28.23	NA	116.25	116.25
B-85	Pismo Fm.	8/2/1999	144.48	30.84	NA	113.64	113.64
B-85	Pismo Fm.	8/25/1999	144.48	30.98	NA	113.50	113.50
B-85	Pismo Fm.	9/22/1999	144.48	33.47	NA	111.01	111.01
B-85	Pismo Fm.	11/4/1999	144.48	34.00	NA	110.48	110.48
B-85	Pismo Fm.	11/18/1999	144.48	35.32	NA	109.16	109.16
B-85	Pismo Fm.	12/23/1999	144.48	34.20	NA	110.28	110.28
B-85	Pismo Fm.	1/24/2000	144.48	35.67	NA	108.81	108.81
B-85	Pismo Fm.	2/22/2000	144.48	29.38	NA	115.10	115.10
B-85	Pismo Fm.	3/23/2000	144.48	24.32	NA	120.16	120.16
B-85	Pismo Fm.	4/29/2000	144.48	27.02	NA	117.46	117.46
B-85	Pismo Fm.	5/22/2000	144.48	27.92	NA	116.56	116.56
B-85	Pismo Fm.	6/22/2000	144.48	30.21	NA	114.27	114.27
B-85	Pismo Fm.	7/20/2000	144.48	31.86	NA	112.62	112.62
B-85	Pismo Fm.	8/28/2000	144.48	32.90	NA	111.58	111.58
B-85	Pismo Fm.	9/26/2000	144.48	34.23	NA	110.25	110.25
B-85	Pismo Fm.	10/31/2000	144.48	35.42	NA	109.06	109.06
B-85	Pismo Fm.	11/27/2000	144.48	36.11	NA	108.37	108.37
B-85	Pismo Fm.	2/19/2001	144.48	32.70	NA	111.78	111.78
B-85	Pismo Fm.	5/2/2001	144.48	29.27	NA	115.21	115.21
B-85	Pismo Fm.	8/20/2001	144.48	34.22	NA	110.26	110.26
B-85	Pismo Fm.	12/7/2001	144.48	35.78	NA	108.70	108.70
B-85	Pismo Fm.	2/9/2002	144.48	28.43	NA	116.05	116.05
B-85	Pismo Fm.	5/28/2002	144.48	33.69	NA	110.79	110.79
B-85	Pismo Fm.	8/26/2002	144.48	37.49	NA	106.99	106.99
B-85	Pismo Fm.	11/12/2002	144.48	39.57	NA	104.91	104.91
B-85	Pismo Fm.	3/10/2003	144.48	32.67	NA	111.81	111.81
B-85	Pismo Fm.	6/9/2003	144.48	32.50	NA	111.98	111.98
B-85	Pismo Fm.	8/18/2003	144.48	35.52	NA	108.96	108.96
B-85	Pismo Fm.	11/10/2003	144.48	39.15	NA	105.33	105.33
B-85	Pismo Fm.	2/23/2004	144.48	36.87	NA	107.61	107.61
B-85	Pismo Fm.	5/17/2004	144.48	36.57	NA	107.91	107.91
B-85	Pismo Fm.	8/9/2004	144.48	41.32	NA	103.16	103.16
B-85	Pismo Fm.	12/6/2004	144.48	39.45	NA	105.03	105.03
B-85	Pismo Fm.	3/7/2005	144.48	23.63	NA	120.85	120.85
B-85	Pismo Fm.	6/15/2005	144.48	31.99	NA	112.49	112.49
B-85	Pismo Fm.	9/26/2005	144.48	-	NA	NA	NA
B-85	Pismo Fm.	11/28/2005	144.48	40.27	NA	104.21	104.21
B-85	Pismo Fm.	3/1/2006	144.48	-	NA	NA	NA

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B-85	Pismo Fm.	6/6/2006	144.48	27.82	NA	116.66	116.66
B-85	Pismo Fm.	11/20/2006	144.48	39.83	NA	104.65	104.65
B-85	Pismo Fm.	5/21/2007	144.48	38.24	NA	106.24	106.24
B-85	Pismo Fm.	11/19/2007	144.48	44.64	NA	99.84	99.84
B-85	Pismo Fm.	5/19/2008	144.48	37.75	NA	106.73	106.73
B-85	Pismo Fm.	9/15/2008	144.48	-	NA	NA	NA
B-85	Pismo Fm.	11/17/2008	144.48	44.62	NA	99.86	99.86
B-85	Pismo Fm.	5/4/2009	144.48	40.59	NA	103.89	103.89
B-85	Pismo Fm.	11/16/2009	144.48	45.77	NA	98.71	98.71
B-85	Pismo Fm.	4/26/2010	144.48	33.15	NA	111.33	111.33
B-85	Pismo Fm.	11/15/2010	144.48	42.13	NA	102.35	102.35
B-85	Pismo Fm.	5/2/2011	144.48	28.28	NA	116.20	116.20
B-85	Pismo Fm.	11/14/2011	144.48	40.10	NA	104.38	104.38
B-85	Pismo Fm.	5/7/2012	144.48	33.67	NA	110.81	110.81
B-85	Pismo Fm.	11/5/2012	144.48	41.98	NA	102.50	102.50
B-139	Pismo Fm.	10/14/1997	98.65	28.85	NA	69.80	69.80
B-139	Pismo Fm.	10/30/1997	98.65	29.34	NA	69.31	69.31
B-139	Pismo Fm.	12/6/1997	98.65	20.56	NA	78.09	78.09
B-139	Pismo Fm.	2/16/1998	98.65	18.44	NA	80.21	80.21
B-139	Pismo Fm.	5/18/1998	98.65	23.42	NA	75.23	75.23
B-139	Pismo Fm.	6/19/1998	98.65	25.15	NA	73.50	73.50
B-139	Pismo Fm.	7/23/1998	98.65	26.44	NA	72.21	72.21
B-139	Pismo Fm.	8/17/1998	98.65	26.96	NA	71.69	71.69
B-139	Pismo Fm.	9/29/1998	98.65	27.91	NA	70.74	70.74
B-139	Pismo Fm.	10/25/1998	98.65	28.25	NA	70.40	70.40
B-139	Pismo Fm.	11/22/1998	98.65	28.52	NA	70.13	70.13
B-139	Pismo Fm.	12/23/1998	98.65	28.38	NA	70.27	70.27
B-139	Pismo Fm.	1/29/1999	98.65	27.78	NA	70.87	70.87
B-139	Pismo Fm.	2/25/1999	98.65	26.07	NA	72.58	72.58
B-139	Pismo Fm.	3/5/1999	98.65	26.03	NA	72.62	72.62
B-139	Pismo Fm.	4/9/1999	98.65	24.41	NA	74.24	74.24
B-139	Pismo Fm.	5/27/1999	98.65	27.65	NA	70.00	70.00
B-139	Pismo Fm.	6/17/1999	98.65	26.99	NA	71.66	71.66
B-139	Pismo Fm.	8/2/1999	98.65	28.23	NA	70.42	70.42
B-139	Pismo Fm.	8/25/1999	98.65	28.51	NA	70.14	70.14
B-139	Pismo Fm.	9/22/1999	98.65	29.12	NA	69.53	69.53
B-139	Pismo Fm.	11/4/1999	98.65	29.89	NA	68.76	68.76
B-139	Pismo Fm.	11/18/1999	98.65	29.99	NA	68.66	68.66
B-139	Pismo Fm.	12/23/1999	98.65	30.18	NA	68.47	68.47
B-139	Pismo Fm.	1/24/2000	98.65	29.72	NA	68.93	68.93
B-139	Pismo Fm.	2/22/2000	98.65	19.71	NA	78.94	78.94
B-139	Pismo Fm.	2/22/2000	98.65	30.24	NA	68.41	68.41
B-139	Pismo Fm.	3/23/2000	98.65	23.61	NA	75.04	75.04
B-139	Pismo Fm.	4/29/2000	98.65	24.99	NA	73.66	73.66
B-139	Pismo Fm.	5/22/2000	98.65	25.26	NA	73.39	73.39
B-139	Pismo Fm.	6/22/2000	98.65	27.06	NA	71.59	71.59

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B-139	Pismo Fm.	7/20/2000	98.65	27.87	NA	70.78	70.78
B-139	Pismo Fm.	8/28/2000	98.65	28.80	NA	69.85	69.85
B-139	Pismo Fm.	9/26/2000	98.65	29.31	NA	69.34	69.34
B-139	Pismo Fm.	10/31/2000	98.65	29.59	NA	69.06	69.06
B-139	Pismo Fm.	11/26/2000	98.65	30.24	NA	68.41	68.41
B-139	Pismo Fm.	2/19/2001	98.65	23.41	NA	75.24	75.24
B-139	Pismo Fm.	5/2/2001	98.65	25.74	NA	72.91	72.91
B-139	Pismo Fm.	8/20/2001	98.65	29.10	NA	69.55	69.55
B-139	Pismo Fm.	12/7/2001	98.65	27.44	NA	71.21	71.21
B-139	Pismo Fm.	2/9/2002	98.65	27.26	NA	71.39	71.39
B-139	Pismo Fm.	5/28/2002	98.65	29.10	NA	69.55	69.55
B-139	Pismo Fm.	8/26/2002	98.65	30.68	NA	67.97	67.97
B-139	Pismo Fm.	11/12/2002	98.65	29.50	NA	69.15	69.15
B-139	Pismo Fm.	3/10/2003	98.65	29.79	NA	68.86	68.86
B-139	Pismo Fm.	6/9/2003	98.65	29.65	NA	69.00	69.00
B-139	Pismo Fm.	8/18/2003	98.65	30.66	NA	67.99	67.99
B-139	Pismo Fm.	11/10/2003	98.65	31.12	NA	67.53	67.53
B-139	Pismo Fm.	2/23/2004	98.65	28.63	NA	70.02	70.02
B-139	Pismo Fm.	5/17/2004	98.65	30.71	NA	67.94	67.94
B-139	Pismo Fm.	8/9/2004	98.65	31.86	NA	66.79	66.79
B-139	Pismo Fm.	12/6/2004	98.65	31.52	NA	67.13	67.13
B-139	Pismo Fm.	3/7/2005	98.65	24.26	NA	74.39	74.39
B-139	Pismo Fm.	6/15/2005	98.65	27.22	NA	71.43	71.43
B-139	Pismo Fm.	9/26/2005	98.65	-	NA	NA	NA
B-139	Pismo Fm.	11/28/2005	98.65	30.51	NA	68.14	68.14
B-139	Pismo Fm.	3/1/2006	98.65	-	NA	NA	NA
B-139	Pismo Fm.	6/6/2006	98.65	25.81	NA	72.84	72.84
B-139	Pismo Fm.	11/20/2006	98.65	30.32	NA	68.33	68.33
B-139	Pismo Fm.	5/21/2007	98.65	34.30	NA	64.35	64.35
B-139	Pismo Fm.	11/19/2007	98.65	32.41	NA	66.24	64.35
B-139	Pismo Fm.	5/19/2008	98.65	30.27	NA	68.38	68.38
B-139	Pismo Fm.	9/15/2008	98.65	-	NA	NA	NA
B-139	Pismo Fm.	11/17/2008	98.65	32.20	NA	66.45	66.45
B-139	Pismo Fm.	5/4/2009	98.65	31.41	NA	67.24	67.24
B-139	Pismo Fm.	11/16/2009	98.65	32.78	NA	65.87	65.87
B-139	Pismo Fm.	4/26/2010	98.65	26.95	NA	71.70	71.70
B-139	Pismo Fm.	11/15/2010	98.65	29.82	NA	68.83	68.83
B-139	Pismo Fm.	5/2/2011	98.65	24.62	NA	74.03	74.03
B-139	Pismo Fm.	11/14/2011	98.65	29.02	NA	69.63	69.63
B-139	Pismo Fm.	5/7/2012	98.65	28.39	NA	70.26	70.26
B-139	Pismo Fm.	11/5/2012	98.65	30.91	NA	67.74	67.74
B-143-45	Obispo Fm.	10/30/1997	80.35	23.52	NA	56.83	56.83
B-143-45	Obispo Fm.	10/31/1997	80.35	23.43	NA	56.92	56.92
B-143-45	Obispo Fm.	12/6/1997	80.35	23.27	NA	57.08	57.08
B-143-45	Obispo Fm.	2/16/1998	80.35	20.49	NA	59.86	59.86
B-143-45	Obispo Fm.	5/18/1998	80.35	12.27	NA	68.08	68.08

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B-143-45	Obispo Fm.	6/19/1998	80.35	12.90	NA	67.45	67.45
B-143-45	Obispo Fm.	7/23/1998	80.35	13.94	NA	66.41	66.41
B-143-45	Obispo Fm.	8/17/1998	80.35	14.73	NA	65.62	65.62
B-143-45	Obispo Fm.	9/29/1998	80.35	16.30	NA	64.05	64.05
B-143-45	Obispo Fm.	10/25/1998	80.35	17.14	NA	63.21	63.21
B-143-45	Obispo Fm.	11/22/1998	80.35	17.87	NA	62.48	62.48
B-143-45	Obispo Fm.	12/23/1998	80.35	18.66	NA	61.69	61.69
B-143-45	Obispo Fm.	1/29/1999	80.35	19.36	NA	60.99	60.99
B-143-45	Obispo Fm.	2/25/1999	80.35	19.53	NA	60.82	60.82
B-143-45	Obispo Fm.	3/5/1999	80.35	19.40	NA	60.95	60.95
B-143-45	Obispo Fm.	4/9/1999	80.35	19.32	NA	61.03	61.03
B-143-45	Obispo Fm.	5/27/1999	80.35	18.99	NA	61.36	61.36
B-143-45	Obispo Fm.	6/17/1999	80.35	18.88	NA	61.47	61.47
B-143-45	Obispo Fm.	8/2/1999	80.35	19.72	NA	60.63	60.63
B-143-45	Obispo Fm.	8/25/1999	80.35	19.95	NA	60.40	60.40
B-143-45	Obispo Fm.	9/22/1999	80.35	20.56	NA	59.79	59.79
B-143-45	Obispo Fm.	11/4/1999	80.35	21.01	NA	59.34	59.34
B-143-45	Obispo Fm.	11/18/1999	80.35	21.44	NA	58.91	58.91
B-143-45	Obispo Fm.	12/23/1999	80.35	21.58	NA	58.77	58.77
B-143-45	Obispo Fm.	1/24/2000	80.35	22.73	NA	57.62	57.62
B-143-45	Obispo Fm.	2/22/2000	80.35	23.04	NA	57.31	57.31
B-143-45	Obispo Fm.	3/23/2000	80.35	21.62	NA	58.73	58.73
B-143-45	Obispo Fm.	4/29/2000	80.35	21.05	NA	59.30	59.30
B-143-45	Obispo Fm.	5/22/2000	80.35	20.58	NA	59.77	59.77
B-143-45	Obispo Fm.	6/22/2000	80.35	20.77	NA	59.58	59.58
B-143-45	Obispo Fm.	7/20/2000	80.35	21.08	NA	59.27	59.27
B-143-45	Obispo Fm.	8/28/2000	80.35	21.70	NA	58.65	58.65
B-143-45	Obispo Fm.	9/26/2000	80.35	21.72	NA	58.63	58.63
B-143-45	Obispo Fm.	10/31/2000	80.35	22.78	NA	57.57	57.57
B-143-45	Obispo Fm.	11/27/2000	80.35	24.10	NA	56.25	56.25
B-143-45	Obispo Fm.	2/19/2001	80.35	24.26	NA	56.09	56.09
B-143-45	Obispo Fm.	5/2/2001	80.35	22.35	NA	58.00	58.00
B-143-45	Obispo Fm.	8/20/2001	80.35	23.51	NA	56.84	56.84
B-143-45	Obispo Fm.	12/7/2001	80.35	25.04	NA	55.31	55.31
B-143-45	Obispo Fm.	2/9/2002	80.35	25.21	NA	55.14	55.14
B-143-45	Obispo Fm.	5/28/2002	80.35	25.88	NA	54.47	54.47
B-143-45	Obispo Fm.	8/26/2002	80.35	26.88	NA	53.47	53.47
B-143-45	Obispo Fm.	11/12/2002	80.35	27.65	NA	52.70	52.70
B-143-45	Obispo Fm.	3/10/2003	80.35	28.26	NA	52.09	52.09
B-143-45	Obispo Fm.	6/9/2003	80.35	27.51	NA	52.84	52.84
B-143-45	Obispo Fm.	8/18/2003	80.35	28.25	NA	52.10	52.10
B-143-45	Obispo Fm.	11/10/2003	80.35	29.08	NA	51.27	51.27
B-143-45	Obispo Fm.	2/23/2004	80.35	29.29	NA	51.06	51.06
B-143-45	Obispo Fm.	5/17/2004	80.35	27.86	NA	52.49	52.49
B-143-45	Obispo Fm.	8/9/2004	80.35	29.33	NA	51.02	51.02
B-143-45	Obispo Fm.	12/6/2004	80.35	30.44	NA	49.91	49.91
B-143-45	Obispo Fm.	3/7/2005	80.35	26.81	NA	53.54	53.54

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B-143-45	Obispo Fm.	6/20/2005	80.35	23.11	NA	57.24	57.24
B-143-45	Obispo Fm.	9/26/2005	80.35	-	NA	NA	NA
B-143-45	Obispo Fm.	11/28/2005	80.35	24.96	NA	55.39	55.39
B-143-45	Obispo Fm.	3/1/2006	80.35	-	NA	NA	NA
B-143-45	Obispo Fm.	6/6/2006	80.35	21.51	NA	58.84	58.84
B-143-45	Obispo Fm.	11/20/2006	80.35	24.00	NA	56.35	56.35
B-143-45	Obispo Fm.	5/21/2007	80.35	26.12	NA	54.23	54.23
B-143-45	Obispo Fm.	11/19/2007	80.35	27.53	NA	52.82	52.82
B-143-45	Obispo Fm.	5/19/2008	80.35	28.10	NA	52.25	52.25
B-143-45	Obispo Fm.	9/15/2008	80.35	-	NA	NA	NA
B-143-45	Obispo Fm.	11/17/2008	80.35	30.10	NA	50.25	50.25
B-143-45	Obispo Fm.	5/4/2009	80.35	30.50	NA	49.85	49.85
B-143-45	Obispo Fm.	11/16/2009	80.35	32.31	NA	48.04	48.04
B-143-45	Obispo Fm.	4/26/2010	80.35	28.91	NA	51.44	51.44
B-143-45	Obispo Fm.	11/15/2010	80.35	29.91	NA	50.44	50.44
B-143-45	Obispo Fm.	5/2/2011	80.35	17.99	NA	62.36	62.36
B-143-45	Obispo Fm.	11/14/2011	80.35	23.41	NA	56.94	56.94
B-143-45	Obispo Fm.	5/7/2012	80.35	24.50	NA	55.85	55.85
B-143-45	Obispo Fm.	11/5/2012	80.35	27.17	NA	53.18	53.18
B-143-70	Obispo Fm.	10/30/1997	80.14	22.76	NA	57.38	57.38
B-143-70	Obispo Fm.	10/31/1997	80.14	22.16	NA	57.98	57.98
B-143-70	Obispo Fm.	12/6/1997	80.14	22.58	NA	57.56	57.56
B-143-70	Obispo Fm.	2/16/1998	80.14	18.15	NA	61.99	61.99
B-143-70	Obispo Fm.	5/18/1998	80.14	9.56	NA	70.58	70.58
B-143-70	Obispo Fm.	6/19/1998	80.14	11.02	NA	69.12	69.12
B-143-70	Obispo Fm.	7/23/1998	80.14	12.57	NA	67.57	67.57
B-143-70	Obispo Fm.	8/17/1998	80.14	13.58	NA	66.56	66.56
B-143-70	Obispo Fm.	9/29/1998	80.14	15.36	NA	64.78	64.78
B-143-70	Obispo Fm.	10/25/1998	80.14	16.34	NA	63.80	63.80
B-143-70	Obispo Fm.	11/22/1998	80.14	17.26	NA	62.88	62.88
B-143-70	Obispo Fm.	12/23/1998	80.14	18.12	NA	62.02	62.02
B-143-70	Obispo Fm.	1/29/1999	80.14	18.84	NA	61.30	61.30
B-143-70	Obispo Fm.	2/25/1999	80.14	18.91	NA	61.23	61.23
B-143-70	Obispo Fm.	3/5/1999	80.14	18.73	NA	61.41	61.41
B-143-70	Obispo Fm.	4/9/1999	80.14	18.37	NA	61.77	61.77
B-143-70	Obispo Fm.	5/27/1999	80.14	18.10	NA	62.04	62.04
B-143-70	Obispo Fm.	6/17/1999	80.14	18.03	NA	62.11	62.11
B-143-70	Obispo Fm.	8/2/1999	80.14	19.11	NA	61.03	61.03
B-143-70	Obispo Fm.	8/25/1999	80.14	19.35	NA	60.79	60.79
B-143-70	Obispo Fm.	9/22/1999	80.14	20.04	NA	60.10	60.10
B-143-70	Obispo Fm.	11/4/1999	80.14	20.55	NA	59.59	59.59
B-143-70	Obispo Fm.	11/18/1999	80.14	21.37	NA	58.77	58.77
B-143-70	Obispo Fm.	12/23/1999	80.14	21.01	NA	59.13	59.13
B-143-70	Obispo Fm.	1/24/2000	80.14	22.49	NA	57.65	57.65
B-143-70	Obispo Fm.	2/22/2000	80.14	22.64	NA	57.50	57.50
B-143-70	Obispo Fm.	3/23/2000	80.14	20.63	NA	59.51	59.51

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B-143-70	Obispo Fm.	4/29/2000	80.14	20.27	NA	59.87	59.87
B-143-70	Obispo Fm.	5/22/2000	80.14	19.78	NA	60.36	60.36
B-143-70	Obispo Fm.	6/22/2000	80.14	20.03	NA	60.11	60.11
B-143-70	Obispo Fm.	7/20/2000	80.14	20.45	NA	59.69	59.69
B-143-70	Obispo Fm.	8/28/2000	80.14	21.15	NA	58.99	58.99
B-143-70	Obispo Fm.	9/26/2000	80.14	22.16	NA	57.98	57.98
B-143-70	Obispo Fm.	10/31/2000	80.14	22.45	NA	57.69	57.69
B-143-70	Obispo Fm.	11/27/2000	80.14	22.92	NA	57.22	57.22
B-143-70	Obispo Fm.	2/19/2001	80.14	24.12	NA	56.02	56.02
B-143-70	Obispo Fm.	5/2/2001	80.14	21.85	NA	58.29	58.29
B-143-70	Obispo Fm.	8/20/2001	80.14	23.19	NA	56.95	56.95
B-143-70	Obispo Fm.	12/7/2001	80.14	24.95	NA	55.19	55.19
B-143-70	Obispo Fm.	2/9/2002	80.14	25.02	NA	55.12	55.12
B-143-70	Obispo Fm.	5/28/2002	80.14	25.56	NA	54.58	54.58
B-143-70	Obispo Fm.	8/26/2002	80.14	26.59	NA	53.55	53.55
B-143-70	Obispo Fm.	11/12/2002	80.14	27.39	NA	52.75	52.75
B-143-70	Obispo Fm.	3/10/2003	80.14	28.02	NA	52.12	52.12
B-143-70	Obispo Fm.	6/9/2003	80.14	27.65	NA	52.49	52.49
B-143-70	Obispo Fm.	8/18/2003	80.14	28.07	NA	52.07	52.07
B-143-70	Obispo Fm.	11/10/2003	80.14	28.76	NA	51.38	51.38
B-143-70	Obispo Fm.	2/23/2004	80.14	28.58	NA	51.56	51.56
B-143-70	Obispo Fm.	5/17/2004	80.14	28.32	NA	51.82	51.82
B-143-70	Obispo Fm.	8/9/2004	80.14	28.60	NA	51.54	51.54
B-143-70	Obispo Fm.	12/6/2004	80.14	29.75	NA	50.39	50.39
B-143-70	Obispo Fm.	3/7/2005	80.14	25.94	NA	54.20	54.20
B-143-70	Obispo Fm.	6/20/2005	80.14	22.51	NA	57.63	57.63
B-143-70	Obispo Fm.	9/26/2005	80.14	-	NA	NA	NA
B-143-70	Obispo Fm.	11/28/2005	80.14	24.44	NA	55.70	55.70
B-143-70	Obispo Fm.	3/1/2006	80.14	-	NA	NA	NA
B-143-70	Obispo Fm.	6/6/2006	80.14	20.14	NA	60.00	60.00
B-143-70	Obispo Fm.	11/20/2006	80.14	23.07	NA	57.07	57.07
B-143-70	Obispo Fm.	5/21/2007	80.14	24.87	NA	55.27	55.27
B-143-70	Obispo Fm.	11/19/2007	80.14	28.55	NA	51.59	51.59
B-143-70	Obispo Fm.	5/19/2008	80.14	26.90	NA	53.24	53.24
B-143-70	Obispo Fm.	9/15/2008	80.14	-	NA	NA	NA
B-143-70	Obispo Fm.	11/17/2008	80.14	29.14	NA	51.00	51.00
B-143-70	Obispo Fm.	5/4/2009	80.14	29.81	NA	50.33	50.33
B-143-70	Obispo Fm.	11/16/2009	80.14	31.69	NA	48.45	48.45
B-143-70	Obispo Fm.	4/26/2010	80.14	27.02	NA	53.12	53.12
B-143-70	Obispo Fm.	11/15/2010	80.14	28.80	NA	51.34	51.34
B-143-70	Obispo Fm.	5/2/2011	80.14	15.95	NA	64.19	64.19
B-143-70	Obispo Fm.	11/14/2011	80.14	22.68	NA	57.46	57.46
B-143-70	Obispo Fm.	5/7/2012	80.14	25.36	NA	54.78	54.78
B-143-70	Obispo Fm.	11/5/2012	80.14	26.34	NA	53.80	53.80
B-144-50	Obispo Fm.	10/30/1997	78.43	24.48	NA	53.95	53.95
B-144-50	Obispo Fm.	10/31/1997	78.43	24.67	NA	53.76	53.76

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B-144-50	Obispo Fm.	12/2/1997	78.43	22.39	NA	56.04	56.04
B-144-50	Obispo Fm.	2/16/1998	78.43	16.70	NA	61.73	61.73
B-144-50	Obispo Fm.	5/18/1998	78.43	15.74	NA	62.69	62.69
B-144-50	Obispo Fm.	6/19/1998	78.43	16.33	NA	62.10	62.10
B-144-50	Obispo Fm.	7/23/1998	78.43	17.31	NA	61.12	61.12
B-144-50	Obispo Fm.	8/17/1998	78.43	18.03	NA	60.40	60.40
B-144-50	Obispo Fm.	9/29/1998	78.43	19.52	NA	58.91	58.91
B-144-50	Obispo Fm.	10/25/1998	78.43	20.31	NA	58.12	58.12
B-144-50	Obispo Fm.	11/22/1998	78.43	20.82	NA	57.61	57.61
B-144-50	Obispo Fm.	12/23/1998	78.43	21.38	NA	57.05	57.05
B-144-50	Obispo Fm.	1/29/1999	78.43	21.80	NA	56.63	56.63
B-144-50	Obispo Fm.	2/25/1999	78.43	21.11	NA	57.32	57.32
B-144-50	Obispo Fm.	3/5/1999	78.43	21.11	NA	57.32	57.32
B-144-50	Obispo Fm.	4/9/1999	78.43	20.26	NA	58.17	58.17
B-144-50	Obispo Fm.	5/27/1999	78.43	20.94	NA	57.49	57.49
B-144-50	Obispo Fm.	6/17/1999	78.43	21.07	NA	57.36	57.36
B-144-50	Obispo Fm.	8/2/1999	78.43	22.01	NA	56.42	56.42
B-144-50	Obispo Fm.	8/25/1999	78.43	22.23	NA	56.20	56.20
B-144-50	Obispo Fm.	9/22/1999	78.43	22.83	NA	55.60	55.60
B-144-50	Obispo Fm.	11/4/1999	78.43	23.20	NA	55.23	55.23
B-144-50	Obispo Fm.	11/18/1999	78.43	23.75	NA	54.68	54.68
B-144-50	Obispo Fm.	12/23/1999	78.43	23.69	NA	54.74	54.74
B-144-50	Obispo Fm.	1/24/2000	78.43	24.27	NA	54.16	54.16
B-144-50	Obispo Fm.	2/22/2000	78.43	22.81	NA	55.62	55.62
B-144-50	Obispo Fm.	3/23/2000	78.43	20.16	NA	58.27	58.27
B-144-50	Obispo Fm.	4/29/2000	78.43	20.43	NA	58.00	58.00
B-144-50	Obispo Fm.	5/22/2000	78.43	20.65	NA	57.78	57.78
B-144-50	Obispo Fm.	6/22/2000	78.43	20.89	NA	57.54	57.54
B-144-50	Obispo Fm.	7/20/2000	78.43	22.22	NA	56.21	56.21
B-144-50	Obispo Fm.	8/28/2000	78.43	23.17	NA	55.26	55.26
B-144-50	Obispo Fm.	9/26/2000	78.43	23.47	NA	54.96	54.96
B-144-50	Obispo Fm.	10/31/2000	78.43	23.58	NA	54.85	54.85
B-144-50	Obispo Fm.	11/27/2000	78.43	24.00	NA	54.43	54.43
B-144-50	Obispo Fm.	2/19/2001	78.43	24.10	NA	54.33	54.33
B-144-50	Obispo Fm.	5/2/2001	78.43	21.28	NA	57.15	57.15
B-144-50	Obispo Fm.	8/20/2001	78.43	23.97	NA	54.46	54.46
B-144-50	Obispo Fm.	12/7/2001	78.43	25.06	NA	53.37	53.37
B-144-50	Obispo Fm.	2/9/2002	78.43	24.70	NA	53.73	53.73
B-144-50	Obispo Fm.	5/28/2002	78.43	26.31	NA	52.12	52.12
B-144-50	Obispo Fm.	8/26/2002	78.43	27.58	NA	50.85	50.85
B-144-50	Obispo Fm.	11/12/2002	78.43	28.26	NA	50.17	50.17
B-144-50	Obispo Fm.	3/10/2003	78.43	28.08	NA	50.35	50.35
B-144-50	Obispo Fm.	6/9/2003	78.43	28.08	NA	50.35	50.35
B-144-50	Obispo Fm.	8/18/2003	78.43	28.90	NA	49.53	49.53
B-144-50	Obispo Fm.	11/10/2003	78.43	29.92	NA	48.51	48.51
B-144-50	Obispo Fm.	2/23/2004	78.43	30.54	NA	47.89	47.89
B-144-50	Obispo Fm.	5/17/2004	78.43	30.71	NA	47.72	47.72

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B-144-50	Obispo Fm.	8/9/2004	78.43	31.74	NA	46.69	46.69
B-144-50	Obispo Fm.	12/6/2004	78.43	31.86	NA	46.57	46.57
B-144-50	Obispo Fm.	3/7/2005	78.43	25.26	NA	53.17	53.17
B-144-50	Obispo Fm.	6/20/2005	78.43	25.19	NA	53.24	53.24
B-144-50	Obispo Fm.	9/26/2005	78.43	-	NA	NA	NA
B-144-50	Obispo Fm.	11/28/2005	78.43	27.02	NA	51.41	51.41
B-144-50	Obispo Fm.	3/1/2006	78.43	-	NA	NA	NA
B-144-50	Obispo Fm.	6/6/2006	78.43	23.62	NA	54.81	54.81
B-144-50	Obispo Fm.	11/20/2006	78.43	27.15	NA	51.28	51.28
B-144-50	Obispo Fm.	5/21/2007	78.43	28.81	NA	49.62	49.62
B-144-50	Obispo Fm.	11/19/2007	78.43	30.73	NA	47.70	47.70
B-144-50	Obispo Fm.	5/19/2008	78.43	29.80	NA	48.63	48.63
B-144-50	Obispo Fm.	9/15/2008	78.43	-	NA	NA	NA
B-144-50	Obispo Fm.	11/17/2008	78.43	32.10	NA	46.33	46.33
B-144-50	Obispo Fm.	5/4/2009	78.43	32.09	NA	46.34	46.34
B-144-50	Obispo Fm.	11/16/2009	78.43	33.72	NA	44.71	44.71
B-144-50	Obispo Fm.	4/26/2010	78.43	29.31	NA	49.12	49.12
B-144-50	Obispo Fm.	11/15/2010	78.43	31.53	NA	46.90	46.90
B-144-50	Obispo Fm.	5/2/2011	78.43	21.82	NA	56.61	56.61
B-144-50	Obispo Fm.	11/14/2011	78.43	25.59	NA	52.84	52.84
B-144-50	Obispo Fm.	5/7/2012	78.43	26.32	NA	52.11	52.11
B-144-50	Obispo Fm.	11/5/2012	78.43	28.66	NA	49.77	49.77
B-144-75	Obispo Fm.	10/30/1997	78.08	24.23	NA	53.85	53.85
B-144-75	Obispo Fm.	10/31/1997	78.08	24.12	NA	53.96	53.96
B-144-75	Obispo Fm.	12/2/1997	78.08	22.08	NA	56.00	56.00
B-144-75	Obispo Fm.	2/16/1998	78.08	16.30	NA	61.78	61.78
B-144-75	Obispo Fm.	5/18/1998	78.08	15.54	NA	62.54	62.54
B-144-75	Obispo Fm.	6/19/1998	78.08	16.15	NA	61.93	61.93
B-144-75	Obispo Fm.	7/23/1998	78.08	17.14	NA	60.94	60.94
B-144-75	Obispo Fm.	8/17/1998	78.08	17.99	NA	60.09	60.09
B-144-75	Obispo Fm.	9/29/1998	78.08	19.40	NA	58.68	58.68
B-144-75	Obispo Fm.	10/25/1998	78.08	20.20	NA	57.88	57.88
B-144-75	Obispo Fm.	11/22/1998	78.08	20.73	NA	57.35	57.35
B-144-75	Obispo Fm.	12/23/1998	78.08	21.25	NA	56.83	56.83
B-144-75	Obispo Fm.	1/29/1999	78.08	21.63	NA	56.45	56.45
B-144-75	Obispo Fm.	2/25/1999	78.08	20.93	NA	57.15	57.15
B-144-75	Obispo Fm.	3/5/1999	78.08	20.95	NA	57.13	57.13
B-144-75	Obispo Fm.	4/9/1999	78.08	20.03	NA	58.05	58.05
B-144-75	Obispo Fm.	5/27/1999	78.08	20.84	NA	57.24	57.24
B-144-75	Obispo Fm.	6/17/1999	78.08	20.95	NA	57.13	57.13
B-144-75	Obispo Fm.	8/2/1999	78.08	21.89	NA	56.19	56.19
B-144-75	Obispo Fm.	8/25/1999	78.08	22.11	NA	55.97	55.97
B-144-75	Obispo Fm.	9/22/1999	78.08	22.51	NA	55.57	55.57
B-144-75	Obispo Fm.	11/4/1999	78.08	22.96	NA	55.12	55.12
B-144-75	Obispo Fm.	11/18/1999	78.08	23.60	NA	54.48	54.48
B-144-75	Obispo Fm.	12/23/1999	78.08	23.30	NA	54.78	54.78

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B-144-75	Obispo Fm.	1/24/2000	78.08	24.07	NA	54.01	54.01
B-144-75	Obispo Fm.	2/22/2000	78.08	22.45	NA	55.63	55.63
B-144-75	Obispo Fm.	3/23/2000	78.08	19.90	NA	58.18	58.18
B-144-75	Obispo Fm.	4/29/2000	78.08	20.19	NA	57.89	57.89
B-144-75	Obispo Fm.	5/22/2000	78.08	20.46	NA	57.62	57.62
B-144-75	Obispo Fm.	6/22/2000	78.08	20.76	NA	57.32	57.32
B-144-75	Obispo Fm.	7/20/2000	78.08	22.06	NA	56.02	56.02
B-144-75	Obispo Fm.	8/28/2000	78.08	22.85	NA	55.23	55.23
B-144-75	Obispo Fm.	9/26/2000	78.08	23.31	NA	54.77	54.77
B-144-75	Obispo Fm.	10/31/2000	78.08	23.31	NA	54.77	54.77
B-144-75	Obispo Fm.	11/27/2000	78.08	23.80	NA	54.28	54.28
B-144-75	Obispo Fm.	2/19/2001	78.08	23.80	NA	54.28	54.28
B-144-75	Obispo Fm.	5/2/2001	78.08	21.04	NA	57.04	57.04
B-144-75	Obispo Fm.	8/20/2001	78.08	23.78	NA	54.30	54.30
B-144-75	Obispo Fm.	12/7/2001	78.08	24.81	NA	53.27	53.27
B-144-75	Obispo Fm.	2/9/2002	78.08	24.46	NA	53.62	53.62
B-144-75	Obispo Fm.	5/28/2002	78.08	26.18	NA	51.90	51.90
B-144-75	Obispo Fm.	8/26/2002	78.08	27.39	NA	50.69	50.69
B-144-75	Obispo Fm.	11/12/2002	78.08	28.02	NA	50.06	50.06
B-144-75	Obispo Fm.	3/10/2003	78.08	27.83	NA	50.25	50.25
B-144-75	Obispo Fm.	6/9/2003	78.08	27.43	NA	50.65	50.65
B-144-75	Obispo Fm.	8/18/2003	78.08	28.71	NA	49.37	49.37
B-144-75	Obispo Fm.	11/10/2003	78.08	29.72	NA	48.36	48.36
B-144-75	Obispo Fm.	2/23/2004	78.08	30.35	NA	47.73	47.73
B-144-75	Obispo Fm.	5/17/2004	78.08	30.68	NA	47.40	47.40
B-144-75	Obispo Fm.	8/9/2004	78.08	31.65	NA	46.43	46.43
B-144-75	Obispo Fm.	12/6/2004	78.08	31.67	NA	46.41	46.41
B-144-75	Obispo Fm.	3/7/2005	78.08	24.88	NA	53.20	53.20
B-144-75	Obispo Fm.	6/20/2005	78.08	24.99	NA	53.09	53.09
B-144-75	Obispo Fm.	9/26/2005	78.08	-	NA	NA	NA
B-144-75	Obispo Fm.	11/28/2005	78.08	26.90	NA	51.18	51.18
B-144-75	Obispo Fm.	3/1/2006	78.08	-	NA	NA	NA
B-144-75	Obispo Fm.	6/6/2006	78.08	23.46	NA	54.62	54.62
B-144-75	Obispo Fm.	11/20/2006	78.08	26.06	NA	52.02	52.02
B-144-75	Obispo Fm.	5/21/2007	78.08	28.65	NA	49.43	49.43
B-144-75	Obispo Fm.	11/19/2007	78.08	30.19	NA	47.89	47.89
B-144-75	Obispo Fm.	5/19/2008	78.08	29.60	NA	48.48	48.48
B-144-75	Obispo Fm.	9/15/2008	78.08	-	NA	NA	NA
B-144-75	Obispo Fm.	11/17/2008	78.08	32.82	NA	45.26	45.26
B-144-75	Obispo Fm.	5/4/2009	78.08	31.85	NA	46.23	46.23
B-144-75	Obispo Fm.	11/16/2009	78.08	33.50	NA	44.58	44.58
B-144-75	Obispo Fm.	4/26/2010	78.08	29.02	NA	49.06	49.06
B-144-75	Obispo Fm.	11/15/2010	78.08	31.29	NA	46.79	46.79
B-144-75	Obispo Fm.	5/2/2011	78.08	21.51	NA	56.57	56.57
B-144-75	Obispo Fm.	11/14/2011	78.08	25.35	NA	52.73	52.73
B-144-75	Obispo Fm.	5/7/2012	78.08	26.55	NA	51.53	51.53
B-144-75	Obispo Fm.	11/5/2012	78.08	28.49	NA	49.59	49.59

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B-145	Obispo Fm.	12/6/1997	107.85	75.16	NA	32.69	32.69
B-145	Obispo Fm.	2/16/1998	107.85	73.14	NA	34.71	34.71
B-145	Obispo Fm.	5/18/1998	107.85	68.98	NA	38.87	38.87
B-145	Obispo Fm.	6/19/1998	107.85	69.69	NA	38.16	38.16
B-145	Obispo Fm.	7/23/1998	107.85	70.81	NA	37.04	37.04
B-145	Obispo Fm.	8/17/1998	107.85	71.50	NA	36.35	36.35
B-145	Obispo Fm.	9/29/1998	107.85	73.02	NA	34.83	34.83
B-145	Obispo Fm.	10/25/1998	107.85	73.36	NA	34.49	34.49
B-145	Obispo Fm.	11/22/1998	107.85	73.72	NA	34.13	34.13
B-145	Obispo Fm.	12/23/1998	107.85	74.21	NA	33.64	33.64
B-145	Obispo Fm.	1/29/1999	107.85	74.53	NA	33.32	33.32
B-145	Obispo Fm.	2/25/1999	107.85	74.45	NA	33.40	33.40
B-145	Obispo Fm.	3/5/1999	107.85	74.43	NA	33.42	33.42
B-145	Obispo Fm.	4/9/1999	107.85	74.20	NA	33.65	33.65
B-145	Obispo Fm.	5/27/1999	107.85	74.05	NA	33.80	33.80
B-145	Obispo Fm.	6/17/1999	107.85	73.97	NA	33.88	33.88
B-145	Obispo Fm.	8/2/1999	107.85	74.36	NA	33.49	33.49
B-145	Obispo Fm.	8/25/1999	107.85	74.47	NA	33.38	33.38
B-145	Obispo Fm.	9/22/1999	107.85	74.64	NA	33.21	33.21
B-145	Obispo Fm.	11/4/1999	107.85	74.87	NA	32.98	32.98
B-145	Obispo Fm.	11/18/1999	107.85	75.20	NA	32.65	32.65
B-145	Obispo Fm.	12/23/1999	107.85	75.05	NA	32.80	32.80
B-145	Obispo Fm.	1/24/2000	107.85	75.59	NA	32.26	32.26
B-145	Obispo Fm.	2/22/2000	107.85	75.73	NA	32.12	32.12
B-145	Obispo Fm.	3/23/2000	107.85	74.56	NA	33.29	33.29
B-145	Obispo Fm.	4/29/2000	107.85	74.50	NA	33.35	33.35
B-145	Obispo Fm.	5/22/2000	107.85	74.43	NA	33.42	33.42
B-145	Obispo Fm.	6/22/2000	107.85	74.48	NA	33.37	33.37
B-145	Obispo Fm.	7/20/2000	107.85	74.86	NA	32.99	32.99
B-145	Obispo Fm.	8/28/2000	107.85	75.10	NA	32.75	32.75
B-145	Obispo Fm.	9/26/2000	107.85	75.42	NA	32.43	32.43
B-145	Obispo Fm.	10/31/2000	107.85	75.71	NA	32.14	32.14
B-145	Obispo Fm.	11/27/2000	107.85	75.84	NA	32.01	32.01
B-145	Obispo Fm.	2/19/2001	107.85	76.12	NA	31.73	31.73
B-145	Obispo Fm.	5/2/2001	107.85	74.71	NA	33.14	33.14
B-145	Obispo Fm.	8/20/2001	107.85	75.45	NA	32.40	32.40
B-145	Obispo Fm.	12/7/2001	107.85	76.15	NA	31.70	31.70
B-145	Obispo Fm.	2/9/2002	107.85	76.10	NA	31.75	31.75
B-145	Obispo Fm.	5/28/2002	107.85	76.02	NA	31.83	31.83
B-145	Obispo Fm.	8/26/2002	107.85	76.21	NA	31.64	31.64
B-145	Obispo Fm.	11/12/2002	107.85	76.70	NA	31.15	31.15
B-145	Obispo Fm.	3/10/2003	107.85	76.85	NA	31.00	31.00
B-145	Obispo Fm.	6/9/2003	107.85	76.31	NA	31.54	31.54
B-145	Obispo Fm.	8/18/2003	107.85	76.20	NA	31.65	31.65
B-145	Obispo Fm.	11/10/2003	107.85	76.65	NA	31.20	31.20
B-145	Obispo Fm.	2/23/2004	107.85	77.63	NA	30.22	30.22

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B-145	Obispo Fm.	5/17/2004	107.85	74.03	NA	33.82	33.82
B-145	Obispo Fm.	8/9/2004	107.85	78.22	NA	29.63	29.63
B-145	Obispo Fm.	12/6/2004	107.85	79.09	NA	28.76	28.76
B-145	Obispo Fm.	3/7/2005	107.85	77.04	NA	30.81	30.81
B-145	Obispo Fm.	6/15/2005	107.85	75.49	NA	32.36	32.36
B-145	Obispo Fm.	9/26/2005	107.85	-	NA	NA	NA
B-145	Obispo Fm.	11/28/2005	107.85	76.54	NA	31.31	31.31
B-145	Obispo Fm.	3/1/2006	107.85	-	NA	NA	NA
B-145	Obispo Fm.	6/6/2006	107.85	74.90	NA	32.95	32.95
B-145	Obispo Fm.	11/20/2006	107.85	76.24	NA	31.61	31.61
B-145	Obispo Fm.	5/21/2007	107.85	76.92	NA	30.93	30.93
B-145	Obispo Fm.	11/19/2007	107.85	77.72	NA	30.13	30.13
B-145	Obispo Fm.	5/19/2008	107.85	77.51	NA	30.34	30.34
B-145	Obispo Fm.	9/15/2008	107.85	-	NA	NA	NA
B-145	Obispo Fm.	11/17/2008	107.85	78.25	NA	29.60	29.60
B-145	Obispo Fm.	5/4/2009	107.85	78.44	NA	29.41	29.41
B-145	Obispo Fm.	11/16/2009	107.85	79.05	NA	28.80	28.80
B-145	Obispo Fm.	4/26/2010	107.85	77.31	NA	30.54	30.54
B-145	Obispo Fm.	11/15/2010	107.85	77.44	NA	30.41	30.41
B-145	Obispo Fm.	5/2/2011	107.85	72.89	NA	34.96	34.96
B-145	Obispo Fm.	11/14/2011	107.85	75.12	NA	32.73	32.73
B-145	Obispo Fm.	5/7/2012	107.85	76.09	NA	31.76	31.76
B-145	Obispo Fm.	11/5/2012	107.85	76.19	NA	31.66	31.66
B-146	Alluvium	12/3/1997	27.36	9.60	Sheen	17.76	17.76
B-146	Alluvium	12/4/1997	27.36	9.02	Sheen	18.34	18.34
B-146	Alluvium	2/16/1998	27.36	1.22	Sheen	26.14	26.14
B-146	Alluvium	5/18/1998	27.36	0.91	NA	26.45	26.45
B-146	Alluvium	6/19/1998	27.36	2.40	NA	24.96	24.96
B-146	Alluvium	7/23/1998	27.36	3.81	NA	23.55	23.55
B-146	Alluvium	8/17/1998	27.36	4.96	NA	22.40	22.40
B-146	Alluvium	9/29/1998	27.36	6.33	NA	21.03	21.03
B-146	Alluvium	10/25/1998	27.36	7.09	NA	20.27	20.27
B-146	Alluvium	11/22/1998	27.36	7.30	NA	20.06	20.06
B-146	Alluvium	12/23/1998	27.36	7.98	NA	19.38	19.38
B-146	Alluvium	1/29/1999	27.36	7.59	NA	19.77	19.77
B-146	Alluvium	2/25/1999	27.36	7.11	NA	20.25	20.25
B-146	Alluvium	3/5/1999	27.36	7.21	NA	20.15	20.15
B-146	Alluvium	4/9/1999	27.36	6.40	NA	20.96	20.96
B-146	Alluvium	5/27/1999	27.36	7.47	NA	19.89	19.89
B-146	Alluvium	6/17/1999	27.36	7.78	NA	19.58	19.58
B-146	Alluvium	8/2/1999	27.36	9.30	NA	18.06	18.06
B-146	Alluvium	8/25/1999	27.36	9.68	NA	17.68	17.68
B-146	Alluvium	9/22/1999	27.36	10.37	NA	16.99	16.99
B-146	Alluvium	11/4/1999	27.36	10.90	NA	16.46	16.46
B-146	Alluvium	11/18/1999	27.36	11.19	NA	16.17	16.17
B-146	Alluvium	12/23/1999	27.36	11.21	NA	16.15	16.15

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B-146	Alluvium	1/24/2000	27.36	11.73	NA	15.63	15.63
B-146	Alluvium	2/22/2000	27.36	5.49	NA	21.87	21.87
B-146	Alluvium	3/23/2000	27.36	5.98	NA	21.38	21.38
B-146	Alluvium	4/29/2000	27.36	6.43	NA	20.93	20.93
B-146	Alluvium	5/22/2000	27.36	7.08	NA	20.28	20.28
B-146	Alluvium	6/22/2000	27.36	7.88	NA	19.48	19.48
B-146	Alluvium	7/20/2000	27.36	9.38	NA	17.98	17.98
B-146	Alluvium	8/28/2000	27.36	10.69	NA	16.67	16.67
B-146	Alluvium	9/26/2000	27.36	11.46	NA	15.90	15.90
B-146	Alluvium	10/31/2000	27.36	11.97	NA	15.39	15.39
B-146	Alluvium	11/27/2000	27.36	12.19	NA	15.17	15.17
B-146	Alluvium	2/19/2001	27.36	9.82	NA	17.54	17.54
B-146	Alluvium	5/2/2001	27.36	7.60	NA	19.76	19.76
B-146	Alluvium	8/20/2001	27.36	11.26	NA	16.10	16.10
B-146	Alluvium	12/7/2001	27.36	11.73	NA	15.63	15.63
B-146	Alluvium	2/9/2002	27.36	10.74	NA	16.62	16.62
B-146	Alluvium	5/28/2002	27.36	12.33	NA	15.03	15.03
B-146	Alluvium	8/26/2002	27.36	13.71	NA	13.65	13.65
B-146	Alluvium	11/12/2002	27.36	14.19	NA	13.17	13.17
B-146	Alluvium	3/10/2003	27.36	12.87	NA	14.49	14.49
B-146	Alluvium	6/9/2003	27.36	13.23	NA	14.13	14.13
B-146	Alluvium	8/18/2003	27.36	14.25	NA	13.11	13.11
B-146	Alluvium	11/10/2003	27.36	14.97	NA	12.39	12.39
B-146	Alluvium	2/23/2004	27.36	11.77	NA	15.59	15.59
B-146	Alluvium	5/17/2004	27.36	13.02	NA	14.34	14.34
B-146	Alluvium	8/9/2004	27.36	14.77	NA	12.59	12.59
B-146	Alluvium	12/6/2004	27.36	15.18	NA	12.18	12.18
B-146	Alluvium	3/7/2005	27.36	5.94	NA	21.42	21.42
B-146	Alluvium	6/20/2005	27.36	8.40	NA	18.96	18.96
B-146	Alluvium	9/26/2005	27.36	-	NA	NA	NA
B-146	Alluvium	11/28/2005	27.36	12.00	NA	15.36	15.36
B-146	Alluvium	3/1/2006	27.36	-	NA	NA	NA
B-146	Alluvium	6/6/2006	27.36	7.28	NA	20.08	20.08
B-146	Alluvium	11/20/2006	27.36	12.02	NA	15.34	15.34
B-146	Alluvium	5/21/2007	27.36	12.35	NA	15.01	15.01
B-146	Alluvium	11/19/2007	27.36	15.14	NA	12.22	12.22
B-146	Alluvium	5/19/2008	27.36	13.40	NA	13.96	13.96
B-146	Alluvium	9/15/2008	27.36	-	NA	NA	NA
B-146	Alluvium	11/17/2008	27.36	16.17	NA	11.19	11.19
B-146	Alluvium	5/4/2009	27.36	16.31	NA	11.05	11.05
B-146	Alluvium	11/16/2009	27.36	17.52	NA	9.84	9.84
B-146	Alluvium	4/26/2010	27.36	11.22	NA	16.14	16.14
B-146	Alluvium	11/15/2010	27.36	14.92	NA	12.44	12.44
B-146	Alluvium	5/2/2011	27.36	3.87	NA	23.49	23.49
B-146	Alluvium	11/14/2011	27.36	8.32	NA	19.04	19.04
B-146	Alluvium	5/7/2012	27.36	8.47	NA	18.89	18.89
B-146	Alluvium	11/5/2012	27.36	13.22	NA	14.14	14.14

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B-147	Alluvium	12/6/1997	15.06	1.77	NA	13.29	13.29
B-147	Alluvium	2/16/1998	15.06	1.11	NA	13.95	13.95
B-147	Alluvium	5/18/1998	15.06	1.20	NA	13.86	13.86
B-147	Alluvium	6/19/1998	15.06	1.45	NA	13.61	13.61
B-147	Alluvium	7/23/1998	15.06	1.17	NA	13.89	13.89
B-147	Alluvium	8/17/1998	15.06	1.30	NA	13.76	13.76
B-147	Alluvium	9/29/1998	15.06	1.67	NA	13.39	13.39
B-147	Alluvium	10/25/1998	15.06	1.37	NA	13.69	13.69
B-147	Alluvium	11/22/1998	15.06	1.51	NA	13.55	13.55
B-147	Alluvium	12/23/1998	15.06	1.95	NA	13.11	13.11
B-147	Alluvium	1/29/1999	15.06	1.43	NA	13.63	13.63
B-147	Alluvium	2/25/1999	15.06	1.46	NA	13.60	13.60
B-147	Alluvium	3/5/1999	15.06	1.61	NA	13.45	13.45
B-147	Alluvium	4/9/1999	15.06	1.36	NA	13.70	13.70
B-147	Alluvium	5/27/1999	15.06	2.39	NA	12.67	12.67
B-147	Alluvium	6/17/1999	15.06	2.61	NA	12.45	12.45
B-147	Alluvium	8/2/1999	15.06	3.76	NA	11.30	11.30
B-147	Alluvium	8/25/1999	15.06	3.99	NA	11.07	11.07
B-147	Alluvium	9/22/1999	15.06	4.51	NA	10.55	10.55
B-147	Alluvium	11/4/1999	15.06	4.96	NA	10.10	10.10
B-147	Alluvium	11/18/1999	15.06	4.57	NA	10.49	10.49
B-147	Alluvium	12/23/1999	15.06	5.53	NA	9.53	9.53
B-147	Alluvium	1/24/2000	15.06	3.51	NA	11.55	11.55
B-147	Alluvium	2/22/2000	15.06	1.60	NA	13.46	13.46
B-147	Alluvium	3/23/2000	15.06	0.57	NA	14.49	14.49
B-147	Alluvium	4/29/2000	15.06	1.92	NA	13.14	13.14
B-147	Alluvium	5/22/2000	15.06	2.33	NA	12.73	12.73
B-147	Alluvium	6/22/2000	15.06	2.70	NA	12.36	12.36
B-147	Alluvium	7/20/2000	15.06	3.61	NA	11.45	11.45
B-147	Alluvium	8/28/2000	15.06	4.70	NA	10.36	10.36
B-147	Alluvium	9/26/2000	15.06	5.13	NA	9.93	9.93
B-147	Alluvium	10/31/2000	15.06	5.27	NA	9.79	9.79
B-147	Alluvium	11/27/2000	15.06	4.61	NA	10.45	10.45
B-147	Alluvium	2/19/2001	15.06	1.97	NA	13.09	13.09
B-147	Alluvium	5/2/2001	15.06	2.35	NA	12.71	12.71
B-147	Alluvium	8/20/2001	15.06	4.88	NA	10.18	10.18
B-147	Alluvium	12/7/2001	15.06	4.03	NA	11.03	11.03
B-147	Alluvium	2/9/2002	15.06	3.74	NA	11.32	11.32
B-147	Alluvium	5/28/2002	15.06	5.57	NA	9.49	9.49
B-147	Alluvium	8/26/2002	15.06	6.52	NA	8.54	8.54
B-147	Alluvium	11/12/2002	15.06	6.76	NA	8.30	8.30
B-147	Alluvium	3/10/2003	15.06	5.54	NA	9.52	9.52
B-147	Alluvium	8/18/2003	15.06	7.19	NA	7.87	7.87
B-147	Alluvium	11/10/2003	15.06	7.76	NA	7.30	7.30
B-147	Alluvium	2/23/2004	15.06	3.61	NA	11.45	11.45
B-147	Alluvium	5/17/2004	15.06	6.35	NA	8.71	8.71

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B-147	Alluvium	8/9/2004	15.06	7.44	NA	7.62	7.62
B-147	Alluvium	12/6/2004	15.06	7.23	NA	7.83	7.83
B-147	Alluvium	3/7/2005	15.06	1.66	NA	13.40	13.40
B-147	Alluvium	6/20/2005	15.06	3.13	NA	11.93	11.93
B-147	Alluvium	9/26/2005	15.06	-	NA	NA	NA
B-147	Alluvium	11/28/2005	15.06	5.29	NA	9.77	9.77
B-147	Alluvium	3/1/2006	15.06	-	NA	NA	NA
B-147	Alluvium	6/6/2006	15.06	2.54	NA	12.52	12.52
B-147	Alluvium	11/20/2006	15.06	5.54	NA	9.52	9.52
B-147	Alluvium	5/21/2007	15.06	5.65	NA	9.41	9.41
B-147	Alluvium	11/19/2007	15.06	8.47	NA	6.59	6.59
B-147	Alluvium	5/19/2008	15.06	6.82	NA	8.24	8.24
B-147	Alluvium	9/15/2008	15.06	-	NA	NA	NA
B-147	Alluvium	11/17/2008	15.06	9.68	NA	5.38	5.38
B-147	Alluvium	5/4/2009	15.06	8.96	NA	6.10	6.10
B-147	Alluvium	11/16/2009	15.06	10.89	NA	4.17	4.17
B-147	Alluvium	4/26/2010	15.06	5.33	NA	9.73	9.73
B-147	Alluvium	11/15/2010	15.06	8.65	NA	6.41	6.41
B-147	Alluvium	5/2/2011	15.06	1.11	NA	13.95	13.95
B-147	Alluvium	11/14/2011	15.06	2.55	NA	12.51	12.51
B-147	Alluvium	5/7/2012	15.06	3.08	NA	11.98	11.98
B-147	Alluvium	11/5/2012	15.06	6.75	NA	8.31	8.31
B-148	Pismo Fm.	12/3/1997	134.194	124.95	NA	9.24	9.24
B-148	Pismo Fm.	12/4/1997	134.194	124.81	NA	9.38	9.38
B-148	Pismo Fm.	2/16/1998	134.194	124.25	NA	9.94	9.94
B-148	Pismo Fm.	5/18/1998	134.194	124.19	NA	10.00	10.00
B-148	Pismo Fm.	6/19/1998	134.194	124.42	NA	9.77	9.77
B-148	Pismo Fm.	7/23/1998	134.194	124.42	NA	9.77	9.77
B-148	Pismo Fm.	8/17/1998	134.194	124.35	NA	9.84	9.84
B-148	Pismo Fm.	9/29/1998	134.194	124.40	NA	9.79	9.79
B-148	Pismo Fm.	10/25/1998	134.194	124.56	NA	9.63	9.63
B-148	Pismo Fm.	11/22/1998	134.194	124.57	NA	9.62	9.62
B-148	Pismo Fm.	12/23/1998	134.194	124.90	NA	9.29	9.29
B-148	Pismo Fm.	1/29/1999	134.194	124.91	NA	9.28	9.28
B-148	Pismo Fm.	2/25/1999	134.194	124.96	NA	9.23	9.23
B-148	Pismo Fm.	3/5/1999	134.194	125.01	NA	9.18	9.18
B-148	Pismo Fm.	4/9/1999	134.194	124.98	NA	9.21	9.21
B-148	Pismo Fm.	5/27/1999	134.194	125.00	NA	9.19	9.19
B-148	Pismo Fm.	6/17/1999	134.194	125.03	NA	9.16	9.16
B-148	Pismo Fm.	8/2/1999	134.194	124.92	NA	9.27	9.27
B-148	Pismo Fm.	8/25/1999	134.194	124.95	NA	9.24	9.24
B-148	Pismo Fm.	9/22/1999	134.194	124.99	NA	9.20	9.20
B-148	Pismo Fm.	11/4/1999	134.194	125.02	NA	9.17	9.17
B-148	Pismo Fm.	11/18/1999	134.194	125.08	NA	9.11	9.11
B-148	Pismo Fm.	12/23/1999	134.194	125.00	NA	9.19	9.19
B-148	Pismo Fm.	1/24/2000	134.194	125.03	NA	9.16	9.16

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B-148	Pismo Fm.	2/22/2000	134.194	124.79	NA	9.40	9.40
B-148	Pismo Fm.	3/23/2000	134.194	124.86	NA	9.33	9.33
B-148	Pismo Fm.	4/29/2000	134.194	124.91	NA	9.28	9.28
B-148	Pismo Fm.	5/22/2000	134.194	124.97	NA	9.22	9.22
B-148	Pismo Fm.	6/22/2000	134.194	124.95	NA	9.24	9.24
B-148	Pismo Fm.	7/20/2000	134.194	124.92	NA	9.27	9.27
B-148	Pismo Fm.	8/28/2000	134.194	124.90	NA	9.29	9.29
B-148	Pismo Fm.	9/26/2000	134.194	124.85	NA	9.34	9.34
B-148	Pismo Fm.	10/31/2000	134.194	124.89	NA	9.30	9.30
B-148	Pismo Fm.	11/27/2000	134.194	125.00	NA	9.19	9.19
B-148	Pismo Fm.	2/19/2001	134.194	125.01	NA	9.18	9.18
B-148	Pismo Fm.	5/2/2001	134.194	125.01	NA	9.18	9.18
B-148	Pismo Fm.	8/20/2001	134.194	124.95	NA	9.24	9.24
B-148	Pismo Fm.	12/7/2001	134.194	125.02	NA	9.17	9.17
B-148	Pismo Fm.	2/9/2002	134.194	125.14	NA	9.05	9.05
B-148	Pismo Fm.	5/28/2002	134.194	125.29	NA	8.90	8.90
B-148	Pismo Fm.	8/26/2002	134.194	124.93	NA	9.26	9.26
B-148	Pismo Fm.	11/12/2002	134.194	124.90	NA	9.29	9.29
B-148	Pismo Fm.	3/10/2003	134.194	124.99	NA	9.20	9.20
B-148	Pismo Fm.	6/9/2003	134.194	125.13	NA	9.06	9.06
B-148	Pismo Fm.	8/18/2003	134.194	124.85	NA	9.34	9.34
B-148	Pismo Fm.	11/10/2003	134.194	124.95	NA	9.24	9.24
B-148	Pismo Fm.	2/23/2004	134.194	125.06	NA	9.13	9.13
B-148	Pismo Fm.	5/17/2004	134.194	125.40	NA	8.79	8.79
B-148	Pismo Fm.	8/9/2004	134.194	125.15	NA	9.04	9.04
B-148	Pismo Fm.	12/6/2004	134.194	125.00	NA	9.19	9.19
B-148	Pismo Fm.	3/7/2005	134.194	124.63	NA	9.56	9.56
B-148	Pismo Fm.	6/15/2005	134.194	125.63	NA	8.56	8.56
B-148	Pismo Fm.	9/26/2005	134.194	-	NA	NA	NA
B-148	Pismo Fm.	11/28/2005	134.194	124.89	NA	9.30	9.30
B-148	Pismo Fm.	3/1/2006	134.194	-	NA	NA	NA
B-148	Pismo Fm.	6/6/2006	134.194	124.76	NA	9.43	9.43
B-148	Pismo Fm.	11/20/2006	134.194	124.86	NA	9.33	9.33
B-148	Pismo Fm.	5/21/2007	134.194	125.21	NA	8.98	8.98
B-148	Pismo Fm.	11/19/2007	134.194	125.14	NA	9.05	9.05
B-148	Pismo Fm.	5/19/2008	134.194	125.39	NA	8.80	8.80
B-148	Pismo Fm.	9/15/2008	134.194	-	NA	NA	NA
B-148	Pismo Fm.	11/17/2008	134.194	125.06	NA	9.13	9.13
B-148	Pismo Fm.	5/4/2009	134.194	Dry	NA	NA	NA
B-148	Pismo Fm.	11/16/2009	134.194	125.16	NA	9.03	9.03
B-148	Pismo Fm.	4/26/2010	134.194	125.00	NA	9.19	9.19
B-148	Pismo Fm.	11/15/2010	134.194	125.06	NA	9.13	9.13
B-148	Pismo Fm.	5/2/2011	134.194	124.92	NA	9.27	9.27
B-148	Pismo Fm.	11/14/2011	134.194	124.83	NA	9.36	9.36
B-148	Pismo Fm.	5/7/2012	134.194	125.04	NA	9.15	9.15
B-148	Pismo Fm.	11/5/2012	134.194	124.77	NA	9.42	9.42

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B-149	Pismo Fm.	12/3/1997	139.13	54.40	NA	84.73	84.73
B-149	Pismo Fm.	12/4/1997	139.13	54.39	NA	84.74	84.74
B-149	Pismo Fm.	2/16/1998	139.13	50.38	NA	88.75	88.75
B-149	Pismo Fm.	5/18/1998	139.13	53.61	NA	85.52	85.52
B-149	Pismo Fm.	6/19/1998	139.13	55.00	NA	84.13	84.13
B-149	Pismo Fm.	7/23/1998	139.13	56.11	NA	83.02	83.02
B-149	Pismo Fm.	8/17/1998	139.13	56.70	NA	82.43	82.43
B-149	Pismo Fm.	9/29/1998	139.13	58.31	NA	80.82	80.82
B-149	Pismo Fm.	10/25/1998	139.13	59.30	NA	79.83	79.83
B-149	Pismo Fm.	11/22/1998	139.13	58.66	NA	80.47	80.47
B-149	Pismo Fm.	12/23/1998	139.13	58.71	NA	80.42	80.42
B-149	Pismo Fm.	1/29/1999	139.13	56.12	NA	83.01	83.01
B-149	Pismo Fm.	2/25/1999	139.13	54.82	NA	84.31	84.31
B-149	Pismo Fm.	3/5/1999	139.13	54.90	NA	84.23	84.23
B-149	Pismo Fm.	4/9/1999	139.13	53.46	NA	85.67	85.67
B-149	Pismo Fm.	5/27/1999	139.13	55.37	NA	83.76	83.76
B-149	Pismo Fm.	6/17/1999	139.13	56.01	NA	83.12	83.12
B-149	Pismo Fm.	8/2/1999	139.13	54.76	NA	84.37	84.37
B-149	Pismo Fm.	8/25/1999	139.13	58.69	NA	80.44	80.44
B-149	Pismo Fm.	9/22/1999	139.13	60.10	NA	79.03	79.03
B-149	Pismo Fm.	11/4/1999	139.13	61.22	NA	77.91	77.91
B-149	Pismo Fm.	11/18/1999	139.13	61.83	NA	77.30	77.30
B-149	Pismo Fm.	12/23/1999	139.13	61.65	NA	77.48	77.48
B-149	Pismo Fm.	1/24/2000	139.13	60.87	NA	78.26	78.26
B-149	Pismo Fm.	2/22/2000	139.13	52.71	NA	86.42	86.42
B-149	Pismo Fm.	3/23/2000	139.13	53.22	NA	85.91	85.91
B-149	Pismo Fm.	4/29/2000	139.13	52.12	NA	87.01	87.01
B-149	Pismo Fm.	5/22/2000	139.13	53.77	NA	85.36	85.36
B-149	Pismo Fm.	6/22/2000	139.13	50.94	NA	88.19	88.19
B-149	Pismo Fm.	7/20/2000	139.13	52.66	NA	86.47	86.47
B-149	Pismo Fm.	8/28/2000	139.13	55.16	NA	83.97	83.97
B-149	Pismo Fm.	9/26/2000	139.13	56.63	NA	82.50	82.50
B-149	Pismo Fm.	10/31/2000	139.13	56.78	NA	82.35	82.35
B-149	Pismo Fm.	11/27/2000	139.13	58.67	NA	80.46	80.46
B-149	Pismo Fm.	2/19/2001	139.13	53.85	NA	85.28	85.28
B-149	Pismo Fm.	5/2/2001	139.13	54.98	NA	84.15	84.15
B-149	Pismo Fm.	8/20/2001	139.13	58.97	NA	80.16	80.16
B-149	Pismo Fm.	12/7/2001	139.13	56.72	NA	82.41	82.41
B-149	Pismo Fm.	2/9/2002	139.13	56.62	NA	82.51	82.51
B-149	Pismo Fm.	5/28/2002	139.13	58.91	NA	80.22	80.22
B-149	Pismo Fm.	8/26/2002	139.13	58.68	NA	80.45	80.45
B-149	Pismo Fm.	11/12/2002	139.13	57.56	NA	81.57	81.57
B-149	Pismo Fm.	3/10/2003	139.13	55.91	NA	83.22	83.22
B-149	Pismo Fm.	6/9/2003	139.13	59.24	NA	79.89	79.89
B-149	Pismo Fm.	8/18/2003	139.13	64.29	NA	74.84	74.84
B-149	Pismo Fm.	11/10/2003	139.13	80.94	NA	58.19	58.19
B-149	Pismo Fm.	2/23/2004	139.13	56.30	NA	82.83	82.83

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B-149	Pismo Fm.	5/17/2004	139.13	62.20	NA	76.93	76.93
B-149	Pismo Fm.	8/9/2004	139.13	Dry	NA	NA	NA
B-149	Pismo Fm.	12/6/2004	139.13	60.59	NA	78.54	78.54
B-149	Pismo Fm.	3/7/2005	139.13	52.76	NA	86.37	86.37
B-149	Pismo Fm.	6/15/2005	139.13	55.51	NA	83.62	83.62
B-149	Pismo Fm.	9/26/2005	139.13	-	NA	NA	NA
B-149	Pismo Fm.	11/28/2005	139.13	59.07	NA	80.06	80.06
B-149	Pismo Fm.	3/1/2006	139.13	-	NA	NA	NA
B-149	Pismo Fm.	6/6/2006	139.13	54.53	NA	84.60	84.60
B-149	Pismo Fm.	11/20/2006	139.13	62.73	NA	76.40	76.40
B-149	Pismo Fm.	5/21/2007	139.13	62.06	NA	77.07	77.07
B-149	Pismo Fm.	11/19/2007	139.13	86.57	NA	52.56	52.56
B-149	Pismo Fm.	5/19/2008	139.13	60.63	NA	78.50	78.50
B-149	Pismo Fm.	9/15/2008	139.13	-	NA	NA	NA
B-149	Pismo Fm.	11/17/2008	139.13	87.67	NA	51.46	51.46
B-149	Pismo Fm.	5/4/2009	139.13	63.95	NA	75.18	75.18
B-149	Pismo Fm.	11/16/2009	139.13	60.74	NA	78.39	78.39
B-149	Pismo Fm.	4/26/2010	139.13	56.26	NA	82.87	82.87
B-149	Pismo Fm.	11/15/2010	139.13	61.18	NA	77.95	77.95
B-149	Pismo Fm.	5/2/2011	139.13	54.35	NA	84.78	84.78
B-149	Pismo Fm.	11/14/2011	139.13	60.52	NA	78.61	78.61
B-149	Pismo Fm.	5/7/2012	139.13	54.27	NA	84.86	84.86
B-149	Pismo Fm.	11/5/2012	139.13	61.97	NA	77.16	77.16
B-150	Pismo Fm.	12/5/1997	166.93	86.72	NA	80.21	80.21
B-150	Pismo Fm.	2/16/1998	166.93	89.45	NA	77.48	77.48
B-150	Pismo Fm.	5/18/1998	166.93	90.62	NA	76.31	76.31
B-150	Pismo Fm.	6/19/1998	166.93	92.44	NA	74.49	74.49
B-150	Pismo Fm.	7/23/1998	166.93	94.22	NA	72.71	72.71
B-150	Pismo Fm.	8/17/1998	166.93	95.33	NA	71.60	71.60
B-150	Pismo Fm.	9/29/1998	166.93	97.07	NA	69.86	69.86
B-150	Pismo Fm.	10/25/1998	166.93	97.92	NA	69.01	69.01
B-150	Pismo Fm.	11/22/1998	166.93	98.82	NA	68.11	68.11
B-150	Pismo Fm.	12/23/1998	166.93	99.15	NA	67.78	67.78
B-150	Pismo Fm.	1/29/1999	166.93	99.31	NA	67.62	67.62
B-150	Pismo Fm.	2/25/1999	166.93	98.70	NA	68.23	68.23
B-150	Pismo Fm.	3/5/1999	166.93	98.40	NA	68.53	68.53
B-150	Pismo Fm.	4/9/1999	166.93	97.15	NA	69.78	69.78
B-150	Pismo Fm.	5/27/1999	166.93	97.04	NA	69.89	69.89
B-150	Pismo Fm.	6/17/1999	166.93	96.99	NA	69.94	69.94
B-150	Pismo Fm.	8/2/1999	166.93	98.43	NA	68.50	68.50
B-150	Pismo Fm.	8/25/1999	166.93	99.04	NA	67.89	67.89
B-150	Pismo Fm.	9/22/1999	166.93	99.78	NA	67.15	67.15
B-150	Pismo Fm.	11/4/1999	166.93	100.18	NA	66.75	66.75
B-150	Pismo Fm.	11/18/1999	166.93	101.21	NA	65.72	65.72
B-150	Pismo Fm.	12/23/1999	166.93	100.43	NA	66.50	66.50
B-150	Pismo Fm.	1/24/2000	166.93	102.39	NA	64.54	64.54

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B-150	Pismo Fm.	2/22/2000	166.93	101.67	NA	65.26	65.26
B-150	Pismo Fm.	3/23/2000	166.93	97.02	NA	69.91	69.91
B-150	Pismo Fm.	4/29/2000	166.93	96.37	NA	70.56	70.56
B-150	Pismo Fm.	5/22/2000	166.93	95.21	NA	71.72	71.72
B-150	Pismo Fm.	6/22/2000	166.93	95.11	NA	71.82	71.82
B-150	Pismo Fm.	7/20/2000	166.93	90.57	NA	76.36	76.36
B-150	Pismo Fm.	8/28/2000	166.93	95.00	NA	71.93	71.93
B-150	Pismo Fm.	9/26/2000	166.93	96.80	NA	70.13	70.13
B-150	Pismo Fm.	10/31/2000	166.93	98.37	NA	68.56	68.56
B-150	Pismo Fm.	11/27/2000	166.93	99.29	NA	67.64	67.64
B-150	Pismo Fm.	2/19/2001	166.93	100.67	NA	66.26	66.26
B-150	Pismo Fm.	5/2/2001	166.93	96.85	NA	70.08	70.08
B-150	Pismo Fm.	8/20/2001	166.93	100.22	NA	66.71	66.71
B-150	Pismo Fm.	12/7/2001	166.93	102.83	NA	64.10	64.10
B-150	Pismo Fm.	2/9/2002	166.93	101.16	NA	65.77	65.77
B-150	Pismo Fm.	5/28/2002	166.93	101.74	NA	65.19	65.19
B-150	Pismo Fm.	8/26/2002	166.93	102.94	NA	63.99	63.99
B-150	Pismo Fm.	11/12/2002	166.93	104.43	NA	62.50	62.50
B-150	Pismo Fm.	3/10/2003	166.93	104.11	NA	62.82	62.82
B-150	Pismo Fm.	6/9/2003	166.93	103.21	NA	63.72	63.72
B-150	Pismo Fm.	8/18/2003	166.93	104.12	NA	62.81	62.81
B-150	Pismo Fm.	11/10/2003	166.93	105.43	NA	61.50	61.50
B-150	Pismo Fm.	2/23/2004	166.93	106.25	NA	60.68	60.68
B-150	Pismo Fm.	5/17/2004	166.93	105.22	NA	61.71	61.71
B-150	Pismo Fm.	8/9/2004	166.93	107.68	NA	59.25	59.25
B-150	Pismo Fm.	12/6/2004	166.93	108.60	NA	58.33	58.33
B-150	Pismo Fm.	3/7/2005	166.93	98.69	NA	68.24	68.24
B-150	Pismo Fm.	6/15/2005	166.93	97.82	NA	69.11	69.11
B-150	Pismo Fm.	9/26/2005	166.93	-	NA	NA	NA
B-150	Pismo Fm.	11/28/2005	166.93	102.11	NA	64.80	64.80
B-150	Pismo Fm.	3/1/2006	166.93	-	NA	NA	NA
B-150	Pismo Fm.	6/6/2006	166.93	96.96	NA	69.97	69.97
B-150	Pismo Fm.	11/20/2006	166.93	102.46	NA	64.47	64.47
B-150	Pismo Fm.	5/21/2007	166.93	104.39	NA	62.54	62.54
B-150	Pismo Fm.	11/19/2007	166.93	108.81	NA	58.12	58.12
B-150	Pismo Fm.	5/19/2008	166.93	104.43	NA	62.50	62.50
B-150	Pismo Fm.	9/15/2008	166.93	-	NA	NA	NA
B-150	Pismo Fm.	11/17/2008	166.93	108.84	NA	58.09	58.09
B-150	Pismo Fm.	5/4/2009	166.93	108.13	NA	58.80	58.80
B-150	Pismo Fm.	11/16/2009	166.93	108.85	NA	58.08	58.08
B-150	Pismo Fm.	4/26/2010	166.93	99.68	NA	67.25	67.25
B-150	Pismo Fm.	11/15/2010	166.93	105.25	NA	61.68	61.68
B-150	Pismo Fm.	5/2/2011	166.93	94.28	NA	72.65	72.65
B-150	Pismo Fm.	11/14/2011	166.93	101.80	NA	65.13	65.13
B-150	Pismo Fm.	5/7/2012	166.93	98.95	NA	67.98	67.98
B-150	Pismo Fm.	11/5/2012	166.93	102.39	NA	64.54	64.54

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B-151	Pismo Fm.	12/5/1997	163.15	73.53	NA	89.62	89.62
B-151	Pismo Fm.	2/16/1998	163.15	68.27	NA	94.88	94.88
B-151	Pismo Fm.	5/18/1998	163.15	62.20	NA	100.95	100.95
B-151	Pismo Fm.	6/19/1998	163.15	62.77	NA	100.38	100.38
B-151	Pismo Fm.	7/23/1998	163.15	65.28	NA	97.87	97.87
B-151	Pismo Fm.	8/17/1998	163.15	66.64	NA	96.51	96.51
B-151	Pismo Fm.	9/29/1998	163.15	68.73	NA	94.42	94.42
B-151	Pismo Fm.	10/25/1998	163.15	70.11	NA	93.04	93.04
B-151	Pismo Fm.	11/22/1998	163.15	71.35	NA	91.80	91.80
B-151	Pismo Fm.	12/23/1998	163.15	71.91	NA	91.24	91.24
B-151	Pismo Fm.	1/29/1999	163.15	72.40	NA	90.75	90.75
B-151	Pismo Fm.	2/25/1999	163.15	72.11	NA	91.04	91.04
B-151	Pismo Fm.	3/5/1999	163.15	71.76	NA	91.39	91.39
B-151	Pismo Fm.	4/9/1999	163.15	70.83	NA	92.32	92.32
B-151	Pismo Fm.	5/27/1999	163.15	70.33	NA	92.82	92.82
B-151	Pismo Fm.	6/17/1999	163.15	70.25	NA	92.90	92.90
B-151	Pismo Fm.	8/2/1999	163.15	71.75	NA	91.40	91.40
B-151	Pismo Fm.	8/25/1999	163.15	72.48	NA	90.67	90.67
B-151	Pismo Fm.	9/22/1999	163.15	74.51	NA	88.64	88.64
B-151	Pismo Fm.	11/4/1999	163.15	75.43	NA	87.72	87.72
B-151	Pismo Fm.	11/18/1999	163.15	75.68	NA	87.47	87.47
B-151	Pismo Fm.	12/23/1999	163.15	75.92	NA	87.23	87.23
B-151	Pismo Fm.	1/24/2000	163.15	77.59	NA	85.56	85.56
B-151	Pismo Fm.	2/22/2000	163.15	77.97	NA	85.18	85.18
B-151	Pismo Fm.	3/23/2000	163.15	76.18	NA	86.97	86.97
B-151	Pismo Fm.	4/29/2000	163.15	74.11	NA	89.04	89.04
B-151	Pismo Fm.	5/22/2000	163.15	72.76	NA	90.39	90.39
B-151	Pismo Fm.	6/22/2000	163.15	70.43	NA	92.72	92.72
B-151	Pismo Fm.	7/20/2000	163.15	71.69	NA	91.46	91.46
B-151	Pismo Fm.	8/28/2000	163.15	72.19	NA	90.96	90.96
B-151	Pismo Fm.	9/26/2000	163.15	73.35	NA	89.80	89.80
B-151	Pismo Fm.	10/31/2000	163.15	74.62	NA	88.53	88.53
B-151	Pismo Fm.	11/27/2000	163.15	77.87	NA	85.28	85.28
B-151	Pismo Fm.	2/19/2001	163.15	78.53	NA	84.62	84.62
B-151	Pismo Fm.	5/2/2001	163.15	74.07	NA	89.08	89.08
B-151	Pismo Fm.	8/20/2001	163.15	76.15	NA	87.00	87.00
B-151	Pismo Fm.	12/7/2001	163.15	79.68	NA	83.47	83.47
B-151	Pismo Fm.	2/9/2002	163.15	78.83	NA	84.32	84.32
B-151	Pismo Fm.	5/28/2002	163.15	78.16	NA	84.99	84.99
B-151	Pismo Fm.	8/26/2002	163.15	80.29	NA	82.86	82.86
B-151	Pismo Fm.	11/12/2002	163.15	82.37	NA	80.78	80.78
B-151	Pismo Fm.	3/10/2003	163.15	83.92	NA	79.23	79.23
B-151	Pismo Fm.	6/9/2003	163.15	82.86	NA	80.29	80.29
B-151	Pismo Fm.	8/18/2003	163.15	83.25	NA	79.90	79.90
B-151	Pismo Fm.	11/10/2003	163.15	84.95	NA	78.20	78.20
B-151	Pismo Fm.	2/23/2004	163.15	88.94	NA	74.21	74.21
B-151	Pismo Fm.	5/17/2004	163.15	87.15	NA	76.00	76.00

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B-151	Pismo Fm.	8/9/2004	163.15	88.75	NA	74.40	74.40
B-151	Pismo Fm.	12/6/2004	163.15	91.46	NA	71.69	71.69
B-151	Pismo Fm.	3/7/2005	163.15	85.38	NA	77.77	77.77
B-151	Pismo Fm.	6/15/2005	163.15	79.61	NA	83.54	83.54
B-151	Pismo Fm.	9/26/2005	163.15	-	NA	NA	NA
B-151	Pismo Fm.	11/28/2005	163.15	82.60	NA	80.55	80.55
B-151	Pismo Fm.	3/1/2006	163.15	-	NA	NA	NA
B-151	Pismo Fm.	6/6/2006	163.15	77.81	NA	85.34	85.34
B-151	Pismo Fm.	11/20/2006	163.15	80.85	NA	82.30	82.30
B-151	Pismo Fm.	5/21/2007	163.15	84.04	NA	79.11	79.11
B-151	Pismo Fm.	11/19/2007	163.15	88.31	NA	74.84	74.84
B-151	Pismo Fm.	5/19/2008	163.15	86.64	NA	76.51	76.51
B-151	Pismo Fm.	9/15/2008	163.15	-	NA	NA	NA
B-151	Pismo Fm.	11/17/2008	163.15	89.97	NA	73.18	73.18
B-151	Pismo Fm.	5/4/2009	163.15	91.58	NA	71.57	71.57
B-151	Pismo Fm.	11/16/2009	163.15	93.58	NA	69.57	69.57
B-151	Pismo Fm.	4/26/2010	163.15	84.97	NA	78.18	78.18
B-151	Pismo Fm.	11/15/2010	163.15	87.07	NA	76.08	76.08
B-151	Pismo Fm.	5/2/2011	163.15	74.66	NA	88.49	88.49
B-151	Pismo Fm.	11/14/2011	163.15	79.16	NA	83.99	83.99
B-151	Pismo Fm.	5/7/2012	163.15	79.98	NA	83.17	83.17
B-151	Pismo Fm.	11/5/2012	163.15	82.07	NA	81.08	81.08
B-152	Pismo Fm.	12/4/1997	170.5	112.71	NA	57.79	57.79
B-152	Pismo Fm.	12/5/1997	170.5	112.62	NA	57.88	57.88
B-152	Pismo Fm.	2/16/1998	170.5	108.35	NA	62.15	62.15
B-152	Pismo Fm.	5/18/1998	170.5	99.46	NA	71.04	71.04
B-152	Pismo Fm.	6/19/1998	170.5	101.01	NA	69.49	69.49
B-152	Pismo Fm.	7/23/1998	170.5	102.53	NA	67.97	67.97
B-152	Pismo Fm.	8/17/1998	170.5	103.58	NA	66.92	66.92
B-152	Pismo Fm.	9/29/1998	170.5	105.43	NA	65.07	65.07
B-152	Pismo Fm.	10/25/1998	170.5	106.44	NA	64.06	64.06
B-152	Pismo Fm.	11/22/1998	170.5	107.35	NA	63.15	63.15
B-152	Pismo Fm.	12/23/1998	170.5	108.24	NA	62.26	62.26
B-152	Pismo Fm.	1/29/1999	170.5	108.91	NA	61.59	61.59
B-152	Pismo Fm.	2/25/1999	170.5	108.96	NA	61.54	61.54
B-152	Pismo Fm.	3/5/1999	170.5	108.81	NA	61.69	61.69
B-152	Pismo Fm.	4/9/1999	170.5	108.32	NA	62.18	62.18
B-152	Pismo Fm.	5/27/1999	170.5	108.18	NA	62.32	62.32
B-152	Pismo Fm.	6/17/1999	170.5	108.10	NA	62.40	62.40
B-152	Pismo Fm.	8/2/1999	170.5	109.06	NA	61.44	61.44
B-152	Pismo Fm.	8/25/1999	170.5	109.54	NA	60.96	60.96
B-152	Pismo Fm.	9/22/1999	170.5	111.13	NA	59.37	59.37
B-152	Pismo Fm.	11/4/1999	170.5	111.96	NA	58.54	58.54
B-152	Pismo Fm.	11/18/1999	170.5	111.51	NA	58.99	58.99
B-152	Pismo Fm.	12/23/1999	170.5	112.63	NA	57.87	57.87
B-152	Pismo Fm.	1/24/2000	170.5	112.81	NA	57.69	57.69

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B-152	Pismo Fm.	2/22/2000	170.5	39.66	NA	130.84	130.84
B-152	Pismo Fm.	3/23/2000	170.5	98.57	NA	71.93	71.93
B-152	Pismo Fm.	4/29/2000	170.5	63.44	NA	107.06	107.06
B-152	Pismo Fm.	5/22/2000	170.5	107.02	NA	63.48	63.48
B-152	Pismo Fm.	6/22/2000	170.5	109.86	NA	60.64	60.64
B-152	Pismo Fm.	7/20/2000	170.5	110.35	NA	60.15	60.15
B-152	Pismo Fm.	8/28/2000	170.5	111.11	NA	59.39	59.39
B-152	Pismo Fm.	9/26/2000	170.5	111.71	NA	58.79	58.79
B-152	Pismo Fm.	10/31/2000	170.5	112.45	NA	58.05	58.05
B-152	Pismo Fm.	11/27/2000	170.5	113.02	NA	57.48	57.48
B-152	Pismo Fm.	2/19/2001	170.5	114.30	NA	56.20	56.20
B-153	Pismo Fm.	12/4/1997	156.5	67.64	NA	88.86	88.86
B-153	Pismo Fm.	12/5/1997	156.5	68.11	NA	88.39	88.39
B-153	Pismo Fm.	2/16/1998	156.5	51.00	NA	105.50	105.50
B-153	Pismo Fm.	5/18/1998	156.5	54.94	NA	101.56	101.56
B-153	Pismo Fm.	6/19/1998	156.5	59.41	NA	97.09	97.09
B-153	Pismo Fm.	7/23/1998	156.5	62.85	NA	93.65	93.65
B-153	Pismo Fm.	8/17/1998	156.5	64.62	NA	91.88	91.88
B-153	Pismo Fm.	9/29/1998	156.5	67.21	NA	89.29	89.29
B-153	Pismo Fm.	10/25/1998	156.5	68.39	NA	88.11	88.11
B-153	Pismo Fm.	11/22/1998	156.5	68.72	NA	87.78	87.78
B-153	Pismo Fm.	12/23/1998	156.5	66.26	NA	90.24	90.24
B-153	Pismo Fm.	1/29/1999	156.5	64.49	NA	92.01	92.01
B-153	Pismo Fm.	2/25/1999	156.5	59.51	NA	96.99	96.99
B-153	Pismo Fm.	3/5/1999	156.5	60.62	NA	95.88	95.88
B-153	Pismo Fm.	4/9/1999	156.5	57.26	NA	99.24	99.24
B-153	Pismo Fm.	5/27/1999	156.5	61.13	NA	95.37	95.37
B-153	Pismo Fm.	6/17/1999	156.5	63.63	NA	92.87	92.87
B-153	Pismo Fm.	8/2/1999	156.5	67.78	NA	88.72	88.72
B-153	Pismo Fm.	8/25/1999	156.5	68.68	NA	87.82	87.82
B-153	Pismo Fm.	9/22/1999	156.5	70.03	NA	86.47	86.47
B-153	Pismo Fm.	11/4/1999	156.5	70.82	NA	85.68	85.68
B-153	Pismo Fm.	11/18/1999	156.5	72.74	NA	83.76	83.76
B-153	Pismo Fm.	12/23/1999	156.5	71.32	NA	85.18	85.18
B-153	Pismo Fm.	1/24/2000	156.5	74.24	NA	82.26	82.26
B-153	Pismo Fm.	2/22/2000	156.5	74.65	NA	81.85	81.85
B-153	Pismo Fm.	3/23/2000	156.5	58.44	NA	98.06	98.06
B-153	Pismo Fm.	4/29/2000	156.5	59.89	NA	96.61	96.61
B-153	Pismo Fm.	5/22/2000	156.5	61.25	NA	95.25	95.25
B-153	Pismo Fm.	6/22/2000	156.5	63.10	NA	93.40	93.40
B-153	Pismo Fm.	7/20/2000	156.5	67.21	NA	89.29	89.29
B-153	Pismo Fm.	8/28/2000	156.5	69.11	NA	87.39	87.39
B-153	Pismo Fm.	9/26/2000	156.5	70.79	NA	85.71	85.71
B-153	Pismo Fm.	10/31/2000	156.5	72.47	NA	84.03	84.03
B-153	Pismo Fm.	11/27/2000	156.5	73.30	NA	83.20	83.20

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B-153	Pismo Fm.	2/19/2001	156.5	66.26	Sheen	90.24	90.24
B-153	Pismo Fm.	5/2/2001	156.5	63.52	Slight Sheen	92.98	92.98
B-153	Pismo Fm.	8/20/2001	156.5	71.26	Slight Sheen	85.24	85.24
B-153	Pismo Fm.	12/7/2001	156.5	72.40	Slight Sheen	84.10	84.10
B-153	Pismo Fm.	2/9/2002	156.5	63.54	Slight Sheen	92.96	92.96
B-153	Pismo Fm.	5/28/2002	156.5	70.10	NA	86.40	86.40
B-153	Pismo Fm.	8/26/2002	156.5	74.42	Sheen	82.08	82.08
B-153	Pismo Fm.	11/12/2002	156.5	77.01	NA	79.49	79.49
B-153	Pismo Fm.	3/10/2003	156.5	70.56	NA	85.94	85.94
B-153	Pismo Fm.	6/9/2003	156.5	69.51	NA	86.99	86.99
B-153	Pismo Fm.	8/18/2003	156.5	73.45	NA	83.05	83.05
B-153	Pismo Fm.	11/10/2003	156.5	76.63	NA	79.87	79.87
B-153	Pismo Fm.	2/23/2004	156.5	75.23	NA	81.27	81.27
B-153	Pismo Fm.	5/17/2004	156.5	72.90	NA	83.60	83.60
B-153	Pismo Fm.	8/9/2004	156.5	77.81	NA	78.69	78.69
B-153	Pismo Fm.	12/6/2004	156.5	77.57	NA	78.93	78.93
B-153	Pismo Fm.	3/7/2005	156.5	56.83	NA	99.67	99.67
B-153	Pismo Fm.	6/15/2005	156.5	64.81	NA	91.69	91.69
B-153	Pismo Fm.	9/26/2005	156.5	-	NA	NA	NA
B-153	Pismo Fm.	11/28/2005	156.5	74.70	NA	81.80	81.80
B-153	Pismo Fm.	3/1/2006	156.5	-	NA	NA	NA
B-153	Pismo Fm.	6/6/2006	156.5	60.12	NA	96.38	96.38
B-153	Pismo Fm.	11/20/2006	156.5	73.43	NA	83.07	83.07
B-153	Pismo Fm.	5/21/2007	156.5	72.79	NA	83.71	83.71
B-153	Pismo Fm.	11/19/2007	156.5	80.12	NA	76.38	76.38
B-153	Pismo Fm.	5/19/2008	156.5	72.01	NA	84.49	84.49
B-153	Pismo Fm.	9/15/2008	156.5	-	NA	NA	NA
B-153	Pismo Fm.	11/17/2008	156.5	80.28	NA	76.22	76.22
B-153	Pismo Fm.	5/4/2009	156.5	75.35	NA	81.15	81.15
B-153	Pismo Fm.	11/16/2009	156.5	82.10	NA	74.40	74.40
B-153	Pismo Fm.	4/26/2010	156.5	65.10	NA	91.40	91.40
B-153	Pismo Fm.	11/15/2010	156.5	76.95	NA	79.55	79.55
B-153	Pismo Fm.	5/2/2011	156.5	59.15	NA	97.35	97.35
B-153	Pismo Fm.	11/14/2011	156.5	72.98	NA	83.52	83.52
B-153	Pismo Fm.	5/7/2012	156.5	65.00	NA	91.50	91.50
B-153	Pismo Fm.	11/5/2012	156.5	75.66	NA	80.84	80.84
B-163	Pismo Fm.	12/3/1997	152.15	44.37	0.30	107.78	108.05
B-163	Pismo Fm.	2/16/1998	152.15	28.07	Trace	124.08	124.08
B-163	Pismo Fm.	5/18/1998	152.15	36.15	0.11	116.00	116.10
B-163	Pismo Fm.	6/19/1998	152.15	39.40	0.38	112.75	113.09
B-163	Pismo Fm.	7/23/1998	152.15	42.05	0.39	110.10	110.45
B-163	Pismo Fm.	8/17/1998	152.15	43.67	0.25	108.48	108.70
B-163	Pismo Fm.	9/29/1998	152.15	45.32	0.36	106.83	107.15
B-163	Pismo Fm.	10/25/1998	152.15	47.41	0.14	104.74	104.86
B-163	Pismo Fm.	11/22/1998	152.15	47.51	0.23	104.64	104.84
B-163	Pismo Fm.	12/23/1998	152.15	46.18	0.27	105.97	106.21

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B-163	Pismo Fm.	1/29/1999	152.15	44.16	0.33	107.99	108.28
B-163	Pismo Fm.	2/25/1999	152.15	41.95	0.35	110.20	110.51
B-163	Pismo Fm.	3/5/1999	152.15	41.84	0.31	110.31	110.59
B-163	Pismo Fm.	4/9/1999	152.15	39.83	0.32	112.32	112.61
B-163	Pismo Fm.	5/27/1999	152.15	42.50	0.38	109.65	109.99
B-163	Pismo Fm.	6/17/1999	152.15	43.42	0.42	108.73	108.73
B-163	Pismo Fm.	8/2/1999	152.15	47.17	0.29	104.98	105.24
B-163	Pismo Fm.	8/25/1999	152.15	47.40	0.3	104.75	105.02
B-163	Pismo Fm.	9/22/1999	152.15	49.70	0.96	102.45	103.31
B-163	Pismo Fm.	11/4/1999	152.15	50.70	0.55	101.45	101.94
B-163	Pismo Fm.	11/18/1999	152.15	52.58	0.83	99.57	100.31
B-163	Pismo Fm.	12/23/1999	152.15	51.23	0.62	100.92	101.48
B-163	Pismo Fm.	1/24/2000	152.15	55.69	0.47	96.46	96.88
B-163	Pismo Fm.	2/22/2000	152.15	44.95	0.01	107.20	107.21
B-163	Pismo Fm.	3/23/2000	152.15	35.43	0.01	116.72	116.73
B-163	Pismo Fm.	4/29/2000	152.15	40.11	0.02	112.04	112.06
B-163	Pismo Fm.	5/22/2000	152.15	44.66	4.32	107.49	111.38
B-163	Pismo Fm.	6/22/2000	152.15	46.58	1.80	105.57	107.19
B-163	Pismo Fm.	7/20/2000	152.15	45.93	1.31	106.22	107.40
B-163	Pismo Fm.	8/28/2000	152.15	44.82	0.273	107.33	107.57
B-163	Pismo Fm.	9/26/2000	152.15	46.82	0.53	105.33	105.80
B-163	Pismo Fm.	10/31/2000	152.15	52.38	1.75	99.77	101.34
B-163	Pismo Fm.	11/27/2000	152.15	58.22	0.14	93.93	94.05
B-163	Pismo Fm.	2/19/2001	152.15	62.20	0.01	89.95	89.96
B-163	Pismo Fm.	5/2/2001	152.15	50.91	0.05	101.24	101.28
B-163	Pismo Fm.	8/20/2001	152.15	50.65	0.19	101.50	101.67
B-163	Pismo Fm.	12/7/2001	152.15	75.79	21.64	76.36	95.83
B-163	Pismo Fm.	2/9/2002	152.15	67.40	24.92	84.75	107.18
B-163	Pismo Fm.	5/28/2002	152.15	57.98	7.11	94.17	100.57
B-163	Pismo Fm.	8/26/2002	152.15	65.53	8.86	86.62	94.58
B-163	Pismo Fm.	11/12/2002	152.15	88.33	31.85	63.82	92.48
B-163	Pismo Fm.	3/10/2003	152.15	75.28	28.45	76.87	102.47
B-163	Pismo Fm.	6/9/2003	152.15	74.23	27.87	77.92	103.00
B-163	Pismo Fm.	8/18/2003	152.15	75.58	23.38	76.57	97.61
B-163	Pismo Fm.	11/10/2003	152.15	88.47	32.07	63.68	92.54
B-163	Pismo Fm.	2/23/2004	152.15	81.20	24.90	70.95	93.36
B-163	Pismo Fm.	5/17/2004	152.15	73.75	18.15	78.40	94.73
B-163	Pismo Fm.	8/9/2004	152.15	88.55	16.66	63.60	78.59
B-163	Pismo Fm.	12/6/2004	152.15	77.75	17.35	74.40	90.01
B-163	Pismo Fm.	3/7/2005	152.15	-	Inaccessible		
B-163	Pismo Fm.	3/1/2006	152.15	-	NA	NA	NA
B-163	Pismo Fm.	6/6/2006	152.15	56.16	14.56	95.99	109.09
B-163	Pismo Fm.	11/20/2006	152.15	83.10	25.20	69.05	91.73
B-163	Pismo Fm.	5/22/2007	152.15	82.92	26.39	69.23	92.98
B-163	Pismo Fm.	11/20/2007	152.15	89.70	19.95	62.45	92.98
B-163	Pismo Fm.	5/20/2007	152.15	60.02	6.92	92.13	98.36
B-163	Pismo Fm.	11/17/2008	152.15	76.82	8.38	75.33	82.87

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B-163	Pismo Fm.	5/4/2009	152.15	72.50	9.70	79.65	88.38
B-163	Pismo Fm.	11/16/2009	152.15	89.70	22.33	62.45	82.55
B-163	Pismo Fm.	4/26/2010	152.15	68.01	21.72	84.14	103.69
B-163	Pismo Fm.	11/15/2010	152.15	89.65	27.47	62.50	87.22
B-163	Pismo Fm.	5/2/2011	152.15	55.20	15.29	96.95	110.71
B-163	Pismo Fm.	11/14/2011	152.15	66.91	7.61	85.24	92.09
B-163	Pismo Fm.	5/7/2012	152.15	57.56	0.86	95.45	96.22
B-163	Pismo Fm.	11/5/2012	152.15	64.75	0.98	88.38	89.26
B-167-56	Obispo Fm.	12/2/1997	81.95	36.18	NA	45.77	45.77
B-167-56	Obispo Fm.	12/6/1997	81.95	38.07	NA	43.88	43.88
B-167-56	Obispo Fm.	2/16/1998	81.95	34.56	NA	47.39	47.39
B-167-56	Obispo Fm.	5/18/1998	81.95	33.84	NA	48.11	48.11
B-167-56	Obispo Fm.	6/19/1998	81.95	33.99	NA	47.96	47.96
B-167-56	Obispo Fm.	7/23/1998	81.95	36.94	NA	45.01	45.01
B-167-56	Obispo Fm.	8/17/1998	81.95	39.00	NA	42.95	42.95
B-167-56	Obispo Fm.	9/29/1998	81.95	40.76	NA	41.19	41.19
B-167-56	Obispo Fm.	10/25/1998	81.95	42.54	NA	39.41	39.41
B-167-56	Obispo Fm.	11/22/1998	81.95	39.77	NA	42.18	42.18
B-167-56	Obispo Fm.	12/23/1998	81.95	37.02	NA	44.93	44.93
B-167-56	Obispo Fm.	1/29/1999	81.95	36.12	NA	45.83	45.83
B-167-56	Obispo Fm.	2/25/1999	81.95	35.41	NA	46.54	46.54
B-167-56	Obispo Fm.	3/5/1999	81.95	35.48	NA	46.47	46.47
B-167-56	Obispo Fm.	4/9/1999	81.95	35.14	NA	46.81	46.81
B-167-56	Obispo Fm.	5/27/1999	81.95	36.62	NA	45.33	45.33
B-167-56	Obispo Fm.	6/17/1999	81.95	36.96	NA	44.99	44.99
B-167-56	Obispo Fm.	8/2/1999	81.95	35.72	NA	46.23	46.23
B-167-56	Obispo Fm.	8/25/1999	81.95	36.30	NA	45.65	45.65
B-167-56	Obispo Fm.	9/22/1999	81.95	37.50	NA	44.45	44.45
B-167-56	Obispo Fm.	11/4/1999	81.95	37.73	NA	44.22	44.22
B-167-56	Obispo Fm.	11/18/1999	81.95	34.67	NA	47.28	47.28
B-167-56	Obispo Fm.	12/23/1999	81.95	37.96	NA	43.99	43.99
B-167-56	Obispo Fm.	1/24/2000	81.95	35.63	NA	46.32	46.32
B-167-56	Obispo Fm.	2/22/2000	81.95	33.39	NA	48.56	48.56
B-167-56	Obispo Fm.	3/23/2000	81.95	33.19	NA	48.76	48.76
B-167-56	Obispo Fm.	4/29/2000	81.95	33.61	NA	48.34	48.34
B-167-56	Obispo Fm.	5/22/2000	81.95	34.84	NA	47.11	47.11
B-167-56	Obispo Fm.	6/22/2000	81.95	35.69	NA	46.26	46.26
B-167-56	Obispo Fm.	7/20/2000	81.95	39.70	NA	42.25	42.25
B-167-56	Obispo Fm.	8/28/2000	81.95	44.41	NA	37.54	37.54
B-167-56	Obispo Fm.	9/26/2000	81.95	45.17	NA	36.78	36.78
B-167-56	Obispo Fm.	10/31/2000	81.95	46.02	NA	35.93	35.93
B-167-56	Obispo Fm.	11/27/2000	81.95	42.14	NA	39.81	39.81
B-167-56	Obispo Fm.	2/19/2001	81.95	38.91	NA	43.04	43.04
B-167-56	Obispo Fm.	5/2/2001	81.95	36.92	NA	45.03	45.03
B-167-56	Obispo Fm.	8/20/2001	81.95	44.13	NA	37.82	37.82
B-167-56	Obispo Fm.	12/7/2001	81.95	43.35	NA	38.60	38.60

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B-167-56	Obispo Fm.	2/9/2002	81.95	38.77	NA	43.18	43.18
B-167-56	Obispo Fm.	5/28/2002	81.95	40.26	NA	41.69	41.69
B-167-56	Obispo Fm.	8/26/2002	81.95	38.34	NA	43.61	43.61
B-167-56	Obispo Fm.	11/12/2002	81.95	44.36	NA	37.59	37.59
B-167-56	Obispo Fm.	3/10/2003	81.95	39.77	NA	42.18	42.18
B-167-56	Obispo Fm.	6/9/2003	81.95	39.68	NA	42.27	42.27
B-167-56	Obispo Fm.	8/18/2003	81.95	46.96	NA	34.99	34.99
B-167-56	Obispo Fm.	11/10/2003	81.95	49.91	NA	32.04	32.04
B-167-56	Obispo Fm.	2/23/2004	81.95	40.57	NA	41.38	41.38
B-167-56	Obispo Fm.	5/17/2004	81.95	42.86	NA	39.09	39.09
B-167-56	Obispo Fm.	8/9/2004	81.95	50.42	NA	31.53	31.53
B-167-56	Obispo Fm.	12/6/2004	81.95	45.51	NA	36.44	36.44
B-167-56	Obispo Fm.	3/7/2005	81.95	39.64	NA	42.31	42.31
B-167-56	Obispo Fm.	6/14/2005	81.95	39.79	NA	42.16	42.16
B-167-56	Obispo Fm.	9/26/2005	81.95	49.97	NA	31.98	31.98
B-167-56	Obispo Fm.	11/28/2005	81.95	51.20	NA	30.75	30.75
B-167-56	Obispo Fm.	3/1/2006	81.95	43.60	NA	38.35	38.35
B-167-56	Obispo Fm.	6/6/2006	81.95	37.26	NA	44.69	44.69
B-167-56	Obispo Fm.	9/12/2006	81.95	47.70	NA	34.25	34.25
B-167-56	Obispo Fm.	11/21/2006	81.95	50.42	NA	31.53	31.53
B-167-56	Obispo Fm.	3/21/2007	81.95	45.54	NA	36.41	36.41
B-167-56	Obispo Fm.	5/21/2007	81.95	45.38	NA	36.57	36.57
B-167-56	Obispo Fm.	9/18/2007	81.95	51.04	NA	30.91	30.91
B-167-56	Obispo Fm.	11/19/2007	81.95	52.65	NA	29.30	29.30
B-167-56	Obispo Fm.	3/19/2008	81.95	46.58	NA	35.37	35.37
B-167-56	Obispo Fm.	5/19/2008	81.95	47.31	NA	34.64	34.64
B-167-56	Obispo Fm.	9/15/2008	81.95	53.00	NA	28.95	28.95
B-167-56	Obispo Fm.	11/17/2008	81.95	54.14	NA	27.81	27.81
B-167-56	Obispo Fm.	2/24/2009	81.95	48.26	NA	33.69	33.69
B-167-56	Obispo Fm.	5/4/2009	81.95	47.06	NA	34.89	34.89
B-167-56	Obispo Fm.	9/23/2009	81.95	53.86	NA	28.09	28.09
B-167-56	Obispo Fm.	11/16/2009	81.95	54.62	NA	27.33	27.33
B-167-56	Obispo Fm.	2/25/2010	81.95	36.82	NA	45.13	45.13
B-167-56	Obispo Fm.	4/26/2010	81.95	41.98	NA	39.97	39.97
B-167-56	Obispo Fm.	9/16/2010	81.95	50.51	NA	31.44	31.44
B-167-56	Obispo Fm.	11/15/2010	81.95	52.38	NA	29.57	29.57
B-167-56	Obispo Fm.	2/17/2011	81.95	38.30	NA	43.65	43.65
B-167-56	Obispo Fm.	5/2/2011	81.95	39.07	NA	42.88	42.88
B-167-56	Obispo Fm.	9/20/2011	81.95	48.35	NA	33.60	33.60
B-167-56	Obispo Fm.	11/14/2011	81.95	50.20	NA	31.75	31.75
B-167-56	Obispo Fm.	2/15/2012	81.95	45.28	NA	36.67	36.67
B-167-56	Obispo Fm.	5/7/2012	81.95	43.32	NA	38.63	38.63
B-167-56	Obispo Fm.	9/17/2012	81.95	50.90	NA	31.05	31.05
B-167-56	Obispo Fm.	11/5/2012	81.95	52.24	NA	29.71	29.71
B-167-95	Obispo Fm.	12/2/1997	81.87	70.05	NA	11.82	11.82
B-167-95	Obispo Fm.	12/6/1997	81.87	70.03	NA	11.84	11.84

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B-167-95	Obispo Fm.	2/16/1998	81.87	61.83	NA	20.04	20.04
B-167-95	Obispo Fm.	5/18/1998	81.87	57.35	NA	24.52	24.52
B-167-95	Obispo Fm.	6/19/1998	81.87	58.84	NA	23.03	23.03
B-167-95	Obispo Fm.	7/23/1998	81.87	62.37	NA	19.50	19.50
B-167-95	Obispo Fm.	8/17/1998	81.87	64.34	NA	17.53	17.53
B-167-95	Obispo Fm.	9/29/1998	81.87	65.93	NA	15.94	15.94
B-167-95	Obispo Fm.	10/25/1998	81.87	67.16	NA	14.71	14.71
B-167-95	Obispo Fm.	11/22/1998	81.87	67.65	NA	14.22	14.22
B-167-95	Obispo Fm.	12/23/1998	81.87	67.78	NA	14.09	14.09
B-167-95	Obispo Fm.	1/29/1999	81.87	66.38	NA	15.49	15.49
B-167-95	Obispo Fm.	2/25/1999	81.87	63.90	NA	17.97	17.97
B-167-95	Obispo Fm.	3/5/1999	81.87	63.65	NA	18.22	18.22
B-167-95	Obispo Fm.	4/9/1999	81.87	61.88	NA	19.99	19.99
B-167-95	Obispo Fm.	5/27/1999	81.87	62.85	NA	19.02	19.02
B-167-95	Obispo Fm.	6/17/1999	81.87	63.08	NA	18.79	18.79
B-167-95	Obispo Fm.	8/2/1999	81.87	61.46	NA	20.41	20.41
B-167-95	Obispo Fm.	8/25/1999	81.87	60.39	NA	21.48	21.48
B-167-95	Obispo Fm.	9/22/1999	81.87	60.40	NA	21.47	21.47
B-167-95	Obispo Fm.	11/4/1999	81.87	60.53	NA	21.34	21.34
B-167-95	Obispo Fm.	11/18/1999	81.87	60.44	NA	21.43	21.43
B-167-95	Obispo Fm.	12/23/1999	81.87	60.68	NA	21.19	21.19
B-167-95	Obispo Fm.	1/24/2000	81.87	65.41	NA	16.46	16.46
B-167-95	Obispo Fm.	2/22/2000	81.87	64.82	NA	17.05	17.05
B-167-95	Obispo Fm.	3/23/2000	81.87	59.96	NA	21.91	21.91
B-167-95	Obispo Fm.	4/29/2000	81.87	59.16	NA	22.71	22.71
B-167-95	Obispo Fm.	5/22/2000	81.87	58.76	NA	23.11	23.11
B-167-95	Obispo Fm.	6/22/2000	81.87	58.48	NA	23.39	23.39
B-167-95	Obispo Fm.	7/20/2000	81.87	61.50	NA	20.37	20.37
B-167-95	Obispo Fm.	8/28/2000	81.87	66.07	NA	15.80	15.80
B-167-95	Obispo Fm.	9/26/2000	81.87	67.70	NA	14.17	14.17
B-167-95	Obispo Fm.	10/31/2000	81.87	68.19	NA	13.68	13.68
B-167-95	Obispo Fm.	11/27/2000	81.87	68.72	NA	13.15	13.15
B-167-95	Obispo Fm.	2/19/2001	81.87	66.67	NA	15.20	15.20
B-167-95	Obispo Fm.	5/2/2001	81.87	61.85	NA	20.02	20.02
B-167-95	Obispo Fm.	8/20/2001	81.87	66.80	NA	15.07	15.07
B-167-95	Obispo Fm.	12/7/2001	81.87	69.05	NA	12.82	12.82
B-167-95	Obispo Fm.	2/9/2002	81.87	65.20	NA	16.67	16.67
B-167-95	Obispo Fm.	5/28/2002	81.87	66.79	NA	15.08	15.08
B-167-95	Obispo Fm.	8/26/2002	81.87	68.15	NA	13.72	13.72
B-167-95	Obispo Fm.	11/12/2002	81.87	69.63	NA	12.24	12.24
B-167-95	Obispo Fm.	3/10/2003	81.87	67.81	NA	14.06	14.06
B-167-95	Obispo Fm.	6/9/2003	81.87	66.89	NA	14.98	14.98
B-167-95	Obispo Fm.	8/18/2003	81.87	68.80	NA	13.07	13.07
B-167-95	Obispo Fm.	11/10/2003	81.87	70.60	NA	11.27	11.27
B-167-95	Obispo Fm.	2/23/2004	81.87	72.03	NA	9.84	9.84
B-167-95	Obispo Fm.	5/17/2004	81.87	71.62	NA	10.25	10.25
B-167-95	Obispo Fm.	8/9/2004	81.87	72.46	NA	9.41	9.41

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Well ID	Zone of Completion	Date Measured	Measuring Pt. Elevation (ft MSL)	Depth to Ground Water (ft)	LNAPL Thickness (ft)	LNAPL-Groundwater Interface Elevation (ft MSL)	Corrected Groundwater Elevation (ft MSL) **
B-167-95	Obispo Fm.	12/6/2004	81.87	72.97	NA	8.90	8.90
B-167-95	Obispo Fm.	3/7/2005	81.87	66.92	NA	14.95	14.95
B-167-95	Obispo Fm.	6/14/2005	81.87	67.24	NA	14.63	14.63
B-167-95	Obispo Fm.	9/26/2005	81.87	71.10	NA	10.77	10.77
B-167-95	Obispo Fm.	11/28/2005	81.87	72.00	NA	9.87	9.87
B-167-95	Obispo Fm.	3/1/2006	81.87	71.23	NA	10.64	10.64
B-167-95	Obispo Fm.	6/6/2006	81.87	65.77	NA	16.10	16.10
B-167-95	Obispo Fm.	9/12/2006	81.87	69.51	NA	12.36	12.36
B-167-95	Obispo Fm.	11/21/2006	81.87	71.25	NA	10.62	10.62
B-167-95	Obispo Fm.	3/21/2007	81.87	71.50	NA	10.37	10.37
B-167-95	Obispo Fm.	5/21/2007	81.87	71.45	NA	10.42	10.42
B-167-95	Obispo Fm.	9/18/2007	81.87	71.83	NA	10.04	10.04
B-167-95	Obispo Fm.	11/19/2007	81.87	72.49	NA	9.38	9.38
B-167-95	Obispo Fm.	3/19/2008	81.87	71.23	NA	10.64	10.64
B-167-95	Obispo Fm.	5/19/2008	81.87	71.44	NA	10.43	10.43
B-167-95	Obispo Fm.	9/15/2008	81.87	72.29	NA	9.58	9.58
B-167-95	Obispo Fm.	11/17/2008	81.87	72.99	NA	8.88	8.88
B-167-95	Obispo Fm.	2/24/2009	81.87	73.56	NA	8.31	8.31
B-167-95	Obispo Fm.	5/4/2009	81.87	73.10	NA	8.77	8.77
B-167-95	Obispo Fm.	9/23/2009	81.87	73.15	NA	8.72	8.72
B-167-95	Obispo Fm.	11/16/2009	81.87	75.58	NA	6.29	6.29
B-167-95	Obispo Fm.	2/25/2010	81.87	70.38	NA	11.49	11.49
B-167-95	Obispo Fm.	4/26/2010	81.87	68.89	NA	12.98	12.98
B-167-95	Obispo Fm.	9/16/2010	81.87	71.75	NA	10.12	10.12
B-167-95	Obispo Fm.	11/15/2010	81.87	72.51	NA	9.36	9.36
B-167-95	Obispo Fm.	2/17/2011	81.87	67.35	NA	14.52	14.52
B-167-95	Obispo Fm.	5/2/2011	81.87	65.62	NA	16.25	16.25
B-167-95	Obispo Fm.	9/20/2011	81.87	70.36	NA	11.51	11.51
B-167-95	Obispo Fm.	11/14/2011	81.87	71.17	NA	10.70	10.70
B-167-95	Obispo Fm.	2/15/2012	81.87	71.00	NA	10.87	10.87
B-167-95	Obispo Fm.	5/7/2012	81.87	69.86	NA	12.01	12.01
B-167-95	Obispo Fm.	9/17/2012	81.87	71.02	NA	10.85	10.85
B-167-95	Obispo Fm.	11/5/2012	81.87	71.88	NA	9.99	9.99
B-169	Obispo Fm.	12/4/1997	213.16	86.20	NA	126.96	126.96
B-169	Obispo Fm.	12/6/1997	213.16	86.52	NA	126.64	126.64
B-169	Obispo Fm.	2/16/1998	213.16	78.58	NA	134.58	134.58
B-169	Obispo Fm.	5/18/1998	213.16	79.40	NA	133.76	133.76
B-169	Obispo Fm.	6/19/1998	213.16	81.37	NA	131.79	131.79
B-169	Obispo Fm.	7/23/1998	213.16	83.00	NA	130.16	130.16
B-169	Obispo Fm.	8/17/1998	213.16	83.95	NA	129.21	129.21
B-169	Obispo Fm.	9/29/1998	213.16	85.05	NA	128.11	128.11
B-169	Obispo Fm.	10/25/1998	213.16	85.23	NA	127.93	127.93
B-169	Obispo Fm.	11/22/1998	213.16	84.20	NA	128.96	128.96
B-169	Obispo Fm.	12/23/1998	213.16	83.21	NA	129.95	129.95
B-169	Obispo Fm.	1/29/1999	213.16	78.88	NA	134.28	134.28
B-169	Obispo Fm.	2/25/1999	213.16	78.06	NA	135.10	135.10

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B-169	Obispo Fm.	3/5/1999	213.16	78.99	NA	134.17	134.17
B-169	Obispo Fm.	4/9/1999	213.16	78.53	NA	134.63	134.63
B-169	Obispo Fm.	5/27/1999	213.16	80.68	NA	132.48	132.48
B-169	Obispo Fm.	6/17/1999	213.16	81.21	NA	131.95	131.95
B-169	Obispo Fm.	8/2/1999	213.16	78.95	NA	134.21	134.21
B-169	Obispo Fm.	8/25/1999	213.16	80.90	NA	132.26	132.26
B-169	Obispo Fm.	9/22/1999	213.16	81.11	NA	132.05	132.05
B-169	Obispo Fm.	11/4/1999	213.16	82.03	NA	131.13	131.13
B-169	Obispo Fm.	11/18/1999	213.16	83.03	NA	130.13	130.13
B-169	Obispo Fm.	12/23/1999	213.16	82.73	NA	130.43	130.43
B-169	Obispo Fm.	1/24/2000	213.16	84.13	NA	129.03	129.03
B-169	Obispo Fm.	2/22/2000	213.16	78.83	NA	134.33	134.33
B-169	Obispo Fm.	3/23/2000	213.16	78.84	NA	134.32	134.32
B-169	Obispo Fm.	4/29/2000	213.16	77.66	NA	135.50	135.50
B-169	Obispo Fm.	5/22/2000	213.16	79.73	NA	133.43	133.43
B-169	Obispo Fm.	6/22/2000	213.16	81.51	NA	131.65	131.65
B-169	Obispo Fm.	7/20/2000	213.16	82.48	NA	130.68	130.68
B-169	Obispo Fm.	8/28/2000	213.16	84.33	NA	128.83	128.83
B-169	Obispo Fm.	9/26/2000	213.16	85.17	NA	127.99	127.99
B-169	Obispo Fm.	10/31/2000	213.16	85.28	NA	127.88	127.88
B-169	Obispo Fm.	11/27/2000	213.16	83.50	NA	129.66	129.66
B-169	Obispo Fm.	2/19/2001	213.16	75.90	NA	137.26	137.26
B-169	Obispo Fm.	5/2/2001	213.16	78.60	NA	134.56	134.56
B-169	Obispo Fm.	8/20/2001	213.16	84.13	NA	129.03	129.03
B-169	Obispo Fm.	12/7/2001	213.16	77.69	NA	135.47	135.47
B-169	Obispo Fm.	2/9/2002	213.16	79.19	NA	133.97	133.97
B-169	Obispo Fm.	5/28/2002	213.16	83.73	NA	129.43	129.43
B-169	Obispo Fm.	8/26/2002	213.16	85.87	NA	127.29	127.29
B-169	Obispo Fm.	11/12/2002	213.16	86.84	NA	126.32	126.32
B-169	Obispo Fm.	3/10/2003	213.16	79.26	NA	133.90	133.90
B-169	Obispo Fm.	6/9/2003	213.16	81.13	NA	132.03	132.03
B-169	Obispo Fm.	8/18/2003	213.16	84.22	NA	128.94	128.94
B-169	Obispo Fm.	11/10/2003	213.16	86.61	NA	126.55	126.55
B-169	Obispo Fm.	2/23/2004	213.16	83.80	NA	129.36	129.36
B-169	Obispo Fm.	5/17/2004	213.16	84.85	NA	128.31	128.31
B-169	Obispo Fm.	8/9/2004	213.16	87.50	NA	125.66	125.66
B-169	Obispo Fm.	12/6/2004	213.16	83.80	NA	129.36	129.36
B-169	Obispo Fm.	3/7/2005	213.16	74.63	NA	138.53	138.53
B-169	Obispo Fm.	6/14/2005	213.16	80.27	NA	132.89	132.89
B-169	Obispo Fm.	9/26/2005	213.16	-	NA	NA	NA
B-169	Obispo Fm.	11/28/2005	213.16	87.00	NA	126.16	126.16
B-169	Obispo Fm.	3/1/2006	213.16	-	NA	NA	NA
B-169	Obispo Fm.	6/6/2006	213.16	77.96	NA	135.20	135.20
B-169	Obispo Fm.	11/20/2006	213.16	86.75	NA	126.41	126.41
B-169	Obispo Fm.	5/21/2007	213.16	84.15	NA	129.01	129.01
B-169	Obispo Fm.	11/19/2007	213.16	88.48	NA	124.68	124.68
B-169	Obispo Fm.	5/19/2008	213.16	84.94	NA	128.22	128.22

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B-169	Obispo Fm.	9/15/2008	213.16	-	NA	NA	NA
B-169	Obispo Fm.	11/17/2008	213.16	89.00	NA	124.16	124.16
B-169	Obispo Fm.	5/4/2009	213.16	85.20	NA	127.96	127.96
B-169	Obispo Fm.	11/16/2009	213.16	88.89	NA	124.27	124.27
B-169	Obispo Fm.	4/26/2010	213.16	81.52	NA	131.64	131.64
B-169	Obispo Fm.	11/15/2010	213.16	87.70	NA	125.46	125.46
B-169	Obispo Fm.	5/2/2011	213.16	78.45	NA	134.71	134.71
B-169	Obispo Fm.	11/14/2011	213.16	86.22	NA	126.94	126.94
B-169	Obispo Fm.	5/7/2012	213.16	80.00	NA	133.16	133.16
B-169	Obispo Fm.	11/5/2012	213.16	87.26	NA	125.90	125.90
B-172	Alluvium	12/3/1997	17.02	2.55	NA	14.47	14.47
B-172	Alluvium	12/4/1997	17.02	2.41	NA	14.61	14.61
B-172	Alluvium	2/16/1998	17.02	Dry	NA	NA	NA
B-172	Alluvium	5/18/1998	17.02	Dry	NA	NA	NA
B-172	Alluvium	6/19/1998	17.02	Dry	NA	NA	NA
B-172	Alluvium	7/23/1998	17.02	Dry	NA	NA	NA
B-172	Alluvium	8/17/1998	17.02	Dry	NA	NA	NA
B-172	Alluvium	9/29/1998	17.02	0.77	NA	16.25	16.25
B-172	Alluvium	10/25/1998	17.02	1.00	NA	16.02	16.02
B-172	Alluvium	11/22/1998	17.02	1.12	NA	15.90	15.90
B-172	Alluvium	12/23/1998	17.02	1.13	NA	15.89	15.89
B-172	Alluvium	1/29/1999	17.02	0.89	NA	16.13	16.13
B-172	Alluvium	2/25/1999	17.02	0.69	NA	16.33	16.33
B-172	Alluvium	3/5/1999	17.02	0.81	NA	16.21	16.21
B-172	Alluvium	4/9/1999	17.02	0.20	NA	16.82	16.82
B-172	Alluvium	5/27/1999	17.02	1.29	NA	15.73	15.73
B-172	Alluvium	6/17/1999	17.02	1.69	NA	15.33	15.33
B-172	Alluvium	8/2/1999	17.02	2.71	NA	14.31	14.31
B-172	Alluvium	8/25/1999	17.02	2.96	NA	14.06	14.06
B-172	Alluvium	9/22/1999	17.02	3.53	NA	13.49	13.49
B-172	Alluvium	11/4/1999	17.02	3.88	NA	13.14	13.14
B-172	Alluvium	11/18/1999	17.02	3.92	NA	13.10	13.10
B-172	Alluvium	12/23/1999	17.02	3.96	NA	13.06	13.06
B-172	Alluvium	1/24/2000	17.02	4.91	NA	12.11	12.11
B-172	Alluvium	2/22/2000	17.02	1.46	NA	15.56	15.56
B-172	Alluvium	3/23/2000	17.02	0.26	NA	16.76	16.76
B-172	Alluvium	4/29/2000	17.02	0.76	NA	16.26	16.26
B-172	Alluvium	5/22/2000	17.02	1.38	NA	15.64	15.64
B-172	Alluvium	6/22/2000	17.02	2.13	NA	14.89	14.89
B-172	Alluvium	7/20/2000	17.02	2.97	NA	14.05	14.05
B-172	Alluvium	8/28/2000	17.02	3.73	NA	13.29	13.29
B-172	Alluvium	9/26/2000	17.02	4.23	NA	12.79	12.79
B-172	Alluvium	10/31/2000	17.02	4.40	NA	12.62	12.62
B-172	Alluvium	11/27/2000	17.02	5.56	NA	11.46	11.46
B-172	Alluvium	2/19/2001	17.02	2.26	NA	14.76	14.76
B-172	Alluvium	5/2/2001	17.02	1.42	NA	15.60	15.60

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B-172	Alluvium	8/20/2001	17.02	4.05	NA	12.97	12.97
B-172	Alluvium	12/7/2001	17.02	3.82	NA	13.20	13.20
B-172	Alluvium	2/9/2002	17.02	3.19	NA	13.83	13.83
B-172	Alluvium	5/28/2002	17.02	4.78	NA	12.24	12.24
B-172	Alluvium	8/26/2002	17.02	5.82	NA	11.20	11.20
B-172	Alluvium	11/12/2002	17.02	5.95	NA	11.07	11.07
B-172	Alluvium	3/10/2003	17.02	4.78	NA	12.24	12.24
B-172	Alluvium	6/9/2003	17.02	5.44	NA	11.58	11.58
B-172	Alluvium	8/18/2003	17.02	6.30	NA	10.72	10.72
B-172	Alluvium	11/10/2003	17.02	6.65	NA	10.37	10.37
B-172	Alluvium	2/23/2004	17.02	4.25	NA	12.77	12.77
B-172	Alluvium	5/17/2004	17.02	5.64	NA	11.38	11.38
B-172	Alluvium	8/9/2004	17.02	6.86	NA	10.16	10.16
B-172	Alluvium	12/6/2004	17.02	6.80	NA	10.22	10.22
B-172	Alluvium	3/7/2005	17.02	0.65	NA	16.37	16.37
B-172	Alluvium	6/20/2005	17.02	2.65	NA	14.37	14.37
B-172	Alluvium	9/26/2005	17.02	-	NA	NA	NA
B-172	Alluvium	11/28/2005	17.02	4.68	NA	12.34	12.34
B-172	Alluvium	3/1/2006	17.02	-	NA	NA	NA
B-172	Alluvium	6/6/2006	17.02	1.42	NA	15.60	15.60
B-172	Alluvium	11/20/2006	17.02	4.73	NA	12.29	12.29
B-172	Alluvium	5/21/2007	17.02	4.82	NA	12.20	12.20
B-172	Alluvium	11/19/2007	17.02	6.99	NA	10.03	10.03
B-172	Alluvium	5/19/2008	17.02	5.90	NA	11.12	11.12
B-172	Alluvium	9/15/2008	17.02	-	NA	NA	NA
B-172	Alluvium	11/17/2008	17.02	7.95	NA	9.07	9.07
B-172	Alluvium	5/4/2009	17.02	8.00	NA	9.02	9.02
B-172	Alluvium	11/16/2009	17.02	9.13	NA	7.89	7.89
B-172	Alluvium	4/26/2010	17.02	4.62	NA	12.40	12.40
B-172	Alluvium	11/15/2010	17.02	7.20	NA	9.82	9.82
B-172	Alluvium	5/2/2011	17.02	2.11	NA	14.91	14.91
B-172	Alluvium	11/14/2011	17.02	2.78	NA	14.24	14.24
B-172	Alluvium	5/7/2012	17.02	2.91	NA	14.11	14.11
B-172	Alluvium	11/5/2012	17.02	5.98	NA	11.04	11.04
B-173	Obispo Fm.	12/4/1997	202.64	51.09	NA	151.55	151.55
B-173	Obispo Fm.	12/6/1997	202.64	51.35	NA	151.29	151.29
B-173	Obispo Fm.	2/16/1998	202.64	36.43	NA	166.21	166.21
B-173	Obispo Fm.	5/18/1998	202.64	42.64	NA	160.00	160.00
B-173	Obispo Fm.	6/19/1998	202.64	46.14	NA	156.50	156.50
B-173	Obispo Fm.	7/23/1998	202.64	47.41	NA	155.23	155.23
B-173	Obispo Fm.	8/17/1998	202.64	48.40	NA	154.24	154.24
B-173	Obispo Fm.	9/29/1998	202.64	49.41	NA	153.23	153.23
B-173	Obispo Fm.	10/25/1998	202.64	50.13	NA	152.51	152.51
B-173	Obispo Fm.	11/22/1998	202.64	50.84	NA	151.80	151.80
B-173	Obispo Fm.	12/23/1998	202.64	49.39	NA	153.25	153.25
B-173	Obispo Fm.	1/29/1999	202.64	47.47	NA	155.17	155.17

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B-173	Obispo Fm.	2/25/1999	202.64	45.35	NA	157.29	157.29
B-173	Obispo Fm.	3/5/1999	202.64	46.30	NA	156.34	156.34
B-173	Obispo Fm.	4/9/1999	202.64	42.81	NA	159.83	159.83
B-173	Obispo Fm.	5/27/1999	202.64	46.33	NA	156.31	156.31
B-173	Obispo Fm.	6/17/1999	202.64	48.50	NA	154.14	154.14
B-173	Obispo Fm.	8/2/1999	202.64	50.11	NA	152.53	152.53
B-173	Obispo Fm.	8/25/1999	202.64	50.58	NA	152.06	152.06
B-173	Obispo Fm.	9/22/1999	202.64	51.87	NA	150.77	150.77
B-173	Obispo Fm.	11/4/1999	202.64	52.50	NA	150.14	150.14
B-173	Obispo Fm.	11/18/1999	202.64	53.84	NA	148.80	148.80
B-173	Obispo Fm.	12/23/1999	202.64	52.88	NA	149.76	149.76
B-173	Obispo Fm.	1/24/2000	202.64	54.25	NA	148.39	148.39
B-173	Obispo Fm.	2/22/2000	202.64	41.94	NA	160.70	160.70
B-173	Obispo Fm.	3/23/2000	202.64	42.17	NA	160.47	160.47
B-173	Obispo Fm.	4/29/2000	202.64	44.19	NA	158.45	158.45
B-173	Obispo Fm.	5/22/2000	202.64	46.31	NA	156.33	156.33
B-173	Obispo Fm.	6/22/2000	202.64	48.16	NA	154.48	154.48
B-173	Obispo Fm.	7/20/2000	202.64	49.04	NA	153.60	153.60
B-173	Obispo Fm.	8/28/2000	202.64	50.51	NA	152.13	152.13
B-173	Obispo Fm.	9/26/2000	202.64	51.56	NA	151.08	151.08
B-173	Obispo Fm.	10/31/2000	202.64	52.47	NA	150.17	150.17
B-173	Obispo Fm.	11/27/2000	202.64	53.18	NA	149.46	149.46
B-173	Obispo Fm.	2/19/2001	202.64	44.16	NA	158.48	158.48
B-173	Obispo Fm.	5/2/2001	202.64	46.25	NA	156.39	156.39
B-173	Obispo Fm.	8/20/2001	202.64	56.68	NA	145.96	145.96
B-173	Obispo Fm.	12/7/2001	202.64	46.42	NA	156.22	156.22
B-173	Obispo Fm.	2/9/2002	202.64	46.82	NA	155.82	155.82
B-173	Obispo Fm.	5/28/2002	202.64	51.20	NA	151.44	151.44
B-173	Obispo Fm.	8/26/2002	202.64	54.82	NA	147.82	147.82
B-173	Obispo Fm.	11/12/2002	202.64	51.22	NA	151.42	151.42
B-173	Obispo Fm.	3/10/2003	202.64	45.27	NA	157.37	157.37
B-173	Obispo Fm.	6/9/2003	202.64	48.14	NA	154.50	154.50
B-173	Obispo Fm.	8/18/2003	202.64	51.82	NA	150.82	150.82
B-173	Obispo Fm.	11/10/2003	202.64	64.19	NA	138.45	138.45
B-173	Obispo Fm.	2/23/2004	202.64	46.80	NA	155.84	155.84
B-173	Obispo Fm.	5/17/2004	202.64	53.45	NA	149.19	149.19
B-173	Obispo Fm.	8/9/2004	202.64	59.02	NA	143.62	143.62
B-173	Obispo Fm.	12/6/2004	202.64	51.50	NA	151.14	151.14
B-173	Obispo Fm.	3/7/2005	202.64	35.90	NA	166.74	166.74
B-173	Obispo Fm.	6/14/2005	202.64	46.81	NA	155.83	155.83
B-173	Obispo Fm.	9/26/2005	202.64	-	NA	NA	NA
B-173	Obispo Fm.	11/28/2005	202.64	53.42	NA	149.22	149.22
B-173	Obispo Fm.	3/1/2006	202.64	-	NA	NA	NA
B-173	Obispo Fm.	6/6/2006	202.64	43.44	NA	159.20	159.20
B-173	Obispo Fm.	11/20/2006	202.64	52.75	NA	149.89	149.89
B-173	Obispo Fm.	5/21/2007	202.64	50.64	NA	152.00	152.00
B-173	Obispo Fm.	11/19/2007	202.64	56.92	NA	145.72	145.72

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B-173	Obispo Fm.	5/19/2008	202.64	51	NA	151.64	151.64
B-173	Obispo Fm.	9/15/2008	202.64	-	NA	NA	NA
B-173	Obispo Fm.	11/17/2008	202.64	56.49	NA	146.15	146.15
B-173	Obispo Fm.	5/4/2009	202.64	50.85	NA	151.79	151.79
B-173	Obispo Fm.	11/16/2009	202.64	59.43	NA	143.21	143.21
B-173	Obispo Fm.	4/26/2010	202.64	46.67	NA	155.97	155.97
B-173	Obispo Fm.	11/15/2010	202.64	49.35	NA	153.29	153.29
B-173	Obispo Fm.	5/2/2011	202.64	42.47	NA	160.17	160.17
B-173	Obispo Fm.	11/14/2011	202.64	47.07	NA	155.57	155.57
B-173	Obispo Fm.	5/7/2012	202.64	46.27	NA	156.37	156.37
B-173	Obispo Fm.	11/5/2012	202.64	53.53	NA	149.11	149.11
B-182	Pismo Fm.	8/2/1999	181.94	77.31	NA	104.63	104.63
B-182	Pismo Fm.	8/25/1999	181.94	79.17	NA	102.77	102.77
B-182	Pismo Fm.	9/22/1999	181.94	81.22	NA	100.72	100.72
B-182	Pismo Fm.	11/4/1999	181.94	82.03	NA	99.91	99.91
B-182	Pismo Fm.	11/18/1999	181.94	84.32	NA	97.62	97.62
B-182	Pismo Fm.	12/23/1999	181.94	82.76	NA	99.18	99.18
B-182	Pismo Fm.	1/24/2000	181.94	86.45	0.03	95.49	95.52
B-182	Pismo Fm.	2/22/2000	181.94	80.04	0.1	101.90	101.99
B-182	Pismo Fm.	3/23/2000	181.94	70.65	Trace	111.29	111.29
B-182	Pismo Fm.	4/29/2000	181.94	70.16	NA	111.78	111.78
B-182	Pismo Fm.	5/22/2000	181.94	71.52	Trace	110.42	110.42
B-182	Pismo Fm.	6/22/2000	181.94	72.05	NA	109.89	109.89
B-182	Pismo Fm.	7/20/2000	181.94	74.25	NA	107.69	107.69
B-182	Pismo Fm.	8/28/2000	181.94	76.60	Sheen	105.34	105.34
B-182	Pismo Fm.	9/26/2000	181.94	79.15	Sheen	102.79	102.79
B-182	Pismo Fm.	10/31/2000	181.94	83.48	Trace	98.46	98.46
B-182	Pismo Fm.	11/27/2000	181.94	83.45	Sheen	98.49	98.49
B-182	Pismo Fm.	2/19/2001	181.94	81.33	Trace	100.61	100.61
B-182	Pismo Fm.	5/2/2001	181.94	73.70	Sheen	108.24	108.24
B-182	Pismo Fm.	8/20/2001	181.94	82.37	0.03	99.57	99.60
B-182	Pismo Fm.	12/7/2001	181.94	87.13	0.13	94.81	94.93
B-182	Pismo Fm.	2/9/2002	181.94	75.45	0.01	106.49	106.50
B-182	Pismo Fm.	5/28/2002	181.94	81.86	0.03	100.08	100.11
B-182	Pismo Fm.	8/26/2002	181.94	86.90	Trace	95.04	95.04
B-182	Pismo Fm.	11/12/2002	181.94	91.73	0.67	90.21	90.82
B-182	Pismo Fm.	3/10/2003	181.94	81.91	0.03	100.03	100.06
B-182	Pismo Fm.	6/9/2003	181.94	81.01	Trace	100.93	100.93
B-182	Pismo Fm.	8/18/2003	181.94	85.12	Trace	96.82	96.82
B-182	Pismo Fm.	11/10/2003	181.94	90.95	Trace	90.99	90.99
B-182	Pismo Fm.	2/23/2004	181.94	93.85	0.05	88.09	88.14
B-182	Pismo Fm.	5/17/2004	181.94	91.75	0.10	90.19	90.28
B-182	Pismo Fm.	8/9/2004	181.94	99.05	0.70	82.89	83.52
B-182	Pismo Fm.	12/6/2004	181.94	97.48	0.01	84.46	84.47
B-182	Pismo Fm.	3/7/2005	181.94	75.02	0.02	106.92	106.94
B-182	Pismo Fm.	6/23/2005	181.94	80.24	Trace	101.70	101.70

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B-182	Pismo Fm.	9/26/2005	181.94	-	NA	NA	NA
B-182	Pismo Fm.	11/28/2005	181.94	91.36	Trace	90.58	90.58
B-182	Pismo Fm.	3/1/2006	181.94	-	NA	NA	NA
B-182	Pismo Fm.	6/6/2006	181.94	77.64	NA	104.30	104.30
B-182	Pismo Fm.	11/20/2006	181.94	91.12	0.01	90.82	90.83
B-182	Pismo Fm.	5/22/2007	181.94	90.99	Sheen	90.95	90.95
B-182	Pismo Fm.	11/20/2007	181.94	100.7	0.08	81.24	81.24
B-182	Pismo Fm.	5/20/2008	181.94	88.42	Sheen	93.52	93.52
B-182	Pismo Fm.	9/15/2008	181.94	-	NA	NA	NA
B-182	Pismo Fm.	11/17/2008	181.94	99.62	0.16	82.32	82.46
B-182	Pismo Fm.	5/4/2009	181.94	94.77	0.04	87.17	87.21
B-182	Pismo Fm.	11/16/2009	181.94	Dry	NA	NA	NA
B-182	Pismo Fm.	4/26/2010	181.94	79.55	Sheen	102.39	102.39
B-182	Pismo Fm.	11/15/2010	181.94	94.33	Sheen	87.61	87.61
B-182	Pismo Fm.	5/2/2011	181.94	71.08	0.01	110.86	110.87
B-182	Pismo Fm.	11/14/2011	181.94	81.24	0.01	100.70	100.71
B-182	Pismo Fm.	5/7/2012	181.94	83.26	Sheen	98.68	98.68
B-182	Pismo Fm.	11/5/2012	181.94	92.97	Sheen	88.97	88.97
B-183	Pismo Fm.	8/2/1999	144.76	64.66	NA	80.10	80.10
B-183	Pismo Fm.	8/25/1999	144.76	64.78	NA	79.98	79.98
B-183	Pismo Fm.	9/22/1999	144.76	65.90	NA	78.86	78.86
B-183	Pismo Fm.	11/4/1999	144.76	66.66	NA	78.10	78.10
B-183	Pismo Fm.	11/18/1999	144.76	68.83	NA	75.93	75.93
B-183	Pismo Fm.	12/23/1999	144.76	67.13	NA	77.63	77.63
B-183	Pismo Fm.	1/24/2000	144.76	74.54	NA	70.22	70.22
B-183	Pismo Fm.	2/22/2000	144.76	60.90	NA	83.86	83.86
B-183	Pismo Fm.	3/23/2000	144.76	61.27	NA	83.49	83.49
B-183	Pismo Fm.	4/29/2000	144.76	60.63	NA	84.13	84.13
B-183	Pismo Fm.	5/22/2000	144.76	61.59	NA	83.17	83.17
B-183	Pismo Fm.	6/22/2000	144.76	58.81	NA	85.95	85.95
B-183	Pismo Fm.	7/20/2000	144.76	61.09	NA	83.67	83.67
B-183	Pismo Fm.	8/28/2000	144.76	62.26	NA	82.50	82.50
B-183	Pismo Fm.	9/26/2000	144.76	63.07	NA	81.69	81.69
B-183	Pismo Fm.	10/31/2000	144.76	63.82	NA	80.94	80.94
B-183	Pismo Fm.	11/27/2000	144.76	64.86	Sheen	79.90	79.90
B-183	Pismo Fm.	2/19/2001	144.76	63.94	Sheen	80.82	80.82
B-183	Pismo Fm.	5/2/2001	144.76	62.10	Sheen	82.66	82.66
B-183	Pismo Fm.	8/20/2001	144.76	64.72	Slight Sheen	80.04	80.04
B-183	Pismo Fm.	12/7/2001	144.76	65.98	Slight Sheen	78.78	78.78
B-183	Pismo Fm.	2/9/2002	144.76	62.33	Sheen	82.43	82.43
B-183	Pismo Fm.	5/28/2002	144.76	64.46	NA	80.30	80.30
B-183	Pismo Fm.	8/26/2002	144.76	63.54	NA	81.22	81.22
B-183	Pismo Fm.	11/12/2002	144.76	67.21	NA	77.55	77.55
B-183	Pismo Fm.	3/10/2003	144.76	65.45	NA	79.31	79.31
B-183	Pismo Fm.	6/9/2003	144.76	64.55	NA	80.21	80.21
B-183	Pismo Fm.	8/18/2003	144.76	71.81	NA	72.95	72.95

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B-183	Pismo Fm.	11/10/2003	144.76	79.82	NA	64.94	64.94
B-183	Pismo Fm.	2/23/2004	144.76	67.67	NA	77.09	77.09
B-183	Pismo Fm.	5/17/2004	144.76	70.18	NA	74.58	74.58
B-183	Pismo Fm.	8/9/2004	144.76	70.63	NA	74.13	74.13
B-183	Pismo Fm.	12/6/2004	144.76	79.48	NA	65.28	65.28
B-183	Pismo Fm.	3/7/2005	144.76	60.36	NA	84.40	84.40
B-183	Pismo Fm.	6/15/2005	144.76	62.71	NA	82.05	82.05
B-183	Pismo Fm.	9/26/2005	144.76	-	NA	NA	NA
B-183	Pismo Fm.	11/28/2005	144.76	64.40	NA	80.36	80.36
B-183	Pismo Fm.	3/1/2006	144.76	-	NA	NA	NA
B-183	Pismo Fm.	6/6/2006	144.76	61.69	NA	83.07	83.07
B-183	Pismo Fm.	11/20/2006	144.76	67.33	NA	77.43	77.43
B-183	Pismo Fm.	5/21/2007	144.76	78.10	NA	66.66	66.66
B-183	Pismo Fm.	11/19/2007	144.76	84.85	NA	59.91	59.91
B-183	Pismo Fm.	5/19/2008	144.76	65.55	NA	79.21	79.21
B-183	Pismo Fm.	9/15/2008	144.76	-	NA	NA	NA
B-183	Pismo Fm.	11/17/2008	144.76	81.83	NA	62.93	62.93
B-183	Pismo Fm.	5/4/2009	144.76	84.07	NA	60.69	60.69
B-183	Pismo Fm.	11/16/2009	144.76	65.70	NA	79.06	79.06
B-183	Pismo Fm.	4/26/2010	144.76	63.00	NA	81.76	81.76
B-183	Pismo Fm.	11/15/2010	144.76	75.08	NA	69.68	69.68
B-183	Pismo Fm.	5/2/2011	144.76	61.06	NA	83.70	83.70
B-183	Pismo Fm.	11/14/2011	144.76	66.30	NA	78.46	78.46
B-183	Pismo Fm.	5/7/2012	144.76	61.37	NA	83.39	83.39
B-183	Pismo Fm.	11/5/2012	144.76	65.92	NA	78.84	78.84
B-184	Pismo Fm.	8/2/1999	163.77	89.41	NA	74.36	74.36
B-184	Pismo Fm.	8/25/1999	163.77	90.75	NA	73.02	73.02
B-184	Pismo Fm.	9/22/1999	163.77	92.05	NA	71.72	71.72
B-184	Pismo Fm.	11/4/1999	163.77	92.78	NA	70.99	70.99
B-184	Pismo Fm.	11/18/1999	163.77	94.22	Trace	69.55	69.55
B-184	Pismo Fm.	12/23/1999	163.77	93.20	NA	70.57	70.57
B-184	Pismo Fm.	1/24/2000	163.77	95.85	Sheen	67.92	67.92
B-184	Pismo Fm.	2/22/2000	163.77	94.31	Sheen	69.46	69.46
B-184	Pismo Fm.	3/23/2000	163.77	85.76	NA	78.01	78.01
B-184	Pismo Fm.	4/29/2000	163.77	86.00	NA	77.77	77.77
B-184	Pismo Fm.	5/22/2000	163.77	86.23	Sheen	77.54	77.54
B-184	Pismo Fm.	6/22/2000	163.77	86.46	NA	77.31	77.31
B-184	Pismo Fm.	7/20/2000	163.77	75.04	NA	88.73	88.73
B-184	Pismo Fm.	8/28/2000	163.77	86.17	NA	77.60	77.60
B-184	Pismo Fm.	9/26/2000	163.77	88.56	NA	75.21	75.21
B-184	Pismo Fm.	10/31/2000	163.77	90.65	NA	73.12	73.12
B-184	Pismo Fm.	11/27/2000	163.77	91.85	Sheen	71.92	71.92
B-184	Pismo Fm.	2/19/2001	163.77	93.99	Sheen	69.78	69.78
B-184	Pismo Fm.	5/2/2001	163.77	88.43	NA	75.34	75.34
B-184	Pismo Fm.	8/20/2001	163.77	93.27	NA	70.50	70.50
B-184	Pismo Fm.	12/7/2001	163.77	96.43	NA	67.34	67.34

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B-184	Pismo Fm.	2/9/2002	163.77	93.90	NA	69.87	69.87
B-184	Pismo Fm.	5/28/2002	163.77	94.75	NA	69.02	69.02
B-184	Pismo Fm.	8/26/2002	163.77	96.54	NA	67.23	67.23
B-184	Pismo Fm.	11/12/2002	163.77	98.38	NA	65.39	65.39
B-184	Pismo Fm.	3/10/2003	163.77	97.37	NA	66.40	66.40
B-184	Pismo Fm.	6/9/2003	163.77	96.30	NA	67.47	67.47
B-184	Pismo Fm.	8/18/2003	163.77	97.44	NA	66.33	66.33
B-184	Pismo Fm.	11/10/2003	163.77	99.59	NA	64.18	64.18
B-184	Pismo Fm.	2/23/2004	163.77	100.99	NA	62.78	62.78
B-184	Pismo Fm.	5/17/2004	163.77	99.92	NA	63.85	63.85
B-184	Pismo Fm.	8/9/2004	163.77	101.98	NA	61.79	61.79
B-184	Pismo Fm.	12/6/2004	163.77	103.05	NA	60.72	60.72
B-184	Pismo Fm.	3/7/2005	163.77	91.31	NA	72.46	72.46
B-184	Pismo Fm.	6/15/2005	163.77	91.05	Trace	72.72	72.72
B-184	Pismo Fm.	9/26/2005	163.77	-	NA	NA	NA
B-184	Pismo Fm.	11/28/2005	163.77	96.31	0.01	67.46	67.47
B-184	Pismo Fm.	3/1/2006	163.77	-	NA	NA	NA
B-184	Pismo Fm.	6/6/2006	163.77	89.56	NA	74.21	74.21
B-184	Pismo Fm.	11/20/2006	163.77	96.51	NA	67.26	67.26
B-184	Pismo Fm.	5/21/2007	163.77	98.51	NA	65.26	65.26
B-184	Pismo Fm.	11/19/2007	163.77	103.7	NA	60.07	60.07
B-184	Pismo Fm.	5/20/2008	163.77	98.21	0.01	65.56	65.57
B-184	Pismo Fm.	9/15/2008	163.77	-	NA	NA	NA
B-184	Pismo Fm.	11/17/2008	163.77	103.55	NA	60.22	60.22
B-184	Pismo Fm.	5/4/2009	163.77	102.70	NA	61.07	61.07
B-184	Pismo Fm.	11/16/2009	163.77	103.59	NA	60.18	60.18
B-184	Pismo Fm.	4/26/2010	163.77	92.45	NA	71.32	71.32
B-184	Pismo Fm.	11/15/2010	163.77	99.42	Sheen	64.35	64.35
B-184	Pismo Fm.	5/2/2011	163.77	85.02	NA	78.75	78.75
B-184	Pismo Fm.	11/14/2011	163.77	95.52	NA	68.25	68.25
B-184	Pismo Fm.	5/7/2012	163.77	91.11	NA	72.66	72.66
B-184	Pismo Fm.	11/5/2012	163.77	96.61	NA	67.16	67.16
B-185	Pismo Fm.	8/2/1999	174.26	54.76	Sheen	119.50	119.50
B-185	Pismo Fm.	8/25/1999	174.26	59.68	Sheen	114.58	114.58
B-185	Pismo Fm.	9/22/1999	174.26	61.47	Sheen	112.79	112.79
B-185	Pismo Fm.	11/4/1999	174.26	62.58	NA	111.68	111.68
B-185	Pismo Fm.	11/18/1999	174.26	66.37	Sheen	107.89	107.89
B-185	Pismo Fm.	12/23/1999	174.26	63.01	NA	111.25	111.25
B-185	Pismo Fm.	1/24/2000	174.26	69.56	NA	104.70	104.70
B-185	Pismo Fm.	2/22/2000	174.26	58.11	Sheen	116.15	116.15
B-185	Pismo Fm.	3/23/2000	174.26	49.45	Sheen	124.81	124.81
B-185	Pismo Fm.	4/29/2000	174.26	57.43	Sheen	116.83	116.83
B-185	Pismo Fm.	5/22/2000	174.26	61.61	Slight Sheen	112.65	112.65
B-185	Pismo Fm.	6/22/2000	174.26	64.34	Sheen	109.92	109.92
B-185	Pismo Fm.	7/20/2000	174.26	61.30	Sheen	112.96	112.96
B-185	Pismo Fm.	8/28/2000	174.26	57.25	Sheen	117.01	117.01

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B-185	Pismo Fm.	9/26/2000	174.26	59.80	Trace	114.46	114.46
B-185	Pismo Fm.	10/31/2000	174.26	63.28	Sheen	110.98	110.98
B-185	Pismo Fm.	11/27/2000	174.26	65.80	Sheen	108.46	108.46
B-185	Pismo Fm.	2/19/2001	174.26	60.69	Sheen	113.57	113.57
B-185	Pismo Fm.	5/2/2001	174.26	53.69	Sheen	120.57	120.57
B-185	Pismo Fm.	8/20/2001	174.26	62.73	Slight Sheen	111.53	111.53
B-185	Pismo Fm.	12/7/2001	174.26	66.06	Sheen	108.20	108.20
B-185	Pismo Fm.	2/9/2002	174.26	63.85	NA	110.41	110.41
B-185	Pismo Fm.	5/28/2002	174.26	61.81	Sheen	112.45	112.45
B-185	Pismo Fm.	8/26/2002	174.26	67.52	Sheen	106.74	106.74
B-185	Pismo Fm.	11/12/2002	174.26	71.98	Sheen	102.28	102.28
B-185	Pismo Fm.	3/10/2003	174.26	63.57	Sheen	110.69	110.69
B-185	Pismo Fm.	6/9/2003	174.26	60.38	Sheen	113.88	113.88
B-185	Pismo Fm.	8/18/2003	174.26	67.28	Sheen	106.98	106.98
B-185	Pismo Fm.	11/10/2003	174.26	72.52	Sheen	101.74	101.74
B-185	Pismo Fm.	2/23/2004	174.26	75.11	Sheen	99.15	99.15
B-185	Pismo Fm.	5/17/2004	174.26	70.15	Sheen	104.11	104.11
B-185	Pismo Fm.	8/9/2004	174.26	78.40	Sheen	95.86	95.86
B-185	Pismo Fm.	12/6/2004	174.26	83.98	Sheen	90.28	90.28
B-185	Pismo Fm.	3/7/2005	174.26	48.38	NA	125.88	125.88
B-185	Pismo Fm.	6/23/2005	174.26	58.36	0.02	115.90	115.92
B-185	Pismo Fm.	9/26/2005	174.26	-	NA	NA	NA
B-185	Pismo Fm.	11/28/2005	174.26	72.81	Sheen	101.45	101.45
B-185	Pismo Fm.	3/1/2006	174.26	-	NA	NA	NA
B-185	Pismo Fm.	6/6/2006	174.26	51.67	NA	122.59	122.59
B-185	Pismo Fm.	11/20/2006	174.26	72.69	NA	101.57	101.57
B-185	Pismo Fm.	5/21/2007	174.26	69.94	NA	104.32	104.32
B-185	Pismo Fm.	11/19/2007	174.26	83.53	NA	90.73	90.73
B-185	Pismo Fm.	5/19/2008	174.26	67.97	NA	106.29	106.29
B-185	Pismo Fm.	9/15/2008	174.26	-	NA	NA	NA
B-185	Pismo Fm.	11/17/2008	174.26	82.44	NA	91.82	91.82
B-185	Pismo Fm.	5/4/2009	174.26	73.49	NA	100.77	100.77
B-185	Pismo Fm.	11/16/2009	174.26	81.62	NA	92.64	92.64
B-185	Pismo Fm.	4/26/2010	174.26	56.45	NA	117.81	117.81
B-185	Pismo Fm.	11/15/2010	174.26	76.30	NA	97.96	97.96
B-185	Pismo Fm.	5/2/2011	174.26	50.58	NA	123.68	123.68
B-185	Pismo Fm.	11/14/2011	174.26	70.90	NA	103.36	103.36
B-185	Pismo Fm.	5/7/2012	174.26	53.74	NA	120.52	120.52
B-185	Pismo Fm.	11/5/2012	174.26	73.14	NA	101.12	101.12
B-186-38	Pismo Fm.	8/2/1999	151.67	31.26	Sheen	120.41	120.41
B-186-38	Pismo Fm.	8/25/1999	151.67	30.38	Sheen	121.29	121.29
B-186-38	Pismo Fm.	9/22/1999	151.67	31.74	Sheen	119.93	119.93
B-186-38	Pismo Fm.	11/4/1999	151.67	32.80	Sheen	118.87	118.87
B-186-38	Pismo Fm.	11/18/1999	151.67	31.90	Sheen	119.77	119.77
B-186-38	Pismo Fm.	12/23/1999	151.67	33.28	Sheen	118.39	118.39
B-186-38	Pismo Fm.	1/24/2000	151.67	31.73	Trace	119.94	119.94

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B-186-38	Pismo Fm.	2/22/2000	151.67	24.55	Sheen	127.12	127.12
B-186-38	Pismo Fm.	3/23/2000	151.67	20.58	Sheen	131.09	131.09
B-186-38	Pismo Fm.	4/29/2000	151.67	22.02	Sheen	129.65	129.65
B-186-38	Pismo Fm.	5/22/2000	151.67	23.08	Slight Sheen	128.59	128.59
B-186-38	Pismo Fm.	6/22/2000	151.67	27.31	Sheen	124.36	124.36
B-186-38	Pismo Fm.	7/20/2000	151.67	27.93	Sheen	123.74	123.74
B-186-38	Pismo Fm.	8/28/2000	151.67	29.07	Sheen	122.60	122.60
B-186-38	Pismo Fm.	9/26/2000	151.67	30.97	Trace	120.70	120.70
B-186-38	Pismo Fm.	10/31/2000	151.67	33.77	Sheen	117.90	117.90
B-186-38	Pismo Fm.	11/27/2000	151.67	33.06	Sheen	118.61	118.61
B-186-38	Pismo Fm.	2/19/2001	151.67	30.95	Sheen	120.72	120.72
B-186-38	Pismo Fm.	5/2/2001	151.67	25.35	Sheen	126.32	126.32
B-186-38	Pismo Fm.	8/20/2001	151.67	33.30	Slight Sheen	118.37	118.37
B-186-38	Pismo Fm.	12/7/2001	151.67	33.75	Slight Sheen	117.92	117.92
B-186-38	Pismo Fm.	2/9/2002	151.67	17.62	Sheen	134.05	134.05
B-186-38	Pismo Fm.	5/28/2002	151.67	32.26	Sheen	119.41	119.41
B-186-38	Pismo Fm.	8/26/2002	151.67	34.57	Sheen	117.10	117.10
B-186-38	Pismo Fm.	11/12/2002	151.67	35.31	Sheen	116.36	116.36
B-186-38	Pismo Fm.	3/10/2003	151.67	30.23	Trace	121.44	121.44
B-186-38	Pismo Fm.	6/9/2003	151.67	29.33	Trace	122.34	122.34
B-186-38	Pismo Fm.	8/18/2003	151.67	33.78	Trace	117.89	117.89
B-186-38	Pismo Fm.	11/10/2003	151.67	35.58	Trace	116.09	116.09
B-186-38	Pismo Fm.	2/23/2004	151.67	34.75	Trace	116.92	116.92
B-186-38	Pismo Fm.	5/17/2004	151.67	53.02	Trace	98.65	98.65
B-186-38	Pismo Fm.	8/9/2004	151.67	35.95	Trace	115.72	115.72
B-186-38	Pismo Fm.	12/6/2004	151.67	35.36	Trace	116.31	116.31
B-186-38	Pismo Fm.	3/7/2005	151.67	20.21	Sheen	131.46	131.46
B-186-38	Pismo Fm.	6/20/2005	151.67	29.55	NA	122.12	122.12
B-186-38	Pismo Fm.	9/26/2005	151.67	-	NA	NA	NA
B-186-38	Pismo Fm.	11/28/2005	151.67	36.66	Sheen	115.01	115.01
B-186-38	Pismo Fm.	3/1/2006	151.67	-	NA	NA	NA
B-186-38	Pismo Fm.	6/6/2006	151.67	24.79	NA	126.88	126.88
B-186-38	Pismo Fm.	11/20/2006	151.67	36.07	NA	115.60	115.60
B-186-38	Pismo Fm.	5/22/2007	151.67	34.56	Sheen*	117.11	117.11
B-186-38	Pismo Fm.	11/20/2007	151.67	36.69	Sheen*	114.98	114.98
B-186-38	Pismo Fm.	5/19/2009	151.67	35.64	Sheen	116.03	116.03
B-186-38	Pismo Fm.	9/15/2008	151.67	-	NA	NA	NA
B-186-38	Pismo Fm.	11/17/2008	151.67	36.99	Sheen	114.68	114.68
B-186-38	Pismo Fm.	5/4/2009	151.67	36.30	Sheen	115.37	115.37
B-186-38	Pismo Fm.	11/16/2009	151.67	37.01	Sheen	114.66	114.66
B-186-38	Pismo Fm.	4/26/2010	151.67	28.98	0.01	122.69	122.70
B-186-38	Pismo Fm.	11/15/2010	151.67	36.66	Sheen	115.01	115.01
B-186-38	Pismo Fm.	5/2/2011	151.67	24.44	Sheen	127.23	127.23
B-186-38	Pismo Fm.	11/14/2011	151.67	35.92	Sheen	115.75	115.75
B-186-38	Pismo Fm.	5/7/2012	151.67	27.51	Sheen	124.16	124.16
B-186-38	Pismo Fm.	11/5/2012	151.67	36.46	Sheen	115.21	115.21

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B-186-56	Pismo Fm.	8/2/1999	151.67	31.86	Trace	119.81	119.81
B-186-56	Pismo Fm.	8/25/1999	151.67	34.04	Trace	117.63	117.63
B-186-56	Pismo Fm.	9/22/1999	151.67	36.84	Sheen	114.83	114.83
B-186-56	Pismo Fm.	11/4/1999	151.67	37.98	NA	113.69	113.69
B-186-56	Pismo Fm.	11/18/1999	151.67	37.97	Sheen	113.70	113.70
B-186-56	Pismo Fm.	12/23/1999	151.67	38.55	NA	113.12	113.12
B-186-56	Pismo Fm.	1/24/2000	151.67	38.40	Slight Sheen	113.27	113.27
B-186-56	Pismo Fm.	2/22/2000	151.67	19.09	Sheen	132.58	132.58
B-186-56	Pismo Fm.	3/23/2000	151.67	19.70	Sheen	131.97	131.97
B-186-56	Pismo Fm.	4/29/2000	151.67	23.00	Sheen	128.67	128.67
B-186-56	Pismo Fm.	5/22/2000	151.67	25.02	Slight Sheen	126.65	126.65
B-186-56	Pismo Fm.	6/22/2000	151.67	29.11	Sheen	122.56	122.56
B-186-56	Pismo Fm.	7/20/2000	151.67	31.26	Sheen	120.41	120.41
B-186-56	Pismo Fm.	8/28/2000	151.67	32.69	Sheen	118.98	118.98
B-186-56	Pismo Fm.	9/26/2000	151.67	36.21	Trace	115.46	115.46
B-186-56	Pismo Fm.	10/31/2000	151.67	38.28	Sheen	113.39	113.39
B-186-56	Pismo Fm.	11/27/2000	151.67	40.23	Sheen	111.44	111.44
B-186-56	Pismo Fm.	2/19/2001	151.67	27.20	Trace	124.47	124.47
B-186-56	Pismo Fm.	5/2/2001	151.67	27.13	Sheen	124.54	124.54
B-186-56	Pismo Fm.	8/20/2001	151.67	37.58	Slight Sheen	114.09	114.09
B-186-56	Pismo Fm.	12/7/2001	151.67	32.32	Slight Sheen	119.35	119.35
B-186-56	Pismo Fm.	2/9/2002	151.67	17.13	Sheen	134.54	134.54
B-186-56	Pismo Fm.	5/28/2002	151.67	35.95	Sheen	115.72	115.72
B-186-56	Pismo Fm.	8/26/2002	151.67	42.71	Sheen	108.96	108.96
B-186-56	Pismo Fm.	11/12/2002	151.67	43.69	Sheen	107.98	107.98
B-186-56	Pismo Fm.	3/10/2003	151.67	30.59	0.02	121.08	121.10
B-186-56	Pismo Fm.	6/9/2003	151.67	31.98	0.03	119.69	119.72
B-186-56	Pismo Fm.	8/18/2003	151.67	37.74	0.07	113.93	113.99
B-186-56	Pismo Fm.	11/10/2003	151.67	44.77	0.10	106.90	106.99
B-186-56	Pismo Fm.	2/23/2004	151.67	38.89	0.10	112.78	112.87
B-186-56	Pismo Fm.	5/17/2004	151.67	43.45	0.11	108.22	108.32
B-186-56	Pismo Fm.	8/9/2004	151.67	33.19	1.37	118.48	119.71
B-186-56	Pismo Fm.	12/6/2004	151.67	49.95	7.85	101.72	108.79
B-186-56	Pismo Fm.	3/7/2005	151.67	28.21	8.35	123.46	130.98
B-186-56	Pismo Fm.	6/20/2005	151.67	-	NA	NA	NA
B-186-56	Pismo Fm.	9/26/2005	151.67	-	NA	NA	NA
B-186-56	Pismo Fm.	11/28/2005	151.67	54.43	8.53	97.24	104.92
B-186-56	Pismo Fm.	3/1/2006	151.67	-	NA	NA	NA
B-186-56	Pismo Fm.	6/6/2006	151.67	30.95	5.34	120.72	125.53
B-186-56	Pismo Fm.	11/20/2006	151.67	51.42	4.98	100.25	104.73
B-186-56	Pismo Fm.	5/22/2007	151.67	48.50	6.17	103.17	108.72
B-186-56	Pismo Fm.	11/20/2007	151.67	59.60	0.02	92.07	92.07
B-186-56	Pismo Fm.	5/19/2008	151.67	52.60	15.7	99.07	113.20
B-186-56	Pismo Fm.	9/15/2008	151.67	-	NA	NA	NA
B-186-56	Pismo Fm.	11/17/2008	151.67	61.63	1.93	90.04	91.78
B-186-56	Pismo Fm.	5/4/2009	151.67	53.55	10.46	98.12	107.53
B-186-56	Pismo Fm.	11/16/2009	151.67	58.75	3.33	92.92	95.92

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B-186-56	Pismo Fm.	4/26/2010	151.67	44.58	14.08	107.09	119.76
B-186-56	Pismo Fm.	11/15/2010	151.67	54.56	7.86	97.11	104.18
B-186-56	Pismo Fm.	5/2/2011	151.67	39.91	13.97	111.76	124.33
B-186-56	Pismo Fm.	11/14/2011	151.67	53.17	8.36	98.50	106.02
B-186-56	Pismo Fm.	5/7/2012	151.67	42.40	14.36	123.63	136.55
B-186-56	Pismo Fm.	11/5/2012	151.67	55.02	5.25	101.90	106.63
B-187	Pismo Fm.	8/2/1999	151.00	34.93	Trace	116.07	116.07
B-187	Pismo Fm.	8/25/1999	151.00	36.19	0.05	114.81	114.81
B-187	Pismo Fm.	9/22/1999	151.00	37.63	0.12	113.37	113.48
B-187	Pismo Fm.	11/4/1999	151.00	38.11	0.18	112.89	113.05
B-187	Pismo Fm.	11/18/1999	151.00	35.79	0.01	115.21	115.22
B-187	Pismo Fm.	12/23/1999	151.00	38.83	0.22	112.17	112.37
B-187	Pismo Fm.	1/24/2000	151.00	40.05	Trace	110.95	110.95
B-187	Pismo Fm.	2/22/2000	151.00	28.61	Sheen	122.39	122.39
B-187	Pismo Fm.	3/23/2000	151.00	28.09	Sheen	122.91	122.91
B-187	Pismo Fm.	4/29/2000	151.00	29.15	Sheen	121.85	121.85
B-187	Pismo Fm.	5/22/2000	151.00	31.17	Sheen	119.83	119.83
B-187	Pismo Fm.	6/22/2000	151.00	34.04	Sheen	116.96	116.96
B-187	Pismo Fm.	7/20/2000	151.00	34.99	Sheen	116.01	116.01
B-187	Pismo Fm.	8/28/2000	151.00	36.04	Trace	114.96	114.96
B-187	Pismo Fm.	9/26/2000	151.00	37.86	0.01	113.14	113.15
B-187	Pismo Fm.	10/31/2000	151.00	39.38	Trace	111.62	111.62
B-187	Pismo Fm.	11/27/2000	151.00	40.33	Sheen	110.67	110.67
B-187	Pismo Fm.	2/19/2001	151.00	33.58	Sheen	117.42	117.42
B-187	Pismo Fm.	5/2/2001	151.00	32.08	Sheen	118.92	118.92
B-187	Pismo Fm.	8/20/2001	151.00	38.59	Slight Sheen	112.41	112.41
B-187	Pismo Fm.	12/7/2001	151.00	37.07	Slight Sheen	113.93	113.93
B-187	Pismo Fm.	2/9/2002	151.00	23.94	NA	127.06	127.06
B-187	Pismo Fm.	5/28/2002	151.00	37.59	0.01	113.41	113.42
B-187	Pismo Fm.	8/26/2002	151.00	42.75	0.03	108.25	108.27
B-187	Pismo Fm.	11/12/2002	151.00	44.86	0.35	106.14	106.45
B-187	Pismo Fm.	3/10/2003	151.00	35.72	1.76	115.28	116.86
B-187	Pismo Fm.	6/9/2003	151.00	36.64	1.78	114.36	115.96
B-187	Pismo Fm.	8/18/2003	151.00	38.84	0.58	112.16	112.68
B-187	Pismo Fm.	11/10/2003	151.00	44.77	0.69	106.23	106.85
B-187	Pismo Fm.	2/23/2004	151.00	41.31	0.44	109.69	110.09
B-187	Pismo Fm.	5/17/2004	151.00	43.10	0.65	107.90	108.48
B-187	Pismo Fm.	8/9/2004	151.00	53.17	1.64	97.83	99.31
B-187	Pismo Fm.	12/6/2004	151.00	45.22	0.38	105.78	106.12
B-187	Pismo Fm.	3/7/2005	151.00	27.84	0.61	123.16	123.71
B-187	Pismo Fm.	6/23/2005	151.00	36.54	0.62	114.46	115.02
B-187	Pismo Fm.	9/26/2005	151.00	-	NA	NA	NA
B-187	Pismo Fm.	11/28/2005	151.00	47.14	0.51	103.86	104.32
B-187	Pismo Fm.	3/1/2006	151.00	-	NA	NA	NA
B-187	Pismo Fm.	6/6/2006	151.00	31.04	0.28	119.96	120.21
B-187	Pismo Fm.	11/20/2006	151.00	46.30	0.41	104.70	105.07

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B-187	Pismo Fm.	5/22/2007	151.00	43.04	0.18	107.96	108.12
B-187	Pismo Fm.	11/20/2007	151.00	58.28	0.96	92.72	93.58
B-187	Pismo Fm.	5/20/2008	151.00	42.85	0.25	108.15	108.38
B-187	Pismo Fm.	9/15/2008	151.00	-	NA	NA	NA
B-187	Pismo Fm.	11/17/2008	151.00	57.40	0.60	93.60	94.14
B-187	Pismo Fm.	5/4/2009	151.00	46.13	0.15	104.87	105.01
B-187	Pismo Fm.	11/16/2009	151.00	58.75	0.25	92.25	92.48
B-187	Pismo Fm.	4/26/2010	151.00	34.80	0.01	116.16	116.17
B-187	Pismo Fm.	11/15/2010	151.00	50.05	0.99	100.95	101.84
B-187	Pismo Fm.	5/2/2011	151.00	23.18	Sheen	127.82	127.82
B-187	Pismo Fm.	11/14/2011	151.00	45.83	0.47	105.17	105.59
B-187	Pismo Fm.	5/7/2012	151.00	35.63	1.41	116.78	118.05
B-187	Pismo Fm.	11/5/2012	151.00	49.16	0.7	102.54	103.17
B-189	Pismo Fm.	8/2/1999	115.06	13.61	Trace	101.45	101.45
B-189	Pismo Fm.	8/25/1999	115.06	14.28	Trace	100.78	100.78
B-189	Pismo Fm.	9/22/1999	115.06	15.86	Sheen	99.20	99.20
B-189	Pismo Fm.	11/4/1999	115.06	16.43	Sheen	98.63	98.63
B-189	Pismo Fm.	11/18/1999	115.06	18.03	Sheen	97.03	97.03
B-189	Pismo Fm.	12/23/1999	115.06	16.90	Sheen	98.16	98.16
B-189	Pismo Fm.	1/24/2000	115.06	17.41	Sheen	97.65	97.65
B-189	Pismo Fm.	2/22/2000	115.06	5.58	Sheen	109.48	109.48
B-189	Pismo Fm.	3/23/2000	115.06	6.03	Sheen	109.03	109.03
B-189	Pismo Fm.	4/29/2000	115.06	5.21	0.01	109.85	109.86
B-189	Pismo Fm.	5/22/2000	115.06	8.97	0.70	106.09	106.72
B-189	Pismo Fm.	6/22/2000	115.06	10.63	0.95	104.43	105.28
B-189	Pismo Fm.	7/20/2000	115.06	12.63	0.68	102.43	103.04
B-189	Pismo Fm.	8/28/2000	115.06	15.35	0.083	99.71	99.78
B-189	Pismo Fm.	9/26/2000	115.06	16.83	0.39	98.23	98.58
B-189	Pismo Fm.	10/31/2000	115.06	17.59	0.13	97.47	97.58
B-189	Pismo Fm.	11/27/2000	115.06	18.85	0.39	96.21	96.56
B-189	Pismo Fm.	2/19/2001	115.06	13.46	Heavy Trace	101.60	101.60
B-189	Pismo Fm.	5/2/2001	115.06	11.67	0.42	103.39	103.76
B-189	Pismo Fm.	8/20/2001	115.06	17.10	0.01	97.96	97.97
B-189	Pismo Fm.	12/7/2001	115.06	14.26	0.34	100.80	101.10
B-189	Pismo Fm.	2/9/2002	115.06	8.79	1.83	106.27	107.91
B-189	Pismo Fm.	5/28/2002	115.06	12.33	0.62	102.73	103.28
B-189	Pismo Fm.	8/26/2002	115.06	19.84	0.54	95.22	95.70
B-189	Pismo Fm.	11/12/2002	115.06	19.86	0.23	95.20	95.40
B-189	Pismo Fm.	3/10/2003	115.06	15.06	0.01	100.00	100.01
B-189	Pismo Fm.	6/9/2003	115.06	15.42	0.01	99.64	99.60
B-189	Pismo Fm.	8/18/2003	115.06	18.46	0.74	96.60	97.26
B-189	Pismo Fm.	11/10/2003	115.06	21.24	0.73	93.82	94.43
B-189	Pismo Fm.	2/23/2004	115.06	15.14	0.49	99.92	100.36
B-189	Pismo Fm.	5/17/2004	115.06	18.59	0.69	96.47	97.09
B-189	Pismo Fm.	8/9/2004	115.06	22.70	0.94	92.36	93.21
B-189	Pismo Fm.	12/6/2004	115.06	21.03	0.28	94.03	94.28

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B-189	Pismo Fm.	3/7/2005	115.06	3.87	Trace	111.19	111.19
B-189	Pismo Fm.	6/23/2005	115.06	12.40	1.29	102.66	103.82
B-189	Pismo Fm.	9/26/2005	115.06	-	NA	NA	NA
B-189	Pismo Fm.	11/28/2005	115.06	21.15	0.46	93.91	94.32
B-189	Pismo Fm.	6/6/2006	115.06	8.18	1.36	106.88	108.10
B-189	Pismo Fm.	11/20/2006	115.06	20.55	0.36	94.51	94.83
B-189	Pismo Fm.	5/21/2007	115.06	18.10	0.31	96.96	97.24
B-189	Pismo Fm.	11/20/2007	115.06	25.97	0.54	89.09	89.58
B-189	Pismo Fm.	5/19/2008	115.06	17.20	Sheen	97.86	97.86
B-189	Pismo Fm.	9/15/2008	115.06	-	NA	NA	NA
B-189	Pismo Fm.	11/17/2008	115.06	25.74	0.09	89.32	89.40
B-189	Pismo Fm.	5/4/2009	115.06	19.96	0.01	95.10	95.11
B-189	Pismo Fm.	11/16/2009	115.06	27.26	0.01	87.80	87.81
B-189	Pismo Fm.	4/26/2010	115.06	9.56	0.01	105.50	105.51
B-189	Pismo Fm.	11/15/2010	115.06	21.26	Sheen	93.80	93.80
B-189	Pismo Fm.	5/2/2011	115.06	7.32	Sheen	107.74	107.74
B-189	Pismo Fm.	11/14/2011	115.06	18.88	0.01	96.18	96.19
B-189	Pismo Fm.	5/7/2012	115.06	10.53	Sheen	104.53	104.53
B-189	Pismo Fm.	11/5/2012	115.06	21.87	0.01	93.20	93.21
B-190	Obispo Fm.	8/2/1999	80.27	36.13	NA	44.14	44.14
B-190	Obispo Fm.	8/25/1999	80.27	44.16	NA	36.11	36.11
B-190	Obispo Fm.	9/22/1999	80.27	41.63	NA	38.64	38.64
B-190	Obispo Fm.	11/4/1999	80.27	43.07	NA	37.20	37.20
B-190	Obispo Fm.	11/18/1999	80.27	42.47	NA	37.80	37.80
B-190	Obispo Fm.	12/23/1999	80.27	43.53	NA	36.74	36.74
B-190	Obispo Fm.	1/24/2000	80.27	41.30	NA	38.97	38.97
B-190	Obispo Fm.	2/22/2000	80.27	40.03	NA	40.24	40.24
B-190	Obispo Fm.	3/23/2000	80.27	41.62	NA	38.65	38.65
B-190	Obispo Fm.	4/29/2000	80.27	42.18	NA	38.09	38.09
B-190	Obispo Fm.	5/22/2000	80.27	43.98	NA	36.29	36.29
B-190	Obispo Fm.	6/22/2000	80.27	44.86	NA	35.41	35.41
B-190	Obispo Fm.	7/20/2000	80.27	46.32	NA	33.95	33.95
B-190	Obispo Fm.	8/28/2000	80.27	48.02	NA	32.25	32.25
B-190	Obispo Fm.	9/26/2000	80.27	48.05	NA	32.22	32.22
B-190	Obispo Fm.	10/31/2000	80.27	46.70	NA	33.57	33.57
B-190	Obispo Fm.	11/27/2000	80.27	44.55	NA	35.72	35.72
B-190	Obispo Fm.	2/19/2001	80.27	43.45	NA	36.82	36.82
B-190	Obispo Fm.	5/2/2001	80.27	42.23	NA	38.04	38.04
B-190	Obispo Fm.	8/20/2001	80.27	47.90	NA	32.37	32.37
B-190	Obispo Fm.	12/7/2001	80.27	43.23	NA	37.04	37.04
B-190	Obispo Fm.	2/9/2002	80.27	43.32	NA	36.95	36.95
B-190	Obispo Fm.	5/28/2002	80.27	44.51	NA	35.76	35.76
B-190	Obispo Fm.	8/26/2002	80.27	40.93	NA	39.34	39.34
B-190	Obispo Fm.	11/12/2002	80.27	43.58	NA	36.69	36.69
B-190	Obispo Fm.	3/10/2003	80.27	42.24	NA	38.03	38.03
B-190	Obispo Fm.	3/1/2006	80.27	48.74	NA	31.53	31.53

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B-190	Obispo Fm.	6/9/2003	80.27	42.79	NA	37.48	37.48
B-190	Obispo Fm.	8/18/2003	80.27	47.28	NA	32.99	32.99
B-190	Obispo Fm.	11/10/2003	80.27	47.72	NA	32.55	32.55
B-190	Obispo Fm.	2/23/2004	80.27	46.89	NA	33.38	33.38
B-190	Obispo Fm.	5/17/2004	80.27	50.03	NA	30.24	30.24
B-190	Obispo Fm.	8/9/2004	80.27	50.58	NA	29.69	29.69
B-190	Obispo Fm.	12/6/2004	80.27	48.20	NA	32.07	32.07
B-190	Obispo Fm.	3/7/2005	80.27	46.92	NA	33.35	33.35
B-190	Obispo Fm.	6/14/2005	80.27	49.40	NA	30.87	30.87
B-190	Obispo Fm.	9/26/2005	80.27	50.74	NA	29.53	29.53
B-190	Obispo Fm.	11/28/2005	80.27	48.72	NA	31.55	31.55
B-190	Obispo Fm.	3/1/2006	80.27	48.74	NA	31.53	31.53
B-190	Obispo Fm.	6/6/2006	80.27	47.97	NA	32.30	32.30
B-190	Obispo Fm.	9/12/2006	80.27	51.52	NA	28.75	28.75
B-190	Obispo Fm.	11/21/2006	80.27	51.29	NA	28.98	28.98
B-190	Obispo Fm.	3/21/2007	80.27	48.60	NA	31.67	31.67
B-190	Obispo Fm.	5/21/2007	80.27	48.35	NA	31.92	31.92
B-190	Obispo Fm.	9/18/2007	80.27	50.90	NA	29.37	29.37
B-190	Obispo Fm.	11/19/2007	80.27	51.20	NA	29.07	29.07
B-190	Obispo Fm.	3/19/2008	80.27	48.65	NA	31.62	31.62
B-190	Obispo Fm.	5/19/2008	80.27	51.10	NA	29.17	29.17
B-190	Obispo Fm.	9/15/2008	80.27	51.67	NA	28.60	28.60
B-190	Obispo Fm.	11/17/2008	80.27	49.86	NA	30.41	30.41
B-190	Obispo Fm.	2/24/2009	80.27	49.17	NA	31.10	31.10
B-190	Obispo Fm.	5/4/2009	80.27	50.30	NA	29.97	29.97
B-190	Obispo Fm.	9/23/2009	80.27	51.80	NA	28.47	28.47
B-190	Obispo Fm.	11/16/2009	80.27	49.36	NA	30.91	30.91
B-190	Obispo Fm.	2/25/2010	80.27	48.83	NA	31.44	31.44
B-190	Obispo Fm.	4/26/2010	80.27	48.55	NA	31.72	31.72
B-190	Obispo Fm.	9/16/2010	80.27	51.65	NA	28.62	28.62
B-190	Obispo Fm.	11/15/2010	80.27	49.18	NA	31.09	31.09
B-190	Obispo Fm.	2/17/2011	80.27	48.86	NA	31.41	31.41
B-190	Obispo Fm.	5/2/2011	80.27	47.84	NA	32.43	32.43
B-190	Obispo Fm.	9/20/2011	80.27	51.31	NA	28.96	28.96
B-190	Obispo Fm.	11/14/2011	80.27	49.30	NA	30.97	30.97
B-190	Obispo Fm.	2/15/2012	80.27	48.20	NA	32.07	32.07
B-190	Obispo Fm.	5/7/2012	80.27	47.39	NA	32.88	32.88
B-190	Obispo Fm.	9/17/2012	80.27	51.06	NA	29.21	29.21
B-190	Obispo Fm.	11/5/2012	80.27	51.46	NA	28.81	28.81
B-191	Obispo Fm.	8/2/1999	101.79	54.94	NA	46.85	46.85
B-191	Obispo Fm.	8/25/1999	101.79	55.83	NA	45.96	45.96
B-191	Obispo Fm.	9/22/1999	101.79	56.32	NA	45.47	45.47
B-191	Obispo Fm.	11/4/1999	101.79	56.86	NA	44.93	44.93
B-191	Obispo Fm.	11/18/1999	101.79	56.48	NA	45.31	45.31
B-191	Obispo Fm.	12/23/1999	101.79	57.14	NA	44.65	44.65
B-191	Obispo Fm.	1/24/2000	101.79	54.56	NA	47.23	47.23

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B-191	Obispo Fm.	2/22/2000	101.79	56.13	NA	45.66	45.66
B-191	Obispo Fm.	3/23/2000	101.79	56.39	NA	45.40	45.40
B-191	Obispo Fm.	4/29/2000	101.79	56.11	NA	45.68	45.68
B-191	Obispo Fm.	5/22/2000	101.79	56.17	NA	45.62	45.62
B-191	Obispo Fm.	6/22/2000	101.79	56.49	NA	45.30	45.30
B-191	Obispo Fm.	7/20/2000	101.79	56.73	NA	45.06	45.06
B-191	Obispo Fm.	8/28/2000	101.79	56.58	NA	45.21	45.21
B-191	Obispo Fm.	9/26/2000	101.79	56.84	NA	44.95	44.95
B-191	Obispo Fm.	10/31/2000	101.79	58.04	NA	43.75	43.75
B-191	Obispo Fm.	11/27/2000	101.79	57.57	NA	44.22	44.22
B-191	Obispo Fm.	2/19/2001	101.79	57.71	NA	44.08	44.08
B-191	Obispo Fm.	5/2/2001	101.79	57.33	NA	44.46	44.46
B-191	Obispo Fm.	8/20/2001	101.79	57.74	NA	44.05	44.05
B-191	Obispo Fm.	12/7/2001	101.79	58.18	NA	43.61	43.61
B-191	Obispo Fm.	2/9/2002	101.79	57.85	NA	43.94	43.94
B-191	Obispo Fm.	5/28/2002	101.79	59.47	NA	44.12	44.12
B-191	Obispo Fm.	8/26/2002	101.79	57.71	NA	44.08	44.08
B-191	Obispo Fm.	11/12/2002	101.79	58.15	NA	43.64	43.64
B-191	Obispo Fm.	3/10/2003	101.79	58.16	NA	43.63	43.63
B-191	Obispo Fm.	6/9/2003	101.79	59.49	NA	42.30	42.30
B-191	Obispo Fm.	8/18/2003	101.79	59.71	NA	42.08	42.08
B-191	Obispo Fm.	11/10/2003	101.79	60.22	NA	41.57	41.57
B-191	Obispo Fm.	2/23/2004	101.79	63.28	NA	38.51	38.51
B-191	Obispo Fm.	5/17/2004	101.79	64.44	NA	37.35	37.35
B-191	Obispo Fm.	8/9/2004	101.79	64.53	NA	37.26	37.26
B-191	Obispo Fm.	12/6/2004	101.79	64.77	NA	37.02	37.02
B-191	Obispo Fm.	3/7/2005	101.79	64.28	NA	37.51	37.51
B-191	Obispo Fm.	6/14/2005	101.79	63.63	NA	38.16	38.16
B-191	Obispo Fm.	9/26/2005	101.79	-	NA	NA	NA
B-191	Obispo Fm.	11/28/2005	101.79	64.20	NA	37.59	37.59
B-191	Obispo Fm.	3/1/2006	101.79	-	NA	NA	NA
B-191	Obispo Fm.	6/6/2006	101.79	63.49	NA	38.30	38.30
B-191	Obispo Fm.	11/21/2006	101.79	63.62	NA	38.17	38.17
B-191	Obispo Fm.	5/21/2007	101.79	63.72	Sheen*	38.07	38.07
B-191	Obispo Fm.	11/20/2007	101.79	54.1	NA	47.69	47.69
B-191	Obispo Fm.	5/19/2008	101.79	63.94	NA	37.85	37.85
B-191	Obispo Fm.	9/15/2008	101.79	-	NA	NA	NA
B-191	Obispo Fm.	11/17/2008	101.79	63.94	NA	37.85	37.85
B-191	Obispo Fm.	5/4/2009	101.79	63.96	NA	37.83	37.83
B-191	Obispo Fm.	11/16/2009	101.79	64.12	NA	37.67	37.67
B-191	Obispo Fm.	4/26/2010	101.79	63.77	NA	38.02	38.02
B-191	Obispo Fm.	11/15/2010	101.79	63.53	NA	38.26	38.26
B-191	Obispo Fm.	5/2/2011	101.79	63.13	NA	38.66	38.66
B-191	Obispo Fm.	11/14/2011	101.79	62.85	NA	38.94	38.94
B-191	Obispo Fm.	5/7/2012	101.79	62.98	NA	38.81	38.81
B-191	Obispo Fm.	11/5/2012	101.79	62.77	NA	39.02	39.02

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B-192	Pismo Fm.	8/2/1999	122.05	40.75	NA	81.30	81.30
B-192	Pismo Fm.	8/25/1999	122.05	41.38	NA	80.67	80.67
B-192	Pismo Fm.	9/22/1999	122.05	42.11	NA	79.94	79.94
B-192	Pismo Fm.	11/4/1999	122.05	42.93	NA	79.12	79.12
B-192	Pismo Fm.	11/18/1999	122.05	43.41	NA	78.64	78.64
B-192	Pismo Fm.	12/23/1999	122.05	43.28	NA	78.77	78.77
B-192	Pismo Fm.	1/24/2000	122.05	44.10	NA	77.95	77.95
B-192	Pismo Fm.	2/22/2000	122.05	37.01	NA	85.04	85.04
B-192	Pismo Fm.	3/23/2000	122.05	32.53	NA	89.52	89.52
B-192	Pismo Fm.	4/29/2000	122.05	33.80	NA	88.25	88.25
B-192	Pismo Fm.	5/22/2000	122.05	35.59	NA	86.46	86.46
B-192	Pismo Fm.	6/22/2000	122.05	36.77	NA	85.28	85.28
B-192	Pismo Fm.	7/20/2000	122.05	40.54	NA	81.51	81.51
B-192	Pismo Fm.	8/28/2000	122.05	41.81	NA	80.24	80.24
B-192	Pismo Fm.	9/26/2000	122.05	42.58	NA	79.47	79.47
B-192	Pismo Fm.	10/31/2000	122.05	43.31	NA	78.74	78.74
B-192	Pismo Fm.	11/27/2000	122.05	43.93	NA	78.12	78.12
B-192	Pismo Fm.	2/19/2001	122.05	39.76	NA	82.29	82.29
B-192	Pismo Fm.	5/2/2001	122.05	37.66	NA	84.39	84.39
B-192	Pismo Fm.	8/20/2001	122.05	42.77	NA	79.28	79.28
B-192	Pismo Fm.	12/7/2001	122.05	42.79	NA	79.26	79.26
B-192	Pismo Fm.	2/9/2002	122.05	38.90	NA	83.15	83.15
B-192	Pismo Fm.	5/28/2002	122.05	42.12	NA	79.93	79.93
B-192	Pismo Fm.	8/26/2002	122.05	44.48	NA	77.57	77.57
B-192	Pismo Fm.	11/12/2002	122.05	44.83	NA	77.22	77.22
B-192	Pismo Fm.	3/10/2003	122.05	43.09	NA	78.96	78.96
B-192	Pismo Fm.	6/9/2003	122.05	42.42	NA	79.63	79.63
B-192	Pismo Fm.	8/18/2003	122.05	44.25	NA	77.80	77.80
B-192	Pismo Fm.	11/10/2003	122.05	45.64	NA	76.41	76.41
B-192	Pismo Fm.	2/23/2004	122.05	43.57	NA	78.48	78.48
B-192	Pismo Fm.	5/17/2004	122.05	43.46	NA	78.59	78.59
B-192	Pismo Fm.	8/9/2004	122.05	45.62	NA	76.43	76.43
B-192	Pismo Fm.	12/6/2004	122.05	45.89	NA	76.16	76.16
B-192	Pismo Fm.	3/7/2005	122.05	31.67	NA	90.38	90.38
B-192	Pismo Fm.	6/14/2005	122.05	36.24	NA	85.81	85.81
B-192	Pismo Fm.	9/26/2005	122.05	-	NA	NA	NA
B-192	Pismo Fm.	11/28/2005	122.05	44.07	NA	77.98	77.98
B-192	Pismo Fm.	3/1/2006	122.05	-	NA	NA	NA
B-192	Pismo Fm.	6/6/2006	122.05	35.30	NA	86.75	86.75
B-192	Pismo Fm.	11/20/2006	122.05	43.64	NA	78.41	78.41
B-192	Pismo Fm.	5/21/2007	122.05	44.90	NA	77.15	77.15
B-192	Pismo Fm.	11/19/2007	122.05	47.40	NA	74.65	74.65
B-192	Pismo Fm.	5/19/2008	122.05	43.27	NA	78.78	78.78
B-192	Pismo Fm.	9/15/2008	122.05	-	NA	NA	NA
B-192	Pismo Fm.	11/17/2008	122.05	47.55	NA	74.50	74.50
B-192	Pismo Fm.	5/4/2009	122.05	45.45	NA	76.60	76.60
B-192	Pismo Fm.	11/16/2009	122.05	48.76	NA	73.29	73.29

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B-192	Pismo Fm.	4/26/2010	122.05	37.57	NA	84.48	84.48
B-192	Pismo Fm.	11/15/2010	122.05	44.97	NA	77.08	77.08
B-192	Pismo Fm.	5/2/2011	122.05	34.12	NA	87.93	87.93
B-192	Pismo Fm.	11/14/2011	122.05	43.24	NA	78.81	78.81
B-192	Pismo Fm.	5/7/2012	122.05	40.60	NA	81.45	81.45
B-192	Pismo Fm.	11/5/2012	122.05	45.14	NA	76.91	76.91
B-193	Pismo Fm.	8/2/1999	126.76	68.31	NA	58.45	58.45
B-193	Pismo Fm.	8/25/1999	126.76	68.73	NA	58.03	58.03
B-193	Pismo Fm.	9/22/1999	126.76	69.35	NA	57.41	57.41
B-193	Pismo Fm.	11/4/1999	126.76	70.04	NA	56.72	56.72
B-193	Pismo Fm.	11/18/1999	126.76	70.67	NA	56.09	56.09
B-193	Pismo Fm.	12/23/1999	126.76	70.47	NA	56.29	56.29
B-193	Pismo Fm.	1/24/2000	126.76	71.64	NA	55.12	55.12
B-193	Pismo Fm.	2/22/2000	126.76	69.29	NA	57.47	57.47
B-193	Pismo Fm.	3/23/2000	126.76	67.24	NA	59.52	59.52
B-193	Pismo Fm.	4/29/2000	126.76	67.77	NA	58.99	58.99
B-193	Pismo Fm.	5/22/2000	126.76	67.86	NA	58.90	58.90
B-193	Pismo Fm.	6/22/2000	126.76	68.76	NA	58.00	58.00
B-193	Pismo Fm.	7/20/2000	126.76	69.51	NA	57.25	57.25
B-193	Pismo Fm.	8/28/2000	126.76	70.28	NA	56.48	56.48
B-193	Pismo Fm.	9/26/2000	126.76	70.92	NA	55.84	55.84
B-193	Pismo Fm.	10/31/2000	126.76	71.68	NA	55.08	55.08
B-193	Pismo Fm.	11/27/2000	126.76	72.15	NA	54.61	54.61
B-193	Pismo Fm.	2/19/2001	126.76	71.89	NA	54.87	54.87
B-193	Pismo Fm.	5/2/2001	126.76	69.66	NA	57.10	57.10
B-193	Pismo Fm.	8/20/2001	126.76	72.08	NA	54.68	54.68
B-193	Pismo Fm.	12/7/2001	126.76	73.23	NA	53.53	53.53
B-193	Pismo Fm.	2/9/2002	126.76	73.22	NA	53.54	53.54
B-193	Pismo Fm.	5/28/2002	126.76	74.36	NA	52.40	52.40
B-193	Pismo Fm.	8/26/2002	126.76	75.21	NA	51.55	51.55
B-193	Pismo Fm.	11/12/2002	126.76	76.28	NA	50.48	50.48
B-193	Pismo Fm.	3/10/2003	126.76	76.54	NA	50.22	50.22
B-193	Pismo Fm.	6/9/2003	126.76	76.58	NA	50.18	50.18
B-193	Pismo Fm.	8/18/2003	126.76	77.01	NA	49.75	49.75
B-193	Pismo Fm.	11/10/2003	126.76	77.89	NA	48.87	48.87
B-193	Pismo Fm.	2/23/2004	126.76	77.51	NA	49.25	49.25
B-193	Pismo Fm.	5/17/2004	126.76	77.01	NA	49.75	49.75
B-193	Pismo Fm.	8/9/2004	126.76	77.78	NA	48.98	48.98
B-193	Pismo Fm.	12/6/2004	126.76	78.15	NA	48.61	48.61
B-193	Pismo Fm.	3/7/2005	126.76	72.51	NA	54.25	54.25
B-193	Pismo Fm.	6/15/2005	126.76	71.67	NA	55.09	55.09
B-193	Pismo Fm.	9/26/2005	126.76	-	NA	NA	NA
B-193	Pismo Fm.	11/28/2005	126.76	73.28	NA	53.48	53.48
B-193	Pismo Fm.	3/1/2006	126.76	-	NA	NA	NA
B-193	Pismo Fm.	6/6/2006	126.76	69.20	NA	57.56	57.56
B-193	Pismo Fm.	11/20/2006	126.76	71.93	NA	54.83	54.83

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B-193	Pismo Fm.	5/21/2007	126.76	73.03	NA	53.73	53.73
B-193	Pismo Fm.	11/19/2007	126.76	75.82	NA	50.94	50.94
B-193	Pismo Fm.	5/19/2008	126.76	75.09	NA	51.67	51.67
B-193	Pismo Fm.	9/15/2008	126.76	-	NA	NA	NA
B-193	Pismo Fm.	11/17/2008	126.76	77.18	NA	49.58	49.58
B-193	Pismo Fm.	5/4/2009	126.76	77.88	NA	48.88	48.88
B-193	Pismo Fm.	11/16/2009	126.76	80.27	NA	46.49	46.49
B-193	Pismo Fm.	4/26/2010	126.76	74.94	NA	51.82	51.82
B-193	Pismo Fm.	11/15/2010	126.76	77.01	NA	49.75	49.75
B-193	Pismo Fm.	5/2/2011	126.76	67.98	NA	58.78	58.78
B-193	Pismo Fm.	11/14/2011	126.76	71.71	NA	55.05	55.05
B-193	Pismo Fm.	5/7/2012	126.76	72.37	NA	54.39	54.39
B-193	Pismo Fm.	11/5/2012	126.76	74.92	NA	51.84	51.84
B-194	Pismo Fm.	8/2/1999	186.32	79.85	NA	106.47	106.47
B-194	Pismo Fm.	8/25/1999	186.32	81.56	NA	104.76	104.76
B-194	Pismo Fm.	9/22/1999	186.32	83.24	NA	103.08	103.08
B-194	Pismo Fm.	11/4/1999	186.32	84.51	NA	101.81	101.81
B-194	Pismo Fm.	11/18/1999	186.32	86.43	NA	99.89	99.89
B-194	Pismo Fm.	12/23/1999	186.32	85.03	NA	101.29	101.29
B-194	Pismo Fm.	1/24/2000	186.32	88.22	NA	98.10	98.10
B-194	Pismo Fm.	2/22/2000	186.32	84.51	NA	101.81	101.81
B-194	Pismo Fm.	3/23/2000	186.32	74.35	NA	111.97	111.97
B-194	Pismo Fm.	4/29/2000	186.32	73.74	NA	112.58	112.58
B-194	Pismo Fm.	5/22/2000	186.32	73.49	NA	112.83	112.83
B-194	Pismo Fm.	6/22/2000	186.32	73.30	NA	113.02	113.02
B-194	Pismo Fm.	7/20/2000	186.32	76.68	NA	109.64	109.64
B-194	Pismo Fm.	8/28/2000	186.32	80.06	NA	106.26	106.26
B-194	Pismo Fm.	9/26/2000	186.32	82.56	NA	103.76	103.76
B-194	Pismo Fm.	10/31/2000	186.32	83.16	NA	103.16	103.16
B-194	Pismo Fm.	11/27/2000	186.32	86.35	NA	99.97	99.97
B-194	Pismo Fm.	2/19/2001	186.32	83.02	NA	103.30	103.30
B-194	Pismo Fm.	5/2/2001	186.32	75.20	NA	111.12	111.12
B-194	Pismo Fm.	8/20/2001	186.32	82.88	NA	103.44	103.44
B-194	Pismo Fm.	12/7/2001	186.32	87.73	NA	98.59	98.59
B-194	Pismo Fm.	2/9/2002	186.32	75.61	NA	110.71	110.71
B-194	Pismo Fm.	5/28/2002	186.32	80.58	NA	105.74	105.74
B-194	Pismo Fm.	8/26/2002	186.32	86.65	NA	99.67	99.67
B-194	Pismo Fm.	11/12/2002	186.32	91.75	NA	94.57	94.57
B-194	Pismo Fm.	3/10/2003	186.32	84.44	NA	101.88	101.88
B-194	Pismo Fm.	6/9/2003	186.32	80.73	NA	105.59	105.59
B-194	Pismo Fm.	8/18/2003	186.32	84.62	NA	101.70	101.70
B-194	Pismo Fm.	11/10/2003	186.32	90.87	NA	95.45	95.45
B-194	Pismo Fm.	2/23/2004	186.32	95.03	NA	91.29	91.29
B-194	Pismo Fm.	5/17/2004	186.32	89.00	NA	97.32	97.32
B-194	Pismo Fm.	8/9/2004	186.32	Dry	NA	NA	NA
B-194	Pismo Fm.	12/6/2004	186.32	Dry	NA	NA	NA

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B-194	Pismo Fm.	3/7/2005	186.32	76.90	NA	109.42	109.42
B-194	Pismo Fm.	6/15/2005	186.32	79.19	NA	107.13	107.13
B-194	Pismo Fm.	9/26/2005	186.32	-	NA	NA	NA
B-194	Pismo Fm.	11/28/2005	186.32	91.76	NA	94.56	94.56
B-194	Pismo Fm.	3/1/2006	186.32	-	NA	NA	NA
B-194	Pismo Fm.	6/6/2006	186.32	75.19	NA	111.13	111.13
B-194	Pismo Fm.	11/20/2006	186.32	90.20	NA	96.12	96.12
B-194	Pismo Fm.	5/21/2007	186.32	88.52	NA	97.80	97.80
B-194	Pismo Fm.	11/19/2007	186.32	100.55	NA	85.77	85.77
B-194	Pismo Fm.	5/19/2008	186.32	86.75	NA	99.57	99.57
B-194	Pismo Fm.	9/15/2008	186.32	-	NA	NA	NA
B-194	Pismo Fm.	11/17/2008	186.32	100.15	NA	86.17	86.17
B-194	Pismo Fm.	5/4/2009	186.32	91.24	NA	95.08	95.08
B-194	Pismo Fm.	11/16/2009	186.32	101.47	NA	84.85	84.85
B-194	Pismo Fm.	4/26/2010	186.32	78.29	NA	108.03	108.03
B-194	Pismo Fm.	11/15/2010	186.32	94.03	NA	92.29	92.29
B-194	Pismo Fm.	5/2/2011	186.32	72.59	NA	113.73	113.73
B-194	Pismo Fm.	11/14/2011	186.32	88.43	NA	97.89	97.89
B-194	Pismo Fm.	5/7/2012	186.32	78.90	NA	107.42	107.42
B-194	Pismo Fm.	11/5/2012	186.32	92.89	NA	93.43	93.43
B-195	Pismo Fm.	8/2/1999	151.87	31.26	Sheen	120.61	120.61
B-195	Pismo Fm.	8/25/1999	151.87	33.11	Sheen	118.76	118.76
B-195	Pismo Fm.	9/22/1999	151.87	39.72	Sheen	112.15	112.15
B-195	Pismo Fm.	11/4/1999	151.87	40.95	Sheen	110.92	110.92
B-195	Pismo Fm.	11/18/1999	151.87	39.15	Sheen	112.72	112.72
B-195	Pismo Fm.	12/23/1999	151.87	41.35	Sheen	110.52	110.52
B-195	Pismo Fm.	1/24/2000	151.87	35.91	Sheen	115.96	115.96
B-195	Pismo Fm.	2/22/2000	151.87	15.64	Sheen	136.23	136.23
B-195	Pismo Fm.	3/23/2000	151.87	25.02	Sheen	126.85	126.85
B-195	Pismo Fm.	4/29/2000	151.87	27.08	Sheen	124.79	124.79
B-195	Pismo Fm.	5/22/2000	151.87	29.30	Sheen	122.57	122.57
B-195	Pismo Fm.	6/22/2000	151.87	30.43	Sheen	121.44	121.44
B-195	Pismo Fm.	7/20/2000	151.87	36.84	Sheen	115.03	115.03
B-195	Pismo Fm.	8/28/2000	151.87	44.30	Sheen	107.57	107.57
B-195	Pismo Fm.	9/26/2000	151.87	44.17	Trace	107.70	107.70
B-195	Pismo Fm.	10/31/2000	151.87	47.14	Trace	104.73	104.73
B-195	Pismo Fm.	11/27/2000	151.87	45.80	Sheen	106.07	106.07
B-195	Pismo Fm.	2/19/2001	151.87	21.59	Sheen	130.28	130.28
B-195	Pismo Fm.	5/2/2001	151.87	34.35	Slight Sheen	117.52	117.52
B-195	Pismo Fm.	8/20/2001	151.87	47.22	Slight Sheen	104.65	104.65
B-195	Pismo Fm.	12/7/2001	151.87	24.99	Slight Sheen	126.88	126.88
B-195	Pismo Fm.	2/9/2002	151.87	17.97	NA	133.90	133.90
B-195	Pismo Fm.	5/28/2002	151.87	44.53	NA	107.34	107.34
B-195	Pismo Fm.	8/26/2002	151.87	49.95	Sheen	101.92	101.92
B-195	Pismo Fm.	11/12/2002	151.87	36.14	NA	115.73	115.73
B-195	Pismo Fm.	3/10/2003	151.87	29.89	NA	121.98	121.98

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B-195	Pismo Fm.	8/18/2003	151.87	47.79	NA	104.08	104.08
B-195	Pismo Fm.	11/10/2003	151.87	50.69	NA	101.18	101.18
B-195	Pismo Fm.	2/23/2004	151.87	29.97	NA	121.90	121.90
B-195	Pismo Fm.	5/17/2004	151.87	49.10	NA	102.77	102.77
B-195	Pismo Fm.	8/9/2004	151.87	50.88	NA	100.99	100.99
B-195	Pismo Fm.	12/6/2004	151.87	43.43	NA	108.44	108.44
B-195	Pismo Fm.	3/7/2005	151.87	22.56	NA	129.31	129.31
B-195	Pismo Fm.	6/20/2005	151.87	41.29	NA	110.58	110.58
B-195	Pismo Fm.	9/26/2005	151.87	-	NA	NA	NA
B-195	Pismo Fm.	11/28/2005	151.87	51.86	NA	100.01	100.01
B-195	Pismo Fm.	3/1/2006	151.87	-	NA	NA	NA
B-195	Pismo Fm.	6/6/2006	151.87	28.16	NA	123.71	123.71
B-195	Pismo Fm.	11/20/2006	151.87	51.06	NA	100.81	100.81
B-195	Pismo Fm.	5/21/2007	151.87	47.35	NA	104.52	104.52
B-195	Pismo Fm.	11/19/2007	151.87	56.04	NA	95.83	95.83
B-195	Pismo Fm.	5/19/2005	151.87	49.2	NA	102.67	102.67
B-195	Pismo Fm.	9/15/2008	151.87	-	NA	NA	NA
B-195	Pismo Fm.	11/17/2008	151.87	55.94	NA	95.93	95.93
B-195	Pismo Fm.	5/4/2009	151.87	50.69	NA	101.18	101.18
B-195	Pismo Fm.	11/16/2009	151.87	50.57	NA	101.30	101.30
B-195	Pismo Fm.	4/26/2010	151.87	31.76	NA	120.11	120.11
B-195	Pismo Fm.	11/15/2010	151.87	29.76	NA	122.11	122.11
B-195	Pismo Fm.	5/2/2011	151.87	36.13	NA	115.74	115.74
B-195	Pismo Fm.	11/14/2011	151.87	32.53	NA	119.34	119.34
B-195	Pismo Fm.	5/7/2012	151.87	31.41	NA	120.46	120.46
B-195	Pismo Fm.	11/5/2012	151.87	52.02	NA	99.85	99.85
B-196	Pismo Fm.	8/2/1999	194.58	71.60	NA	122.98	122.98
B-196	Pismo Fm.	8/25/1999	194.58	72.12	NA	122.46	122.46
B-196	Pismo Fm.	9/22/1999	194.58	72.97	NA	121.61	121.61
B-196	Pismo Fm.	11/4/1999	194.58	73.48	NA	121.10	121.10
B-196	Pismo Fm.	11/18/1999	194.58	74.73	NA	119.85	119.85
B-196	Pismo Fm.	12/23/1999	194.58	73.86	NA	120.72	120.72
B-196	Pismo Fm.	1/24/2000	194.58	75.84	NA	118.74	118.74
B-196	Pismo Fm.	2/22/2000	194.58	75.89	NA	118.69	118.69
B-196	Pismo Fm.	3/23/2000	194.58	74.43	NA	120.15	120.15
B-196	Pismo Fm.	4/29/2000	194.58	73.18	NA	121.40	121.40
B-196	Pismo Fm.	5/22/2000	194.58	72.58	NA	122.00	122.00
B-196	Pismo Fm.	6/22/2000	194.58	72.59	NA	121.99	121.99
B-196	Pismo Fm.	7/20/2000	194.58	72.76	NA	121.82	121.82
B-196	Pismo Fm.	8/28/2000	194.58	73.40	NA	121.18	121.18
B-196	Pismo Fm.	9/26/2000	194.58	76.03	NA	118.55	118.55
B-196	Pismo Fm.	10/31/2000	194.58	75.27	NA	119.31	119.31
B-196	Pismo Fm.	11/27/2000	194.58	75.81	NA	118.77	118.77
B-196	Pismo Fm.	2/19/2001	194.58	76.77	NA	117.81	117.81
B-196	Pismo Fm.	5/2/2001	194.58	73.57	NA	121.01	121.01
B-196	Pismo Fm.	8/20/2001	194.58	74.67	NA	119.91	119.91

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B-196	Pismo Fm.	12/7/2001	194.58	77.47	NA	117.11	117.11
B-196	Pismo Fm.	2/9/2002	194.58	75.87	NA	118.71	118.71
B-196	Pismo Fm.	5/28/2002	194.58	74.57	NA	120.01	120.01
B-196	Pismo Fm.	8/26/2002	194.58	76.32	NA	118.26	118.26
B-196	Pismo Fm.	11/12/2002	194.58	78.35	NA	116.23	116.23
B-196	Pismo Fm.	3/10/2003	194.58	76.70	NA	117.88	117.88
B-196	Pismo Fm.	6/9/2003	194.58	74.73	NA	119.85	119.85
B-196	Pismo Fm.	8/18/2003	194.58	75.26	NA	119.32	119.32
B-196	Pismo Fm.	11/10/2003	194.58	77.62	NA	116.96	116.96
B-196	Pismo Fm.	2/23/2004	194.58	81.55	NA	113.03	113.03
B-196	Pismo Fm.	5/17/2004	194.58	83.10	NA	111.48	111.48
B-196	Pismo Fm.	8/9/2004	194.58	82.20	NA	112.38	112.38
B-196	Pismo Fm.	12/6/2004	194.58	83.82	NA	110.76	110.76
B-196	Pismo Fm.	3/7/2005	194.58	76.08	NA	118.50	118.50
B-196	Pismo Fm.	6/14/2005	194.58	74.01	NA	120.57	120.57
B-196	Pismo Fm.	9/26/2005	194.58	-	NA	NA	NA
B-196	Pismo Fm.	11/28/2005	194.58	79.47	NA	115.11	115.11
B-196	Pismo Fm.	3/1/2006	194.58	-	NA	NA	NA
B-196	Pismo Fm.	6/6/2006	194.58	73.22	NA	121.36	121.36
B-196	Pismo Fm.	11/20/2006	194.58	77.85	NA	116.73	116.73
B-196	Pismo Fm.	5/21/2007	194.58	77.62	NA	116.96	116.96
B-196	Pismo Fm.	11/19/2007	194.58	82.15	NA	112.43	112.43
B-196	Pismo Fm.	5/19/2008	194.58	79.05	NA	115.53	115.53
B-196	Pismo Fm.	9/15/2008	194.58	-	NA	NA	NA
B-196	Pismo Fm.	11/17/2008	194.58	83.36	NA	111.22	111.22
B-196	Pismo Fm.	5/4/2009	194.58	81.32	NA	113.26	113.26
B-196	Pismo Fm.	11/16/2009	194.58	85.13	NA	109.45	109.45
B-196	Pismo Fm.	4/26/2010	194.58	77.45	NA	117.13	117.13
B-196	Pismo Fm.	11/15/2010	194.58	81.48	NA	113.10	113.10
B-196	Pismo Fm.	5/2/2011	194.58	72.76	NA	121.82	121.82
B-196	Pismo Fm.	11/14/2011	194.58	77.32	NA	117.26	117.26
B-196	Pismo Fm.	5/7/2012	194.58	76.35	NA	118.23	118.23
B-196	Pismo Fm.	11/5/2012	194.58	79.47	NA	115.11	115.11
B-197	Obispo Fm.	8/2/1999	224.93	182.98	NA	41.95	41.95
B-197	Obispo Fm.	8/25/1999	224.93	183.15	NA	41.78	41.78
B-197	Obispo Fm.	9/22/1999	224.93	183.53	Sheen	41.40	41.40
B-197	Obispo Fm.	11/4/1999	224.93	183.88	NA	41.05	41.05
B-197	Obispo Fm.	11/18/1999	224.93	184.44	Slight Sheen	40.49	40.49
B-197	Obispo Fm.	12/23/1999	224.93	184.05	NA	40.88	40.88
B-197	Obispo Fm.	1/24/2000	224.93	184.77	NA	40.16	40.16
B-197	Obispo Fm.	2/22/2000	224.93	185.07	Sheen	39.86	39.86
B-197	Obispo Fm.	3/23/2000	224.93	184.63	Trace	40.30	40.30
B-197	Obispo Fm.	4/29/2000	224.93	184.20	Trace	40.73	40.73
B-197	Obispo Fm.	5/22/2000	224.93	183.54	Sheen	41.39	41.39
B-197	Obispo Fm.	6/22/2000	224.93	183.65	Sheen	41.28	41.28
B-197	Obispo Fm.	7/20/2000	224.93	184.68	Sheen	40.25	40.25

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B-197	Obispo Fm.	8/28/2000	224.93	-	NA	NA	NA
B-197	Obispo Fm.	9/26/2000	224.93	-	NA	NA	NA
B-197	Obispo Fm.	10/31/2000	224.93	184.70	NA	40.23	40.23
B-197	Obispo Fm.	11/27/2000	224.93	184.82	Trace	40.11	40.11
B-197	Obispo Fm.	2/19/2001	224.93	185.38	Sheen	39.55	39.55
B-197	Obispo Fm.	5/2/2001	224.93	183.82	Slight Sheen	41.11	41.11
B-197	Obispo Fm.	8/20/2001	224.93	184.02	Slight Sheen	40.91	40.91
B-197	Obispo Fm.	12/7/2001	224.93	185.08	Slight Sheen	39.85	39.85
B-197	Obispo Fm.	2/9/2002	224.93	184.90	Sheen	40.03	40.03
B-197	Obispo Fm.	5/28/2002	224.93	184.62	Sheen	40.31	40.31
B-197	Obispo Fm.	8/26/2002	224.93	185.14	Trace	39.79	39.79
B-197	Obispo Fm.	11/12/2002	224.93	185.61	Sheen	39.32	39.32
B-197	Obispo Fm.	3/10/2003	224.93	185.67	Sheen	39.26	39.26
B-197	Obispo Fm.	6/9/2003	224.93	184.77	Sheen	40.16	40.16
B-197	Obispo Fm.	8/18/2003	224.93	185.51	Sheen	39.42	39.42
B-197	Obispo Fm.	11/10/2003	224.93	185.62	Sheen	39.31	39.31
B-197	Obispo Fm.	2/23/2004	224.93	190.15	Sheen	34.78	34.78
B-197	Obispo Fm.	5/17/2004	224.93	189.75	Sheen	35.18	35.18
B-197	Obispo Fm.	8/9/2004	224.93	190.70	Sheen	34.23	34.23
B-197	Obispo Fm.	12/6/2004	224.93	191.84	Sheen	33.09	33.09
B-197	Obispo Fm.	3/7/2005	224.93	189.90	NA	35.03	35.03
B-197	Obispo Fm.	6/14/2005	224.93	186.02	NA	38.91	38.91
B-197	Obispo Fm.	9/26/2005	224.93	-	NA	NA	NA
B-197	Obispo Fm.	11/28/2005	224.93	187.71	NA	37.22	37.22
B-197	Obispo Fm.	3/1/2006	224.93	-	NA	NA	NA
B-197	Obispo Fm.	6/6/2006	224.93	185.96	NA	38.97	38.97
B-197	Obispo Fm.	11/20/2006	224.93	187.09	NA	37.84	37.84
B-197	Obispo Fm.	5/21/2007	224.93	187.85	NA	37.08	37.08
B-197	Obispo Fm.	11/19/2007	224.93	189.18	NA	35.75	35.75
B-197	Obispo Fm.	5/19/2008	224.93	188.31	NA	36.62	36.62
B-197	Obispo Fm.	9/15/2008	224.93	-	NA	NA	NA
B-197	Obispo Fm.	11/17/2008	224.93	189.47	NA	35.46	35.46
B-197	Obispo Fm.	5/4/2009	224.93	190.26	NA	34.67	34.67
B-197	Obispo Fm.	11/16/2009	224.93	190.88	NA	34.05	34.05
B-197	Obispo Fm.	4/26/2010	224.93	187.35	NA	37.58	37.58
B-197	Obispo Fm.	11/15/2010	224.93	188.21	NA	36.72	36.72
B-197	Obispo Fm.	5/2/2011	224.93	184.20	NA	40.73	40.73
B-197	Obispo Fm.	11/14/2011	224.93	185.88	NA	39.05	39.05
B-197	Obispo Fm.	5/7/2012	224.93	186.72	NA	38.21	38.21
B-197	Obispo Fm.	11/5/2012	224.93	187.05	NA	37.88	37.88
							.
B-198	Obispo Fm.	5/2/2001	145.52	136.42	NA	9.10	9.10
B-198	Obispo Fm.	8/20/2001	145.52	136.36	NA	9.16	9.16
B-198	Obispo Fm.	12/7/2001	145.52	136.41	NA	9.11	9.11
B-198	Obispo Fm.	2/9/2002	145.52	136.51	NA	9.01	9.01
B-198	Obispo Fm.	5/28/2002	145.52	136.70	NA	8.82	8.82
B-198	Obispo Fm.	8/26/2002	145.52	136.41	NA	9.11	9.11

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B-199	Obispo Fm.	5/2/2001	136.54	109.10	NA	27.44	27.44
B-199	Obispo Fm.	8/20/2001	136.54	99.06	NA	37.48	37.48
B-199	Obispo Fm.	12/7/2001	136.54	78.62	NA	57.92	57.92
B-199	Obispo Fm.	2/9/2002	136.54	94.27	NA	42.27	42.27
B-199	Obispo Fm.	8/26/2002	136.54	85.85	NA	50.69	50.69
B-200	Obispo Fm.	5/2/2001	118.42	28.04	NA	90.38	90.38
B-200	Obispo Fm.	8/20/2001	118.42	30.03	NA	88.39	88.39
B-200	Obispo Fm.	12/7/2001	118.42	27.41	NA	91.01	91.01
B-200	Obispo Fm.	2/9/2002	118.42	29.95	NA	88.47	88.47
B-200	Obispo Fm.	5/28/2002	118.42	30.44	NA	87.98	87.98
B-200	Obispo Fm.	8/26/2002	118.42	32.08	NA	86.34	86.34
B-200	Obispo Fm.	11/12/2002	118.42	32.69	NA	85.73	85.73
B-200	Obispo Fm.	3/10/2003	118.42	32.19	NA	86.23	86.23
B-200	Obispo Fm.	6/9/2003	118.42	31.33	NA	87.09	87.09
B-200	Obispo Fm.	8/18/2003	118.42	32.33	NA	86.09	86.09
B-200	Obispo Fm.	11/10/2003	118.42	34.20	NA	84.22	84.22
B-200	Obispo Fm.	2/23/2004	118.42	32.40	NA	86.02	86.02
B-200	Obispo Fm.	5/17/2004	118.42	36.71	NA	81.71	81.71
B-200	Obispo Fm.	8/9/2004	118.42	Dry	NA	NA	NA
B-200	Obispo Fm.	12/6/2004	118.42	Dry	NA	NA	NA
B-200	Obispo Fm.	3/7/2005	118.42	31.19	NA	87.23	87.23
B-200	Obispo Fm.	6/15/2005	118.42	34.61	NA	83.81	83.81
B-200	Obispo Fm.	9/26/2005	118.42	-	NA	NA	NA
B-200	Obispo Fm.	11/28/2005	118.42	Dry	NA	NA	NA
B-200	Obispo Fm.	3/1/2006	118.42	-	NA	NA	NA
B-200	Obispo Fm.	6/6/2006	118.42	31.95	NA	86.47	86.47
B-200	Obispo Fm.	11/20/2006	118.42	36.92	NA	81.50	81.50
B-200	Obispo Fm.	5/21/2007	118.42	38.67	NA	79.75	79.75
B-200	Obispo Fm.	11/19/2007	118.42	41.31	NA	77.11	77.11
B-200	Obispo Fm.	5/19/2008	118.42	40.21	NA	78.21	78.21
B-200	Obispo Fm.	9/15/2008	118.42	-	NA	NA	NA
B-200	Obispo Fm.	11/17/2008	118.42	42.75	NA	75.67	75.67
B-200	Obispo Fm.	5/4/2009	118.42	43.21	NA	75.21	75.21
B-200	Obispo Fm.	11/16/2009	118.42	44.74	NA	73.68	73.68
B-200	Obispo Fm.	4/26/2010	118.42	39.42	NA	79.00	79.00
B-200	Obispo Fm.	11/15/2010	118.42	41.79	NA	76.63	76.63
B-200	Obispo Fm.	5/2/2011	118.42	34.71	NA	83.71	83.71
B-200	Obispo Fm.	11/14/2011	118.42	37.25	NA	81.17	81.17
B-200	Obispo Fm.	5/7/2012	118.42	35.96	NA	82.46	82.46
B-200	Obispo Fm.	11/5/2012	118.42	39.17	NA	79.25	79.25
B-201	Obispo Fm.	5/2/2001	137.13	73.61	NA	63.52	63.52
B-201	Obispo Fm.	8/20/2001	137.13	73.26	NA	63.87	63.87
B-201	Obispo Fm.	12/7/2001	137.13	73.13	NA	64.00	64.00
B-201	Obispo Fm.	2/9/2002	137.13	73.01	NA	64.12	64.12

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B-201	Obispo Fm.	5/28/2002	137.13	72.55	NA	64.58	64.58
B-201	Obispo Fm.	8/26/2002	137.13	72.44	NA	64.69	64.69
B-201	Obispo Fm.	11/12/2002	137.13	72.27	NA	64.86	64.86
B-201	Obispo Fm.	3/10/2003	137.13	72.26	NA	64.87	64.87
B-201	Obispo Fm.	8/18/2003	137.13	71.98	NA	65.15	65.15
B-201	Obispo Fm.	11/10/2003	137.13	72.29	NA	64.84	64.84
B-201	Obispo Fm.	2/23/2004	137.13	72.67	NA	64.46	64.46
B-201	Obispo Fm.	5/17/2004	137.13	73.55	NA	63.58	63.58
B-201	Obispo Fm.	8/9/2004	137.13	73.95	NA	63.18	63.18
B-201	Obispo Fm.	12/6/2004	137.13	74.54	NA	62.59	62.59
B-201	Obispo Fm.	3/7/2005	137.13	74.90	NA	62.23	62.23
B-201	Obispo Fm.	6/15/2005	137.13	75.39	NA	61.74	61.74
B-201	Obispo Fm.	9/26/2005	137.13	-	NA	NA	NA
B-201	Obispo Fm.	11/28/2005	137.13	74.70	NA	62.43	62.43
B-201	Obispo Fm.	3/1/2006	137.13	-	NA	NA	NA
B-201	Obispo Fm.	6/6/2006	137.13	74.18	NA	62.95	62.95
B-201	Obispo Fm.	11/20/2006	137.13	74.05	NA	63.08	63.08
B-201	Obispo Fm.	5/21/2007	137.13	73.80	NA	63.33	63.33
B-201	Obispo Fm.	11/19/2007	137.13	73.90	NA	63.23	63.23
B-201	Obispo Fm.	5/19/2008	137.13	73.92	NA	63.21	63.21
B-201	Obispo Fm.	9/15/2008	137.13	-	NA	NA	NA
B-201	Obispo Fm.	11/17/2008	137.13	74.25	NA	62.88	62.88
B-201	Obispo Fm.	5/4/2009	137.13	74.39	NA	62.74	62.74
B-201	Obispo Fm.	11/16/2009	137.13	74.78	NA	62.35	62.35
B-201	Obispo Fm.	4/26/2010	137.13	74.82	NA	62.31	62.31
B-201	Obispo Fm.	11/15/2010	137.13	74.91	NA	62.22	62.22
B-201	Obispo Fm.	5/2/2011	137.13	74.80	NA	62.33	62.33
B-201	Obispo Fm.	9/20/2011	137.13	74.30	NA	62.83	62.83
B-201	Obispo Fm.	11/14/2011	137.13	74.18	NA	62.95	62.95
B-201	Obispo Fm.	2/15/2012	137.13	74.24	NA	62.89	62.89
B-201	Obispo Fm.	5/7/2012	137.13	74.08	NA	63.05	63.05
B-201	Obispo Fm.	9/17/2012	137.13	74.00	NA	63.13	63.13
B-201	Obispo Fm.	11/5/2012	137.13	73.76	NA	63.37	63.37
B-202	Alluvium	5/31/2002	21.70	8.25	NA	13.45	13.45
B-202	Alluvium	8/26/2002	21.70	9.42	NA	12.28	12.28
B-202	Alluvium	11/12/2002	21.70	9.74	NA	11.96	11.96
B-202	Alluvium	3/10/2003	21.70	8.21	NA	13.49	13.49
B-202	Alluvium	6/9/2003	21.70	9.02	NA	10.70	10.70
B-202	Alluvium	8/18/2003	21.70	10.08	NA	11.62	11.62
B-202	Alluvium	11/10/2003	19.72	10.63	NA	9.09	9.09
B-202	Alluvium	2/23/2004	19.72	6.88	NA	12.84	12.84
B-202	Alluvium	5/17/2004	19.72	9.03	NA	10.69	10.69
B-202	Alluvium	8/9/2004	19.72	10.51	NA	9.21	9.21
B-202	Alluvium	12/6/2004	19.72	10.38	NA	9.34	9.34
B-202	Alluvium	3/7/2005	19.72	3.03	NA	16.69	16.69
B-202	Alluvium	6/20/2005	19.72	5.23	NA	14.49	14.49

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B-202	Alluvium	9/26/2005	19.72	-	NA	NA	NA
B-202	Alluvium	11/28/2005	19.72	8.06	NA	11.66	11.66
B-202	Alluvium	3/1/2006	19.72	-	NA	NA	NA
B-202	Alluvium	6/6/2006	19.72	4.26	NA	15.46	15.46
B-202	Alluvium	11/20/2006	19.72	8.15	NA	11.57	11.57
B-202	Alluvium	5/21/2007	19.72	8.27	NA	11.45	11.45
B-202	Alluvium	11/19/2007	19.72	11.25	NA	8.47	8.47
B-202	Alluvium	5/19/2008	19.72	9.61	NA	10.11	10.11
B-202	Alluvium	9/15/2008	19.72	-	NA	NA	NA
B-202	Alluvium	11/17/2008	19.72	12.55	NA	7.17	7.17
B-202	Alluvium	5/4/2009	19.72	12.21	NA	7.51	7.51
B-202	Alluvium	11/16/2009	19.72	13.99	NA	5.73	5.73
B-202	Alluvium	4/26/2010	19.72	8.33	NA	11.39	11.39
B-202	Alluvium	11/15/2010	19.72	11.72	NA	8.00	8.00
B-202	Alluvium	5/2/2011	19.72	2.32	NA	17.40	17.40
B-202	Alluvium	11/14/2011	19.72	5.35	NA	14.37	14.37
B-202	Alluvium	5/7/2012	19.72	5.16	NA	14.56	14.56
B-202	Alluvium	11/5/2012	19.72	9.73	NA	9.99	9.99
B-203	Pismo Fm.	5/2/2001	160.52	58.14	Sheen	102.38	102.38
B-203	Pismo Fm.	8/20/2001	160.52	61.31	Sheen	99.21	99.21
B-203	Pismo Fm.	12/7/2001	160.52	63.70	0.34	96.82	97.12
B-203	Pismo Fm.	2/9/2002	160.52	59.89	NA	100.77	100.77
B-203	Pismo Fm.	5/28/2002	160.52	61.86	0.52	98.66	99.13
B-203	Pismo Fm.	8/26/2002	160.52	64.47	1.10	96.05	97.04
B-203	Pismo Fm.	11/12/2002	160.52	65.79	1.13	94.73	95.75
B-203	Pismo Fm.	3/10/2003	160.52	61.37	0.77	99.15	99.84
B-203	Pismo Fm.	6/9/2003	160.52	60.47	0.77	100.05	100.74
B-203	Pismo Fm.	8/18/2003	160.52	62.70	1.27	97.82	98.96
B-203	Pismo Fm.	11/10/2003	160.52	61.53	1.28	98.99	100.14
B-203	Pismo Fm.	2/23/2004	160.52	64.30	4.10	96.22	99.91
B-203	Pismo Fm.	5/17/2004	160.52	63.45	4.97	97.07	101.54
B-203	Pismo Fm.	8/9/2004	160.52	67.45	2.55	93.07	95.37
B-203	Pismo Fm.	12/6/2004	160.52	67.65	2.09	92.87	94.75
B-203	Pismo Fm.	3/7/2005	160.52	58.41	1.96	102.11	103.87
B-203	Pismo Fm.	6/23/2005	160.52	58.69	1.88	101.83	103.52
B-203	Pismo Fm.	9/26/2005	160.52	-	NA	NA	NA
B-203	Pismo Fm.	11/28/2005	160.52	66.04	2.88	94.48	97.07
B-203	Pismo Fm.	9/26/2005	160.52	-	NA	NA	NA
B-203	Pismo Fm.	6/6/2006	160.52	56.32	2.17	104.20	106.15
B-203	Pismo Fm.	11/20/2006	160.52	65.16	3.00	95.36	98.06
B-203	Pismo Fm.	5/21/2007	160.52	65.2	3.23	95.32	98.23
B-203	Pismo Fm.	11/20/2007	160.52	70.19	4.18	90.33	94.09
B-203	Pismo Fm.	5/19/2008	160.52	64.85	NA	95.67	100.07
B-203	Pismo Fm.	9/15/2008	160.52	-	NA	NA	NA
B-203	Pismo Fm.	11/17/2008	160.52	71.28	5.33	89.24	94.04
B-203	Pismo Fm.	5/4/2009	160.52	70.38	5.93	90.14	95.48

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B-203	Pismo Fm.	11/16/2009	160.52	72.27	12.26	88.25	99.28
B-203	Pismo Fm.	4/26/2010	160.52	61.09	4.61	99.43	103.58
B-203	Pismo Fm.	9/16/2010	160.52	66.57	5.82	93.95	93.95
B-203	Pismo Fm.	11/15/2010	160.52	67.56	4.37	92.96	96.89
B-203	Pismo Fm.	5/2/2011	160.52	53.18	1.39	107.34	108.59
B-203	Pismo Fm.	9/20/2011	160.52	60.85	1.29	99.67	100.83
B-203	Pismo Fm.	11/14/2011	160.52	63.26	1.74	97.26	98.83
B-203	Pismo Fm.	2/15/2012	160.52	61.86	1.89	98.66	100.36
B-203	Pismo Fm.	5/7/2012	160.52	58.90	2.1	103.72	105.61
B-203	Pismo Fm.	9/17/2012	160.52	65.02	2.76	95.50	97.98
B-203	Pismo Fm.	11/5/2012	160.52	66.55	2.89	96.86	99.46
B-204-85	Pismo Fm.	5/2/2001	220.09	72.01	NA	148.08	148.08
B-204-85	Pismo Fm.	8/20/2001	220.09	79.78	NA	140.31	140.31
B-204-85	Pismo Fm.	12/7/2001	220.09	81.97	NA	138.12	138.12
B-204-85	Pismo Fm.	2/9/2002	220.09	73.64	NA	146.45	146.45
B-204-85	Pismo Fm.	5/28/2002	220.09	77.77	NA	142.32	142.32
B-204-85	Pismo Fm.	8/26/2002	220.09	81.17	NA	138.92	138.92
B-204-85	Pismo Fm.	11/12/2002	220.09	82.36	NA	137.73	137.73
B-204-85	Pismo Fm.	3/10/2003	220.09	72.00	NA	148.09	148.09
B-204-85	Pismo Fm.	6/9/2003	220.09	73.75	NA	146.34	146.34
B-204-85	Pismo Fm.	8/18/2003	220.09	78.89	NA	141.20	141.20
B-204-85	Pismo Fm.	11/10/2003	220.09	83.75	NA	136.34	136.34
B-204-85	Pismo Fm.	2/23/2004	220.09	77.67	NA	142.42	142.42
B-204-85	Pismo Fm.	5/17/2004	220.09	76.58	NA	143.51	143.51
B-204-85	Pismo Fm.	8/9/2004	220.09	81.90	NA	138.19	138.19
B-204-85	Pismo Fm.	12/6/2004	220.09	78.51	NA	141.58	141.58
B-204-85	Pismo Fm.	3/7/2005	220.09	61.19	NA	158.90	158.90
B-204-85	Pismo Fm.	6/14/2005	220.09	65.33	NA	154.76	154.76
B-204-85	Pismo Fm.	9/26/2005	220.09	-	NA	NA	NA
B-204-85	Pismo Fm.	11/28/2005	220.09	77.52	NA	142.57	142.57
B-204-85	Pismo Fm.	3/1/2006	220.09	-	NA	NA	NA
B-204-85	Pismo Fm.	6/6/2006	220.09	60.78	NA	159.31	159.31
B-204-85	Pismo Fm.	11/20/2006	220.09	76.35	NA	143.74	143.74
B-204-85	Pismo Fm.	5/21/2007	220.09	71.15	NA	148.94	148.94
B-204-85	Pismo Fm.	11/19/2007	220.09	80.6	NA	139.49	139.49
B-204-85	Pismo Fm.	5/19/2008	220.09	71.7	NA	148.39	148.39
B-204-85	Pismo Fm.	9/15/2008	220.09	-	NA	NA	NA
B-204-85	Pismo Fm.	11/17/2008	220.09	79.10	NA	140.99	140.99
B-204-85	Pismo Fm.	5/4/2009	220.09	75.00	NA	145.09	145.09
B-204-85	Pismo Fm.	11/16/2009	220.09	82.77	NA	137.32	137.32
B-204-85	Pismo Fm.	4/26/2010	220.09	70.04	NA	150.05	150.05
B-204-85	Pismo Fm.	11/15/2010	220.09	79.75	NA	140.34	140.34
B-204-85	Pismo Fm.	5/2/2011	220.09	67.20	NA	152.89	152.89
B-204-85	Pismo Fm.	11/14/2011	220.09	79.81	NA	140.28	140.28
B-204-85	Pismo Fm.	5/7/2012	220.09	71.88	NA	148.21	148.21
B-204-85	Pismo Fm.	11/5/2012	220.09	80.19	NA	139.90	139.90

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B-204-150	Pismo Fm.	5/2/2001	220.24	146.89	NA	73.35	73.35
B-204-150	Pismo Fm.	8/20/2001	220.24	146.71	NA	73.53	73.53
B-204-150	Pismo Fm.	12/7/2001	220.24	147.23	NA	73.01	73.01
B-204-150	Pismo Fm.	2/9/2002	220.24	146.70	NA	73.54	73.54
B-204-150	Pismo Fm.	5/28/2002	220.24	146.71	NA	73.53	73.53
B-204-150	Pismo Fm.	8/26/2002	220.24	147.09	NA	73.15	73.15
B-204-150	Pismo Fm.	11/12/2002	220.24	147.47	NA	72.77	72.77
B-204-150	Pismo Fm.	3/10/2003	220.24	146.94	NA	73.30	73.30
B-204-150	Pismo Fm.	6/9/2003	220.24	146.57	NA	73.67	73.67
B-204-150	Pismo Fm.	8/18/2003	220.24	146.70	NA	73.54	73.54
B-204-150	Pismo Fm.	11/10/2003	220.24	147.70	NA	72.54	72.54
B-204-150	Pismo Fm.	2/23/2004	220.24	Dry	NA	NA	NA
B-204-150	Pismo Fm.	5/17/2004	220.24	Dry	NA	NA	NA
B-204-150	Pismo Fm.	8/9/2004	220.24	Dry	NA	NA	NA
B-204-150	Pismo Fm.	12/6/2004	220.24	Dry	NA	NA	NA
B-204-150	Pismo Fm.	3/7/2005	220.24	147.95	NA	72.29	72.29
B-204-150	Pismo Fm.	6/14/2005	220.24	148.00	NA	72.24	72.24
B-204-150	Pismo Fm.	9/26/2005	220.24	-	NA	NA	NA
B-204-150	Pismo Fm.	11/28/2005	220.24	148.76	NA	71.48	71.48
B-204-150	Pismo Fm.	3/1/2006	220.24	-	NA	NA	NA
B-204-150	Pismo Fm.	6/6/2006	220.24	147.27	NA	72.97	72.97
B-204-150	Pismo Fm.	11/20/2006	220.24	148.17	NA	72.07	72.07
B-204-150	Pismo Fm.	5/21/2007	220.24	147.73	NA	72.51	72.51
B-204-150	Pismo Fm.	11/19/2007	220.24	148.46	NA	71.78	71.78
B-204-150	Pismo Fm.	5/19/2008	220.24	147.63	NA	72.61	72.61
B-204-150	Pismo Fm.	9/15/2008	220.24	-	NA	NA	NA
B-204-150	Pismo Fm.	11/17/2008	220.24	148.47	NA	71.77	71.77
B-204-150	Pismo Fm.	5/4/2009	220.24	148.59	NA	71.65	71.65
B-204-150	Pismo Fm.	11/16/2009	220.24	148.91	NA	71.33	71.33
B-204-150	Pismo Fm.	4/26/2010	220.24	147.38	NA	72.86	72.86
B-204-150	Pismo Fm.	11/15/2010	220.24	148.32	NA	71.92	71.92
B-204-150	Pismo Fm.	5/2/2011	220.24	146.95	NA	73.29	73.29
B-204-150	Pismo Fm.	11/14/2011	220.24	147.88	NA	72.36	72.36
B-204-150	Pismo Fm.	5/7/2012	220.24	147.64	NA	72.60	72.60
B-204-150	Pismo Fm.	11/5/2012	220.24	148.38	NA	71.86	71.86
B-205-90	Obispo Fm.	5/2/2001	226.27	73.02	NA	153.24	153.24
B-205-90	Obispo Fm.	8/20/2001	226.27	75.33	NA	150.93	150.93
B-205-90	Obispo Fm.	12/7/2001	226.27	76.94	NA	149.32	149.32
B-205-90	Obispo Fm.	2/9/2002	226.27	76.83	NA	149.43	149.43
B-205-90	Obispo Fm.	5/28/2002	226.27	76.58	NA	149.68	149.68
B-205-90	Obispo Fm.	8/26/2002	226.27	77.53	NA	148.73	148.73
B-205-90	Obispo Fm.	11/12/2002	226.27	78.35	NA	147.91	147.91
B-205-90	Obispo Fm.	3/10/2003	226.27	78.80	NA	147.46	147.46
B-205-90	Obispo Fm.	6/9/2003	226.27	77.53	NA	148.73	148.73
B-205-90	Obispo Fm.	8/18/2003	226.27	77.61	NA	148.65	148.65

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B-205-90	Obispo Fm.	11/10/2003	226.27	78.88	NA	147.38	147.38
B-205-90	Obispo Fm.	2/23/2004	226.27	81.90	NA	144.36	144.36
B-205-90	Obispo Fm.	5/17/2004	226.27	80.13	NA	146.13	146.13
B-205-90	Obispo Fm.	8/9/2004	226.27	80.50	NA	145.76	145.76
B-205-90	Obispo Fm.	12/6/2004	226.27	82.80	NA	143.46	143.46
B-205-90	Obispo Fm.	3/7/2005	226.27	72.63	NA	153.63	153.63
B-205-90	Obispo Fm.	6/14/2005	226.27	73.63	NA	152.63	152.63
B-205-90	Obispo Fm.	9/26/2005	226.27	-	NA	NA	NA
B-205-90	Obispo Fm.	11/28/2005	226.27	76.73	NA	149.53	149.53
B-205-90	Obispo Fm.	3/1/2006	226.27	-	NA	NA	NA
B-205-90	Obispo Fm.	6/6/2006	226.27	71.20	NA	155.06	155.06
B-205-90	Obispo Fm.	11/20/2006	226.27	75.17	NA	151.09	151.09
B-205-90	Obispo Fm.	5/21/2007	226.27	74.99	NA	151.28	151.28
B-205-90	Obispo Fm.	11/19/2007	226.27	77.96	NA	148.31	148.31
B-205-90	Obispo Fm.	5/19/2008	226.27	75.18	NA	151.09	151.09
B-205-90	Obispo Fm.	9/15/2008	226.27	-	NA	NA	NA
B-205-90	Obispo Fm.	11/17/2008	226.27	78.25	NA	148.02	148.02
B-205-90	Obispo Fm.	5/4/2009	226.27	77.75	NA	148.52	148.52
B-205-90	Obispo Fm.	11/16/2009	226.27	79.52	NA	146.75	146.75
B-205-90	Obispo Fm.	4/26/2010	226.27	73.00	NA	153.27	153.27
B-205-90	Obispo Fm.	11/15/2010	226.27	76.14	NA	150.13	150.13
B-205-90	Obispo Fm.	5/2/2011	226.27	70.45	NA	155.82	155.82
B-205-90	Obispo Fm.	11/14/2011	226.27	72.65	NA	153.62	153.62
B-205-90	Obispo Fm.	5/7/2012	226.27	74.44	NA	151.83	151.83
B-205-90	Obispo Fm.	11/5/2012	226.27	77.36	NA	148.91	148.91
B-205-120	Obispo Fm.	5/2/2001	226.26	92.53	NA	133.74	133.74
B-205-120	Obispo Fm.	8/20/2001	226.26	94.73	NA	131.54	131.54
B-205-120	Obispo Fm.	12/7/2001	226.26	98.23	NA	128.04	128.04
B-205-120	Obispo Fm.	2/9/2002	226.26	97.44	NA	128.83	128.83
B-205-120	Obispo Fm.	5/28/2002	226.26	94.42	NA	131.85	131.85
B-205-120	Obispo Fm.	8/26/2002	226.26	94.61	NA	131.66	131.66
B-205-120	Obispo Fm.	11/12/2002	226.26	95.54	NA	130.73	130.73
B-205-120	Obispo Fm.	3/10/2003	226.26	94.27	NA	132.00	132.00
B-205-120	Obispo Fm.	6/9/2003	226.26	93.73	NA	132.54	132.54
B-205-120	Obispo Fm.	8/18/2003	226.26	94.00	NA	132.27	132.27
B-205-120	Obispo Fm.	11/10/2003	226.26	94.87	NA	131.40	131.40
B-205-120	Obispo Fm.	2/23/2004	226.26	84.35	NA	141.92	141.92
B-205-120	Obispo Fm.	5/17/2004	226.26	95.20	NA	131.07	131.07
B-205-120	Obispo Fm.	8/9/2004	226.26	95.10	NA	131.17	131.17
B-205-120	Obispo Fm.	12/6/2004	226.26	95.83	NA	130.44	130.44
B-205-120	Obispo Fm.	3/7/2005	226.26	89.83	NA	136.44	136.44
B-205-120	Obispo Fm.	6/14/2005	226.26	89.75	NA	136.52	136.52
B-205-120	Obispo Fm.	9/26/2005	226.26	-	NA	NA	NA
B-205-120	Obispo Fm.	11/28/2005	226.26	92.04	NA	134.23	134.23
B-205-120	Obispo Fm.	3/1/2006	226.26	-	NA	NA	NA
B-205-120	Obispo Fm.	6/6/2006	226.26	89.41	NA	136.86	136.86

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B-205-120	Obispo Fm.	11/20/2006	226.26	91.42	NA	134.85	134.85
B-205-120	Obispo Fm.	5/21/2007	226.26	90.72	NA	135.54	135.54
B-205-120	Obispo Fm.	11/19/2007	226.26	92.36	NA	133.90	133.90
B-205-120	Obispo Fm.	5/19/2008	226.26	90.32	NA	135.94	135.94
B-205-120	Obispo Fm.	9/15/2008	226.26	-	NA	NA	NA
B-205-120	Obispo Fm.	11/17/2008	226.26	92.27	NA	133.99	133.99
B-205-120	Obispo Fm.	5/4/2009	226.26	92.14	NA	134.12	134.12
B-205-120	Obispo Fm.	11/16/2009	226.26	92.62	NA	133.64	133.64
B-205-120	Obispo Fm.	4/26/2010	226.26	90.20	NA	136.06	136.06
B-205-120	Obispo Fm.	11/16/2010	226.26	90.66	NA	135.60	135.60
B-205-120	Obispo Fm.	5/2/2011	226.26	88.37	NA	137.89	137.89
B-205-120	Obispo Fm.	11/14/2011	226.26	91.18	NA	135.08	135.08
B-205-120	Obispo Fm.	5/7/2012	226.26	90.99	NA	135.27	135.27
B-205-120	Obispo Fm.	11/5/2012	226.26	92.30	NA	133.96	133.96
B-206	Pismo/Obispo	5/2/2001	180.86	42.17	NA	138.69	138.69
B-206	Pismo/Obispo	8/20/2001	180.86	54.25	Trace	126.61	126.61
B-206	Pismo/Obispo	12/7/2001	180.86	49.64	Sheen	131.22	131.22
B-206	Pismo/Obispo	2/9/2002	180.86	54.12	NA	126.74	126.74
B-206	Pismo/Obispo	5/28/2002	180.86	49.43	Trace	131.43	131.43
B-206	Pismo/Obispo	8/26/2002	180.86	56.24	Trace	124.62	124.62
B-206	Pismo/Obispo	11/12/2002	180.86	58.60	Trace	122.26	122.26
B-206	Pismo/Obispo	3/10/2003	180.86	37.40	Sheen	143.46	143.46
B-206	Pismo/Obispo	6/9/2003	180.86	42.86	Sheen	138.00	138.00
B-206	Pismo/Obispo	8/18/2003	180.86	52.68	Trace	128.18	128.18
B-206	Pismo/Obispo	11/10/2003	180.86	57.18	0.01	123.68	123.69
B-206	Pismo/Obispo	2/23/2004	180.86	36.70	Sheen	144.16	144.16
B-206	Pismo/Obispo	5/17/2004	180.86	51.47	Trace	129.39	129.39
B-206	Pismo/Obispo	8/9/2004	180.86	57.37	Trace	123.49	123.49
B-206	Pismo/Obispo	12/6/2004	180.86	48.59	Trace	132.27	132.27
B-206	Pismo/Obispo	3/7/2005	180.86	28.77	Sheen	152.09	152.09
B-206	Pismo/Obispo	6/22/2005	180.86	41.58	Sheen	139.28	139.28
B-206	Pismo/Obispo	9/26/2005	180.86	-	NA	NA	NA
B-206	Pismo/Obispo	11/28/2005	180.86	57.14	Trace	123.72	123.72
B-206	Pismo/Obispo	3/1/2006	180.86	-	NA	NA	NA
B-206	Pismo/Obispo	6/6/2006	180.86	33.84	NA	147.02	147.02
B-206	Pismo/Obispo	11/21/2006	180.86	56.43	Sheen	124.43	124.43
B-206	Pismo/Obispo	5/21/2007	180.86	46.59	Sheen*	134.27	134.27
B-206	Pismo/Obispo	11/20/2007	180.86	59.27	0.02	121.59	121.61
B-206	Pismo/Obispo	5/20/2008	180.86	50.7	Sheen	130.16	130.16
B-206	Pismo/Obispo	9/15/2008	180.86	-	NA	NA	NA
B-206	Pismo/Obispo	11/17/2008	180.86	60.60	Sheen	120.26	120.26
B-206	Pismo/Obispo	5/4/2009	180.86	48.75	Sheen	132.11	132.11
B-206	Pismo/Obispo	11/16/2009	180.86	60.03	Sheen	120.83	120.83
B-206	Pismo/Obispo	4/26/2010	180.86	35.09	Sheen	145.77	145.77
B-206	Pismo/Obispo	11/15/2010	180.86	57.59	Sheen	123.27	123.27
B-206	Pismo/Obispo	5/2/2011	180.86	35.06	Sheen	145.80	145.80

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B-206	Pismo/Obispo	11/14/2011	180.86	55.68	Sheen	125.18	125.18
B-206	Pismo/Obispo	5/7/2012	180.86	36.71	0.01	144.16	144.17
B-206	Pismo/Obispo	11/5/2012	180.86	58.36	Sheen	122.50	122.50
B-207	Obispo Fm.	5/2/2001	87.38	42.83	Trace	44.55	44.55
B-207	Obispo Fm.	8/20/2001	87.38	43.31	Slight Sheen	44.07	44.07
B-207	Obispo Fm.	12/7/2001	87.38	43.86	0.11	43.52	43.62
B-207	Obispo Fm.	2/9/2002	87.38	43.42	0.09	43.96	44.04
B-207	Obispo Fm.	5/28/2002	87.38	43.33	0.10	44.05	44.14
B-207	Obispo Fm.	8/26/2002	87.38	43.58	Trace	43.80	43.80
B-207	Obispo Fm.	11/12/2002	87.38	44.18	0.04	43.20	43.23
B-207	Obispo Fm.	3/10/2003	87.38	43.86	0.02	43.52	43.54
B-207	Obispo Fm.	6/9/2003	87.38	45.22	0.02	42.16	42.18
B-207	Obispo Fm.	8/18/2003	87.38	45.84	0.44	41.54	41.93
B-207	Obispo Fm.	11/10/2003	87.38	46.40	0.55	40.98	41.47
B-207	Obispo Fm.	2/23/2004	87.38	48.75	0.40	38.63	38.99
B-207	Obispo Fm.	5/17/2004	87.38	50.70	0.50	36.68	37.13
B-207	Obispo Fm.	8/9/2004	87.38	51.20	1.00	36.18	37.08
B-207	Obispo Fm.	12/6/2004	87.38	51.61	0.99	35.77	36.66
B-207	Obispo Fm.	3/7/2005	87.38	50.63	0.56	36.75	37.25
B-207	Obispo Fm.	6/14/2005	87.38	50.02	0.53	37.36	37.84
B-207	Obispo Fm.	9/26/2005	87.38	-	NA	NA	NA
B-207	Obispo Fm.	11/28/2005	87.38	50.62	0.64	36.76	37.34
B-207	Obispo Fm.	3/1/2006	87.38	-	NA	NA	NA
B-207	Obispo Fm.	6/6/2006	87.38	49.42	0.28	37.96	38.21
B-207	Obispo Fm.	11/21/2006	87.38	49.72	0.37	37.66	37.99
B-207	Obispo Fm.	5/22/2007	87.38	49.68	0.32	37.70	37.99
B-207	Obispo Fm.	11/20/2007	87.38	50.12	0.42	37.26	37.64
B-207	Obispo Fm.	5/19/2008	87.38	49.84	0.29	37.54	37.80
B-207	Obispo Fm.	9/15/2008	87.38	-	NA	NA	NA
B-207	Obispo Fm.	11/17/2008	87.38	49.75	0.75	37.63	38.31
B-207	Obispo Fm.	5/4/2009	87.38	50.50	0.81	36.88	37.61
B-207	Obispo Fm.	11/16/2009	87.38	50.06	0.22	37.32	37.52
B-207	Obispo Fm.	4/26/2010	87.38	49.50	0.19	37.88	38.05
B-207	Obispo Fm.	11/15/2010	87.38	49.49	0.01	37.89	37.90
B-207	Obispo Fm.	5/2/2011	87.38	48.80	0.02	38.58	38.60
B-207	Obispo Fm.	11/14/2011	87.38	48.82	Sheen	38.56	38.56
B-207	Obispo Fm.	5/7/2012	87.38	48.75	Sheen	38.63	38.63
B-207	Obispo Fm.	11/5/2012	87.38	48.66	Sheen	38.72	38.72
B-208	Pismo Fm.	5/2/2001	188.15	68.91	NA	119.24	119.24
B-208	Pismo Fm.	8/20/2001	188.15	76.18	NA	111.97	111.97
B-208	Pismo Fm.	12/7/2001	188.15	77.34	NA	110.81	110.81
B-208	Pismo Fm.	2/9/2002	188.15	63.84	NA	124.31	124.31
B-208	Pismo Fm.	5/28/2002	188.15	73.55	NA	114.60	114.60
B-208	Pismo Fm.	8/26/2002	188.15	81.51	NA	106.64	106.64
B-208	Pismo Fm.	11/12/2002	188.15	85.93	NA	102.22	102.22

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B-208	Pismo Fm.	3/10/2003	188.15	74.50	NA	113.65	113.65
B-208	Pismo Fm.	6/9/2003	188.15	73.68	NA	114.47	114.47
B-208	Pismo Fm.	8/18/2003	188.15	78.56	NA	109.59	109.59
B-208	Pismo Fm.	11/10/2003	188.15	83.85	NA	104.30	104.30
B-208	Pismo Fm.	2/23/2004	188.15	82.43	NA	105.72	105.72
B-208	Pismo Fm.	5/17/2004	188.15	79.65	NA	108.50	108.50
B-208	Pismo Fm.	8/9/2004	188.15	Dry	NA	NA	NA
B-208	Pismo Fm.	12/6/2004	188.15	Dry	NA	NA	NA
B-208	Pismo Fm.	3/7/2005	188.15	66.32	NA	121.83	121.83
B-208	Pismo Fm.	6/15/2005	188.15	73.40	NA	114.75	114.75
B-208	Pismo Fm.	9/26/2005	188.15	-	NA	NA	NA
B-208	Pismo Fm.	11/28/2005	188.15	Dry	NA	NA	NA
B-208	Pismo Fm.	3/1/2006	188.15	-	NA	NA	NA
B-208	Pismo Fm.	6/6/2006	188.15	68.02	NA	120.13	120.13
B-208	Pismo Fm.	11/20/2006	188.15	85.03	NA	103.12	103.12
B-208	Pismo Fm.	5/21/2007	188.15	80.18	NA	107.97	107.97
B-208	Pismo Fm.	11/19/2007	188.15	92.20	NA	95.95	95.95
B-208	Pismo Fm.	5/19/2008	188.15	80.00	NA	108.15	108.15
B-208	Pismo Fm.	9/15/2008	188.15	-	NA	NA	NA
B-208	Pismo Fm.	11/17/2008	188.15	92.92	NA	95.23	95.23
B-208	Pismo Fm.	5/4/2009	188.15	82.11	NA	106.04	106.04
B-208	Pismo Fm.	11/16/2009	188.15	92.30	NA	95.85	95.85
B-208	Pismo Fm.	4/26/2010	188.15	71.81	NA	116.34	116.34
B-208	Pismo Fm.	11/15/2010	188.15	88.84	NA	99.31	99.31
B-208	Pismo Fm.	5/2/2011	188.15	67.41	NA	120.74	120.74
B-208	Pismo Fm.	11/14/2011	188.15	84.04	NA	104.11	104.11
B-208	Pismo Fm.	5/7/2012	188.15	69.99	NA	118.16	118.16
B-208	Pismo Fm.	11/5/2012	188.15	87.55	NA	100.60	100.60
B-209	Pismo Fm.	5/2/2001	75.42	41.52	NA	33.90	33.90
B-209	Pismo Fm.	8/20/2001	75.42	44.71	NA	30.71	30.71
B-209	Pismo Fm.	12/7/2001	75.42	47.10	NA	28.32	28.32
B-209	Pismo Fm.	2/9/2002	75.42	46.78	NA	28.64	28.64
B-209	Pismo Fm.	5/28/2002	75.42	48.34	NA	27.08	27.08
B-209	Pismo Fm.	8/26/2002	75.42	49.75	NA	25.67	25.67
B-209	Pismo Fm.	11/12/2002	75.42	50.64	NA	24.78	24.78
B-209	Pismo Fm.	3/10/2003	75.42	50.64	NA	24.78	24.78
B-209	Pismo Fm.	6/9/2003	75.42	50.54	NA	24.88	24.88
B-209	Pismo Fm.	8/18/2003	75.42	51.40	NA	24.02	24.02
B-209	Pismo Fm.	11/10/2003	75.42	52.10	NA	23.32	23.32
B-209	Pismo Fm.	2/23/2004	75.42	47.42	NA	28.00	28.00
B-209	Pismo Fm.	5/17/2004	75.42	48.64	NA	26.78	26.78
B-209	Pismo Fm.	8/9/2004	75.42	50.07	NA	25.35	25.35
B-209	Pismo Fm.	12/6/2004	75.42	Dry	NA	NA	NA
B-209	Pismo Fm.	3/7/2005	75.42	44.35	NA	31.07	31.07
B-209	Pismo Fm.	6/15/2005	75.42	33.36	NA	42.06	42.06
B-209	Pismo Fm.	9/26/2005	75.42	-	NA	NA	NA

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B-209	Pismo Fm.	11/28/2005	75.42	46.17	NA	29.25	29.25
B-209	Pismo Fm.	3/1/2006	75.42	-	NA	NA	NA
B-209	Pismo Fm.	6/6/2006	75.42	42.40	NA	33.02	33.02
B-209	Pismo Fm.	11/20/2006	75.42	46.79	NA	28.63	28.63
B-209	Pismo Fm.	5/21/2007	75.42	48.94	NA	26.48	26.48
B-209	Pismo Fm.	11/19/2007	75.42	52.22	NA	23.20	23.20
B-209	Pismo Fm.	5/19/2008	75.42	47.52	NA	27.90	27.90
B-209	Pismo Fm.	9/15/2008	75.42	-	NA	NA	NA
B-209	Pismo Fm.	11/17/2008	75.42	53.02	NA	22.40	22.40
B-209	Pismo Fm.	5/4/2009	75.42	53.21	NA	22.21	22.21
B-209	Pismo Fm.	11/16/2009	75.42	54.61	NA	20.81	20.81
B-209	Pismo Fm.	4/26/2010	75.42	48.20	NA	27.22	27.22
B-209	Pismo Fm.	11/15/2010	75.42	50.16	NA	25.26	25.26
B-209	Pismo Fm.	5/2/2011	75.42	39.82	NA	35.60	35.60
B-209	Pismo Fm.	11/14/2011	75.42	45.93	NA	29.49	29.49
B-209	Pismo Fm.	5/7/2012	75.42	47.10	NA	28.32	28.32
B-209	Pismo Fm.	11/5/2012	75.42	48.29	NA	27.13	27.13
B-210	Pismo Fm.	5/2/2001	100.45	56.75	NA	43.70	43.70
B-210	Pismo Fm.	8/20/2001	100.45	62.65	NA	37.80	37.80
B-210	Pismo Fm.	12/7/2001	100.45	55.68	NA	44.77	44.77
B-210	Pismo Fm.	2/9/2002	100.45	60.82	NA	39.63	39.63
B-210	Pismo Fm.	5/28/2002	100.45	66.46	NA	33.99	33.99
B-210	Pismo Fm.	8/26/2002	100.45	69.23	NA	31.22	31.22
B-210	Pismo Fm.	11/12/2002	100.45	72.10	NA	28.35	28.35
B-210	Pismo Fm.	3/10/2003	100.45	60.29	NA	40.16	40.16
B-210	Pismo Fm.	6/9/2003	100.45	63.95	NA	36.50	36.50
B-210	Pismo Fm.	8/18/2003	100.45	69.42	NA	31.03	31.03
B-210	Pismo Fm.	11/10/2003	100.45	72.99	NA	27.46	27.46
B-210	Pismo Fm.	2/23/2004	100.45	55.73	NA	44.72	44.72
B-210	Pismo Fm.	5/17/2004	100.45	66.45	NA	34.00	34.00
B-210	Pismo Fm.	8/9/2004	100.45	Dry	NA	NA	NA
B-210	Pismo Fm.	12/6/2004	100.45	64.00	NA	36.45	36.45
B-210	Pismo Fm.	3/7/2005	100.45	54.17	NA	46.28	46.28
B-210	Pismo Fm.	6/15/2005	100.45	57.67	NA	42.78	42.78
B-210	Pismo Fm.	9/26/2005	100.45	58.54	NA	41.91	41.91
B-210	Pismo Fm.	11/28/2005	100.45	65.35	NA	35.10	35.10
B-210	Pismo Fm.	3/1/2006	100.45	58.93	NA	41.52	41.52
B-210	Pismo Fm.	6/6/2006	100.45	55.62	NA	44.83	44.83
B-210	Pismo Fm.	9/12/2006	100.45	64.14	NA	36.31	36.31
B-210	Pismo Fm.	11/20/2006	100.45	67.09	NA	33.36	33.36
B-210	Pismo Fm.	3/21/2007	100.45	61.02	NA	39.43	39.43
B-210	Pismo Fm.	5/21/2007	100.45	69.16	NA	31.29	31.29
B-210	Pismo Fm.	9/18/2007	100.45	72.82	NA	27.63	27.63
B-210	Pismo Fm.	11/19/2007	100.45	74.08	NA	26.37	26.37
B-210	Pismo Fm.	3/19/2008	100.45	63.31	NA	37.14	37.14
B-210	Pismo Fm.	5/19/2008	100.45	69.8	NA	30.65	30.65

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B-210	Pismo Fm.	9/15/2008	100.45	74.22	NA	26.23	26.23
B-210	Pismo Fm.	11/17/2008	100.45	74.83	NA	25.62	25.62
B-210	Pismo Fm.	2/24/2009	100.45	74.97	NA	25.48	25.48
B-210	Pismo Fm.	5/4/2009	100.45	74.75	NA	25.70	25.70
B-210	Pismo Fm.	9/23/2009	100.45	Dry	NA	NA	NA
B-210	Pismo Fm.	11/16/2009	100.45	Dry	NA	NA	NA
B-210	Pismo Fm.	2/25/2010	100.45	55.05	NA	45.40	45.40
B-210	Pismo Fm.	4/26/2010	100.45	57.60	NA	42.85	42.85
B-210	Pismo Fm.	9/16/2010	100.45	69.09	NA	31.36	31.36
B-210	Pismo Fm.	11/15/2010	100.45	70.55	NA	29.90	29.90
B-210	Pismo Fm.	2/17/2011	100.45	56.16	NA	44.29	44.29
B-210	Pismo Fm.	5/2/2011	100.45	55.47	NA	44.98	44.98
B-210	Pismo Fm.	9/20/2011	100.45	63.67	NA	36.78	36.78
B-210	Pismo Fm.	11/14/2011	100.45	66.53	NA	33.92	33.92
B-210	Pismo Fm.	2/15/2012	100.45	60.84	NA	39.61	39.61
B-210	Pismo Fm.	5/7/2012	100.45	54.70	NA	45.75	45.75
B-210	Pismo Fm.	9/17/2012	100.45	66.49	NA	33.96	33.96
B-210	Pismo Fm.	11/5/2012	100.45	68.17	NA	32.28	32.28
B-211	Pismo Fm.	5/2/2001	36.03	30.50	NA	5.53	5.53
B-211	Pismo Fm.	8/20/2001	36.03	36.36	NA	-0.33	-0.33
B-211	Pismo Fm.	12/7/2001	36.03	30.95	NA	5.08	5.08
B-211	Pismo Fm.	2/9/2002	36.03	31.48	NA	4.55	4.55
B-211	Pismo Fm.	5/28/2002	36.03	31.96	NA	4.07	4.07
B-211	Pismo Fm.	8/26/2002	36.03	32.27	NA	3.76	3.76
B-211	Pismo Fm.	11/12/2002	36.03	31.33	NA	4.70	4.70
B-211	Pismo Fm.	3/10/2003	36.03	31.02	NA	5.01	5.01
B-211	Pismo Fm.	6/9/2003	36.03	32.19	NA	3.84	3.84
B-211	Pismo Fm.	8/18/2003	36.03	32.37	NA	3.66	3.66
B-211	Pismo Fm.	11/10/2003	36.03	31.98	NA	4.05	4.05
B-211	Pismo Fm.	2/23/2004	36.03	29.84	NA	6.19	6.19
B-211	Pismo Fm.	5/17/2004	36.03	32.37	NA	3.66	3.66
B-211	Pismo Fm.	8/9/2004	36.03	32.82	NA	3.21	3.21
B-211	Pismo Fm.	12/6/2004	36.03	32.54	NA	3.49	3.49
B-211	Pismo Fm.	3/7/2005	36.03	30.42	NA	5.61	5.61
B-211	Pismo Fm.	6/20/2005	36.03	31.91	NA	4.12	4.12
B-211	Pismo Fm.	9/26/2005	36.03	-	NA	NA	NA
B-211	Pismo Fm.	11/28/2005	36.03	31.61	NA	4.42	4.42
B-211	Pismo Fm.	3/1/2006	36.03	-	NA	NA	NA
B-211	Pismo Fm.	6/6/2006	36.03	30.67	NA	5.36	5.36
B-211	Pismo Fm.	11/20/2006	36.03	31.88	NA	4.15	4.15
B-211	Pismo Fm.	5/21/2007	36.03	31.22	NA	4.81	4.81
B-211	Pismo Fm.	11/19/2007	36.03	31.84	NA	4.19	4.19
B-211	Pismo Fm.	5/19/2008	36.03	32.64	NA	3.39	3.39
B-211	Pismo Fm.	9/15/2008	36.03	-	NA	NA	NA
B-211	Pismo Fm.	11/17/2008	36.03	32.71	NA	3.32	3.32
B-211	Pismo Fm.	5/4/2009	36.03	32.58	NA	3.45	3.45

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B-211	Pismo Fm.	11/16/2009	36.03	32.61	NA	3.42	3.42
B-211	Pismo Fm.	4/26/2010	36.03	31.76	NA	4.27	4.27
B-211	Pismo Fm.	11/15/2010	36.03	31.48	NA	4.55	4.55
B-211	Pismo Fm.	5/2/2011	36.03	29.55	NA	6.48	6.48
B-211	Pismo Fm.	11/14/2011	36.03	31.40	NA	4.63	4.63
B-211	Pismo Fm.	5/7/2012	36.03	31.51	NA	4.52	4.52
B-211	Pismo Fm.	11/5/2012	36.03	31.60	NA	4.43	4.43
B-212	Pismo Fm.	5/2/2001	24.89	20.26	NA	4.63	4.63
B-212	Pismo Fm.	8/20/2001	24.89	21.04	NA	3.85	3.85
B-212	Pismo Fm.	12/7/2001	24.89	20.37	NA	4.52	4.52
B-212	Pismo Fm.	2/9/2002	24.89	20.79	NA	4.10	4.10
B-212	Pismo Fm.	5/28/2002	24.89	21.34	NA	3.55	3.55
B-212	Pismo Fm.	8/26/2002	24.89	21.60	NA	3.29	3.29
B-212	Pismo Fm.	11/12/2002	24.89	21.05	NA	3.84	3.84
B-212	Pismo Fm.	3/10/2003	24.89	20.52	NA	4.37	4.37
B-212	Pismo Fm.	6/9/2003	24.89	21.52	NA	3.37	3.37
B-212	Pismo Fm.	8/18/2003	24.89	21.67	NA	3.22	3.22
B-212	Pismo Fm.	11/10/2003	24.89	21.58	NA	3.31	3.31
B-212	Pismo Fm.	2/23/2004	24.89	19.92	NA	4.97	4.97
B-212	Pismo Fm.	5/17/2004	24.89	21.60	NA	3.29	3.29
B-212	Pismo Fm.	8/9/2004	24.89	21.92	NA	2.97	2.97
B-212	Pismo Fm.	12/6/2004	24.89	21.65	NA	3.24	3.24
B-212	Pismo Fm.	3/7/2005	24.89	18.73	NA	6.16	6.16
B-212	Pismo Fm.	6/20/2005	24.89	21.11	NA	3.78	3.78
B-212	Pismo Fm.	9/26/2005	24.89	-	NA	NA	NA
B-212	Pismo Fm.	11/28/2005	24.89	21.06	NA	3.83	3.83
B-212	Pismo Fm.	3/1/2006	24.89	-	NA	NA	NA
B-212	Pismo Fm.	6/6/2006	24.89	19.84	NA	5.05	5.05
B-212	Pismo Fm.	11/20/2006	24.89	21.18	NA	3.71	3.71
B-212	Pismo Fm.	5/21/2007	24.89	20.79	NA	4.10	4.10
B-212	Pismo Fm.	11/19/2007	24.89	21.39	NA	3.50	3.50
B-212	Pismo Fm.	5/19/2008	24.89	21.87	NA	3.02	3.02
B-212	Pismo Fm.	9/15/2008	24.89	-	NA	NA	NA
B-212	Pismo Fm.	11/17/2008	24.89	22.00	NA	2.89	2.89
B-212	Pismo Fm.	5/4/2009	24.89	21.90	NA	2.99	2.99
B-212	Pismo Fm.	11/16/2009	24.89	22.02	NA	2.87	2.87
B-212	Pismo Fm.	4/26/2010	24.89	21.26	NA	3.63	3.63
B-212	Pismo Fm.	11/15/2010	24.89	21.18	NA	3.71	3.71
B-212	Pismo Fm.	5/2/2011	24.89	19.08	NA	5.81	5.81
B-212	Pismo Fm.	11/14/2011	24.89	21.55	NA	3.34	3.34
B-212	Pismo Fm.	5/7/2012	24.89	20.44	NA	4.45	4.45
B-212	Pismo Fm.	11/5/2012	24.89	21.36	NA	3.53	3.53
B-213-50	Pismo Fm.	5/2/2001	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	8/20/2001	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	12/7/2001	222.77	Dry	NA	NA	NA

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B-213-50	Pismo Fm.	2/9/2002	222.77	51.62	NA	171.15	171.15
B-213-50	Pismo Fm.	5/28/2002	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	8/26/2002	222.77	Dry	A	NA	NA
B-213-50	Pismo Fm.	11/12/2002	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	3/10/2003	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	6/9/2003	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	8/18/2003	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	11/10/2003	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	2/23/2004	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	5/17/2004	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	8/9/2004	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	12/6/2004	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	3/7/2005	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	6/14/2005	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	9/26/2005	222.77	-	NA	NA	NA
B-213-50	Pismo Fm.	11/28/2005	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	3/1/2006	222.77	-	NA	NA	NA
B-213-50	Pismo Fm.	6/6/2006	222.77	52.46	NA	170.31	170.31
B-213-50	Pismo Fm.	11/20/2006	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	5/21/2007	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	11/19/2007	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	5/19/2008	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	9/15/2008	222.77	-	NA	NA	NA
B-213-50	Pismo Fm.	11/17/2008	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	5/4/2009	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	11/16/2009	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	4/26/2010	222.77	Dry	NA	NA	NA
B-213-50	Pismo Fm.	11/15/2010	222.77	52.30	NA	170.47	170.47
B-213-50	Pismo Fm.	5/2/2011	222.77	51.82	NA	170.95	170.95
B-213-50	Pismo Fm.	11/14/2011	222.77	52.34	NA	170.43	170.43
B-213-50	Pismo Fm.	5/7/2012	222.77	52.35	NA	170.42	170.42
B-213-50	Pismo Fm.	11/5/2012	222.77	52.23	NA	170.54	170.54
B-213-80	Pismo Fm.	5/2/2001	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	8/20/2001	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	12/7/2001	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	2/9/2002	222.79	82.93	NA	139.86	139.86
B-213-80	Pismo Fm.	5/28/2002	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	8/26/2002	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	11/12/2002	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	3/10/2003	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	6/9/2003	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	8/18/2003	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	11/10/2003	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	2/23/2004	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	5/17/2004	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	8/9/2004	222.79	Dry	NA	NA	NA

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B-213-80	Pismo Fm.	12/6/2004	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	3/7/2005	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	6/14/2005	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	9/26/2005	222.79	-	NA	NA	NA
B-213-80	Pismo Fm.	11/28/2005	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	3/1/2006	222.79	-	NA	NA	NA
B-213-80	Pismo Fm.	6/6/2006	222.79	82.88	NA	139.91	139.91
B-213-80	Pismo Fm.	11/20/2006	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	5/21/2007	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	11/19/2007	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	5/19/2008	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	9/15/2008	222.79	-	NA	NA	NA
B-213-80	Pismo Fm.	11/17/2008	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	5/4/2009	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	11/16/2009	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	4/26/2010	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	11/15/2010	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	5/2/2011	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	11/14/2011	222.79	Dry	NA	NA	NA
B-213-80	Pismo Fm.	5/7/2012	222.79	82.89	NA	139.90	139.90
B-213-80	Pismo Fm.	11/5/2012	222.79	Dry	NA	NA	NA
B-215	Obispo Fm.	6/1/2002	173.75	Dry	NA	NA	NA
B-215	Obispo Fm.	8/26/2002	173.75	Dry	NA	NA	NA
B-215	Obispo Fm.	11/12/2002	173.75	Dry	NA	NA	NA
B-215	Obispo Fm.	3/10/2003	173.75	Dry	NA	NA	NA
B-215	Obispo Fm.	6/9/2003	173.75	Dry	NA	NA	NA
B-215	Obispo Fm.	8/18/2003	173.75	Dry	NA	NA	NA
B-215	Obispo Fm.	11/10/2003	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	2/23/2004	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	5/17/2004	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	8/9/2004	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	12/6/2004	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	3/7/2005	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	6/14/2005	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	9/26/2005	175.45	-	NA	NA	NA
B-215	Obispo Fm.	11/28/2005	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	3/1/2006	175.45	-	NA	NA	NA
B-215	Obispo Fm.	6/6/2006	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	11/20/2006	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	5/21/2007	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	11/19/2007	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	5/19/2008	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	9/15/2008	175.45	-	NA	NA	NA
B-215	Obispo Fm.	11/17/2008	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	5/4/2009	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	11/16/2009	175.45	Dry	NA	NA	NA

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B-215	Obispo Fm.	4/26/2010	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	11/15/2010	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	5/2/2011	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	11/14/2011	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	5/7/2012	175.45	Dry	NA	NA	NA
B-215	Obispo Fm.	11/5/2012	175.45	Dry	NA	NA	NA
B-216	Obispo Fm.	6/9/2003	73.87	37.40	NA	36.47	36.47
B-216	Obispo Fm.	8/18/2003	73.87	37.63	NA	36.24	36.24
B-216	Obispo Fm.	11/10/2003	73.87	37.87	NA	36.00	36.00
B-216	Obispo Fm.	2/23/2004	73.87	39.90	NA	33.97	33.97
B-216	Obispo Fm.	5/17/2004	73.87	40.70	NA	33.17	33.17
B-216	Obispo Fm.	8/9/2004	73.87	40.98	NA	32.89	32.89
B-216	Obispo Fm.	3/7/2005	73.87	40.47	NA	33.40	33.40
B-216	Obispo Fm.	6/14/2005	73.87	40.50	NA	33.37	33.37
B-216	Obispo Fm.	9/26/2005	73.87	40.61	NA	33.26	33.26
B-216	Obispo Fm.	11/28/2005	73.87	40.66	Sheen	33.21	33.21
B-216	Obispo Fm.	6/9/2003	73.87	37.40	NA	36.47	36.47
B-216	Obispo Fm.	8/18/2003	73.87	37.63	NA	36.24	36.24
B-216	Obispo Fm.	11/10/2003	73.87	37.87	NA	36.00	36.00
B-216	Obispo Fm.	2/23/2004	73.87	39.90	NA	33.97	33.97
B-216	Obispo Fm.	5/17/2004	73.87	40.70	NA	33.17	33.17
B-216	Obispo Fm.	8/9/2004	73.87	40.98	NA	32.89	32.89
B-216	Obispo Fm.	12/6/2004	73.87	41.14	NA	32.73	32.73
B-216	Obispo Fm.	3/7/2005	73.87	40.47	NA	33.40	33.40
B-216	Obispo Fm.	6/14/2005	73.87	40.50	NA	33.37	33.37
B-216	Obispo Fm.	9/26/2005	73.87	40.61	NA	33.26	33.26
B-216	Obispo Fm.	11/28/2005	73.87	40.66	Sheen	33.21	33.21
B-216	Obispo Fm.	3/1/2006	73.87	41.01	NA	32.86	32.86
B-216	Obispo Fm.	6/6/2006	73.87	40.16	NA	33.71	33.71
B-216	Obispo Fm.	9/12/2006	73.87	40.28	NA	33.59	33.59
B-216	Obispo Fm.	11/21/2006	73.87	40.25	NA	33.62	33.62
B-216	Obispo Fm.	3/21/2007	73.87	40.43	NA	33.44	33.44
B-216	Obispo Fm.	5/21/2007	73.87	44.10	NA	29.77	29.77
B-216	Obispo Fm.	9/18/2007	73.87	40.55	NA	33.32	33.32
B-216	Obispo Fm.	11/19/2007	73.87	40.56	NA	33.31	33.31
B-216	Obispo Fm.	3/19/2008	73.87	40.80	NA	33.07	33.07
B-216	Obispo Fm.	5/19/2008	73.87	40.57	NA	33.30	33.30
B-216	Obispo Fm.	9/15/2008	73.87	40.50	NA	33.37	33.37
B-216	Obispo Fm.	11/17/2008	73.87	40.75	NA	33.12	33.12
B-216	Obispo Fm.	2/24/2009	73.87	40.82	NA	33.05	33.05
B-216	Obispo Fm.	5/4/2009	73.87	40.54	NA	33.33	33.33
B-216	Obispo Fm.	9/23/2009	73.87	40.78	NA	33.09	33.09
B-216	Obispo Fm.	11/16/2009	73.87	40.82	NA	33.05	33.05
B-216	Obispo Fm.	2/25/2010	73.87	38.99	NA	34.88	34.88
B-216	Obispo Fm.	4/26/2010	73.87	40.07	NA	33.80	33.80
B-216	Obispo Fm.	9/16/2010	73.87	40.28	NA	33.59	33.59

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B-216	Obispo Fm.	11/15/2010	73.87	40.21	NA	33.66	33.66
B-216	Obispo Fm.	2/17/2011	73.87	40.55	NA	33.32	33.32
B-216	Obispo Fm.	5/2/2011	73.87	39.98	NA	33.89	33.89
B-216	Obispo Fm.	9/20/2011	73.87	39.95	NA	33.92	33.92
B-216	Obispo Fm.	11/14/2011	73.87	40.00	NA	33.87	33.87
B-216	Obispo Fm.	2/15/2012	73.87	40.15	NA	33.72	33.72
B-216	Obispo Fm.	5/7/2012	73.87	40.15	NA	33.72	33.72
B-216	Obispo Fm.	9/17/2012	73.87	40.15	NA	33.72	33.72
B-216	Obispo Fm.	11/5/2012	73.87	39.89	NA	33.98	33.98
B-217	Obispo Fm.	6/9/2003	76.40	44.11	NA	32.29	32.29
B-217	Obispo Fm.	8/18/2003	76.40	44.10	NA	32.30	32.30
B-217	Obispo Fm.	11/10/2003	76.40	44.44	NA	31.96	31.96
B-217	Obispo Fm.	2/23/2004	76.40	46.11	NA	30.29	30.29
B-217	Obispo Fm.	5/17/2004	76.40	46.88	NA	29.52	29.52
B-217	Obispo Fm.	8/9/2004	76.40	47.09	NA	29.31	29.31
B-217	Obispo Fm.	12/6/2004	76.40	47.23	NA	29.17	29.17
B-217	Obispo Fm.	3/7/2005	76.40	46.76	NA	29.64	29.64
B-217	Obispo Fm.	6/14/2005	76.40	46.57	NA	29.83	29.83
B-217	Obispo Fm.	9/26/2005	76.40	46.84	NA	29.56	29.56
B-217	Obispo Fm.	11/28/2005	76.40	46.91	NA	29.49	29.49
B-217	Obispo Fm.	3/1/2006	76.40	47.21	NA	29.19	29.19
B-217	Obispo Fm.	6/6/2006	76.40	46.46	NA	29.94	29.94
B-217	Obispo Fm.	9/12/2006	76.40	46.46	NA	29.94	29.94
B-217	Obispo Fm.	11/21/2006	76.40	46.48	NA	29.92	29.92
B-217	Obispo Fm.	3/21/2007	76.40	46.66	NA	29.74	29.74
B-217	Obispo Fm.	5/21/2007	76.40	46.90	NA	29.50	29.50
B-217	Obispo Fm.	9/18/2007	76.40	46.73	NA	29.67	29.67
B-217	Obispo Fm.	11/19/2007	76.40	46.83	NA	29.57	29.57
B-217	Obispo Fm.	3/19/2008	76.40	46.93	NA	29.47	29.47
B-217	Obispo Fm.	5/19/2008	76.40	46.82	NA	29.58	29.58
B-217	Obispo Fm.	9/15/2008	76.40	46.96	NA	29.44	29.44
B-217	Obispo Fm.	11/17/2008	76.40	47.09	NA	29.31	29.31
B-217	Obispo Fm.	2/24/2009	76.40	47.07	NA	29.33	29.33
B-217	Obispo Fm.	5/4/2009	76.40	46.92	NA	29.48	29.48
B-217	Obispo Fm.	9/23/2009	76.40	47.24	NA	29.16	29.16
B-217	Obispo Fm.	11/16/2009	76.40	47.21	NA	29.19	29.19
B-217	Obispo Fm.	2/25/2010	76.40	45.41	NA	30.99	30.99
B-217	Obispo Fm.	4/26/2010	76.40	46.41	NA	29.99	29.99
B-217	Obispo Fm.	9/16/2010	76.40	46.67	NA	29.73	29.73
B-217	Obispo Fm.	11/15/2010	76.40	46.53	NA	29.87	29.87
B-217	Obispo Fm.	2/17/2011	76.40	47.22	NA	29.18	29.18
B-217	Obispo Fm.	5/2/2011	76.40	46.28	NA	30.12	30.12
B-217	Obispo Fm.	9/20/2011	76.40	46.21	NA	30.19	30.19
B-217	Obispo Fm.	11/14/2011	76.40	46.16	NA	30.24	30.24
B-217	Obispo Fm.	2/15/2012	76.40	46.37	NA	30.03	30.03
B-217	Obispo Fm.	5/7/2012	76.40	46.26	NA	30.14	30.14

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B-217	Obispo Fm.	9/17/2012	76.40	46.42	NA	29.98	29.98
B-217	Obispo Fm.	11/5/2012	76.40	46.15	NA	30.25	30.25
B-223-48	Obispo Fm.	5/17/2004	88.93	46.47	NA	42.46	42.46
B-223-48	Obispo Fm.	8/9/2004	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	12/6/2004	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	3/7/2005	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	6/24/2005	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	9/26/2005	88.93	47.86	NA	41.07	41.07
B-223-48	Obispo Fm.	11/28/2005	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	3/1/2006	88.93	48.06	NA	40.87	40.87
B-223-48	Obispo Fm.	6/6/2006	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	9/12/2006	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	11/21/2006	88.93	47.95	NA	40.98	40.98
B-223-48	Obispo Fm.	3/21/2007	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	5/21/2007	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	9/18/2007	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	11/19/2007	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	3/19/2008	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	5/19/2008	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	9/15/2008	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	11/17/2008	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	2/24/2009	88.93	48.15	NA	40.78	40.78
B-223-48	Obispo Fm.	5/4/2009	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	9/23/2009	88.93	48.15	NA	40.78	40.78
B-223-48	Obispo Fm.	11/16/2009	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	2/25/2010	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	4/26/2010	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	9/16/2010	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	11/15/2010	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	2/17/2011	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	5/2/2011	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	9/20/2011	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	11/14/2011	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	2/15/2012	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	5/7/2012	88.93	48.11	NA	40.82	40.82
B-223-48	Obispo Fm.	9/17/2012	88.93	Dry	NA	NA	NA
B-223-48	Obispo Fm.	11/5/2012	88.93	47.99	NA	40.94	40.94
B-223-88	Obispo Fm.	5/17/2004	88.89	Dry	NA	NA	NA
B-223-88	Obispo Fm.	8/9/2004	88.89	84.53	NA	4.36	4.36
B-223-88	Obispo Fm.	12/6/2004	88.89	84.46	NA	4.43	4.43
B-223-88	Obispo Fm.	3/7/2005	88.89	84.02	NA	4.87	4.87
B-223-88	Obispo Fm.	6/24/2005	88.89	Dry	NA	NA	NA
B-223-88	Obispo Fm.	9/26/2005	88.89	83.40	NA	5.49	5.49
B-223-88	Obispo Fm.	11/28/2005	88.89	83.45	Sheen	5.44	5.44
B-223-88	Obispo Fm.	3/1/2006	88.89	83.99	NA	4.90	4.90

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B-223-88	Obispo Fm.	6/6/2006	88.89	82.93	NA	5.96	5.96
B-223-88	Obispo Fm.	9/12/2006	88.89	82.49	NA	6.40	6.40
B-223-88	Obispo Fm.	11/21/2006	88.89	82.59	NA	6.30	6.30
B-223-88	Obispo Fm.	3/21/2007	88.89	83.23	NA	5.66	5.66
B-223-88	Obispo Fm.	5/21/2007	88.89	83.11	NA	5.78	5.78
B-223-88	Obispo Fm.	9/18/2007	88.89	82.25	NA	6.64	6.64
B-223-88	Obispo Fm.	11/19/2007	88.89	82.73	NA	6.16	6.16
B-223-88	Obispo Fm.	3/19/2008	88.89	83.32	NA	5.57	5.57
B-223-88	Obispo Fm.	5/19/2008	88.89	83.03	NA	5.86	5.86
B-223-88	Obispo Fm.	9/15/2008	88.89	82.50	NA	6.39	6.39
B-223-88	Obispo Fm.	11/17/2008	88.89	82.84	NA	6.05	6.05
B-223-88	Obispo Fm.	2/24/2009	88.89	82.90	NA	5.99	5.99
B-223-88	Obispo Fm.	5/4/2009	88.89	82.98	NA	5.91	5.91
B-223-88	Obispo Fm.	9/23/2009	88.89	82.53	NA	6.36	6.36
B-223-88	Obispo Fm.	11/16/2009	88.89	82.71	NA	6.18	6.18
B-223-88	Obispo Fm.	2/25/2010	88.89	82.05	NA	6.84	6.84
B-223-88	Obispo Fm.	4/26/2010	88.89	82.16	NA	6.73	6.73
B-223-88	Obispo Fm.	9/16/2010	88.89	82.15	NA	6.74	6.74
B-223-88	Obispo Fm.	11/15/2010	88.89	82.52	NA	6.37	6.37
B-223-88	Obispo Fm.	2/17/2011	88.89	81.94	NA	6.95	6.95
B-223-88	Obispo Fm.	5/2/2011	88.89	81.58	NA	7.31	7.31
B-223-88	Obispo Fm.	9/20/2011	88.89	81.35	NA	7.54	7.54
B-223-88	Obispo Fm.	11/14/2011	88.89	81.17	NA	7.72	7.72
B-223-88	Obispo Fm.	2/15/2012	88.89	81.30	NA	7.59	7.59
B-223-88	Obispo Fm.	5/7/2012	88.89	81.04	NA	7.85	7.85
B-223-88	Obispo Fm.	9/17/2012	88.89	80.58	NA	8.31	8.31
B-223-88	Obispo Fm.	11/5/2012	88.89	80.75	NA	8.14	8.14
B-224	Obispo Fm.	9/20/2011	89.06	73.44	NA	15.62	15.62
B-224	Obispo Fm.	11/14/2011	89.06	74.10	NA	14.96	14.96
B-224	Obispo Fm.	2/15/2012	89.06	73.11	NA	15.95	15.95
B-224	Obispo Fm.	5/7/2012	89.06	71.70	NA	17.36	17.36
B-224	Obispo Fm.	9/17/2012	89.06	73.57	NA	15.49	15.49
B-224	Obispo Fm.	11/5/2012	89.06	74.21	NA	14.85	14.85
B-225	Obispo Fm.	9/20/2011	92.19	71.45	NA	20.74	20.74
B-225	Obispo Fm.	11/14/2011	92.19	71.79	NA	20.40	20.40
B-225	Obispo Fm.	2/15/2012	92.19	71.10	NA	21.09	21.09
B-225	Obispo Fm.	5/7/2012	92.19	70.61	NA	21.58	21.58
B-225	Obispo Fm.	9/17/2012	92.19	71.58	NA	20.61	20.61
B-225	Obispo Fm.	11/5/2012	92.19	72.70	NA	19.49	19.49
B-226	Obispo Fm.	9/20/2011	90.51	77.38	NA	13.13	13.13
B-226	Obispo Fm.	11/14/2011	90.51	77.12	NA	13.39	13.39
B-226	Obispo Fm.	2/15/2012	90.51	77.49	NA	13.02	13.02
B-226	Obispo Fm.	5/7/2012	90.51	77.18	NA	13.33	13.33
B-226	Obispo Fm.	9/17/2012	90.51	76.75	NA	13.76	13.76

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B-226	Obispo Fm.	11/5/2012	90.51	77.26	NA	13.25	13.25
B-230	Obispo Fm.	9/20/2011	95.38	91.95	NA	3.43	3.43
B-230	Obispo Fm.	11/14/2011	95.38	91.27	NA	4.11	4.11
B-230	Obispo Fm.	2/15/2012	95.38	92.74	NA	2.64	2.64
B-230	Obispo Fm.	5/7/2012	95.38	92.04	NA	3.34	3.34
B-230	Obispo Fm.	9/17/2012	95.38	91.72	NA	3.66	3.66
B-230	Obispo Fm.	11/5/2012	95.38	91.50	0.11	3.88	3.96
B-231	Obispo Fm.	9/20/2011	95.83	86.55	NA	9.28	9.28
B-231	Obispo Fm.	11/14/2011	95.83	86.95	NA	8.88	8.88
B-231	Obispo Fm.	2/15/2012	95.83	87.63	NA	8.20	8.20
B-231	Obispo Fm.	5/7/2012	95.83	77.83	NA	18.00	18.00
B-231	Obispo Fm.	9/17/2012	95.83	88.69	NA	7.14	7.14
B-231	Obispo Fm.	11/5/2012	95.83	89.33	NA	6.50	6.50
SP-1	Pismo Fm.	5/2/2001	171.75	112.95	NA	58.80	58.80
SP-1	Pismo Fm.	8/20/2001	171.75	114.24	NA	57.51	57.51
SP-1	Pismo Fm.	12/7/2001	171.75	116.22	NA	55.53	55.53
SP-1	Pismo Fm.	2/9/2002	171.75	116.09	NA	55.66	55.66
SP-1	Pismo Fm.	5/28/2002	171.75	116.50	Sheen	55.25	55.25
SP-1	Pismo Fm.	8/26/2002	171.75	117.43	NA	54.32	54.32
SP-1	Pismo Fm.	11/12/2002	171.75	118.53	NA	53.22	53.22
SP-1	Pismo Fm.	3/10/2003	171.75	118.99	NA	52.76	52.76
SP-1	Pismo Fm.	6/9/2003	171.75	118.41	NA	53.34	53.34
SP-1	Pismo Fm.	8/18/2003	171.75	118.85	NA	52.90	52.90
SP-1	Pismo Fm.	11/10/2003	171.75	119.87	NA	51.88	51.88
SP-1	Pismo Fm.	2/23/2004	171.75	Dry	NA	NA	NA
SP-1	Pismo Fm.	5/17/2004	171.75	Dry	NA	NA	NA
SP-1	Pismo Fm.	8/9/2004	171.75	Dry	NA	NA	NA
SP-1	Pismo Fm.	12/6/2004	171.75	Dry	NA	NA	NA
SP-1	Pismo Fm.	3/7/2005	171.75	117.08	NA	54.67	54.67
SP-1	Pismo Fm.	6/14/2005	171.75	113.64	NA	58.11	58.11
SP-1	Pismo Fm.	9/26/2005	171.75	-	NA	NA	NA
SP-1	Pismo Fm.	11/28/2005	171.75	115.77	NA	55.98	55.98
SP-1	Pismo Fm.	6/6/2006	171.75	111.45	NA	60.30	60.30
SP-1	Pismo Fm.	11/20/2006	171.75	114.24	NA	57.51	57.51
SP-1	Pismo Fm.	5/21/2007	171.75	116.24	NA	55.51	55.51
SP-1	Pismo Fm.	11/19/2007	171.75	118.82	NA	52.93	52.93
SP-1	Pismo Fm.	5/19/2008	171.75	117.93	NA	53.82	53.82
SP-1	Pismo Fm.	9/15/2008	171.75	-	NA	NA	NA
SP-1	Pismo Fm.	11/17/2008	171.75	120.28	NA	51.47	51.47
SP-1	Pismo Fm.	5/4/2009	171.75	121.00	NA	50.75	50.75
SP-1	Pismo Fm.	11/16/2009	171.75	121.98	NA	49.77	49.77
SP-1	Pismo Fm.	4/26/2010	171.75	117.58	NA	54.17	54.17
SP-1	Pismo Fm.	11/15/2010	171.75	119.90	NA	51.85	51.85
SP-1	Pismo Fm.	5/2/2011	171.75	107.07	NA	64.68	64.68

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SP-1	Pismo Fm.	11/14/2011	171.75	113.83	NA	57.92	57.92
SP-1	Pismo Fm.	5/7/2012	171.75	115.69	NA	56.06	56.06
SP-1	Pismo Fm.	11/5/2012	171.75	117.54	NA	54.21	54.21
SP-2	Obispo Fm.	8/20/2001	92.61	37.07	Sheen	55.54	55.54
SP-2	Obispo Fm.	12/7/2001	92.61	38.39	Sheen	54.22	54.22
SP-2	Obispo Fm.	2/9/2002	92.61	37.93	Sheen	54.68	54.68
SP-2	Obispo Fm.	5/28/2002	92.61	36.76	Sheen	55.85	55.85
SP-2	Obispo Fm.	8/26/2002	92.61	37.54	Sheen	55.07	55.07
SP-2	Obispo Fm.	11/12/2002	92.61	38.80	Sheen	53.81	53.81
SP-2	Obispo Fm.	3/10/2003	92.61	38.82	Trace	53.79	53.79
SP-2	Obispo Fm.	6/9/2003	92.61	38.84	Trace	53.77	53.77
SP-2	Obispo Fm.	8/18/2003	92.61	39.33	Trace	53.28	53.28
SP-2	Obispo Fm.	11/10/2003	92.61	40.56	0.01	52.05	52.06
SP-2	Obispo Fm.	2/23/2004	92.61	47.20	Sheen	45.41	45.41
SP-2	Obispo Fm.	5/17/2004	92.61	48.85	Sheen	43.76	43.76
SP-2	Obispo Fm.	8/9/2004	92.61	49.98	Sheen	42.63	42.63
SP-2	Obispo Fm.	12/6/2004	92.61	50.63	Sheen	41.98	41.98
SP-2	Obispo Fm.	3/7/2005	92.61	49.98	Sheen	42.63	42.63
SP-2	Obispo Fm.	6/14/2005	92.61	Dry	NA	NA	NA
SP-2	Obispo Fm.	9/26/2005	92.61	-	NA	NA	NA
SP-2	Obispo Fm.	11/28/2005	92.61	49.87	Trace	42.74	42.74
SP-2	Obispo Fm.	3/1/2006	92.61	-	NA	NA	NA
SP-2	Obispo Fm.	6/6/2006	92.61	48.39	NA	44.22	44.22
SP-2	Obispo Fm.	11/21/2006	92.61	49.09	NA	43.52	43.52
SP-2	Obispo Fm.	5/22/2007	92.61	49.30	Sheen*	43.31	43.31
SP-2	Obispo Fm.	11/20/2007	92.61	50.06	Sheen*	42.55	42.55
SP-2	Obispo Fm.	5/19/2008	92.61	50.03	0.01	42.58	42.59
SP-2	Obispo Fm.	9/15/2008	92.61	-	NA	NA	NA
SP-2	Obispo Fm.	11/17/2008	92.61	50.30	NA	42.31	42.31
SP-2	Obispo Fm.	5/4/2009	92.61	50.62	0.01	41.99	42.00
SP-2	Obispo Fm.	11/16/2009	92.61	50.88	Sheen	41.73	41.73
SP-2	Obispo Fm.	4/26/2010	92.61	50.45	Sheen	42.16	42.16
SP-2	Obispo Fm.	11/15/2010	92.61	50.27	Sheen	42.34	42.34
SP-2	Obispo Fm.	5/2/2011	92.61	49.10	Sheen	43.51	43.51
SP-2	Obispo Fm.	11/14/2011	92.61	48.88	Sheen	43.73	43.73
SP-2	Obispo Fm.	5/7/2012	92.61	48.71	Sheen	43.90	43.90
SP-2	Obispo Fm.	11/5/2012	92.61	48.82	Sheen	43.79	43.79
SP-3	Pismo Fm.	5/2/2001	136.79	13.60	Sheen	123.19	123.19
SP-3	Pismo Fm.	8/20/2001	136.79	21.66	Slight Sheen	115.13	115.13
SP-3	Pismo Fm.	12/7/2001	136.79	15.51	Sheen	121.28	121.28
SP-3	Pismo Fm.	2/9/2002	136.79	8.21	NA	128.58	128.58
SP-3	Pismo Fm.	5/28/2002	136.79	20.65	Sheen	116.14	116.14
SP-3	Pismo Fm.	8/26/2002	136.79	25.86	Sheen	110.92	110.92
SP-3	Pismo Fm.	11/12/2002	136.79	24.30	Sheen	112.49	112.49
SP-3	Pismo Fm.	3/10/2003	136.79	12.04	Sheen	124.75	124.75

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SP-3	Pismo Fm.	6/9/2003	136.79	16.80	Sheen	119.99	119.99
SP-3	Pismo Fm.	8/18/2003	136.79	20.52	Sheen	116.27	116.27
SP-3	Pismo Fm.	11/10/2003	136.79	Dry	NA	NA	NA
SP-3	Pismo Fm.	2/23/2004	136.79	22.08	Sheen	114.71	114.71
SP-3	Pismo Fm.	5/17/2004	136.79	24.89	Sheen	111.90	111.90
SP-3	Pismo Fm.	8/9/2004	136.79	Dry	NA	NA	NA
SP-3	Pismo Fm.	12/6/2004	136.79	24.70	NA	112.09	112.09
SP-3	Pismo Fm.	6/14/2005	136.79	-	NA	NA	NA
SP-3	Pismo Fm.	9/26/2005	136.79	-	NA	NA	NA
SP-3	Pismo Fm.	11/28/2005	136.79	-	NA	NA	NA
SP-3	Pismo Fm.	3/1/2006	136.79	-	NA	NA	NA
SP-4	Pismo Fm.	5/2/2001	151.99	42.06	NA	109.93	109.93
SP-4	Pismo Fm.	8/20/2001	151.99	47.65	NA	104.34	104.34
SP-4	Pismo Fm.	12/7/2001	151.99	52.59	NA	99.40	99.40
SP-4	Pismo Fm.	2/9/2002	151.99	40.50	NA	111.49	111.49
SP-4	Pismo Fm.	5/28/2002	151.99	46.50	Sheen	105.49	105.49
SP-4	Pismo Fm.	8/26/2002	151.99	49.89	Sheen	102.10	102.10
SP-4	Pismo Fm.	11/12/2002	151.99	54.29	Sheen	97.70	97.70
SP-4	Pismo Fm.	3/10/2003	151.99	46.78	Sheen	105.21	105.21
SP-4	Pismo Fm.	6/9/2003	151.99	45.45	Sheen	106.54	106.54
SP-4	Pismo Fm.	8/18/2003	151.99	48.51	Sheen	103.48	103.48
SP-4	Pismo Fm.	11/10/2003	151.99	54.40	Sheen	97.59	97.59
SP-4	Pismo Fm.	2/23/2004	151.99	55.31	Sheen	96.68	96.68
SP-4	Pismo Fm.	5/17/2004	151.99	53.05	Sheen	98.94	98.94
SP-4	Pismo Fm.	8/9/2004	151.99	58.65	Sheen	93.34	93.34
SP-4	Pismo Fm.	12/6/2004	151.99	54.89	Sheen	97.10	97.10
SP-4	Pismo Fm.	6/14/2005	151.99	-	NA	NA	NA
SP-4	Pismo Fm.	9/26/2005	151.99	-	NA	NA	NA
SP-4	Pismo Fm.	11/28/2005	151.99	55.32	NA	96.67	96.67
SP-4	Pismo Fm.	3/1/2006	151.99	-	NA	NA	NA
SP-5	Pismo/Obispo	5/2/2001	134.75	32.03	0.09	102.72	102.81
SP-5	Pismo/Obispo	8/20/2001	134.75	39.62	0.81	95.13	96.31
SP-5	Pismo/Obispo	12/7/2001	134.75	40.18	0.42	94.57	94.95
SP-5	Pismo/Obispo	2/9/2002	134.75	36.68	Sheen	98.07	98.07
SP-5	Pismo/Obispo	5/28/2002	134.75	42.39	3.06	92.36	95.12
SP-5	Pismo/Obispo	8/26/2002	134.75	45.76	5.92	88.99	94.33
SP-5	Pismo/Obispo	11/12/2002	134.75	48.33	7.04	86.42	92.76
SP-5	Pismo/Obispo	3/10/2003	134.75	47.74	11.78	87.01	97.62
SP-5	Pismo/Obispo	6/9/2003	134.75	52.36	16.78	82.39	97.50
SP-5	Pismo/Obispo	8/18/2003	134.75	55.57	18.20	79.18	95.56
SP-5	Pismo/Obispo	11/10/2003	134.75	57.07	16.73	77.68	92.74
SP-5	Pismo/Obispo	2/23/2004	134.75	56.05	18.06	78.70	94.96
SP-5	Pismo/Obispo	5/17/2004	134.75	57.00	16.65	77.75	92.74
SP-5	Pismo/Obispo	8/9/2004	134.75	57.40	11.52	77.35	87.72

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SP-5	Pismo/Obispo	12/6/2004	134.75	52.05	8.85	82.70	90.67
SP-5	Pismo/Obispo	6/14/2005	134.75	-	NA	NA	NA
SP-5	Pismo/Obispo	9/26/2005	134.75	-	NA	NA	NA
SP-5	Pismo/Obispo	11/28/2005	134.75	-	NA	NA	NA
SP-5	Pismo/Obispo	3/1/2006	134.75	-	NA	NA	NA
SP-6	Pismo/Obispo	5/2/2001	153.67	Dry	NA	NA	NA
SP-6	Pismo/Obispo	8/20/2001	153.67	52.13	Slight Sheen	101.54	101.54
SP-6	Pismo/Obispo	12/7/2001	153.67	52.00	Sheen	101.67	101.67
SP-6	Pismo/Obispo	2/9/2002	153.67	Dry	NA	NA	NA
SP-6	Pismo/Obispo	5/28/2002	153.67	Dry	NA	NA	NA
SP-6	Pismo/Obispo	8/26/2002	153.67	Dry	NA	NA	NA
SP-6	Pismo/Obispo	11/12/2002	153.67	Dry	NA	NA	NA
SP-6	Pismo/Obispo	3/10/2003	153.67	Dry	Trace	NA	NA
SP-6	Pismo/Obispo	6/9/2003	153.67	Dry	NA	NA	NA
SP-6	Pismo/Obispo	8/18/2003	153.67	Dry	Trace	NA	NA
SP-6	Pismo/Obispo	11/10/2003	153.67	Dry	Trace	NA	NA
SP-6	Pismo/Obispo	2/23/2004	153.67	Dry	NA	NA	NA
SP-6	Pismo/Obispo	5/17/2004	153.67	Dry	NA	NA	NA
SP-6	Pismo/Obispo	8/9/2004	153.67	Dry	NA	NA	NA
SP-6	Pismo/Obispo	12/6/2004	153.67	Dry	NA	NA	NA
SP-6	Pismo/Obispo	3/7/2005	153.67	52.11	0.02	101.56	101.58
SP-6	Pismo/Obispo	6/24/2005	153.67	48.03	0.13	105.64	105.76
SP-6	Pismo/Obispo	9/26/2005	153.67	-	NA	NA	NA
SP-6	Pismo/Obispo	11/28/2005	153.67	51.84	Sheen	101.83	101.83
SP-6	Pismo/Obispo	3/1/2006	153.67	-	NA	NA	NA
SP-6	Pismo/Obispo	6/6/2006	153.67	49.04	0.05 ft on 6/23/06	104.63	104.63
SP-6	Pismo/Obispo	11/20/2006	153.67	51.91	NA	101.76	101.76
SP-6	Pismo/Obispo	5/21/2007	153.67	Dry	NA	NA	NA
SP-6	Pismo/Obispo	11/20/2007	153.67	52.18	Sheen	101.49	101.49
SP-6	Pismo/Obispo	5/19/2008	153.67	52.08	Sheen	101.59	101.59
SP-6	Pismo/Obispo	9/15/2008	153.67	-	NA	NA	NA
SP-6	Pismo/Obispo	11/17/2008	153.67	Dry	NA	NA	NA
SP-6	Pismo/Obispo	5/4/2009	153.67	52.00	0.02	101.67	101.69
SP-6	Pismo/Obispo	11/16/2009	153.67	Dry	NA	NA	NA
SP-6	Pismo/Obispo	4/26/2010	153.67	51.87	Sheen	101.80	101.80
SP-6	Pismo/Obispo	11/15/2010	153.67	Dry	NA	NA	NA
SP-6	Pismo/Obispo	5/2/2011	153.67	51.85	Sheen	101.82	101.82
SP-6	Pismo/Obispo	11/14/2011	153.67	51.88	Sheen	101.79	101.79
SP-6	Pismo/Obispo	5/7/2012	153.67	51.65	Sheen	102.02	102.02
SP-6	Pismo/Obispo	11/5/2012	153.67	51.88	Sheen	101.79	101.79
SP-7A	Pismo Fm.	5/2/2001	217.54	97.25	NA	120.29	120.29
SP-7A	Pismo Fm.	8/20/2001	217.54	105.21	NA	112.33	112.33
SP-7A	Pismo Fm.	12/7/2001	217.54	105.88	NA	111.66	111.66
SP-7A	Pismo Fm.	2/9/2002	217.54	99.08	NA	118.46	118.46
SP-7A	Pismo Fm.	5/28/2002	217.54	104.03	NA	113.51	113.51

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SP-7A	Pismo Fm.	8/26/2002	217.54	109.54	NA	108.00	108.00
SP-7A	Pismo Fm.	11/12/2002	217.54	112.89	NA	104.65	104.65
SP-7A	Pismo Fm.	3/10/2003	217.54	100.48	NA	117.06	117.06
SP-7A	Pismo Fm.	6/9/2003	217.54	99.57	NA	117.97	117.97
SP-7A	Pismo Fm.	8/18/2003	217.54	104.88	NA	112.66	112.66
SP-7A	Pismo Fm.	11/10/2003	217.54	110.93	NA	106.61	106.61
SP-7A	Pismo Fm.	2/23/2004	217.54	108.90	NA	108.64	108.64
SP-7A	Pismo Fm.	5/17/2004	217.54	108.18	NA	109.36	109.36
SP-7A	Pismo Fm.	8/9/2004	217.54	113.71	NA	103.83	103.83
SP-7A	Pismo Fm.	12/6/2004	217.54	112.40	NA	105.14	105.14
SP-7A	Pismo Fm.	3/7/2005	217.54	92.55	NA	124.99	124.99
SP-7A	Pismo Fm.	6/14/2005	217.54	100.18	NA	117.36	117.36
SP-7A	Pismo Fm.	9/26/2005	217.54	-	NA	NA	NA
SP-7A	Pismo Fm.	11/28/2005	217.54	Dry	NA	NA	NA
SP-7A	Pismo Fm.	3/1/2006	217.54	-	NA	NA	NA
SP-7A	Pismo Fm.	6/6/2006	217.54	94.63	NA	122.91	122.91
SP-7A	Pismo Fm.	11/20/2006	217.54	110.80	NA	106.74	106.74
SP-7A	Pismo Fm.	5/21/2007	217.54	107.73	NA	109.81	109.81
SP-7A	Pismo Fm.	11/19/2007	217.54	120.37	NA	97.17	97.17
SP-7A	Pismo Fm.	5/19/2008	217.54	110.01	NA	107.53	107.53
SP-7A	Pismo Fm.	9/15/2008	217.54	-	NA	NA	NA
SP-7A	Pismo Fm.	11/17/2008	217.54	120.26	NA	97.28	97.28
SP-7A	Pismo Fm.	5/4/2009	217.54	113.29	NA	104.25	104.25
SP-7A	Pismo Fm.	11/16/2009	217.54	118.41	NA	99.13	99.13
SP-7A	Pismo Fm.	4/26/2010	217.54	98.15	NA	119.39	119.39
SP-7A	Pismo Fm.	11/15/2010	217.54	114.97	NA	102.57	102.57
SP-7A	Pismo Fm.	5/2/2011	217.54	93.37	NA	124.17	124.17
SP-7A	Pismo Fm.	11/14/2011	217.54	110.63	NA	106.91	106.91
SP-7A	Pismo Fm.	5/7/2012	217.54	95.52	NA	122.02	122.02
SP-7A	Pismo Fm.	11/5/2012	217.54	114.37	NA	103.17	103.17
SP-8	Pismo Fm.	5/2/2001	182.58	57.89	Sheen	124.69	124.69
SP-8	Pismo Fm.	8/20/2001	182.58	64.45	Slight Sheen	118.13	118.13
SP-8	Pismo Fm.	12/7/2001	182.58	67.41	Sheen	115.17	115.17
SP-8	Pismo Fm.	2/9/2002	182.58	64.75	Sheen	117.83	117.83
SP-8	Pismo Fm.	5/28/2002	182.58	64.40	Sheen	118.18	118.18
SP-8	Pismo Fm.	8/26/2002	182.58	66.81	Sheen	115.77	115.77
SP-8	Pismo Fm.	11/12/2002	182.58	68.88	Sheen	113.70	113.70
SP-8	Pismo Fm.	3/10/2003	182.58	66.52	Sheen	116.06	116.06
SP-8	Pismo Fm.	6/9/2003	182.58	64.65	Trace	117.93	117.93
SP-8	Pismo Fm.	8/18/2003	182.58	65.50	Trace	117.08	117.08
SP-8	Pismo Fm.	11/10/2003	182.58	67.81	Trace	114.77	114.77
SP-8	Pismo Fm.	2/23/2004	182.58	70.73	Sheen	111.85	111.85
SP-8	Pismo Fm.	5/17/2004	182.58	69.49	Sheen	113.09	113.09
SP-8	Pismo Fm.	8/9/2004	182.58	72.20	Sheen	110.38	110.38
SP-8	Pismo Fm.	12/6/2004	182.58	73.18	Sheen	109.40	109.40
SP-8	Pismo Fm.	6/14/2005	182.58	63.21	NA	119.37	119.37

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SP-8	Pismo Fm.	9/26/2005	182.58	-	NA	NA	NA
SP-8	Pismo Fm.	11/28/2005	182.58	-	NA	NA	NA
SP-8	Pismo Fm.	6/6/2006	182.58	63.21	NA	119.37	119.37
SP-8	Pismo Fm.	3/1/2006	182.58	-	NA	NA	NA
SP-9	Obispo Fm.	5/2/2001	223.53	100.58	NA	122.95	122.95
SP-9	Obispo Fm.	8/20/2001	223.53	101.52	NA	122.01	122.01
SP-9	Obispo Fm.	12/7/2001	223.53	102.45	NA	121.08	121.08
SP-9	Obispo Fm.	2/11/2002	223.53	101.07	NA	122.46	122.46
SP-9	Obispo Fm.	5/28/2002	223.53	101.76	NA	121.77	121.77
SP-9	Obispo Fm.	8/26/2002	223.53	102.60	NA	120.93	120.93
SP-9	Obispo Fm.	11/12/2002	223.53	103.25	NA	120.28	120.28
SP-9	Obispo Fm.	3/10/2003	223.53	102.15	NA	121.38	121.38
SP-9	Obispo Fm.	6/9/2003	223.53	101.21	NA	122.32	122.32
SP-9	Obispo Fm.	8/18/2003	223.53	101.71	NA	121.82	121.82
SP-9	Obispo Fm.	11/10/2003	223.53	103.20	NA	120.33	120.33
SP-9	Obispo Fm.	2/23/2004	223.53	Dry	NA	NA	NA
SP-9	Obispo Fm.	5/17/2004	223.53	Dry	NA	NA	NA
SP-9	Obispo Fm.	8/9/2004	223.53	Dry	NA	NA	NA
SP-9	Obispo Fm.	12/6/2004	223.53	Dry	NA	NA	NA
SP-9	Obispo Fm.	3/7/2005	223.53	102.88	NA	120.65	120.65
SP-9	Obispo Fm.	6/14/2005	223.53	101.33	NA	122.20	122.20
SP-9	Obispo Fm.	9/26/2005	223.53	-	NA	NA	NA
SP-9	Obispo Fm.	11/28/2005	223.53	104.65	NA	118.88	118.88
SP-9	Obispo Fm.	3/1/2006	223.53	-	NA	NA	NA
SP-9	Obispo Fm.	6/6/2006	223.53	-	NA	NA	NA
SP-9	Obispo Fm.	11/20/2006	223.53	103.14	NA	120.39	120.39
SP-9	Obispo Fm.	5/21/2007	223.53	103.09	NA	120.44	120.44
SP-9	Obispo Fm.	11/20/2007	223.53	104.97	NA	118.56	118.56
SP-9	Obispo Fm.	5/19/2008	223.53	102.44	NA	121.09	121.09
SP-9	Obispo Fm.	9/15/2008	223.53	-	NA	NA	NA
SP-9	Obispo Fm.	11/17/2008	223.53	104.87	NA	118.66	118.66
SP-9	Obispo Fm.	5/4/2009	223.53	104.06	NA	119.47	119.47
SP-9	Obispo Fm.	11/16/2009	223.53	105.76	NA	117.77	117.77
SP-9	Obispo Fm.	4/26/2010	223.53	101.08	NA	122.45	122.45
SP-9	Obispo Fm.	11/15/2010	223.53	102.98	NA	120.55	120.55
SP-9	Obispo Fm.	5/2/2011	223.53	96.21	NA	127.32	127.32
SP-9	Obispo Fm.	11/14/2011	223.53	101.13	NA	122.40	122.40
SP-9	Obispo Fm.	5/7/2012	223.53	100.05	NA	123.48	123.48
SP-9	Obispo Fm.	11/5/2012	223.53	102.68	NA	120.85	120.85
GMW-14	Pismo Fm.	5/18/1998	135.76	64.55	NA	71.21	71.21
GMW-14	Pismo Fm.	6/19/1998	135.76	66.77	NA	68.99	68.99
GMW-14	Pismo Fm.	7/23/1998	135.76	68.84	NA	66.92	66.92
GMW-14	Pismo Fm.	8/17/1998	135.76	69.96	NA	65.80	65.80
GMW-14	Pismo Fm.	9/29/1998	135.76	71.93	NA	63.83	63.83
GMW-14	Pismo Fm.	11/22/1998	135.76	73.76	NA	62.00	62.00

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GMW-14	Pismo Fm.	12/23/1998	135.76	74.54	NA	61.22	61.22
GMW-14	Pismo Fm.	1/29/1999	135.76	75.31	NA	60.45	60.45
GMW-14	Pismo Fm.	2/25/1999	135.76	74.89	NA	60.87	60.87
GMW-14	Pismo Fm.	3/5/1999	135.76	74.68	NA	61.08	61.08
GMW-14	Pismo Fm.	4/9/1999	135.76	74.21	NA	61.55	61.55
GMW-14	Pismo Fm.	5/27/1999	135.76	74.18	NA	61.58	61.58
GMW-14	Pismo Fm.	6/17/1999	135.76	74.10	NA	61.66	61.66
GMW-14	Pismo Fm.	8/2/1999	135.76	75.40	NA	60.36	60.36
GMW-14	Pismo Fm.	8/25/1999	135.76	75.53	NA	60.23	60.23
GMW-14	Pismo Fm.	9/22/1999	135.76	76.52	NA	59.24	59.24
GMW-14	Pismo Fm.	11/4/1999	135.76	77.32	NA	58.44	58.44
GMW-14	Pismo Fm.	11/18/1999	135.76	77.81	NA	57.95	57.95
GMW-14	Pismo Fm.	12/23/1999	135.76	77.66	NA	58.10	58.10
GMW-14	Pismo Fm.	1/24/2000	135.76	78.02	NA	57.74	57.74
GMW-14	Pismo Fm.	2/22/2000	135.76	78.82	NA	56.94	56.94
GMW-14	Pismo Fm.	3/23/2000	135.76	75.53	NA	60.23	60.23
GMW-14	Pismo Fm.	4/29/2000	135.76	75.58	NA	60.18	60.18
GMW-14	Pismo Fm.	5/22/2000	135.76	75.11	NA	60.65	60.65
GMW-14	Pismo Fm.	6/22/2000	135.76	75.16	NA	60.60	60.60
GMW-14	Pismo Fm.	7/20/2000	135.76	76.46	NA	59.30	59.30
GMW-14	Pismo Fm.	8/28/2000	135.76	77.42	NA	58.34	58.34
GMW-14	Pismo Fm.	9/26/2000	135.76	78.15	NA	57.61	57.61
GMW-14	Pismo Fm.	10/31/2000	135.76	79.05	NA	56.71	56.71
GMW-14	Pismo Fm.	11/27/2000	135.76	79.45	NA	56.31	56.31
GMW-14	Pismo Fm.	2/19/2001	135.76	80.33	NA	55.43	55.43
GMW-14	Pismo Fm.	5/2/2001	135.76	77.13	NA	58.63	58.63
GMW-14	Pismo Fm.	8/20/2001	135.76	79.31	NA	56.45	56.45
GMW-14	Pismo Fm.	12/7/2001	135.76	81.38	NA	54.38	54.38
GMW-14	Pismo Fm.	2/9/2002	135.76	80.89	NA	54.87	54.87
GMW-14	Pismo Fm.	5/28/2002	135.76	81.79	NA	53.97	53.97
GMW-14	Pismo Fm.	8/26/2002	135.76	82.91	NA	52.85	52.85
GMW-14	Pismo Fm.	11/12/2002	135.76	83.69	NA	52.07	52.07
GMW-14	Pismo Fm.	3/10/2003	135.76	84.02	NA	51.74	51.74
GMW-14	Pismo Fm.	6/9/2003	135.76	83.71	NA	52.05	52.05
GMW-14	Pismo Fm.	8/18/2003	135.76	84.41	NA	51.35	51.35
GMW-14	Pismo Fm.	11/10/2003	135.76	85.08	NA	50.68	50.68
GMW-14	Pismo Fm.	2/23/2004	135.76	84.21	NA	51.55	51.55
GMW-14	Pismo Fm.	5/17/2004	135.76	83.66	NA	52.10	52.10
GMW-14	Pismo Fm.	8/9/2004	135.76	84.57	NA	51.19	51.19
GMW-14	Pismo Fm.	12/6/2004	135.76	85.46	NA	50.30	50.30
GMW-14	Pismo Fm.	3/7/2005	135.76	80.46	NA	55.30	55.30
GMW-14	Pismo Fm.	6/20/2005	135.76	77.90	NA	57.86	57.86
GMW-14	Pismo Fm.	9/26/2005	135.76	-	NA	NA	NA
GMW-14	Pismo Fm.	11/28/2005	135.76	80.54	NA	55.22	55.22
GMW-14	Pismo Fm.	3/1/2006	135.76	-	NA	NA	NA
GMW-14	Pismo Fm.	6/6/2006	135.76	75.22	NA	60.54	60.54
GMW-14	Pismo Fm.	11/20/2006	135.76	79.10	NA	56.66	56.66

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GMW-14	Pismo Fm.	5/21/2007	135.76	83.10	NA	52.66	52.66
GMW-14	Pismo Fm.	11/19/2007	135.76	83.26	NA	52.50	52.50
GMW-14	Pismo Fm.	5/19/2008	135.76	82.41	NA	53.35	53.35
GMW-14	Pismo Fm.	11/17/2008	135.76	84.86	NA	50.90	50.90
GMW-14	Pismo Fm.	5/4/2009	135.76	85.69	NA	50.07	50.07
GMW-14	Pismo Fm.	11/16/2009	135.76	87.51	NA	48.25	48.25
GMW-14	Pismo Fm.	4/26/2010	135.76	83.17	NA	52.59	52.59
GMW-14	Pismo Fm.	11/15/2010	135.76	84.45	NA	51.31	51.31
GMW-14	Pismo Fm.	5/2/2011	135.76	73.28	NA	62.48	62.48
GMW-14	Pismo Fm.	11/14/2011	135.76	79.03	NA	56.73	56.73
GMW-14	Pismo Fm.	5/7/2012	135.76	79.99	NA	55.77	55.77
GMW-14	Pismo Fm.	11/5/2012	135.76	82.48	NA	53.28	53.28
GMW-15	Obispo Fm.	2/16/1998	84.93	11.75	NA	73.18	73.18
GMW-15	Obispo Fm.	5/18/1998	84.93	20.85	NA	64.08	64.08
GMW-15	Obispo Fm.	6/19/1998	84.93	21.61	NA	63.32	63.32
GMW-15	Obispo Fm.	7/23/1998	84.93	22.90	NA	62.03	62.03
GMW-15	Obispo Fm.	8/17/1998	84.93	24.20	NA	60.73	60.73
GMW-15	Obispo Fm.	9/29/1998	84.93	25.26	NA	59.67	59.67
GMW-15	Obispo Fm.	11/22/1998	84.93	24.66	NA	60.27	60.27
GMW-15	Obispo Fm.	12/23/1998	84.93	26.50	NA	58.43	58.43
GMW-15	Obispo Fm.	1/29/1999	84.93	25.74	NA	59.19	59.19
GMW-15	Obispo Fm.	2/25/1999	84.93	22.21	NA	62.72	62.72
GMW-15	Obispo Fm.	3/5/1999	84.93	22.92	NA	62.01	62.01
GMW-15	Obispo Fm.	4/9/1999	84.93	19.74	NA	65.19	65.19
GMW-15	Obispo Fm.	5/27/1999	84.93	22.88	NA	62.05	62.05
GMW-15	Obispo Fm.	6/17/1999	84.93	24.03	NA	60.90	60.90
GMW-15	Obispo Fm.	8/2/1999	84.93	26.07	NA	58.86	58.86
GMW-15	Obispo Fm.	8/25/1999	84.93	26.33	NA	58.60	58.60
GMW-15	Obispo Fm.	9/22/1999	84.93	27.60	NA	57.33	57.33
GMW-15	Obispo Fm.	11/4/1999	84.93	28.49	NA	56.44	56.44
GMW-15	Obispo Fm.	11/18/1999	84.93	29.01	NA	55.92	55.92
GMW-15	Obispo Fm.	12/23/1999	84.93	28.85	NA	56.08	56.08
GMW-15	Obispo Fm.	1/24/2000	84.93	30.27	NA	54.66	54.66
GMW-15	Obispo Fm.	2/22/2000	84.93	13.26	NA	71.67	71.67
GMW-15	Obispo Fm.	3/23/2000	84.93	18.78	NA	66.15	66.15
GMW-15	Obispo Fm.	4/29/2000	84.93	21.95	NA	62.98	62.98
GMW-15	Obispo Fm.	5/22/2000	84.93	24.32	NA	60.61	60.61
GMW-15	Obispo Fm.	6/22/2000	84.93	25.99	NA	58.94	58.94
GMW-15	Obispo Fm.	7/20/2000	84.93	26.40	NA	58.53	58.53
GMW-15	Obispo Fm.	8/28/2000	84.93	27.39	NA	57.54	57.54
GMW-15	Obispo Fm.	9/26/2000	84.93	28.13	NA	56.80	56.80
GMW-15	Obispo Fm.	10/31/2000	84.93	28.95	NA	55.98	55.98
GMW-15	Obispo Fm.	11/27/2000	84.93	29.36	NA	55.57	55.57
GMW-15	Obispo Fm.	2/19/2001	84.93	15.66	NA	69.27	69.27
GMW-15	Obispo Fm.	5/2/2001	84.93	23.76	NA	61.17	61.17
GMW-15	Obispo Fm.	8/20/2001	84.93	27.44	NA	57.49	57.49

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GMW-15	Obispo Fm.	12/7/2001	84.93	24.74	NA	60.19	60.19
GMW-15	Obispo Fm.	2/9/2002	84.93	25.15	NA	59.78	59.78
GMW-15	Obispo Fm.	5/28/2002	84.93	28.24	NA	56.69	56.69
GMW-15	Obispo Fm.	8/26/2002	84.93	-	Inaccessible - well paved over		
GMW-15	Obispo Fm.	11/12/2002	84.93	30.59	NA	54.34	54.34
GMW-15	Obispo Fm.	3/10/2003	84.93	30.17	NA	54.76	54.76
GMW-15	Obispo Fm.	6/9/2003	84.93	30.46	NA	54.47	54.47
GMW-15	Obispo Fm.	8/18/2003	84.93	31.29	NA	53.64	53.64
GMW-15	Obispo Fm.	11/10/2003	84.93	32.21	NA	52.72	52.72
GMW-15	Obispo Fm.	2/23/2004	84.93	22.47	NA	62.46	62.46
GMW-15	Obispo Fm.	5/17/2004	84.93	29.48	NA	55.45	55.45
GMW-15	Obispo Fm.	8/9/2004	84.93	31.10	NA	53.83	53.83
GMW-15	Obispo Fm.	12/6/2004	84.93	30.33	NA	54.60	54.60
GMW-15	Obispo Fm.	3/7/2005	84.93	16.71	NA	68.22	68.22
GMW-15	Obispo Fm.	6/20/2005	84.93	25.09	NA	59.84	59.84
GMW-15	Obispo Fm.	9/26/2005	84.93	-	NA	NA	NA
GMW-15	Obispo Fm.	11/28/2005	84.93	28.39	NA	56.54	56.54
GMW-15	Obispo Fm.	3/1/2006	84.93	-	NA	NA	NA
GMW-15	Obispo Fm.	6/6/2006	84.93	19.79	NA	65.14	65.14
GMW-15	Obispo Fm.	11/20/2006	84.93	28.02	NA	56.91	56.91
GMW-15	Obispo Fm.	5/21/2007	84.93	27.16	NA	57.77	57.77
GMW-15	Obispo Fm.	11/19/2007	84.93	31.31	NA	53.62	53.62
GMW-15	Obispo Fm.	5/19/2008	84.93	26.94	NA	57.99	57.99
GMW-15	Obispo Fm.	9/15/2008	84.93	-	NA	NA	NA
GMW-15	Obispo Fm.	11/17/2008	84.93	30.60	NA	54.33	54.33
GMW-15	Obispo Fm.	5/4/2009	84.93	27.56	NA	57.37	57.37
GMW-15	Obispo Fm.	11/16/2009	84.93	31.10	NA	53.83	53.83
GMW-15	Obispo Fm.	4/26/2010	84.93	22.35	NA	62.58	62.58
GMW-15	Obispo Fm.	11/15/2010	84.93	23.98	NA	60.95	60.95
GMW-15	Obispo Fm.	5/2/2011	84.93	18.82	NA	66.11	66.11
GMW-15	Obispo Fm.	11/14/2011	84.93	23.12	NA	61.81	61.81
GMW-15	Obispo Fm.	5/7/2012	84.93	20.38	NA	64.55	64.55
GMW-15	Obispo Fm.	11/5/2012	84.93	28.31	NA	56.62	56.62
GMW-16	Obispo Fm.	10/30/1997	76.95	19.07	NA	57.88	57.88
GMW-16	Obispo Fm.	12/2/1997	76.95	20.09	NA	56.86	56.86
GMW-16	Obispo Fm.	2/16/1998	76.95	14.96	NA	61.99	61.99
GMW-16	Obispo Fm.	5/18/1998	76.95	6.96	NA	69.99	69.99
GMW-16	Obispo Fm.	6/19/1998	76.95	8.29	NA	68.66	68.66
GMW-16	Obispo Fm.	7/23/1998	76.95	9.71	NA	67.24	67.24
GMW-16	Obispo Fm.	8/17/1998	76.95	10.68	NA	66.27	66.27
GMW-16	Obispo Fm.	9/29/1998	76.95	12.41	NA	64.54	64.54
GMW-16	Obispo Fm.	11/22/1998	76.95	14.21	NA	62.74	62.74
GMW-16	Obispo Fm.	12/23/1998	76.95	15.07	NA	61.88	61.88
GMW-16	Obispo Fm.	1/29/1999	76.95	15.78	NA	61.17	61.17
GMW-16	Obispo Fm.	2/25/1999	76.95	15.81	NA	61.14	61.14
GMW-16	Obispo Fm.	3/5/1999	76.95	15.64	NA	61.31	61.31

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Summary of Historical Groundwater Elevation Data
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

Well ID	Zone of Completion	Date Measured	Measuring Pt. Elevation (ft MSL)	Depth to Ground Water (ft)	LNAPL Thickness (ft)	LNAPL-Groundwater Interface Elevation (ft MSL)	Corrected Groundwater Elevation (ft MSL) **
GMW-16	Obispo Fm.	4/9/1999	76.95	15.23	NA	61.72	61.72
GMW-16	Obispo Fm.	5/27/1999	76.95	15.02	NA	61.93	61.93
GMW-16	Obispo Fm.	6/17/1999	76.95	14.94	NA	62.01	62.01
GMW-16	Obispo Fm.	8/2/1999	76.95	15.95	NA	61.00	61.00
GMW-16	Obispo Fm.	8/25/1999	76.95	16.21	NA	60.74	60.74
GMW-16	Obispo Fm.	9/22/1999	76.95	16.92	NA	60.03	60.03
GMW-16	Obispo Fm.	11/4/1999	76.95	17.79	NA	59.16	59.16
GMW-16	Obispo Fm.	11/18/1999	76.95	18.19	NA	58.76	58.76
GMW-16	Obispo Fm.	12/23/1999	76.95	18.05	NA	58.90	58.90
GMW-16	Obispo Fm.	1/24/2000	76.95	19.32	NA	57.63	57.63
GMW-16	Obispo Fm.	2/22/2000	76.95	19.44	NA	57.51	57.51
GMW-16	Obispo Fm.	3/23/2000	76.95	17.47	NA	59.48	59.48
GMW-16	Obispo Fm.	4/29/2000	76.95	17.02	NA	59.93	59.93
GMW-16	Obispo Fm.	5/22/2000	76.95	16.63	NA	60.32	60.32
GMW-16	Obispo Fm.	6/22/2000	76.95	16.91	NA	60.04	60.04
GMW-16	Obispo Fm.	7/20/2000	76.95	17.35	NA	59.60	59.60
GMW-16	Obispo Fm.	8/28/2000	76.95	18.04	NA	58.91	58.91
GMW-16	Obispo Fm.	9/26/2000	76.95	18.56	NA	58.39	58.39
GMW-16	Obispo Fm.	10/31/2000	76.95	19.26	NA	57.69	57.69
GMW-16	Obispo Fm.	11/27/2000	76.95	19.75	NA	57.20	57.20
GMW-16	Obispo Fm.	2/19/2001	76.95	20.93	NA	56.02	56.02
GMW-16	Obispo Fm.	5/2/2001	76.95	18.51	NA	58.44	58.44
GMW-16	Obispo Fm.	8/20/2001	76.95	20.02	NA	56.93	56.93
GMW-16	Obispo Fm.	12/7/2001	76.95	21.74	NA	55.21	55.21
GMW-16	Obispo Fm.	2/9/2002	76.95	21.78	NA	55.17	55.17
GMW-16	Obispo Fm.	5/28/2002	76.95	22.35	NA	54.60	54.60
GMW-16	Obispo Fm.	8/26/2002	76.95	23.39	NA	53.56	53.56
GMW-16	Obispo Fm.	11/12/2002	76.95	24.21	NA	52.74	52.74
GMW-16	Obispo Fm.	3/10/2003	76.95	24.80	NA	52.15	52.15
GMW-16	Obispo Fm.	6/9/2003	76.95	24.36	NA	52.59	52.59
GMW-16	Obispo Fm.	8/18/2003	76.95	24.88	NA	52.07	52.07
GMW-16	Obispo Fm.	11/10/2003	76.95	25.56	NA	51.39	51.39
GMW-16	Obispo Fm.	2/23/2004	76.95	25.41	NA	51.54	51.54
GMW-16	Obispo Fm.	5/17/2004	76.95	24.69	NA	52.26	52.26
GMW-16	Obispo Fm.	8/9/2004	76.95	25.42	NA	51.53	51.53
GMW-16	Obispo Fm.	12/6/2004	76.95	26.53	NA	50.42	50.42
GMW-16	Obispo Fm.	3/7/2005	76.95	22.64	NA	54.31	54.31
GMW-16	Obispo Fm.	6/20/2005	76.95	19.37	NA	57.58	57.58
GMW-16	Obispo Fm.	9/26/2005	76.95	-	NA	NA	NA
GMW-16	Obispo Fm.	11/28/2005	76.95	21.21	NA	55.74	55.74
GMW-16	Obispo Fm.	3/1/2006	76.95	-	NA	NA	NA
GMW-16	Obispo Fm.	6/6/2006	76.95	16.97	NA	59.98	59.98
GMW-16	Obispo Fm.	11/20/2006	76.95	19.93	NA	57.02	57.02
GMW-16	Obispo Fm.	5/21/2007	76.95	22.74	NA	54.21	54.21
GMW-16	Obispo Fm.	11/19/2007	76.95	24.31	NA	52.64	52.64
GMW-16	Obispo Fm.	5/19/2008	76.95	23.79	NA	53.16	53.16
GMW-16	Obispo Fm.	9/15/2008	76.95	-	NA	NA	NA

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Summary of Historical Groundwater Elevation Data
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

Well ID	Zone of Completion	Date Measured	Measuring Pt. Elevation (ft MSL)	Depth to Ground Water (ft)	LNAPL Thickness (ft)	LNAPL-Groundwater Interface Elevation (ft MSL)	Corrected Groundwater Elevation (ft MSL) **
GMW-16	Obispo Fm.	11/17/2008	76.95	26.05	NA	50.90	50.90
GMW-16	Obispo Fm.	5/4/2009	76.95	26.69	NA	50.26	50.26
GMW-16	Obispo Fm.	11/16/2009	76.95	28.54	NA	48.41	48.41
GMW-16	Obispo Fm.	4/26/2010	76.95	23.85	NA	53.10	53.10
GMW-16	Obispo Fm.	11/15/2010	76.95	25.17	NA	51.78	51.78
GMW-16	Obispo Fm.	5/2/2011	76.95	13.22	NA	63.73	63.73
GMW-16	Obispo Fm.	11/14/2011	76.95	19.69	NA	57.26	57.26
GMW-16	Obispo Fm.	5/7/2012	76.95	21.44	NA	55.51	55.51
GMW-16	Obispo Fm.	11/5/2012	76.95	23.29	NA	53.66	53.66

Notes:
feet MSL = Feet above mean sea level
LNAPL = Light non-aqueous phase liquid
- = Not measured
NA = Not applicable
* = Sheen found before purging/sampling on either 6/7/07 or 6/8/07
**= Where LNAPL is present, groundwater elevation has been adjusted using a specific gravity of 0.90
An exception is for B-230, where a specific gravity of 0.75 is applied

APPENDIX A-3
Summary of Historical Groundwater Analytical Data

Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-12	10/30/97	LNAPL							
B-12	2/18/98		**14,000**	**60,000**	**12,000**	**2,800**	**130**	**530**	**670**
B-12	5/19/98	LNAPL							
B-12	8/18/98	LNAPL							
B-12	11/22/98	LNAPL							
B-12	3/8/99	LNAPL							
B-12	6/19/99	LNAPL							
B-12	9/22/99	LNAPL							
B-12	11/18/99	LNAPL							
B-12	2/22/00	LNAPL							
B-12	5/22/00	LNAPL							
B-12	8/28/00	LNAPL							
B-12	11/27/00	LNAPL							
B-12	2/19/01	LNAPL							
B-12	5/2/01	LNAPL							
B-12	8/20/01	LNAPL							
B-12	2/15/02	LNAPL							
B-12	5/28/02	LNAPL							
B-12	8/26/02	LNAPL							
B-12	11/12/02	LNAPL							
B-12	3/10/03	LNAPL							
B-12	3/13/03					**3,900**	**140**	**800**	**1,000**
B-12	6/10/03					**5,400**	**130**	**780**	**1,300**
B-12	8/21/03	LNAPL							
B-12	2/23/04	LNAPL							
B-12	8/10/04	LNAPL							
B-12	12/8/04	LNAPL							
B-12	3/7/05	LNAPL							
B-12	6/20/05	LNAPL							
B-12	6/6/06	LNAPL							
B-12	11/21/06	LNAPL							
B-12	5/22/07	LNAPL							
B-12	5/19/08	Sheen							
B-12	9/15/08	NS							
B-12	11/17/08	Dry							
B-12	5/4/09	Dry							
B-12	4/26/10	LNAPL							
B-12	11/15/10	Sheen							
B-12	5/2/11	LNAPL							
B-12	11/14/11	LNAPL							
B-12	5/7/12	LNAPL							
B-12	11/5/12	Dry							
B-14	10/30/97		**17,000**	**4,600**	**180**	**1,700**	**73**	**490**	**890**
B-14	10/30/97	Dup	**17,000**	**4,400**	**160**	**1,700**	**71**	**410**	**750**
B-14	2/18/98		**17,000**	**14,000**	**1,600**	**2,200**	**55**	**380**	**470**
B-14	5/18/98	LNAPL							
B-14	8/18/98	LNAPL							
B-14	11/22/98	LNAPL							
B-14	3/8/99	LNAPL							
B-14	6/19/99	LNAPL							
B-14	9/22/99	LNAPL							
B-14	11/18/99	LNAPL							
B-14	2/22/00	LNAPL							
B-14	5/22/00	LNAPL							
B-14	8/28/00	LNAPL							
B-14	11/27/00	LNAPL							
B-14	2/19/01	LNAPL							

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-14	5/2/01	LNAPL							
B-14	8/20/01	LNAPL							
B-14	2/15/02	LNAPL							
B-14	5/8/02		**11,000**	**3,900**	<400	**3,100**	**47**	**390**	**820**
B-14	5/28/02	LNAPL							
B-14	8/26/02	LNAPL							
B-14	11/12/02	LNAPL							
B-14	3/10/03	LNAPL							
B-14	3/13/03					**980**	**52**	**610**	**710**
B-14	6/10/03					**3,200**	**44**	**540**	**870**
B-14	8/21/03	LNAPL							
B-14	2/23/04	LNAPL							
B-14	8/10/04	LNAPL							
B-14	12/8/04	LNAPL							
B-14	3/7/05	LNAPL							
B-14	6/27/05		**40,000**	**13,000**	**2,600**	**1,900**	**37**	**310**	**540**
B-14	6/22/06		**9,800**	**8,200**	**3,400**	**970**	**40**	**290**	**500**
B-14	11/21/06	Dry							
B-14	5/22/07	Sheen							
B-14	5/19/08	Sheen							
B-14	9/15/08	NS							
B-14	11/17/08	Dry							
B-14	5/4/09	Insufficient							
B-14	4/26/10	LNAPL							
B-14	11/15/10	Sheen							
B-14	5/2/11	Sheen							
B-14	11/14/11	LNAPL							
B-14	5/7/12	Sheen							
B-14	11/5/12	Dry							
B-17	10/30/97	LNAPL							
B-17	2/18/98		**3,400**	**7,700**	**1,100**	**390**	<1.0	**36**	**23**
B-17	5/18/98	LNAPL							
B-17	8/18/98	LNAPL							
B-17	11/22/98	LNAPL							
B-17	3/8/99	LNAPL							
B-17	6/19/99	LNAPL							
B-17	9/22/99	LNAPL							
B-17	11/18/99	LNAPL							
B-17	2/22/00	LNAPL							
B-17	5/22/00	LNAPL							
B-17	8/28/00	LNAPL							
B-17	11/27/00	LNAPL							
B-17	2/19/01	LNAPL							
B-17	5/2/01	LNAPL							
B-17	8/20/01	LNAPL							
B-17	2/15/02	LNAPL							
B-17	5/28/02	LNAPL							
B-17	8/26/02	LNAPL							
B-17	11/12/02	LNAPL							
B-17	3/10/03	LNAPL							
B-17	6/13/03	LNAPL							
B-17	8/21/03	LNAPL							
B-17	2/23/04	LNAPL							
B-17	8/10/04	LNAPL							
B-17	12/8/04	LNAPL							
B-17	3/7/05	LNAPL							
B-17	6/20/05	LNAPL							

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-17	6/6/06	LNAPL							
B-17	11/21/06	LNAPL							
B-17	5/22/07	LNAPL							
B-17	5/19/08	LNAPL							
B-17	9/15/08	NS							
B-17	11/17/08	Sheen							
B-17	5/4/09	LNAPL							
B-17	4/26/10	LNAPL							
B-17	11/15/10	LNAPL							
B-17	5/2/11	LNAPL							
B-17	11/14/11	LNAPL							
B-17	5/7/12	LNAPL							
B-17	11/5/12	LNAPL							
B-29-30	10/30/97	LNAPL							
B-29-30	2/19/98		**19,000**	**52,000**	**5,900**	**5,200**	**10**	**120**	**200**
B-29-30	5/18/98	LNAPL							
B-29-30	8/18/98	LNAPL							
B-29-30	11/22/98	LNAPL							
B-29-30	3/8/99	LNAPL							
B-29-30	6/19/99	LNAPL							
B-29-30	9/22/99	LNAPL							
B-29-30	11/18/99	LNAPL							
B-29-30	2/22/00	LNAPL							
B-29-30	5/22/00	LNAPL							
B-29-30	8/28/00	LNAPL							
B-29-30	11/27/00	LNAPL							
B-29-30	2/19/01	LNAPL							
B-29-30	5/2/01	LNAPL							
B-29-30	8/20/01	LNAPL							
B-29-30	2/15/02	LNAPL							
B-29-30	5/28/02	LNAPL							
B-29-30	8/26/02	LNAPL							
B-29-30	11/12/02	LNAPL							
B-29-30	3/10/03	LNAPL							
B-29-30	6/13/03	LNAPL							
B-29-30	8/21/03	LNAPL							
B-29-30	2/23/04	LNAPL							
B-29-30	8/10/04	LNAPL							
B-29-30	12/8/04	LNAPL							
B-29-30	3/7/05	LNAPL							
B-29-30	6/20/05	LNAPL							
B-29-30	6/6/06	LNAPL							
B-29-30	11/21/06	LNAPL							
B-29-30	5/22/07	LNAPL							
B-29-30	5/19/08	LNAPL							
B-29-30	9/15/08	NS							
B-29-30	11/17/08	LNAPL							
B-29-30	5/4/09	LNAPL							
B-29-30	4/26/10	LNAPL							
B-29-30	11/15/10	Sheen							
B-29-30	5/2/11	LNAPL							
B-29-30	11/14/11	LNAPL							
B-29-30	5/7/12	Sheen							
B-29-30	11/5/12	Sheen							
B-29-50	10/30/97	LNAPL							
B-29-50	2/19/98		**5,400**	**5,400**	**430**	**910**	**2.8**	**17**	**27**

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-29-50	5/18/98	LNAPL							
B-29-50	8/18/98	LNAPL							
B-29-50	11/22/98	LNAPL							
B-29-50	3/8/99	LNAPL							
B-29-50	6/19/99	LNAPL							
B-29-50	9/22/99	LNAPL							
B-29-50	11/18/99	LNAPL							
B-29-50	2/22/00	LNAPL							
B-29-50	5/22/00	LNAPL							
B-29-50	8/28/00	LNAPL							
B-29-50	11/27/00	LNAPL							
B-29-50	2/19/01	LNAPL							
B-29-50	5/2/01	LNAPL							
B-29-50	8/20/01	LNAPL							
B-29-50	2/15/02	LNAPL							
B-29-50	5/28/02	LNAPL							
B-29-50	8/26/02	LNAPL							
B-29-50	11/12/02	LNAPL							
B-29-50	3/10/03	LNAPL							
B-29-50	6/13/03	LNAPL							
B-29-50	8/21/03	LNAPL							
B-29-50	2/23/04	LNAPL							
B-29-50	8/10/04	LNAPL							
B-29-50	12/8/04	LNAPL							
B-29-50	3/7/05	LNAPL							
B-29-50	6/27/05	LNAPL							
B-29-50	6/21/06	LNAPL	**3,200**	**3,800**	**1,200**	**1,200**	<5	**62**	**25**
B-29-50	12/5/06	SGC	**2,240**	**6,900**	**2,510**	**167**	**0.72**	**11.9**	**1.94**
B-29-50	5/22/07	Sheen							
B-29-50	12/4/07		**3460**	**5140**	**927 J**	**1140**	**2.17**	**44.7**	**18.5**
B-29-50	12/4/07	Dup	**3630**	**5290**	**1450 J**	**1070**	**2.02**	**40.8**	**16.6**
B-29-50	12/4/07	SGC	--	**4340**	**1480 J**	--	--	--	--
B-29-50	12/4/07	SGC, Dup	--	**5620**	**2420 J**	--	--	--	--
B-29-50	5/28/08		**1900**	**740**	**4700**	**1600**	**1.9**	**46**	**7.9**
B-29-50	9/15/08	NS							
B-29-50	11/21/08		<50	**900**	**220**	**67**	**0.57**	**3.3**	<0.5
B-29-50	5/4/09	Sheen							
B-29-50	4/26/10	LNAPL							
B-29-50	11/18/10		**3,100**	**1,800**	**390**	**1,800**	**4.3**	**92**	**44**
B-29-50	5/5/11		**1,400**	**1,900**	**410**	**1,200**	**2.5**	**40**	**14**
B-29-50	11/18/11		**1,200**	**480**	**170**	**150**	**0.91**	**6.5**	**3.2**
B-29-50	5/7/12	Sheen							
B-29-50	11/5/12	Sheen							
B-30	10/30/97		**1,700**	**2,600**	**440**	**8.6**	<0.5	<0.5	<0.5
B-30	2/19/98		**1,400**	**3,200**	**730**	**22**	<0.5	**1.5**	**1.1**
B-30	2/19/98	Dup	**1,500**	**3,900**	**770**	**21**	<0.5	**1.5**	**0.9**
B-30	5/19/98		**670**	**3,700**	**710**	**9.5**	<0.5	<0.5	<0.5
B-30	5/19/98	Dup	**720**	**3,500**	**760**	**9.6**	<0.5	<0.5	<0.5
B-30	8/18/98		**900**	**3,100**	**420**	**3.1**	<0.5	<0.5	<0.5
B-30	11/23/98		**710**	**3,300**	**650**	**1.9**	<0.5	<0.5	<0.5
B-30	3/8/99		**820**	**2,800**	**530**	**11**	<0.5	<0.5	**0.8**
B-30	6/20/99		**760**	**2,900**	**510**	**3.7**	<0.5	<0.5	<0.5
B-30	9/25/99		**640**	**3,500**	**710**	**1.6**	<0.5	<0.5	<0.5
B-30	9/25/99	Dup	**610**	**3,300**	**660**	**1.6**	<0.5	<0.5	<0.5
B-30	11/21/99		**970**	**3,300**	**830**	**2.2**	<0.5	<0.5	<0.5
B-30	2/27/00		**860**	**3,400**	**690**	**2.7**	<0.5	<0.5	<0.5
B-30	5/25/00		**710**	**3,700**	**490**	**23**	<0.5	**11**	**1.3**

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-30	5/25/00	Dup	**790**	**3,600**	**530**	**22**	<0.5	**12**	**1.3**
B-30	9/1/00		**1,200**	**3,800**	**610**	**9.6**	<0.5	**0.7**	<0.5
B-30	11/27/00	LNAPL							
B-30	2/23/01	LNAPL							
B-30	5/2/01	LNAPL							
B-30	8/20/01	LNAPL							
B-30	2/15/02	LNAPL							
B-30	5/28/02	LNAPL							
B-30	8/26/02	LNAPL							
B-30	11/12/02	LNAPL							
B-30	3/10/03	LNAPL							
B-30	6/13/03	LNAPL							
B-30	8/21/03	LNAPL							
B-30	2/23/04	LNAPL							
B-30	8/10/04	LNAPL							
B-30	12/8/04	LNAPL							
B-30	3/7/05	LNAPL							
B-30	6/20/05	LNAPL							
B-30	6/6/06	LNAPL							
B-30	11/21/06	LNAPL							
B-30	5/22/07	LNAPL							
B-30	5/19/08	LNAPL							
B-30	9/15/08	NS							
B-30	11/17/08	Sheen							
B-30	5/4/09	Sheen							
B-30	4/26/10	Sheen							
B-30	11/15/10	Sheen							
B-30	5/2/11	Sheen							
B-30	11/14/11	Sheen							
B-30	5/7/12	Sheen							
B-30	11/5/12	Sheen							
B-33	10/31/97		**29,000**	**7,100**	**1,200**	**1,300**	**2,000**	**890**	**3,300**
B-33	10/31/97	Dup	**27,000**	**8,800**	**1,400**	**1,300**	**2,000**	**840**	**3,300**
B-33	2/18/98		**20,000**	**22,000**	**8,800**	**860**	**1,300**	**530**	**2,100**
B-33	5/18/98	LNAPL							
B-33	8/18/98	LNAPL							
B-33	11/22/98	LNAPL							
B-33	3/8/99	LNAPL							
B-33	6/19/99	LNAPL							
B-33	9/22/99	LNAPL							
B-33	11/18/99	LNAPL							
B-33	2/22/00	LNAPL							
B-33	5/22/00	LNAPL							
B-33	8/28/00	LNAPL							
B-33	11/27/00	LNAPL							
B-33	2/19/01	LNAPL							
B-33	5/2/01	LNAPL							
B-33	8/20/01	LNAPL							
B-33	2/15/02	LNAPL							
B-33	5/28/02	LNAPL							
B-33	8/26/02	LNAPL							
B-33	11/12/02	LNAPL							
B-33	3/10/03	LNAPL							
B-33	6/13/03	LNAPL							
B-33	8/21/03	LNAPL							
B-33	2/23/04	NA							
B-33	8/10/04	LNAPL							

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-33	12/8/04	LNAPL							
B-33	3/7/05	LNAPL							
B-33	6/20/05	LNAPL							
B-33	6/6/06	LNAPL							
B-33	12/1/06	SGC	**14,100**	**4,320**	**312**	**669**	**411**	**480**	**1,810**
B-33	5/21/07	Sheen							
B-33	5/19/08	LNAPL							
B-33	9/15/08	NS							
B-33	11/17/08	Sheen							
B-33	5/4/09	Sheen							
B-33	4/26/10	Sheen							
B-33	11/15/10	Sheen							
B-33	5/2/11	Sheen							
B-33	11/14/11	Sheen							
B-33	5/7/12	Sheen							
B-33	11/5/12	Sheen							
B-35-45	10/30/97	LNAPL							
B-35-45	2/20/98		**4,400**	**23,000**	**4,000**	**350**	**2.4**	**170**	**200**
B-35-45	5/18/98	LNAPL							
B-35-45	8/18/98	LNAPL							
B-35-45	11/22/98	LNAPL							
B-35-45	3/8/99	LNAPL							
B-35-45	6/19/99	LNAPL							
B-35-45	9/22/99	LNAPL							
B-35-45	11/18/99	LNAPL							
B-35-45	2/22/00	LNAPL							
B-35-45	5/22/00	LNAPL							
B-35-45	8/28/00	LNAPL							
B-35-45	11/27/00	LNAPL							
B-35-45	2/19/01	LNAPL							
B-35-45R	5/10/01		**910**	**10,000**	**1,200**	**24**	<0.5	**26**	**21**
B-35-45R	5/10/01	SGC		**1,200**	**170**				
B-35-45R	8/20/01	LNAPL							
B-35-45R	2/15/02	NA							
B-35-45R	5/28/02	LNAPL							
B-35-45R	8/26/02	LNAPL							
B-35-45R	11/12/02	LNAPL							
B-35-45R	3/10/03	LNAPL							
B-35-45R	6/13/03	LNAPL							
B-35-45R	8/21/03	LNAPL							
B-35-45R	11/13/03			**210**	**1,700**	**5.9**	<0.5	<0.5	<0.5
B-35-45R	2/24/04			<100	**1,800**	<0.5	<0.5	<0.5	<0.5
B-35-45R	5/20/04			<100	**2,800**	**4.7**	<0.5	<0.5	<0.5
B-35-45R	8/11/04			**150**	**1,600**	**4.8**	<0.5	<0.5	<0.5
B-35-45R	12/8/04	LNAPL							
B-35-45R	3/7/05	LNAPL							
B-35-45R	6/27/05			<50	**1,700**	**1.7**	<0.5	<0.5	<1
B-35-45R	12/13/05			**87**	**3,500**	**1.4**	<0.5	<0.5	<1
B-35-45R	6/23/06			<50	**920**	**2,420**	<0.5	<0.5	<0.5
B-35-45R	6/23/06	SGC, Dup		<50	**1,100**	**2,700**	<0.5	<0.5	<0.5
B-35-45R	12/1/06	SGC	**83.8**	**4,150**	**2,650**	**3**	<0.5	<0.5	<0.5
B-35-45R	5/21/07	Sheen							
B-35-45R	5/28/08		<50	**1,700**	**5,600**	**2**	<0.5	<0.5	<0.5
B-35-45R	9/15/08	NS							
B-35-45R	11/21/08		<50	**900**	**920**	<0.5	<0.5	<0.5	<0.5

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Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-35-45R	5/8/09		<50	1,000	1,700	0.99	<0.5	<0.5	<0.5
B-35-45R	11/20/09		<50	1,900	2,100	<0.5	<0.5	1.2	<0.5
B-35-45R	4/29/10		<50	390	900	<0.5	<0.5	<0.5	<0.5
B-35-45R	11/19/10		<50	1,700	680	<0.5	<0.5	<0.5	<0.5
B-35-45R	5/5/11		<50	890	840	<0.5	<0.5	<0.5	<0.5
B-35-45R	11/17/11		<50	1,100	1,500	<0.5	<0.5	<0.5	<0.5
B-35-45R	5/10/12		<50	1,700	3,000	<0.5	<0.5	<0.5	<0.5
B-35-45R	11/8/12		600	33 J	1,200	<0.50	<0.50	<0.50	<0.50
B-35-70	10/30/97		200	1,300	100	11	<0.5	2.4	3.4
B-35-70	2/20/98		510	3,100	240	72	<0.5	19	8.6
B-35-70	5/19/98		400	2,600	270	69	<0.5	11	8.9
B-35-70	8/18/98		920	3,100	<100	320	0.9	58	38
B-35-70	8/18/98	Dup	970	3,000	<100	270	0.9	43	35
B-35-70	11/23/98		780	3,400	310	230	0.5	47	20
B-35-70	3/8/99		880	3,200	180	330	0.5	43	18
B-35-70	6/20/99		770	2,500	110	290	<0.5	19	16
B-35-70	9/25/99		1,700	5,000	280	470	2	71	<0.5
B-35-70	11/21/99		920	2,200	250	240	0.6	13	20
B-35-70	2/27/00		1,400	3,800	130	400	1.7	59	78
B-35-70	5/26/00		780	3,800	120	160	0.6	19	23
B-35-70	9/1/00		2,000	3,500	230	280	1.2	35	41
B-35-70	11/30/00		820	3,700	360	180	<0.5	10	6.6
B-35-70	2/23/01		1,800	5,600	220	300	2	38	79
B-35-70	5/6/01		1,100	5,300	230	370	1.7	38	72
B-35-70	8/22/01		820	3,200	100	160	<0.5	17	17
B-35-70	12/10/01		1,500	2,100	180	320	0.9	38	44
B-35-70	2/15/02		1,500	2,100	150	390	2.2	45	62
B-35-70	5/30/02		1,200	2,500	130	350	1.2	17	38
B-35-70	8/29/02		1,100	2,400	290	230	<0.5	23	41
B-35-70	11/15/02		1,200	3,400	420	330	1.2	30	36
B-35-70	3/12/03		1,100	3,600	460	450	1.3	46	48
B-35-70	6/11/03		1,800	3,300	270	500	<1	52	72
B-35-70	8/21/03		2,500	2,700	230	540	<5	67	110
B-35-70	11/13/03		2,200	2,200	200	580	<5	46	78
B-35-70	2/26/04		1,700	<100	<100	380	<5	55	86
B-35-70	5/20/04		1,100	3,000	300	360	<5	40	67
B-35-70	8/11/04		1,200	2,300	140	350	<5	43	79
B-35-70	12/10/04		1,300	3,800	2,100	400	<5	47	77
B-35-70	3/7/05	NA							
B-35-70	6/20/05		1,300	<50	<50	250	1.3	41	66
B-35-70	12/5/05		2,200	2,500	470	180	1.3	49	67
B-35-70	6/20/06		2,700	3,000	630	230	0.83	49	57
B-35-70	12/1/06	SGC	1,990	4,160	237	326	0.80	44.8	53.2
B-35-70	6/7/07		828	6,430	1,460	207	<0.500	17.7	21.4
B-35-70	6/7/07	SGC	--	7,940	2,550	--	--	--	--
B-35-70	12/4/07		1,210	5,980	3,960	192	0.44 J	32	32.7
B-35-70	12/4/07	SGC	--	4,710	225 J	--	--	--	--
B-35-70	5/28/08		930	2,600	5,800	250	<0.5	27	30
B-35-70	9/15/08	NS							
B-35-70	11/17/08	Sheen							
B-35-70	5/4/09	LNAPL							
B-35-70	11/20/09		<50	1,500	390	200	<0.5	28	26
B-35-70	4/29/10		570	810	310	150	<0.5	14	13
B-35-70	11/18/10		360	1,300	120	260	<0.5	7.4	12
B-35-70	5/2/11		670	1,400	240	220	<0.5	26	15
B-35-70	11/17/11		870	1,400	300	220	0.28 J	23	24
B-35-70	5/10/12		320	1,600	100	99	<0.5	9	7

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Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-35-70	11/8/12		**1,200**	**880**	**300 J**	**190**	**17**	**0.34 J**	**15**
B-36	10/30/97		<100	**780**	**250**	**1.4**	<0.5	<0.5	<0.5
B-36	2/19/98		**1,100**	**16,000**	**2,300**	**12**	<0.5	<0.5	**1.3**
B-36	5/18/98	LNAPL							
B-36	8/18/98	Dry							
B-36	11/22/98	Dry							
B-36	3/8/99	LNAPL							
B-36	6/19/99	Dry							
B-36	9/22/99	Dry							
B-36	11/18/99	Dry							
B-36	2/22/00	LNAPL							
B-36	5/22/00	Trace							
B-36	8/28/00	Dry							
B-36	11/27/00	Dry							
B-36	2/23/01	LNAPL							
B-36	5/2/01	LNAPL							
B-36	8/20/01	Dry							
B-36	2/15/02	LNAPL							
B-36	5/28/02	Dry							
B-36	8/26/02	LNAPL							
B-36	11/12/02	Dry							
B-36	3/10/03	NA							
B-36	6/13/03	Dry							
B-36	8/21/03	Dry							
B-36	2/23/04	NA							
B-36	8/10/04	NA							
B-36	12/8/04	NA							
B-36	3/7/05	LNAPL							
B-36	6/20/05	Dry							
B-36	6/23/06		**51**	**820**	**1,300**	<0.5	<0.5	<0.5	<1
B-36	11/20/06	Dry							
B-36	5/21/07	Dry							
B-36	5/19/08	Dry							
B-36	9/15/08	NS							
B-36	11/17/08	Dry							
B-36	5/4/09	Dry							
B-36	4/26/10	Dry							
B-36	11/15/10	Dry							
B-36	5/6/11		<50	**640**	**420**	<0.5	<0.5	<0.5	<0.5
B-36	11/14/11	Dry							
B-36	5/7/12	Dry							
B-36	11/5/12	Dry							
B-37-40	10/30/97	Dry							
B-37-40	2/19/98	Dry							
B-37-40	5/18/98	Dry							
B-37-40	8/18/98	Dry							
B-37-40	11/22/98	Dry							
B-37-40	3/8/99	Dry							
B-37-40	6/19/99	Dry							
B-37-40	9/22/99	Dry							
B-37-40	11/18/99	Dry							
B-37-40	2/22/00	Dry							
B-37-40	5/22/00	Dry							
B-37-40	8/28/00	Dry							
B-37-40	11/27/00	Dry							
B-37-40	2/23/01	Dry							

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Avila Beach, CA

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B-37-40	5/2/01	Dry							
B-37-40	8/20/01	Dry							
B-37-40	2/15/02	Dry							
B-37-40	5/28/02	Dry							
B-37-40	8/26/02	Dry							
B-37-40	11/12/02	Dry							
B-37-40	3/10/03	NA							
B-37-40	6/13/03	Dry							
B-37-40	8/21/03	Dry							
B-37-40	2/23/04	NA							
B-37-40	8/10/04	NA							
B-37-40	12/8/04	NA							
B-37-40	3/8/05		<100	**750**	**1,500**	<0.5	<0.5	<0.5	<0.5
B-37-40	6/20/05	Dry							
B-37-40	6/6/06	Dry							
B-37-40	11/20/06	Dry							
B-37-40	5/21/07	Sheen							
B-37-40	5/19/08	NS							
B-37-40	9/15/08	NS							
B-37-40	11/17/08	Insufficient							
B-37-40	5/4/09	Insufficient							
B-37-40	4/29/10		<50	**190**	**730**	<0.5	<0.5	<0.5	<0.5
B-37-40	11/15/10	Insufficient							
B-37-40	5/2/11	Insufficient							
B-37-40	11/18/11		<50	**230**	**860**	<0.5	<0.5	<0.5	<0.5
B-37-40	5/7/12	Insufficient							
B-37-40	11/5/12	Insufficient							
B-37-70	10/31/97		<100	**150**	**100**	<0.5	<0.5	<0.5	<0.5
B-37-70	2/19/98	NA							
B-37-70	5/21/98		**150**	**6,000**	**3,800**	**11**	<0.5	<0.5	<0.5
B-37-70	8/18/98		**140**	**210**	<100	**21**	<0.5	<0.5	<0.5
B-37-70	11/22/98		<100	<100	<100	**12**	**0.5**	<0.5	<0.5
B-37-70	3/8/99		<100	<100	<100	**5.2**	<0.5	<0.5	<0.5
B-37-70	6/19/99		<100	<100	<100	**9.4**	<0.5	<0.5	<0.5
B-37-70	9/24/99		<100	<100	<100	**7.7**	<0.5	<0.5	<0.5
B-37-70	9/24/99	Dup	<100	<100	<100	**8.2**	<0.5	<0.5	<0.5
B-37-70	11/22/99		<100	<100	<100	**2.7**	<0.5	<0.5	<0.5
B-37-70	2/26/00		<100	<100	<100	**2.8**	<0.5	<0.5	<0.5
B-37-70	5/22/00		<100	<100	<100	**0.8**	<0.5	<0.5	<0.5
B-37-70	8/28/00	NA							
B-37-70	11/29/00		<100			**3.7**	<0.5	<0.5	<0.5
B-37-70	12/6/00			<100	<100				
B-37-70	2/23/01		<100	<100	<100	**3.6**	<0.5	<0.5	<0.5
B-37-70	5/9/01		<100	<100	<100	**1.7**	<0.5	<0.5	<0.5
B-37-70	8/20/01		<100	<100	<100	**4.9**	<0.5	<0.5	<0.5
B-37-70	12/10/01		<100	<100	<100	**2.5**	<0.5	<0.5	<0.5
B-37-70	2/10/02		<100	<100	<100	**1.3**	<0.5	<0.5	<0.5
B-37-70	5/30/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-37-70	8/29/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-37-70	11/15/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-37-70	3/12/03		<100	**790**	**830**	<0.5	<0.5	<0.5	<0.5
B-37-70	6/11/03		<100	**340**	**350**	**0.9**	<0.5	<0.5	<0.5
B-37-70	8/21/03		<100	**150**	**120**	**0.8**	<0.5	<0.5	<0.5
B-37-70	11/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-37-70	2/24/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-37-70	8/10/04	NA							
B-37-70	12/8/04	NA							

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-37-70	3/8/05		<100	**930**	**1,600**	**0.6**	<0.5	<0.5	<0.5
B-37-70	6/20/05	Dry							
B-37-70	6/6/06	Dry							
B-37-70	11/20/06	Dry							
B-37-70	5/21/07	Sheen							
B-37-70	3/19/08	Dry							
B-37-70	5/19/08	NS							
B-37-70	9/15/08	NS							
B-37-70	11/17/08	Dry							
B-37-70	2/25/09		<50	**660**	**1,500**	**0.79**	<0.5	<0.5	<0.5
B-37-70	5/4/09	Insufficient							
B-37-70	9/23/09	Insufficient							
B-37-70	2/25/10	Insufficient							
B-37-70	4/30/10		<50	**180**	**690**	<0.5	<0.5	<0.5	<0.5
B-37-70	9/16/10	Insufficient							
B-37-70	11/15/10	Insufficient							
B-37-70	2/18/11		95	**520**	<100	**2.3**	<0.5	<0.5	<0.5
B-37-70	5/5/11		<50	**230**	**500**	**1.2**	<0.5	<0.5	<0.5
B-37-70	9/20/11		**26 J**	**230**	**540**	**0.53**	<0.5	<0.5	<0.5
B-37-70	11/18/11		**270**	**430**	**1,500**	**1.2**	<0.5	<0.5	<0.5
B-37-70	2/16/12		**190**	**160**	**290**	**0.8**	<0.5	<0.5	<0.5
B-37-70	5/10/12		**34 J**	**200**	**460**	**0.29 J**	<0.5	<0.5	<0.5
B-37-70	9/18/12		**80**	**170**	**350 J**	**0.43 J**	<0.50	<0.50	<0.50
B-37-70	11/8/12		**160**	**98**	**390 J**	**0.47 J**	<0.50	<0.50	<0.50
B-46	10/30/97	LNAPL							
B-46	2/20/98		**490**	**25,000**	**7,400**	**11**	<0.5	**7.4**	**3.4**
B-46	5/18/98	LNAPL							
B-46	8/18/98	LNAPL							
B-46	11/22/98	LNAPL							
B-46	3/8/99	LNAPL							
B-46	6/19/99	LNAPL							
B-46	9/22/99	LNAPL							
B-46	11/18/99	LNAPL							
B-46	2/22/00	LNAPL							
B-46	5/22/00	LNAPL							
B-46	8/28/00	LNAPL							
B-46	11/27/00	LNAPL							
B-46	2/19/01	LNAPL							
B-46	5/2/01	LNAPL							
B-46	8/20/01	LNAPL							
B-46	2/15/02	LNAPL							
B-46	5/28/02	LNAPL							
B-46	8/26/02	LNAPL							
B-46	11/12/02	LNAPL							
B-46	3/10/03	LNAPL							
B-46	6/13/03	LNAPL							
B-46	8/21/03	LNAPL							
B-46	2/23/04	LNAPL							
B-46	8/10/04	LNAPL							
B-46	12/8/04	LNAPL							
B-46	3/7/05	LNAPL							
B-46	6/28/05	LNAPL	**660**	**45,000**	**40,000**	<0.5	<0.5	<0.5	<1
B-46	6/28/05	LNAPL, Dup		**2,500**	**860**	<0.5	<0.5	<0.5	<1
B-46	6/6/06	NA	Well inaccessible - flooded						
B-46	11/21/06	NA							
B-46	5/22/07	Sheen							
B-46	5/28/08		**220**	**3100**	**8200**	<0.5	<0.5	<0.5	<0.5

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Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-46	9/15/08	NS							
B-46	11/17/08	Sheen							
B-46	5/4/09	Sheen							
B-46	4/26/10	Sheen							
B-46	11/15/10	Sheen							
B-46	5/2/11	Sheen							
B-46	11/14/11	LNAPL							
B-46	5/7/12	Sheen							
B-46	11/5/12	LNAPL							
B-49	10/30/97	LNAPL							
B-49	2/18/98		**5,600**	**15,000**	**2,500**	**680**	**4.5**	**81**	**33**
B-49	5/18/98	LNAPL							
B-49	8/18/98	LNAPL							
B-49	11/22/98	LNAPL							
B-49	3/8/99	LNAPL							
B-49	6/19/99	LNAPL							
B-49	9/22/99	LNAPL							
B-49	11/18/99	LNAPL							
B-49	2/22/00	LNAPL							
B-49	5/22/00	LNAPL							
B-49	8/28/00	LNAPL							
B-49	11/27/00	LNAPL							
B-49	2/19/01	LNAPL							
B-49	5/2/01	LNAPL							
B-49	8/20/01	LNAPL							
B-49	2/15/02	LNAPL							
B-49	5/28/02	LNAPL							
B-49	8/26/02	LNAPL							
B-49	11/12/02	LNAPL							
B-49	3/10/03	LNAPL							
B-49	6/13/03	LNAPL							
B-49	8/21/03	LNAPL							
B-49	2/23/04	LNAPL							
B-49	8/10/04	LNAPL							
B-49	12/8/04	LNAPL							
B-49	3/7/05	LNAPL							
B-49	6/20/05	LNAPL							
B-49	11/20/06	LNAPL							
B-49	5/22/07	LNAPL							
B-49	5/19/08	LNAPL							
B-49	9/15/08	NS							
B-49	11/17/08	LNAPL							
B-49	5/4/09	LNAPL							
B-49	4/26/10	LNAPL							
B-49	11/15/10	LNAPL							
B-49	5/2/11	LNAPL							
B-49	11/14/11	LNAPL							
B-49	5/7/12	LNAPL							
B-49	11/5/12	LNAPL							
B-51	10/30/97	LNAPL							
B-51	2/18/98		**2,000**	**11,000**	**2,700**	**140**	<5.0	**13**	<5.0
B-51	5/18/98	LNAPL							
B-51	8/18/98	LNAPL							
B-51	11/22/98	LNAPL							
B-51	3/8/99	LNAPL							
B-51	6/19/99	LNAPL							

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Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-51	9/22/99	LNAPL							
B-51	11/18/99	LNAPL							
B-51	2/22/00	LNAPL							
B-51	5/22/00	LNAPL							
B-54	10/30/97	LNAPL							
B-54	2/18/98		**5,600**	**44,000**	**13,000**	**12**	<0.5	**3.1**	**1**
B-54	5/18/98	LNAPL							
B-54	8/18/98	LNAPL							
B-54	11/22/98	LNAPL							
B-54	3/8/99	LNAPL							
B-54	6/19/99	LNAPL							
B-54	9/22/99	LNAPL							
B-54	11/18/99	LNAPL							
B-54	2/22/00	LNAPL							
B-54	5/22/00	LNAPL							
B-54	8/28/00	LNAPL							
B-54	11/27/00	LNAPL							
B-54	2/19/01	LNAPL							
B-54	5/2/01	LNAPL							
B-54	8/20/01	LNAPL							
B-54	2/15/02	LNAPL							
B-54	5/28/02	LNAPL							
B-54	8/26/02	LNAPL							
B-54	11/12/02	LNAPL							
B-54	3/10/03	LNAPL							
B-54	6/13/03	LNAPL							
B-54	8/21/03	LNAPL							
B-54	2/23/04	LNAPL							
B-54	8/10/04	LNAPL							
B-54	12/8/04	LNAPL							
B-54	3/7/05	LNAPL							
B-54	6/20/05	LNAPL							
B-54	11/21/06	LNAPL							
B-54	5/22/07	LNAPL							
B-54	5/20/08	LNAPL							
B-54	9/15/08	NS							
B-54	11/17/08	LNAPL							
B-54	5/4/09	LNAPL							
B-54	4/26/10	LNAPL							
B-54	11/15/10	LNAPL							
B-54	5/2/11	LNAPL							
B-54	11/14/11	LNAPL							
B-54	5/7/12	LNAPL							
B-54	11/5/12	LNAPL							
B-57-20	10/30/97		**1,700**	**3,500**	**400**	**6.2**	**2.7**	**33**	**8.3**
B-57-20	2/19/98		**2,500**	**4,500**	**310**	**29**	**5.4**	**74**	**15**
B-57-20	5/19/98		**1,200**	**3,800**	**440**	**33**	**4.3**	**63**	**12**
B-57-20	8/18/98		**1,100**	**4,200**	**300**	**16**	**2.9**	**34**	**12**
B-57-20	11/22/98		**650**	**3,000**	**400**	**3.9**	**1.4**	**17**	**6.2**
B-57-20	11/22/98	Dup	**650**	**3,000**	**480**	**4.2**	**1.5**	**19**	**6.8**
B-57-20	3/8/99	LNAPL							
B-57-20	6/19/99	LNAPL							
B-57-20	9/22/99	LNAPL							
B-57-20	11/18/99	LNAPL							
B-57-20	2/22/00	LNAPL							

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-57-20	5/22/00	LNAPL							
B-57-20	8/28/00	LNAPL							
B-57-20	11/27/00	LNAPL							
B-57-20	2/19/01	LNAPL							
B-57-20	5/2/01	LNAPL							
B-57-20	8/20/01	LNAPL							
B-57-20	2/15/02	NA							
B-57-20	5/28/02	LNAPL							
B-57-20	8/26/02	LNAPL							
B-57-20	11/12/02	LNAPL							
B-57-20	3/10/03	LNAPL							
B-57-20	6/13/03	LNAPL							
B-57-20	8/21/03	LNAPL							
B-57-20	2/23/04	LNAPL							
B-57-20	8/10/04	LNAPL							
B-57-20	12/8/04	LNAPL							
B-57-20	3/7/05	NA							
B-57-20	6/20/05	LNAPL							
B-57-20	12/13/05		**660**	**1,700**	**710**	**1.5**	**0.89**	**1.1**	**1.7**
B-57-20	3/4/06	NA							
B-57-20	6/6/06		Well inaccessible - well casing flooded						
B-57-20	12/1/06	SGC	**559**	**2,180**	**801**	<0.5	**0.530**	<0.5	**0.670**
B-57-20	6/7/07		**583**	**1,940**	**1,100**	**0.390 J**	**0.380 J**	**0.270 J**	**0.580**
B-57-20	6/7/07	SGC	**--**	**1,750**	**1,020**	**--**	**--**	**--**	**--**
B-57-20	12/6/07		**436**	**1,880**	**1,440**	<0.5	**0.280 J**	**0.29 J**	**0.520**
B-57-20	12/6/07	SGC	**--**	**1,840**	**774**	**--**	**--**	**--**	**--**
B-57-20	5/27/08		**550**	**1,100**	**2,900**	**2.2**	<0.5	<0.5	<0.5
B-57-20	9/15/08	NS							
B-57-20	11/20/08		<50	**860**	**1,000**	<0.5	<0.5	<0.5	<0.5
B-57-20	5/4/09	LNAPL							
B-57-20	11/18/09		**460**	**1,100**	**470**	<0.5	<0.5	<0.5	<0.5
B-57-20	4/26/10	Sheen							
B-57-20	11/19/10		<50	**790**	**220**	<0.50	<0.50	**0.58**	**1.3**
B-57-20	5/5/11		**870**	**700**	**220**	**1.6**	**0.54**	**1.4**	**0.93**
B-57-20	11/17/11		**680**	**590**	**340**	**0.11 J**	**0.34 J**	**0.36 J**	**0.5**
B-57-20	5/10/12		**980**	**660**	**160**	**0.47 J**	**0.46 J**	**0.43 J**	**1.3**
B-57-20	11/8/12		**510**	**870**	**360 J**	<0.50	<0.50	**0.49 J**	**0.38 J**
B-57-20	11/8/12	Duplicate	**550**	**740**	**360 J**	<0.50	<0.50	**0.34 J**	**0.34 J**
B-57-65	10/30/97		<100	**240**	**100**	<0.5	<0.5	<0.5	<0.5
B-57-65	2/19/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	5/19/98		<100	**480**	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	8/18/98		<100	**160**	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	11/22/98		<100	**290**	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	3/8/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	6/20/99		<100	**180**	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	6/20/99	Dup	<100	**140**	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	9/25/99		<100	**120**	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	11/21/99		<100	**190**	**190**	<0.5	<0.5	<0.5	<0.5
B-57-65	2/26/00		<100	**250**	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	2/26/00	SGC		<100	<100				
B-57-65	2/26/00	Dup	<100	**210**	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	5/26/00		<100	**160**	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	8/28/00	LNAPL							
B-57-65	12/1/00		<100	**120**	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	12/1/00	SGC		<100	<100				
B-57-65	2/23/01	LNAPL							
B-57-65	5/9/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5

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Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

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B-57-65	5/9/01	SGC		<100	<100				
B-57-65	8/20/01	LNAPL							
B-57-65	2/15/02	LNAPL							
B-57-65	5/30/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	8/28/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	11/14/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	3/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	6/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	8/21/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	11/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	2/25/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	5/20/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	8/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	12/9/04		<100	<100	**690**	<0.5	<0.5	<0.5	<0.5
B-57-65	3/7/05	NA							
B-57-65	6/14/05		<50	<50	<100	<0.5	<0.5	<0.5	<1
B-57-65	12/1/05		<50	**170**	**75**	<0.5	<0.5	<0.5	<1
B-57-65	3/4/06	NA							
B-57-65	6/20/06		<50	**150**	**85**	<0.5	<0.5	<0.5	<1
B-57-65	6/20/06	SGC, Dup	<50	**150**	**91**	<0.5	<0.5	<0.5	<1
B-57-65	11/30/06	SGC	<50	**143**	**163**	<0.5	<0.5	<0.5	<0.5
B-57-65	6/7/07		<50	**88.8 J**	**212**	<0.5	<0.5	<0.5	<0.5
B-57-65	6/7/07	Dup	<50	**99.6 J**	**187**	<0.5	<0.5	<0.5	<0.5
B-57-65	6/7/07	SGC	--	**137**	**313**	--	--	--	--
B-57-65	6/7/07	SGC, Dup	--	**121**	**259**	--	--	--	--
B-57-65	12/3/07		**34 JB**	**465**	**783**	<0.5	<0.5	<0.5	<0.5
B-57-65	12/3/07	Dup	**34.1 JB**	**476**	**808**	<0.5	<0.5	<0.5	<0.5
B-57-65	12/3/07	SGC	--	**669**	**560**	--	--	--	--
B-57-65	12/3/07	SGC, Dup	--	**643**	**381**	--	--	--	--
B-57-65	5/27/08		<50	**210**	**560**	<0.5	<0.5	<0.5	<0.5
B-57-65	9/15/08	NS							
B-57-65	11/20/08		<50	<50	**320**	<0.5	<0.5	<0.5	<0.5
B-57-65	5/5/09		<50	**130**	**170**	<0.5	<0.5	<0.5	<0.5
B-57-65	11/18/09		<50	**190**	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	4/28/10		<50	**58**	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	11/17/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	5/5/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	11/17/11		<50	**160**	**120**	<0.5	<0.5	<0.5	<0.5
B-57-65	5/10/12		**40 J**	**160**	<100	<0.5	<0.5	<0.5	<0.5
B-57-65	11/8/12		**180**	<50	**230 J**	<0.50	<0.50	<0.50	<0.50
B-61	10/31/97		**15,000**	**41,000**	**5,800**	**660**	**46**	**690**	**1,600**
B-61	2/18/98		**8,200**	**180,000**	**19,000**	**370**	**7**	**570**	**600**
B-61	5/18/98	LNAPL							
B-61	8/18/98	LNAPL							
B-61	11/22/98	LNAPL							
B-61	3/8/99	LNAPL							
B-61	6/19/99	LNAPL							
B-61	9/22/99	LNAPL							
B-61	11/18/99	LNAPL							
B-61	2/22/00	LNAPL							
B-61	5/22/00	LNAPL							
B-61	8/28/00	LNAPL							
B-61	11/27/00	LNAPL							
B-61	2/19/01	LNAPL							
B-78	10/30/97	LNAPL							
B-78	2/18/98		**3,000**	**70,000**	**10,000**	**30**	<0.5	**32**	**43**

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Chevron Avila Beach Terminal (Former Unocal Terminal)
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ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-78	2/18/98	Dup	**2,500**	**65,000**	**14,000**	**25**	<0.5	**26**	**32**
B-78	5/18/98	LNAPL							
B-78	8/18/98	LNAPL							
B-78	11/22/98	LNAPL							
B-78	3/8/99	LNAPL							
B-78	6/19/99	LNAPL							
B-78	9/22/99	LNAPL							
B-78	11/18/99	LNAPL							
B-78	2/22/00	LNAPL							
B-78	5/22/00	LNAPL							
B-78	8/28/00	LNAPL							
B-78	11/27/00	LNAPL							
B-78	2/19/01	LNAPL							
B-78	5/2/01	LNAPL							
B-78	8/20/01	LNAPL							
B-78	2/15/02	LNAPL							
B-78	5/28/02	LNAPL							
B-78	8/26/02	LNAPL							
B-78	11/12/02	LNAPL							
B-78	3/10/03	LNAPL							
B-78	6/13/03	LNAPL							
B-78	8/21/03	LNAPL							
B-78	2/23/04	LNAPL							
B-78	8/10/04	LNAPL							
B-78	12/8/04	LNAPL							
B-78	3/7/05	LNAPL							
B-78	6/20/05	LNAPL							
B-78	11/20/06	LNAPL							
B-78	5/21/07	LNAPL							
B-78	5/20/08	LNAPL							
B-78	9/15/08	NS							
B-78	11/17/08	LNAPL							
B-78	5/4/09	LNAPL							
B-78	4/26/10	LNAPL							
B-78	9/16/10	LNAPL							
B-78	11/15/10	LNAPL							
B-78	5/2/11	LNAPL							
B-78	11/14/11	LNAPL							
B-78	5/7/12	LNAPL							
B-78	11/5/12	LNAPL							
B-81-67	10/30/97	LNAPL							
B-81-67	2/20/98		**30,000**	**510,000**	**140,000**	**140**	**26**	**180**	**360**
B-81-67	5/18/98	LNAPL							
B-81-67	8/18/98	LNAPL							
B-81-67	11/22/98	LNAPL							
B-81-67	3/8/99	LNAPL							
B-81-67	6/19/99	LNAPL							
B-81-67	9/22/99	LNAPL							
B-81-67	11/18/99	LNAPL							
B-81-67	2/22/00	LNAPL							
B-81-67	5/22/00	LNAPL							
B-81-67	8/28/00	LNAPL							
B-81-67	11/27/00	LNAPL							
B-81-67	2/19/01	LNAPL							
B-81-67	5/2/01	LNAPL							
B-81-67	8/20/01	LNAPL							
B-81-67	2/15/02	LNAPL							

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ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-81-67	5/28/02	LNAPL							
B-81-67	8/26/02	LNAPL							
B-81-67	11/12/02	LNAPL							
B-81-67	3/10/03	LNAPL							
B-81-67	6/13/03	LNAPL							
B-81-67	8/21/03	LNAPL							
B-81-67	2/23/04	LNAPL							
B-81-67	8/10/04	LNAPL							
B-81-67	12/8/04	LNAPL							
B-81-67	3/7/05	LNAPL							
B-81-67	6/20/05	LNAPL							
B-81-67	11/21/06	LNAPL							
B-81-67	5/22/07	LNAPL							
B-81-67	5/19/08	LNAPL							
B-81-67	9/15/08	NS							
B-81-67	11/17/08	LNAPL							
B-81-67	5/4/09	LNAPL							
B-81-67	4/26/10	LNAPL							
B-81-67	11/15/10	LNAPL							
B-81-67	5/2/11	LNAPL							
B-81-67	11/14/11	LNAPL							
B-81-67	5/7/12	LNAPL							
B-81-67	11/5/12	LNAPL							
B-81-90	10/30/97	LNAPL							
B-81-90	2/20/98		**1,400**	**3,800**	**450**	**92**	<0.5	**88**	**17**
B-81-90	5/18/98	LNAPL							
B-81-90	8/18/98	LNAPL							
B-81-90	11/22/98	LNAPL							
B-81-90	3/8/99	LNAPL							
B-81-90	6/19/99	LNAPL							
B-81-90	9/22/99	LNAPL							
B-81-90	11/18/99	LNAPL							
B-81-90	2/22/00	LNAPL							
B-81-90	5/22/00	LNAPL							
B-81-90	8/28/00	LNAPL							
B-81-90	11/27/00	LNAPL							
B-81-90	2/19/01	LNAPL							
B-81-90	5/2/01	LNAPL							
B-81-90	8/20/01	LNAPL							
B-81-90	2/15/02	LNAPL							
B-81-90	5/28/02	LNAPL							
B-81-90	8/26/02	LNAPL							
B-81-90	11/12/02	LNAPL							
B-81-90	3/10/03	LNAPL							
B-81-90	6/13/03	LNAPL							
B-81-90	8/21/03	LNAPL							
B-81-90	2/23/04	LNAPL							
B-81-90	8/10/04	LNAPL							
B-81-90	12/8/04	LNAPL							
B-81-90	3/7/05	LNAPL							
B-81-90	6/20/05	LNAPL							
B-81-90	11/21/06	LNAPL							
B-81-90	5/22/07	LNAPL							
B-81-90	5/19/08	LNAPL							
B-81-90	9/15/08	NS							
B-81-90	11/17/08	LNAPL							
B-81-90	5/4/09	LNAPL							

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ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-81-90	4/26/10	LNAPL							
B-81-90	11/15/10	LNAPL							
B-81-90	5/2/11	LNAPL							
B-81-90	11/14/11	LNAPL							
B-81-90	5/7/12	LNAPL							
B-81-90	11/5/12	LNAPL							
B-82	10/30/97	LNAPL							
B-82	2/20/98		**2,100**	**48,000**	**9,200**	**42**	<0.5	**1.6**	<0.5
B-82	5/18/98	LNAPL							
B-82	8/18/98	LNAPL							
B-82	11/22/98	LNAPL							
B-82	3/8/99	LNAPL							
B-82	6/19/99	LNAPL							
B-82	9/22/99	LNAPL							
B-82	11/18/99	LNAPL							
B-82	2/22/00	LNAPL							
B-82	5/22/00	LNAPL							
B-82	8/28/00	LNAPL							
B-82	11/27/00	LNAPL							
B-82	2/19/01	LNAPL							
B-82	5/2/01	LNAPL							
B-82	8/20/01	LNAPL							
B-82	2/15/02	LNAPL							
B-82	5/28/02	LNAPL							
B-82	8/26/02	LNAPL							
B-82	11/12/02	LNAPL							
B-82	3/10/03	LNAPL							
B-82	6/13/03	LNAPL							
B-82	8/21/03	LNAPL							
B-82	2/23/04	LNAPL							
B-82	8/10/04	LNAPL							
B-82	12/8/04	LNAPL							
B-82	3/7/05	LNAPL							
B-82	6/20/05	LNAPL							
B-82	11/21/06	LNAPL							
B-82	5/22/07	LNAPL							
B-82	5/19/08	LNAPL							
B-82	9/15/08	NS							
B-82	11/17/08	Dry							
B-82	5/4/09	LNAPL							
B-82	4/26/10	LNAPL							
B-82	11/15/10	Dry							
B-82	5/2/11	LNAPL							
B-82	11/14/11	LNAPL							
B-82	5/7/12	LNAPL							
B-82	11/5/12	Dry							
B-83	10/30/97	LNAPL							
B-83	2/20/98		**2,100**	**550,000**	**160,000**	**2.3**	<0.5	**2.9**	**1.5**
B-83	5/18/98	LNAPL							
B-83	8/18/98	LNAPL							
B-83	11/22/98	LNAPL							
B-83	3/8/99	LNAPL							
B-83	6/19/99	LNAPL							
B-83	9/22/99	LNAPL							
B-83	11/18/99	LNAPL							
B-83	2/22/00	LNAPL							

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B-83	5/22/00	LNAPL							
B-83	8/28/00	LNAPL							
B-83	11/27/00	LNAPL							
B-83	2/19/01	LNAPL							
B-83	5/2/01	LNAPL							
B-83	8/20/01	LNAPL							
B-83	2/15/02	LNAPL							
B-83	5/28/02	LNAPL							
B-83	8/26/02	LNAPL							
B-83	11/12/02	LNAPL							
B-83	3/10/03	LNAPL							
B-83	6/13/03	LNAPL							
B-83	8/21/03	LNAPL							
B-83	2/23/04	LNAPL							
B-83	8/10/04	LNAPL							
B-83	12/8/04	LNAPL							
B-83	3/7/05	LNAPL							
B-83	6/20/05	LNAPL							
B-83	11/20/06	LNAPL							
B-83	5/22/07	LNAPL							
B-83	5/19/08	LNAPL							
B-83	9/15/08	NS							
B-83	11/17/08	LNAPL							
B-83	5/4/09	LNAPL							
B-83	4/26/10	LNAPL							
B-83	9/16/10	LNAPL							
B-83	11/15/10	LNAPL							
B-83	5/2/11	LNAPL							
B-83	11/14/11	LNAPL							
B-83	5/7/12	LNAPL							
B-83	11/5/12	LNAPL							
B-85	10/31/97		<100	**160**	**190**	<0.5	<0.5	<0.5	<0.5
B-85	2/18/98		<100	<100	<100	<0.5	<0.5	<0.5	**2**
B-85	5/20/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	8/19/98		<100	**200**	<100	<0.5	<0.5	<0.5	<0.5
B-85	11/24/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	3/7/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	6/19/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	9/24/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	11/20/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	2/25/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	5/25/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	9/2/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	11/30/00		<100	**270**	<100	<0.5	<0.5	<0.5	<0.5
B-85	2/24/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	2/24/01	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	5/4/01		<100	**290**	<100	<0.5	<0.5	<0.5	<0.5
B-85	8/20/01		<100	**150**	<100	<0.5	<0.5	<0.5	<0.5
B-85	12/9/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	12/9/01	SGC		<100	<100				
B-85	2/12/02		<100	**340**	**110**	<0.5	<0.5	<0.5	<0.5
B-85	2/12/02	SGC		<100	<100				
B-85	5/29/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	8/29/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	11/14/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	6/10/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5

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B-85	8/20/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	11/12/03		<100	100	<100	<0.5	<0.5	<0.5	<0.5
B-85	2/24/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-85	5/18/04		<100	**120**	<100	<0.5	<0.5	<0.5	<0.5
B-85	8/10/04		<100	**110**	<100	<0.5	<0.5	<0.5	<0.5
B-85	12/8/04		<100	**1,100**	**1,200**	<0.5	<0.5	<0.5	<0.5
B-85	3/7/05	NA							
B-85	6/22/05		**160**	**830**	**180**	**0.63**	<0.5	<0.5	<1
B-85	6/22/05	Dup		**1,300**	**170**	**0.63**	<0.5	<0.5	<1
B-85	6/22/05	Trip			**200**	**0.6**	<0.5	<0.5	<1
B-85	12/6/05		**110**	**690**	**580**	<0.5	<0.5	<0.5	<1
B-85	12/6/05	Dup	**87**	**670**	**760**	<0.5	<0.5	<0.5	<1
B-85	12/6/05	Trip	<50	**400**	**700**	<0.5	<0.5	<0.5	<0.5
B-85	6/19/06		**160**	**830**	**180**	**0.21**	<0.5	<0.5	<0.5
B-85	12/1/06	SGC	<50	**724**	**379**	<0.5	<0.5	<0.5	<0.5
B-85	6/6/07		<50	**560**	**457**	<0.5	<0.5	<0.5	<0.5
B-85	6/6/07	SGC	--	**654**	**412**	--	--	--	--
B-85	12/6/07		**33.7 JB**	**384**	**478**	<0.5	<0.5	<0.5	**0.870**
B-85	12/6/07	SGC	--	**518**	**299**	--	--	--	--
B-85	5/22/08		<50	**230**	**810**	<0.5	<0.5	<0.5	<0.5
B-85	9/15/08	NS							
B-85	11/20/08		<50	**100**	**240**	<0.5	<0.5	<0.5	<0.5
B-85	5/7/09		<50	**710**	**540**	<0.5	<0.5	<0.5	<0.5
B-85	11/19/09		<50	**440**	**940**	<0.5	<0.5	<0.5	<0.5
B-85	4/28/10		<50	**500**	**490**	<0.5	<0.5	<0.5	<0.5
B-85	11/18/10		<50	**370**	**300**	<0.5	<0.5	<0.5	<0.5
B-85	5/5/11		<50	**590**	**360**	<0.5	<0.5	<0.5	<0.5
B-85	11/17/11		**22 J**	**190**	**270**	<0.5	**0.09 J**	<0.5	<0.5
B-85	5/9/12		<50	**230**	**160**	<0.5	<0.5	<0.5	<0.5
B-85	11/8/12		**93**	**20 J**	<510	<0.50	<0.50	<0.50	<0.50
B-139	10/31/97		<100	**100**	**120**	<0.5	<0.5	<0.5	<0.5
B-139	2/20/98		<100	**340**	**550**	<0.5	<0.5	<0.5	<0.5
B-139	2/20/98	Dup	<100	**110**	**160**	<0.5	<0.5	<0.5	<0.5
B-139	5/19/98		<100	**160**	**190**	<0.5	<0.5	<0.5	<0.5
B-139	8/19/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	8/19/98	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	11/25/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	11/25/98	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	3/6/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	6/19/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	9/25/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	11/20/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	2/25/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	2/25/00	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	5/24/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	9/1/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	12/5/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	2/23/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	5/5/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	8/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	12/9/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	2/11/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	5/30/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	8/28/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	11/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	3/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	6/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-139	8/21/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	11/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	2/26/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	5/19/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	8/11/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-139	12/9/04		<100	<100	**290**	<0.5	<0.5	<0.5	<0.5
B-139	3/7/05	NA							
B-139	6/17/05		<50	**130**	**250**	<0.5	<0.5	<0.5	<1
B-139	11/29/05		<50	**160**	**200**	<0.5	<0.5	<0.5	<1
B-139	3/4/06	NA							
B-139	6/14/06		<50	**110**	**210**	<0.5	<0.5	<0.5	<1
B-139	12/1/06	SGC	<50	**73.9**	**115**	<0.5	<0.5	<0.5	<0.5
B-139	6/6/07		<50	**140**	**386**	<0.5	<0.5	<0.5	<0.5
B-139	6/6/07	SGC	--	**112**	**311**	--	--	--	--
B-139	12/6/07		<50	**204**	**250**	<0.5	<0.5	<0.5	<0.5
B-139	12/6/07	SGC	--	**30.8 JB**	<95.2	--	--	--	--
B-139	5/27/08		<50	**190**	**750**	<0.5	<0.5	<0.5	<0.5
B-139	9/15/08	NS							
B-139	11/20/08		<50	<50	**160**	<0.5	<0.5	<0.5	<0.5
B-139	5/7/09		<50	**71**	<100	<0.5	<0.5	<0.5	<0.5
B-139	11/18/09		<50	**120**	<100	<0.5	<0.5	<0.5	<0.5
B-139	4/28/10		<50	<50	**110**	<0.5	<0.5	<0.5	<0.5
B-139	11/17/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-139	5/6/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-139	11/16/11		<50	<53	**60 J**	<0.5	<0.5	<0.5	**0.18 J**
B-139	5/9/12		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-139	11/7/12		**29 J**	<50	<520	<0.50	<0.50	<0.50	<0.50
B-143-45	10/31/97		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-45	12/2/97		<100	NA	NA	<0.5	<0.5	<0.5	<0.5
B-143-45	12/5/97	NA		<100	<100	NA	NA	NA	NA
B-143-45	2/17/98		<100	**130**	**120**	<0.5	<0.5	<0.5	<0.5
B-143-45	5/20/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-45	8/18/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-45	11/22/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-45	3/8/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-45	6/18/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-45	6/18/99	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-45	9/23/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-45	11/19/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-45	2/24/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-45	5/22/00	NA							
B-143-45	8/28/00	NA							
B-143-45	11/27/00	NA							
B-143-45	2/19/01	NA							
B-143-45	5/2/01	NA							
B-143-45	8/20/01	NA							
B-143-45	2/15/02	NA							
B-143-45	5/28/02	NA							
B-143-45	8/26/02	NA							
B-143-45	11/12/02	NA							
B-143-45	3/10/03	NA							
B-143-45	6/13/03	NA							
B-143-45	8/21/03	NA							
B-143-45	2/23/04	NA							
B-143-45	8/10/04	NA							
B-143-45	12/8/04	NA							
B-143-45	3/7/05	NA							

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B-143-45	3/4/06	NA							
B-143-45	11/20/06	NA							
B-143-45	5/21/07	NA							
B-143-45	5/19/08	NS							
B-143-45	9/15/08	NS							
B-143-45	11/17/08	WLO							
B-143-45	5/4/09	WLO							
B-143-45	4/26/10	WLO							
B-143-45	11/15/10	WLO							
B-143-45	5/2/11	WLO							
B-143-45	11/14/11	WLO							
B-143-45	5/7/12	WLO							
B-143-45	11/5/12	WLO							
B-143-70	10/31/97		<100	**210**	**580**	<0.5	<0.5	<0.5	<0.5
B-143-70	10/31/97	Dup	<100	**250**	**620**	<0.5	<0.5	<0.5	<0.5
B-143-70	12/2/97		<100	NA	NA	<0.5	<0.5	<0.5	<0.5
B-143-70	12/5/97	NA		<100	<100	NA	NA	NA	NA
B-143-70	2/17/98		<100	**240**	**240**	<0.5	<0.5	<0.5	<0.5
B-143-70	5/20/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-70	8/18/98		<100	**120**	**100**	<0.5	<0.5	<0.5	<0.5
B-143-70	11/22/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-70	3/8/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-70	3/8/99	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-70	6/18/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-70	9/23/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-70	11/19/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-70	11/19/99	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-70	2/24/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-143-70	5/22/00	NA							
B-143-70	8/28/00	NA							
B-143-70	11/27/00	NA							
B-143-70	2/19/01	NA							
B-143-70	5/2/01	NA							
B-143-70	8/20/01	NA							
B-143-70	2/15/02	NA							
B-143-70	5/28/02	NA							
B-143-70	8/26/02	NA							
B-143-70	11/12/02	NA							
B-143-70	3/10/03	NA							
B-143-70	6/13/03	NA							
B-143-70	8/21/03	NA							
B-143-70	2/23/04	NA							
B-143-70	8/10/04	NA							
B-143-70	12/8/04	NA							
B-143-70	3/7/05	NA							
B-143-70	3/4/06	NA							
B-143-70	11/20/06	NA							
B-143-70	5/21/07	NA							
B-143-70	5/19/08	NA							
B-143-70	9/15/08	NS							
B-143-70	11/17/08	WLO							
B-143-70	5/4/09	WLO							
B-143-70	4/26/10	WLO							
B-143-70	11/15/10	WLO							
B-143-70	5/2/11	WLO							
B-143-70	11/14/11	WLO							
B-143-70	5/7/12	WLO							

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B-143-70	11/5/12	WLO							
B-144-50	10/31/97		<100	<100	**120**	<0.5	<0.5	<0.5	<0.5
B-144-50	12/2/97		<100	NA	NA	<0.5	<0.5	<0.5	<0.5
B-144-50	12/5/97	NA		<100	<100	NA	NA	NA	NA
B-144-50	2/17/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	5/20/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	8/18/98		<100	**130**	**180**	<0.5	<0.5	<0.5	<0.5
B-144-50	11/22/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	3/8/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	6/18/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	9/23/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	11/19/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	2/24/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	5/22/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	9/1/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	11/30/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	2/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	5/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	8/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	12/10/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	2/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	5/31/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	8/28/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	11/14/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	6/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	6/13/03	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	8/20/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	11/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	2/26/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	5/19/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	8/11/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	12/9/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	3/7/05	NA							
B-144-50	6/21/05		<50	**3,200**	**400**	<0.5	<0.5	<0.5	<1
B-144-50	11/30/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-144-50	3/4/06	NA							
B-144-50	6/15/06		<50	**3,200**	**400**	<0.5	<0.5	<0.5	<1
B-144-50	12/6/06	SGC	<50	<52.1	<104	<0.5	<0.5	<0.5	<0.5
B-144-50	6/6/07		<50	<102	**91.0 J**	<0.5	<0.5	<0.5	<0.5
B-144-50	6/6/07	SGC	--	**46.7 J**	**88.9 J**	--	--	--	--
B-144-50	11/28/07		<50	**63.2 JB**	<98	<0.5	<0.5	<0.5	<0.5
B-144-50	11/28/07	SGC	--	<98	**44.6 JB**	--	--	--	--
B-144-50	5/21/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	9/15/08	NS							
B-144-50	11/18/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	5/5/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	11/17/09		<50	<50	**110**	<0.5	<0.5	<0.5	<0.5
B-144-50	4/27/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	11/16/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	5/3/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	11/15/11		<50	<52	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	5/8/12		**34 J**	<52	<100	<0.5	<0.5	<0.5	<0.5
B-144-50	11/6/12		<53	<50	<530	<0.50	<0.50	**0.29 J**	<0.50
B-144-75	10/31/97		<100	**100**	**190**	<0.5	<0.5	<0.5	<0.5
B-144-75	12/2/97		<100	NA	NA	<0.5	<0.5	<0.5	<0.5

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B-144-75	12/2/97	Dup	<100	NA	NA	<0.5	<0.5	<0.5	<0.5
B-144-75	12/5/97			<100	<100	NA	NA	NA	NA
B-144-75	2/17/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	5/20/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	8/18/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	11/22/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	3/7/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	6/18/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	9/23/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	11/19/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	2/24/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	5/22/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	9/1/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	11/30/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	2/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	5/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	8/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	12/10/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	12/10/01	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	2/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	5/31/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	8/28/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	8/28/02	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	11/14/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	6/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	8/20/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	11/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	2/26/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	2/26/04	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	5/19/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	5/19/04	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	8/11/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	12/9/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-144-75	3/7/05	NA							
B-144-75	3/4/06	NA							
B-144-75	11/20/06	NA							
B-144-75	5/21/07	NA							
B-144-75	5/19/08	NS							
B-144-75	9/15/08	NS							
B-144-75	11/17/08	WLO							
B-144-75	5/4/09	WLO							
B-144-75	4/26/10	WLO							
B-144-75	11/15/10	WLO							
B-144-75	5/2/11	WLO							
B-144-75	11/14/11	WLO							
B-144-75	5/7/12	WLO							
B-144-75	11/5/12	WLO							
B-145	12/3/97		<100	NA	NA	<0.5	<0.5	<0.5	<0.5
B-145	12/6/97	NA		<100	<100	NA	NA	NA	NA
B-145	2/16/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	5/20/98		<100	**530**	**480**	<0.5	<0.5	<0.5	<0.5
B-145	8/19/98		<100	**290**	**250**	<0.5	<0.5	<0.5	<0.5
B-145	11/23/98		<100	**6,800**	**9,900**	<0.5	<0.5	<0.5	<0.5
B-145	3/8/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	6/20/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	9/25/99		<100	**210**	**350**	<0.5	<0.5	<0.5	<0.5

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-145	11/21/99		<100	**300**	**410**	<0.5	<0.5	<0.5	<0.5
B-145	2/25/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	2/25/00	SGC		<100	<100				
B-145	5/26/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	5/26/00	SGC		<100	<100				
B-145	8/29/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	8/29/00	SGC		<100	<100				
B-145	11/30/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	11/30/00	SGC		<100	<100				
B-145	2/22/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	2/22/01	SGC		<100	<100				
B-145	5/5/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	5/5/01	SGC		<100	<100				
B-145	5/5/01	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	8/20/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	8/20/01	SGC		<100	<100				
B-145	12/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	2/12/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	2/12/02	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	5/31/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	8/27/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	11/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	3/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	6/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	8/20/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	11/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	2/23/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	5/19/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	8/11/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	12/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-145	3/7/05	NA							
B-145	3/4/06	NA							
B-145	6/14/06		<50	**56**	**80**	<0.5	<0.5	<0.5	<1.0
B-145	11/28/06	SGC	<50	<52.1	<104	<0.5	<0.5	<0.5	<0.5
B-145	5/24/07		<50	<95.2	**79.6 J**	<0.5	<0.5	<0.5	<0.5
B-145	5/24/07	SGC	--	<95.2	<95.2	--	--	--	--
B-145	11/28/07		<50	**35 JB**	<96.2	<0.5	<0.5	<0.5	<0.5
B-145	11/28/07	SGC	--	<96.2	**43 JB**	--	--	--	--
B-145	5/27/08		<50	**120**	**360**	<0.5	<0.5	<0.5	<0.5
B-145	9/15/08	NS							
B-145	11/20/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-145	5/7/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-145	11/19/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-145	4/29/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-145	11/17/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-145	5/2/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-145	11/16/11		<50	<50	**32 J**	<0.5	<0.5	<0.5	**0.21 J**
B-145	5/9/12		<50	<53	<110	<0.5	<0.5	<0.5	<0.5
B-145	11/7/12		<51	<50	<510	<0.50	<0.50	<0.50	<0.50
B-146	12/4/97		<100	NA	NA	<0.5	<0.5	<0.5	<0.5
B-146	12/4/97	Dup	<100	NA	NA	<0.5	<0.5	<0.5	<0.5
B-146	12/5/97	NA		**630**	**140**	NA	NA	NA	NA
B-146	2/17/98		<100	**330**	**130**	<0.5	<0.5	<0.5	<0.5
B-146	2/17/98	Dup	<100	**410**	**150**	<0.5	<0.5	<0.5	<0.5
B-146	5/21/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	8/18/98		<100	**220**	**100**	<0.5	<0.5	<0.5	<0.5
B-146	11/25/98		<100	**270**	<100	<0.5	<0.5	<0.5	<0.5

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Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-146	3/6/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	6/18/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	9/24/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	11/21/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	2/26/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	5/23/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	8/30/00		<100			<0.5	<0.5	<0.5	<0.5
B-146	11/29/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	2/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	2/21/01	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	5/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	8/20/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	12/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	12/8/01	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	2/12/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	5/31/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	8/27/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	11/14/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	6/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	8/19/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	11/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	11/11/03	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	2/23/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	2/23/04	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	5/18/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	8/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	12/6/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	12/6/04	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-146	3/7/05	NA							
B-146	6/21/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-146	11/30/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-146	3/4/06	NA							
B-146	6/12/06		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-146	11/27/06	SGC	<50	<47.6	<95.2	<0.5	<0.5	<0.5	<0.5
B-146	11/27/06	SGC, Dup	<50	<47.6	<95.2	<0.5	<0.5	<0.5	<0.5
B-146	5/22/07		<50	<95.2	**85.9 J**	<0.5	<0.5	<0.5	<0.5
B-146	5/22/07	SGC	--	<95.2	<95.2	--	--	--	--
B-146	11/27/07		<50	**29.4 JB**	**37.6 JB**	<0.5	<0.5	<0.5	<0.5
B-146	11/27/07	SGC	--	<97.1	**44.2 JB**	--	--	--	--
B-146	5/21/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-146	9/15/08	NS							
B-146	11/18/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-146	5/6/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-146	11/17/09		<50	<50	**170**	<0.5	<0.5	<0.5	<0.5
B-146	4/27/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-146	11/16/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-146	5/2/11		<50	<54	<110	<0.5	<0.5	<0.5	<0.5
B-146	11/15/11		<50	<52	**25 J**	<0.5	<0.5	<0.5	<0.5
B-146	5/8/12		**21 J**	<52	<100	<0.5	<0.5	<0.5	<0.5
B-146	11/6/12		<52	<50	<520	<0.50	<0.50	**0.26 J**	<0.50
B-147	12/4/97		<100	NA	NA	<0.5	<0.5	<0.5	<0.5
B-147	12/5/97	NA		<100	<100	NA	NA	NA	NA
B-147	2/17/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	5/21/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	8/18/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	11/25/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5

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ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-147	3/6/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	6/18/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	9/24/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	11/21/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	2/26/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	5/23/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	8/30/00		<100			<0.5	<0.5	<0.5	<0.5
B-147	11/29/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	2/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	5/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	5/8/01	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	8/20/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	8/20/01	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	12/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	2/12/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	5/31/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	8/27/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	11/14/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	3/11/03	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	6/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	8/19/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	8/19/03	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	11/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	2/23/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	5/18/04		<100	**1,300**	**620**	<0.5	<0.5	<0.5	<0.5
B-147	8/10/04	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	8/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	12/6/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-147	3/7/05	NA							
B-147	6/21/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-147	11/30/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-147	3/4/06	NA							
B-147	6/12/06		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-147	11/27/06	SGC	<50	<47.2	**129**	<0.5	<0.5	<0.5	<0.5
B-147	5/22/07		<50	<95.2	**86.3 J**	<0.5	<0.5	<0.5	<0.5
B-147	5/22/07	SGC	--	<95.2	<95.2	--	--	--	--
B-147	11/27/07		<50	**30.4 JB**	**42.7 JB**	<0.5	<0.5	<0.5	<0.5
B-147	11/27/07	SGC	--	<100	<100	--	--	--	--
B-147	5/22/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-147	9/15/08	NS							
B-147	11/18/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-147	5/6/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-147	11/17/09		<50	<50	**180**	<0.5	<0.5	<0.5	<0.5
B-147	4/27/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-147	11/16/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-147	5/3/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-147	11/15/11		<50	<53	<110	<0.5	<0.5	<0.5	<0.5
B-147	5/9/12		<50	<56	<110	<0.5	<0.5	<0.5	<0.5
B-147	11/6/12		<50	<50	<500	<0.50	<0.50	**0.30 J**	<0.50
B-148	12/4/97		<100	NA	NA	<0.5	<0.5	<0.5	<0.5
B-148	12/6/97	NA		<100	<100	NA	NA	NA	NA
B-148	2/17/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	5/20/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	8/19/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	11/24/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	3/6/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5

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Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-148	6/20/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	9/24/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	11/22/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	2/26/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	5/22/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	8/29/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	8/29/00	Dup				<0.5	<0.5	<0.5	<0.5
B-148	11/29/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	2/22/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	5/5/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	8/20/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	12/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	2/10/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	2/10/02	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	5/31/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	8/27/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	11/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	3/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	6/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	8/20/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	11/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	2/23/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	5/19/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	8/11/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	12/8/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	3/7/05	NA							
B-148	6/27/05		<50	<50	**150**	<0.5	<0.5	<0.5	<1
B-148	12/21/05		<50	**64**	**360**	<0.5	<0.5	<0.5	<1
B-148	3/4/06	NA							
B-148	6/15/06		<50	<50	**150**	<0.5	<0.5	<0.5	<1
B-148	12/4/06	SGC	<50	<49	<98	<0.5	<0.5	<0.5	<0.5
B-148	12/4/06	SGC, Dup	<50	<47.6	<95.2	<0.5	<0.5	<0.5	<0.5
B-148	6/1/07		<50	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	6/1/07	Dup	<50	<100	<100	<0.5	<0.5	<0.5	<0.5
B-148	6/1/07	SGC	--	<95.2	<95.2	--	--	--	--
B-148	6/1/07	SGC, Dup	--	<100	<100	--	--	--	--
B-148	11/28/07		<50	**28.8 JB**	<97.1	<0.5	<0.5	<0.5	<0.5
B-148	11/28/07	SGC	--	<97.1	**35.4 JB**	--	--	--	--
B-148	5/28/08		<50	**470**	**1100**	**0.56**	<0.5	<0.5	<0.5
B-148	9/15/08	NS							
B-148	11/20/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-148	5/4/09	Dry							
B-148	11/18/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-148	4/28/10		<50	<50	**160**	<0.5	<0.5	<0.5	<0.5
B-148	11/18/10		<50	**96**	**140**	<0.5	<0.5	<0.5	<0.5
B-148	5/3/11		<50	<50	**310**	<0.5	<0.5	<0.5	<0.5
B-148	11/16/11		<50	<52	**50 J**	<0.5	**0.06 J**	<0.5	**0.23 J**
B-148	5/9/12		<50	<52	<100	<0.5	<0.5	<0.5	<0.5
B-148	11/7/12		<53	<50	<530	<0.50	<0.50	<0.50	<0.50
B-149	12/4/97		<100	NA	NA	<0.5	<0.5	<0.5	<0.5
B-149	12/6/97	NA		<100	<100	NA	NA	NA	NA
B-149	2/17/98		<100	**170**	**110**	<0.5	<0.5	<0.5	<0.5
B-149	5/20/98		<100	**140**	<100	<0.5	<0.5	<0.5	<0.5
B-149	8/19/98		<100	**520**	<100	<0.5	<0.5	<0.5	<0.5
B-149	11/24/98		<100	**550**	<100	<0.5	<0.5	<0.5	<0.5
B-149	11/24/98	Dup	<100	**510**	<100	<0.5	<0.5	<0.5	<0.5
B-149	3/8/99		<100	**300**	<100	<0.5	<0.5	<0.5	<0.5

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-149	6/19/99		<100	**310**	<100	<0.5	<0.5	<0.5	<0.5
B-149	9/24/99		<100	**360**	**210**	<0.5	<0.5	<0.5	<0.5
B-149	9/24/99	SGC		<100	<100				
B-149	11/20/99		<100	**230**	**180**	<0.5	<0.5	<0.5	<0.5
B-149	11/20/99	SGC		<100	<100				
B-149	2/25/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-149	2/25/00	SGC		<100	<100				
B-149	5/25/00		<100	**110**	<100	<0.5	<0.5	<0.5	<0.5
B-149	5/25/00	SGC		<100	<100				
B-149	8/30/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-149	8/30/00	SGC		<100	<100				
B-149	11/30/00		<100	**330**	<100	<0.5	<0.5	<0.5	<0.5
B-149	11/30/00	SGC		<100	<100				
B-149	11/30/00	Dup	<100	**360**	<100	<0.5	<0.5	<0.5	<0.5
B-149	2/23/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-149	2/23/01	SGC		<100	<100				
B-149	2/23/01	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-149	5/5/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-149	5/5/01	SGC		<100	<100				
B-149	8/22/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-149	8/22/01	SGC		<100	<100				
B-149	12/9/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-149	12/9/01	SGC		<100	<100				
B-149	2/12/02		<100	**120**	<100	<0.5	<0.5	<0.5	<0.5
B-149	2/12/02	SGC		<100	<100				
B-149	6/1/02		<100	**340**	<100	<0.5	<0.5	<0.5	<0.5
B-149	8/28/02		<100	**110**	<100	<0.5	<0.5	<0.5	<0.5
B-149	11/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-149	3/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-149	6/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-149	8/20/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-149	11/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-149	2/24/04		<100	<100	**190**	<0.5	<0.5	<0.5	<0.5
B-149	5/19/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-149	8/10/04	NA							
B-149	12/8/04		<100	<100	**290**	<0.5	<0.5	<0.5	<0.5
B-149	3/7/05	NA							
B-149	6/22/05		<50	**190**	**120**	<0.5	<0.5	<0.5	<1
B-149	6/22/05	Dup		**180**	**110**	<0.5	<0.5	<0.5	<1
B-149	11/30/05		<50	**270**	**210**	<0.5	<0.5	<0.5	<1
B-149	3/4/06	NA							
B-149	6/14/06		<50	**190**	**250**	<0.5	<0.5	<0.5	<1
B-149	11/29/06	SGC	<50	**696**	**169**	<0.5	<0.5	<0.5	<0.5
B-149	5/29/07		<50	**125**	**387**	<0.5	<0.5	<0.5	<0.5
B-149	5/29/07	SGC	--	**100**	**169**	--	--	--	--
B-149	5/23/08		<50	**340**	**1200**	<0.5	<0.5	<0.5	<0.5
B-149	9/15/08	NS							
B-149	11/17/08	Insufficient							
B-149	5/6/09		<50	**69**	<100	<0.5	<0.5	<0.5	<0.5
B-149	11/18/09		<50	**320**	<100	<0.5	<0.5	<0.5	<0.5
B-149	4/28/10		<50	**500**	<100	<0.5	<0.5	<0.5	<0.5
B-149	11/17/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-149	5/4/11		<50	**120**	**200**	<0.5	<0.5	<0.5	<0.5
B-149	11/17/11		**26 J**	**50**	**91 J**	<0.5	<0.5	<0.5	<0.5
B-149	5/9/12		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-149	11/7/12		**180**	<50	<510	<0.50	<0.50	<0.50	<0.50
B-150	12/5/97		<100	**950**	**1,600**	<0.5	<0.5	<0.5	<0.5

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Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-150	2/19/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	5/21/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	5/21/98	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	8/20/98		<100	**200**	**290**	<0.5	<0.5	<0.5	<0.5
B-150	11/23/98		<100	**1,300**	**1,800**	<0.5	<0.5	<0.5	<0.5
B-150	3/8/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	3/8/99	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	6/20/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	9/25/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	11/21/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	2/25/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	5/25/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	8/30/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	12/1/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	12/1/00	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	2/23/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	5/7/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	5/7/01	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	8/22/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	12/9/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	2/15/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	5/28/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	8/27/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	11/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	3/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	6/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	8/20/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	11/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	2/26/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	5/19/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	8/12/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	12/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-150	3/7/05	NA							
B-150	6/22/05		<100	<100	<100	<0.5	<0.5	<0.5	<1
B-150	11/30/05		<100	<100	<100	<0.5	<0.5	<0.5	<1
B-150	3/4/06	NA							
B-150	6/12/06		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-150	11/30/06	SGC	<50	<47.6	<95.2	<0.5	<0.5	<0.5	<0.5
B-150	5/23/07		<50	**40.5 J**	**115**	<0.5	<0.5	<0.5	<0.5
B-150	5/23/07	SGC	**--**	**37.4 J**	**34.3 J**	**--**	**--**	**--**	**--**
B-150	11/28/07		<50	**58.4 JB**	<100	<0.5	<0.5	<0.5	<0.5
B-150	11/28/07	SGC	**--**	<100	**44 JB**	**--**	**--**	**--**	**--**
B-150	5/23/08		<50	<50	**130**	<0.5	<0.5	<0.5	<0.5
B-150	9/15/08	NS							
B-150	11/19/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-150	5/5/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-150	11/18/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-150	4/28/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-150	11/17/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-150	5/3/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-150	11/16/11		<50	<50	**30 J**	<0.5	<0.5	<0.5	<0.5
B-150	5/9/12		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-150	11/7/12		<50	<50	<500	<0.50	<0.50	<0.50	<0.50
B-151	12/5/97		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	12/5/97	Dup	<100	NA	NA	<0.5	<0.5	<0.5	<0.5
B-151	2/19/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	5/21/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5

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B-151	8/20/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	11/23/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	3/8/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	6/18/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	9/24/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	11/20/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	2/25/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	5/24/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	8/30/00		<100			<0.5	<0.5	<0.5	<0.5
B-151	12/1/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	2/23/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	5/7/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	8/22/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	8/22/01	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	12/9/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	2/15/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	5/30/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	5/30/02	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	8/27/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	8/27/02	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	11/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	3/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	6/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	8/20/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	11/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	2/25/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	5/19/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	8/12/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	12/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-151	3/7/05	NA							
B-151	6/20/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-151	12/1/05		<50	**53**	**62**	<0.5	<0.5	<0.5	<1
B-151	3/4/06	NA							
B-151	6/12/06		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-151	11/29/06	SGC	<50	<50.5	<101	<0.5	<0.5	<0.5	<0.5
B-151	5/23/07		<50	<95.2	**82.4 J**	<0.5	<0.5	<0.5	<0.5
B-151	5/23/07	SGC	--	<95.2	<95.2	--	--	--	--
B-151	11/28/07		<50	**87.3 JB**	**158**	<0.5	<0.5	<0.5	<0.5
B-151	11/28/07	SGC	--	<100	**51 JB**	--	--	--	--
B-151	5/23/08		<50	**53**	**170**	<0.5	<0.5	<0.5	<0.5
B-151	9/15/08	NS							
B-151	11/19/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-151	5/5/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-151	11/18/09		<50	**80**	<100	<0.5	<0.5	<0.5	<0.5
B-151	4/27/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-151	11/17/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-151	5/4/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-151	11/16/11		<50	<50	**36 J**	<0.5	<0.5	<0.5	<0.5
B-151	5/9/12		<50	<54	<110	<0.5	<0.5	<0.5	<0.5
B-151	11/7/12		<51	<50	<510	<0.50	<0.50	**0.82**	<0.50
B-152	12/5/97		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-152	2/18/98		<100	**140**	**270**	<0.5	<0.5	<0.5	<0.5
B-152	5/19/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-152	8/20/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-152	11/23/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-152	3/6/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-152	6/18/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-152	9/24/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-152	11/20/99		<100	**210**	**260**	<0.5	<0.5	<0.5	<0.5
B-152	2/27/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-152	2/27/00	SGC		<100	<100				
B-152	5/24/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-152	8/31/00		<100			<0.5	<0.5	<0.5	<0.5
B-152	9/1/00			<100	<100				
B-152	11/27/00	NA							
B-152	2/23/01	NA							
B-153	12/5/97		<100	**560**	**360**	<0.5	<0.5	<0.5	<0.5
B-153	2/18/98		**200**	**1,300**	**700**	**1.1**	<0.5	<0.5	**1**
B-153	5/19/98		**110**	**1,300**	**320**	<0.5	<0.5	<0.5	<0.5
B-153	8/20/98		<100	**800**	<100	<0.5	<0.5	<0.5	<0.5
B-153	8/20/98	Dup	<100	**680**	<100	<0.5	<0.5	<0.5	<0.5
B-153	11/23/98		<100	**1,800**	**930**	<0.5	<0.5	<0.5	<0.5
B-153	11/23/98	Dup	<100	**1,800**	**860**	<0.5	<0.5	<0.5	<0.5
B-153	3/9/99		<100	**660**	<100	<0.5	<0.5	<0.5	<0.5
B-153	6/19/99		<100	**670**	<100	<0.5	<0.5	<0.5	<0.5
B-153	6/19/99	Dup	<100	**650**	<100	<0.5	<0.5	<0.5	<0.5
B-153	9/25/99		<100	**430**	<100	<0.5	<0.5	<0.5	<0.5
B-153	9/25/99	SGC		**140**	<100				
B-153	11/21/99		**130**	**490**	<100	<0.5	<0.5	<0.5	<0.5
B-153	11/21/99	SGC		**200**	<100				
B-153	11/21/99	Dup	**140**	**470**	<100	<0.5	<0.5	<0.5	<0.5
B-153	2/26/00		<100	**500**	<100	<0.5	<0.5	<0.5	<0.5
B-153	2/26/00	SGC		**100**	<100				
B-153	5/26/00		<100	**930**	<100	<0.5	<0.5	<0.5	<0.5
B-153	5/26/00	SGC		**220**	<100				
B-153	8/31/00		**290**	**990**	**100**	<0.5	<0.5	<0.5	<0.5
B-153	8/31/00	SGC		**670**	**150**				
B-153	8/31/00	Dup				<0.5	<0.5	<0.5	<0.5
B-153	12/1/00		<100	**590**	<100	<0.5	<0.5	<0.5	<0.5
B-153	12/1/00	SGC		**360**	<100				
B-153	2/23/01	LNAPL							
B-153	5/10/01		<100	**1,200**	**150**	<0.5	<0.5	<0.5	<0.5
B-153	5/10/01	SGC		**730**	**100**				
B-153	8/20/01	LNAPL							
B-153	2/15/02	LNAPL							
B-153	5/31/02		<100	**160**	<100	<0.5	<0.5	<0.5	<0.5
B-153	8/27/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-153	11/14/02		<100	**150**	<100	<0.5	<0.5	<0.5	<0.5
B-153	3/12/03		<100	**240**	<100	<0.5	<0.5	<0.5	<0.5
B-153	3/12/03	Dup	<100	**240**	<100	<0.5	<0.5	<0.5	<0.5
B-153	6/11/03		<100	**170**	<100	<0.5	<0.5	<0.5	<0.5
B-153	8/21/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-153	11/13/03		<100	**280**	<100	<0.5	<0.5	<0.5	<0.5
B-153	2/24/04		<100	**140**	**190**	<0.5	<0.5	<0.5	<0.5
B-153	5/20/04		<100	**150**	<100	<0.5	<0.5	<0.5	<0.5
B-153	8/10/04		<100	**140**	<100	<0.5	<0.5	<0.5	<0.5
B-153	12/8/04		<100	**630**	**280**	<0.5	<0.5	<0.5	<0.5
B-153	12/8/04	Dup	<100	**750**	**240**	<0.5	<0.5	<0.5	<0.5
B-153	3/7/05	NA							
B-153	6/20/05		**120**	**240**	<45	<0.5	<0.5	<0.5	<1
B-153	12/1/05		**160**	**380**	<50	<0.5	<0.5	<0.5	<1
B-153	3/4/06	NA							
B-153	6/13/06		<50	**370**	**77**	<0.5	<0.5	<0.5	<1

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Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-153	11/29/06	SGC	<50	**1,120**	**74.2 J**	<0.5	<0.5	<0.5	<0.5
B-153	5/29/07		<50	**1,130**	**78.0 J**	<0.5	<0.5	<0.5	<0.5
B-153	5/29/07	SGC	--	**1,380**	**38.1 J**	--	--	--	--
B-153	11/26/07		**26.2 J**	**1,080**	**37.6 J**	<0.5	<0.5	<0.5	<0.5
B-153	11/26/07	SGC	--	**759**	**46.5 JB**	--	--	--	--
B-153	5/23/08		<50	**140**	**300**	<0.5	<0.5	<0.5	<0.5
B-153	9/15/08	NS							
B-153	11/20/08		<50	**93**	**120**	<0.5	<0.5	<0.5	<0.5
B-153	5/7/09		<50	**62**	<100	<0.5	<0.5	<0.5	<0.5
B-153	11/18/09		<50	**90**	<100	<0.5	<0.5	<0.5	<0.5
B-153	4/27/10		**59**	**300**	<100	<0.5	<0.5	<0.5	<0.5
B-153	11/17/10		<50	**100**	<100	<0.5	<0.5	<0.5	<0.5
B-153	5/5/11		<50	**120**	<110	<0.5	<0.5	<0.5	<0.5
B-153	11/15/11		<50	**66**	**76 J**	<0.5	<0.5	<0.5	<0.5
B-153	5/10/12		<50	**120**	<100	<0.5	<0.5	<0.5	<0.5
B-153	11/8/12		**150**	**31 J**	<520	<0.50	<0.50	<0.50	<0.50
B-163	2/20/98		**1,800**	**43,000**	**11,000**	**44**	<0.5	**100**	**16**
B-163	5/18/98	LNAPL							
B-163	8/18/98	LNAPL							
B-163	11/22/98	LNAPL							
B-163	3/8/99	LNAPL							
B-163	6/19/99	LNAPL							
B-163	9/22/99	LNAPL							
B-163	11/18/99	LNAPL							
B-163	2/22/00	LNAPL							
B-163	5/22/00	LNAPL							
B-163	8/28/00	LNAPL							
B-163	11/27/00	LNAPL							
B-163	2/19/01	LNAPL							
B-163	5/2/01	LNAPL							
B-163	8/20/01	LNAPL							
B-163	2/15/02	LNAPL							
B-163	5/28/02	LNAPL							
B-163	8/26/02	LNAPL							
B-163	11/12/02	LNAPL							
B-163	3/10/03	LNAPL							
B-163	6/13/03	LNAPL							
B-163	8/21/03	LNAPL							
B-163	2/23/04	LNAPL							
B-163	8/10/04	LNAPL							
B-163	12/8/04	LNAPL							
B-163	3/7/05	LNAPL							
B-163	6/20/05	LNAPL							
B-163	3/4/06	NA							
B-163	11/20/06	LNAPL							
B-163	5/22/07	LNAPL							
B-163	5/19/08	NS							
B-163	9/15/08	NS							
B-163	11/17/08	LNAPL							
B-163	5/4/09	LNAPL							
B-163	4/26/10	LNAPL							
B-163	11/15/10	LNAPL							
B-163	5/2/11	LNAPL							
B-163	11/14/11	LNAPL							
B-163	5/7/12	LNAPL							
B-163	11/5/12	LNAPL							

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-167-56	12/6/97		**340**	**550**	**290**	<0.5	<0.5	**1**	<0.5
B-167-56	2/19/98		**250**	**510**	**330**	<0.5	<0.5	<0.5	<0.5
B-167-56	5/19/98		<100	**400**	**170**	<0.5	<0.5	<0.5	<0.5
B-167-56	8/18/98		<100	**380**	**100**	<0.5	<0.5	<0.5	<0.5
B-167-56	11/22/98		<100	**610**	**200**	<0.5	<0.5	<0.5	<0.5
B-167-56	3/7/99		<100	**550**	**120**	<0.5	<0.5	<0.5	<0.5
B-167-56	6/19/99		<100	**610**	**190**	<0.5	<0.5	<0.5	<0.5
B-167-56	9/24/99		<100	**550**	**260**	<0.5	<0.5	<0.5	<0.5
B-167-56	9/24/99	SGC		<100	<100				
B-167-56	11/20/99		<100	**560**	**270**	<0.5	<0.5	<0.5	<0.5
B-167-56	11/20/99	SGC		<100	<100				
B-167-56	2/26/00		<100	**810**	**250**	<0.5	<0.5	<0.5	<0.5
B-167-56	2/26/00	SGC		<100	<100				
B-167-56	5/25/00		<100	**580**	**100**	<0.5	<0.5	<0.5	<0.5
B-167-56	5/25/00	SGC		<100	<100				
B-167-56	9/2/00		<100	**240**	<100	<0.5	<0.5	<0.5	<0.5
B-167-56	9/2/00	SGC		<100	<100				
B-167-56	11/29/00		<100	**680**	**140**	<0.5	<0.5	<0.5	<0.5
B-167-56	11/29/00	SGC		<100	<100				
B-167-56	11/29/00	Dup	<100	**740**	**140**	<0.5	<0.5	<0.5	<0.5
B-167-56	2/23/01		<100	**660**	**120**	<0.5	<0.5	<0.5	<0.5
B-167-56	2/23/01	SGC		<100	<100				
B-167-56	5/6/01		<100	**710**	**140**	<0.5	<0.5	<0.5	<0.5
B-167-56	5/6/01	SGC		<100	<100				
B-167-56	8/20/01		<100	**360**	<100	<0.5	<0.5	<0.5	<0.5
B-167-56	8/20/01	SGC		<100	<100				
B-167-56	12/10/01		<100	**280**	**170**	<0.5	<0.5	<0.5	<0.5
B-167-56	12/10/01	SGC		<100	<100				
B-167-56	2/12/02		<100	**300**	<100	<0.5	<0.5	<0.5	<0.5
B-167-56	2/12/02	SGC		<100	<100				
B-167-56	5/30/02		<100	**130**	<100	<0.5	<0.5	<0.5	<0.5
B-167-56	8/29/02		<100	**320**	**190**	<0.5	<0.5	<0.5	<0.5
B-167-56	11/15/02		<100	**170**	**130**	<0.5	<0.5	<0.5	<0.5
B-167-56	3/12/03		<100	**550**	**370**	<0.5	<0.5	<0.5	<0.5
B-167-56	6/11/03		<100	**390**	**220**	<0.5	<0.5	<0.5	<0.5
B-167-56	8/21/03		<100	**150**	**100**	<0.5	<0.5	<0.5	<0.5
B-167-56	11/13/03		<100	**120**	**120**	<0.5	<0.5	<0.5	<0.5
B-167-56	2/24/04		<100	**250**	**100**	<0.5	<0.5	<0.5	<0.5
B-167-56	5/20/04		<100	**210**	<100	<0.5	<0.5	<0.5	<0.5
B-167-56	8/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-167-56	12/8/04		<100	**560**	**950**	<0.5	<0.5	<0.5	<0.5
B-167-56	3/8/05		<100	**560**	**670**	<0.5	<0.5	<0.5	<0.5
B-167-56	6/24/05		<50	**240**	**140**	<0.5	<0.5	<0.5	<1
B-167-56	9/27/05		<50	**290**	**370**	<0.5	<0.5	<0.5	<1
B-167-56	12/5/05		<50	**180**	**210**	<0.5	<0.5	<0.5	<1
B-167-56	3/4/06		<50	**300**	**630**	<0.50	<0.50	<0.50	<1.0
B-167-56	6/15/06		<50	**300**	**630**	<0.50	<0.50	<0.50	<1.0
B-167-56	9/13/06	SGC	<39	**2,350**	**2,290**	<0.200	<0.200	<0.200	<0.350
B-167-56	9/13/06	SGC, Dup	<39	**1,930**	**2,350**	<0.200	<0.200	<0.200	<0.350
B-167-56	11/28/06	SGC	<50	**794**	**503**	<0.500	<0.500	<0.500	<0.500
B-167-56	3/21/07		<50	**222**	**58.4**	<0.500	<0.500	<0.500	<0.500
B-167-56	3/21/07	SGC	--	**1,030**	**1,470**	--	--	--	--
B-167-56	6/5/07		<50	**1,380**	**335**	<0.500	<0.500	<0.500	<0.500
B-167-56	6/5/07	SGC	--	**1,290**	**930**	--	--	--	--
B-167-56	9/21/07		<50	**824**	**1,130**	<0.500	<0.500	<0.500	<0.500
B-167-56	9/21/07	SGC	--	**1,030**	**763**	--	--	--	--
B-167-56	11/30/07		<50	**841**	**796**	**0.450 J**	<0.500	**2.30**	<0.500
B-167-56	11/30/07	SGC	--	**734**	**617**	--	--	--	--

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Avila Beach, CA

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B-167-56	5/19/08		<50	**2,390**	**2,520**	<0.5	<0.5	<0.5	<0.5
B-167-56	5/27/08		<50	**290**	**890**	<0.5	<0.5	<0.5	<0.5
B-167-56	9/15/08		<50	**130**	<100	<0.5	<0.5	<0.5	<0.5
B-167-56	11/20/08		<50	<50	**290**	<0.5	<0.5	<0.5	<0.5
B-167-56	2/25/09		<50	**140**	**230**	<0.5	<0.5	<0.5	<0.5
B-167-56	5/7/09		<50	**150**	**310**	<0.5	<0.5	<0.5	<0.5
B-167-56	9/24/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-167-56	11/20/09		<50	**230**	**120**	<0.5	<0.5	<0.5	<0.5
B-167-56	2/25/10		<50	**100**	**220**	<0.5	<0.5	<0.5	<0.5
B-167-56	4/27/10		<50	**96**	**150**	<0.5	<0.5	<0.5	<0.5
B-167-56	9/17/10		<50	**91**	<100	<0.5	<0.5	<0.5	<0.5
B-167-56	11/19/10		<50	**220**	**110**	<0.5	<0.5	<0.5	<0.5
B-167-56	2/17/11		<50	**380**	<100	<0.5	<0.5	<0.5	<0.5
B-167-56	5/6/11		<50	**160**	**220**	<0.5	<0.5	<0.5	<0.5
B-167-56	9/21/11		<50	**75**	**140**	<0.5	<0.5	<0.5	<0.5
B-167-56	11/17/11		<50	**46 J**	**90 J**	<0.5	<0.5	<0.5	<0.5
B-167-56	2/16/12		<50	**110**	**84 J**	<0.5	<0.5	<0.5	<0.5
B-167-56	5/10/12		<50	**99**	**<110**	<0.5	**0.060 J**	<0.5	<0.5
B-167-56	9/18/12		**20 J**	**110**	<540	<0.50	<0.50	<0.50	<0.50
B-167-56	11/9/12		**93**	<50	**210 J**	<0.50	<0.50	<0.50	<0.50
B-167-95	12/6/97		<100	**250**	**290**	<0.5	<0.5	<0.5	<0.5
B-167-95	2/19/98		<100	**680**	**890**	<0.5	<0.5	<0.5	<0.5
B-167-95	5/19/98		<100	**130**	**140**	**1**	<0.5	<0.5	<0.5
B-167-95	8/18/98		<100	**140**	**190**	<0.5	<0.5	<0.5	<0.5
B-167-95	11/22/98		<100	**180**	<100	<0.5	<0.5	<0.5	<0.5
B-167-95	3/7/99		<100	**130**	<100	<0.5	<0.5	<0.5	<0.5
B-167-95	6/19/99		<100	**590**	**130**	<0.5	<0.5	<0.5	<0.5
B-167-95	9/24/99		<100	**150**	<100	<0.5	<0.5	<0.5	<0.5
B-167-95	9/24/99	SGC		<100	<100				
B-167-95	11/20/99		<100	**230**	**140**	<0.5	<0.5	<0.5	<0.5
B-167-95	11/20/99	SGC		<100	<100				
B-167-95	2/26/00		<100	**210**	**100**	<0.5	<0.5	<0.5	<0.5
B-167-95	2/26/00	SGC		<100	<100				
B-167-95	5/25/00		<100	**380**	<100	<0.5	<0.5	<0.5	<0.5
B-167-95	5/25/00	SGC		<100	<100				
B-167-95	9/2/00		<100	**110**	<100	<0.5	<0.5	<0.5	<0.5
B-167-95	9/2/00	SGC		<100	<100				
B-167-95	11/29/00		<100	**240**	<100	<0.5	<0.5	<0.5	<0.5
B-167-95	11/29/00	SGC		<100	<100				
B-167-95	2/23/01		<100	**350**	<100	<0.5	<0.5	<0.5	<0.5
B-167-95	2/23/01	SGC		<100	<100				
B-167-95	5/6/01		<100	**260**	<100	<0.5	<0.5	<0.5	<0.5
B-167-95	5/6/01	SGC		<100	<100				
B-167-95	8/20/01		<100	**330**	<100	<0.5	<0.5	<0.5	<0.5
B-167-95	8/20/01	SGC		<100	<100				
B-167-95	12/10/01		<100	**160**	**100**	<0.5	<0.5	<0.5	<0.5
B-167-95	12/10/01	SGC		<100	<100				
B-167-95	2/12/02		<100	**150**	<100	<0.5	<0.5	<0.5	<0.5
B-167-95	2/12/02	SGC		<100	<100				
B-167-95	5/30/02		<100	**120**	<100	<0.5	<0.5	<0.5	<0.5
B-167-95	8/29/02		<100	**250**	**280**	<0.5	<0.5	<0.5	<0.5
B-167-95	11/15/02		<100	**330**	**250**	<0.5	<0.5	<0.5	<0.5
B-167-95	3/12/03		<100	**320**	**270**	<0.5	<0.5	<0.5	<0.5
B-167-95	6/11/03		<100	**310**	**200**	<0.5	<0.5	<0.5	<0.5
B-167-95	8/21/03		<100	**220**	**140**	<0.5	<0.5	<0.5	<0.5
B-167-95	11/13/03		<100	**200**	**270**	<0.5	<0.5	<0.5	<0.5
B-167-95	2/24/04		<100	**200**	**130**	<0.5	<0.5	<0.5	<0.5

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-167-95	5/20/04		<100	**150**	<100	<0.5	<0.5	<0.5	<0.5
B-167-95	8/10/04		<100	**100**	<100	<0.5	<0.5	<0.5	<0.5
B-167-95	12/8/04		<100	**440**	**570**	<0.5	<0.5	<0.5	<0.5
B-167-95	3/8/05		<100	**800**	**1,000**	<0.5	<0.5	<0.5	<0.5
B-167-95	6/24/05		<50	**220**	**130**	<0.5	<0.5	<0.5	<1
B-167-95	9/27/05		<50	**300**	**450**	<0.5	<0.5	<0.5	<1
B-167-95	12/5/05		<50	**240**	**300**	<0.5	<0.5	<0.5	<1
B-167-95	3/4/06		<50	**300**	**1,100**	<0.50	<0.50	<0.50	<1.0
B-167-95	6/15/06		<50	**300**	**1,100**	<0.50	<0.50	<0.50	<1.0
B-167-95	9/13/06	SGC	<39	**2,100**	**2,630**	<0.200	<0.200	<0.200	<0.350
B-167-95	11/28/06	SGC	<50	**1,110**	**811**	<0.5	<0.5	<0.5	<0.5
B-167-95	3/21/07		<50	**232**	**52.2**	<0.5	<0.5	<0.5	<0.5
B-167-95	3/21/07	SGC	--	**886**	**1,240**	--	--	--	--
B-167-95	6/6/07		<50	**1,020**	**1,590**	<0.5	<0.5	<0.5	<0.5
B-167-95	6/6/07	Dup	<50	**786**	**1,260**	<0.5	<0.5	<0.5	<0.5
B-167-95	6/6/07	SGC	--	**931**	**1,530**	--	--	--	--
B-167-95	6/6/07	SGC, Dup	--	**922**	**1,480**	--	--	--	--
B-167-95	9/20/07		<50	**1,310**	**1,920**	<0.5	<0.5	<0.5	<0.5
B-167-95	9/20/07	SGC	--	**1,010**	**1,260**	--	--	--	--
B-167-95	11/30/07		<50	**929**	**1,230**	<0.5	<0.5	**2.71**	**4.87**
B-167-95	11/30/07	SGC	--	**1,050**	**846**	--	--	--	--
B-167-95	3/19/08		<50	**1,960**	**2,120**	<0.5	<0.5	<0.5	<0.5
B-167-95	5/28/08		<50	**410**	**1,400**	<0.5	<0.5	<0.5	<0.5
B-167-95	9/15/08		<50	**180**	<100	<0.5	<0.5	<0.5	<0.5
B-167-95	11/20/08		<50	**110**	**240**	<0.5	<0.5	<0.5	<0.5
B-167-95	2/25/09		<50	**170**	**260**	<0.5	<0.5	<0.5	<0.5
B-167-95	5/7/09		<50	**140**	**270**	<0.5	<0.5	<0.5	<0.5
B-167-95	9/23/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-167-95	11/19/09		<50	**310**	**100**	<0.5	<0.5	<0.5	<0.5
B-167-95	2/25/10		<50	**85**	<120	<0.5	<0.5	<0.5	<0.5
B-167-95	4/27/10		<50	**100**	**170**	<0.5	<0.5	<0.5	<0.5
B-167-95	9/17/10		<50	**150**	**150**	<0.5	<0.5	<0.5	<0.5
B-167-95	11/18/10		<50	**250**	**150**	<0.5	<0.5	<0.5	<0.5
B-167-95	2/17/11		<50	**320**	<100	<0.5	<0.5	<0.5	<0.5
B-167-95	5/6/11		<50	**140**	**190**	<0.5	<0.5	<0.5	<0.5
B-167-95	9/21/11		<50	**140**	**230**	<0.5	<0.5	<0.5	<0.5
B-167-95	11/17/11		<50	**110**	**160**	<0.5	<0.5	<0.5	<0.5
B-167-95	2/16/12		<50	**120**	**110**	<0.5	<0.5	<0.5	<0.5
B-167-95	5/10/12		<50	**110**	<100	<0.5	<0.5	<0.5	<0.5
B-167-95	9/19/12		**27 J**	**190**	**220 J**	<0.5	<0.5	<0.5	<0.5
B-167-95	11/8/12		**120**	<50	<510	<0.50	<0.50	<0.50	<0.50
B-169	12/6/97		<100	**300**	**100**	<0.5	<0.5	<0.5	<0.5
B-169	2/18/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-169	5/19/98		<100	**190**	<100	<0.5	<0.5	<0.5	<0.5
B-169	8/19/98		<100	**170**	<100	<0.5	<0.5	<0.5	<0.5
B-169	11/24/98		<100	**250**	<100	<0.5	<0.5	<0.5	<0.5
B-169	3/8/99		<100	**140**	<100	<0.5	<0.5	<0.5	<0.5
B-169	6/19/99		<100	**220**	<100	<0.5	<0.5	<0.5	<0.5
B-169	9/24/99		<100	**110**	<100	<0.5	<0.5	<0.5	<0.5
B-169	9/24/99	SGC		<100	<100				
B-169	11/20/99		<100	**140**	<100	<0.5	<0.5	<0.5	<0.5
B-169	11/20/99	SGC		<100	<100				
B-169	11/20/99	Dup	<100	**130**	<100	<0.5	<0.5	<0.5	<0.5
B-169	2/26/00		<100	**200**	<100	<0.5	<0.5	<0.5	<0.5
B-169	2/26/00	SGC		<100	<100				
B-169	5/25/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-169	5/25/00	SGC		<100	<100				

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ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-169	9/2/00		<100	<100	<100				
B-169	9/2/00	SGC		<100	<100				
B-169	12/1/00		<100	**120**	<100	<0.5	<0.5	<0.5	<0.5
B-169	12/1/00	SGC		<100	<100				
B-169	2/24/01		<100	**130**	<100	<0.5	<0.5	<0.5	<0.5
B-169	2/24/01	SGC		<100	<100				
B-169	5/4/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-169	5/4/01	SGC		<100	<100				
B-169	5/4/01	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-169	8/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-169	8/21/01	SGC		<100	<100				
B-169	12/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-169	12/8/01	SGC		<100	<100				
B-169	12/9/01								
B-169	2/11/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-169	2/11/02	SGC		<100	<100				
B-169	5/29/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-169	8/28/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-169	11/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-169	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-169	6/10/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-169	8/19/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-169	11/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-169	2/24/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-169	5/18/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-169	8/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-169	12/8/04		<100	**130**	<100	<0.5	<0.5	<0.5	<0.5
B-169	3/7/05	NA							
B-169	6/17/05		<50	**110**	**80**	<0.5	<0.5	<0.5	<1
B-169	12/5/05		<50	**140**	<50	<0.5	<0.5	<0.5	<1
B-169	12/5/05	Dup	<50	**120**	**64**	<0.5	<0.5	<0.5	<1
B-169	12/5/05	Trip	<50	<100	**300**	<0.5	<0.5	<0.5	<0.5
B-169	3/4/06	NA							
B-169	6/13/06		<50	**140**	**63**	<0.5	<0.5	<0.5	<1
B-169	6/13/06	Dup	<50	**160**	**65**	<0.5	<0.5	<0.5	<1
B-169	11/29/06	SGC	<50	**229**	**62.7 J**	<0.5	<0.5	<0.5	<0.5
B-169	5/30/07		<50	**216**	**105**	<0.5	<0.5	<0.5	<0.5
B-169	5/30/07	SGC	**--**	**197**	<95.2	**--**	**--**	**--**	**--**
B-169	12/6/07		**33.6 JB**	**179**	**197**	<0.5	<0.5	<0.5	**0.42 J**
B-169	12/6/07	SGC	**--**	**130 B**	**225**	**--**	**--**	**--**	**--**
B-169	5/22/08		<50	**79**	**290**	<0.5	<0.5	<0.5	<0.5
B-169	9/15/08	NS							
B-169	11/19/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-169	5/7/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-169	11/19/09		<50	**180**	<100	<0.5	<0.5	<0.5	<0.5
B-169	4/29/10		<50	**75**	<100	<0.5	<0.5	<0.5	<0.5
B-169	11/16/10		<50	**68**	<100	<0.5	<0.5	<0.5	<0.5
B-169	5/5/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-169	11/16/11		<50	<52	**22 J**	<0.5	**0.07 J**	<0.5	**0.27 J**
B-169	5/9/12		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-169	11/8/12		**51**	<50	<510	<0.50	<0.50	<0.50	<0.50
B-172	12/4/97		<100	NA	NA	<0.5	<0.5	<0.5	<0.5
B-172	12/5/97	NA		<100	<100	NA	NA	NA	NA
B-172	2/17/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	5/21/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	8/18/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	11/25/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5

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ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-172	3/6/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	6/18/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	9/24/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	11/21/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	2/26/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	5/23/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	8/30/00		<100			<0.5	<0.5	<0.5	<0.5
B-172	8/30/00	Dup				<0.5	<0.5	<0.5	<0.5
B-172	11/29/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	2/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	5/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	8/20/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	12/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	2/12/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	5/31/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	5/31/02	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	8/27/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	11/14/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	6/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	8/19/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	11/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	2/23/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	5/18/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	5/18/04	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	8/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	12/6/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-172	3/7/05	NA							
B-172	3/4/06	NA							
B-172	11/20/06	NA							
B-172	5/21/07	NA							
B-172	5/19/08	NS							
B-172	9/15/08	NS							
B-172	11/17/08	WLO							
B-172	5/4/09	WLO							
B-172	4/26/10	WLO							
B-172	11/15/10	WLO							
B-172	5/2/11	WLO							
B-172	11/14/11	WLO							
B-172	5/7/12	WLO							
B-172	11/5/12	WLO							
B-173	12/6/97		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	12/6/97	Dup	<100	NA	NA	<0.5	<0.5	<0.5	<0.5
B-173	2/17/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	5/20/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	8/19/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	11/24/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	3/6/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	3/6/99	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	6/19/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	9/26/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	9/26/99	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	11/21/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	2/25/00		<100	**1100**	**210**	<0.5	<0.5	<0.5	<0.5
B-173	5/24/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	5/24/00	SGC		<100	<100				
B-173	8/29/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-173	8/29/00	SGC		<100	<100				
B-173	12/1/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	12/1/00	SGC		<100	<100				
B-173	2/24/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	2/24/01	SGC		<100	<100				
B-173	5/4/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	5/4/01	SGC		<100	<100				
B-173	8/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	8/21/01	SGC		<100	<100				
B-173	12/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	12/8/01	SGC		<100	<100				
B-173	12/9/01								
B-173	2/11/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	2/11/02	SGC		<100	<100				
B-173	5/29/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	5/29/02	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	8/28/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	11/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	6/10/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	8/19/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	11/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	2/24/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	5/18/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	8/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	12/8/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-173	3/7/05	NA							
B-173	6/16/05		<50	**50**	**69**	<0.5	<0.5	<0.5	<1
B-173	12/2/05		<50	**320**	**260**	<0.5	<0.5	<0.5	<1
B-173	3/4/06	NA							
B-173	6/13/06		<50	**56**	<50	<0.5	<0.5	<0.5	<1
B-173	11/22/06	SGC	<50	<47.8	<95.7	<0.5	<0.5	<0.5	<0.5
B-173	5/24/07		<50	<95.2	**111**	<0.5	<0.5	<0.5	<0.5
B-173	5/24/07	SGC	--	<95.2	**47.5 J**	--	--	--	--
B-173	11/29/07		<50	**45.3 JB**	**90.6 JB**	<0.5	<0.5	<0.5	<0.5
B-173	11/29/07	SGC	--	**63.4 J**	**73.1 JB**	--	--	--	--
B-173	5/22/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-173	9/15/08	NS							
B-173	11/20/08		<50	<50	**110**	<0.5	<0.5	<0.5	<0.5
B-173	5/7/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-173	11/19/09		<50	**120**	<100	<0.5	<0.5	<0.5	<0.5
B-173	4/29/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-173	11/18/10		<50	<50	**150**	<0.5	<0.5	<0.5	<0.5
B-173	5/4/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-173	11/17/11		<50	<50	**53 J**	**0.06 J**	<0.5	<0.5	<0.5
B-173	5/9/12		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-173	11/7/12		<50	<50	<500	<0.50	<0.50	<0.50	<0.50
B-182	8/26/99		<100	**230**	<100	<0.5	<0.5	<0.5	<0.5
B-182	9/26/99		<100	**290**	<100	<0.5	<0.5	<0.5	<0.5
B-182	11/22/99		<100	**300**	<100	<0.5	<0.5	<0.5	<0.5
B-182	11/22/99	SGC		<100	<100				
B-182	2/22/00	LNAPL							
B-182	5/22/00	LNAPL							
B-182	8/28/00	LNAPL							
B-182	11/27/00	LNAPL							
B-182	2/23/01	LNAPL							
B-182	5/2/01	LNAPL							

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Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-182	8/20/01	LNAPL							
B-182	2/15/02	LNAPL							
B-182	5/28/02	LNAPL							
B-182	8/26/02	LNAPL							
B-182	11/12/02	LNAPL							
B-182	3/10/03	LNAPL							
B-182	6/13/03	LNAPL							
B-182	8/21/03	LNAPL							
B-182	2/23/04	LNAPL							
B-182	8/10/04	LNAPL							
B-182	12/8/04	LNAPL							
B-182	3/7/05	LNAPL							
B-182	6/28/05		**3,600**	**50,000**	**23,000**	<0.5	<0.5	<0.5	<1
B-182	11/20/06	LNAPL							
B-182	5/22/07	Sheen							
B-182	5/20/08	Sheen							
B-182	9/15/08	NS							
B-182	11/17/08	LNAPL							
B-182	5/4/09	LNAPL							
B-182	4/26/10	Sheen							
B-182	11/15/10	Sheen							
B-182	5/2/11	LNAPL							
B-182	11/14/11	LNAPL							
B-182	5/7/12	Sheen							
B-182	11/5/12	Sheen							
B-183	8/27/99		**120**	**3,600**	**340**	<0.5	<0.5	<0.5	<0.5
B-183	8/27/99	Dup	**180**	**3,200**	**250**	<0.5	<0.5	<0.5	<0.5
B-183	9/26/99		**130**	**4,500**	**490**	<0.5	<0.5	<0.5	<0.5
B-183	11/22/99		**130**	**2,700**	**390**	<0.5	<0.5	<0.5	<0.5
B-183	11/22/99	SGC		**1,500**	**160**				
B-183	2/27/00		**110**	**3,000**	**140**	<0.5	<0.5	<0.5	<0.5
B-183	2/27/00	SGC		**1,100**	<100				
B-183	5/26/00		**150**	**3,400**	**100**	<0.5	<0.5	<0.5	<0.5
B-183	5/26/00	SGC		**750**	<100				
B-183	5/26/00	Dup	**130**	**2,800**	**110**	<0.5	<0.5	<0.5	<0.5
B-183	9/2/00		**210**	**2,200**	**110**	<0.5	<0.5	<0.5	<0.5
B-183	9/2/00	SGC		**650**	<100				
B-183	11/27/00	LNAPL							
B-183	2/23/01	LNAPL							
B-183	5/5/01		**130**	**4,300**	**250**	<0.5	<0.5	<0.5	<0.5
B-183	5/5/01	SGC		**1,200**	<100				
B-183	8/20/01	LNAPL							
B-183	2/15/02	LNAPL							
B-183	5/31/02		**120**	**730**	<100	<0.5	<0.5	<0.5	<0.5
B-183	8/28/02		<100	**820**	<100	<0.5	<0.5	<0.5	<0.5
B-183	11/13/02		**190**	**1,100**	**160**	<0.5	<0.5	<0.5	<0.5
B-183	3/13/03		<100	**1,200**	**180**	<0.5	<0.5	<0.5	<0.5
B-183	6/11/03		**110**	**1,100**	**210**	<0.5	<0.5	<0.5	<0.5
B-183	8/20/03		**260**	**1,300**	**130**	<0.5	<0.5	<0.5	<0.5
B-183	11/13/03		**350**	**960**	**390**	<0.5	<0.5	<0.5	<0.5
B-183	2/24/04		<100	**450**	**110**	<0.5	<0.5	<0.5	<0.5
B-183	5/19/04		<100	**880**	**110**	<0.5	<0.5	<0.5	<0.5
B-183	8/11/04		<100	**430**	<100	<0.5	<0.5	<0.5	<0.5
B-183	12/8/04		<100	**1,200**	**580**	<0.5	<0.5	<0.5	<0.5
B-183	3/7/05	NA							
B-183	6/22/05		**280**	**1,200**	**270**	<0.5	<0.5	<0.5	<1
B-183	12/1/05		**240**	**1,300**	**250**	<0.5	<0.5	<0.5	<1

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-183	12/1/05	Dup	**280**	**1,500**	**280**	<0.5	<0.5	<0.5	<1
B-183	6/19/06		**280**	**1,200**	**270**	<0.5	<0.5	<0.5	<1
B-183	11/30/06	SGC	**112**	**2,020**	**316**	<0.5	<0.5	<0.5	<0.5
B-183	5/29/07		<50	**890**	**478**	<0.5	<0.5	<0.5	<0.5
B-183	5/29/07	SGC	--	**943**	**224**	--	--	--	--
B-183	5/20/08		**62**	**410**	<100	<0.5	<0.5	<0.5	<0.5
B-183	9/15/08	NS							
B-183	11/20/08	Dup	<50	**270**	**330**	<0.5	<0.5	<0.5	<0.5
B-183	5/6/09		<50	**210**	**110**	<0.5	<0.5	<0.5	<0.5
B-183	11/18/09		<50	**600**	**130**	<0.5	<0.5	<0.5	<0.5
B-183	4/28/10		**330**	**490**	**140**	<0.5	<0.5	<0.5	<0.5
B-183	11/17/10		<50	**210**	<100	<0.5	<0.5	<0.5	<0.5
B-183	5/4/11		<50	**130**	**170**	<0.5	<0.5	<0.5	<0.5
B-183	11/16/11		**79**	**320**	**200**	<0.5	<0.5	<0.5	<0.5
B-183	5/9/12		<50	**76**	<110	<0.5	<0.5	<0.5	<0.5
B-183	11/7/12		**320**	**64**	<510	<0.50	<0.50	**0.27 J**	<0.50
B-184	8/27/99		<100	**500**	<100	<0.5	<0.5	<0.5	<0.5
B-184	9/27/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-184	9/27/99	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-184	11/18/99	LNAPL							
B-184	2/22/00	LNAPL							
B-184	5/22/00	LNAPL							
B-184	8/30/00		<100	**1,800**	**220**	<0.5	<0.5	<0.5	<0.5
B-184	11/27/00	LNAPL							
B-184	2/23/01	LNAPL							
B-184	5/10/01		**700**	**1,700**	**300**	<0.5	<0.5	<0.5	<0.5
B-184	8/22/01		<100	**150**	<100	<0.5	<0.5	<0.5	<0.5
B-184	12/9/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-184	12/9/01	SGC		<100	<100				
B-184	2/15/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-184	2/15/02	SGC		<100	<100				
B-184	5/30/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-184	8/27/02		<100	**140**	<100	<0.5	<0.5	<0.5	<0.5
B-184	11/13/02		<100	**230**	<100	<0.5	<0.5	<0.5	<0.5
B-184	3/13/03		<100	**110**	<100	<0.5	<0.5	<0.5	<0.5
B-184	6/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-184	8/20/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-184	11/12/03		<100	**120**	<100	<0.5	<0.5	<0.5	<0.5
B-184	2/26/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-184	5/19/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-184	8/12/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-184	12/8/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-184	3/7/05	NA							
B-184	6/20/05		<50	**180**	<50	<0.5	<0.5	<0.5	<1
B-184	6/12/06		<50	**180**	<50	<0.5	<0.5	<0.5	<1
B-184	12/4/06	SGC	<50	**462**	**84.7 J**	<0.5	<0.5	<0.5	<0.5
B-184	6/15/07		<50	**223**	**42.5 J**	<0.5	<0.5	<0.5	<0.5
B-184	6/15/07	SGC	--	**132**	**57.7 J**	--	--	--	--
B-184	11/20/07		<50	**47 JB**	**57.6 JB**	<0.5	<0.5	<0.5	<0.5
B-184	11/20/07	SGC	--	**68.5 J**	<96.2	--	--	--	--
B-184	5/20/08	LNAPL							
B-184	9/15/08	NS							
B-184	11/19/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-184	5/6/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-184	5/6/09	Duplicate	<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-184	11/18/09		<50	**110**	<50	<0.5	<0.5	<0.5	<0.5
B-184	11/18/09	Duplicate	<50	<50	<50	<0.5	<0.5	<0.5	<0.5

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Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-184	4/28/10		**75**	**98**	<100	<0.5	<0.5	<0.5	<0.5
B-184	4/28/10	Duplicate	**60**	**91**	<100	<0.5	<0.5	<0.5	<0.5
B-184	11/15/10	Sheen							
B-184	5/4/11		<50	**470**	**670**	<0.5	<0.5	<0.5	<0.5
B-184	11/16/11		**26 J**	**28 J**	**42 J**	<0.5	<0.5	<0.5	<0.5
B-184	5/9/12		**46 J**	**42 J**	<100	<0.5	<0.5	<0.5	<0.5
B-184	11/6/12		**88**	**26 J**	<510	<0.50	<0.50	<0.50	<0.50
B-185	8/27/99		**220**	**380**	<100	<0.5	<0.5	<0.5	<0.5
B-185	9/22/99	LNAPL							
B-185	11/18/99	LNAPL							
B-185	2/22/00	LNAPL							
B-185	5/22/00	LNAPL							
B-185	8/28/00	LNAPL							
B-185	11/27/00	LNAPL							
B-185	2/19/01	LNAPL							
B-185	5/2/01	LNAPL							
B-185	8/20/01	LNAPL							
B-185	2/15/02	NA							
B-185	5/28/02	LNAPL							
B-185	8/26/02	LNAPL							
B-185	11/12/02	LNAPL							
B-185	3/10/03	LNAPL							
B-185	6/13/03	LNAPL							
B-185	8/21/03	LNAPL							
B-185	2/23/04	LNAPL							
B-185	8/10/04	LNAPL							
B-185	12/8/04	LNAPL							
B-185	3/7/05	NA							
B-185	6/20/05	LNAPL							
B-185	6/23/06	NA							
B-185	6/23/06	NA							
B-185	12/4/06	SGC	<50	**548**	**100**	<0.5	<0.5	<0.5	<0.5
B-185	6/8/07		**1,160**	**524**	**61.8 J**	<0.5	<0.5	<0.5	<0.5
B-185	6/8/07	SGC	**--**	**440**	<96.2	**--**	**--**	**--**	**--**
B-185	12/3/07		<50	**294**	**76.4 J**	**0.550**	**0.940**	<0.500	<0.500
B-185	12/3/07	SGC	**--**	**216**	**21.4 J**	**--**	**--**	**--**	**--**
B-185	5/20/08		<50	**82**	<100	<0.5	<0.5	<0.5	<0.5
B-185	9/15/08	NS							
B-185	11/18/08		<50	**66**	<100	<0.5	<0.5	<0.5	<0.5
B-185	5/5/09		<50	**270**	<100	<0.5	<0.5	<0.5	<0.5
B-185	11/17/09		<50	**95**	**170**	<0.5	<0.5	<0.5	<0.5
B-185	4/28/10		**160**	**170**	<100	<0.5	<0.5	<0.5	<0.5
B-185	11/16/10		<50	**280**	**170**	<0.5	<0.5	<0.5	<0.5
B-185	11/16/10	Duplicate	<50	**190**	<100	<0.5	<0.5	<0.5	<0.5
B-185	5/3/11		<50	**360**	**200**	<0.5	<0.5	<0.5	<0.5
B-185	5/3/11	Duplicate	<50	**420**	**180**	<0.5	<0.5	<0.5	<0.5
B-185	11/16/11		**56**	**110**	**150**	<0.5	<0.5	<0.5	<0.5
B-185	11/16/11	Duplicate	**56**	**120**	**170**	<0.5	<0.5	<0.5	<0.5
B-185	5/8/12		<50	**140**	<100	<0.5	<0.5	<0.5	<0.5
B-185	5/8/12	Duplicate	<50	**130**	<100	<0.5	<0.5	<0.5	<0.5
B-185	11/6/12		**170**	**77**	**230 J**	<0.50	<0.50	<0.50	<0.50
B-186-38	8/26/99		**2,800**	**11,000**	**2,500**	**610**	<0.5	**25**	**40**
B-186-38	8/26/99	Dup	**2,500**	**16,000**	**4,200**	**630**	<0.5	**34**	**46**
B-186-38	9/22/99	LNAPL							
B-186-38	11/18/99	LNAPL							
B-186-38	2/22/00	LNAPL							

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-186-38	5/22/00	LNAPL							
B-186-38	8/28/00	LNAPL							
B-186-38	11/27/00	LNAPL							
B-186-38	2/19/01	LNAPL							
B-186-38	5/2/01	LNAPL							
B-186-38	8/20/01	LNAPL							
B-186-38	2/15/02	LNAPL							
B-186-38	5/28/02	LNAPL							
B-186-38	8/26/02	LNAPL							
B-186-38	11/12/02	LNAPL							
B-186-38	3/10/03	LNAPL							
B-186-38	6/13/03	LNAPL							
B-186-38	8/21/03	LNAPL							
B-186-38	2/23/04	LNAPL							
B-186-38	8/10/04	LNAPL							
B-186-38	12/8/04	LNAPL							
B-186-38	3/7/05	LNAPL							
B-186-38	6/28/05		**7,700**	**15,000**	**7,600**	**3,100**	<10	**290**	**140**
B-186-38	6/22/06		**7,700**	**15,000**	**7,600**	**3,100**	<10	**290**	**140**
B-186-38	12/5/06	SGC	**11,800**	**13,300**	**1,670**	**4,460**	**0.54**	**433**	**146**
B-186-38	5/22/07	Sheen							
B-186-38	5/19/08	Sheen							
B-186-38	9/15/08	NS							
B-186-38	11/17/08	Sheen							
B-186-38	5/4/09	Sheen							
B-186-38	4/26/10	LNAPL							
B-186-38	11/15/10	Sheen							
B-186-38	5/2/11	Sheen							
B-186-38	11/14/11	Sheen							
B-186-38	5/7/12	Sheen							
B-186-38	11/5/12	Sheen							
B-186-56	8/26/99		**810**	**14,000**	**6,100**	**9**	<0.5	**5**	**2**
B-186-56	9/22/99	LNAPL							
B-186-56	11/18/99	LNAPL							
B-186-56	2/22/00	LNAPL							
B-186-56	5/22/00	LNAPL							
B-186-56	8/28/00	LNAPL							
B-186-56	11/27/00	LNAPL							
B-186-56	2/19/01	LNAPL							
B-186-56	5/2/01	LNAPL							
B-186-56	8/20/01	LNAPL							
B-186-56	2/15/02	LNAPL							
B-186-56	5/28/02	LNAPL							
B-186-56	8/26/02	LNAPL							
B-186-56	11/12/02	LNAPL							
B-186-56	3/10/03	LNAPL							
B-186-56	6/13/03	LNAPL							
B-186-56	8/21/03	LNAPL							
B-186-56	2/23/04	LNAPL							
B-186-56	8/10/04	LNAPL							
B-186-56	12/8/04	LNAPL							
B-186-56	3/7/05	LNAPL							
B-186-56	6/20/05	NA							
B-186-56	11/20/06	LNAPL							
B-186-56	5/22/07	LNAPL							
B-186-56	5/19/08	LNAPL							
B-186-56	9/15/08	NS							

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Chevron Avila Beach Terminal (Former Unocal Terminal)
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ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-186-56	11/17/08	LNAPL							
B-186-56	5/4/09	LNAPL							
B-186-56	4/26/10	LNAPL							
B-186-56	11/15/10	LNAPL							
B-186-56	5/2/11	LNAPL							
B-186-56	11/14/11	LNAPL							
B-186-56	5/7/12	LNAPL							
B-186-56	11/5/12	LNAPL							
B-187	8/27/99		**4,600**	**26,000**	**5,600**	**150**	<0.5	**180**	**130**
B-187	9/22/99	LNAPL							
B-187	11/18/99	LNAPL							
B-187	2/22/00	LNAPL							
B-187	5/22/00	LNAPL							
B-187	8/28/00	LNAPL							
B-187	11/27/00	LNAPL							
B-187	2/19/01	LNAPL							
B-187	5/2/01	LNAPL							
B-187	8/20/01	LNAPL							
B-187	2/15/02	NA							
B-187	5/28/02	LNAPL							
B-187	8/26/02	LNAPL							
B-187	11/12/02	LNAPL							
B-187	3/10/03	LNAPL							
B-187	6/13/03	LNAPL							
B-187	8/21/03	LNAPL							
B-187	2/23/04	LNAPL							
B-187	8/10/04	LNAPL							
B-187	12/8/04	LNAPL							
B-187	3/7/05	LNAPL							
B-187	6/20/05	LNAPL							
B-187	11/20/06	LNAPL							
B-187	5/22/07	LNAPL							
B-187	5/20/08	LNAPL							
B-187	9/15/08	NS							
B-187	11/17/08	LNAPL							
B-187	5/4/09	LNAPL							
B-187	4/26/10	LNAPL							
B-187	11/15/10	LNAPL							
B-187	5/2/11	LNAPL							
B-187	11/14/11	LNAPL							
B-187	5/7/12	LNAPL							
B-187	11/5/12	LNAPL							
B-189	8/26/99		**2,400**	**4,600**	**430**	**42**	<0.5	**21**	**6.4**
B-189	9/22/99	LNAPL							
B-189	11/18/99	LNAPL							
B-189	2/22/00	LNAPL							
B-189	5/22/00	LNAPL							
B-189	8/28/00	LNAPL							
B-189	11/27/00	LNAPL							
B-189	2/19/01	LNAPL							
B-189	5/2/01	LNAPL							
B-189	8/20/01	LNAPL							
B-189	2/15/02	LNAPL							
B-189	5/28/02	LNAPL							
B-189	8/26/02	LNAPL							
B-189	11/12/02	LNAPL							

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Chevron Avila Beach Terminal (Former Unocal Terminal)
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ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-189	3/10/03	LNAPL							
B-189	6/13/03	LNAPL							
B-189	8/21/03	LNAPL							
B-189	2/23/04	LNAPL							
B-189	8/10/04	LNAPL							
B-189	12/8/04	LNAPL							
B-189	3/7/05	LNAPL							
B-189	6/20/05	LNAPL							
B-189	11/20/06	LNAPL							
B-189	5/21/07	LNAPL							
B-189	5/19/08	Sheen							
B-189	9/15/08	NS							
B-189	11/17/08	LNAPL							
B-189	5/4/09	LNAPL							
B-189	4/26/10	LNAPL							
B-189	11/15/10	Sheen							
B-189	5/2/11	Sheen							
B-189	11/14/11	LNAPL							
B-189	5/7/12	Sheen							
B-189	11/5/12	LNAPL							
B-190	8/27/99		<100	**620**	**140**	<0.5	<0.5	<0.5	<0.5
B-190	9/27/99		<100	**1,000**	**230**	<0.5	<0.5	<0.5	<0.5
B-190	11/22/99		<100	**820**	**120**	<0.5	<0.5	<0.5	<0.5
B-190	11/22/99	SGC		<100	<100				
B-190	2/25/00		<100	**1,300**	**480**	<0.5	<0.5	<0.5	<0.5
B-190	2/25/00	SGC		**160**	<100				
B-190	5/25/00		<100	**3,500**	**1,500**	<0.5	<0.5	<0.5	<0.5
B-190	5/25/00	SGC		**210**	**1,300**				
B-190	9/2/00		<100	**450**	**100**	<0.5	<0.5	<0.5	<0.5
B-190	9/2/00	SGC		<100	<100				
B-190	11/30/00		<100	**1,400**	**230**	<0.5	<0.5	<0.5	<0.5
B-190	11/30/00	SGC		<100	<100				
B-190	2/23/01		<100	**1,600**	**230**	<0.5	<0.5	<0.5	<0.5
B-190	2/23/01	SGC		<100	<100				
B-190	5/6/01		<100	**1,300**	**210**	<0.5	<0.5	<0.5	<0.5
B-190	5/6/01	SGC		<100	<100				
B-190	8/22/01		<100	**380**	<100	<0.5	<0.5	<0.5	<0.5
B-190	8/22/01	SGC		<100	<100				
B-190	12/10/01		<100	**300**	**100**	<0.5	<0.5	<0.5	<0.5
B-190	12/10/01	SGC		<100	<100				
B-190	2/11/02		<100	**400**	<100	<0.5	<0.5	<0.5	<0.5
B-190	2/11/02	SGC		<100	<100				
B-190	5/30/02		<100	**320**	<100	<0.5	<0.5	<0.5	<0.5
B-190	8/29/02		<100	**460**	**240**	<0.5	<0.5	<0.5	<0.5
B-190	11/15/02		<100	**610**	**380**	<0.5	<0.5	<0.5	<0.5
B-190	11/15/02	Dup	<100	**560**	**220**	<0.5	<0.5	<0.5	<0.5
B-190	3/12/03		<100	**640**	**320**	<0.5	<0.5	<0.5	<0.5
B-190	6/11/03		<100	**680**	**390**	<0.5	<0.5	<0.5	<0.5
B-190	8/21/03		<100	**570**	**240**	<0.5	<0.5	<0.5	<0.5
B-190	11/13/03		<100	**430**	**320**	<0.5	<0.5	<0.5	<0.5
B-190	2/24/04		<100	**280**	**220**	<0.5	<0.5	<0.5	<0.5
B-190	5/20/04		<100	**450**	**180**	<0.5	<0.5	<0.5	<0.5
B-190	8/11/04		<100	**190**	<100	<0.5	<0.5	<0.5	<0.5
B-190	12/9/04		<100	**750**	**1,900**	<0.5	<0.5	<0.5	<0.5
B-190	12/9/04	Dup	<100	**820**	**2,000**	<0.5	<0.5	<0.5	<0.5
B-190	3/8/05		<100	**1,600**	**830**	<0.5	<0.5	<0.5	<0.5
B-190	6/17/05		<50	**510**	**530**	<0.5	<0.5	<0.5	<1

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Chevron Avila Beach Terminal (Former Unocal Terminal)
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ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-190	9/27/05		<50	**570**	**740**	<0.5	<0.5	<0.5	<1
B-190	12/6/05		<50	**550**	**510**	<0.5	<0.5	<0.5	<1
B-190	3/6/06		<50	**540**	**550**	<0.50	<0.50	<0.50	<1.0
B-190	6/15/06		<50	**540**	**550**	<0.5	<0.5	<0.5	<1
B-190	9/13/06	SGC	<39	**2,430**	**789**	<0.200	<0.200	<0.200	<0.350
B-190	12/5/06	SGC	**48.1 J**	**2,410**	**2,000**	<0.5	<0.5	<0.5	<0.5
B-190	3/22/07		<50	**627**	**211**	<0.500	<0.500	<0.500	<0.500
B-190	3/22/07	SGC	--	**1,760**	**1,540**	--	--	--	--
B-190	6/7/07		<50	**1,990**	**1,900**	<0.500	<0.500	<0.500	<0.500
B-190	6/7/07	Dup	<50	**1,590**	**1,890**	<0.500	<0.500	<0.500	<0.500
B-190	6/7/07	SGC	--	**1,700**	**2,230**	--	--	--	--
B-190	6/7/07	SGC, Dup	--	**1,940**	**2,020**	--	--	--	--
B-190	9/20/07		**25.1 J**	**1,620**	**1,010**	<0.500	<0.500	<0.500	<0.500
B-190	9/20/07	SGC	--	**1,550**	**856**	--	--	--	--
B-190	9/20/07	Dup	**23.4 J**	**1,730**	**1,300**	<0.500	<0.500	<0.500	<0.500
B-190	9/20/07	SGC, Dup	--	**1,460**	**1,140**	--	--	--	--
B-190	12/3/07		**34.5**	**2,380**	**943 J**	<0.500	<0.500	<0.500	<0.500
B-190	12/3/07	SGC	--	**1,730**	**978 J**	--	--	--	--
B-190	12/3/07	Dup	**49.6 J**	**2,180**	**1700 J**	<0.500	<0.500	<0.500	<0.500
B-190	12/3/07	SGC, Dup	--	**2,080**	**1420 J**	--	--	--	--
B-190	3/19/08		<50	**3,610**	**2,490**	<0.5	<0.5	<0.5	<0.5
B-190	5/28/08		<50	**820**	**2,500**	<0.5	<0.5	<0.5	<0.5
B-190	9/16/08		<50	**420**	<100	<0.5	<0.5	<0.5	<0.5
B-190	11/21/08		<50	**310**	**310**	<0.5	<0.5	<0.5	<0.5
B-190	2/25/09		<50	**860**	**360**	<0.5	<0.5	<0.5	<0.5
B-190	5/7/09		<50	**3,400**	**3,500**	<0.5	<0.5	<0.5	<0.5
B-190	9/23/09		<50	**180**	<100	<0.5	<0.5	<0.5	<0.5
B-190	11/19/09		<50	**710**	**700**	<0.5	<0.5	<0.5	<0.5
B-190	2/25/10		**59**	**130**	**160**	<0.5	<0.5	<0.5	<0.5
B-190	2/25/10	Duplicate	**65**	**160**	**210**	<0.5	<0.5	<0.5	<0.5
B-190	4/28/10		<50	**250**	**290**	<0.5	<0.5	<0.5	<0.5
B-190	9/17/10		<50	**270**	**140**	<0.5	<0.5	<0.5	<0.5
B-190	11/18/10		<50	**330**	**180**	<0.5	<0.5	<0.5	<0.5
B-190	2/17/11		**110**	**400**	<100	<0.5	<0.5	<0.5	<0.5
B-190	5/5/11		**60**	**340**	**340**	<0.5	<0.5	<0.5	<0.5
B-190	9/21/11		**26 J**	**320**	**300**	<0.5	<0.5	<0.5	<0.5
B-190	11/17/11		<50	**290**	**290**	<0.5	<0.5	<0.5	<0.5
B-190	2/16/12		<50	**310**	**210**	<0.5	<0.5	<0.5	<0.5
B-190	5/11/12		**210**	**330**	**100**	<0.5	<0.5	<0.5	<0.5
B-190	9/18/12		**170**	**310**	**310 J**	<0.50	<0.50	<0.5	<0.5
B-190	11/8/12		**280**	**110**	**320 J**	<0.50	<0.50	<0.50	<0.50
B-191	8/27/99		<100	<100	<100	**3**	<0.5	<0.5	<0.5
B-191	9/26/99		<100	<100	<100	**4.8**	<0.5	<0.5	<0.5
B-191	11/22/99		<100	<100	<100	**3.1**	<0.5	<0.5	<0.5
B-191	2/25/00		<100	<100	<100	**0.5**	<0.5	<0.5	<0.5
B-191	5/25/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	9/2/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	11/23/00		<100	<100	<100	**0.9**	<0.5	<0.5	<0.5
B-191	2/23/01		<100	<100	<100	**2.5**	<0.5	<0.5	<0.5
B-191	5/6/01		<100	<100	<100	**0.5**	<0.5	<0.5	<0.5
B-191	5/6/01	Dup	<100	<100	<100	**0.9**	<0.5	<0.5	<0.5
B-191	8/22/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	12/11/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	2/14/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	5/30/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	8/29/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	11/15/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5

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Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-191	3/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	6/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	6/11/03	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	8/21/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	8/21/03	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	11/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	2/24/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	2/24/04	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	5/20/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	8/11/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	12/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-191	3/7/05	NA							
B-191	6/24/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-191	12/6/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-191	6/8/06		<50	**74**	**140**	<0.5	<0.5	<0.5	<1
B-191	12/5/06	SGC	**71.6**	<47.4	<94.8	<0.5	<0.5	<0.5	<0.5
B-191	5/21/07	Sheen							
B-191	12/6/07		<50	**52.8 JB**	**50.6 J**	<0.5	<0.5	<0.5	<0.5
B-191	12/6/07	SGC	--	**37.9 JB**	<96.2	--	--	--	--
B-191	5/27/08		<50	**140**	**300**	<0.5	<0.5	<0.5	<0.5
B-191	9/15/08	NS							
B-191	11/20/08		<50	<50	**180**	<0.5	<0.5	<0.5	<0.5
B-191	5/7/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-191	11/18/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-191	4/29/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-191	11/17/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-191	5/4/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-191	11/17/11		<50	<53	**55 J**	<0.5	<0.5	<0.5	<0.5
B-191	5/10/12		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-191	11/8/12		<50	**20 J**	<500	<0.50	<0.50	<0.50	<0.50
B-192	8/26/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	9/26/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	11/22/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	2/27/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	5/24/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	8/31/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	12/1/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	2/24/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	5/7/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	8/22/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	12/9/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	2/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	5/30/02		<100	<100	<100	<0.5	<0.5	<0.5	**0.9**
B-192	8/28/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	11/15/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	3/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	6/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	8/21/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	11/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	2/23/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	5/20/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	8/12/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	12/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-192	3/7/05	NA							
B-192	6/21/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-192	11/29/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-192	6/12/06		<50	<50	<50	<0.5	<0.5	<0.5	<1

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-192	6/12/06	Dup	<50	<50	<50	<0.5	<0.5	<0.5	<1
B-192	11/30/06	SGC	<50	<47.6	<95.2	<0.5	**0.710**	<0.5	<0.5
B-192	5/25/07		<50	<95.2	<95.2	<0.5	<0.5	<0.5	<0.5
B-192	5/25/07	SGC	--	<95.2	<95.2	--	--	--	--
B-192	11/26/07		<50	**39.6 JB**	<94.3	<0.5	<0.5	<0.5	<0.5
B-192	11/26/07	SGC	--	**38 J**	**38.1 JB**	--	--	--	--
B-192	5/20/08		<50	**66**	<100	<0.5	<0.5	<0.5	<0.5
B-192	9/15/08	NS							
B-192	11/18/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-192	5/5/09		<50	**120**	<100	<0.5	<0.5	<0.5	<0.5
B-192	11/17/09		<50	<50	**100**	<0.5	<0.5	<0.5	<0.5
B-192	4/27/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-192	11/16/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-192	5/3/11		<50	<50	**100**	<0.5	<0.5	<0.5	<0.5
B-192	11/15/11		<50	<50	**20 J**	<0.5	<0.5	<0.5	<0.5
B-192	5/8/12		**27 J**	<50	<100	<0.5	<0.5	<0.5	<0.5
B-192	11/6/12		<51	<50	<510	<0.50	<0.50	**0.26 J**	<0.50
B-193	8/26/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	9/26/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	11/22/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	2/27/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	5/24/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	5/24/00	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	8/31/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	12/1/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	2/24/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	5/7/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	8/22/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	12/10/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	2/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	5/30/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	8/28/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	11/15/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	3/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	6/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	8/21/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	11/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	2/24/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	5/20/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	5/20/04	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	8/12/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	8/12/04	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	12/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-193	3/7/05	NA							
B-193	6/21/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-193	11/29/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-193	6/12/06		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-193	11/20/06	SGC	<50	<47.2	<94.3	<0.5	**0.420 J**	<0.5	<0.5
B-193	5/25/07		<50	<94.8	<94.8	<0.5	<0.5	<0.5	<0.5
B-193	5/25/07	SGC	--	**39.8 J**	<95.2	--	--	--	--
B-193	11/26/07		<50	**56.9 JB**	**51.2 J**	<0.5	<0.5	<0.5	<0.5
B-193	11/26/07	SGC	--	**31.6 J**	**38.8 JB**	--	--	--	--
B-193	5/20/08		<50	**56**	<100	<0.5	<0.5	<0.5	<0.5
B-193	9/15/08	NS							
B-193	11/18/08	Dup	<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-193	5/5/09		<50	**120**	<100	<0.5	<0.5	<0.5	<0.5
B-193	11/17/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-193	4/27/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-193	11/16/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-193	5/3/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-193	11/15/11		<50	<50	**31 J**	<0.5	<0.5	<0.5	<0.5
B-193	5/8/12		**32 J**	<50	<100	<0.5	<0.5	<0.5	<0.5
B-193	11/6/12		<51	<50	<510	<0.50	<0.50	**0.26 J**	<0.50
B-194	8/26/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	9/27/99		<100	**130**	**530**	<0.5	<0.5	<0.5	<0.5
B-194	11/22/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	11/22/99	SGC		<100	<100				
B-194	2/27/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	5/25/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	5/25/00	SGC		<100	<100				
B-194	9/1/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	9/1/00	SGC		<100	<100				
B-194	12/1/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	12/1/00	SGC		<100	<100				
B-194	2/24/01		<100	**220**	**100**	<0.5	<0.5	<0.5	<0.5
B-194	2/24/01	SGC		<100	<100				
B-194	5/5/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	5/5/01	SGC		<100	<100				
B-194	8/21/01		<100	**180**	<100	<0.5	<0.5	<0.5	<0.5
B-194	8/21/01	SGC		**110**	<100				
B-194	8/21/01	Dup	<100	**220**	<100	<0.5	<0.5	<0.5	<0.5
B-194	12/9/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	12/9/01	SGC		<100	<100				
B-194	12/9/01	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	2/12/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	2/12/02	SGC		<100	<100				
B-194	5/30/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	8/29/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	8/29/02	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	11/14/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	11/14/02	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	3/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	6/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	8/21/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	11/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	11/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	2/26/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	5/19/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-194	8/10/04	NA							
B-194	12/8/04	NA							
B-194	3/7/05	NA							
B-194	6/21/05		<50	<50	**51**	<0.5	<0.5	<0.5	<1
B-194	12/1/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-194	6/13/06		<50	<50	**51**	<0.5	<0.5	<0.5	<1
B-194	11/30/06	SGC	**46.7 J**	<47.6	<95.2	<0.5	<0.5	<0.5	<0.5
B-194	6/1/07		<50	<104	<104	<0.5	<0.5	<0.5	<0.5
B-194	6/1/07	SGC	--	<101	<101	--	--	--	--
B-194	12/5/07		<50	**25.9 JB**	<100	<0.5	<0.5	<0.5	**0.48 J**
B-194	12/5/07	SGC	--	**34.4 JB**	<100	--	--	--	--
B-194	5/20/08		<50	**54**	<100	<0.5	<0.5	<0.5	<0.5
B-194	9/15/08	NS							
B-194	11/18/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-194	5/5/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-194	11/17/09		<50	<50	**260**	<0.5	<0.5	<0.5	<0.5

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Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-194	4/27/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-194	11/16/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-194	5/3/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-194	11/15/11		<50	<50	**46 J**	<0.5	<0.5	<0.5	<0.5
B-194	5/8/12		**38 J**	<50	<100	<0.5	<0.5	<0.5	<0.5
B-194	11/6/12		<51	<50	<510	<0.50	<0.50	**0.26 J**	<0.50
B-195	8/26/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-195	9/22/99	LNAPL							
B-195	11/18/99	LNAPL							
B-195	2/22/00	LNAPL							
B-195	5/22/00	LNAPL							
B-195	8/28/00	LNAPL							
B-195	11/27/00	LNAPL							
B-195	2/19/01	LNAPL							
B-195	5/2/01	LNAPL							
B-195	8/20/01	LNAPL							
B-195	2/15/02	NA							
B-195	5/31/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-195	8/26/02	LNAPL							
B-195	11/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-195	3/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-195	6/10/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-195	8/21/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-195	11/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-195	2/23/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-195	5/18/04		<100	**140**	<100	<0.5	<0.5	<0.5	<0.5
B-195	8/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-195	12/8/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-195	3/7/05	NA							
B-195	6/28/05		<50	**130**	**580**	<0.5	<0.5	<0.5	<1
B-195	12/21/05		<50	**120**	**220**	<0.5	<0.5	<0.5	<1
B-195	6/19/06		<50	**130**	**580**				
B-195	11/29/06	SGC	<50	<51	<102	<0.5	**0.950**	<0.5	**0.710**
B-195	6/1/07		<50	<104	<104	<0.5	<0.5	<0.5	<0.5
B-195	6/1/07	SGC	--	**47.0 J**	**51.7 J**	--	--	--	--
B-195	5/22/08		<50	**160**	**120**	<0.5	<0.5	<0.5	<0.5
B-195	9/15/08	NS							
B-195	11/19/08		<50	<62	<120	<0.5	<0.5	<0.5	<0.5
B-195	5/6/09		<50	**56**	**100**	<0.5	<0.5	<0.5	<0.5
B-195	11/17/09		<50	**60**	**330**	<0.5	<0.5	<0.5	<0.5
B-195	4/28/10		<50	**120**	<100	<0.5	<0.5	<0.5	<0.5
B-195	11/16/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-195	5/6/11		<50	**150**	**130**	<0.5	<0.5	<0.5	<0.5
B-195	11/16/11		<50	<50	**200**	<0.5	<0.5	<0.5	<0.5
B-195	5/8/12		**36 J**	**170**	**260**	<0.5	<0.5	**0.21 J**	**0.47 J**
B-195	11/7/12		**37 J**	<50	**300 J**	<0.50	<0.50	<0.50	<0.50
B-196	8/26/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	9/27/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	11/22/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	2/25/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	5/24/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	8/31/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	12/1/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	2/24/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	5/4/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	8/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-196	12/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	2/11/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	2/11/02	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	5/29/02		<100	<100	<100	<0.5	**1**	<0.5	**1.4**
B-196	8/29/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	11/14/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	6/10/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	8/19/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	11/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-196	2/24/04		**160**	<100	<100	**2.6**	<0.5	<0.5	<0.5
B-196	5/18/04		**120**	<100	<100	**1.8**	<0.5	<0.5	<0.5
B-196	8/12/04		**230**	<100	<100	**1**	<0.5	<0.5	<0.5
B-196	12/8/04		<100	**140**	<100	<0.5	<0.5	<0.5	<0.5
B-196	3/7/05	NA							
B-196	6/17/05		**230**	**150**	**59**	<0.5	<0.5	<0.5	<1
B-196	12/5/05		**300**	**140**	**76**	<0.5	<0.5	<0.5	<1
B-196	6/13/06		<50	**100**	**59**	<0.5	<0.5	<0.5	<1
B-196	11/30/06	SGC	**107**	**309**	<94.3	<0.5	**0.450 J**	<0.5	<0.5
B-196	6/1/07		<50	**314**	**55.5 J**	<0.5	<0.5	<0.5	<0.5
B-196	6/1/07	SGC	**--**	**243**	**100 J**	**--**	**--**	**--**	**--**
B-196	11/29/07		**134**	**196 B**	**37 JB**	**0.33 J**	<0.5	<0.5	<0.5
B-196	11/29/07	SGC	**--**	**276**	<100	**--**	**--**	**--**	**--**
B-196	5/21/08		**82**	**63**	<100	<0.5	<0.5	<0.5	<0.5
B-196	9/15/08	NS							
B-196	11/19/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-196	5/6/09		**140**	**88**	<100	<0.5	<0.5	<0.5	<0.5
B-196	11/18/09		<50	**98**	<100	<0.5	<0.5	<0.5	<0.5
B-196	4/28/10		**65**	**210**	<100	**1.0**	<0.5	<0.5	<0.5
B-196	11/16/10		**150**	**160**	<100	<0.5	<0.5	<0.5	**0.51**
B-196	5/3/11		**140**	**320**	<100	<0.5	<0.5	<0.5	<0.5
B-196	11/15/11		**110**	**170**	**37 J**	<0.5	<0.5	<0.5	<0.5
B-196	5/8/12		**<50**	**360**	<100	<0.5	<0.5	<0.5	<0.5
B-196	11/6/12		**190**	**54**	<520	<0.50	<0.50	**0.25 J**	<0.50
B-197	8/27/99		**5,200**	**270**	**140**	**1,500**	**180**	**76**	**400**
B-197	9/22/99	LNAPL							
B-197	11/18/99	LNAPL							
B-197	2/22/00	LNAPL							
B-197	5/22/00	LNAPL							
B-197	11/27/00	LNAPL							
B-197	2/19/01	LNAPL							
B-197	5/2/01	LNAPL							
B-197	8/20/01	LNAPL							
B-197	2/15/02	LNAPL							
B-197	5/28/02	LNAPL							
B-197	8/26/02	LNAPL							
B-197	11/12/02	LNAPL							
B-197	3/10/03	LNAPL							
B-197	6/13/03	LNAPL							
B-197	8/21/03	LNAPL							
B-197	2/23/04	LNAPL							
B-197	8/10/04	LNAPL							
B-197	12/8/04	LNAPL							
B-197	3/7/05	NA							
B-197	10/4/05		<50	**250**	**330**	<0.5	<0.5	<0.5	<1
B-197	12/21/05		**120**	**540**	**960**	<0.5	<0.5	<0.5	<1
B-197	6/13/06	NA							

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ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-197	12/4/06	SGC	<50	**125**	**55.9 J**	<0.5	<0.5	<0.5	<0.5
B-197	6/19/07		**46.2 J**	**67.1 J**	**65.6 J**	**0.510**	<0.5	<0.5	<0.5
B-197	6/19/07	SGC	**--**	**52.4 J**	<96.2	**--**	**--**	**--**	**--**
B-197	5/21/08		**67**	**73**	<100	**0.73**	<0.5	<0.5	<0.5
B-197	9/15/08	NS							
B-197	11/19/08	Dup	<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-197	5/6/09		**130**	**110**	**150**	<0.5	<0.5	<0.5	<0.5
B-197	5/6/09	Duplicate	**140**	**110**	**110**	<0.5	<0.5	<0.5	<0.5
B-197	11/19/09		<50	**210**	**250**	<0.5	<0.5	<0.5	<0.5
B-197	11/19/09	Duplicate	<50	**190**	**160**	<0.5	<0.5	<0.5	<0.5
B-197	4/29/10		**100**	**730**	**1,600**	**4.6**	<0.5	<0.5	<0.5
B-197	4/29/10	Duplicate	<50	**120**	**3,300**	**4.7**	<0.5	<0.5	<0.5
B-197	11/17/10		<50	**140**	**140**	<0.5	<0.5	<0.5	<0.5
B-197	11/17/10	Duplicate	<50	**140**	<100	<0.5	<0.5	<0.5	<0.5
B-197	5/4/11		<50	**1,500**	**1,300**	<0.5	<0.5	<0.5	<0.5
B-197	5/4/11	Duplicate	<50	**1,200**	**1,200**	<0.5	<0.5	<0.5	<0.5
B-197	11/16/11		**35 J**	**95**	**350**	<0.5	<0.5	<0.5	<0.5
B-197	11/16/11	Duplicate	**34 J**	**58**	**290**	<0.5	<0.5	<0.5	<0.5
B-197	5/9/12		**51**	**160**	**520**	<0.5	<0.5	<0.5	<0.5
B-197	5/9/12	Duplicate	**45 J**	**98**	**170**	<0.5	<0.5	<0.5	<0.5
B-197	11/7/12		**79**	**200**	**260 J**	<0.50	<0.50	<0.50	<0.50
B-197	11/7/12	Duplicate	**73**	**210**	**250 J**	<0.50	<0.50	<0.50	<0.50
B-198	5/5/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-198	5/5/01	SGC		<100	<100				
B-198	8/22/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-198	8/22/01	SGC		<100	<100				
B-198	12/9/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-198	12/9/01	SGC		<100	<100				
B-198	2/12/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-198	2/12/02	SGC		<100	<100				
B-198	5/28/02	NA							
B-198	9/15/08	NS							
B-199	5/7/01		<100	**160**	<100	<0.5	<0.5	<0.5	<0.5
B-199	5/7/01	SGC		<100	<100				
B-199	6/13/01		<100	**120**	**130**	<0.5	<0.5	<0.5	<0.5
B-199	6/13/01	SGC		<100	<100				
B-199	8/22/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-199	8/22/01	SGC		<100	<100				
B-199	12/9/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-199	12/9/01	SGC		<100	<100				
B-199	2/15/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-199	2/15/02	SGC		<100	<100				
B-199	4/23/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-199	5/8/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-199	5/28/02	NA							
B-199	9/15/08	NS							
B-200	5/6/01		<100	**650**	**110**	**22**	<0.5	<0.5	<0.5
B-200	5/6/01	SGC		**110**	<100				
B-200	8/21/01		**130**	**410**	<100	**58**	<0.5	<0.5	<0.5
B-200	8/21/01	SGC		<100	<100				
B-200	12/9/01		**150**	**230**	**100**	**15**	<0.5	**5.7**	**1.4**
B-200	12/9/01	SGC		<100	<100				
B-200	2/13/02		<100	**250**	**220**	**35**	<0.5	<0.5	<0.5
B-200	2/13/02	SGC		<100	<100				

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Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-200	5/28/02		**130**	**190**	**100**	**120**	**1.7**	<0.5	**0.9**
B-200	8/28/02		**130**	**130**	**140**	**65**	<0.5	**0.7**	**1.4**
B-200	11/15/02		<100	**120**	**130**	**11**	<0.5	<0.5	<0.5
B-200	3/12/03		**160**	**400**	**300**	**46**	<0.5	**6.3**	**4.1**
B-200	6/12/03		<100	**200**	**180**	**3.4**	<0.5	**1.6**	<0.5
B-200	8/21/03		<100	**250**	**110**	**4.6**	<0.5	**0.6**	<0.5
B-200	11/12/03		<100	**260**	**250**	**2.6**	<0.5	<0.5	<0.5
B-200	2/25/04		**150**	**230**	**220**	**16**	<0.5	**6.2**	**1.3**
B-200	5/18/04		<100	**210**	<100	**2.9**	<0.5	<0.5	<0.5
B-200	8/10/04	NA							
B-200	12/8/04	NA							
B-200	3/7/05	NA							
B-200	6/17/05		<50	**190**	**290**	**7.9**	<0.5	**0.58**	<1
B-200	6/13/06		<50	**320**	**650**	**3.2**	<0.5	**1.3**	<1
B-200	11/28/06	SGC	<50	**749**	**562**	<0.5	<0.5	<0.5	<0.5
B-200	6/7/07		<50	**327**	**974**	<0.5	<0.5	<0.5	<0.5
B-200	6/7/07	SGC	--	**466**	**891**	--	--	--	--
B-200	12/5/07		<50	**421**	**360**	<0.5	<0.5	<0.5	<0.5
B-200	12/5/07	SGC	--	**260**	**129**	--	--	--	--
B-200	5/27/08		<50	**290**	**980**	**8.2**	<0.5	<0.5	<0.5
B-200	9/15/08	NS							
B-200	11/20/08		<50	**63**	**380**	<0.5	<0.5	<0.5	<0.5
B-200	5/7/09		<50	**75**	**300**	<0.5	<0.5	<0.5	<0.5
B-200	11/19/09		<50	**160**	<100	<0.5	<0.5	<0.5	<0.5
B-200	4/29/10		<50	**150**	**400**	**22**	<0.5	<0.5	<0.5
B-200	11/19/10		<50	**330**	**110**	<0.5	<0.5	<0.5	**0.77**
B-200	5/5/11		**60**	**100**	**170**	**0.70**	<0.5	<0.5	<0.5
B-200	11/17/11		<50	**87**	**170**	**2.40**	<0.5	<0.5	<0.5
B-200	5/10/12		**50**	**78**	**<100**	**6.20**	<0.5	<0.5	<0.5
B-200	11/8/12		**110**	<50	**390 J**	<0.50	<0.50	<0.50	<0.50
B-201	5/6/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-201	5/6/01	SGC		<100	<100				
B-201	8/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-201	8/21/01	SGC		<100	<100				
B-201	12/9/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-201	12/9/01	SGC		<100	<100				
B-201	2/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-201	2/13/02	SGC		<100	<100				
B-201	5/30/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-201	8/28/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-201	11/15/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-201	3/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-201	6/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-201	8/21/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-201	11/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-201	2/25/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-201	5/18/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-201	8/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-201	12/9/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-201	3/7/05	NA							
B-201	6/17/05		<50	<56	<56	<0.5	<0.5	<0.5	<1
B-201	12/6/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-201	6/13/06		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-201	11/28/06	SGC	<50	<51.0	<102	<0.5	<0.5	<0.5	<0.5
B-201	6/6/07		<50	<102	**74.1 J**	<0.5	**0.43 J**	<0.5	<0.5
B-201	6/6/07	SGC	--	<105	**85.4 J**	--	--	--	--
B-201	12/5/07		<50	**32.5 JB**	<98	<0.5	<0.5	<0.5	<0.5

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B-201	12/5/07	SGC	--	**30.8 JB**	<98	--	--	--	--
B-201	5/22/08		<50	**92**	<100	<0.5	<0.5	<0.5	<0.5
B-201	9/15/08	NS							
B-201	11/19/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-201	5/6/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-201	11/19/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-201	4/30/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-201	11/17/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-201	5/5/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-201	9/20/11		<50	<50	**30 J**	<0.5	<0.5	<0.5	<0.5
B-201	11/16/11		<50	<53	<110	<0.5	**0.06 J**	<0.5	**0.25 J**
B-201	2/16/12		<50	<51	<100	<0.5	<0.5	<0.5	<0.5
B-201	5/10/12		<50	<51	<100	<0.5	<0.5	<0.5	<0.5
B-201	9/17/12		<50	**32 J**	<550	<0.5	<0.5	<0.5	<0.5
B-201	11/8/12		<52	<50	<520	<0.50	<0.50	<0.50	<0.50
B-202	5/28/02								
B-202	6/1/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-202	8/27/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-202	11/14/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-202	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-202	6/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-202	8/19/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-202	11/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-202	2/23/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-202	5/18/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-202	8/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-202	12/6/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-202	3/7/05	NA							
B-202	6/21/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-202	11/30/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-202	6/12/06		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-202	11/27/06	SGC	<50	<47.2	<94.3	<0.5	<0.5	<0.5	<0.5
B-202	5/22/07		<50	<95.2	**109**	<0.5	<0.5	<0.5	<0.5
B-202	5/22/07	SGC	--	<95.2	<95.2	--	--	--	--
B-202	11/27/07		<50	**29.5 JB**	**45 JB**	<0.5	<0.5	<0.5	<0.5
B-202	11/27/07	Dup	<50	**27.4 JB**	**42.8 JB**	<0.5	<0.5	<0.5	<0.5
B-202	11/27/07	SGC	--	<97.1	**52.2 JB**	--	--	--	--
B-202	11/27/07	SGC, Dup	--	<97.1	**44.5 JB**	--	--	--	--
B-202	5/22/08		<50	<50	**110**	<0.5	<0.5	<0.5	<0.5
B-202	9/15/08	NS							
B-202	11/18/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-202	5/6/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-202	11/17/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-202	4/27/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-202	11/16/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-202	5/3/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-202	11/15/11		<50	<53	**23 J**	<0.5	<0.5	<0.5	<0.5
B-202	5/8/12		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-202	11/6/12		<53	<50	<530	<0.50	<0.50	**0.25 J**	<0.50
B-203	5/9/01		**860**	**9,400**	**1,800**	**1.7**	<0.5	**3**	**3.1**
B-203	5/9/01	SGC		**5,900**	**1,800**				
B-203	8/20/01	LNAPL							
B-203	2/15/02	NA							
B-203	5/28/02	LNAPL							
B-203	8/26/02	LNAPL							
B-203	11/12/02	LNAPL							

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ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-203	3/10/03	LNAPL							
B-203	6/13/03	LNAPL							
B-203	8/21/03	LNAPL							
B-203	2/23/04	LNAPL							
B-203	8/10/04	LNAPL							
B-203	12/8/04	LNAPL							
B-203	3/7/05	LNAPL							
B-203	6/20/05	LNAPL							
B-203	11/20/06	LNAPL							
B-203	5/21/07	LNAPL							
B-203	5/19/08	LNAPL							
B-203	9/15/08	NS							
B-203	11/17/08	LNAPL							
B-203	5/4/09	LNAPL							
B-203	4/26/10	LNAPL							
B-203	9/16/10	LNAPL							
B-203	11/15/10	LNAPL							
B-203	5/2/11	LNAPL							
B-203	11/14/11	LNAPL							
B-203	5/7/12	LNAPL							
B-203	11/5/12	LNAPL							
B-204-85	5/5/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	5/5/01	SGC		<100	<100				
B-204-85	8/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	8/21/01	SGC		<100	<100				
B-204-85	12/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	12/8/01	SGC		<100	<100				
B-204-85	12/9/01								
B-204-85	2/11/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	2/11/02	SGC		<100	<100				
B-204-85	5/29/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	8/29/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	11/14/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	6/10/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	8/19/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	11/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	2/24/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	5/18/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	8/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	12/8/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	3/7/05	NA							
B-204-85	6/16/05		<50	**51**	**81**	<0.5	<0.5	<0.5	<1
B-204-85	12/5/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-204-85	12/5/05	Dup	<50	<50	<50	<0.5	<0.5	<0.5	<1
B-204-85	6/7/06		<50	<50	**81**	<0.5	<0.5	<0.5	<1
B-204-85	11/28/06	SGC	<50	<51.5	<103	<0.5	<0.5	<0.5	<0.5
B-204-85	5/25/07		<50	**59.0 J**	**92.5 J**	<0.5	<0.5	<0.5	<0.5
B-204-85	5/25/07	SGC	--	**51.6 J**	**42.9 J**	--	--	--	--
B-204-85	11/29/07		<50	**46.2 JB**	**50.1 JB**	<0.5	<0.5	<0.5	<0.5
B-204-85	11/29/07	SGC	--	**24.1 J**	**23.1 JB**	--	--	--	--
B-204-85	5/21/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	9/15/08	NS							
B-204-85	11/17/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	5/6/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	11/18/09		<50	**69**	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	4/29/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5

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B-204-85	11/18/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	5/4/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-204-85	11/16/11		<50	<50	**23 J**	<0.5	<0.5	<0.5	<0.5
B-204-85	5/8/12		<50	<53	<110	<0.5	<0.5	<0.5	<0.5
B-204-85	11/7/12		<50	<50	<500	<0.50	<0.50	<0.50	<0.50
B-204-150	5/7/01		<100	<100	<100	**0.8**	<0.5	<0.5	<0.5
B-204-150	5/7/01	SGC		<100	<100				
B-204-150	8/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-150	8/21/01	SGC		<100	<100				
B-204-150	12/8/01		<100	**130**	**130**	<0.5	<0.5	<0.5	<0.5
B-204-150	12/8/01	SGC		<100	<100				
B-204-150	12/9/01								
B-204-150	2/10/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-150	2/10/02	SGC		<100	<100				
B-204-150	5/29/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-150	8/29/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-150	11/14/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-150	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-150	6/10/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-150	8/19/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-150	11/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-204-150	2/23/04	NA							
B-204-150	8/10/04	NA							
B-204-150	12/8/04	NA							
B-204-150	3/7/05	NA							
B-204-150	6/16/05		<50	**69**	**110**	<0.5	<0.5	<0.5	<1
B-204-150	6/7/06		<50	**90**	**150**	<0.5	<0.5	<0.5	<1
B-204-150	11/28/06	SGC	<50	<52.1	**69.0 J**	<0.5	<0.5	<0.5	<0.5
B-204-150	5/30/07		<50	**124**	**210**	<0.5	<0.5	<0.5	<0.5
B-204-150	5/30/07	SGC	--	**98.7**	**64.8 J**	--	--	--	--
B-204-150	11/29/07		<50	**46.8 JB**	**45.4 JB**	<0.5	<0.5	<0.5	<0.5
B-204-150	11/29/07	SGC	--	**56.8 J**	<98	--	--	--	--
B-204-150	5/21/08		**51**	**57**	<100	<0.5	<0.5	<0.5	<0.5
B-204-150	9/15/08	NS							
B-204-150	11/19/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-204-150	5/6/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-204-150	11/18/09		<50	**77**	<100	<0.5	<0.5	<0.5	<0.5
B-204-150	4/28/10		<50	**59**	<100	<0.5	<0.5	<0.5	<0.5
B-204-150	11/17/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-204-150	5/4/11		<50	**50**	<100	<0.5	<0.5	<0.5	<0.5
B-204-150	11/16/11		<50	<50	**34 J**	<0.5	<0.5	<0.5	<0.5
B-204-150	5/8/12		<50	<52	<100	**0.21 J**	<0.5	<0.5	<0.5
B-204-150	11/7/12		**29 J**	<50	<500	<0.50	<0.50	<0.50	<0.50
B-205-90	5/4/01		<100	**290**	**140**	<0.5	<0.5	<0.5	<0.5
B-205-90	5/4/01	SGC		**160**	**120**				
B-205-90	6/13/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-90	6/13/01	SGC		<100	<100				
B-205-90	8/21/01		<100	**110**	<100	<0.5	<0.5	<0.5	<0.5
B-205-90	8/21/01	SGC		**120**	<100				
B-205-90	12/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-90	12/8/01	SGC		<100	<100				
B-205-90	12/9/01								
B-205-90	2/11/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-90	2/11/02	SGC		<100	<100				
B-205-90	5/29/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-90	8/28/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5

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B-205-90	11/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-90	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-90	6/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-90	8/19/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-90	11/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-90	2/24/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-90	5/19/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-90	8/12/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-90	12/8/04		<100	**860**	**1,200**	<0.5	<0.5	<0.5	<0.5
B-205-90	3/7/05	NA							
B-205-90	6/16/05		<50	**270**	**290**	<0.5	<0.5	<0.5	<1
B-205-90	12/5/05		<50	**400**	**520**	<0.5	<0.5	<0.5	<1
B-205-90	6/13/06		<50	**600**	**1,100**	<0.5	<0.5	<0.5	<1
B-205-90	11/22/06	SGC	<50	**432**	**252**	<0.5	<0.5	<0.5	<0.5
B-205-90	5/25/07		<50	**977**	**1,020**	<0.5	<0.5	<0.5	<0.5
B-205-90	5/25/07	SGC	--	**1,060**	**1,130**	--	--	--	--
B-205-90	11/20/07		<50	**709 B**	**969 B**	<0.5	<0.5	<0.5	<0.5
B-205-90	11/20/07	SGC	--	**504**	**734 B**	--	--	--	--
B-205-90	11/20/07	SGC	--	**504**	**734 B**	--	--	--	--
B-205-90	5/23/08		<50	<50	**1500**	<0.5	<0.5	<0.5	<0.5
B-205-90	9/15/08	NS							
B-205-90	11/20/08		<50	**130**	**400**	<0.5	<0.5	<0.5	<0.5
B-205-90	5/7/09		<50	**420**	**650**	<0.5	<0.5	<0.5	<0.5
B-205-90	11/17/09		<50	**270**	**1,700**	<0.5	<0.5	<0.5	<0.5
B-205-90	4/29/10		<50	**79**	**200**	<0.5	<0.5	<0.5	<0.5
B-205-90	11/16/10		<50	**110**	**120**	<0.5	<0.5	<0.5	<0.5
B-205-90	5/3/11		<50	**94**	**180**	<0.5	<0.5	<0.5	<0.5
B-205-90	11/15/11		<50	**22 J**	**100 J**	<0.5	<0.5	<0.5	<0.5
B-205-90	5/9/12		<50	**41 J**	<100	<0.5	<0.5	<0.5	<0.5
B-205-90	11/7/12		**75**	<50	<530	<0.50	<0.50	<0.50	<0.50
B-205-120	5/4/01		<100	**420**	**100**	<0.5	<0.5	<0.5	<0.5
B-205-120	5/4/01	SGC		**160**	<100				
B-205-120	6/13/01		<100	**140**	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	6/13/01	SGC		<100	<100				
B-205-120	8/21/01		<100	**330**	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	8/21/01	SGC		**190**	<100				
B-205-120	12/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	12/8/01	SGC		<100	<100				
B-205-120	12/9/01								
B-205-120	2/11/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	2/11/02	SGC		<100	<100				
B-205-120	5/29/02		<100	<100	<100	<0.5	**1.6**	<0.5	<0.5
B-205-120	8/28/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	11/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	6/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	8/19/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	11/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	2/24/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	5/19/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	8/12/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	12/8/04		<100	**140**	**200**	<0.5	<0.5	<0.5	<0.5
B-205-120	3/7/05	NA							
B-205-120	6/16/05		<50	**130**	**250**	<0.5	<0.5	<0.5	<1
B-205-120	12/5/05		<50	**140**	**110**	<0.5	<0.5	<0.5	<1
B-205-120	6/13/06		<50	**150**	**130**	<0.5	<0.5	<0.5	<1
B-205-120	11/27/06	SGC	<50	**215**	**76.1 J**	<0.5	<0.5	<0.5	<0.5

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
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ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-205-120	5/24/07		<50	**189**	**85.8 J**	<0.5	<0.5	<0.5	<0.5
B-205-120	5/24/07	SGC	--	**197**	<95.2	--	--	--	--
B-205-120	11/20/07		<50	**121**	**87.3 J**	<0.5	<0.5	<0.5	<0.5
B-205-120	11/20/07	SGC	--	**97.9 J**	**61.3 J**	--	--	--	--
B-205-120	5/23/08		<50	**54**	**330**	<0.5	<0.5	<0.5	<0.5
B-205-120	9/15/08	NS							
B-205-120	11/20/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	5/7/09		<50	<50	**100**	<0.5	<0.5	<0.5	<0.5
B-205-120	11/17/09		<50	**76**	**230**	<0.5	<0.5	<0.5	<0.5
B-205-120	4/29/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	11/16/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	5/3/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	11/16/11		<50	<50	**28 J**	<0.5	**0.08 J**	<0.5	**0.29 J**
B-205-120	5/9/12		<50	<52	<100	<0.5	<0.5	<0.5	<0.5
B-205-120	11/7/12		**42 J**	<50	<540	<0.50	<0.50	<0.50	<0.50
B-206	5/9/01		**190**	**1,500**	**150**	**13**	<0.5	<0.5	**1**
B-206	5/9/01	SGC		**320**	<100				
B-206	8/20/01	LNAPL							
B-206	2/15/02	NA							
B-206	5/28/02	LNAPL							
B-206	8/26/02	LNAPL							
B-206	11/12/02	LNAPL							
B-206	3/10/03	LNAPL							
B-206	6/13/03	LNAPL							
B-206	8/21/03	LNAPL							
B-206	2/23/04	LNAPL							
B-206	8/10/04	LNAPL							
B-206	12/8/04	LNAPL							
B-206	3/7/05	LNAPL							
B-206	6/28/05		**190**	**2,800**	**1,700**	**0.5**	<0.5	<0.5	<1
B-206	6/28/05	Dup		**4,200**	**1,700**	<0.5	<0.5	<0.5	<1
B-206	6/28/05	Trip			**16,000**	<0.5	<0.5	<0.5	<1
B-206	6/20/06		**290**	**2,300**	**1,300**	**1.5**	<0.5	<0.5	<1
B-206	11/21/06	Sheen							
B-206	5/21/07	Sheen							
B-206	5/20/08	Sheen							
B-206	9/15/08	NS							
B-206	11/17/08	Sheen							
B-206	5/4/09	Sheen							
B-206	4/26/10	Sheen							
B-206	11/15/10	Sheen							
B-206	5/2/11	Sheen							
B-206	11/14/11	Sheen							
B-206	5/7/12	LNAPL							
B-206	11/5/12	Sheen							
B-207	5/6/01		**2,100**	**6,000**	**510**	<0.5	<0.5	**1**	<0.5
B-207	5/6/01	SGC		**6,700**	**440**				
B-207	8/20/01	LNAPL							
B-207	2/15/02	LNAPL							
B-207	5/28/02	LNAPL							
B-207	8/26/02	LNAPL							
B-207	11/12/02	LNAPL							
B-207	3/10/03	LNAPL							
B-207	6/13/03	LNAPL							
B-207	8/21/03	LNAPL							
B-207	2/23/04	LNAPL							

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ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-207	8/10/04	LNAPL							
B-207	12/8/04	LNAPL							
B-207	3/7/05	LNAPL							
B-207	6/20/05	LNAPL							
B-207	11/21/06	LNAPL							
B-207	5/22/07	LNAPL							
B-207	5/19/08	LNAPL							
B-207	9/15/08	NS							
B-207	11/17/08	LNAPL							
B-207	5/4/09	LNAPL							
B-207	4/26/10	LNAPL							
B-207	11/15/10	LNAPL							
B-207	5/2/11	LNAPL							
B-207	11/14/11	Sheen							
B-207	5/7/12	Sheen							
B-207	11/5/12	Sheen							
B-208	5/9/01		**110**	**1,100**	<100	<0.5	<0.5	<0.5	<0.5
B-208	5/9/01	SGC		**410**	<100				
B-208	8/22/01		**180**	**840**	<100	<0.5	<0.5	<0.5	<0.5
B-208	8/22/01	SGC		**470**	<100				
B-208	12/9/01		**270**	**530**	<100	<0.5	<0.5	<0.5	<0.5
B-208	12/9/01	SGC		**340**	<100				
B-208	2/12/02		<100	**920**	**250**	<0.5	<0.5	<0.5	<0.5
B-208	2/12/02	SGC		**670**	**170**				
B-208	5/31/02		<100	<100	<100	**0.7**	<0.5	<0.5	<0.5
B-208	8/28/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-208	11/14/02		<100	**110**	<100	<0.5	<0.5	<0.5	<0.5
B-208	3/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-208	6/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-208	8/21/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-208	11/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-208	2/26/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-208	5/19/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-208	8/10/04	NA							
B-208	12/8/04	NA							
B-208	3/7/05	NA							
B-208	6/23/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-208	6/13/06		<50	**61**	<50	<0.5	<0.5	<0.5	<1
B-208	12/5/06	SGC	**48 J**	**467**	**51.2 J**	<0.5	**0.56**	<0.5	**0.44 J**
B-208	6/1/07		<50	**97.7 J**	**53.5 J**	<0.5	<0.5	<0.5	<0.5
B-208	6/1/07	SGC	**--**	**85.8 J**	<101	**--**	**--**	**--**	**--**
B-208	5/20/08		<50	**120**	<100	<0.5	<0.5	<0.5	<0.5
B-208	9/15/08	NS							
B-208	11/17/08	Insufficient							
B-208	5/5/09		<50	**130**	<100	<0.5	<0.5	<0.5	<0.5
B-208	4/27/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-208	11/16/10		<50	**420**	<100	<0.5	<0.5	<0.5	<0.5
B-208	5/3/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-208	11/15/11		**20 J**	<50	**30 J**	<0.5	<0.5	<0.5	<0.5
B-208	5/8/12		**41 J**	<50	<100	<0.5	<0.5	<0.5	<0.5
B-208	11/6/12		**160**	<50	**280 J**	<0.50	<0.50	**0.27 J**	<0.50
B-209	5/7/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-209	5/7/01	SGC		<100	<100				
B-209	8/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-209	8/21/01	SGC		<100	<100				
B-209	12/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5

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B-209	12/8/01	SGC		<100	<100				
B-209	12/9/01								
B-209	2/12/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-209	2/12/02	SGC		<100	<100				
B-209	5/31/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-209	8/27/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-209	11/14/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-209	3/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-209	6/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-209	8/19/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-209	11/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-209	2/26/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-209	5/19/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-209	8/10/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-209	12/8/04	NA							
B-209	3/7/05	NA							
B-209	6/23/05		<50	<43	<43	<0.5	<0.5	<0.5	<1
B-209	11/30/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-209	6/15/06		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-209	11/29/06	SGC	<50	<50.0	<101	<0.5	<0.5	<0.5	<0.5
B-209	5/29/07		<50	<103	**42.8 J**	<0.5	<0.5	<0.5	<0.5
B-209	5/29/07	SGC	--	<100	<100	--	--	--	--
B-209	11/28/07		<50	**41.3 JB**	**37.6 JB**	<0.5	<0.5	<0.5	<0.5
B-209	11/28/07	SGC	--	**23.1 J**	<96.2	--	--	--	--
B-209	5/21/08		<50	**60**	<100	<0.5	<0.5	<0.5	<0.5
B-209	9/15/08	NS							
B-209	11/18/08		<50	<62	<120	<0.5	<0.5	<0.5	<0.5
B-209	5/5/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-209	4/27/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-209	11/16/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-209	5/4/11		<50	<54	<110	<0.5	<0.5	<0.5	<0.5
B-209	11/16/11		<50	<50	<100	<0.5	<0.5	<0.5	**0.21 J**
B-209	5/9/12		<50	<52	<100	<0.5	<0.5	<0.5	<0.5
B-209	11/6/12		<52	<50	<520	<0.50	<0.50	<0.50	<0.50
B-210	5/7/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-210	5/7/01	SGC		<100	<100				
B-210	6/13/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-210	6/13/01	SGC		<100	<100				
B-210	6/13/01	Dup				<0.5	<0.5	<0.5	<0.5
B-210	8/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-210	8/21/01	SGC		<100	<100				
B-210	12/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-210	12/8/01	SGC		<100	<100				
B-210	12/9/01								
B-210	2/12/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-210	2/12/02	SGC		<100	<100				
B-210	5/31/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-210	8/28/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-210	11/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-210	3/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-210	6/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-210	8/19/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-210	2/26/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-210	5/18/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-210	8/10/04	NA							
B-210	12/9/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-210	3/8/05		<100	<100	<100	<0.5	<0.5	<0.5	<0.5

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ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-210	6/23/05		<50	<50	**59**	<0.5	<0.5	<0.5	<1
B-210	9/27/05		<50	**54**	**130**	<0.5	<0.5	<0.5	<1
B-210	11/30/05		<50	**56**	**120**	<0.5	<0.5	<0.5	<1
B-210	3/4/06		<50	**72**	**760**	<0.50	<0.50	<0.50	<1.0
B-210	6/14/06		<50	**240**	**310**	<0.50	<0.50	<0.50	<1.0
B-210	9/13/06	SGC	<39	**196**	**101**	<0.200	<0.200	<0.200	<0.350
B-210	11/29/06	SGC	<50	<51.5	**47.5 J**	<0.500	<0.500	<0.500	<0.500
B-210	3/22/07		<50	<93.9	<93.9	<0.500	<0.500	<0.500	<0.500
B-210	3/22/07	SGC	--	**90.9 J**	**151**	--	--	--	--
B-210	6/5/07		<50	<103	**98.4 J**	<0.500	<0.500	<0.500	<0.500
B-210	6/5/07	SGC	--	<100	**69.8 J**	--	--	--	--
B-210	3/19/08		<50	<100	**196**	**243**	<0.5	<0.5	<0.5
B-210	5/28/08		<50	**200**	**390**	<0.5	<0.5	<0.5	<0.5
B-210	9/15/08	NS							
B-210	11/17/08	Insufficient							
B-210	2/24/09	Insufficient							
B-210	5/4/09	Insufficient							
B-210	9/23/09	Dry							
B-210	2/25/10		<50	<59	<120	<0.5	<0.5	<0.5	<0.5
B-210	4/28/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-210	9/16/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-210	11/17/10		<50	**110**	<100	<0.5	<0.5	<0.5	**0.5**
B-210	2/17/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-210	5/4/11		<50	<50	**120**	<0.5	<0.5	<0.5	<0.5
B-210	9/20/11		<50	<50	**61 J**	<0.5	<0.5	<0.5	<0.5
B-210	11/16/11		<50	<52	**0.046 J**	<0.5	<0.5	<0.5	**0.19 J**
B-210	2/16/12		**27 J**	<53	**34 J**	<0.5	<0.5	<0.5	<0.5
B-210	5/9/12		<50	<52	<100	<0.5	<0.5	<0.5	<0.5
B-210	9/17/12		<50	**47 J**	<520	<0.50	<0.50	<0.50	<0.50
B-210	11/6/12		**26 J**	<50	<520	<0.50	<0.50	<0.50	<0.50
B-211	5/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-211	5/8/01	SGC		<100	<100				
B-211	8/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-211	8/21/01	SGC		<100	<100				
B-211	12/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-211	12/8/01	SGC		<100	<100				
B-211	12/9/01								
B-211	2/12/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-211	2/12/02	SGC		<100	<100				
B-211	5/31/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-211	8/27/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-211	11/14/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-211	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-211	6/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-211	8/19/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-211	11/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-211	2/26/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-211	5/18/04		<100	**300**	<100	<0.5	<0.5	<0.5	<0.5
B-211	8/11/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-211	8/11/04	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-211	12/9/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-211	3/7/05	NA							
B-211	6/23/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-211	11/30/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-211	6/8/06		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-211	12/6/06	SGC	<50	<50.5	<101	<0.5	<0.5	<0.5	<0.5
B-211	6/6/07		<50	<102	**92.2 J**	<0.5	<0.5	<0.5	<0.5

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-211	6/6/07	SGC	--	<100	**94.8 J**	--	--	--	--
B-211	11/27/07		<50	**35.6 JB**	**37.6 JB**	<0.5	<0.5	<0.5	<0.5
B-211	11/27/07	SGC	--	<97.1	**50.6 JB**	--	--	--	--
B-211	5/22/08		<50	<50	**160**	<0.5	<0.5	<0.5	<0.5
B-211	9/15/08	NS							
B-211	11/18/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-211	5/5/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-211	11/17/09		<50	**56**	**160**	<0.5	<0.5	<0.5	<0.5
B-211	4/27/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-211	11/16/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-211	5/3/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-211	11/15/11		<50	<50	**29 J**	<0.5	<0.5	<0.5	<0.5
B-211	5/8/12		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-211	11/6/12		**32 J**	<50	<500	<0.50	<0.50	<0.50	<0.50
B-212	5/8/01		<100	**170**	<100	<0.5	<0.5	<0.5	<0.5
B-212	5/8/01	SGC		**140**	<100				
B-212	6/13/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-212	6/13/01	SGC		<100	<100				
B-212	8/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-212	8/21/01	SGC		<100	<100				
B-212	12/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-212	12/8/01	SGC		<100	<100				
B-212	12/9/01								
B-212	2/10/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-212	2/10/02	SGC		<100	<100				
B-212	5/31/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-212	8/27/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-212	11/14/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-212	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-212	6/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-212	8/19/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-212	11/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-212	2/26/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-212	5/18/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-212	8/11/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-212	12/9/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-212	3/7/05	NA							
B-212	6/23/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-212	6/23/05	Dup		<50	<50	<0.5	<0.5	<0.5	<1
B-212	11/30/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-212	6/8/06		<50	<50	<50	<0.5	<0.5	<0.5	<1
B-212	12/6/06	SGC	<50	<47.2	<94.3	<0.5	<0.5	<0.5	<0.5
B-212	6/14/07		<50	**39.7 J**	**36.5 J**	<0.5	<0.5	<0.5	<0.5
B-212	6/14/07	SGC	--	<95.2	**49.0 J**	--	--	--	--
B-212	11/27/07		<50	**27.3 JB**	<95.2	<0.5	<0.5	<0.5	<0.5
B-212	11/27/07	SGC	--	<95.2	**40.5 JB**	--	--	--	--
B-212	5/22/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-212	9/15/08	NS							
B-212	11/19/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-212	5/5/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-212	11/17/09		<50	**50**	**210**	<0.5	<0.5	<0.5	<0.5
B-212	4/27/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-212	11/16/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-212	5/3/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-212	11/15/11		<50	<50	**26 J**	<0.5	<0.5	<0.5	<0.5
B-212	5/8/12		**30 J**	<52	<100	<0.5	<0.5	<0.5	<0.5
B-212	11/6/12		<50	<50	<500	<0.50	<0.50	<0.50	<0.50

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Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-213-50	5/2/01	Dry							
B-213-50	8/20/01	Dry							
B-213-50	2/15/02	NA							
B-213-50	5/28/02	Dry							
B-213-50	8/26/02	Dry							
B-213-50	11/12/02	Dry							
B-213-50	3/10/03	NA							
B-213-50	6/13/03	Dry							
B-213-50	8/21/03	Dry							
B-213-50	2/23/04	NA							
B-213-50	8/10/04	NA							
B-213-50	12/8/04	NA							
B-213-50	3/7/05	NA							
B-213-50	6/20/05	Dry							
B-213-50	11/20/06	Dry							
B-213-50	5/21/07	Dry							
B-213-50	5/19/08	Dry							
B-213-50	9/15/08	NS							
B-213-50	11/17/08	Dry							
B-213-50	5/4/09	Dry							
B-213-50	4/26/10	Dry							
B-213-50	11/15/10	Insufficient							
B-213-50	5/2/11	Insufficient							
B-213-50	11/14/11	Insufficient							
B-213-50	5/7/12	Insufficient							
B-213-50	11/5/12	Insufficient							
B-213-80	5/2/01	Dry							
B-213-80	8/20/01	Dry							
B-213-80	2/15/02	NA							
B-213-80	5/28/02	Dry							
B-213-80	8/26/02	Dry							
B-213-80	11/12/02	Dry							
B-213-80	3/10/03	NA							
B-213-80	6/13/03	Dry							
B-213-80	8/21/03	Dry							
B-213-80	2/23/04	NA							
B-213-80	8/10/04	NA							
B-213-80	12/8/04	NA							
B-213-80	3/7/05	NA							
B-213-80	6/20/05	Dry							
B-213-80	11/20/06	Dry							
B-213-80	5/21/07	Dry							
B-213-80	5/19/08	Dry							
B-213-80	9/15/08	NS							
B-213-80	11/17/08	Dry							
B-213-80	5/4/09	Dry							
B-213-80	4/26/10	Dry							
B-213-80	11/15/10	Dry							
B-213-80	5/2/11	Dry							
B-213-80	11/14/11	Dry							
B-213-80	5/7/12	Insufficient							
B-213-80	11/5/12	Dry							
B-215	8/26/02	Dry							
B-215	11/12/02	Dry							
B-215	3/10/03	NA							

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B-215	6/13/03	Dry							
B-215	8/21/03	Dry							
B-215	2/23/04	NA							
B-215	8/10/04	NA							
B-215	12/8/04	NA							
B-215	3/7/05	NA							
B-215	6/20/05	Dry							
B-215	11/20/06	Dry							
B-215	5/21/07	Dry							
B-215	5/19/08	Dry							
B-215	9/15/08	NS							
B-215	11/17/08	Dry							
B-215	5/4/09	Dry							
B-215	4/26/10	Dry							
B-215	11/15/10	Dry							
B-215	5/2/11	Dry							
B-215	11/1/411	Dry							
B-215	5/7/12	Dry							
B-215	11/5/12	Dry							
B-216	5/7/03		<100	**100**	<100	<0.5	<0.5	<0.5	<0.5
B-216	5/7/03	SGC		<100	<100				
B-216	6/12/03		<100	**150**	<100	<0.5	<0.5	<0.5	<0.5
B-216	6/12/03	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-216	8/20/03		<100	**130**	<100	<0.5	<0.5	<0.5	<0.5
B-216	11/13/03		<100	**160**	<100	<0.5	<0.5	<0.5	<0.5
B-216	2/24/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-216	5/19/04		<100	**120**	<100	<0.5	<0.5	<0.5	<0.5
B-216	8/11/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-216	12/9/04		<100	**140**	**290**	<0.5	<0.5	<0.5	<0.5
B-216	3/8/05		<100	**200**	**260**	<0.5	<0.5	<0.5	<0.5
B-216	6/21/05		<50	**310**	**170**	<0.5	<0.5	<0.5	<1
B-216	9/28/05		<50	**200**	**120**	<0.5	<0.5	<0.5	<1
B-216	3/7/06		<50	**210**	**150**	<0.50	<0.50	<0.50	<1.0
B-216	3/7/06	Dup	<50	**200**	**84**	<0.50	<0.50	<0.50	<1.0
B-216	6/21/06		<50	**210**	**150**	<0.50	<0.50	<0.50	<1.0
B-216	9/13/06	SGC	**61.4**	**414**	**214**	<0.200	<0.200	<0.200	<0.350
B-216	11/28/06	SGC	**52.3**	**429**	**149**	<0.500	<0.500	<0.500	<0.500
B-216	3/22/07		**104**	**103**	<94.3	<0.500	<0.500	<0.500	<0.500
B-216	3/22/07	SGC	**--**	**295**	**53.4**	**--**	**--**	**--**	**--**
B-216	6/8/07		**83.5**	**467**	**191**	<0.500	<0.500	<0.500	<0.500
B-216	6/8/07	SGC	**--**	**272**	<94.3	**--**	**--**	**--**	**--**
B-216	9/21/07		**65.1**	**210**	**47.6 J**	<0.500	<0.500	<0.500	<0.500
B-216	9/21/07	SGC	**--**	**194**	**31.2 J**	**--**	**--**	**--**	**--**
B-216	12/5/07		**117**	**388**	<105	<0.500	<0.500	<0.500	<0.500
B-216	12/5/07	SGC	**--**	**317**	<105	**--**	**--**	**--**	**--**
B-216	3/19/08		<50	**494**	**208**	<0.5	<0.5	<0.5	<0.5
B-216	5/27/08		<50	**180**	**470**	<0.5	<0.5	<0.5	<0.5
B-216	9/16/08		<50	**190**	<100	<0.5	<0.5	<0.5	<0.5
B-216	11/21/08	Dup	<50	<50	**180**	<0.5	<0.5	<0.5	<0.5
B-216	2/24/09		<50	**75**	<100	<0.5	<0.5	<0.5	<0.5
B-216	5/7/09		**68**	**95**	<100	<0.5	<0.5	<0.5	<0.5
B-216	5/7/09	Duplicate	**67**	**120**	<100	<0.5	<0.5	<0.5	<0.5
B-216	9/23/09		**60**	<50	<100	<0.5	<0.5	<0.5	<0.5
B-216	9/23/09	Duplicate	**84**	<50	<100	<0.5	<0.5	<0.5	<0.5
B-216	11/19/09		<50	**270**	**250**	<0.5	<0.5	<0.5	<0.5
B-216	11/19/09	Duplicate	<50	**230**	<100	<0.5	<0.5	<0.5	<0.5
B-216	2/25/10		<50	<50	**230**	<0.5	<0.5	<0.5	<0.5

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B-216	4/29/10		<50	**110**	<100	<0.5	<0.5	<0.5	<0.5
B-216	4/29/10	Duplicate	<50	**110**	<100	<0.5	<0.5	<0.5	<0.5
B-216	9/16/10		**63**	**84**	<100	<0.5	<0.5	<0.5	<0.5
B-216	11/18/10		<50	**230**	**130**	**1.4**	<0.5	<0.5	<0.5
B-216	11/18/10	Duplicate	**<50**	**190**	<100	<0.5	<0.5	<0.5	<0.5
B-216	2/17/11		**130**	**110**	<100	<0.5	<0.5	<0.5	<0.5
B-216	5/5/11		**79**	**260**	**140**	<0.5	<0.5	<0.5	<0.5
B-216	5/5/11	Duplicate	<50	**270**	**120**	<0.5	<0.5	<0.5	<0.5
B-216	9/20/11		**51**	**72**	**61 J**	<0.5	<0.5	<0.5	<0.5
B-216	11/17/11		**23 J**	**120**	**140**	<0.5	<0.5	<0.5	<0.5
B-216	11/17/11	Duplicate	**59**	**130**	**150**	<0.5	<0.5	<0.5	<0.5
B-216	2/16/12		**35**	**110**	**69 J**	<0.5	<0.5	<0.5	<0.5
B-216	5/10/12		**170**	**85**	<100	<0.5	0.10 J	<0.5	<0.5
B-216	5/10/12	Duplicate	**120**	**80**	<100	<0.5	<0.5	<0.5	<0.5
B-216	9/18/12		**180**	**150**	**240 J**	<0.5	<0.5	<0.5	<0.5
B-216	11/8/12		**130**	**150**	<520	<0.50	<0.50	<0.50	<0.50
B-216	11/8/12	Duplicate	**130**	**160**	<530	<0.50	<0.50	<0.50	<0.50
B-217	5/7/03	SGC		<100	<100				
B-217	5/7/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-217	6/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-217	8/20/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-217	11/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-217	2/24/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-217	5/19/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-217	8/11/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-217	12/9/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-217	3/8/05		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
B-217	6/21/05		<50	<50	**60**	<0.5	<0.5	<0.5	<1
B-217	9/28/05		<50	<50	**140**	<0.5	<0.5	<0.5	<1
B-217	9/28/05	Dup	<50	<50	**160**	<0.5	<0.5	<0.5	<1
B-217	9/28/05	Trip	<50	<100	<100	<0.5	<0.5	<0.5	<1
B-217	12/30/05		<50	<56	**71**	<0.5	<0.5	<0.5	<1
B-217	3/6/06		<50	<50	**210**	<0.50	<0.50	<0.50	<1.0
B-217	6/21/06		<50	<50	**210**	<0.50	<0.50	<0.50	<1.0
B-217	9/13/06	SGC	<39	**36.5** J	**54.0 J**	<0.200	<0.200	<0.200	<0.350
B-217	12/4/06	SGC	<50	**50.4**	**143**	<0.5	<0.5	<0.5	<0.5
B-217	3/22/07		<50	<94.3	**46.0 J**	<0.500	<0.500	<0.500	<0.500
B-217	3/22/07	Dup	<50	<94.3	<94.3	--	--	--	--
B-217	3/22/07	SGC	<50	<95.2	**54.6 J**	<0.500	<0.500	<0.500	<0.500
B-217	3/22/07	SGC, Dup	--	<95.2	**46.1 J**	--	--	--	--
B-217	6/8/07		<50	**54.5 J**	**56.5 J**	<0.500	<0.500	<0.500	<0.500
B-217	6/8/07	SGC	--	**85.9 J**	**31.3 J**	--	--	--	--
B-217	9/19/07		<50	<108	<108	<0.500	<0.500	<0.500	<0.500
B-217	9/19/07	SGC	--	<108	<108	--	--	--	--
B-217	12/6/07		<50	**42.8 JB**	**31.2 J**	<0.500	<0.500	<0.500	<0.500
B-217	12/6/07	SGC	--	**33.4 JB**	<100	--	--	--	--
B-217	3/19/08		<50	**130**	**231**	<0.5	<0.5	<0.5	<0.5
B-217	5/28/08		<50	**79**	**140**	<0.5	<0.5	<0.5	<0.5
B-217	9/16/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-217	11/21/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-217	2/24/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-217	5/7/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-217	9/23/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-217	11/17/09		<50	**120**	**270**	<0.5	<0.5	<0.5	<0.5
B-217	2/25/10		<50	<50	**230**	<0.5	<0.5	<0.5	<0.5
B-217	4/30/10		<50	<50	**110**	<0.5	<0.5	<0.5	<0.5
B-217	9/16/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5

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Chevron Avila Beach Terminal (Former Unocal Terminal)
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ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-217	11/18/10		<50	**250**	<100	**0.5**	<0.5	<0.5	<0.5
B-217	11/18/10	Duplicate	<50	**90**	<100	<0.5	<0.5	<0.5	<0.5
B-217	2/17/11		<50	**81**	**940**	<0.5	<0.5	<0.5	<0.5
B-217	5/4/11		<50	<50	**100**	<0.5	<0.5	<0.5	<0.5
B-217	5/4/11	Duplicate	<50	**83**	**270**	<0.5	<0.5	<0.5	<0.5
B-217	9/20/11		<50	<100	**52 J**	<0.5	<0.5	<0.5	<0.5
B-217	11/17/11		<50	<53	**250**	<0.5	<0.5	<0.5	<0.5
B-217	2/16/12		<50	**21 J**	**62 J**	<0.5	**0.06 J**	<0.5	<0.5
B-217	5/10/12		**55**	<53	<110	<0.5	**0.23 J**	<0.5	**0.92**
B-217	9/18/12		**25 J**	**46 J**	**300 J**	<0.5	<0.5	<0.5	<0.5
B-217	11/8/12		**32 J**	**76**	<520	<0.50	<0.50	<0.50	<0.50
B-223-48	8/10/04	NA							
B-223-48	12/8/04	NA							
B-223-48	3/7/05	NA							
B-223-48	6/20/05	Dry							
B-223-48	11/21/06	NA							
B-223-48	3/31/07	Dry							
B-223-48	5/21/07	Dry							
B-223-48	5/21/07	Dry							
B-223-48	5/19/08	Dry							
B-223-48	9/15/08	Dry							
B-223-48	11/17/08	Dry							
B-223-48	2/24/09	Insufficient							
B-223-48	5/4/09	Dry							
B-223-48	9/23/09	Insufficient							
B-223-48	2/25/10	Dry							
B-223-48	4/26/10	Dry							
B-223-48	9/16/10	Dry							
B-223-48	11/15/10	Dry							
B-223-48	2/17/11	Dry							
B-223-48	5/2/11	Dry							
B-223-48	9/20/11	Dry							
B-223-48	11/14/11	Dry							
B-223-48	2/15/12	Dry							
B-223-48	5/7/12	Insufficient							
B-223-48	9/17/12	Dry							
B-223-48	11/5/12	Insufficient							
B-223-88	8/10/04	NA							
B-223-88	12/8/04	NA							
B-223-88	3/8/05		**14,000**	**2,000**	**270**	**5,000**	<20	**590**	**37**
B-223-88	6/20/05	Dry							
B-223-88	9/27/05		**18,000**	**2,400**	**180**	**3,800**	<25	**440**	<50
B-223-88	6/22/06	NA	**10,000**	**1,500**	**84**	**3,400**	**240**	**240**	**50**
B-223-88	9/12/06	SGC	**6,360**	**1,790**	**2,250**	**3,590**	**6.28**	**148**	**5.07**
B-223-88	12/4/06	SGC	**8,780**	**1,530**	<95.7	**4,400**	**7.09**	**153**	**7.01**
B-223-88	3/23/07		**13,300**	**1,370**	<95.2	**5,760**	**6.50**	**199**	**12.0**
B-223-88	3/23/07	SGC	--	**1,740**	<95.2	--	--	--	--
B-223-88	6/5/07		**14,000**	**1,650**	**55.9 J**	**4,420**	**7.83**	**170**	**8.80**
B-223-88	6/5/07	SGC	--	**993**	**38.6 J**	--	--	--	--
B-223-88	9/21/07		**8,110**	**1,780**	<102	**2,520**	**9.05**	**232**	**24.70**
B-223-88	9/21/07	SGC	--	**1,890**	**20.4 J**	--	--	--	--
B-223-88	11/30/07		**6,980**	**1,670**	**49.6 JB**	**3,530**	**21.8**	**87.3**	**15.90**
B-223-88	11/30/07	SGC	--	**1,620**	**48.6 JB**	--	--	--	--
B-223-88	3/19/08		**5,270**	**1,330**		**736**	**37.1**	**71.4**	**27.4**
B-223-88	5/28/08		**9,300**	**320**	**1,800**	**3,000**	**42**	**440**	**110**
B-223-88	9/16/08		<50	**690**	<100	**700**	**33**	**70**	**23**

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B-223-88	11/21/08		<50	87	150	270	15	67	16
B-223-88	2/24/09		630	260	<100	660	55	49	34
B-223-88	2/24/09	DUP	2,800	420	<100	660	56	51	31
B-223-88	5/8/09		2,800	380	350	390	28	22	17
B-223-88	5/8/09	Duplicate	3,100	450	150	490	49	40	32
B-223-88	9/24/09		2,200	770	<100	230	24	22	20
B-223-88	11/20/09		<50	560	<100	200	18	21	19
B-223-88	11/20/09	Duplicate	<50	1,800	<100	260	18	21	18
B-223-88	2/25/10		2000	150	140	190	21	14	18
B-223-88	4/30/10		2,100	330	<100	190	7.6	29	12
B-223-88	4/30/10	Duplicate	2,100	370	<100	180	7.6	28	12
B-223-88	9/17/10		2,200	370	<100	190	22	26	23
B-223-88	9/17/10	Duplicate	2,000	370	<100	190	21	25	23
B-223-88	11/19/10		1,500	370	110	280	21	28	21
B-223-88	2/18/11		2,300	440	280	360	49	24	40
B-223-88	2/18/11	Duplicate	2,300	460	1,200	390	54	25	42
B-223-88	5/6/11		1,500	670	<100	320	49	32	44
B-223-88	9/21/11		2,500	160	86 J	430	52	17	46
B-223-88	11/18/11		1,900	260	330	210	41	9.4	33
B-223-88	2/17/12		1,700	280	45 J	280	52	14	44
B-223-88	5/10/12		950	300	<100	35	1.9	3.1	0.7
B-223-88	9/18/12		2,000	310	<52	160	18	8.1	12
B-223-88	11/9/12		160	1,600	<520	130	8.3	15	11
B-224	9/21/11		29 J	1,100	700	<0.5	<0.5	<0.5	<0.5
B-224	11/18/11		120	1,000	710	0.35 J	<0.5	<0.5	0.25 J
B-224	2/17/12		54	1,100	520	0.08 J	<0.5	<0.5	0.21 J
B-224	5/11/12		190	720	350	0.10 J	0.070 J	0.26 J	0.94
B-224	9/19/12		220	1,300	1,000	0.32 J	<0.50	<0.50	0.33 J
B-224	11/8/12		980	110	930	<0.50	<0.50	<0.50	<0.50
B-225	9/20/11		<50	<50	66 J	<0.5	<0.5	<0.5	0.16 J
B-225	11/18/11		<50	<50	75 J	0.08 J	<0.5	<0.5	<0.5
B-225	2/17/12		<50	53	88 J	0.04 J	<0.5	<0.5	<0.5
B-225	5/11/12		50	<50	<100	<0.5	<0.5	<0.5	<0.5
B-225	9/18/12		72	67	<530	<0.5	<0.5	<0.5	<0.5
B-225	11/9/12		41 J	23 J	<500	<0.50	<0.50	<0.50	<0.50
B-226	9/21/11		2,100	24 J	46 J	27	24	93	140
B-226	11/18/11		1,500	26 J	56 J	16	7.4	58	66
B-226	11/18/11	Duplicate	1,700	38 J	61 J	22	11	72	75
B-226	2/17/12		1,500	60	34 J	33	20	130	130
B-226	2/17/12	Duplicate	3,100	66	37 J	29	17	130	100
B-226	5/11/12		2,500	<53	<110	19	12	64	47
B-226	5/11/12	Duplicate	2,400	<53	<110	23	12	66	51
B-226	9/19/12		1,700	90	<560	18	7.3	49	49
B-226	9/19/12	Duplicate	1,600	92	<560	18	7.2	60	47
B-226	11/9/12		48 J	950	<520	15	44	5.3	33
B-226	11/9/12	Duplicate	47 J	860	<500	13	36	4.3	26
B-230	9/21/11		27,000	1,100	370	1,700	5,300	510	2,600
B-230	11/18/11		21,000	620	510	1,500	4,800	400	2,900
B-230	2/17/12		30,000	2,600	1,300	1,700	5,700	540	3,300
B-230	5/11/12		49,000	1,100	<110	1,300	6,800	820	4,900
B-230	9/19/12		6,600	1,200	220 J	180	510	66	350
B-230	11/5/12	LNAPL							
B-231	9/21/11		5,500	2,200	290	500	470	46	340

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ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
B-231	9/21/11	Duplicate	**4,200**	**2,300**	**320**	**480**	**350**	**38**	**320**
B-231	11/18/11		**6,800**	**1,000**	**360**	**2,100**	**130**	**33**	**190**
B-231	2/17/12		**10,000**	**1,400**	**210**	**3,700**	**120**	**43**	**120**
B-231	5/11/12		**15,000**	**1,400**	<110	**5,300**	**310**	**170**	**260**
B-231	9/19/12		**15,000**	**1,800**	**230 J**	**3,800**	**160**	**150**	**270**
B-231	11/9/12		**1,100**	**8,100**	**220 J**	**2,700**	**48**	**65**	**85**
SP-1	5/7/01		<100	<100	<100	**1.7**	**0.7**	<0.5	<0.5
SP-1	5/7/01	SGC		<100	<100				
SP-1	6/13/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
SP-1	6/13/01	SGC		<100	<100				
SP-1	8/22/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
SP-1	12/10/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
SP-1	2/10/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
SP-1	5/30/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
SP-1	8/27/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
SP-1	11/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
SP-1	3/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
SP-1	6/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
SP-1	8/20/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
SP-1	11/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
SP-1	2/23/04	NA							
SP-1	8/10/04	NA							
SP-1	12/8/04	NA							
SP-1	3/7/05	NA							
SP-1	6/27/05		<50	<50	**92**	<0.5	<0.5	<0.5	<1
SP-1	11/29/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
SP-1	6/8/06		<50	<50	<50	<0.5	<0.5	<0.5	<1
SP-1	11/29/06	SGC	<50	<50.5	<101	<0.5	<0.5	<0.5	<0.5
SP-1	11/29/06	SGC, Dup	<50	<50.5	<101	<0.5	<0.5	<0.5	<0.5
SP-1	6/14/07		<50	**116**	**127**	**2.85**	<0.5	<0.5	<0.5
SP-1	6/14/07	SGC	--	**50.6 J**	<95.2	--	--	--	--
SP-1	11/26/07		<50	**41.3 JB**	**24.6 J**	<0.5	<0.5	<0.5	<0.5
SP-1	11/26/07	SGC	--	**26.2 J**	**49.2 JB**	--	--	--	--
SP-1	5/20/07		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
SP-1	5/20/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
SP-1	9/15/08	NS							
SP-1	11/18/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
SP-1	5/5/09		<50	**150**	<100	<0.5	<0.5	<0.5	<0.5
SP-1	4/27/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
SP-1	11/17/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
SP-1	5/3/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
SP-1	11/15/11		<50	<50	**22 J**	<0.5	<0.5	<0.5	<0.5
SP-1	5/8/12		**21 J**	<50	<100	<0.5	<0.5	<0.5	<0.5
SP-1	11/6/12		<51	<50	<510	<0.50	<0.50	**0.25 J**	<0.50
SP-2	5/2/01	NA							
SP-2	8/20/01	LNAPL							
SP-2	2/15/02	LNAPL							
SP-2	5/28/02	LNAPL							
SP-2	8/26/02	LNAPL							
SP-2	11/12/02	LNAPL							
SP-2	3/10/03	LNAPL							
SP-2	6/13/03	LNAPL							
SP-2	8/21/03	LNAPL							
SP-2	2/23/04	LNAPL							
SP-2	8/10/04	LNAPL							
SP-2	12/8/04	LNAPL							

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SP-2	3/7/05	LNAPL							
SP-2	6/20/05	Dry							
SP-2	6/22/06	NA							
SP-2	12/5/06	SGC	**1,470**	**3,090**	<943	**1.01**	<0.5	**0.44 J**	**0.47 J**
SP-2	5/22/07	Sheen							
SP-2	5/19/08	LNAPL							
SP-2	9/15/08	NS							
SP-2	11/21/08		<50	**56**	**340**	**0.58**	<0.5	<0.5	<0.5
SP-2	5/4/09	LNAPL							
SP-2	4/26/10	Sheen							
SP-2	11/15/10	Sheen							
SP-2	5/2/11	Sheen							
SP-2	11/14/11	Sheen							
SP-2	5/7/12	Sheen							
SP-2	11/5/12	Sheen							
SP-3	5/2/01	LNAPL							
SP-3	8/20/01	LNAPL							
SP-3	2/15/02	NA							
SP-3	5/28/02	LNAPL							
SP-3	8/26/02	LNAPL							
SP-3	11/12/02	LNAPL							
SP-3	3/10/03	LNAPL							
SP-3	6/13/03	LNAPL							
SP-3	8/21/03	LNAPL							
SP-3	2/23/04	LNAPL							
SP-3	8/10/04	NA							
SP-3	12/8/04	NA							
SP-3	3/7/05	NA							
SP-3	6/20/05	NA							
SP-4	5/2/01	NA							
SP-4	8/20/01	NA							
SP-4	2/14/02		**210**	**760**	<100	<0.5	<0.5	<0.5	<0.5
SP-4	2/14/02	SGC	<100	**200**	<100				
SP-4	5/28/02	LNAPL							
SP-4	8/26/02	LNAPL							
SP-4	11/12/02	LNAPL							
SP-4	3/10/03	LNAPL							
SP-4	6/13/03	LNAPL							
SP-4	8/21/03	LNAPL							
SP-4	2/23/04	LNAPL							
SP-4	8/10/04	LNAPL							
SP-4	12/8/04	LNAPL							
SP-4	3/7/05	NA							
SP-4	6/20/05	NA							
SP-5	5/2/01	LNAPL							
SP-5	8/20/01	LNAPL							
SP-5	2/15/02	LNAPL							
SP-5	5/28/02	LNAPL							
SP-5	8/26/02	LNAPL							
SP-5	11/12/02	LNAPL							
SP-5	3/10/03	LNAPL							
SP-5	6/13/03	LNAPL							
SP-5	8/21/03	LNAPL							
SP-5	2/23/04	LNAPL							
SP-5	8/10/04	LNAPL							

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SP-5	12/8/04	LNAPL							
SP-5	3/7/05	NA							
SP-5	6/20/05	NA							
SP-6	5/2/01	Dry							
SP-6	8/20/01	LNAPL							
SP-6	2/15/02	Dry							
SP-6	5/28/02	Dry							
SP-6	8/26/02	Dry							
SP-6	11/12/02	Dry							
SP-6	3/10/03	LNAPL							
SP-6	6/13/03	Dry							
SP-6	8/21/03	Dry							
SP-6	2/23/04	NA							
SP-6	8/10/04	NA							
SP-6	12/8/04	NA							
SP-6	3/7/05	LNAPL							
SP-6	6/20/05	LNAPL							
SP-6	11/20/06	NA							
SP-6	5/21/07	Dry							
SP-6	5/19/08	Sheen							
SP-6	9/15/08	NS							
SP-6	11/17/08	Dry							
SP-6	5/4/09	LNAPL							
SP-6	4/26/10	Sheen							
SP-6	11/15/10	Dry							
SP-6	5/2/11	Sheen							
SP-6	11/14/11	Sheen							
SP-6	5/7/12	Sheen							
SP-6	11/5/12	Sheen							
SP-7A	5/5/01		<100	**630**	<100	**1.1**	<0.5	<0.5	<0.5
SP-7A	5/5/01	SGC		<100	<100				
SP-7A	8/22/01		<100	**650**	<100	**6.2**	<0.5	**0.8**	**1.6**
SP-7A	12/8/01		**930**	**290**	<100	**5.9**	<0.5	**0.8**	**2**
SP-7A	2/12/02		**140**	**390**	<100	**1.4**	<0.5	<0.5	<0.5
SP-7A	5/30/02		<100	**260**	<100	**0.6**	**0.6**	<0.5	<0.5
SP-7A	8/29/02		**310**	**140**	<100	<0.5	<0.5	<0.5	<0.5
SP-7A	11/14/02		**350**	**210**	<100	<0.5	<0.5	<0.5	<0.5
SP-7A	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
SP-7A	6/11/03		<100	**500**	<100	<0.5	<0.5	<0.5	<0.5
SP-7A	8/20/03		<100	**320**	<100	<0.5	<0.5	<0.5	<0.5
SP-7A	11/12/03		**120**	**340**	<100	<0.5	<0.5	<0.5	<0.5
SP-7A	2/24/04		**100**	**400**	<100	<0.5	<0.5	<0.5	<0.5
SP-7A	5/18/04		<100	**340**	<100	<0.5	<0.5	<0.5	<0.5
SP-7A	8/10/04		<100	**200**	<100	<0.5	<0.5	<0.5	<0.5
SP-7A	12/9/04		<100	**600**	**470**	<0.5	<0.5	<0.5	<0.5
SP-7A	3/7/05	NA							
SP-7A	6/24/05		**99**	**1,800**	**84**	<0.5	<0.5	<0.5	<1
SP-7A	12/2/05		**110**	**490**	<59	<0.5	<0.5	<0.5	<1
SP-7A	6/13/06		<50	**860**	**160**	<0.5	<0.5	<0.5	<1
SP-7A	11/30/06	SGC	**107**	**1,220**	**82.1 J**	<0.5	**0.390 J**	<0.5	<0.5
SP-7A	6/6/07		**46.1 J**	**540**	**2,330**	<0.5	<0.5	<0.5	<0.5
SP-7A	6/6/07	SGC	**--**	**1,200**	**242**	**--**	**--**	**--**	**--**
SP-7A	7/21/08		<50	**110**	<100	<0.5	<0.5	<0.5	<0.5
SP-7A	9/15/08	NS							
SP-7A	11/19/08		<50	**180**	**110**	<0.5	<0.5	<0.5	<0.5
SP-7A	5/6/09		<50	**230**	<100	<0.5	<0.5	<0.5	<0.5

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
SP-7A	11/18/09		<50	**280**	<100	<0.5	<0.5	<0.5	<0.5
SP-7A	4/28/10		<50	**450**	**140**	<0.5	<0.5	<0.5	<0.5
SP-7A	11/17/10		<50	**190**	<100	<0.5	<0.5	<0.5	<0.5
SP-7A	5/3/11		<50	**480**	**240**	<0.5	<0.5	<0.5	<0.5
SP-7A	11/15/11		**52**	**140**	**78 J**	**0.1 J**	**0.07 J**	<0.5	<0.5
SP-7A	5/8/12		<50	**270**	<110	**0.21 J**	**0.10 J**	<0.5	**0.36 J**
SP-7A	11/6/12		**250**	**56**	<530	<0.50	<0.50	**0.32 J**	<0.50
SP-8	5/9/01		**470**	**37,000**	**6,600**	**1.8**	**0.9**	**0.6**	<0.5
SP-8	5/9/01	SGC		**33,000**	**5,800**				
SP-8	8/20/01	LNAPL							
SP-8	2/15/02	LNAPL							
SP-8	5/28/02	LNAPL							
SP-8	8/26/02	LNAPL							
SP-8	11/12/02	LNAPL							
SP-8	3/10/03	LNAPL							
SP-8	6/13/03	LNAPL							
SP-8	8/21/03	LNAPL							
SP-8	2/23/04	LNAPL							
SP-8	8/10/04	LNAPL							
SP-8	12/8/04	LNAPL							
SP-8	3/7/05	NA							
SP-8	6/20/05	NA							
SP-9	5/4/01		**120**	**1,600**	<100	**0.8**	<0.5	<0.5	<0.5
SP-9	5/4/01	SGC		**390**	<100				
SP-9	6/13/01		<100	**1,100**	<100	<0.5	<0.5	<0.5	<0.5
SP-9	6/13/01	SGC		**650**	<100				
SP-9	8/21/01		**120**	**1,000**	<100	<0.5	<0.5	<0.5	<0.5
SP-9	8/21/01	SGC		**570**	<100				
SP-9	12/8/01		**180**	**450**	<100	<0.5	<0.5	<0.5	<0.5
SP-9	12/8/01	SGC		**220**	<100				
SP-9	12/9/01								
SP-9	2/11/02		**190**	**500**	<100	<0.5	<0.5	<0.5	<0.5
SP-9	2/11/02	SGC		**240**	<100				
SP-9	5/29/02		<100	**230**	<100	<0.5	<0.5	<0.5	<0.5
SP-9	8/28/02		<100	**190**	<100	<0.5	<0.5	<0.5	<0.5
SP-9	11/13/02		**110**	**290**	<100	<0.5	<0.5	<0.5	<0.5
SP-9	3/11/03		**120**	**360**	<100	<0.5	<0.5	<0.5	<0.5
SP-9	6/10/03		**120**	**450**	<100	<0.5	<0.5	<0.5	<0.5
SP-9	8/19/03		**160**	**330**	<100	<0.5	<0.5	<0.5	<0.5
SP-9	11/12/03		**200**	**300**	<100	<0.5	<0.5	<0.5	<0.5
SP-9	2/23/04	NA							
SP-9	8/10/04	NA							
SP-9	12/8/04	NA							
SP-9	3/7/05	NA							
SP-9	6/20/05	NA							
SP-9	12/2/05		**220**	**430**	<50	<0.5	<0.5	<0.5	<1
SP-9	11/29/06	SGC	**135**	**1,000**	**64.4 J**	<0.5	<0.5	<0.5	<0.5
SP-9	5/30/07		**130**	**864**	**122**	--	--	--	--
SP-9	5/30/07	SGC	--	**938**	<100	--	--	--	--
SP-9	11/29/07		**80.1**	**713 B**	**51.8 JB**	<0.5	<0.5	<0.5	<0.5
SP-9	11/29/07	SGC	--	**1,150**	**28.8 JB**	--	--	--	--
SP-9	5/22/08		**110**	**210**	**480**	<0.5	<0.5	<0.5	<0.5
SP-9	9/15/08	NS							
SP-9	11/19/08		<50	**160**	**110**	<0.5	<0.5	<0.5	<0.5
SP-9	5/7/09		**140**	**320**	**150**	<0.5	<0.5	<0.5	<0.5
SP-9	11/19/09		<50	**300**	<100	<0.5	<0.5	<0.5	<0.5

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SP-9	4/29/10		**170**	**170**	<100	<0.5	<0.5	<0.5	<0.5
SP-9	11/18/10		**150**	**70**	<100	<0.5	<0.5	<0.5	**0.54**
SP-9	5/5/11		**110**	**160**	<100	<0.5	<0.5	<0.5	<0.5
SP-9	11/16/11		**160**	**65**	**29 J**	**0.06 J**	**0.11 J**	<0.5	**0.41 J**
SP-9	5/9/12		**170**	**170**	<100	<0.5	<0.5	<0.5	<0.5
SP-9	11/7/12		**160**	**150**	<500	<0.50	<0.50	<0.50	<0.50
GMW-14	5/21/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	8/19/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	11/25/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	3/6/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	6/18/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	9/23/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	9/23/99	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	11/19/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	2/24/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	5/22/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	9/2/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	9/2/00	Dup	<100			<0.5	<0.5	<0.5	<0.5
GMW-14	11/30/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	2/23/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	5/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	8/22/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	12/11/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	2/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	5/31/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	8/28/02		<100	<100	<100	<0.5	<0.5	**0.7**	**1.5**
GMW-14	11/13/02		<100	<100	<100	<0.5	<0.5	**0.7**	**4.5**
GMW-14	11/13/02	Dup	<100	<100	<100	<0.5	<0.5	**0.7**	**4.7**
GMW-14	3/13/03		<100	<100	<100	<0.5	<0.5	<0.5	**1.6**
GMW-14	3/13/03	Dup	<100	<100	<100	<0.5	<0.5	<0.5	**1.7**
GMW-14	6/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	8/20/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	11/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	11/12/03	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	2/26/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	5/18/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	8/11/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	12/9/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	3/7/05	NA							
GMW-14	6/21/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
GMW-14	11/30/05		<50	<50	**91**	<0.5	<0.5	<0.5	<1
GMW-14	6/14/06		<50	<50	**62**	<0.5	<0.5	<0.5	<1
GMW-14	12/6/06	SGC	<50	<47.2	<94.3	<0.5	<0.5	<0.5	<0.5
GMW-14	12/6/06	SGC, Dup	<50	**554**	<101	<0.5	<0.5	<0.5	<0.5
GMW-14	5/30/07		<50	<104	**127**	<0.5	<0.5	<0.5	<0.5
GMW-14	5/30/07	SGC	--	**61.7 J**	**47.7 J**	--	--	--	--
GMW-14	11/28/07		<50	**34.1 JB**	<98	<0.5	<0.5	<0.5	<0.5
GMW-14	11/28/07	SGC	--	<98	<98	--	--	--	--
GMW-14	5/21/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	9/15/08	NS							
GMW-14	11/18/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	5/5/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	11/17/09		<50	<50	**180**	<0.5	<0.5	<0.5	<0.5
GMW-14	4/27/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	11/16/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	5/3/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	11/15/11		<50	<50	**22 J**	<0.5	<0.5	<0.5	<0.5

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GMW-14	5/8/12		**54**	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-14	11/6/12		<50	<50	<500	<0.50	<0.50	<0.50	<0.50
GMW-15	2/19/98	NA							
GMW-15	5/21/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	8/18/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	11/25/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	3/6/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	6/20/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	9/23/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	11/19/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	2/24/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	5/24/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	9/3/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	11/30/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	2/23/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	5/8/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	8/22/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	12/11/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	2/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	5/31/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	8/26/02	Inaccessible							
GMW-15	11/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	6/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	8/20/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	11/12/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	2/26/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	5/20/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	8/11/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	12/9/04		<100	<100	**480**	<0.5	<0.5	<0.5	<0.5
GMW-15	3/8/05		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	3/8/05	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	6/21/05		<50	<50	**77**	<0.5	<0.5	<0.5	<1
GMW-15	11/30/05		<50	**500**	**130**	<0.5	<0.5	<0.5	<1
GMW-15	6/14/06		<50	**64**	**140**	<0.5	<0.5	<0.5	<1
GMW-15	12/6/06	SGC	<50	**145**	**308**	<0.5	<0.5	<0.5	<0.5
GMW-15	5/30/07		<50	**78.3 J**	**316**	<0.5	<0.5	<0.5	<0.5
GMW-15	5/30/07	Dup	<50	**103**	**371**	<0.5	<0.5	<0.5	<0.5
GMW-15	5/30/07	SGC	--	**39.7 J**	**131**	--	--	--	--
GMW-15	5/30/07	SGC, Dup	--	**97.0 J**	**171**	--	--	--	--
GMW-15	11/28/07		<50	**38.5 JB**	<95.2	<0.5	<0.5	<0.5	<0.5
GMW-15	11/28/07	SGC	--	<95.2	**36.2 JB**	--	--	--	--
GMW-15	5/20/08		<50	**65**	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	9/15/08	NS							
GMW-15	11/18/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	5/5/09		<50	**120**	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	11/17/09		<50	**68**	**440**	<0.5	<0.5	<0.5	<0.5
GMW-15	4/27/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	11/16/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	5/3/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	11/15/11		<50	<50	**65 J**	<0.5	<0.5	<0.5	<0.5
GMW-15	5/8/12		**38 J**	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-15	11/6/12		**22 J**	<50	<500	<0.50	<0.50	<0.50	<0.50
GMW-16	10/30/97		<100	**120**	**220**	<0.5	<0.5	<0.5	<0.5
GMW-16	12/2/97		<100	NA	NA	<0.5	<0.5	<0.5	<0.5
GMW-16	12/5/97	NA		<100	<100	NA	NA	NA	NA

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Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
GMW-16	2/17/98		<100	**160**	**280**	<0.5	<0.5	<0.5	<0.5
GMW-16	5/20/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	5/20/98	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	8/18/98		<100	**110**	**110**	<0.5	<0.5	<0.5	<0.5
GMW-16	11/23/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	3/7/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	6/18/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	9/23/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	11/19/99		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	2/24/00		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	2/24/00	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	5/22/00	NA							
GMW-16	8/28/00	NA							
GMW-16	11/27/00	NA							
GMW-16	2/19/01	NA							
GMW-16	5/2/01	NA							
GMW-16	8/21/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	8/21/01	SGC		<100	<100				
GMW-16	12/10/01		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	12/10/01	SGC		<100	<100				
GMW-16	2/13/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	2/13/02	SGC		<100	<100				
GMW-16	5/31/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	8/28/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	11/14/02		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	3/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	6/13/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	8/20/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	8/20/03	Dup	<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	11/11/03		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	2/26/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	5/19/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	8/11/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	12/9/04		<100	<100	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	3/7/05	NA							
GMW-16	6/21/05		<50	<50	<50	<0.5	<0.5	<0.5	<1
GMW-16	11/30/05		<50	**59**	<50	<0.5	<0.5	<0.5	<1
GMW-16	6/14/06		<50	**250**	**290**	<0.5	<0.5	<0.5	<1
GMW-16	12/6/06	SGC	<50	<47.2	<94.3	<0.5	<0.5	<0.5	<0.5
GMW-16	12/6/06	SGC, Dup	<50	**64.4**	**61.6 J**	<0.5	<0.5	<0.5	<0.5
GMW-16	5/30/07		<50	**98.7 J**	**224**	<0.5	<0.5	<0.5	<0.5
GMW-16	5/30/07	Dup	<50	**83.4 J**	**148**	<0.5	<0.5	<0.5	<0.5
GMW-16	5/30/07	SGC	--	**49.6 J**	**60.4 J**	--	--	--	--
GMW-16	5/30/07	SGC, Dup	--	<100	<100	--	--	--	--
GMW-16	11/29/07		<50	**33.1 JB**	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	11/29/07	SGC	--	<100	**38.1 JB**	--	--	--	--
GMW-16	5/21/07		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	5/21/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	9/15/08	NS							
GMW-16	11/18/08		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	5/5/09		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	11/17/09		<50	**72**	**370**	<0.5	<0.5	<0.5	<0.5
GMW-16	4/27/10		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	11/16/10		**55**	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	5/3/11		<50	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	11/15/11		<50	<50	**26 J**	<0.5	<0.5	<0.5	<0.5
GMW-16	5/8/12		**160**	<50	<100	<0.5	<0.5	<0.5	<0.5
GMW-16	11/6/12		**25 J**	**110**	<510	<0.50	<0.50	<0.50	<0.50

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Summary of Historical Groundwater Analytical Results, TPH and BTEX
Chevron Avila Beach Terminal (Former Unocal Terminal)
Avila Beach, CA

ID	Date	Comments	TPH-Gas (C4-C10) EPA 8260 µg/L**	TPH-diesel (C10-C25) LUFT-GC/MS µg/L**	TPH-oil (C25-C40) LUFT-GC/MS µg/L **	Benzene EPA 8260 µg/L	Toluene EPA 8260 µg/L	Ethylbenzene EPA 8260 µg/L	Xylenes EPA 8260 µg/L
CS-1	2/17/98		<100	<100	<100	<0.5	<0.5	<0.5	<0.5

Notes:

µg/L = micrograms per liter

Dup = duplicate sample

Trip = triplicate sample

SGC = Indicates silica gel cleanup method

LNAPL = Light non-aqueous phase liquid

* = Sample collected in the presence of LNAPL

** = groundwater samples collected between 3Q06 and 2Q07 analyzed by EPA method 8015 B

NA = Not Analyzed NE = Not established NS = Not Sampled

Insufficient = Insufficient water to collect sample WLO = Water Levels Only, no sample collected

J = estimated value; results are above the method detection limit and below the method reporting limit

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-12	10/30/1997	LNAPL																																					
B-12	2/18/1998		NA	<5.0	<5.0	<5.0	<5.0	<5.0	**9.9**	**11**	<5.0	<5.0	<5.0	<5.0	**390**	<5.0	<5.0	<5.0	<5.0	<10	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**21**	<5.0	<5.0	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
B-12	5/19/1998	LNAPL																																					
B-12	8/18/1998	LNAPL																																					
B-12	11/22/1998	LNAPL																																					
B-12	3/8/1999	LNAPL																																					
B-12	6/19/1999	LNAPL																																					
B-12	9/22/1999	LNAPL																																					
B-12	11/18/1999	LNAPL																																					
B-12	2/22/2000	LNAPL																																					
B-12	5/22/2000	LNAPL																																					
B-12	8/28/2000	LNAPL																																					
B-12	11/27/2000	LNAPL																																					
B-12	2/19/2001	LNAPL																																					
B-12	5/2/2001	LNAPL																																					
B-12	8/20/2001	LNAPL																																					
B-12	2/15/2002	LNAPL																																					
B-12	5/28/2002	LNAPL																																					
B-12	8/26/2002	LNAPL																																					
B-12	11/12/2002	LNAPL																																					
B-12	3/13/2003			<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	**400**	<20	<20	<20	<20	<40	NA	<20	<20	<20	<20	<20	<20	**210**	<20	<20	<20	NA	<20	<20	<20	<20	<20	<20	NA
B-12	6/10/2003			NR	NR	<20	<20	NR	**44**	**43**	<20	<20	NR	NA	**520**	NR	NR	NR	<20	NR	NA	NR	NR	NR	NR	NR	<20	**170**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-12	8/20/2003	LNAPL																																					
B-12	2/23/2004	LNAPL																																					
B-12	8/10/2004	LNAPL																																					
B-12	12/8/2004	LNAPL																																					
B-12	3/7/2005	LNAPL																																					
B-12	6/20/2005	LNAPL																																					
B-12	3/4/2006	NS																																					
B-12	6/6/2006	LNAPL																																					
B-12	11/21/2006	LNAPL																																					
B-12	5/22/2007	LNAPL																																					
B-12	9/15/2008	NS																																					
B-12	11/17/2008	Dry																																					
B-12	5/4/2009	Dry																																					
B-12	4/26/2010	LNAPL																																					
B-12	11/15/2010	Sheen																																					
B-12	5/2/2011	LNAPL																																					
B-12	11/14/2011	LNAPL																																					
B-12	5/7/2012	LNAPL																																					
B-12	11/5/2012	Dry																																					
B-14	10/30/1997		NA	<5.0	<5.0	**140**	**10**	<5.0	**8.7**	**11**	**37**	**130**	<5.0	<5.0	**17000**	<5.0	<5.0	<5.0	**30**	<10	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**86**	<5.0	<5.0	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
B-14 (dup.)	10/30/1997		NA	<5.0	<5.0	**140**	**9**	<5.0	**8.2**	**9.8**	**34**	**130**	<5.0	<5.0	**17000**	<5.0	<5.0	<5.0	**30**	<10	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**72**	<5.0	<5.0	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
B-14	2/18/1998		NA	<5.0	<5.0	**67**	<5.0	<5.0	**9.2**	**11**	<5.0	**120**	<5.0	<5.0	**7000**	<5.0	<5.0	<5.0	**20**	<10	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**6.2**	<5.0	<5.0	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
B-14	5/18/1998	LNAPL																																					
B-14	8/18/1998	LNAPL																																					
B-14	11/22/1998	LNAPL																																					
B-14	3/8/1999	LNAPL																																					
B-14	6/19/1999	LNAPL																																					
B-14	9/22/1999	LNAPL																																					
B-14	11/18/1999	LNAPL																																					
B-14	2/22/2000	LNAPL																																					
B-14	5/22/2000	LNAPL																																					
B-14	8/28/2000	LNAPL																																					
B-14	11/27/2000	LNAPL																																					
B-14	2/19/2001	LNAPL																																					
B-14	5/2/2001	LNAPL																																					
B-14	8/20/2001	LNAPL																																					
B-14	2/15/2002	LNAPL																																					
B-14	5/8/2002		NA	<5.0	<5.0	**820**	**73**	<5.0	<5.0	**15**	<5.0	**600**	<5.0	<5.0	**89000**	<5.0	<5.0	<5.0	**230**	<10	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**59**	**7**	<5.0	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
B-14	5/28/2002	LNAPL																																					
B-14	8/26/2002	LNAPL																																					

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-12	10/30/1997	LNAPL																																							
B-12	2/18/1998		NA	<5.0	**56**	NA	<5.0	**130**	**64**	<5.0	<5.0	<5.0	<5.0	NA	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	NA	**290**	**78**	<5.0	NA	NA	NR	NA	NA	NA	**10**	<5.0	<10	<5.0	NA	NA	NA	NA	NA
B-12	5/19/1998	LNAPL																																							
B-12	8/18/1998	LNAPL																																							
B-12	11/22/1998	LNAPL																																							
B-12	3/8/1999	LNAPL																																							
B-12	6/19/1999	LNAPL																																							
B-12	9/22/1999	LNAPL																																							
B-12	11/18/1999	LNAPL																																							
B-12	2/22/2000	LNAPL																																							
B-12	5/22/2000	LNAPL																																							
B-12	8/28/2000	LNAPL																																							
B-12	11/27/2000	LNAPL																																							
B-12	2/19/2001	LNAPL																																							
B-12	5/2/2001	LNAPL																																							
B-12	8/20/2001	LNAPL																																							
B-12	2/15/2002	LNAPL																																							
B-12	5/28/2002	LNAPL																																							
B-12	8/26/2002	LNAPL																																							
B-12	11/12/2002	LNAPL																																							
B-12	3/13/2003		NA	<20	**64**	NA	<20	**140**	**52**	<20	<20	<20	<20	NA	<40	<40	<20	<20	<20	<20	<20	NA	**270**	**82**	<20	NA	NA	NR	NA	NA	NA	<20	<20	<40	<20	NA	NA	NA	NA	NA
B-12	6/10/2003		NA	NR	**110**	NA	NR	**270**	**140**	NR	NR	NR	<20	NA	NR	NR	NR	NR	<20	NR	NR	NA	**570**	**180**	NR	NA	NA	NR	NA	NA	NA	<20	<20	NR	NR	NA	NA	NA	NA	NA
B-12	8/20/2003	LNAPL																																							
B-12	2/23/2004	LNAPL																																							
B-12	8/10/2004	LNAPL																																							
B-12	12/8/2004	LNAPL																																							
B-12	3/7/2005	LNAPL																																							
B-12	6/20/2005	LNAPL																																							
B-12	3/4/2006	NS																																							
B-12	6/6/2006	LNAPL																																							
B-12	11/21/2006	LNAPL																																							
B-12	5/22/2007	LNAPL																																							
B-12	9/15/2008	NS																																							
B-12	11/17/2008	Dry																																							
B-12	5/4/2009	Dry																																							
B-12	4/26/2010	LNAPL																																							
B-12	11/15/2010	Sheen																																							
B-12	5/2/2011	LNAPL																																							
B-12	11/14/2011	LNAPL																																							
B-12	5/7/2012	LNAPL																																							
B-12	11/5/2012	Dry																																							
B-14	10/30/1997		NA	<5.0	**71**	NA	<5.0	**130**	**75**	<5.0	<5.0	<5.0	**24**	NA	<10	<10	<5.0	<5.0	**81**	<5.0	<5.0	NA	**280**	**89**	<5.0	NA	NA	NR	NA	NA	NA	<5.0	**37**	<10	<5.0	NA	NA	NA	NA	NA
B-14 (dup.)	10/30/1997		NA	<5.0	**60**	NA	<5.0	**120**	**65**	<5.0	<5.0	<5.0	**22**	NA	<10	<10	<5.0	<5.0	**75**	<5.0	<5.0	NA	**270**	**77**	<5.0	NA	NA	NR	NA	NA	NA	<5.0	**34**	<10	<5.0	NA	NA	NA	NA	NA
B-14	2/18/1998		NA	<5.0	**60**	NA	<5.0	**110**	**68**	<5.0	<5.0	<5.0	**22**	NA	<10	<10	<5.0	<5.0	**23**	<5.0	<5.0	NA	**290**	**80**	<5.0	NA	NA	NR	NA	NA	NA	<5.0	<5.0	<10	<5.0	NA	NA	NA	NA	NA
B-14	5/18/1998	LNAPL																																							
B-14	8/18/1998	LNAPL																																							
B-14	11/22/1998	LNAPL																																							
B-14	3/8/1999	LNAPL																																							
B-14	6/19/1999	LNAPL																																							
B-14	9/22/1999	LNAPL																																							
B-14	11/18/1999	LNAPL																																							
B-14	2/22/2000	LNAPL																																							
B-14	5/22/2000	LNAPL																																							
B-14	8/28/2000	LNAPL																																							
B-14	11/27/2000	LNAPL																																							
B-14	2/19/2001	LNAPL																																							
B-14	5/2/2001	LNAPL																																							
B-14	8/20/2001	LNAPL																																							
B-14	2/15/2002	LNAPL																																							
B-14	5/8/2002		NA	<5.0	**72**	NA	<5.0	**120**	**93**	<5.0	**<5.0**	**<5.0**	**69**	NA	<10	<10	**<5.0**	**<5.0**	**320**	<5.0	<5.0	NA	**340**	**100**	<5.0	NA	NA	NR	NA	NA	NA	<5.0	**16**	<10	<5.0	NA	NA	NA	NA	NA
B-14	5/28/2002	LNAPL																																							
B-14	8/26/2002	LNAPL																																							

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-14	11/12/2002	LNAPL																																					
B-14	3/13/2003		NA	<20	<20	**200**	<20	<20	<20	<20	<20	**480**	<20	<20	**13000**	<20	<20	<20	**54**	<40	NA	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	NA	<20	<20	<20	<20	<20	<20	NA
B-14	6/10/2003		NA	NR	NR	**970**	**89**	NR	<20	<20	<20	**610**	NR	NR	**82000**	NR	NR	NR	**230**	NR	NA	NR	NR	NR	NR	NR	<20	<20	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-14	8/20/2003	LNAPL																																					
B-14	2/23/2004	LNAPL																																					
B-14	8/10/2004	LNAPL																																					
B-14	12/8/2004	LNAPL																																					
B-14	3/7/2005	LNAPL																																					
B-14	6/27/2005	LNAPL	NA	NR	NR	**440**	**40**	NR	<25	<25	<25	**340**	NR	NR	**59000**	NR	NR	NR	**120**	NR	NA	NR	NR	NR	NR	NR	<25	<25	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-14	3/4/2006	NS																																					
B-14	6/22/2006		< 0.5	< 25	< 25	**130**	< 25	< 50	< 25	**56**	< 25	**260**	< 25	< 25	**13000**	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	< 25	< 25	< 25	< 50
B-14	11/21/2006	Dry																																					
B-14	5/22/2007	Sheen																																					
B-14	9/15/2008	NS																																					
B-14	11/17/2008	Dry																																					
B-14	5/4/2009	Insufficient																																					
B-14	4/26/2010	LNAPL																																					
B-14	11/15/2010	Sheen																																					
B-14	5/2/2011	Sheen																																					
B-14	11/14/2011	LNAPL																																					
B-14	5/7/2012	Sheen																																					
B-14	11/5/2012	Dry																																					
B-17	10/30/1997	LNAPL																																					
B-17	2/18/1998		NA	<1.0	<1.0	<1.0	<1.0	<1.0	**3.3**	**8**	<1.0	<1.0	<1.0	<1.0	**1.1**	<1.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA
B-17	5/18/1998	LNAPL																																					
B-17	8/18/1998	LNAPL																																					
B-17	11/22/1998	LNAPL																																					
B-17	3/8/1999	LNAPL																																					
B-17	6/19/1999	LNAPL																																					
B-17	9/22/1999	LNAPL																																					
B-17	11/18/1999	LNAPL																																					
B-17	2/22/2000	LNAPL																																					
B-17	5/22/2000	LNAPL																																					
B-17	8/28/2000	LNAPL																																					
B-17	11/27/2000	LNAPL																																					
B-17	2/19/2001	LNAPL																																					
B-17	5/2/2001	LNAPL																																					
B-17	8/20/2001	LNAPL																																					
B-17	2/15/2002	LNAPL																																					
B-17	5/28/2002	LNAPL																																					
B-17	8/26/2002	LNAPL																																					
B-17	11/12/2002	LNAPL																																					
B-17	3/10/2003	LNAPL																																					
B-17	6/13/2003	LNAPL																																					
B-17	8/20/2003	LNAPL																																					
B-17	2/23/2004	LNAPL																																					
B-17	8/10/2004	LNAPL																																					
B-17	12/8/2004	LNAPL																																					
B-17	3/7/2005	LNAPL																																					
B-17	6/20/2005	LNAPL																																					
B-17	3/4/2006	NS																																					
B-17	6/6/2006	LNAPL																																					
B-17	11/21/2006	LNAPL																																					
B-17	5/22/2007	LNAPL																																					
B-17	9/15/2008	NS																																					
B-17	11/17/2008	Sheen																																					
B-17	5/4/2009	LNAPL																																					
B-17	4/26/2010	LNAPL																																					
B-17	11/15/2010	LNAPL																																					
B-17	5/2/2011	LNAPL																																					
B-17	11/14/2011	LNAPL																																					
B-17	5/7/2012	LNAPL																																					

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-14	11/12/2002	LNAPL																																							
B-14	3/13/2003		NA	<20	**62**	NA	<20	**93**	**51**	<20	<20	<20	**72**	NA	<40	<40	<20	<20	**90**	<20	<20	NA	**240**	**68**	<20	NA	NA	NR	NA	NA	NA	<20	<20	<40	<20	NA	NA	NA	NA	NA
B-14	6/10/2003		NA	NR	**90**	NA	NR	**200**	**100**	NR	NR	NR	**88**	NA	NR	NR	NR	NR	**350**	NR	NR	NA	**390**	**110**	NR	NA	NA	NR	NA	NA	NA	<20	<20	NR	NR	NA	NA	NA	NA	NA
B-14	8/20/2003	LNAPL																																							
B-14	2/23/2004	LNAPL																																							
B-14	8/10/2004	LNAPL																																							
B-14	12/8/2004	LNAPL																																							
B-14	3/7/2005	LNAPL																																							
B-14	6/27/2005	LNAPL	NA	NR	**48**	NA	NR	**84**	**54**	NR	NR	NR	**57**	NA	NR	NR	NR	NR	**200**	NR	NR	NA	**210**	**62**	NR	NA	NA	NR	NA	NA	NA	<25	<25	NR	NR	NA	NA	NA	NA	NA
B-14	3/4/2006	NS																																							
B-14	6/22/2006		**290**	< 25	**84**	< 25	< 50	**92**	< 25	< 25	< 25	< 25	**64**	< 0.5	< 25	< 25	< 25	< 25	**66**	< 25	< 50	< 25	< 25	**210**	< 25	**500**	< 25	< 500	< 25	< 25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-14	11/21/2006	Dry																																							
B-14	5/22/2007	Sheen																																							
B-14	9/15/2008	NS																																							
B-14	11/17/2008	Dry																																							
B-14	5/4/2009	Insufficient																																							
B-14	4/26/2010	LNAPL																																							
B-14	11/15/2010	Sheen																																							
B-14	5/2/2011	Sheen																																							
B-14	11/14/2011	LNAPL																																							
B-14	5/7/2012	Sheen																																							
B-14	11/5/2012	Dry																																							
B-17	10/30/1997	LNAPL																																							
B-17	2/18/1998		NA	<1.0	**38**	NA	<1.0	**29**	**35**	<1.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	**32**	**6.7**	<1.0	NA	NA	NR	NA	NA	NA	<1.0	<1.0	<2.0	<1.0	NA	NA	NA	NA	NA
B-17	5/18/1998	LNAPL																																							
B-17	8/18/1998	LNAPL																																							
B-17	11/22/1998	LNAPL																																							
B-17	3/8/1999	LNAPL																																							
B-17	6/19/1999	LNAPL																																							
B-17	9/22/1999	LNAPL																																							
B-17	11/18/1999	LNAPL																																							
B-17	2/22/2000	LNAPL																																							
B-17	5/22/2000	LNAPL																																							
B-17	8/28/2000	LNAPL																																							
B-17	11/27/2000	LNAPL																																							
B-17	2/19/2001	LNAPL																																							
B-17	5/2/2001	LNAPL																																							
B-17	8/20/2001	LNAPL																																							
B-17	2/15/2002	LNAPL																																							
B-17	5/28/2002	LNAPL																																							
B-17	8/26/2002	LNAPL																																							
B-17	11/12/2002	LNAPL																																							
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B-17	6/13/2003	LNAPL																																							
B-17	8/20/2003	LNAPL																																							
B-17	2/23/2004	LNAPL																																							
B-17	8/10/2004	LNAPL																																							
B-17	12/8/2004	LNAPL																																							
B-17	3/7/2005	LNAPL																																							
B-17	6/20/2005	LNAPL																																							
B-17	3/4/2006	NS																																							
B-17	6/6/2006	LNAPL																																							
B-17	11/21/2006	LNAPL																																							
B-17	5/22/2007	LNAPL																																							
B-17	9/15/2008	NS																																							
B-17	11/17/2008	Sheen																																							
B-17	5/4/2009	LNAPL																																							
B-17	4/26/2010	LNAPL																																							
B-17	11/15/2010	LNAPL																																							
B-17	5/2/2011	LNAPL																																							
B-17	11/14/2011	LNAPL																																							
B-17	5/7/2012	LNAPL																																							

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-17	11/5/2012	LNAPL																																					
B-29-30	10/30/1997	LNAPL																																					
B-29-30	2/19/1998		NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**8.3**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**48**	<5.0	<5.0	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
B-29-30	5/18/1998	LNAPL																																					
B-29-30	8/18/1998	LNAPL																																					
B-29-30	11/22/1998	LNAPL																																					
B-29-30	3/8/1999	LNAPL																																					
B-29-30	6/19/1999	LNAPL																																					
B-29-30	9/22/1999	LNAPL																																					
B-29-30	11/18/1999	LNAPL																																					
B-29-30	2/22/2000	LNAPL																																					
B-29-30	5/22/2000	LNAPL																																					
B-29-30	8/28/2000	LNAPL																																					
B-29-30	11/27/2000	LNAPL																																					
B-29-30	2/19/2001	LNAPL																																					
B-29-30	5/2/2001	LNAPL																																					
B-29-30	8/20/2001	LNAPL																																					
B-29-30	2/15/2002	LNAPL																																					
B-29-30	5/28/2002	LNAPL																																					
B-29-30	8/26/2002	LNAPL																																					
B-29-30	11/12/2002	LNAPL																																					
B-29-30	3/10/2003	LNAPL																																					
B-29-30	6/13/2003	LNAPL																																					
B-29-30	8/20/2003	LNAPL																																					
B-29-30	2/23/2004	LNAPL																																					
B-29-30	8/10/2004	LNAPL																																					
B-29-30	12/8/2004	LNAPL																																					
B-29-30	3/7/2005	LNAPL																																					
B-29-30	6/20/2005	LNAPL																																					
B-29-30	3/4/2006	NS																																					
B-29-30	6/6/2006	LNAPL																																					
B-29-30	11/21/2006	LNAPL																																					
B-29-30	5/22/2007	LNAPL																																					
B-29-30	9/15/2008	NS																																					
B-29-30	11/17/2008	LNAPL																																					
B-29-30	5/4/2009	LNAPL																																					
B-29-30	4/26/2010	LNAPL																																					
B-29-30	11/15/2010	Sheen																																					
B-29-30	11/14/2011	LNAPL																																					
B-29-30	5/7/2012	Sheen																																					
B-29-30	11/5/2012	Sheen																																					
B-29-50	10/30/1997	LNAPL																																					
B-29-50	2/19/1998		NA	<2.0	<2.0	<2.0	<2.0	<2.0	**2.2**	**3.4**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**32**	<2.0	<2.0	<2.0	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
B-29-50	5/18/1998	LNAPL																																					
B-29-50	8/18/1998	LNAPL																																					
B-29-50	11/22/1998	LNAPL																																					
B-29-50	3/8/1999	LNAPL																																					
B-29-50	6/19/1999	LNAPL																																					
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B-29-50	11/27/2000	LNAPL																																					
B-29-50	2/19/2001	LNAPL																																					
B-29-50	5/2/2001	LNAPL																																					
B-29-50	8/20/2001	LNAPL																																					
B-29-50	2/15/2002	LNAPL																																					
B-29-50	5/28/2002	LNAPL																																					
B-29-50	8/26/2002	LNAPL																																					
B-29-50	11/12/2002	LNAPL																																					

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-17	11/5/2012	LNAPL																																								
B-29-30	10/30/1997	LNAPL																																								
B-29-30	2/19/1998		NA	<5.0	**38**	NA	<5.0	**110**	**38**	<5.0	<5.0	<5.0	<5.0	NA	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	NA	**260**	**49**	<5.0	NA	NA	NR	NA	NA	NA	<5.0	<5.0	<10	<5.0	NA	NA	NA	NA	NA
B-29-30	5/18/1998	LNAPL																																								
B-29-30	8/18/1998	LNAPL																																								
B-29-30	11/22/1998	LNAPL																																								
B-29-30	3/8/1999	LNAPL																																								
B-29-30	6/19/1999	LNAPL																																								
B-29-30	9/22/1999	LNAPL																																								
B-29-30	11/18/1999	LNAPL																																								
B-29-30	2/22/2000	LNAPL																																								
B-29-30	5/22/2000	LNAPL																																								
B-29-30	8/28/2000	LNAPL																																								
B-29-30	11/27/2000	LNAPL																																								
B-29-30	2/19/2001	LNAPL																																								
B-29-30	5/2/2001	LNAPL																																								
B-29-30	8/20/2001	LNAPL																																								
B-29-30	2/15/2002	LNAPL																																								
B-29-30	5/28/2002	LNAPL																																								
B-29-30	8/26/2002	LNAPL																																								
B-29-30	11/12/2002	LNAPL																																								
B-29-30	3/10/2003	LNAPL																																								
B-29-30	6/13/2003	LNAPL																																								
B-29-30	8/20/2003	LNAPL																																								
B-29-30	2/23/2004	LNAPL																																								
B-29-30	8/10/2004	LNAPL																																								
B-29-30	12/8/2004	LNAPL																																								
B-29-30	3/7/2005	LNAPL																																								
B-29-30	6/20/2005	LNAPL																																								
B-29-30	3/4/2006	NS																																								
B-29-30	6/6/2006	LNAPL																																								
B-29-30	11/21/2006	LNAPL																																								
B-29-30	5/22/2007	LNAPL																																								
B-29-30	9/15/2008	NS																																								
B-29-30	11/17/2008	LNAPL																																								
B-29-30	5/4/2009	LNAPL																																								
B-29-30	4/26/2010	LNAPL																																								
B-29-30	11/15/2010	Sheen																																								
B-29-30	11/14/2011	LNAPL																																								
B-29-30	5/7/2012	Sheen																																								
B-29-30	11/5/2012	Sheen																																								
B-29-50	10/30/1997	LNAPL																																								
B-29-50	2/19/1998		NA	<2.0	**10**	NA	<2.0	**13**	**8.6**	<2.0	<2.0	<2.0	<2.0	NA	<4.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA	**28**	**7.1**	<2.0	NA	NA	NR	NA	NA	NA	<2.0	<2.0	<4.0	<2.0	NA	NA	NA	NA	NA
B-29-50	5/18/1998	LNAPL																																								
B-29-50	8/18/1998	LNAPL																																								
B-29-50	11/22/1998	LNAPL																																								
B-29-50	3/8/1999	LNAPL																																								
B-29-50	6/19/1999	LNAPL																																								
B-29-50	9/22/1999	LNAPL																																								
B-29-50	11/18/1999	LNAPL																																								
B-29-50	2/22/2000	LNAPL																																								
B-29-50	5/22/2000	LNAPL																																								
B-29-50	8/28/2000	LNAPL																																								
B-29-50	11/27/2000	LNAPL																																								
B-29-50	2/19/2001	LNAPL																																								
B-29-50	5/2/2001	LNAPL																																								
B-29-50	8/20/2001	LNAPL																																								
B-29-50	2/15/2002	LNAPL																																								
B-29-50	5/28/2002	LNAPL																																								
B-29-50	8/26/2002	LNAPL																																								
B-29-50	11/12/2002	LNAPL																																								

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-29-50	3/10/2003	LNAPL																																					
B-29-50	6/13/2003	LNAPL																																					
B-29-50	8/20/2003	LNAPL																																					
B-29-50	2/23/2004	LNAPL																																					
B-29-50	8/10/2004	LNAPL																																					
B-29-50	12/8/2004	LNAPL																																					
B-29-50	3/7/2005	LNAPL																																					
B-29-50	6/27/2005	LNAPL	NA	NR	NR	<25	<25	NR	<25	<25	<25	<25	NR	NR	**73**	NR	NR	NR	<25	NR	NA	NR	NR	NR	NR	NR	NR	<25	<25	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-29-50	3/4/2006	NS																																					
B-29-50	6/21/2006		**1200**	< 5	< 5	< 5	< 5	< 10	< 5	**14**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**90**	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 10
B-29-50	12/5/2006		**167**	<0.5	<0.5	<0.5	<0.5	<0.5	**3.59**	**6.1**	**2.43**	<0.5	<0.5	**1.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.66**	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-29-50	5/22/2007	Sheen																																					
B-29-50	12/4/2007		**1140**	<0.5	<0.5	<0.5	<0.5	<0.5	**1.11**	**3.72**	**0.64**	<0.5	<0.5	**0.99**	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**45.1**	**3.61**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-29-50 *	12/4/2007		**1070**	<0.5	<0.5	<0.5	<0.5	<0.5	**1.05**	**3.62**	**0.66**	<0.5	<0.5	**1.23**	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**42.2**	**3.57**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-29-50	5/28/2008		**1600**	<0.5	<0.5	<0.5	<0.5	<0.5	**1.6**	**4.2**	**0.61**	<0.5	<0.5	<0.5	**1.9**	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.6**	**33**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-29-50	9/15/2008	NS																																					
B-29-50	11/21/2008		**67**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-29-50	5/4/2009	Sheen																																					
B-29-50	4/26/2010	LNAPL																																					
B-29-50	11/18/2010		**1800**	<0.5	<0.5	<0.5	<0.5	<0.5	**2.2**	**3.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.8**	<0.5	<0.5	<0.5	<0.5	NA	**1.5**	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-29-50	5/5/2011		**1,200**	<0.5	<0.5	<0.5	<0.5	<0.5	**2.0**	**3.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.9**	**27**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-29-50	11/18/2011		**150**	<0.5	<0.5	<0.5	<0.5	<0.5	**2.0**	**4.6**	**1.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.6**	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-29-50	5/7/2012	Sheen																																					
B-29-50	11/5/2012	Sheen																																					
B-30	10/30/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**6.9**	**0.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.3**	**0.9**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-30	2/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**1.6**	**7.1**	**0.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.3**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-30 (dup.)	2/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**1.4**	**7**	**0.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.6**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-30	5/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**1.5**	**8**	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.2**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-30 (dup.)	5/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**1.6**	**8.2**	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.2**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-30	8/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**1.4**	**7.1**	**0.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	**0.6**	**2**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-30	11/23/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**6.4**	**0.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	**0.7**	**2**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-30	3/8/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**5.8**	**0.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	**2.1**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-30	6/20/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**6.7**	**0.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	**2.2**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-30	9/25/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**5.5**	**0.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	**2.2**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-30 (dup.)	9/25/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**5.7**	**0.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	**2.4**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-30	11/21/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**5.4**	**0.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	**2.1**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-30	2/27/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**7.6**	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	**0.8**	**1.8**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-30	5/25/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**7.1**	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	**1.7**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-30	9/1/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**8.4**	**1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.8**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-30	11/27/2000	LNAPL																																					
B-30	2/23/2001	LNAPL																																					
B-30	5/2/2001	LNAPL																																					
B-30	8/20/2001	LNAPL																																					
B-30	2/15/2002	LNAPL																																					
B-30	5/28/2002	LNAPL																																					
B-30	8/26/2002	LNAPL																																					
B-30	11/12/2002	LNAPL																																					
B-30	3/10/2003	LNAPL																																					
B-30	6/13/2003	LNAPL																																					
B-30	8/20/2003	LNAPL																																					
B-30	2/23/2004	LNAPL																																					
B-30	8/10/2004	LNAPL																																					
B-30	12/8/2004	LNAPL																																					
B-30	3/7/2005	LNAPL																																					
B-30	6/20/2005	LNAPL																																					
B-30	3/4/2006	NS																																					
B-30	6/6/2006	LNAPL																																					
B-30	11/21/2006	LNAPL																																					
B-30	5/22/2007	LNAPL																																					
B-30	9/15/2008	NS																																					
B-30	11/17/2008	Sheen																																					
B-30	5/4/2009	Sheen																																					

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-29-50	3/10/2003	LNAPL																																							
B-29-50	6/13/2003	LNAPL																																							
B-29-50	8/20/2003	LNAPL																																							
B-29-50	2/23/2004	LNAPL																																							
B-29-50	8/10/2004	LNAPL																																							
B-29-50	12/8/2004	LNAPL																																							
B-29-50	3/7/2005	LNAPL																																							
B-29-50	6/27/2005	LNAPL	NA	NR	<25	NA	NR	**26**	<25	NR	NR	NR	<25	NA	NR	NR	NR	NR	<25	NR	NR	NA	**26**	<25	NR	NA	NA	NR	NA	NA	NA	<25	<25	NR	NR	NA	NA	NA	NA	NA
B-29-50	3/4/2006	NS																																							
B-29-50	6/21/2006		**62**	< 5	**22**	< 5	< 10	**34**	**12**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	**12**	**32**	< 5	**25**	< 5	**380**	< 5	< 5	<0.025	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-29-50	12/5/2006		**11.9**	<1.00	**10.2**	**3.31**	**2.12 J**	**10.8**	**7.91**	<0.5	<0.5	<0.5	<0.5	**0.72**	<0.5	<0.5	<0.5	<0.5	**0.77**	<0.5	<0.5	NA	**5.72**	**2.91**	<0.5	**1.94**	**6.57**	**439**	<0.5	<0.5	**11**	NA	NA	NA	NA	**37.2 J**	<50.0	<0.5	<10.0	<10.0
B-29-50	5/22/2007	Sheen																																							
B-29-50	12/4/2007		**44.7**	<1.00	**11.5**	**0.94**	<0.5	**30.7**	**8.28**	<0.5	<0.5	<0.5	<0.5	**2.17**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**17.8**	**4.52**	<0.5	**18.5**	<0.5	**263**	<0.5	<0.5	**14.8**	NA	NA	NA	NA	<50.0	<50.0	**0.28 J**	<10.0	<10.0
B-29-50 *	12/4/2007		**40.8**	<1.00	**10.7**	**0.88**	<0.5	**29**	**7.82**	<0.5	<0.5	<0.5	<0.5	**2.02**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**16.4**	**4.06**	<0.5	**16.6**	<0.5	**279**	<0.5	<0.5	**14.5**	NA	NA	NA	NA	<50.0	<50.0	**0.37 J**	<10.0	<10.0
B-29-50	5/28/2008		**46**	<1.00	<0.5	<0.5	<0.5	**27**	**13**	<0.5	<0.5	<0.5	<0.5	**1.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**12**	**2.4**	<0.5	**7.9**	<0.5	<10	<0.5	<0.5	<0.5	<0.5	**1.6**	<0.5	<0.5	<50.0	<50.0	<0.5	<10.0	<10.0
B-29-50	9/15/2008	NS																																							
B-29-50	11/21/2008		**3.3**	<0.5	**11**	<0.5	<1.0	**6.6**	**5.5**	<0.5	<0.5	<0.5	<0.5	**0.57**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**2.0**	**2.0**	<0.5	<0.5	NA	<10	NA	NA	**8.0**	<0.5	<0.5	<1.0	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
B-29-50	5/4/2009	Sheen																																							
B-29-50	4/26/2010	LNAPL																																							
B-29-50	11/18/2010		**92**	<0.5	**22**	**2.7**	<1.0	**52**	**17**	<0.5	<0.5	<0.5	<0.5	**4.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**59**	**17**	<0.5	**44**	<0.5	**210**	<0.5	<0.5	**18**	<0.5	**<0.5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
B-29-50	5/5/2011		**40**	<0.5	**8.4**	NA	<1.0	**21**	**7.6**	<0.5	<0.5	<0.5	<0.5	**2.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**19**	**4.4**	<0.5	**14**	<0.5	<10	<0.5	<0.5	**17**	<0.5	**2.1**	NA	NA	NA	NA	NA	NA	NA
B-29-50	11/18/2011		**6.5**	<0.5	**8.9**	NA	<1.0	**7.7**	**6.6**	<0.5	<0.5	<0.5	<0.5	**0.91**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**4.9**	**1.9**	<0.5	**3.2**	<0.5	<10	<0.5	<0.5	**16**	<0.5	**1.6**	NA	NA	NA	NA	NA	NA	NA
B-29-50	5/7/2012	Sheen																																							
B-29-50	11/5/2012	Sheen																																							
B-30	10/30/1997		NA	<0.5	**15**	NA	<0.5	<0.5	**4.1**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**0.9**	<1.0	<0.5	NA	NA	NA	NA	NA
B-30	2/19/1998		NA	<0.5	**13**	NA	<0.5	<0.5	**3.9**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-30 (dup.)	2/19/1998		NA	<0.5	**14**	NA	<0.5	<0.5	**4**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-30	5/19/1998		NA	<0.5	**11**	NA	<0.5	<0.5	**3.9**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-30 (dup.)	5/19/1998		NA	<0.5	**11**	NA	<0.5	**3.9**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-30	8/18/1998		NA	<0.5	**8.9**	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-30	11/23/1998		NA	<0.5	**5.7**	NA	<0.5	<0.5	**0.9**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-30	3/8/1999		NA	<0.5	**7.3**	NA	<0.5	**1.9**	**1.4**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-30	6/20/1999		NA	<0.5	**7.1**	NA	<0.5	<0.5	**1.3**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-30	9/25/1999		NA	<0.5	**4.1**	NA	<0.5	<0.5	**0.6**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-30 (dup.)	9/25/1999		NA	<0.5	**4.3**	NA	<0.5	<0.5	**0.6**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-30	11/21/1999		NA	<0.5	**3.1**	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-30	2/27/2000		NA	<0.5	**4.2**	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-30	5/25/2000		NA	<0.5	**10**	NA	<0.5	**1.7**	**3.6**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**2**	**0.9**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-30	9/1/2000		NA	<0.5	**7.6**	NA	<0.5	<0.5	**1.7**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-30	11/27/2000	LNAPL																																							
B-30	2/23/2001	LNAPL																																							
B-30	5/2/2001	LNAPL																																							
B-30	8/20/2001	LNAPL																																							
B-30	2/15/2002	LNAPL																																							
B-30	5/28/2002	LNAPL																																							
B-30	8/26/2002	LNAPL																																							
B-30	11/12/2002	LNAPL																																							
B-30	3/10/2003	LNAPL																																							
B-30	6/13/2003	LNAPL																																							
B-30	8/20/2003	LNAPL																																							
B-30	2/23/2004	LNAPL																																							
B-30	8/10/2004	LNAPL																																							
B-30	12/8/2004	LNAPL																																							
B-30	3/7/2005	LNAPL																																							
B-30	6/20/2005	LNAPL																																							
B-30	3/4/2006	NS																																							
B-30	6/6/2006	LNAPL																																							
B-30	11/21/2006	LNAPL																																							
B-30	5/22/2007	LNAPL																																							
B-30	9/15/2008	NS																																							
B-30	11/17/2008	Sheen																																							
B-30	5/4/2009	Sheen																																							

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-30	4/26/2010	Sheen																																					
B-30	11/15/2010	Sheen																																					
B-30	5/2/2011	Sheen																																					
B-30	11/14/2011	Sheen																																					
B-30	5/7/2012	Sheen																																					
B-30	11/5/2012	Sheen																																					
B-33	10/31/1997		NA	<10	<10	<10	<10	<10	**22**	**14**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<20	NA	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10	<10	<10	NA
B-33 (dup.)	10/31/1997		NA	<10	<10	<10	<10	<10	**21**	**13**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<20	NA	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10	<10	<10	NA
B-33	2/18/1998		NA	<2.0	<2.0	<2.0	<2.0	<2.0	**16**	**11**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**3.2**	<2.0	<2.0	<2.0	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
B-33	5/18/1998	LNAPL																																					
B-33	8/18/1998	LNAPL																																					
B-33	11/22/1998	LNAPL																																					
B-33	3/8/1999	LNAPL																																					
B-33	6/19/1999	LNAPL																																					
B-33	9/22/1999	LNAPL																																					
B-33	11/18/1999	LNAPL																																					
B-33	2/22/2000	LNAPL																																					
B-33	5/22/2000	LNAPL																																					
B-33	8/28/2000	LNAPL																																					
B-33	11/27/2000	LNAPL																																					
B-33	2/19/2001	LNAPL																																					
B-33	5/2/2001	LNAPL																																					
B-33	8/20/2001	LNAPL																																					
B-33	2/15/2002	LNAPL																																					
B-33	5/28/2002	LNAPL																																					
B-33	8/26/2002	LNAPL																																					
B-33	11/12/2002	LNAPL																																					
B-33	3/10/2003	LNAPL																																					
B-33	6/13/2003	LNAPL																																					
B-33	8/20/2003	LNAPL																																					
B-33	2/23/2004	NS																																					
B-33	8/10/2004	LNAPL																																					
B-33	12/8/2004	LNAPL																																					
B-33	3/7/2005	LNAPL																																					
B-33	6/20/2005	LNAPL																																					
B-33	3/4/2006	NS																																					
B-33	6/6/2006	LNAPL																																					
B-33	11/21/2006	NS																																					
B-33	5/21/2007	Sheen																																					
B-33	9/15/2008	NS																																					
B-33	11/17/2008	Sheen																																					
B-33	5/4/2009	Sheen																																					
B-33	4/26/2010	Sheen																																					
B-33	11/15/2010	Sheen																																					
B-33	5/2/2011	Sheen																																					
B-33	11/14/2011	Sheen																																					
B-33	5/7/2012	Sheen																																					
B-33	11/5/2012	Sheen																																					
B-35-45	10/30/1997	LNAPL																																					
B-35-45	2/20/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**7.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-45	5/18/1998	LNAPL																																					
B-35-45	8/18/1998	LNAPL																																					
B-35-45	11/22/1998	LNAPL																																					
B-35-45	3/8/1999	LNAPL																																					
B-35-45	6/19/1999	LNAPL																																					
B-35-45	9/22/1999	LNAPL																																					
B-35-45	11/18/1999	LNAPL																																					
B-35-45	2/22/2000	LNAPL																																					
B-35-45	5/22/2000	LNAPL																																					
B-35-45	8/28/2000	LNAPL																																					
B-35-45	11/27/2000	LNAPL																																					

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-30	4/26/2010	Sheen																																							
B-30	11/15/2010	Sheen																																							
B-30	5/2/2011	Sheen																																							
B-30	11/14/2011	Sheen																																							
B-30	5/7/2012	Sheen																																							
B-30	11/5/2012	Sheen																																							
B-33	10/31/1997		NA	<10	**84**	NA	<10	**250**	**120**	<10	<10	<10	<10	NA	<20	<20	<10	<10	<10	<10	<10	NA	**660**	**220**	<10	NA	NA	NR	NA	NA	NA	<10	<10	<20	<10	NA	NA	NA	NA	NA
B-33 (dup.)	10/31/1997		NA	<10	**77**	NA	<10	**250**	**110**	<10	<10	<10	<10	NA	<20	<20	<10	<10	<10	<10	<10	NA	**700**	**200**	<10	NA	NA	NR	NA	NA	NA	<10	<10	<20	<10	NA	NA	NA	NA	NA
B-33	2/18/1998		NA	<2.0	**57**	NA	<2.0	**140**	**89**	<2.0	<2.0	<2.0	<2.0	NA	<4.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA	**490**	**120**	<2.0	NA	NA	NR	NA	NA	NA	<2.0	**57**	<4.0	<2.0	NA	NA	NA	NA	NA
B-33	5/18/1998	LNAPL																																							
B-33	8/18/1998	LNAPL																																							
B-33	11/22/1998	LNAPL																																							
B-33	3/8/1999	LNAPL																																							
B-33	6/19/1999	LNAPL																																							
B-33	9/22/1999	LNAPL																																							
B-33	11/18/1999	LNAPL																																							
B-33	2/22/2000	LNAPL																																							
B-33	5/22/2000	LNAPL																																							
B-33	8/28/2000	LNAPL																																							
B-33	11/27/2000	LNAPL																																							
B-33	2/19/2001	LNAPL																																							
B-33	5/2/2001	LNAPL																																							
B-33	8/20/2001	LNAPL																																							
B-33	2/15/2002	LNAPL																																							
B-33	5/28/2002	LNAPL																																							
B-33	8/26/2002	LNAPL																																							
B-33	11/12/2002	LNAPL																																							
B-33	3/10/2003	LNAPL																																							
B-33	6/13/2003	LNAPL																																							
B-33	8/20/2003	LNAPL																																							
B-33	2/23/2004	NS																																							
B-33	8/10/2004	LNAPL																																							
B-33	12/8/2004	LNAPL																																							
B-33	3/7/2005	LNAPL																																							
B-33	6/20/2005	LNAPL																																							
B-33	3/4/2006	NS																																							
B-33	6/6/2006	LNAPL																																							
B-33	11/21/2006	NS																																							
B-33	5/21/2007	Sheen																																							
B-33	9/15/2008	NS																																							
B-33	11/17/2008	Sheen																																							
B-33	5/4/2009	Sheen																																							
B-33	4/26/2010	Sheen																																							
B-33	11/15/2010	Sheen																																							
B-33	5/2/2011	Sheen																																							
B-33	11/14/2011	Sheen																																							
B-33	5/7/2012	Sheen																																							
B-33	11/5/2012	Sheen																																							
B-35-45	10/30/1997	LNAPL																																							
B-35-45	2/20/1998		NA	<0.5	**37**	NA	<0.5	**93**	**30**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**160**	**43**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-35-45	5/18/1998	LNAPL																																							
B-35-45	8/18/1998	LNAPL																																							
B-35-45	11/22/1998	LNAPL																																							
B-35-45	3/8/1999	LNAPL																																							
B-35-45	6/19/1999	LNAPL																																							
B-35-45	9/22/1999	LNAPL																																							
B-35-45	11/18/1999	LNAPL																																							
B-35-45	2/22/2000	LNAPL																																							
B-35-45	5/22/2000	LNAPL																																							
B-35-45	8/28/2000	LNAPL																																							
B-35-45	11/27/2000	LNAPL																																							

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-35-45	2/19/2001	LNAPL																																						
B-35-45R	5/10/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**5.6**	**0.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	**2**	<0.5	<0.5	**0.5**	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-45R	8/20/2001	LNAPL																																						
B-35-45R	2/15/2002	NS																																						
B-35-45R	5/28/2002	LNAPL																																						
B-35-45R	8/26/2002	LNAPL																																						
B-35-45R	11/12/2002	LNAPL																																						
B-35-45R	3/10/2003	LNAPL																																						
B-35-45R	6/13/2003	LNAPL																																						
B-35-45R	8/20/2003	LNAPL																																						
B-35-45R	11/13/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	**0.6**	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	**0.8**	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-35-45R	2/24/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-35-45R	5/20/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-35-45R	8/11/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-35-45R	12/8/2004	LNAPL																																						
B-35-45R	3/7/2005	LNAPL																																						
B-35-45R	6/27/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-35-45R	12/13/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-35-45R	3/4/2006	NS																																						
B-35-45R	6/21/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-35-45R (dup.)	6/21/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-35-45R	12/1/2006		**3.09**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.49 J**	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-45R	5/21/2007	Sheen																																						
B-35-45R	5/28/2008		**2.00**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-45R	9/15/2008	NS																																						
B-35-45R	11/21/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-45R	5/8/2009		**0.99**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-45R	11/20/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-45R	4/29/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-45R	11/19/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-45R	5/5/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-45R	11/17/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.21 J**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-45R	5/10/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-45R	11/8/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-35-70	10/30/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	2/20/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.6**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	5/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.6**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	8/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70 (dup.)	8/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.8**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	11/23/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**1.2**	**2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	3/8/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.7**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	6/20/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.6**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	9/25/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**4.2**	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	**5.1**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	11/21/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.5**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	2/27/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.9**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	5/26/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.6**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	9/1/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**1**	**2.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.8**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	11/30/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.1**	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.6**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	2/23/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.3**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	5/6/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.9**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	8/22/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.7**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	12/10/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**4.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**4.7**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	2/15/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**4.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.7**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	5/30/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.6**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	8/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	11/15/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**4**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	3/12/2003		NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	NA	<1	<1	<1	<1	<1	<1	**3**	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1	NA
B-35-70	6/11/2003		NA	NR	NR	<1	<1	NR	<1	<1	<1	<1	NR	NR	<1	NR	NR	NR	<1	NR	NA	NR	NR	NR	NR	NR	<1	**4.9**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-35-70	8/20/2003		NA	NR	NR	<5	<5	NR	<5	<5	<5	<5	NR	NR	<5	NR	NR	NR	<5	NR	NA	NR	NR	NR	NR	NR	<5	<5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-35-70	11/14/2003		NA	NR	NR	<5	<5	NR	<5	<5	<5	<5	NR	NR	<5	NR	NR	NR	<5	NR	NA	NR	NR	NR	NR	NR	<5	<5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-35-70	2/26/2004		NA	NR	NR	<5	<5	NR	<5	<5	<5	<5	NR	NR	<5	NR	NR	NR	<5	NR	NA	NR	NR	NR	NR	NR	<5	<5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-35-45	2/19/2001	LNAPL																																							
B-35-45R	5/10/2001		NA	<0.5	**17**	NA	<0.5	**9.6**	**9.9**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**25**	**8.1**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-35-45R	8/20/2001	LNAPL																																								
B-35-45R	2/15/2002	NS																																								
B-35-45R	5/28/2002	LNAPL																																								
B-35-45R	8/26/2002	LNAPL																																								
B-35-45R	11/12/2002	LNAPL																																								
B-35-45R	3/10/2003	LNAPL																																								
B-35-45R	6/13/2003	LNAPL																																								
B-35-45R	8/20/2003	LNAPL																																								
B-35-45R	11/13/2003		NA	NR	**0.9**	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-35-45R	2/24/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-35-45R	5/20/2004		NA	NR	**1.2**	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	**0.6**	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-35-45R	8/11/2004		NA	NR	**0.9**	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	**0.5**	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-35-45R	12/8/2004	LNAPL																																								
B-35-45R	3/7/2005	LNAPL																																								
B-35-45R	6/27/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-35-45R	12/13/2005		NA	NR	**1.4**	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-35-45R	3/4/2006	NS																																								
B-35-45R	6/21/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	<0.025	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-35-45R (dup.)	6/21/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	<0.025	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-35-45R	12/1/2006		<0.5	<1.00	<1.00	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	**7.82**	<0.5	<0.5	**12.8**	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-35-45R	5/21/2007	Sheen																																								
B-35-45R	5/28/2008		<0.5	<1.00	<1.00	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	**3.5**	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-35-45R	9/15/2008	NS																																								
B-35-45R	11/21/2008		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**2.5**	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-35-45R	5/8/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	22	NA	NA	**2.2**	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-35-45R	11/20/2009		**1.2**	<0.5	<0.5	<0.5	<1.0	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**3.8**	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-35-45R	4/29/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**4.0**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-35-45R	11/19/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**2.3**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-35-45R	5/5/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**5.3**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-35-45R	11/17/2011		<0.5	<0.5	**0.72**	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**4.1**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-35-45R	5/10/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**0.7**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-35-45R	11/8/2012		<0.50	<0.50	<0.50	<0.50	<1.0	0.34 J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	**2.5**	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA
B-35-70	10/30/1997		NA	<0.5	<0.5	NA	<0.5	**1.2**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**1**	**0.5**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-35-70	2/20/1998		NA	<0.5	**4.4**	NA	<0.5	**11**	**2.4**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**3.6**	**0.8**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-35-70	5/19/1998		NA	<0.5	**3.4**	NA	**7**	**7**	**2.3**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**3.9**	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**0.6**	<1.0	<0.5	NA	NA	NA	NA	NA
B-35-70	8/18/1998		NA	<0.5	**11**	NA	<0.5	**30**	**7.9**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**12**	**1.7**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**1.4**	<1.0	<0.5	NA	NA	NA	NA	NA
B-35-70 (dup.)	8/18/1998		NA	<0.5	**10**	NA	<0.5	**31**	**7.7**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**12**	**1.7**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**1.3**	<1.0	<0.5	NA	NA	NA	NA	NA
B-35-70	11/23/1998		NA	<0.5	**8.8**	NA	<0.5	**19**	**6.1**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**8.4**	**1.3**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**1.1**	<1.0	<0.5	NA	NA	NA	NA	NA
B-35-70	3/8/1999		NA	<0.5	**9.6**	NA	<0.5	**20**	**5.9**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**8.2**	**1.2**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**1.1**	<1.0	<0.5	NA	NA	NA	NA	NA
B-35-70	6/20/1999		NA	<0.5	**6.9**	NA	<0.5	**13**	**3.7**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**7.9**	**0.9**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**0.7**	<1.0	<0.5	NA	NA	NA	NA	NA
B-35-70	9/25/1999		NA	<0.5	**16**	NA	<0.5	<0.5	**11**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**38**	**2.8**	**87**	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-35-70	11/21/1999		NA	<0.5	**3.7**	NA	<0.5	**10**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**6.4**	**0.8**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-35-70	2/27/2000		NA	<0.5	**13**	NA	<0.5	**45**	**9.9**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**35**	**2.4**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-35-70	5/26/2000		NA	<0.5	**5.5**	NA	<0.5	**16**	**3.1**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**11**	**1.4**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-35-70	9/1/2000		NA	<0.5	**11**	NA	<0.5	**29**	**6.8**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**16**	**1.4**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**1.1**	<1	<0.5	NA	NA	NA	NA	NA
B-35-70	11/30/2000		NA	<0.5	**7.9**	NA	<0.5	**12**	**4.4**	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**6.4**	**0.9**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**0.6**	<0.5	<0.5	NA	NA	NA	NA	NA
B-35-70	2/23/2001		NA	<0.5	**9**	NA	<0.5	**22**	**5.9**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**21**	**1.8**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**1.5**	<1	<0.5	NA	NA	NA	NA	NA
B-35-70	5/6/2001		NA	<0.5	**16**	NA	<0.5	**31**	**9**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**32**	**1.8**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**1.4**	<1	<0.5	NA	NA	NA	NA	NA
B-35-70	8/22/2001		NA	<0.5	**7.8**	NA	<0.5	**17**	**3.6**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**10**	**1.3**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**0.6**	<1	<0.5	NA	NA	NA	NA	NA
B-35-70	12/10/2001		NA	<0.5	**18**	NA	<0.5	**31**	**10**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**29**	**3**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**1.7**	<1	<0.5	NA	NA	NA	NA	NA
B-35-70	2/15/2002		NA	<0.5	**15**	NA	<0.5	**39**	**9.3**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**24**	**2.6**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**1.7**	<1	<0.5	NA	NA	NA	NA	NA
B-35-70	5/30/2002		NA	<0.5	**3.3**	NA	<0.5	**7.6**	**1.1**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**11**	**1.2**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**0.7**	<1	<0.5	NA	NA	NA	NA	NA
B-35-70	8/29/2002		NA	<0.5	**6.7**	NA	<0.5	**12**	**2.2**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**11**	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-35-70	11/15/2002		NA	<0.5	**6.6**	NA	<0.5	**14**	**3.1**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**10**	**0.9**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-35-70	3/12/2003		NA	<1	**9.3**	NA	<1	**17**	**2.3**	<1	<1	<1	<1	NA	<2	<2	<1	<1	<1	<1	<1	NA	**15**	<1	<1	NA	NA	NR	NA	NA	NA	<1	<1	<2	<1	NA	NA	NA	NA	NA
B-35-70	6/11/2003		NA	NR	**16**	NA	NR	**36**	**8.1**	NR	NR	NR	<1	NA	NR	NR	NR	NR	<1	NR	NR	NA	**32**	<1	NR	NA	NA	NR	NA	NA	NA	<1	<1	NR	NR	NA	NA	NA	NA	NA
B-35-70	8/20/2003		NA	NR	**20**	NA	NR	**34**	**10**	NR	NR	NR	<5	NA	NR	NR	NR	NR	<5	NR	NR	NA	**38**	<5	NR	NA	NA	NR	NA	NA	NA	<5	<5	NR	NR	NA	NA	NA	NA	NA
B-35-70	11/14/2003		NA	NR	**16**	NA	NR	**30**	**9**	NR	NR	NR	<5	NA	NR	NR	NR	NR	<5	NR	NR	NA	**26**	<5	NR	NA	NA	NR	NA	NA	NA	<5	<5	NR	NR	NA	NA	NA	NA	NA
B-35-70	2/26/2004		NA	NR	**19**	NA	NR	**48**	**8**	NR	NR	NR	<5	NA	NR	NR	NR	NR	<5	NR	NR	NA	**38**	**13**	NR	NA	NA	NR	NA	NA	NA	<5	<5	NR	NR	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-35-70	5/20/2004		NA	NR	NR	<5	<5	NR	<5	<5	<5	<5	NR	NR	<5	NR	NR	NR	<5	NR	NA	NR	NR	NR	NR	NR	NR	<5	<5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-35-70	8/11/2004		NA	NR	NR	<5	<5	NR	<5	<5	<5	<5	NR	NR	<5	NR	NR	NR	<5	NR	NA	NR	NR	NR	NR	NR	NR	<5	<5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-35-70	12/10/2004		NA	NR	NR	<5	<5	NR	<5	<5	<5	<5	NR	NR	<5	NR	NR	NR	<5	NR	NA	NR	NR	NR	NR	NR	NR	<5	<5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-35-70	3/7/2005	NS																																						
B-35-70	6/20/2005		NA	NR	NR	<0.5	<0.5	NR	**0.93**	**2.9**	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	**0.54**	**3.8**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-35-70	12/5/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	**3.7**	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	**0.72**	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-35-70	3/4/2006	NS																																						
B-35-70	6/20/2006		**230**	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	**5.5**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.74**	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-35-70	12/1/2006		**326**	<0.5	<0.5	<0.5	<0.5	<0.5	**1.66**	**4.18**	**0.56**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.78**	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	6/7/2007		**207**	<0.5	<0.5	<0.5	<0.5	<0.5	**2.48**	**4.03**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.59**	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	12/4/2007		**192**	<0.5	<0.5	<0.5	<0.5	<0.5	**1.23**	**3.2**	**0.47 J**	<0.5	<0.5	<0.5	<0.5	**1.03**	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.48 J**	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	5/28/2008		**250**	<0.5	<0.5	<0.5	<0.5	<0.5	**1.1**	**3.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	9/15/2008	NS																																						
B-35-70	11/17/2008	Sheen																																						
B-35-70	5/4/2009	LNAPL																																						
B-35-70	11/20/2009		**200**	<0.5	<0.5	<0.5	<0.5	<0.5	**1.1**	**3.5**	**0.53**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.72**	**3.4**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	4/29/2010		**150**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.6**	**1.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.75**	**2.9**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	11/18/2010		**260**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.78**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.68**	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	5/5/2011		**220**	<0.5	<0.5	<0.5	<0.5	<0.5	**2.4**	**4.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.75**	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	11/17/2011		**220**	<0.5	<0.5	<0.5	<0.5	<0.5	**1.9**	**4.2**	**1.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.79**	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	5/10/2012		**99**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.7**	**1.5**	**0.48 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.56**	**2.1**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-35-70	11/8/2012		**190**	<0.50	<0.50	<0.50	<0.50	<0.50	**0.59**	**2.8**	**0.40 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.79**	**<0.50**	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-36	10/30/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-36	2/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**0.6**	**3.6**	**1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-36	5/18/1998	LNAPL																																						
B-36	8/18/1998	Dry																																						
B-36	11/22/1998	Dry																																						
B-36	3/8/1999	LNAPL																																						
B-36	6/19/1999	Dry																																						
B-36	9/22/1999	Dry																																						
B-36	11/18/1999	Dry																																						
B-36	2/22/2000	LNAPL																																						
B-36	5/22/2000	Trace LNAPL																																						
B-36	8/28/2000	Dry																																						
B-36	11/27/2000	Dry																																						
B-36	2/23/2001	LNAPL																																						
B-36	5/2/2001	LNAPL																																						
B-36	8/20/2001	Dry																																						
B-36	2/15/2002	LNAPL																																						
B-36	5/28/2002	Dry																																						
B-36	8/26/2002	LNAPL																																						
B-36	11/12/2002	Dry																																						
B-36	3/10/2003	NS																																						
B-36	6/13/2003	Dry																																						
B-36	8/21/2003	Dry																																						
B-36	2/23/2004	NS																																						
B-36	8/10/2004	NS																																						
B-36	12/8/2004	NS																																						
B-36	3/7/2005	LNAPL																																						
B-36	6/20/2005	Dry																																						
B-36	3/4/2006	NS																																						
B-36	6/23/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-36	11/20/2006	Dry																																						
B-36	5/21/2007	Dry																																						
B-36	9/15/2008	NS																																						
B-36	11/17/2008	Dry																																						
B-36	5/4/2009	Dry																																						
B-36	4/26/2010	Dry																																						
B-36	11/15/2010	Dry																																						
B-36	5/6/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-36	11/14/2011	Dry																																						
B-36	5/7/2012	Dry																																						

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-35-70	5/20/2004		NA	NR	**13**	NA	NR	**38**	**5.3**	NR	NR	NR	<5	NA	NR	NR	NR	NR	<5	NR	NR	NA	**26**	<5	NR	NA	NA	NR	NA	NA	NA	<5	<5	NR	NR	NA	NA	NA	NA	NA
B-35-70	8/11/2004		NA	NR	**17**	NA	NR	**34**	**9.6**	NR	NR	NR	<5	NA	NR	NR	NR	NR	<5	NR	NR	NA	**38**	<5	NR	NA	NA	NR	NA	NA	NA	<5	<5	NR	NR	NA	NA	NA	NA	NA
B-35-70	12/10/2004		NA	NR	**18**	NA	NR	**31**	**8.6**	NR	NR	NR	<5	NA	NR	NR	NR	NR	<5	NR	NR	NA	**39**	<5	NR	NA	NA	NR	NA	NA	NA	<5	<5	NR	NR	NA	NA	NA	NA	NA
B-35-70	3/7/2005	NS																																							
B-35-70	6/20/2005		NA	NR	**15**	NA	NR	**38**	**7**	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	**29**	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	**0.9**	NR	NR	NA	NA	NA	NA	NA
B-35-70	12/5/2005		NA	NR	**19**	NA	NR	**33.9**	**9.4**	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	**35**	**2.9**	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-35-70	3/4/2006	NS																																							
B-35-70	6/20/2006		**49**	< 0.5	**22**	< 0.5	< 1	**60**	**13**	< 0.5	< 0.5	< 0.5	< 0.5	**0.83**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	**43**	**3.4**	< 0.5	**57**	< 0.5	**64**	< 0.5	< 0.5	<0.025	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-35-70	12/1/2006		**44.8**	<1.00	**16.7**	**1.0**	**0.490 J**	**57.2**	**8.65**	<0.5	<0.5	<0.5	<0.5	**0.80**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**36.5**	**3.23**	<0.5	**53.2**	<0.5	**51.2***	<0.5	<0.5	**2.04****	NA	NA	NA	NA	**29.6 J**	<50.0	**0.64**	<10.0	<10.0
B-35-70	6/7/2007		**17.7**	<1.00	**7.89**	<0.5	<5.0	**24.5**	**4.78**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**13.3**	**3.37**	<0.5	**21.4**	<0.5	**99.3**	<0.5	<0.5	**1.66**	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-35-70	12/4/2007		**32**	<1.00	**13.5**	**0.78**	<5.0	**33.9**	**6.76**	<0.5	<0.5	<0.5	<0.5	**0.44 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**27.3**	**2.39**	<0.5	**32.7**	<0.5	<10.0	<0.5	<0.5	**1.5**	NA	NA	NA	NA	<50.0	<50.0	**0.5**	<10.0	<10.0
B-35-70	5/28/2008		**27**	<1.00	**13**	<0.5	<5.0	**26**	**5.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**21**	**4.3**	<0.5	**30**	<0.5	<10.0	<0.5	<0.5	<0.5	NA	**0.62**	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-35-70	9/15/2008	NS																																							
B-35-70	11/17/2008	Sheen																																							
B-35-70	5/4/2009	LNAPL																																							
B-35-70	11/20/2009		**28**	<0.5	**16**	**0.55**	<1.0	**35**	**6.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**27**	**2.6**	<0.5	**26**	NA	**67**	NA	NA	**2.1**	<0.5	**0.55**	NA	NA	NA	NA	NA	NA	NA
B-35-70	4/29/2010		**14**	<0.5	**8.5**	NA	<1.0	**13**	**2.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**11**	**1.3**	<0.5	**13**	NA	**51**	NA	NA	**2.1**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-35-70	11/18/2010		**7.4**	<0.5	**3.5**	NA	<1.0	**12**	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**5.6**	**0.65**	<0.5	**12**	NA	**85**	NA	NA	**2.3**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-35-70	5/5/2011		**26**	<0.5	**10**	NA	<1.0	**28**	**6.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**26**	**2.8**	<0.5	**15**	NA	<10	NA	NA	**2.4**	<0.5	**1.7**	NA	NA	NA	NA	NA	NA	NA
B-35-70	11/17/2011		**23**	<0.5	**15**	NA	**0.28 J**	**25**	**6.3**	<0.5	<0.5	<0.5	<0.5	**0.28 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**25**	**4**	<0.5	**24**	NA	<10	NA	NA	**1.9**	<0.5	**1.4**	NA	NA	NA	NA	NA	NA	NA
B-35-70	5/10/2012		**9.3**	<0.5	**5.4**	NA	<1.0	**12**	**2.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**8.9**	**1.2**	<0.5	**6.6**	NA	<10	NA	NA	**2.3**	<0.5	**0.6**	NA	NA	NA	NA	NA	NA	NA
B-35-70	11/8/2012		**17**	<0.50	**13**	0.33 J	**0.76 J**	**28**	**4.3**	<0.50	<0.50	<0.50	<0.50	0.34 J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	**2.3**	**2.3**	<0.50	**15**	<0.50	**45**	<0.50	<0.50	**3.2**	<0.50	**0.33 J**	NA	NA	NA	NA	NA	NA	NA
B-36	10/30/1997		NA	<0.5	**0.9**	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-36	2/19/1998		NA	<0.5	**7.9**	NA	<0.5	<0.5	**2.4**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**1.3**	**0.9**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**0.5**	<1.0	NA	<50	<50	<0.5	<10.0	<10.0
B-36	5/18/1998	LNAPL																																							
B-36	8/18/1998	Dry																																							
B-36	11/22/1998	Dry																																							
B-36	3/8/1999	LNAPL																																							
B-36	6/19/1999	Dry																																							
B-36	9/22/1999	Dry																																							
B-36	11/18/1999	Dry																																							
B-36	2/22/2000	LNAPL																																							
B-36	5/22/2000	Trace LNAPL																																							
B-36	8/28/2000	Dry																																							
B-36	11/27/2000	Dry																																							
B-36	2/23/2001	LNAPL																																							
B-36	5/2/2001	LNAPL																																							
B-36	8/20/2001	Dry																																							
B-36	2/15/2002	LNAPL																																							
B-36	5/28/2002	Dry																																							
B-36	8/26/2002	LNAPL																																							
B-36	11/12/2002	Dry																																							
B-36	3/10/2003	NS																																							
B-36	6/13/2003	Dry																																							
B-36	8/21/2003	Dry																																							
B-36	2/23/2004	NS																																							
B-36	8/10/2004	NS																																							
B-36	12/8/2004	NS																																							
B-36	3/7/2005	LNAPL																																							
B-36	6/20/2005	Dry																																							
B-36	3/4/2006	NS																																							
B-36	6/23/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-36	11/20/2006	Dry																																							
B-36	5/21/2007	Dry																																							
B-36	9/15/2008	NS																																							
B-36	11/17/2008	Dry																																							
B-36	5/4/2009	Dry																																							
B-36	4/26/2010	Dry																																							
B-36	11/15/2010	Dry																																							
B-36	5/6/2011		<0.5	<0.5	**1.5**	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-36	11/14/2011	Dry																																							
B-36	5/7/2012	Dry																																							

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-36	11/5/2012	Dry																																					
B-37-40	10/30/1997	Dry																																					
B-37-40	2/19/1998	Dry																																					
B-37-40	5/18/1998	Dry																																					
B-37-40	8/18/1998	Dry																																					
B-37-40	11/22/1998	Dry																																					
B-37-40	3/8/1999	Dry																																					
B-37-40	6/19/1999	Dry																																					
B-37-40	9/22/1999	Dry																																					
B-37-40	11/18/1999	Dry																																					
B-37-40	2/22/2000	Dry																																					
B-37-40	5/22/2000	Dry																																					
B-37-40	8/28/2000	Dry																																					
B-37-40	11/27/2000	Dry																																					
B-37-40	2/23/2001	Dry																																					
B-37-40	5/2/2001	Dry																																					
B-37-40	8/20/2001	Dry																																					
B-37-40	2/15/2002	Dry																																					
B-37-40	5/28/2002	Dry																																					
B-37-40	8/26/2002	Dry																																					
B-37-40	11/12/2002	Dry																																					
B-37-40	3/10/2003	NS																																					
B-37-40	6/13/2003	Dry																																					
B-37-40	8/21/2003	Dry																																					
B-37-40	2/23/2004	NS																																					
B-37-40	8/10/2004	NS																																					
B-37-40	12/8/2004	NS																																					
B-37-40	3/8/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-37-40	6/20/2005	Dry																																					
B-37-40	3/4/2006	NS																																					
B-37-40	11/20/2006	Dry																																					
B-37-40	5/21/2007	Sheen																																					
B-37-40	9/15/2008	NS																																					
B-37-40	11/17/2008	Insufficient																																					
B-37-40	5/4/2009	Insufficient																																					
B-37-40	4/30/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-40	11/15/2010	Insufficient																																					
B-37-40	5/2/2011	Insufficient																																					
B-37-40	11/18/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-40	5/7/2012	Insufficient																																					
B-37-40	11/5/2012	Insufficient																																					
B-37-70	10/31/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	2/19/1998	NS																																					
B-37-70	5/21/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	NA	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	8/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**29**	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	11/22/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**140**	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	3/8/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**51**	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	6/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**170**	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	9/24/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**290**	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70 (dup.)	9/24/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**330**	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	11/22/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**90**	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	2/26/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**32**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	5/22/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**28**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	8/28/2000	NS																																					
B-37-70	11/29/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**170**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	2/23/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**120**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	5/9/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**110**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	8/20/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**140**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	12/10/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**200**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	2/10/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**170**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	5/30/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**180**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-36	11/5/2012	Dry																																							
B-37-40	10/30/1997	Dry																																								
B-37-40	2/19/1998	Dry																																								
B-37-40	5/18/1998	Dry																																								
B-37-40	8/18/1998	Dry																																								
B-37-40	11/22/1998	Dry																																								
B-37-40	3/8/1999	Dry																																								
B-37-40	6/19/1999	Dry																																								
B-37-40	9/22/1999	Dry																																								
B-37-40	11/18/1999	Dry																																								
B-37-40	2/22/2000	Dry																																								
B-37-40	5/22/2000	Dry																																								
B-37-40	8/28/2000	Dry																																								
B-37-40	11/27/2000	Dry																																								
B-37-40	2/23/2001	Dry																																								
B-37-40	5/2/2001	Dry																																								
B-37-40	8/20/2001	Dry																																								
B-37-40	2/15/2002	Dry																																								
B-37-40	5/28/2002	Dry																																								
B-37-40	8/26/2002	Dry																																								
B-37-40	11/12/2002	Dry																																								
B-37-40	3/10/2003	NS																																								
B-37-40	6/13/2003	Dry																																								
B-37-40	8/21/2003	Dry																																								
B-37-40	2/23/2004	NS																																								
B-37-40	8/10/2004	NS																																								
B-37-40	12/8/2004	NS																																								
B-37-40	3/8/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-37-40	6/20/2005	Dry																																								
B-37-40	3/4/2006	NS																																								
B-37-40	11/20/2006	Dry																																								
B-37-40	5/21/2007	Sheen																																								
B-37-40	9/15/2008	NS																																								
B-37-40	11/17/2008	Insufficient																																								
B-37-40	5/4/2009	Insufficient																																								
B-37-40	4/30/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-37-40	11/15/2010	Insufficient																																								
B-37-40	5/2/2011	Insufficient																																								
B-37-40	11/18/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**0.35 J**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-37-40	5/7/2012	Insufficient																																								
B-37-40	11/5/2012	Insufficient																																								
B-37-70	10/31/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-37-70	2/19/1998	NS																																								
B-37-70	5/21/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA
B-37-70	8/18/1998		NA	<0.5	**0.6**	NA	<0.5	**1.2**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-37-70	11/22/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-37-70	3/8/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-37-70	6/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-37-70	9/24/1999		NA	<0.5	<0.5	NA	**3.5**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	NA	<1.0	<1.0	<0.5	<0.5	**0.8**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-37-70 (dup.)	9/24/1999		NA	<0.5	<0.5	NA	**4.4**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.8**	NA	<1.0	<1.0	<0.5	<0.5	**0.7**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-37-70	11/22/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	**0.6**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-37-70	2/26/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-37-70	5/22/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-37-70	8/28/2000	NS																																								
B-37-70	11/29/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.6**	NA	<0.5	<0.5	<0.5	<0.5	**0.8**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA
B-37-70	2/23/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	**0.5**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-37-70	5/9/2001		NA	<0.5	<0.5	NA	<0.5	**0.5**	<0.5	<0.5	<0.5	<0.5	**0.6**	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-37-70	8/20/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.7**	NA	<1	<1	<0.5	<0.5	**0.6**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-37-70	12/10/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.8**	NA	<1	<1	<0.5	<0.5	**0.8**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-37-70	2/10/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.7**	NA	<1	<1	<0.5	<0.5	**0.8**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-37-70	5/30/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-37-70	8/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**160**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	11/15/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**120**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	3/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**23**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	6/11/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**17**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-37-70	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**26**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-37-70	11/14/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**33**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-37-70	2/24/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-37-70	8/10/2004	NS																																					
B-37-70	12/8/2004	NS																																					
B-37-70	3/8/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-37-70	6/20/2005	Dry																																					
B-37-70	3/4/2006	NS																																					
B-37-70	6/20/2005	Dry																																					
B-37-70	11/20/2006	Dry																																					
B-37-70	5/21/2007	Sheen																																					
B-37-70	9/15/2008	NS																																					
B-37-70	11/17/2008	Dry																																					
B-37-70	2/25/2009		**0.79**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	5/4/2009	Insufficient																																					
B-37-70	9/23/2009	Insufficient																																					
B-37-70	4/30/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	11/15/2010	Insufficient																																					
B-37-70	2/18/2011		**2.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	5/5/2011		**1.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	9/20/2011		**0.53**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	11/18/2011		**1.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	2/16/2012		**0.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	5/10/2012		**0.29 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	9/18/2012		**0.43 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-37-70	11/8/2012		**0.47 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-46	10/30/1997	LNAPL																																					
B-46	2/20/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	**2.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**6.1**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-46	5/18/1998	LNAPL																																					
B-46	8/18/1998	LNAPL																																					
B-46	11/22/1998	LNAPL																																					
B-46	3/8/1999	LNAPL																																					
B-46	6/19/1999	LNAPL																																					
B-46	9/22/1999	LNAPL																																					
B-46	11/18/1999	LNAPL																																					
B-46	2/22/2000	LNAPL																																					
B-46	5/22/2000	LNAPL																																					
B-46	8/28/2000	LNAPL																																					
B-46	11/27/2000	LNAPL																																					
B-46	2/19/2001	LNAPL																																					
B-46	5/2/2001	LNAPL																																					
B-46	8/20/2001	LNAPL																																					
B-46	2/15/2002	LNAPL																																					
B-46	5/28/2002	LNAPL																																					
B-46	8/26/2002	LNAPL																																					
B-46	11/12/2002	LNAPL																																					
B-46	3/10/2003	LNAPL																																					
B-46	6/13/2003	LNAPL																																					
B-46	8/20/2003	LNAPL																																					
B-46	2/23/2004	LNAPL																																					
B-46	8/10/2004	LNAPL																																					
B-46	12/8/2004	LNAPL																																					
B-46	3/7/2005	LNAPL																																					
B-46	6/28/2005	LNAPL	NA	NR	NR	<0.5	<0.5	NR	<0.5	**1.8**	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**1.8**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-46	3/4/2006	NS																			NS											NS							NS
B-46	6/6/2006	Wellbox flooded - no access to well																																					
B-46	11/21/2006	NS																																					
B-46	5/22/2007	Sheen																																					

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ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-37-70	8/29/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	**0.7**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-37-70	11/15/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-37-70	3/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-37-70	6/11/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-37-70	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	**0.6**	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-37-70	11/14/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-37-70	2/24/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-37-70	8/10/2004	NS																																							
B-37-70	12/8/2004	NS																																							
B-37-70	3/8/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-37-70	6/20/2005	Dry																																							
B-37-70	3/4/2006	NS																																							
B-37-70	6/20/2005	Dry																																							
B-37-70	11/20/2006	Dry																																							
B-37-70	5/21/2007	Sheen																																							
B-37-70	9/15/2008	NS																																							
B-37-70	11/17/2008	Dry																																							
B-37-70	2/25/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-37-70	5/4/2009	Insufficient																																							
B-37-70	9/23/2009	Insufficient																																							
B-37-70	4/30/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-37-70	11/15/2010	Insufficient																																							
B-37-70	2/18/2011		<0.5	<0.5	**0.77**	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-37-70	5/5/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-37-70	9/20/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-37-70	11/18/2011		<0.5	<0.5	**0.72**	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-37-70	2/16/2012		<0.5	<0.5	**0.53**	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-37-70	5/10/2012		<0.5	<0.5	**0.35 J**	NA	<1.0	**0.73**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**0.11 J**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-37-70	9/18/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-37-70	11/8/2012		<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA
B-46	10/30/1997	LNAPL																																							
B-46	2/20/1998		NA	<0.5	**8.1**	NA	<0.5	**5.7**	**4.6**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**4.4**	**2**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-46	5/18/1998	LNAPL																																							
B-46	8/18/1998	LNAPL																																							
B-46	11/22/1998	LNAPL																																							
B-46	3/8/1999	LNAPL																																							
B-46	6/19/1999	LNAPL																																							
B-46	9/22/1999	LNAPL																																							
B-46	11/18/1999	LNAPL																																							
B-46	2/22/2000	LNAPL																																							
B-46	5/22/2000	LNAPL																																							
B-46	8/28/2000	LNAPL																																							
B-46	11/27/2000	LNAPL																																							
B-46	2/19/2001	LNAPL																																							
B-46	5/2/2001	LNAPL																																							
B-46	8/20/2001	LNAPL																																							
B-46	2/15/2002	LNAPL																																							
B-46	5/28/2002	LNAPL																																							
B-46	8/26/2002	LNAPL																																							
B-46	11/12/2002	LNAPL																																							
B-46	3/10/2003	LNAPL																																							
B-46	6/13/2003	LNAPL																																							
B-46	8/20/2003	LNAPL																																							
B-46	2/23/2004	LNAPL																																							
B-46	8/10/2004	LNAPL																																							
B-46	12/8/2004	LNAPL																																							
B-46	3/7/2005	LNAPL																																							
B-46	6/28/2005	LNAPL	NA	NR	**2**	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	**0.64**	NR	NR	NA	NA	NA	NA	NA
B-46	3/4/2006	NS	NS			NS								NS								NS				NS	NS		NS	NS	NS									
B-46	6/6/2006	Wellbox flooded - r																																							
B-46	11/21/2006	NS																																							
B-46	5/22/2007	Sheen																																							

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-46	5/28/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
B-46	9/15/2008	NS																																						
B-46	11/17/2008	Sheen																																						
B-46	5/4/2009	Sheen																																						
B-46	4/26/2010	Sheen																																						
B-46	11/15/2010	Sheen																																						
B-46	5/2/2011	Sheen																																						
B-46	11/14/2011	LNAPL																																						
B-46	5/7/2012	Sheen																																						
B-46	11/5/2012	LNAPL																																						
B-49	10/30/1997	LNAPL																																						
B-49	2/18/1998		NA	<1.0	<1.0	<1.0	<1.0	<1.0	**6.6**	**8.6**	<1.0	<1.0	<1.0	<1.0	**2**	<1.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**3.8**	<1.0	**1.6**	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA
B-49	5/18/1998	LNAPL																																						
B-49	8/18/1998	LNAPL																																						
B-49	11/22/1998	LNAPL																																						
B-49	3/8/1999	LNAPL																																						
B-49	6/19/1999	LNAPL																																						
B-49	9/22/1999	LNAPL																																						
B-49	11/18/1999	LNAPL																																						
B-49	2/22/2000	LNAPL																																						
B-49	5/22/2000	LNAPL																																						
B-49	8/28/2000	LNAPL																																						
B-49	11/27/2000	LNAPL																																						
B-49	2/19/2001	LNAPL																																						
B-49	5/2/2001	LNAPL																																						
B-49	8/20/2001	LNAPL																																						
B-49	2/15/2002	LNAPL																																						
B-49	5/28/2002	LNAPL																																						
B-49	8/26/2002	LNAPL																																						
B-49	11/12/2002	LNAPL																																						
B-49	3/10/2003	LNAPL																																						
B-49	6/13/2003	LNAPL																																						
B-49	8/21/2003	LNAPL																																						
B-49	2/23/2004	LNAPL																																						
B-49	8/10/2004	LNAPL																																						
B-49	12/8/2004	LNAPL																																						
B-49	3/7/2005	LNAPL																																						
B-49	6/20/2005	LNAPL																																						
B-49	3/4/2006	NS																																						
B-49	6/6/2006	LNAPL																																						
B-49	11/20/2006	LNAPL																																						
B-49	5/22/2007	LNAPL																																						
B-49	9/15/2008	NS																																						
B-49	11/17/2008	LNAPL																																						
B-49	5/4/2009	LNAPL																																						
B-49	4/26/2010	LNAPL																																						
B-49	11/15/2010	LNAPL																																						
B-49	5/2/2011	LNAPL																																						
B-49	11/14/2011	LNAPL																																						
B-49	5/7/2012	LNAPL																																						
B-49	11/5/2012	LNAPL																																						
B-51	10/30/1997	LNAPL																																						
B-51	2/18/1998		NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**5.4**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	NA	<5.0	**21**	<5.0	**5.2**	<5.0	**42**	<5.0	**33**	**41**	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
B-51	5/18/1998	LNAPL																																						
B-51	8/18/1998	LNAPL																																						
B-51	11/22/1998	LNAPL																																						
B-51	3/8/1999	LNAPL																																						
B-51	6/19/1999	LNAPL																																						
B-51	9/22/1999	LNAPL																																						
B-51	11/18/1999	LNAPL																																						
B-51	2/22/2000	LNAPL																																						

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-46	5/28/2008		<0.5	<0.5	**0.82**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<50.0	<0.5	<10.0	<10.0
B-46	9/15/2008	NS																																							
B-46	11/17/2008	Sheen																																							
B-46	5/4/2009	Sheen																																							
B-46	4/26/2010	Sheen																																							
B-46	11/15/2010	Sheen																																							
B-46	5/2/2011	Sheen																																							
B-46	11/14/2011	LNAPL																																							
B-46	5/7/2012	Sheen																																							
B-46	11/5/2012	LNAPL																																							
B-49	10/30/1997	LNAPL																																							
B-49	2/18/1998		NA	<1.0	**52**	NA	<1.0	**23**	**50**	<1.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	**110**	**15**	<1.0	NA	NA	NR	NA	NA		<1.0	<1.0	<2.0	<1.0	NA	NA	NA	NA	NA
B-49	5/18/1998	LNAPL																																							
B-49	8/18/1998	LNAPL																																							
B-49	11/22/1998	LNAPL																																							
B-49	3/8/1999	LNAPL																																							
B-49	6/19/1999	LNAPL																																							
B-49	9/22/1999	LNAPL																																							
B-49	11/18/1999	LNAPL																																							
B-49	2/22/2000	LNAPL																																							
B-49	5/22/2000	LNAPL																																							
B-49	8/28/2000	LNAPL																																							
B-49	11/27/2000	LNAPL																																							
B-49	2/19/2001	LNAPL																																							
B-49	5/2/2001	LNAPL																																							
B-49	8/20/2001	LNAPL																																							
B-49	2/15/2002	LNAPL																																							
B-49	5/28/2002	LNAPL																																							
B-49	8/26/2002	LNAPL																																							
B-49	11/12/2002	LNAPL																																							
B-49	3/10/2003	LNAPL																																							
B-49	6/13/2003	LNAPL																																							
B-49	8/21/2003	LNAPL																																							
B-49	2/23/2004	LNAPL																																							
B-49	8/10/2004	LNAPL																																							
B-49	12/8/2004	LNAPL																																							
B-49	3/7/2005	LNAPL																																							
B-49	6/20/2005	LNAPL																																							
B-49	3/4/2006	NS																																							
B-49	6/6/2006	LNAPL																																							
B-49	11/20/2006	LNAPL																																							
B-49	5/22/2007	LNAPL																																							
B-49	9/15/2008	NS																																							
B-49	11/17/2008	LNAPL																																							
B-49	5/4/2009	LNAPL																																							
B-49	4/26/2010	LNAPL																																							
B-49	11/15/2010	LNAPL																																							
B-49	5/2/2011	LNAPL																																							
B-49	11/14/2011	LNAPL																																							
B-49	5/7/2012	LNAPL																																							
B-49	11/5/2012	LNAPL																																							
B-51	10/30/1997	LNAPL																																							
B-51	2/18/1998		NA	<5.0	**16**	NA	<5.0	**15**	**11**	<5.0	<5.0	<5.0	<5.0	NA	<10	<10	<5.0	<5.0	**38**	<5.0	<5.0	NA	**10**	<5.0	<5.0	NA	NA	NR	NA	NA	NA	<5.0	<5.0	<10	<5.0	NA	NA	NA	NA	NA
B-51	5/18/1998	LNAPL																																							
B-51	8/18/1998	LNAPL																																							
B-51	11/22/1998	LNAPL																																							
B-51	3/8/1999	LNAPL																																							
B-51	6/19/1999	LNAPL																																							
B-51	9/22/1999	LNAPL																																							
B-51	11/18/1999	LNAPL																																							
B-51	2/22/2000	LNAPL																																							

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-51	5/22/2000	LNAPL																																						
B-54	10/30/1997	LNAPL																																						
B-54	2/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**3.3**	**7.4**	**0.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-54	5/18/1998	LNAPL																																						
B-54	8/18/1998	LNAPL																																						
B-54	11/22/1998	LNAPL																																						
B-54	3/8/1999	LNAPL																																						
B-54	6/19/1999	LNAPL																																						
B-54	9/22/1999	LNAPL																																						
B-54	11/18/1999	LNAPL																																						
B-54	2/22/2000	LNAPL																																						
B-54	5/22/2000	LNAPL																																						
B-54	8/28/2000	LNAPL																																						
B-54	11/27/2000	LNAPL																																						
B-54	2/19/2001	LNAPL																																						
B-54	5/2/2001	LNAPL																																						
B-54	8/20/2001	LNAPL																																						
B-54	2/15/2002	LNAPL																																						
B-54	5/28/2002	LNAPL																																						
B-54	8/26/2002	LNAPL																																						
B-54	11/12/2002	LNAPL																																						
B-54	3/10/2003	LNAPL																																						
B-54	6/13/2003	LNAPL																																						
B-54	8/21/2003	LNAPL																																						
B-54	2/23/2004	LNAPL																																						
B-54	8/10/2004	LNAPL																																						
B-54	12/8/2004	LNAPL																																						
B-54	3/7/2005	LNAPL																																						
B-54	6/20/2005	LNAPL																																						
B-54	3/4/2006	NS																																						
B-54	6/6/2006	LNAPL																																						
B-54	11/21/2006	LNAPL																																						
B-54	5/22/2007	LNAPL																																						
B-54	9/15/2008	NS																																						
B-54	11/17/2008	LNAPL																																						
B-54	5/4/2009	LNAPL																																						
B-54	4/26/2010	LNAPL																																						
B-54	11/15/2010	LNAPL																																						
B-54	5/2/2011	LNAPL																																						
B-54	11/14/2011	LNAPL																																						
B-54	5/7/2012	LNAPL																																						
B-54	11/5/2012	LNAPL																																						
B-57-20	10/30/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**2.2**	**4.8**	**0.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.2**	<0.5	<0.5	<0.5	NA	**1.7**	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-20	2/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**2.8**	**6.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-20	5/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**2.8**	**6**	**0.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.5**	<0.5	<0.5	<0.5	NA	**1.5**	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-20	8/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**2.4**	**5.3**	**0.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.6**	<0.5	<0.5	<0.5	NA	**1.4**	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-20	11/22/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**1.8**	**4.3**	**0.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.4**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-20 (dup.)	11/22/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**2**	**5.1**	**0.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.3**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-20	3/8/1999	LNAPL																																						
B-57-20	6/19/1999	LNAPL																																						
B-57-20	9/22/1999	LNAPL																																						
B-57-20	11/18/1999	LNAPL																																						
B-57-20	2/22/2000	LNAPL																																						
B-57-20	5/22/2000	LNAPL																																						
B-57-20	8/28/2000	LNAPL																																						
B-57-20	11/27/2000	LNAPL																																						
B-57-20	2/19/2001	LNAPL																																						
B-57-20	5/2/2001	LNAPL																																						
B-57-20	8/20/2001	LNAPL																																						
B-57-20	2/15/2002	NS																																						
B-57-20	5/28/2002	LNAPL																																						

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-51	5/22/2000	LNAPL																																							
B-54	10/30/1997	LNAPL																																								
B-54	2/18/1998		NA	<0.5	**32**	NA	<0.5	**10**	**24**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**34**	**1.4**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-54	5/18/1998	LNAPL																																								
B-54	8/18/1998	LNAPL																																								
B-54	11/22/1998	LNAPL																																								
B-54	3/8/1999	LNAPL																																								
B-54	6/19/1999	LNAPL																																								
B-54	9/22/1999	LNAPL																																								
B-54	11/18/1999	LNAPL																																								
B-54	2/22/2000	LNAPL																																								
B-54	5/22/2000	LNAPL																																								
B-54	8/28/2000	LNAPL																																								
B-54	11/27/2000	LNAPL																																								
B-54	2/19/2001	LNAPL																																								
B-54	5/2/2001	LNAPL																																								
B-54	8/20/2001	LNAPL																																								
B-54	2/15/2002	LNAPL																																								
B-54	5/28/2002	LNAPL																																								
B-54	8/26/2002	LNAPL																																								
B-54	11/12/2002	LNAPL																																								
B-54	3/10/2003	LNAPL																																								
B-54	6/13/2003	LNAPL																																								
B-54	8/21/2003	LNAPL																																								
B-54	2/23/2004	LNAPL																																								
B-54	8/10/2004	LNAPL																																								
B-54	12/8/2004	LNAPL																																								
B-54	3/7/2005	LNAPL																																								
B-54	6/20/2005	LNAPL																																								
B-54	3/4/2006	NS																																								
B-54	6/6/2006	LNAPL																																								
B-54	11/21/2006	LNAPL																																								
B-54	5/22/2007	LNAPL																																								
B-54	9/15/2008	NS																																								
B-54	11/17/2008	LNAPL																																								
B-54	5/4/2009	LNAPL																																								
B-54	4/26/2010	LNAPL																																								
B-54	11/15/2010	LNAPL																																								
B-54	5/2/2011	LNAPL																																								
B-54	11/14/2011	LNAPL																																								
B-54	5/7/2012	LNAPL																																								
B-54	11/5/2012	LNAPL																																								
B-57-20	10/30/1997		**33**	<0.5	**20**	NA	<0.5	<0.5	**14**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**3**	**3.4**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**0.8**	<1.0	<0.5	NA	NA	NA	NA	NA
B-57-20	2/19/1998		**74**	<0.5	**28**	NA	<0.5	**3.9**	**22**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**5.8**	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-57-20	5/19/1998		**63**	<0.5	**19**	NA	<0.5	**3.2**	**18**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**4.6**	**1**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**2.6**	<1.0	<0.5	NA	NA	NA	NA	NA
B-57-20	8/18/1998		**34**	<0.5	**20**	NA	<0.5	**2.9**	**18**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**3.7**	**0.9**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**2**	<1.0	<0.5	NA	NA	NA	NA	NA
B-57-20	11/22/1998		**17**	<0.5	**16**	NA	<0.5	<0.5	**12**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**2**	**0.5**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**1.6**	<1.0	<0.5	NA	NA	NA	NA	NA
B-57-20 (dup.)	11/22/1998		**19**	<0.5	**17**	NA	<0.5	<0.5	**14**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**2.4**	**0.5**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**1.8**	<1.0	<0.5	NA	NA	NA	NA	NA
B-57-20	3/8/1999	LNAPL																																								
B-57-20	6/19/1999	LNAPL																																								
B-57-20	9/22/1999	LNAPL																																								
B-57-20	11/18/1999	LNAPL																																								
B-57-20	2/22/2000	LNAPL																																								
B-57-20	5/22/2000	LNAPL																																								
B-57-20	8/28/2000	LNAPL																																								
B-57-20	11/27/2000	LNAPL																																								
B-57-20	2/19/2001	LNAPL																																								
B-57-20	5/2/2001	LNAPL																																								
B-57-20	8/20/2001	LNAPL																																								
B-57-20	2/15/2002	NS																																								
B-57-20	5/28/2002	LNAPL																																								

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-57-20	8/26/2002	LNAPL																																					
B-57-20	11/12/2002	LNAPL																																					
B-57-20	3/10/2003	LNAPL																																					
B-57-20	6/13/2003	LNAPL																																					
B-57-20	8/21/2003	LNAPL																																					
B-57-20	2/23/2004	LNAPL																																					
B-57-20	8/10/2004	LNAPL																																					
B-57-20	12/8/2004	LNAPL																																					
B-57-20	3/7/2005	NS																																					
B-57-20	6/20/2005	LNAPL																																					
B-57-20	12/13/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	**5.4**	**0.9**	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**0.86**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-57-20	3/4/2006	NS																																					
B-57-20	6/6/2006	Well casing flooded - possible artesian condition																																					
B-57-20	12/1/2006		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.5**	**2.5**	**0.53**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-20	6/7/2007		**0.390J**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.55**	**3.02**	**0.71**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.92**	<0.5	<0.5	<0.5	NA	**0.94**	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-20	12/6/2007		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.75**	**3.4**	**0.79**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.94**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-20	5/27/2008		**2.2**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.51**	**3.1**	**0.63**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.65**	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-20	9/15/2008	NS																																					
B-57-20	11/20/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.76**	**3.6**	**0.93**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-20	5/4/2009	LNAPL																																					
B-57-20	11/18/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.0**	**0.74**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.59**	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-20	4/26/2010	Sheen																																					
B-57-20	11/19/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.5**	**4.7**	**0.86**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-20	5/5/2011		**1.6**	<0.5	<0.5	<0.5	<0.5	<0.5	**4.1**	**8.9**	**1.0**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.87**	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-20	11/17/2011		**0.11 J**	<0.5	<0.5	<0.5	<0.5	<0.5	**2.4**	**6.8**	**2.0**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.56**	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-20	5/10/2012		**0.47 J**	<0.5	<0.5	<0.5	<0.5	<0.5	**1.5**	**4.4**	**1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.47 J**	<0.5	<0.5	<0.5	NA	**0.56**	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-20	11/8/2012		**<0.50**	<0.50	<0.50	<0.50	<0.50	<0.50	**0.94**	**3.5**	**0.64**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**<0.50**	<0.50	<0.50	<0.50	NA	**<0.50**	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-57-20	11/8/2012	Duplicate	**<0.50**	<0.50	<0.50	<0.50	<0.50	<0.50	**0.87**	**3.3**	**0.59**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**<0.50**	<0.50	<0.50	<0.50	NA	**0.37 J**	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-57-65	10/30/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.1**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	2/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.7**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	5/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	8/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.8**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	11/22/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.6**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	3/8/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	6/20/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65 (dup.)	6/20/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5		<0.5	<0.5	NA
B-57-65	9/25/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	11/21/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	2/26/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65 (dup.)	2/26/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	5/26/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	8/28/2000	LNAPL																																					
B-57-65	12/1/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.1**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	2/23/2001	LNAPL																																					
B-57-65	5/9/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.8**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	8/20/2001	LNAPL																																					
B-57-65	2/15/2002	LNAPL																																					
B-57-65	5/30/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	8/28/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.4**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	11/14/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	3/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.5**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	6/11/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**1.2**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-57-65	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**1.2**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-57-65	11/14/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**1.6**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-57-65	2/25/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**1.6**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-57-65	5/20/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**0.9**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-57-65	8/10/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**1.3**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-57-65	12/9/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**1.4**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-57-65	3/7/2005	NS																																					
B-57-65	6/14/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**1.7**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-57-65	12/1/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**1.4**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-57-65	3/4/2006	NS																																					

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-57-20	8/26/2002	LNAPL																																							
B-57-20	11/12/2002	LNAPL																																							
B-57-20	3/10/2003	LNAPL																																							
B-57-20	6/13/2003	LNAPL																																							
B-57-20	8/21/2003	LNAPL																																							
B-57-20	2/23/2004	LNAPL																																							
B-57-20	8/10/2004	LNAPL																																							
B-57-20	12/8/2004	LNAPL																																							
B-57-20	3/7/2005	NS																																							
B-57-20	6/20/2005	LNAPL																																							
B-57-20	12/13/2005		**1.1**	NR	**20**	NA	NR	<0.5	**13**	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	**0.51**	**1.4**	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-57-20	3/4/2006	NS																																							
B-57-20	6/6/2006	Well casing flooded																																							
B-57-20	12/1/2006		<0.5	<1.00	**5.13**	<0.5	<5.0	<5.0	**2.81**	<0.5	<0.5	<0.5	<0.5	**0.53**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	**0.67**	<0.5	**12.2****	<0.5	<0.5	**1.61****	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-57-20	6/7/2007		**0.270 J**	<1.00	**8.58**	<0.5	<5.0	<5.0	**4.72**	<0.5	<0.5	<0.5	<0.5	**0.380 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	**0.340 J**	<0.5	**0.58**	<0.5	**10.4**	<0.5	<0.5	**1.47**	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-57-20	12/6/2007		**0.290 J**	<1.00	**8.66**	<0.5	<5.0	<5.0	**5.67**	<0.5	<0.5	<0.5	<0.5	**0.280 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	**0.52**	<0.5	**9.41 J**	<0.5	<0.5	**1.3**	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-57-20	5/27/2008		<0.5	<1.00	**11**	<0.5	<5.0	<5.0	**4.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-57-20	9/15/2008	NS																																							
B-57-20	11/20/2008		<0.5	<0.5	**9.9**	**0.87**	<1.0	<0.5	**6.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	NA	<0.5	**0.87**	<1.0	NA	NA	NA	NA	NA	NA
B-57-20	5/4/2009	LNAPL																																							
B-57-20	11/18/2009		<0.5	<0.5	<0.5	NA	<1.0	**3.7**	**6.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**1.1**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-57-20	4/26/2010	Sheen																																							
B-57-20	11/19/2010		0.58	<0.5	**14**	**0.8**	<1.0	<0.5	**10**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	**1.3**	NA	NA	NA	NA	NA	<0.5	**0.8**	NA	NA	NA	NA	NA	NA	NA
B-57-20	5/5/2011		**1.4**	<0.5	**30**	NA	<1.0	<0.5	**38**	<0.5	<0.5	<0.5	<0.5	**0.54**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	**0.93**	NA	NA	NA	NA	NA	<0.5	**3.3**	NA	NA	NA	NA	NA	NA	NA
B-57-20	11/17/2011		**0.36 J**	<0.5	**14**	NA	<1.0	<0.5	**13**	<0.5	<0.5	<0.5	<0.5	**0.34 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	**0.5**	NA	NA	NA	NA	NA	<0.5	**1.3**	NA	NA	NA	NA	NA	NA	NA
B-57-20	5/10/2012		**0.43 J**	<0.5	**17**	NA	<1.0	<0.5	**13**	<0.5	<0.5	<0.5	<0.5	**0.46 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.35 J**	**0.45 J**	<0.5	**1.3**	NA	**7.9 J**	NA	NA	**0.51**	<0.5	**0.62**	NA	NA	NA	NA	NA	NA	NA
B-57-20	11/8/2012		**<0.50**	<0.50	**13**	<0.50	<1.0	<0.50	**8.3**	<0.50	<0.50	<0.50	<0.50	**0.49 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	**<0.50**	**<0.50**	<0.50	**0.38 J**	<0.50	**11**	<0.50	<0.50	**<0.50**	<0.50	**<0.50**	NA	NA	NA	NA	NA	NA	NA
B-57-20	11/8/2012	Duplicate	**<0.50**	<0.50	**12**	<0.50	<1.0	<0.50	**7.9**	<0.50	<0.50	<0.50	<0.50	**0.34 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	**<0.50**	**<0.50**	<0.50	**0.34 J**	<0.50	**10**	<0.50	<0.50	**<0.50**	<0.50	**<0.50**	NA	NA	NA	NA	NA	NA	NA
B-57-65	10/30/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-57-65	2/19/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-57-65	5/19/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-57-65	8/18/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-57-65	11/22/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-57-65	3/8/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-57-65	6/20/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-57-65 (dup.)	6/20/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-57-65	9/25/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-57-65	11/21/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-57-65	2/26/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-57-65 (dup.)	2/26/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-57-65	5/26/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-57-65	8/28/2000	LNAPL																																							
B-57-65	12/1/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA
B-57-65	2/23/2001	LNAPL																																							
B-57-65	5/9/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-57-65	8/20/2001	LNAPL																																							
B-57-65	2/15/2002	LNAPL																																							
B-57-65	5/30/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-57-65	8/28/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-57-65	11/14/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-57-65	3/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-57-65	6/11/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-57-65	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-57-65	11/14/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-57-65	2/25/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-57-65	5/20/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-57-65	8/10/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-57-65	12/9/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-57-65	3/7/2005	NS																																							
B-57-65	6/14/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-57-65	12/1/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-57-65	3/4/2006	NS																																							

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-57-65	6/20/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.9**	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-57-65 (dup.)	6/20/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.9**	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-57-65	11/30/2006		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.92**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	6/7/2007		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.43**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65(dup)	6/7/2007		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.35**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	12/5/2007		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**6.2**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65(dup)	12/5/2007		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**5.8**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	5/27/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.5**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	9/15/2008	NS																																						
B-57-65	11/20/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.6**	<0.5	<0.5	<0.5	NA	**1.2**	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	5/5/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.72**	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	11/18/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	4/28/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.3**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	11/17/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.4**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	5/5/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.4**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	11/17/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.30 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.97**	<0.5	<0.5	<0.5	NA	**0.55**	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	5/10/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.84**	<0.5	<0.5	<0.5	NA	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-57-65	11/8/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.66**	<0.50	<0.50	<0.50	NA	**0.37 J**	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-61	10/31/1997		NA	<5.0	<5.0	<5.0	<5.0	<5.0	**23**	**11**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**6.8**	<5.0	<5.0	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
B-61	2/18/1998		NA	<2.0	<2.0	<2.0	<2.0	<2.0	**15**	**8.2**	**50**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**7.4**	<2.0	<2.0	<2.0	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA
B-61	5/18/1998	LNAPL																																						
B-61	8/18/1998	LNAPL																																						
B-61	11/22/1998	LNAPL																																						
B-61	3/8/1999	LNAPL																																						
B-61	6/19/1999	LNAPL																																						
B-61	9/22/1999	LNAPL																																						
B-61	11/18/1999	LNAPL																																						
B-61	2/22/2000	LNAPL																																						
B-61	5/22/2000	LNAPL																																						
B-61	8/28/2000	LNAPL																																						
B-61	11/27/2000	LNAPL																																						
B-61	2/19/2001	LNAPL																																						
B-61	6/7/2007	NS																																						
B-78	10/30/1997	LNAPL																																						
B-78	2/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**2.8**	**6.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-78 (dup.)	2/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**2.4**	**4.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-78	5/18/1998	LNAPL																																						
B-78	8/18/1998	LNAPL																																						
B-78	11/22/1998	LNAPL																																						
B-78	3/8/1999	LNAPL																																						
B-78	6/19/1999	LNAPL																																						
B-78	9/22/1999	LNAPL																																						
B-78	11/18/1999	LNAPL																																						
B-78	2/22/2000	LNAPL																																						
B-78	5/22/2000	LNAPL																																						
B-78	8/28/2000	LNAPL																																						
B-78	11/27/2000	LNAPL																																						
B-78	2/19/2001	LNAPL																																						
B-78	5/2/2001	LNAPL																																						
B-78	8/20/2001	LNAPL																																						
B-78	2/15/2002	LNAPL																																						
B-78	5/28/2002	LNAPL																																						
B-78	8/26/2002	LNAPL																																						
B-78	11/12/2002	LNAPL																																						
B-78	3/10/2003	LNAPL																																						
B-78	6/13/2003	LNAPL																																						
B-78	8/20/2003	LNAPL																																						
B-78	2/23/2004	LNAPL																																						
B-78	8/10/2004	LNAPL																																						
B-78	12/8/2004	LNAPL																																						
B-78	3/7/2005	LNAPL																																						

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-57-65	6/20/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-57-65 (dup.)	6/20/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-57-65	11/30/2006		<0.5	<1.00	<1.00	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0	<0.5	<0.5	**2.49**	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-57-65	6/7/2007		<0.5	<1.00	<1.00	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0	<0.5	<0.5	**2.94**	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-57-65(dup)	6/7/2007		<0.5	<1.00	<1.00	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0	<0.5	<0.5	**3.05**	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-57-65	12/5/2007		<0.5	<1.00	<1.00	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0	<0.5	<0.5	**1.36**	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-57-65(dup)	12/5/2007		<0.5	<1.00	<1.00	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0	<0.5	<0.5	**1.29**	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-57-65	5/27/2008		<0.5	<1.00	<1.00	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0	<0.5	<0.5	<0.5	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-57-65	9/15/2008	NS																																								
B-57-65	11/20/2008		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA	NA
B-57-65	5/5/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**0.69**	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA	NA
B-57-65	11/18/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**0.72**	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA	NA
B-57-65	4/28/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**3.8**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-57-65	11/17/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**4.1**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-57-65	5/5/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-57-65	11/17/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	**3.1**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-57-65	5/10/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	**2.6**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-57-65	11/8/2012		<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	**1.2**	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA	NA
B-61	10/31/1997		NA	<5.0	**52**	NA	<5.0	**180**	**120**	<5.0	<5.0	<5.0	<5.0	NA	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	NA	**520**	**200**	<5.0	NA	NA	NR	NA	NA	NA	<5.0	**53**	<10	<5.0	NA	NA	NA	NA	NA	NA
B-61	2/18/1998		NA	<2.0	**39**	NA	<2.0	**110**	**93**	<2.0	<2.0	<2.0	<2.0	NA	<4.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA	**450**	**100**	<2.0	NA	NA	NR	NA	NA	NA	<2.0	<2.0	<4.0	<2.0	NA	NA	NA	NA	NA	NA
B-61	5/18/1998	LNAPL																																							
B-61	8/18/1998	LNAPL																																								
B-61	11/22/1998	LNAPL																																							
B-61	3/8/1999	LNAPL																																							
B-61	6/19/1999	LNAPL																																							
B-61	9/22/1999	LNAPL																																							
B-61	11/18/1999	LNAPL																																							
B-61	2/22/2000	LNAPL																																							
B-61	5/22/2000	LNAPL																																							
B-61	8/28/2000	LNAPL																																							
B-61	11/27/2000	LNAPL																																							
B-61	2/19/2001	LNAPL																																							
B-61	6/7/2007	NS																																							
B-78	10/30/1997	LNAPL																																							
B-78	2/18/1998		NA	<0.5	**21**	NA	<0.5	**52**	**17**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**56**	**16**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-78 (dup.)	2/18/1998		NA	<0.5	**15**	NA	<0.5	**43**	**12**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**47**	**12**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-78	5/18/1998	LNAPL																																							
B-78	8/18/1998	LNAPL																																								
B-78	11/22/1998	LNAPL																																							
B-78	3/8/1999	LNAPL																																							
B-78	6/19/1999	LNAPL																																							
B-78	9/22/1999	LNAPL																																							
B-78	11/18/1999	LNAPL																																							
B-78	2/22/2000	LNAPL																																							
B-78	5/22/2000	LNAPL																																							
B-78	8/28/2000	LNAPL																																							
B-78	11/27/2000	LNAPL																																							
B-78	2/19/2001	LNAPL																																							
B-78	5/2/2001	LNAPL																																							
B-78	8/20/2001	LNAPL																																							
B-78	2/15/2002	LNAPL																																							
B-78	5/28/2002	LNAPL																																							
B-78	8/26/2002	LNAPL																																							
B-78	11/12/2002	LNAPL																																							
B-78	3/10/2003	LNAPL																																							
B-78	6/13/2003	LNAPL																																							
B-78	8/20/2003	LNAPL																																							
B-78	2/23/2004	LNAPL																																							
B-78	8/10/2004	LNAPL																																							
B-78	12/8/2004	LNAPL																																							
B-78	3/7/2005	LNAPL																																							

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-78	6/20/2005	LNAPL																																					
B-78	3/4/2006	NS																																					
B-78	6/6/2006	LNAPL																																					
B-78	11/20/2006	LNAPL																																					
B-78	5/21/2007	LNAPL																																					
B-78	9/15/2008	NS																																					
B-78	11/17/2008	LNAPL																																					
B-78	5/4/2009	LNAPL																																					
B-78	4/26/2010	LNAPL																																					
B-78	11/15/2010	LNAPL																																					
B-78	5/2/2011	LNAPL																																					
B-78	11/14/2011	LNAPL																																					
B-78	5/7/2012	LNAPL																																					
B-78	11/5/2012	LNAPL																																					
B-81-67	10/30/1997	LNAPL																																					
B-81-67	2/20/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**20**	**16**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-81-67	5/18/1998	LNAPL																																					
B-81-67	8/18/1998	LNAPL																																					
B-81-67	11/22/1998	LNAPL																																					
B-81-67	3/8/1999	LNAPL																																					
B-81-67	6/19/1999	LNAPL																																					
B-81-67	9/22/1999	LNAPL																																					
B-81-67	11/18/1999	LNAPL																																					
B-81-67	2/22/2000	LNAPL																																					
B-81-67	5/22/2000	LNAPL																																					
B-81-67	8/28/2000	LNAPL																																					
B-81-67	11/27/2000	LNAPL																																					
B-81-67	2/19/2001	LNAPL																																					
B-81-67	5/2/2001	LNAPL																																					
B-81-67	8/20/2001	LNAPL																																					
B-81-67	2/15/2002	LNAPL																																					
B-81-67	5/28/2002	LNAPL																																					
B-81-67	8/26/2002	LNAPL																																					
B-81-67	11/12/2002	LNAPL																																					
B-81-67	3/10/2003	LNAPL																																					
B-81-67	6/13/2003	LNAPL																																					
B-81-67	8/20/2003	LNAPL																																					
B-81-67	2/23/2004	LNAPL																																					
B-81-67	8/10/2004	LNAPL																																					
B-81-67	12/8/2004	LNAPL																																					
B-81-67	3/7/2005	LNAPL																																					
B-81-67	6/20/2005	LNAPL																																					
B-81-67	3/4/2006	NS																																					
B-81-67	6/6/2006	LNAPL																																					
B-81-67	11/21/2006	LNAPL																																					
B-81-67	5/22/2007	LNAPL																																					
B-81-67	9/15/2008	NS																																					
B-81-67	11/17/2008	LNAPL																																					
B-81-67	5/4/2009	LNAPL																																					
B-81-67	4/26/2010	LNAPL																																					
B-81-67	11/15/2010	LNAPL																																					
B-81-67	5/2/2011	LNAPL																																					
B-81-67	11/14/2011	LNAPL																																					
B-81-67	5/7/2012	LNAPL																																					
B-81-67	11/5/2012	LNAPL																																					
B-81-90	10/30/1997	LNAPL																																					
B-81-90	2/20/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**3.4**	**4.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-81-90	5/18/1998	LNAPL																																					
B-81-90	8/18/1998	LNAPL																																					
B-81-90	11/22/1998	LNAPL																																					
B-81-90	3/8/1999	LNAPL																																					

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-78	6/20/2005	LNAPL																																							
B-78	3/4/2006	NS																																							
B-78	6/6/2006	LNAPL																																							
B-78	11/20/2006	LNAPL																																							
B-78	5/21/2007	LNAPL																																							
B-78	9/15/2008	NS																																							
B-78	11/17/2008	LNAPL																																							
B-78	5/4/2009	LNAPL																																							
B-78	4/26/2010	LNAPL																																							
B-78	11/15/2010	LNAPL																																							
B-78	5/2/2011	LNAPL																																							
B-78	11/14/2011	LNAPL																																							
B-78	5/7/2012	LNAPL																																							
B-78	11/5/2012	LNAPL																																							
B-81-67	10/30/1997	LNAPL																																									
B-81-67	2/20/1998		NA	<0.5	**45**	NA	<0.5	**90**	**49**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**210**	**59**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**39**	<1.0	<0.5	NA	NA	NA	NA	NA
B-81-67	5/18/1998	LNAPL																																								
B-81-67	8/18/1998	LNAPL																																								
B-81-67	11/22/1998	LNAPL																																								
B-81-67	3/8/1999	LNAPL																																								
B-81-67	6/19/1999	LNAPL																																								
B-81-67	9/22/1999	LNAPL																																								
B-81-67	11/18/1999	LNAPL																																								
B-81-67	2/22/2000	LNAPL																																								
B-81-67	5/22/2000	LNAPL																																								
B-81-67	8/28/2000	LNAPL																																								
B-81-67	11/27/2000	LNAPL																																								
B-81-67	2/19/2001	LNAPL																																								
B-81-67	5/2/2001	LNAPL																																								
B-81-67	8/20/2001	LNAPL																																								
B-81-67	2/15/2002	LNAPL																																								
B-81-67	5/28/2002	LNAPL																																								
B-81-67	8/26/2002	LNAPL																																								
B-81-67	11/12/2002	LNAPL																																								
B-81-67	3/10/2003	LNAPL																																								
B-81-67	6/13/2003	LNAPL																																								
B-81-67	8/20/2003	LNAPL																																								
B-81-67	2/23/2004	LNAPL																																								
B-81-67	8/10/2004	LNAPL																																								
B-81-67	12/8/2004	LNAPL																																								
B-81-67	3/7/2005	LNAPL																																								
B-81-67	6/20/2005	LNAPL																																								
B-81-67	3/4/2006	NS																																								
B-81-67	6/6/2006	LNAPL																																								
B-81-67	11/21/2006	LNAPL																																								
B-81-67	5/22/2007	LNAPL																																								
B-81-67	9/15/2008	NS																																								
B-81-67	11/17/2008	LNAPL																																								
B-81-67	5/4/2009	LNAPL																																								
B-81-67	4/26/2010	LNAPL																																								
B-81-67	11/15/2010	LNAPL																																								
B-81-67	5/2/2011	LNAPL																																								
B-81-67	11/14/2011	LNAPL																																								
B-81-67	5/7/2012	LNAPL																																								
B-81-67	11/5/2012	LNAPL																																								
B-81-90	10/30/1997	LNAPL																																									
B-81-90	2/20/1998		NA	<0.5	**18**	NA	<0.5	**36**	**17**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**59**	**14**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**12**	<1.0	<0.5	NA	NA	NA	NA	NA
B-81-90	5/18/1998	LNAPL																																								
B-81-90	8/18/1998	LNAPL																																								
B-81-90	11/22/1998	LNAPL																																								
B-81-90	3/8/1999	LNAPL																																								

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-81-90	6/19/1999	LNAPL																																					
B-81-90	9/22/1999	LNAPL																																					
B-81-90	11/18/1999	LNAPL																																					
B-81-90	2/22/2000	LNAPL																																					
B-81-90	5/22/2000	LNAPL																																					
B-81-90	8/28/2000	LNAPL																																					
B-81-90	11/27/2000	LNAPL																																					
B-81-90	2/19/2001	LNAPL																																					
B-81-90	5/2/2001	LNAPL																																					
B-81-90	8/20/2001	LNAPL																																					
B-81-90	2/15/2002	LNAPL																																					
B-81-90	5/28/2002	LNAPL																																					
B-81-90	8/26/2002	LNAPL																																					
B-81-90	11/12/2002	LNAPL																																					
B-81-90	3/10/2003	LNAPL																																					
B-81-90	6/13/2003	LNAPL																																					
B-81-90	8/20/2003	LNAPL																																					
B-81-90	2/23/2004	LNAPL																																					
B-81-90	8/10/2004	LNAPL																																					
B-81-90	12/8/2004	LNAPL																																					
B-81-90	3/7/2005	LNAPL																																					
B-81-90	6/20/2005	LNAPL																																					
B-81-90	3/4/2006	NS																																					
B-81-90	6/6/2006	LNAPL																																					
B-81-90	11/21/2006	LNAPL																																					
B-81-90	5/22/2007	LNAPL																																					
B-81-90	9/15/2008	NS																																					
B-81-90	11/17/2008	LNAPL																																					
B-81-90	5/4/2009	LNAPL																																					
B-81-90	4/26/2010	LNAPL																																					
B-81-90	11/15/2010	LNAPL																																					
B-81-90	5/2/2011	LNAPL																																					
B-81-90	11/14/2011	LNAPL																																					
B-81-90	5/7/2012	LNAPL																																					
B-81-90	11/5/2012	LNAPL																																					
B-82	10/30/1997	LNAPL																																					
B-82	2/20/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**3.2**	**7.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-82	5/18/1998	LNAPL																																					
B-82	8/18/1998	LNAPL																																					
B-82	11/22/1998	LNAPL																																					
B-82	3/8/1999	LNAPL																																					
B-82	6/19/1999	LNAPL																																					
B-82	9/22/1999	LNAPL																																					
B-82	11/18/1999	LNAPL																																					
B-82	2/22/2000	LNAPL																																					
B-82	5/22/2000	LNAPL																																					
B-82	8/28/2000	LNAPL																																					
B-82	11/27/2000	LNAPL																																					
B-82	2/19/2001	LNAPL																																					
B-82	5/2/2001	LNAPL																																					
B-82	8/20/2001	LNAPL																																					
B-82	2/15/2002	LNAPL																																					
B-82	5/28/2002	LNAPL																																					
B-82	8/26/2002	LNAPL																																					
B-82	11/12/2002	LNAPL																																					
B-82	3/10/2003	LNAPL																																					
B-82	6/13/2003	LNAPL																																					
B-82	8/20/2003	LNAPL																																					
B-82	2/23/2004	LNAPL																																					
B-82	8/10/2004	LNAPL																																					
B-82	12/8/2004	LNAPL																																					
B-82	3/7/2005	LNAPL																																					

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-81-90	6/19/1999	LNAPL																																							
B-81-90	9/22/1999	LNAPL																																							
B-81-90	11/18/1999	LNAPL																																							
B-81-90	2/22/2000	LNAPL																																							
B-81-90	5/22/2000	LNAPL																																							
B-81-90	8/28/2000	LNAPL																																							
B-81-90	11/27/2000	LNAPL																																							
B-81-90	2/19/2001	LNAPL																																							
B-81-90	5/2/2001	LNAPL																																							
B-81-90	8/20/2001	LNAPL																																							
B-81-90	2/15/2002	LNAPL																																							
B-81-90	5/28/2002	LNAPL																																							
B-81-90	8/26/2002	LNAPL																																							
B-81-90	11/12/2002	LNAPL																																							
B-81-90	3/10/2003	LNAPL																																							
B-81-90	6/13/2003	LNAPL																																							
B-81-90	8/20/2003	LNAPL																																							
B-81-90	2/23/2004	LNAPL																																							
B-81-90	8/10/2004	LNAPL																																							
B-81-90	12/8/2004	LNAPL																																							
B-81-90	3/7/2005	LNAPL																																							
B-81-90	6/20/2005	LNAPL																																							
B-81-90	3/4/2006	NS																																							
B-81-90	6/6/2006	LNAPL																																							
B-81-90	11/21/2006	LNAPL																																							
B-81-90	5/22/2007	LNAPL																																							
B-81-90	9/15/2008	NS																																							
B-81-90	11/17/2008	LNAPL																																							
B-81-90	5/4/2009	LNAPL																																							
B-81-90	4/26/2010	LNAPL																																							
B-81-90	11/15/2010	LNAPL																																							
B-81-90	5/2/2011	LNAPL																																							
B-81-90	11/14/2011	LNAPL																																							
B-81-90	5/7/2012	LNAPL																																							
B-81-90	11/5/2012	LNAPL																																							
B-82	10/30/1997	LNAPL																																										
B-82	2/20/1998		NA	<0.5	**23**	NA	<0.5	**2.3**	**20**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-82	5/18/1998	LNAPL																																									
B-82	8/18/1998	LNAPL																																									
B-82	11/22/1998	LNAPL																																									
B-82	3/8/1999	LNAPL																																									
B-82	6/19/1999	LNAPL																																									
B-82	9/22/1999	LNAPL																																									
B-82	11/18/1999	LNAPL																																									
B-82	2/22/2000	LNAPL																																									
B-82	5/22/2000	LNAPL																																									
B-82	8/28/2000	LNAPL																																									
B-82	11/27/2000	LNAPL																																									
B-82	2/19/2001	LNAPL																																									
B-82	5/2/2001	LNAPL																																									
B-82	8/20/2001	LNAPL																																									
B-82	2/15/2002	LNAPL																																									
B-82	5/28/2002	LNAPL																																									
B-82	8/26/2002	LNAPL																																									
B-82	11/12/2002	LNAPL																																									
B-82	3/10/2003	LNAPL																																									
B-82	6/13/2003	LNAPL																																									
B-82	8/20/2003	LNAPL																																									
B-82	2/23/2004	LNAPL																																									
B-82	8/10/2004	LNAPL																																									
B-82	12/8/2004	LNAPL																																									
B-82	3/7/2005	LNAPL																																									

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-82	6/20/2005	LNAPL																																					
B-82	3/4/2006	NS																																					
B-82	6/6/2006	LNAPL																																					
B-82	11/21/2006	Dry/LNAPL																																					
B-82	5/22/2007	LNAPL																																					
B-82	9/15/2008	NS																																					
B-82	11/17/2008	Dry																																					
B-82	5/4/2009	LNAPL																																					
B-82	4/26/2010	LNAPL																																					
B-82	11/15/2010	Dry																																					
B-82	5/2/2011	LNAPL																																					
B-82	11/14/2011	LNAPL																																					
B-82	5/7/2012	LNAPL																																					
B-82	11/5/2012	Dry																																					
B-83	10/30/1997	LNAPL																																					
B-83	2/20/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**3.6**	**7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-83	5/18/1998	LNAPL																																					
B-83	8/18/1998	LNAPL																																					
B-83	11/22/1998	LNAPL																																					
B-83	3/8/1999	LNAPL																																					
B-83	6/19/1999	LNAPL																																					
B-83	9/22/1999	LNAPL																																					
B-83	11/18/1999	LNAPL																																					
B-83	2/22/2000	LNAPL																																					
B-83	5/22/2000	LNAPL																																					
B-83	8/28/2000	LNAPL																																					
B-83	11/27/2000	LNAPL																																					
B-83	2/19/2001	LNAPL																																					
B-83	5/2/2001	LNAPL																																					
B-83	8/20/2001	LNAPL																																					
B-83	2/15/2002	LNAPL																																					
B-83	5/28/2002	LNAPL																																					
B-83	8/26/2002	LNAPL																																					
B-83	11/12/2002	LNAPL																																					
B-83	3/10/2003	LNAPL																																					
B-83	6/13/2003	LNAPL																																					
B-83	8/20/2003	LNAPL																																					
B-83	2/23/2004	LNAPL																																					
B-83	8/10/2004	LNAPL																																					
B-83	12/8/2004	LNAPL																																					
B-83	3/7/2005	LNAPL																																					
B-83	6/20/2005	LNAPL																																					
B-83	3/4/2006	NS																																					
B-83	6/6/2006	LNAPL																																					
B-83	11/20/2006	LNAPL																																					
B-83	5/22/2007	LNAPL																																					
B-83	9/15/2008	NS																																					
B-83	11/17/2008	LNAPL																																					
B-83	5/4/2009	LNAPL																																					
B-83	4/26/2010	LNAPL																																					
B-83	11/15/2010	LNAPL																																					
B-83	5/2/2011	LNAPL																																					
B-83	11/14/2011	LNAPL																																					
B-83	5/7/2012	LNAPL																																					
B-83	11/5/2012	LNAPL																																					
B-85	10/31/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-85	2/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-85	5/18/1998	NS																																					
B-85	8/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-85	11/24/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-85	3/7/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-82	6/20/2005	LNAPL																																							
B-82	3/4/2006	NS																																							
B-82	6/6/2006	LNAPL																																							
B-82	11/21/2006	Dry/LNAPL																																							
B-82	5/22/2007	LNAPL																																							
B-82	9/15/2008	NS																																							
B-82	11/17/2008	Dry																																							
B-82	5/4/2009	LNAPL																																							
B-82	4/26/2010	LNAPL																																							
B-82	11/15/2010	Dry																																							
B-82	5/2/2011	LNAPL																																							
B-82	11/14/2011	LNAPL																																							
B-82	5/7/2012	LNAPL																																							
B-82	11/5/2012	Dry																																							
B-83	10/30/1997	LNAPL																																							
B-83	2/20/1998		NA	<0.5	**19**	NA	<0.5	**22**	**19**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**4.9**	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-83	5/18/1998	LNAPL																																							
B-83	8/18/1998	LNAPL																																							
B-83	11/22/1998	LNAPL																																							
B-83	3/8/1999	LNAPL																																							
B-83	6/19/1999	LNAPL																																							
B-83	9/22/1999	LNAPL																																							
B-83	11/18/1999	LNAPL																																							
B-83	2/22/2000	LNAPL																																							
B-83	5/22/2000	LNAPL																																							
B-83	8/28/2000	LNAPL																																							
B-83	11/27/2000	LNAPL																																							
B-83	2/19/2001	LNAPL																																							
B-83	5/2/2001	LNAPL																																							
B-83	8/20/2001	LNAPL																																							
B-83	2/15/2002	LNAPL																																							
B-83	5/28/2002	LNAPL																																							
B-83	8/26/2002	LNAPL																																							
B-83	11/12/2002	LNAPL																																							
B-83	3/10/2003	LNAPL																																							
B-83	6/13/2003	LNAPL																																							
B-83	8/20/2003	LNAPL																																							
B-83	2/23/2004	LNAPL																																							
B-83	8/10/2004	LNAPL																																							
B-83	12/8/2004	LNAPL																																							
B-83	3/7/2005	LNAPL																																							
B-83	6/20/2005	LNAPL																																							
B-83	3/4/2006	NS																																							
B-83	6/6/2006	LNAPL																																							
B-83	11/20/2006	LNAPL																																							
B-83	5/22/2007	LNAPL																																							
B-83	9/15/2008	NS																																							
B-83	11/17/2008	LNAPL																																							
B-83	5/4/2009	LNAPL																																							
B-83	4/26/2010	LNAPL																																							
B-83	11/15/2010	LNAPL																																							
B-83	5/2/2011	LNAPL																																							
B-83	11/14/2011	LNAPL																																							
B-83	5/7/2012	LNAPL																																							
B-83	11/5/2012	LNAPL																																							
B-85	10/31/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-85	2/18/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-85	5/18/1998	NS																																							
B-85	8/19/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-85	11/24/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-85	3/7/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-85	6/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-85	9/24/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-85	11/20/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-85	2/22/2000	NS																																						
B-85	5/22/2000	NS																																						
B-85	8/28/2000	NS																																						
B-85	11/27/2000	NS																																						
B-85	2/19/2001	NS																																						
B-85	5/2/2001	NS																																						
B-85	8/20/2001	NS																																						
B-85	12/9/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-85	2/12/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-85	5/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-85	8/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-85	11/14/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-85	3/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-85	6/10/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-85	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-85	11/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-85	2/24/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-85	5/18/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-85	8/10/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-85	12/8/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-85	3/7/2005	NS																																						
B-85	6/20/2005	NS																																						
B-85	3/4/2006	NS																																						
B-85	6/19/2006		**2.1**	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	**2.4**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-85	11/20/2006	NS																																						
B-85	6/7/2007	NS																																						
B-85	9/15/2008	NS																																						
B-85	11/20/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-85	5/7/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-85	11/19/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-85	4/28/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-85	11/18/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-85	5/5/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-85	11/17/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-85	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-85	11/8/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	10/31/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	2/20/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139 (dup.)	2/20/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	5/18/1998	NS																																						
B-139	8/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139 (dup.)	8/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	11/25/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139 (dup.)	11/25/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	3/6/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	6/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	9/25/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	11/20/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	2/25/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139 (dup.)	2/25/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	5/24/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	9/1/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	12/5/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	2/23/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	5/5/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	8/21/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	12/9/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	2/11/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	5/30/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-85	6/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-85	9/24/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-85	11/20/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-85	2/22/2000	NS																																							
B-85	5/22/2000	NS																																							
B-85	8/28/2000	NS																																							
B-85	11/27/2000	NS																																							
B-85	2/19/2001	NS																																							
B-85	5/2/2001	NS																																							
B-85	8/20/2001	NS																																							
B-85	12/9/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-85	2/12/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-85	5/29/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-85	8/29/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-85	11/14/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-85	3/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-85	6/10/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-85	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-85	11/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-85	2/24/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-85	5/18/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-85	8/10/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-85	12/8/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-85	3/7/2005	NS																																							
B-85	6/20/2005	NS																																							
B-85	3/4/2006	NS																																							
B-85	6/19/2006		< 0.5	< 0.5	**13**	< 0.5	< 1	< 0.5	**4.3**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-85	11/20/2006	NS																																							
B-85	6/7/2007	NS																																							
B-85	9/15/2008	NS																																							
B-85	11/20/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-85	5/7/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-85	11/19/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-85	4/28/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-85	11/18/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-85	5/5/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-85	11/17/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.09 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-85	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-85	11/8/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	10/31/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-139	2/20/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-139 (dup.)	2/20/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-139	5/18/1998	NS																																							
B-139	8/19/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-139 (dup.)	8/19/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-139	11/25/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-139 (dup.)	11/25/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-139	3/6/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-139	6/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-139	9/25/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-139	11/20/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-139	2/25/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-139 (dup.)	2/25/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-139	5/24/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-139	9/1/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-139	12/5/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA
B-139	2/23/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-139	5/5/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-139	8/21/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-139	12/9/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-139	2/11/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-139	5/30/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-139	8/28/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	11/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	3/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-139	6/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-139	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-139	11/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-139	2/26/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-139	5/19/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-139	8/11/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-139	12/9/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-139	3/7/2005	NS																																						
B-139	6/20/2005	NS																																						
B-139	3/4/2006	NS																																						
B-139	11/20/2006	NS																																						
B-139	6/6/2007	NS																																						
B-139	9/15/2008	NS																																						
B-139	11/20/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	5/7/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	11/18/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	4/28/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	11/17/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	5/6/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-143-45	10/30/1997	NS																																						
B-143-45	2/17/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-143-45	5/18/1998	NS																																						
B-143-45	8/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-143-45	11/22/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-143-45	3/8/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-143-45	6/18/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-143-45 (dup.)	6/18/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-143-45	9/23/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-143-45	11/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-143-45	2/22/2000	NS																																						
B-143-45	5/22/2000	NS																																						
B-143-45	8/28/2000	NS																																						
B-143-45	11/27/2000	NS																																						
B-143-45	2/19/2001	NS																																						
B-143-45	5/2/2001	NS																																						
B-143-45	8/20/2001	NS																																						
B-143-45	2/15/2002	NS																																						
B-143-45	5/28/2002	NS																																						
B-143-45	8/26/2002	NS																																						
B-143-45	11/12/2002	NS																																						
B-143-45	3/10/2003	NS																																						
B-143-45	6/13/2003	NS																																						
B-143-45	8/21/2003	NS																																						
B-143-45	2/23/2004	NS																																						
B-143-45	8/10/2004	NS																																						
B-143-45	12/8/2004	NS																																						
B-143-45	3/7/2005	NS																																						
B-143-45	6/20/2005	NS																																						
B-143-45	3/4/2006	NS																																						
B-143-45	11/20/2006	NS																																						
B-143-50	5/21/2007	NS																																						
B-143-50	9/15/2008	NS																																						
B-143-50	11/17/2008	WLO																																						
B-143-50	5/4/2009	WLO																																						
B-143-50	4/26/2010	WLO																																						
B-143-50	11/15/2010	WLO																																						

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-139	8/28/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-139	11/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-139	3/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-139	6/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-139	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-139	11/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-139	2/26/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-139	5/19/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-139	8/11/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-139	12/9/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-139	3/7/2005	NS																																							
B-139	6/20/2005	NS																																							
B-139	3/4/2006	NS																																							
B-139	11/20/2006	NS																																							
B-139	6/6/2007	NS																																							
B-139	9/15/2008	NS																																							
B-139	11/20/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	5/7/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	11/18/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	4/28/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	11/17/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	5/6/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.18 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-139	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-143-45	10/30/1997	NS																																							
B-143-45	2/17/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-143-45	5/18/1998	NS																																							
B-143-45	8/18/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-143-45	11/22/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-143-45	3/8/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-143-45	6/18/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-143-45 (dup.)	6/18/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-143-45	9/23/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-143-45	11/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-143-45	2/22/2000	NS																																							
B-143-45	5/22/2000	NS																																							
B-143-45	8/28/2000	NS																																							
B-143-45	11/27/2000	NS																																							
B-143-45	2/19/2001	NS																																							
B-143-45	5/2/2001	NS																																							
B-143-45	8/20/2001	NS																																							
B-143-45	2/15/2002	NS																																							
B-143-45	5/28/2002	NS																																							
B-143-45	8/26/2002	NS																																							
B-143-45	11/12/2002	NS																																							
B-143-45	3/10/2003	NS																																							
B-143-45	6/13/2003	NS																																							
B-143-45	8/21/2003	NS																																							
B-143-45	2/23/2004	NS																																							
B-143-45	8/10/2004	NS																																							
B-143-45	12/8/2004	NS																																							
B-143-45	3/7/2005	NS																																							
B-143-45	6/20/2005	NS																																							
B-143-45	3/4/2006	NS																																							
B-143-45	11/20/2006	NS																																							
B-143-50	5/21/2007	NS																																							
B-143-50	9/15/2008	NS																																							
B-143-50	11/17/2008	WLO																																							
B-143-50	5/4/2009	WLO																																							
B-143-50	4/26/2010	WLO																																							
B-143-50	11/15/2010	WLO																																							

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-143-50	5/2/2011	WLO																																					
B-143-50	11/14/2011	WLO																																					
B-143-45	5/7/2012	WLO																																					
B-143-45	11/5/2012	WLO																																					
B-143-70	10/30/1997	NS																																					
B-143-70	2/17/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-143-70	5/18/1998	NS																																					
B-143-70	8/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-143-70	11/22/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-143-70	3/8/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-143-70 (dup.)	3/8/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-143-70	6/18/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-143-70	9/23/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-143-70	11/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-143-70 (dup.)	11/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-143-70	2/22/2000	NS																																					
B-143-70	5/22/2000	NS																																					
B-143-70	8/28/2000	NS																																					
B-143-70	11/27/2000	NS																																					
B-143-70	2/19/2001	NS																																					
B-143-70	5/2/2001	NS																																					
B-143-70	8/20/2001	NS																																					
B-143-70	2/15/2002	NS																																					
B-143-70	5/28/2002	NS																																					
B-143-70	8/26/2002	NS																																					
B-143-70	11/12/2002	NS																																					
B-143-70	3/10/2003	NS																																					
B-143-70	6/13/2003	NS																																					
B-143-70	8/21/2003	NS																																					
B-143-70	2/23/2004	NS																																					
B-143-70	8/10/2004	NS																																					
B-143-70	12/8/2004	NS																																					
B-143-70	3/7/2005	NS																																					
B-143-70	6/20/2005	NS																																					
B-143-70	3/4/2006	NS																																					
B-143-70	11/20/2006	NS																																					
B-143-70	5/21/2007	NS																																					
B-143-70	9/15/2008	NS																																					
B-143-70	11/17/2008	WLO																																					
B-143-70	5/4/2009	WLO																																					
B-143-70	4/26/2010	WLO																																					
B-143-70	11/15/2010	WLO																																					
B-143-70	5/2/2011	WLO																																					
B-143-70	11/14/2011	WLO																																					
B-143-70	5/7/2012	WLO																																					
B-143-70	11/5/2012	WLO																																					
B-144-50	10/30/1997	NS																																					
B-144-50	2/17/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-50	5/18/1998	NS																																					
B-144-50	8/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-50	11/22/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-50	3/8/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-50	6/18/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-50	9/23/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-50	11/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-50	2/22/2000	NS																																					
B-144-50	5/22/2000	NS																																					
B-144-50	8/28/2000	NS																																					
B-144-50	11/27/2000	NS																																					
B-144-50	2/19/2001	NS																																					
B-144-50	5/2/2001	NS																																					

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-143-50	5/2/2011	WLO																																							
B-143-50	11/14/2011	WLO																																							
B-143-45	5/7/2012	WLO																																							
B-143-45	11/5/2012	WLO																																							
B-143-70	10/30/1997	NS																																							
B-143-70	2/17/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-143-70	5/18/1998	NS																																							
B-143-70	8/18/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-143-70	11/22/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-143-70	3/8/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-143-70 (dup.)	3/8/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-143-70	6/18/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-143-70	9/23/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-143-70	11/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-143-70 (dup.)	11/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-143-70	2/22/2000	NS																																						
B-143-70	5/22/2000	NS																																						
B-143-70	8/28/2000	NS																																						
B-143-70	11/27/2000	NS																																						
B-143-70	2/19/2001	NS																																						
B-143-70	5/2/2001	NS																																						
B-143-70	8/20/2001	NS																																						
B-143-70	2/15/2002	NS																																						
B-143-70	5/28/2002	NS																																						
B-143-70	8/26/2002	NS																																						
B-143-70	11/12/2002	NS																																						
B-143-70	3/10/2003	NS																																						
B-143-70	6/13/2003	NS																																						
B-143-70	8/21/2003	NS																																						
B-143-70	2/23/2004	NS																																						
B-143-70	8/10/2004	NS																																						
B-143-70	12/8/2004	NS																																						
B-143-70	3/7/2005	NS																																						
B-143-70	6/20/2005	NS																																						
B-143-70	3/4/2006	NS																																						
B-143-70	11/20/2006	NS																																						
B-143-70	5/21/2007	NS																																						
B-143-70	9/15/2008	NS																																						
B-143-70	11/17/2008	WLO																																						
B-143-70	5/4/2009	WLO																																						
B-143-70	4/26/2010	WLO																																						
B-143-70	11/15/2010	WLO																																						
B-143-70	5/2/2011	WLO																																						
B-143-70	11/14/2011	WLO																																						
B-143-70	5/7/2012	WLO																																						
B-143-70	11/5/2012	WLO																																						
B-144-50	10/30/1997	NS																																							
B-144-50	2/17/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-144-50	5/18/1998	NS																																						
B-144-50	8/18/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-144-50	11/22/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-144-50	3/8/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-144-50	6/18/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-144-50	9/23/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-144-50	11/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-144-50	2/22/2000	NS																																						
B-144-50	5/22/2000	NS																																						
B-144-50	8/28/2000	NS																																						
B-144-50	11/27/2000	NS																																						
B-144-50	2/19/2001	NS																																						
B-144-50	5/2/2001	NS																																						

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-144-50	8/20/2001	NS																																					
B-144-50	2/15/2002	NS																																					
B-144-50	5/28/2002	NS																																					
B-144-50	8/26/2002	NS																																					
B-144-50	11/12/2002	NS																																					
B-144-50	3/10/2003	NS																																					
B-144-50	6/13/2003	NS																																					
B-144-50	8/20/2003	NS																																					
B-144-50	2/23/2004	NS																																					
B-144-50	8/10/2004	NS																																					
B-144-50	12/8/2004	NS																																					
B-144-50	3/7/2005	NS																																					
B-144-50	6/21/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-144-50	3/4/2006	NS																																					
B-144-50	6/15/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-144-50	11/20/2006	NS																																					
B-144-50	6/6/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-144-50	5/21/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-144-50	9/15/2008	NS																																					
B-144-50	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-144-50	5/5/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-50	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-144-50	4/28/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-50	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-144-50	5/3/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-50	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-144-50	5/8/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-50	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-144-75	10/30/1997	NS																																					
B-144-75	2/17/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-75	5/18/1998	NS																																					
B-144-75	8/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-75	11/22/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-75	3/7/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-75	6/18/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-75	9/23/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-75	11/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-75	2/24/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-144-75	5/22/2000	NS																																					
B-144-75	8/28/2000	NS																																					
B-144-75	11/27/2000	NS																																					
B-144-75	2/19/2001	NS																																					
B-144-75	5/2/2001	NS																																					
B-144-75	8/20/2001	NS																																					
B-144-75	2/15/2002	NS																																					
B-144-75	5/28/2002	NS																																					
B-144-75	8/26/2002	NS																																					
B-144-75	11/12/2002	NS																																					
B-144-75	3/10/2003	NS																																					
B-144-75	6/13/2003	NS																																					
B-144-75	8/21/2003	NS																																					
B-144-75	2/23/2004	NS																																					
B-144-75	8/10/2004	NS																																					
B-144-75	12/8/2004	NS																																					
B-144-75	3/7/2005	NS																																					
B-144-75	6/20/2005	NS																																					
B-144-75	3/4/2006	NS																																					
B-144-75	11/20/2006	NS																																					
B-144-75	5/21/2007	NS																																					
B-144-75	9/15/2008	NS																																					
B-144-75	11/17/2008	WLO																																					
B-144-75	5/4/2009	WLO																																					

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-144-50	8/20/2001	NS																																							
B-144-50	2/15/2002	NS																																								
B-144-50	5/28/2002	NS																																							
B-144-50	8/26/2002	NS																																							
B-144-50	11/12/2002	NS																																							
B-144-50	3/10/2003	NS																																							
B-144-50	6/13/2003	NS																																							
B-144-50	8/20/2003	NS																																							
B-144-50	2/23/2004	NS																																							
B-144-50	8/10/2004	NS																																							
B-144-50	12/8/2004	NS																																							
B-144-50	3/7/2005	NS																																							
B-144-50	6/21/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-144-50	3/4/2006	NS																																							
B-144-50	6/15/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-144-50	11/20/2006	NS																																							
B-144-50	6/6/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-144-50	5/21/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-144-50	9/15/2008	NS																																							
B-144-50	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-144-50	5/5/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-144-50	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-144-50	4/28/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-144-50	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-144-50	5/3/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-144-50	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-144-50	5/8/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-144-50	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.29 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-144-75	10/30/1997	NS																																								
B-144-75	2/17/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-144-75	5/18/1998	NS																																							
B-144-75	8/18/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-144-75	11/22/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-144-75	3/7/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-144-75	6/18/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-144-75	9/23/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-144-75	11/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-144-75	2/24/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-144-75	5/22/2000	NS																																							
B-144-75	8/28/2000	NS																																							
B-144-75	11/27/2000	NS																																							
B-144-75	2/19/2001	NS																																							
B-144-75	5/2/2001	NS																																							
B-144-75	8/20/2001	NS																																							
B-144-75	2/15/2002	NS																																							
B-144-75	5/28/2002	NS																																							
B-144-75	8/26/2002	NS																																							
B-144-75	11/12/2002	NS																																							
B-144-75	3/10/2003	NS																																							
B-144-75	6/13/2003	NS																																							
B-144-75	8/21/2003	NS																																							
B-144-75	2/23/2004	NS																																							
B-144-75	8/10/2004	NS																																							
B-144-75	12/8/2004	NS																																							
B-144-75	3/7/2005	NS																																							
B-144-75	6/20/2005	NS																																							
B-144-75	3/4/2006	NS																																							
B-144-75	11/20/2006	NS																																							
B-144-75	5/21/2007	NS																																							
B-144-75	9/15/2008	NS																																							
B-144-75	11/17/2008	WLO																																							
B-144-75	5/4/2009	WLO																																							

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-144-75	4/26/2010	WLO																																					
B-144-75	11/15/2010	WLO																																					
B-144-75	5/2/2011	WLO																																					
B-144-75	11/14/2011	WLO																																					
B-144-75	5/7/2012	WLO																																					
B-144-75	11/5/2012	WLO																																					
B-145	12/3/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-145	2/16/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-145	5/18/1998	NS																																					
B-145	8/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-145	11/23/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-145	3/8/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-145	6/20/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-145	9/25/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-145	11/21/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-145	2/25/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-145	5/22/2000	NS																																					
B-145	8/28/2000	NS																																					
B-145	11/27/2000	NS																																					
B-145	2/19/2001	NS																																					
B-145	5/2/2001	NS																																					
B-145	8/20/2001	NS																																					
B-145	2/15/2002	NS																																					
B-145	5/28/2002	NS																																					
B-145	8/26/2002	NS																																					
B-145	11/12/2002	NS																																					
B-145	3/10/2003	NS																																					
B-145	6/13/2003	NS																																					
B-145	8/21/2003	NS																																					
B-145	2/23/2004	NS																																					
B-145	8/10/2004	NS																																					
B-145	12/8/2004	NS																																					
B-145	3/7/2005	NS																																					
B-145	6/20/2005	NS																																					
B-145	3/4/2006	NS																																					
B-145	11/20/2006	NS																																					
B-145	5/24/2007	NS																																					
B-145	9/15/2008	NS																																					
B-145	11/20/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-145	5/7/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-145	11/19/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-145	4/29/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-145	11/17/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-145	5/4/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-145	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-145	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-145	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	12/4/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-146 (dup.)	12/4/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-146	2/17/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-146 (dup.)	2/17/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-146	5/18/1998	NS																																					
B-146	8/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-146	11/25/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-146	3/6/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-146	6/18/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-146	9/24/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1**	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-146	11/21/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-146	2/26/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-146	5/22/2000	NS																																					
B-146	8/28/2000	NS																																					

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-144-75	4/26/2010	WLO																																							
B-144-75	11/15/2010	WLO																																							
B-144-75	5/2/2011	WLO																																							
B-144-75	11/14/2011	WLO																																							
B-144-75	5/7/2012	WLO																																							
B-144-75	11/5/2012	WLO																																							
B-145	12/3/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-145	2/16/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-145	5/18/1998	NS																																							
B-145	8/19/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-145	11/23/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-145	3/8/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-145	6/20/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-145	9/25/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-145	11/21/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-145	2/25/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-145	5/22/2000	NS																																							
B-145	8/28/2000	NS																																							
B-145	11/27/2000	NS																																							
B-145	2/19/2001	NS																																							
B-145	5/2/2001	NS																																							
B-145	8/20/2001	NS																																							
B-145	2/15/2002	NS																																							
B-145	5/28/2002	NS																																							
B-145	8/26/2002	NS																																							
B-145	11/12/2002	NS																																							
B-145	3/10/2003	NS																																							
B-145	6/13/2003	NS																																							
B-145	8/21/2003	NS																																							
B-145	2/23/2004	NS																																							
B-145	8/10/2004	NS																																							
B-145	12/8/2004	NS																																							
B-145	3/7/2005	NS																																							
B-145	6/20/2005	NS																																							
B-145	3/4/2006	NS																																							
B-145	11/20/2006	NS																																							
B-145	5/24/2007	NS																																							
B-145	9/15/2008	NS																																							
B-145	11/20/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-145	5/7/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-145	11/19/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-145	4/29/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-145	11/17/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-145	5/4/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-145	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-145	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-145	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	12/4/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-146 (dup.)	12/4/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-146	2/17/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-146 (dup.)	2/17/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-146	5/18/1998	NS																																							
B-146	8/18/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-146	11/25/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-146	3/6/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-146	6/18/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-146	9/24/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-146	11/21/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-146	2/26/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-146	5/22/2000	NS																																							
B-146	8/28/2000	NS																																							

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-146	11/27/2000	NS																																					
B-146	2/19/2001	NS																																					
B-146	5/2/2001	NS																																					
B-146	8/20/2001	NS																																					
B-146	2/15/2002	NS																																					
B-146	5/28/2002	NS																																					
B-146	8/27/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-146	11/14/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-146	3/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-146	6/13/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-146	8/19/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-146	2/23/2004	NS																																					
B-146	8/10/2004	NS																																					
B-146	12/8/2004	NS																																					
B-146	3/7/2005	NS																																					
B-146	6/20/2005	NS																																					
B-146	3/4/2006	NS																																					
B-146	11/20/2006	NS																																					
B-146	5/22/2007	NS																																					
B-146	9/15/2008	NS																																					
B-146	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	5/6/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	5/4/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-147	12/4/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.7**	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-147	2/17/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-147	5/21/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-147	8/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-147	11/25/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-147	3/6/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-147	6/18/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-147	9/24/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-147	11/21/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-147	2/26/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-147	5/22/2000	NS																																					
B-147	8/28/2000	NS																																					
B-147	11/27/2000	NS																																					
B-147	2/19/2001	NS																																					
B-147	5/2/2001	NS																																					
B-147	8/20/2001	NS																																					
B-147	2/15/2002	NS																																					
B-147	5/28/2002	NS																																					
B-147	8/26/2002	NS																																					
B-147	11/12/2002	NS																																					
B-147	3/10/2003	NS																																					
B-147	6/13/2003	NS																																					
B-147	8/21/2003	NS																																					
B-147	2/23/2004	NS																																					
B-147	8/10/2004	NS																																					
B-147	12/8/2004	NS																																					
B-147	3/7/2005	NS																																					
B-147	6/20/2005	NS																																					
B-147	3/4/2006	NS																																					
B-147	11/20/2006	NS																																					
B-147	5/22/2007	NS																																					
B-147	9/15/2008	NS																																					
B-147	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-146	11/27/2000	NS																																							
B-146	2/19/2001	NS																																								
B-146	5/2/2001	NS																																								
B-146	8/20/2001	NS																																								
B-146	2/15/2002	NS																																								
B-146	5/28/2002	NS																																								
B-146	8/27/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-146	11/14/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-146	3/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-146	6/13/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-146	8/19/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-146	2/23/2004	NS																																							
B-146	8/10/2004	NS																																							
B-146	12/8/2004	NS																																							
B-146	3/7/2005	NS																																							
B-146	6/20/2005	NS																																							
B-146	3/4/2006	NS																																							
B-146	11/20/2006	NS																																							
B-146	5/22/2007	NS																																							
B-146	9/15/2008	NS																																							
B-146	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	5/6/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	5/4/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-146	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.26 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-147	12/4/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-147	2/17/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-147	5/21/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-147	8/18/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-147	11/25/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-147	3/6/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-147	6/18/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-147	9/24/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-147	11/21/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-147	2/26/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-147	5/22/2000	NS																																							
B-147	8/28/2000	NS																																							
B-147	11/27/2000	NS																																							
B-147	2/19/2001	NS																																							
B-147	5/2/2001	NS																																							
B-147	8/20/2001	NS																																							
B-147	2/15/2002	NS																																							
B-147	5/28/2002	NS																																							
B-147	8/26/2002	NS																																							
B-147	11/12/2002	NS																																							
B-147	3/10/2003	NS																																							
B-147	6/13/2003	NS																																							
B-147	8/21/2003	NS																																							
B-147	2/23/2004	NS																																							
B-147	8/10/2004	NS																																							
B-147	12/8/2004	NS																																							
B-147	3/7/2005	NS																																							
B-147	6/20/2005	NS																																							
B-147	3/4/2006	NS																																							
B-147	11/20/2006	NS																																							
B-147	5/22/2007	NS																																							
B-147	9/15/2008	NS																																							
B-147	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-147	5/6/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-147	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-147	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-147	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-147	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-147	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-147	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-147	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-148	12/4/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-148	2/17/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-148	5/18/1998	NS																																						
B-148	8/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-148	11/24/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-148	3/6/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-148	6/20/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-148	9/24/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-148	11/22/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-148	2/26/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-148	5/22/2000	NS																																						
B-148	8/28/2000	NS																																						
B-148	11/27/2000	NS																																						
B-148	2/19/2001	NS																																						
B-148	5/2/2001	NS																																						
B-148	8/20/2001	NS																																						
B-148	2/15/2002	NS																																						
B-148	5/28/2002	NS																																						
B-148	8/26/2002	NS																																						
B-148	11/12/2002	NS																																						
B-148	3/10/2003	NS																																						
B-148	6/13/2003	NS																																						
B-148	8/21/2003	NS																																						
B-148	2/23/2004	NS																																						
B-148	8/10/2004	NS																																						
B-148	12/8/2004	NS																																						
B-148	3/7/2005	NS																																						
B-148	6/20/2005	NS																																						
B-148	3/4/2006	NS																																						
B-148	11/20/2006	NS																																						
B-148	6/1/2007	NS																																						
B-148	9/15/2008	NS																																						
B-148	11/20/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-148	5/4/2009	Dry																																						
B-148	11/18/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-148	4/28/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-148	11/18/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-148	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-148	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-148	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-148	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-149	12/4/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	2/17/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	5/18/1998	NS																																						
B-149	8/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	11/24/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149 (dup.)	11/24/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	3/8/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	6/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	9/24/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	11/20/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	2/25/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	5/22/2000	NS																																						

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-147	5/6/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-147	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-147	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-147	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-147	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-147	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-147	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-147	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.30 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-148	12/4/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
B-148	2/17/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
B-148	5/18/1998	NS																																									
B-148	8/19/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
B-148	11/24/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
B-148	3/6/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
B-148	6/20/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
B-148	9/24/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
B-148	11/22/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
B-148	2/26/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA	NA
B-148	5/22/2000	NS																																								
B-148	8/28/2000	NS																																								
B-148	11/27/2000	NS																																								
B-148	2/19/2001	NS																																								
B-148	5/2/2001	NS																																								
B-148	8/20/2001	NS																																								
B-148	2/15/2002	NS																																								
B-148	5/28/2002	NS																																								
B-148	8/26/2002	NS																																								
B-148	11/12/2002	NS																																								
B-148	3/10/2003	NS																																								
B-148	6/13/2003	NS																																								
B-148	8/21/2003	NS																																								
B-148	2/23/2004	NS																																								
B-148	8/10/2004	NS																																								
B-148	12/8/2004	NS																																								
B-148	3/7/2005	NS																																								
B-148	6/20/2005	NS																																								
B-148	3/4/2006	NS																																								
B-148	11/20/2006	NS																																								
B-148	6/1/2007	NS																																								
B-148	9/15/2008	NS																																								
B-148	11/20/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-148	5/4/2009	Dry																																									
B-148	11/18/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-148	4/28/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-148	11/18/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-148	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-148	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.06 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.23 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-148	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-148	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-149	12/4/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
B-149	2/17/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
B-149	5/18/1998	NS																																								
B-149	8/19/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
B-149	11/24/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
B-149 (dup.)	11/24/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
B-149	3/8/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
B-149	6/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
B-149	9/24/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
B-149	11/20/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
B-149	2/25/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA	NA
B-149	5/22/2000	NS																																								

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-149	8/28/2000	NS																																					
B-149	11/27/2000	NS																																					
B-149	2/19/2001	NS																																					
B-149	5/2/2001	NS																																					
B-149	8/20/2001	NS																																					
B-149	12/9/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.7**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	2/12/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	6/1/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	8/28/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	11/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.6**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	3/13/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	6/11/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-149	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-149	11/13/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-149	2/24/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-149	5/19/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-149	8/10/2004	NS																																					
B-149	12/8/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-149	3/7/2005	NS																																					
B-149	6/22/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-149	11/30/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-149	3/4/2006	NS																																					
B-149	6/14/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-149	11/29/2006		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	5/29/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-149	5/23/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-149	9/15/2008	NS																																					
B-149	11/17/2008	Insufficient																																					
B-149	5/6/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	11/18/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.61**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	4/28/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	11/17/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	5/4/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	11/16/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	5/9/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-149	11/7/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-150	12/5/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-150	2/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-150	5/18/1998	NS																																					
B-150	8/20/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-150	11/23/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-150	3/8/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-150 (dup.)	3/8/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-150	6/20/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-150	9/25/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-150	11/21/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-150	2/25/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-150	5/22/2000	NS																																					
B-150	8/28/2000	NS																																					
B-150	11/27/2000	NS																																					
B-150	2/19/2001	NS																																					
B-150	5/2/2001	NS																																					
B-150	8/20/2001	NS																																					
B-150	2/15/2002	NS																																					
B-150	5/28/2002	NS																																					
B-150	8/26/2002	NS																																					
B-150	11/12/2002	NS																																					
B-150	3/10/2003	NS																																					
B-150	6/13/2003	NS																																					
B-150	8/20/2003	NS																																					
B-150	11/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-150	2/26/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-149	8/28/2000	NS																																							
B-149	11/27/2000	NS																																								
B-149	2/19/2001	NS																																								
B-149	5/2/2001	NS																																								
B-149	8/20/2001	NS																																								
B-149	12/9/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-149	2/12/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-149	6/1/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-149	8/28/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-149	11/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-149	3/13/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-149	6/11/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-149	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-149	11/13/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-149	2/24/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-149	5/19/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-149	8/10/2004	NS																																							
B-149	12/8/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-149	3/7/2005	NS																																							
B-149	6/22/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-149	11/30/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-149	3/4/2006	NS																																							
B-149	6/14/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-149	11/29/2006		<0.5	<1.00	<1.00	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-149	5/29/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-149	5/23/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-149	9/15/2008	NS																																							
B-149	11/17/2008	Insufficient																																							
B-149	5/6/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA
B-149	11/18/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA
B-149	4/28/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-149	11/17/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-149	5/4/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-149	11/16/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-149	5/9/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-149	11/7/2012		<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	<0.50	<0.50	NA	NA	NA	NA	NA	NA
B-150	12/5/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-150	2/19/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-150	5/18/1998	NS																																							
B-150	8/20/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-150	11/23/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-150	3/8/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-150 (dup.)	3/8/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-150	6/20/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-150	9/25/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-150	11/21/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-150	2/25/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-150	5/22/2000	NS																																						
B-150	8/28/2000	NS																																						
B-150	11/27/2000	NS																																						
B-150	2/19/2001	NS																																						
B-150	5/2/2001	NS																																						
B-150	8/20/2001	NS																																						
B-150	2/15/2002	NS																																						
B-150	5/28/2002	NS																																						
B-150	8/26/2002	NS																																						
B-150	11/12/2002	NS																																						
B-150	3/10/2003	NS																																						
B-150	6/13/2003	NS																																						
B-150	8/20/2003	NS																																						
B-150	11/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-150	2/26/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-150	5/19/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-150	8/12/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-150	12/10/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-150	3/7/2005	NS																																						
B-150	6/20/2005	NS																																						
B-150	3/4/2006	NS																																						
B-150	11/20/2006	NS																																						
B-150	5/23/2007	NS																																						
B-150	9/15/2008	NS																																						
B-150	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-150	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-150	11/18/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-150	4/28/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-150	11/17/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-150	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-150	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-150	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-150	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-151	12/5/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-151 (dup.)	12/5/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-151	2/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-151	5/18/1998	NS	NS																		NS											NS							NS
B-151	8/20/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-151	11/23/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-151	3/8/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-151	6/18/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-151	9/24/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-151	11/20/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-151	2/25/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-151	5/22/2000	NS																																						
B-151	8/28/2000	NS																																						
B-151	11/27/2000	NS																																						
B-151	2/19/2001	NS																																						
B-151	5/2/2001	NS																																						
B-151	8/20/2001	NS																																						
B-151	2/15/2002	NS																																						
B-151	5/28/2002	NS																																						
B-151	8/26/2002	NS																																						
B-151	11/12/2002	NS																																						
B-151	3/10/2003	NS																																						
B-151	6/13/2003	NS																																						
B-151	8/21/2003	NS																																						
B-151	2/23/2004	NS																																						
B-151	8/10/2004	NS																																						
B-151	12/8/2004	NS																																						
B-151	3/7/2005	NS																																						
B-151	6/20/2005	NS																																						
B-151	3/4/2006	NS																																						
B-151	11/20/2006	NS																																						
B-151	5/23/2007	NS																																						
B-151	9/15/2008	NS																																						
B-151	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-151	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-151	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-151	11/17/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-151	5/4/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-151	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-151	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-151	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-152	12/5/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-152	2/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-150	5/19/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-150	8/12/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-150	12/10/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-150	3/7/2005	NS																																							
B-150	6/20/2005	NS																																							
B-150	3/4/2006	NS																																							
B-150	11/20/2006	NS																																							
B-150	5/23/2007	NS																																							
B-150	9/15/2008	NS																																							
B-150	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-150	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-150	11/18/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-150	4/28/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-150	11/17/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-150	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-150	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-150	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-150	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-151	12/5/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-151 (dup.)	12/5/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-151	2/19/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-151	5/18/1998	NS	NS			NS								NS									NS				NS	NS		NS	NS	NS								
B-151	8/20/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-151	11/23/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-151	3/8/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-151	6/18/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-151	9/24/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-151	11/20/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-151	2/25/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-151	5/22/2000	NS																																							
B-151	8/28/2000	NS																																							
B-151	11/27/2000	NS																																							
B-151	2/19/2001	NS																																							
B-151	5/2/2001	NS																																							
B-151	8/20/2001	NS																																							
B-151	2/15/2002	NS																																							
B-151	5/28/2002	NS																																							
B-151	8/26/2002	NS																																							
B-151	11/12/2002	NS																																							
B-151	3/10/2003	NS																																							
B-151	6/13/2003	NS																																							
B-151	8/21/2003	NS																																							
B-151	2/23/2004	NS																																							
B-151	8/10/2004	NS																																							
B-151	12/8/2004	NS																																							
B-151	3/7/2005	NS																																							
B-151	6/20/2005	NS																																							
B-151	3/4/2006	NS																																							
B-151	11/20/2006	NS																																							
B-151	5/23/2007	NS																																							
B-151	9/15/2008	NS																																							
B-151	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-151	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-151	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-151	11/17/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-151	5/4/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-151	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-151	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-151	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-152	12/5/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-152	2/18/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-152	5/18/1998	NS																																					
B-152	8/20/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-152	11/23/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-152	3/6/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-152	6/18/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-152	9/24/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-152	11/20/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-152	2/27/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-152	5/22/2000	NS																																					
B-152	8/28/2000	NS																																					
B-152	11/27/2000	NS																																					
B-152	2/19/2001	NS																																					
B-153	12/5/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	2/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	5/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	8/20/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153 (dup.)	8/20/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	11/23/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153 (dup.)	11/23/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5		<0.5	<0.5	<0.5	NA
B-153	3/9/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	6/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153 (dup.)	6/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	9/25/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	11/21/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153 (dup.)	11/21/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	2/26/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	5/26/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	8/31/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	12/1/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	2/23/2001	LNAPL																																					
B-153	5/10/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	8/20/2001	LNAPL																																					
B-153	2/15/2002	LNAPL																																					
B-153	5/31/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	8/27/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	11/14/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	3/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153 (dup.)	3/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	6/11/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-153	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-153	11/13/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-153	2/24/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-153	5/20/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-153	8/10/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-153	12/8/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-153 (dup.)	12/8/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-153	3/7/2005	NS																																					
B-153	6/20/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-153	12/1/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-153	3/4/2006	NS																																					
B-153	6/13/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-153	11/29/2006		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	5/29/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-153	11/26/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-153	5/23/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-153	9/15/2008	NS																																					
B-153	11/20/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	5/7/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	11/18/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	4/27/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	11/17/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	5/5/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-152	5/18/1998	NS																																							
B-152	8/20/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-152	11/23/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-152	3/6/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-152	6/18/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-152	9/24/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-152	11/20/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-152	2/27/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-152	5/22/2000	NS																																							
B-152	8/28/2000	NS																																							
B-152	11/27/2000	NS																																							
B-152	2/19/2001	NS																																							
B-153	12/5/1997		NA	<0.5	<0.5	NA	<0.5	**0.7**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-153	2/18/1998		NA	<0.5	**1.3**	NA	<0.5	**0.6**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-153	5/19/1998		NA	<0.5	**1.5**	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-153	8/20/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-153 (dup.)	8/20/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-153	11/23/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-153 (dup.)	11/23/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-153	3/9/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-153	6/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-153 (dup.)	6/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-153	9/25/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-153	11/21/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-153 (dup.)	11/21/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-153	2/26/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-153	5/26/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-153	8/31/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-153	12/1/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA
B-153	2/23/2001	LNAPL																																							
B-153	5/10/2001		NA	<0.5	<0.5	NA	<0.5	**1.6**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-153	8/20/2001	LNAPL																																							
B-153	2/15/2002	LNAPL																																							
B-153	5/31/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-153	8/27/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-153	11/14/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-153	3/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-153 (dup.)	3/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-153	6/11/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-153	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-153	11/13/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-153	2/24/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-153	5/20/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-153	8/10/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-153	12/8/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-153 (dup.)	12/8/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-153	3/7/2005	NS																																							
B-153	6/20/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-153	12/1/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-153	3/4/2006	NS																																							
B-153	6/13/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-153	11/29/2006		<0.5	<1.00	<1.00	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0	<0.5	<0.5	<0.5	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-153	5/29/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-153	11/26/2007		< 0.5	<1	<1	< 0.5	<5	**2.37 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-153	5/23/2008		< 0.5	<1	<1	< 0.5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-153	9/15/2008	NS																																							
B-153	11/20/2008		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA
B-153	5/7/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA
B-153	11/18/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA
B-153	4/27/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-153	11/17/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-153	5/5/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-153	11/15/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.11 J**	**0.15 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	5/10/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.25 J**	**0.31 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-153	11/8/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**<0.50**	**<0.50**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-163	12/5/1997	LNAPL																																						
B-163	2/20/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**3.2**	**7.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-163	5/18/1998	LNAPL																																						
B-163	8/18/1998	LNAPL																																						
B-163	11/22/1998	LNAPL																																						
B-163	3/8/1999	LNAPL																																						
B-163	6/19/1999	LNAPL																																						
B-163	9/22/1999	LNAPL																																						
B-163	11/18/1999	LNAPL																																						
B-163	2/22/2000	LNAPL																																						
B-163	5/22/2000	LNAPL																																						
B-163	8/28/2000	LNAPL																																						
B-163	11/27/2000	LNAPL																																						
B-163	2/19/2001	LNAPL																																						
B-163	5/2/2001	LNAPL																																						
B-163	8/20/2001	LNAPL																																						
B-163	2/15/2002	LNAPL																																						
B-163	5/28/2002	LNAPL																																						
B-163	8/26/2002	LNAPL																																						
B-163	11/12/2002	LNAPL																																						
B-163	3/10/2003	LNAPL																																						
B-163	6/13/2003	LNAPL																																						
B-163	8/20/2003	LNAPL																																						
B-163	2/23/2004	LNAPL																																						
B-163	8/10/2004	LNAPL																																						
B-163	12/8/2004	LNAPL																																						
B-163	3/7/2005	LNAPL																																						
B-163	6/20/2005	LNAPL																																						
B-163	3/4/2006	NS																																						
B-163	6/6/2006	LNAPL																																						
B-163	11/20/2006	LNAPL																																						
B-163	5/22/2007	LNAPL																																						
B-163	9/15/2008	NS																																						
B-163	11/17/2008	LNAPL																																						
B-163	5/4/2009	LNAPL																																						
B-163	4/26/2010	LNAPL																																						
B-163	11/15/2010	LNAPL																																						
B-163	5/2/2011	LNAPL																																						
B-163	11/14/2011	LNAPL																																						
B-163	5/7/2012	LNAPL																																						
B-163	11/5/2012	LNAPL																																						
B-167-56	12/6/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	2/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	**0.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	5/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	8/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	11/22/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	3/7/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	6/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	9/24/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	11/20/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	2/26/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	5/25/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	9/2/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	11/29/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	2/23/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	5/6/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	8/20/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	12/10/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-153	11/15/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-153	5/10/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-153	11/8/2012		<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA	NA
B-163	12/5/1997	LNAPL																																									
B-163	2/20/1998		NA	<0.5	**30**	NA	<0.5	**27**	**28**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**29**	**11**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-163	5/18/1998	LNAPL																																									
B-163	8/18/1998	LNAPL																																									
B-163	11/22/1998	LNAPL																																									
B-163	3/8/1999	LNAPL																																									
B-163	6/19/1999	LNAPL																																									
B-163	9/22/1999	LNAPL																																									
B-163	11/18/1999	LNAPL																																									
B-163	2/22/2000	LNAPL																																									
B-163	5/22/2000	LNAPL																																									
B-163	8/28/2000	LNAPL																																									
B-163	11/27/2000	LNAPL																																									
B-163	2/19/2001	LNAPL																																									
B-163	5/2/2001	LNAPL																																									
B-163	8/20/2001	LNAPL																																									
B-163	2/15/2002	LNAPL																																									
B-163	5/28/2002	LNAPL																																									
B-163	8/26/2002	LNAPL																																									
B-163	11/12/2002	LNAPL																																									
B-163	3/10/2003	LNAPL																																									
B-163	6/13/2003	LNAPL																																									
B-163	8/20/2003	LNAPL																																									
B-163	2/23/2004	LNAPL																																									
B-163	8/10/2004	LNAPL																																									
B-163	12/8/2004	LNAPL																																									
B-163	3/7/2005	LNAPL																																									
B-163	6/20/2005	LNAPL																																									
B-163	3/4/2006	NS																																									
B-163	6/6/2006	LNAPL																																									
B-163	11/20/2006	LNAPL																																									
B-163	5/22/2007	LNAPL																																									
B-163	9/15/2008	NS																																									
B-163	11/17/2008	LNAPL																																									
B-163	5/4/2009	LNAPL																																									
B-163	4/26/2010	LNAPL																																									
B-163	11/15/2010	LNAPL																																									
B-163	5/2/2011	LNAPL																																									
B-163	11/14/2011	LNAPL																																									
B-163	5/7/2012	LNAPL																																									
B-163	11/5/2012	LNAPL																																									
B-167-56	12/6/1997		NA	<0.5	**2.3**	NA	<0.5	**0.7**	**2.4**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.9**	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-56	2/19/1998		NA	<0.5	**3**	NA	<0.5	**0.7**	**3.4**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**1**	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-56	5/19/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-56	8/18/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-56	11/22/1998		NA	<0.5	**1**	NA	<0.5	**0.6**	**1.4**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-56	3/7/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-56	6/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-56	9/24/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-56	11/20/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-56	2/26/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-56	5/25/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-56	9/2/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-56	11/29/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA
B-167-56	2/23/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-56	5/6/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-56	8/20/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-56	12/10/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-167-56	2/12/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	5/30/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	8/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	11/15/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	3/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	6/11/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-56	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-56	11/13/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-56	2/24/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-56	5/20/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-56	8/10/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-56	12/8/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-56	3/8/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-56	6/24/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-56	9/28/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-56	12/5/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-56	3/4/2006		NA	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-167-56	6/15/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-167-56	9/13/2006		<0.200	<0.200	<0.310	<0.200	<0.290	<0.310	<0.200	<0.200	<0.200	<0.220	<0.200	<0.250	<0.200	<0.220	<0.190	<0.200	NA	<0.730	<0.250	<0.380	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.390	<0.200	<0.200	NA	<0.200	<0.200	<0.230	<0.200	<0.200	<0.230	NA
B-167-56	11/28/2006		<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA
B-167-56	3/21/2007		<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA
B-167-56	6/5/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-167-56	9/21/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-167-56	11/30/2007		**0.450 J**	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-167-56	3/20/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-167-56	5/27/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-167-56	9/15/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	11/20/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	2/25/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	5/7/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	9/24/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	11/20/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	2/25/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	4/27/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	9/17/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	11/19/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	2/17/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	5/6/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	9/21/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	11/17/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	2/16/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	5/10/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.08 J**	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	9/18/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-56	11/9/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-167-95	12/6/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	2/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	5/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	8/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	11/22/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	3/7/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	6/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	9/24/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	11/20/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	2/26/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	5/25/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	9/2/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	11/29/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	2/23/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	5/6/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	8/20/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	12/10/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	2/12/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-167-56	2/12/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-56	5/30/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-56	8/29/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-56	11/15/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-56	3/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-56	6/11/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-56	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-56	11/13/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-56	2/24/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-56	5/20/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-56	8/10/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-56	12/8/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-56	3/8/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-56	6/24/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-56	9/28/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-56	12/5/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-56	3/4/2006		NA	<0.50	<0.50	NA	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-167-56	6/15/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-167-56	9/13/2006		<0.200	<.400	<.200	<.200	<.44	<.500	<.200	<.200	<0.200	<0.200	<0.250	<0.200	<0.290	<0.320	<0.220	<0.200	<0.200	<0.200	<0.200	<0.310	NA	<0.200	<0.220	<0.200	<0.350	<0.200	<5.06	<0.200	<0.200	<.200	NA	NA	NA	NA	NA	<1.81	NA
B-167-56	11/28/2006		<0.500	<1.00	<1.00	<0.500	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<10.0	<0.500	<0.500	<0.500	NA	NA	NA	NA	<50.0	<50.0	<0.500	<10.0	<10.0
B-167-56	3/21/2007		<0.500	<1.00	<1.00	<0.500	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<10.0	<0.500	<0.500	<0.500	NA	NA	NA	NA	<50.0	<50.0	<0.500	<10.0	<10.0
B-167-56	6/5/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-167-56	9/21/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-167-56	11/30/2007		**2.30**	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-167-56	3/20/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-167-56	5/27/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-167-56	9/15/2008		<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1	NA	NA	NA	NA	NA
B-167-56	11/20/2008		<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	<1	NA	NA	NA	NA	NA
B-167-56	2/25/2009		<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<5.0	NA	NA	<0.5	<0.5	<0.5	<1	NA	NA	NA	NA	NA
B-167-56	5/7/2009		<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	<1	NA	NA	NA	NA	NA
B-167-56	9/24/2009		<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-167-56	11/20/2009		<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-167-56	2/25/2010		<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-167-56	4/27/2010		<0.5	<0.5	<0.5	NA	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-167-56	9/17/2010		<0.5	<0.5	<0.5	NA	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-167-56	11/19/2010		<0.5	<0.5	<0.5	NA	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-167-56	2/17/2011		<0.5	<0.5	<0.5	NA	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-167-56	5/6/2011		<0.5	<0.5	<0.5	NA	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-167-56	9/21/2011		<0.5	<0.5	<0.5	NA	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-167-56	11/17/2011		<0.5	<0.5	<0.5	NA	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-167-56	2/16/2012		<0.5	<0.5	<0.5	NA	**0.69 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.31 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**0.5 J**	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-167-56	5/10/2012		<0.5	<0.5	<0.5	NA	<1	**0.75**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.06 J**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.09 J**	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**0.11 J**	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-167-56	9/18/2012		<0.5	<0.5	<0.5	NA	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA
B-167-56	11/9/2012		<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	NA
B-167-95	12/6/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-95	2/19/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-95	5/19/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-95	8/18/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-95	11/22/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-95	3/7/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-95	6/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-95	9/24/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-95	11/20/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-167-95	2/26/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-95	5/25/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-95	9/2/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-95	11/29/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA
B-167-95	2/23/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-95	5/6/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-95	8/20/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-95	12/10/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-95	2/12/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-167-95	5/30/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	8/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	11/15/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	3/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	6/11/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-95	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-95	11/14/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-95	2/24/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-95	5/20/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-95	8/10/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-95	12/8/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-95	3/8/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-95	6/24/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-95	9/28/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-95	12/5/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-167-95	3/4/2006		NA	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-167-95	6/15/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-167-95	9/12/2006		<0.200	<0.200	<0.310	<0.200	<0.290	<0.310	<0.200	<0.200	<0.200	<0.220	<0.200	<0.250	<0.200	<0.220	<0.190	<0.200	NA	<0.730	<0.250	<0.380	<0.200	<0.200	<0.200	<0.200	<0.200	<0.390	<0.200	<0.200	<0.200	NA	<0.200	<0.200	<0.230	<0.200	<0.200	<0.230	NA
B-167-95	11/28/2006		<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA
B-167-95	3/21/2007		<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA
B-167-95	6/6/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-167-95 (dup)	6/6/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-167-95	9/20/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-167-95	11/30/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-167-95	3/20/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-167-95	3/20/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-167-95	9/15/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	11/20/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.0**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	2/25/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	5/7/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	9/23/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	11/19/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	2/25/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	4/27/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	9/17/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	11/18/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	2/17/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	5/6/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	9/21/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	11/17/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.24 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	2/16/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	5/10/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	9/19/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-167-95	11/8/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-169	12/6/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-169	2/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-169	5/18/1998	NS																																						
B-169	8/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-169	11/24/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-169	3/8/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-169	6/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-169	9/24/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-169	11/20/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-169 (dup.)	11/20/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-169	2/26/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-169	5/22/2000	NS																																						
B-169	8/28/2000	NS																																						
B-169	11/27/2000	NS																																						
B-169	2/19/2001	NS																																						
B-169	5/2/2001	NS																																						
B-169	8/20/2001	NS																																						
B-169	12/8/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-167-95	5/30/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-95	8/29/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-95	11/15/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-95	3/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-167-95	6/11/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-95	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-95	11/14/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-95	2/24/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-95	5/20/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-95	8/10/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-95	12/8/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-95	3/8/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-95	6/24/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-95	9/28/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-95	12/5/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-167-95	3/4/2006		NA	<0.50	<0.50	NA	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-167-95	6/15/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-167-95	9/12/2006		<0.200	<.400	<.200	<.200	<.44	**1.04 J**	<.200	<.200	<0.200	<0.200	<0.250	<0.200	<0.290	<0.320	<0.220	<0.200	<0.200	<0.200	<0.310	NA	<0.200	<0.220	<0.200	<0.350	<0.200	<5.06	<0.200	<0.200	<.200	NA	NA	NA	NA	NA	<1.81	NA
B-167-95	11/28/2006		<0.500	<1.00	<1.00	<0.500	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<10.0	<0.500	<0.500	<0.500	NA	NA	NA	NA	<50.0	<50.0	<0.500	<10.0	<10.0
B-167-95	3/21/2007		<0.500	<1.00	<1.00	<0.500	<5.00	**3.81 J**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<10.0	<0.500	<0.500	<0.500	NA	NA	NA	NA	<50.0	<50.0	<0.500	<10.0	<10.0
B-167-95	6/6/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-167-95 (dup)	6/6/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-167-95	9/20/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-167-95	11/30/2007		**2.71**	<1	<1	< 0.5	<5	**8.83**	**2.58**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	**2.54**	**2.58**	< 0.5	**4.87**	< 0.5	**17.50**	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-167-95	3/20/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-167-95	3/20/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-167-95	9/15/2008		<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1	NA	NA	NA	NA	NA	NA
B-167-95	11/20/2008		<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	<1	NA	NA	NA	NA	NA	NA
B-167-95	2/25/2009		<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<5.0	NA	NA	<0.5	<0.5	<0.5	<1	NA	NA	NA	NA	NA	NA
B-167-95	5/7/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-167-95	9/23/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-167-95	11/19/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-167-95	2/25/2010		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-167-95	4/27/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-167-95	9/17/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-167-95	11/18/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-167-95	2/17/2011		<0.5	<0.5	<0.5	NA	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-167-95	5/6/2011		<0.5	<0.5	<0.5	NA	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-167-95	9/21/2011		<0.5	<0.5	<0.5	NA	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**4.3 J**	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-167-95	11/17/2011		<0.5	<0.5	<0.5	NA	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-167-95	2/16/2012		<0.5	<0.5	<0.5	NA	**0.46 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-167-95	5/10/2012		<0.5	<0.5	<0.5	NA	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-167-95	9/19/2012		<0.5	<0.5	<0.5	NA	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-167-95	11/8/2012		<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA
B-169	12/6/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-169	2/18/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-169	5/18/1998	NS																																							
B-169	8/19/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-169	11/24/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-169	3/8/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-169	6/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-169	9/24/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-169	11/20/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-169 (dup.)	11/20/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-169	2/26/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-169	5/22/2000	NS																																						
B-169	8/28/2000	NS																																						
B-169	11/27/2000	NS																																						
B-169	2/19/2001	NS																																						
B-169	5/2/2001	NS																																						
B-169	8/20/2001	NS																																						
B-169	12/8/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-169	2/11/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-169	5/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-169	8/28/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-169	11/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-169	3/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-169	6/10/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NA
B-169	8/19/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-169	2/23/2004	NS																																						
B-169	8/10/2004	NS																																						
B-169	12/8/2004	NS																																						
B-169	3/7/2005	NS																																						
B-169	6/20/2005	NS																																						
B-169	3/4/2006	NS																																						
B-169	11/20/2006	NS																																						
B-169	5/30/2007	NS																																						
B-169	9/15/2008	NS																																						
B-169	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-169	5/7/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-169	11/19/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-169	4/29/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-169	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-169	5/5/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-169	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-169	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-169	11/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-172	12/4/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-172	2/17/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-172	5/18/1998	NS																																						
B-172	8/18/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-172	11/25/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-172	3/6/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-172	6/18/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-172	9/24/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-172	11/21/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-172	2/26/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-172	5/22/2000	NS																																						
B-172	8/28/2000	NS																																						
B-172	11/27/2000	NS																																						
B-172	2/19/2001	NS																																						
B-172	5/2/2001	NS																																						
B-172	8/20/2001	NS																																						
B-172	2/15/2002	NS																																						
B-172	5/28/2002	NS																																						
B-172	8/26/2002	NS																																						
B-172	11/12/2002	NS																																						
B-172	3/10/2003	NS																																						
B-172	6/13/2003	NS																																						
B-172	8/20/2003	NS																																						
B-172	2/23/2004	NS																																						
B-172	8/10/2004	NS																																						
B-172	12/8/2004	NS																																						
B-172	3/7/2005	NS																																						
B-172	6/20/2005	NS																																						
B-172	3/4/2006	NS																																						
B-172	11/20/2006	NS																																						
B-172	5/21/2007	NS																																						
B-172	9/15/2008	NS																																						
B-172	11/17/2008	WLO																																						
B-172	5/4/2009	WLO																																						
B-172	4/26/2010	WLO																																						
B-172	11/15/2010	WLO																																						
B-172	5/2/2011	WLO																																						

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-169	2/11/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-169	5/29/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-169	8/28/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-169	11/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-169	3/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-169	6/10/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-169	8/19/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-169	2/23/2004	NS																																							
B-169	8/10/2004	NS																																							
B-169	12/8/2004	NS																																							
B-169	3/7/2005	NS																																							
B-169	6/20/2005	NS																																							
B-169	3/4/2006	NS																																							
B-169	11/20/2006	NS																																							
B-169	5/30/2007	NS																																							
B-169	9/15/2008	NS																																							
B-169	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-169	5/7/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-169	11/19/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-169	4/29/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-169	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-169	5/5/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-169	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.07 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.27 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-169	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-169	11/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-172	12/4/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-172	2/17/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-172	5/18/1998	NS																																							
B-172	8/18/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-172	11/25/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-172	3/6/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-172	6/18/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-172	9/24/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-172	11/21/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-172	2/26/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-172	5/22/2000	NS																																							
B-172	8/28/2000	NS																																							
B-172	11/27/2000	NS																																							
B-172	2/19/2001	NS																																							
B-172	5/2/2001	NS																																							
B-172	8/20/2001	NS																																							
B-172	2/15/2002	NS																																							
B-172	5/28/2002	NS																																							
B-172	8/26/2002	NS																																							
B-172	11/12/2002	NS																																							
B-172	3/10/2003	NS																																							
B-172	6/13/2003	NS																																							
B-172	8/20/2003	NS																																							
B-172	2/23/2004	NS																																							
B-172	8/10/2004	NS																																							
B-172	12/8/2004	NS																																							
B-172	3/7/2005	NS																																							
B-172	6/20/2005	NS																																							
B-172	3/4/2006	NS																																							
B-172	11/20/2006	NS																																							
B-172	5/21/2007	NS																																							
B-172	9/15/2008	NS																																							
B-172	11/17/2008	WLO																																							
B-172	5/4/2009	WLO																																							
B-172	4/26/2010	WLO																																							
B-172	11/15/2010	WLO																																							
B-172	5/2/2011	WLO																																							

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-172	11/14/2011	WLO																																					
B-172	5/7/2012	WLO																																					
B-172	11/5/2012	WLO																																					
B-173	12/6/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-173 (dup.)	12/6/1997		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-173	2/17/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-173	5/18/1998	NS																																					
B-173	8/19/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-173	11/24/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-173	3/6/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-173 (dup.)	3/6/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5		<0.5	<0.5	<0.5	NA
B-173	6/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-173	9/26/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-173 (dup.)	9/26/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-173	11/21/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-173	2/25/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-173	5/22/2000	NS																																					
B-173	8/28/2000	NS																																					
B-173	11/27/2000	NS																																					
B-173	2/19/2001	NS																																					
B-173	5/2/2001	NS																																					
B-173	8/20/2001	NS																																					
B-173	2/15/2002	NS																																					
B-173	5/28/2002	NS																																					
B-173	8/28/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-173	11/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-173	3/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-173	6/10/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-173	8/19/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-173	11/11/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-173	2/24/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-173	5/18/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-173	8/10/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-173	12/8/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-173	3/7/2005	NS																																					
B-173	6/20/2005	NS																																					
B-173	3/4/2006	NS																																					
B-173	11/20/2006	NS																																					
B-173	5/24/2007	NS																																					
B-173	9/15/2008	NS																																					
B-173	11/20/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-173	5/7/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-173	11/19/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-173	4/29/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-173	11/18/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-173	5/4/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-173	11/17/2011		**0.06 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-173	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-173	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-182	8/26/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-182	9/26/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-182	11/22/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-182	2/22/2000	LNAPL																																					
B-182	5/22/2000	LNAPL																																					
B-182	8/28/2000	LNAPL																																					
B-182	11/27/2000	LNAPL																																					
B-182	2/23/2001	LNAPL																																					
B-182	5/2/2001	LNAPL																																					
B-182	8/20/2001	LNAPL																																					
B-182	2/15/2002	LNAPL																																					
B-182	5/28/2002	LNAPL																																					

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-172	11/14/2011	WLO																																							
B-172	5/7/2012	WLO																																								
B-172	11/5/2012	WLO																																								
B-173	12/6/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-173 (dup.)	12/6/1997		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-173	2/17/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-173	5/18/1998	NS																																							
B-173	8/19/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-173	11/24/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-173	3/6/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-173 (dup.)	3/6/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-173	6/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-173	9/26/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-173 (dup.)	9/26/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-173	11/21/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-173	2/25/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-173	5/22/2000	NS																																							
B-173	8/28/2000	NS																																							
B-173	11/27/2000	NS																																							
B-173	2/19/2001	NS																																							
B-173	5/2/2001	NS																																							
B-173	8/20/2001	NS																																							
B-173	2/15/2002	NS																																							
B-173	5/28/2002	NS																																							
B-173	8/28/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-173	11/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-173	3/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-173	6/10/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-173	8/19/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-173	11/11/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-173	2/24/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-173	5/18/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-173	8/10/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-173	12/8/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-173	3/7/2005	NS																																							
B-173	6/20/2005	NS																																							
B-173	3/4/2006	NS																																							
B-173	11/20/2006	NS																																							
B-173	5/24/2007	NS																																							
B-173	9/15/2008	NS																																							
B-173	11/20/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-173	5/7/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-173	11/19/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-173	4/29/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-173	11/18/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-173	5/4/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-173	11/17/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-173	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-173	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-182	8/26/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-182	9/26/1999		NA	<0.5	**1.1**	NA	<0.5	<0.5	**0.6**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-182	11/22/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-182	2/22/2000	LNAPL																																							
B-182	5/22/2000	LNAPL																																							
B-182	8/28/2000	LNAPL																																							
B-182	11/27/2000	LNAPL																																							
B-182	2/23/2001	LNAPL																																							
B-182	5/2/2001	LNAPL																																							
B-182	8/20/2001	LNAPL																																							
B-182	2/15/2002	LNAPL																																							
B-182	5/28/2002	LNAPL																																							

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-182	8/26/2002	LNAPL																																					
B-182	11/12/2002	LNAPL																																					
B-182	3/10/2003	LNAPL																																					
B-182	6/13/2003	LNAPL																																					
B-182	8/20/2003	LNAPL																																					
B-182	2/23/2004	LNAPL																																					
B-182	8/10/2004	LNAPL																																					
B-182	12/8/2004	LNAPL																																					
B-182	3/7/2005	LNAPL																																					
B-182	6/28/2005	LNAPL	NA	NR	NR	<0.5	<0.5	NR	<0.5	**1.4**	**0.93**	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-182	3/4/2006	NS																																					
B-182	6/6/2006	LNAPL																																					
B-182	11/20/2006	LNAPL																																					
B-182	5/22/2007	Sheen																																					
B-182	9/15/2008	NS																																					
B-182	11/17/2008	LNAPL																																					
B-182	5/4/2009	LNAPL																																					
B-182	4/26/2010	LNAPL																																					
B-182	11/15/2010	Sheen																																					
B-182	5/2/2011	LNAPL																																					
B-182	11/14/2011	LNAPL																																					
B-182	5/7/2012	Sheen																																					
B-182	11/5/2012	Sheen																																					
B-183	8/27/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	**1.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183 (dup.)	8/27/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1**	**1.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	9/26/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	11/22/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	2/27/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	5/26/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	9/2/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1**	**1.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	11/27/2000	LNAPL																																					
B-183	2/23/2001	LNAPL																																					
B-183	5/5/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	8/20/2001	LNAPL																																					
B-183	2/15/2002	LNAPL																																					
B-183	5/31/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	**1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	8/28/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	11/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.1**	**1.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	3/13/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	6/11/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	**0.9**	**1.1**	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-183	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	**1.1**	**1.4**	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-183	11/13/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	**0.9**	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-183	2/24/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	**0.9**	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-183	5/19/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	**3.3**	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-183	8/11/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	**0.7**	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-183	12/8/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-183	3/7/2005	NS																																					
B-183	6/22/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	**0.93**	**0.96**	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-183	12/1/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	**0.85**	**0.93**	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-183	3/4/2006	NS																																					
B-183	6/19/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	**1.1**	**1.1**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-183	11/30/2006		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.760**	**0.980**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	5/29/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	**3.75**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-183	5/20/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	**0.78**	**1.0**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-183	9/15/2008																																						
B-183	11/20/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
DUP-1	11/20/2008	Duplicate of B-183	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	5/6/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	11/18/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.70**	**1.20**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	4/28/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.99**	**1.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	11/17/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	5/4/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-182	8/26/2002	LNAPL																																							
B-182	11/12/2002	LNAPL																																								
B-182	3/10/2003	LNAPL																																							
B-182	6/13/2003	LNAPL																																							
B-182	8/20/2003	LNAPL																																							
B-182	2/23/2004	LNAPL																																							
B-182	8/10/2004	LNAPL																																							
B-182	12/8/2004	LNAPL																																							
B-182	3/7/2005	LNAPL																																							
B-182	6/28/2005	LNAPL	NA	NR	<0.5	NA	NR	**3.8**	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	**1.7**	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	**1.5**	NR	NR	NA	NA	NA	NA	NA
B-182	3/4/2006	NS																																							
B-182	6/6/2006	LNAPL																																							
B-182	11/20/2006	LNAPL																																							
B-182	5/22/2007	Sheen																																							
B-182	9/15/2008	NS																																							
B-182	11/17/2008	LNAPL																																							
B-182	5/4/2009	LNAPL																																							
B-182	4/26/2010	LNAPL																																							
B-182	11/15/2010	Sheen																																							
B-182	5/2/2011	LNAPL																																							
B-182	11/14/2011	LNAPL																																							
B-182	5/7/2012	Sheen																																							
B-182	11/5/2012	Sheen																																							
B-183	8/27/1999		NA	<0.5	<0.5	NA	<0.5	**1.4**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-183 (dup.)	8/27/1999		NA	<0.5	<0.5	NA	<0.5	**1.5**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-183	9/26/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-183	11/22/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-183	2/27/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-183	5/26/2000		NA	<0.5	<0.5	NA	<0.5	**1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-183	9/2/2000		NA	<0.5	<0.5	NA	<0.5	**1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-183	11/27/2000	LNAPL																																							
B-183	2/23/2001	LNAPL																																							
B-183	5/5/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-183	8/20/2001	LNAPL																																							
B-183	2/15/2002	LNAPL																																							
B-183	5/31/2002		NA	<0.5	<0.5	NA	<0.5	**1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-183	8/28/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-183	11/13/2002		NA	<0.5	<0.5	NA	<0.5	**1.9**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-183	3/13/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-183	6/11/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-183	8/20/2003		NA	NR	**0.9**	NA	NR	**0.6**	**0.7**	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-183	11/13/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-183	2/24/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-183	5/19/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-183	8/11/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-183	12/8/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-183	3/7/2005	NS																																							
B-183	6/22/2005		NA	NR	<0.5	NA	NR	**1.7**	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-183	12/1/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-183	3/4/2006	NS																																							
B-183	6/19/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	**0.66**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-183	11/30/2006		<0.5	<1.00	<1.00	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0	<0.5	<0.5	<0.5	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-183	5/29/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-183	5/20/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-183	9/15/2008																																								
B-183	11/20/2008		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
DUP-1	11/20/2008	Duplicate of B-183	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-183	5/6/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-183	11/18/2009		<0.5	<0.5	<0.5	<0.5	<1.0	**3.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-183	4/28/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	**2.1**	<1.0	NA	NA	NA	NA	NA	NA
B-183	11/17/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-183	5/4/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-183	11/16/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.60**	**2.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	5/9/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.22 J**	**0.43 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-183	11/7/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.61**	**1.0**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-184	8/27/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	9/27/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184 (dup.)	9/27/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	11/18/1999	LNAPL																																						
B-184	2/22/2000	LNAPL																																						
B-184	5/22/2000	LNAPL																																						
B-184	8/30/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	11/27/2000	LNAPL																																						
B-184	2/23/2001	LNAPL																																						
B-184	5/10/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	8/22/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	12/9/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	2/15/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	5/30/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	8/27/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	11/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	3/13/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	6/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-184	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-184	11/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-184	2/26/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-184	5/19/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-184	8/12/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-184	12/8/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-184	3/7/2005	NS																																						
B-184	6/20/2005	LNAPL	NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-184	3/4/2006	NS																																						
B-184	6/12/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
B-184	12/4/2006		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	6/15/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-184	11/20/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
B-184	9/15/2008	NS																																						
B-184	11/19/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	5/6/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	5/6/2009	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	11/18/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	11/18/2009	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	4/28/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	4/28/2010	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	11/15/2010	Sheen																																						
B-184	5/4/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	11/16/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.84**	**1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	5/9/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.25 J**	**0.43 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-184	11/6/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**<0.50**	**<0.50**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-185	8/27/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.7**	**1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-185	9/22/1999	LNAPL																																						
B-185	11/18/1999	LNAPL																																						
B-185	2/22/2000	LNAPL																																						
B-185	5/22/2000	LNAPL																																						
B-185	8/28/2000	LNAPL																																						
B-185	11/27/2000	LNAPL																																						
B-185	2/19/2001	LNAPL																																						
B-185	5/2/2001	LNAPL																																						
B-185	8/20/2001	LNAPL																																						
B-185	2/15/2002	NS																																						
B-185	5/28/2002	LNAPL																																						
B-185	8/26/2002	LNAPL																																						
B-185	11/12/2002	LNAPL																																						

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-183	11/16/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-183	5/9/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-183	11/7/2012		<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.27 J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA
B-184	8/27/1999		NA	<0.5	**0.8**	NA	<0.5	**0.8**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-184	9/27/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-184 (dup.)	9/27/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-184	11/18/1999	LNAPL																																								
B-184	2/22/2000	LNAPL																																								
B-184	5/22/2000	LNAPL																																								
B-184	8/30/2000		NA	<0.5	**0.6**	NA	<0.5	**1.2**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-184	11/27/2000	LNAPL																																								
B-184	2/23/2001	LNAPL																																								
B-184	5/10/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-184	8/22/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-184	12/9/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-184	2/15/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-184	5/30/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-184	8/27/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-184	11/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-184	3/13/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-184	6/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-184	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-184	11/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-184	2/26/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-184	5/19/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-184	8/12/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-184	12/8/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-184	3/7/2005	NS																																								
B-184	6/20/2005	LNAPL	NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-184	3/4/2006	NS																																								
B-184	6/12/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-184	12/4/2006		<0.5	<1.00	<1.00	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0	<0.5	<0.5	<0.5	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-184	6/15/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-184	11/20/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	**7.85 J**	<50	<0.5	<10	<10
B-184	9/15/2008	NS																																								
B-184	11/19/2008		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-184	5/6/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-184	5/6/2009	Duplicate	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-184	11/18/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-184	11/18/2009	Duplicate	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-184	4/28/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-184	4/28/2010	Duplicate	<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-184	11/15/2010	Sheen																																								
B-184	5/4/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-184	11/16/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-184	5/9/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-184	11/6/2012		<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA
B-185	8/27/1999		NA	<0.5	<0.5	NA	<0.5	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-185	9/22/1999	LNAPL																																								
B-185	11/18/1999	LNAPL																																								
B-185	2/22/2000	LNAPL																																								
B-185	5/22/2000	LNAPL																																								
B-185	8/28/2000	LNAPL																																								
B-185	11/27/2000	LNAPL																																								
B-185	2/19/2001	LNAPL																																								
B-185	5/2/2001	LNAPL																																								
B-185	8/20/2001	LNAPL																																								
B-185	2/15/2002	NS																																								
B-185	5/28/2002	LNAPL																																								
B-185	8/26/2002	LNAPL																																								
B-185	11/12/2002	LNAPL																																								

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-185	3/10/2003	LNAPL																																					
B-185	6/13/2003	LNAPL																																					
B-185	8/20/2003	LNAPL																																					
B-185	2/23/2004	LNAPL																																					
B-185	8/10/2004	LNAPL																																					
B-185	12/8/2004	LNAPL																																					
B-185	3/7/2005	NS																																					
B-185	6/20/2005	LNAPL																																					
B-185	3/4/2006	NS																																					
B-185	6/23/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	**0.89**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-185 (dup.)	6/23/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	**0.91**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-185	12/4/2006		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-185	6/8/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-185	12/3/2007		**0.550**	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	**0.33 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-185	5/20/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-185	9/15/2008	NS																																					
B-185	11/18/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.65**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-185	5/5/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-185	11/17/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.72**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-185	4/28/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.0**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-185	11/16/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.75**	**0.69**	**1.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-185	11/16/2010	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.53**	<0.5	**1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-185	5/3/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-185	5/3/2011	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-185	11/16/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.97**	**2.0**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-185	11/16/2011	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.98**	**2.0**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-185	5/8/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.38 J**	**0.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-185	5/8/2012	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.40 J**	**0.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-185	11/6/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**<0.50**	**1.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-186-38	8/26/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-186-38 (dup.)	8/26/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-186-38	9/22/1999	LNAPL																																					
B-186-38	11/18/1999	LNAPL																																					
B-186-38	2/22/2000	LNAPL																																					
B-186-38	5/22/2000	LNAPL																																					
B-186-38	8/28/2000	LNAPL																																					
B-186-38	11/27/2000	LNAPL																																					
B-186-38	2/19/2001	LNAPL																																					
B-186-38	5/2/2001	LNAPL																																					
B-186-38	8/20/2001	LNAPL																																					
B-186-38	2/15/2002	LNAPL																																					
B-186-38	5/28/2002	LNAPL																																					
B-186-38	8/26/2002	LNAPL																																					
B-186-38	11/12/2002	LNAPL																																					
B-186-38	3/10/2003	LNAPL																																					
B-186-38	6/13/2003	LNAPL																																					
B-186-38	8/20/2003	LNAPL																																					
B-186-38	2/23/2004	LNAPL																																					
B-186-38	8/10/2004	LNAPL																																					
B-186-38	12/8/2004	LNAPL																																					
B-186-38	3/7/2005	LNAPL																																					
B-186-38	6/28/2005	LNAPL	NA	NR	NR	**190**	<10	NR	<10	10	<10	<10	NR	NR	<10	**39**	NR	NR	<10	NR	NA	NR	NR	NR	NR	NR	<10	**100**	NR	NR	NR	NA	NR	NR	NR	**130**	NR	NR	NA
B-186-38	3/4/2006	NS																																					
B-186-38	6/22/2006		**2400**	< 5	< 5	< 5	< 5	< 10	**18**	**16**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 10
B-186-38	12/5/2006		**4,460**	<0.5	<0.5	<0.5	<0.5	<0.5	**8.03**	**9.18**	**2.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-186-38	5/22/2007	Sheen																																					
B-186-38	9/15/2008	NS																																					
B-186-38	11/17/2008	Sheen																																					
B-186-38	5/4/2009	Sheen																																					
B-186-38	4/26/2010	LNAPL																																					
B-186-38	11/15/2010	Sheen																																					
B-186-38	5/2/2011	Sheen																																					

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-185	3/10/2003	LNAPL																																							
B-185	6/13/2003	LNAPL																																							
B-185	8/20/2003	LNAPL																																							
B-185	2/23/2004	LNAPL																																							
B-185	8/10/2004	LNAPL																																							
B-185	12/8/2004	LNAPL																																							
B-185	3/7/2005	NS																																							
B-185	6/20/2005	LNAPL																																							
B-185	3/4/2006	NS																																							
B-185	6/23/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-185 (dup.)	6/23/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-185	12/4/2006		<0.5	<1.00	<1.00	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<10.0	<0.5	<0.5	<0.5	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-185	6/8/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-185	12/3/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.94**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	**1.22**	<10	<10
B-185	5/20/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	< 0.5	<10	<10
B-185	9/15/2008	NS																																							
B-185	11/18/2008		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-185	5/5/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-185	11/17/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-185	4/28/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-185	11/16/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	**0.61**	NA	NA	NA	NA	NA	NA	NA
B-185	11/16/2010	Duplicate	<0.5	<0.5	<0.5	NA	**1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-185	5/3/2011		<0.5	<0.5	<0.5	NA	<1.0	**1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-185	5/3/2011	Duplicate	<0.5	<0.5	<0.5	NA	<1.0	**1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-185	11/16/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-185	11/16/2011	Duplicate	<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-185	5/8/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-185	5/8/2012	Duplicate	<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.13 J**	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-185	11/6/2012		<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	**<0.50**	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA
B-186-38	8/26/1999		NA	<0.5	**2.2**	NA	<0.5	**5.9**	**2**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**6.8**	**2.7**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-186-38 (dup.)	8/26/1999		NA	<0.5	**2.3**	NA	<0.5	**6.8**	**2.1**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**7.9**	**3**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-186-38	9/22/1999	LNAPL																																							
B-186-38	11/18/1999	LNAPL																																							
B-186-38	2/22/2000	LNAPL																																							
B-186-38	5/22/2000	LNAPL																																							
B-186-38	8/28/2000	LNAPL																																							
B-186-38	11/27/2000	LNAPL																																							
B-186-38	2/19/2001	LNAPL																																							
B-186-38	5/2/2001	LNAPL																																							
B-186-38	8/20/2001	LNAPL																																							
B-186-38	2/15/2002	LNAPL																																							
B-186-38	5/28/2002	LNAPL																																							
B-186-38	8/26/2002	LNAPL																																							
B-186-38	11/12/2002	LNAPL																																							
B-186-38	3/10/2003	LNAPL																																							
B-186-38	6/13/2003	LNAPL																																							
B-186-38	8/20/2003	LNAPL																																							
B-186-38	2/23/2004	LNAPL																																							
B-186-38	8/10/2004	LNAPL																																							
B-186-38	12/8/2004	LNAPL																																							
B-186-38	3/7/2005	LNAPL																																							
B-186-38	6/28/2005	LNAPL	NA	NR	**48**	NA	NR	**110**	**53**	NR	NR	NR	<10	NA	NR	NR	NR	NR	<10	NR	NR	NA	**180**	**82**	NR	NA	NA	NR	NA	NA	NA	<10	<10	NR	NR	NA	NA	NA	NA	NA	NA
B-186-38	3/4/2006	NS																																							
B-186-38	6/22/2006		**230**	< 5	**37**	< 5	< 10	**98**	**34**	< 5	< 5	< 5	< 5	< 0.5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	**63**	**130**	< 5	**130**	< 5	**780**	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-186-38	12/5/2006		**433**	<1.00	**39.1**	**8.52**	<5.0	**157**	**47**	<0.5	<0.5	<0.5	<0.5	**0.54**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**154**	**46.9**	<0.5	**146**	<0.5	**537**	<0.5	<0.5	<0.5	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-186-38	5/22/2007	Sheen																																							
B-186-38	9/15/2008	NS																																							
B-186-38	11/17/2008	Sheen																																							
B-186-38	5/4/2009	Sheen																																							
B-186-38	4/26/2010	LNAPL																																							
B-186-38	11/15/2010	Sheen																																							
B-186-38	5/2/2011	Sheen																																							

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-186-38	11/14/2011	Sheen																																					
B-186-38	5/7/2012	Sheen																																					
B-186-38	11/5/2012	Sheen																																					
B-186-56	8/26/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**1.2**	<0.5	**0.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-186-56	9/22/1999	LNAPL																																					
B-186-56	11/18/1999	LNAPL																																					
B-186-56	2/22/2000	LNAPL																																					
B-186-56	5/22/2000	LNAPL																																					
B-186-56	8/28/2000	LNAPL																																					
B-186-56	11/27/2000	LNAPL																																					
B-186-56	2/19/2001	LNAPL																																					
B-186-56	5/2/2001	LNAPL																																					
B-186-56	8/20/2001	LNAPL																																					
B-186-56	2/15/2002	LNAPL																																					
B-186-56	5/28/2002	LNAPL																																					
B-186-56	8/26/2002	LNAPL																																					
B-186-56	11/12/2002	LNAPL																																					
B-186-56	3/10/2003	LNAPL																																					
B-186-56	6/13/2003	LNAPL																																					
B-186-56	8/20/2003	LNAPL																																					
B-186-56	2/23/2004	LNAPL																																					
B-186-56	8/10/2004	LNAPL																																					
B-186-56	12/8/2004	LNAPL																																					
B-186-56	3/7/2005	LNAPL																																					
B-186-56	6/20/2005	NS																																					
B-186-56	3/4/2006	NS																																					
B-186-56	6/6/2006	LNAPL																																					
B-186-56	11/20/2006	LNAPL																																					
B-186-56	5/22/2007	LNAPL																																					
B-186-56	9/15/2008	NS																																					
B-186-56	11/17/2008	LNAPL																																					
B-186-56	5/4/2009	LNAPL																																					
B-186-56	4/26/2010	LNAPL																																					
B-186-56	11/15/2010	LNAPL																																					
B-186-56	5/2/2011	LNAPL																																					
B-186-56	11/14/2011	LNAPL																																					
B-186-56	5/7/2012	LNAPL																																					
B-186-56	11/5/2012	LNAPL																																					
B-187	8/27/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**14**	**20**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**18**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-187	9/22/1999	LNAPL																																					
B-187	11/18/1999	LNAPL																																					
B-187	2/22/2000	LNAPL																																					
B-187	5/22/2000	LNAPL																																					
B-187	8/28/2000	LNAPL																																					
B-187	11/27/2000	LNAPL																																					
B-187	2/19/2001	LNAPL																																					
B-187	5/2/2001	LNAPL																																					
B-187	8/20/2001	LNAPL																																					
B-187	2/15/2002	NS																																					
B-187	5/28/2002	LNAPL																																					
B-187	8/26/2002	LNAPL																																					
B-187	11/12/2002	LNAPL																																					
B-187	3/10/2003	LNAPL																																					
B-187	6/13/2003	LNAPL																																					
B-187	8/21/2003	LNAPL																																					
B-187	2/23/2004	LNAPL																																					
B-187	8/10/2004	LNAPL																																					
B-187	12/8/2004	LNAPL																																					
B-187	3/7/2005	LNAPL																																					
B-187	6/20/2005	LNAPL																																					
B-187	3/4/2006	NS																																					

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-186-38	11/14/2011	Sheen																																							
B-186-38	5/7/2012	Sheen																																								
B-186-38	11/5/2012	Sheen																																								
B-186-56	8/26/1999		NA	<0.5	**9.1**	NA	<0.5	**6.3**	**7.7**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**3.7**	**1**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-186-56	9/22/1999	LNAPL																																								
B-186-56	11/18/1999	LNAPL																																								
B-186-56	2/22/2000	LNAPL																																								
B-186-56	5/22/2000	LNAPL																																								
B-186-56	8/28/2000	LNAPL																																								
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B-186-56	3/10/2003	LNAPL																																								
B-186-56	6/13/2003	LNAPL																																								
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B-186-56	8/10/2004	LNAPL																																								
B-186-56	12/8/2004	LNAPL																																								
B-186-56	3/7/2005	LNAPL																																								
B-186-56	6/20/2005	NS																																								
B-186-56	3/4/2006	NS																																								
B-186-56	6/6/2006	LNAPL																																								
B-186-56	11/20/2006	LNAPL																																								
B-186-56	5/22/2007	LNAPL																																								
B-186-56	9/15/2008	NS																																								
B-186-56	11/17/2008	LNAPL																																								
B-186-56	5/4/2009	LNAPL																																								
B-186-56	4/26/2010	LNAPL																																								
B-186-56	11/15/2010	LNAPL																																								
B-186-56	5/2/2011	LNAPL																																								
B-186-56	11/14/2011	LNAPL																																								
B-186-56	5/7/2012	LNAPL																																								
B-186-56	11/5/2012	LNAPL																																								
B-187	8/27/1999		NA	<0.5	**62**	NA	<0.5	**140**	**75**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**140**	**59**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-187	9/22/1999	LNAPL																																								
B-187	11/18/1999	LNAPL																																								
B-187	2/22/2000	LNAPL																																								
B-187	5/22/2000	LNAPL																																								
B-187	8/28/2000	LNAPL																																								
B-187	11/27/2000	LNAPL																																								
B-187	2/19/2001	LNAPL																																								
B-187	5/2/2001	LNAPL																																								
B-187	8/20/2001	LNAPL																																								
B-187	2/15/2002	NS																																								
B-187	5/28/2002	LNAPL																																								
B-187	8/26/2002	LNAPL																																								
B-187	11/12/2002	LNAPL																																								
B-187	3/10/2003	LNAPL																																								
B-187	6/13/2003	LNAPL																																								
B-187	8/21/2003	LNAPL																																								
B-187	2/23/2004	LNAPL																																								
B-187	8/10/2004	LNAPL																																								
B-187	12/8/2004	LNAPL																																								
B-187	3/7/2005	LNAPL																																								
B-187	6/20/2005	LNAPL																																								
B-187	3/4/2006	NS																																								

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-187	6/6/2006	LNAPL																																					
B-187	11/20/2006	LNAPL																																					
B-187	5/22/2007	LNAPL																																					
B-187	9/15/2008	NS																																					
B-187	11/17/2008	LNAPL																																					
B-187	5/4/2009	LNAPL																																					
B-187	4/26/2010	LNAPL																																					
B-187	11/15/2010	LNAPL																																					
B-187	5/2/2011	Sheen																																					
B-187	11/14/2011	LNAPL																																					
B-187	5/7/2012	LNAPL																																					
B-187	11/5/2012	LNAPL																																					
B-189	8/26/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	**2.9**	**7.6**	**1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-189	9/22/1999	LNAPL																																					
B-189	11/18/1999	LNAPL																																					
B-189	2/22/2000	LNAPL																																					
B-189	5/22/2000	LNAPL																																					
B-189	8/28/2000	LNAPL																																					
B-189	11/27/2000	LNAPL																																					
B-189	2/19/2001	LNAPL																																					
B-189	5/2/2001	LNAPL																																					
B-189	8/20/2001	LNAPL																																					
B-189	2/15/2002	LNAPL																																					
B-189	5/28/2002	LNAPL																																					
B-189	8/26/2002	LNAPL																																					
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B-189	6/13/2003	LNAPL																																					
B-189	8/20/2003	LNAPL																																					
B-189	2/23/2004	LNAPL																																					
B-189	8/10/2004	LNAPL																																					
B-189	12/8/2004	LNAPL																																					
B-189	3/7/2005	LNAPL																																					
B-189	6/20/2005	LNAPL																																					
B-189	3/4/2006	NS																																					
B-189	6/6/2006	LNAPL																																					
B-189	11/20/2006	LNAPL																																					
B-189	5/21/2007	LNAPL																																					
B-189	9/15/2008	NS																																					
B-189	11/17/2008	LNAPL																																					
B-189	5/4/2009	LNAPL																																					
B-189	4/26/2010	LNAPL																																					
B-189	11/15/2010	Sheen																																					
B-189	5/2/2011	Sheen																																					
B-189	11/14/2011	LNAPL																																					
B-189	5/7/2012	Sheen																																					
B-189	11/5/2012	LNAPL																																					
B-190	8/27/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**8.4**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	9/27/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	11/22/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	2/25/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	5/25/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	9/2/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	11/30/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	2/23/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	5/6/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	8/22/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	12/10/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	2/11/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	5/30/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	8/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-187	6/6/2006	LNAPL																																							
B-187	11/20/2006	LNAPL																																							
B-187	5/22/2007	LNAPL																																							
B-187	9/15/2008	NS																																							
B-187	11/17/2008	LNAPL																																							
B-187	5/4/2009	LNAPL																																							
B-187	4/26/2010	LNAPL																																							
B-187	11/15/2010	LNAPL																																							
B-187	5/2/2011	Sheen																																							
B-187	11/14/2011	LNAPL																																							
B-187	5/7/2012	LNAPL																																							
B-187	11/5/2012	LNAPL																																							
B-189	8/26/1999		NA	<0.5	**26**	NA	<0.5	**31**	**24**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**26**	**13**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**2.9**	<1.0	<0.5	NA	NA	NA	NA	NA
B-189	9/22/1999	LNAPL																																								
B-189	11/18/1999	LNAPL																																								
B-189	2/22/2000	LNAPL																																								
B-189	5/22/2000	LNAPL																																								
B-189	8/28/2000	LNAPL																																								
B-189	11/27/2000	LNAPL																																								
B-189	2/19/2001	LNAPL																																								
B-189	5/2/2001	LNAPL																																								
B-189	8/20/2001	LNAPL																																								
B-189	2/15/2002	LNAPL																																								
B-189	5/28/2002	LNAPL																																								
B-189	8/26/2002	LNAPL																																								
B-189	11/12/2002	LNAPL																																								
B-189	3/10/2003	LNAPL																																								
B-189	6/13/2003	LNAPL																																								
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B-189	2/23/2004	LNAPL																																								
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B-189	3/7/2005	LNAPL																																								
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B-189	3/4/2006	NS																																								
B-189	6/6/2006	LNAPL																																								
B-189	11/20/2006	LNAPL																																								
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B-189	5/7/2012	Sheen																																								
B-189	11/5/2012	LNAPL																																								
B-190	8/27/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	0.8	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-190	9/27/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-190	11/22/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-190	2/25/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-190	5/25/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-190	9/2/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-190	11/30/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA
B-190	2/23/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-190	5/6/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-190	8/22/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-190	12/10/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-190	2/11/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-190	5/30/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-190	8/29/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-190	11/15/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190 (dup.)	11/15/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	3/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	6/11/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-190	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-190	11/13/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-190	2/24/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-190	5/20/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-190	8/11/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-190 (dup.)	12/9/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-190	12/9/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-190	3/8/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-190	6/17/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-190	9/28/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-190	12/6/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-190	3/6/2006		NA	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-190	3/4/2006	NS																																						
B-190	6/15/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-190	9/13/2006		<0.200	<0.200	<0.310	<0.200	<0.290	<0.310	<0.200	<0.200	<0.200	<0.220	<0.200	<0.250	<0.200	<0.220	<0.190	<0.200	NA	<0.730	<0.250	<0.380	<0.200	<0.200	<0.200	<0.200	<0.200	<0.390	<0.200	<0.200	<0.200	NA	<0.200	<0.200	<0.230	<0.200	<0.200	<0.230	NA
B-190	12/5/2006		<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA
B-190	3/22/2007		<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA
B-190	6/6/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-190 (dup)	6/6/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-190	9/20/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-190 (dup)	9/20/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-190	12/3/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-190 (dup)	12/3/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-190	3/21/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-190	5/28/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-190	9/16/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
DUP-091608	9/16/2008	Duplicate of B-190	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	11/21/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	2/25/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	5/7/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	9/23/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	11/19/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	2/25/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	2/25/2010	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	4/28/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	9/17/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	11/18/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	2/17/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	5/5/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	9/21/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	11/17/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	2/16/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.26 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	5/11/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	9/18/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-190	11/8/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-191	8/27/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-191	9/26/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-191	11/22/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-191	2/25/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-191	5/22/2000	NS																																						
B-191	8/28/2000	NS																																						
B-191	11/27/2000	NS																																						
B-191	2/19/2001	NS																																						
B-191	5/2/2001	NS																																						
B-191	8/20/2001	NS																																						
B-191	12/11/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-191	2/14/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-191	5/30/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-190	11/15/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-190 (dup.)	11/15/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-190	3/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-190	6/11/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-190	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-190	11/13/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-190	2/24/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-190	5/20/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-190	8/11/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-190 (dup.)	12/9/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-190	12/9/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-190	3/8/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-190	6/17/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-190	9/28/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-190	12/6/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-190	3/6/2006		NA	<0.50	<0.50	NA	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-190	3/4/2006	NS																																							
B-190	6/15/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-190	9/13/2006		<0.200	<.400	<.200	<.200	<.44	<.500	<.200	<.200	<0.200	<0.200	<0.250	<0.200	<0.290	<0.320	<0.220	<0.200	<0.200	<0.200	<0.310	NA	<0.200	<0.220	<0.200	<0.350	<0.200	<5.06	<0.200	<0.200	**3.23**	NA	NA	NA	NA	<1.81	NA
B-190	12/5/2006		<0.500	<1.00	<1.00	<0.500	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	**1.06**	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	**1.0**	**58.6**	<0.500	<0.500	**3.23**	NA	NA	NA	NA	<50.0	<50.0	<0.500	<10.0	<10.0
B-190	3/22/2007		<0.500	<1.00	<1.00	<0.500	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<10.0	<0.500	<0.500	**4.76**	NA	NA	NA	NA	<50.0	<50.0	<0.500	<10.0	<10.0
B-190	6/6/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	**2.38**	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-190 (dup)	6/6/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	**2.52**	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-190	9/20/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**6.63 J**	< 0.5	< 0.5	**2.22**	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-190 (dup)	9/20/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**7.60 J**	< 0.5	< 0.5	**2.04**	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-190	12/3/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	**3.32**	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-190 (dup)	12/3/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	**3.45**	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-190	3/21/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	**2.19**	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-190	5/28/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-190	9/16/2008		<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1	NA	NA	NA	NA	NA	NA
DUP-091608	9/16/2008	Duplicate of B-190	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1	NA	NA	NA	NA	NA	NA
B-190	11/21/2008		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-190	2/25/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<5.0	NA	NA	**2.0**	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-190	5/7/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**1.9**	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-190	9/23/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**2.2**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-190	11/19/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**1.9**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-190	2/25/2010		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**1.5**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-190	2/25/2010	Duplicate	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**1.6**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-190	4/28/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**1.5**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-190	9/17/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**2.9**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-190	11/18/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**1.9**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-190	2/17/2011		<0.5	<0.5	<0.5	NA	**1.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**1.5**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-190	5/5/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**1.1**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-190	9/21/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**4.9 J**	NA	NA	**2.1**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-190	11/17/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**1.2**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-190	2/16/2012		<0.5	<0.5	<0.5	NA	**2.0**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**6.4 J**	NA	NA	**1.6**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-190	5/11/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**1.4**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-190	9/18/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**4.8 J**	NA	NA	**2.1**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-190	11/8/2012		<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	**<10**	<0.50	<0.50	**2.3**	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA
B-191	8/27/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-191	9/26/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-191	11/22/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-191	2/25/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-191	5/22/2000	NS																																						
B-191	8/28/2000	NS																																						
B-191	11/27/2000	NS																																						
B-191	2/19/2001	NS																																						
B-191	5/2/2001	NS																																						
B-191	8/20/2001	NS																																						
B-191	12/11/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-191	2/14/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-191	5/30/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-191	8/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-191	11/15/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-191	3/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-191	6/11/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-191 (dup.)	6/11/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-191	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-191 (dup.)	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-191	11/13/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-191	2/24/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-191 (dup.)	2/24/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-191	5/20/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-191	8/11/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-191	12/10/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-191	3/7/2005	NS																																						
B-191	6/20/2005	NS																																						
B-191	3/4/2006	NS																																						
B-191	11/21/2006	NS																																						
B-191	5/21/2007	Sheen																																						
B-191	9/15/2008	NS																																						
B-191	11/20/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-191	5/7/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-191	11/18/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-191	4/29/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-191	11/17/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-191	5/4/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-191	11/17/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-191	5/10/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-191	11/8/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-192	8/26/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-192	9/26/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-192	11/22/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-192	2/27/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-192	5/24/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-192	8/31/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-192	12/1/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-192	2/24/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-192	5/7/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-192	8/22/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-192	12/9/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-192	2/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-192	5/30/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-192	8/28/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-192	11/15/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-192	3/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-192	6/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-192	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-192	11/13/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-192	2/23/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-192	5/20/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-192	8/12/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-192	12/10/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-192	3/7/2005	NS																																						
B-192	6/20/2005	NS																																						
B-192	3/4/2006	NS																																						
B-192	11/20/2006	NS																																						
B-192	5/25/2007	NS																																						
B-192	9/15/2008	NS																																						
B-192	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-192	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-192	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-192	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-192	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-191	8/29/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-191	11/15/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-191	3/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-191	6/11/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-191 (dup.)	6/11/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-191	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-191 (dup.)	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-191	11/13/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-191	2/24/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-191 (dup.)	2/24/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-191	5/20/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-191	8/11/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-191	12/10/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-191	3/7/2005	NS																																							
B-191	6/20/2005	NS																																							
B-191	3/4/2006	NS																																							
B-191	11/21/2006	NS																																							
B-191	5/21/2007	Sheen																																							
B-191	9/15/2008	NS																																							
B-191	11/20/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-191	5/7/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	<0.5	<10	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-191	11/18/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	<10	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-191	4/29/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	<10	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-191	11/17/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	<10	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-191	5/4/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	<10	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-191	11/17/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-191	5/10/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**1.3 J**	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-191	11/8/2012		<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	**<10**	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA
B-192	8/26/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-192	9/26/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-192	11/22/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-192	2/27/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-192	5/24/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-192	8/31/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-192	12/1/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA
B-192	2/24/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-192	5/7/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-192	8/22/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-192	12/9/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-192	2/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-192	5/30/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-192	8/28/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-192	11/15/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-192	3/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-192	6/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-192	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-192	11/13/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-192	2/23/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-192	5/20/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-192	8/12/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-192	12/10/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-192	3/7/2005	NS																																							
B-192	6/20/2005	NS																																							
B-192	3/4/2006	NS																																							
B-192	11/20/2006	NS																																							
B-192	5/25/2007	NS																																							
B-192	9/15/2008	NS																																							
B-192	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-192	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-192	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-192	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-192	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-192	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-192	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-192	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-192	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	8/26/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-193	9/26/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-193	11/22/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-193	2/27/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-193	5/24/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-193	8/31/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-193	12/1/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-193	2/24/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-193	5/7/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-193	8/22/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-193	12/10/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-193	2/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-193	5/30/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-193	8/28/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-193	11/15/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-193	3/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-193	6/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-193	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-193	11/13/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-193	2/24/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-193	5/20/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-193 (dup.)	5/20/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-193	8/12/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-193 (dup.)	8/12/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-193	12/10/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-193	3/7/2005	NS																																						
B-193	6/20/2005	NS																																						
B-193	3/4/2006	NS																																						
B-193	11/20/2006	NS																																						
B-193	5/25/2007	NS																																						
B-193	9/15/2008	NS																																						
B-193	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DUP-3	11/18/2008	Duplicate of B-193	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	8/26/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-194	9/27/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-194	11/22/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-194	2/27/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-194	5/22/2000	NS																																						
B-194	8/28/2000	NS																																						
B-194	11/27/2000	NS																																						
B-194	2/19/2001	NS																																						
B-194	5/2/2001	NS																																						
B-194	8/20/2001	NS																																						
B-194	2/15/2002	NS																																						
B-194	5/30/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-194	8/26/2002	NS																																						
B-194	11/12/2002	NS																																						
B-194	3/10/2003	NS																																						
B-194	6/13/2003	NS																																						

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-192	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-192	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-192	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-192	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.26 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	8/26/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-193	9/26/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-193	11/22/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-193	2/27/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-193	5/24/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-193	8/31/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-193	12/1/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA
B-193	2/24/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-193	5/7/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-193	8/22/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-193	12/10/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-193	2/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-193	5/30/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-193	8/28/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-193	11/15/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-193	3/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-193	6/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-193	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-193	11/13/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-193	2/24/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-193	5/20/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-193 (dup.)	5/20/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-193	8/12/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-193 (dup.)	8/12/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-193	12/10/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-193	3/7/2005	NS																																							
B-193	6/20/2005	NS																																							
B-193	3/4/2006	NS																																							
B-193	11/20/2006	NS																																							
B-193	5/25/2007	NS																																							
B-193	9/15/2008	NS																																							
B-193	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DUP-3	11/18/2008	Duplicate of B-193	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-193	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.26 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	8/26/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-194	9/27/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-194	11/22/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-194	2/27/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-194	5/22/2000	NS																																							
B-194	8/28/2000	NS																																							
B-194	11/27/2000	NS																																							
B-194	2/19/2001	NS																																							
B-194	5/2/2001	NS																																							
B-194	8/20/2001	NS																																							
B-194	2/15/2002	NS																																							
B-194	5/30/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-194	8/26/2002	NS																																							
B-194	11/12/2002	NS																																							
B-194	3/10/2003	NS																																							
B-194	6/13/2003	NS																																							

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-194	8/20/2003	NS																																					
B-194	2/23/2004	NS																																					
B-194	8/10/2004	NS																																					
B-194	12/8/2004	NS																																					
B-194	3/7/2005	NS																																					
B-194	6/20/2005	NS																																					
B-194	3/4/2006	NS																																					
B-194	11/20/2006	NS																																					
B-194	6/1/2007	NS																																					
B-194	9/15/2008	NS																																					
B-194	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-195	8/26/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.7**	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-195	9/22/1999	LNAPL																																					
B-195	11/18/1999	LNAPL																																					
B-195	2/22/2000	LNAPL																																					
B-195	5/22/2000	LNAPL																																					
B-195	8/28/2000	LNAPL																																					
B-195	11/27/2000	LNAPL																																					
B-195	2/19/2001	LNAPL																																					
B-195	5/2/2001	LNAPL																																					
B-195	8/20/2001	LNAPL																																					
B-195	2/15/2002	NS																																					
B-195	5/31/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-195	8/26/2002	LNAPL																																					
B-195	11/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.8**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-195	3/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.2**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-195	6/10/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**2**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-195	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-195	11/13/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**2.5**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-195	2/23/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**2.9**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-195	5/18/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-195	8/10/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**2.3**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-195	12/8/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**2.8**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-195	3/7/2005	NS																																					
B-195	6/28/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**1.1**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-195	12/21/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**2.2**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-195	3/4/2006	NS																																					
B-195	6/19/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**2.6**	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-195	11/29/2006		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.5**	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-195	6/1/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.06**	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-195	5/22/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.64**	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-195	9/15/2008																																						
B-195	11/19/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-195	5/6/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**15**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-195	11/17/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.69**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-195	4/28/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-195	11/16/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-195	5/6/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-195	11/16/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.0**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-195	5/8/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.31 J**	<0.5	<0.5	**5.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-195	11/7/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**<0.50**	<0.50	<0.50	**<0.50**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-196	8/26/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-196	9/27/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-196	11/22/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-194	8/20/2003	NS																																							
B-194	2/23/2004	NS																																								
B-194	8/10/2004	NS																																								
B-194	12/8/2004	NS																																								
B-194	3/7/2005	NS																																								
B-194	6/20/2005	NS																																								
B-194	3/4/2006	NS																																								
B-194	11/20/2006	NS																																								
B-194	6/1/2007	NS																																								
B-194	9/15/2008	NS																																								
B-194	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-194	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.26 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-195	8/26/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-195	9/22/1999	LNAPL																																								
B-195	11/18/1999	LNAPL																																								
B-195	2/22/2000	LNAPL																																								
B-195	5/22/2000	LNAPL																																								
B-195	8/28/2000	LNAPL																																								
B-195	11/27/2000	LNAPL																																								
B-195	2/19/2001	LNAPL																																								
B-195	5/2/2001	LNAPL																																								
B-195	8/20/2001	LNAPL																																								
B-195	2/15/2002	NS																																								
B-195	5/31/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-195	8/26/2002	LNAPL																																								
B-195	11/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-195	3/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-195	6/10/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-195	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-195	11/13/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-195	2/23/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	**0.7**	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-195	5/18/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-195	8/10/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	**1**	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-195	12/8/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	**0.7**	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-195	3/7/2005	NS																																								
B-195	6/28/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-195	12/21/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-195	3/4/2006	NS																																								
B-195	6/19/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-195	11/29/2006		<0.5	<1.00	<1.00	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	**0.950**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	**0.400**	<0.5	**0.710**	<0.5	<10.0	<0.5	<0.5	<0.5	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-195	6/1/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-195	5/22/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-195	9/15/2008																																								
B-195	11/19/2008		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-195	5/6/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-195	11/17/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-195	4/28/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-195	11/16/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-195	5/6/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-195	11/16/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	**0.08 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-195	5/8/2012		**0.21 J**	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	**0.16 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.29 J**	**0.37 J**	<0.5	**0.47 J**	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-195	11/7/2012		**<0.50**	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	**<0.50**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50		**<0.50**	**<0.50**	<0.50	**<0.50**	NA	NA	NA	NA	NA	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA
B-196	8/26/1999		NA	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-196	9/27/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-196	11/22/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-196	2/25/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-196	5/22/2000	NS																																						
B-196	8/28/2000	NS																																						
B-196	11/27/2000	NS																																						
B-196	2/19/2001	NS																																						
B-196	5/2/2001	NS																																						
B-196	8/20/2001	NS																																						
B-196	2/15/2002	NS																																						
B-196	5/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-196	8/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-196	11/14/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-196	3/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-196	6/10/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-196	8/19/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-196	2/23/2004	NS																																						
B-196	8/10/2004	NS																																						
B-196	12/8/2004	NS																																						
B-196	3/7/2005	NS																																						
B-196	6/20/2005	NS																																						
B-196	3/4/2006	NS																																						
B-196	11/20/2006	NS																																						
B-196	6/1/2007	NS																																						
B-196	9/15/2008	NS																																						
B-196	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-196	5/6/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-196	11/18/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-196	4/28/2010		**1.0**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-196	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-196	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-196	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-196	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-196	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-197	8/27/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-197	9/22/1999	LNAPL																																						
B-197	11/18/1999	LNAPL																																						
B-197	2/22/2000	LNAPL																																						
B-197	5/22/2000	LNAPL																																						
B-197	11/27/2000	LNAPL																																						
B-197	2/19/2001	LNAPL																																						
B-197	5/2/2001	LNAPL																																						
B-197	8/20/2001	LNAPL																																						
B-197	2/15/2002	LNAPL																																						
B-197	5/28/2002	LNAPL																																						
B-197	8/26/2002	LNAPL																																						
B-197	11/12/2002	LNAPL																																						
B-197	3/10/2003	LNAPL																																						
B-197	6/13/2003	LNAPL																																						
B-197	8/20/2003	LNAPL																																						
B-197	2/23/2004	LNAPL																																						
B-197	8/10/2004	LNAPL																																						
B-197	12/8/2004	LNAPL																																						
B-197	3/7/2005	NS																																						
B-197	6/20/2005	NS																																						
B-197	10/4/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-197	12/21/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-197	3/4/2006	NS	NS																		NS											NS							NS
B-197	6/20/2006	Well too deep to sample with available equipment																																						
B-197	12/4/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-197	6/19/2007		**0.510**	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-197	5/21/2008		**0.73**	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-197	9/15/2008	NS																																						
B-197	11/19/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-196	2/25/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-196	5/22/2000	NS																																							
B-196	8/28/2000	NS																																							
B-196	11/27/2000	NS																																							
B-196	2/19/2001	NS																																							
B-196	5/2/2001	NS																																							
B-196	8/20/2001	NS																																							
B-196	2/15/2002	NS																																							
B-196	5/29/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-196	8/29/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-196	11/14/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-196	3/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-196	6/10/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-196	8/19/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-196	2/23/2004	NS																																							
B-196	8/10/2004	NS																																							
B-196	12/8/2004	NS																																							
B-196	3/7/2005	NS																																							
B-196	6/20/2005	NS																																							
B-196	3/4/2006	NS																																							
B-196	11/20/2006	NS																																							
B-196	6/1/2007	NS																																							
B-196	9/15/2008	NS																																							
B-196	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-196	5/6/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-196	11/18/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-196	4/28/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-196	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.51**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-196	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-196	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-196	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-196	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.25 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-197	8/27/1999		NA	<0.5	**15**	NA	<0.5	**6.7**	**15**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**49**	**16**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-197	9/22/1999	LNAPL																																							
B-197	11/18/1999	LNAPL																																							
B-197	2/22/2000	LNAPL																																							
B-197	5/22/2000	LNAPL																																							
B-197	11/27/2000	LNAPL																																							
B-197	2/19/2001	LNAPL																																							
B-197	5/2/2001	LNAPL																																							
B-197	8/20/2001	LNAPL																																							
B-197	2/15/2002	LNAPL																																							
B-197	5/28/2002	LNAPL																																							
B-197	8/26/2002	LNAPL																																							
B-197	11/12/2002	LNAPL																																							
B-197	3/10/2003	LNAPL																																							
B-197	6/13/2003	LNAPL																																							
B-197	8/20/2003	LNAPL																																							
B-197	2/23/2004	LNAPL																																							
B-197	8/10/2004	LNAPL																																							
B-197	12/8/2004	LNAPL																																							
B-197	3/7/2005	NS																																							
B-197	6/20/2005	NS																																							
B-197	10/4/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-197	12/21/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-197	3/4/2006	NS	NS			NS								NS								NS				NS	NS		NS	NS	NS									
B-197	6/20/2006	Well too deep to sa																																							
B-197	12/4/2006		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-197	6/19/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	**4.50 J**	<50	<0.5	<10	<10
B-197	5/21/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-197	9/15/2008	NS																																							
B-197	11/19/2008		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
DUP-4	11/19/2008	Duplicate of B-197	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-197	5/6/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-197	5/6/2009	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-197	11/19/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-197	11/19/2009	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-197	4/29/2010		**4.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-197	4/29/2010	Duplicate	**4.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-197	11/17/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-197	11/17/2010	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-197	5/4/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-197	5/4/2011	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-197	11/16/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-197	11/16/2011	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-197	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-197	5/9/2012	Duplicate	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-197	11/7/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-197	11/8/2012	Duplicate	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-198	5/5/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-198	8/22/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-198	12/9/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-198	2/12/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-198	5/28/2002	NS																																						
B-198	6/7/2007	NS																																						
B-198	9/15/2008	NS																																						
B-198	11/17/2008	NS																																						
B-199	5/7/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-199	6/13/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-199	8/22/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-199	12/9/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-199	2/15/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-199	4/23/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-199	5/8/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-199	5/28/2002	NS																																						
B-199	6/7/2007	NS																																						
B-199	9/15/2008	NS																																						
B-199	11/17/2008	NS																																						
B-200	5/6/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-200	8/21/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-200	12/9/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-200	2/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-200	5/28/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-200	8/28/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-200	11/15/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-200	3/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-200	6/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	**0.9**	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-200	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	**0.9**	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-200	11/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	**1**	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-200	2/25/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	**0.5**	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-200	5/18/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-200	8/10/2004	NS																																						
B-200	12/8/2004	NS																																						
B-200	3/7/2005	NS																																						
B-200	6/17/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-200	3/4/2006	NS																																						
B-200	6/13/2006		**3.2**	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-200	11/28/2006		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-200	6/7/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	**0.270 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-200	12/5/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-200	5/27/2008		**8.2**	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-200	9/15/2008	NS																																						

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
DUP-4	11/19/2008	Duplicate of B-197	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-197	5/6/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-197	5/6/2009	Duplicate	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-197	11/19/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-197	11/19/2009	Duplicate	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-197	4/29/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-197	4/29/2010	Duplicate	<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-197	11/17/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-197	11/17/2010	Duplicate	<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-197	5/4/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-197	5/4/2011	Duplicate	<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-197	11/16/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-197	11/16/2011	Duplicate	<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-197	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-197	5/9/2012	Duplicate	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-197	11/7/2012		<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA
B-197	11/8/2012	Duplicate	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA
B-198	5/5/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-198	8/22/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-198	12/9/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-198	2/12/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-198	5/28/2002	NS																																							
B-198	6/7/2007	NS																																							
B-198	9/15/2008	NS																																							
B-198	11/17/2008	NS																																							
B-199	5/7/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-199	6/13/2001		NA	<0.5	<0.5	NA		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5		<0.5	NA	<0.5	<0.5	**0.5**	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-199	8/22/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-199	12/9/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-199	2/15/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.1**	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-199	4/23/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-199	5/8/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-199	5/28/2002	NS																																						
B-199	6/7/2007	NS																																						
B-199	9/15/2008	NS																																						
B-199	11/17/2008	NS																																						
B-200	5/6/2001		NA	<0.5	**1.8**	NA	<0.5	**4.9**	**0.7**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.7**	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-200	8/21/2001		NA	<0.5	**1.8**	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.6**	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-200	12/9/2001		NA	<0.5	**3.1**	NA	<0.5	**3**	**4.2**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**15**	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-200	2/13/2002		NA	<0.5	**1.1**	NA	<0.5	**4.2**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-200	5/28/2002		NA	<0.5	**1.8**	NA	<0.5	**4.6**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-200	8/28/2002		NA	<0.5	**0.9**	NA	<0.5	**0.8**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**2**	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-200	11/15/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	**0.6**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**1.1**	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-200	3/12/2003		NA	<0.5	**3.1**	NA	<0.5	**4**	**2.5**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**21**	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-200	6/12/2003		NA	NR	**1.1**	NA	NR	**0.7**	**1.8**	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	**2.6**	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-200	8/20/2003		NA	NR	**0.8**	NA	NR	<0.5	**1.3**	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	**5**	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-200	11/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	**3.3**	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-200	2/25/2004		NA	NR	**2.4**	NA	NR	**2.1**	**2.7**	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	**0.7**	**1**	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-200	5/18/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-200	8/10/2004	NS																																						
B-200	12/8/2004	NS																																						
B-200	3/7/2005	NS																																						
B-200	6/17/2005		NA	NR	**0.64**	NA	NR	**0.84**	**1.2**	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	**2.1**	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-200	3/4/2006	NS																																						
B-200	6/13/2006		**1.3**	< 0.5	**1.4**	< 0.5	< 1	**0.84**	**2.3**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	**2.6**	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-200	11/28/2006		<0.5	<1.00	<1.00	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0	<0.5	<0.5	**3.01**	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
B-200	6/7/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	**2.88**	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-200	12/5/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	**1.3**	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-200	5/27/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	<0.5	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-200	9/15/2008	NS																																						

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-200	11/20/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-200	5/7/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-200	11/19/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-200	4/29/2010		**22**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-200	11/19/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.51**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-200	5/5/2011		**0.70**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-200	11/17/2011		**2.40**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.86**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-200	5/10/2012		**6.20**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.47 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-200	11/8/2012		**<0.50**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**<0.50**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-201	5/6/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-201	8/21/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-201	12/9/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-201	2/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-201	5/30/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-201	8/28/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-201	11/15/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-201	3/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-201	6/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-201	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-201	2/23/2004	NS																																						
B-201	8/10/2004	NS																																						
B-201	12/8/2004	NS																																						
B-201	3/7/2005	NS																																						
B-201	6/20/2005	NS																																						
B-201	3/4/2006	NS																																						
B-201	11/20/2006	NS																																						
B-201	6/6/2007	NS																																						
B-201	9/15/2008	NS																																						
B-201	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-201	5/6/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-201	11/19/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-201	4/30/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-201	11/17/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-201	5/5/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-201	9/20/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-201	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-201	2/16/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-201	5/10/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-201	9/17/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-201	11/8/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-202	6/1/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-202	8/27/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-202	11/14/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-202	3/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-202	6/13/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-202	8/19/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-202	11/11/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-202	2/23/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-202	5/18/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-202	8/10/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-202	12/6/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-202	3/7/2005	NS																																						
B-202	6/20/2005	NS																																						
B-202	3/4/2006	NS																																						
B-202	11/20/2006	NS																																						
B-202	5/22/2007	NS																																						
B-202	9/15/2008	NS																																						
B-202	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-202	5/6/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-202	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-202	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-200	11/20/2008		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-200	5/7/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-200	11/19/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-200	4/29/2010		<0.5	<0.5	<0.5	NA	<1.0	**2.0**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**0.97**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-200	11/19/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	**0.77**	NA	<10	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-200	5/5/2011		<0.5	<0.5	**1.8**	NA	<1.0	<0.5	**0.79**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**0.70**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-200	11/17/2011		<0.5	<0.5	**0.8**	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**0.74**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-200	5/10/2012		<0.5	<0.5	**0.81**	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**0.50**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-200	11/8/2012		<0.50	<0.50	**<0.50**	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	**0.92**	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA
B-201	5/6/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-201	8/21/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-201	12/9/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-201	2/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-201	5/30/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-201	8/28/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-201	11/15/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-201	3/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-201	6/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-201	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-201	2/23/2004	NS																																							
B-201	8/10/2004	NS																																							
B-201	12/8/2004	NS																																							
B-201	3/7/2005	NS																																							
B-201	6/20/2005	NS																																							
B-201	3/4/2006	NS																																							
B-201	11/20/2006	NS																																							
B-201	6/6/2007	NS																																							
B-201	9/15/2008	NS																																							
B-201	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-201	5/6/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-201	11/19/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-201	4/30/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-201	11/17/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	<10	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-201	5/5/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	<10	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-201	9/20/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-201	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-201	2/16/2012		<0.5	<0.5	<0.5	NA	**0.82 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-201	5/10/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-201	9/17/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-201	11/8/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-202	6/1/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-202	8/27/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-202	11/14/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-202	3/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-202	6/13/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-202	8/19/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-202	11/11/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-202	2/23/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-202	5/18/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-202	8/10/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-202	12/6/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-202	3/7/2005	NS																																							
B-202	6/20/2005	NS																																							
B-202	3/4/2006	NS																																							
B-202	11/20/2006	NS																																							
B-202	5/22/2007	NS																																							
B-202	9/15/2008	NS																																							
B-202	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-202	5/6/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-202	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-202	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-202	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-202	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-202	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-202	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-202	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-203	5/9/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-203	8/20/2001	LNAPL																																						
B-203	2/15/2002	NS																																						
B-203	5/28/2002	LNAPL																																						
B-203	8/26/2002	LNAPL																																						
B-203	11/12/2002	LNAPL																																						
B-203	3/10/2003	LNAPL																																						
B-203	6/13/2003	LNAPL																																						
B-203	8/20/2003	LNAPL																																						
B-203	2/23/2004	LNAPL																																						
B-203	8/10/2004	LNAPL																																						
B-203	12/8/2004	LNAPL																																						
B-203	3/7/2005	LNAPL																																						
B-203	6/20/2005	LNAPL																																						
B-203	3/4/2006	NS																																						
B-203	6/6/2006	LNAPL																																						
B-203	11/20/2006	LNAPL																																						
B-203	5/21/2007	LNAPL																																						
B-203	9/15/2008	NS																																						
B-203	11/17/2008	LNAPL																																						
B-203	5/4/2009	LNAPL																																						
B-203	4/26/2010	LNAPL																																						
B-203	11/15/2010	LNAPL																																						
B-203	5/2/2011	LNAPL																																						
B-203	11/14/2011	LNAPL																																						
B-203	5/7/2012	LNAPL																																						
B-203	11/5/2012	LNAPL																																						
B-204-85	5/5/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-204-85	8/21/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-204-85	12/8/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-204-85	2/11/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-204-85	5/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-204-85	8/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-204-85	11/14/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-204-85	3/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-204-85	6/10/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-204-85	8/19/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-204-85	2/23/2004	NS																																						
B-204-85	8/10/2004	NS																																						
B-204-85	12/8/2004	NS																																						
B-204-85	3/7/2005	NS																																						
B-204-85	6/20/2005	NS																																						
B-204-85	3/4/2006	NS																																						
B-204-85		NS																																						
B-204-85	11/20/2006	NS																																						
B-204-85	5/25/2007	NS																																						
B-204-85	9/15/2008	NS																																						
B-204-85	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-85	5/6/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-85	11/18/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-85	4/29/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-85	11/18/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-85	5/4/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-85	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-85	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-85	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-202	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-202	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-202	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-202	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-202	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.25 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-203	5/9/2001		NA	<0.5	**10**	NA	<0.5	**4.2**	**6**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**3.2**	**2**	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-203	8/20/2001	LNAPL																																								
B-203	2/15/2002	NS																																								
B-203	5/28/2002	LNAPL																																								
B-203	8/26/2002	LNAPL																																								
B-203	11/12/2002	LNAPL																																								
B-203	3/10/2003	LNAPL																																								
B-203	6/13/2003	LNAPL																																								
B-203	8/20/2003	LNAPL																																								
B-203	2/23/2004	LNAPL																																								
B-203	8/10/2004	LNAPL																																								
B-203	12/8/2004	LNAPL																																								
B-203	3/7/2005	LNAPL																																								
B-203	6/20/2005	LNAPL																																								
B-203	3/4/2006	NS																																								
B-203	6/6/2006	LNAPL																																								
B-203	11/20/2006	LNAPL																																								
B-203	5/21/2007	LNAPL																																								
B-203	9/15/2008	NS																																								
B-203	11/17/2008	LNAPL																																								
B-203	5/4/2009	LNAPL																																								
B-203	4/26/2010	LNAPL																																								
B-203	11/15/2010	LNAPL																																								
B-203	5/2/2011	LNAPL																																								
B-203	11/14/2011	LNAPL																																								
B-203	5/7/2012	LNAPL																																								
B-203	11/5/2012	LNAPL																																								
B-204-85	5/5/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-204-85	8/21/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-204-85	12/8/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-204-85	2/11/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-204-85	5/29/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-204-85	8/29/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-204-85	11/14/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-204-85	3/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-204-85	6/10/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-204-85	8/19/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-204-85	2/23/2004	NS																																								
B-204-85	8/10/2004	NS																																								
B-204-85	12/8/2004	NS																																								
B-204-85	3/7/2005	NS																																								
B-204-85	6/20/2005	NS																																								
B-204-85	3/4/2006	NS																																								
B-204-85		NS																																								
B-204-85	11/20/2006	NS																																								
B-204-85	5/25/2007	NS																																								
B-204-85	9/15/2008	NS																																								
B-204-85	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-85	5/6/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-85	11/18/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-85	4/29/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-85	11/18/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-85	5/4/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-85	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-85	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-85	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-204-150	5/7/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-204-150	8/21/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-204-150	12/8/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-204-150	2/10/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-204-150	5/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-204-150	8/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-204-150	11/14/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-204-150	3/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-204-150	6/10/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-204-150	8/19/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-204-150	2/23/2004	NS																																						
B-204-150	8/10/2004	NS																																						
B-204-150	12/8/2004	NS																																						
B-204-150	3/7/2005	NS																																						
B-204-150	6/20/2005	NS																																						
B-204-150	3/4/2006	NS																																						
B-204-150	11/20/2006	NS																																						
B-204-150	5/30/2007	NS																																						
B-204-150	9/15/2008	NS																																						
B-204-150	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-150	5/6/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-150	11/18/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-150	4/28/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-150	11/17/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-150	5/4/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-150	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-150	5/8/2012		**0.21 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-150	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	5/4/2001																																							
B-205-90	6/13/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-205-90	8/21/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-205-90	12/8/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-205-90	2/11/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-205-90	5/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-205-90	8/28/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-205-90	11/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-205-90	3/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-205-90	6/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-205-90	8/19/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-205-90	2/23/2004	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-205-90	8/10/2004	NS																																						
B-205-90	12/8/2004	NS																																						
B-205-90	3/7/2005	NS																																						
B-205-90	6/20/2005	NS																																						
B-205-90	3/4/2006	NS																																						
B-205-90	11/20/2006	NS																																						
B-205-90	5/25/2007	NS																																						
B-205-90	9/15/2008	NS																																						
B-205-90	11/20/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	5/7/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	4/30/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	5/4/2001																																							
B-205-120	6/13/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-205-120	8/21/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-204-150	5/7/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-204-150	8/21/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-204-150	12/8/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-204-150	2/10/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-204-150	5/29/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-204-150	8/29/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-204-150	11/14/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-204-150	3/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-204-150	6/10/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-204-150	8/19/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-204-150	2/23/2004	NS																																							
B-204-150	8/10/2004	NS																																							
B-204-150	12/8/2004	NS																																							
B-204-150	3/7/2005	NS																																							
B-204-150	6/20/2005	NS																																							
B-204-150	3/4/2006	NS																																							
B-204-150	11/20/2006	NS																																							
B-204-150	5/30/2007	NS																																							
B-204-150	9/15/2008	NS																																							
B-204-150	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-150	5/6/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-150	11/18/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-150	4/28/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-150	11/17/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-150	5/4/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-150	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-150	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-204-150	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	5/4/2001																																									
B-205-90	6/13/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-205-90	8/21/2001		NA	<0.5	<0.5	NA		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5		<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-205-90	12/8/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-205-90	2/11/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-205-90	5/29/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-205-90	8/28/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-205-90	11/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-205-90	3/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-205-90	6/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-205-90	8/19/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-205-90	2/23/2004	NS	NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-205-90	8/10/2004	NS																																							
B-205-90	12/8/2004	NS																																							
B-205-90	3/7/2005	NS																																							
B-205-90	6/20/2005	NS																																							
B-205-90	3/4/2006	NS																																							
B-205-90	11/20/2006	NS																																							
B-205-90	5/25/2007	NS																																							
B-205-90	9/15/2008	NS																																							
B-205-90	11/20/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	5/7/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	4/30/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-90	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	5/4/2001																																									
B-205-120	6/13/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-205-120	8/21/2001		NA	<0.5	<0.5	NA		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5		<0.5	NA	<0.5	<0.5	**1.2**	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-205-120	12/8/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-205-120	2/11/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-205-120	5/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-205-120	8/28/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-205-120	11/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-205-120	3/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-205-120	6/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-205-120	8/19/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-205-120	2/23/2004	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-205-120	8/10/2004	NS																																						
B-205-120	12/8/2004	NS																																						
B-205-120	3/7/2005	NS																																						
B-205-120	6/20/2005	NS																																						
B-205-120	3/4/2006	NS																																						
B-205-120	11/20/2006	NS																																						
B-205-120	5/24/2007	NS																																						
B-205-120	9/15/2008	NS																																						
B-205-120	11/20/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	5/7/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	4/29/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-206	5/9/2001																																							
B-206	8/20/2001	LNAPL	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.6**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-206	2/15/2002	NS																																						
B-206	5/28/2002	LNAPL																																						
B-206	8/26/2002	LNAPL																																						
B-206	11/12/2002	LNAPL																																						
B-206	3/10/2003	LNAPL																																						
B-206	6/13/2003	LNAPL																																						
B-206	8/20/2003	LNAPL																																						
B-206	2/23/2004	LNAPL																																						
B-206	8/10/2004	LNAPL																																						
B-206	12/8/2004	LNAPL																																						
B-206	3/7/2005	LNAPL																																						
B-206	6/28/2005	LNAPL																																						
B-206	3/4/2006	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	**1**	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**1.3**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-206	6/20/2006																																							
B-206	11/21/2006	Sheen																																						
B-206	5/21/2007	Sheen																																						
B-206	9/15/2008	NS																																						
B-206	11/17/2008	Sheen																																						
B-206	5/4/2009	Sheen																																						
B-206	4/26/2010	Sheen																																						
B-206	11/15/2010	Sheen																																						
B-206	5/2/2011	Sheen																																						
B-206	11/14/2011	Sheen																																						
B-206	5/7/2012	LNAPL																																						
B-206	11/5/2012	Sheen																																						
B-207	5/6/2001																																							
B-207	8/20/2001	LNAPL	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**6**	**0.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.1**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-207	2/15/2002	LNAPL																																						
B-207	5/28/2002	LNAPL																																						
B-207	8/26/2002	LNAPL																																						
B-207	11/12/2002	LNAPL																																						
B-207	3/10/2003	LNAPL																																						
B-207	6/13/2003	LNAPL																																						

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-205-120	12/8/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-205-120	2/11/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-205-120	5/29/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-205-120	8/28/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	**0.6**	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-205-120	11/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-205-120	3/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-205-120	6/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-205-120	8/19/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-205-120	2/23/2004	NS	NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-205-120	8/10/2004	NS																																							
B-205-120	12/8/2004	NS																																							
B-205-120	3/7/2005	NS																																							
B-205-120	6/20/2005	NS																																							
B-205-120	3/4/2006	NS																																							
B-205-120	11/20/2006	NS																																							
B-205-120	5/24/2007	NS																																							
B-205-120	9/15/2008	NS																																							
B-205-120	11/20/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	5/7/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	4/29/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.08 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.29 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-205-120	11/7/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-206	5/9/2001																																								
B-206	8/20/2001	LNAPL	NA	<0.5	**5.4**	NA	<0.5	**3.5**	**1.7**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.5**	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-206	2/15/2002	NS																																							
B-206	5/28/2002	LNAPL																																							
B-206	8/26/2002	LNAPL																																							
B-206	11/12/2002	LNAPL																																							
B-206	3/10/2003	LNAPL																																							
B-206	6/13/2003	LNAPL																																							
B-206	8/20/2003	LNAPL																																							
B-206	2/23/2004	LNAPL																																							
B-206	8/10/2004	LNAPL																																							
B-206	12/8/2004	LNAPL																																							
B-206	3/7/2005	LNAPL																																							
B-206	6/28/2005	LNAPL																																							
B-206	3/4/2006	NS	NA	NR	**1.1**	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-206	6/20/2006																																								
B-206	11/21/2006	Sheen																																							
B-206	5/21/2007	Sheen																																							
B-206	9/15/2008	NS																																							
B-206	11/17/2008	Sheen																																							
B-206	5/4/2009	Sheen																																							
B-206	4/26/2010	Sheen																																							
B-206	11/15/2010	Sheen																																							
B-206	5/2/2011	Sheen																																							
B-206	11/14/2011	Sheen																																							
B-206	5/7/2012	LNAPL																																							
B-206	11/5/2012	Sheen																																							
B-207	5/6/2001																																								
B-207	8/20/2001	LNAPL	NA	<0.5	**17**	NA	<0.5	**5.4**	**18**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.6**	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	**6.9**	<1	<0.5	NA	NA	NA	NA	NA
B-207	2/15/2002	LNAPL																																							
B-207	5/28/2002	LNAPL																																							
B-207	8/26/2002	LNAPL																																							
B-207	11/12/2002	LNAPL																																							
B-207	3/10/2003	LNAPL																																							
B-207	6/13/2003	LNAPL																																							

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-207	8/20/2003	LNAPL																																					
B-207	2/23/2004	LNAPL																																					
B-207	8/10/2004	LNAPL																																					
B-207	12/8/2004	LNAPL																																					
B-207	3/7/2005	LNAPL																																					
B-207	6/20/2005	LNAPL																																					
B-207	3/4/2006	NS																																					
B-207	6/6/2006	LNAPL																																					
B-207	11/21/2006	LNAPL																																					
B-207	5/22/2007	LNAPL																																					
B-207	9/15/2008	NS																																					
B-207	11/17/2008	LNAPL																																					
B-207	5/4/2009	LNAPL																																					
B-207	4/26/2010	LNAPL																																					
B-207	11/15/2010	LNAPL																																					
B-207	5/2/2011	LNAPL																																					
B-207	11/14/2011	Sheen																																					
B-207	5/7/2012	Sheen																																					
B-207	11/5/2012	Sheen																																					
B-208	5/9/2001																																						
B-208	8/22/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-208	12/9/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-208	2/12/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-208	5/31/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-208	8/28/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-208	11/14/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-208	3/13/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-208	6/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-208	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-208	11/13/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-208	2/26/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-208	5/19/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-208	8/10/2004	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-208	12/8/2004	NS																																					
B-208	3/7/2005	NS																																					
B-208	6/23/2005																																						
B-208	3/4/2006	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-208	6/13/2006																																						
B-208	12/5/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-208	6/1/2007		< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-208	5/20/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-208	9/15/2008	NS																																					
B-208	11/17/2008	Insufficient																																					
B-208	5/5/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-208	11/18/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-208	4/27/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-208	11/16/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.64**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-208	5/3/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-208	11/15/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-208	5/8/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-208	11/6/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-209	5/7/2001																																						
B-209	8/21/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-209	12/8/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-209	2/12/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-209	5/31/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-209	8/27/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-209	11/14/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-209	3/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-209	6/13/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-209	8/19/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-207	8/20/2003	LNAPL																																							
B-207	2/23/2004	LNAPL																																							
B-207	8/10/2004	LNAPL																																							
B-207	12/8/2004	LNAPL																																							
B-207	3/7/2005	LNAPL																																							
B-207	6/20/2005	LNAPL																																							
B-207	3/4/2006	NS																																							
B-207	6/6/2006	LNAPL																																							
B-207	11/21/2006	LNAPL																																							
B-207	5/22/2007	LNAPL																																							
B-207	9/15/2008	NS																																							
B-207	11/17/2008	LNAPL																																							
B-207	5/4/2009	LNAPL																																							
B-207	4/26/2010	LNAPL																																							
B-207	11/15/2010	LNAPL																																							
B-207	5/2/2011	LNAPL																																							
B-207	11/14/2011	Sheen																																							
B-207	5/7/2012	Sheen																																							
B-207	11/5/2012	Sheen																																							
B-208	5/9/2001																																								
B-208	8/22/2001		NA	<0.5	**0.7**	NA	<0.5	<0.5	**0.6**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-208	12/9/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-208	2/12/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-208	5/31/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-208	8/28/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-208	11/14/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-208	3/13/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-208	6/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-208	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-208	11/13/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-208	2/26/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-208	5/19/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-208	8/10/2004	NS	NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-208	12/8/2004	NS																																							
B-208	3/7/2005	NS																																							
B-208	6/23/2005																																								
B-208	3/4/2006	NS	NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-208	6/13/2006																																								
B-208	12/5/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-208	6/1/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-208	5/20/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-208	9/15/2008	NS																																							
B-208	11/17/2008	Insufficient																																							
B-208	5/5/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-208	11/18/2009		<0.5	<0.5	<0.5	<0.5	<1.0	**4.0**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-208	4/27/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-208	11/16/2010		<0.5	<0.5	<0.5	NA	**1.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	**0.82**	NA	NA	NA	NA	NA	NA	NA
B-208	5/3/2011		<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-208	11/15/2011		<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-208	5/8/2012		<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-208	11/6/2012		<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.27 J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA
B-209	5/7/2001																																								
B-209	8/21/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-209	12/8/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-209	2/12/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-209	5/31/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-209	8/27/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-209	11/14/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-209	3/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-209	6/13/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-209	8/19/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-209	11/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
B-209	2/26/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
B-209	5/19/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
B-209	8/10/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
B-209	12/8/2004	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
B-209	3/7/2005	NS																																						
B-209	6/20/2005	NS																																						
B-209	3/4/2006	NS																																						
B-209	11/20/2006	NS																																						
B-209	5/29/2007	NS																																						
B-209	9/15/2008	NS																																						
B-209	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-209	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-209	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-209	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-209	5/4/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-209	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-209	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-209	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-210	5/7/2001																																							
B-210	6/13/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.6**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210 (dup.)	6/13/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	8/21/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	12/8/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.6**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	2/12/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.8**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	5/31/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.3**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	8/28/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	11/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	3/13/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	6/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.1**	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	8/19/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**1.2**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
B-210	2/26/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**1.4**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
B-210	5/18/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**1.2**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
B-210	8/10/2004	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**1.1**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
B-210	12/9/2004																																							
B-210	3/8/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**1.2**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
B-210	6/23/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**0.7**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
B-210	9/28/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
B-210	11/30/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
B-210	3/4/2006		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**0.6**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
B-210	6/14/2006		NA	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-210	9/13/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-210	11/29/2006		<0.200	<0.200	<0.310	<0.200	<0.290	<0.310	<0.200	<0.200	<0.200	<0.220	<0.200	<0.250	<0.200	<0.220	<0.190	<0.200	NA	<0.730	<0.250	<0.380	<0.200	<0.200	<0.200	<0.200	<0.200	<0.390	<0.200	<0.200	<0.200	NA	<0.200	<0.200	<0.230	<0.200	<0.200	<0.230	NA
B-210	3/22/2007		<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA
B-210	6/5/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-210	3/22/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.920**	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-210	5/28/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-210	9/15/2008	NS																																						
B-210	11/17/2008	Insufficient																																						
B-210	2/24/2009	Insufficient																																						
B-210	5/4/2009	Insufficient																																						
B-210	9/23/2009	Dry																																						
B-210	2/25/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	4/28/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	9/16/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	11/17/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	2/17/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	5/4/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	9/20/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.39 J**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	11/16/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.42 J**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	2/16/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.39 J**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-209	11/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-209	2/26/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-209	5/19/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-209	8/10/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-209	12/8/2004	NS	NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-209	3/7/2005	NS																																							
B-209	6/20/2005	NS																																							
B-209	3/4/2006	NS																																							
B-209	11/20/2006	NS																																							
B-209	5/29/2007	NS																																							
B-209	9/15/2008	NS																																							
B-209	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-209	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-209	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-209	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-209	5/4/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-209	11/16/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.21 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-209	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-209	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-210	5/7/2001																																								
B-210	6/13/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-210 (dup.)	6/13/2001		NA	<0.5	<0.5	NA		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5		<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-210	8/21/2001		NA	<0.5	<0.5	NA		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5		<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-210	12/8/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-210	2/12/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-210	5/31/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3.2	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-210	8/28/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-210	11/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-210	3/13/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-210	6/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-210	8/19/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-210	2/26/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-210	5/18/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-210	8/10/2004	NS	NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-210	12/9/2004																																								
B-210	3/8/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-210	6/23/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-210	9/28/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-210	11/30/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-210	3/4/2006		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-210	6/14/2006		NA	<0.50	<0.50	NA	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-210	9/13/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-210	11/29/2006		<0.200	<.400	<.200	<.200	<.44	<.500	<.200	<.200	<0.200	<0.200	<0.250	<0.200	<0.290	<0.320	<0.220	<0.200	<0.200	<0.200	<0.310	NA	<0.200	<0.220	<0.200	<0.350	<0.200	<5.06	<0.200	<0.200	<.200	NA	NA	NA	NA	NA	<1.81	NA
B-210	3/22/2007		<0.500	<1.00	<1.00	<0.500	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<10.0	<0.500	<0.500	<0.500	NA	NA	NA	NA	<50.0	<50.0	<0.500	<10.0	<10.0
B-210	6/5/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.500	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-210	3/22/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-210	5/28/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-210	9/15/2008	NS																																							
B-210	11/17/2008	Insufficient																																							
B-210	2/24/2009	Insufficient																																							
B-210	5/4/2009	Insufficient																																							
B-210	9/23/2009	Dry																																							
B-210	2/25/2010		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-210	4/28/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-210	9/16/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-210	11/17/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	**0.5**	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-210	2/17/2011		<0.5	<0.5	<0.5	NA	**1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-210	5/4/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-210	9/20/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-210	11/16/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	**0.19 J**	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-210	2/16/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-210	5/9/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-210	9/17/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-210	11/6/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.29 J	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-211	5/8/2001																																							
B-211	8/21/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-211	12/8/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-211	2/12/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-211	5/31/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-211	8/27/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-211	11/14/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-211	3/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-211	6/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-211	8/19/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-211	11/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-211	2/26/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-211	5/18/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-211 (dup.)	8/11/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-211	8/11/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-211	12/9/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-211	3/7/2005	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-211	6/20/2005	NS																																						
B-211	3/4/2006	NS																																						
B-211	11/20/2006	NS																																						
B-211	6/6/2007	NS																																						
B-211	9/15/2008	NS																																						
B-211	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-211	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-211	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-211	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-211	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-211	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-211	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-211	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-211	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-212	5/8/2001																																							
B-212	6/13/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-212	8/21/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-212	12/8/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-212	2/10/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-212	5/31/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-212	8/27/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-212	11/14/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-212	3/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-212	6/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-212	8/19/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-212	11/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-212	2/26/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-212	5/18/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-212	8/11/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-212	12/9/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-212	3/7/2005	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-212	6/20/2005	NS																																						
B-212	3/4/2006	NS																																						
B-212	11/20/2006	NS																																						
B-212	6/14/2007	NS																																						
B-212	9/15/2008	NS																																						
B-212	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-212	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-212	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-212	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-212	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-212	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-210	9/17/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-210	11/6/2012		<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA	NA
B-211	5/8/2001																																									
B-211	8/21/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-211	12/8/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-211	2/12/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-211	5/31/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-211	8/27/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-211	11/14/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-211	3/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-211	6/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-211	8/19/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-211	11/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-211	2/26/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-211	5/18/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-211 (dup.)	8/11/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-211	8/11/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-211	12/9/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-211	3/7/2005	NS	NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-211	6/20/2005	NS																																							
B-211	3/4/2006	NS																																							
B-211	11/20/2006	NS																																							
B-211	6/6/2007	NS																																							
B-211	9/15/2008	NS																																							
B-211	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-211	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-211	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-211	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-211	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-211	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-211	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-211	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-211	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-212	5/8/2001																																								
B-212	6/13/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-212	8/21/2001		NA	<0.5	<0.5	NA		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5		<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
B-212	12/8/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-212	2/10/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-212	5/31/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-212	8/27/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-212	11/14/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-212	3/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-212	6/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
B-212	8/19/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-212	11/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-212	2/26/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-212	5/18/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-212	8/11/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-212	12/9/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-212	3/7/2005	NS	NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-212	6/20/2005	NS																																							
B-212	3/4/2006	NS																																							
B-212	11/20/2006	NS																																							
B-212	6/14/2007	NS																																							
B-212	9/15/2008	NS																																							
B-212	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-212	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-212	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-212	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-212	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-212	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-212	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-212	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-212	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-213-50	5/2/2001	Dry																																						
B-213-50	8/20/2001	Dry																																						
B-213-50	2/15/2002	NS																																						
B-213-50	5/28/2002	Dry																																						
B-213-50	8/26/2002	Dry																																						
B-213-50	11/12/2002	Dry																																						
B-213-50	3/10/2003	NS																																						
B-213-50	6/13/2003	Dry																																						
B-213-50	8/20/2003	Dry																																						
B-213-50	2/23/2004	NS																																						
B-213-50	8/10/2004	NS																																						
B-213-50	12/8/2004	NS																																						
B-213-50	3/7/2005	NS																																						
B-213-50	6/20/2005	Dry																																						
B-213-50	3/4/2006	NS																																						
B-213-50	6/6/2006	NS																																						
B-213-50	11/20/2006	Dry																																						
B-213-50	5/21/2007	Dry																																						
B-213-50	9/15/2008	NS																																						
B-213-50	11/17/2008	Dry																																						
B-213-50	5/4/2009	Dry																																						
B-213-50	4/26/2010	Dry																																						
B-213-50	11/15/2010	Insufficient																																						
B-213-50	5/2/2011	Insufficient																																						
B-213-50	11/14/2011	Insufficient																																						
B-213-50	5/7/2012	Insufficient																																						
B-213-50	11/5/2012	Insufficient																																						
B-213-80	5/2/2001	Dry																																						
B-213-80	8/20/2001	Dry																																						
B-213-80	2/15/2002	NS																																						
B-213-80	5/28/2002	Dry																																						
B-213-80	8/26/2002	Dry																																						
B-213-80	11/12/2002	Dry																																						
B-213-80	3/10/2003	NS																																						
B-213-80	6/13/2003	Dry																																						
B-213-80	8/20/2003	Dry																																						
B-213-80	2/23/2004	NS																																						
B-213-80	8/10/2004	NS																																						
B-213-80	12/8/2004	NS																																						
B-213-80	3/7/2005	NS																																						
B-213-80	6/20/2005	Dry																																						
B-213-80	3/4/2006	NS																																						
B-213-80	6/6/2006	NS																																						
B-213-80	11/20/2006	Dry																																						
B-213-80	5/21/2007	Dry																																						
B-213-80	9/15/2008	NS																																						
B-213-80	11/17/2008	Dry																																						
B-213-80	5/4/2009	Dry																																						
B-213-80	4/26/2010	Dry																																						
B-213-80	11/15/2010	Dry																																						
B-213-80	5/2/2011	Dry																																						
B-213-80	11/14/2011	Dry																																						
B-213-80	5/7/2012	Insufficient																																						
B-213-80	11/5/2012	Dry																																						
B-215	8/26/2002	Dry																																						
B-215	11/12/2002	Dry																																						
B-215	3/10/2003	NS																																						

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-212	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-212	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-212	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-213-50	5/2/2001	Dry																																								
B-213-50	8/20/2001	Dry																																								
B-213-50	2/15/2002	NS																																								
B-213-50	5/28/2002	Dry																																								
B-213-50	8/26/2002	Dry																																								
B-213-50	11/12/2002	Dry																																								
B-213-50	3/10/2003	NS																																								
B-213-50	6/13/2003	Dry																																								
B-213-50	8/20/2003	Dry																																								
B-213-50	2/23/2004	NS																																								
B-213-50	8/10/2004	NS																																								
B-213-50	12/8/2004	NS																																								
B-213-50	3/7/2005	NS																																								
B-213-50	6/20/2005	Dry																																								
B-213-50	3/4/2006	NS																																								
B-213-50	6/6/2006	NS																																								
B-213-50	11/20/2006	Dry																																								
B-213-50	5/21/2007	Dry																																								
B-213-50	9/15/2008	NS																																								
B-213-50	11/17/2008	Dry																																								
B-213-50	5/4/2009	Dry																																								
B-213-50	4/26/2010	Dry																																								
B-213-50	11/15/2010	Insufficient																																								
B-213-50	5/2/2011	Insufficient																																								
B-213-50	11/14/2011	Insufficient																																								
B-213-50	5/7/2012	Insufficient																																								
B-213-50	11/5/2012	Insufficient																																								
B-213-80	5/2/2001	Dry																																								
B-213-80	8/20/2001	Dry																																								
B-213-80	2/15/2002	NS																																								
B-213-80	5/28/2002	Dry																																								
B-213-80	8/26/2002	Dry																																								
B-213-80	11/12/2002	Dry																																								
B-213-80	3/10/2003	NS																																								
B-213-80	6/13/2003	Dry																																								
B-213-80	8/20/2003	Dry																																								
B-213-80	2/23/2004	NS																																								
B-213-80	8/10/2004	NS																																								
B-213-80	12/8/2004	NS																																								
B-213-80	3/7/2005	NS																																								
B-213-80	6/20/2005	Dry																																								
B-213-80	3/4/2006	NS																																								
B-213-80	6/6/2006	NS																																								
B-213-80	11/20/2006	Dry																																								
B-213-80	5/21/2007	Dry																																								
B-213-80	9/15/2008	NS																																								
B-213-80	11/17/2008	Dry																																								
B-213-80	5/4/2009	Dry																																								
B-213-80	4/26/2010	Dry																																								
B-213-80	11/15/2010	Dry																																								
B-213-80	5/2/2011	Dry																																								
B-213-80	11/14/2011	Dry																																								
B-213-80	5/7/2012	Insufficient																																								
B-213-80	11/5/2012	Dry																																								
B-215	8/26/2002	Dry																																								
B-215	11/12/2002	Dry																																								
B-215	3/10/2003	NS																																								

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-215	6/13/2003	Dry																																					
B-215	8/20/2003	Dry																																					
B-215	2/23/2004	NS																																					
B-215	8/10/2004	NS																																					
B-215	12/8/2004	NS																																					
B-215	3/7/2005	NS																																					
B-215	6/20/2005	Dry																																					
B-215	3/4/2006	NS																																					
B-215	6/6/2006	Dry																																					
B-215	11/20/2006	Dry																																					
B-215	5/21/2007	Dry																																					
B-215	9/15/2008	NS																																					
B-215	11/17/2008	Dry																																					
B-215	5/4/2009	Dry																																					
B-215	4/26/2010	Dry																																					
B-215	11/15/2010	Dry																																					
B-215	5/2/2011	Dry																																					
B-215	11/14/2011	Dry																																					
B-215	5/7/2012	Dry																																					
B-215	11/5/2012	Dry																																					
B-216	5/7/2003																																						
B-216	6/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**0.7**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-216 (dup.)	6/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**0.7**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-216	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**0.7**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-216	11/13/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**0.6**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-216	2/24/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**0.7**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-216	5/19/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**1.1**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-216	8/11/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**0.9**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-216	12/9/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-216	3/8/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**1**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-216	6/21/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**0.7**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-216	9/28/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**0.84**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-216	3/7/2006		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	**0.86**	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-216 (dup.)	3/7/2006		NA	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.84**	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-216	6/21/2006		NA	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.78**	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-216	9/13/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-216	11/28/2006		<0.200	<0.200	<0.310	<0.200	<0.290	<0.310	<0.200	<0.200	<0.200	<0.220	<0.200	<0.250	<0.200	<0.220	<0.190	<0.200	NA	<0.730	<0.250	<0.380	<0.200	<0.200	<0.200	<0.200	<0.200	<0.390	<0.200	<0.200	<0.200	NA	<0.200	<0.200	<0.230	<0.200	<0.200	<0.230	NA
B-216	3/22/2007		<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<0.500	<0.500	**0.820**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA
B-216	6/8/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-216	9/21/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-216	12/5/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-216	3/22/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.44**	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-216 (dup.)	3/22/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.47**	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-216	5/27/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-216	9/16/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	11/21/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
DUP-2	11/21/2008	Duplicate of B-216	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	2/24/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	5/7/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	5/7/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	9/23/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	9/23/2009	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	11/19/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	11/19/2009	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	2/25/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	4/29/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	4/29/2010	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	9/16/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.87**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	11/18/2010		**1.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	11/18/2010	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	2/17/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	5/5/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-215	6/13/2003	Dry																																							
B-215	8/20/2003	Dry																																							
B-215	2/23/2004	NS																																							
B-215	8/10/2004	NS																																							
B-215	12/8/2004	NS																																							
B-215	3/7/2005	NS																																							
B-215	6/20/2005	Dry																																							
B-215	3/4/2006	NS																																							
B-215	6/6/2006	Dry																																							
B-215	11/20/2006	Dry																																							
B-215	5/21/2007	Dry																																							
B-215	9/15/2008	NS																																							
B-215	11/17/2008	Dry																																							
B-215	5/4/2009	Dry																																							
B-215	4/26/2010	Dry																																							
B-215	11/15/2010	Dry																																							
B-215	5/2/2011	Dry																																							
B-215	11/14/2011	Dry																																							
B-215	5/7/2012	Dry																																							
B-215	11/5/2012	Dry																																							
B-216	5/7/2003																																								
B-216	6/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-216 (dup.)	6/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-216	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-216	11/13/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-216	2/24/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-216	5/19/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-216	8/11/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-216	12/9/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-216	3/8/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-216	6/21/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-216	9/28/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-216	3/7/2006		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
B-216 (dup.)	3/7/2006		NA	<0.50	<0.50	NA	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	NA	NA	**61**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-216	6/21/2006		NA	<0.50	<0.50	NA	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	NA	NA	**62**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-216	9/13/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	110	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-216	11/28/2006		<0.200	<.400	<.200	<.200	<.44	<.500	<.200	<.200	<0.200	<0.200	<0.250	<0.200	<0.290	<0.320	<0.220	<0.200	<0.200	<0.200	<0.310	NA	<0.200	<0.220	<0.200	<0.350	<0.200	**29.0**	<0.200	<0.200	<.200	NA	NA	NA	NA	NA	NA	<1.81	NA
B-216	3/22/2007		<0.500	<1.00	<1.00	<0.500	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	**49.6**	<0.500	<0.500	<0.500	NA	NA	NA	NA	<50.0	<50.0	<0.500	<10.0	<10.0
B-216	6/8/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**60.2**	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-216	9/21/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**37.7**	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-216	12/5/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**47.4**	< 0.5	< 0.5	**0.460 J**	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-216	3/22/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**40.2**	< 0.5	< 0.5	**0.37**	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-216 (dup.)	3/22/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**42.6**	< 0.5	< 0.5	**0.41**	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-216	5/27/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-216	9/16/2008		<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	<0.5	<0.5	<1	NA	NA	NA	NA	NA	NA
B-216	11/21/2008		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
DUP-2	11/21/2008	Duplicate of B-216	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**50**	NA	NA	<0.5	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-216	2/24/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**72**	NA	NA	**1.0**	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-216	5/7/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**66**	NA	NA	**0.9**	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-216	5/7/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**64**	NA	NA	**0.87**	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-216	9/23/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**81**	NA	NA	**1.10**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-216	9/23/2009	Duplicate	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**85**	NA	NA	**1.20**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-216	11/19/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**79**	NA	NA	**0.99**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-216	11/19/2009	Duplicate	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**88**	NA	NA	**1.00**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-216	2/25/2010		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**100**	NA	NA	**0.85**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-216	4/29/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**0.85**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-216	4/29/2010	Duplicate	<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	**0.97**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-216	9/16/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**110**	NA	NA	**1.30**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-216	11/18/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**110**	NA	NA	**1.10**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-216	11/18/2010	Duplicate	<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**120**	NA	NA	**1.10**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-216	2/17/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**87**	NA	NA	**1.2**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-216	5/5/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**84**	NA	NA	**1.1**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-216	5/5/2011	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	9/20/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.62**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	11/17/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.62**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	11/17/2011	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.51**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	2/16/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.71**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	5/10/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.59**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	5/10/2012	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.71**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	9/18/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.72**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-216	11/8/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.57**	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-216	11/8/2012	Duplicate	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.54**	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-217	5/7/2003																																							
B-217	6/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	**2.6**	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-217	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-217	11/13/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-217	2/24/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-217	5/19/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-217	8/11/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-217	12/9/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-217	3/8/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-217	6/21/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-217	9/28/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-217 (dup.)	9/28/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-217 (trip.)	9/28/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-217	12/30/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-217	3/6/2006		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-217	6/21/2006		NA	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-217	9/13/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
B-217	12/4/2006		<0.200	<0.200	<0.310	<0.200	<0.290	<0.310	<0.200	<0.200	<0.200	<0.220	<0.200	<0.250	<0.200	<0.220	<0.190	<0.200	NA	<0.730	<0.250	<0.380	<0.200	<0.200	<0.200	<0.200	<0.200	<0.390	<0.200	<0.200	<0.200	NA	<0.200	<0.200	<0.230	<0.200	<0.200	<0.230	NA
B-217	3/22/2007		<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA
B-217 (dup.)	3/22/2007		<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA
B-217	6/8/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-217	9/19/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-217	12/6/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-217	3/21/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-217	5/27/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
B-217	9/16/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	11/21/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	2/24/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	5/7/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	9/23/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	11/19/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	2/25/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	4/30/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	9/16/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	11/18/2010		**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	11/18/2010	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	2/17/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	5/4/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	5/4/2011	Duplicate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	9/20/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	11/17/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	2/16/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	5/10/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	9/18/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-217	11/8/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-223-48	8/10/2004	NS																																						
B-223-48	12/8/2004	NS																																						
B-223-48	3/7/2005	NS																																						
B-223-48	6/20/2005	Dry																																						
B-223-48	3/4/2006	NS																																						
B-223-48	6/6/2006	Dry																																						

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-216	5/5/2011	Duplicate	<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**84**	NA	NA	**1.4**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-216	9/20/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**69**	NA	NA	**1.5**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-216	11/17/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**78**	NA	NA	**1.6**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-216	11/17/2011	Duplicate	<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**55**	NA	NA	**1.4**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-216	2/16/2012		<0.5	<0.5	<0.5	NA	**1.0**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**98**	NA	NA	**2.0**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-216	5/10/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.10 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**70**	NA	NA	**1.6**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-216	5/10/2012	Duplicate	<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	**0.18 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	**0.23 J**	<0.5	<0.5	NA	**110**	NA	NA	**1.9**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-216	9/18/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**95**	NA	NA	**2.0**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-216	11/8/2012		<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	**100**	<0.50	<0.50	**2.2**	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA	NA
B-216	11/8/2012	Duplicate	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	**95**	<0.50	<0.50	**2.1**	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA	NA
B-217	5/7/2003																																									
B-217	6/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA	NA
B-217	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA	NA
B-217	11/13/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA	NA
B-217	2/24/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA	NA
B-217	5/19/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA	NA
B-217	8/11/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA	NA
B-217	12/9/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA	NA
B-217	3/8/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA	NA
B-217	6/21/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA	NA
B-217	9/28/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA	NA
B-217 (dup.)	9/28/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA	NA
B-217 (trip.)	9/28/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA	NA
B-217	12/30/2005		NA	NR	<0.5	NA	NR	<5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA	NA
B-217	3/6/2006		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA	NA
B-217	6/21/2006		NA	<0.50	<0.50	NA	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<0.50	<0.50	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-217	9/13/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-217	12/4/2006		<0.200	<.400	<.200	<.200	<.44	<.500	<.200	<.200	<0.200	<0.200	<0.250	<0.200	<0.290	<0.320	<0.220	<0.200	<0.200	<0.200	<0.200	<0.310	NA	<0.200	<0.220	<0.200	<0.350	<0.200	<5.06	<0.200	<0.200	<.200	NA	NA	NA	NA	NA	<1.81	NA
B-217	3/22/2007		<0.500	<1.00	<1.00	<0.500	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<10.0	<0.500	<0.500	<0.500	NA	NA	NA	NA	<50.0	<50.0	<0.500	<10.0	<10.0
B-217 (dup.)	3/22/2007		<0.500	<1.00	<1.00	<0.500	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<10.0	<0.500	<0.500	<0.500	NA	NA	NA	NA	<50.0	<50.0	<0.500	<10.0	<10.0
B-217	6/8/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-217	9/19/2007		< 0.5	<1	<10	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-217	12/6/2007		< 0.5	<1	<10	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-217	3/21/2008		< 0.5	<1	<10	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-217	5/27/2008		< 0.5	<1	<10	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
B-217	9/16/2008		<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1	NA	NA	NA	NA	NA	NA
B-217	11/21/2008		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**43**	NA	NA	**7.7**	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-217	2/24/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<5.0	NA	NA	<0.5	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-217	5/7/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-217	9/23/2009		<0.5	<0.5	<0.5	<0.5	**5.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-217	11/19/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-217	2/25/2010		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-217	4/30/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-217	9/16/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-217	11/18/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-217	11/18/2010	Duplicate	<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-217	2/17/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-217	5/4/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-217	5/4/2011	Duplicate	<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-217	9/20/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-217	11/17/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-217	2/16/2012		<0.5	<0.5	<0.5	NA	**0.34 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.06 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-217	5/10/2012		<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	**0.31 J**	<0.5	<0.5	<0.5	**0.23 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	**0.92**	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-217	9/18/2012		<0.5	<0.5	<0.5	NA	<0.5	**0.28 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-217	11/8/2012		<0.50	<0.50	<0.50	<0.50	<1.0	**0.41 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA
B-223-48	8/10/2004	NS																																								
B-223-48	12/8/2004	NS																																								
B-223-48	3/7/2005	NS																																								
B-223-48	6/20/2005	Dry																																								
B-223-48	3/4/2006	NS																																								
B-223-48	6/6/2006	Dry																																								

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-223-48	9/13/2006	NS																																					
B-223-48	11/21/2006	NS																																					
B-223-48	3/21/2007	Dry																																					
B-223-48	5/21/2007	Dry																																					
B-223-48	9/15/2008	Dry																																					
B-223-48	11/17/2008	Dry																																					
B-223-48	2/24/2009	Insufficient																																					
B-223-48	5/4/2009	Dry																																					
B-223-48	9/23/2009	Insufficient																																					
B-223-48	4/26/2010	Dry																																					
B-223-48	11/15/2010	Dry																																					
B-223-48	5/2/2011	Dry																																					
B-223-48	9/20/2011	Dry																																					
B-223-48	11/14/2011	Dry																																					
B-223-48	2/15/2012	Dry																																					
B-223-48	5/7/2012	Insufficient																																					
B-223-48	9/17/2012	Dry																																					
B-223-48	11/5/2012	Insufficient																																					
B-223-88	8/10/2004	NS																																					
B-223-88	12/8/2004	NS																																					
B-223-88	3/8/2005																																						
B-223-88	6/20/2005	Dry	NA	NR	NR	<20	<20	NR	<20	<20	<20	<20	NR	NR	<20	NR	NR	NR	<20	NR	NA	NR	NR	NR	NR	NR	NR	<20	<20	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-223-88	9/28/2005																																						
B-223-88	3/4/2006	NS	NA	NR	NR	<25	<25	NR	<25	<25	<25	<25	NR	NR	<25	NR	NR	NR	<25	NR	NA	NR	NR	NR	NR	NR	NR	<25	<25	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
B-223-88	6/22/2006		**3400**	< 25	< 25	< 25	< 25	< 50	< 25	**56**	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	< 25	< 25	< 25	< 50
B-223-88	9/13/2006		**3590**	<0.200	<0.310	<0.200	<0.290	**0.470 J**	**2.29**	<0.200	<0.200	<0.220	<0.200	<0.250	<0.200	<0.220	<0.190	<0.200	NA	<0.730	<0.250	<0.380	<0.200	<0.200	<0.200	<0.200	<0.200	<0.390	<0.200	<0.200	<0.200	NA	<0.200	<0.200	<0.230	<0.200	<0.200	<0.230	NA
B-223-88	12/4/2006		**4,400**	<0.500	<0.500	<0.500	<0.500	<0.500	**1.72**	**2.31**	**0.44 J**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA
B-223-88	3/23/2007		**5,760**	<0.500	<0.500	<0.500	<0.500	<0.500	**3.22**	**4.98**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA
B-223-88	6/5/2007		**4,420**	<0.500	<0.500	<0.500	<0.500	<0.500	**3.39**	**7.1**	**4.18**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA
B-223-88	9/21/2007		**2,520**	<0.500	<0.500	<0.500	<0.500	<0.500	**1.36**	**3.85**	**0.6**	<0.500	<0.500	<0.500	<0.500	**1.41**	<0.500	<0.500	<0.500	<1.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA
B-223-88	11/30/2007		**3,530**	<0.500	<0.500	<0.500	<0.500	<0.500	**4.42**	**4.09**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA
B-223-88	3/21/2008		**736**	<0.500	<0.500	<0.500	<0.500	<0.500	**0.63**	**0.84**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA
B-223-88	5/28/2008		**3,000**	<0.500	<0.500	<0.500	<0.500	<0.500	**2.2**	**8.0**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA
B-223-88	9/16/2008		**700**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.87**	**0.97**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.68**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.8**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	11/21/2008		**270**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	2/24/2009		**660**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
DUP	2/24/2009	Dup. of B-223-88	**660**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10	<10	<10	NA
B-223-88	5/8/2009		**390**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.92**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.7**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	5/8/2009	Duplicate	**490**	<0.5	<0.5	**2.8**	<0.5	<0.5	<0.5	**0.74**	<0.5	<0.5	<0.5	**19**	**12**	<0.5	**0.56**	**0.61**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	9/24/2009		**230**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.56**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	11/20/2009		**200**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	11/20/2009		**260**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	2/25/2010		**190**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	4/30/2010		**190**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	4/30/2010	Duplicate	**180**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	9/16/2010		**190**	<0.5	<0.5	**2.1**	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	9/16/2010	Duplicate	**190**	<0.5	<0.5	<0.50	<0.5	<0.5	**0.5**	**0.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.1**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	11/19/2010		**280**	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	**8.7**	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	NA	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	NA
B-223-88	2/18/2011		**360**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.63**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	2/18/2011	Duplicate	**390**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.67**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	5/6/2011		**320**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	9/21/2011		**430**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.14 J**	**0.87**	**0.32 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.5**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	11/18/2011		**210**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	2/17/2012		**280**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.28 J**	**0.53**	**0.40 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	5/10/2012		**35**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.9**	**0.44 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	9/18/2012		**160**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.1**	**0.52**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-223-88	11/9/2012		**130**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.89**	**0.43 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-224	9/21/2011		<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.25 J**	**0.20 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-224	11/18/2011		**0.35 J**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.34 J**	**1.1**	**1.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.26 J**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-224	2/17/2012		**0.80 J**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.28 J**	**0.49 J**	**0.51**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.18 J**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-224	5/11/2012		**0.10 J**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.48 J**	**0.45 J**	**0.65**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.21 J**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-223-48	9/13/2006	NS																																							
B-223-48	11/21/2006	NS																																								
B-223-48	3/21/2007	Dry																																								
B-223-48	5/21/2007	Dry																																								
B-223-48	9/15/2008	Dry																																								
B-223-48	11/17/2008	Dry																																								
B-223-48	2/24/2009	Insufficient																																								
B-223-48	5/4/2009	Dry																																								
B-223-48	9/23/2009	Insufficient																																								
B-223-48	4/26/2010	Dry																																								
B-223-48	11/15/2010	Dry																																								
B-223-48	5/2/2011	Dry																																								
B-223-48	9/20/2011	Dry																																								
B-223-48	11/14/2011	Dry																																								
B-223-48	2/15/2012	Dry																																								
B-223-48	5/7/2012	Insufficient																																								
B-223-48	9/17/2012	Dry																																								
B-223-48	11/5/2012	Insufficient																																								
B-223-88	8/10/2004	NS																																								
B-223-88	12/8/2004	NS																																								
B-223-88	3/8/2005																																								
B-223-88	6/20/2005	Dry	NA	NR	**59**	NA	NR	<20	**65**	NR	NR	NR	<20	NA	NR	NR	NR	NR	<20	NR	NR	NA	**160**	<20	NR	NA	NA	NR	NA	NA	NA	<20	<20	NR	NR	NA	NA	NA	NA	NA
B-223-88	9/28/2005																																								
B-223-88	3/4/2006	NS	NA	NR	<25	NA	NR	<25	<25	NR	NR	NR	<25	NA	NR	NR	NR	NR	<25	NR	NR	NA	**70**	<25	NR	NA	NA	NR	NA	NA	NA	<25	<25	NR	NR	NA	NA	NA	NA	NA
B-223-88	6/22/2006		**240**	< 25	**77**	**62**	< 50	< 25	**38**	< 25	< 25	< 25	< 25	< 5	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	**110**	< 25	< 1	< 25	**2600**	< 25	< 25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-223-88	9/13/2006		**148**	<.400	**15.7**	**4.37**	<.44	**2.77 J**	**12.3**	<.200	<0.200	<0.200	<0.250	**6.28**	<0.290	<0.320	<0.220	<0.200	<0.200	<0.200	<0.200	<0.310	NA	**23.9**	<0.220	<0.200	**5.07**	<0.200	**1730**	<0.200	<0.200	<.200	NA	NA	NA	NA	NA	NA	**2.85 J**	NA
B-223-88	12/4/2006		**153**	<1.00	**19.7**	**4.52**	<5.00	**1.73 J**	**12**	<0.500	<0.500	<0.500	<0.500	**7.09**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	**28.9**	<0.500	<0.500	**7.01**	<0.500	**1,430**	<0.500	<0.500	<0.500	NA	NA	NA	NA	<50.0	<50.0	<0.500	<10.0	<10.0
B-223-88	3/23/2007		**199**	<1.00	**23.0**	**8.34**	<5.00	**4.11 J**	**17.3**	<0.500	<0.500	<0.500	<0.500	**6.50**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	**43.8**	<0.500	<0.500	**12.0**	<0.500	**1,320**	<0.500	<0.500	<0.500	NA	NA	NA	NA	<50.0	<50.0	<0.500	<10.0	<10.0
B-223-88	6/5/2007		**170**	<1.00	**26.9**	**11.6**	<5.00	**8.71**	**22.4**	<0.500	<0.500	<0.500	<0.500	**7.83**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	**45.5**	**2.86**	<0.500	**8.8**	<0.500	**1,250**	<0.500	<0.500	<0.500	NA	NA	NA	NA	<50.0	<50.0	<0.500	<10.0	<10.0
B-223-88	9/21/2007		**232**	<1.00	**28.6**	**7.73**	<5.00	**1.98 J**	**24.4**	<0.500	<0.500	<0.500	<0.500	**9.05**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	**44.4**	<0.500	<0.500	**24.7**	<0.500	**1,910**	<0.500	<0.500	<0.500	NA	NA	NA	NA	**11.9 J**	**24.5 J**	<0.500	<10.0	<10.0
B-223-88	11/30/2007		**87.3**	<1.00	**11.1**	**4.67**	**1.61 J**	**17.2**	**9.41**	**2.72**	<0.500	<0.500	<0.500	**21.80**	<0.500	<0.500	<0.500	**3.07**	<0.500	<0.500	<0.500	NA	**18.9**	**3.26**	<0.500	**15.9**	<0.500	**1,300**	<0.500	<0.500	<0.500	NA	NA	NA	NA	<50	<50	<0.500	**13.3**	**11.2**
B-223-88	3/21/2008		**71.4**	<1.00	**8.4**	**2.17**	<5.00	<5.00	**5.24**	<0.500	<0.500	<0.500	<0.500	**37.10**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	**26.8**	**1.09**	<0.500	**27.4**	<0.500	**1,170**	<0.500	<0.500	<0.500	NA	NA	NA	NA	<50	<50	<0.500	<10.0	<10.0
B-223-88	5/28/2008		**440**	<1.00	**49**	<5.00	<5.00	**4.4**	**48**	<0.500	<0.500	<0.500	<0.500	**42**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	NA	**150**	**16**	<0.500	**110**	<0.500	<10	<0.500	<0.500	<0.500	NA	**15**	NA	NA	<50	<50	<0.500	<10.0	<10.0
B-223-88	9/16/2008		**70**	<0.5	**8.6**	**1.3**	<1	**4.2**	**4.9**	<0.5	<0.5	<0.5	<0.5	**33**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**16**	**1.4**	<0.5	**23**	NA	NA	NA	NA	NA	<0.5	<0.5	<1	NA	NA	NA	NA	NA	NA
B-223-88	11/21/2008		**67**	<0.5	**19**	**1.7**	<1.0	<0.5	**16**	<0.5	<0.5	<0.5	<0.5	**15**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**19**	<0.5	<0.5	**16**	NA	**760**	NA	NA	<0.5	<0.5	**1.7**	<1.0	NA	NA	NA	NA	NA	NA
B-223-88	2/24/2009		**49**	<0.5	**9.3**	**0.83**	<1.0	<0.5	**5.2**	<0.5	<0.5	<0.5	<0.5	**55**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**14**	**0.99**	<0.5	**34**	NA	**1,500**	NA	NA	<0.5	<0.5	**0.83**	<1.0	NA	NA	NA	NA	NA	NA
DUP	2/24/2009	Dup. of B-223-88	**51**	<10	<10	<10	<20	<10	<10	<10	<10	<10	<10	**56**	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	**31**	NA	**1,400**	NA	NA	<10	<10	<10	<20	NA	NA	NA	NA	NA	NA
B-223-88	5/8/2009		**22**	<0.5	**4.6**	<0.5	<1.0	<0.5	**2.4**	<0.5	<0.5	<0.5	<0.5	**28**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**6.2**	**4.3**	<0.5	**17**	NA	**1,400**	NA	NA	<0.5	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
B-223-88	5/8/2009	Duplicate	**40**	<0.5	**8.1**	**0.73**	<1.0	<0.5	**4.3**	<0.5	<0.5	**1.2**	<0.5	**49**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**11**	NA	**14**	**0.95**	<0.5	**32**	NA	**1,500**	NA	NA	<0.5	<0.5	**0.73**	<1.0	NA	NA	NA	NA	NA	NA
B-223-88	9/24/2009		**22**	<0.5	**5.3**	<0.5	**3.6**	<0.5	**2.4**	<0.5	<0.5	<0.5	<0.5	**24**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**7.0**	<0.5	<0.5	**20**	NA	**1,200**	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-223-88	11/20/2009		**21**	<0.5	**4.6**	<0.5	<1.0	**0.81**	**2.5**	<0.5	<0.5	<0.5	<0.5	**18**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**7.2**	<0.5	<0.5	**19**	NA	**1,500**	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-223-88	11/20/2009		**21**	<0.5	**5.2**	<0.5	<1.0	**0.55**	**2.7**	<0.5	<0.5	<0.5	<0.5	**18**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**7.7**	<0.5	<0.5	**18**	NA	**1,400**	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-223-88	2/25/2010		**14**	<0.5	**3.2**	<0.5	<1.0	<0.5	**1.4**	<0.5	<0.5	<0.5	<0.5	**21**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**4.9**	<0.5	<0.5	**18**	NA	**1,500**	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-223-88	4/30/2010		**29**	<0.5	**12**	NA	<1.0	<0.5	**6.5**	<0.5	<0.5	<0.5	<0.5	**7.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**7.8**	<0.5	<0.5	**12**	NA	**1,000**	NA	NA	<0.5	<0.5	**0.70**	NA	NA	NA	NA	NA	NA	NA
B-223-88	4/30/2010	Duplicate	**28**	<0.5	**11**	NA	<1.0	<0.5	**6.5**	<0.5	<0.5	<0.5	<0.5	**7.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**7.2**	<0.5	<0.5	**12**	NA	<10	NA	NA	<0.5	<0.5	**0.66**	NA	NA	NA	NA	NA	NA	NA
B-223-88	9/16/2010		**26**	<0.5	**7.3**	NA	<1.0	<0.5	**3.5**	<0.5	<0.5	<0.5	<0.5	**22**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**8.2**	<0.5	<0.5	**23**	NA	**1,200**	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA	NA
B-223-88	9/16/2010	Duplicate	**25**	<0.5	**7**	NA	<1.0	<0.5	**3.4**	<0.5	<0.5	<0.5	<0.5	**21**	<0.5	<0.5	<0.5	**3.0**	<0.5	<0.5	<0.5	<0.5	NA	**7.5**	**0.57**	<0.5	**23**	NA	**1,100**	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA	NA
B-223-88	11/19/2010		**28**	<2.5	**8.5**	NA	<5.0	<2.5	**4.8**	<2.5	<2.5	<2.5	<2.5	**21**	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	NA	**11.0**	<2.5	<2.5	**21**	NA	**1,200**	NA	NA	<2.5	<2.5	<2.5	NA	NA	NA	NA	NA	NA	NA
B-223-88	2/18/2011		**24**	<0.5	**6.2**	NA	<1.0	**1.8**	**3.2**	<0.5	<0.5	<0.5	<0.5	**49**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**8.4**	**1.3**	<0.5	**40**	NA	**1,100**	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA	NA
B-223-88	2/18/2011	Duplicate	**25**	<0.5	**6.4**	NA	<1.0	**1.7**	**3.4**	<0.5	<0.5	<0.5	<0.5	**54**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**9.2**	**1.4**	<0.5	**44**	NA	**1,300**	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA	NA
B-223-88	5/6/2011		**32**	<0.5	**7.3**	NA	<1.0	**1.5**	**5.4**	<0.5	<0.5	<0.5	<0.5	**49**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**12**	**1.8**	<0.5	**44**	NA	<10	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA	NA
B-223-88	9/21/2011		**17**	<0.5	**5.6**	**1.2**	<1.0	**1.2**	**3.3**	<0.5	<0.5	<0.5	<0.5	**52**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**8.4**	**1.3**	<0.5	**46**	NA	**1,300**	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA	NA
B-223-88	11/18/2011		**9.4**	<0.5	**3.8**	NA	<1.0	<0.5	**1.6**	<0.5	<0.5	<0.5	<0.5	**41**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**5.9**	**2**	<0.5	**33**	NA	<10	NA	NA	<0.5	<0.5	**1.30**	NA	NA	NA	NA	NA	NA	NA
B-223-88	2/17/2012		**14**	<0.5	**3.2**	NA	<1.0	**0.56**	**1.6**	<0.5	<0.5	<0.5	<0.5	**52**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**6.9**	**1.3**	<0.5	**44**	NA	**1,800**	NA	NA	<0.5	<0.5	**0.61**	NA	NA	NA	NA	NA	NA	NA
B-223-88	5/10/2012		**3.1**	<0.5	**4**	NA	<1.0	**0.96**	**1.8**	<0.5	<0.5	<0.5	<0.5	**1.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.15 J**	<0.5	<0.5	**0.7**	NA	**1,100**	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-223-88	9/18/2012		**8.1**	<0.5	**3.6**	NA	<1.0	**0.75**	**2.2**	<0.5	<0.5	<0.5	<0.5	**18**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**3.3**	**0.44 J**	<0.5	**12**	NA	**990**	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-223-88	11/9/2012		**8.3**	<0.50	**3.7**	<0.50	<1.0	**0.77**	**2.0**	<0.50	<0.50	<0.50	<0.50	**15**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	**3.7**	**0.47 J**	<0.50	**11**	<0.50	**1100**	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA
B-224	9/21/2011		<0.5	<0.5	**0.72**	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.90 J**	<0.5	<0.5	<0.5	<0.5	**25**	NA	NA	**49**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-224	11/18/2011		<0.5	<0.5	**2**	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	**0.25 J**	<0.5	<10	NA	NA	**49**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
B-224	2/17/2012		<0.5	<0.5	**1.1**	NA	**2.1**	**0.42 J**	**0.44**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	**0.21 J**	<0.5	**31**	NA	NA	**51**	<0.5	**0.42 J**	NA	NA	NA	NA	NA	NA	NA
B-224	5/11/2012		**0.26 J**	<0.5	**1.1**	NA	<1.0	**2**	**0.54**	<0.5	<0.5	<0.5	<0.5	**0.070 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.36 J**	**0.37 J**	<0.5	**0.94**	<0.5	**17**	NA	NA	**62**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
B-224	9/19/2012		**0.32 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.41 J**	**0.62**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.27 J**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-224	11/8/2012		**<0.50**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**<0.50**	**0.40 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**<0.50**	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-225	9/20/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.96**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-225	11/18/2011		**0.08 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.42 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-225	2/17/2012		**0.04 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.78**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-225	5/11/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.54**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-225	9/18/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.66**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-225	11/9/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.43 J**	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-226	9/21/2011		**27**	<0.5	<0.5	<0.5	<0.5	<0.5	**2.7**	**2.8**	**0.39 J**	<0.5	<0.5	<0.5	**0.96**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.41 J**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-226	11/18/2011		**16**	<0.5	<0.5	<0.5	<0.5	<0.5	**2.2**	**2.2**	**1.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-226	11/18/2011	Duplicate	**22**	<0.5	<0.5	<0.5	<0.5	<0.5	**2.5**	**2.7**	**1.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-226	2/17/2012		**33**	<0.5	<0.5	<0.5	<0.5	<0.5	**3**	**3.5**	**0.72**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-226	2/17/2012	Duplicate	**29**	<0.5	<0.5	<0.5	<0.5	<0.5	**2.3**	**2.7**	**0.62**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-226	5/11/2012		**19**	<0.5	<0.5	<0.5	<0.5	<0.5	**2.1**	**2.4**	**0.75**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-226	5/11/2012	Duplicate	**23**	<0.5	<0.5	<0.5	<0.5	<0.5	**2.1**	**2.4**	**0.76**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-226	9/19/2012		**18**	<0.5	<0.5	<0.5	<0.5	<0.5	**1.2**	**2.9**	**0.43 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-226	9/19/2012	Duplicate	**18**	<0.5	<0.5	<0.5	<0.5	<0.5	**1.2**	**2.8**	**0.46 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-226	11/9/2012		**15**	<0.50	<0.50	<0.50	<0.50	<0.50	**0.90**	**2.1**	**0.34 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-226	11/9/2012	Duplicate	**13**	<0.50	<0.50	<0.50	<0.50	<0.50	**0.71**	**1.7**	**0.27 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
B-230	9/21/2011		**1,700**	<10	<10	<10	<10	<10	**13**	**5.6 J**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**350**	<10	<10	<10	NA	<10	<10	<10	<10	<10	<10	NA
B-230	11/18/2011		**1,500**	<25	<25	<25	<25	<25	**60**	**41**	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	**190**	<25	<25	<25	<25	<25	<25	**340**	<25	<25	<25	NA	<25	<25	<25	<25	<25	<25	NA
B-230	2/17/2012		**1,700**	<25	<25	<25	<25	<25	**15 J**	**15 J**	**14 J**	<25	<25	**29**	<25	<25	<25	<25	<25	<25	<25	**170**	<25	<25	<25	<25	<25	<25	**400**	<25	<25	<25	NA	<25	<25	<25	<25	<25	<25	NA
B-230	5/11/2012		**1,300**	<25	<25	<25	<25	<25	**28**	**17 J**	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	**160**	<25	<25	<25	<25	<25	<25	**310**	<25	<25	<25	NA	<25	<25	<25	<25	<25	<25	NA
B-230	9/19/2012		**180**	<2.5	<2.5	<2.5	<2.5	<2.5	**6.4**	**6.8**	<2.5	<2.5	<2.5	**26**	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	**150**	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	**26**	<2.5	<2.5	<2.5	NA	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	NA
B-230	11/5/2012	LNAPL																																						
B-231	9/21/2011		**500**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**88**	<10	<10	<10	NA	<10	<10	<10	<10	<10	<10	NA
B-231	9/21/2011	Duplicate	**480**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.37 J**	**0.46 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**110**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
B-231	11/18/2011		**2,100**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
B-231	2/17/2012		**3,700**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**2.6 J**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**72**	<5.0	<5.0	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
B-231	5/11/2012		**5,300**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**61**	<10	<10	<10	NA	<10	<10	<10	<10	<10	<10	NA
B-231	9/19/2012		**3,800**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10	<10	<10	NA
B-231	11/9/2012		**2700**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<20	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10	<10	<10	NA
SP-1	5/7/2001																																							
SP-1	6/13/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-1	8/20/2001	NS	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-1	2/15/2002	NS																																						
SP-1	5/28/2002	LNAPL																																						
SP-1	8/27/2002																																							
SP-1	11/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-1	3/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-1	6/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-1	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
SP-1	11/13/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
SP-1	2/23/2004	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
SP-1	8/10/2004	NS																																						
SP-1	12/8/2004	NS																																						
SP-1	3/7/2005	NS																																						
SP-1	6/20/2005	NS																																						
SP-1	3/4/2006	NS																																						
SP-1	11/29/2006	NS																																						
SP-1	6/14/2007	NS																																						
SP-1	9/15/2008	NS																																						
SP-1	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-1	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-1	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-1	11/17/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-1	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-1	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
B-224	9/19/2012		<0.5	<0.5	**1.2**	NA	<1.0	**0.28 J**	**0.31 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	**0.33 J**	<0.5	**18**	NA	NA	**51**	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-224	11/8/2012		<0.50	<0.50	**0.69**	<0.50	<1.0	**<0.50**	**<0.50**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	**<0.50**	<0.50	**18**	<0.50	<0.50	**53**	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA	NA
B-225	9/20/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	**0.16 J**	<0.5	**13**	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-225	11/18/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-225	2/17/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.04 J**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	**19**	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-225	5/11/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.090 J**	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<10	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-225	9/18/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	**8.4 J**	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-225	11/9/2012		<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	**<10**	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA	NA
B-226	9/21/2011		**93**	<0.5	**19**	**5.3**	<1.0	**35**	**22**	<0.5	<0.5	<0.5	<0.5	**24**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**120**	**0.61**	<0.5	**140**	<0.5	**17**	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-226	11/18/2011		**58**	<0.5	**13**	<0.5	<1.0	**22**	**15**	<0.5	<0.5	<0.5	<0.5	**7.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**56**	<0.5	<0.5	**66**	<0.5	<10	NA	NA	<0.5	<0.5	**3.6**	NA	NA	NA	NA	NA	NA	NA	NA
B-226	11/18/2011	Duplicate	**72**	<0.5	**14**	<0.5	<1.0	**20**	**17**	<0.5	<0.5	<0.5	<0.5	**11**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**73**	<0.5	<0.5	**75**	<0.5	<10	NA	NA	<0.5	<0.5	**4.6**	NA	NA	NA	NA	NA	NA	NA	NA
B-226	2/17/2012		**130**	<0.5	**29**	<0.5	<1.0	**49**	**28**	<0.5	<0.5	<0.5	<0.5	**20**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**120**	**0.7**	<0.5	**130**	<0.5	**21**	NA	NA	<0.5	<0.5	**6.7**	NA	NA	NA	NA	NA	NA	NA	NA
B-226	2/17/2012	Duplicate	**130**	<0.5	**23**	<0.5	<1.0	**47**	**22**	<0.5	<0.5	<0.5	<0.5	**17**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**110**	**0.52**	<0.5	**100**	<0.5	**22**	NA	NA	<0.5	<0.5	**5.2**	NA	NA	NA	NA	NA	NA	NA	NA
B-226	5/11/2012		**64**	<0.5	**20**	<0.5	<1.0	**28**	**20**	<0.5	<0.5	<0.5	<0.5	**12**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**58**	**0.62**	<0.5	**47**	<0.5	<10	NA	NA	<0.5	<0.5	**5.3**	NA	NA	NA	NA	NA	NA	NA	NA
B-226	5/11/2012	Duplicate	**66**	<0.5	**20**	<0.5	<1.0	**28**	**20**	<0.5	<0.5	<0.5	<0.5	**12**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**60**	**0.65**	<0.5	**51**	<0.5	**15**	NA	NA	<0.5	<0.5	**5.3**	NA	NA	NA	NA	NA	NA	NA	NA
B-226	9/19/2012		**49**	<0.5	**21**	**5.5**	<1.0	**15**	**18**	<0.5	<0.5	<0.5	<0.5	**7.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**68**	**0.40 J**	<0.5	**49**	<0.5	**12**	NA	NA	<0.5	<0.5	**5.5**	NA	NA	NA	NA	NA	NA	NA	NA
B-226	9/19/2012	Duplicate	**60**	<0.5	**21**	**5.5**	<1.0	**16**	**18**	<0.5	<0.5	<0.5	<0.5	**7.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**81**	**0.47 J**	<0.5	**47**	<0.5	**12**	NA	NA	<0.5	<0.5	**5.5**	NA	NA	NA	NA	NA	NA	NA	NA
B-226	11/9/2012		**44**	<0.50	**15**	**4.3**	<1.0	**10**	**13**	<0.50	<0.50	<0.50	<0.50	**5.3**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	**80**	**0.34 J**	<0.50	**33**	<0.50	**14**	<0.50	<0.50	<0.50	<0.50	**4.3**	NA	NA	NA	NA	NA	NA	NA	NA
B-226	11/9/2012	Duplicate	**36**	<0.50	**12**	**3.4**	<1.0	**8.2**	**10**	<0.50	<0.50	<0.50	<0.50	**4.3**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	**86**	**0.26 J**	<0.50	**26**	<0.50	**12**	<0.50	<0.50	<0.50	<0.50	**3.4**	NA	NA	NA	NA	NA	NA	NA	NA
B-230	9/21/2011		**510**	<10	**50**	**21**	<10	**79**	**41**	<10	<10	<10	<10	**5,300**	<10	<10	<10	<10	<10	<10	<10	NA	**370**	**110**	<10	**2,600**	<10	**3,300**	NA	NA	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA
B-230	11/18/2011		**400**	<25	**70**	<25	<50	**180**	**32**	<25	<25	<25	<25	**4,800**	<25	<25	<25	<25	<25	<25	<25	NA	**320**	**130**	<25	**2,900**	<25	**3,000**	NA	NA	<25	<10	**52**	NA	NA	NA	NA	NA	NA	NA	NA
B-230	2/17/2012		**540**	<25	**51**	<25	<50	**100**	**44**	<25	<25	<25	<25	**5,700**	<25	<25	<25	<25	<25	<25	<25	NA	**360**	**110**	<25	**3,300**	<25	**3,400**	NA	NA	<25	<10	**20 J**	NA	NA	NA	NA	NA	NA	NA	NA
B-230	5/11/2012		**820**	<25	**86**	<25	<50	**200**	**92**	<25	<25	<25	<25	**6,800**	<25	<25	<25	<25	<25	<25	<25	NA	**740**	**220**	<25	**4,900**	<25	**2,400**	NA	NA	<25	<10	**30**	NA	NA	NA	NA	NA	NA	NA	NA
B-230	9/19/2012		**66**	<2.5	**77**	**13**	<5.0	**230**	**79**	<2.5	<2.5	<2.5	<2.5	**510**	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	NA	**50**	**180**	<2.5	**350**	<2.5	<50	NA	NA	<2.5	**150**	**13**	NA	NA	NA	NA	NA	NA	NA	NA
B-230	11/5/2012	LNAPL																																							
B-231	9/21/2011		**46**	<10	**9.8 J**	**16**	<10	**8.6 J**	**3**	<10	<10	<10	<10	**470**	<10	<10	<10	<10	<10	<10	<10	NA	**28**	**24**	<10	**340**	<10	**5,000**	NA	NA	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA
B-231	9/21/2011	Duplicate	**38**	<0.5	**4.8**	**2.6**	<0.5	**11**	**2.4**	<0.5	<0.5	<0.5	<0.5	**350**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**25**	**20**	<0.5	**320**	<0.5	**4,200**	NA	NA	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
B-231	11/18/2011		**33**	<5.0	**8.2**	<5.0	<5.0	**1.7 J**	<5.0	<5.0	<5.0	<5.0	<5.0	**130**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	**29**	**22**	<5.0	**190**	<5.0	**3,300**	NA	NA	<5.0	<5.0	**10**	NA	NA	NA	NA	NA	NA	NA	NA
B-231	2/17/2012		**43**	<5.0	**5.3**	<5.0	<5.0	**12**	**3.9 J**	<5.0	<5.0	<5.0	<5.0	**120**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	**32**	**13**	<5.0	**120**	<5.0	**6,500**	NA	NA	<5.0	<5.0	**4.0 J**	NA	NA	NA	NA	NA	NA	NA	NA
B-231	5/11/2012		**170**	<10	**9.6 J**	<10	<20	**46**	**4.2 J**	<10	<10	<10	<10	**310**	<10	<10	<10	<10	<10	<10	<10	NA	**110**	**37**	<10	**260**	<10	**3,600**	NA	NA	<10	<10	**3.8 J**	NA	NA	NA	NA	NA	NA	NA	NA
B-231	9/19/2012		**150**	<10	**12**	<10	<20	**53**	**9.0 J**	<10	<10	<10	<10	**160**	<10	<10	<10	<10	<10	<10	<10	NA	**120**	**8.0 J**	<10	**270**	<10	**4,300**	NA	NA	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA
B-231	11/9/2012		**48**	<10	**<10**	<10	<20	**30**	**<10**	<10	<10	<10	<10	**65**	<10	<10	<10	<10	<10	<10	<10	NA	**43**	**<10**	<10	**85**	<10	**5200**	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA
SP-1	5/7/2001																																									
SP-1	6/13/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA	NA
SP-1	8/20/2001	NS	NA	<0.5	<0.5	NA		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5		<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA
SP-1	2/15/2002	NS																																							
SP-1	5/28/2002	LNAPL																																								
SP-1	8/27/2002																																									
SP-1	11/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA	NA
SP-1	3/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA	NA
SP-1	6/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA	NA
SP-1	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA	NA
SP-1	11/13/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA	NA
SP-1	2/23/2004	NS	NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA	NA
SP-1	8/10/2004	NS																																							
SP-1	12/8/2004	NS																																							
SP-1	3/7/2005	NS																																							
SP-1	6/20/2005	NS																																							
SP-1	3/4/2006	NS																																							
SP-1	11/29/2006	NS																																							
SP-1	6/14/2007	NS																																							
SP-1	9/15/2008	NS																																							
SP-1	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-1	5/5/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-1	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-1	11/17/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-1	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-1	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
SP-1	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-1	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-2	5/2/2001	NS																																						
SP-2	8/20/2001	LNAPL																																						
SP-2	2/15/2002	LNAPL																																						
SP-2	5/28/2002	LNAPL																																						
SP-2	8/26/2002	LNAPL																																						
SP-2	11/12/2002	LNAPL																																						
SP-2	3/10/2003	LNAPL																																						
SP-2	6/13/2003	LNAPL																																						
SP-2	8/20/2003	LNAPL																																						
SP-2	2/23/2004	LNAPL																																						
SP-2	8/10/2004	LNAPL																																						
SP-2	12/8/2004	LNAPL																																						
SP-2	3/7/2005	LNAPL																																						
SP-2	6/20/2005	Dry																																						
SP-2	3/4/2006	NS																																						
SP-2	6/22/2006																																							
SP-2	12/5/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
SP-2	5/22/2007	Sheen																																						
SP-2	9/15/2008	NS																																						
SP-2	11/21/2008		**0.58**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-2	5/4/2009	LNAPL																																						
SP-2	4/26/2010	Sheen																																						
SP-2	11/15/2010	Sheen																																						
SP-2	5/2/2011	Sheen																																						
SP-2	11/14/2011	Sheen																																						
SP-2	5/7/2012	Sheen																																						
SP-2	11/5/2012	Sheen																																						
SP-3	5/2/2001	LNAPL																																						
SP-3	8/20/2001	LNAPL																																						
SP-3	2/15/2002	NS																																						
SP-3	5/28/2002	LNAPL																																						
SP-3	8/26/2002	LNAPL																																						
SP-3	11/12/2002	LNAPL																																						
SP-3	3/10/2003	LNAPL																																						
SP-3	6/13/2003	LNAPL																																						
SP-3	8/20/2003	LNAPL																																						
SP-3	2/23/2004	LNAPL																																						
SP-3	8/10/2004	NS																																						
SP-3	12/8/2004	NS																																						
SP-3	3/7/2005	NS																																						
SP-3	6/20/2005	NS																																						
SP-4	5/2/2001	NS																																						
SP-4	8/20/2001	NS																																						
SP-4	2/14/2002																																							
SP-4	5/28/2002	LNAPL	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.1**	**0.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-4	8/26/2002	LNAPL																																						
SP-4	11/12/2002	LNAPL																																						
SP-4	3/10/2003	LNAPL																																						
SP-4	6/13/2003	LNAPL																																						
SP-4	8/20/2003	LNAPL																																						
SP-4	2/23/2004	LNAPL																																						
SP-4	8/10/2004	LNAPL																																						
SP-4	12/8/2004	LNAPL																																						
SP-4	3/7/2005	NS																																						
SP-4	6/20/2005	NS																																						
SP-5	5/2/2001	LNAPL																																						
SP-5	8/20/2001	LNAPL																																						

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
SP-1	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-1	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.25 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-2	5/2/2001	NS																																								
SP-2	8/20/2001	LNAPL																																								
SP-2	2/15/2002	LNAPL																																								
SP-2	5/28/2002	LNAPL																																								
SP-2	8/26/2002	LNAPL																																								
SP-2	11/12/2002	LNAPL																																								
SP-2	3/10/2003	LNAPL																																								
SP-2	6/13/2003	LNAPL																																								
SP-2	8/20/2003	LNAPL																																								
SP-2	2/23/2004	LNAPL																																								
SP-2	8/10/2004	LNAPL																																								
SP-2	12/8/2004	LNAPL																																								
SP-2	3/7/2005	LNAPL																																								
SP-2	6/20/2005	Dry																																								
SP-2	3/4/2006	NS																																								
SP-2	6/22/2006																																									
SP-2	12/5/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	**420**	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-2	5/22/2007	Sheen																																								
SP-2	9/15/2008	NS																																								
SP-2	11/21/2008		<0.5	<0.5	**0.98**	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	**81**	NA	NA	<0.5	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
SP-2	5/4/2009	LNAPL																																								
SP-2	4/26/2010	Sheen																																								
SP-2	11/15/2010	Sheen																																								
SP-2	5/2/2011	Sheen																																								
SP-2	11/14/2011	Sheen																																								
SP-2	5/7/2012	Sheen																																								
SP-2	11/5/2012	Sheen																																								
SP-3	5/2/2001	LNAPL																																								
SP-3	8/20/2001	LNAPL																																								
SP-3	2/15/2002	NS																																								
SP-3	5/28/2002	LNAPL																																								
SP-3	8/26/2002	LNAPL																																								
SP-3	11/12/2002	LNAPL																																								
SP-3	3/10/2003	LNAPL																																								
SP-3	6/13/2003	LNAPL																																								
SP-3	8/20/2003	LNAPL																																								
SP-3	2/23/2004	LNAPL																																								
SP-3	8/10/2004	NS																																								
SP-3	12/8/2004	NS																																								
SP-3	3/7/2005	NS																																								
SP-3	6/20/2005	NS																																								
SP-4	5/2/2001	NS																																									
SP-4	8/20/2001	NS																																									
SP-4	2/14/2002																																										
SP-4	5/28/2002	LNAPL	NA	<0.5	**1**	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-4	8/26/2002	LNAPL																																									
SP-4	11/12/2002	LNAPL																																									
SP-4	3/10/2003	LNAPL																																									
SP-4	6/13/2003	LNAPL																																									
SP-4	8/20/2003	LNAPL																																									
SP-4	2/23/2004	LNAPL																																									
SP-4	8/10/2004	LNAPL																																									
SP-4	12/8/2004	LNAPL																																									
SP-4	3/7/2005	NS																																									
SP-4	6/20/2005	NS																																									
SP-5	5/2/2001	LNAPL																																									
SP-5	8/20/2001	LNAPL																																									

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
SP-5	2/15/2002	LNAPL																																					
SP-5	5/28/2002	LNAPL																																					
SP-5	8/26/2002	LNAPL																																					
SP-5	11/12/2002	LNAPL																																					
SP-5	3/10/2003	LNAPL																																					
SP-5	6/13/2003	LNAPL																																					
SP-5	8/20/2003	LNAPL																																					
SP-5	2/23/2004	LNAPL																																					
SP-5	8/10/2004	LNAPL																																					
SP-5	12/8/2004	LNAPL																																					
SP-5	3/7/2005	NS																																					
SP-5	6/20/2005	NS																																					
SP-6	5/2/2001	Dry																																					
SP-6	8/20/2001	LNAPL																																					
SP-6	2/15/2002	Dry																																					
SP-6	5/28/2002	Dry																																					
SP-6	8/26/2002	Dry																																					
SP-6	11/12/2002	Dry																																					
SP-6	3/10/2003	LNAPL																																					
SP-6	6/13/2003	Dry																																					
SP-6	8/20/2003	Dry																																					
SP-6	2/23/2004	NS																																					
SP-6	8/10/2004	NS																																					
SP-6	12/8/2004	NS																																					
SP-6	3/7/2005	LNAPL																																					
SP-6	6/20/2005	LNAPL																																					
SP-6	3/4/2006	NS																																					
SP-6	6/6/2006	LNAPL																																					
SP-6	11/20/2006	NS																																					
SP-6	5/21/2007	dry																																					
SP-6	9/16/2008	NS																																					
SP-6	11/17/2008	Dry																																					
SP-6	5/4/2009	LNAPL																																					
SP-6	4/26/2010	Sheen																																					
SP-6	11/15/2010	Dry																																					
SP-6	5/2/2011	Sheen																																					
SP-6	11/14/2011	Sheen																																					
SP-6	5/7/2012	Sheen																																					
SP-6	11/5/2012	Sheen																																					
SP-7A	5/5/2001																																						
SP-7A	8/22/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-7A	12/8/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-7A	2/12/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-7A	5/30/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-7A	8/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-7A	11/14/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-7A	3/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-7A	6/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-7A	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
SP-7A	11/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
SP-7A	2/24/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
SP-7A	5/18/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
SP-7A	8/10/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
SP-7A	12/9/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
SP-7A	3/7/2005	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
SP-7A	6/20/2005	NS																																					
SP-7A	3/4/2006	NS																																					
SP-7A	11/20/2006	NS																																					
SP-7A	6/6/2007	NS																																					
SP-7A	9/15/2008	NS																																					
SP-7A	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
SP-5	2/15/2002	LNAPL																																							
SP-5	5/28/2002	LNAPL																																								
SP-5	8/26/2002	LNAPL																																							
SP-5	11/12/2002	LNAPL																																							
SP-5	3/10/2003	LNAPL																																							
SP-5	6/13/2003	LNAPL																																							
SP-5	8/20/2003	LNAPL																																							
SP-5	2/23/2004	LNAPL																																							
SP-5	8/10/2004	LNAPL																																							
SP-5	12/8/2004	LNAPL																																							
SP-5	3/7/2005	NS																																							
SP-5	6/20/2005	NS																																							
SP-6	5/2/2001	Dry																																							
SP-6	8/20/2001	LNAPL																																							
SP-6	2/15/2002	Dry																																							
SP-6	5/28/2002	Dry																																							
SP-6	8/26/2002	Dry																																							
SP-6	11/12/2002	Dry																																							
SP-6	3/10/2003	LNAPL																																							
SP-6	6/13/2003	Dry																																							
SP-6	8/20/2003	Dry																																							
SP-6	2/23/2004	NS																																							
SP-6	8/10/2004	NS																																							
SP-6	12/8/2004	NS																																							
SP-6	3/7/2005	LNAPL																																							
SP-6	6/20/2005	LNAPL																																							
SP-6	3/4/2006	NS																																							
SP-6	6/6/2006	LNAPL																																							
SP-6	11/20/2006	NS																																							
SP-6	5/21/2007	dry																																							
SP-6	9/16/2008	NS																																							
SP-6	11/17/2008	Dry																																							
SP-6	5/4/2009	LNAPL																																							
SP-6	4/26/2010	Sheen																																							
SP-6	11/15/2010	Dry																																							
SP-6	5/2/2011	Sheen																																							
SP-6	11/14/2011	Sheen																																							
SP-6	5/7/2012	Sheen																																							
SP-6	11/5/2012	Sheen																																							
SP-7A	5/5/2001																																								
SP-7A	8/22/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-7A	12/8/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-7A	2/12/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-7A	5/30/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-7A	8/29/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-7A	11/14/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-7A	3/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-7A	6/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-7A	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
SP-7A	11/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
SP-7A	2/24/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
SP-7A	5/18/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
SP-7A	8/10/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
SP-7A	12/9/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
SP-7A	3/7/2005	NS	NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
SP-7A	6/20/2005	NS																																							
SP-7A	3/4/2006	NS																																							
SP-7A	11/20/2006	NS																																							
SP-7A	6/6/2007	NS																																							
SP-7A	9/15/2008	NS																																							
SP-7A	11/19/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
SP-7A	5/6/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-7A	11/18/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-7A	4/28/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-7A	11/15/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-7A	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-7A	11/15/2011		**0.1 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-7A	5/8/2012		**0.21 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-7A	11/6/2012		**<0.50**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-8	5/9/2001																																							
SP-8	8/20/2001	LNAPL	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-8	2/15/2002	LNAPL																																						
SP-8	5/28/2002	LNAPL																																						
SP-8	8/26/2002	LNAPL																																						
SP-8	11/12/2002	LNAPL																																						
SP-8	3/10/2003	LNAPL																																						
SP-8	6/13/2003	LNAPL																																						
SP-8	8/20/2003	LNAPL																																						
SP-8	2/23/2004	LNAPL																																						
SP-8	8/10/2004	LNAPL																																						
SP-8	12/8/2004	LNAPL																																						
SP-8	3/7/2005	NS																																						
SP-8	6/20/2005	NS																																						
SP-9	5/4/2001																																							
SP-9	6/13/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	8/21/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**4.6**	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	12/8/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	2/11/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.5**	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	5/29/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	8/28/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	11/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.4**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	3/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	6/10/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	8/19/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	**2**	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
SP-9	11/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	**2.6**	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
SP-9	2/23/2004	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	**2.8**	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
SP-9	8/10/2004	NS																																						
SP-9	12/8/2004	NS																																						
SP-9	3/7/2005	NS																																						
SP-9	6/20/2005	NS																																						
SP-9	12/2/2005																																							
SP-9	3/4/2006	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	**1.6**	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NA
SP-9	6/6/2006	Unable to locate well																																						
SP-9	11/29/2006		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.69**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	6/7/2007	NS																																						
SP-9	11/29/2007		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.81**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	5/22/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.51**	**1.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	9/15/2008	NS																																						
SP-9	11/19/2008		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.76**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	5/7/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.73**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	11/19/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.79**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	4/29/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.79**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	11/18/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.64**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	5/5/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.0**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	11/16/2011		**0.06 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.3**	**1.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	5/9/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.5**	**0.53**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
SP-9	11/7/2012		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.37 J**	**0.25 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
GMW-14	5/18/1998	NS																																						
GMW-14	8/19/1998																																							
GMW-14	11/25/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
SP-7A	5/6/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-7A	11/18/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-7A	4/28/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-7A	11/15/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-7A	5/3/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-7A	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.07 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-7A	5/8/2012		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.10 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.36 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-7A	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.32 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**<0.50**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP-8	5/9/2001																																									
SP-8	8/20/2001	LNAPL	NA	<0.5	**0.7**	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.8**	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-8	2/15/2002	LNAPL																																								
SP-8	5/28/2002	LNAPL																																								
SP-8	8/26/2002	LNAPL																																								
SP-8	11/12/2002	LNAPL																																								
SP-8	3/10/2003	LNAPL																																								
SP-8	6/13/2003	LNAPL																																								
SP-8	8/20/2003	LNAPL																																								
SP-8	2/23/2004	LNAPL																																								
SP-8	8/10/2004	LNAPL																																								
SP-8	12/8/2004	LNAPL																																								
SP-8	3/7/2005	NS																																								
SP-8	6/20/2005	NS																																								
SP-9	5/4/2001																																									
SP-9	6/13/2001		NA	<0.5	**15**	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-9	8/21/2001		NA	<0.5	**17**	NA		<0.5	**0.6**	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5		<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
SP-9	12/8/2001		NA	<0.5	**19**	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-9	2/11/2002		NA	<0.5	**18**	NA	<0.5	<0.5	**0.5**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-9	5/29/2002		NA	<0.5	**21**	NA	<0.5	<0.5	**0.5**	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-9	8/28/2002		NA	<0.5	**12**	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-9	11/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-9	3/11/2003		NA	<0.5	**9.6**	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-9	6/10/2003		NA	<0.5	**17**	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
SP-9	8/19/2003		NA	NR	**14**	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
SP-9	11/12/2003		NA	NR	**17**	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
SP-9	2/23/2004	NS	NA	NR	**18**	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
SP-9	8/10/2004	NS																																								
SP-9	12/8/2004	NS																																								
SP-9	3/7/2005	NS																																								
SP-9	6/20/2005	NS																																								
SP-9	12/2/2005																																									
SP-9	3/4/2006	NS	NA	NR	**11**	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	**2.2**	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
SP-9	6/6/2006	Unable to locate w																																								
SP-9	11/29/2006		<0.5	<1.00	**7.98**	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0	<0.5	<0.5	<0.5	NA	NA	NA	NA	**6.46 J**	<50.0	<0.5	<10.0	<10.0
SP-9	6/7/2007	NS																																								
SP-9	11/29/2007		<0.5	<1.00	**2.04**	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0	<0.5	<0.5	<0.5	NA	NA	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
SP-9	5/22/2008		<0.5	<1.00	**1.2**	<0.5	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0	<0.5	<0.5	<0.5	NA	**0.63**	NA	NA	<50.0	<50.0	<0.5	<10.0	<10.0
SP-9	9/15/2008	NS																																								
SP-9	11/19/2008		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.3**	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
SP-9	5/7/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
SP-9	11/19/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
SP-9	4/29/2010		<0.5	<0.5	**0.57**	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
SP-9	11/18/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	**0.54**	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
SP-9	5/5/2011		<0.5	<0.5	**1.4**	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
SP-9	11/16/2011		<0.5	<0.5	**0.9**	NA	<1.0	**2.4**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.11 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**1.1**	**1.1**	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	**1**	NA	NA	NA	NA	NA	NA	NA
SP-9	5/9/2012		<0.5	<0.5	**0.5**	NA	<1.0	**0.68**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**0.30 J**	**0.28 J**	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	**0.30 J**	NA	NA	NA	NA	NA	NA	NA
SP-9	11/7/2012		<0.50	<0.50	**<0.50**	<0.50	<1.0	**<0.50**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	**<0.50**	**<0.50**	<0.50	<0.50	NA	NA	NA	NA	NA	<0.50	**<0.50**	NA	NA	NA	NA	NA	NA	NA
GMW-14	5/18/1998	NS																																								
GMW-14	8/19/1998																																									
GMW-14	11/25/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
GMW-14	3/6/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-14	6/18/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-14	9/23/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-14 (dup.)	9/23/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-14	11/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-14	2/24/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-14	5/22/2000	NS	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-14	8/28/2000	NS																																						
GMW-14	11/27/2000	NS																																						
GMW-14	2/19/2001	NS																																						
GMW-14	5/2/2001	NS																																						
GMW-14	8/20/2001	NS																																						
GMW-14	2/15/2002	NS																																						
GMW-14	5/28/2002	NS																																						
GMW-14	8/28/2002																																							
GMW-14	11/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-14 (dup.)	11/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-14	3/13/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-14 (dup.)	3/13/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-14	6/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-14	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-14	11/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-14	11/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-14	2/26/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-14	5/18/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-14	8/11/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-14	12/9/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-14	3/7/2005	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-14	6/21/2005																																							
GMW-14	3/4/2006	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-14	6/14/2006																																							
GMW-14	11/20/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
GMW-14	5/30/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
GMW-14	5/21/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
GMW-14	9/15/2008	NS																																						
GMW-14	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-14	5/5/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-14	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-14	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-14	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-14	5/3/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-14	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-14	5/8/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-14	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-15	2/19/1998	NS																																						
GMW-15	5/18/1998	NS																																						
GMW-15	8/18/1998																																							
GMW-15	11/25/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	3/6/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	6/20/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	9/23/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	11/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	2/24/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	5/24/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	9/3/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	11/30/2000		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	2/23/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	5/8/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	8/22/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	12/11/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	2/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	5/31/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
GMW-14	3/6/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-14	6/18/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-14	9/23/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-14 (dup.)	9/23/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-14	11/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-14	2/24/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-14	5/22/2000	NS	NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-14	8/28/2000	NS																																							
GMW-14	11/27/2000	NS																																							
GMW-14	2/19/2001	NS																																							
GMW-14	5/2/2001	NS																																							
GMW-14	8/20/2001	NS																																							
GMW-14	2/15/2002	NS																																							
GMW-14	5/28/2002	NS																																							
GMW-14	8/28/2002																																								
GMW-14	11/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-14 (dup.)	11/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-14	3/13/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-14 (dup.)	3/13/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-14	6/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-14	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-14	11/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-14	11/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-14	2/26/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-14	5/18/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-14	8/11/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-14	12/9/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-14	3/7/2005	NS	NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-14	6/21/2005																																								
GMW-14	3/4/2006	NS	NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-14	6/14/2006																																								
GMW-14	11/20/2006		< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-14	5/30/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
GMW-14	5/21/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
GMW-14	9/15/2008	NS																																							
GMW-14	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-14	5/5/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
GMW-14	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-14	4/27/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-14	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-14	5/3/2011		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
GMW-14	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-14	5/8/2012		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
GMW-14	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-15	2/19/1998	NS																																							
GMW-15	5/18/1998	NS																																							
GMW-15	8/18/1998																																								
GMW-15	11/25/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-15	3/6/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-15	6/20/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-15	9/23/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-15	11/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-15	2/24/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-15	5/24/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-15	9/3/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-15	11/30/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-15	2/23/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA
GMW-15	5/8/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-15	8/22/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-15	12/11/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-15	2/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-15	5/31/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
GMW-15	8/26/2002	Paved Over	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	11/13/2002																																							
GMW-15	3/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	6/12/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-15	11/12/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-15	2/26/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-15	5/20/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-15	8/11/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-15	12/9/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-15	3/8/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-15 (dup.)	3/8/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-15	6/21/2005		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-15	3/4/2006	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-15	6/14/2006																																							
GMW-15	11/20/2006	NS	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
GMW-15	5/30/2007		< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
GMW-15 (dup)	5/30/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
GMW-15	5/20/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
GMW-15	9/15/2008	NS																																					
GMW-15	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-15	5/5/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-15	4/27/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-15	5/3/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-15	5/8/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-15	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-16	10/30/1997	NS																																					
GMW-16	2/17/1998																																						
GMW-16	5/18/1998	NS	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	8/18/1998																																						
GMW-16	11/23/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	3/7/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	6/18/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	9/23/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	11/19/1999		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	2/24/2000		NA	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	2/24/2000	Dup	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	5/22/2000	NS	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	8/28/2000	NS																																					
GMW-16	11/27/2000	NS																																					
GMW-16	2/19/2001	NS																																					
GMW-16	5/2/2001	NS																																					
GMW-16	8/21/2001																																						
GMW-16	12/10/2001		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	2/13/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	5/31/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	8/28/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	11/14/2002		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	3/11/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	6/13/2003		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-16 (dup.)	8/20/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-16	11/11/2003		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-16	2/26/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-16	5/19/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-16	8/11/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-16	12/9/2004		NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-16	3/7/2005	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-16	6/21/2005																																						

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Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
GMW-15	8/26/2002	Paved Over	NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-15	11/13/2002																																									
GMW-15	3/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-15	6/12/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-15	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-15	11/12/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-15	2/26/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-15	5/20/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-15	8/11/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-15	12/9/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-15	3/8/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-15 (dup.)	3/8/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-15	6/21/2005		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-15	3/4/2006	NS	NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-15	6/14/2006																																								
GMW-15	11/20/2006	NS	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-15	5/30/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
GMW-15 (dup)	5/30/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
GMW-15	5/20/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
GMW-15	9/15/2008	NS																																						
GMW-15	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-15	5/5/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA
GMW-15	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-15	4/27/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA
GMW-15	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-15	5/3/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA
GMW-15	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-15	5/8/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA
GMW-15	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-16	10/30/1997	NS																																						
GMW-16	2/17/1998																																							
GMW-16	5/18/1998	NS	NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-16	8/18/1998																																							
GMW-16	11/23/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-16	3/7/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-16	6/18/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-16	9/23/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-16	11/19/1999		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA
GMW-16	2/24/2000		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA
GMW-16	2/24/2000	Dup	NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-16	5/22/2000	NS	NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-16	8/28/2000	NS																																						
GMW-16	11/27/2000	NS																																						
GMW-16	2/19/2001	NS																																						
GMW-16	5/2/2001	NS																																						
GMW-16	8/21/2001																																							
GMW-16	12/10/2001		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-16	2/13/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-16	5/31/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-16	8/28/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-16	11/14/2002		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-16	3/11/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-16	6/13/2003		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1	<0.5	NA	NA	NA	NA	NA
GMW-16	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-16 (dup.)	8/20/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-16	11/11/2003		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-16	2/26/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-16	5/19/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-16	8/11/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-16	12/9/2004		NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-16	3/7/2005	NS	NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-16	6/21/2005																																							

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach CA

ID	Date	Comments	Benzene (ug/L)	Bromobenzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	n-Butylbenzene (ug/L)	sec-Butylbenzene (ug/L)	tert-Butylbenzene (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	2-Chlorotoluene (ug/L)	4-Chlorotoluene (ug/L)	Chlorodibromomethane (ug/L)	1,2-Dibromo-3-Chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	Dibromomethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,3-Dichlorobenzene (ug/L)	1,4-Dichlorobenzene (ug/L)	Dichlorodifluoromethane (ug/L)	1,1-Dichloroethane (ug/L)	1,2-Dichloroethane (EDC) (ug/L)	1,1-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Total 1,2-Dichloroethene (ug/L)	1,2-Dichloropropane (ug/L)	1,3-Dichloropropane (ug/L)	2,2-Dichloropropane (ug/L)	1,1-Dichloropropene (ug/L)	cis-1,3-Dichloropropene (ug/L)	trans-1,3-Dichloropropene (ug/L)	Total 1,3-Dichloropropene (ug/L)
GMW-16	3/4/2006	NS	NA	NR	NR	<0.5	<0.5	NR	<0.5	<0.5	<0.5	<0.5	NR	NR	<0.5	NR	NR	NR	<0.5	NR	NA	NR	NR	NR	NR	NR	<0.5	<0.5	NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NA
GMW-16	6/14/2006																																							
GMW-16	11/20/2006	NS	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1
GMW-16	5/30/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
GMW-16 (dup)	5/30/2007		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
GMW-16	5/21/2008		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA
GMW-16	9/15/2008	NS																																						
GMW-16	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-16	5/5/2009		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-16	4/27/2010		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-16	5/3/2011		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-16	5/8/2012		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA
GMW-16	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CS-1	5/22/1998		NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Volatile Organic Compound (VOC) Concentrations in Groundwater
Former Unocal Avila Terminal, Avila Beach CA

ID	Date	Comments	Ethylbenzene (ug/L)	Hexachlorobutadiene (ug/L)	Isopropylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Styrene (ug/L)	1,1,1,2-Tetrachloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	Tetrachloroethene (PCE) (ug/L)	Toluene (ug/L)	1,2,3-Trichlorobenzene (ug/L)	1,2,4-Trichlorobenzene (ug/L)	1,1,1-Trichloroethane (TCA, ug/L)	1,1,2-Trichloroethane	Trichloroethene (TCE) (ug/L)	Trichlorofluoromethane (Freon 11, ug/L)	1,2,3-Trichloropropane (ug/L)	1,1,2-Trichloro-1,2,2-trifluoroethane (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl Chloride (ug/L)	Total Xylenes (ug/L)	t-Amyl Methyl ether (ug/L)	tert-Butyl alcohol (ug/L)	Di-isopropyl ether (ug/L)	Ethyl t-butyl ether (ug/L)	Methyl t-butyl ether (ug/L)	Ethylene dibromide (EDB) (ug/L)	4-Isopropyltoluene (ug/L)	2-Chloroethylvinyl ether (ug/L)	Dichlorotrifluoroethane (ug/L)	*Acetone (ug/L)*	*2-Butanone (ug/L)*	*Carbon disulfide (ug/L)*	*2-Hexanone(ug/L)*	*4-Methyl-2-pentanone (ug/L)*
GMW-16	3/4/2006	NS	NA	NR	<0.5	NA	NR	<0.5	<0.5	NR	NR	NR	<0.5	NA	NR	NR	NR	NR	<0.5	NR	NR	NA	<0.5	<0.5	NR	NA	NA	NR	NA	NA	NA	NA	<0.5	<0.5	NR	NR	NA	NA	NA	NA	NA
GMW-16	6/14/2006																																									
GMW-16	11/20/2006	NS	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-16	5/30/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
GMW-16 (dup)	5/30/2007		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
GMW-16	5/21/2008		< 0.5	<1	<1	< 0.5	<5	<5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	NA	NA	NA	NA	NA	<50	<50	<0.5	<10	<10
GMW-16	9/15/2008	NS																																								
GMW-16	11/18/2008		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-16	5/5/2009		<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA
GMW-16	11/17/2009		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-16	4/27/2010		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
GMW-16	11/16/2010		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-16	5/3/2011		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
GMW-16	11/15/2011		<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GMW-16	5/8/2012		<0.5	<0.5	<0.5	NA	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
GMW-16	11/6/2012		<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CS-1	5/22/1998		NA	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	NA	NA	NR	NA	NA	NA	<0.5	<0.5	<1.0	<0.5						

Notes:
Only constituents historically detected above their respective laboratory reporting limits shown until 2006.
< = Constituent not detected at or above the shown reporting limit
LNAPL = Light non-aqueous phase liquid
NA = Not analyzed
dup. = duplicate sample
trip. = triplicate sample
NR = Not reported in historical data table provided to Parsons
NS = Not sampled

µg/L = micrograms per liter
Last 5 VOCs in table (in italics) are only included in Test America analyses starting 4Q06 to 1Q08.
** = Secondary ion abundances were outside method requirements. Identification based on analytical judgement.
Insufficient = Insufficient water to collect sample
WLO = Water Levels Only, no sample collected
J = estimated value; results are above the method detection limit and below the method reporting limit

Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-12	10/30/97	LNAPL																
B-12	2/19/98	LNAPL																
B-12	5/19/98	LNAPL																
B-12	8/18/98	LNAPL																
B-12	11/22/98	LNAPL																
B-12	3/8/99	LNAPL																
B-12	6/19/99	LNAPL																
B-12	9/22/99	LNAPL																
B-12	11/18/99	LNAPL																
B-12	2/22/00	LNAPL																
B-12	5/22/00	LNAPL																
B-12	8/28/00	LNAPL																
B-12	11/27/00	LNAPL																
B-12	2/19/01	LNAPL																
B-12	5/2/01	LNAPL																
B-12	8/20/01	LNAPL																
B-12	2/15/02	LNAPL																
B-12	5/28/02	LNAPL																
B-12	8/26/02	LNAPL																
B-12	11/12/02	LNAPL																
B-12	3/10/03	LNAPL																
B-12	6/13/03	LNAPL																
B-12	8/21/03	LNAPL																
B-12	2/23/04	LNAPL																
B-12	8/10/04	LNAPL																
B-12	12/8/04	LNAPL																
B-12	3/7/05	LNAPL																
B-12	6/20/05	LNAPL																
B-12	11/21/06	LNAPL																
B-12	5/22/07	LNAPL																
B-12	5/7/12	LNAPL																
B-14	10/30/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**100**	<2.0	<2.0
B-14	2/19/98	LNAPL																
B-14	5/18/98	LNAPL																
B-14	8/18/98	LNAPL																
B-14	11/22/98	LNAPL																
B-14	3/8/99	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-14	6/19/99	LNAPL																
B-14	9/22/99	LNAPL																
B-14	11/18/99	LNAPL																
B-14	2/22/00	LNAPL																
B-14	5/22/00	LNAPL																
B-14	8/28/00	LNAPL																
B-14	11/27/00	LNAPL																
B-14	2/19/01	LNAPL																
B-14	5/2/01	LNAPL																
B-14	8/20/01	LNAPL																
B-14	2/15/02	LNAPL																
B-14	5/28/02	LNAPL																
B-14	8/26/02	LNAPL																
B-14	11/12/02	LNAPL																
B-14	3/10/03	LNAPL																
B-14	6/13/03	LNAPL																
B-14	8/21/03	LNAPL																
B-14	2/23/04	LNAPL																
B-14	8/10/04	LNAPL																
B-14	12/8/04	LNAPL																
B-14	3/7/05	LNAPL																
B-14	6/27/2005	LNAPL	**1.6**	**0.63**	**0.45**	**0.17**	**0.21**	**0.16**	<0.1	**0.11**	**0.26**	<0.1	**0.21**	**3.6**	<0.1	**100**	**5.2**	**0.26**
B-14	6/22/06		**0.62**	**0.35**	**< 0.1**	**< 0.1**	< 0.1	**< 0.1**	**< 0.1**	**< 0.1**	**< 0.1**	< 0.1	**< 0.1**	**1.6**	< 0.1	**77**	**1.7**	**< 0.1**
B-14	11/21/06	dry																
B-14	5/22/07	Sheen																
B-14	5/7/12	Sheen																
B-17	10/30/97	LNAPL																
B-17	2/19/98	LNAPL																
B-17	5/18/98	LNAPL																
B-17	8/18/98	LNAPL																
B-17	11/22/98	LNAPL																
B-17	3/8/99	LNAPL																
B-17	6/19/99	LNAPL																
B-17	9/22/99	LNAPL																
B-17	11/18/99	LNAPL																
B-17	2/22/00	LNAPL																
B-17	5/22/00	LNAPL																
B-17	8/28/00	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-17	11/27/00	LNAPL																
B-17	2/19/01	LNAPL																
B-17	5/2/01	LNAPL																
B-17	8/20/01	LNAPL																
B-17	2/15/02	LNAPL																
B-17	5/28/02	LNAPL																
B-17	8/26/02	LNAPL																
B-17	11/12/02	LNAPL																
B-17	3/10/03	LNAPL																
B-17	6/13/03	LNAPL																
B-17	8/21/03	LNAPL																
B-17	2/23/04	LNAPL																
B-17	8/10/04	LNAPL																
B-17	12/8/04	LNAPL																
B-17	3/7/05	LNAPL																
B-17	6/20/05	LNAPL																
B-17	11/21/06	LNAPL																
B-17	5/22/07	LNAPL																
B-17	5/7/12	LNAPL																
B-29-30	10/30/97	LNAPL																
B-29-30	2/19/98	LNAPL																
B-29-30	5/18/98	LNAPL																
B-29-30	8/18/98	LNAPL																
B-29-30	11/22/98	LNAPL																
B-29-30	3/8/99	LNAPL																
B-29-30	6/19/99	LNAPL																
B-29-30	9/22/99	LNAPL																
B-29-30	11/18/99	LNAPL																
B-29-30	2/22/00	LNAPL																
B-29-30	5/22/00	LNAPL																
B-29-30	8/28/00	LNAPL																
B-29-30	11/27/00	LNAPL																
B-29-30	2/19/01	LNAPL																
B-29-30	5/2/01	LNAPL																
B-29-30	8/20/01	LNAPL																
B-29-30	2/15/02	LNAPL																
B-29-30	5/28/02	LNAPL																
B-29-30	8/26/02	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-29-30	11/12/02	LNAPL																
B-29-30	3/10/03	LNAPL																
B-29-30	6/13/03	LNAPL																
B-29-30	8/21/03	LNAPL																
B-29-30	2/23/04	LNAPL																
B-29-30	8/10/04	LNAPL																
B-29-30	12/8/04	LNAPL																
B-29-30	3/7/05	LNAPL																
B-29-30	6/20/05	LNAPL																
B-29-30	11/21/06	LNAPL																
B-29-30	5/22/07	LNAPL																
B-29-30	5/7/12	Sheen																
B-29-50	10/30/97	LNAPL																
B-29-50	2/19/98	LNAPL																
B-29-50	5/18/98	LNAPL																
B-29-50	8/18/98	LNAPL																
B-29-50	11/22/98	LNAPL																
B-29-50	3/8/99	LNAPL																
B-29-50	6/19/99	LNAPL																
B-29-50	9/22/99	LNAPL																
B-29-50	11/18/99	LNAPL																
B-29-50	2/22/00	LNAPL																
B-29-50	5/22/00	LNAPL																
B-29-50	8/28/00	LNAPL																
B-29-50	11/27/00	LNAPL																
B-29-50	2/19/01	LNAPL																
B-29-50	5/2/01	LNAPL																
B-29-50	8/20/01	LNAPL																
B-29-50	2/15/02	LNAPL																
B-29-50	5/28/02	LNAPL																
B-29-50	8/26/02	LNAPL																
B-29-50	11/12/02	LNAPL																
B-29-50	3/10/03	LNAPL																
B-29-50	6/13/03	LNAPL																
B-29-50	8/21/03	LNAPL																
B-29-50	2/23/04	LNAPL																
B-29-50	8/10/04	LNAPL																
B-29-50	12/8/04	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-29-50	3/7/05	LNAPL																
B-29-50	6/27/2005		**1.2**	**0.68**	**0.15**	**0.14**	**0.17**	**0.12**	<0.1	<0.1	**0.21**	<0.1	**0.12**	**4.5**	<0.1	**29**	**1.6**	**0.2**
B-29-50	6/21/06		**0.57**	**0.34**	**< 0.1**	**< 0.1**	< 0.1	**< 0.1**	< 0.1	**< 0.1**	**< 0.1**	< 0.1	**< 0.1**	**2.2**	< 0.1	43	**0.96**	**< 0.1**
B-29-50	12/5/06		**0.54**	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	**1.32**	<0.0948	**4.8**	<0.0948	<0.0948
B-29-50	5/22/07	Sheen																
B-29-50	12/4/07		**0.248**	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	**1.13**	<0.0952	**11.7 J**	<0.0952	<0.0952
B-29-50*	12/4/07		**0.212**	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	**0.865**	<0.0962	**5.41 J**	<0.0962	<0.0962
B-29-50	5/28/08		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**11.0**	<1.0	<1.0
B-29-50	11/21/08		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.0**	<1.0	<1.0
B-29-50	11/18/10		**0.23**	**0.16**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**0.78**	<1.0	**15.0**	**0.36**	<1.0
B-29-50	5/5/11		**0.13**	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**0.82**	<0.11	**9.3**	**0.18**	<0.11
B-29-50	11/18/11		**0.31**	**0.11**	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**1.3**	<0.11	**3.3**	**0.2**	<0.11
B-29-50	5/7/12	Sheen																
B-30	10/30/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-30	2/19/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-30	5/18/98	NA																
B-30	8/18/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-30	11/23/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**2.2**	<2.0	<2.0	<2.0	<2.0
B-30	3/8/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**2.1**	<2.0	<2.0	<2.0	<2.0
B-30	6/20/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**2.2**	<2.0	<2.0	<2.0	<2.0
B-30	9/25/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**2**	<2.0	<2.0	<2.0	<2.0
B-30	11/21/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-30	2/22/00	NA																
B-30	5/25/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**2.2**	<2	<2	<2	<2
B-30	9/1/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**2.6**	<2	<2	<2	<2
B-30	11/27/00	LNAPL																
B-30	2/23/01	LNAPL																
B-30	5/2/01	LNAPL																
B-30	8/20/01	LNAPL																
B-30	2/15/02	LNAPL																
B-30	5/28/02	LNAPL																
B-30	8/26/02	LNAPL																
B-30	11/12/02	LNAPL																
B-30	3/10/03	LNAPL																
B-30	6/13/03	LNAPL																
B-30	8/21/03	LNAPL																
B-30	2/23/04	LNAPL																
B-30	8/10/04	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-30	12/8/04	LNAPL																
B-30	3/7/05	LNAPL																
B-30	6/20/05	LNAPL																
B-30	11/21/06	LNAPL																
B-30	5/22/07	LNAPL																
B-30	5/7/12	Sheen																
B-33	10/31/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**2.9**	<2.0	**200**	**3.8**	<2.0
B-33	2/18/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**3.8**	<2.0	**50**	**5.5**	<2.0
B-33	5/18/98	LNAPL																
B-33	8/18/98	LNAPL																
B-33	11/22/98	LNAPL																
B-33	3/8/99	LNAPL																
B-33	6/19/99	LNAPL																
B-33	9/22/99	LNAPL																
B-33	11/18/99	LNAPL																
B-33	2/22/00	LNAPL																
B-33	5/22/00	LNAPL																
B-33	8/28/00	LNAPL																
B-33	11/27/00	LNAPL																
B-33	2/19/01	LNAPL																
B-33	5/2/01	LNAPL																
B-33	8/20/01	LNAPL																
B-33	2/15/02	LNAPL																
B-33	5/28/02	LNAPL																
B-33	8/26/02	LNAPL																
B-33	11/12/02	LNAPL																
B-33	3/10/03	LNAPL																
B-33	6/13/03	LNAPL																
B-33	8/21/03	LNAPL																
B-33	2/23/04	NA																
B-33	8/10/04	LNAPL																
B-33	12/8/04	LNAPL																
B-33	3/7/05	LNAPL																
B-33	6/20/05	LNAPL																
B-33	12/1/06		**1.10**	**0.343**	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	**1.71**	<0.0952	**66.5**	**2.34**	<0.0952
B-33	5/21/07	Sheen																
B-33	5/7/12	Sheen																

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Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-35-45	10/30/97	LNAPL																
B-35-45	2/19/98	LNAPL																
B-35-45	5/18/98	LNAPL																
B-35-45	8/18/98	LNAPL																
B-35-45	11/22/98	LNAPL																
B-35-45	3/8/99	LNAPL																
B-35-45	6/19/99	LNAPL																
B-35-45	9/22/99	LNAPL																
B-35-45	11/18/99	LNAPL																
B-35-45	2/22/00	LNAPL																
B-35-45	5/22/00	LNAPL																
B-35-45	8/28/00	LNAPL																
B-35-45	11/27/00	LNAPL																
B-35-45	2/19/01	LNAPL																
B-35-45R	5/10/01		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
B-35-45R	8/20/01	LNAPL																
B-35-45R	2/15/02	NA																
B-35-45R	5/28/02	LNAPL																
B-35-45R	8/26/02	LNAPL																
B-35-45R	11/12/02	LNAPL																
B-35-45R	3/10/03	LNAPL																
B-35-45R	6/13/03	LNAPL																
B-35-45R	8/21/03	LNAPL																
B-35-45R	11/13/03		**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.8**	<0.1	**0.2**	<0.1	<0.1
B-35-45R	2/24/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1	<0.1
B-35-45R	5/20/04		**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.5**	<0.1	**0.1**	<0.1	<0.1
B-35-45R	8/11/04		**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.5**	<0.1	**0.1**	<0.1	<0.1
B-35-45R	12/8/04	LNAPL																
B-35-45R	3/7/05	LNAPL																
B-35-45R	6/27/2005		**0.24**	<0.1	<0.1	**0.1**	**0.14**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.54**	<0.1	**0.13**	<0.1	<0.1
B-35-45R	12/13/2005		**0.22**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.72**	<0.1	**0.35**	<0.1	<0.1
B-35-45R	6/23/06		**< 0.1**	< 0.1	< 0.1	**< 0.1**	< 0.1	**< 0.1**	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	**< 0.1**	< 0.1	**< 0.1**	< 0.1	< 0.1
B-35-45R (dup.)	6/23/06		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	**< 0.1**	< 0.1	**< 0.1**	**< 0.1**	< 0.1
B-35-45R	12/1/06		**0.114**	**0.0762 J**	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	**0.124**	<0.0952	**0.124**	<0.0952	<0.0952
B-35-45R	5/21/07	Sheen																
B-35-45R	5/28/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-35-45R	11/21/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-35-45R	5/8/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

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Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-35-45R	11/20/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-35-45R	04/29/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-35-45R	11/19/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-35-45R	05/05/11		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-35-45R	11/17/11		<0.11	**0.053 J**	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
B-35-45R	05/10/12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-35-45R	11/8/12		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
B-35-70	10/30/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-35-70	2/20/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**20**	<2.0	<2.0
B-35-70	5/19/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**7.5**	<2.0	<2.0
B-35-70	8/18/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**10**	<2.0	<2.0
B-35-70	11/23/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**31**	<2.0	<2.0
B-35-70	3/8/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**15**	<2.0	<2.0
B-35-70	6/20/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**7.4**	<2.0	<2.0
B-35-70	9/25/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**32**	<2.0	<2.0
B-35-70	11/21/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**6.2**	<2.0	<2.0
B-35-70	2/27/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**21**	<2	<2
B-35-70	5/26/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**9**	<2	<2
B-35-70	9/1/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**19**	<2	<2
B-35-70	11/30/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**11**	<2	<2
B-35-70	2/23/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**15**	<2	<2
B-35-70	5/6/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**32**	<2	<2
B-35-70	8/22/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**9.3**	<2	<2
B-35-70	12/10/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**26**	<2	<2
B-35-70	2/15/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**26**	<2	<2
B-35-70	5/30/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**3**	<2	<2
B-35-70	8/29/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**8.5**	<2	<2
B-35-70	11/15/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**6.6**	<2	<2
B-35-70	3/12/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**28**	<2	<2
B-35-70	6/11/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	**28**	**0.2**	<0.1
B-35-70	8/21/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.3**	<0.1	**28**	**0.2**	<0.1
B-35-70	11/14/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	**25**	**0.3**	<0.1
B-35-70	2/26/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**24**	<0.1	<0.1
B-35-70	5/20/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**20**	<0.1	<0.1
B-35-70	8/11/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	**13**	**0.2**	<0.1
B-35-70	12/10/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	**34**	**0.3**	<0.1
B-35-70	3/7/05	NA																
B-35-70	6/20/05		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.25**	<0.1	**30**	**0.27**	<0.1

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Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-35-70	12/5/05		**0.11**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.25**	<0.1	**34**	**0.31**	<0.1
B-35-70	6/20/06		**< 0.1**	**< 0.1**	**< 0.1**	**< 0.1**	< 0.1	**< 0.1**	**< 0.1**	**< 0.1**	**< 0.1**	< 0.1	**< 0.1**	0.38	< 0.1	**38**	**0.58**	**< 0.1**
B-35-70	12/1/06		<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	**0.286**	<0.0952	**30.1**	**0.524**	<0.0952
B-35-70	6/7/07		<0.103	<0.103	<0.103	<0.103	<0.103	<0.103	<0.103	<0.103	<0.103	<0.103	<0.103	**0.390**	<0.103	**23.3**	**0.554**	<0.103
B-35-70	12/4/07		**0.566**	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	**0.547**	<0.0943	**20.6**	**0.349**	<0.0943
B-35-70	5/28/08		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**11**	<1.0	<1.0
B-35-70	11/20/09		**0.17**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**0.18**	<1.0	**5.1**	**0.48**	<1.0
B-35-70	4/29/10		<0.1	**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.14**	<0.1	**5.6**	**0.3**	<0.1
B-35-70	5/5/11		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.50**	<0.1	**14**	**0.47**	<0.1
B-35-70	11/17/11		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.54**	<0.1	**16**	**0.47**	<0.1
B-35-70	5/10/12		<0.1	**0.060 J**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.63**	<0.1	**22**	**0.62**	<0.1
B-35-70	11/8/12		**0.070 J**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.15**	<0.10	**13**	**0.20**	<0.10
B-36	10/30/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-36	2/19/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-36	5/18/98	LNAPL																
B-36	8/18/98	NA																
B-36	11/22/98	Dry																
B-36	3/8/99	LNAPL																
B-36	6/19/99	Dry																
B-36	9/22/99	Dry																
B-36	11/18/99	Dry																
B-36	2/22/00	LNAPL																
B-36	5/22/00	Trace																
B-36	8/28/00	Dry																
B-36	11/27/00	Dry																
B-36	2/19/01	LNAPL																
B-36	5/2/01	LNAPL																
B-36	8/20/01	Dry																
B-36	2/15/02	LNAPL																
B-36	5/28/02	Dry																
B-36	8/26/02	LNAPL																
B-36	11/12/02	Dry																
B-36	3/10/03	NA																
B-36	6/13/03	Dry																
B-36	8/21/03	Dry																
B-36	2/23/04	NA																
B-36	8/10/04	NA																
B-36	12/8/04	NA																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-36	3/7/05	LNAPL																
B-36	6/20/05	Dry																
B-36	6/23/06		< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	**< 0.14**	< 0.14	< 0.14
B-36	11/20/06	Dry																
B-36	5/21/07	Dry																
B-36	5/6/11		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-36	5/7/12	Dry																
B-37-40	10/30/97	Dry																
B-37-40	2/19/98	Dry																
B-37-40	5/18/98	Dry																
B-37-40	8/18/98	Dry																
B-37-40	11/22/98	Dry																
B-37-40	3/8/99	Dry																
B-37-40	6/19/99	Dry																
B-37-40	9/22/99	Dry																
B-37-40	11/18/99	Dry																
B-37-40	2/22/00	Dry																
B-37-40	5/22/00	Dry																
B-37-40	8/28/00	Dry																
B-37-40	11/27/00	Dry																
B-37-40	2/19/01	Dry																
B-37-40	5/2/01	Dry																
B-37-40	8/20/01	Dry																
B-37-40	2/15/02	Dry																
B-37-40	5/28/02	Dry																
B-37-40	8/26/02	Dry																
B-37-40	11/12/02	Dry																
B-37-40	3/10/03	NA																
B-37-40	6/13/03	Dry																
B-37-40	8/21/03	Dry																
B-37-40	2/23/04	NA																
B-37-40	8/10/04	NA																
B-37-40	12/8/04	NA																
B-37-40	3/8/2005		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-37-40	6/20/05	Dry																
B-37-40	11/20/06	Dry																
B-37-40	5/21/07	Sheen																
B-37-40	11/18/11		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-37-40	5/7/12	Insufficient																
B-37-70	10/31/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-37-70	2/19/98	NA																
B-37-70	5/21/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-37-70	8/18/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-37-70	11/22/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-37-70	3/8/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-37-70	6/19/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-37-70	9/24/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-37-70	11/22/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-37-70	2/26/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-37-70	5/22/00	NA																
B-37-70	8/28/00	NA																
B-37-70	11/27/00	NA																
B-37-70	2/19/01	NA																
B-37-70	5/2/01	NA																
B-37-70	8/20/01	NA																
B-37-70	2/15/02	NA																
B-37-70	5/30/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-37-70	8/29/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-37-70	11/15/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-37-70	3/12/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-37-70	6/11/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-37-70	8/21/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-37-70	11/14/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-37-70	2/24/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-37-70	8/10/04	NA																
B-37-70	12/8/04	NA																
B-37-70	3/7/05	NA																
B-37-70	6/20/05	Dry																
B-37-70	11/20/06	Dry																
B-37-70	5/21/07	Sheen																
B-37-70	9/15/08	Dry																
B-37-70	11/18/11		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
B-37-70	5/7/12	NA																
B-46	10/30/97	LNAPL																
B-46	2/19/98	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-46	5/18/98	LNAPL																
B-46	8/18/98	LNAPL																
B-46	11/22/98	LNAPL																
B-46	3/8/99	LNAPL																
B-46	6/19/99	LNAPL																
B-46	9/22/99	LNAPL																
B-46	11/18/99	LNAPL																
B-46	2/22/00	LNAPL																
B-46	5/22/00	LNAPL																
B-46	8/28/00	LNAPL																
B-46	11/27/00	LNAPL																
B-46	2/19/01	LNAPL																
B-46	5/2/01	LNAPL																
B-46	8/20/01	LNAPL																
B-46	2/15/02	LNAPL																
B-46	5/28/02	LNAPL																
B-46	8/26/02	LNAPL																
B-46	11/12/02	LNAPL																
B-46	3/10/03	LNAPL																
B-46	6/13/03	LNAPL																
B-46	8/21/03	LNAPL																
B-46	2/23/04	LNAPL																
B-46	8/10/04	LNAPL																
B-46	12/8/04	LNAPL																
B-46	3/7/05	LNAPL																
B-46	6/28/2005	LNAPL	**5.1**	**1.8**	**0.98**	**1.2**	**1.2**	**1.2**	<0.47	**1.1**	**3.2**	<9.4	**1.3**	<9.4	<0.47	**7.7**	**0.9**	**2.3**
B-46	11/21/06	NA																
B-46	5/22/07	Sheen																
B-46	5/28/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-46	5/7/12	Sheen																
B-49	10/30/97	LNAPL																
B-49	2/19/98	LNAPL																
B-49	5/18/98	LNAPL																
B-49	8/18/98	LNAPL																
B-49	11/22/98	LNAPL																
B-49	3/8/99	LNAPL																
B-49	6/19/99	LNAPL																
B-49	9/22/99	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-49	11/18/99	LNAPL																
B-49	2/22/00	LNAPL																
B-49	5/22/00	LNAPL																
B-49	8/28/00	LNAPL																
B-49	11/27/00	LNAPL																
B-49	2/19/01	LNAPL																
B-49	5/2/01	LNAPL																
B-49	8/20/01	LNAPL																
B-49	2/15/02	LNAPL																
B-49	5/28/02	LNAPL																
B-49	8/26/02	LNAPL																
B-49	11/12/02	LNAPL																
B-49	3/10/03	LNAPL																
B-49	6/13/03	LNAPL																
B-49	8/21/03	LNAPL																
B-49	2/23/04	LNAPL																
B-49	8/10/04	LNAPL																
B-49	12/8/04	LNAPL																
B-49	3/7/05	LNAPL																
B-49	6/20/05	LNAPL																
B-49	11/20/06	LNAPL																
B-49	5/22/07	LNAPL																
B-49	5/7/12	LNAPL																
B-51	10/30/97	LNAPL																
B-51	2/19/98	LNAPL																
B-51	5/18/98	LNAPL																
B-51	8/18/98	LNAPL																
B-51	11/22/98	LNAPL																
B-51	3/8/99	LNAPL																
B-51	6/19/99	LNAPL																
B-51	9/22/99	LNAPL																
B-51	11/18/99	LNAPL																
B-51	2/22/00	LNAPL																
B-51	5/22/00	LNAPL																
B-54	10/30/97	LNAPL																
B-54	2/19/98	LNAPL																
B-54	5/18/98	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-54	8/18/98	LNAPL																
B-54	11/22/98	LNAPL																
B-54	3/8/99	LNAPL																
B-54	6/19/99	LNAPL																
B-54	9/22/99	LNAPL																
B-54	11/18/99	LNAPL																
B-54	2/22/00	LNAPL																
B-54	5/22/00	LNAPL																
B-54	8/28/00	LNAPL																
B-54	11/27/00	LNAPL																
B-54	2/19/01	LNAPL																
B-54	5/2/01	LNAPL																
B-54	8/20/01	LNAPL																
B-54	2/15/02	LNAPL																
B-54	5/28/02	LNAPL																
B-54	8/26/02	LNAPL																
B-54	11/12/02	LNAPL																
B-54	3/10/03	LNAPL																
B-54	6/13/03	LNAPL																
B-54	8/21/03	LNAPL																
B-54	2/23/04	LNAPL																
B-54	8/10/04	LNAPL																
B-54	12/8/04	LNAPL																
B-54	3/7/05	LNAPL																
B-54	6/20/05	LNAPL																
B-54	11/21/06	LNAPL																
B-54	5/22/07	LNAPL																
B-57-20	10/30/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-57-20	2/19/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**2**	<2.0	<2.0
B-57-20	5/19/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**2.1**	<2.0	<2.0
B-57-20	8/18/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**2.1**	<2.0	<2.0	<2.0	<2.0
B-57-20	11/22/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-57-20	3/8/99	LNAPL																
B-57-20	6/19/99	LNAPL																
B-57-20	9/22/99	LNAPL																
B-57-20	11/18/99	LNAPL																
B-57-20	2/22/00	LNAPL																
B-57-20	5/22/00	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-57-20	8/28/00	LNAPL																
B-57-20	11/27/00	LNAPL																
B-57-20	2/19/01	LNAPL																
B-57-20	5/2/01	LNAPL																
B-57-20	8/20/01	LNAPL																
B-57-20	2/15/02	NA																
B-57-20	5/28/02	LNAPL																
B-57-20	8/26/02	LNAPL																
B-57-20	11/12/02	LNAPL																
B-57-20	3/10/03	LNAPL																
B-57-20	6/13/03	LNAPL																
B-57-20	8/21/03	LNAPL																
B-57-20	2/23/04	LNAPL																
B-57-20	8/10/04	LNAPL																
B-57-20	12/8/04	LNAPL																
B-57-20	3/7/05	NA																
B-57-20	6/20/05	LNAPL																
B-57-20	12/13/2005		**0.92**	**0.19**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**2**	<0.1	**0.64**	**0.27**	<0.1
B-57-20	12/1/06		**0.490**	**0.115**	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	**0.952**	<0.0962	**0.663**	<0.0962	<0.0962
B-57-20	6/7/07		**0.449**	**0.112**	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	**0.939**	<0.102	**0.316**	<0.102	<0.102
B-57-20	12/6/07		**0.500**	**0.0882 J**	<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	**0.961**	<0.098	**0.363**	<0.098	<0.098
B-57-20	5/27/08		<0.1	**0.25**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.46**	<0.1	<0.1	<0.1	<0.1
B-57-20	11/18/09		<0.1	**0.40**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.59**	<0.1	**0.29**	<0.1	<0.1
B-57-20	11/19/10		**0.330**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.50**	<0.1	**0.34**	<0.1	<0.1
B-57-20	5/5/11		**0.60**	**0.15**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**1.3**	<0.1	**1.2**	**0.33**	<0.1
B-57-20	11/17/11		**0.71**	**0.140**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**1.300**	<0.1	**0.880**	**0.09 J**	<0.1
B-57-20	5/10/12		**0.52**	**0.16**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.85**	<0.1	**0.14**	**0.080 J**	<0.1
B-57-20	11/8/12		**0.36**	**0.070 J**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.50**	<0.10	**0.46**	**0.050 J**	<0.10
B-57-20	11/8/12	Duplicate	**0.34**	**0.071 J**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.49**	<0.10	**0.41**	**0.061 J**	<0.10
B-57-65	10/30/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-57-65	2/19/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-57-65	5/18/98	NA																
B-57-65	8/18/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-57-65	11/22/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-57-65	3/8/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-57-65	6/20/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-57-65	9/25/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-57-65	11/21/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-57-65	2/22/00	NA																
B-57-65	5/22/00	NA																
B-57-65	8/28/00	LNAPL																
B-57-65	11/27/00	NA																
B-57-65	2/19/01	LNAPL																
B-57-65	5/2/01	NA																
B-57-65	8/20/01	LNAPL																
B-57-65	2/15/02	LNAPL																
B-57-65	5/28/02	NA																
B-57-65	8/28/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-57-65	11/14/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-57-65	3/12/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-57-65	6/11/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-57-65	8/21/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-57-65	11/14/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-57-65	2/25/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-57-65	5/20/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-57-65	8/10/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-57-65	12/9/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-57-65	3/7/05	NA																
B-57-65	6/20/05	NA																
B-57-65	11/20/06	NA																
B-57-65	6/7/07	NA																
B-61	10/30/97	LNAPL																
B-61	2/19/98	LNAPL																
B-61	5/18/98	LNAPL																
B-61	8/18/98	LNAPL																
B-61	11/22/98	LNAPL																
B-61	3/8/99	LNAPL																
B-61	6/19/99	LNAPL																
B-61	9/22/99	LNAPL																
B-61	11/18/99	LNAPL																
B-61	2/22/00	LNAPL																
B-61	5/22/00	LNAPL																
B-61	8/28/00	LNAPL																
B-61	11/27/00	LNAPL																
B-61	2/19/01	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-78	10/30/97	LNAPL																
B-78	2/19/98	LNAPL																
B-78	5/18/98	LNAPL																
B-78	8/18/98	LNAPL																
B-78	11/22/98	LNAPL																
B-78	3/8/99	LNAPL																
B-78	6/19/99	LNAPL																
B-78	9/22/99	LNAPL																
B-78	11/18/99	LNAPL																
B-78	2/22/00	LNAPL																
B-78	5/22/00	LNAPL																
B-78	8/28/00	LNAPL																
B-78	11/27/00	LNAPL																
B-78	2/19/01	LNAPL																
B-78	5/2/01	LNAPL																
B-78	8/20/01	LNAPL																
B-78	2/15/02	LNAPL																
B-78	5/28/02	LNAPL																
B-78	8/26/02	LNAPL																
B-78	11/12/02	LNAPL																
B-78	3/10/03	LNAPL																
B-78	6/13/03	LNAPL																
B-78	8/21/03	LNAPL																
B-78	2/23/04	LNAPL																
B-78	8/10/04	LNAPL																
B-78	12/8/04	LNAPL																
B-78	3/7/05	LNAPL																
B-78	6/20/05	LNAPL																
B-78	11/20/06	LNAPL																
B-78	5/21/07	LNAPL																
B-81-67	10/30/97	LNAPL																
B-81-67	2/19/98	LNAPL																
B-81-67	5/18/98	LNAPL																
B-81-67	8/18/98	LNAPL																
B-81-67	11/22/98	LNAPL																
B-81-67	3/8/99	LNAPL																
B-81-67	6/19/99	LNAPL																
B-81-67	9/22/99	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-81-67	11/18/99	LNAPL																
B-81-67	2/22/00	LNAPL																
B-81-67	5/22/00	LNAPL																
B-81-67	8/28/00	LNAPL																
B-81-67	11/27/00	LNAPL																
B-81-67	2/19/01	LNAPL																
B-81-67	5/2/01	LNAPL																
B-81-67	8/20/01	LNAPL																
B-81-67	2/15/02	LNAPL																
B-81-67	5/28/02	LNAPL																
B-81-67	8/26/02	LNAPL																
B-81-67	11/12/02	LNAPL																
B-81-67	3/10/03	LNAPL																
B-81-67	6/13/03	LNAPL																
B-81-67	8/21/03	LNAPL																
B-81-67	2/23/04	LNAPL																
B-81-67	8/10/04	LNAPL																
B-81-67	12/8/04	LNAPL																
B-81-67	3/7/05	LNAPL																
B-81-67	6/20/05	LNAPL																
B-81-67	11/21/06	LNAPL																
B-81-67	5/22/07	LNAPL																
B-81-90	10/30/97	LNAPL																
B-81-90	2/19/98	LNAPL																
B-81-90	5/18/98	LNAPL																
B-81-90	8/18/98	LNAPL																
B-81-90	11/22/98	LNAPL																
B-81-90	3/8/99	LNAPL																
B-81-90	6/19/99	LNAPL																
B-81-90	9/22/99	LNAPL																
B-81-90	11/18/99	LNAPL																
B-81-90	2/22/00	LNAPL																
B-81-90	5/22/00	LNAPL																
B-81-90	8/28/00	LNAPL																
B-81-90	11/27/00	LNAPL																
B-81-90	2/19/01	LNAPL																
B-81-90	5/2/01	LNAPL																
B-81-90	8/20/01	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-81-90	2/15/02	LNAPL																
B-81-90	5/28/02	LNAPL																
B-81-90	8/26/02	LNAPL																
B-81-90	11/12/02	LNAPL																
B-81-90	3/10/03	LNAPL																
B-81-90	6/13/03	LNAPL																
B-81-90	8/21/03	LNAPL																
B-81-90	2/23/04	LNAPL																
B-81-90	8/10/04	LNAPL																
B-81-90	12/8/04	LNAPL																
B-81-90	3/7/05	LNAPL																
B-81-90	6/20/05	LNAPL																
B-81-90	11/21/06	LNAPL																
B-81-90	5/22/07	LNAPL																
B-82	10/30/97	LNAPL																
B-82	2/19/98	LNAPL																
B-82	5/18/98	LNAPL																
B-82	8/18/98	LNAPL																
B-82	11/22/98	LNAPL																
B-82	3/8/99	LNAPL																
B-82	6/19/99	LNAPL																
B-82	9/22/99	LNAPL																
B-82	11/18/99	LNAPL																
B-82	2/22/00	LNAPL																
B-82	5/22/00	LNAPL																
B-82	8/28/00	LNAPL																
B-82	11/27/00	LNAPL																
B-82	2/19/01	LNAPL																
B-82	5/2/01	LNAPL																
B-82	8/20/01	LNAPL																
B-82	2/15/02	LNAPL																
B-82	5/28/02	LNAPL																
B-82	8/26/02	LNAPL																
B-82	11/12/02	LNAPL																
B-82	3/10/03	LNAPL																
B-82	6/13/03	LNAPL																
B-82	8/21/03	LNAPL																
B-82	2/23/04	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-82	8/10/04	LNAPL																
B-82	12/8/04	LNAPL																
B-82	3/7/05	LNAPL																
B-82	6/20/05	LNAPL																
B-82	11/21/06	LNAPL/Dry																
B-82	5/22/07	LNAPL																
B-83	10/30/97	LNAPL																
B-83	2/19/98	LNAPL																
B-83	5/18/98	LNAPL																
B-83	8/18/98	LNAPL																
B-83	11/22/98	LNAPL																
B-83	3/8/99	LNAPL																
B-83	6/19/99	LNAPL																
B-83	9/22/99	LNAPL																
B-83	11/18/99	LNAPL																
B-83	2/22/00	LNAPL																
B-83	5/22/00	LNAPL																
B-83	8/28/00	LNAPL																
B-83	11/27/00	LNAPL																
B-83	2/19/01	LNAPL																
B-83	5/2/01	LNAPL																
B-83	8/20/01	LNAPL																
B-83	2/15/02	LNAPL																
B-83	5/28/02	LNAPL																
B-83	8/26/02	LNAPL																
B-83	11/12/02	LNAPL																
B-83	3/10/03	LNAPL																
B-83	6/13/03	LNAPL																
B-83	8/21/03	LNAPL																
B-83	2/23/04	LNAPL																
B-83	8/10/04	LNAPL																
B-83	12/8/04	LNAPL																
B-83	3/7/05	LNAPL																
B-83	6/20/05	LNAPL																
B-83	11/20/06	LNAPL																
B-83	5/22/07	LNAPL																
B-85	10/31/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-85	2/18/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-85	5/18/98	NA																
B-85	8/18/98	NA																
B-85	11/24/98	NA																
B-85	3/7/99	NA																
B-85	6/19/99	NA																
B-85	11/18/99	NA																
B-85	2/22/00	NA																
B-85	5/22/00	NA																
B-85	8/28/00	NA																
B-85	11/27/00	NA																
B-85	2/19/01	NA																
B-85	5/2/01	NA																
B-85	8/20/01	NA																
B-85	2/15/02	NA																
B-85	5/29/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-85	8/29/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-85	11/14/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-85	3/11/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-85	6/10/2003		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-85	8/21/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-85	2/23/04	NA																
B-85	8/10/04	NA																
B-85	12/8/04	NA																
B-85	3/7/05	NA																
B-85	6/20/05	NA																
B-85	11/20/06	NA																
B-85	6/7/07	NA																
B-139	10/30/97	NA																
B-139	2/20/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-139	5/18/98	NA																
B-139	8/19/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-139	11/25/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-139	3/6/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-139	6/19/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-139	9/25/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-139	11/20/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-139	2/25/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-139	5/22/00	NA																
B-139	8/28/00	NA																
B-139	11/27/00	NA																
B-139	2/19/01	NA																
B-139	5/2/01	NA																
B-139	8/20/01	NA																
B-139	2/15/02	NA																
B-139	5/28/02	NA																
B-139	8/26/02	NA																
B-139	11/12/02	NA																
B-139	3/10/03	NA																
B-139	6/13/03	NA																
B-139	8/21/03	NA																
B-139	2/23/04	NA																
B-139	8/10/04	NA																
B-139	12/8/04	NA																
B-139	3/7/05	NA																
B-139	6/20/05	NA																
B-139	11/20/06	NA																
B-139	6/6/07	NA																
B-143-45	10/30/97	NA																
B-143-45	2/17/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-143-45	5/18/98	NA																
B-143-45	8/18/98	NA																
B-143-45	11/22/98	NA																
B-143-45	3/8/99	NA																
B-143-45	6/18/99	NA																
B-143-45	9/23/99	NA																
B-143-45	11/18/99	NA																
B-143-45	2/22/00	NA																
B-143-45	5/22/00	NA																
B-143-45	8/28/00	NA																
B-143-45	11/27/00	NA																
B-143-45	2/19/01	NA																
B-143-45	5/2/01	NA																
B-143-45	8/20/01	NA																
B-143-45	2/15/02	NA																
B-143-45	5/28/02	NA																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-143-45	8/26/02	NA																
B-143-45	11/12/02	NA																
B-143-45	3/10/03	NA																
B-143-45	6/13/03	NA																
B-143-45	8/21/03	NA																
B-143-45	2/23/04	NA																
B-143-45	8/10/04	NA																
B-143-45	12/8/04	NA																
B-143-45	3/7/05	NA																
B-143-45	11/20/06	NA																
B-143-45	5/21/07	NA																
B-143-70	10/31/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-143-70	2/17/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-143-70	5/18/98	NA																
B-143-70	8/18/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-143-70	11/22/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-143-70	3/8/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-143-70	6/18/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-143-70	9/23/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-143-70	11/19/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-143-70	2/22/00	NA																
B-143-70	5/22/00	NA																
B-143-70	8/28/00	NA																
B-143-70	11/27/00	NA																
B-143-70	2/19/01	NA																
B-143-70	5/2/01	NA																
B-143-70	8/20/01	NA																
B-143-70	2/15/02	NA																
B-143-70	5/28/02	NA																
B-143-70	8/26/02	NA																
B-143-70	11/12/02	NA																
B-143-70	3/10/03	NA																
B-143-70	6/13/03	NA																
B-143-70	8/21/03	NA																
B-143-70	2/23/04	NA																
B-143-70	8/10/04	NA																
B-143-70	12/8/04	NA																
B-143-70	3/7/05	NA																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-143-70	11/20/06	NA																
B-143-70	5/21/07	NA																
B-144-50	10/30/97	NA																
B-144-50	2/17/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-144-50	5/18/98	NA																
B-144-50	8/18/98	NA																
B-144-50	11/22/98	NA																
B-144-50	3/8/99	NA																
B-144-50	6/18/99	NA																
B-144-50	9/23/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-144-50	11/18/99	NA																
B-144-50	2/22/00	NA																
B-144-50	5/22/00	NA																
B-144-50	8/28/00	NA																
B-144-50	11/27/00	NA																
B-144-50	2/19/01	NA																
B-144-50	5/2/01	NA																
B-144-50	8/20/01	NA																
B-144-50	2/15/02	NA																
B-144-50	5/28/02	NA																
B-144-50	8/26/02	NA																
B-144-50	11/12/02	NA																
B-144-50	3/10/03	NA																
B-144-50	6/13/03	NA																
B-144-50	8/21/03	NA																
B-144-50	2/23/04	NA																
B-144-50	8/10/04	NA																
B-144-50	12/8/04	NA																
B-144-50	3/7/05	NA																
B-144-50	6/20/05	NA																
B-144-50	11/20/06	NA																
B-144-50	6/6/07	NA																
B-144-75	10/31/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-144-75	2/17/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-144-75	5/18/98	NA																
B-144-75	8/18/98	NA																
B-144-75	11/22/98	NA																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-144-75	3/7/99	NA																
B-144-75	6/18/99	NA																
B-144-75	9/23/99	NA																
B-144-75	11/18/99	NA																
B-144-75	2/22/00	NA																
B-144-75	5/22/00	NA																
B-144-75	8/28/00	NA																
B-144-75	11/27/00	NA																
B-144-75	2/19/01	NA																
B-144-75	5/2/01	NA																
B-144-75	8/20/01	NA																
B-144-75	2/15/02	NA																
B-144-75	5/28/02	NA																
B-144-75	8/26/02	NA																
B-144-75	11/12/02	NA																
B-144-75	3/10/03	NA																
B-144-75	6/13/03	NA																
B-144-75	8/21/03	NA																
B-144-75	2/23/04	NA																
B-144-75	8/10/04	NA																
B-144-75	12/8/04	NA																
B-144-75	3/7/05	NA																
B-144-75	11/20/06	NA																
B-144-75	5/21/07	NA																
B-145	12/6/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-145	2/16/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-145	5/18/98	NA																
B-145	8/19/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-145	11/23/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-145	3/8/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-145	6/20/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-145	9/25/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-145	11/21/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-145	2/25/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-145	5/22/00	NA																
B-145	8/28/00	NA																
B-145	11/27/00	NA																
B-145	2/19/01	NA																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-145	5/2/01	NA																
B-145	8/20/01	NA																
B-145	2/15/02	NA																
B-145	5/28/02	NA																
B-145	8/26/02	NA																
B-145	11/12/02	NA																
B-145	3/10/03	NA																
B-145	6/13/03	NA																
B-145	8/21/03	NA																
B-145	2/23/04	NA																
B-145	8/10/04	NA																
B-145	12/8/04	NA																
B-145	3/7/05	NA																
B-145	6/20/05	NA																
B-145	11/20/06	NA																
B-145	5/24/07	NA																
B-146	12/5/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-146	2/17/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-146	5/18/98	NA																
B-146	8/18/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-146	11/25/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-146	3/6/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-146	6/18/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-146	9/24/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-146	11/21/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-146	2/26/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-146	5/22/00	NA																
B-146	8/28/00	NA																
B-146	11/27/00	NA																
B-146	2/19/01	NA																
B-146	5/2/01	NA																
B-146	8/20/01	NA																
B-146	2/15/02	NA																
B-146	5/28/02	NA																
B-146	8/26/02	NA																
B-146	11/12/02	NA																
B-146	3/10/03	NA																
B-146	6/13/03	NA																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-146	8/21/03	NA																
B-146	2/23/04	NA																
B-146	8/10/04	NA																
B-146	12/8/04	NA																
B-146	3/7/05	NA																
B-146	6/20/05	NA																
B-146	11/20/06	NA																
B-146	5/22/07	NA																
B-147	12/5/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-147	2/17/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-147	5/18/98	NA																
B-147	8/18/98	NA																
B-147	11/25/98	NA																
B-147	3/6/99	NA																
B-147	6/18/99	NA																
B-147	9/24/99	NA																
B-147	11/18/99	NA																
B-147	2/22/00	NA																
B-147	5/22/00	NA																
B-147	8/28/00	NA																
B-147	11/27/00	NA																
B-147	2/19/01	NA																
B-147	5/2/01	NA																
B-147	8/20/01	NA																
B-147	2/15/02	NA																
B-147	5/28/02	NA																
B-147	8/26/02	NA																
B-147	11/12/02	NA																
B-147	3/10/03	NA																
B-147	6/13/03	NA																
B-147	8/21/03	NA																
B-147	2/23/04	NA																
B-147	8/10/04	NA																
B-147	12/8/04	NA																
B-147	3/7/05	NA																
B-147	6/20/05	NA																
B-147	11/20/06	NA																
B-147	5/22/07	NA																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-148	12/6/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-148	2/17/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-148	5/18/98	NA																
B-148	8/18/98	NA																
B-148	11/24/98	NA																
B-148	3/6/99	NA																
B-148	6/20/99	NA																
B-148	11/18/99	NA																
B-148	2/22/00	NA																
B-148	5/22/00	NA																
B-148	8/28/00	NA																
B-148	11/27/00	NA																
B-148	2/19/01	NA																
B-148	5/2/01	NA																
B-148	8/20/01	NA																
B-148	2/15/02	NA																
B-148	5/28/02	NA																
B-148	8/26/02	NA																
B-148	11/12/02	NA																
B-148	3/10/03	NA																
B-148	6/13/03	NA																
B-148	8/21/03	NA																
B-148	2/23/04	NA																
B-148	8/10/04	NA																
B-148	12/8/04	NA																
B-148	3/7/05	NA																
B-148	6/20/05	NA																
B-148	11/20/06	NA																
B-148	6/1/07	NA																
B-149	12/6/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-149	2/17/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-149	5/18/98	NA																
B-149	8/19/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-149	11/24/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-149	3/8/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-149	6/19/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-149	9/24/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-149	11/20/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-149	2/25/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-149	5/22/00	NA																
B-149	8/28/00	NA																
B-149	11/27/00	NA																
B-149	2/19/01	NA																
B-149	5/2/01	NA																
B-149	8/20/01	NA																
B-149	2/15/02	NA																
B-149	5/28/02	NA																
B-149	8/26/02	NA																
B-149	11/12/02	NA																
B-149	3/10/03	NA																
B-149	6/13/03	NA																
B-149	8/21/03	NA																
B-149	11/13/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-149	2/24/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-149	5/19/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-149	8/10/04	NA																
B-149	12/8/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-149	3/7/05	NA																
B-149	6/20/05	NA																
B-149	11/20/06	NA																
B-149	5/29/07	NA																
B-150	12/5/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-150	2/19/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-150	5/18/98	NA																
B-150	8/20/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-150	11/23/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-150	3/8/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-150	6/20/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-150	9/25/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-150	11/21/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-150	2/25/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-150	5/22/00	NA																
B-150	8/28/00	NA																
B-150	11/27/00	NA																
B-150	2/19/01	NA																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-150	5/2/01	NA																
B-150	8/20/01	NA																
B-150	2/15/02	NA																
B-150	5/28/02	NA																
B-150	8/26/02	NA																
B-150	11/12/02	NA																
B-150	3/10/03	NA																
B-150	6/13/03	NA																
B-150	8/21/03	NA																
B-150	2/23/04	NA																
B-150	8/10/04	NA																
B-150	12/8/04	NA																
B-150	3/7/05	NA																
B-150	6/20/05	NA																
B-150	11/20/06	NA																
B-150	5/23/07	NA																
B-151	12/5/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-151	2/19/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-151	5/18/98	NA																
B-151	8/18/98	NA																
B-151	11/23/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-151	3/8/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-151	6/18/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-151	9/24/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-151	11/20/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-151	2/25/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-151	5/22/00	NA																
B-151	8/28/00	NA																
B-151	11/27/00	NA																
B-151	2/19/01	NA																
B-151	5/2/01	NA																
B-151	8/20/01	NA																
B-151	2/15/02	NA																
B-151	5/28/02	NA																
B-151	8/26/02	NA																
B-151	11/12/02	NA																
B-151	3/10/03	NA																
B-151	6/13/03	NA																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-151	8/21/03	NA																
B-151	2/23/04	NA																
B-151	8/10/04	NA																
B-151	12/8/04	NA																
B-151	3/7/05	NA																
B-151	6/20/05	NA																
B-151	11/20/06	NA																
B-151	5/23/07	NA																
B-152	12/5/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-152	2/18/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-152	5/18/98	NA																
B-152	8/20/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-152	11/23/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-152	3/6/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-152	6/18/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-152	9/24/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-152	11/20/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-152	2/27/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-152	5/22/00	NA																
B-152	8/28/00	NA																
B-152	11/27/00	NA																
B-152	2/19/01	NA																
B-153	12/5/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-153	2/18/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-153	5/18/98	NA																
B-153	8/20/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-153	11/23/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-153	3/9/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-153	6/19/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-153	9/25/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-153	11/21/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-153	2/22/00	NA																
B-153	5/22/00	NA																
B-153	8/28/00	NA																
B-153	11/27/00	NA																
B-153	2/19/01	LNAPL																
B-153	5/2/01	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-153	8/20/01	LNAPL																
B-153	2/15/02	LNAPL																
B-153	5/31/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-153	8/27/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-153	11/14/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-153	3/12/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-153	6/11/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	**0.1**	<0.1	<0.1
B-153	8/21/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-153	11/13/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	**0.1**	<0.1	<0.1
B-153	2/24/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-153	5/20/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-153	8/10/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-153	12/8/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	**0.2**	<0.1	<0.1
B-153	3/7/05	NA																
B-153	6/20/05		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.12**	<0.1	<0.1
B-153	12/5/05		**0.17**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.19**	<0.1	**0.21**	<0.1	<0.1
B-153	6/13/06		**0.13**	**0.042**	**< 0.1**	**< 0.1**	< 0.1	**0.063**	**< 0.1**	**< 0.1**	**< 0.1**	< 0.1	**< 0.1**	0.2	< 0.1	**0.19**	**0.052**	**0.01**
B-153	11/29/06		**0.0762**	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	**0.0952**	<0.0952	**0.162**	<0.0952	<0.0952
B-153	5/29/07		<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	**0.120**	<0.100	**0.170**	<0.100	<0.100
B-153	11/26/07		**0.125**	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	**0.163**	<0.0962	<0.0962	**0.115**	<0.0962
B-153	5/23/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-153	11/20/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-153	5/7/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.12**	<0.1	<0.1
B-153	11/18/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-153	4/27/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.12**	<0.1	<0.1
B-153	11/17/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	<0.1
B-153	5/5/11		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
B-153	11/15/11		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.09 J**	<0.10	<0.10	<0.10	<0.10
B-153	11/8/12		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.12**	<0.10	<0.10
B-163	12/5/97	LNAPL																
B-163	2/19/98	LNAPL																
B-163	5/18/98	LNAPL																
B-163	8/18/98	LNAPL																
B-163	11/22/98	LNAPL																
B-163	3/8/99	LNAPL																
B-163	6/19/99	LNAPL																
B-163	9/22/99	LNAPL																
B-163	11/18/99	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-163	2/22/00	LNAPL																
B-163	5/22/00	LNAPL																
B-163	8/28/00	LNAPL																
B-163	11/27/00	LNAPL																
B-163	2/19/01	LNAPL																
B-163	5/2/01	LNAPL																
B-163	8/20/01	LNAPL																
B-163	2/15/02	LNAPL																
B-163	5/28/02	LNAPL																
B-163	8/26/02	LNAPL																
B-163	11/12/02	LNAPL																
B-163	3/10/03	LNAPL																
B-163	6/13/03	LNAPL																
B-163	8/21/03	LNAPL																
B-163	2/23/04	LNAPL																
B-163	8/10/04	LNAPL																
B-163	12/8/04	LNAPL																
B-163	3/7/05	LNAPL																
B-163	6/20/05	LNAPL																
B-163	11/20/06	LNAPL																
B-163	5/22/07	LNAPL																
B-167-56	12/6/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-167-56	2/19/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-167-56	5/18/98	NA																
B-167-56	8/18/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-167-56	11/22/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-167-56	3/7/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-167-56	6/19/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-167-56	9/24/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-167-56	11/20/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-167-56	2/26/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-167-56	5/22/00	NA																
B-167-56	8/28/00	NA																
B-167-56	11/27/00	NA																
B-167-56	2/19/01	NA																
B-167-56	5/2/01	NA																
B-167-56	8/20/01	NA																
B-167-56	12/10/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-167-56	2/12/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-167-56	5/30/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-167-56	8/29/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-167-56	11/15/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-167-56	3/12/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-167-56	6/11/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-167-56	8/21/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-167-56	11/13/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-167-56	2/24/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-167-56	5/20/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-167-56	8/10/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-167-56	12/8/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-167-56	3/7/05	NA																
B-167-56	6/20/05	NA																
B-167-56	9/12/06	NA																
B-167-56	11/21/06	NA																
B-167-56	6/5/07	NA																
B-167-56	9/15/08	NA																
B-167-95	12/6/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-167-95	2/19/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-167-95	5/18/98	NA																
B-167-95	8/18/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-167-95	11/22/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-167-95	3/7/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-167-95	6/19/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-167-95	9/24/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-167-95	11/20/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-167-95	2/26/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-167-95	5/22/00	NA																
B-167-95	8/28/00	NA																
B-167-95	11/27/00	NA																
B-167-95	2/19/01	NA																
B-167-95	5/2/01	NA																
B-167-95	8/20/01	NA																
B-167-95	12/10/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-167-95	2/12/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-167-95	5/30/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-167-95	8/29/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-167-95	11/15/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-167-95	3/12/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-167-95	6/11/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-167-95	8/21/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-167-95	11/14/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-167-95	2/24/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-167-95	5/20/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-167-95	8/10/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-167-95	12/8/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-167-95	3/7/05	NA																
B-167-95	6/20/05	NA																
B-167-95	9/12/06	NA																
B-167-95	11/21/06	NA																
B-167-95	6/6/07	NA																
B-167-95	9/15/08	NA																
B-169	12/6/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-169	2/18/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-169	5/18/98	NA																
B-169	8/19/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-169	11/24/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-169	3/8/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-169	6/19/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-169	9/24/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-169	11/20/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-169	2/26/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-169	5/22/00	NA																
B-169	8/28/00	NA																
B-169	11/27/00	NA																
B-169	2/19/01	NA																
B-169	5/2/01	NA																
B-169	8/20/01	NA																
B-169	2/15/02	NA																
B-169	5/28/02	NA																
B-169	8/26/02	NA																
B-169	11/12/02	NA																
B-169	3/10/03	NA																
B-169	6/13/03	NA																
B-169	8/21/03	NA																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-169	2/23/04	NA																
B-169	8/10/04	NA																
B-169	12/8/04	NA																
B-169	3/7/05	NA																
B-169	6/20/05	NA																
B-169	11/20/06	NA																
B-169	5/30/07	NA																
B-172	12/5/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-172	2/17/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-172	5/18/98	NA																
B-172	8/18/98	NA																
B-172	11/25/98	NA																
B-172	3/6/99	NA																
B-172	6/18/99	NA																
B-172	9/24/99	NA																
B-172	11/18/99	NA																
B-172	2/22/00	NA																
B-172	5/22/00	NA																
B-172	8/28/00	NA																
B-172	11/27/00	NA																
B-172	2/19/01	NA																
B-172	5/2/01	NA																
B-172	8/20/01	NA																
B-172	2/15/02	NA																
B-172	5/28/02	NA																
B-172	8/26/02	NA																
B-172	11/12/02	NA																
B-172	3/10/03	NA																
B-172	6/13/03	NA																
B-172	8/21/03	NA																
B-172	2/23/04	NA																
B-172	8/10/04	NA																
B-172	12/8/04	NA																
B-172	3/7/05	NA																
B-172	11/20/06	NA																
B-172	5/21/07	NA																
B-173	12/6/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-173	2/17/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-173	5/18/98	NA																
B-173	8/18/98	NA																
B-173	11/24/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-173	3/6/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-173	6/19/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-173	9/26/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-173	11/21/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-173	2/25/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-173	5/22/00	NA																
B-173	8/28/00	NA																
B-173	11/27/00	NA																
B-173	2/19/01	NA																
B-173	5/2/01	NA																
B-173	8/20/01	NA																
B-173	2/15/02	NA																
B-173	5/28/02	NA																
B-173	8/26/02	NA																
B-173	11/12/02	NA																
B-173	3/10/03	NA																
B-173	6/13/03	NA																
B-173	8/21/03	NA																
B-173	2/23/04	NA																
B-173	8/10/04	NA																
B-173	12/8/04	NA																
B-173	3/7/05	NA																
B-173	6/20/05	NA																
B-173	11/20/06	NA																
B-173	5/24/07	NA																
B-182	9/26/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-182	11/22/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-182	2/22/00	LNAPL																
B-182	5/22/00	LNAPL																
B-182	8/28/00	LNAPL																
B-182	11/27/00	LNAPL																
B-182	2/19/01	LNAPL																
B-182	5/2/01	LNAPL																
B-182	8/20/01	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-182	2/15/02	LNAPL																
B-182	5/28/02	LNAPL																
B-182	8/26/02	LNAPL																
B-182	11/12/02	LNAPL																
B-182	3/10/03	LNAPL																
B-182	6/13/03	LNAPL																
B-182	8/21/03	LNAPL																
B-182	2/23/04	LNAPL																
B-182	8/10/04	LNAPL																
B-182	12/8/04	LNAPL																
B-182	3/7/05	LNAPL																
B-182	6/28/2005	LNAPL	**4.1**	**2**	**0.88**	**1.1**	**1**	**0.94**	<0.47	**0.77**	**2.2**	<9.4	**1.2**	<9.4	<0.47	**8.6**	**0.9**	**1.9**
B-182	11/20/06	LNAPL																
B-182	5/22/07	LNAPL																
B-183	9/26/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-183	11/22/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-183	2/27/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-183	5/22/00	NA																
B-183	8/28/00	NA																
B-183	11/27/00	LNAPL																
B-183	2/19/01	LNAPL																
B-183	5/2/01	LNAPL																
B-183	8/20/01	LNAPL																
B-183	2/15/02	LNAPL																
B-183	5/31/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-183	8/28/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-183	11/13/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-183	3/13/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-183	6/11/03		**0.9**	**0.3**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.4**	**0.2**	<0.1
B-183	8/21/03		**0.5**	**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	**0.6**	<0.1	<0.1
B-183	11/13/03		**0.3**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	<0.1
B-183	2/24/04		**0.5**	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	<0.1
B-183	5/19/04		**0.4**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1
B-183	8/11/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-183	12/8/04		**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-183	3/7/05	NA																
B-183	6/22/05		**0.41**	**0.13**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.15**	<0.1	**0.4**	**0.17**	<0.1
B-183	12/1/05		**0.75**	**0.26**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.18**	<0.1	**0.68**	**0.21**	<0.1

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-183	6/19/06		**0.64**	**0.25**	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	**0.12**	< 0.1	**0.68**	**0.27**	< 0.1
B-183	11/30/06		**0.714**	**0.238**	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	**1.11**	**0.171**	<0.0952
B-183	5/29/07		**0.245**	**0.104**	**0.160**	**0.217**	**0.311**	**0.368**	**0.245**	**0.226**	**0.208**	**0.340**	**0.179**	**0.123**	**0.349**	**0.113**	**0.160**	**0.179**
B-183	5/20/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-183	11/20/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
DUP-1	11/20/08	Duplicate of B-183	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-183	5/6/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-183	11/18/09		<0.1	**0.29**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.59**	<0.1	<0.1
B-183	4/28/10		**0.42**	**0.15**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**1.5**	**0.15**	<0.1
B-183	11/17/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-183	11/16/11		**0.54**	**0.17**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.09 J**	<0.10	**0.11**	<0.10	<0.10
B-183	5/9/12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-183	11/7/12		**0.23**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.62**	<0.10	<0.10
B-184	9/27/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-184	11/18/99	LNAPL																
B-184	2/22/00	LNAPL																
B-184	5/22/00	LNAPL																
B-184	8/30/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-184	11/27/00	LNAPL																
B-184	2/23/01	LNAPL																
B-184	5/10/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-184	8/22/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-184	12/9/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-184	2/15/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-184	5/30/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-184	8/27/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-184	11/13/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-184	3/13/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-184	6/12/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-184	8/21/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-184	11/12/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-184	2/26/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-184	5/19/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-184	8/12/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-184	12/8/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-184	3/7/05	NA																
B-184	6/20/05	LNAPL	**0.11**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.11**	<0.1	<0.1	<0.1	<0.1
B-184	6/12/06		**0.18**	0.059	< 0.1	< 0.1	0.017	< 0.1	< 0.1	0.042	< 0.1	0.021	< 0.1	**0.32**	0.019	0.14	0.074	0.0083

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-184	12/4/06		<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	**0.113**	<0.0943	<0.0943	<0.0943	<0.0943
B-184	6/15/07		<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	**0.0476 J**	<0.0952	<0.0952	**0.0667 J**	<0.0952
B-184	11/20/07		<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
B-184	11/19/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-184	5/6/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-184	5/6/09	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-184	11/18/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-184	11/18/09	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-184	4/28/10		**0.12**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.26**	<0.1	**0.37**	<0.1	<0.1
B-184	4/28/10	Duplicate	**0.13**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.25**	<0.1	**0.3**	<0.1	<0.1
B-184	11/16/11		**0.08 J**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.17**	<0.10	<0.10	<0.10	<0.10
B-184	5/9/12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.070 J**	<0.1	<0.1	<0.1	<0.1
B-184	11/6/12		**0.061 J**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.092 J**	<0.10	<0.10	<0.10	<0.10
B-185	9/22/99	LNAPL																
B-185	11/18/99	LNAPL																
B-185	2/22/00	LNAPL																
B-185	5/22/00	LNAPL																
B-185	8/28/00	LNAPL																
B-185	11/27/00	LNAPL																
B-185	2/19/01	LNAPL																
B-185	5/2/01	LNAPL																
B-185	8/20/01	LNAPL																
B-185	2/15/02	NA																
B-185	5/28/02	LNAPL																
B-185	8/26/02	LNAPL																
B-185	11/12/02	LNAPL																
B-185	3/10/03	LNAPL																
B-185	6/13/03	LNAPL																
B-185	8/21/03	LNAPL																
B-185	2/23/04	LNAPL																
B-185	8/10/04	LNAPL																
B-185	12/8/04	LNAPL																
B-185	3/7/05	NA																
B-185	6/20/05	LNAPL																
B-185	6/23/06		**0.29**	**0.1**	**< 0.1**	**< 0.1**	< 0.1	**< 0.1**	**< 0.1**	**< 0.1**	**< 0.1**	< 0.1	**< 0.1**	**0.31**	< 0.1	**0.29**	**< 0.1**	**< 0.1**
B-185	6/23/06		**0.25**	**< 0.1**	**< 0.1**	**< 0.1**	< 0.1	**< 0.1**	**< 0.1**	**< 0.1**	**< 0.1**	< 0.1	**< 0.1**	**0.27**	< 0.1	**0.27**	**< 0.1**	**< 0.1**
B-185	12/4/06		**0.0865 J**	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962
B-185	6/8/07		**0.0938 J**	<0.104	<0.104	<0.104	<0.104	<0.104	<0.104	<0.104	<0.104	<0.104	<0.104	**0.062 J**	<0.104	**0.104**	<0.104	<0.104

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-185	12/3/07		**0.181**	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	**0.0952 J**	<0.0952	<0.0952
B-185	5/20/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-185	11/18/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-185	5/5/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-185	11/17/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.21**	<0.1	<0.1
B-185	4/28/10		**0.13**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.65**	<0.1	<0.1
B-185	11/16/10		**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.17**	<0.1	<0.1
B-185	11/16/10	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.19**	<0.1	<0.1
B-185	5/3/11		**0.17**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.37**	<0.1	<0.1
B-185	5/3/11	Duplicate	**0.16**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.42**	<0.1	<0.1
B-185	11/16/11		**0.23**	**0.07 J**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.09 J**	<0.1	<0.1
B-185	11/16/11	Duplicate	**0.21**	**0.06 J**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.09 J**	<0.1	<0.1
B-185	5/8/12		**0.21**	**<0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.20**	<0.1	<0.1
B-185	5/8/12	Duplicate	**0.20**	**<0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.11**	<0.1	<0.1
B-185	11/6/12		**0.25**	**<0.10**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.41**	<0.10	<0.10
B-186-38	9/22/99	LNAPL																
B-186-38	11/18/99	LNAPL																
B-186-38	2/22/00	LNAPL																
B-186-38	5/22/00	LNAPL																
B-186-38	8/28/00	LNAPL																
B-186-38	11/27/00	LNAPL																
B-186-38	2/19/01	LNAPL																
B-186-38	5/2/01	LNAPL																
B-186-38	8/20/01	LNAPL																
B-186-38	2/15/02	LNAPL																
B-186-38	5/28/02	LNAPL																
B-186-38	8/26/02	LNAPL																
B-186-38	11/12/02	LNAPL																
B-186-38	3/10/03	LNAPL																
B-186-38	6/13/03	LNAPL																
B-186-38	8/21/03	LNAPL																
B-186-38	2/23/04	LNAPL																
B-186-38	8/10/04	LNAPL																
B-186-38	12/8/04	LNAPL																
B-186-38	3/7/05	LNAPL																
B-186-38	6/28/2005		**1.4**	**0.71**	**0.34**	**0.31**	**0.25**	**0.24**	<0.1	**0.22**	**0.6**	<2	**0.25**	**4.9**	<0.1	**100**	**5.1**	**0.44**
B-186-38	6/22/06		**0.76**	**2.1**	**0.31**	**< 0.1**	< 0.1	**< 0.1**	< 0.1	**< 0.1**	**< 0.1**	< 0.1	**< 0.1**	**1.1**	< 0.1	**88**	1.3	**< 0.1**
B-186-38	12/5/06		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**666**	< 1.0	< 1.0

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Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-186-38	5/22/07	Sheen																
B-186-56	9/22/99	LNAPL																
B-186-56	11/18/99	LNAPL																
B-186-56	2/22/00	LNAPL																
B-186-56	5/22/00	LNAPL																
B-186-56	8/28/00	LNAPL																
B-186-56	11/27/00	LNAPL																
B-186-56	2/19/01	LNAPL																
B-186-56	5/2/01	LNAPL																
B-186-56	8/20/01	LNAPL																
B-186-56	2/15/02	LNAPL																
B-186-56	5/28/02	LNAPL																
B-186-56	8/26/02	LNAPL																
B-186-56	11/12/02	LNAPL																
B-186-56	3/10/03	LNAPL																
B-186-56	6/13/03	LNAPL																
B-186-56	8/21/03	LNAPL																
B-186-56	2/23/04	LNAPL																
B-186-56	8/10/04	LNAPL																
B-186-56	12/8/04	LNAPL																
B-186-56	3/7/05	LNAPL																
B-186-56	6/20/05	LNAPL																
B-186-56	11/20/06	LNAPL																
B-186-56	5/22/07	LNAPL																
B-187	9/22/99	LNAPL																
B-187	11/18/99	LNAPL																
B-187	2/22/00	LNAPL																
B-187	5/22/00	LNAPL																
B-187	8/28/00	LNAPL																
B-187	11/27/00	LNAPL																
B-187	2/19/01	LNAPL																
B-187	5/2/01	LNAPL																
B-187	8/20/01	LNAPL																
B-187	2/15/02	NA																
B-187	5/28/02	LNAPL																
B-187	8/26/02	LNAPL																
B-187	11/12/02	LNAPL																

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Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-187	3/10/03	LNAPL																
B-187	6/13/03	LNAPL																
B-187	8/21/03	LNAPL																
B-187	2/23/04	LNAPL																
B-187	8/10/04	LNAPL																
B-187	12/8/04	LNAPL																
B-187	3/7/05	LNAPL																
B-187	6/20/05	LNAPL																
B-187	11/20/06	LNAPL																
B-187	5/22/07	LNAPL																
B-189	9/22/99	LNAPL																
B-189	11/18/99	LNAPL																
B-189	2/22/00	LNAPL																
B-189	5/22/00	LNAPL																
B-189	8/28/00	LNAPL																
B-189	11/27/00	LNAPL																
B-189	2/19/01	LNAPL																
B-189	5/2/01	LNAPL																
B-189	8/20/01	LNAPL																
B-189	2/15/02	LNAPL																
B-189	5/28/02	LNAPL																
B-189	8/26/02	LNAPL																
B-189	11/12/02	LNAPL																
B-189	3/10/03	LNAPL																
B-189	6/13/03	LNAPL																
B-189	8/21/03	LNAPL																
B-189	2/23/04	LNAPL																
B-189	8/10/04	LNAPL																
B-189	12/8/04	LNAPL																
B-189	3/7/05	LNAPL																
B-189	6/20/05	LNAPL																
B-189	11/20/06	LNAPL																
B-189	5/21/07	LNAPL																
B-190	9/27/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-190	11/22/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-190	2/25/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-190	5/22/00	NA																

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Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-190	8/28/00	NA																
B-190	11/27/00	NA																
B-190	2/19/01	NA																
B-190	5/2/01	NA																
B-190	8/20/01	NA																
B-190	12/10/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-190	2/11/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-190	5/30/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-190	8/29/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-190	11/15/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-190	3/12/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-190	6/11/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-190	8/21/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-190	11/13/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-190	2/24/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-190	5/20/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-190	8/11/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-190	12/9/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-190	3/7/05	NA																
B-190	6/20/05	NA																
B-190	9/12/06	NA																
B-190	11/21/06	NA																
B-190	6/6/07	NA																
B-190	9/16/08	NA																
B-191	9/26/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-191	11/22/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-191	2/25/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-191	5/22/00	NA																
B-191	8/28/00	NA																
B-191	11/27/00	NA																
B-191	2/19/01	NA																
B-191	5/2/01	NA																
B-191	8/20/01	NA																
B-191	2/15/02	NA																
B-191	5/28/02	NA																
B-191	8/26/02	NA																
B-191	11/12/02	NA																
B-191	3/10/03	NA																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-191	6/13/03	NA																
B-191	8/21/03	NA																
B-191	2/23/04	NA																
B-191	8/10/04	NA																
B-191	12/8/04	NA																
B-191	3/7/05	NA																
B-191	6/20/05	NA																
B-191	11/21/06	NA																
B-191	5/21/07	Sheen																
B-192	9/26/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-192	11/22/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-192	2/27/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-192	5/22/00	NA																
B-192	8/28/00	NA																
B-192	11/27/00	NA																
B-192	2/19/01	NA																
B-192	5/2/01	NA																
B-192	8/20/01	NA																
B-192	2/15/02	NA																
B-192	5/28/02	NA																
B-192	8/26/02	NA																
B-192	11/12/02	NA																
B-192	3/10/03	NA																
B-192	6/13/03	NA																
B-192	8/21/03	NA																
B-192	2/23/04	NA																
B-192	8/10/04	NA																
B-192	12/8/04	NA																
B-192	3/7/05	NA																
B-192	6/20/05	NA																
B-192	11/20/06	NA																
B-192	5/25/07	NA																
B-193	9/26/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-193	11/22/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-193	2/27/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-193	5/22/00	NA																
B-193	8/28/00	NA																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-193	11/27/00	NA																
B-193	2/19/01	NA																
B-193	5/2/01	NA																
B-193	8/20/01	NA																
B-193	2/15/02	NA																
B-193	5/28/02	NA																
B-193	8/26/02	NA																
B-193	11/12/02	NA																
B-193	3/10/03	NA																
B-193	6/13/03	NA																
B-193	8/21/03	NA																
B-193	2/23/04	NA																
B-193	8/10/04	NA																
B-193	12/8/04	NA																
B-193	3/7/05	NA																
B-193	6/20/05	NA																
B-193	11/20/06	NA																
B-193	5/25/07	NA																
B-194	9/27/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-194	11/22/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-194	2/27/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-194	5/22/00	NA																
B-194	8/28/00	NA																
B-194	11/27/00	NA																
B-194	2/19/01	NA																
B-194	5/2/01	NA																
B-194	8/20/01	NA																
B-194	2/15/02	NA																
B-194	5/28/02	NA																
B-194	8/26/02	NA																
B-194	11/12/02	NA																
B-194	3/10/03	NA																
B-194	6/13/03	NA																
B-194	8/21/03	NA																
B-194	2/23/04	NA																
B-194	8/10/04	NA																
B-194	12/8/04	NA																
B-194	3/7/05	NA																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-194	6/20/05	NA																
B-194	11/20/06	NA																
B-194	6/1/07	NA																
B-195	9/22/99	LNAPL																
B-195	11/18/99	LNAPL																
B-195	2/22/00	LNAPL																
B-195	5/22/00	LNAPL																
B-195	8/28/00	LNAPL																
B-195	11/27/00	LNAPL																
B-195	2/19/01	LNAPL																
B-195	5/2/01	LNAPL																
B-195	8/20/01	LNAPL																
B-195	2/15/02	NA																
B-195	5/31/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-195	8/26/02	LNAPL																
B-195	11/13/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-195	3/12/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-195	6/10/2003		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-195	8/21/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-195	11/13/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-195	2/23/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-195	5/18/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-195	8/10/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-195	12/8/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-195	3/7/05	NA																
B-195	6/28/2005		<0.1	<0.1	<0.1	<0.1	**0.12**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-195	12/21/2005		<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-195	6/19/06		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	**< 0.1**	< 0.1	< 0.1
B-195	11/29/06		<0.0957	<0.0957	<0.0957	<0.0957	<0.0957	<0.0957	<0.0957	<0.0957	<0.0957	<0.0957	<0.0957	<0.0957	<0.0957	**0.0478 J**	<0.0957	<0.0957
B-195	6/1/07		<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
B-195	5/23/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-195	11/19/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-195	5/6/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-195	11/17/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-195	4/28/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-195	11/16/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-195	5/6/11		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-195	5/8/12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-195	11/7/12		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
B-196	9/27/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-196	11/22/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
B-196	2/25/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-196	5/22/00	NA																
B-196	8/28/00	NA																
B-196	11/27/00	NA																
B-196	2/19/01	NA																
B-196	5/2/01	NA																
B-196	8/20/01	NA																
B-196	2/15/02	NA																
B-196	5/28/02	NA																
B-196	8/26/02	NA																
B-196	11/12/02	NA																
B-196	3/10/03	NA																
B-196	6/13/03	NA																
B-196	8/21/03	NA																
B-196	2/23/04	NA																
B-196	8/10/04	NA																
B-196	12/8/04	NA																
B-196	3/7/05	NA																
B-196	6/20/05	NA																
B-196	3/4/06	NA																
B-196	11/20/06	NA																
B-196	6/1/07	NA																
B-197	9/22/99	LNAPL																
B-197	11/18/99	LNAPL																
B-197	2/22/00	LNAPL																
B-197	5/22/00	LNAPL																
B-197	11/27/00	LNAPL																
B-197	2/19/01	LNAPL																
B-197	5/2/01	LNAPL																
B-197	8/20/01	LNAPL																
B-197	2/15/02	LNAPL																
B-197	5/28/02	LNAPL																
B-197	8/26/02	LNAPL																
B-197	11/12/02	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-197	3/10/03	LNAPL																
B-197	6/13/03	LNAPL																
B-197	8/21/03	LNAPL																
B-197	2/23/04	LNAPL																
B-197	8/10/04	LNAPL																
B-197	12/8/04	LNAPL																
B-197	3/7/05	NA																
B-197	6/20/05	NA																
B-197	10/4/2005		<0.1	<0.1	<0.1	**0.11**	<0.1	**0.13**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-197	12/21/2005		<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	**0.11**	<0.1	<0.1	<0.1	<0.1
B-197	3/4/06	NA																
B-197	12/4/06		<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962
B-197	6/19/07		<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	**0.0755 J**	<0.0943	<0.0943
B-197	5/21/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-197	11/19/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
DUP-4	11/19/08	Duplicate of B-197	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-197	5/6/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-197	5/6/09	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-197	11/19/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-197	11/19/09	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-197	4/29/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.29**	<0.1	<0.1
B-197	4/29/10	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.13**	<0.1	**0.4**	**0.11**	<0.1
B-197	11/17/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-197	11/17/10	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-197	5/4/11		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-197	5/4/11	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-197	11/16/11		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-197	11/16/11	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-197	5/9/12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.30**	<0.1	<0.1	<0.1	<0.1
B-197	5/9/12	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.26**	<0.1	<0.1	<0.1	<0.1
B-197	11/7/12		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
B-197	11/7/12	Duplicate	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
B-198	5/5/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-198	8/20/01	NA																
B-198	2/15/02	NA																
B-198	5/28/02	NA																
B-199	5/7/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-199	8/22/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-199	12/9/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-199	2/15/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-199	5/28/02	NA																
B-200	5/6/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-200	8/21/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-200	12/9/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**2.1**	<2	<2
B-200	2/13/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**3**	<2	<2
B-200	5/28/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**2.3**	<2	<2
B-200	8/28/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-200	11/15/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-200	3/12/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-200	6/12/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.3**	**0.2**	<0.1
B-200	8/21/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	**0.1**	<0.1
B-200	11/12/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	<0.1
B-200	2/25/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**1.1**	<0.1	<0.1
B-200	5/18/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-200	8/10/04	NA																
B-200	12/8/04	NA																
B-200	3/7/05	NA																
B-200	6/17/2005		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.46**	<0.1	<0.1
B-200	3/4/06	NA																
B-200	6/13/06		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.039	< 0.1	0.23	0.051	0.025
B-200	11/28/06		<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	**0.0948**	<0.0948	<0.0948
B-200	6/7/07		<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102
B-200	12/5/07		<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	**0.0769 J**	**0.0577 J**	**0.0673 J**	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962	<0.0962
B-200	5/27/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-200	11/20/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-200	5/7/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-200	11/19/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-200	4/29/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-200	11/19/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-200	5/5/11		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-200	11/17/11		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-200	5/10/12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-200	11/8/12		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
B-201	5/6/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

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Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-201	8/20/01	NA																
B-201	2/15/02	NA																
B-201	5/28/02	NA																
B-201	8/26/02	NA																
B-201	11/12/02	NA																
B-201	3/10/03	NA																
B-201	6/13/03	NA																
B-201	8/21/03	NA																
B-201	2/23/04	NA																
B-201	8/10/04	NA																
B-201	12/8/04	NA																
B-201	3/7/05	NA																
B-201	6/20/05	NA																
B-201	3/4/06	NA																
B-201	11/28/06	NA																
B-201	6/6/07	NA																
B-202	5/28/02	NA																
B-202	8/26/02	NA																
B-202	11/12/02	NA																
B-202	3/10/03	NA																
B-202	6/13/03	NA																
B-202	8/21/03	NA																
B-202	2/23/04	NA																
B-202	8/10/04	NA																
B-202	12/8/04	NA																
B-202	3/7/05	NA																
B-202	6/20/05	NA																
B-202	3/4/06	NA																
B-202	11/28/06	NA																
B-202	5/22/07	NA																
B-203	5/9/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**6.9**	<2	<2
B-203	8/20/01	LNAPL																
B-203	2/15/02	NA																
B-203	5/28/02	LNAPL																
B-203	8/26/02	LNAPL																
B-203	11/12/02	LNAPL																
B-203	3/10/03	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-203	6/13/03	LNAPL																
B-203	8/21/03	LNAPL																
B-203	2/23/04	LNAPL																
B-203	8/10/04	LNAPL																
B-203	12/8/04	LNAPL																
B-203	3/7/05	LNAPL																
B-203	6/20/05	LNAPL																
B-203	3/4/06	NA																
B-203	11/20/06	LNAPL																
B-203	5/21/07	LNAPL																
B-204-85	5/5/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-204-85	8/20/01	NA																
B-204-85	2/15/02	NA																
B-204-85	5/28/02	NA																
B-204-85	8/26/02	NA																
B-204-85	11/12/02	NA																
B-204-85	3/10/03	NA																
B-204-85	6/13/03	NA																
B-204-85	8/21/03	NA																
B-204-85	2/23/04	NA																
B-204-85	8/10/04	NA																
B-204-85	12/8/04	NA																
B-204-85	3/7/05	NA																
B-204-85	6/20/05	NA																
B-204-85	3/4/06	NA																
B-204-85	11/20/06	NA																
B-204-85	5/25/07	NA																
B-204-150	5/7/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-204-150	8/20/01	NA																
B-204-150	2/15/02	NA																
B-204-150	5/28/02	NA																
B-204-150	8/26/02	NA																
B-204-150	11/12/02	NA																
B-204-150	3/10/03	NA																
B-204-150	6/13/03	NA																
B-204-150	8/21/03	NA																
B-204-150	2/23/04	NA																

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Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-204-150	8/10/04	NA																
B-204-150	12/8/04	NA																
B-204-150	3/7/05	NA																
B-204-150	6/20/05	NA																
B-204-150	3/4/06	NA																
B-204-150	11/20/06	NA																
B-204-150	5/30/07	NA																
B-205-90	5/4/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-205-90	8/21/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-205-90	12/8/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-205-90	2/11/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-205-90	5/29/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-205-90	8/28/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-205-90	11/13/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-205-90	3/11/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-205-90	6/11/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-205-90	8/19/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-205-90	11/11/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-205-90	2/24/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-205-90	5/19/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-205-90	8/12/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-205-90	12/8/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-205-90	3/7/05	NA																
B-205-90	6/20/05	NA																
B-205-90	3/4/06	NA																
B-205-90	11/20/06	NA																
B-205-90	5/25/07	NA																
B-205-120	5/4/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-205-120	8/21/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-205-120	12/8/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-205-120	2/11/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-205-120	5/29/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-205-120	8/28/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-205-120	11/13/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-205-120	3/11/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-205-120	6/11/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-205-120	8/19/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-205-120	11/11/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-205-120	2/24/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-205-120	5/19/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-205-120	8/12/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-205-120	12/8/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-205-120	3/7/05	NA																
B-205-120	6/20/05	NA																
B-205-120	3/4/06	NA																
B-205-120	11/20/06	NA																
B-205-120	5/24/07	NA																
B-206	5/9/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-206	8/20/01	LNAPL																
B-206	2/15/02	NA																
B-206	5/28/02	LNAPL																
B-206	8/26/02	LNAPL																
B-206	11/12/02	LNAPL																
B-206	3/10/03	LNAPL																
B-206	6/13/03	LNAPL																
B-206	8/21/03	LNAPL																
B-206	2/23/04	LNAPL																
B-206	8/10/04	LNAPL																
B-206	12/8/04	LNAPL																
B-206	3/7/05	LNAPL																
B-206	6/28/2005	LNAPL	**1.3**	**0.56**	**0.42**	**0.15**	**0.16**	**0.13**	<0.1	<0.1	**0.22**	<0.1	**0.1**	**5.7**	<0.1	**1.9**	<0.1	**0.19**
B-206	3/4/06	NA																
B-206	6/20/06		0.87	0.38	0.13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	5.1	< 0.1	1.1	0.12	< 0.1
B-206	11/21/06	LNAPL																
B-206	5/21/07	Sheen																
B-207	5/6/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**2.2**	<2
B-207	8/20/01	LNAPL																
B-207	2/15/02	LNAPL																
B-207	5/28/02	LNAPL																
B-207	8/26/02	LNAPL																
B-207	11/12/02	LNAPL																
B-207	3/10/03	LNAPL																
B-207	6/13/03	LNAPL																
B-207	8/21/03	LNAPL																

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Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-207	2/23/04	LNAPL																
B-207	8/10/04	LNAPL																
B-207	12/8/04	LNAPL																
B-207	3/7/05	LNAPL																
B-207	6/20/05	LNAPL																
B-207	3/4/06	NA																
B-207	11/21/06	LNAPL																
B-207	5/22/07	LNAPL																
B-208	5/9/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-208	8/22/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-208	12/9/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-208	2/12/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-208	5/31/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-208	8/28/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-208	11/14/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-208	3/13/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-208	6/11/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-208	8/21/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-208	11/13/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-208	2/26/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-208	5/19/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-208	8/10/04	NA																
B-208	12/8/04	NA																
B-208	3/7/05	NA																
B-208	6/20/05	NA																
B-208	3/4/06	NA																
B-208	11/20/06	NA																
B-208	6/1/07	NA																
B-209	5/7/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-209	8/20/01	NA																
B-209	2/15/02	NA																
B-209	5/28/02	NA																
B-209	8/26/02	NA																
B-209	11/12/02	NA																
B-209	3/10/03	NA																
B-209	6/13/03	NA																
B-209	8/21/03	NA																

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Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-209	2/23/04	NA																
B-209	8/10/04	NA																
B-209	12/8/04	NA																
B-209	3/7/05	NA																
B-209	6/20/05	NA																
B-209	3/4/06	NA																
B-209	11/20/06	NA																
B-209	5/29/07	NA																
B-210	5/7/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-210	8/20/01	NA																
B-210	2/15/02	NA																
B-210	5/28/02	NA																
B-210	8/26/02	NA																
B-210	11/12/02	NA																
B-210	3/10/03	NA																
B-210	6/13/03	NA																
B-210	8/21/03	NA																
B-210	2/23/04	NA																
B-210	8/10/04	NA																
B-210	12/8/04	NA																
B-210	3/7/05	NA																
B-210	6/20/05	NA																
B-210	3/4/06	NA																
B-210	9/12/06	NA																
B-210	11/20/06	NA																
B-210	6/5/07	NA																
B-211	5/8/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-211	8/20/01	NA																
B-211	2/15/02	NA																
B-211	5/28/02	NA																
B-211	8/26/02	NA																
B-211	11/12/02	NA																
B-211	3/10/03	NA																
B-211	6/13/03	NA																
B-211	8/21/03	NA																
B-211	2/23/04	NA																
B-211	8/10/04	NA																

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Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-211	12/8/04	NA																
B-211	3/7/05	NA																
B-211	6/20/05	NA																
B-211	3/4/06	NA																
B-211	11/20/06	NA																
B-211	6/6/07	NA																
B-212	5/8/01		<2	**2.7**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
B-212	8/20/01	NA																
B-212	2/15/02	NA																
B-212	5/28/02	NA																
B-212	8/26/02	NA																
B-212	11/12/02	NA																
B-212	3/10/03	NA																
B-212	6/13/03	NA																
B-212	8/21/03	NA																
B-212	2/23/04	NA																
B-212	8/10/04	NA																
B-212	12/8/04	NA																
B-212	3/7/05	NA																
B-212	6/20/05	NA																
B-212	3/4/06	NA																
B-212	11/20/06	NA																
B-212	6/14/07	NA																
B-213-50	5/2/01	Dry																
B-213-50	8/20/01	Dry																
B-213-50	2/15/02	NA																
B-213-50	5/28/02	Dry																
B-213-50	8/26/02	Dry																
B-213-50	11/12/02	Dry																
B-213-50	3/10/03	NA																
B-213-50	6/13/03	Dry																
B-213-50	8/21/03	Dry																
B-213-50	2/23/04	NA																
B-213-50	8/10/04	NA																
B-213-50	12/8/04	NA																
B-213-50	3/7/05	NA																
B-213-50	6/20/05	Dry																

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Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-213-50	3/4/06	NA																
B-213-50	11/20/06	Dry																
B-213-50	5/21/07	Dry																
B-213-80	5/2/01	Dry																
B-213-80	8/20/01	Dry																
B-213-80	2/15/02	NA																
B-213-80	5/28/02	Dry																
B-213-80	8/26/02	Dry																
B-213-80	11/12/02	Dry																
B-213-80	3/10/03	NA																
B-213-80	6/13/03	Dry																
B-213-80	8/21/03	Dry																
B-213-80	2/23/04	NA																
B-213-80	8/10/04	NA																
B-213-80	12/8/04	NA																
B-213-80	3/7/05	NA																
B-213-80	6/20/05	Dry																
B-213-80	3/4/06	NA																
B-213-80	11/20/06	Dry																
B-213-80	5/21/07	Dry																
B-215	8/26/02	Dry																
B-215	11/12/02	Dry																
B-215	3/10/03	NA																
B-215	6/13/03	Dry																
B-215	8/21/03	Dry																
B-215	2/23/04	NA																
B-215	8/10/04	NA																
B-215	12/8/04	NA																
B-215	3/7/05	NA																
B-215	6/20/05	Dry																
B-215	3/4/06	NA																
B-215	11/20/06	Dry																
B-215	5/21/07	Dry																
B-216	5/7/2003		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
B-216	6/12/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	8/21/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

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Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-216	11/13/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	2/24/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	5/19/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	8/11/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	12/9/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	3/7/05	NA																
B-216	6/21/05		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	3/4/06	NA																
B-216	6/21/06		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
B-216	9/12/06	NA																
B-216	11/28/06		<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952
B-216	6/8/07		<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102
B-216	12/5/07		<0.111	<0.111	<0.111	<0.111	<0.111	<0.111	<0.111	<0.111	<0.111	<0.111	<0.111	<0.111	<0.111	<0.111	<0.111	<0.111
B-216	5/27/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	9/16/08	NA																
B-216	11/21/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
DUP-2	11/21/08	Duplicate of B-216	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	5/7/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	5/7/09	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	11/19/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	11/19/09	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	4/29/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	4/29/10	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.11**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	11/18/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	11/18/10	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	5/5/11		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	5/5/11	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	11/17/11		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	11/17/11	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-216	5/10/12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.094 J**	<0.1	<0.1
B-216	5/10/12	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.073 J**	<0.1	<0.1
B-216	11/8/12		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
B-216	11/8/12	Duplicate	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
B-217	5/7/2003		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
B-217	6/12/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-217	8/21/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-217	11/13/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-217	2/24/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-217	5/19/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-217	8/11/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-217	12/9/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-217	3/7/05	NA																
B-217	6/21/05		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-217	12/30/2005		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-217	3/4/06	NA																
B-217	6/21/06		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
B-217	9/12/06	NA																
B-217	12/4/06		<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943
B-217	6/8/07		<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102
B-217	12/6/07		<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	<0.098
B-217	5/28/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-217	9/16/08	NA																
B-217	11/21/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-217	5/7/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-217	11/19/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-217	4/30/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-217	11/18/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-217	11/18/10	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-217	5/4/11		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
B-217	5/4/11	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-217	11/17/11		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
B-217	5/10/12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.18	<0.1	<0.1
B-217	11/8/12		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.083 J	<0.10	<0.10
B-223-48	8/10/04	NA																
B-223-48	12/8/04	NA																
B-223-48	3/7/05	NA																
B-223-48	6/20/05	Dry																
B-223-48	3/4/06	NA																
B-223-48	11/21/06	NA																
B-223-48	5/21/07	Dry																
B-223-88	8/10/04	NA																
B-223-88	12/8/04	NA																
B-223-88	3/8/2005		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**5.1**	<0.1	<0.1
B-223-88	6/20/05	Dry																

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Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-223-88	9/27/2005		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**3.3**	<0.5	<0.5
B-223-88	3/4/06	NA																
B-223-88	6/22/06		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	2.8	< 0.1	< 0.1
B-223-88	9/12/06		<0.0264	<0.0377	<0.0340	<0.0245	<0.0425	<0.0226	<0.0689	<0.0368	<0.0887	<0.0208	<0.0264	<0.0321	<0.0321	**2.18**	<0.0519	<0.0264
B-223-88	12/4/06		<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	**1.38**	<0.0943	<0.0943
B-223-88	3/23/07		<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	**1.55**	<0.0948	<0.0948
B-223-88	6/5/07		<0.103	<0.103	<0.103	<0.103	<0.103	<0.103	<0.103	<0.103	<0.103	<0.103	<0.103	<0.103	<0.103	**1.56**	<0.103	<0.103
B-223-88	9/21/07		<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	**0.255**	<0.102	<0.102
B-223-88	11/30/07		<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	**0.48**	<0.100	<0.100
B-223-88	3/21/08		<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943	<0.0943
B-223-88	5/28/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.78**	<0.1	<0.1
B-223-88	9/16/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.16**	<0.1	<0.1
B-223-88	11/21/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-223-88	2/24/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	**0.15**	<0.1	<0.1
B-223-88	2/24/08	DUP	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.14**	<0.1	<0.1
B-223-88	5/8/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-223-88	5/8/09	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.29**	<0.1	<0.1
B-223-88	9/24/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.13**	<0.1	<0.1
B-223-88	11/20/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.19**	<0.1	<0.1
B-223-88	11/20/09	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.14**	<0.1	<0.1
B-223-88	4/30/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.28**	<0.1	<0.1
B-223-88	4/30/10	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.34**	<0.1	<0.1
B-223-88	9/16/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.15**	<0.1	<0.1
B-223-88	9/16/10	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.17**	<0.1	<0.1
B-223-88	11/19/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.16**	<0.1	<0.1
B-223-88	2/18/11		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-223-88	2/18/11	Duplicate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.11**	<0.1	<0.1
B-223-88	5/6/11		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.18**	<0.1	<0.1
B-223-88	9/21/11		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**0.074 J**	<0.11	<0.11
B-223-88	11/18/11		<0.1	**0.05 J**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.11**	<0.1	<0.1
B-223-88	2/17/12		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**0.11**	<0.11	<0.11
B-223-88	5/10/12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.21**	<0.1	<0.1
B-223-88	9/18/12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.3**	<0.1	<0.1
B-223-88	11/9/12		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.27**	<0.10	<0.10
B-224	9/21/11		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.15**	<0.10	<0.10
B-224	11/18/11		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.04 J**	<0.1	**0.05 J**	<0.1	<0.1
B-224	2/17/12		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**0.063 J**	<0.11	<0.11
B-224	5/11/12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.080 J**	<0.1	<0.1

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
B-224	9/18/12		<0.1	**0.062 J**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-224	11/8/12		<0.10	**0.15**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
B-225	9/20/11		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**0.053 J**	<0.11	<0.11
B-225	11/18/11		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**0.12**	<0.11	<0.11
B-225	2/17/12		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.062 J**	<0.10	<0.10
B-225	5/11/12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.070 J**	<0.1	<0.1
B-225	9/18/12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
B-225	11/9/12		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
B-226	9/21/11		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**1.2**	<0.11	<0.11
B-226	11/18/11		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**15**	<0.1	<0.1
B-226	11/18/11	Duplicate	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**24**	<0.11	<0.11
B-226	2/17/12		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**33**	<0.10	<0.10
B-226	2/17/12	Duplicate	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**40**	<0.10	<0.10
B-226	5/11/12		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**29**	<0.11	<0.11
B-226	5/11/12	Duplicate	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**33**	<0.11	<0.11
B-226	9/19/12		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**8.5**	<0.1	<0.1
B-226	9/19/12	Duplicate	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**6.8**	<0.11	<0.11
B-226	11/6/12		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**7.5**	<0.10	<0.10
B-226	11/9/12	Duplicate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**9.6**	<1.0	<1.0
B-230	9/21/11		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**0.042 J**	**0.053 J**	<0.11	**55**	<0.11	<0.11
B-230	11/18/11		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**0.075 J**	<0.11	**92**	<0.11	<0.11
B-230	2/17/12		**0.17**	**0.094 J**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.031 J**	<0.10	<0.10	**0.22**	<0.10	**190**	**0.23**	<0.10
B-230	5/11/12		**0.12**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.10**	<0.1	**270**	**0.050 J**	<0.1
B-230	9/19/12		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.073 J**	<0.10	**230**	<0.10	<0.10
B-231	9/21/11		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
B-231	9/21/11	Duplicate	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**0.074 J**	<0.11	<0.11
B-231	11/18/11		**0.06 J**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.22**	<0.1	<0.1
B-231	2/17/12		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**13**	<0.11	<0.11
B-231	5/11/12		**0.073 J**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**61**	<0.1	<0.1
B-231	9/19/12		<0.10	**0.1**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.061 J**	<0.10	**63**	<0.10	<0.10
B-231	11/9/12		<0.10	**0.092 J**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**24**	**0.062 J**	<0.10
SP-1	5/7/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
SP-1	8/20/01	NA																
SP-1	2/15/02	NA																

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Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
SP-1	5/28/02	LNAPL																
SP-1	8/26/02	NA																
SP-1	11/12/02	NA																
SP-1	3/10/03	NA																
SP-1	6/13/03	NA																
SP-1	8/21/03	NA																
SP-1	2/23/04	NA																
SP-1	8/10/04	NA																
SP-1	12/8/04	NA																
SP-1	3/7/05	NA																
SP-1	6/20/05	NA																
SP-1	3/4/06	NA																
SP-1	11/20/06	NA																
SP-1	6/14/07	NA																
SP-2	5/2/01	NA																
SP-2	8/20/01	LNAPL																
SP-2	2/15/02	LNAPL																
SP-2	5/28/02	LNAPL																
SP-2	8/26/02	LNAPL																
SP-2	11/12/02	LNAPL																
SP-2	3/10/03	LNAPL																
SP-2	6/13/03	LNAPL																
SP-2	8/21/03	LNAPL																
SP-2	2/23/04	LNAPL																
SP-2	8/10/04	LNAPL																
SP-2	12/8/04	LNAPL																
SP-2	3/7/05	LNAPL																
SP-2	6/20/05	Dry																
SP-2	3/4/06	NA																
SP-2	6/22/06		< 0.1	1.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
SP-2	12/5/06		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
SP-2	5/22/07	Sheen																
SP-3	5/2/01	LNAPL																
SP-3	8/20/01	LNAPL																
SP-3	2/15/02	NA																
SP-3	5/28/02	LNAPL																
SP-3	8/26/02	LNAPL																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
SP-3	11/12/02	LNAPL																
SP-3	3/10/03	LNAPL																
SP-3	6/13/03	LNAPL																
SP-3	8/21/03	LNAPL																
SP-3	2/23/04	LNAPL																
SP-3	8/10/04	NA																
SP-3	12/8/04	NA																
SP-3	3/7/05	NA																
SP-3	6/20/05	NA																
SP-3	3/4/06	NA																
SP-4	5/2/01	NA																
SP-4	8/20/01	NA																
SP-4	2/15/02	NA																
SP-4	5/28/02	LNAPL																
SP-4	8/26/02	LNAPL																
SP-4	11/12/02	LNAPL																
SP-4	3/10/03	LNAPL																
SP-4	6/13/03	LNAPL																
SP-4	8/21/03	LNAPL																
SP-4	2/23/04	LNAPL																
SP-4	8/10/04	LNAPL																
SP-4	12/8/04	LNAPL																
SP-4	3/7/05	NA																
SP-4	6/20/05	NA																
SP-4	3/4/06	NA																
SP-4	3/4/06	NA																
SP-5	5/2/01	LNAPL																
SP-5	8/20/01	LNAPL																
SP-5	2/15/02	LNAPL																
SP-5	5/28/02	LNAPL																
SP-5	8/26/02	LNAPL																
SP-5	11/12/02	LNAPL																
SP-5	3/10/03	LNAPL																
SP-5	6/13/03	LNAPL																
SP-5	8/21/03	LNAPL																
SP-5	2/23/04	LNAPL																
SP-5	8/10/04	LNAPL																

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Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
SP-5	12/8/04	LNAPL																
SP-5	3/7/05	NA																
SP-5	6/20/05	NA																
SP-5	3/4/06	NA																
SP-6	5/2/01	Dry																
SP-6	8/20/01	LNAPL																
SP-6	2/15/02	Dry																
SP-6	5/28/02	Dry																
SP-6	8/26/02	Dry																
SP-6	11/12/02	Dry																
SP-6	3/10/03	LNAPL																
SP-6	6/13/03	Dry																
SP-6	8/21/03	Dry																
SP-6	2/23/04	NA																
SP-6	8/10/04	NA																
SP-6	12/8/04	NA																
SP-6	3/7/05	LNAPL																
SP-6	6/20/05	LNAPL																
SP-6	3/4/06	NA																
SP-6	11/20/06	NA																
SP-6	5/21/07	Dry																
SP-7A	5/5/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
SP-7A	8/22/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
SP-7A	12/8/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
SP-7A	2/12/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
SP-7A	5/30/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
SP-7A	8/29/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
SP-7A	11/14/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
SP-7A	3/11/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
SP-7A	6/11/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	**0.2**	<0.1	<0.1
SP-7A	8/21/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	**0.2**	<0.1	<0.1
SP-7A	11/12/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1
SP-7A	2/24/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	**0.1**	<0.1	<0.1
SP-7A	5/18/04		**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	**0.1**	<0.1	<0.1
SP-7A	8/10/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SP-7A	12/9/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	<0.1
SP-7A	3/7/05	NA																

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Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
SP-7A	6/24/2005		**0.15**	**0.6**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.82**	<0.1	<0.1
SP-7A	12/2/05		**0.12**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SP-7A	3/4/06	NA																
SP-7A	6/13/06		0.22	0.049	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.5	< 0.1	0.25	0.1	0.013
SP-7A	11/20/06		**0.0857 J**	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	**0.0667 J**	<0.0952	**0.143**	<0.0952	<0.0952
SP-7A	6/6/07		<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	**0.0600 J**	<0.102	<0.102	<0.102	<0.102
SP-7A	5/21/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SP-7A	11/19/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SP-7A	5/6/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SP-7A	11/18/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SP-7A	4/28/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.48**	<0.1	<0.1
SP-7A	11/17/10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SP-7A	5/3/11		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.11**	<0.1	**0.13**	<0.1	<0.1
SP-7A	11/15/11		**0.05 J**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.07 J**	<0.1	<0.1	<0.1	<0.1
SP-7A	5/8/12		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	**0.074 J**	<0.11	<0.11	<0.11	<0.11
SP-7A	11/6/12		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.080 J**	<0.10	<0.10
SP-8	5/9/01		<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
SP-8	8/20/01	LNAPL																
SP-8	2/15/02	LNAPL																
SP-8	5/28/02	LNAPL																
SP-8	8/26/02	LNAPL																
SP-8	11/12/02	LNAPL																
SP-8	3/10/03	LNAPL																
SP-8	6/13/03	LNAPL																
SP-8	8/21/03	LNAPL																
SP-8	2/23/04	LNAPL																
SP-8	8/10/04	LNAPL																
SP-8	12/8/04	LNAPL																
SP-8	3/7/05	NA																
SP-8	6/20/05	NA																
SP-8	3/4/06	NA																
SP-9	5/4/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
SP-9	8/21/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
SP-9	12/8/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
SP-9	2/11/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
SP-9	5/29/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
SP-9	8/28/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
SP-9	11/13/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
SP-9	3/11/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
SP-9	6/10/2003		**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	**0.2**	**0.3**	<0.1
SP-9	8/19/03		**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	**0.3**	**0.2**	<0.1
SP-9	11/12/03		**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	**0.2**	**0.4**	<0.1
SP-9	2/23/04	NA																
SP-9	8/10/04	NA																
SP-9	12/8/04	NA																
SP-9	3/7/05	NA																
SP-9	6/20/05	NA																
SP-9	12/2/05		**0.19**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.24**	<0.1	**0.23**	**0.27**	<0.1
SP-9	3/4/06	NA																
SP-9	11/29/06		**0.163**	<0.0957	<0.0957	<0.0957	<0.0957	<0.0957	<0.0957	<0.0957	<0.0957	<0.0957	<0.0957	**0.134**	<0.0957	**0.249**	**0.201**	<0.0957
SP-9	5/30/07		**0.112**	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	<0.102	**0.0918 J**	<0.102	**0.184**	**0.173**	<0.102
SP-9	11/29/07		**0.13**	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	**0.19**	<0.100
SP-9	5/23/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SP-9	11/19/08		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.15**	<0.1
SP-9	5/7/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.15**	**0.17**	<0.1
SP-9	11/19/09		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.16**	<0.1
SP-9	4/29/10		**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.37**	**0.21**	<0.1
SP-9	11/18/10		**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.23**	**0.16**	<0.1
SP-9	5/5/11		**0.13**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.51**	**0.18**	<0.1
SP-9	11/16/11		**0.12**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.07 J**	<0.1	**0.06 J**	**0.26**	<0.1
SP-9	5/9/12		**0.080 J**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.10**	**0.15**	<0.1
SP-9	11/7/12		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.14**	**0.080 J**	<0.10
GMW-14	5/18/98	NA																
GMW-14	8/18/98	NA																
GMW-14	11/25/98	NA																
GMW-14	3/6/99	NA																
GMW-14	6/18/99	NA																
GMW-14	9/23/99	NA																
GMW-14	11/18/99	NA																
GMW-14	2/22/00	NA																
GMW-14	5/22/00	NA																
GMW-14	8/28/00	NA																
GMW-14	11/27/00	NA																
GMW-14	2/19/01	NA																
GMW-14	5/2/01	NA																

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
GMW-14	8/20/01	NA																
GMW-14	2/15/02	NA																
GMW-14	5/28/02	NA																
GMW-14	8/26/02	NA																
GMW-14	11/12/02	NA																
GMW-14	3/13/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
GMW-14	6/12/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
GMW-14	8/21/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
GMW-14	11/12/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
GMW-14	2/26/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
GMW-14	5/18/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
GMW-14	8/11/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
GMW-14	12/9/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
GMW-14	3/7/05	NA																
GMW-14	6/20/05	NA																
GMW-14	3/4/06	NA																
GMW-14	11/20/06	NA																
GMW-14	5/30/07	NA																
GMW-15	2/19/98	NA																
GMW-15	5/18/98	NA																
GMW-15	8/18/98	NA																
GMW-15	11/25/98	NA																
GMW-15	3/6/99	NA																
GMW-15	6/20/99	NA																
GMW-15	9/23/99	NA																
GMW-15	11/18/99	NA																
GMW-15	2/22/00	NA																
GMW-15	5/22/00	NA																
GMW-15	8/28/00	NA																
GMW-15	11/27/00	NA																
GMW-15	2/19/01	NA																
GMW-15	5/2/01	NA																
GMW-15	8/20/01	NA																
GMW-15	2/15/02	NA																
GMW-15	5/28/02	NA																
GMW-15	8/26/02	Well inaccessibile - paved over																
GMW-15	11/12/02	NA																
GMW-15	3/10/03	NA																

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Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
GMW-15	6/13/03	NA																
GMW-15	8/21/03	NA																
GMW-15	2/23/04	NA																
GMW-15	8/10/04	NA																
GMW-15	12/8/04	NA																
GMW-15	3/7/05	NA																
GMW-15	6/20/05	NA																
GMW-15	3/4/06	NA																
GMW-15	11/20/06	NA																
GMW-15	5/30/07	NA																
GMW-16	10/30/97		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
GMW-16	2/17/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
GMW-16	5/18/98	NA																
GMW-16	8/18/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
GMW-16	11/23/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
GMW-16	3/7/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
GMW-16	6/18/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
GMW-16	9/23/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
GMW-16	11/19/99		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
GMW-16	2/24/00		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
GMW-16	5/22/00	NA																
GMW-16	8/28/00	NA																
GMW-16	11/27/00	NA																
GMW-16	2/19/01	NA																
GMW-16	5/2/01	NA																
GMW-16	8/20/01	NA																
GMW-16	12/10/01		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
GMW-16	2/13/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
GMW-16	5/31/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
GMW-16	8/28/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
GMW-16	11/14/02		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
GMW-16	3/11/03		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
GMW-16	6/13/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
GMW-16	8/21/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
GMW-16	11/11/03		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
GMW-16	2/26/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
GMW-16	5/19/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
GMW-16	8/11/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

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Summary of Historical Polynuclear Aromatic Hydrocarbon (PAH) Concentrations
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

Well ID	Date	Comments	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benz (a) anthracene (ug/L)	Benzo (a) pyrene (ug/L)	Benzo (b) fluoranthene (ug/L)	Benzo (ghi) perylene (ug/L)	Benzo (k) fluoranthene (ug/L)	Chrysene (ug/L)	Dibenzo (a,h) anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno (1,2,3-cd) pyrene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
GMW-16	12/9/04		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
GMW-16	3/7/05	NA																
GMW-16	6/20/05	NA																
GMW-16	3/4/06	NA																
GMW-16	6/23/06		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
GMW-16	11/20/06	NA																
GMW-16	5/30/07	NA																
CS-1	2/18/98		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

Notes:

ug/L = micrograms per liter

LNAPL = Well not sampled due to the presesnce of light non-aqueous phase liquid (LNAPL)

< = Constituent not detected at or above the shown laboratory reporting limit

NA = Not analyzed

Trace = Well not sampled due to the presence of a trace of LNAPL

NS = not sampled

J = estimated value; results are above the method detection limit and below the method reporting limit

Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-12	10/30/97	LNAPL																	
B-12	02/18/98		<0.05	<0.05	0.02	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.03
B-12	05/19/98	LNAPL																	
B-12	08/18/98	LNAPL																	
B-12	11/22/98	LNAPL																	
B-12	03/08/99	LNAPL																	
B-12	06/19/99	LNAPL																	
B-12	09/22/99	LNAPL																	
B-12	11/18/99	LNAPL																	
B-12	02/22/00	LNAPL																	
B-12	05/22/00	LNAPL																	
B-12	08/28/00	LNAPL																	
B-12	11/27/00	LNAPL																	
B-12	02/19/01	LNAPL																	
B-12	05/02/01	LNAPL																	
B-12	08/20/01	LNAPL																	
B-12	02/15/02	LNAPL																	
B-12	05/28/02	LNAPL																	
B-12	08/26/02	LNAPL																	
B-12	11/12/02	LNAPL																	
B-12	03/10/03	LNAPL																	
B-12	6/13/2003	LNAPL																	
B-12	8/21/2003	LNAPL																	
B-12	2/23/2004	LNAPL																	
B-12	8/10/2004	LNAPL																	
B-12	12/8/2004	LNAPL																	
B-12	3/7/2005	LNAPL																	
B-12	6/20/2005	LNAPL																	
B-12	03/04/06	NA																	
B-12	11/21/06	LNAPL																	
B-12	05/22/07	LNAPL																	
B-14	10/30/97		<0.05	<0.05	0.12	0.007	<0.01	0.01	0.03	<0.005	<0.005	<0.0002	<0.01	0.14	<0.05	<0.01	<0.05	<0.01	0.41
B-14	02/18/98		<0.05	<0.05	0.065	<0.005	<0.01	<0.01	0.01	<0.01	<0.005	<0.0002	<0.01	0.06	<0.05	<0.01	<0.05	0.02	0.18
B-14	05/18/98	LNAPL																	
B-14	08/18/98	LNAPL																	
B-14	11/22/98	LNAPL																	
B-14	03/08/99	LNAPL																	
B-14	06/19/99	LNAPL																	
B-14	09/22/99	LNAPL																	
B-14	11/18/99	LNAPL																	
B-14	02/22/00	LNAPL																	
B-14	05/22/00	LNAPL																	
B-14	08/28/00	LNAPL																	
B-14	11/27/00	LNAPL																	
B-14	02/19/01	LNAPL																	
B-14	05/02/01	LNAPL																	
B-14	08/20/01	LNAPL																	
B-14	02/15/02	LNAPL																	
B-14	05/28/02	LNAPL																	
B-14	08/26/02	LNAPL																	
B-14	11/12/02	LNAPL																	
B-14	03/10/03	LNAPL																	
B-14	6/13/2003	LNAPL																	
B-14	8/21/2003	LNAPL																	
B-14	2/23/2004	LNAPL																	
B-14	8/10/2004	LNAPL																	
B-14	12/8/2004	LNAPL																	
B-14	3/7/2005	LNAPL																	
B-14	6/27/2005	LNAPL	<0.002	0.014	0.12	0.0079	0.0038	0.027	0.033	0.028	0.0012	<0.0008	<0.001	0.18	0.015	<0.001	<0.001	0.041	0.29
B-14	03/04/06	NA																	
B-14	06/22/06		< 0.0040	0.0084	0.064	0.0044	< 0.0020	0.016	0.017	0.017	< 0.0020	< 0.00020	< 0.0020	0.085	0.0072	< 0.0020	< 0.0020	0.037	0.13
B-14	11/21/06	Dry																	
B-14	05/22/07	Sheen																	
B-17	10/30/97	LNAPL																	
B-17	02/18/98		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.01
B-17	05/18/98	LNAPL																	
B-17	08/18/98	LNAPL																	
B-17	11/22/98	LNAPL																	

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-17	03/08/99	LNAPL																	
B-17	06/19/99	LNAPL																	
B-17	09/22/99	LNAPL																	
B-17	11/18/99	LNAPL																	
B-17	02/22/00	LNAPL																	
B-17	05/22/00	LNAPL																	
B-17	08/28/00	LNAPL																	
B-17	11/27/00	LNAPL																	
B-17	02/19/01	LNAPL																	
B-17	05/02/01	LNAPL																	
B-17	08/20/01	LNAPL																	
B-17	02/15/02	LNAPL																	
B-17	05/28/02	LNAPL																	
B-17	08/26/02	LNAPL																	
B-17	11/12/02	LNAPL																	
B-17	03/10/03	LNAPL																	
B-17	6/13/2003	LNAPL																	
B-17	8/21/2003	LNAPL																	
B-17	2/23/2004	LNAPL																	
B-17	8/10/2004	LNAPL																	
B-17	12/8/2004	LNAPL																	
B-17	3/7/2005	LNAPL																	
B-17	6/20/2005	LNAPL																	
B-17	03/04/06	NA																	
B-17	11/21/06	LNAPL																	
B-17	5/22/07	LNAPL																	
B-29-30	10/30/97	LNAPL																	
B-29-30	02/19/98		<0.05	0.11	<0.005	<0.005	<0.01	<0.01	0.02	<0.01	**<0.005**	<0.0002	<0.01	0.12	<0.05	<0.01	<0.05	0.01	0.05
B-29-30	05/18/98	LNAPL																	
B-29-30	08/18/98	LNAPL																	
B-29-30	11/22/98	LNAPL																	
B-29-30	03/08/99	LNAPL																	
B-29-30	06/19/99	LNAPL																	
B-29-30	09/22/99	LNAPL																	
B-29-30	11/18/99	LNAPL																	
B-29-30	02/22/00	LNAPL																	
B-29-30	05/22/00	LNAPL																	
B-29-30	08/28/00	LNAPL																	
B-29-30	11/27/00	LNAPL																	
B-29-30	02/19/01	LNAPL																	
B-29-30	05/02/01	LNAPL																	
B-29-30	08/20/01	LNAPL																	
B-29-30	02/15/02	LNAPL																	
B-29-30	05/28/02	LNAPL																	
B-29-30	08/26/02	LNAPL																	
B-29-30	11/12/02	LNAPL																	
B-29-30	03/10/03	LNAPL																	
B-29-30	6/13/2003	LNAPL																	
B-29-30	8/21/2003	LNAPL																	
B-29-30	2/23/2004	LNAPL																	
B-29-30	8/10/2004	LNAPL																	
B-29-30	12/8/2004	LNAPL																	
B-29-30	3/7/2005	LNAPL																	
B-29-30	6/20/2005	LNAPL																	
B-29-30	03/04/06	NA																	
B-29-30	11/21/06	LNAPL																	
B-29-30	5/22/07	LNAPL																	
B-29-50	10/30/97	LNAPL																	
B-29-50	02/19/98		<0.05	<0.05	0.029	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-29-50	05/18/98	LNAPL																	
B-29-50	08/18/98	LNAPL																	
B-29-50	11/22/98	LNAPL																	
B-29-50	03/08/99	LNAPL																	
B-29-50	06/19/99	LNAPL																	
B-29-50	09/22/99	LNAPL																	
B-29-50	11/18/99	LNAPL																	
B-29-50	02/22/00	LNAPL																	
B-29-50	05/22/00	LNAPL																	

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-29-50	08/28/00	LNAPL																	
B-29-50	11/27/00	LNAPL																	
B-29-50	02/19/01	LNAPL																	
B-29-50	05/02/01	LNAPL																	
B-29-50	08/20/01	LNAPL																	
B-29-50	02/15/02	LNAPL																	
B-29-50	05/28/02	LNAPL																	
B-29-50	08/26/02	LNAPL																	
B-29-50	11/12/02	LNAPL																	
B-29-50	03/10/03	LNAPL																	
B-29-50	6/13/2003	LNAPL																	
B-29-50	8/21/2003	LNAPL																	
B-29-50	2/23/2004	LNAPL																	
B-29-50	8/10/2004	LNAPL																	
B-29-50	12/8/2004	LNAPL																	
B-29-50	3/7/2005	LNAPL																	
B-29-50	6/27/2005	LNAPL	<0.002	0.012	0.051	<0.001	<0.001	<0.003	<0.001	0.0045	<0.001	<0.0008	<0.001	0.013	0.021	<0.001	<0.001	0.0083	0.017
B-29-50	03/04/06	NA																	
B-29-50	06/21/06		< 0.010	< 0.010	0.053	< 0.0050	< 0.0050	< 0.0105	< 0.0050	< 0.010	< 0.0050	< 0.00020	< 0.0050	0.048	0.023	< 0.0050	< 0.0050	< 0.0105	< 0.025
B-29-50	12/05/06		<0.0100	<0.0100	**0.0466**	<0.00400	<0.00100	**0.0039 J**	<0.0200	<0.0100	<0.00500	<0.0200	<0.0500	**0.0104**	**0.0111**	<0.00500	<0.0100	**0.00890 J**	<0.0500
B-29-50	5/22/07	Sheen																	
B-29-50	12/04/07		<0.0100	<0.0100	**0.0621**	<0.00400	<0.00100	**0.0027 J**	<0.0200	<0.0100	<0.00500	<0.0200	<0.0500	**0.0096 J**	**0.0082 J**	<0.00500	<0.0100	**0.00750 J**	<0.0500
B-29-50	12/04/07	Dup	<0.0100	<0.0100	**0.0615**	<0.00400	<0.00100	**0.0031 J**	<0.0200	<0.0100	<0.00500	<0.0200	<0.0500	**0.0105 J**	**0.0096 J**	<0.00500	<0.0100	**0.0081 J**	<0.0500
B-29-50	05/28/08		<0.005	**0.0054**	**0.25**	<0.001	<0.001	**0.00420**	**0.0012**	**0.0012**	<0.001	<0.0004	<0.001	**0.019**	**0.014**	<0.001	<0.001	**0.0057**	**0.094**
B-29-50	11/21/08		<0.005	**0.0079**	**0.31**	<0.001	<0.001	**0.00380**	<0.001	**0.037**	<0.001	<0.0004	<0.001	**0.0088**	**0.02**	<0.001	<0.001	<0.005	**0.12**
B-29-50	11/18/10		<0.025	<0.050	**0.18**	<0.005	<0.01	<0.02	<0.01	<0.01	<0.01	<0.0002	<0.10	**0.027**	**0.025**	<0.01	<0.002	<0.05	**0.17**
B-29-50	05/05/11		<0.005	**0.0084**	**0.069**	<0.001	<0.001	**0.0050**	**0.0015**	**0.0014**	<0.001	<0.0002	<0.001	**0.023**	**0.015**	<0.001	<0.001	**0.023**	**0.034**
B-29-50	11/18/11		<0.005	**0.0056**	**0.012**	<0.001	<0.001	**0.0059**	<0.001	**0.00096 J**	<0.001	<0.0002	<0.001	**0.016**	**0.019**	<0.001	<0.001	<0.005	**0.0039 J**
B-29-50	05/07/12	Sheen																	
B-30	10/30/97		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.11
B-30	02/19/98		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.03
B-30	05/18/98	NA	NA																
B-30	08/18/98		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.08
B-30	11/23/98		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.05
B-30	03/08/99		<0.05	0.06	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.02
B-30	06/20/99		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.01
B-30	09/25/99		<0.05	<0.05	0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.02
B-30	11/21/99		<0.05	0.07	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.02
B-30	02/22/00	NA																	
B-30	05/22/00	NA																	
B-30	08/28/00	NA																	
B-30	11/27/00	LNAPL																	
B-30	02/19/01	LNAPL																	
B-30	05/02/01	LNAPL																	
B-30	08/20/01	LNAPL																	
B-30	02/15/02	LNAPL																	
B-30	05/28/02	LNAPL																	
B-30	08/26/02	LNAPL																	
B-30	11/12/02	LNAPL																	
B-30	03/10/03	LNAPL																	
B-30	6/13/2003	LNAPL																	
B-30	8/21/2003	LNAPL																	
B-30	2/23/2004	LNAPL																	
B-30	8/10/2004	LNAPL																	
B-30	12/8/2004	LNAPL																	
B-30	3/7/2005	LNAPL																	
B-30	6/20/2005	LNAPL																	
B-30	03/04/06	NA																	
B-30	11/21/06	LNAPL																	
B-30	5/22/07	LNAPL																	
B-33	10/31/97		<0.05	0.14	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.04
B-33	02/18/98		<0.05	0.16	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
B-33	05/18/98	LNAPL																	
B-33	08/18/98	LNAPL																	
B-33	11/22/98	LNAPL																	
B-33	03/08/99	LNAPL																	
B-33	06/19/99	LNAPL																	
B-33	09/22/99	LNAPL																	

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B-33	11/18/99	LNAPL																	
B-33	02/22/00	LNAPL																	
B-33	05/22/00	LNAPL																	
B-33	08/28/00	LNAPL																	
B-33	11/27/00	LNAPL																	
B-33	02/19/01	LNAPL																	
B-33	05/02/01	LNAPL																	
B-33	08/20/01	LNAPL																	
B-33	02/15/02	LNAPL																	
B-33	05/28/02	LNAPL																	
B-33	08/26/02	LNAPL																	
B-33	11/12/02	LNAPL																	
B-33	03/10/03	LNAPL																	
B-33	6/13/2003	LNAPL																	
B-33	8/21/2003	LNAPL																	
B-33	2/23/2004	NA																	
B-33	8/10/2004	LNAPL																	
B-33	12/8/2004	LNAPL																	
B-33	3/7/2005	LNAPL																	
B-33	6/20/2005	LNAPL																	
B-33	03/04/06	NA																	
B-33	12/01/06		<0.0100	**0.192**	**0.0261**	**0.00150**	<0.00100	**0.00510**	<0.0200	<0.0100	<0.00500	<0.0200	<0.0500	**0.00400 J**	**0.0102**	<0.00500	<0.0100	0.00890 J	<0.0500
B-33	5/21/07	Sheen																	
B-35-45	10/30/97	LNAPL																	
B-35-45	02/20/98		<0.05	<0.05	0.026	<0.005	<0.01	<0.01	0.03	<0.01	<0.005	<0.0002	<0.01	0.11	<0.05	<0.01	<0.05	<0.01	0.06
B-35-45	05/18/98	LNAPL																	
B-35-45	08/18/98	LNAPL																	
B-35-45	11/22/98	LNAPL																	
B-35-45	03/08/99	LNAPL																	
B-35-45	06/19/99	LNAPL																	
B-35-45	09/22/99	LNAPL																	
B-35-45	11/18/99	LNAPL																	
B-35-45	02/22/00	LNAPL																	
B-35-45	05/22/00	LNAPL																	
B-35-45	08/28/00	LNAPL																	
B-35-45	11/27/00	LNAPL																	
B-35-45	02/19/01	LNAPL																	
B-35-45R	05/10/01		<0.05	0.16	0.61	<0.005	<0.01	<0.01	<0.01	0.04	<0.005	<0.0002	0.03	0.06	<0.05	<0.01	<0.05	0.01	0.25
B-35-45R	08/20/01	LNAPL																	
B-35-45R	02/15/02	NA																	
B-35-45R	05/28/02	LNAPL																	
B-35-45R	08/26/02	LNAPL																	
B-35-45R	11/12/02	LNAPL																	
B-35-45R	03/10/03	LNAPL																	
B-35-45R	6/13/2003	LNAPL																	
B-35-45R	8/21/2003	LNAPL																	
B-35-45R	11/13/2003		<0.05	0.08	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.02	<0.05	<0.01	<0.05	0.02	<0.01
B-35-45R	2/24/2004		<0.05	<0.05	0.033	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	0.02	<0.01
B-35-45R	5/20/2004		<0.05	0.08	0.01	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.02	<0.05	<0.01	<0.05	0.02	<0.01
B-35-45R	8/11/2004		<0.05	0.07	0.014	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.03	<0.05	<0.01	<0.05	0.02	<0.01
B-35-45R	12/8/2004	LNAPL																	
B-35-45R	3/7/2005	LNAPL																	
B-35-45R	6/27/2005		<0.002	0.028	0.027	<0.001	<0.001	<0.003	0.0012	<0.002	<0.001	<0.0008	0.0015	0.0099	0.0031	<0.001	<0.001	0.0067	0.0097
B-35-45R	12/13/2005		<0.002	<0.002	0.011	<0.001	<0.001	<0.003	<0.001	<0.002	<0.001	<0.0002	0.012	0.14	0.003	<0.001	<0.001	<0.003	0.016
B-35-45R	03/04/06	NA																	
B-35-45R	06/23/06		< 0.010	0.031	0.036	< 0.0050	< 0.0050	< 0.030	< 0.0050	< 0.010	< 0.0050	< 0.00020	< 0.0050	0.012	< 0.010	< 0.0050	< 0.0050	< 0.0105	< 0.025
B-35-45R (dup.)	06/23/06		< 0.010	0.029	0.037	< 0.0050	< 0.0050	< 0.030	< 0.0050	< 0.010	< 0.0050	< 0.00020	< 0.0050	0.012	< 0.010	< 0.0050	< 0.0050	< 0.0105	< 0.025
B-35-45R	12/01/06		<0.0100	**0.0183**	**0.0386**	**.00150 J**	<0.00100	**.00200 J**	<0.0200	<0.0100	<0.00500	<0.0200	<0.0500	**0.00520 J**	<0.0100	<0.00500	<0.0100	**0.00770 J**	<0.0500
B-35-45R	5/21/07	Sheen																	
B-35-45R	5/28/08		<0.005	**0.019**	**0.23**	<0.001	<0.001	<0.002	<0.001	**0.0018**	<0.001	<0.0004	**0.0032**	**0.0077**	**0.0075**	<0.001	<0.001	<0.005	**0.09**
B-35-45R	11/21/08		<0.005	**0.039**	**0.2**	<0.001	<0.001	<0.002	<0.001	**0.0011**	<0.001	<0.0004	**0.003**	**0.0065**	**0.0055**	<0.001	<0.001	<0.005	**0.12**
B-35-45R	5/8/09		<0.005	**0.022**	**0.0049**	<0.001	<0.001	<0.002	<0.001	**0.0014**	<0.001	<0.0002	**0.0072**	**0.0081**	**0.008**	<0.001	<0.001	**0.0087**	<0.005
B-35-45R	11/20/09		<0.005	**0.016**	**0.0027**	<0.001	<0.001	**0.0027**	<0.001	**0.0021**	<0.001	<0.0002	**0.0026**	**0.011**	**0.0024**	<0.001	<0.001	<0.005	<0.005
B-35-45R	04/29/10		<0.005	**0.032**	**0.0460**	<0.001	<0.001	<0.002	<0.001	**0.004**	<0.001	<0.0002	**0.015**	**0.017**	**0.0073**	<0.001	<0.001	**0.013**	<0.005
B-35-45R	11/19/10		<0.01	<0.01	**0.0160**	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0002	<0.002	**0.0025**	<0.004	<0.002	<0.002	<0.01	**0.061**
B-35-45R	05/05/11		<0.005	**0.028**	**0.066**	<0.001	<0.001	<0.002	**0.0014**	**0.0033**	<0.001	<0.0002	**0.015**	**0.014**	**0.0042**	<0.001	<0.001	**0.018**	**0.021**
B-35-45R	11/17/11		<0.005	**0.028**	**0.0047**	<0.001	<0.001	**0.0033**	**0.00069 J**	**0.0027**	<0.001	<0.0002	**0.0039**	**0.0081**	**0.0052**	<0.001	<0.001	**0.0073**	**0.0028 J**
B-35-45R	05/10/12		<0.01	**0.020**	**0.030**	<0.002	<0.002	**0.0058**	<0.002	**0.0022**	<0.002	<0.0002	**0.026**	**0.0038**	<0.004	<0.002	<0.002	**0.024**	**0.0072 J**

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-35-45R	11/08/12		<0.025	**0.017 J**	<0.010	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.010	**0.000122 J**	<0.010	<0.0050	<0.010	<0.010	<0.0050	<0.025	<0.025
B-35-70	10/30/97		<0.05	<0.05	0.057	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.41
B-35-70	02/20/98		<0.05	<0.05	0.05	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.04
B-35-70	05/18/98	LNAPL																	
B-35-70	08/18/98		<0.05	<0.05	0.075	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.14	0.03	<0.05	<0.01	<0.05	<0.01	0.89
B-35-70	11/23/98		<0.05	<0.05	0.063	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.44
B-35-70	03/08/99		<0.05	<0.05	0.061	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.03
B-35-70	06/20/99		<0.05	<0.05	0.069	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.06
B-35-70	09/25/99		<0.05	<0.05	0.074	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.05	<0.05	<0.01	<0.05	<0.01	0.08
B-35-70	11/21/99		<0.05	<0.05	0.05	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-35-70	02/22/00	NA																	
B-35-70	05/22/00	NA																	
B-35-70	08/28/00	NA																	
B-35-70	11/27/00	NA																	
B-35-70	02/19/01	NA																	
B-35-70	05/02/01	NA																	
B-35-70	08/22/01		<0.05	<0.05	0.41	<0.005	<0.01	<0.01	<0.01	0.05	<0.005	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.11
B-35-70	12/10/01		<0.05	<0.05	0.31	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.11
B-35-70	02/15/02		<0.05	<0.05	0.63	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	<0.01	0.06	<0.05	<0.01	<0.05	<0.01	0.3
B-35-70	05/30/02		<0.05	<0.05	0.42	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.05	<0.05	<0.01	<0.05	<0.01	0.2
B-35-70	08/29/02		<0.05	<0.05	0.21	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.06	<0.05	<0.01	<0.05	<0.01	0.14
B-35-70	11/15/02		<0.05	<0.05	0.057	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.06	<0.05	<0.01	<0.05	<0.01	0.05
B-35-70	03/12/03		<0.05	<0.05	0.056	<0.005	<0.01	<0.01	0.01	<0.01	<0.005	<0.0002	0.01	0.07	<0.05	<0.01	<0.05	<0.01	0.04
B-35-70	6/11/2003		<0.05	<0.05	0.055	<0.005	<0.01	<0.01	0.01	<0.01	<0.005	<0.0002	<0.01	0.07	<0.05	<0.01	<0.05	<0.01	0.05
B-35-70	8/21/2003		<0.05	<0.05	0.065	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.05	<0.05	<0.01	<0.05	<0.01	0.04
B-35-70	2/23/2004	NA																	
B-35-70	8/10/2004	NA																	
B-35-70	12/8/2004	NA																	
B-35-70	3/7/2005	NA																	
B-35-70	6/20/2005	NA																	
B-35-70	03/04/06	NA																	
B-35-70	11/21/06	NA																	
B-35-70	6/7/07	NA																	
B-36	10/30/97		<0.05	<0.05	0.11	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	0.11	0.02	<0.05	<0.01	<0.05	<0.01	0.03
B-36	02/19/98		<0.05	<0.05	0.092	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.09	0.02	<0.05	<0.01	<0.05	<0.01	0.1
B-36	05/18/98	LNAPL																	
B-36	08/18/98	Dry																	
B-36	11/22/98	Dry																	
B-36	03/08/99	LNAPL																	
B-36	06/19/99	Dry																	
B-36	09/22/99	Dry																	
B-36	11/18/99	Dry																	
B-36	02/22/00	LNAPL																	
B-36	05/22/00	Trace																	
B-36	08/28/00	Dry																	
B-36	11/27/00	Dry																	
B-36	02/23/01	LNAPL																	
B-36	05/02/01	LNAPL																	
B-36	08/20/01	Dry																	
B-36	02/15/02	LNAPL																	
B-36	05/28/02	Dry																	
B-36	08/26/02	LNAPL																	
B-36	11/12/02	Dry																	
B-36	03/10/03	NA																	
B-36	6/13/2003	Dry																	
B-36	8/21/2003	Dry																	
B-36	2/23/2004	NA																	
B-36	8/10/2004	NA																	
B-36	12/8/2004	NA																	
B-36	3/7/2005	LNAPL																	
B-36	6/20/2005	Dry																	
B-36	03/04/06	NA																	
B-36	06/23/06		< 0.0040	0.028	0.095	< 0.0020	< 0.0020	< 0.0060	< 0.0020	< 0.0040	< 0.0020	< 0.00020	0.074	0.0053	< 0.0040	< 0.0020	< 0.0020	< 0.0060	< 0.0100
B-36	11/20/06	Dry																	
B-36	5/21/07	Dry																	
B-36	5/6/11		<0.005	<0.005	**0.10**	<0.001	<0.001	<0.002	<0.001	**0.0012**	<0.001	<0.0002	**0.052**	**0.0065**	**0.0046**	<0.001	<0.001	**0.0099**	**0.040**
B-37-40	10/30/97	Dry																	

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ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-37-40	02/19/98	Dry																	
B-37-40	05/18/98	Dry																	
B-37-40	08/18/98	Dry																	
B-37-40	11/22/98	Dry																	
B-37-40	03/08/99	Dry																	
B-37-40	06/19/99	Dry																	
B-37-40	09/22/99	Dry																	
B-37-40	11/18/99	Dry																	
B-37-40	02/22/00	Dry																	
B-37-40	05/22/00	Dry																	
B-37-40	08/28/00	Dry																	
B-37-40	11/27/00	Dry																	
B-37-40	02/19/01	Dry																	
B-37-40	05/02/01	Dry																	
B-37-40	08/20/01	Dry																	
B-37-40	02/15/02	Dry																	
B-37-40	05/28/02	Dry																	
B-37-40	08/26/02	Dry																	
B-37-40	11/12/02	Dry																	
B-37-40	03/10/03	NA																	
B-37-40	6/13/2003	Dry																	
B-37-40	8/21/2003	Dry																	
B-37-40	2/23/2004	NA																	
B-37-40	8/10/2004	NA																	
B-37-40	12/8/2004	NA																	
B-37-40	3/8/2005		<0.05	0.06	0.006	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	0.04	<0.05	<0.01	<0.05	<0.01	<0.01
B-37-40	6/20/2005	Dry																	
B-37-40	03/04/06	NA																	
B-37-40	11/20/06	Dry																	
B-37-40	5/21/07	Sheen																	
B-37-40	11/18/11		**0.0024 J**	**0.047**	**0.79**	<0.001	<0.001	**0.0033**	<0.001	0.011	<0.001	<0.0002	**0.013**	**0.022**	**0.0038**	<0.001	<0.001	**0.0036 J**	**0.3**
B-37-40	5/7/12	Insufficient																	
B-37-70	10/30/97	NA																	
B-37-70	10/31/97									0.02									0.21
B-37-70	02/19/98	NA																	
B-37-70	05/21/98		<0.05	0.15	0.06	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.15	0.019	<0.05	<0.01	<0.05	<0.01	0.15
B-37-70	08/18/98		<0.05	<0.05	0.059	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.65
B-37-70	11/22/98		<0.05	0.15	0.087	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.17	0.03	<0.05	<0.01	<0.05	<0.01	0.3
B-37-70	03/08/99		<0.05	0.17	0.11	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.21	0.02	<0.05	<0.01	<0.05	<0.01	0.03
B-37-70	06/19/99		<0.05	0.22	0.091	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.21	0.03	<0.05	<0.01	<0.05	<0.01	0.03
B-37-70	09/24/99		<0.05	0.35	0.086	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.23	0.02	<0.05	<0.01	<0.05	<0.01	0.02
B-37-70	11/22/99		<0.05	0.16	0.082	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.16	0.02	<0.05	<0.01	<0.05	<0.01	0.04
B-37-70	02/26/00		<0.05	0.2	0.1	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.23	0.03	<0.05	<0.01	<0.05	<0.01	0.05
B-37-70	05/22/00		<0.05	0.37	0.098	<0.005	<0.01	<0.01	<0.01	0.044	<0.005	<0.0002	0.28	0.04	<0.05	<0.01	<0.05	<0.01	0.06
B-37-70	08/28/00	NA																	
B-37-70	11/29/00		<0.05	0.37	0.14	<0.005	<0.01	<0.01	<0.01	0.05	<0.005	<0.0002	0.25	0.04	<0.05	<0.01	<0.05	<0.01	0.02
B-37-70	02/23/01		<0.05	0.08	0.11	<0.005	<0.01	<0.01	<0.01	0.04	<0.005	<0.0002	0.22	0.07	<0.05	<0.01	<0.05	<0.01	0.02
B-37-70	05/09/01		<0.05	0.12	0.34	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.19	0.1	<0.05	<0.01	<0.05	<0.01	0.14
B-37-70	08/20/01		<0.05	0.16	0.29	<0.005	<0.01	<0.01	<0.01	0.05	<0.005	<0.0002	0.24	0.09	<0.05	<0.01	<0.05	<0.01	0.1
B-37-70	12/10/01		<0.05	0.26	0.24	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.25	0.04	<0.05	<0.01	<0.05	<0.01	0.07
B-37-70	02/10/02		<0.05	0.3	0.23	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	0.24	0.03	<0.05	<0.01	<0.05	<0.01	0.07
B-37-70	05/30/02		<0.05	0.13	0.16	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.25	0.05	<0.05	<0.01	<0.05	<0.01	0.08
B-37-70	08/29/02		<0.05	0.19	0.15	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.27	0.04	<0.05	<0.01	<0.05	<0.01	0.07
B-37-70	11/15/02		<0.05	0.2	0.08	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.29	0.03	<0.05	<0.01	<0.05	<0.01	0.03
B-37-70	03/12/03		<0.05	0.1	0.042	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.37	0.02	<0.05	<0.01	<0.05	<0.01	0.21
B-37-70	6/11/2003		<0.05	0.16	0.047	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.28	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
B-37-70	8/21/2003		<0.05	0.23	0.07	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.29	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-37-70	11/14/2003		<0.05	0.18	0.073	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.29	0.04	<0.05	<0.01	<0.05	<0.01	0.03
B-37-70	2/24/2004		<0.05	0.06	0.008	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.03	0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-37-70	8/10/2004	NA																	
B-37-70	12/8/2004	NA																	
B-37-70	3/8/2005		<0.05	0.08	0.006	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-37-70	6/20/2005	Dry																	
B-37-70	03/04/06	NA																	
B-37-70	11/20/06	Dry																	
B-37-70	5/21/07	Sheen																	
B-37-70	9/15/08	Dry																	
B-37-70	2/25/09		<0.0050	**0.018**	**0.006**	<0.0010	<0.0010	<0.0020	<0.0010	**0.0032**	<0.0010	<0.00040	**0.03**	**0.009**	**0.0029**	<0.0010	<0.0010	<0.0050	<0.0050
B-37-70	4/30/10		<0.005	**0.017**	**0.0280**	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.0002	**0.028**	**0.0073**	**0.0036**	<0.001	<0.001	**0.0072**	**0.0053**

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Summary of Historical Dissolved Metals Concentrations in Groundwater
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ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-37-70	5/5/11		<0.005	**0.020**	**0.078**	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.0002	**0.013**	**0.0055**	**0.0030**	<0.001	<0.001	**0.017**	**0.040**
B-37-70	2/16/12		<0.005	**0.021**	**0.0020**	<0.001	<0.001	**0.0053**	<0.001	**0.00093 J**	<0.001	<0.0002	**0.012**	**0.004**	**0.0021**	<0.001	<0.001	**0.0032 J**	<0.005
B-37-70	5/10/12		<0.01	**0.021**	**0.0028**	<0.002	<0.002	**0.0062**	<0.002	**0.0010**	<0.002	<0.0002	**0.0064**	**0.0017**	<0.004	<0.002	<0.002	**0.021**	**0.0083 J**
B-37-70	9/18/12		<0.025	<0.025	**0.0340**	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.000200	**0.016**	**0.0031 J**	**0.0091 J**	<0.005	<0.002	<0.025	<0.025
B-37-70	11/8/12		<0.025	<0.025	**0.029**	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.010	<0.000200	**0.012**	<0.0050	**0.0064 J**	<0.010	<0.0050	<0.025	<0.025
B-46	10/30/97	LNAPL																	
B-46	02/20/98		<0.05	0.1	<0.005	<0.005	<0.01	<0.01	0.02	<0.01	<0.005	<0.0002	<0.01	0.1	<0.05	<0.01	<0.05	<0.01	0.28
B-46	05/18/98	LNAPL																	
B-46	08/18/98	LNAPL																	
B-46	11/22/98	LNAPL																	
B-46	03/08/99	LNAPL																	
B-46	06/19/99	LNAPL																	
B-46	09/22/99	LNAPL																	
B-46	11/18/99	LNAPL																	
B-46	02/22/00	LNAPL																	
B-46	05/22/00	LNAPL																	
B-46	08/28/00	LNAPL																	
B-46	11/27/00	LNAPL																	
B-46	02/19/01	LNAPL																	
B-46	05/02/01	LNAPL																	
B-46	08/20/01	LNAPL																	
B-46	02/15/02	LNAPL																	
B-46	05/28/02	LNAPL																	
B-46	08/26/02	LNAPL																	
B-46	11/12/02	LNAPL																	
B-46	03/10/03	LNAPL																	
B-46	6/13/2003	LNAPL																	
B-46	8/21/2003	LNAPL																	
B-46	2/23/2004	LNAPL																	
B-46	8/10/2004	LNAPL																	
B-46	12/8/2004	LNAPL																	
B-46	3/7/2005	LNAPL																	
B-46	6/28/2005	LNAPL	<0.01	0.057	0.016	<0.005	<0.005	<0.015	<0.005	<0.01	<0.005	<0.0008	<0.005	0.013	0.015	<0.005	<0.005	<0.015	<0.025
B-46	03/04/06	NA																	
B-46	11/21/06	NA																	
B-46	5/22/07	Sheen																	
B-46	5/28/08		<0.005	**0.021**	**0.099**	<0.001	<0.001	**0.0021**	<0.001	**0.011**	<0.001	<0.0004	**0.0035**	**0.01**	**0.021**	<0.001	<0.001	0.0088	**0.046**
B-49	10/30/97	LNAPL																	
B-49	02/18/98		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.02
B-49	05/18/98	LNAPL																	
B-49	08/18/98	LNAPL																	
B-49	11/22/98	LNAPL																	
B-49	03/08/99	LNAPL																	
B-49	06/19/99	LNAPL																	
B-49	09/22/99	LNAPL																	
B-49	11/18/99	LNAPL																	
B-49	02/22/00	LNAPL																	
B-49	05/22/00	LNAPL																	
B-49	08/28/00	LNAPL																	
B-49	11/27/00	LNAPL																	
B-49	02/19/01	LNAPL																	
B-49	05/02/01	LNAPL																	
B-49	08/20/01	LNAPL																	
B-49	02/15/02	LNAPL																	
B-49	05/28/02	LNAPL																	
B-49	08/26/02	LNAPL																	
B-49	11/12/02	LNAPL																	
B-49	03/10/03	LNAPL																	
B-49	6/13/2003	LNAPL																	
B-49	8/21/2003	LNAPL																	
B-49	2/23/2004	LNAPL																	
B-49	8/10/2004	LNAPL																	
B-49	12/8/2004	LNAPL																	
B-49	3/7/2005	LNAPL																	
B-49	6/20/2005	LNAPL																	
B-49	03/04/06	NA																	
B-49	11/20/06	LNAPL																	
B-49	5/22/07	LNAPL																	

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B-51	10/30/97	LNAPL																	
B-51	02/18/98		<0.05	0.64	<0.005	<0.005	<0.01	<0.01	0.02	<0.01	<0.005	<0.0002	0.06	0.04	<0.05	<0.01	<0.05	<0.01	0.01
B-51	05/18/98	LNAPL																	
B-51	08/18/98	LNAPL																	
B-51	11/22/98	LNAPL																	
B-51	03/08/99	LNAPL																	
B-51	06/19/99	LNAPL																	
B-51	09/22/99	LNAPL																	
B-51	11/18/99	LNAPL																	
B-51	02/22/00	LNAPL																	
B-51	05/22/00	LNAPL																	
B-54	10/30/97	LNAPL																	
B-54	02/18/98		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-54	05/18/98	LNAPL																	
B-54	08/18/98	LNAPL																	
B-54	11/22/98	LNAPL																	
B-54	03/08/99	LNAPL																	
B-54	06/19/99	LNAPL																	
B-54	09/22/99	LNAPL																	
B-54	11/18/99	LNAPL																	
B-54	02/22/00	LNAPL																	
B-54	05/22/00	LNAPL																	
B-54	08/28/00	LNAPL																	
B-54	11/27/00	LNAPL																	
B-54	02/19/01	LNAPL																	
B-54	05/02/01	LNAPL																	
B-54	08/20/01	LNAPL																	
B-54	02/15/02	LNAPL																	
B-54	05/28/02	LNAPL																	
B-54	08/26/02	LNAPL																	
B-54	11/12/02	LNAPL																	
B-54	03/10/03	LNAPL																	
B-54	6/13/2003	LNAPL																	
B-54	8/21/2003	LNAPL																	
B-54	2/23/2004	LNAPL																	
B-54	8/10/2004	LNAPL																	
B-54	12/8/2004	LNAPL																	
B-54	3/7/2005	LNAPL																	
B-54	6/20/2005	LNAPL																	
B-54	03/04/06	NA																	
B-54	11/21/06	LNAPL																	
B-54	5/22/07	LNAPL																	
B-57-20	10/30/97		<0.05	<0.05	0.19	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-57-20	02/19/98		<0.05	0.13	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-57-20	05/19/98		<0.05	0.12	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
B-57-20	08/18/98		<0.05	0.18	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-57-20	11/22/98		<0.05	0.2	0.009	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-57-20	03/08/99	LNAPL																	
B-57-20	06/19/99	LNAPL																	
B-57-20	09/22/99	LNAPL																	
B-57-20	11/18/99	LNAPL																	
B-57-20	02/22/00	LNAPL																	
B-57-20	05/22/00	LNAPL																	
B-57-20	08/28/00	LNAPL																	
B-57-20	11/27/00	LNAPL																	
B-57-20	02/19/01	LNAPL																	
B-57-20	05/02/01	LNAPL																	
B-57-20	08/20/01	LNAPL																	
B-57-20	02/15/02	NA																	
B-57-20	05/28/02	LNAPL																	
B-57-20	08/26/02	LNAPL																	
B-57-20	11/12/02	LNAPL																	
B-57-20	03/10/03	LNAPL																	
B-57-20	6/13/2003	LNAPL																	
B-57-20	8/21/2003	LNAPL																	
B-57-20	2/23/2004	LNAPL																	

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B-57-20	8/10/2004	LNAPL																	
B-57-20	12/8/2004	LNAPL																	
B-57-20	3/7/2005	NA																	
B-57-20	6/20/2005	LNAPL																	
B-57-20	12/13/2005		<0.002	<0.002	0.0095	<0.001	<0.001	<0.003	<0.001	<0.002	<0.001	<0.0002	0.027	0.064	<0.002	<0.001	<0.001	<0.003	<0.005
B-57-20	03/04/06	NA																	
B-57-20	12/01/06		<0.0100	**0.206**	**0.00410 J**	**0.00150 J**	<0.00100	**0.00500**	<0.0200	<0.0100	<0.00500	<0.0200	**0.0572**	**0.00600 J**	<0.0100	<0.00500	<0.0100	<0.0200	<0.0500
B-57-20	6/7/07		<0.010	**0.169**	<0.010	<0.004	<0.001	**0.003J**	<0.020	<0.010	<0.005	<0.00020	**0.038 J**	**0.0052 J**	<0.010	<0.005	<0.010	<0.020	<0.050
B-57-20	12/6/07		<0.010	**0.169**	**0.0076 J**	<0.004	**0.0028**	**0.0064**	<0.020	<0.010	<0.005	<0.00020	**0.0324 J**	**0.0064 J**	**0.00526 J**	**0.002 J**	<0.010	<0.020	<0.050
B-57-20	5/27/08		<0.005	**0.16**	**0.19**	<0.001	<0.001	**0.0039**	<0.001	<0.001	<0.001	<0.0004	**0.047**	**0.0043**	**0.0048**	<0.001	<0.001	<0.005	**0.11**
B-57-20	11/20/08		<0.005	**0.17**	**0.23**	<0.001	<0.001	**0.0027**	<0.001	<0.001	<0.001	<0.0004	**0.048**	**0.0039**	**0.0038**	<0.001	<0.001	<0.005	**0.12**
B-57-20	11/18/09		<0.005	**0.11**	**0.0017**	<0.001	<0.001	**0.0048**	<0.001	**0.0027**	<0.001	<0.0002	**0.037**	**0.0048**	<0.002	<0.001	<0.001	0.005	<0.005
B-57-20	11/19/10		<0.01	**0.027**	**0.015**	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0002	**0.0081**	<0.002	<0.004	<0.002	<0.002	<0.01	**0.039**
B-57-20	5/5/11		<0.005	**0.068**	**0.056**	<0.001	<0.001	0.0028	<0.001	<0.001	<0.001	<0.0002	**0.018**	**0.0014**	**0.0028**	<0.001	<0.001	**0.0077**	**0.032**
B-57-20	11/17/11		<0.005	**0.12**	<0.001	<0.005	<0.001	<0.01	<0.005	<0.005	<0.001	<0.0002	**0.04**	**<0.005**	**0.002**	<0.001	<0.001	**<0.025**	**<0.025**
B-57-20	5/10/12		<0.01	**0.10**	<0.002	<0.002	<0.002	0.0070	<0.002	<0.001	<0.002	<0.0002	**0.031**	**0.0013**	**0.0038 J**	<0.002	<0.002	**0.016**	**0.0080 J**
B-57-20	11/8/12		<0.010	**0.11**	<0.010	<0.0020	<0.010	0.0050	<0.0020	<0.0020	<0.010	<0.000200	**0.032**	**0.0026**	**<0.0040**	<0.010	<0.0020	**<0.010**	**<0.025**
B-57-20	11/8/12	Duplicate	<0.010	**0.11**	<0.010	<0.0020	<0.010	0.0056	<0.0020	<0.0020	<0.010	<0.000200	**0.032**	**0.0029**	**<0.0040**	<0.010	<0.0020	**<0.010**	**<0.025**
B-57-65	10/30/97		<0.05	<0.05	0.009	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	0.02	0.02	<0.05	0.04	<0.05	<0.01	2.6
B-57-65	02/19/98		<0.05	<0.05	0.009	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.46
B-57-65	05/18/98	LNAPL																	
B-57-65	08/18/98		<0.05	<0.05	0.008	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.33
B-57-65	11/22/98		<0.05	<0.05	0.015	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	0.02	<0.01	<0.05	<0.01	1.5
B-57-65	03/08/99		<0.05	<0.05	0.009	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.05
B-57-65	06/20/99		<0.05	<0.05	0.006	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.03
B-57-65	09/25/99		<0.05	<0.05	0.008	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.04
B-57-65	11/21/99		<0.05	<0.05	0.008	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.09
B-57-65	02/22/00	NA																	
B-57-65	05/22/00	NA																	
B-57-65	08/28/00	LNAPL																	
B-57-65	11/27/00	NA																	
B-57-65	02/19/01	LNAPL																	
B-57-65	05/02/01	NA																	
B-57-65	08/20/01	LNAPL																	
B-57-65	02/15/02	LNAPL																	
B-57-65	05/28/02	NA																	
B-57-65	08/26/02	NA																	
B-57-65	11/12/02	NA																	
B-57-65	03/10/03	NA																	
B-57-65	6/13/2003	NA																	
B-57-65	8/21/2003	NA																	
B-57-65	2/23/2004	NA																	
B-57-65	8/10/2004	NA																	
B-57-65	12/8/2004	NA																	
B-57-65	3/7/2005	NA																	
B-57-65	6/20/2005	NA																	
B-57-65	03/04/06	NA																	
B-57-65	11/20/06	NA																	
B-57-65	6/7/07	NA																	
B-61	10/30/97	LNAPL																	
B-61	10/31/97									<0.005									0.05
B-61	02/18/98		<0.05	0.12	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.09	0.02	<0.05	<0.01	<0.05	<0.01	0.03
B-61	05/18/98	LNAPL																	
B-61	08/18/98	LNAPL																	
B-61	11/22/98	LNAPL																	
B-61	03/08/99	LNAPL																	
B-61	06/19/99	LNAPL																	
B-61	09/22/99	LNAPL																	
B-61	11/18/99	LNAPL																	
B-61	02/22/00	LNAPL																	
B-61	05/22/00	LNAPL																	
B-61	08/28/00	LNAPL																	
B-61	11/27/00	LNAPL																	
B-61	02/19/01	LNAPL																	
B-78	10/30/97	LNAPL																	
B-78	02/18/98		<0.05	0.05	0.007	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-78	05/18/98	LNAPL																	

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-78	08/18/98	LNAPL																	
B-78	11/22/98	LNAPL																	
B-78	03/08/99	LNAPL																	
B-78	06/19/99	LNAPL																	
B-78	09/22/99	LNAPL																	
B-78	11/18/99	LNAPL																	
B-78	02/22/00	LNAPL																	
B-78	05/22/00	LNAPL																	
B-78	08/28/00	LNAPL																	
B-78	11/27/00	LNAPL																	
B-78	02/19/01	LNAPL																	
B-78	05/02/01	LNAPL																	
B-78	08/20/01	LNAPL																	
B-78	02/15/02	LNAPL																	
B-78	05/28/02	LNAPL																	
B-78	08/26/02	LNAPL																	
B-78	11/12/02	LNAPL																	
B-78	03/10/03	LNAPL																	
B-78	6/13/2003	LNAPL																	
B-78	8/21/2003	LNAPL																	
B-78	2/23/2004	LNAPL																	
B-78	8/10/2004	LNAPL																	
B-78	12/8/2004	LNAPL																	
B-78	3/7/2005	LNAPL																	
B-78	6/20/2005	LNAPL																	
B-78	03/04/06	NA																	
B-78	11/20/06	LNAPL																	
B-78	5/21/07	LNAPL																	
B-81-67	10/30/97	LNAPL																	
B-81-67	02/20/98		<0.05	0.39	<0.005	<0.005	<0.01	<0.01	0.03	<0.01	<0.005	<0.0002	0.03	0.1	<0.05	<0.01	<0.05	<0.01	0.13
B-81-67	05/18/98	LNAPL																	
B-81-67	08/18/98	LNAPL																	
B-81-67	11/22/98	LNAPL																	
B-81-67	03/08/99	LNAPL																	
B-81-67	06/19/99	LNAPL																	
B-81-67	09/22/99	LNAPL																	
B-81-67	11/18/99	LNAPL																	
B-81-67	02/22/00	LNAPL																	
B-81-67	05/22/00	LNAPL																	
B-81-67	08/28/00	LNAPL																	
B-81-67	11/27/00	LNAPL																	
B-81-67	02/19/01	LNAPL																	
B-81-67	05/02/01	LNAPL																	
B-81-67	08/20/01	LNAPL																	
B-81-67	02/15/02	LNAPL																	
B-81-67	05/28/02	LNAPL																	
B-81-67	08/26/02	LNAPL																	
B-81-67	11/12/02	LNAPL																	
B-81-67	03/10/03	LNAPL																	
B-81-67	6/13/2003	LNAPL																	
B-81-67	8/21/2003	LNAPL																	
B-81-67	2/23/2004	LNAPL																	
B-81-67	8/10/2004	LNAPL																	
B-81-67	12/8/2004	LNAPL																	
B-81-67	3/7/2005	LNAPL																	
B-81-67	6/20/2005	LNAPL																	
B-81-67	03/04/06	NA																	
B-81-67	11/21/06	LNAPL																	
B-81-67	05/22/07	LNAPL																	
B-81-90	10/30/97	LNAPL																	
B-81-90	02/20/98		<0.05	0.11	0.064	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	<0.01	0.7
B-81-90	05/18/98	LNAPL																	
B-81-90	08/18/98	LNAPL																	
B-81-90	11/22/98	LNAPL																	
B-81-90	03/08/99	LNAPL																	
B-81-90	06/19/99	LNAPL																	
B-81-90	09/22/99	LNAPL																	
B-81-90	11/18/99	LNAPL																	

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-81-90	02/22/00	LNAPL																	
B-81-90	05/22/00	LNAPL																	
B-81-90	08/28/00	LNAPL																	
B-81-90	11/27/00	LNAPL																	
B-81-90	02/19/01	LNAPL																	
B-81-90	05/02/01	LNAPL																	
B-81-90	08/20/01	LNAPL																	
B-81-90	02/15/02	LNAPL																	
B-81-90	05/28/02	LNAPL																	
B-81-90	08/26/02	LNAPL																	
B-81-90	11/12/02	LNAPL																	
B-81-90	03/10/03	LNAPL																	
B-81-90	6/13/2003	LNAPL																	
B-81-90	8/21/2003	LNAPL																	
B-81-90	2/23/2004	LNAPL																	
B-81-90	8/10/2004	LNAPL																	
B-81-90	12/8/2004	LNAPL																	
B-81-90	3/7/2005	LNAPL																	
B-81-90	6/20/2005	LNAPL																	
B-81-90	03/04/06	NA																	
B-81-90	11/21/06	LNAPL																	
B-81-90	05/22/07	LNAPL																	
B-82	10/30/97	LNAPL																	
B-82	02/20/98		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-82	05/18/98	LNAPL																	
B-82	08/18/98	LNAPL																	
B-82	11/22/98	LNAPL																	
B-82	03/08/99	LNAPL																	
B-82	06/19/99	LNAPL																	
B-82	09/22/99	LNAPL																	
B-82	11/18/99	LNAPL																	
B-82	02/22/00	LNAPL																	
B-82	05/22/00	LNAPL																	
B-82	08/28/00	LNAPL																	
B-82	11/27/00	LNAPL																	
B-82	02/19/01	LNAPL																	
B-82	05/02/01	LNAPL																	
B-82	08/20/01	LNAPL																	
B-82	02/15/02	LNAPL																	
B-82	05/28/02	LNAPL																	
B-82	08/26/02	LNAPL																	
B-82	11/12/02	LNAPL																	
B-82	03/10/03	LNAPL																	
B-82	6/13/2003	LNAPL																	
B-82	8/21/2003	LNAPL																	
B-82	2/23/2004	LNAPL																	
B-82	8/10/2004	LNAPL																	
B-82	12/8/2004	LNAPL																	
B-82	3/7/2005	LNAPL																	
B-82	6/20/2005	LNAPL																	
B-82	03/04/06	NA																	
B-82	11/21/06	LNAPL/Dry																	
B-82	5/22/07	LNAPL																	
B-83	10/30/97	LNAPL																	
B-83	02/20/98		<0.05	<0.05	0.13	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	<0.01	2.2
B-83	05/18/98	LNAPL																	
B-83	08/18/98	LNAPL																	
B-83	11/22/98	LNAPL																	
B-83	03/08/99	LNAPL																	
B-83	06/19/99	LNAPL																	
B-83	09/22/99	LNAPL																	
B-83	11/18/99	LNAPL																	
B-83	02/22/00	LNAPL																	
B-83	05/22/00	LNAPL																	
B-83	08/28/00	LNAPL																	
B-83	11/27/00	LNAPL																	
B-83	02/19/01	LNAPL																	
B-83	05/02/01	LNAPL																	

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ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-83	08/20/01	LNAPL																	
B-83	02/15/02	LNAPL																	
B-83	05/28/02	LNAPL																	
B-83	08/26/02	LNAPL																	
B-83	11/12/02	LNAPL																	
B-83	03/10/03	LNAPL																	
B-83	6/13/2003	LNAPL																	
B-83	8/21/2003	LNAPL																	
B-83	2/23/2004	LNAPL																	
B-83	8/10/2004	LNAPL																	
B-83	12/8/2004	LNAPL																	
B-83	3/7/2005	LNAPL																	
B-83	6/20/2005	LNAPL																	
B-83	03/04/06	NA																	
B-83	11/20/06	LNAPL																	
B-83	5/22/07	LNAPL																	
B-85	10/31/97		<0.05	<0.05	0.016	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	0.07	0.06	<0.05	<0.01	<0.05	<0.01	0.3
B-85	02/18/98		<0.05	<0.05	0.019	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.06	0.05	<0.05	<0.01	<0.05	<0.01	0.06
B-85	05/18/98	NA																	
B-85	08/19/98		<0.05	<0.05	0.017	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.06	0.05	<0.05	<0.01	<0.05	<0.01	0.75
B-85	11/24/98		<0.05	<0.05	0.016	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.07	0.05	<0.05	<0.01	<0.05	<0.01	0.04
B-85	03/07/99		<0.05	<0.05	0.02	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.06	0.06	<0.05	<0.01	<0.05	<0.01	0.06
B-85	06/19/99		<0.05	<0.05	0.013	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.06	0.05	<0.05	<0.01	<0.05	<0.01	0.15
B-85	09/24/99		<0.05	<0.05	0.015	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.06	0.05	<0.05	<0.01	<0.05	<0.01	0.04
B-85	11/20/99		<0.05	<0.05	0.018	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.05	<0.05	<0.01	<0.05	<0.01	0.06
B-85	02/22/00	NA																	
B-85	05/22/00	NA																	
B-85	08/28/00	NA																	
B-85	11/27/00	NA																	
B-85	02/19/01	NA																	
B-85	05/02/01	NA																	
B-85	08/20/01	NA																	
B-85	02/15/02	NA																	
B-85	05/28/02	NA																	
B-85	08/26/02	NA																	
B-85	11/12/02	NA																	
B-85	03/10/03	NA																	
B-85	6/13/2003	NA																	
B-85	8/21/2003	NA																	
B-85	2/23/2004	NA																	
B-85	8/10/2004	NA																	
B-85	12/8/2004	NA																	
B-85	3/7/2005	NA																	
B-85	6/20/2005	NA																	
B-85	03/04/06	NA																	
B-85	11/20/06	NA																	
B-85	6/7/07	NA																	
B-139	10/31/97		<0.05	<0.05	0.023	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	0.09	0.07	<0.05	<0.01	<0.05	<0.01	0.6
B-139	02/20/98		<0.05	<0.05	0.017	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.07	0.07	<0.05	<0.01	<0.05	<0.01	1.8
B-139	05/19/98		<0.05	<0.05	0.023	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.07	0.1	<0.05	<0.01	<0.05	<0.01	0.76
B-139	08/19/98		<0.05	<0.05	0.024	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.06	0.12	<0.05	<0.01	<0.05	<0.01	1
B-139	11/25/98		<0.05	<0.05	0.028	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.06	0.14	<0.05	<0.01	<0.05	<0.01	1.2
B-139	03/06/99		<0.05	<0.05	0.021	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	0.11	<0.05	<0.01	<0.05	<0.01	0.05
B-139	06/19/99		<0.05	<0.05	0.025	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	0.11	<0.05	<0.01	<0.05	<0.01	0.06
B-139	09/25/99		<0.05	<0.05	0.026	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.1	<0.05	<0.01	<0.05	<0.01	0.04
B-139	11/20/99		<0.05	<0.05	0.02	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	0.07	<0.05	<0.01	<0.05	<0.01	0.05
B-139	02/25/00		<0.05	<0.05	<0.005	0.019	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.05	0.1	<0.05	<0.01	<0.05	<0.01	0.04
B-139	05/24/00		<0.05	<0.05	0.019	<0.005	<0.01	<0.01	<0.01	0.015	<0.005	<0.0002	0.06	0.09	<0.05	<0.01	<0.05	<0.01	0.04
B-139	09/01/00		<0.05	<0.05	0.028	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.04	0.09	<0.05	<0.01	<0.05	<0.01	0.05
B-139	12/05/00		<0.05	<0.05	0.019	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.05	0.11	<0.05	<0.01	<0.05	<0.01	0.03
B-139	02/23/01		<0.05	<0.05	0.016	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.11	0.05	<0.05	<0.01	<0.05	<0.01	0.07
B-139	05/05/01		<0.05	<0.05	0.017	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.07	0.06	<0.05	<0.01	<0.05	<0.01	0.02
B-139	08/21/01		<0.05	<0.05	0.21	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.09	0.11	<0.05	<0.01	<0.05	<0.01	0.11
B-139	12/09/01		<0.05	<0.05	0.16	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.07	0.06	<0.05	<0.01	<0.05	<0.01	0.1
B-139	02/11/02		<0.05	<0.05	0.23	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.06	0.06	<0.05	<0.01	<0.05	<0.01	0.14
B-139	05/30/02		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.07	0.1	<0.05	<0.01	<0.05	<0.01	0.1
B-139	08/28/02		<0.05	<0.05	0.15	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.06	0.1	<0.05	<0.01	<0.05	<0.01	0.12
B-139	11/13/02		<0.05	<0.05	0.018	<0.005	<0.01	0.02	<0.01	<0.01	<0.005	<0.0002	0.07	0.09	<0.05	<0.01	<0.05	<0.01	0.03

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ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-139	03/12/03		<0.05	<0.05	0.015	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.09	0.08	<0.05	<0.01	<0.05	<0.01	0.02
B-139	6/12/2003		<0.05	<0.05	0.02	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.08	0.08	<0.05	<0.01	<0.05	<0.01	0.02
B-139	8/21/2003		<0.05	<0.05	0.024	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	0.08	0.11	<0.05	<0.01	<0.05	<0.01	0.03
B-139	11/12/2003		<0.05	<0.05	0.024	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.08	0.09	<0.05	<0.01	<0.05	<0.01	0.02
B-139	2/26/2004		<0.05	<0.05	0.01	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.12	0.07	<0.05	<0.01	<0.05	<0.01	0.01
B-139	5/19/2004		<0.05	<0.05	0.018	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.09	0.09	<0.05	<0.01	<0.05	<0.01	0.02
B-139	8/11/2004		<0.05	<0.05	0.022	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.07	0.1	<0.05	<0.01	<0.05	<0.01	<0.01
B-139	12/9/2004		<0.05	<0.05	0.013	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.07	0.07	<0.05	<0.01	<0.05	<0.01	0.01
B-139	3/7/2005	NA																	
B-139	6/20/2005	NA																	
B-139	9/28/2005		<0.002	0.003	0.014	<0.001	0.0019	<0.003	0.0031	<0.002	<0.001	<0.0002	0.034	0.044	<0.002	<0.001	<0.001	<0.003	0.015
B-139	11/29/2005		<0.002	0.0088	0.025	<0.001	0.0038	<0.003	0.007	0.0037	<0.001	<0.0002	0.059	0.095	0.0024	<0.001	<0.001	<0.003	0.029
B-139	03/04/06	NA																	
B-139	06/14/06		< 0.0020	0.01	0.017	< 0.0010	0.0027	< 0.0030	0.0043	0.0037	< 0.0010	< 0.00020	0.11	0.067	0.0045	< 0.0010	< 0.0010	0.0031	0.023
B-139	12/01/06		<0.0100	**0.00490 J**	**0.0281**	**0.00160 J**	**0.00380**	<0.00500	**0.00650 J**	<0.0100	<0.00500	<0.0200	**0.0764**	**0.0947**	<0.0100	<0.00500	<0.0100	<0.0200	**0.0383 J**
B-139	6/6/07		<0.010	**0.012**	**0.0252**	<0.004	**0.0026**	<0.005	**0.0052 J**	<0.010	<0.005	<0.00020	**0.059**	**0.0774**	<0.010	<0.005	<0.010	<0.020	**0.0309 J**
B-139	12/6/07		<0.010	**0.0051 J**	**0.0295**	<0.004	**0.0051**	**0.0042 J**	**0.0129 J**	**0.0048 J**	<0.005	<0.00020	**0.0633**	**0.0939**	**0.00573 J**	**0.0033 J**	<0.010	**0.0075 J**	**0.027 J**
B-139	5/27/08		<0.005	<0.005	**0.2**	<0.001	**0.0024**	**0.0021**	**0.006**	**0.0029**	<0.001	<0.0004	**0.068**	**0.062**	**0.0044**	<0.001	<0.001	<0.005	**0.12**
B-139	11/20/08		<0.005	**0.0063**	**0.15**	<0.001	**0.0027**	<0.002	**0.0068**	**0.0031**	<0.001	<0.0004	**0.055**	**0.068**	**0.005**	<0.001	<0.001	<0.005	**0.085**
B-139	5/7/09		<0.005	**0.0061**	**0.026**	<0.001	**0.0015**	<0.002	**0.0053**	**0.0027**	<0.001	<0.0002	**0.062**	**0.064**	**0.0042**	<0.001	<0.001	<0.005	**0.016**
B-139	11/18/09		<0.005	<0.005	**0.022**	<0.001	**0.0018**	<0.002	**0.0067**	**0.0038**	<0.001	<0.0002	**0.053**	**0.067**	<0.002	<0.001	<0.001	**0.019**	**0.019**
B-139	4/28/10		<0.005	**0.0058**	**0.0210**	<0.001	**0.0022**	<0.002	**0.004**	**0.0058**	<0.001	<0.0002	**0.12**	**0.055**	**0.005**	<0.001	<0.001	**0.0053**	**0.019**
B-139	11/17/10		<0.01	<0.01	**0.0068**	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0002	**0.013**	**0.013**	<0.004	<0.002	<0.002	<0.01	**0.036**
B-139	5/6/11		<0.005	**0.0072**	**0.086**	<0.001	**0.0020**	<0.002	**0.0049**	**0.0035**	<0.001	<0.0002	**0.11**	**0.048**	**0.0044**	<0.001	<0.001	**0.017**	**0.043**
B-139	11/16/11		<0.005	**0.0092**	**0.0240**	<0.001	**0.0028**	**0.0021**	**0.0073**	**0.0028**	<0.001	<0.0002	**0.073**	**0.069**	**0.0038**	<0.001	<0.001	<0.005	**0.021**
B-139	5/9/12		<0.01	**0.0076 J**	**0.016**	<0.002	**0.0021**	**0.0065**	**0.0047**	**0.0038**	<0.002	<0.0002	**0.056**	**0.061**	**0.0036 J**	<0.002	<0.002	**0.016**	**0.018**
B-139	11/7/12		<0.025	<0.025	**0.023**	<0.0050	<0.0050	<0.020	**0.0051**	<0.0050	<0.0050	<0.000200	**0.069**	**0.066**	<0.020	<0.0050	<0.0020	<0.025	<0.050
B-143-45	10/30/97	NA																	
B-143-45	10/31/97									<0.005									0.25
B-143-45	02/17/98		<0.05	<0.05	0.03	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.03	0.01	<0.05	<0.01	<0.05	<0.01	0.58
B-143-45	05/18/98	NA																	
B-143-45	08/18/98		<0.05	<0.05	0.039	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.01	<0.05	<0.01	<0.05	<0.01	0.69
B-143-45	11/22/98		<0.05	<0.05	0.031	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	0.01	<0.05	<0.01	<0.05	<0.01	0.95
B-143-45	03/08/99		<0.05	<0.05	0.032	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.01	<0.05	<0.01	<0.05	<0.01	0.06
B-143-45	06/18/99		<0.05	<0.05	0.03	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-143-45	09/23/99		<0.05	<0.05	0.051	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-143-45	11/19/99		<0.05	<0.05	0.031	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-143-45	02/22/00	NA																	
B-143-45	05/22/00	NA																	
B-143-45	08/28/00	NA																	
B-143-45	11/27/00	NA																	
B-143-45	02/19/01	NA																	
B-143-45	05/02/01	NA																	
B-143-45	08/20/01	NA																	
B-143-45	02/15/02	NA																	
B-143-45	05/28/02	NA																	
B-143-45	08/26/02	NA																	
B-143-45	11/12/02	NA																	
B-143-45	03/10/03	NA																	
B-143-45	6/13/2003	NA																	
B-143-45	8/21/2003	NA																	
B-143-45	2/23/2004	NA																	
B-143-45	8/10/2004	NA																	
B-143-45	12/8/2004	NA																	
B-143-45	3/7/2005	NA																	
B-143-45	6/20/2005	NA																	
B-143-45	03/04/06	NA																	
B-143-45	11/20/06	NA																	
B-143-45	5/21/07	NA																	
B-143-70	10/30/97	NA																	
B-143-70	10/31/97									<0.005									1.5
B-143-70	02/17/98		<0.05	<0.05	0.027	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-143-70	05/18/98	NA																	
B-143-70	08/18/98		<0.05	<0.05	0.04	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.32
B-143-70	11/22/98		<0.05	<0.05	0.038	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.92
B-143-70	03/08/99		<0.05	<0.05	0.049	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
B-143-70	06/18/99		<0.05	<0.05	0.037	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-143-70	09/23/99		<0.05	<0.05	0.064	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.05

Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-143-70	11/19/99		<0.05	<0.05	0.069	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-143-70	02/22/00	NA																	
B-143-70	05/22/00	NA																	
B-143-70	08/28/00	NA																	
B-143-70	11/27/00	NA																	
B-143-70	02/19/01	NA																	
B-143-70	05/02/01	NA																	
B-143-70	08/20/01	NA																	
B-143-70	02/15/02	NA																	
B-143-70	05/28/02	NA																	
B-143-70	08/26/02	NA																	
B-143-70	11/12/02	NA																	
B-143-70	03/10/03	NA																	
B-143-70	6/13/2003	NA																	
B-143-70	8/21/2003	NA																	
B-143-70	2/23/2004	NA																	
B-143-70	8/10/2004	NA																	
B-143-70	12/8/2004	NA																	
B-143-70	3/7/2005	NA																	
B-143-70	6/20/2005	NA																	
B-143-70	03/04/06	NA																	
B-143-70	11/20/06	NA																	
B-143-70	5/21/07	NA																	
B-144-50	10/30/97	NA																	
B-144-50	10/31/97									<0.005									0.36
B-144-50	02/17/98		<0.05	<0.05	0.024	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.29
B-144-50	05/18/98	NA																	
B-144-50	08/18/98		<0.05	<0.05	0.028	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.19
B-144-50	11/22/98		<0.05	<0.05	0.028	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.12
B-144-50	03/08/99		<0.05	<0.05	0.033	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-144-50	06/18/99		<0.05	<0.05	0.029	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-144-50	09/23/99		<0.05	<0.05	0.059	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-144-50	11/19/99		<0.05	<0.05	0.031	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-144-50	02/22/00	NA																	
B-144-50	05/22/00	NA																	
B-144-50	08/28/00	NA																	
B-144-50	11/27/00	NA																	
B-144-50	02/19/01	NA																	
B-144-50	05/02/01	NA																	
B-144-50	08/20/01	NA																	
B-144-50	02/15/02	NA																	
B-144-50	05/28/02	NA																	
B-144-50	08/26/02	NA																	
B-144-50	11/12/02	NA																	
B-144-50	03/10/03	NA																	
B-144-50	6/13/2003	NA																	
B-144-50	8/21/2003	NA																	
B-144-50	2/23/2004	NA																	
B-144-50	8/10/2004	NA																	
B-144-50	12/8/2004	NA																	
B-144-50	3/7/2005	NA																	
B-144-50	6/20/2005	NA																	
B-144-50	03/04/06	NA																	
B-144-50	11/20/06	NA																	
B-144-50	6/6/07	NA																	
B-144-75	10/30/97	NA																	
B-144-75	10/31/97									<0.005									3.1
B-144-75	02/17/98		<0.05	<0.05	0.028	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.34
B-144-75	05/18/98	NA																	
B-144-75	08/18/98		<0.05	<0.05	0.034	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.44
B-144-75	11/22/98		<0.05	<0.05	0.034	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.07
B-144-75	03/07/99		<0.05	<0.05	0.054	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-144-75	06/18/99		<0.05	<0.05	0.036	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-144-75	09/23/99		<0.05	<0.05	0.055	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-144-75	11/19/99		<0.05	<0.05	0.033	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-144-75	02/22/00	NA																	
B-144-75	05/22/00	NA																	
B-144-75	08/28/00	NA																	

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-144-75	11/27/00	NA																	
B-144-75	02/19/01	NA																	
B-144-75	05/02/01	NA																	
B-144-75	08/20/01	NA																	
B-144-75	02/15/02	NA																	
B-144-75	05/28/02	NA																	
B-144-75	08/26/02	NA																	
B-144-75	11/12/02	NA																	
B-144-75	03/10/03	NA																	
B-144-75	6/13/2003	NA																	
B-144-75	8/21/2003	NA																	
B-144-75	2/23/2004	NA																	
B-144-75	8/10/2004	NA																	
B-144-75	12/8/2004	NA																	
B-144-75	3/7/2005	NA																	
B-144-75	6/20/2005	NA																	
B-144-75	03/04/06	NA																	
B-144-75	11/20/06	NA																	
B-144-75	5/21/07	NA																	
B-145	12/03/97		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.41
B-145	02/16/98		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.44
B-145	05/18/98	NA																	
B-145	08/19/98		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	2.5
B-145	11/23/98		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	4
B-145	03/08/99		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-145	06/20/99		<0.05	<0.05	0.006	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-145	09/25/99		<0.05	<0.05	0.019	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-145	11/21/99		<0.05	<0.05	0.011	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
B-145	02/25/00		<0.05	<0.05	0.009	<0.005	<0.01	<0.01	<0.01	<0.01	0.045	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-145	05/22/00	NA																	
B-145	08/29/00		<0.05	<0.05	0.014	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-145	11/30/00		<0.05	<0.05	0.007	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-145	02/22/01		<0.05	<0.05	0.015	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-145	05/05/01		<0.05	<0.05	0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-145	08/20/01		<0.05	<0.05	0.25	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.08
B-145	12/08/01		<0.05	<0.05	0.24	<0.005	<0.01	0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.07
B-145	02/12/02		<0.05	<0.05	0.28	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.09
B-145	05/31/02		<0.05	<0.05	0.13	<0.005	<0.01	0.02	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
B-145	08/27/02		<0.05	<0.05	0.05	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-145	11/13/02		<0.05	<0.05	0.005	<0.005	<0.01	0.02	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-145	03/13/03		<0.05	<0.05	0.007	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-145	6/11/2003		<0.05	<0.05	0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-145	8/20/2003		<0.05	<0.05	0.007	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-145	11/13/2003		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-145	2/23/2004		<0.05	<0.05	0.006	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-145	5/19/2004		<0.05	<0.05	0.006	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-145	8/11/2004		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-145	12/10/2004		<0.05	<0.05	0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-145	3/7/2005	NA																	
B-145	6/20/2005	NA																	
B-145	03/04/06	NA																	
B-145	11/20/06	NA																	
B-145	5/24/07	NA																	
B-146	12/04/97		<0.05	<0.05	0.046	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.4
B-146	02/17/98		<0.05	<0.05	0.024	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-146	05/18/98	NA																	
B-146	08/18/98		<0.05	<0.05	0.026	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.23
B-146	11/25/98		<0.05	<0.05	0.027	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-146	03/06/99		<0.05	<0.05	0.025	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-146	06/18/99		<0.05	<0.05	0.024	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-146	09/24/99		<0.05	<0.05	0.029	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-146	11/21/99		<0.05	<0.05	0.024	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-146	02/26/00		<0.05	<0.05	0.024	<0.005	<0.01	<0.01	<0.01	0.04	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	0.01	0.02
B-146	05/22/00	NA																	
B-146	08/28/00	NA																	
B-146	11/27/00	NA																	
B-146	02/19/01	NA																	
B-146	05/02/01	NA																	

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-146	08/20/01	NA																	
B-146	02/15/02	NA																	
B-146	05/28/02	NA																	
B-146	08/27/02		<0.05	<0.05	0.043	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-146	11/14/02		<0.05	<0.05	0.019	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-146	03/11/03		<0.05	<0.05	0.018	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-146	6/13/2003		<0.05	<0.05	0.016	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-146	8/19/2003		<0.05	<0.05	0.019	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-146	2/23/2004	NA																	
B-146	8/10/2004	NA																	
B-146	12/8/2004	NA																	
B-146	3/7/2005	NA																	
B-146	6/20/2005	NA																	
B-146	03/04/06	NA																	
B-146	11/20/06	NA																	
B-146	5/22/07	NA																	
B-147	12/04/97		<0.05	<0.05	0.012	<0.005	<0.01	<0.01	<0.01	0.016	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.09
B-147	02/17/98		<0.05	<0.05	0.009	<0.005	<0.01	<0.01	0.01	0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.07
B-147	05/18/98	NA																	
B-147	08/18/98		<0.05	<0.05	0.009	<0.005	<0.01	<0.01	0.02	0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.06
B-147	11/25/98		<0.05	<0.05	0.009	<0.005	<0.01	<0.01	0.02	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.05
B-147	03/06/99		<0.05	<0.05	0.011	<0.005	<0.01	<0.01	0.02	0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.04
B-147	06/18/99		<0.05	<0.05	0.007	<0.005	<0.01	<0.01	0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.05
B-147	09/24/99		<0.05	<0.05	0.007	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-147	11/21/99		<0.05	<0.05	0.009	<0.005	<0.01	<0.01	0.02	0.03	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.05
B-147	02/26/00		<0.05	<0.05	0.007	<0.005	<0.01	<0.01	0.02	0.08	<0.005	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	0.01	0.03
B-147	05/22/00	NA																	
B-147	08/28/00	NA																	
B-147	11/27/00	NA																	
B-147	02/19/01	NA																	
B-147	05/02/01	NA																	
B-147	08/20/01	NA																	
B-147	02/15/02	NA																	
B-147	05/28/02	NA																	
B-147	08/26/02	NA																	
B-147	11/12/02	NA																	
B-147	03/10/03	NA																	
B-147	6/13/2003	NA																	
B-147	8/21/2003	NA																	
B-147	2/23/2004	NA																	
B-147	8/10/2004	NA																	
B-147	12/8/2004	NA																	
B-147	3/7/2005	NA																	
B-147	6/20/2005	NA																	
B-147	03/04/06	NA																	
B-147	11/20/06	NA																	
B-147	5/22/07	NA																	
B-148	12/04/97		<0.05	<0.05	0.023	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.11
B-148	02/17/98		<0.05	<0.05	0.016	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.19
B-148	05/18/98	NA																	
B-148	08/19/98		<0.05	<0.05	0.017	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.34
B-148	11/24/98		<0.05	<0.05	0.019	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.02	<0.05	<0.01	<0.05	<0.01	0.05
B-148	03/06/99		<0.05	<0.05	0.038	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	<0.01	0.02
B-148	06/20/99		<0.05	<0.05	0.018	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-148	09/24/99		<0.05	<0.05	0.019	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-148	11/22/99		<0.05	<0.05	0.016	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-148	02/26/00		<0.05	<0.05	0.023	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.02
B-148	05/22/00	NA																	
B-148	08/28/00	NA																	
B-148	11/27/00	NA																	
B-148	02/19/01	NA																	
B-148	05/02/01	NA																	
B-148	08/20/01	NA																	
B-148	02/15/02	NA																	
B-148	05/28/02	NA																	
B-148	08/26/02	NA																	
B-148	11/12/02	NA																	
B-148	03/10/03	NA																	

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-148	6/13/2003	NA																	
B-148	8/21/2003	NA																	
B-148	2/23/2004	NA																	
B-148	8/10/2004	NA																	
B-148	12/8/2004	NA																	
B-148	3/7/2005	NA																	
B-148	6/20/2005	NA																	
B-148	03/04/06	NA																	
B-148	11/20/06	NA																	
B-148	6/1/07	NA																	
B-149	12/04/97		<0.05	<0.05	0.006	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	0.02	0.03	<0.05	<0.01	<0.05	0.03	1.1
B-149	02/17/98		<0.05	<0.05	0.007	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.04	<0.05	<0.01	<0.05	0.03	1.1
B-149	05/18/98	NA																	
B-149	08/19/98		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.03	<0.05	<0.01	<0.05	<0.01	0.28
B-149	11/24/98		<0.05	<0.05	0.006	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.99
B-149	03/08/99		<0.05	<0.05	0.039	<0.005	<0.01	0.03	<0.01	0.01	0.007	<0.0002	0.02	0.05	<0.05	<0.01	<0.05	0.04	0.05
B-149	06/19/99		<0.05	<0.05	0.017	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.05	<0.05	<0.01	<0.05	0.02	0.02
B-149	09/24/99		<0.05	<0.05	0.028	<0.005	<0.01	0.01	<0.01	0.01	0.011	<0.0002	0.01	0.04	<0.05	<0.01	<0.05	0.02	0.21
B-149	11/20/99		<0.05	<0.05	0.02	<0.005	<0.01	0.36	<0.01	0.01	<0.005	<0.0002	0.01	0.03	<0.05	<0.01	<0.05	0.09	0.06
B-149	02/25/00		<0.05	<0.05	0.009	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.02	0.04	<0.05	<0.01	<0.05	0.06	0.05
B-149	05/25/00		<0.05	<0.05	0.035	<0.005	<0.01	<0.01	<0.01	0.031	<0.005	<0.0002	0.02	0.06	<0.05	<0.01	<0.05	0.04	0.09
B-149	08/30/00		<0.05	<0.05	0.012	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.02	0.05	<0.05	<0.01	<0.05	0.02	0.03
B-149	11/30/00		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	0.02	0.03	<0.05	<0.01	<0.05	0.03	<0.01
B-149	02/23/01		<0.05	<0.05	0.008	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.02	0.04	<0.05	<0.01	<0.05	0.04	<0.01
B-149	05/05/01		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.02	0.03	<0.05	<0.01	<0.05	0.03	<0.01
B-149	08/22/01		<0.05	<0.05	0.91	<0.005	<0.01	0.02	<0.01	0.04	<0.005	<0.0002	0.02	0.04	<0.05	<0.01	<0.05	0.03	0.37
B-149	12/09/01		<0.05	<0.05	1.2	<0.005	<0.01	0.03	<0.01	0.02	<0.005	<0.0002	0.02	0.04	<0.05	<0.01	<0.05	0.05	0.42
B-149	02/12/02		<0.05	<0.05	2.3	<0.005	<0.01	0.03	<0.01	0.05	0.006	<0.0002	0.02	0.06	<0.05	<0.01	<0.05	0.06	1.4
B-149	06/01/02		<0.05	<0.05	0.2	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.13
B-149	08/28/02		<0.05	<0.05	0.26	<0.005	<0.01	0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.02	<0.05	<0.01	<0.05	0.01	0.13
B-149	11/13/02		<0.05	<0.05	0.007	<0.005	<0.01	0.03	<0.01	<0.01	<0.005	<0.0002	0.02	0.03	<0.05	<0.01	<0.05	0.05	<0.01
B-149	03/13/03		<0.05	<0.05	0.006	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.04	<0.05	<0.01	<0.05	0.04	0.02
B-149	6/11/2003		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.03	<0.05	<0.01	<0.05	<0.01	<0.01
B-149	8/20/2003		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.04	<0.05	<0.01	<0.05	<0.01	<0.01
B-149	11/13/2003		<0.05	<0.05	0.016	<0.005	<0.01	0.02	<0.01	<0.01	<0.005	<0.0002	0.03	0.04	<0.05	<0.01	<0.05	0.04	0.02
B-149	2/24/2004		<0.05	<0.05	0.025	<0.005	<0.01	0.02	<0.01	0.01	<0.005	<0.0002	0.03	0.04	<0.05	<0.01	<0.05	0.06	0.02
B-149	5/19/2004		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	0.05	<0.05	<0.01	<0.05	0.03	<0.01
B-149	8/10/2004	NA																	
B-149	12/8/2004		<0.05	<0.05	0.009	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	0.04	<0.05	<0.01	<0.05	0.04	<0.01
B-149	3/7/2005	NA																	
B-149	6/20/2005	NA																	
B-149	9/29/2005		<0.004	0.0076	<0.002	<0.002	<0.002	<0.006	0.0047	0.0045	<0.002	<0.0002	0.021	0.043	<0.004	<0.002	<0.002	0.0083	<0.01
B-149	11/30/2005		<0.002	0.0069	0.041	<0.001	<0.001	<0.003	0.0023	0.009	<0.001	<0.0002	0.02	0.034	<0.002	<0.001	<0.001	0.013	0.044
B-149	03/04/06	NA																	
B-149	06/14/06		< 0.0020	0.0093	0.0016	< 0.0010	< 0.0010	< 0.0030	< 0.0010	0.0035	< 0.0010	< 0.00020	0.017	0.029	0.0043	< 0.0010	< 0.0010	0.041	0.015
B-149	11/29/06		<0.0100	**0.0057 J**	**0.0014 J**	<0.00400	<0.00100	<0.00500	<0.0200	<0.0100	<0.00500	<0.0200	**0.0176 J**	**0.0488**	<0.0100	<0.00500	<0.0100	**0.00810 J**	<0.0500
B-149	5/29/07		<0.010	**0.0077 J**	**0.0046 J**	<0.004	<0.001	<0.005	<.020	<0.010	<0.005	<0.00020	**0.0245**	**0.0446**	**0.0061 J**	<0.005	<0.010	**0.0278**	**0.0207 J**
B-149	5/23/08		<0.005	**0.0085**	**0.19**	<0.001	<0.001	<0.002	**0.0024**	**0.0026**	<0.001	<0.0004	**0.014**	**0.053**	**0.0042**	<0.001	<0.001	**0.012**	**0.097**
B-149	5/6/09		<0.005	**0.0076**	**0.0035**	<0.001	<0.001	**0.002**	<0.001	**0.0048**	<0.001	<0.0002	**0.024**	**0.03**	**0.0055**	<0.001	<0.001	**0.016**	**0.0087**
B-149	11/18/09		<0.005	<0.005	<0.001	<0.001	<0.001	<0.002	**0.0022**	**0.0025**	<0.001	<0.0002	**0.0069**	**0.029**	<0.002	<0.001	<0.001	<0.005	<0.005
B-149	4/28/10		<0.005	**0.0059**	**0.0077**	<0.001	<0.001	<0.002	<0.001	**0.0034**	<0.001	<0.0002	**0.019**	**0.025**	**0.0044**	<0.001	<0.001	**0.027**	<0.005
B-149	11/17/10		<0.01	<0.01	**0.0150**	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0002	**0.0045**	**0.0066**	<0.004	<0.002	<0.002	<0.01	**0.053**
B-149	5/4/11		<0.005	**0.0087**	**0.49**	<0.001	<0.001	<0.002	<0.001	**0.0026**	<0.001	<0.0002	**0.021**	**0.028**	**0.0040**	<0.001	<0.001	**0.042**	**0.21**
B-149	11/17/11		<0.005	**0.0059**	<0.001	<0.001	<0.001	**0.0024**	**0.0013**	**0.0032**	<0.001	<0.0002	**0.018**	**0.039**	**0.0034**	<0.001	<0.001	**0.016**	**0.003 J**
B-149	5/9/12		<0.01	**0.0065 J**	**0.0020**	<0.002	<0.002	**0.0053**	<0.002	**0.0039**	<0.002	<0.0002	**0.020**	**0.032**	**0.0038 J**	<0.002	<0.002	**0.057**	**0.0054 J**
B-149	11/7/12		<0.025	<0.025	<0.010	<0.0050	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.000200	**0.012**	**0.035**	<0.020	<0.0050	<0.0020	<0.025	<0.050
B-150	12/05/97		<0.05	<0.05	0.018	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	2.7
B-150	02/19/98		<0.05	<0.05	0.021	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	1.7
B-150	05/18/98	NA																	
B-150	08/20/98		<0.05	<0.05	0.022	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	1.9
B-150	11/23/98		<0.05	<0.05	0.024	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	3.8
B-150	03/08/99		<0.05	<0.05	0.019	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-150	06/20/99		<0.05	<0.05	0.019	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-150	09/25/99		<0.05	<0.05	0.037	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
B-150	11/21/99		<0.05	<0.05	0.019	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.19
B-150	02/25/00		<0.05	<0.05	0.019	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-150	05/22/00	NA																	
B-150	08/28/00	NA																	

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ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-150	11/27/00	NA																	
B-150	02/19/01	NA																	
B-150	05/02/01	NA																	
B-150	08/20/01	NA																	
B-150	02/15/02	NA																	
B-150	05/28/02	NA																	
B-150	08/26/02	NA																	
B-150	11/12/02	NA																	
B-150	03/10/03	NA																	
B-150	6/13/2003	NA																	
B-150	8/21/2003	NA																	
B-150	2/23/2004	NA																	
B-150	8/10/2004	NA																	
B-150	12/8/2004	NA																	
B-150	3/7/2005	NA																	
B-150	6/20/2005	NA																	
B-150	03/04/06	NA																	
B-150	11/20/06	NA																	
B-150	5/23/07	NA																	
B-151	12/05/97		<0.05	<0.05	0.011	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.55
B-151	02/19/98		<0.05	<0.05	0.013	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	3.9
B-151	05/21/98		<0.05	<0.05	0.017	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.76
B-151	08/20/98		<0.05	<0.05	0.012	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.15
B-151	11/23/98		<0.05	<0.05	0.012	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.52
B-151	03/08/99		<0.05	<0.05	0.011	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.06
B-151	06/18/99		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-151	09/24/99		<0.05	<0.05	0.014	<0.005	<0.01	0.02	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.06
B-151	11/20/99		<0.05	<0.05	0.01	<0.005	<0.01	0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.06
B-151	02/25/00		<0.05	<0.05	0.009	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
B-151	05/22/00	NA																	
B-151	08/28/00	NA																	
B-151	11/27/00	NA																	
B-151	02/19/01	NA																	
B-151	05/02/01	NA																	
B-151	08/20/01	NA																	
B-151	02/15/02	NA																	
B-151	05/28/02	NA																	
B-151	08/26/02	NA																	
B-151	11/12/02	NA																	
B-151	03/10/03	NA																	
B-151	6/13/2003	NA																	
B-151	8/21/2003	NA																	
B-151	2/23/2004	NA																	
B-151	8/10/2004	NA																	
B-151	12/8/2004	NA																	
B-151	3/7/2005	NA																	
B-151	6/20/2005	NA																	
B-151	03/04/06	NA																	
B-151	11/20/06	NA																	
B-151	5/23/07	NA																	
B-152	12/05/97		<0.05	<0.05	0.021	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.13
B-152	02/18/98		<0.05	<0.05	0.02	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	0.18
B-152	05/18/98	NA																	
B-152	08/20/98		<0.05	<0.05	0.022	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	<0.01	<0.05	<0.01	<0.05	<0.01	0.19
B-152	11/23/98		<0.05	<0.05	0.021	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	<0.01	<0.05	<0.01	<0.05	<0.01	0.1
B-152	03/06/99		<0.05	<0.05	0.023	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-152	06/18/99		<0.05	<0.05	0.012	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	0.03	<0.05	<0.01	<0.05	<0.01	0.04
B-152	09/24/99		<0.05	<0.05	0.12	<0.005	<0.01	0.02	0.01	0.02	0.024	<0.0002	0.03	0.06	<0.05	<0.01	<0.05	0.02	0.21
B-152	11/20/99		<0.05	<0.05	0.023	<0.005	<0.01	0.11	<0.01	<0.01	<0.005	<0.0002	0.03	0.02	<0.05	<0.01	<0.05	<0.01	0.07
B-152	02/27/00		<0.05	<0.05	0.29	<0.005	<0.01	<0.01	<0.01	0.02	0.042	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	0.02	0.16
B-152	05/22/00	NA																	
B-152	08/31/00		<0.05	<0.05	0.042	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	0.01	0.04
B-152	11/27/00	NA																	
B-152	02/19/01	NA																	
B-153	12/05/97		<0.05	<0.05	0.055	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	2.4
B-153	02/18/98		<0.05	<0.05	0.049	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	3.3
B-153	05/19/98		<0.05	<0.05	0.059	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	2.4

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B-153	08/20/98		<0.05	<0.05	0.072	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.2
B-153	11/23/98		<0.05	<0.05	0.065	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	1.5
B-153	03/09/99		<0.05	<0.05	0.063	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.06
B-153	06/19/99		<0.05	<0.05	0.059	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-153	09/25/99		<0.05	<0.05	0.06	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-153	11/21/99		<0.05	<0.05	0.056	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-153	02/26/00		<0.05	<0.05	0.05	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	0.01	0.02
B-153	05/22/00	NA																	
B-153	08/28/00	NA																	
B-153	11/27/00	NA																	
B-153	02/19/01	LNAPL																	
B-153	05/02/01	LNAPL																	
B-153	08/20/01	LNAPL																	
B-153	02/15/02	LNAPL																	
B-153	05/31/02		<0.05	<0.05	0.19	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.06
B-153	08/27/02		<0.05	<0.05	0.11	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-153	11/14/02		<0.05	<0.05	0.082	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-153	03/12/03		<0.05	<0.05	0.082	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-153	6/11/2003		<0.05	<0.05	0.078	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-153	8/21/2003		<0.05	<0.05	0.095	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-153	2/23/2004	NA																	
B-153	8/10/2004	NA																	
B-153	12/8/2004	NA																	
B-153	3/7/2005	NA																	
B-153	6/20/2005	NA																	
B-153	03/04/06	NA																	
B-153	11/20/06	NA																	
B-153	5/29/07	NA																	
B-163	12/05/97	LNAPL																	
B-163	02/20/98		<0.05	<0.05	0.013	<0.005	<0.01	<0.01	0.07	<0.01	<0.005	<0.0002	0.01	0.17	<0.05	<0.01	<0.05	<0.01	3.3
B-163	05/18/98	LNAPL																	
B-163	08/18/98	LNAPL																	
B-163	11/22/98	LNAPL																	
B-163	03/08/99	LNAPL																	
B-163	06/19/99	LNAPL																	
B-163	09/22/99	LNAPL																	
B-163	11/18/99	LNAPL																	
B-163	02/22/00	LNAPL																	
B-163	05/22/00	LNAPL																	
B-163	08/28/00	LNAPL																	
B-163	11/27/00	LNAPL																	
B-163	02/19/01	LNAPL																	
B-163	05/02/01	LNAPL																	
B-163	08/20/01	LNAPL																	
B-163	02/15/02	LNAPL																	
B-163	05/28/02	LNAPL																	
B-163	08/26/02	LNAPL																	
B-163	11/12/02	LNAPL																	
B-163	03/10/03	LNAPL																	
B-163	6/13/2003	LNAPL																	
B-163	8/21/2003	LNAPL																	
B-163	2/23/2004	LNAPL																	
B-163	8/10/2004	LNAPL																	
B-163	12/8/2004	LNAPL																	
B-163	3/7/2005	LNAPL																	
B-163	6/20/2005	LNAPL																	
B-163	03/04/06	NA																	
B-163	11/20/06	LNAPL																	
B-163	5/22/07	LNAPL																	
B-167-56	12/06/97		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	0.07	0.02	<0.05	<0.01	<0.05	<0.01	0.13
B-167-56	02/19/98		<0.05	<0.05	0.13	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	0.0005	0.05	0.02	<0.05	<0.01	<0.05	<0.01	0.12
B-167-56	05/19/98		<0.05	<0.05	0.14	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.05	0.03	<0.05	<0.01	<0.05	<0.01	0.27
B-167-56	08/18/98		<0.05	<0.05	0.15	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.05	0.02	<0.05	<0.01	<0.05	<0.01	0.3
B-167-56	11/22/98		<0.05	<0.05	0.14	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	0.03	<0.05	<0.01	<0.05	<0.01	0.18
B-167-56	03/07/99		<0.05	<0.05	0.15	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	0.0039	0.05	0.04	<0.05	<0.01	<0.05	<0.01	0.03
B-167-56	06/19/99		<0.05	<0.05	0.15	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.04	<0.05	<0.01	<0.05	<0.01	0.03
B-167-56	09/24/99		<0.05	<0.05	0.14	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	0.001	0.04	0.04	<0.05	<0.01	<0.05	<0.01	0.04
B-167-56	11/20/99		<0.05	<0.05	0.1	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	0.0005	0.03	0.04	<0.05	<0.01	<0.05	<0.01	0.03

Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-167-56	02/26/00		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	0.05	<0.005	<0.0002	0.04	0.04	<0.05	<0.01	<0.05	0.01	0.03
B-167-56	05/25/00		<0.05	<0.05	0.2	<0.005	<0.01	<0.01	<0.01	0.066	<0.005	<0.0002	0.05	0.04	<0.05	<0.01	<0.05	<0.01	0.03
B-167-56	09/02/00		<0.05	<0.05	0.15	<0.005	<0.01	<0.02	<0.01	0.06	<0.05	0.0007	0.06	0.05	<0.05	<0.01	<0.001	<0.01	0.03
B-167-56	11/29/00		<0.05	<0.05	0.18	<0.005	<0.01	<0.01	<0.01	0.12	<0.005	0.0002	0.05	0.04	<0.05	<0.01	<0.05	<0.01	0.02
B-167-56	02/23/01		<0.05	<0.05	0.16	<0.005	<0.01	<0.01	<0.01	0.07	<0.005	0.0007	0.05	0.04	<0.05	<0.01	<0.05	<0.01	<0.01
B-167-56	05/06/01		<0.05	<0.05	0.13	<0.005	<0.01	<0.01	<0.01	0.05	<0.005	<0.0002	0.05	0.04	<0.05	<0.01	<0.05	<0.01	0.03
B-167-56	08/20/01		<0.05	<0.05	0.37	<0.005	<0.01	<0.01	<0.01	0.08	<0.005	0.0012	0.04	0.03	<0.05	<0.01	<0.05	<0.01	0.07
B-167-56	12/10/01		<0.05	<0.05	0.33	<0.005	<0.01	<0.01	<0.01	0.04	<0.005	0.0012	0.04	0.03	<0.05	<0.01	<0.05	<0.01	0.06
B-167-56	02/12/02		<0.05	<0.05	0.4	<0.005	<0.01	<0.01	<0.01	0.06	<0.005	0.0006	0.05	0.04	<0.05	<0.01	<0.05	<0.01	0.09
B-167-56	05/30/02		<0.05	<0.05	0.22	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	0.0012	0.04	0.04	<0.05	<0.01	<0.05	<0.01	0.05
B-167-56	08/29/02		<0.05	<0.05	0.18	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	0.0005	0.04	0.05	<0.05	<0.01	<0.05	<0.01	0.05
B-167-56	11/15/02		<0.05	<0.05	0.13	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	0.0008	0.04	0.03	<0.05	<0.01	<0.05	<0.01	0.02
B-167-56	03/12/03		<0.05	<0.05	0.11	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	0.0005	0.05	0.05	<0.05	<0.01	<0.05	<0.01	0.01
B-167-56	6/11/2003		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	0.0005	0.04	0.04	<0.05	<0.01	<0.05	<0.01	<0.01
B-167-56	8/21/2003		<0.05	<0.05	0.14	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	0.0012	0.04	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
B-167-56	11/13/2003		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	0.0011	0.03	0.03	<0.05	<0.01	<0.05	<0.01	<0.01
B-167-56	2/24/2004		<0.05	<0.05	0.13	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	0.0009	0.05	0.04	<0.05	<0.01	<0.05	<0.01	0.02
B-167-56	5/20/2004		<0.05	<0.05	0.13	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	0.0009	0.04	0.03	<0.05	<0.01	<0.05	<0.01	0.01
B-167-56	8/10/2004		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	0.0009	0.03	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
B-167-56	12/8/2004		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	0.0013	0.04	0.03	<0.05	<0.01	<0.05	<0.01	0.02
B-167-56	3/7/2005	NA																	
B-167-56	6/20/2005	NA																	
B-167-56	03/04/06	NA																	
B-167-56	09/12/06	NA																	
B-167-56	11/21/06	NA																	
B-167-56	03/21/07	NA																	
B-167-56	6/5/07	NA																	
B-167-56	9/15/08	NA																	
B-167-95	12/06/97		<0.05	<0.05	0.33	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.05	0.17	<0.05	<0.01	<0.05	<0.01	0.75
B-167-95	02/19/98		<0.05	<0.05	0.32	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.05	0.16	<0.05	<0.01	<0.05	<0.01	0.69
B-167-95	05/19/98		<0.05	<0.05	0.33	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.05	0.19	<0.05	<0.01	<0.05	<0.01	2.5
B-167-95	08/18/98		<0.05	<0.05	0.37	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.05	0.21	<0.05	<0.01	<0.05	<0.01	0.57
B-167-95	11/22/98		<0.05	<0.05	0.29	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	0.19	<0.05	<0.01	<0.05	<0.01	1.3
B-167-95	03/07/99		<0.05	<0.05	0.32	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.06	0.19	<0.05	<0.01	<0.05	<0.01	0.23
B-167-95	06/19/99		<0.05	<0.05	0.24	<0.005	<0.01	<0.01	0.01	0.01	0.01	<0.0002	0.05	0.14	<0.05	<0.01	<0.05	<0.01	0.21
B-167-95	09/24/99		<0.05	<0.05	0.32	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	0.16	<0.05	<0.01	<0.05	<0.01	0.27
B-167-95	11/20/99		<0.05	<0.05	0.29	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.04	0.14	<0.05	<0.01	<0.05	<0.01	0.18
B-167-95	02/26/00		<0.05	<0.05	0.25	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	0.05	0.13	<0.05	<0.01	<0.05	0.01	0.17
B-167-95	05/25/00		<0.05	<0.05	0.39	<0.005	<0.01	<0.01	<0.01	0.051	<0.005	<0.0002	0.06	0.17	<0.05	<0.01	<0.05	<0.01	0.21
B-167-95	09/02/00		<0.05	<0.05	0.46	<0.005	<0.01	<0.02	<0.01	0.05	<0.05	<0.0002	0.06	0.12	<0.05	<0.01	<0.001	<0.01	0.16
B-167-95	11/29/00		<0.05	<0.05	0.34	<0.005	<0.01	<0.01	<0.01	0.07	<0.005	<0.0002	0.06	0.12	<0.05	<0.01	<0.05	<0.01	0.09
B-167-95	02/23/01		<0.05	<0.05	0.3	<0.005	<0.01	<0.01	<0.01	0.05	<0.005	<0.0002	0.06	0.1	<0.05	<0.01	<0.05	<0.01	0.09
B-167-95	05/06/01		<0.05	<0.05	0.3	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	0.06	0.15	<0.05	<0.01	<0.05	<0.01	0.17
B-167-95	08/20/01		<0.05	<0.05	0.45	<0.005	<0.01	<0.01	<0.01	0.07	<0.005	<0.0002	0.05	0.07	<0.05	<0.01	<0.05	<0.01	0.13
B-167-95	12/10/01		<0.05	<0.05	0.45	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	0.05	0.09	<0.05	<0.01	<0.05	<0.01	0.14
B-167-95	02/12/02		<0.05	<0.05	0.55	<0.005	<0.01	<0.01	<0.01	0.04	<0.005	<0.0002	0.06	0.12	<0.05	<0.01	<0.05	<0.01	0.19
B-167-95	05/30/02		<0.05	<0.05	0.26	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.05	<0.05	<0.01	<0.05	<0.01	0.09
B-167-95	08/29/02		<0.05	<0.05	0.24	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.04	<0.05	<0.01	<0.05	<0.01	0.08
B-167-95	11/15/02		<0.05	<0.05	0.19	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.04	<0.05	<0.01	<0.05	<0.01	0.06
B-167-95	03/12/03		<0.05	<0.05	0.16	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.04	<0.05	<0.01	<0.05	<0.01	0.05
B-167-95	6/11/2003		<0.05	<0.05	0.16	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.04	<0.05	<0.01	<0.05	<0.01	0.03
B-167-95	8/21/2003		<0.05	<0.05	0.2	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	0.03	<0.05	<0.01	<0.05	<0.01	0.04
B-167-95	11/14/2003		<0.05	<0.05	0.17	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	0.04	<0.05	<0.01	<0.05	<0.01	0.05
B-167-95	2/24/2004		<0.05	<0.05	0.19	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	0.04	<0.05	<0.01	<0.05	<0.01	0.07
B-167-95	5/20/2004		<0.05	<0.05	0.18	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	0.06	<0.05	<0.01	<0.05	<0.01	0.06
B-167-95	8/10/2004		<0.05	<0.05	0.19	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.05	<0.05	<0.01	<0.05	<0.01	0.05
B-167-95	12/8/2004		<0.05	<0.05	0.18	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.05	<0.05	<0.01	<0.05	<0.01	0.08
B-167-95	3/8/2005		<0.05	<0.05	0.15	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	0.05	<0.05	<0.01	<0.05	<0.01	0.05
B-167-95	6/20/2005	NA																	
B-167-95	9/27/2005		<0.004	0.024	0.18	<0.002	<0.002	0.0082	<0.002	0.0066	<0.002	<0.0002	0.042	0.087	0.055	<0.002	<0.002	<0.006	0.066
B-167-95	12/5/2005		<0.004	0.017	0.2	<0.002	<0.002	0.0065	<0.002	0.0056	<0.002	<0.0002	0.04	0.075	0.037	<0.002	<0.002	<0.006	0.082
B-167-95	03/04/06		<0.0020	0.025	0.19	<0.0010	<0.0010	<0.0030	0.0016	0.01	0.0076	<0.00020	0.049	0.076	0.037	<0.0010	<0.0010	<0.0030	0.071
B-167-95	06/15/06		< 0.0020	0.025	0.14	< 0.0010	< 0.0010	< 0.0030	0.0011	0.005	< 0.0010	< 0.00040	0.045	0.053	0.034	< 0.0010	< 0.0010	< 0.0030	0.028
B-167-95	09/12/06		<0.0053	**0.0158**	**0.185**	<0.0010	**0.0090** J	<0.0013	<0.0025	<0.0053	<0.0022	<0.00010	**0.0445** J	**0.0579**	<0.0082	<0.0019	**0.0040** J	<0.0050	**0.0487** J
B-167-95	11/28/06		<0.0100	**0.0127**	**0.191**	<0.00400	**0.00110**	**0.00140 J**	<0.0200	<0.0100	<0.00500	<0.0200	**0.0476 J**	**0.0510 J**	<0.0100	<0.00500	<0.0100	<0.0200	**0.0526**
B-167-95	03/21/07		<0.0100	**0.018**	**0.206**	<0.00400	<0.00100	<0.00500	<0.0200	<0.0100	<0.00500	<0.000200	**0.0507**	**0.0504**	<0.0100	<0.00500	<0.0100	<0.0200	**0.0371 J**
B-167-95	06/06/07		<0.010	**0.0206**	**0.185**	**0.0013 J**	<0.001	<0.005	<0.020	<0.010	<0.005	<0.00020	**0.0445 J**	**0.0455**	<0.010	<0.005	<0.010	<0.020	**0.0286 J**
B-167-95	6/6/07	Dup	<0.010	**0.0168**	**0.197**	**0.0013 J**	<0.001	<0.005	<0.020	<0.010	<0.005	<0.00020	**0.0461 J**	**0.0468**	<0.010	<0.005	<0.010	<0.020	**0.024 J**
B-167-95	09/20/07		**0.0063 J**	**0.0178**	**0.214**	<0.004	**0.0008 J**	<0.005	<0.020	<0.010	<0.005	<0.00020	**0.0623**	**0.0809**	<0.010	<0.005	<0.010	<0.020	**0.0749**

Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-167-95	11/30/07		**0.0051 J**	**0.0172**	**0.232**	<0.004	**0.0009 J**	<0.005	<0.020	<0.010	<0.005	<0.00020	**0.0555**	**0.0844**	<0.010	<0.005	<0.010	<0.020	**0.0755**
B-167-95	03/20/08		<0.01	**0.00810 J**	**0.183**	<0.004	**0.0046**	**0.0099**	**0.0098**	<0.01	<0.005	NA	**0.0379 J**	**0.0622**	**0.0241**	**0.0075**	**0.0097 J**	**0.013 J**	**0.0438 J**
B-167-95	05/28/08		<0.005	**0.011**	**0.39**	<0.001	<0.001	<0.002	**0.0013**	**0.0024**	<0.001	<0.0004	**0.046**	**0.049**	**0.026**	<0.001	<0.001	<0.005	**0.082**
B-167-95	09/15/08		<0.005	**0.021**	**0.20**	<0.001	<0.001	**0.0022**	**0.0019**	**0.0038**	<0.001	<0.0002	**0.047**	**0.085**	**0.062**	<0.001	<0.001	<0.005	**0.058**
B-167-95	11/20/08		<0.005	**0.016**	**0.31**	<0.001	<0.001	<0.002	**0.0013**	**0.0035**	<0.001	<0.0004	**0.049**	**0.097**	**0.027**	<0.001	<0.001	<0.005	**0.11**
B-167-95	05/07/09		<0.005	**0.015**	**0.16**	<0.001	<0.001	<0.002	**0.0011**	**0.0023**	<0.001	<0.0002	**0.042**	**0.049**	**0.032**	<0.001	<0.001	<0.005	**0.042**
B-167-95	09/23/09		<0.025	<0.025	**0.20**	<0.005	<0.005	**0.011**	<0.005	**0.0054**	<0.005	<0.0002	**0.048**	**0.074**	**0.018**	<0.005	<0.005	<0.025	**0.065**
B-167-95	11/19/09		<0.005	<0.005	**0.20**	<0.001	<0.001	<0.002	**0.002**	**0.0029**	<0.001	<0.0002	**0.058**	**0.11**	**0.02**	<0.001	<0.001	<0.005	**0.052**
B-167-95	04/27/10		<0.005	**0.0094**	**0.1500**	<0.001	<0.001	<0.002	**0.0014**	**0.0039**	<0.001	<0.0002	**0.053**	**0.056**	**0.03**	<0.001	<0.001	<0.005	**0.024**
B-167-95	09/17/10		<0.005	**0.019**	**0.1500**	<0.001	<0.001	<0.002	**0.0014**	**0.0027**	<0.001	<0.0002	**0.042**	**0.065**	**0.035**	<0.001	<0.001	**0.012**	**0.039**
B-167-95	11/18/10		<0.025	<0.05	**0.3200**	<0.005	<0.01	<0.02	<0.01	<0.01	<0.01	<0.0002	**0.054**	**0.1**	**0.028**	<0.01	<0.002	<0.05	**0.12**
B-167-95	02/17/11		<0.025	<0.025	**1.4000**	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<0.000200	**0.045**	**0.073**	**0.023**	<0.0050	<0.0010	<0.025	**0.025**
B-167-95	05/06/11		<0.005	**0.013**	**0.15**	<0.001	<0.001	<0.002	**0.0013**	**0.0036**	<0.001	<0.0002	**0.056**	**0.031**	**0.020**	<0.001	<0.001	**0.014**	**0.027**
B-167-95	09/21/11		<0.0050	**0.023**	**0.1300**	<0.0010	<0.0010	**0.0018 J**	<0.0010	**0.0026**	<0.0010	<0.000200	**0.058**	**0.031**	**0.019**	<0.0010	<0.0010	**0.0056**	**0.02**
B-167-95	11/17/11		<0.005	**0.013**	**0.1400**	<0.001	<0.001	**0.0033**	**0.00092 J**	**0.0041**	<0.001	<0.0002	**0.047**	**0.055**	**0.022**	<0.001	<0.001	<0.005	**0.035**
B-167-95	02/16/12		**0.0024 J**	**0.015**	**0.2000**	<0.001	<0.001	**0.0059**	**0.00073 J**	**0.0035**	<0.001	<0.0002	**0.052**	**0.039**	**0.026**	<0.001	<0.001	<0.005	**0.089**
B-167-95	05/10/12		<0.01	**0.016**	**0.14**	<0.002	<0.002	**0.0050**	<0.002	**0.0039**	<0.002	<0.0002	**0.049**	**0.029**	**0.019**	<0.002	<0.002	**0.0094 J**	**0.037**
B-167-95	09/19/12		<0.025	**0.016 J**	**0.1500**	<0.005	<0.005	**0.006 J**	<0.005	<0.005	<0.005	<0.000200	**0.044**	**0.043**	**0.021**	<0.005	<0.002	<0.025	**0.039**
B-167-95	11/08/12		<0.025	**0.014 J**	**0.15**	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.010	<0.000200	**0.039**	**0.036**	**0.016**	<0.010	<0.0050	<0.025	**0.039**
B-169	12/06/97		<0.05	<0.05	0.047	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	0.04	<0.01	<0.05	<0.01	<0.05	<0.01	0.21
B-169	02/18/98		<0.05	<0.05	0.04	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	0.73
B-169	05/18/98	LNAPL																	
B-169	08/19/98		<0.05	<0.05	0.05	0.047	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	0.07
B-169	11/24/98		<0.05	<0.05	0.045	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	0.52
B-169	03/08/99		<0.05	0.05	0.042	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-169	06/19/99		<0.05	<0.05	0.038	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-169	09/24/99		<0.05	<0.05	0.034	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-169	11/20/99		<0.05	<0.05	0.028	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-169	02/26/00		<0.05	<0.05	0.036	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	0.02	<0.05	<0.01	<0.05	<0.01	0.03
B-169	05/22/00	NA																	
B-169	08/28/00	NA																	
B-169	11/27/00	NA																	
B-169	02/19/01	NA																	
B-169	05/02/01	NA																	
B-169	08/20/01	NA																	
B-169	02/15/02	NA																	
B-169	05/29/02		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
B-169	08/28/02		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-169	11/13/02		<0.05	<0.05	0.029	<0.005	<0.01	0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-169	03/11/03		<0.05	<0.05	0.027	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-169	6/10/2003		<0.05	<0.05	0.026	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-169	8/19/2003		<0.05	<0.05	0.031	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-169	11/12/2003		<0.05	<0.05	0.024	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-169	2/24/2004		<0.05	<0.05	0.03	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-169	5/18/2004		<0.05	<0.05	0.028	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-169	8/10/2004		<0.05	<0.05	0.026	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-169	12/8/2004		<0.05	<0.05	0.026	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-169	3/7/2005	NA																	
B-169	6/20/2005	NA																	
B-169	03/04/06	NA																	
B-169	11/20/06	NA																	
B-169	5/30/07	NA																	
B-172	12/04/97		<0.05	<0.05	0.02	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.53
B-172	02/17/98		<0.05	<0.05	0.01	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-172	05/18/98	NA																	
B-172	08/18/98		<0.05	<0.05	0.015	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-172	11/25/98		<0.05	<0.05	0.013	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-172	03/06/99		<0.05	<0.05	0.013	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-172	06/18/99		<0.05	<0.05	0.011	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-172	09/24/99		<0.05	<0.05	0.012	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-172	11/21/99		<0.05	<0.05	0.011	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-172	02/26/00		<0.05	<0.05	0.008	<0.005	<0.01	<0.01	<0.01	0.06	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	0.02	0.02
B-172	05/22/00	NA																	
B-172	08/28/00	NA																	
B-172	11/27/00	NA																	
B-172	02/19/01	NA																	
B-172	05/02/01	NA																	
B-172	08/20/01	NA																	

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-172	02/15/02	NA																	
B-172	05/28/02	NA																	
B-172	08/26/02	NA																	
B-172	11/12/02	NA																	
B-172	03/10/03	NA																	
B-172	6/13/2003	NA																	
B-172	8/21/2003	NA																	
B-172	2/23/2004	NA																	
B-172	8/10/2004	NA																	
B-172	12/8/2004	NA																	
B-172	3/7/2005	NA																	
B-172	6/20/2005	NA																	
B-172	03/04/06	NA																	
B-172	11/20/06	NA																	
B-172	5/21/07	NA																	
B-173	12/06/97		<0.05	<0.05	0.013	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.27
B-173	02/17/98		<0.05	<0.05	0.01	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-173	05/18/98	NA																	
B-173	08/19/98		<0.05	<0.05	0.012	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.06
B-173	11/24/98		<0.05	<0.05	0.013	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.1
B-173	03/06/99		<0.05	<0.05	0.011	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-173	06/19/99		<0.05	<0.05	0.011	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.01
B-173	09/26/99		<0.05	<0.05	0.018	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-173	11/21/99		<0.05	<0.05	0.013	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-173	02/25/00		<0.05	<0.05	0.01	<0.005	<0.01	<0.01	<0.01	0.05	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-173	05/22/00	NA																	
B-173	08/28/00	NA																	
B-173	11/27/00	NA																	
B-173	02/19/01	NA																	
B-173	05/02/01	NA																	
B-173	08/20/01	NA																	
B-173	02/15/02	NA																	
B-173	05/28/02	NA																	
B-173	08/26/02	NA																	
B-173	11/12/02	NA																	
B-173	03/10/03	NA																	
B-173	6/13/2003	NA																	
B-173	8/21/2003	NA																	
B-173	2/23/2004	NA																	
B-173	8/10/2004	NA																	
B-173	12/8/2004	NA																	
B-173	3/7/2005	NA																	
B-173	6/20/2005	NA																	
B-173	03/04/06	NA																	
B-173	11/20/06	NA																	
B-173	5/24/07	NA																	
B-182	08/26/99		<0.05	<0.05	0.23	<0.005	<0.01	<0.01	0.01	<0.01	<0.005	<0.0002	0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.13
B-182	09/26/99		<0.05	<0.05	0.29	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.06
B-182	11/22/99		<0.05	<0.05	0.2	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.06
B-182	02/22/00	LNAPL																	
B-182	05/22/00	LNAPL																	
B-182	08/28/00	LNAPL																	
B-182	11/27/00	LNAPL																	
B-182	02/19/01	LNAPL																	
B-182	05/02/01	LNAPL																	
B-182	08/20/01	LNAPL																	
B-182	02/15/02	LNAPL																	
B-182	05/28/02	LNAPL																	
B-182	08/26/02	LNAPL																	
B-182	11/12/02	LNAPL																	
B-182	03/10/03	LNAPL																	
B-182	6/13/2003	LNAPL																	
B-182	8/21/2003	LNAPL																	
B-182	2/23/2004	LNAPL																	
B-182	8/10/2004	LNAPL																	
B-182	12/8/2004	LNAPL																	
B-182	3/7/2005	LNAPL																	
B-182	6/28/2005	LNAPL	<0.002	0.012	0.31	<0.002	<0.001	<0.003	<0.001	0.014	<0.001	<0.0008	0.0016	0.012	0.026	<0.001	<0.001	0.0033	0.0083

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-182	03/04/06	NA																	
B-182	11/20/06	LNAPL																	
B-182	5/22/07	LNAPL																	
B-183	08/27/99		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-183	09/26/99		<0.05	<0.05	0.009	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.14
B-183	11/22/99		<0.05	<0.05	0.067	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.03	<0.05	<0.01	<0.05	<0.01	0.07
B-183	02/27/00		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-183	05/26/00		<0.05	<0.05	0.026	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-183	09/02/00		<0.05	<0.05	0.025	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.02
B-183	11/27/00	LNAPL																	
B-183	02/23/01	LNAPL																	
B-183	05/05/01		<0.05	<0.05	0.04	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-183	08/20/01	LNAPL																	
B-183	02/15/02	LNAPL																	
B-183	05/31/02		<0.05	<0.05	0.01	<0.005	<0.01	0.05	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-183	08/28/02		<0.05	<0.05	0.015	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-183	11/13/02		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-183	03/13/03		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-183	6/11/2003		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-183	8/20/2003		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-183	11/13/2003		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-183	2/24/2004		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-183	5/19/2004		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-183	8/11/2004		<0.05	<0.05	0.012	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-183	12/8/2004		<0.05	0.03	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-183	3/7/2005	NA																	
B-183	6/22/2005		<0.01	0.023	<0.005	<0.005	<0.005	<0.015	<0.005	<0.01	<0.005	<0.0002	<0.005	<0.01	<0.01	<0.005	<0.005	<0.015	<0.025
B-183	03/04/06	NA																	
B-183	06/19/06		< 0.0020	0.031	0.0063	< 0.0010	< 0.0010	< 0.0030	< 0.0010	0.0041	< 0.0010	< 0.00020	0.004	0.0033	0.0024	< 0.0010	< 0.0010	< 0.0030	0.0068
B-183	11/20/06	NA																	
B-183	5/29/07		<0.010	**0.0587**	**0.0117**	<0.004	<0.001	<0.005	<0.020	<0.010	<0.005	<0.00020	**0.0207 J**	**0.0081 J**	<0.010	<0.005	<0.010	<0.020	<0.050
B-183	5/20/08		<0.005	**0.041**	**0.16**	<0.001	<0.001	<0.002	**0.0011**	<0.001	<0.001	<0.0004	**0.0082**	**0.0038**	**0.0032**	<0.001	<0.001	<0.005	**0.096**
B-183	5/6/09		<0.005	**0.04**	**0.0027**	<0.001	<0.001	<0.002	**0.0014**	**0.0032**	<0.001	<0.0002	**0.014**	**0.0069**	**0.0031**	<0.001	<0.001	<0.005	**0.0056**
B-183	4/28/10		<0.005	**0.026**	**0.0020**	<0.001	<0.001	**0.0024**	<0.001	**0.001**	<0.001	<0.0002	**0.0038**	**0.0055**	**0.003**	<0.001	<0.001	<0.005	<0.005
B-183	5/4/11		<0.005	**0.0069**	**0.51**	<0.001	<0.001	<0.002	**0.0010**	**0.0021**	<0.001	<0.0002	**0.0024**	**0.0051**	**0.0030**	<0.001	<0.001	**0.0088**	**0.21**
B-183	5/9/12		<0.01	**0.0049 J**	<0.002	<0.002	<0.002	**0.0042**	<0.002	**0.0043**	<0.002	<0.0002	**0.0036**	**0.0049**	**0.0023 J**	<0.002	<0.002	**0.018**	<0.01
B-184	08/27/99		<0.05	<0.05	0.05	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.04	<0.05	<0.01	<0.05	<0.01	0.04
B-184	09/27/99		<0.05	<0.05	0.063	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	<0.01	0.02
B-184	11/18/99	LNAPL																	
B-184	02/22/00	LNAPL																	
B-184	05/22/00	LNAPL																	
B-184	08/30/00		<0.05	<0.05	0.094	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.05
B-184	11/27/00	LNAPL																	
B-184	02/23/01	LNAPL																	
B-184	05/10/01		<0.05	<0.05	0.39	<0.005	<0.01	<0.01	<0.01	0.04	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.12
B-184	08/22/01		<0.05	<0.05	0.26	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	<0.01	0.06
B-184	12/09/01		<0.05	<0.05	0.31	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	<0.01	0.08
B-184	02/15/02		<0.05	<0.05	0.2	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.07
B-184	05/30/02		<0.05	<0.05	0.31	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.1
B-184	08/27/02		<0.05	0.08	0.096	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-184	11/13/02		<0.05	0.06	0.071	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-184	03/13/03		<0.05	<0.05	0.11	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-184	6/12/2003		<0.05	<0.05	0.1	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-184	8/20/2003		<0.05	<0.05	0.1	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-184	11/12/2003		<0.05	<0.05	0.072	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-184	2/26/2004		<0.05	<0.05	0.083	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-184	5/19/2004		<0.05	<0.05	0.071	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-184	8/12/2004		<0.05	<0.05	0.079	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-184	12/8/2004		<0.05	<0.05	0.065	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-184	3/7/2005	NA																	
B-184	6/20/2005	LNAPL	<0.002	0.061	0.091	<0.001	<0.001	<0.003	0.0027	0.0029	<0.001	<0.0002	0.018	0.011	0.01	<0.001	<0.001	<0.003	0.0079
B-184	03/04/06	NA																	
B-184	06/12/06		< 0.0020	0.098	0.084	< 0.0010	< 0.0010	< 0.0030	0.0017	0.0021	< 0.0010	< 0.00020	0.011	0.012	0.048	< 0.0010	< 0.0010	0.011	< 0.0050
B-184	11/20/06	NA																	
B-184	06/15/07		<0.010	**0.0181**	**0.0731**	**0.0016 J**	<0.001	<0.005	<0.020	<0.010	<0.005	<0.00020	**0.023 J**	**0.0066 J**	<0.010	<0.005	<0.010	<0.020	<0.050
B-184	05/06/09		<0.005	**0.016**	**0.067**	<0.001	<0.001	<0.002	<0.001	**0.0018**	<0.001	<0.0002	**0.0089**	**0.0093**	**0.0084**	<0.001	<0.001	<0.005	<0.005
B-184	05/06/09	Duplicate	<0.005	**0.016**	**0.068**	<0.001	<0.001	<0.002	<0.001	**0.0024**	<0.001	<0.0002	**0.0088**	**0.0092**	**0.0097**	<0.001	<0.001	<0.005	<0.005

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-184	04/28/10		<0.005	**0.017**	**0.0950**	<0.001	<0.001	<0.002	**0.0036**	**0.0016**	<0.001	<0.0002	**0.022**	**0.018**	**0.011**	<0.001	<0.001	<0.005	<0.005
B-184	04/28/10	Duplicate	<0.005	**0.024**	**0.098**	<0.001	<0.001	<0.002	**0.0036**	**0.0018**	<0.001	<0.0002	**0.021**	**0.018**	**0.012**	<0.001	<0.001	<0.005	<0.005
B-184	05/04/11		<0.005	**0.035**	**0.55**	<0.001	<0.001	<0.002	**0.0016**	**0.0014**	<0.001	<0.0002	0.0087	**0.014**	**0.010**	<0.001	<0.001	**0.0052**	**0.18**
B-184	05/09/12		<0.01	**0.029**	**0.053**	<0.002	<0.002	0.0031 J	<0.002	<0.002	<0.002	<0.0002	0.0080	**0.0028**	**0.0079**	<0.002	<0.002	**0.013**	<0.01
B-185	08/27/99		<0.05	<0.05	0.008	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.02	<0.05	<0.01	<0.05	<0.01	0.02
B-185	09/22/99	LNAPL																	
B-185	11/18/99	LNAPL																	
B-185	02/22/00	LNAPL																	
B-185	05/22/00	LNAPL																	
B-185	08/28/00	LNAPL																	
B-185	11/27/00	LNAPL																	
B-185	02/19/01	LNAPL																	
B-185	05/02/01	LNAPL																	
B-185	08/20/01	LNAPL																	
B-185	02/15/02	NA																	
B-185	05/28/02	LNAPL																	
B-185	08/26/02	LNAPL																	
B-185	11/12/02	LNAPL																	
B-185	03/10/03	LNAPL																	
B-185	6/13/2003	LNAPL																	
B-185	8/21/2003	LNAPL																	
B-185	2/23/2004	LNAPL																	
B-185	8/10/2004	LNAPL																	
B-185	12/8/2004	LNAPL																	
B-185	3/7/2005	NA																	
B-185	6/20/2005	LNAPL																	
B-185	03/04/06	NA																	
B-185	06/23/06		< 0.0020	0.0055	0.077	< 0.0010	< 0.0010	< 0.0030	< 0.0010	< 0.0020	< 0.0010	< 0.00020	0.0017	0.0029	< 0.0020	< 0.0010	< 0.0010	< 0.0030	0.0059
B-185 (dup.)	06/23/06		< 0.0040	0.0042	0.076	< 0.0020	< 0.0020	< 0.0060	< 0.0020	< 0.0040	< 0.0020	< 0.00020	< 0.0020	< 0.0040	< 0.0040	< 0.0020	< 0.0020	< 0.0060	< 0.0100
B-185	12/04/06		<0.0100	**0.0136**	**0.083**	<0.00400	<0.00100	**.00130 J**	<0.0200	<0.0100	<0.00500	<0.0200	**<0.00900 J**	**0.00260 J**	<0.0100	<0.00500	<0.0100	<0.0200	<0.0500
B-185	06/08/07		<0.010	**0.0146**	<0.010	<0.004	<0.001	<0.005	<0.020	<0.010	<0.005	<0.00020	<0.050	**0.0062 J**	<0.010	<0.005	<0.010	<0.020	<0.050
B-185	12/03/07		<0.010	**0.0313**	**0.0719**	<0.004	<0.001	<0.005	<0.020	<0.010	<0.005	<0.00020	**0.0163 J**	**0.0041 J**	<0.010	<0.005	<0.010	<0.020	**0.0257 J**
B-185	05/20/08		<0.005	**0.018**	**0.14**	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.0004	**0.0053**	**0.0033**	**0.0038**	<0.001	<0.001	<0.005	**0.093**
B-185	11/18/08		<0.005	<0.005	**0.002**	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.0004	**0.0091**	**0.0036**	**0.0041**	<0.001	<0.001	<0.005	<0.005
B-185	05/05/09		<0.005	**0.047**	**0.041**	<0.001	<0.001	**0.0025**	<0.001	**0.0036**	<0.001	<0.0002	**0.015**	**0.0052**	**0.0062**	<0.001	<0.001	**0.0076**	<0.005
B-185	11/17/09		<0.005	**0.0055**	**0.0076**	<0.001	<0.001	<0.002	<0.001	**0.0019**	<0.001	<0.0002	**0.006**	**0.0063**	**0.0021**	<0.001	<0.001	<0.005	<0.005
B-185	4/28/2010		<0.005	<0.005	**0.0064**	<0.001	<0.001	<0.002	<0.001	**0.0011**	<0.001	<0.0002	**0.0022**	**0.0053**	**0.0027**	<0.001	<0.001	<0.005	**0.047**
B-185	11/16/2010		<0.01	<0.01	**0.0100**	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0002	<0.002	<0.002	<0.004	<0.002	<0.002	<0.01	**0.032**
B-185	11/16/2010	Duplicate	<0.01	<0.01	**0.0062**	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0002	<0.002	<0.002	<0.004	<0.002	<0.002	<0.01	<0.025
B-185	5/3/2011		<0.005	<0.005	**0.39**	<0.001	<0.001	<0.002	<0.001	**0.0011**	<0.001	<0.0002	**0.0058**	**0.0034**	**0.0029**	<0.001	<0.001	**0.0057**	**0.20**
B-185	5/3/2011	Duplicate	<0.005	**0.0054**	**0.44**	<0.001	<0.001	<0.002	<0.001	**0.0010**	<0.001	<0.0002	**0.0056**	**0.0031**	**0.0033**	<0.001	<0.001	**0.0055**	**0.19**
B-185	11/16/2011		<0.005	**0.0076**	**<0.001**	<0.001	<0.001	**0.0018 J**	<0.001	**0.00089 J**	<0.001	<0.0002	**0.0024**	**0.0022**	**0.0032**	<0.001	<0.001	**<0.005**	**0.0028 J**
B-185	11/16/2011		<0.005	**0.007**	**0.00071 J**	<0.001	<0.001	**0.0018 J**	<0.001	**0.00079 J**	<0.001	<0.0002	**0.0024**	**0.0026**	**0.0022**	<0.001	<0.001	**<0.005**	**0.0033 J**
B-185	5/8/2012		<0.01	**0.018**	<0.002	<0.002	<0.002	**0.0035 J**	<0.002	<0.002	<0.002	<0.0002	**0.0089**	**0.0021**	<0.004	<0.002	<0.002	**0.0077 J**	**0.024**
B-185	5/8/2012	Duplicate	<0.01	**0.021**	<0.002	<0.002	<0.002	**0.0037 J**	<0.002	<0.002	<0.002	<0.0002	**0.010**	**0.0025**	**0.0023 J**	<0.002	<0.002	<0.01	**0.027**
B-185	11/6/2012		<0.025	**<0.025**	<0.010	<0.0050	<0.0050	**0.012 J**	<0.0050	<0.0050	<0.0050	<0.000200	**<0.0050**	**<0.0050**	**<0.020**	<0.0050	<0.0020	<0.025	**0.027 J**
B-186-38	08/26/99		<0.05	<0.05	0.04	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.03
B-186-38	09/22/99	LNAPL																	
B-186-38	11/18/99	LNAPL																	
B-186-38	02/22/00	LNAPL																	
B-186-38	05/22/00	LNAPL																	
B-186-38	08/28/00	LNAPL																	
B-186-38	11/27/00	LNAPL																	
B-186-38	02/19/01	LNAPL																	
B-186-38	05/02/01	LNAPL																	
B-186-38	08/20/01	LNAPL																	
B-186-38	02/15/02	LNAPL																	
B-186-38	05/28/02	LNAPL																	
B-186-38	08/26/02	LNAPL																	
B-186-38	11/12/02	LNAPL																	
B-186-38	03/10/03	LNAPL																	
B-186-38	6/13/2003	LNAPL																	
B-186-38	8/21/2003	LNAPL																	
B-186-38	2/23/2004	LNAPL																	
B-186-38	8/10/2004	LNAPL																	
B-186-38	12/8/2004	LNAPL																	
B-186-38	3/7/2005	LNAPL																	
B-186-38	6/28/2005	LNAPL	<0.01	0.14	0.023	<0.005	<0.005	<0.015	0.01	<0.01	<0.005	<0.0008	<0.005	0.091	<0.01	<0.005	<0.005	0.017	0.028

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-186-38	03/04/06	NA																	
B-186-38	06/22/06		< 0.010	0.17	0.02	< 0.0050	< 0.0050	< 0.0105	0.01	< 0.010	< 0.0050	< 0.00020	< 0.0050	0.077	0.011	< 0.0050	< 0.0050	< 0.0105	< 0.025
B-186-38	12/05/06		<0.0100	**0.110**	**0.046**	<0.00400	<0.00100	**0.00730**	**0.00790 J**	<0.0100	<0.00500	<0.0200	**0.00810 J**	**0.0910**	**0.00910 J**	<0.00500	<0.0100	**0.0179 J**	**0.0288 J**
B-186-38	5/22/07	Sheen																	
B-186-56	08/26/99		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.02
B-186-56	09/22/99	LNAPL																	
B-186-56	11/18/99	LNAPL																	
B-186-56	02/22/00	LNAPL																	
B-186-56	05/22/00	LNAPL																	
B-186-56	08/28/00	LNAPL																	
B-186-56	11/27/00	LNAPL																	
B-186-56	02/19/01	LNAPL																	
B-186-56	05/02/01	LNAPL																	
B-186-56	08/20/01	LNAPL																	
B-186-56	02/15/02	LNAPL																	
B-186-56	05/28/02	LNAPL																	
B-186-56	08/26/02	LNAPL																	
B-186-56	11/12/02	LNAPL																	
B-186-56	03/10/03	LNAPL																	
B-186-56	6/13/2003	LNAPL																	
B-186-56	8/21/2003	LNAPL																	
B-186-56	2/23/2004	LNAPL																	
B-186-56	8/10/2004	LNAPL																	
B-186-56	12/8/2004	LNAPL																	
B-186-56	3/7/2005	LNAPL																	
B-186-56	6/20/2005	NA																	
B-186-56	03/04/06	NA																	
B-186-56	11/20/06	LNAPL																	
B-186-56	5/22/07	LNAPL																	
B-187	08/27/99		<0.05	0.07	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.06	0.06	<0.05	<0.01	<0.05	<0.01	0.03
B-187	09/22/99	LNAPL																	
B-187	11/18/99	LNAPL																	
B-187	02/22/00	LNAPL																	
B-187	05/22/00	LNAPL																	
B-187	08/28/00	LNAPL																	
B-187	11/27/00	LNAPL																	
B-187	02/19/01	LNAPL																	
B-187	05/02/01	LNAPL																	
B-187	08/20/01	LNAPL																	
B-187	02/15/02	NA																	
B-187	05/28/02	LNAPL																	
B-187	08/26/02	LNAPL																	
B-187	11/12/02	LNAPL																	
B-187	03/10/03	LNAPL																	
B-187	6/13/2003	LNAPL																	
B-187	8/21/2003	LNAPL																	
B-187	2/23/2004	LNAPL																	
B-187	8/10/2004	LNAPL																	
B-187	12/8/2004	LNAPL																	
B-187	3/7/2005	LNAPL																	
B-187	6/20/2005	LNAPL																	
B-187	03/04/06	NA																	
B-187	11/20/06	LNAPL																	
B-187	5/22/07	LNAPL																	
B-189	08/26/99		<0.05	0.22	<0.005	<0.005	<0.01	<0.01	0.03	<0.01	<0.005	<0.0002	0.04	0.05	<0.05	<0.01	<0.05	<0.01	0.02
B-189	09/22/99	LNAPL																	
B-189	11/18/99	LNAPL																	
B-189	02/22/00	LNAPL																	
B-189	05/22/00	LNAPL																	
B-189	08/28/00	LNAPL																	
B-189	11/27/00	LNAPL																	
B-189	02/19/01	LNAPL																	
B-189	05/02/01	LNAPL																	
B-189	08/20/01	LNAPL																	
B-189	02/15/02	LNAPL																	
B-189	05/28/02	LNAPL																	
B-189	08/26/02	LNAPL																	

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-189	11/12/02	LNAPL																	
B-189	03/10/03	LNAPL																	
B-189	6/13/2003	LNAPL																	
B-189	8/21/2003	LNAPL																	
B-189	2/23/2004	LNAPL																	
B-189	8/10/2004	LNAPL																	
B-189	12/8/2004	LNAPL																	
B-189	3/7/2005	LNAPL																	
B-189	6/20/2005	LNAPL																	
B-189	03/04/06	NA																	
B-189	11/20/06	LNAPL																	
B-189	5/21/07	LNAPL																	
B-190	08/27/99		<0.05	<0.05	0.064	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-190	09/27/99		<0.05	<0.05	0.22	<0.005	<0.01	<0.01	<0.01	<0.01	0.008	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.05
B-190	11/22/99		<0.05	<0.05	0.18	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-190	02/25/00		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-190	05/25/00		<0.05	<0.05	0.2	<0.005	<0.01	<0.01	<0.01	0.023	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-190	09/02/00		<0.05	<0.05	0.43	<0.005	<0.01	<0.02	<0.01	0.05	<0.05	<0.0002	<0.01	0.06	<0.05	<0.01	<0.001	<0.01	0.13
B-190	11/30/00		<0.05	<0.05	0.17	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-190	02/23/01		<0.05	<0.05	0.21	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-190	05/06/01		<0.05	<0.05	0.1	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-190	08/22/01		<0.05	<0.05	0.45	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.14
B-190	12/10/01		<0.05	<0.05	0.36	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.06
B-190	02/11/02		<0.05	<0.05	0.74	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.16
B-190	05/30/02		<0.05	<0.05	0.29	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
B-190	08/29/02		<0.05	<0.05	0.23	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-190	11/15/02		<0.05	<0.05	0.15	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-190	03/12/03		<0.05	<0.05	0.13	<0.005	<0.01	0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-190	6/11/2003		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-190	8/21/2003		<0.05	<0.05	0.21	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-190	11/13/2003		<0.05	<0.05	0.18	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-190	2/24/2004		<0.05	<0.05	0.13	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-190	5/20/2004		<0.05	<0.05	0.15	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-190	8/11/2004		<0.05	<0.05	0.18	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-190	12/9/2004		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-190	3/7/2005	NA																	
B-190	6/20/2005	NA																	
B-190	03/04/06	NA																	
B-190	09/12/06	NA																	
B-190	11/21/06	NA																	
B-190	6/6/07	NA																	
B-190	9/16/08	NA																	
B-191	08/27/99		<0.05	<0.05	0.018	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.04	<0.05	<0.01	<0.05	<0.01	0.03
B-191	09/26/99		<0.05	<0.05	0.083	<0.005	<0.01	0.02	<0.01	<0.01	<0.005	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.04
B-191	11/22/99		<0.05	<0.05	0.026	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-191	02/25/00		<0.05	<0.05	0.027	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.03
B-191	05/22/00	NA																	
B-191	08/28/00	NA																	
B-191	11/27/00	NA																	
B-191	02/19/01	NA																	
B-191	05/02/01	NA																	
B-191	08/20/01	NA																	
B-191	02/15/02	NA																	
B-191	05/28/02	NA																	
B-191	08/26/02	NA																	
B-191	11/12/02	NA																	
B-191	03/10/03	NA																	
B-191	6/13/2003	NA																	
B-191	8/21/2003	NA																	
B-191	2/23/2004	NA																	
B-191	8/10/2004	NA																	
B-191	12/8/2004	NA																	
B-191	3/7/2005	NA																	
B-191	6/20/2005	NA																	
B-191	03/04/06	NA																	
B-191	11/21/06	NA																	
B-191	5/21/07	Sheen																	

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ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-192	08/27/99		<0.05	<0.05	0.015	<0.005	0.01	<0.01	0.01	<0.01	<0.005	<0.0002	<0.01	0.31	<0.05	<0.01	<0.05	<0.01	0.1
B-192	09/26/99		<0.05	<0.05	0.092	<0.005	<0.01	<0.01	0.01	<0.01	<0.005	<0.0002	<0.01	0.27	<0.05	<0.01	<0.05	<0.01	0.07
B-192	11/22/99		<0.05	<0.05	0.015	<0.005	<0.01	<0.01	0.01	<0.01	<0.005	<0.0002	<0.01	0.31	<0.05	<0.01	<0.05	<0.01	0.04
B-192	02/27/00		<0.05	<0.05	0.096	<0.005	0.02	<0.01	0.02	<0.01	<0.005	<0.0002	0.02	0.31	<0.05	<0.01	<0.05	0.02	0.07
B-192	05/24/00		<0.05	<0.05	0.07	<0.005	0.03	0.04	0.02	0.026	<0.005	<0.0002	0.01	0.64	<0.05	<0.01	<0.05	0.01	0.07
B-192	08/31/00		<0.05	<0.05	0.021	<0.005	0.02	<0.01	0.02	0.02	<0.005	<0.0002	<0.01	0.36	<0.05	<0.01	<0.05	<0.01	0.06
B-192	12/01/00		<0.05	<0.05	0.59	<0.005	0.02	0.08	0.02	0.07	<0.005	<0.0002	0.05	0.37	<0.05	<0.01	<0.05	0.06	0.11
B-192	02/24/01		<0.05	<0.05	0.074	<0.005	0.02	<0.01	0.02	0.01	<0.005	<0.0002	<0.01	0.25	<0.05	<0.01	<0.05	<0.01	0.04
B-192	05/07/01		<0.05	<0.05	0.26	<0.005	0.03	<0.01	0.02	0.02	<0.005	<0.0002	<0.01	0.48	<0.05	<0.01	<0.05	<0.01	0.28
B-192	08/22/01		<0.05	<0.05	0.21	<0.005	0.01	<0.01	0.01	0.02	<0.005	<0.0002	<0.01	0.29	<0.05	<0.01	<0.05	<0.01	0.13
B-192	12/09/01		<0.05	<0.05	0.47	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.22	<0.05	<0.01	<0.05	<0.01	0.21
B-192	02/13/02		<0.05	<0.05	0.13	<0.005	0.01	<0.01	0.01	0.01	<0.005	<0.0002	<0.01	0.32	<0.05	<0.01	<0.05	<0.01	0.2
B-192	05/30/02		<0.05	<0.05	0.11	<0.005	0.01	<0.01	0.01	<0.01	<0.005	<0.0002	<0.01	0.25	<0.05	<0.01	<0.05	<0.01	0.16
B-192	08/28/02		<0.05	<0.05	0.072	<0.005	0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.18	<0.05	<0.01	<0.05	<0.01	0.1
B-192	11/15/02		<0.05	<0.05	0.013	<0.005	0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.2	<0.05	<0.01	<0.05	<0.01	0.03
B-192	03/12/03		<0.05	<0.05	0.013	<0.005	<0.01	<0.01	0.01	<0.01	<0.005	<0.0002	<0.01	0.21	<0.05	<0.01	<0.05	<0.01	0.03
B-192	6/12/2003		<0.05	<0.05	0.015	<0.005	0.01	<0.01	0.01	<0.01	<0.005	<0.0002	<0.01	0.21	<0.05	<0.01	<0.05	<0.01	0.02
B-192	8/21/2003		<0.05	<0.05	0.022	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.16	<0.05	<0.01	<0.05	<0.01	0.02
B-192	11/13/2003		<0.05	<0.05	0.012	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.18	<0.05	<0.01	<0.05	<0.01	0.03
B-192	2/23/2004		<0.05	<0.05	0.017	<0.005	0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.2	<0.05	<0.01	<0.05	<0.01	0.03
B-192	5/20/2004		<0.05	<0.05	0.013	<0.005	0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.21	<0.05	<0.01	<0.05	<0.01	0.03
B-192	8/12/2004		<0.05	<0.05	0.014	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.18	<0.05	<0.01	<0.05	<0.01	<0.01
B-192	12/10/2004		<0.05	<0.05	0.013	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.19	<0.05	<0.01	<0.05	<0.01	0.02
B-192	3/7/2005	NA																	
B-192	6/20/2005	NA																	
B-192	9/29/2005		<0.002	<0.002	0.015	<0.001	0.019	<0.003	0.017	0.0033	<0.001	<0.0002	0.0023	0.36	0.0041	<0.001	<0.001	<0.003	0.048
B-192	11/29/2005		<0.002	<0.002	0.014	<0.001	0.017	<0.003	0.012	0.0022	<0.001	<0.0002	0.0023	0.23	0.004	<0.001	<0.001	<0.003	0.04
B-192	03/04/06	NA																	
B-192	06/12/06		< 0.0020	< 0.0020	0.019	< 0.0010	0.03	< 0.0030	0.023	0.0057	< 0.0010	< 0.00020	0.0019	0.43	0.0042	< 0.0010	< 0.0010	0.0082	0.061
B-192 DUP	06/12/06		< 0.0020	< 0.0020	0.019	< 0.0010	0.029	< 0.0030	0.024	0.0056	< 0.0010	< 0.00020	0.0016	0.45	0.0053	< 0.0010	< 0.0010	0.0086	0.065
B-192	11/30/06		<0.0100	<0.0100	**0.0156**	**0.0018 J**	**0.01170**	<0.00500	**0.0117 J**	<0.0100	<0.00500	<0.0200	**0.0100 J**	**0.2530**	<0.0100	<0.00500	<0.0100	<0.0200	**0.0451 J**
B-192	05/25/07		<0.010	**0.0053 J**	**0.0155**	**0.0022 J**	**0.0124**	<0.005	**0.0092 J**	<0.010	<0.005	<0.00020	<0.050	**0.224**	<0.010	<0.005	<0.010	<0.020	**0.0361 J**
B-192	11/26/07		<0.010	<0.010	**0.0156**	<0.004	**0.01**	<0.005	**0.0076 J**	<0.010	<0.005	<0.00020	**0.0084 J**	**0.201**	<0.010	<0.005	<0.010	<0.020	**0.036 J**
B-192	05/20/08		<0.005	<0.005	**0.13**	<0.001	**0.011**	<0.002	**0.01**	**0.0018**	<0.001	<0.0004	**0.0032**	**0.2**	**0.0036**	<0.001	<0.001	<0.005	**0.13**
B-192	11/18/08		<0.005	<0.005	**0.014**	<0.001	**0.0084**	<0.002	**0.0082**	**0.0034**	<0.001	<0.0004	**0.0042**	**0.18**	**0.0034**	<0.001	<0.001	<0.005	**0.023**
B-192	05/05/09		<0.005	<0.005	**0.016**	<0.0010	**0.0083**	<0.002	**0.0074**	**0.0026**	<0.001	<0.0002	**0.0053**	**0.16**	**0.0079**	<0.001	<0.001	**0.0057**	**0.0095**
B-192	11/17/09		<0.005	<0.005	**0.015**	<0.001	**0.0063**	<0.002	**0.0067**	**0.0025**	<0.001	<0.0002	**0.0055**	**0.13**	**0.0024**	<0.001	<0.001	<0.005	**0.018**
B-192	04/27/10		<0.005	<0.005	**0.0440**	<0.001	**0.021**	<0.002	**0.021**	**0.0033**	<0.001	<0.0002	**0.003**	**0.38**	**0.0028**	<0.001	<0.001	<0.005	**0.057**
B-192	11/16/10		<0.01	<0.01	**0.0026**	<0.005	<0.002	<0.002	**0.0021**	<0.002	<0.005	<0.0002	<0.002	**0.044**	<0.004	<0.002	<0.002	<0.01	**0.064**
B-192	05/03/11		<0.005	<0.005	**0.069**	<0.001	**0.033**	<0.002	**0.028**	**0.0055**	<0.001	<0.0002	**0.0033**	**0.34**	<0.002	<0.001	<0.001	<0.005	**0.066**
B-192	11/15/11		<0.005	<0.005	**0.0140**	<0.001	**0.019**	<0.002	**0.011**	**0.0025**	**0.0014**	<0.0002	**0.003**	**0.2**	**0.0035**	<0.001	<0.001	<0.005	**0.03**
B-192	05/08/12		<0.01	<0.01	**0.014**	<0.002	**0.014**	**0.0035 J**	**0.013**	**0.0022**	<0.002	<0.0002	**0.0030**	**0.26**	<0.004	<0.002	<0.002	**0.0079 J**	**0.037**
B-192	11/06/12		<0.025	<0.025	**0.012**	<0.0050	**0.012**	<0.020	**0.011**	<0.0050	<0.0050	<0.000200	<0.0050	**0.22**	<0.020	<0.0050	<0.0020	<0.025	<0.050
B-193	08/26/99		<0.05	<0.05	0.014	<0.005	0.02	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	0.45	<0.05	<0.01	<0.05	<0.01	0.08
B-193	09/26/99		<0.05	<0.05	0.034	<0.005	0.02	<0.01	<0.01	<0.01	<0.005	<0.0002	0.07	0.45	<0.05	<0.01	<0.05	<0.01	0.07
B-193	11/22/99		<0.05	<0.05	0.027	<0.005	0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	0.68	<0.05	<0.01	<0.05	<0.01	0.17
B-193	02/27/00		<0.05	<0.05	0.38	<0.005	0.03	0.05	<0.01	0.05	0.009	<0.0002	0.06	0.67	<0.05	<0.01	<0.05	0.07	0.14
B-193	05/24/00		<0.05	<0.05	0.25	<0.005	0.02	0.08	<0.01	0.029	<0.005	<0.0002	0.07	0.66	<0.05	<0.01	<0.05	0.04	0.09
B-193	08/31/00		<0.05	<0.05	0.032	<0.005	0.02	<0.01	<0.01	0.02	<0.005	<0.0002	0.03	0.68	<0.05	<0.01	<0.05	<0.01	0.09
B-193	12/01/00		<0.05	<0.05	0.84	<0.005	0.03	0.13	<0.01	0.1	0.036	<0.0002	0.12	0.83	<0.05	<0.01	<0.05	0.14	0.19
B-193	02/24/01		<0.05	<0.05	0.024	<0.005	0.02	<0.01	<0.01	0.02	<0.005	<0.0002	0.04	0.47	<0.05	<0.01	<0.05	<0.01	0.05
B-193	05/07/01		<0.05	<0.05	0.15	<0.005	0.02	<0.01	<0.01	0.02	<0.005	<0.0002	0.04	0.47	<0.05	<0.01	<0.05	<0.01	0.19
B-193	08/22/01		<0.05	<0.05	0.16	<0.005	0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.04	0.42	<0.05	<0.01	<0.05	<0.01	0.13
B-193	12/10/01		<0.05	<0.05	0.3	<0.005	0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.04	0.44	<0.05	<0.01	<0.05	<0.01	0.2
B-193	02/13/02		<0.05	<0.05	0.48	<0.005	0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.04	0.49	<0.05	<0.01	<0.05	<0.01	0.39
B-193	05/30/02		<0.05	<0.05	0.058	<0.005	0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.4	<0.05	<0.01	<0.05	<0.01	0.12
B-193	08/28/02		<0.05	<0.05	0.064	<0.005	0.02	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.34	<0.05	<0.01	<0.05	<0.01	0.11
B-193	11/15/02		<0.05	<0.05	0.013	<0.005	0.02	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.38	<0.05	<0.01	<0.05	<0.01	0.06
B-193	03/12/03		<0.05	<0.05	0.013	<0.005	0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.49	<0.05	<0.01	<0.05	<0.01	0.06
B-193	6/12/2003		<0.05	<0.05	0.014	<0.005	0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	0.4	<0.05	<0.01	<0.05	<0.01	0.06
B-193	8/21/2003		<0.05	<0.05	0.02	<0.005	0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	0.34	<0.05	<0.01	<0.05	<0.01	0.05
B-193	11/13/2003		<0.05	<0.05	0.011	<0.005	0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.39	<0.05	<0.01	<0.05	<0.01	0.06
B-193	2/24/2004		<0.05	<0.05	0.014	<0.005	0.02	<0.01	<0.01	<0.01	<0.005	<0.0002	0.06	0.44	<0.05	<0.01	<0.05	<0.01	0.07
B-193	5/20/2004		<0.05	<0.05	0.013	<0.005	0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	0.46	<0.05	<0.01	<0.05	<0.01	0.07
B-193	8/12/2004		<0.05	<0.05	0.011	<0.005	0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	0.35	<0.05	<0.01	<0.05	<0.01	0.03
B-193	12/10/2004		<0.05	<0.05	0.012	<0.005	0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.06	0.45	<0.05	<0.01	<0.05	<0.01	0.09
B-193	3/7/2005	NA																	
B-193	6/20/2005	NA																	
B-193	9/29/2005		<0.002	0.0055	0.013	<0.001	0.011	<0.003	0.0024	0.0042	<0.001	<0.0002	0.049	0.33	0.0092	<0.001	<0.001	0.0035	0.058

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-193	11/29/2005		<0.002	0.006	0.012	<0.001	0.012	0.0047	0.0021	0.005	<0.001	<0.0002	0.049	0.31	0.0089	<0.001	<0.001	0.0041	0.058
B-193	03/04/06	NA																	
B-193	06/12/06		< 0.0020	0.0033	0.012	< 0.0010	0.013	< 0.0030	0.0021	0.011	< 0.0010	< 0.00020	0.039	0.38	0.0066	< 0.0010	< 0.0010	0.0064	0.07
B-193	11/30/06		**0.00780 J**	**0.00780 J**	**0.0132**	**0.00150 J**	**0.0122**	**0.00160 J**	<0.0200	<0.0100	<0.00500	<0.0200	**0.0485 J**	**0.310**	<0.0100	<0.00500	<0.0100	<0.0200	**0.0527**
B-193	05/25/07		<0.010	**0.0076 J**	**0.0136**	**0.00190 J**	**0.0112**	<0.005	<0.020	<0.010	<0.005	<0.00020	**0.0385 J**	**0.334**	<0.010	<0.005	<0.010	<0.020	**0.0548**
B-193	11/26/07		**0.0042 J**	<0.010	**0.0176**	<0.004	**0.0112**	<0.005	<0.020	<0.010	<0.005	<0.00020	**0.0467 J**	**0.313**	<0.010	<0.005	<0.010	<0.020	**0.048 J**
B-193	05/20/08		<0.005	<0.005	**0.031**	<0.001	**0.011**	<0.002	**0.0018**	**0.0049**	<0.001	<0.0004	**0.046**	**0.35**	**0.0076**	<0.001	<0.001	<0.005	**0.059**
B-193	11/18/08		<0.005	<0.005	**0.014**	<0.001	**0.011**	<0.002	**0.0019**	**0.008**	<0.001	<0.0004	**0.045**	**0.39**	**0.0067**	<0.001	<0.001	<0.005	**0.061**
DUP-3	11/18/08	Duplicate	<0.005	<0.005	**0.013**	<0.001	**0.01**	<0.002	**0.0022**	**0.0093**	<0.001	<0.0004	**0.046**	**0.38**	**0.0071**	<0.001	<0.001	<0.005	**0.067**
B-193	05/05/09		<0.005	<0.005	**0.015**	<0.001	**0.012**	<0.002	**0.0017**	**0.005**	<0.001	<0.0002	**0.037**	**0.32**	**0.011**	<0.001	<0.001	**0.013**	**0.043**
B-193	11/17/09		<0.005	<0.005	**0.01**	<0.001	**0.0086**	<0.002	**0.0038**	**0.0037**	<0.001	<0.0002	**0.071**	**0.21**	**0.0041**	<0.001	<0.001	<0.005	**0.03**
B-193	04/27/10		<0.005	<0.005	**0.0180**	<0.001	**0.012**	<0.002	**0.0038**	**0.0069**	<0.001	<0.0002	**0.046**	**0.27**	**0.0077**	<0.001	<0.001	<0.005	**0.046**
B-193	11/16/10		<0.01	<0.01	**0.0050**	<0.005	<0.002	<0.002	<0.002	**0.0024**	<0.005	<0.0002	**0.01**	**0.064**	<0.004	<0.002	<0.002	<0.01	**0.059**
B-193	05/03/11		<0.005	<0.005	**0.25**	<0.001	**0.011**	<0.002	**0.0018**	**0.0044**	<0.001	<0.0002	**0.050**	**0.26**	**0.0072**	<0.001	<0.001	<0.005	**0.23**
B-193	11/15/11		<0.005	**0.0022 J**	**0.0100**	<0.001	**0.011**	**0.0018 J**	**0.00083 J**	**0.0046**	**0.001**	<0.0002	**0.042**	**0.2**	**0.0088**	<0.001	**0.00086 J**	<0.005	**0.038**
B-193	05/08/12		<0.01	<0.01	**0.012**	<0.002	**0.012**	**0.0032 J**	**0.0014 J**	**0.0053**	<0.002	<0.0002	**0.040**	**0.32**	**0.0055**	<0.002	<0.002	**0.013**	**0.062**
B-193	11/06/12		<0.025	<0.025	**0.0094 J**	<0.0050	**0.0095**	<0.020	<0.0050	**0.0049 J**	<0.0050	<0.000200	**0.046**	**0.26**	<0.020	<0.0050	<0.0020	<0.025	**0.043 J**
B-194	08/26/99		<0.05	<0.05	0.05	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-194	09/27/99		<0.05	<0.05	0.093	<0.005	<0.01	0.05	<0.01	<0.01	<0.005	<0.0002	0.03	0.05	<0.05	<0.01	<0.05	<0.01	0.06
B-194	11/22/99		<0.05	<0.05	0.039	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-194	02/27/00		<0.05	<0.05	0.058	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	<0.01	0.04
B-194	05/22/00	NA																	
B-194	08/28/00	NA																	
B-194	11/27/00	NA																	
B-194	02/19/01	NA																	
B-194	05/02/01	NA																	
B-194	08/20/01	NA																	
B-194	02/15/02	NA																	
B-194	05/28/02	NA																	
B-194	08/26/02	NA																	
B-194	11/12/02	NA																	
B-194	03/10/03	NA																	
B-194	6/13/2003	NA																	
B-194	8/21/2003	NA																	
B-194	11/13/2003		<0.05	<0.05	0.088	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-194	2/26/2004		<0.05	<0.05	0.092	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-194	5/19/2004		<0.05	<0.05	0.085	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-194	8/10/2004	NA																	
B-194	12/8/2004	NA																	
B-194	3/7/2005	NA																	
B-194	6/20/2005	NA																	
B-194	03/04/06	NA																	
B-194	11/20/06	NA																	
B-194	6/1/07	NA																	
B-195	08/26/99		<0.05	<0.05	0.007	<0.005	<0.01	<0.01	0.01	<0.01	<0.005	<0.0002	0.01	0.04	<0.05	<0.01	<0.05	<0.01	0.07
B-195	09/22/99	LNAPL																	
B-195	11/18/99	LNAPL																	
B-195	02/22/00	LNAPL																	
B-195	05/22/00	LNAPL																	
B-195	08/28/00	LNAPL																	
B-195	11/27/00	LNAPL																	
B-195	02/19/01	LNAPL																	
B-195	05/02/01	LNAPL																	
B-195	08/20/01	LNAPL																	
B-195	02/15/02	NA																	
B-195	05/31/02		<0.05	<0.05	0.23	<0.005	<0.01	0.03	0.03	<0.01	<0.005	<0.0002	<0.01	0.07	<0.05	<0.01	<0.05	<0.01	0.25
B-195	08/26/02	LNAPL																	
B-195	11/13/02		<0.05	<0.05	0.017	<0.005	<0.01	0.02	0.02	<0.01	<0.005	<0.0002	<0.01	0.06	<0.05	<0.01	<0.05	<0.01	0.14
B-195	03/12/03		<0.05	<0.05	0.11	<0.005	<0.01	<0.01	0.02	<0.01	<0.005	<0.0002	<0.01	0.05	<0.05	<0.01	<0.05	<0.01	0.1
B-195	6/10/2003		<0.05	<0.05	0.019	<0.005	<0.01	<0.01	0.02	<0.01	<0.005	<0.0002	<0.01	0.07	<0.05	<0.01	<0.05	<0.01	0.11
B-195	8/21/2003		<0.05	<0.05	0.024	<0.005	<0.01	<0.01	0.01	<0.01	<0.005	<0.0002	<0.01	0.06	<0.05	<0.01	<0.05	<0.01	0.08
B-195	2/23/2004	NA																	
B-195	8/10/2004	NA																	
B-195	12/8/2004	NA																	
B-195	3/7/2005	NA																	
B-195	6/28/2005		<0.004	<0.004	0.012	<0.002	<0.002	<0.006	0.015	<0.004	<0.002	<0.0008	<0.002	0.044	<0.004	<0.002	<0.002	<0.006	0.083
B-195	12/21/2005		<0.002	<0.002	0.13	<0.001	0.0021	<0.003	0.017	0.0036	<0.001	<0.0002	0.0012	0.052	<0.002	<0.001	<0.001	<0.003	0.22
B-195	03/04/06	NA																	

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Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-195	06/19/06		< 0.0020	0.0034	0.014	< 0.0010	0.0023	< 0.0030	0.017	0.0078	< 0.0010	< 0.00020	0.0015	0.053	< 0.0020	< 0.0010	< 0.0010	< 0.0030	0.082
B-195	11/29/06		<0.0100	<0.0100	**0.0132**	<0.00400	**0.00150**	<.00500	**0.0127 J**	<0.0100	<0.00500	<0.0200	<0.0500	**0.0518**	<0.0100	<0.00500	<0.0100	<0.0200	**0.0710**
B-195	06/01/07		<0.010	<0.010	**0.0175**	**0.0042**	**0.0025**	<0.005	**0.0195 J**	<0.010	<0.005	<0.00020	<0.050	**0.0661**	<0.010	<0.005	<0.010	<0.020	**0.11**
B-195	05/22/08		<0.005	<0.005	**0.21**	<0.001	**0.002**	<0.002	**0.014**	**0.0074**	<0.001	<0.0004	**0.0022**	**0.04**	<0.002	<0.001	<0.001	<0.005	**0.16**
B-195	11/19/08		<0.005	<0.005	**0.0064**	<0.001	<0.001	<0.002	**0.0091**	**0.0031**	<0.001	<0.0004	**0.004**	**0.034**	**0.0024**	<0.001	<0.001	<0.005	**0.033**
B-195	05/06/09		<0.005	<0.005	**0.024**	<0.001	**0.0027**	<0.002	**0.02**	**0.0052**	<0.001	<0.0002	**0.0016**	**0.059**	<0.002	<0.001	<0.001	<0.005	**0.094**
B-195	11/17/09		<0.005	<0.005	**0.009**	<0.001	**0.0012**	<0.002	**0.013**	**0.0036**	<0.001	<0.0002	**0.0021**	**0.036**	<0.002	<0.001	<0.001	<0.005	**0.047**
B-195	04/28/10		<0.005	<0.005	**0.0160**	<0.001	**0.0025**	<0.002	**0.016**	**0.005**	<0.001	<0.0002	**0.0018**	**0.052**	**0.0029**	<0.001	<0.001	<0.005	**0.07**
B-195	11/16/10		<0.01	<0.01	**0.0130**	<0.005	<0.002	<0.002	**0.0025**	<0.002	<0.005	<0.0002	<0.002	**0.0079**	<0.004	<0.002	<0.002	<0.01	**0.071**
B-195	05/06/11		<0.005	<0.005	**0.25**	<0.001	**0.0016**	<0.002	**0.015**	**0.0049**	<0.001	<0.0002	**0.0024**	**0.035**	**0.0029**	<0.001	<0.001	**0.0089**	**0.15**
B-195	11/16/11		<0.005	**0.0055**	**0.0030**	<0.001	**0.0026**	**0.0019 J**	**0.016**	**0.006**	<0.001	<0.0002	**0.0022**	**0.045**	**0.0024**	<0.001	<0.001	<0.005	**0.06**
B-195	05/08/12		<0.01	<0.01	**0.0090**	<0.002	**0.0020**	**0.0038 J**	**0.013**	**0.0042**	<0.002	<0.0002	**0.0021**	**0.042**	<0.004	<0.002	<0.002	**0.0095 J**	**0.047**
B-195	11/07/12		<0.025	<0.025	<0.010	<0.0050	**0.0084**	**0.016 J**	**0.011**	**0.0046 J**	<0.0050	<0.000200	<0.0050	**0.041**	<0.020	<0.0050	<0.0020	<0.025	**0.034 J**
B-196	08/26/99		<0.05	<0.05	0.07	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	0.02	<0.05	<0.01	<0.05	<0.01	0.11
B-196	09/27/99		<0.05	<0.05	0.051	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.01	<0.05	<0.01	<0.05	<0.01	0.05
B-196	11/22/99		<0.05	<0.05	0.034	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-196	02/25/00		<0.05	<0.05	0.042	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-196	05/22/00	NA																	
B-196	08/28/00	NA																	
B-196	11/27/00	NA																	
B-196	02/19/01	NA																	
B-196	05/02/01	NA																	
B-196	08/20/01	NA																	
B-196	02/15/02	NA																	
B-196	05/29/02		<0.05	<0.05	0.15	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.06
B-196	08/29/02		<0.05	<0.05	0.31	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
B-196	11/14/02		<0.05	<0.05	0.27	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-196	03/11/03		<0.05	<0.05	0.11	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-196	6/10/2003		<0.05	<0.05	0.16	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-196	8/19/2003		<0.05	<0.05	0.26	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-196	2/23/2004	NA																	
B-196	8/10/2004	NA																	
B-196	12/8/2004	NA																	
B-196	3/7/2005	NA																	
B-196	6/20/2005	NA																	
B-196	03/04/06	NA																	
B-196	11/20/06	NA																	
B-196	6/1/07	NA																	
B-197	08/27/99		<0.05	<0.05	0.01	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-197	09/22/99	LNAPL																	
B-197	11/18/99	LNAPL																	
B-197	02/22/00	LNAPL																	
B-197	05/22/00	LNAPL																	
B-197	11/27/00	LNAPL																	
B-197	02/19/01	LNAPL																	
B-197	05/02/01	LNAPL																	
B-197	08/20/01	LNAPL																	
B-197	02/15/02	LNAPL																	
B-197	05/28/02	LNAPL																	
B-197	08/26/02	LNAPL																	
B-197	11/12/02	LNAPL																	
B-197	03/10/03	LNAPL																	
B-197	6/13/2003	LNAPL																	
B-197	8/21/2003	LNAPL																	
B-197	2/23/2004	LNAPL																	
B-197	8/10/2004	LNAPL																	
B-197	12/8/2004	LNAPL																	
B-197	3/7/2005	NA																	
B-197	6/20/2005	NA																	
B-197	9/29/2005		<0.002	<0.002	0.0095	<0.001	<0.001	<0.003	<0.001	<0.002	<0.001	<0.0002	<0.001	0.0049	<0.002	<0.001	<0.001	<0.003	0.0061
B-197	12/21/2005		<0.002	<0.002	0.43	<0.001	<0.001	0.003	<0.001	<0.002	<0.001	<0.0002	<0.001	0.0049	<0.002	<0.001	<0.001	<0.003	0.21
B-197	03/04/06	NA																	
B-197	12/04/06		<0.0100	<0.0100	**0.00950 J**	<0.00400	<0.00100	<0.00500	<0.0200	<0.0100	<0.00500	<0.0200	**0.00500 J**	**0.00260 J**	<0.0100	<0.00500	<0.0100	<0.0200	<0.0500
B-197	06/19/07		<0.010	<0.010	**0.0106**	<0.004	<0.001	<0.005	<0.020	<0.010	<0.005	<0.00020	<0.050	**0.00340 J**	<0.010	<0.005	<0.010	<0.020	<0.050
B-197	05/21/08		<0.005	<0.005	**0.22**	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.0004	<0.001	**0.0032**	**0.002**	<0.001	<0.001	<0.005	**0.093**
B-197	11/19/08		<0.005	<0.005	**0.0086**	<0.001	<0.001	<0.002	<0.001	**0.0026**	<0.001	<0.0004	<0.001	**0.0025**	<0.002	<0.001	<0.001	<0.005	<0.005
DUP-4	11/19/08	Duplicate	<0.005	<0.005	**0.0084**	<0.001	<0.001	<0.002	<0.001	**0.001**	<0.001	<0.0004	<0.001	**0.0028**	<0.002	<0.001	<0.001	<0.005	<0.005
B-197	05/06/09		<0.005	<0.005	**0.0092**	<0.001	<0.001	<0.002	<0.001	**0.0011**	<0.001	<0.0002	<0.001	**0.0042**	**0.0021**	<0.001	<0.001	<0.005	<0.005

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-197	05/06/09	Duplicate	<0.005	<0.005	**0.0092**	<0.001	<0.001	<0.002	<0.001	**0.002**	<0.001	<0.0002	<0.001	**0.0049**	<0.002	<0.001	<0.001	<0.005	<0.005
B-197	11/19/09		<0.005	<0.005	**0.0083**	<0.001	<0.001	<0.002	<0.001	**0.0025**	<0.001	<0.0002	<0.001	**0.011**	<0.002	<0.001	<0.001	**0.013**	<0.005
B-197	11/19/09	Duplicate	<0.005	<0.005	**0.0072**	<0.001	<0.001	<0.002	<0.001	**0.0023**	<0.001	<0.0002	<0.001	**0.0096**	<0.002	<0.001	<0.001	**0.0079**	<0.005
B-197	04/29/10		<0.005	<0.005	**0.0140**	<0.001	<0.001	<0.002	<0.001	**0.0015**	<0.001	<0.0002	<0.001	**0.0086**	**0.0048**	<0.001	<0.001	**0.0051**	**0.0055**
B-197	04/29/10	Duplicate	<0.005	<0.005	**0.016**	<0.001	<0.001	<0.002	<0.001	**0.0014**	<0.001	<0.0002	<0.001	**0.009**	**0.0036**	<0.001	<0.001	**0.0056**	**0.0079**
B-197	11/17/10		<0.01	<0.01	**0.0057**	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0002	<0.002	<0.002	<0.004	<0.002	<0.002	<0.01	<0.025
B-197	11/17/10	Duplicate	<0.01	<0.01	**0.0056**	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0002	<0.002	<0.002	<0.004	<0.002	<0.002	<0.01	<0.025
B-197	05/04/11		<0.005	<0.005	**0.40**	<0.001	<0.001	<0.002	<0.001	**0.0011**	<0.001	<0.0002	<0.001	**0.0045**	**0.0029**	<0.001	<0.001	**0.0075**	**0.18**
B-197	05/04/11	Duplicate	<0.005	<0.005	**0.39**	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.0002	<0.001	**0.0041**	**0.0021**	<0.001	<0.001	**0.0063**	**0.19**
B-197	11/16/11		<0.005	<0.005	**0.21**	<0.001	<0.001	**0.0018 J**	<0.001	**0.0011**	<0.001	<0.0002	<0.001	**0.0031**	**0.0017**	<0.001	<0.001	<0.005	**0.085**
B-197	11/16/11	Duplicate	<0.005	**0.0031 J**	**0.21**	<0.001	<0.001	**0.0017 J**	<0.001	**0.0011**	<0.001	<0.0002	<0.001	**0.0028**	**0.002**	<0.001	<0.001	<0.005	**0.086**
B-197	05/09/12		<0.01	<0.01	**0.011**	<0.002	<0.002	**0.0044**	<0.002	**0.0017 J**	<0.002	<0.0002	<0.002	<0.002	<0.004	<0.002	<0.002	**0.013**	**0.0076 J**
B-197	05/09/12	Duplicate	<0.01	<0.01	**0.012**	<0.002	<0.002	**0.0043**	<0.002	**0.0015 J**	<0.002	<0.0002	<0.002	<0.002	<0.004	<0.002	<0.002	**0.015**	**0.0092 J**
B-197	11/07/12		<0.025	<0.025	**0.0089 J**	<0.0050	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.000200	<0.0050	<0.0050	<0.020	<0.0050	<0.0020	<0.025	<0.050
B-197	11/07/12	Duplicate	<0.025	<0.025	**0.0095 J**	<0.0050	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.000200	<0.0050	<0.0050	<0.020	<0.0050	<0.0020	<0.025	<0.050
B-198	05/05/01		<0.05	<0.05	0.018	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.04	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-198	08/22/01		<0.05	<0.05	0.19	<0.005	<0.01	<0.01	<0.01	0.04	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	0.08
B-198	12/09/01		<0.05	<0.05	0.19	<0.005	<0.01	0.03	<0.01	0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.07
B-198	02/12/02		<0.05	<0.05	0.19	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	0.07
B-198	05/28/02	NA																	
B-199	05/07/01		<0.05	<0.05	0.2	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	0.06	0.02	<0.05	<0.01	<0.05	<0.01	0.07
B-199	08/22/01		<0.05	<0.05	0.31	<0.005	<0.01	0.02	<0.01	0.04	<0.005	<0.0002	0.05	<0.01	<0.05	<0.01	<0.05	<0.01	0.09
B-199	12/09/01		<0.05	<0.05	0.33	<0.005	<0.01	0.02	<0.01	0.01	<0.005	<0.0002	0.04	<0.01	<0.05	<0.01	<0.05	<0.01	0.09
B-199	02/15/02		<0.05	<0.05	0.5	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.04	<0.01	<0.05	<0.01	<0.05	<0.01	0.14
B-199	05/28/02	NA																	
B-200	05/06/01		<0.05	0.05	<0.005	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.02
B-200	08/21/01		<0.05	<0.05	0.95	<0.005	<0.01	0.02	<0.01	0.02	<0.005	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.42
B-200	12/09/01		<0.05	<0.05	0.49	<0.005	<0.01	0.03	<0.01	<0.01	<0.005	<0.0002	0.02	0.03	<0.05	<0.01	<0.05	<0.01	0.21
B-200	02/13/02		<0.05	0.06	2.2	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.03	<0.05	<0.01	<0.05	<0.01	1.3
B-200	05/28/02		<0.05	0.11	0.23	<0.005	<0.01	0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.15
B-200	08/28/02		<0.05	0.07	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.09
B-200	11/15/02		<0.05	<0.05	0.005	<0.005	<0.01	<0.01	0.01	<0.01	<0.005	<0.0002	0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.01
B-200	03/12/03		<0.05	0.06	0.01	<0.005	<0.01	<0.01	0.01	<0.01	<0.005	<0.0002	0.02	0.04	<0.05	<0.01	<0.05	<0.01	<0.01
B-200	6/12/2003		<0.05	0.1	0.005	<0.005	<0.01	<0.01	0.01	<0.01	<0.005	<0.0002	0.02	0.03	<0.05	<0.01	<0.05	<0.01	0.01
B-200	8/21/2003		<0.05	<0.05	0.007	<0.005	<0.01	<0.01	0.02	0.01	<0.005	<0.0002	0.01	0.04	<0.05	<0.01	<0.05	<0.01	0.01
B-200	11/12/2003		<0.05	<0.05	0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.04	<0.05	<0.01	<0.05	<0.01	<0.01
B-200	2/25/2004		<0.05	<0.05	0.006	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.05	<0.05	<0.01	<0.05	<0.01	0.01
B-200	5/18/2004		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.03	<0.05	<0.01	<0.05	<0.01	<0.01
B-200	8/10/2004	NA																	
B-200	12/8/2004	NA																	
B-200	3/7/2005	NA																	
B-200	6/17/2005		<0.002	0.021	0.0026	<0.001	<0.001	<0.003	0.0076	<0.002	<0.001	<0.0002	0.027	0.034	<0.002	<0.001	<0.001	<0.003	0.012
B-200	03/04/06	NA																	
B-200	06/13/06		< 0.010	0.015	0.0054	< 0.0050	< 0.0050	< 0.0030	0.0093	< 0.010	< 0.0050	< 0.00020	0.017	0.04	< 0.010	< 0.0050	< 0.0050	0.043	< 0.025
B-200	11/20/06	NA																	
B-200	06/07/07		<0.010	**0.0233**	<0.010	<0.004	<0.001	<0.005	**0.0076 J**	<0.010	<0.005	<0.00020	**0.0169 J**	**0.0471**	<0.010	<0.005	<0.010	<0.020	**0.0313 J**
B-200	05/27/08		<0.005	**0.012**	**0.03**	<0.001	**0.002**	<0.002	**0.0074**	**0.0033**	<0.001	<0.0004	**0.024**	**0.042**	**0.0046**	<0.001	<0.001	<0.005	**0.024**
B-200	05/07/09		<0.005	**0.012**	**0.0089**	<0.001	**0.0028**	<0.002	**0.0048**	**0.0017**	<0.001	<0.0002	**0.013**	**0.044**	**0.0053**	<0.001	<0.001	<0.005	**0.014**
B-200	04/29/10		<0.005	**0.01**	**0.0230**	<0.001	<0.001	<0.002	**0.0066**	**0.0014**	<0.001	<0.0002	**0.011**	**0.034**	**0.0046**	<0.001	<0.001	**0.0064**	**0.16**
B-200	05/05/11		<0.005	**0.025**	**0.065**	<0.001	<0.001	<0.002	**0.014**	**0.0014**	<0.001	<0.0002	**0.023**	**0.038**	**0.0024**	<0.001	<0.001	**0.0070**	**0.056**
B-200	05/10/12		<0.01	**0.043**	**0.010**	<0.002	<0.002	**0.0058**	**0.014**	**0.0047**	<0.002	<0.0002	**0.025**	**0.031**	**0.0023 J**	<0.002	<0.002	**0.021**	**0.025**
B-201	05/06/01		<0.05	<0.05	0.02	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-201	08/21/01		<0.05	<0.05	0.26	<0.005	<0.01	0.01	<0.01	0.04	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.07
B-201	12/09/01		<0.05	<0.05	0.26	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.06
B-201	02/13/02		<0.05	<0.05	0.33	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.09
B-201	05/30/02		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-201	08/28/02		<0.05	<0.05	0.11	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-201	11/15/02		<0.05	<0.05	0.024	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-201	03/12/03		<0.05	<0.05	0.023	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-201	6/12/2003		<0.05	<0.05	0.027	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-201	8/21/2003		<0.05	<0.05	0.031	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-201	2/23/2004	NA																	
B-201	8/10/2004	NA																	
B-201	12/8/2004	NA																	
B-201	3/7/2005	NA																	
B-201	6/20/2005	NA																	

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-201	03/04/06	NA																	
B-201	11/20/06	NA																	
B-201	6/6/07	NA																	
B-202	06/01/02		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.09
B-202	08/27/02		<0.05	<0.05	0.095	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.01
B-202	11/14/02		<0.05	<0.05	0.017	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.03
B-202	03/11/03		<0.05	<0.05	0.015	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.02
B-202	6/13/2003		<0.05	<0.05	0.012	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-202	8/19/2003		<0.05	<0.05	0.016	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.06
B-202	2/23/2004	NA																	
B-202	8/10/2004	NA																	
B-202	12/8/2004	NA																	
B-202	3/7/2005	NA																	
B-202	6/20/2005	NA																	
B-202	03/04/06	NA																	
B-202	nov																		
B-202	5/22/07	NA																	
B-203	05/09/01		<0.05	0.09	0.54	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.03	0.05	<0.05	<0.01	<0.05	<0.01	0.23
B-203	08/20/01	LNAPL																	
B-203	02/15/02	NA																	
B-203	05/28/02	LNAPL																	
B-203	08/26/02	LNAPL																	
B-203	11/12/02	LNAPL																	
B-203	03/10/03	LNAPL																	
B-203	6/13/2003	LNAPL																	
B-203	8/21/2003	LNAPL																	
B-203	2/23/2004	LNAPL																	
B-203	8/10/2004	LNAPL																	
B-203	12/8/2004	LNAPL																	
B-203	3/7/2005	LNAPL																	
B-203	6/20/2005	LNAPL																	
B-203	03/04/06	NA																	
B-203	11/20/06	LNAPL																	
B-203	5/21/07	LNAPL																	
B-204-85	05/05/01		<0.05	<0.05	0.056	<0.005	0.01	<0.01	<0.01	0.05	<0.005	<0.0002	<0.01	0.05	<0.05	<0.01	<0.05	<0.01	0.02
B-204-85	08/21/01		<0.05	<0.05	0.25	<0.005	<0.01	<0.01	<0.01	0.07	<0.005	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.07
B-204-85	12/08/01		<0.05	<0.05	0.28	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.07
B-204-85	02/11/02		<0.05	<0.05	0.75	<0.005	0.02	<0.01	<0.01	0.06	0.017	<0.0002	<0.01	0.09	<0.05	<0.01	<0.05	<0.01	0.21
B-204-85	05/29/02		<0.05	<0.05	0.13	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.09	<0.05	<0.01	<0.05	<0.01	0.06
B-204-85	08/29/02		<0.05	<0.05	0.15	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.06	<0.05	<0.01	<0.05	<0.01	0.05
B-204-85	11/14/02		<0.05	<0.05	0.068	<0.005	<0.01	0.02	<0.01	<0.01	<0.005	<0.0002	<0.01	0.04	<0.05	<0.01	<0.05	<0.01	0.02
B-204-85	03/11/03		<0.05	<0.05	0.051	<0.005	0.02	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.24	<0.05	<0.01	<0.05	<0.01	0.02
B-204-85	6/10/2003		<0.05	<0.05	0.059	<0.005	0.02	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.17	<0.05	<0.01	<0.05	<0.01	0.01
B-204-85	8/19/2003		<0.05	<0.05	0.058	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.1	<0.05	<0.01	<0.05	<0.01	0.02
B-204-85	11/11/2003		<0.05	<0.05	0.072	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	<0.01	<0.01
B-204-85	2/24/2004		<0.05	<0.05	0.065	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.17	<0.05	<0.01	<0.05	<0.01	0.02
B-204-85	5/18/2004		<0.05	<0.05	0.059	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.22	<0.05	<0.01	<0.05	<0.01	0.02
B-204-85	8/10/2004		<0.05	<0.05	0.051	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.07	<0.05	<0.01	<0.05	<0.01	<0.01
B-204-85	12/8/2004		<0.05	<0.05	0.059	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.13	<0.05	<0.01	<0.05	<0.01	0.02
B-204-85	3/7/2005	NA																	
B-204-85	6/20/2005	NA																	
B-204-85	9/29/2005		<0.002	0.021	0.037	<0.001	<0.002	<0.003	0.0042	0.0062	<0.001	<0.0002	0.0026	0.087	0.027	<0.001	<0.001	<0.003	0.0096
B-204-85	12/5/2005		<0.004	0.011	0.049	<0.002	<0.002	<0.006	0.003	<0.004	<0.002	<0.0002	0.0025	0.093	0.02	<0.002	<0.002	<0.006	0.015
B-204-85	03/04/06	NA																	
B-204-85	06/07/06		< 0.0020	0.012	0.053	< 0.0010	0.051	< 0.0030	0.0068	0.0029	< 0.0010	< 0.00020	0.0043	0.28	0.061	< 0.0010	< 0.0010	0.0072	0.061
B-204-85	11/28/06		**0.00850 J**	**0.0143**	**0.0452**	<0.00400	**0.00100**	<0.00500	<0.0200	<0.0100	<0.00500	**0.000126 J**	**0.0104 J**	**0.117**	<0.0100	<0.00500	<0.0100	<0.0200	<0.0500
B-204-85	05/25/07		**0.00610 J**	<0.010	**0.0455**	**0.00170 J**	**0.0398**	<0.005	<0.020	<0.010	<0.005	**0.000269**	<0.050	**0.263**	**0.0359**	<0.005	<0.010	<0.020	<0.050
B-204-85	11/29/07		<0.010	**0.0067 J**	**0.0587**	<0.00400	**0.0044**	<0.005	<0.020	<0.010	<0.005	<0.0002	<0.050	**0.0804**	<0.005	<0.005	<0.010	<0.020	<0.050
B-204-85	05/21/08		<0.005	**0.0058**	**0.2**	<0.001	**0.029**	<0.002	**0.0034**	**0.0029**	<0.001	<0.0004	**0.0035**	**0.15**	**0.04**	<0.001	<0.001	<0.005	**0.084**
B-204-85	11/19/08		<0.005	**0.0051**	**0.031**	<0.001	**0.002**	<0.002	**0.002**	**0.0052**	<0.001	<0.0004	**0.0011**	**0.04**	**0.0016**	<0.001	<0.001	<0.005	**0.016**
B-204-85	05/06/09		<0.005	<0.005	**0.052**	<0.001	**0.017**	<0.002	**0.0031**	**0.0025**	<0.001	<0.0002	**0.0027**	**0.11**	**0.037**	<0.001	<0.001	<0.005	**0.011**
B-204-85	11/18/09		<0.005	<0.005	**0.036**	<0.001	<0.001	<0.002	**0.0029**	**0.0029**	<0.001	<0.0002	**0.0018**	**0.055**	**0.005**	<0.001	<0.001	<0.005	**0.010**
B-204-85	04/29/10		<0.025	<0.025	**0.0460**	<0.005	**0.041**	<0.01	<0.005	<0.005	<0.005	<0.0002	<0.005	**0.25**	**0.067**	<0.005	<0.005	**0.078**	**0.029**
B-204-85	11/18/10		<0.025	<0.05	<0.01	<0.005	<0.01	<0.02	<0.01	<0.01	<0.01	<0.0002	<0.01	**0.1**	**0.02**	<0.01	<0.002	<0.05	<0.05
B-204-85	05/04/11		<0.005	<0.005	**0.43**	<0.001	**0.040**	<0.002	**0.0029**	**0.0026**	<0.001	<0.0002	**0.0046**	**0.18**	**0.045**	<0.001	<0.001	**0.0066**	**0.17**
B-204-85	11/16/11		<0.005	**0.011**	**0.0340**	<0.001	**0.0064**	**0.0015 J**	**0.0016**	**0.0049**	<0.001	<0.0002	**0.0019**	**0.075**	**0.02**	<0.001	<0.001	<0.005	**0.023**
B-204-85	05/08/12		<0.01	<0.01	**0.050**	<0.002	**0.023**	**0.0036 J**	**0.0020**	**0.0033**	<0.002	**0.000112 J**	<0.002	**0.16**	**0.036**	<0.002	<0.002	**0.0074 J**	**0.017**

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Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-204-85	11/07/12		<0.025	<0.025	**0.038**	<0.0050	**0.0067**	<0.020	<0.0050	<0.0050	<0.0050	<0.000200	<0.0050	**0.079**	**0.013 J**	<0.0050	<0.0020	<0.025	<0.050
B-204-150	05/07/01		<0.05	<0.05	0.35	<0.005	<0.01	<0.01	<0.01	0.04	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.12
B-204-150	08/21/01		<0.05	<0.05	0.28	<0.005	<0.01	<0.01	<0.01	0.06	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.07
B-204-150	12/08/01		<0.05	<0.05	0.29	<0.005	<0.01	0.02	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.07
B-204-150	02/10/02		<0.05	<0.05	0.23	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-204-150	05/29/02		<0.05	<0.05	0.35	<0.005	<0.01	0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.11
B-204-150	08/29/02		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
B-204-150	11/14/02		<0.05	<0.05	0.02	<0.005	<0.01	0.02	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-204-150	03/11/03		<0.05	<0.05	0.02	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-204-150	6/10/2003		<0.05	<0.05	0.019	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-204-150	8/19/2003		<0.05	<0.05	0.022	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-204-150	11/11/2003		<0.05	<0.05	0.023	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-204-150	2/23/2004	NA																	
B-204-150	8/10/2004	NA																	
B-204-150	12/8/2004	NA																	
B-204-150	3/7/2005	NA																	
B-204-150	6/20/2005	NA																	
B-204-150	03/04/06	NA																	
B-204-150	11/20/06	NA																	
B-204-150	5/30/07	NA																	
B-205-90	05/04/01		<0.05	<0.05	0.029	<0.005	<0.01	<0.01	<0.01	0.04	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.05
B-205-90	08/21/01		<0.05	<0.05	0.29	<0.005	<0.01	<0.01	<0.01	0.08	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.11
B-205-90	12/08/01		<0.05	<0.05	0.2	<0.005	<0.01	0.04	<0.01	0.03	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.07
B-205-90	02/11/02		<0.05	<0.05	0.39	<0.005	<0.01	<0.01	<0.01	0.05	0.032	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.14
B-205-90	05/29/02		<0.05	<0.05	0.085	<0.005	<0.01	0.02	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.07
B-205-90	08/28/02		<0.05	<0.05	0.13	<0.005	<0.01	0.01	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.09
B-205-90	11/13/02		<0.05	<0.05	0.02	<0.005	<0.01	0.04	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-205-90	03/11/03		<0.05	<0.05	0.022	<0.005	<0.01	0.04	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	0.01	0.04
B-205-90	6/11/2003		<0.05	<0.05	0.02	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-205-90	8/19/2003		<0.05	<0.05	0.023	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-205-90	11/11/2003		<0.05	<0.05	0.02	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-205-90	2/24/2004		<0.05	<0.05	0.018	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-205-90	5/19/2004		<0.05	<0.05	0.015	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-205-90	8/12/2004		<0.05	<0.05	0.016	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-205-90	12/8/2004		<0.05	<0.05	0.013	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-205-90	3/7/2005	NA																	
B-205-90	6/20/2005	NA																	
B-205-90	03/04/06	NA																	
B-205-90	11/20/06	NA																	
B-205-90	5/25/07	NA																	
B-205-120	05/04/01		<0.05	<0.05	0.035	<0.005	<0.01	<0.01	<0.01	0.09	<0.005	<0.0002	0.05	<0.01	<0.05	<0.01	<0.05	0.01	0.03
B-205-120	08/21/01		<0.05	<0.05	0.19	<0.005	<0.01	<0.01	<0.01	0.16	<0.005	<0.0002	0.05	0.01	<0.05	<0.01	<0.05	<0.01	0.06
B-205-120	12/08/01		<0.05	<0.05	0.1	<0.005	<0.01	0.04	<0.01	0.06	<0.005	<0.0002	0.05	0.01	<0.05	<0.01	<0.05	<0.01	0.05
B-205-120	02/11/02		<0.05	<0.05	1.2	<0.005	<0.01	<0.01	<0.01	0.1	<0.005	<0.0002	0.05	0.01	<0.05	<0.01	<0.05	<0.01	0.21
B-205-120	05/29/02		<0.05	<0.05	0.04	<0.005	<0.01	0.02	<0.01	<0.01	<0.005	<0.0002	0.04	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
B-205-120	08/28/02		<0.05	<0.05	0.077	<0.005	<0.01	0.01	<0.01	<0.01	<0.005	<0.0002	0.04	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
B-205-120	11/13/02		<0.05	<0.05	0.025	<0.005	<0.01	0.03	<0.01	<0.01	<0.005	<0.0002	0.05	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-205-120	03/11/03		<0.05	<0.05	<0.005	0.024	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-205-120	6/11/2003		<0.05	<0.05	0.024	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-205-120	8/19/2003		<0.05	<0.05	0.026	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.05	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-205-120	11/11/2003		<0.05	<0.05	0.024	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-205-120	2/24/2004		<0.05	<0.05	0.02	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.06	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-205-120	5/19/2004		<0.05	<0.05	0.017	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-205-120	8/12/2004		<0.05	<0.05	0.023	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.07	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-205-120	12/8/2004		<0.05	<0.05	0.022	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.06	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-205-120	3/7/2005	NA																	
B-205-120	6/20/2005	NA																	
B-205-120	9/29/2005		<0.002	0.0049	0.0094	<0.001	<0.001	0.0053	<0.001	0.0064	<0.001	<0.0002	0.024	0.0032	0.0022	<0.001	<0.001	<0.003	0.006
B-205-120	12/5/2005		<0.004	0.0069	0.025	<0.002	<0.002	0.0089	<0.002	0.024	0.0034	<0.0002	0.07	0.0059	0.0082	<0.002	<0.002	<0.006	0.029
B-205-120	03/04/06	NA																	
B-205-120	06/13/06		< 0.0040	< 0.0040	0.021	< 0.0020	< 0.0020	< 0.0030	< 0.0020	0.0075	< 0.0020	< 0.00020	0.055	0.0059	0.0041	< 0.0020	< 0.0020	0.0091	< 0.010
B-205-120	11/27/06		<0.0100	<0.0100	**0.0215**	<0.00400	<0.00100	<0.00500	<0.0200	<0.0100	<0.00500	<0.000200	**0.0612**	<0.0100	<0.0100	<0.00500	<0.0100	<0.0200	<0.0500
B-205-120	05/24/07		<0.010	**0.00640 J**	**0.0248**	**0.00150 J**	<0.001	<0.005	<0.020	<0.010	<0.005	<0.00020	**0.0519**	**0.00330 J**	<0.010	<0.005	<0.010	<0.020	<0.050
B-205-120	11/20/07		<0.010	<0.010	**0.0245**	<0.004	<0.001	<0.005	<0.020	<0.010	<0.005	<0.00020	**0.0658**	<0.010	<0.010	<0.005	<0.010	<0.020	<0.050
B-205-120	05/23/08		<0.005	<0.005	**0.097**	<0.001	<0.001	<0.002	<0.001	**0.0031**	<0.001	<0.0004	**0.055**	**0.0038**	**0.0063**	<0.001	<0.001	<0.005	**0.073**
B-205-120	11/20/08		<0.005	**0.0062**	**0.077**	<0.001	<0.001	<0.002	<0.001	**0.007**	<0.001	<0.0004	**0.055**	**0.0049**	**0.0061**	<0.001	<0.001	<0.005	**0.037**
B-205-120	05/07/09		<0.005	**0.0068**	**0.022**	<0.001	<0.001	<0.002	<0.001	**0.0027**	<0.001	<0.0002	**0.052**	**0.0038**	**0.0079**	<0.001	<0.001	<0.005	<0.005

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ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-205-120	11/17/09		<0.005	<0.005	**0.021**	<0.001	<0.001	<0.002	<0.001	**0.0019**	<0.001	<0.0002	**0.052**	**0.0045**	<0.002	<0.001	<0.001	<0.005	<0.005
B-205-120	04/29/10		<0.005	**0.0059**	**0.0230**	<0.001	<0.001	<0.002	<0.001	**0.0025**	<0.001	<0.0002	**0.047**	**0.0042**	**0.0092**	<0.001	<0.001	<0.005	<0.005
B-205-120	11/16/10		<0.01	<0.01	**0.0040**	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0002	**0.0095**	<0.002	<0.004	<0.002	<0.002	<0.010	<0.025
B-205-120	05/03/11		<0.005	<0.005	**0.34**	<0.001	<0.001	<0.002	**0.0010**	**0.0029**	<0.001	<0.0002	**0.051**	**0.0037**	**0.0020**	<0.001	<0.001	<0.005	**0.14**
B-205-120	11/16/11		<0.005	**0.0082**	**0.0230**	<0.001	<0.001	**0.0016 J**	<0.001	**0.0074**	**0.0011**	<0.0002	**0.055**	**0.0045**	**0.0037**	<0.001	<0.001	<0.005	**0.011**
B-205-120	05/09/12		<0.01	**0.0059 J**	**0.023**	<0.002	<0.002	**0.0052**	<0.002	**0.0031**	<0.002	<0.0002	**0.052**	**0.25**	**0.0047**	<0.002	<0.002	**0.013**	**0.0060 J**
B-205-120	11/07/12		<0.025	<0.025	**0.019**	<0.0050	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.000200	**0.049**	**0.31**	<0.020	<0.0050	<0.0020	<0.025	<0.050
B-206	05/09/01		<0.05	<0.05	0.32	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.04	<0.05	<0.01	<0.05	<0.01	0.12
B-206	08/20/01	LNAPL																	
B-206	02/15/02	NA																	
B-206	05/28/02	LNAPL																	
B-206	08/26/02	LNAPL																	
B-206	11/12/02	LNAPL																	
B-206	03/10/03	LNAPL																	
B-206	6/13/2003	LNAPL																	
B-206	8/21/2003	LNAPL																	
B-206	2/23/2004	LNAPL																	
B-206	8/10/2004	LNAPL																	
B-206	12/8/2004	LNAPL																	
B-206	3/7/2005	LNAPL																	
B-206	6/28/2005	LNAPL	<0.002	0.026	0.02	<0.005	<0.001	<0.003	<0.001	0.0062	<0.001	<0.0008	0.0033	0.01	0.0034	<0.001	<0.001	<0.003	0.013
B-206	03/04/06	NA																	
B-206	06/20/06		< 0.0040	0.014	0.0047	< 0.0020	< 0.0020	< 0.0060	< 0.0020	< 0.0040	< 0.0020	< 0.00020	< 0.0020	0.012	0.0045	< 0.0020	< 0.0020	< 0.0060	< 0.010
B-206	11/21/06	LNAPL																	
B-206	5/21/07	Sheen																	
B-207	05/06/01		<0.05	<0.05	0.073	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-207	08/20/01	LNAPL																	
B-207	02/15/02	LNAPL																	
B-207	05/28/02	LNAPL																	
B-207	08/26/02	LNAPL																	
B-207	11/12/02	LNAPL																	
B-207	03/10/03	LNAPL																	
B-207	6/13/2003	LNAPL																	
B-207	8/21/2003	LNAPL																	
B-207	2/23/2004	LNAPL																	
B-207	8/10/2004	LNAPL																	
B-207	12/8/2004	LNAPL																	
B-207	3/7/2005	LNAPL																	
B-207	6/20/2005	LNAPL																	
B-207	03/04/06	NA																	
B-207	11/21/06	LNAPL																	
B-207	5/22/07	LNAPL																	
B-208	05/09/01		<0.05	0.06	0.36	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	0.14
B-208	08/22/01		<0.05	<0.05	0.35	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	0.1
B-208	12/09/01		<0.05	<0.05	0.3	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.09
B-208	02/12/02		<0.05	<0.05	0.54	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.02	0.01	<0.05	<0.01	<0.05	<0.01	0.2
B-208	05/31/02		<0.05	<0.05	0.13	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.06
B-208	08/28/02		<0.05	<0.05	0.15	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.07
B-208	11/14/02		<0.05	<0.05	0.036	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-208	03/13/03		<0.05	<0.05	0.02	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-208	6/11/2003		<0.05	<0.05	0.018	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-208	8/21/2003		<0.05	<0.05	0.034	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-208	11/13/2003		<0.05	<0.05	0.033	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-208	2/26/2004		<0.05	<0.05	0.024	<0.005	<0.01	<0.01	<0.01	<0.01	0.01	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-208	5/19/2004		<0.05	<0.05	0.018	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-208	8/10/2004	NA																	
B-208	12/8/2004	NA																	
B-208	3/7/2005	NA																	
B-208	6/20/2005	NA																	
B-208	03/04/06	NA																	
B-208	11/20/06	NA																	
B-208	6/1/07	NA																	
B-209	05/07/01		<0.05	<0.05	0.33	<0.005	0.03	<0.01	<0.01	0.05	<0.005	<0.0002	0.02	0.23	<0.05	<0.01	<0.05	<0.01	0.15
B-209	08/21/01		<0.05	<0.05	0.24	<0.005	0.02	0.01	<0.01	0.07	<0.005	<0.0002	0.02	0.2	<0.05	<0.01	<0.05	<0.01	0.09
B-209	12/08/01		<0.05	<0.05	0.37	<0.005	0.04	<0.01	<0.01	0.04	<0.005	<0.0002	0.01	0.26	<0.05	<0.01	<0.05	<0.01	0.14
B-209	02/12/02		<0.05	<0.05	2	<0.005	0.04	<0.01	<0.01	0.06	<0.005	<0.0002	0.02	0.25	<0.05	<0.01	<0.05	<0.01	0.73

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ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-209	05/31/02		<0.05	<0.05	0.19	<0.005	0.03	0.02	<0.01	<0.01	<0.005	<0.0002	0.01	0.26	<0.05	<0.01	<0.05	<0.01	0.09
B-209	08/27/02		<0.05	<0.05	0.12	<0.005	0.04	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.25	<0.05	<0.01	<0.05	<0.01	0.04
B-209	11/14/02		<0.05	<0.05	0.11	<0.005	0.05	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.33	<0.05	<0.01	<0.05	<0.01	0.05
B-209	03/12/03		<0.05	<0.05	0.11	<0.005	0.05	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.39	<0.05	<0.01	<0.05	<0.01	0.05
B-209	6/13/2003		<0.05	<0.05	0.011	<0.005	0.05	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.32	<0.05	<0.01	<0.05	<0.01	0.04
B-209	8/19/2003		<0.05	<0.05	0.12	<0.005	0.05	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.34	<0.05	<0.01	<0.05	<0.01	0.06
B-209	11/12/2003		<0.05	<0.05	0.11	<0.005	0.06	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.04	<0.05	<0.01	<0.05	<0.01	0.04
B-209	2/26/2004		<0.05	<0.05	0.084	<0.005	0.04	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.28	<0.05	<0.01	<0.05	<0.01	0.04
B-209	5/19/2004		<0.05	<0.05	0.088	<0.005	0.04	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.31	<0.05	<0.01	<0.05	<0.01	0.05
B-209	8/10/2004		<0.05	<0.05	0.096	<0.005	0.05	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.3	<0.05	<0.01	<0.05	<0.01	0.02
B-209	12/8/2004	NA																	
B-209	3/7/2005	NA																	
B-209	6/20/2005	NA																	
B-209	9/29/2005		<0.002	0.018	0.024	<0.001	0.0088	<0.003	<0.001	0.0049	<0.001	<0.0002	0.03	0.1	0.014	<0.001	<0.001	0.0043	0.013
B-209	11/30/2005		<0.002	0.014	0.035	<0.001	0.013	<0.003	<0.001	0.002	<0.001	<0.0002	0.027	0.11	0.0088	<0.001	<0.001	<0.003	0.027
B-209	03/04/06	NA																	
B-209	06/15/06		< 0.0020	0.019	0.016	< 0.0010	0.0063	< 0.0030	< 0.0010	< 0.0020	< 0.0010	< 0.00040	0.033	0.067	0.0082	< 0.0010	< 0.0010	0.0037	0.0089
B-209	06/15/06		< 0.0020	0.02	0.015	< 0.0010	0.0058	< 0.0030	< 0.0010	0.002	< 0.0010	< 0.00040	0.033	0.063	0.0094	< 0.0010	< 0.0010	0.0042	0.011
B-209	11/29/06		<0.0100	**0.0117**	**0.0398**	<0.00400	**0.01800**	**0.0015 J**	<0.0200	<0.0100	<0.00500	<0.000200	**0.0285 J**	**0.146**	<0.0100	<0.00500	<0.0100	<0.0200	**0.0290 J**
B-209	5/29/07		<0.010	**0.013**	**0.0645**	<0.004	**0.0272**	<0.005	<0.020	<0.010	<0.005	<0.00020	**0.0194 J**	**0.206**	<0.010	<0.005	<0.010	<0.020	**0.0336 J**
B-209	11/28/07		<0.010	**0.0121**	**0.108**	<0.004	**0.0623**	**0.0036 J**	<0.020	<0.010	<0.005	<0.00020	**0.0115 J**	**0.359**	<0.010	<0.005	<0.010	<0.020	**0.0364 J**
B-209	5/21/08		<0.005	**0.0096**	**0.23**	<0.001	**0.03**	<0.002	**0.0012**	**0.0025**	<0.001	<0.0004	**0.015**	**0.2**	**0.018**	<0.001	<0.001	<0.005	**0.11**
B-209	11/18/08		<0.005	**0.011**	**0.1**	<0.001	**0.054**	**0.0033**	**0.002**	**0.0048**	<0.001	<0.0004	**0.014**	**0.42**	**0.026**	<0.001	<0.001	<0.005	**0.049**
B-209	5/5/09		<0.005	**0.0083**	**0.11**	<0.001	**0.056**	**0.003**	**0.0016**	**0.0031**	**0.0015**	<0.0002	**0.014**	**0.32**	**0.04**	<0.001	<0.001	**0.018**	**0.05**
B-209	4/27/10		<0.005	**0.0085**	**0.0510**	<0.001	**0.014**	<0.002	**0.0011**	**0.0024**	<0.001	<0.0002	**0.017**	**0.1**	**0.015**	<0.001	<0.001	<0.005	**0.017**
B-209	11/16/10		<0.01	<0.01	**0.0070**	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0002	**0.0033**	**0.025**	<0.004	<0.002	<0.002	<0.01	**0.047**
B-209	5/4/11		<0.005	**0.020**	**0.55**	<0.001	<0.001	**0.0021**	<0.001	**0.0022**	<0.001	<0.0002	**0.042**	**0.018**	**0.0050**	<0.001	<0.001	**0.016**	**0.22**
B-209	11/16/11		<0.005	**0.024**	**0.0180**	<0.001	**0.0068**	**0.0023**	<0.001	**0.0028**	<0.001	<0.0002	**0.034**	**0.078**	**0.012**	<0.001	<0.001	<0.005	**0.011**
B-209	5/9/12		<0.01	**0.011**	**0.026**	<0.002	**0.010**	**0.0050**	<0.002	**0.0034**	<0.002	<0.0002	**0.023**	**0.098**	**0.0080**	<0.002	<0.002	**0.014**	**0.020**
B-209	11/6/12		<0.025	**0.011 J**	**0.027**	<0.0050	**0.013**	<0.020	<0.0050	<0.0050	<0.0050	<0.000200	**0.020**	**0.11**	<0.020	<0.0050	<0.0020	<0.025	<0.050
B-210	05/07/01		<0.05	<0.05	0.31	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	0.02	0.03	<0.05	<0.01	<0.05	<0.01	0.09
B-210	08/21/01		<0.05	<0.05	0.63	<0.005	<0.01	0.02	<0.01	0.04	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	0.01	0.22
B-210	12/08/01		<0.05	<0.05	1	<0.005	<0.01	0.03	<0.01	0.01	<0.005	<0.0002	0.02	0.03	<0.05	<0.01	<0.05	0.02	0.34
B-210	02/12/02		<0.05	<0.05	0.58	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	0.02	0.04	<0.05	<0.01	<0.05	0.02	0.24
B-210	05/31/02		<0.05	<0.05	0.93	<0.005	<0.01	0.06	<0.01	<0.01	<0.005	<0.0002	0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.31
B-210	08/28/02		<0.05	<0.05	0.67	<0.005	<0.01	0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.03	<0.05	<0.01	<0.05	0.01	0.32
B-210	11/13/02		<0.05	<0.05	0.017	<0.005	<0.01	0.02	<0.01	<0.01	<0.005	<0.0002	0.01	0.04	<0.05	<0.01	<0.05	<0.01	0.02
B-210	03/13/03		<0.05	<0.05	0.014	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.04	<0.05	<0.01	<0.05	0.01	<0.01
B-210	6/12/2003		<0.05	<0.05	0.011	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.03	<0.05	<0.01	<0.05	<0.01	<0.01
B-210	8/19/2003		<0.05	<0.05	0.15	<0.005	<0.01	0.07	<0.01	<0.01	<0.005	<0.0002	0.01	0.09	<0.05	<0.01	<0.05	<0.01	0.11
B-210	2/26/2004		<0.05	<0.05	0.024	<0.005	<0.01	0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.03	<0.05	<0.01	<0.05	0.02	0.01
B-210	5/18/2004		<0.05	<0.05	0.02	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.03	<0.05	<0.01	<0.05	0.01	0.01
B-210	8/10/2004	NA																	
B-210	12/9/2004		<0.05	<0.05	0.017	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.03	<0.05	<0.01	<0.05	0.02	<0.01
B-210	3/8/2005		<0.05	<0.05	0.063	<0.005	<0.01	0.04	<0.01	<0.01	<0.005	<0.0002	0.02	0.05	<0.05	<0.01	<0.05	0.05	0.05
B-210	6/20/2005	NA																	
B-210	6/23/2005		<0.002	0.0096	0.015	<0.001	<0.001	<0.003	<0.001	0.0068	<0.001	<0.0002	0.021	0.031	0.0053	<0.001	<0.001	0.017	0.011
B-210	9/27/2005		<0.004	0.0087	0.085	<0.002	<0.002	<0.006	<0.002	0.0077	<0.002	<0.0002	0.022	0.032	0.0084	<0.002	<0.002	0.017	0.068
B-210	11/30/2005		<0.002	0.0082	0.082	<0.001	<0.001	<0.003	<0.001	0.0042	<0.001	<0.0002	0.018	0.03	0.0039	<0.001	<0.001	0.0082	0.12
B-210	03/04/06		<0.0020	0.0093	0.012	<0.0010	<0.0010	<0.0030	<0.0010	0.012	<0.0010	<0.00020	0.02	0.028	0.0054	<0.0010	<0.0010	0.011	0.017
B-210	06/14/06		< 0.0020	0.01	0.0073	< 0.0010	< 0.0010	< 0.0030	< 0.0010	0.0043	< 0.0010	< 0.00020	0.016	0.03	0.0061	< 0.0010	< 0.0010	0.016	0.0081
B-210	09/13/06		<0.0053	**0.0055** J	**0.0095** J	<0.0010	<0.0004	<0.0013	<0.0025	**0.0066** J	<0.0022	<0.00010	**0.0197** J	**0.0299**	<0.0082	<0.0019	<0.0025	**0.0102** J	<0.0250
B-210	11/29/06		<0.0100	**0.00700 J**	**0.0144**	<0.00400	**0.00100**	<0.00500	<0.0200	<0.0100	<0.00500	<0.000200	**0.0175 J**	**0.0386**	<0.0100	<0.00500	<0.0100	**0.00930 J**	<0.0500
B-210	03/22/07		<0.0100	**0.0129**	**0.0168**	<0.00400	<0.00100	<0.00500	<0.0200	**0.0045 J**	<0.00500	<0.000200	**0.0233 J**	**0.0332 J**	**0.0055 J**	<0.00500	<0.0100	**0.0126 J**	**0.046 J**
B-210	06/05/07		<0.010	**0.00890 J**	**0.015**	<0.004	**0.0014**	<0.005	<0.020	<0.010	<0.005	<0.00020	**0.0133 J**	**0.0483**	<0.010	<0.005	<0.010	**0.00920 J**	**0.0195 J**
B-210	03/20/08		<0.01	**0.00740 J**	**0.0104**	<0.004	**0.0026**	**0.0062**	**0.00560 J**	**0.00450 J**	<0.005	NA	**0.0207 J**	**0.0388**	**0.0143**	**0.00410 J**	<0.01	**0.0177 J**	<0.05
B-210	05/28/08		<0.005	**0.0071**	**0.23**	<0.001	**<0.001**	<0.002	**0.0024**	**0.0026**	<0.001	<0.0004	**0.017**	**0.032**	**0.0076**	<0.001	<0.001	**0.0064**	**0.1**
B-210	04/28/10		<0.005	**0.0084**	**0.014**	<0.001	<0.001	**0.003**	<0.001	**0.0048**	<0.001	<0.0002	**0.02**	**0.026**	**0.0075**	<0.001	<0.001	**0.018**	**0.013**
B-210	09/16/10		<0.005	**0.0097**	**0.015**	<0.001	**0.0018**	<0.002	<0.001	**0.0031**	<0.001	<0.0002	**0.011**	**0.04**	**0.0096**	<0.001	<0.001	**0.023**	**0.015**
B-210	11/17/10		<0.01	<0.01	**0.005**	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0002	**0.0027**	**0.008**	<0.004	<0.002	<0.002	<0.01	**0.03**
B-210	02/17/11		<0.0050	**0.0071**	**0.015**	<0.0010	<0.0010	<0.0020	<0.0010	**0.004**	<0.0010	<0.000200	**0.021**	**0.024**	**0.0066**	<0.0010	<0.0010	**0.016**	**0.017**
B-210	05/04/11		<0.005	**0.011**	**0.51**	<0.001	<0.001	**0.0023**	<0.001	**0.0033**	<0.001	<0.0002	**0.020**	**0.025**	**0.0059**	<0.001	<0.001	**0.025**	**0.21**
B-210	09/20/11		<0.0050	**0.0083**	**0.014**	<0.0010	<0.0010	**0.0021**	<0.0010	**0.0029**	<0.0010	<0.000200	**0.015**	**0.03**	**0.0071**	<0.0010	<0.0010	**0.018**	**0.0056**
B-210	11/16/11		<0.005	**0.0097**	**0.014**	<0.001	**0.00082 J**	**0.0025**	<0.001	**0.0042**	<0.001	<0.0002	**0.015**	**0.04**	**0.0076**	<0.001	<0.001	**0.0084**	**0.012**
B-210	02/16/12		<0.005	**0.0074**	**0.088**	<0.001	<0.001	**0.0048**	<0.001	**0.0042**	<0.001	<0.0002	**0.021**	**0.025**	**0.011**	<0.001	<0.001	**0.011**	**0.058**
B-210	05/09/12		<0.01	**0.0079 J**	**0.0072**	<0.002	<0.002	**0.0063**	<0.002	**0.0037**	<0.002	<0.0002	**0.020**	**0.034**	**0.0056**	<0.002	<0.002	**0.030**	**0.0068 J**
B-210	09/17/12		<0.025	<0.025	**0.0088**	<0.005	<0.005	**0.0092 J**	<0.005	<0.005	<0.005	<0.000200	**0.018**	**0.041**	**0.0056 J**	<0.005	<0.002	**0.018 J**	<0.025
B-210	11/06/12		<0.025	<0.025	**0.0085 J**	<0.0050	<0.0050	**0.012 J**	<0.0050	<0.0050	<0.0050	**0.000102 J**	**0.016**	**0.041**	<0.020	<0.0050	<0.0020	<0.025	<0.050

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-211	05/08/01		<0.05	<0.05	0.59	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.19
B-211	08/21/01		<0.05	<0.05	0.25	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.07
B-211	12/08/01		<0.05	<0.05	0.3	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.09
B-211	02/12/02		<0.05	<0.05	0.3	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.11
B-211	05/31/02		<0.05	<0.05	0.25	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.09
B-211	08/27/02		<0.05	<0.05	0.081	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.01
B-211	11/14/02		<0.05	<0.05	0.036	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.01
B-211	03/11/03		<0.05	<0.05	0.03	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
B-211	6/12/2003		<0.05	<0.05	0.037	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
B-211	8/19/2003		<0.05	<0.05	0.031	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.02
B-211	11/12/2003		<0.05	<0.05	0.026	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
B-211	2/26/2004		<0.05	<0.05	0.028	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-211	5/18/2004		<0.05	<0.05	0.029	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-211	8/11/2004		<0.05	<0.05	0.028	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-211	12/9/2004		<0.05	<0.05	0.023	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-211	3/7/2005	NA																	
B-211	6/20/2005	NA																	
B-211	03/04/06	NA																	
B-211	11/20/06	NA																	
B-211	6/6/07	NA																	
B-212	05/08/01		<0.05	<0.05	0.64	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.23
B-212	08/21/01		<0.05	<0.05	0.26	<0.005	<0.01	0.01	<0.01	0.02	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	<0.01	0.09
B-212	12/08/01		<0.05	<0.05	0.28	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	<0.01	0.1
B-212	02/10/02		<0.05	<0.05	0.43	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	<0.01	0.17
B-212	05/31/02		<0.05	<0.05	0.24	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.11
B-212	08/27/02		<0.05	<0.05	0.066	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.01
B-212	11/14/02		<0.05	<0.05	0.022	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	<0.01	0.01
B-212	03/11/03		<0.05	<0.05	0.023	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
B-212	6/12/2003		<0.05	<0.05	0.025	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
B-212	8/19/2003		<0.05	<0.05	0.027	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
B-212	11/12/2003		<0.05	<0.05	0.021	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
B-212	2/26/2004		<0.05	<0.05	0.022	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
B-212	5/18/2004		<0.05	<0.05	0.026	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
B-212	8/11/2004		<0.05	<0.05	0.023	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
B-212	12/9/2004		<0.05	<0.05	0.021	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
B-212	3/7/2005	NA																	
B-212	6/20/2005	NA																	
B-212	03/04/06	NA																	
B-212	11/20/06	NA																	
B-212	6/14/07	NA																	
B-213-50	05/02/01	Dry																	
B-213-50	08/20/01	Dry																	
B-213-50	02/15/02	NA																	
B-213-50	05/28/02	Dry																	
B-213-50	08/26/02	Dry																	
B-213-50	11/12/02	Dry																	
B-213-50	03/10/03	NA																	
B-213-50	6/13/2003	Dry																	
B-213-50	8/21/2003	Dry																	
B-213-50	2/23/2004	NA																	
B-213-50	8/10/2004	NA																	
B-213-50	12/8/2004	NA																	
B-213-50	3/7/2005	NA																	
B-213-50	6/20/2005	Dry																	
B-213-50	03/04/06	NA																	
B-213-50	11/20/06	Dry																	
B-213-50	5/21/07	Dry																	
B-213-80	05/02/01	Dry																	
B-213-80	08/20/01	Dry																	
B-213-80	02/15/02	NA																	
B-213-80	05/28/02	Dry																	
B-213-80	08/26/02	Dry																	
B-213-80	11/12/02	Dry																	
B-213-80	03/10/03	NA																	
B-213-80	6/13/2003	Dry																	
B-213-80	8/21/2003	Dry																	
B-213-80	2/23/2004	NA																	

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-213-80	8/10/2004	NA																	
B-213-80	12/8/2004	NA																	
B-213-80	3/7/2005	NA																	
B-213-80	6/20/2005	Dry																	
B-213-80	03/04/06	NA																	
B-213-80	11/20/06	Dry																	
B-213-80	5/21/07	Dry																	
B-215	08/26/02	Dry																	
B-215	11/12/02	Dry																	
B-215	03/10/03	NA																	
B-215	6/13/2003	Dry																	
B-215	8/21/2003	Dry																	
B-215	2/23/2004	NA																	
B-215	8/10/2004	NA																	
B-215	12/8/2004	NA																	
B-215	3/7/2005	NA																	
B-215	6/20/2005	Dry																	
B-215	03/04/06	NA																	
B-215	11/20/06	Dry																	
B-215	5/21/07	Dry																	
B-216	5/7/2003		<0.05	<0.05	0.05	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-216	6/12/2003		<0.05	<0.05	0.051	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-216	8/20/2003		<0.05	<0.05	0.048	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-216	11/13/2003		<0.05	<0.05	0.042	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-216	2/24/2004		<0.05	<0.05	0.046	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-216	5/19/2004		<0.05	<0.05	0.049	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-216	8/11/2004		<0.05	<0.05	0.042	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-216	12/9/2004		<0.05	<0.05	0.041	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-216	3/7/2005	NA																	
B-216	6/21/2005		<0.002	0.0069	0.19	<0.001	<0.001	<0.003	<0.001	0.0039	<0.001	<0.0002	0.0024	0.0064	0.011	<0.001	<0.001	<0.003	0.071
B-216	03/04/06	NA																	
B-216	06/21/06		< 0.0040	< 0.0040	0.047	< 0.0020	< 0.0020	< 0.0060	< 0.0020	< 0.0040	< 0.0020	< 0.00020	< 0.0020	0.0077	0.014	< 0.0020	< 0.0020	< 0.0060	< 0.010
B-216	11/28/06		<0.0100	<0.0100	**0.0452**	<0.00400	<0.00100	<0.00500	<0.0200	<0.0100	<0.00500	<0.000200	**0.00610 J**	**0.00210 J**	<0.0100	<0.00500	<0.0100	<0.0200	<0.0500
B-216	03/22/07		<0.0100	<0.0100	**0.0473**	<0.00400	<0.00100	<0.00500	<0.0200	<0.0100	<0.00500	<0.000200	<0.0500	<0.0100	<0.0100	<0.00500	<0.0100	<0.0200	<0.0500
B-216	06/08/07		<0.010	<0.010	**0.00427**	<0.004	<0.001	<0.005	<0.020	<0.010	<0.005	<0.00020	<0.050	**0.00590 J**	<0.010	<0.005	<0.010	<0.020	<0.050
B-216	12/05/07		<0.010	<0.010	**0.0459**	<0.004	<0.001	<0.005	<0.020	<0.010	<0.005	<0.00020	<0.050	<0.010	<0.010	<0.005	<0.010	<0.020	<0.050
B-216	05/27/08		<0.005	<0.005	**0.22**	<0.001	<0.001	<0.002	<0.001	**0.0015**	<0.001	<0.0004	**0.0014**	**0.0082**	**0.014**	<0.001	<0.001	<0.005	**0.067**
B-216	09/16/08	NA																	
B-216	11/21/08		<0.005	**0.025**	**0.34**	<0.001	<0.001	<0.002	<0.001	**0.0018**	<0.001	<0.0004	**0.012**	**0.008**	**0.013**	<0.001	<0.001	<0.005	**0.11**
DUP-2	11/21/08	Duplicate	<0.005	**0.025**	**0.43**	<0.001	<0.001	<0.002	<0.001	**0.1**	<0.001	<0.0004	**0.012**	**0.0071**	**0.012**	<0.001	<0.001	<0.005	**0.12**
B-216	05/07/09		<0.005	<0.005	**0.04**	<0.001	<0.001	<0.002	<0.001	**0.0012**	<0.001	<0.0002	<0.001	**0.0079**	**0.013**	<0.001	<0.001	<0.005	<0.005
B-216	05/07/09	Duplicate	<0.005	<0.005	**0.039**	<0.001	<0.001	<0.002	<0.001	**0.0017**	<0.001	<0.0002	<0.001	**0.0078**	**0.015**	<0.001	<0.001	<0.005	<0.005
B-216	11/19/09		<0.005	<0.005	**0.038**	<0.001	<0.001	<0.002	<0.001	**0.0026**	<0.001	<0.0002	<0.001	**0.015**	**0.002**	<0.001	<0.001	<0.005	<0.005
B-216	11/19/09	Duplicate	<0.005	<0.005	**0.034**	<0.001	<0.001	<0.002	<0.001	**0.0019**	<0.001	<0.0002	<0.001	**0.016**	<0.002	<0.001	<0.001	<0.005	<0.005
B-216	04/29/10		<0.005	**0.0053**	**0.045**	<0.001	<0.001	<0.002	<0.001	**0.0017**	<0.001	<0.0002	<0.001	**0.014**	**0.017**	<0.001	<0.001	<0.005	<0.005
B-216	04/29/10	Duplicate	<0.005	<0.005	**0.045**	<0.001	<0.001	<0.002	<0.001	**0.0016**	<0.001	<0.0002	<0.001	**0.013**	**0.015**	<0.001	<0.001	<0.005	<0.005
B-216	11/18/10		<0.025	<0.05	**0.27**	<0.005	<0.01	<0.02	<0.01	<0.01	<0.01	<0.0002	<0.01	**0.015**	<0.02	<0.01	<0.002	<0.05	**0.094**
B-216	11/18/10	Duplicate	<0.025	<0.05	**0.21**	<0.005	<0.01	<0.02	<0.01	<0.01	<0.01	<0.0002	<0.01	**0.016**	<0.02	<0.01	<0.002	<0.05	**0.086**
B-216	05/05/11		<0.005	<0.005	**0.10**	<0.001	<0.001	<0.002	<0.001	**0.0015**	<0.001	<0.0002	<0.001	**0.0072**	**0.012**	<0.001	<0.001	**0.012**	**0.022**
B-216	05/05/11	Duplicate	<0.005	<0.005	**0.21**	<0.001	<0.001	<0.002	<0.001	**0.0017**	<0.001	<0.0002	<0.001	**0.0069**	**0.011**	<0.001	<0.001	**0.012**	**0.074**
B-216	11/17/11		<0.005	<0.005	**0.036**	<0.001	<0.001	**0.0023**	<0.001	**0.0014**	<0.001	<0.0002	<0.001	**0.0089**	**0.011**	<0.001	<0.001	<0.005	**0.0051**
B-216	11/17/11	Duplicate	<0.005	<0.005	**0.038**	<0.001	<0.001	**0.002**	<0.001	**0.001**	<0.001	<0.0002	<0.001	**0.0073**	**0.01**	<0.001	<0.001	<0.005	**0.0055**
B-216	05/10/12		<0.01	<0.01	**0.042**	<0.002	<0.002	**0.0033 J**	<0.002	**0.0023**	<0.002	<0.0002	<0.002	**0.0018**	**0.0085**	<0.002	<0.002	0.0094 J	<0.01
B-216	05/10/12	Duplicate	<0.01	<0.01	**0.041**	<0.002	<0.002	**0.0029 J**	<0.002	**<0.002**	<0.002	<0.0002	<0.002	**0.0018 J**	**0.012**	<0.002	<0.002	<0.01	<0.01
B-216	11/08/12		<0.010	<0.010	**0.041**	<0.0020	<0.010	**0.0026 J**	<0.0020	**0.0019 J**	<0.010	<0.000200	<0.010	**0.0028**	**0.0074**	<0.010	<0.0020	<0.010	<0.025
B-216	11/08/12	Duplicate	<0.010	<0.010	**0.040**	<0.0020	<0.010	**0.0034 J**	<0.0020	**0.0020**	<0.010	<0.000200	<0.010	**0.0032**	**0.0076**	<0.010	<0.0020	<0.010	<0.025
B-217	5/7/2003		<0.05	<0.05	0.037	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.03	<0.05	<0.01	<0.05	<0.01	<0.01
B-217	6/12/2003		<0.05	<0.05	0.041	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.03	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-217	8/20/2003		<0.05	<0.05	0.036	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-217	11/13/2003		<0.05	<0.05	0.033	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-217	2/24/2004		<0.05	<0.05	0.034	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
B-217	5/19/2004		<0.05	<0.05	0.044	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-217	8/11/2004		<0.05	<0.05	0.034	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
B-217	12/9/2004		<0.05	<0.05	0.03	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
B-217	3/7/2005	NA																	
B-217	6/21/2005		<0.002	0.013	0.042	<0.001	<0.001	<0.003	<0.001	0.007	<0.001	<0.0002	0.0087	0.0083	0.011	<0.001	<0.001	0.0035	0.012
B-217	12/30/2005		<0.002	0.013	0.13	<0.001	<0.001	<0.003	0.0017	0.002	<0.001	<0.0002	0.0083	0.011	0.041	<0.001	<0.001	<0.003	0.057

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-217	03/04/06	NA																	
B-217	06/21/06		< 0.0040	0.011	0.046	< 0.0020	< 0.0020	< 0.0060	< 0.0020	0.0048	< 0.0020	< 0.00020	0.0071	0.0092	0.011	< 0.0020	< 0.0020	< 0.0060	0.013
B-217	12/04/06		<0.0100	**0.0158**	**0.0529**	<0.00400	<0.00100	<0.00500	<0.0200	<0.0100	<0.00500	<0.000200	**0.0145 J**	<0.0100	<0.0100	<0.00500	<0.0100	<0.0200	<0.0500
B-217	03/22/07		<0.0100	**0.0126**	**0.0537**	<0.00400	<0.00100	<0.00500	<0.0200	<0.0100	<0.00500	<0.000200	**0.0101 J**	<0.0100	<0.0100	<0.00500	<0.0100	<0.0200	<0.0500
B-217 (dup.)	03/22/07		<0.0100	**0.0138**	**0.0505**	<0.00400	<0.00100	<0.00500	<0.0200	**0.0036 J**	<0.00500	<0.000200	<0.0500	<0.0100	<0.0100	<0.00500	<0.0100	<0.0200	**0.022 J**
B-217	06/08/07		<0.010	**0.0154**	**0.0547**	<0.004	<0.001	<0.005	<0.020	<0.010	<0.005	<0.00020	<0.050	<0.010	<0.010	<0.005	<0.010	<0.020	<0.050
B-217	12/06/07		<0.010	**0.0072 J**	**0.0514**	<0.004	**0.0029**	**0.0071**	**0.0069 J**	**0.0037 J**	<0.005	<0.00020	**0.0128 J**	**0.0086 J**	**0.0137**	**0.0054**	<0.010	**0.0115 J**	<0.050
B-217	05/28/08		<0.005	**0.0071**	**0.22**	<0.001	<0.001	<0.002	<0.001	**0.0027**	<0.001	<0.0004	**0.007**	**0.0099**	**0.0097**	<0.001	<0.001	<0.005	**0.064**
B-217	09/16/08	NA																	
B-217	11/21/08		<0.005	**0.01**	**0.26**	<0.001	<0.001	<0.002	<0.001	**0.0044**	<0.001	<0.0004	**0.0071**	**0.0072**	**0.0097**	<0.001	<0.001	<0.005	**0.095**
B-217	05/07/09		<0.005	**0.0081**	**0.047**	<0.001	<0.001	<0.002	<0.001	**0.0035**	<0.001	<0.0002	**0.0065**	**0.0081**	**0.012**	<0.001	<0.001	<0.005	**0.0062**
B-217	11/19/09		<0.005	<0.005	**0.05**	<0.001	<0.001	<0.002	**0.0013**	**0.0027**	<0.001	<0.0002	**0.0054**	**0.018**	<0.002	<0.001	<0.001	<0.005	**0.012**
B-217	04/30/10		<0.005	**0.008**	**0.072**	<0.001	<0.001	<0.002	**0.0014**	**0.0018**	<0.001	<0.0002	**0.0049**	**0.017**	**0.014**	<0.001	<0.001	<0.005	**0.0076**
B-217	11/18/10		<0.025	<0.05	**0.22**	<0.005	<0.01	<0.02	<0.01	<0.01	<0.01	<0.0002	<0.01	**0.019**	<0.02	<0.01	<0.002	<0.05	**0.15**
B-217	11/18/10	Duplicate	<0.025	<0.05	**0.19**	<0.005	<0.01	<0.02	<0.01	<0.01	<0.01	<0.0002	<0.01	**0.02**	<0.02	<0.01	<0.002	<0.05	**0.14**
B-217	05/04/11		<0.005	**0.0051**	**0.48**	<0.001	<0.001	<0.002	**0.0013**	**0.0021**	<0.001	<0.0002	**0.0059**	**0.011**	**0.0094**	<0.001	<0.001	**0.0051**	**0.17**
B-217	05/04/11	Duplicate	<0.005	**0.0050**	**0.47**	<0.001	<0.001	<0.002	**0.0013**	**0.0021**	<0.001	<0.0002	**0.0059**	**0.011**	**0.0086**	<0.001	<0.001	**0.0054**	**0.17**
B-217	11/17/11		<0.005	**0.0023 J**	**0.044**	<0.001	<0.001	**0.0021**	**0.00092 J**	**0.0019**	<0.001	<0.0002	**0.0072**	**0.012**	**0.0093**	<0.001	<0.001	<0.005	**0.0089**
B-217	05/10/12		<0.01	**0.0048 J**	**0.052**	<0.002	<0.002	**0.0036 J**	**<0.002**	**0.0011**	<0.002	<0.0002	**0.0072**	**0.0013**	**0.0066**	<0.002	<0.002	0.014	**0.011**
B-217	11/08/12		<0.010	**<0.010**	**0.051**	<0.0020	<0.010	**0.0023 J**	**<0.0020**	**0.0025**	<0.010	<0.000200	**<0.010**	**0.0040**	**0.0052**	<0.010	<0.0020	<0.010	**<0.025**
B-223-48	8/10/2004	NA																	
B-223-48	12/8/2004	NA																	
B-223-48	3/7/2005	NA																	
B-223-48	6/20/2005	Dry																	
B-223-48	03/04/06	NA																	
B-223-48	11/21/06	NA																	
B-223-48	03/21/07	NA																	
B-223-48	5/21/07	Dry																	
B-223-88	8/10/2004	NA																	
B-223-88	12/8/2004	NA																	
B-223-88	3/8/2005		<0.05	0.05	0.026	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
B-223-88	6/20/2005	Dry																	
B-223-88	9/27/2005		<0.004	0.035	0.052	<0.002	<0.002	<0.006	0.0042	0.0054	<0.002	<0.0002	0.0061	0.053	0.048	<0.002	<0.002	<0.006	0.033
B-223-88	03/04/06	NA																	
B-223-88	06/22/06		< 0.0040	0.0097	0.027	< 0.0020	< 0.0020	< 0.0060	< 0.0020	< 0.0040	< 0.0020	< 0.00020	< 0.0020	0.024	0.026	< 0.0020	< 0.0020	< 0.0060	< 0.010
B-223-88	09/12/06		<0.0053	**0.0115**	**0.0374**	<0.0010	**0.0004** J	<0.0013	<0.0025	<0.0053	<0.0022	<0.00010	**0.0052** J	<0.0018	<0.0082	<0.0019	**0.0076** J	<0.0050	<0.0250
B-223-88	12/04/06		**0.00690 J**	**0.0254**	**0.0395**	<0.00400	**0.000800 J**	**0.00150 J**	<0.0200	<0.0100	<0.00500	<0.000200	**0.0116 J**	<0.0100	<0.0100	<0.00500	<0.0100	<0.0200	<0.0500
B-223-88	03/23/07		<0.0100	**0.0131**	**0.0307**	**0.001 J**	<0.00100	<0.00500	<0.0200	<0.0100	<0.00500	<0.000200	<0.0500	<0.0100	<0.0100	<0.00500	<0.0100	<0.0200	<0.0500
B-223-88	06/05/07		<0.010	**0.00680 J**	**0.0278**	<0.004	**0.00050 J**	<0.005	<0.020	<0.010	<0.005	<0.00020	<0.050	<0.010	<0.010	<0.005	<0.010	<0.020	<0.050
B-223-88	09/21/07		<0.010	**0.0071 J**	**0.0416**	<0.004	**0.0037**	**0.004 J**	<0.020	<0.010	<0.005	<0.00020	<0.050	**0.0059 J**	**0.0241**	**0.0026 J**	<0.010	**0.0104 J**	<0.050
B-223-88	11/30/07		**0.00560 J**	**0.0061 J**	**0.0371**	<0.004	<0.001	<0.005	<0.020	<0.010	<0.005	**0.000126 J**	<0.050	<0.010	<0.010	<0.005	<0.010	<0.020	<0.050
B-223-88	05/28/08		<0.005	<0.005	**0.22**	<0.001	<0.001	<0.002	**0.002**	**0.0029**	<0.001	<0.0004	**0.002**	**0.035**	**0.025**	<0.001	<0.001	<0.005	**0.051**
B-223-88	09/16/08		<0.005	<0.005	**0.036**	<0.001	<0.001	**0.0023**	**0.0033**	**0.0043**	<0.001	<0.0004	**0.0025**	**0.058**	**0.057**	<0.001	<0.001	<0.005	<0.005
B-223-88	11/21/08		<0.005	<0.005	**0.26**	<0.001	<0.001	<0.002	**0.0017**	**0.0035**	<0.001	<0.0004	**0.0024**	**0.019**	**0.024**	<0.001	<0.001	<0.005	**0.088**
B-223-88	02/24/09	DUP	<0.0056	<0.0056	**0.04**	<0.0011	<0.0011	<0.0022	**0.0023**	**0.003**	<0.0011	NA	**0.0026**	**0.028**	**0.023**	<0.0011	<0.0011	<0.0056	<0.0056
B-223-88	05/08/09		<0.0050	**0.0068**	**0.035**	<0.0010	<0.0010	<0.0020	**0.0016**	**0.0025**	<0.0010	<0.0002	**0.0024**	**0.029**	**0.032**	<0.0010	<0.0010	<0.0050	<0.0050
B-223-88	05/08/09	Duplicate	<0.0050	**0.0066**	**0.035**	<0.0010	<0.0010	<0.0020	**0.0017**	**0.0025**	<0.0010	<0.00020	**0.0026**	**0.03**	**0.034**	<0.0010	<0.0010	<0.0050	<0.0050
B-223-88	09/24/09		<0.025	<0.025	**0.04**	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.0002	<0.005	**0.033**	**0.015**	<0.005	<0.005	<0.025	<0.025
B-223-88	11/20/09		<0.005	<0.005	**0.042**	<0.001	<0.001	**0.0021**	**0.003**	**0.004**	<0.001	<0.0002	**0.0018**	**0.061**	**0.026**	<0.001	<0.001	<0.005	<0.005
B-223-88	11/20/09		<0.005	<0.005	**0.041**	<0.001	<0.001	**0.0023**	**0.0028**	**0.0035**	<0.001	<0.0002	**0.0018**	**0.06**	**0.022**	<0.001	<0.001	<0.005	<0.005
B-223-88	04/30/10		<0.025	<0.025	**0.069**	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0002	<0.005	**0.059**	**0.042**	<0.005	<0.005	<0.025	<0.025
B-223-88	04/30/10	Duplicate	<0.025	<0.025	**0.068**	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0002	<0.005	**0.071**	**0.05**	<0.005	<0.005	<0.025	<0.025
B-223-88	09/16/10		<0.005	**0.013**	**0.041**	<0.001	<0.001	<0.002	**0.0021**	**0.0025**	<0.002	<0.0002	**0.0015**	**0.042**	**0.035**	<0.001	<0.001	**0.01**	<0.005
B-223-88	09/16/10	Duplicate	<0.005	**0.0065**	**0.045**	<0.001	<0.001	<0.002	**0.0022**	**0.0022**	<0.002	<0.0002	**0.0014**	**0.04**	**0.031**	<0.001	<0.001	**0.0095**	<0.005
B-223-88	11/19/10		<0.01	<0.01	**0.014**	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0002	<0.002	**0.0072**	<0.004	<0.002	<0.002	<0.01	**0.026**
B-223-88	02/18/11		<0.025	<0.025	**0.05**	<0.0050	<0.0050	<0.010	**0.0087**	<0.0050	<0.0050	<0.000200	<0.0050	**0.15**	**0.032**	<0.0050	<0.0010	**0.048**	<0.025
B-223-88	02/18/11	Duplicate	<0.025	<0.025	**0.049**	<0.0050	<0.0050	<0.010	0.0096	<0.0050	<0.0050	<0.000200	<0.0050	**0.15**	**0.035**	<0.0050	<0.0010	<0.025	<0.025
B-223-88	05/06/11		<0.005	<0.005	**0.092**	<0.001	<0.001	**0.0056**	**0.0039**	**0.0033**	<0.001	<0.0002	<0.001	**0.025**	**0.018**	<0.001	<0.001	**0.0054**	**0.014**
B-223-88	09/21/11		<0.0050	**0.0064**	**0.054**	<0.0010	<0.0010	**0.0019 J**	**0.00079 J**	**0.0018**	<0.0010	<0.000200	**0.0024**	**0.013**	**0.027**	<0.0010	<0.0010	<0.0050	<0.0050
B-223-88	11/18/11		<0.005	<0.005	**0.061**	<0.001	<0.001	**0.0028**	**0.0021**	**0.0041**	<0.001	<0.0002	**0.0013**	**0.037**	**0.025**	<0.001	<0.001	<0.005	**0.0078**
B-223-88	02/17/12		<0.005	<0.005	**0.11**	<0.001	<0.001	**0.0084**	**0.0016**	**0.0036**	<0.001	<0.0002	**0.0023**	**0.024**	**0.03**	<0.001	<0.001	<0.005	**0.053**
B-223-88	05/10/12		<0.01	<0.01	**0.066**	<0.002	<0.002	**0.0053**	**0.0018 J**	**0.0015**	<0.002	<0.0002	**0.0025**	**0.0018**	**0.017**	<0.002	<0.002	0.011	**0.0086 J**
B-223-88	09/18/12		<0.025	<0.025	**0.053**	<0.005	<0.005	**0.0071 J**	**0.005**	**<0.005**	<0.005	<0.000200	**<0.005**	**0.0048 J**	**0.024**	<0.005	<0.002	<0.025	**0.014 J**
B-223-88	11/09/12		<0.025	<0.025	**0.043**	<0.0050	<0.010	**<0.010**	**<0.0050**	**<0.0050**	<0.010	<0.000200	**<0.010**	**<0.0050**	**0.014**	<0.010	<0.0050	<0.025	**<0.025**
B-224	09/21/11		<0.0050	**0.14**	**0.12**	<0.0010	<0.0010	**0.0026**	**0.0021**	**0.0024**	<0.0010	<0.000200	**0.026**	**0.026**	**0.023**	<0.0010	<0.0010	<0.0050	**0.0042 J**
B-224	11/18/11		<0.005	**0.084**	**0.1**	<0.001	<0.001	**0.0034**	**0.0031**	**0.0034**	<0.001	<0.0002	**0.017**	**0.04**	**0.032**	<0.001	<0.001	<0.005	**0.0049 J**
B-224	02/17/12		<0.005	**0.11**	**0.18**	<0.001	<0.001	**0.0065**	**0.0019**	**0.0022**	<0.001	<0.0002	**0.021**	**0.027**	**0.026**	<0.001	<0.001	<0.005	**0.051**

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
B-224	05/11/12		<0.01	0.16	0.11	<0.002	<0.002	0.0040	0.0013 J	0.0018 J	<0.002	<0.0002	0.023	0.022	0.025	<0.002	<0.002	<0.01	<0.01
B-224	09/18/12		<0.025	0.16	0.1	<0.005	<0.005	<0.010	0.0037 J	<0.005	<0.005	<0.0002	0.019	0.024	0.018	<0.005	<0.002	<0.025	<0.025
B-224	11/08/12		<0.025	0.16	0.11	<0.0050	<0.010	0.0056 J	<0.0050	<0.0050	<0.010	<0.000200	0.018	0.020	0.016	<0.010	<0.0050	<0.025	<0.025
B-225	09/20/11		0.0035 J	0.057	0.033	<0.0010	<0.0010	0.0013 J	0.00062 J	0.0021	<0.0010	<0.000200	0.11	0.008	0.02	<0.0010	<0.0010	0.0035 J	0.0045 J
B-225	11/18/11		0.0031 J	0.062	0.047	<0.001	<0.001	0.0024	0.0013	0.0031	<0.001	<0.0002	0.094	0.02	0.024	<0.001	<0.001	<0.005	0.0039 J
B-225	02/17/12		0.0032	0.059	0.1	<0.001	<0.001	0.0036	0.0011	0.0056	<0.001	<0.0002	0.084	0.011	0.021	<0.001	<0.001	<0.005	0.058
B-225	05/11/12		<0.01	0.082	0.041	<0.002	<0.002	0.0031 J	<0.002	0.0018 J	<0.002	<0.0002	0.068	0.0030	0.017	<0.002	<0.002	<0.01	<0.01
B-225	09/18/12		<0.025	0.09	0.059	<0.005	<0.005	<0.010	0.0029 J	<0.005	<0.005	<0.000200	0.077	0.0047 J	0.015	<0.005	<0.002	<0.025	<0.025
B-225	11/09/12		<0.025	0.086	0.064	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.010	<0.000200	0.074	0.0034 J	0.012	<0.010	<0.0050	<0.025	<0.025
B-226	09/21/11		<0.0050	0.022	0.043	<0.0010	<0.0010	0.0017 J	0.00060 J	0.0029	<0.0010	<0.000200	0.013	0.01	0.017	<0.0010	<0.0010	<0.0050	0.0042 J
B-226	11/18/11		<0.005	0.013	0.043	<0.001	<0.001	0.0021	0.0017	0.0046	<0.001	<0.0002	0.008	0.031	0.021	<0.001	<0.001	<0.005	0.0059
B-226	11/18/11	Duplicate	<0.005	0.0049 J	0.043	<0.001	<0.001	0.0028	0.0016	0.0049	<0.001	<0.0002	0.0092	0.029	0.021	<0.001	<0.001	<0.005	0.007
B-226	02/17/12		<0.005	0.005	0.076	<0.001	<0.001	0.0044	0.0012	0.0037	<0.001	<0.0002	0.0063	0.016	0.017	<0.001	<0.001	<0.005	0.041
B-226	02/17/12	Duplicate	<0.005	<0.005	0.089	<0.001	<0.001	0.0044	0.0012	0.0038	<0.001	<0.0002	0.0055	0.016	0.021	<0.001	<0.001	<0.005	0.047
B-226	05/11/12		<0.01	0.0074 J	0.040	<0.002	<0.002	0.0036 J	0.0011 J	0.0027	<0.002	<0.0002	0.0027	0.0017 J	0.015	<0.002	<0.002	<0.01	0.0057 J
B-226	05/11/12	Duplicate	<0.01	0.0069 J	0.038	<0.002	<0.002	0.0027 J	<0.002	0.0024	<0.002	<0.0002	0.0026	<0.002	0.015	<0.002	<0.002	<0.01	<0.01
B-226	09/19/12		<0.025	<0.025	0.048	<0.005	<0.005	0.0064 J	0.0036 J	0.0048 J	<0.005	<0.000200	<0.005	0.0026 J	0.011	<0.005	<0.002	<0.025	<0.025
B-226	09/19/12	Duplicate	<0.025	<0.025	0.044	<0.005	<0.005	<0.010	0.0032 J	0.0040 J	<0.005	<0.000200	<0.005	<0.005	0.012	<0.005	<0.002	<0.025	<0.025
B-226	11/09/12		<0.025	<0.025	0.047	<0.0050	<0.010	<0.010	<0.0050	0.0041 J	<0.010	<0.000200	<0.010	<0.0050	0.0094 J	<0.010	<0.0050	<0.025	<0.025
B-226	11/09/12	Duplicate	<0.025	<0.025	0.049	<0.0050	<0.010	0.0076 J	<0.0050	<0.0050	<0.010	<0.000200	<0.010	0.0057	0.030	<0.010	<0.0050	<0.025	<0.025
B-230	09/21/11		<0.0050	0.0037 J	0.03	0.0041	0.0065	0.0014 J	0.074	0.0034	0.054	<0.000200	<0.0010	0.084	0.019	<0.0010	<0.0010	<0.0050	1.1
B-230	11/18/11		<0.005	0.0058	0.039	0.015	0.0069	0.005	0.056	0.0061	0.059	<0.0002	<0.001	0.084	0.019	<0.001	<0.001	<0.005	1.2
B-230	02/17/12		<0.005	0.0058	0.1	0.0087	0.0038	0.0068	0.062	0.004	0.052	<0.0002	<0.001	0.076	0.02	<0.001	<0.001	<0.005	1.1
B-230	05/11/12		<0.01	0.0075 J	0.030	0.011	0.0078	0.0042	0.053	0.0058	0.057	<0.0002	<0.002	0.087	0.026	<0.002	<0.002	<0.01	1.5
B-230	09/19/12		<0.025	<0.025	0.032	0.011	0.0099	0.0079 J	0.12	0.014	0.063	<0.000200	<0.005	0.15	0.025	<0.005	<0.002	<0.025	1.4
B-231	09/21/11		0.0036 J	0.026	0.056	<0.0010	<0.0010	0.0013 J	0.0048	0.0014	<0.0010	<0.000200	0.013	0.018	0.05	<0.0010	<0.0010	<0.0050	0.016
B-231	09/21/11	Duplicate	0.0038 J	0.029	0.062	<0.0010	<0.0010	0.0014 J	0.005	0.0016	<0.0010	<0.000200	0.014	0.019	0.045	<0.0010	<0.0010	<0.0050	0.0072
B-231	11/18/11		<0.005	0.018	0.078	<0.001	<0.001	0.0027	0.0048	0.0022	0.001	<0.0002	0.012	0.022	0.046	<0.001	<0.001	<0.005	0.025
B-231	02/17/12		<0.005	0.012	0.26	<0.001	<0.001	0.0075	0.0045	0.0018	<0.001	<0.0002	0.0072	0.014	0.058	<0.001	<0.001	<0.005	0.05
B-231	05/11/12		<0.01	0.012	0.097	<0.002	<0.002	0.0025 J	0.0043	<0.002	<0.002	<0.0002	0.0024	0.0091	0.050	<0.002	<0.002	<0.01	<0.01
B-231	09/19/12		<0.025	0.013 J	0.17	<0.005	<0.005	<0.010	0.0044 J	<0.005	<0.005	<0.000200	<0.005	0.008	0.039	<0.005	<0.002	<0.025	<0.025
B-231	11/09/12		<0.025	<0.025	0.18	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.010	<0.000200	<0.010	<0.0050	0.0076 J	<0.010	<0.0050	<0.025	<0.025
SP-1	05/07/01		<0.05	<0.05	0.32	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.06	0.03	<0.05	<0.01	<0.05	<0.01	0.1
SP-1	08/22/01		<0.05	<0.05	0.34	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.09
SP-1	12/10/01		<0.05	<0.05	0.36	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.11
SP-1	02/10/02		<0.05	<0.05	0.21	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
SP-1	05/30/02		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
SP-1	08/27/02		<0.05	<0.05	0.06	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
SP-1	11/13/02		<0.05	<0.05	0.032	<0.005	<0.01	0.01	<0.01	<0.01	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
SP-1	03/12/03		<0.05	<0.05	0.033	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
SP-1	6/11/2003		<0.05	<0.05	0.031	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
SP-1	8/20/2003		<0.05	<0.05	0.036	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
SP-1	11/13/2003		<0.05	<0.05	0.036	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
SP-1	2/23/2004	NA																	
SP-1	8/10/2004	NA																	
SP-1	12/8/2004	NA																	
SP-1	3/7/2005	NA																	
SP-1	6/20/2005	NA																	
SP-1	03/04/06	NA																	
SP-1	11/20/06	NA																	
SP-1	6/14/07	NA																	
SP-2	05/02/01	NA																	
SP-2	08/20/01	LNAPL																	
SP-2	02/15/02	LNAPL																	
SP-2	05/28/02	LNAPL																	
SP-2	08/26/02	LNAPL																	
SP-2	11/12/02	LNAPL																	
SP-2	03/10/03	LNAPL																	
SP-2	6/13/2003	LNAPL																	
SP-2	8/21/2003	LNAPL																	
SP-2	2/23/2004	LNAPL																	
SP-2	8/10/2004	LNAPL																	
SP-2	12/8/2004	LNAPL																	
SP-2	3/7/2005	LNAPL																	

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
SP-2	6/20/2005	Dry																	
SP-2	03/04/06	NA																	
SP-2	06/22/06		< 0.0040	0.041	0.076	< 0.0020	< 0.0020	< 0.0060	0.0055	0.0054	< 0.0020	< 0.00020	0.023	0.087	0.02	< 0.0020	< 0.0020	< 0.0060	0.012
SP-2	12/05/06		<0.0100	**0.0193**	**0.0727**	<0.00400	<0.00100	<0.00500	<0.0200	<0.0100	<0.00500	<0.000200	**0.0167 J**	**0.0134**	**0.0101**	<0.00500	<0.0100	<0.0200	<0.0500
SP-2	5/22/07	Sheen																	
SP-3	05/02/01	LNAPL																	
SP-3	08/20/01	LNAPL																	
SP-3	02/15/02	NA																	
SP-3	05/28/02	LNAPL																	
SP-3	08/26/02	LNAPL																	
SP-3	11/12/02	LNAPL																	
SP-3	03/10/03	LNAPL																	
SP-3	6/13/2003	LNAPL																	
SP-3	8/21/2003	LNAPL																	
SP-3	2/23/2004	LNAPL																	
SP-3	8/10/2004	NA																	
SP-3	12/8/2004	NA																	
SP-3	3/7/2005	NA																	
SP-3	6/20/2005	NA																	
SP-3	03/04/06	NA																	
SP-4	05/02/01	NA																	
SP-4	08/20/01	NA																	
SP-4	02/14/02		<0.05	<0.05	0.54	<0.005	<0.01	<0.01	0.04	0.05	<0.005	<0.0002	<0.01	0.22	<0.05	<0.01	<0.05	<0.01	0.19
SP-4	05/28/02	LNAPL																	
SP-4	08/26/02	LNAPL																	
SP-4	11/12/02	LNAPL																	
SP-4	03/10/03	LNAPL																	
SP-4	6/13/2003	LNAPL																	
SP-4	8/21/2003	LNAPL																	
SP-4	2/23/2004	LNAPL																	
SP-4	8/10/2004	LNAPL																	
SP-4	12/8/2004	LNAPL																	
SP-4	03/07/05	NA																	
SP-4	06/20/05	NA																	
SP-4	03/04/06	NA																	
SP-5	05/02/01	LNAPL																	
SP-5	08/20/01	LNAPL																	
SP-5	02/15/02	LNAPL																	
SP-5	05/28/02	LNAPL																	
SP-5	08/26/02	LNAPL																	
SP-5	11/12/02	LNAPL																	
SP-5	03/10/03	LNAPL																	
SP-5	6/13/2003	LNAPL																	
SP-5	8/21/2003	LNAPL																	
SP-5	2/23/2004	LNAPL																	
SP-5	8/10/2004	LNAPL																	
SP-5	12/8/2004	LNAPL																	
SP-5	3/7/2005	NA																	
SP-5	6/20/2005	NA																	
SP-5	03/04/06	NA																	
SP-6	05/02/01	Dry																	
SP-6	08/20/01	LNAPL																	
SP-6	02/15/02	Dry																	
SP-6	05/28/02	Dry																	
SP-6	08/26/02	Dry																	
SP-6	11/12/02	Dry																	
SP-6	03/10/03	LNAPL																	
SP-6	6/13/2003	Dry																	
SP-6	8/21/2003	Dry																	
SP-6	2/23/2004	NA																	
SP-6	8/10/2004	NA																	
SP-6	12/8/2004	NA																	
SP-6	3/7/2005	LNAPL																	
SP-6	6/20/2005	LNAPL																	
SP-6	03/04/06	NA																	
SP-6	11/20/06	NA																	

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Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
SP-6	5/21/07	Dry																	
SP-7A	05/05/01		<0.05	<0.05	0.015	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.02
SP-7A	08/22/01		<0.05	<0.05	0.37	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	0.1
SP-7A	12/08/01		<0.05	<0.05	0.26	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.09
SP-7A	02/12/02		<0.05	<0.05	0.49	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.2
SP-7A	05/30/02		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.06
SP-7A	08/29/02		<0.05	<0.05	0.1	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.06
SP-7A	11/14/02		<0.05	<0.05	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
SP-7A	03/11/03		<0.05	<0.05	0.01	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
SP-7A	6/11/2003		<0.05	<0.05	0.024	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
SP-7A	8/20/2003		<0.05	<0.05	0.017	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
SP-7A	2/23/2004	NA																	
SP-7A	8/10/2004	NA																	
SP-7A	12/8/2004	NA																	
SP-7A	3/7/2005	NA																	
SP-7A	6/20/2005	NA																	
SP-7A	03/04/06	NA																	
SP-7A	11/20/06	NA																	
SP-7A	6/6/07	NA																	
SP-8	05/09/01		<0.05	<0.05	0.45	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.11
SP-8	08/20/01	LNAPL																	
SP-8	02/15/02	LNAPL																	
SP-8	05/28/02	LNAPL																	
SP-8	08/26/02	LNAPL																	
SP-8	11/12/02	LNAPL																	
SP-8	03/10/03	LNAPL																	
SP-8	6/13/2003	LNAPL																	
SP-8	8/21/2003	LNAPL																	
SP-8	2/23/2004	LNAPL																	
SP-8	8/10/2004	LNAPL																	
SP-8	12/8/2004	LNAPL																	
SP-8	3/7/2005	NA																	
SP-8	6/20/2005	NA																	
SP-8	03/04/06	NA																	
SP-9	05/04/01		<0.05	<0.05	0.022	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
SP-9	08/21/01		<0.05	<0.05	0.33	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.1
SP-9	12/08/01		<0.05	<0.05	0.26	<0.005	<0.01	0.02	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.08
SP-9	02/11/02		<0.05	<0.05	0.27	<0.005	<0.01	<0.01	<0.01	0.01	0.024	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.09
SP-9	05/29/02		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
SP-9	08/28/02		<0.05	<0.05	0.069	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
SP-9	11/13/02		<0.05	<0.05	0.015	<0.005	<0.01	0.02	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
SP-9	03/11/03		<0.05	<0.05	0.021	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
SP-9	6/10/2003		<0.05	<0.05	0.017	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
SP-9	8/19/2003		<0.05	<0.05	0.022	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
SP-9	11/12/2003		<0.05	<0.05	0.015	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
SP-9	2/23/2004	NA																	
SP-9	8/10/2004	NA																	
SP-9	12/8/2004	NA																	
SP-9	3/7/2005	NA																	
SP-9	6/20/2005	NA																	
SP-9	03/04/06	NA																	
SP-9	11/20/06	NA																	
SP-9	5/30/07	NA																	
GMW-14	05/18/98	NA																	
GMW-14	08/19/98		<0.05	<0.05	0.054	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
GMW-14	11/25/98		<0.05	<0.05	0.04	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
GMW-14	03/06/99		<0.05	<0.05	0.047	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-14	06/18/99		<0.05	<0.05	0.043	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01
GMW-14	09/23/99		<0.05	<0.05	0.055	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
GMW-14	11/19/99		<0.05	<0.05	0.039	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
GMW-14	02/24/00		<0.05	<0.05	0.048	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04
GMW-14	05/22/00		<0.05	<0.05	0.047	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.03
GMW-14	09/02/00		<0.05	<0.05	0.025	<0.005	<0.01	<0.02	<0.01	<0.01	<0.05	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.001	<0.01	<0.01
GMW-14	11/30/00		<0.05	<0.05	0.049	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-14	02/23/01		<0.05	<0.05	0.052	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-14	05/08/01		<0.05	<0.05	0.61	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.16

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ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
GMW-14	08/22/01		<0.05	<0.05	0.35	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.08
GMW-14	12/11/01		<0.05	<0.05	0.43	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.11
GMW-14	02/13/02		<0.05	<0.05	0.36	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.13
GMW-14	05/31/02		<0.05	<0.05	0.16	<0.005	<0.01	0.02	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
GMW-14	08/28/02		<0.05	<0.05	0.14	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.06
GMW-14	11/13/02		<0.05	<0.05	0.043	<0.005	<0.01	0.02	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-14	03/13/03		<0.05	<0.05	0.045	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-14	6/12/2003		<0.05	<0.05	0.048	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.02	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-14	8/20/2003		<0.05	<0.05	0.044	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-14	2/23/2004	NA																	
GMW-14	8/10/2004	NA																	
GMW-14	12/8/2004	NA																	
GMW-14	3/7/2005	NA																	
GMW-14	6/20/2005	NA																	
GMW-14	03/04/06	NA																	
GMW-14	11/20/06	NA																	
GMW-14	05/30/07	NA																	
GMW-15	02/19/98	NA																	
GMW-15	05/18/98	NA																	
GMW-15	08/18/98		<0.05	<0.05	0.021	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.03
GMW-15	11/25/98		<0.05	<0.05	0.019	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.03
GMW-15	03/06/99		<0.05	<0.05	0.033	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.01
GMW-15	06/20/99		<0.05	<0.05	0.017	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-15	09/23/99		<0.05	<0.05	0.03	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.03	<0.05	<0.01	<0.05	<0.01	0.04
GMW-15	11/19/99		<0.05	<0.05	0.021	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.02
GMW-15	02/24/00		<0.05	<0.05	0.039	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	0.02	0.03
GMW-15	05/24/00		<0.05	<0.05	0.021	<0.005	<0.01	<0.01	<0.01	0.017	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.01
GMW-15	09/03/00		<0.05	<0.05	0.035	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.01
GMW-15	11/30/00		<0.05	<0.05	0.038	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-15	02/23/01		<0.05	<0.05	0.016	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	0.01	0.01	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-15	05/08/01		<0.05	<0.05	0.59	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.21
GMW-15	08/22/01		<0.05	<0.05	0.33	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.09
GMW-15	12/11/01		<0.05	<0.05	0.38	<0.005	<0.01	0.02	<0.01	0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.16
GMW-15	02/13/02		<0.05	<0.05	0.3	<0.005	<0.01	<0.01	<0.01	0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.14
GMW-15	05/31/02		<0.05	<0.05	0.16	<0.005	<0.01	0.04	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	0.08
GMW-15	08/26/02	Well Inaccessibile - Paved Over																	
GMW-15	11/13/02		<0.05	<0.05	0.021	<0.005	<0.01	0.02	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-15	03/11/03		<0.05	<0.05	0.013	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-15	6/12/2003		<0.05	<0.05	0.015	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-15	8/20/2003		<0.05	<0.05	0.02	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.01	0.02	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-15	2/23/2004	NA																	
GMW-15	8/10/2004	NA																	
GMW-15	12/8/2004	NA																	
GMW-15	3/7/2005	NA																	
GMW-15	6/20/2005	NA																	
GMW-15	03/04/06	NA																	
GMW-15	11/20/06	NA																	
GMW-15	05/30/07	NA																	
GMW-16	10/30/97	NA								<0.005									0.02
GMW-16	02/17/98		<0.05	<0.05	0.032	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	0.04	0.02	<0.05	<0.01	<0.05	<0.01	0.03
GMW-16	05/18/98	NA																	
GMW-16	08/18/98		<0.05	<0.05	0.041	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.06
GMW-16	11/23/98		<0.05	<0.05	0.044	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
GMW-16	03/07/99		<0.05	<0.05	0.045	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-16	06/18/99		<0.05	<0.05	0.036	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
GMW-16	09/23/99		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.07
GMW-16	11/19/99		<0.05	<0.05	0.037	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	0.01	<0.05	<0.01	<0.05	<0.01	0.08
GMW-16	02/24/00		<0.05	<0.05	0.043	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
GMW-16	05/22/00	NA																	
GMW-16	08/28/00	NA																	
GMW-16	11/27/00	NA																	
GMW-16	02/19/01	NA																	
GMW-16	05/02/01	NA																	
GMW-16	08/21/01		<0.05	<0.05	0.2	<0.005	<0.01	<0.01	<0.01	0.03	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.06
GMW-16	12/10/01		<0.05	<0.05	0.1	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02
GMW-16	02/13/02		<0.05	<0.05	0.11	<0.005	<0.01	<0.01	<0.01	0.02	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.07
GMW-16	05/31/02		<0.05	<0.05	0.12	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.05
GMW-16	08/28/02		<0.05	<0.05	0.098	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.04

Summary of Historical Dissolved Metals Concentrations in Groundwater
Chevron Avila Beach Terminal (Former Unocal Terminal), Avila Beach, CA

ID	Date	Comments	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Molyb-denum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Thallium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
GMW-16	11/14/02		<0.05	<0.05	0.037	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-16	03/11/03		<0.05	<0.05	0.023	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-16	6/13/2003		<0.05	<0.05	0.025	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-16	8/20/2003		<0.05	<0.05	0.037	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.0002	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	<0.01
GMW-16	2/23/2004	NA																	
GMW-16	8/10/2004	NA																	
GMW-16	12/8/2004	NA																	
GMW-16	3/7/2005	NA																	
GMW-16	6/20/2005	NA																	
GMW-16	03/04/06	NA																	
GMW-16	11/20/06	NA																	
GMW-16	05/30/07	NA																	

Notes:
mg/L = milligrams per liter
Dup = Duplicate sample
LNAPL = Well not sampled due to the presence of light non-aqueous phase liquid
< = Constituent not detected at or above the shown laboratory reporting limit
NA = Not analyzed
Trace = Well not sampled due to the presence of a trace of LNAPL
J = estimated value; results are above the method detection limit and below the method reporting limit

APPENDIX A-4
Summary of Historical Cliff Springs Observations and Analytical Data

Cliff Spring Field Inspection Data
Summary of Historical Data
Former Unocal Terminal, Avila Bay, CA

Location ID	Date Measured	Estimated Flow (gpm)	Sample Collected	Sample ID	Comments
A	02/16/06	0.00	N	- -	Flow too low to sample
A	02/28/06	0.00	N	- -	Flow too low to sample
A	03/31/06	0.01	Y	AT-A	Slow flow
A	04/27/06	0.00	N	- -	No flow, wet/drips
A	05/25/06	0.03	Y	AT-A	Wet, dripping - minimal flow
A	06/30/06	0.00	N	- -	Moist, no flow
A	07/27/06	0.00	N	- -	--
A	08/31/06	0.00	N	- -	Dry
A	09/26/06	0.00	N	- -	Damp, no flow
A	10/23/06	0.00	N	- -	Damp, no flow
A	11/21/06	0.01	Y	AT-CS-A	--
A	12/19/06	0.00	N	- -	Reasonable flow, but unable to sample
A	01/25/07	0.00	N	- -	Flow too low to sample
A	02/23/07	0.00	N	- -	Damp, moss
A	03/23/07	0.00	N	- -	Minor flow, not enough for sample
A	04/25/07	0.00	N	- -	Moist, minimal flow
A	05/23/07	0.00	N	- -	Moist to wet, minimal flow, no sample
A	06/26/07	0.00	N	- -	Wet, minimal flow
A	07/27/07	0.00	N	- -	Wet, minimal flow
A	08/22/07	0.00	N	- -	Wet, minimal flow
A	09/21/07	0.00	N	- -	Wet, minimal flow
A	10/23/07	0.00	N	- -	Wet, minimal flow
A	11/20/07	0.00	N	- -	Wet, minimal flow
A	Dec/07	- -	- -	- -	Not monitored
A	01/17/08	V.Low	N	- -	Wet, no flow
A	02/14/08	V.Low	N	- -	Insufficient flow to sample
A	03/18/08	V.Low	N	- -	Wet, minor dripping, not enough to sample
A	04/25/08	V.Low	N	- -	Dripping, not enough flow to sample
A	05/23/08	V.Low	N	- -	Dripping at several locations, sulfur odor (Formation derived?), abundant plant life. Fracture plane emitting water 310/30^{O}S to 310/40^{O}S
A	06/25/08	0.00	N	- -	Wet, dripping at ~40 points and minimal flow and one location, algal covered
A	07/25/08	0.08	N	- -	Wet. 21 points dripping. Fracture plane at northern site location is dripping.
A	08/22/08	0.22	N	- -	Wet, 56 points dripping, algal covered with substantial plant growth. Area 23 x 12 feet.
A	09/25/08	0.04	N	- -	Wet, 11 points dripping, split into 4 areas. Site less wet than previous.
A	10/20/08	0.13	N	- -	Wet, dripping at 26 points, no active flow, seep area 20 x 18 feet, algal covered.
A	11/19/08	0.00	N	- -	Moist to wet. Moist area 20 x 12 feet, 9 points dripping.
A	12/18/08	0.04	N	- -	Wet to moist. 7 points dripping, no flow, wet areas 10 x 10 feet and 5 x 10 feet.
A	01/13/09	0.05	N	- -	Wet, significant plant/algal growth, 11 points dripping. Flow from fracture 12' BGS
A	02/10/09	0.20	N	- -	Wet, 2 points dripping fast, sheet flow down 2', 14'x6' area wet.
A	03/16/09	0.12	N	- -	Wet/moist, 9 fast/4 slow points dripping, flow from fracture 12' BGS.
A	04/14/09	0.20	N	- -	Wet, 13 fast/17 slow dripping points, moist area 12 x 12 and 5x12 feet, algal covered.
A	05/15/09	0.28	N	- -	Moist to wet, Moist area 24 x 10 feet, 21 fast/16 slow points dripping.
A	06/12/09	0.25	N	- -	Wet/moist, 17 fast/14 slow dripping points dripping, moist areas 5x 10 and 5x10 feet.
A	07/13/09	0.26	N	- -	Wet/moist, significant plant/algal growth, 33 points dripping, natural organic odor.
A	08/13/09	0.22	N	- -	Wet/moist, 8 points dripping fast and 26 slow, sheet flow down 2', 17x12 feet area wet.

Cliff Spring Field Inspection Data
Summary of Historical Data
Former Unocal Terminal, Avila Beach, CA

Location ID	Date Measured	Estimated Flow (gpm)	Sample Collected	Sample ID	Comments
A	09/11/09	0.50	N	- -	Wet/moist, 26 fast and 24 slow drip points, sheet flow down left, 18x12 feet area wet.
A	10/09/09	0.27	N	- -	Moist/wet, moist area 15x12 feet, 16 fast and 19 slow points dripping.
A	11/30/09	0.20	N	- -	Moist to wet, Moist area 28 x 15 feet, main seep 15 feet above ground surface.
A	12/17/09	0.10	N	- -	Wet/moist, 4 fast/8 slow points dripping, organic odor but appears natural.
A	01/27/10	3.00	Y	AT-A	Wet with spring and surface flow, sample targeted spring flow, odor to samples.
A	02/25/10	1.00	Y	AT-A	Diffuse wet areas over 20x15 foot area, 7 fast and 8 slow drip points.
A	04/02/10	0.04	N	- -	Wet area 8x10 feet with minor flow, 1 fast drips and 8 slow drips, algal growth present.
A	04/22/10	0.12	N	- -	Wet area 15x15 feet with all independent areas joined, 4 fast drips and 18 slow, algae.
A	05/17/10	0.27	Y	AT-A	Wet area 18x5 feet, with 17 fast drips and 17 slow drips and extensive algal buildup.
A	06/02/10	0.30	Y	AT-A	Wet, flow from planar fracture planes, 19 fast drip and 25 slow drip points, plant growth.
A	07/13/10	0.32	Y	AT-A	Wet, some flow from fracture, one point flowing, significant algal/plant growth, grasses.
A	08/27/10	0.25	Y	AT-A	Wet 9'x10' area, moist 2'x5', slow drip 20, fast drip 14, significant algal/large plant growth
A	09/28/10	0.21	Y	AT-A	Wet 11'x7', moist 2'x'3', abundant algal growth in fracture, grass near top. Flow from fracture, 10 fast, 14 slow drips.
A	10/21/10	0.18	N	- -	Wet 10'x10', moist 3'x4', abundant algal growth and small shrubs, 9 fast, 13 slow drips, flow from planar fracture, not sufficient to sample
A	11/19/10	0.02	N	- -	Wet area 10'x10'; moist area 3'x4'; abundant algae growth with small shrubs; 4 slow drips from planar fracture; insufficient to sample.
A	12/10/10	0.01	N	- -	Moist/wet area 10'x15', abundant algae growth with some small shrubs, 1 fast drip from distinct planar fracture, insufficient flow to sample
A	01/18/11	0.05	Y	AT-A	Wet area 4' x 7'; Moist area 3' x 3'; Abundant algae growth on wet surface; 4 fast drips and 2 slow drips emanating from a distinct planar fracture 5' in length.
A	02/15/11	0.08	Y	AT-A	Two wet 12' x 4' areas adjacent to each other connected by a 3' x 3' moist area; 5 fast drips and 6 slow drips; abundant moss and grass vegetation.
A	06/22/12	0.02	N	- -	No hydrocarbon odor or sheen; 8' x 8' wet area on cliff face; three slow drips; vegetation; insufficient flow to collect sample.
A	07/20/12	0.02	N	- -	No hydrocarbon odor or sheen; 15' x 15' wet area on cliff face; ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
A	08/23/12	0.05	N	- -	No hydrocarbon odor or sheen; 16' x 14' wet area on cliff face; ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
A	09/21/12	0.10	N	- -	No hydrocarbon odor or sheen; 20' x 20' wet area on cliff face; ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
A	10/26/12	- -	N	- -	No hydrocarbon odor or sheen; 9' x 17' wet area on cliff face; abundant vegetation; slight sulfur odor; insufficient flow to collect sample.
A	11/09/12	0.05	N	- -	No hydrocarbon odor or sheen; 15' x 15' wet area on cliff face; ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
A	12/21/12	0.04	N	- -	No hydrocarbon odor or sheen; 10' x 15' wet area on cliff face; no ponded water; vegetation; insufficient flow to collect sample.
B	02/16/06	0.00	N	- -	Flow too low to sample
B	02/28/06	0.00	N	- -	Flow too low to sample
B	03/31/06	0.00	N	- -	Wet, negligible flow
B	04/27/06	0.01	N	AT-B	Wet and flowing
B	05/25/06	0.00	N	- -	Damp, no flow
B	06/30/06	0.00	N	- -	Moist, no flow
B	07/27/06	0.00	N	- -	--
B	08/31/06	0.00	N	- -	Dry
B	09/26/06	0.00	N	- -	Damp, no flow
B	10/23/06	0.00	N	- -	Damp, no flow
B	11/21/06	NM	Y	AT-CS-B	- -
B	12/19/06	0.00	N	- -	Reasonable flow, but unable to sample
B	01/25/07	0.02	Y	AT-CS-B	Good flow
B	02/23/07	0.00	Y	AT-CS-B	Damp, moss
B	03/23/07	0.00	Y	AT-CS-B	Wet
B	04/25/07	0.01	Y	AT-CS-B	Moist and wet, take sample
B	05/23/07	0.01	Y	AT-CS-B	Wet, multiple drips, sample taken
B	06/26/07	0.01	Y	AT-CS-B	Wet, many drips
B	07/27/07	0.00	N	- -	Wet, minimal flows

Cliff Spring Field Inspection Data
Summary of Historical Data
Former Unocal Terminal, Avila Beach, CA

Location ID	Date Measured	Estimated Flow (gpm)	Sample Collected	Sample ID	Comments
B	08/22/07	0.00	N	- -	Moist to wet
B	09/21/07	0.00	N	- -	Wet, minimal flows
B	10/23/07	0.00	N	- -	Wet, minimal flows
B	11/20/07	0.00	N	- -	Wet, minimal flows
B	Dec/07	- -	- -	- -	Not monitored
B	01/17/08	V.Low	N	- -	Insufficient flow to sample
B	02/14/08	V.Low	N	- -	Insufficient flow to sample
B	03/18/08	V.Low	N	- -	Wet, minor dripping, not enough to sample
B	04/25/08	V.Low	N	- -	Dripping, not enough flow to sample
B	05/23/08	V.Low	N	- -	Fracture plane is moist, fracture plane orientation 292/20^{O}S, occasional drips
B	06/25/08	0.00	N	- -	Moist/wet fracture plane, about 2x4 feet wide, algal covered
B	07/25/08	0.00	N	- -	Area wet, no dripping.
B	08/22/08	0.00	N	- -	Moist/wet no flow, some plant growth, seep area 5 x 1 feet.
B	09/25/08	0.00	N	- -	Dry, covered with sand compared to previous.
B	10/20/08	0.00	N	- -	Moist, no flow, some algal growth, drier than previous.
B	11/19/08	0.00	N	- -	Moist to dry. No points dripping. Moist area 5 x 2.5 feet.
B	12/18/08	0.00	N	- -	Moist to wet, no flow, not possible to sample and no points dripping.
B	01/13/09	0.01	N	- -	Moist/wet, 2 points dripping, plant growth, seep area 4 x 2 feet, seep from one fracture.
B	02/10/09	0.01	N	- -	Moist/wet, 1 point dripping, seep from one3 foot long fracture.
B	03/16/09	0.00	N	- -	Moist/wet area 3.5x2.5 feet, 1 point dripping, algal growth, flow from fracture.
B	04/14/09	0.02	N	- -	Wet area 3x2 feet, 2 slow dripping points, one drip creating bubbles (organic) .
B	05/15/09	0.10	N	- -	Moist, some algal growth, flow from fracture.
B	06/12/09	0.00	N	- -	Moist/dry, some algal growth, moist around fracture.
B	07/13/09	0.00	N	- -	Moist/wet, significant algal growth, seep from one 4-foot long planar fracture zone.
B	08/13/09	0.00	N	- -	Moist, seeps from 6-foot long and 2-foot long planar fractures, covered with algae.
B	09/11/09	0.00	N	- -	Moist almost dry, seep from 3-foot long horizontal fracture, significant algal growth.
B	10/09/09	0.00	N	- -	Moist, almost dry. Algal covered, seep from 5 foot long planar fracture.
B	11/30/09	0.00	N	- -	Moist/wet, seep plane moist over separate 3 and 4 foot long sections.
B	12/17/09	0.00	N	- -	Moist/wet seep from 3 foot long planar fracture, significant algal growth.
B	01/27/10	0.00	N	- -	Fracture plane moist/wet over 5-foot long section.
B	02/25/10	0.20	Y	AT-B	Wet, diffuse flow from discrete planar fracture of 3 foot length.
B	04/02/09	0.00	N	- -	Moist area 1.5 feet wide along fracture plane, some algal deposits.
B	04/22/10	0.02	N	- -	Moist with spring flow emanating from 4 foot long fracture plane, some algae present.
B	05/17/10	0.01	N	- -	wet/moist with wet area 4x2 feet emanating from fracture plane.
B	06/02/10	0.01	N	- -	Wet/moist flow from discrete fracture plane of 5-foot length, minor algal growth.
B	07/13/10	0.00	N	- -	moist/dry, moist along 1 foot horizontal fracture plane. Slight algal growth.
B	08/27/10	0.01	N	- -	moist, flow from 4' planar fracture, not sufficient to sample, some algal growth
B	09/28/10	0.01	N	- -	most/almost dry, flow from 5' fracture plane, not sufficient to sample
B	10/21/10	0.01	N	- -	moist, flow from 4' planar fracture, not sufficient to sample, some algal and grass growth
B	11/19/10	0.00	N	- -	Moist/wet area 3'x3' from planar fracture 4' in length; some algae growth; not possible to sample.
B	12/10/10	0.00	N	- -	Moist/wet area 3'x3' around planar fracture 4' in length, some algae growth, no drips, insufficient flow to sample
B	01/18/11	0.00	N	- -	Wet area 3' x 1'; Some algae growth on wet surface; Wet area originating from planar fracture; insufficient amount of water to sample.
B	02/15/11	0.00	N	- -	3' x 2' moist area emanating from planar fracture approximately 7' long; some moss growth on cliff face; no drips; no sample collected.
B	06/22/12	0.00	N	- -	No hydrocarbon odor or sheen; 3' x 3' moist area on cliff face; vegetation; no drips; no sample collected.

Cliff Spring Field Inspection Data
Summary of Historical Data
Former Unocal Terminal, Avila Beach, CA

Location ID	Date Measured	Estimated Flow (gpm)	Sample Collected	Sample ID	Comments
B	07/20/12	- -	N	- -	No hydrocarbon odor or sheen; 3' x 4' moist area on cliff face; vegetation; no drips; no sample collected.
B	08/23/12	- -	N	- -	No hydrocarbon odor or sheen; 2' x 6' damp area on cliff face; vegetation; no drips; no sample collected.
B	09/21/12	- -	N	- -	No hydrocarbon odor or sheen; 8' x 8' damp area on cliff face; vegetation; no drips; no sample collected.
B	10/26/12	- -	N	- -	No hydrocarbon odor or sheen; 5' x 10' damp area on cliff face; vegetation; no drips; no sample collected.
B	11/09/12	- -	N	- -	No hydrocarbon odor or sheen; 2' x 5' damp area on cliff face; vegetation; no drips; no sample collected.
B	12/21/12	- -	N	- -	No hydrocarbon odor or sheen; 2' x 4' damp area on cliff face; vegetation; no drips; no sample collected.
C	02/16/06	0.00	N	- -	Flow too low to sample
C	02/28/06	0.01	N	- -	Flow too low to sample
C	03/31/06	0.00	N	- -	Wet, negligible flow
C	04/27/06	0.00	N	- -	No flow, damp to dry
C	05/25/06	0.00	N	- -	Wet, no flow
C	06/30/06	0.00	N	- -	Dry
C	07/27/06	0.00	N	- -	--
C	08/31/06	0.00	N	- -	Dry
C	09/26/06	0.00	N	- -	Dry, no flow
C	10/23/06	0.00	N	- -	Damp, no flow
C	11/21/06	0.00	N	- -	Slight flow, but not enough to sample
C	12/19/06	0.00	N	- -	Damp, no flow
C	01/25/07	0.00	N	- -	Damp, low flow, unable to sample
C	02/23/07	0.00	N	- -	Damp, moss
C	03/23/07	0.00	N	- -	Damp, no sample
C	04/25/07	0.00	N	- -	Damp, no flow
C	05/23/07	0.00	N	- -	Moist with minimal flow, no sample
C	06/26/07	0.00	N	- -	Dry-damp, minimal flow
C	07/27/07	0.00	N	- -	Moist, damp
C	08/22/07	0.00	N	- -	Damp, no flow
C	09/21/07	0.00	N	- -	Damp, no flow
C	10/23/07	0.00	N	- -	Damp to wet, minimal flow
C	11/20/07	0.00	N	- -	Damp, no flow
C	Dec/07	- -	- -	- -	Not monitored
C	01/17/08	0.00	N	- -	Dry
C	02/14/08	V.Low	N	- -	Insufficient flow to sample
C	03/18/08	V.Low	N	- -	Wet, minor dripping, not enough to sample
C	04/25/08	0.00	N	- -	Damp, no flow
C	05/23/08	V.Low	N	- -	Wet with occasional drips, fracture plane orientation 292/20 ^{O}S, algal covered
C	06/25/08	0.00	N	- -	Moist with some areas dripping, rate 1 drip per second, not possible to sample, algal covered
C	07/25/08	0.00	N	- -	Area wet with 2 points dripping. Seep supports vegetation. Not possible to sample.
C	08/22/08	0.01	N	- -	Moist/wet, 3 points dripping, seep area 9 x 3.5 feet, algal covered, some plant growth.
C	09/25/08	0.01	N	- -	Moist with wet area 6 x 2 feet, 3 dripping points observed.
C	10/20/08	0.00	N	- -	Moist, no flow and some algal growth and plant growth, seep area 9 x 3 feet.
C	11/19/08	0.00	N	- -	Moist to dry. One point dripping. Appears drier than previous. Seep area 3 x 6 feet.
C	12/18/08	0.00	N	- -	Moist to wet, one point dripping, seep from one fracture plane of 3 feet length.
C	01/13/09	0.00	N	- -	Area wet 3x17 feet, vegetation and algal growth, no points dripping.
C	02/10/09	0.00	N	- -	Moist in 2x1 and 1x1 feet patches, otherwise dry. Fracture moist.

Cliff Spring Field Inspection Data
Summary of Historical Data
Former Unocal Terminal, Avila Beach, CA

Location ID	Date Measured	Estimated Flow (gpm)	Sample Collected	Sample ID	Comments
C	03/16/09	0.00	N	- -	Moist area 12x2 feet, no flow, 1 point dripping, algal growth.
C	04/14/09	0.01	N	- -	Wet area 1x6 feet, 1 slow dripping point, plant/grass growth around fractures.
C	05/15/09	0.00	N	- -	Moist no flow, some algal growth in moist areas.
C	06/12/09	0.00	N	- -	Moist/dry, 3 foot fracture section moist, significant algal growth.
C	07/13/09	0.00	N	- -	Area moist/almost dry, algal covered but drying out, moist area 1 x 3 feet.
C	08/13/09	0.00	N	- -	Moist around 3-foot long fracture plane, significant algal/grass growth.
C	09/11/09	0.00	N	- -	Moist/wet area 8x3 feet, no flow, significant algal growth.
C	10/09/09	0.00	N	- -	Moist, seep from 12 foot long planar fracture, sub-horizontal, plant and algal growth.
C	11/30/09	0.00	N	- -	Moist/wet, seepage from a 2 foot long fracture plane and 3 and 2 foot long moist zones.
C	12/17/09	0.00	N	- -	Moist, seep emanating from 13 foot long fracture plane, some algal and grass growth.
C	01/27/10	0.10	N	- -	Partially covered by landslide, surface runoff down cliff face, spring flow not definable.
C	02/25/10	0.00	N	- -	Wet, but predominantly surface runoff, not possible to identify spring flow.
C	04/02/09	0.00	N	- -	Wet area 6x3 feet with seep from fracture plane, 5 slow drip points, some algal growth.
C	04/22/10	0.01	N	- -	Area wet over 13x14 feet, water emanating from 2 fracture planes, some algal growth.
C	05/17/10	0.05	N	- -	Wet areas 10x4 and 5x5 feet with 1 fast and 1 slow drip points, extensive algal buildup.
C	06/02/10	0.02	N	- -	Wet/moist with 4 areas to spring site, minor ponding at cliff face 1' x 0.25", algal growth.
C	07/13/10	0.02	N	- -	Wet/moist, spring divided into 4 areas, significant algal growth, some plant growth. 5 slow drips, Some grass growth
C	08/27/10	0.02	N	- -	Moist, 2 slow rips, moist area 11'x2.5', substantial algal/plant growth, flow from planar fracture, sample not possible
C	09/28/10	0.03	N	- -	Moist, abundant algae, some large grass growth, moist area 12'x2'+2'x3', flow from two fractures, moist on beach to 2'
C	10/21/10	0.04	N	- -	Moist area 10'x3' , abundant alga and grass growth, 2 slow drips, not possible to sample, flow from planar fracture
C	11/19/10	0.01	N	- -	Moist/wet area 6'x3' with abundant algae and grass growth; 1 slow drip; not possible to sample.
C	12/10/10	0.004	N	- -	Wet area 3'x6', moist area 5'x5', 1 slow drip, insufficient flow to sample, some algae growth
C	01/18/11	0.02	N	- -	Wet area 8' x 8'; Abundant algae and plant growth; 1 fast drip and 2 slow drips; insufficient flow of water to sample.
C	02/15/11	0.05	Y	- -	12' x12' moist area with 2' x 2' wet area at base; 3 fast drips and 4 slow drips; abundant moss and grass vegetation growth.
C	06/22/12	0.01	N	- -	No hydrocarbon odor or sheen; 6' x 9' moist area on cliff face; four slow drips; vegetation; insufficient flow to collect sample.
C	07/20/12	0.01	N	- -	No hydrocarbon odor or sheen; 12' x 8' moist area on cliff face;ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
C	08/23/12	0.02	N	- -	No hydrocarbon odor or sheen; 7' x 4' wet area on cliff face;ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
C	09/21/12	0.05	N	- -	No hydrocarbon odor or sheen; 18' x 10' wet area on cliff face; ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
C	10/26/12	- -	N	- -	No hydrocarbon odor or sheen; 4' x 8' wet area on cliff face; ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
C	11/09/12	- -	N	- -	No hydrocarbon odor or sheen; 5' x 5' wet area on cliff face; ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
C	12/21/12	0.01	N	- -	No hydrocarbon odor or sheen; 10' x 6' wet area on cliff face; ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
D	02/16/06	0.00	N	- -	Spring inaccessible due to high tide
D	02/28/06	0.00	N	- -	No flow
D	03/31/06	0.00	N	- -	Wet, no flow
D	04/27/06	0.05	Y	AT-D	Wet and flowing, clear
D	05/25/06	0.00	N	- -	Spring not accessible
D	06/30/06	0.00	N	- -	Moist, no flow
D	07/27/06	0.00	N	- -	--
D	08/31/06	NM	N	- -	Tide too high to approach
D	09/26/06	0.00	N	- -	Inaccessible
D	10/23/06	0.00	N	- -	Dry
D	11/21/06	0.00	N	- -	Dry
D	12/19/06	0.00	N	- -	Damp, no flow
D	01/25/07	0.00	N	- -	Damp, no flow

Cliff Spring Field Inspection Data
Summary of Historical Data
Former Unocal Terminal, Avila Beach, CA

Location ID	Date Measured	Estimated Flow (gpm)	Sample Collected	Sample ID	Comments
D	02/23/07	0.00	N	- -	Dry
D	03/23/07	0.00	N	- -	Dry
D	04/25/07	0.00	N	- -	Dry, no flow
D	05/23/07	0.00	N	- -	Dry, no flow
D	06/26/07	0.00	N	- -	Dry, no flow
D	07/27/07	0.00	N	- -	Dry, no flow
D	08/22/07	0.00	N	- -	Dry, no flow
D	09/21/07	0.00	N	- -	Dry, no flow
D	10/23/07	0.00	N	- -	Dry, no flow
D	11/20/07	0.00	N	- -	Dry, no flow
D	Dec/07	- -	- -	- -	Not monitored
D	01/17/08	0.00	N	- -	Dry
D	02/14/08	0.00	N	- -	Dry
D	03/18/08	- -	N	- -	No access due to surf conditions
D	04/25/08	0.00	N	- -	Wet and flowing, clear
D	05/23/08	0.00	N	- -	Dry, fracture plane at location orientated 024/90^{O}Vertical
D	06/25/08	0.00	N	- -	Dry
D	07/25/08	0.00	N	- -	Cliff face dry with no discharge.
D	08/22/08	0.01	N	- -	Wet, 1 dripping point, seep area 9 x 6 feet, abundant plant growth.
D	09/25/08	0.00	N	- -	Dry, no discharge.
D	10/20/08	0.00	N	- -	Dry.
D	11/19/08	0.00	N	- -	Not accessible due to high tide.
D	12/18/08	0.00	N	- -	Dry.
D	01/13/09	0.00	N	- -	Not inspected due to high tide.
D	02/10/09	0.00	N	- -	Dry.
D	03/16/09	0.00	N	- -	Dry.
D	04/14/09	0.00	N	- -	Dry.
D	05/15/09	0.00	N	- -	Dry
D	06/12/09	0.00	N	- -	Dry.
D	07/13/09	0.00	N	- -	Seep area and fracture dry, with some algae.
D	08/13/09	0.00	N	- -	Dry - some algal deposits.
D	09/11/09	0.00	N	- -	Not inspected due to high tide.
D	10/09/09	0.00	N	- -	Not inspected due to high tide.
D	11/30/09	0.00	N	- -	Dry
D	12/17/09	0.00	N	- -	Not inspected due to high tide.
D	01/27/10	0.00	N	- -	Dry - No flow.
D	02/25/10	0.00	N	- -	Dry - No flow.
D	04/02/09	0.00	N	- -	Not inspected due to high tide.
D	04/22/10	0.00	N	- -	Not inspected due to high tide.
D	05/17/10	0.00	N	- -	Dry, minor algal in fracture zone.
D	06/02/10	0.00	N	- -	Dry.
D	07/13/10	0.00	N	- -	Dry.
D	08/27/10	0.00	N	- -	Tide too high to access
D	09/28/10	0.00	N	- -	Tide too high to access

Cliff Spring Field Inspection Data
Summary of Historical Data
Former Unocal Terminal, Avila Beach, CA

Location ID	Date Measured	Estimated Flow (gpm)	Sample Collected	Sample ID	Comments
D	10/21/10	0.00	N	- -	Dry.
D	11/19/10	0.00	N	- -	Dry.
D	12/10/10	0.00	N	- -	Unable to access due to tide.
D	01/18/11	0.00	N	- -	Location is dry.
D	02/15/11	0.00	N	- -	Location is dry.
D	06/22/12	0.00	N	- -	Location is dry.
D	07/20/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
D	08/23/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
D	09/21/12	- -	N	- -	Unable to access location due to incoming tide
D	10/26/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
D	11/09/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
D	12/21/12	- -	N	- -	Unable to access location due to incoming tide
E	02/16/06	0.00	N	- -	Could not locate spring
E	02/28/06	0.00	N	- -	Wet, no flow
E	03/31/06	0.03	Y	AT-E	Moderate flow
E	04/27/06	0.00	N	- -	Wet, no flow
E	05/25/06	0.00	N	- -	Wet, minimal flow
E	06/30/06	0.01	Y	CS-E	- -
E	07/27/06	0.00	N	- -	--
E	08/31/06	0.00	N	- -	Dripping, not enough to sample
E	09/26/06	0.00	N	- -	Minor dripping, not enough to sample
E	10/23/06	0.00	N	- -	Damp, no flow, not enough to sample
E	11/21/06	0.00	N	- -	Wet, but no collectible flow
E	12/19/06	0.00	N	- -	Some flow, but unable to sample
E	01/25/07	0.00	Y	AT-CS-E	Moderate flow
E	02/23/07	0.00	N	- -	Damp, moss
E	03/23/07	0.00	N	- -	Damp, no sample
E	04/25/07	0.00	N	- -	Damp-moist, minimal flow
E	05/23/07	0.00	N	- -	Wet-moist, minimal flow, no sample
E	06/26/07	0.00	N	- -	Moist-wet, minimal flow
E	07/27/07	0.00	N	- -	Moist-wet, minimal flow
E	08/22/07	0.00	N	- -	Moist-wet, minimal flow
E	09/21/07	0.00	N	- -	Wet, minimal flow
E	10/23/07	0.00	N	- -	Wet, minimal flow
E	11/20/07	0.00	N	- -	Wet, no flow
E	Dec/07	- -	- -	- -	Not monitored
E	01/17/08	0.00	N	- -	Dry
E	02/14/08	0.00	N	- -	Dry
E	03/18/08	0.00	N	- -	Damp, no flow
E	04/25/08	0.00	N	- -	Damp, no flow
E	05/23/08	0.00	N	- -	Moist, algal covered, fracture plane 178/58^{O}ENE
E	06/25/08	0.00	N	- -	Wet, water emanating from fracture plane, low flow, not possible to sample, slight ponding at base of cliff, wet area ~6 feet by 3 feet
E	07/25/08	0.00	N	- -	Dry, no discharge.
E	08/22/08	0.00	N	- -	Moist/wet, no flow.

Cliff Spring Field Inspection Data
Summary of Historical Data
Former Unocal Terminal, Avila Beach, CA

Location ID	Date Measured	Estimated Flow (gpm)	Sample Collected	Sample ID	Comments
E	09/25/08	0.00	N	- -	Dry, no discharge.
E	10/20/08	0.00	N	- -	Moist to wet, no flow, seep area 4 x 10 feet.
E	11/19/08	0.00	N	- -	Moist to wet . Moist area 3 x 6 feet. Significant plant growth.
E	12/18/08	0.00	N	- -	Moist to wet, significant plant growth, no flow or dripping points. Wet area 5 x 6 feet.
E	01/13/09	0.00	N	- -	Wet area 10x3 feet, significant algal growth, large plants dead, 1"x2" pool on beach.
E	02/10/09	0.20	Y	AB-E	Slight flow down cliff face from fracture plane, over area 3x6 feet.
E	03/16/09	0.25	Y	AB-E	Moist/wet area 5x8 feet, significant plant growth.
E	04/14/09	0.15	Y	AB-E	Wet area 5x5 feet, with 2"x2" pool at cliff face, significant algal growth.
E	05/15/09	0.00	N	- -	Moist to wet . Moist area 5x6 feet, 3"x3"x0.3" pool on beach. Significant plant growth.
E	06/12/09	?	N	- -	Moist to wet, significant plant growth. Moist area 4x6 feet, 1" wide pool on beach.
E	07/13/09	0.00	N	- -	Moist area 3x6 feet, drier than previous, algal/grass growth.
E	08/13/09	0.00	Y	AB-E	Moist with 0.5 inch deep wet area on beach sand, significant algal/grass growth.
E	09/11/09	0.10	Y	AB-E	Moist/wet, area 5x10 feet, slight ponding on beach sand, significant plant growth.
E	10/09/09	0.02	Y	AB-E	Moist/wet, 4-slow points dripping, 4x6 foot area covered with algae / vegetation.
E	11/30/09	0.05	N	- -	Wet, with minor flow (no sample possible) and 4 points dripping fast, abundant algae.
E	12/17/09	0.10	N	- -	Wet, flow from fracture and down cliff face, abundant algae and some grass growth.
E	01/27/10	3.00	Y	AT-E	Mixture of spring and surface runoff, sampled in area most likely to be spring flow.
E	02/25/10	1.00	Y	AT-E	Wet , surface and spring flow evident, sampling bias of spring area.
E	04/02/09	0.05	Y	AT-E	Minor discharge from cliff face, with some algal and plant growth, wet area 12x20 feet.
E	04/22/10	0.04	Y	AT-E	Wet over 5x10 feet area, flow from fracture zone down cliff face, algal + plant growth.
E	05/17/10	0.20	Y	AT-E	Wet, with visible sheet flow over 2" area, ponding on beach of 0.5" deep, algal growth.
E	06/02/10	0.05	Y	AT-E	Wet, minor flow down cliff face, 2 fast drip points, significant algal and grass growth.
E	07/13/10	0.04	N	- -	Moist/wet, significant algal/grass/reed growth, slight ponding and water on cliff ledge, wet area 3'x3', 2 areas with sheet flow, no sample
E	08/27/10	0.20	Y	- -	Moist/wet, significant plant/algal growth, ponding on beach 1'x1'x0.25", wet area 6'x5', flow down cliff face from 5' fracture
E	09/28/10	0.08	N	- -	Moist/wet, moist area 6'x3', abundant algae and grass, occasional shrubs now dead, some ponding 1'x0.5'x0.25"
E	10/21/10	0.08	N	- -	Moist/wet, abundant algae and grass, some shrubs, flow down cliff face, not possible to sample due to algal deposits, we are 1x1x.03'
E	11/19/10	0.00	N	- -	Moist/wet area with abundant algae and grass growth; not possible to sample.
E	12/10/10	0.00	N	- -	Wet/moist area with abundant algae and grass growth, insufficient flow to sample.
E	01/18/11	0.03	Y	AT-E	Wet area 8' x 12'; Moist area 4' x 4'; Abundant algae and plant growth; 2 fast drips and 2 slow drips from planar fracture.
E	02/15/11	0.01	N	- -	7' x 7' wet area on cliff face; 2 slow drips; abundant moss and grass vegetation growth; insufficient flow to collect sample.
E	06/22/12	0.01	N	- -	No hydrocarbon odor or sheen; 4' x 3' wet area on cliff face; two slow drips; vegetation; insufficient flow to collect sample.
E	07/20/12	0.01	N	- -	No hydrocarbon odor or sheen; 8' x 10' wet area on cliff face;ponded water at toe of cliff; vegetation; insufficient flow to collect sample.
E	08/23/12	- -	N	- -	No hydrocarbon odor or sheen; 6' x 8' wet area on cliff face; tall vegetation; no drips; insufficient flow to collect sample.
E	09/21/12	- -	N	- -	No hydrocarbon odor or sheen; 15' x 10' wet area on cliff face; tall vegetation; no drips; ponded water at toe; insufficient flow to sample.
E	10/26/12	- -	N	- -	No hydrocarbon odor or sheen; 6' x 8' wet area on cliff face; tall vegetation; ponded water at toe of cliff; insufficient flow to collect sample.
E	11/09/12	- -	N	- -	No hydrocarbon odor or sheen; 4' x 4' damp area on cliff face; tall vegetation; insufficient flow to collect sample
E	12/21/12	- -	N	- -	No hydrocarbon odor or sheen; 2' x 4' damp area on cliff face; tall vegetation; no drips; no sample collected.
F	02/16/06	0.00	N	- -	Wet, no flow
F	02/28/06	0.00	N	- -	Flow too low to sample
F	03/31/06	0.00	N	- -	Wet, no flow
F	04/27/06	0.00	N	- -	Dry, no flow
F	05/25/06	0.13	Y	AT-F	- -
F	06/30/06	0.00	N	- -	Moist, no flow
F	07/27/06	0.00	N	- -	--

Cliff Spring Field Inspection Data
Summary of Historical Data
Former Unocal Terminal, Avila Beach, CA

Location ID	Date Measured	Estimated Flow (gpm)	Sample Collected	Sample ID	Comments
F	08/31/06	NM	N	- -	Tide too high to approach
F	09/26/06	0.00	N	- -	Damp, no flow
F	10/23/06	0.00	N	- -	Damp, no flow
F	11/21/06	0.00	N	- -	Dry
F	12/19/06	0.00	N	- -	Damp, no flow
F	01/25/07	0.00	N	- -	Damp, no flow
F	02/23/07	0.00	N	- -	Damp, moss; surface runoff/no flow
F	03/23/07	0.00	N	- -	Dry
F	04/25/07	0.00	N	- -	Moist, no flow
F	05/23/07	0.00	N	- -	Moist, no flow
F	06/26/07	0.00	N	- -	Moist-wet, no flow
F	07/27/07	0.00	N	- -	Dry, no flow
F	08/22/07	0.00	N	- -	Dry, no flow
F	09/21/07	0.00	N	- -	Dry, no flow
F	10/23/07	0.00	N	- -	Dry, no flow
F	11/20/07	0.00	N	- -	Dry, no flow
F	Dec/07	- -	- -	- -	Not monitored
F	01/17/08	0.00	N	- -	Dry
F	02/14/08	0.00	N	- -	Dry
F	03/18/08	0.00	N	- -	Damp, no flow
F	04/25/08	0.00	N	- -	Dry
F	05/23/08	0.00	N	- -	Dry, fracture planes at location orientated 192/78^{O}E; 60/58^{O}W and bedding 122/50^{O}N
F	06/25/08	0.00	N	- -	Dry
F	07/25/08	0.00	N	- -	Dry, no discharge.
F	08/22/08	0.00	N	- -	Dry
F	09/25/08	0.00	N	- -	Dry, no discharge.
F	10/20/08	0.00	N	- -	Dry.
F	11/19/08	0.00	N	- -	Not accessible due to high tide.
F	12/18/08	0.00	N	- -	Dry, Some algal buildup but looks like from seawater inundation. Wet area 7 x 2 feet.
F	01/13/09	0.00	N	- -	Not inspected due to high tide.
F	02/10/09	0.30	Y	AB-F	Discharge occurring down gully and cliff face, all flow likely surface runoff.
F	03/16/09	0.00	N	- -	Fracture zone is moist, no flow, significant algal growth on fracture.
F	04/14/09	0.00	N	- -	Fracture zone is moist, no flow, significant algal growth on fracture.
F	05/15/09	0.00	N	- -	Moist/dry, some algal growth in fracture zone, but drying out.
F	06/12/09	0.00	N	- -	Algae moist but generally dry, substantial sand deposits accumulated in area.
F	07/13/09	0.00	N	- -	Seep area moist, algal covered but no flow, increased beach sand in area of seep.
F	08/13/09	0.00	Y	AB-F	Fracture is moist, green and red algae in fracture plane, no flow.
F	09/11/09	0.00	N	- -	Fracture zone is moist, significant algal growth in red and green algae, no flow evident.
F	10/09/09	0.00	N	- -	No discharge, fractures covered with green/red algae.
F	11/30/09	0.00	N	- -	Moist with green and red algae in fracture zone.
F	12/17/09	0.00	N	- -	Wet, runoff down cliff face as surface flow not emanating from fracture plane.
F	01/27/10	0.00	N	- -	Surface runoff down cliff face with no definable spring flow.
F	02/25/10	0.00	N	- -	Spring site wet but from surface flow down cliff face, no evidence of spring flow.
F	04/02/09	0.01	N	- -	Wet on cliff face due to previous surface flow during rainfall, no spring flow evident.

Cliff Spring Field Inspection Data
Summary of Historical Data
Former Unocal Terminal, Avila Beach, CA

Location ID	Date Measured	Estimated Flow (gpm)	Sample Collected	Sample ID	Comments
F	04/22/10	0.00	N	- -	Cliff face dripping but due to surface flow, some algae in fracture zone.
F	05/17/10	0.00	N	- -	Moist, almost dry, some algae in fracture plane area.
F	06/02/10	0.00	N	- -	Moist, almost dry some algae in fracture plane area.
F	07/13/10	0.00	N	- -	dry, some dried algae in fracture plane
F	08/27/10	0.00	N	- -	dry
F	09/28/10	0.00	N	- -	not possible to access due to tide
F	10/21/10	0.00	N	- -	dry
F	11/19/10	0.00	N	- -	Dry.
F	12/10/10	0.00	N	- -	Unable to access due to tide.
F	01/18/11	0.00	N	- -	Location is dry.
F	02/15/11	- -	N	- -	Seep location covered by large rock obstructions from recent rock fall; unable to access location.
F	06/22/12	- -	N	- -	No hydrocarbon odor or sheen; spring location covered by rock fall.
F	07/20/12	- -	N	- -	No hydrocarbon odor or sheen; spring location covered by rock fall.
F	08/23/12	- -	N	- -	No hydrocarbon odor or sheen; spring location covered by rock fall.
F	09/21/12	- -	N	- -	No hydrocarbon odor or sheen; spring location covered by rock fall.
F	10/26/12	- -	N	- -	No hydrocarbon odor or sheen; spring location covered by rock fall.
F	11/09/12	- -	N	- -	No hydrocarbon odor or sheen; spring location covered by rock fall.
F	12/21/12	- -	N	- -	No hydrocarbon odor or sheen; spring location covered by rock fall.
G	02/16/06	0.00	N	- -	Wet, no flow
G	02/28/06	0.00	N	- -	Wet, no flow
G	03/31/06	0.03	Y	AT-G	Good flow
G	04/27/06	0.00	N	- -	No flow, wet/drips
G	05/25/06	0.00	N	- -	Dry, no flow
G	06/30/06	0.00	N	- -	Moist, no flow
G	07/27/06	0.00	N	- -	--
G	08/31/06	0.00	N	- -	Damp, no flow
G	09/26/06	0.00	N	- -	Damp, no flow
G	10/23/06	0.00	N	- -	Damp, no flow
G	11/21/06	0.00	N	- -	Damp
G	12/19/06	0.00	N	- -	Damp, no flow
G	01/25/07	0.00	N	- -	Damp, no flow
G	02/23/07	0.00	N	- -	Stagnant pool; slightly damp
G	03/23/07	0.00	N	- -	Damp, no sample, pooled water
G	04/25/07	0.00	N	- -	Slightly damp, no flow, small puddle
G	05/23/07	0.00	N	- -	Moist with no flow, stagnant pool
G	06/26/07	0.00	N	- -	Damp, stagnant pool
G	07/27/07	0.00	N	- -	Damp, stagnant pool
G	08/22/07	0.00	N	- -	Damp, no flow
G	09/21/07	0.00	N	- -	Wet, stagnant pool, no flow
G	10/23/07	0.00	N	- -	Damp, no flow
G	11/20/07	0.00	N	- -	Wet, stagnant pool, no flow
G	Dec/07	- -	- -	- -	Not monitored
G	01/17/08	0.00	N	- -	Dry
G	02/14/08	0.00	N	- -	Dry

Cliff Spring Field Inspection Data
Summary of Historical Data
Former Unocal Terminal, Avila Beach, CA

Location ID	Date Measured	Estimated Flow (gpm)	Sample Collected	Sample ID	Comments
G	03/18/08	0.00	N	- -	Dry
G	04/25/08	0.00	N	- -	Damp, no flow
G	05/23/08	0.00	N	- -	Moist to wet, sulfur yellow coloration (Formation derived?), no prominent fracture plane
G	06/25/08	0.00	N	- -	Moist/wet , very low flow, not possible to sample
G	07/25/08	0.00	N	- -	Area wet with slight ponding in sand 3 feet x 3 feet by 0.25 feet deep. No flow.
G	08/22/08	0.00	N	- -	Moist to wet area, small ponding at base of exposure 3 x 3 feet by 0.25 inches.
G	09/25/08	0.00	N	- -	Three moist/wet areas of about 2 x 3 feet area, no flow.
G	10/20/08	0.00	N	- -	Moist, small wet area on beach sand of 3 x 2 feet area, sulfur staining.
G	11/19/08	0.00	N	- -	Moist, area 3 x 6 feet, limited wet area on beach sand, significant sulfur staining.
G	12/18/08	0.01	N	- -	Area moist, but one point has v low flow (not samplable) with associated white precipitate.
G	01/13/09	0.00	N	- -	Area moist 6x4 feet, 1 point indicating seepage along 1 foot fracture zone, algal growth.
G	02/10/09	0.00	N	- -	Minor flow from 1 foot long fracture, not possible to sample.
G	03/16/09	0.00	N	- -	Moist area 1x2 feet from 1 foot long fracture on cliff face, some algal growth.
G	04/14/09	0.00	N	- -	Moist/wet with a 1x6 feet and 0.25" pond at base cliff but no apparent flow feeding.
G	05/15/09	0.00	N	- -	Moist/wet, one puddle at cliff base of 1x1 feet and 0.2" deep, but no flow evident.
G	06/12/09	0.00	N	- -	Wetter than previous with 1 foot fracture emanating flow, not possible to sample.
G	07/13/09	0.00	N	- -	Area moist/wet with 1-foot long fracture and a diffuse seep emanating a white precipitate.
G	08/13/09	0.00	N	- -	Wet/moist with minor ponding in beach sand, two seep locations fracture/diffuse.
G	09/11/09	0.05	N	- -	Moist/Wet in two areas: a 1-foot fracture and 5x6-foot area, some plant growth.
G	10/09/09	0.01	N	- -	Moist/wet, slight ponding at base of cliff ~1 foot square and 0.25 inches deep.
G	11/30/09	0.00	N	- -	Moist/wet, with seeps from cliff face from 1 foot fracture and moist area 4x5 foot.
G	12/17/09	0.01	Y	- -	Wet/moist with ponded area at toe of cliff face - 1 foot square and 0.5 inches deep.
G	01/27/10	0.00	Y	AT-G	Mixture of spring and surface runoff down cliff face, sample biased spring flow.
G	02/25/10	0.25	Y	AT-G	Surface and spring flow components, bias of spring flow location for sampling.
G	04/02/09	0.03	Y	AT-G	Flow from cliff face at three points, with 2 from planar fracture, sampled ponded water.
G	04/22/10	0.00	N	- -	Moist but beginning to dry, no flow observed, but small ponded area at cliff base.
G	05/17/10	0.07	Y	AT-G	Wet, ponded area at base of cliff of 0.5" deep and 1 foot square.
G	06/02/10	0.01	Y	AT-G	Minor flow down cliff face from fracture plane, ponding at base of cliff sampled, algal.
G	07/13/10	0.01	N	- -	Moist/dry, significant decrease in flow from previous event, almost dry minimal ponding at base 6"x6"x0.25"
G	08/27/10	0.01	N	- -	moist, wet, some algal and plant growth, significant sulfur deposits (yellow), moist area 5'x6', not possible to sample
G	09/28/10	0.01	N	- -	moist/wet, wet area 2x3', flow from single fracture in face ~1' long, abundant yellow sulfur deposits.
G	10/21/10	0.01	N	- -	moist area 6x10'on cliff face, flow diffuse, some grass grown, not possible to sample
G	11/19/10	0.00	N	- -	Moist/wet area 6'x4'on cliff, some grass growth, not possible to sample.
G	12/10/10	0.00	N	- -	Wet area 3'x3', moist area 5'x5', some grass growth, abundant algae growth, white biogenic film on wet area.
G	01/18/11	0.00	N	- -	Wet area 2' x 6'; Clear water ponded at base of location 2' x 3' x 2"; some plant growth at small fracture; insufficient flow at water to collect sample.
G	02/15/11	0.00	N	- -	5' X 3' wet area on cliff face; ponded water at base of location 2' x 3' x 3"; abundant moss and grass vegetation growth; biogenic film on ponded water.
G	06/22/12	0.00	N	- -	No hydrocarbon odor or sheen; 5' X 3' wet area on cliff face; ponded water at base of location; vegetation; no drips.
G	07/20/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
G	08/23/12	- -	N	- -	No hydrocarbon odor or sheen; location mostly covered by rock fall; location is dry.
G	09/21/12	- -	N	- -	No hydrocarbon odor or sheen; location covered by rock fall.
G	10/26/12	- -	N	- -	No hydrocarbon odor or sheen; location mostly covered by rock fall; location is dry.
G	11/09/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
G	12/21/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
H	02/16/06	0.00	N	- -	Wet, no flow

Cliff Spring Field Inspection Data
Summary of Historical Data
Former Unocal Terminal, Avila Beach, CA

Location ID	Date Measured	Estimated Flow (gpm)	Sample Collected	Sample ID	Comments
H	02/28/06	0.00	N	- -	Dry
H	03/31/06	0.00	N	- -	Wet, no flow
H	04/27/06	0.00	N	- -	Damp, no flow
H	05/25/06	0.00	N	- -	Dry, no flow
H	06/30/06	0.00	N	- -	Moist, no flow
H	07/27/06	0.00	N	- -	--
H	08/31/06	0.00	N	- -	Damp, no flow
H	09/26/06	0.00	N	- -	Dry
H	10/23/06	0.00	N	- -	Damp, no flow
H	11/21/06	0.00	N	- -	Slight flow, but not enough to sample
H	12/19/06	0.00	N	- -	Damp, no flow
H	01/25/07	0.00	N	- -	Damp, no flow - rock basin full
H	02/23/07	0.00	N	- -	Dry
H	03/23/07	0.00	N	- -	Dry
H	04/25/07	0.00	N	- -	Dry, no flow
H	05/23/07	0.00	N	- -	Dry, no flow
H	06/26/07	0.00	N	- -	Dry, no flow
H	07/27/07	0.00	N	- -	Dry, no flow
H	08/22/07	0.00	N	- -	Dry, no flow
H	09/21/07	0.00	N	- -	Dry, no flow
H	10/23/07	0.00	N	- -	Dry, no flow
H	11/20/07	0.00	N	- -	Dry, no flow
H	Dec/07	- -	- -	- -	Not monitored
H	01/17/08	0.00	N	- -	Dry
H	02/14/08	0.00	N	- -	Dry
H	07/13/10	0.00	N	- -	Moist/dry, moist area 6'x5', not possible to sample
H	08/27/10	0.00	N	- -	moist, almost dry, moist area 15'x15', not possible to sample
H	09/28/10	0.00	N	- -	moist area 6'x6', almost dry
H	10/21/10	0.00	N	- -	moist area 6'x4', no distinct part of emanation, not possible to sample, some grass and weed growth.
H	11/19/10	0.00	N	- -	Moist area 6'x4', no distinct point of emanation, some grass growth; not possible to sample.
H	12/10/10	0.00	N	- -	Moist area 6'x5', no distinct point of emanation, some grass growth, insufficient flow to sample.
H	01/18/11	0.00	N	- -	Moist area 2' x 6'; yellowish to reddish brown deposits on surface of location; 1 grass plant growing from fracture; insufficient amount of water to collect sample.
H	02/15/11	0.00	N	- -	2' x 10' moist area; grass growth on northern end; no drips.
H	07/20/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
H	08/23/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
H	09/21/12	- -	N	- -	No hydrocarbon odor or sheen; location covered by rock fall.
H	10/26/12	- -	N	- -	No hydrocarbon odor or sheen; yellow sulfur like deposits at location; location is dry.
H	11/09/12	- -	N	- -	No hydrocarbon odor or sheen; location is dry.
H	12/21/12	- -	N	- -	No hydrocarbon odor or sheen; location covered by rock fall.
I	02/28/06	0.00	N	- -	Damp, no flow
I	03/31/06	0.00	N	- -	Inaccessible
I	04/27/06	0.00	N	- -	Dry, no flow
I	05/25/06	0.00	N	- -	Inaccessible
I	06/30/06	0.00	N	- -	Dry

Cliff Spring Field Inspection Data
Summary of Historical Data
Former Unocal Terminal, Avila Beach, CA

Location ID	Date Measured	Estimated Flow (gpm)	Sample Collected	Sample ID	Comments
I	07/27/06	0.00	N	- -	--
I	08/31/06	0.00	N	- -	Damp, no flow
I	09/26/06	0.00	N	- -	Damp, no flow
I	10/23/06	0.00	N	- -	Damp, no flow
I	11/21/06	0.00	N	- -	Damp but no flow
I	12/19/06	0.00	N	- -	Damp, no flow
I	01/25/07	0.00	N	- -	Damp, no flow
I	02/23/07	1.00	N	- -	Wet, no moss
I	03/23/07	0.00	N	- -	Damp, no sample
I	04/25/07	0.00	N	- -	Slightly damp, minimal flow
I	05/23/07	0.00	N	- -	Moist with minimal flow
I	06/26/07	0.00	N	- -	Dry, no flow
I	07/27/07	0.00	N	- -	Damp, no flow
I	08/22/07	0.00	N	- -	Damp, no flow
I	09/21/07	0.00	N	- -	Damp, no flow
I	10/23/07	0.00	N	- -	Damp, no flow
I	11/20/07	0.00	N	- -	Dry, no flow
I	Dec/07	- -	- -	- -	Not monitored
I	01/17/08	0.00	N	- -	Dry
I	02/14/08	0.00	N	- -	Dry
I	03/18/08	0.00	N	- -	Damp, no flow
I	04/25/08	0.00	N	- -	Damp, no flow
I	05/23/08	0.00	N	- -	Dry, no evidence of spring flow on the cliff face at this location
I	06/25/08	0.00	N	- -	Dry

Notes:
V.Low - Flow not determinable due to very low flow.
Fast drip - Approximately 3 drips per second or 40 mL (0.01 gal) in 80 seconds from a point.
Slow drip - Approximately 1 drip per second or 40 mL (0.01 gal) in 240 seconds from a point.

Cliff Spring Analytical Data
Total Petroleum Hydrocarbons (TPH)
Former Unocal Terminal, Avila Beach, CA

Location ID	Date Sampled	Lab	TPH-Gasoline C4 - C10 EPA 8260 µg/L	TPH-Diesel C10 - C25 GC/MS / 8015B[1] µg/L	TPH-Crude Oil C25 - C40 GC/MS / 8015B[1] µg/L	TPH-Diesel C10 - C25 GC/MS / 8015B[1], with Silica Gel Cleanup µg/L	TPH-Crude Oil C25 - C40 GC/MS / 8015B[1], with Silica Gel Cleanup µg/L
A	02/17/98	--	<100	<100	<100	NA	NA
A	05/22/98	--	<100	**180**	<100	NA	NA
A	08/19/98	--	<100	<100	<100	NA	NA
A	01/14/04	--	<100	<100	<100	<100	<100
A	02/18/04	--	<100	<100	<100	NA	NA
A	03/09/04	--	<100	<100	<100	NA	NA
A	04/14/04	--	<100	<100	<100	NA	NA
A	05/13/04	--	<100	<100	<100	NA	NA
A	11/17/04	--	<100	**300**	**140**	<100	<100
A	01/12/05	--	<100	**330**	**590**	<100	<100
A	02/09/05	--	<100	**220**	**230**	<100	<100
A	03/31/05	--	<100	<100	<100	NA	NA
A	03/31/06	BC	<50	**220**	**250**	NA	NA
A	03/31/06	BC	<50	**220**	**280**	NA	NA
A	05/25/06	BC	<50	**200**	**320**	**180**	**260**
A	11/22/06	TA	**73.7***	NA	NA	**139**	**94**
A	01/27/10	OEC	NA	**450**	**970**	<50	<100
A	02/25/10	OEC	NA	<50	<100	<50	<100
A	05/17/10	OEC	NA	**110**	<100	<50	<100
A	06/02/10	OEC	NA	**51**	<100	<50	<100
A	07/13/10	OEC	<50	<50	<100	NA	NA
A	08/27/10	OEC	<50	**63**	<100	<50	NA
A	09/28/10	OEC	<50	<50	<100	NA	NA
A	01/18/11	OEC	<50	<50	<100	NA	NA
A	02/15/11	OEC	<50	**52**	<100	<50	<100
B	02/17/98	--	<100	<100	<100	NA	NA
B	05/22/98	--	<100	**180**	<100	NA	NA
B	07/14/04	--	<100	<100	<100	NA	NA
B	11/17/04	--	<100	**300**	**170**	<100	<100
B	02/09/05	--	<100	NA	NA	NA	NA
B	04/27/06	BC	<50	**160**	**100**	NA	NA
B	05/04/06	BC	NA	**160**	**81**	NA	NA
B	11/22/06	TA	<50	NA	NA	**131**	**<94.8**
B	01/25/07	TA	<50	NA	NA	**266**	**<93.9**
B	02/23/07	TA	<50	**498**	**225**	**545**	**122**
B	03/23/07	TA	<50	**306**	**53.6**	**338**	**43.8**
B	04/25/07	TA	<50	**462**	**75.7 J**	**300**	**44.8 J**
B	05/23/07	TA	<50	**249**	**194**	**343**	**160**
B	06/26/07	TA	<50	**292**	**216**	**237**	**177**
B	02/25/10	OEC	NA	**52**	**180**	<100	**110**
C	02/17/98	--	<100	NA	NA	NA	NA
C	01/12/05	--	<100	**390**	**670**	<100	<100
C	02/15/11	--	<50	**90**	<100	<50	<100
D	02/17/98	--	<100	NA	NA	NA	NA
D	05/22/98	--	<100	NA	**530**	NA	NA
D	04/27/06	BC	<50	**290**	**1,400**	NA	NA
D	05/04/06	BC	NA	**340**	**1,200**	NA	NA

Cliff Spring Analytical Data
Total Petroleum Hydrocarbons (TPH)
Former Unocal Terminal, Avila Beach, CA

Location ID	Date Sampled	Lab	TPH-Gasoline C4 - C10 EPA 8260 µg/L	TPH-Diesel C10 - C25 GC/MS / 8015B[1] µg/L	TPH-Crude Oil C25 - C40 GC/MS / 8015B[1] µg/L	TPH-Diesel C10 - C25 GC/MS / 8015B[1], with Silica Gel Cleanup µg/L	TPH-Crude Oil C25 - C40 GC/MS / 8015B[1], with Silica Gel Cleanup µg/L
E	02/22/02	--	<100	<100	<100	<100	<100
E	04/01/03	--	<100	<100	<100	<100	<100
E	05/22/98	--	<100	<100	<100	NA	NA
E	05/06/03	--	<100	<100	<100	NA	NA
E	01/15/04	--	<100	<100	<100	<100	<100
E	02/18/04	--	<100	<100	<100	NA	NA
E	03/31/06	BC	<50	**230**	**830**	NA	NA
E	03/31/06	BC	<50	**220**	**790**	NA	NA
E	06/30/06	BC	<50	**170**	**330**	**150**	**240**
E	01/25/07	TA	<50	NA	NA	**<46.9**	**<93.9**
E	02/10/09	OEC	<50	<50	<100	NA	NA
E	04/14/09	OEC	<50	<50	<100	NA	NA
E	12/17/09	OEC	<50	<50	<100	NA	NA
E	12/17/09	OEC	<50	<50	<100	NA	NA
E	01/27/10	OEC	NA	210	760	<50	<100
E	02/25/10	OEC	NA	150	<100	<50	<100
E	04/02/10	OEC	NA	<50	<100	NA	NA
E	04/22/10	OEC	NA	50	210	NA	NA
E	05/17/10	OEC	NA	51	<100	<50	<100
E	06/02/10	OEC	NA	<50	<100	NA	NA
E	08/27/10	OEC	<50	<50	<100	NA	NA
E	01/18/11	OEC	<50	<50	<100	NA	NA
F	05/25/06	BC	<50	**360**	**1,200**	**300**	**730**
F	02/10/09	OEC	<50	**290**	**1,500**	<50	<100
G	05/06/03	--	<100	**130**	**180**	<100	<100
G	02/18/04	--	<100	<100	<100	NA	NA
G	01/12/05	--	<100	<100	<100	NA	NA
G	03/31/05	--	<100	**190**	**170**	<100	<100
G	03/31/06	BC	<50	**66**	**140**	NA	NA
G	03/31/06	BC	<50	**68**	**140**	NA	NA
G	12/17/09	OEC	<50	<50	**110**	<50	<100
G	01/27/10	OEC	NA	**1,100**	**2,600**	<50	<100
G	02/25/10	OEC	NA	**120**	<100	<50	<100
G	04/02/10	OEC	NA	<50	<100	NA	NA
G	05/17/10	OEC	NA	**55**	<100	<50	<100
G	06/02/10	OEC	NA	<50	<100	NA	NA

Notes:
GC/MS = gas chromatography/mass spectrometry combination
µg/L = micrograms per liter
BC = BC Laboratories, Bakersfield, California
TA = Test America Laboratories of Nashville, TN
NA = Not analyzed
< = less than the shown laboratory reporting limit (RL)
[1] = TPH-diesel and -oil analyses performed using EPA Method 8015B beginning November 2006 and ending in November 2007.
J = Analyte detected at a level less than Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within

Summary of Cliff Spring Analytical Data
Volatile Organic Compounds (VOCs)
Former Unocal Avila Terminal, Avila Beach, CA

Location ID	Date	Lab	Benzene 8260B (ug/L)	Ethylbenzene 8260B (ug/L)	Toluene 8260B (ug/L)	Total Xylenes 8260B (ug/L)	Other VOCs 8260B (ug/L)
A	3/31/2006	BC	<0.50	<0.50	<0.50	<1.0	None detected
A	3/31/2006	BC	<0.50	<0.50	<0.50	<1.0	None detected
A	5/25/2006	BC	<0.50	<0.50	<0.50	<1.0	None detected
A	11/22/2006	TA	<0.50	<0.50	<0.50	<0.50	None detected
A	1/27/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
A	2/25/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
A	5/17/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
A	6/2/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
A	7/13/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
A	8/27/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
A	9/28/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
A	1/18/2011	OEC	<0.50	<0.50	<0.50	<0.50	None detected
A	2/15/2011	OEC	<0.50	<0.50	<0.50	<0.50	None detected
B	4/27/2006	BC	<0.50	<0.50	<0.50	<1.0	None detected
B	11/22/2006	TA	<0.50	<0.50	<0.50	<0.50	None detected
B	2/23/2007	TA	<0.50	<0.50	<0.50	<0.50	None detected
B	3/23/2007	TA	<0.50	<0.50	<0.50	<0.50	None detected
B	4/25/2007	TA	<0.50	<0.50	<0.50	<0.50	None detected
B	5/23/2007	TA	<0.50	<0.50	<0.50	<0.50	None detected
B	6/26/2007	TA	<0.50	<0.50	<0.50	<0.50	Napthalene = 0.710 J
B	2/25/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
C	2/15/2011	OEC	<0.50	<0.50	<0.50	<0.50	None detected
D	4/27/2006	BC	<0.50	<0.50	<0.50	<1.0	None detected
E	3/31/2006	BC	<0.50	<0.50	<0.50	<1.0	None detected
E	3/31/2006	BC	<0.50	<0.50	<0.50	<1.0	None detected
E	6/30/2006	BC	<0.50	<0.50	<0.50	<1.0	None detected
E	2/10/2009	OEC	<0.50	<0.50	<0.50	<0.50	None detected
E	4/14/2009	OEC	<0.50	<0.50	<0.50	<0.50	None detected
E	12/17/2009	OEC	<0.50	<0.50	<0.50	<0.50	None detected
E	1/27/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
E	2/25/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
E	4/2/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
E	4/22/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
E	5/17/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
E	6/2/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
E	8/27/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
E	1/18/2011	OEC	<0.50	<0.50	<0.50	<0.50	None detected
F	5/25/2006	BC	<0.50	<0.50	<0.50	<1.0	None detected
F	2/10/2009	OEC	<0.50	<0.50	<0.50	<0.50	None detected
G	3/31/2006	BC	<0.50	<0.50	<0.50	<1.0	None detected
G	3/31/2006	BC	<0.50	<0.50	<0.50	<1.0	None detected
G	12/17/2009	OEC	<0.50	<0.50	<0.50	<1.0	None detected
G	1/27/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
G	2/25/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
G	4/2/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
G	5/17/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected
G	6/2/2010	OEC	<0.50	<0.50	<0.50	<0.50	None detected

Notes:
Only constituents historically detected above their respective laboratory reporting limits shown.
BC = BC Laboratories of Bakersfield, CA
TA = Test America Laboratories of Nashville, TN
OEC = Oilfield Environmental and Compliance, Inc. of Santa Maria, CA
< = less than the shown laboratory reporting limit (RL)
NA = Not analyzed
J = Analyte detected at a level less than Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within

Summary of Cliff Spring Analytical Data
Polynuclear Aromatic Hydrocarbons (PAHs)
Former Unocal Avila Terminal, Avila Beach, CA

Location ID	Date Sampled	Lab	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
A	03/31/06	BC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
A	05/25/06	BC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
A	11/22/06	TA	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971
A	01/27/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A	02/25/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A	05/17/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A	06/02/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A	07/13/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A	08/27/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A	09/28/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A	01/18/11	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
A	02/15/11	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
B	04/27/06	BC	<0.10	<0.10	<0.10	**0.12**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
B	11/22/06	TA	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971
B	01/25/07	TA	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939
B	02/23/07	TA	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939
B	03/23/07	TA	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	<0.0948	**0.303**	<0.0948	<0.0948
B	04/25/07	TA	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952	<0.0952
B	05/23/07	TA	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	<0.0939	**0.0845*J**	<0.0939
B	06/26/07	TA	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	**<0.0971**	<0.0971
B	02/25/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
C	02/15/11	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
D	04/27/06	BC	<0.10	<0.10	<0.10	**0.12**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
E	03/31/06	BC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E	06/30/06	BC	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]
E	02/10/09	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
E	04/14/09	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
E	12/17/09	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
E	01/27/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
E	02/25/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
E	04/02/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
E	04/22/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
E	05/17/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
E	06/02/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
E	08/27/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
E	01/18/11	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Summary of Cliff Spring Analytical Data
Polynuclear Aromatic Hydrocarbons (PAHs)
Former Unocal Avila Terminal, Avila Beach, CA

Location ID	Date Sampled	Lab	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
F	05/25/06	BC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
F	02/10/09	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
G	03/31/06	BC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
G	12/17/09	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
G	01/27/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
G	02/25/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
G	04/02/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
G	05/17/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
G	06/02/10	OEC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Notes:

BC = BC Laboratories, Bakersfield, CA
TA = Test America Laboratories of Nashville, TN
OEC = Oilfield Environmental and Compliance, Inc. of Santa Maria, CA
NA = Not analyzed

NA^1 = Not analyzed due to lab error
µg/L = micrograms per liter
< = less than the shown laboratory reporting limit (RL)
* = Analyte was detected in associated Method Blank
J = Analyte detected at a level less than Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.

APPENDIX A-5
Summary of Historical Intertidal Zone Observations and Analytical Data

Intertidal Zone Field Inspection Data
Summary of Historical Data
Former Unocal Terminal, Avila Beach, CA

Location ID	Date	Hydrocarbon Sheen	Hydrocarbon Odor
IZ-1	5/21/2012	No	No
IZ-1	5/22/2012	No	No
IZ-1	5/23/2012	No	No
IZ-1	5/24/2012	No	No
IZ-1	6/4/2012	No	No
IZ-1	6/5/2012	No	No
IZ-1	6/6/2012	No	No
IZ-1	6/7/2012	No	No
IZ-1	6/8/2012	No	No
IZ-1	6/20/2012	No	No
IZ-1	6/21/2012	No	No
IZ-1	6/22/2012	No	No
IZ-1	7/5/2012	No	No
IZ-1	7/6/2012	No	No
IZ-1	7/19/2012	No	No
IZ-1	7/20/2012	No	No
IZ-1	8/2/2012	No	No
IZ-1	10/15/2012	No	No
IZ-1	10/16/2012	No	No
IZ-1	11/12/2012	No	No
IZ-1	11/13/2012	No	No
IZ-1	12/10/2012	No	No
IZ-1	12/11/2012	No	No
IZ-2	5/21/2012	No	No
IZ-2	5/22/2012	No	No
IZ-2	5/23/2012	No	No
IZ-2	5/24/2012	No	No
IZ-2	6/4/2012	No	No
IZ-2	6/5/2012	No	No
IZ-2	6/6/2012	No	No
IZ-2	6/7/2012	No	No
IZ-2	6/8/2012	No	No
IZ-2	6/20/2012	No	No
IZ-2	6/21/2012	No	No
IZ-2	6/22/2012	No	No
IZ-2	7/5/2012	No	No
IZ-2	7/6/2012	No	No
IZ-2	7/19/2012	No	No
IZ-2	7/20/2012	No	No
IZ-2	8/2/2012	No	No
IZ-2	10/15/2012	No	No
IZ-2	10/16/2012	No	No
IZ-2	11/12/2012	No	No
IZ-2	11/13/2012	No	No
IZ-2	12/10/2012	No	No
IZ-2	12/11/2012	No	No

Intertidal Zone Field Inspection Data
Summary of Historical Data
Former Unocal Terminal, Avila Beach, CA

Location ID	Date	Hydrocarbon Sheen	Hydrocarbon Odor
IZ-3	5/21/2012	No	Yes
IZ-3	5/22/2012	No	Yes
IZ-3	5/23/2012	No	Yes
IZ-3	5/24/2012	No	Yes
IZ-3	6/4/2012	No	Yes
IZ-3	6/5/2012	No	Yes
IZ-3	6/6/2012	No	Yes
IZ-3	6/7/2012	No	Yes
IZ-3	6/8/2012	No	Yes
IZ-3	6/20/2012	No	Yes
IZ-3	6/21/2012	No	Yes
IZ-3	6/22/2012	No	Yes
IZ-3	7/5/2012	No	Yes
IZ-3	7/6/2012	No	Yes
IZ-3	7/19/2012	No	Yes
IZ-3	7/20/2012	No	Yes
IZ-3	8/2/2012	No	Yes
IZ-3	10/15/2012	Yes	Yes
IZ-3	10/16/2012	Yes	Yes
IZ-3	11/12/2012	No	Yes
IZ-3	11/13/2012	No	Yes
IZ-3	12/10/2012	No	Yes
IZ-3	12/11/2012	Yes	Yes

Summary of Historical Intertidal Zone Water Sample Results
TPH, VOCs, PAHs, and Lead
Former Unocal Terminal, Avila Beach, CA

Sample ID	Sample Date	TPH					VOCs																								
		TPH Gasoline (C4-C10)	TPH Diesel (C10-C25)	TPH Diesel (C10-C25) (SGC)	TPH Oil Crude (C25-C40)	TPH Oil Crude (C25-C40) (SGC)	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromo-3-Chloropropane (504)	1,2-Dibromoethane (EDB)	1,2-Dibromoethane (EDB) (504)	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Chlorotoluene	4-Chlorotoluene	4-Isopropyl Toluene
IZ-1	5/8/2012	<50	<55	NA	<110	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	NA	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
IZ-2	5/8/2012	<50	<51	NA	<100	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	NA	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
IZ-3	5/8/2012	**500**	<53	NA	<110	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**7.3**	<0.50	NA	<0.50	NA	<0.50	**2.7**	<0.50	**2.7**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.58**
IZ-3	10/15/2012	**730**	**140**	**130**	**1200**	**1300**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**3.5**	<1.0	<0.010	<0.50	**0.099**	<0.50	**6.8**	<0.50	**0.67**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
IZ-3	10/16/2012	**82**	<52	NA	<520	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.49 J**	<1.0	<0.010	<0.50	**0.036**	<0.50	**1.9**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Summary of Historical Intertidal Zone Water Sample Results
TPH, VOCs, PAHs, and Lead
Former Unocal Terminal, Avila Beach, CA

Sample ID	Sample Date	VOCs (Continued)																													
		Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Diisopropyl Ether	Ethanol	Ethyl t-Butyl Ether	Ethylbenzene	Hexachlorobutadiene	Isopropylbenzene	Methylene chloride	Methyl-t-butyl ether	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	t-Amyl Methyl Ether	t-Butyl alcohol
IZ-1	5/8/2012	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<500	<0.50	<0.50	<0.50	<0.5	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10
IZ-2	5/8/2012	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<500	<0.50	<0.50	<0.50	<0.5	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10
IZ-3	5/8/2012	**34**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<500	<0.50	**3.8**	<0.50	**1.4**	<1.0	<0.50	**2.3**	**0.60**	**1.1**	**0.39 J**	<0.5	<0.50	**91**
IZ-3	10/15/2012	**110**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.31 J**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<500	<0.50	**4.5**	<0.50	**3.2**	<1.0	<0.50	**1.6**	<0.50	**1.3**	<0.50	<0.50	<0.50	**450**
IZ-3	10/16/2012	**9.0**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<500	<0.50	**0.53**	<0.50	<0.50	<1.0	<0.50	**0.57**	<0.50	<0.50	<0.50	<0.50	<0.50	**46**

Summary of Historical Intertidal Zone Water Sample Results
TPH, VOCs, PAHs, and Lead
Former Unocal Terminal, Avila Beach, CA

Sample ID	Sample Date	VOCs (Continued)									PAHs													
		tert-Butylbenzene	Tetrachloroethene (PCE)	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene (TCE)	Trichlorofluoromethane	Vinyl chloride	Xylenes (total)	1-Methylnaphthalene (8270M)	2-Methylnaphthalene (8270M)	Acenaphthene	Acenaphthene (8270M)	Acenaphthylene	Acenaphthylene (8270M)	Anthracene	Anthracene (8270M)	Benz(a)anthracene	Benz(a)anthracene (8270M)	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene
IZ-1	5/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	<0.10	<0.10	<0.10
IZ-2	5/8/2012	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.10	<0.10	<0.10	<0.10
IZ-3	5/8/2012	**0.44 J**	<0.50	**12**	<0.50	<0.50	<0.50	<0.50	<0.50	**33**	NA	NA	<0.11	NA	<0.11	NA	<0.11	NA	<0.11	NA	<0.11	<0.11	<0.11	<0.11
IZ-3	10/15/2012	<0.50	<0.50	**6.8**	<0.50	<0.50	<0.50	<0.50	<0.50	**13**	<0.05	<0.05	NA	<0.05	NA	<0.05	NA	<0.05	NA	**0.06**	NA	NA	NA	NA
IZ-3	10/16/2012	<0.50	<0.50	**1.5**	<0.50	<0.50	<0.50	<0.50	<0.50	**2.4**	**0.032 J**	**0.038 J**	NA	**0.050**	NA	<0.05	NA	**0.047 J**	NA	<0.05	NA	NA	NA	NA

Summary of Historical Intertidal Zone Water Sample Results
TPH, VOCs, PAHs, and Lead
Former Unocal Terminal, Avila Beach, CA

Sample ID	Sample Date	PAHs (Continued)																														
		Benzo(a)pyrene (8270M)	Benzo(b)fluoranthene (8270M)	Benzo(e)pyrene (8270M)	Benzo(g,h,i)perylene (8270M)	Benzo(k)fluoranthene (8270M)	Benzothiophene (8270M)	Biphenyl (8270M)	C1 Benzothiophenes (8270M)	C1 Chrysenes (8270M)	C1 Dibenzothiophenes (8270M)	C1 Fluorenes (8270M)	C1 Phenanthrenes/Anthracenes (8270M)	C1 Pyrenes/Fluoranthenes (8270M)	C2 Benzothiophenes (8270M)	C2 Chrysenes (8270M)	C2 Dibenzothiophenes (8270M)	C2 Fluorenes (8270M)	C2 Naphthalenes (8270M)	C2 Phenanthrenes/Anthracenes (8270M)	C2 Pyrenes/Fluoranthenes (8270M)	C3 Benzothiophenes (8270M)	C3 Chrysenes (8270M)	C3 Dibenzothiophenes (8270M)	C3 Fluorenes (8270M)	C3 Naphthalenes (8270M)	C3 Phenanthrenes/Anthracenes (8270M)	C3 Pyrenes/Fluoranthenes (8270M)	C4 Benzothiophenes (8270M)	C4 Chrysenes (8270M)	C4 Dibenzothiophenes (8270M)	C4 Naphthalenes (8270M)
IZ-1	5/8/2012	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IZ-2	5/8/2012	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IZ-3	5/8/2012	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IZ-3	10/15/2012	<0.05	<0.05	<0.05	<0.05	<0.05	**0.032 J**	<0.05	<0.05	<0.05	<0.05	<0.05	**0.060**	**0.12**	<0.05	<0.05	<0.05	<0.05	<0.05	**0.090**	**0.08**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
IZ-3	10/16/2012	<0.05	<0.05	<0.05	<0.05	<0.05	**0.060**	<0.05	**0.034 J**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Summary of Historical Intertidal Zone Water Sample Results
TPH, VOCs, PAHs, and Lead
Former Unocal Terminal, Avila Beach, CA

Sample ID	Sample Date	PAHs (Continued)																				Lead		
		C4 Phenanthrenes/Anthracenes (8270M)	Chrysene	Chrysene (8270M)	Dibenz (a,h) anthracene	Dibenz(a,h)anthracene (8270M)	Dibenzofuran (8270M)	Dibenzothiophene (8270M)	Fluoranthene	Fluoranthene (8270M)	Fluorene	Fluorene (8270M)	Indeno (1,2,3-cd) pyrene	Indeno(1,2,3-c,d)pyrene (8270M)	Naphthalene (8270M)	Napthalene PNA	Perylene (8270M)	Phenanthrene	Phenanthrene (8270M)	Pyrene	Pyrene (8270M)	Lead Dissolved	Lead Total	Organic Lead
IZ-1	5/8/2012	NA	<0.10	NA	<0.10	NA	NA	NA	<0.10	NA	<0.10	NA	<0.10	NA	NA	<0.10	NA	<0.10	NA	<0.10	NA	<25	NA	<13 J
IZ-2	5/8/2012	NA	<0.10	NA	<0.10	NA	NA	NA	<0.10	NA	<0.10	NA	<0.10	NA	NA	<0.10	NA	<0.10	NA	<0.10	NA	<25	NA	<13 J
IZ-3	5/8/2012	NA	<0.11	NA	<0.11	NA	NA	NA	<0.11	NA	<0.11	NA	<0.11	NA	NA	**1.4**	NA	<0.11	NA	<0.11	NA	<25	NA	<13 J
IZ-3	10/15/2012	<0.05	NA	**0.045 J**	NA	<0.05	<0.05	<0.05	NA	**0.27**	NA	<0.05	NA	<0.05	**0.090**	NA	<0.05	NA	**0.060**	NA	**0.32**	NA	NA	NA
IZ-3	10/16/2012	<0.05	NA	<0.05	NA	<0.05	<0.05	<0.05	NA	**0.048 J**	NA	**0.045 J**	NA	<0.05	**0.220**	NA	<0.05	NA	**0.070**	NA	**0.039 J**	<0.0050	<0.0050	<13

Notes:
TPH = total petroleum hydrocarbons
SGC = silica gel cleanup
VOCs = volatile organic compounds. Analyzed by U.S. EPA method 8260 unless noted.
PAHs = polycyclic aromatic hydrocarbons. Analyzed by U.S. EPA method 8270C-SIM unless noted.
<1.0 = not indicated at or above the method reporting limit
All results in micrograms per liter (ug/L)
J = Estimated value; results are less than the method reporting limit and above the method detection limit.
NA = not chemically analyzed

APPENDIX A-6
Analytical Laboratory Reports and Chain-of-Custody Forms

Oilfield Environmental and Compliance, INC.

Louis Cappel
Padre Associates, Inc. - SLO
369 Pacific Street
San Luis Obispo, CA 93401

17 October 2012

RE: Former Unocal Avila Terminal

Work Order: 1204695

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on 20-Sep-12 09:33 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Meredith Sprister

Project Manager

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AT-B-201	1204695-01	Water	17-Sep-12 13:25	20-Sep-12 09:33
AT-B-210	1204695-02	Water	17-Sep-12 12:29	20-Sep-12 09:33
AT-B-167-56	1204695-03	Water	18-Sep-12 14:52	20-Sep-12 09:33
AT-B-190	1204695-04	Water	18-Sep-12 13:35	20-Sep-12 09:33
AT-B-216	1204695-05	Water	18-Sep-12 12:05	20-Sep-12 09:33
AT-B-217	1204695-06	Water	18-Sep-12 10:17	20-Sep-12 09:33
AT-B-223-88	1204695-07	Water	18-Sep-12 14:35	20-Sep-12 09:33
AT-B-37-70	1204695-08	Water	18-Sep-12 13:01	20-Sep-12 09:33
AT-B-225	1204695-09	Water	18-Sep-12 10:23	20-Sep-12 09:33
AT-B-224	1204695-10	Water	19-Sep-12 09:33	20-Sep-12 09:33
AT-B-167-95	1204695-11	Water	19-Sep-12 09:30	20-Sep-12 09:33
AT-B-226	1204695-12	Water	19-Sep-12 10:55	20-Sep-12 09:33
AT-B-230	1204695-13	Water	19-Sep-12 11:09	20-Sep-12 09:33
AT-B-231	1204695-14	Water	19-Sep-12 12:35	20-Sep-12 09:33
DUP	1204695-15	Water	19-Sep-12 09:00	20-Sep-12 09:33
091412-01	1204695-16	Water	17-Sep-12 00:00	20-Sep-12 09:33
091412-02	1204695-17	Water	17-Sep-12 00:00	20-Sep-12 09:33

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-201

1204695-01 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	**0.032**	0.022	0.055	mg/L	1	A209495	24-Sep-12	25-Sep-12	EPA 8270C	J
TPH Oil Crude (C25-C40)	ND	0.22	0.55	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*84.4 %*	*33-129*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A209654	28-Sep-12	29-Sep-12	EPA 8260B/LUFT
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"
Bromoform	ND	0.25	0.50	"	"	"	"	"	"
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"
Chloroform	ND	0.25	0.50	"	"	"	"	"	"
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-201

1204695-01 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A209654	28-Sep-12	29-Sep-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-201

1204695-01 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methyl-t-butyl ether	ND	0.25	0.50	ug/L	1	A209654	28-Sep-12	29-Sep-12	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*103 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*101 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*103 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-210

1204695-02 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.010	0.025	mg/L	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.0088**	0.0035	0.0050	"	"	"	"	"	"	
Beryllium	ND	0.0039	0.0050	"	"	"	"	"	"	
Cadmium	ND	0.0025	0.0050	"	"	"	"	"	"	
Chromium	**0.0092**	0.0055	0.010	"	"	"	"	"	"	J
Cobalt	ND	0.0025	0.0050	"	"	"	"	"	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A209573	26-Sep-12	26-Sep-12	EPA 7470A	
Molybdenum	**0.018**	0.0042	0.0050	"	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Nickel	**0.041**	0.0025	0.0050	"	"	"	"	"	"	
Selenium	**0.0056**	0.0055	0.010	"	"	"	"	"	"	J
Silver	ND	0.0036	0.0050	"	"	"	"	"	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	28-Sep-12	"	
Vanadium	**0.018**	0.015	0.025	"	5	"	"	28-Sep-12	"	J
Zinc	ND	0.012	0.025	"	"	"	"	"	"	
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.047**	0.021	0.052	mg/L	1	A209495	24-Sep-12	25-Sep-12	EPA 8270C	J
TPH Oil Crude (C25-C40)	ND	0.21	0.52	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*111 %*	*33-129*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A209654	28-Sep-12	30-Sep-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

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1204695-02 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloroform	**0.30**	0.25	0.50	ug/L	1	A209654	28-Sep-12	30-Sep-12	EPA 8260B/LUFT	J
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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AT-B-210

1204695-02 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2,3-Trichlorobenzene	ND	0.25	0.50	ug/L	1	A209654	28-Sep-12	30-Sep-12	EPA 8260B/LUFT	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*106 %*		*70-130*	"	"	"	"	
Surrogate: Toluene-d8			*103 %*		*70-130*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*102 %*		*70-130*	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-167-56

1204695-03 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	**0.11**	0.022	0.054	mg/L	1	A209495	24-Sep-12	25-Sep-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.22	0.54	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*121 %*	*33-129*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A209654	28-Sep-12	30-Sep-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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AT-B-167-56

1204695-03 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A209654	28-Sep-12	30-Sep-12	EPA 8260B/LUFT	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**20**	20	50	"	"	"	"	"	"	D-06, J

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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AT-B-167-56

1204695-03 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*104 %*	*70-130*	*A209654*	*28-Sep-12*	*30-Sep-12*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*102 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*105 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-190

1204695-04 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	**0.31**	0.021	0.052	mg/L	1	A209495	24-Sep-12	25-Sep-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.31**	0.21	0.52	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*102 %*	*33-129*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A209654	28-Sep-12	30-Sep-12	EPA 8260B/LUFT
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"
Bromoform	ND	0.25	0.50	"	"	"	"	"	"
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"
Chloroform	ND	0.25	0.50	"	"	"	"	"	"
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-190

1204695-04 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A209654	28-Sep-12	30-Sep-12	EPA 8260B/LUFT	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**4.8**	2.5	10	"	"	"	"	"	"	J
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	**2.1**	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**170**	20	50	"	"	"	"	"	"	D-03

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-190

1204695-04 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*106 %*	*70-130*	*A209654*	*28-Sep-12*	*30-Sep-12*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*102 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*104 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-216

1204695-05 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	**0.15**	0.021	0.052	mg/L	1	A209495	24-Sep-12	25-Sep-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.24**	0.21	0.52	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*109 %*	*33-129*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A209654	28-Sep-12	30-Sep-12	EPA 8260B/LUFT
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"
Bromoform	ND	0.25	0.50	"	"	"	"	"	"
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"
Chloroform	ND	0.25	0.50	"	"	"	"	"	"
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichloroethane	**0.72**	0.25	0.50	"	"	"	"	"	"
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-216

1204695-05 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A209654	28-Sep-12	30-Sep-12	EPA 8260B/LUFT	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**95**	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	**2.0**	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**180**	20	50	"	"	"	"	"	"	D-03

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-216

1204695-05 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*106 %*	*70-130*	*A209654*	*28-Sep-12*	*30-Sep-12*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*99.3 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*104 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-217

1204695-06 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	**0.046**	0.021	0.053	mg/L	1	A209495	24-Sep-12	25-Sep-12	EPA 8270C	J
TPH Oil Crude (C25-C40)	**0.30**	0.21	0.53	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*105 %*	*33-129*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A210010	01-Oct-12	01-Oct-12	EPA 8260B/LUFT
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"
Bromoform	ND	0.25	0.50	"	"	"	"	"	"
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"
Chloroform	ND	0.25	0.50	"	"	"	"	"	"
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-217

1204695-06 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A210010	01-Oct-12	01-Oct-12	EPA 8260B/LUFT	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	**0.28**	0.25	0.50	"	"	"	"	"	"	J
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**25**	20	50	"	"	"	"	"	"	D-06, J

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-217

1204695-06 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*112 %*	*70-130*	*A210010*	*01-Oct-12*	*01-Oct-12*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*103 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*106 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-223-88

1204695-07 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.010	0.025	mg/L	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.053**	0.0035	0.0050	"	"	"	"	"	"	
Beryllium	ND	0.0039	0.0050	"	"	"	"	"	"	
Cadmium	ND	0.0025	0.0050	"	"	"	"	"	"	
Chromium	**0.0071**	0.0055	0.010	"	"	"	"	"	"	J
Cobalt	**0.0050**	0.0025	0.0050	"	"	"	"	"	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A209573	26-Sep-12	26-Sep-12	EPA 7470A	
Molybdenum	ND	0.0042	0.0050	"	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Nickel	**0.0048**	0.0025	0.0050	"	"	"	"	"	"	J
Selenium	**0.024**	0.0055	0.010	"	"	"	"	"	"	
Silver	ND	0.0036	0.0050	"	"	"	"	"	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	28-Sep-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	28-Sep-12	"	
Zinc	**0.014**	0.012	0.025	"	"	"	"	"	"	J
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.31**	0.021	0.052	mg/L	1	A209495	24-Sep-12	25-Sep-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.21	0.52	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*111 %*	*33-129*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	ND	0.062	0.10	ug/L	1	A209541	25-Sep-12	26-Sep-12	EPA 8270M SIM	
Acenaphthylene	ND	0.062	0.10	"	"	"	"	"	"	
Anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.052	0.10	"	"	"	"	"	"	
Chrysene	ND	0.052	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Fluorene	ND	0.062	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
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AT-B-223-88

1204695-07 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Indeno (1,2,3-cd) pyrene	ND	0.052	0.10	ug/L	1	A209541	25-Sep-12	26-Sep-12	EPA 8270M SIM	
Naphthalene	**0.30**	0.062	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.052	0.10	"	"	"	"	"	"	
Pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*72.5 %*		*27-159*	"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**160**	2.5	5.0	ug/L	10	A210010	01-Oct-12	01-Oct-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	1	"	"	02-Oct-12	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**1.1**	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.52**	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1204695-07 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A210010	01-Oct-12	02-Oct-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	**8.1**	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	**3.6**	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	**0.75**	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	**2.2**	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**18**	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**3.3**	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.44**	0.25	0.50	"	"	"	"	"	"	J
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	**12**	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**990**	25	100	"	10	"	"	01-Oct-12	"	
Diisopropyl Ether	ND	0.25	0.50	"	1	"	"	02-Oct-12	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	

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1204695-07 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	**2000**	20	50	ug/L	1	A210010	01-Oct-12	02-Oct-12	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*110 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*106 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*105 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-37-70

1204695-08 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.010	0.025	mg/L	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.034**	0.0035	0.0050	"	"	"	"	"	"	
Beryllium	ND	0.0039	0.0050	"	"	"	"	"	"	
Cadmium	ND	0.0025	0.0050	"	"	"	"	"	"	
Chromium	ND	0.0055	0.010	"	"	"	"	"	"	
Cobalt	ND	0.0025	0.0050	"	"	"	"	"	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A209573	26-Sep-12	26-Sep-12	EPA 7470A	
Molybdenum	**0.016**	0.0042	0.0050	"	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Nickel	**0.0031**	0.0025	0.0050	"	"	"	"	"	"	J
Selenium	**0.0091**	0.0055	0.010	"	"	"	"	"	"	J
Silver	ND	0.0036	0.0050	"	"	"	"	"	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	28-Sep-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	28-Sep-12	"	
Zinc	ND	0.012	0.025	"	"	"	"	"	"	
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.17**	0.021	0.052	mg/L	1	A209495	24-Sep-12	25-Sep-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.35**	0.21	0.52	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*116 %*	*33-129*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**0.43**	0.25	0.50	ug/L	1	A210010	01-Oct-12	01-Oct-12	EPA 8260B/LUFT	J
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloroform	ND	0.25	0.50	ug/L	1	A210010	01-Oct-12	01-Oct-12	EPA 8260B/LUFT	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1204695-08 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

1,2,3-Trichlorobenzene	ND	0.25	0.50	ug/L	1	A210010	01-Oct-12	01-Oct-12	EPA 8260B/LUFT	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**80**	20	50	"	"	"	"	"	"	D-03
Surrogate: Dibromofluoromethane			*107 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*98.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*105 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1204695-09 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.010	0.025	mg/L	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Arsenic	**0.090**	0.010	0.025	"	"	"	"	"	"	
Barium	**0.059**	0.0035	0.0050	"	"	"	"	"	"	
Beryllium	ND	0.0039	0.0050	"	"	"	"	"	"	
Cadmium	ND	0.0025	0.0050	"	"	"	"	"	"	
Chromium	ND	0.0055	0.010	"	"	"	"	"	"	
Cobalt	**0.0029**	0.0025	0.0050	"	"	"	"	"	"	J
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A209573	26-Sep-12	26-Sep-12	EPA 7470A	
Molybdenum	**0.077**	0.0042	0.0050	"	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Nickel	**0.0047**	0.0025	0.0050	"	"	"	"	"	"	J
Selenium	**0.015**	0.0055	0.010	"	"	"	"	"	"	
Silver	ND	0.0036	0.0050	"	"	"	"	"	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	28-Sep-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	28-Sep-12	"	
Zinc	ND	0.012	0.025	"	"	"	"	"	"	

TEPH by GCMS

TPH Diesel (C10-C25)	**0.067**	0.021	0.053	mg/L	1	A209495	24-Sep-12	25-Sep-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.21	0.53	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*116 %*	*33-129*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	ND	0.061	0.10	ug/L	1	A209541	25-Sep-12	26-Sep-12	EPA 8270M SIM	
Acenaphthylene	ND	0.061	0.10	"	"	"	"	"	"	
Anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.051	0.10	"	"	"	"	"	"	
Chrysene	ND	0.051	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Fluorene	ND	0.061	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

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1204695-09 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Indeno (1,2,3-cd) pyrene	ND	0.051	0.10	ug/L	1	A209541	25-Sep-12	26-Sep-12	EPA 8270M SIM	
Naphthalene	ND	0.061	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.051	0.10	"	"	"	"	"	"	
Pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*100 %*		*27-159*	"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A210010	01-Oct-12	01-Oct-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	**0.66**	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

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1204695-09 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A210010	01-Oct-12	01-Oct-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**8.4**	2.5	10	"	"	"	"	"	"	J
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
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Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methyl-t-butyl ether	ND	0.25	0.50	ug/L	1	A210010	01-Oct-12	01-Oct-12	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	**72**	20	50	"	"	"	"	"	"	D-06
Surrogate: Dibromofluoromethane			*110 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*101 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*102 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

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1204695-10 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.010	0.025	mg/L	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Arsenic	**0.16**	0.010	0.025	"	"	"	"	"	"	
Barium	**0.10**	0.0035	0.0050	"	"	"	"	"	"	
Beryllium	ND	0.0039	0.0050	"	"	"	"	"	"	
Cadmium	ND	0.0025	0.0050	"	"	"	"	"	"	
Chromium	ND	0.0055	0.010	"	"	"	"	"	"	
Cobalt	**0.0037**	0.0025	0.0050	"	"	"	"	"	"	J
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A209573	26-Sep-12	26-Sep-12	EPA 7470A	
Molybdenum	**0.019**	0.0042	0.0050	"	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Nickel	**0.024**	0.0025	0.0050	"	"	"	"	"	"	
Selenium	**0.018**	0.0055	0.010	"	"	"	"	"	"	
Silver	ND	0.0036	0.0050	"	"	"	"	"	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	28-Sep-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	28-Sep-12	"	
Zinc	ND	0.012	0.025	"	"	"	"	"	"	

TEPH by GCMS

TPH Diesel (C10-C25)	**1.3**	0.021	0.052	mg/L	1	A209495	24-Sep-12	25-Sep-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**1.0**	0.21	0.52	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*92.0 %*	*33-129*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	ND	0.062	0.10	ug/L	1	A209541	25-Sep-12	26-Sep-12	EPA 8270M SIM	
Acenaphthylene	**0.062**	0.062	0.10	"	"	"	"	"	"	J
Anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.052	0.10	"	"	"	"	"	"	
Chrysene	ND	0.052	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Fluorene	ND	0.062	0.10	"	"	"	"	"	"	

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Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Indeno (1,2,3-cd) pyrene	ND	0.052	0.10	ug/L	1	A209541	25-Sep-12	26-Sep-12	EPA 8270M SIM	
Naphthalene	ND	0.062	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.052	0.10	"	"	"	"	"	"	
Pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*92.5 %*		*27-159*	"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	**0.32**	0.25	0.50	ug/L	1	A210042	02-Oct-12	03-Oct-12	EPA 8260B/LUFT	J
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**0.41**	0.25	0.50	"	"	"	"	"	"	J
tert-Butylbenzene	**0.62**	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	**0.27**	0.25	0.50	"	"	"	"	"	"	J
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

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1204695-10 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A210042	02-Oct-12	03-Oct-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	**1.2**	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	**0.28**	0.25	0.50	"	"	A210100	03-Oct-12	04-Oct-12	"	J, HT-06
n-Propylbenzene	**0.31**	0.25	0.50	"	"	A210042	02-Oct-12	03-Oct-12	"	J
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	**0.33**	0.27	0.50	"	"	"	"	"	"	J
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**18**	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	**51**	1.2	2.5	"	5	"	"	02-Oct-12	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

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1204695-10 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	**220**	20	50	ug/L	1	A210042	02-Oct-12	03-Oct-12	EPA 8260B/LUFT	D-03
Surrogate: Dibromofluoromethane			*106 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*94.2 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*99.4 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

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1204695-11 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.010	0.025	mg/L	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Arsenic	**0.016**	0.010	0.025	"	"	"	"	"	"	J
Barium	**0.15**	0.0035	0.0050	"	"	"	"	"	"	
Beryllium	ND	0.0039	0.0050	"	"	"	"	"	"	
Cadmium	ND	0.0025	0.0050	"	"	"	"	"	"	
Chromium	**0.0060**	0.0055	0.010	"	"	"	"	"	"	J
Cobalt	ND	0.0025	0.0050	"	"	"	"	"	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A209573	26-Sep-12	26-Sep-12	EPA 7470A	
Molybdenum	**0.044**	0.0042	0.0050	"	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Nickel	**0.043**	0.0025	0.0050	"	"	"	"	"	"	
Selenium	**0.021**	0.0055	0.010	"	"	"	"	"	"	
Silver	ND	0.0036	0.0050	"	"	"	"	"	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	28-Sep-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	28-Sep-12	"	
Zinc	**0.039**	0.012	0.025	"	"	"	"	"	"	
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.19**	0.022	0.054	mg/L	1	A209495	24-Sep-12	25-Sep-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.22**	0.22	0.54	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*117 %*	*33-129*		*"*	*"*	*"*	*"*	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A210042	02-Oct-12	02-Oct-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-167-95

1204695-11 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloroform	ND	0.25	0.50	ug/L	1	A210042	02-Oct-12	02-Oct-12	EPA 8260B/LUFT	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-167-95

1204695-11 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2,3-Trichlorobenzene	ND	0.25	0.50	ug/L	1	A210042	02-Oct-12	02-Oct-12	EPA 8260B/LUFT	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**27**	20	50	"	"	"	"	"	"	J, D-06
Surrogate: Dibromofluoromethane			*108 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*97.7 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*95.0 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-226

1204695-12 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.010	0.025	mg/L	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.048**	0.0035	0.0050	"	"	"	"	"	"	
Beryllium	ND	0.0039	0.0050	"	"	"	"	"	"	
Cadmium	ND	0.0025	0.0050	"	"	"	"	"	"	
Chromium	**0.0064**	0.0055	0.010	"	"	"	"	"	"	J
Cobalt	**0.0036**	0.0025	0.0050	"	"	"	"	"	"	J
Copper	**0.0048**	0.0036	0.0050	"	"	"	"	"	"	J
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A209573	26-Sep-12	26-Sep-12	EPA 7470A	
Molybdenum	ND	0.0042	0.0050	"	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Nickel	**0.0026**	0.0025	0.0050	"	"	"	"	"	"	J
Selenium	**0.011**	0.0055	0.010	"	"	"	"	"	"	
Silver	ND	0.0036	0.0050	"	"	"	"	"	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	28-Sep-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	28-Sep-12	"	
Zinc	ND	0.012	0.025	"	"	"	"	"	"	

TEPH by GCMS

TPH Diesel (C10-C25)	**0.090**	0.022	0.056	mg/L	1	A209495	24-Sep-12	25-Sep-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.22	0.56	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*117 %*	*33-129*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	ND	0.062	0.10	ug/L	1	A209541	25-Sep-12	26-Sep-12	EPA 8270M SIM	
Acenaphthylene	ND	0.062	0.10	"	"	"	"	"	"	
Anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.052	0.10	"	"	"	"	"	"	
Chrysene	ND	0.052	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Fluorene	ND	0.062	0.10	"	"	"	"	"	"	

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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

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1204695-12 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Indeno (1,2,3-cd) pyrene	ND	0.052	0.10	ug/L	1	A209541	25-Sep-12	26-Sep-12	EPA 8270M SIM	
Naphthalene	**8.5**	0.62	1.0	"	10	"	"	26-Sep-12	"	
Phenanthrene	ND	0.052	0.10	"	1	"	"	26-Sep-12	"	
Pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*97.5 %*	*27-159*		*"*	*"*	*"*	*"*	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**18**	0.25	0.50	ug/L	1	A210042	02-Oct-12	03-Oct-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	**1.2**	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**2.9**	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.43**	0.25	0.50	"	"	"	"	"	"	J
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1204695-12 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A210042	02-Oct-12	03-Oct-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	**49**	1.2	2.5	"	5	"	"	03-Oct-12	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	1	"	"	03-Oct-12	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	**21**	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	**5.5**	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	**15**	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	**18**	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**7.3**	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**68**	1.2	2.5	"	5	"	"	03-Oct-12	"	
1,3,5-Trimethylbenzene	**0.40**	0.25	0.50	"	1	"	"	03-Oct-12	"	J
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	**49**	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**12**	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

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1204695-12 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	**1700**	20	50	ug/L	1	A210042	02-Oct-12	03-Oct-12	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*106 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*99.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*106 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-230

1204695-13 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.010	0.025	mg/L	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.032**	0.0035	0.0050	"	"	"	"	"	"	
Beryllium	**0.011**	0.0039	0.0050	"	"	"	"	"	"	
Cadmium	**0.0099**	0.0025	0.0050	"	"	"	"	"	"	
Chromium	**0.0079**	0.0055	0.010	"	"	"	"	"	"	J
Cobalt	**0.12**	0.0025	0.0050	"	"	"	"	"	"	
Copper	**0.014**	0.0036	0.0050	"	"	"	"	"	"	
Lead	**0.063**	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A209573	26-Sep-12	26-Sep-12	EPA 7470A	
Molybdenum	ND	0.0042	0.0050	"	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Nickel	**0.15**	0.0025	0.0050	"	"	"	"	"	"	
Selenium	**0.025**	0.0055	0.010	"	"	"	"	"	"	
Silver	ND	0.0036	0.0050	"	"	"	"	"	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	28-Sep-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	28-Sep-12	"	
Zinc	**1.4**	0.012	0.025	"	"	"	"	"	"	
TEPH by GCMS										
TPH Diesel (C10-C25)	**1.2**	0.10	0.26	mg/L	5	A209495	24-Sep-12	25-Sep-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.22**	0.21	0.52	"	1	"	"	25-Sep-12	"	J
Surrogate: o-Terphenyl			*117 %*	*33-129*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	ND	0.063	0.10	ug/L	1	A209541	25-Sep-12	26-Sep-12	EPA 8270M SIM	
Acenaphthylene	ND	0.063	0.10	"	"	"	"	"	"	
Anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.052	0.10	"	"	"	"	"	"	
Chrysene	ND	0.052	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Fluorene	**0.073**	0.063	0.10	"	"	"	"	"	"	J

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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AT-B-230

1204695-13 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Indeno (1,2,3-cd) pyrene	ND	0.052	0.10	ug/L	1	A209541	25-Sep-12	26-Sep-12	EPA 8270M SIM	
Naphthalene	**230**	6.3	10	"	100	"	"	27-Sep-12	"	
Phenanthrene	ND	0.052	0.10	"	1	"	"	26-Sep-12	"	
Pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*95.0 %*		*27-159*	"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT **R-06**

Benzene	**180**	12	25	ug/L	50	A210042	02-Oct-12	03-Oct-12	EPA 8260B/LUFT	
Bromobenzene	ND	1.2	2.5	"	5	A210100	03-Oct-12	04-Oct-12	"	HT-06
Bromochloromethane	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Bromodichloromethane	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Bromoform	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Bromomethane	ND	1.2	2.5	"	"	"	"	"	"	HT-06
n-Butylbenzene	**6.4**	1.2	2.5	"	"	"	"	"	"	HT-06
sec-Butylbenzene	**6.8**	1.2	2.5	"	"	"	"	"	"	HT-06
tert-Butylbenzene	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Carbon tetrachloride	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Chlorobenzene	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Chloroethane	**26**	1.2	2.5	"	"	"	"	"	"	HT-06
Chloroform	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Chloromethane	ND	1.2	2.5	"	"	"	"	"	"	HT-06
2-Chlorotoluene	ND	1.2	2.5	"	"	"	"	"	"	HT-06
4-Chlorotoluene	ND	1.2	2.5	"	"	"	"	"	"	HT-06
1,2-Dibromo-3-chloropropane	ND	3.8	5.0	"	"	"	"	"	"	HT-06
Dibromochloromethane	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Dibromomethane	ND	1.2	2.5	"	"	"	"	"	"	HT-06
1,2-Dichlorobenzene	ND	1.2	2.5	"	"	"	"	"	"	HT-06
1,3-Dichlorobenzene	ND	1.2	2.5	"	"	"	"	"	"	HT-06
1,4-Dichlorobenzene	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Dichlorodifluoromethane	ND	1.3	2.5	"	"	"	"	"	"	HT-06
1,1-Dichloroethane	ND	1.2	2.5	"	"	"	"	"	"	HT-06
1,2-Dichloroethane	**26**	12	25	"	50	A210042	02-Oct-12	03-Oct-12	"	
1,1-Dichloroethene	ND	1.2	2.5	"	5	A210100	03-Oct-12	04-Oct-12	"	HT-06
cis-1,2-Dichloroethene	ND	1.2	2.5	"	"	"	"	"	"	HT-06
trans-1,2-Dichloroethene	ND	1.2	2.5	"	"	"	"	"	"	HT-06

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-230

1204695-13 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT **R-06**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	1.2	2.5	ug/L	5	A210100	03-Oct-12	04-Oct-12	EPA 8260B/LUFT	HT-06
1,3-Dichloropropane	ND	1.2	2.5	"	"	"	"	"	"	HT-06
2,2-Dichloropropane	ND	1.2	2.5	"	"	"	"	"	"	HT-06
1,1-Dichloropropene	ND	1.2	2.5	"	"	"	"	"	"	HT-06
cis-1,3-Dichloropropene	ND	1.2	2.5	"	"	"	"	"	"	HT-06
trans-1,3-Dichloropropene	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Ethylbenzene	**66**	12	25	"	50	A210042	02-Oct-12	03-Oct-12	"	
1,2-Dibromoethane (EDB)	**150**	1.2	2.5	"	5	A210100	03-Oct-12	04-Oct-12	"	HT-06
Hexachlorobutadiene	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Isopropylbenzene	**77**	1.2	2.5	"	"	"	"	"	"	HT-06
4-Isopropyl Toluene	**13**	1.2	2.5	"	"	"	"	"	"	HT-06
Methylene chloride	ND	2.5	5.0	"	"	"	"	"	"	HT-06
Naphthalene	**230**	1.2	2.5	"	"	"	"	"	"	HT-06
n-Propylbenzene	**79**	1.2	2.5	"	"	"	"	"	"	HT-06
Styrene	ND	1.2	2.5	"	"	"	"	"	"	HT-06
1,1,1,2-Tetrachloroethane	ND	1.2	2.5	"	"	"	"	"	"	HT-06
1,1,2,2-Tetrachloroethane	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Tetrachloroethene (PCE)	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Toluene	**510**	12	25	"	50	A210042	02-Oct-12	03-Oct-12	"	
1,2,3-Trichlorobenzene	ND	1.2	2.5	"	5	A210100	03-Oct-12	04-Oct-12	"	HT-06
1,2,4-Trichlorobenzene	ND	1.2	2.5	"	"	"	"	"	"	HT-06
1,1,1-Trichloroethane	ND	1.2	2.5	"	"	"	"	"	"	HT-06
1,1,2-Trichloroethane	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Trichloroethene (TCE)	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Trichlorofluoromethane	ND	1.2	2.5	"	"	"	"	"	"	HT-06
1,2,3-Trichloropropane	ND	1.2	2.5	"	"	"	"	"	"	HT-06
1,2,4-Trimethylbenzene	**50**	12	25	"	50	A210042	02-Oct-12	03-Oct-12	"	
1,3,5-Trimethylbenzene	**180**	1.2	2.5	"	5	A210100	03-Oct-12	04-Oct-12	"	HT-06
Vinyl chloride	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Xylenes (total)	**350**	14	25	"	50	A210042	02-Oct-12	03-Oct-12	"	
t-Amyl Methyl Ether	ND	1.2	2.5	"	5	A210100	03-Oct-12	04-Oct-12	"	HT-06
t-Butyl alcohol	ND	12	50	"	"	"	"	"	"	HT-06
Diisopropyl Ether	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Ethanol	ND	1200	2500	"	"	"	"	"	"	HT-06
Ethyl t-Butyl Ether	ND	1.2	2.5	"	"	"	"	"	"	HT-06
Methyl-t-butyl ether	ND	1.2	2.5	"	"	"	"	"	"	HT-06

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-230

1204695-13 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT **R-06**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	**6600**	1000	2500	ug/L	50	A210042	02-Oct-12	03-Oct-12	EPA 8260B/LUFT	D-03
Surrogate: Dibromofluoromethane			*106 %*	*70-130*		*A210100*	*03-Oct-12*	*04-Oct-12*	"	
Surrogate: Toluene-d8			*102 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*102 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-231

1204695-14 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.010	0.025	mg/L	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Arsenic	**0.013**	0.010	0.025	"	"	"	"	"	"	J
Barium	**0.17**	0.0035	0.0050	"	"	"	"	"	"	
Beryllium	ND	0.0039	0.0050	"	"	"	"	"	"	
Cadmium	ND	0.0025	0.0050	"	"	"	"	"	"	
Chromium	ND	0.0055	0.010	"	"	"	"	"	"	
Cobalt	**0.0044**	0.0025	0.0050	"	"	"	"	"	"	J
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A209573	26-Sep-12	26-Sep-12	EPA 7470A	
Molybdenum	ND	0.0042	0.0050	"	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Nickel	**0.0080**	0.0025	0.0050	"	"	"	"	"	"	
Selenium	**0.039**	0.0055	0.010	"	"	"	"	"	"	
Silver	ND	0.0036	0.0050	"	"	"	"	"	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	28-Sep-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	28-Sep-12	"	
Zinc	ND	0.012	0.025	"	"	"	"	"	"	

TEPH by GCMS

TPH Diesel (C10-C25)	**1.8**	0.10	0.26	mg/L	5	A209495	24-Sep-12	25-Sep-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.23**	0.21	0.52	"	1	"	"	25-Sep-12	"	J
Surrogate: o-Terphenyl			*120 %*	*33-129*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	ND	0.061	0.10	ug/L	1	A209541	25-Sep-12	26-Sep-12	EPA 8270M SIM	
Acenaphthylene	**0.10**	0.061	0.10	"	"	"	"	"	"	
Anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.051	0.10	"	"	"	"	"	"	
Chrysene	ND	0.051	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Fluorene	**0.061**	0.061	0.10	"	"	"	"	"	"	J

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

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1204695-14 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Indeno (1,2,3-cd) pyrene	ND	0.051	0.10	ug/L	1	A209541	25-Sep-12	26-Sep-12	EPA 8270M SIM	
Naphthalene	**63**	1.2	2.0	"	20	"	"	27-Sep-12	"	
Phenanthrene	ND	0.051	0.10	"	1	"	"	26-Sep-12	"	
Pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*96.3 %*	*27-159*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT **R-06**

Benzene	**3800**	50	100	ug/L	200	A210042	02-Oct-12	03-Oct-12	EPA 8260B/LUFT	
Bromobenzene	ND	5.0	10	"	20	"	"	03-Oct-12	"	
Bromochloromethane	ND	5.0	10	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	10	"	"	"	"	"	"	
Bromoform	ND	5.0	10	"	"	"	"	"	"	
Bromomethane	ND	5.0	10	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	10	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	10	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	10	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	10	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	10	"	"	"	"	"	"	
Chloroethane	ND	5.0	10	"	"	"	"	"	"	
Chloroform	ND	5.0	10	"	"	"	"	"	"	
Chloromethane	ND	5.0	10	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	10	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	10	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	15	20	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	10	"	"	"	"	"	"	
Dibromomethane	ND	5.0	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	10	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	10	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.2	10	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	10	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	10	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

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1204695-14 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT **R-06**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	5.0	10	ug/L	20	A210042	02-Oct-12	03-Oct-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	5.0	10	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	10	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	10	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	10	"	"	"	"	"	"	
Ethylbenzene	**150**	5.0	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	10	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	10	"	"	"	"	"	"	
Isopropylbenzene	**12**	5.0	10	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	5.0	10	"	"	"	"	"	"	
Methylene chloride	ND	10	20	"	"	"	"	"	"	
Naphthalene	**53**	5.0	10	"	"	"	"	"	"	
n-Propylbenzene	**9.0**	5.0	10	"	"	"	"	"	"	J
Styrene	ND	5.0	10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	10	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	5.0	10	"	"	"	"	"	"	
Toluene	**160**	5.0	10	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	10	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	10	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	5.0	10	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	10	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**120**	5.0	10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**8.0**	5.0	10	"	"	"	"	"	"	J
Vinyl chloride	ND	5.0	10	"	"	"	"	"	"	
Xylenes (total)	**270**	5.4	10	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	5.0	10	"	"	"	"	"	"	
t-Butyl alcohol	**4300**	50	200	"	"	"	"	"	"	
Diisopropyl Ether	ND	5.0	10	"	"	"	"	"	"	
Ethanol	ND	5000	10000	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	5.0	10	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	5.0	10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

AT-B-231

1204695-14 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT **R-06**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	**15000**	400	1000	ug/L	20	A210042	02-Oct-12	03-Oct-12	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*105 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*96.5 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*101 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

DUP

1204695-15 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.010	0.025	mg/L	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.044**	0.0035	0.0050	"	"	"	"	"	"	
Beryllium	ND	0.0039	0.0050	"	"	"	"	"	"	
Cadmium	ND	0.0025	0.0050	"	"	"	"	"	"	
Chromium	ND	0.0055	0.010	"	"	"	"	"	"	
Cobalt	**0.0032**	0.0025	0.0050	"	"	"	"	"	"	J
Copper	**0.0040**	0.0036	0.0050	"	"	"	"	"	"	J
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A209573	26-Sep-12	26-Sep-12	EPA 7470A	
Molybdenum	ND	0.0042	0.0050	"	5	A209572	26-Sep-12	28-Sep-12	EPA 6020	
Nickel	ND	0.0025	0.0050	"	"	"	"	"	"	
Selenium	**0.012**	0.0055	0.010	"	"	"	"	"	"	
Silver	ND	0.0036	0.0050	"	"	"	"	"	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	28-Sep-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	28-Sep-12	"	
Zinc	ND	0.012	0.025	"	"	"	"	"	"	

TEPH by GCMS

TPH Diesel (C10-C25)	**0.092**	0.022	0.056	mg/L	1	A209495	24-Sep-12	25-Sep-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.22	0.56	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*121 %*	*33-129*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	ND	0.064	0.11	ug/L	1	A209541	25-Sep-12	26-Sep-12	EPA 8270M SIM	
Acenaphthylene	ND	0.064	0.11	"	"	"	"	"	"	
Anthracene	ND	0.053	0.11	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.053	0.11	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.053	0.11	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.053	0.11	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.053	0.11	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.053	0.11	"	"	"	"	"	"	
Chrysene	ND	0.053	0.11	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.053	0.11	"	"	"	"	"	"	
Fluoranthene	ND	0.053	0.11	"	"	"	"	"	"	
Fluorene	ND	0.064	0.11	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

DUP

1204695-15 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Indeno (1,2,3-cd) pyrene	ND	0.053	0.11	ug/L	1	A209541	25-Sep-12	26-Sep-12	EPA 8270M SIM	
Naphthalene	**6.8**	0.64	1.1	"	10	"	"	26-Sep-12	"	
Phenanthrene	ND	0.053	0.11	"	1	"	"	26-Sep-12	"	
Pyrene	ND	0.053	0.11	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*97.5 %*		*27-159*	"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	**18**	0.25	0.50	ug/L	1	A210042	02-Oct-12	03-Oct-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	**1.2**	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**2.8**	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.46**	0.25	0.50	"	"	"	"	"	"	J
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

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1204695-15 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A210042	02-Oct-12	03-Oct-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	**60**	5.0	10	"	20	"	"	02-Oct-12	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	1	"	"	03-Oct-12	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	**21**	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	**5.5**	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	**16**	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	**18**	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**7.2**	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**81**	5.0	10	"	20	"	"	02-Oct-12	"	
1,3,5-Trimethylbenzene	**0.47**	0.25	0.50	"	1	"	"	03-Oct-12	"	J
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	**47**	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**12**	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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DUP

1204695-15 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	**1600**	20	50	ug/L	1	A210042	02-Oct-12	03-Oct-12	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*104 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*96.6 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*104 %*	*70-130*		"	"	"	"	

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369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

091412-01

1204695-16 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A210010	01-Oct-12	01-Oct-12	EPA 8260B/LUFT
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"
Bromoform	ND	0.25	0.50	"	"	"	"	"	"
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"
Chloroform	ND	0.25	0.50	"	"	"	"	"	"
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"

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1204695-16 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dibromoethane (EDB)	ND	0.25	0.50	ug/L	1	A210010	01-Oct-12	01-Oct-12	EPA 8260B/LUFT	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*114 %*		*70-130*		"	"	"	
Surrogate: Toluene-d8			*105 %*		*70-130*		"	"	"	
Surrogate: 4-Bromofluorobenzene			*109 %*		*70-130*		"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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091412-02

1204695-17 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A210010	01-Oct-12	01-Oct-12	EPA 8260B/LUFT
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"
Bromoform	ND	0.25	0.50	"	"	"	"	"	"
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"
Chloroform	ND	0.25	0.50	"	"	"	"	"	"
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"

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1204695-17 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dibromoethane (EDB)	ND	0.25	0.50	ug/L	1	A210010	01-Oct-12	01-Oct-12	EPA 8260B/LUFT	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*108 %*		*70-130*	"	"	"	"	
Surrogate: Toluene-d8			*99.9 %*		*70-130*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*107 %*		*70-130*	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A209572 - EPA 3005A Filtered											
Blank (A209572-BLK1)					Prepared: 26-Sep-12 Analyzed: 28-Sep-12						
Antimony	ND	0.0020	0.0050	mg/L							
Arsenic	ND	0.0020	0.0050	"							
Barium	ND	0.00070	0.0010	"							
Beryllium	ND	0.00078	0.0010	"							
Cadmium	ND	0.00050	0.0010	"							
Chromium	ND	0.0011	0.0020	"							
Cobalt	ND	0.00050	0.0010	"							
Copper	ND	0.00071	0.0010	"							
Lead	ND	0.00080	0.0010	"							
Molybdenum	ND	0.00085	0.0010	"							
Nickel	ND	0.00050	0.0010	"							
Selenium	ND	0.0011	0.0020	"							
Silver	ND	0.00073	0.0010	"							
Thallium	ND	0.00072	0.0010	"							
Vanadium	ND	0.0030	0.0050	"							
Zinc	ND	0.0025	0.0050	"							
LCS (A209572-BS1)					Prepared: 26-Sep-12 Analyzed: 28-Sep-12						
Antimony	0.151	0.0020	0.0050	mg/L	0.160		94.5	80-120			
Arsenic	0.156	0.0020	0.0050	"	0.160		97.5	80-120			
Barium	0.148	0.00070	0.0010	"	0.160		92.3	80-120			
Beryllium	0.156	0.00078	0.0010	"	0.160		97.5	80-120			
Cadmium	0.148	0.00050	0.0010	"	0.160		92.6	80-120			
Chromium	0.157	0.0011	0.0020	"	0.160		98.0	80-120			
Cobalt	0.155	0.00050	0.0010	"	0.160		96.9	80-120			
Copper	0.160	0.00071	0.0010	"	0.160		99.8	80-120			
Lead	0.137	0.00080	0.0010	"	0.160		85.6	80-120			
Molybdenum	0.150	0.00085	0.0010	"	0.160		93.9	80-120			
Nickel	0.150	0.00050	0.0010	"	0.160		93.7	80-120			
Selenium	0.162	0.0011	0.0020	"	0.160		101	80-120			
Silver	0.148	0.00073	0.0010	"	0.150		98.8	80-120			
Thallium	0.150	0.00072	0.0010	"	0.160		93.8	80-120			
Vanadium	0.157	0.0030	0.0050	"	0.160		97.9	80-120			
Zinc	0.160	0.0025	0.0050	"	0.160		100	80-120			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A209572 - EPA 3005A Filtered											
LCS Dup (A209572-BSD1)					Prepared: 26-Sep-12 Analyzed: 28-Sep-12						
Antimony	0.147	0.0020	0.0050	mg/L	0.160		91.9	80-120	2.83	20	
Arsenic	0.155	0.0020	0.0050	"	0.160		96.6	80-120	0.866	20	
Barium	0.146	0.00070	0.0010	"	0.160		91.1	80-120	1.33	20	
Beryllium	0.159	0.00078	0.0010	"	0.160		99.2	80-120	1.72	20	
Cadmium	0.146	0.00050	0.0010	"	0.160		91.0	80-120	1.82	20	
Chromium	0.161	0.0011	0.0020	"	0.160		101	80-120	2.95	20	
Cobalt	0.160	0.00050	0.0010	"	0.160		100	80-120	3.32	20	
Copper	0.167	0.00071	0.0010	"	0.160		104	80-120	4.34	20	
Lead	0.137	0.00080	0.0010	"	0.160		85.9	80-120	0.315	20	
Molybdenum	0.144	0.00085	0.0010	"	0.160		90.3	80-120	3.89	20	
Nickel	0.154	0.00050	0.0010	"	0.160		96.4	80-120	2.82	20	
Selenium	0.160	0.0011	0.0020	"	0.160		99.7	80-120	1.42	20	
Silver	0.145	0.00073	0.0010	"	0.150		96.5	80-120	2.31	20	
Thallium	0.149	0.00072	0.0010	"	0.160		92.9	80-120	0.962	20	
Vanadium	0.163	0.0030	0.0050	"	0.160		102	80-120	3.95	20	
Zinc	0.164	0.0025	0.0050	"	0.160		102	80-120	2.32	20	
Duplicate (A209572-DUP1)	**Source: 1204695-02**				Prepared: 26-Sep-12 Analyzed: 28-Sep-12						
Antimony	ND	0.010	0.025	mg/L		ND				20	
Arsenic	ND	0.010	0.025	"		ND				20	
Barium	0.00820	0.0035	0.0050	"		0.00882			7.34	20	
Beryllium	ND	0.0039	0.0050	"		ND				20	
Cadmium	ND	0.0025	0.0050	"		ND				20	
Chromium	0.00925	0.0055	0.010	"		0.00919			0.651	20	J
Cobalt	ND	0.0025	0.0050	"		ND				20	
Copper	ND	0.0036	0.0050	"		ND				20	
Lead	ND	0.0040	0.0050	"		ND				20	
Molybdenum	0.0168	0.0042	0.0050	"		0.0177			5.68	20	
Nickel	0.0449	0.0025	0.0050	"		0.0411			8.78	20	
Selenium	ND	0.0055	0.010	"		0.00562				20	
Silver	ND	0.0036	0.0050	"		ND				20	
Vanadium	0.0222	0.015	0.025	"		0.0183			19.5	20	J
Zinc	ND	0.012	0.025	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A209572 - EPA 3005A Filtered											
Duplicate (A209572-DUP2)	**Source: 1204695-02**				Prepared: 26-Sep-12 Analyzed: 28-Sep-12						
Thallium	ND	0.0014	0.0020	mg/L		ND				20	
Matrix Spike (A209572-MS1)	**Source: 1204695-02**				Prepared: 26-Sep-12 Analyzed: 28-Sep-12						
Antimony	0.608	0.020	0.050	mg/L	0.640	ND	95.0	76-123			
Arsenic	0.587	0.020	0.050	"	0.640	ND	91.7	72-124			
Barium	0.604	0.0070	0.010	"	0.640	0.00882	93.0	63-121			
Beryllium	0.655	0.0078	0.010	"	0.640	ND	102	71-158			
Cadmium	0.592	0.0050	0.010	"	0.640	ND	92.6	76-117			
Chromium	0.597	0.011	0.020	"	0.640	0.00919	91.8	67-123			
Cobalt	1.14	0.0050	0.010	"	0.640	ND	178	64-123			QM-08
Copper	0.621	0.0071	0.010	"	0.640	ND	97.0	56-126			
Lead	0.663	0.0080	0.010	"	0.640	ND	104	72-124			
Molybdenum	0.618	0.0085	0.010	"	0.640	0.0177	93.8	71-127			
Nickel	0.671	0.0050	0.010	"	0.640	0.0411	98.4	57-124			
Selenium	0.597	0.011	0.020	"	0.640	0.00562	92.5	75-125			
Silver	0.590	0.0073	0.010	"	0.600	ND	98.3	18-154			
Vanadium	0.633	0.030	0.050	"	0.640	0.0183	96.1	60-128			
Zinc	0.576	0.025	0.050	"	0.640	ND	90.0	57-128			
Matrix Spike (A209572-MS2)	**Source: 1204695-02**				Prepared: 26-Sep-12 Analyzed: 28-Sep-12						
Thallium	0.636	0.0029	0.0040	mg/L	0.640	ND	99.3	67-122			
Matrix Spike Dup (A209572-MSD1)	**Source: 1204695-02**				Prepared: 26-Sep-12 Analyzed: 28-Sep-12						
Antimony	0.628	0.020	0.050	mg/L	0.640	ND	98.1	76-123	3.24	20	
Arsenic	0.636	0.020	0.050	"	0.640	ND	99.3	72-124	7.99	20	
Barium	0.619	0.0070	0.010	"	0.640	0.00882	95.3	63-121	2.43	20	
Beryllium	0.718	0.0078	0.010	"	0.640	ND	112	71-158	9.29	20	
Cadmium	0.604	0.0050	0.010	"	0.640	ND	94.4	76-117	2.02	20	
Chromium	0.634	0.011	0.020	"	0.640	0.00919	97.6	67-123	6.11	20	
Cobalt	1.24	0.0050	0.010	"	0.640	ND	193	64-123	8.19	20	QM-08
Copper	0.628	0.0071	0.010	"	0.640	ND	98.1	56-126	1.18	20	
Lead	0.688	0.0080	0.010	"	0.640	ND	107	72-124	3.62	20	
Molybdenum	0.663	0.0085	0.010	"	0.640	0.0177	101	71-127	7.04	20	
Nickel	0.787	0.0050	0.010	"	0.640	0.0411	117	57-124	15.9	20	
Selenium	0.626	0.011	0.020	"	0.640	0.00562	96.9	75-125	4.68	20	
Silver	0.625	0.0073	0.010	"	0.600	ND	104	18-154	5.91	20	
Vanadium	0.642	0.030	0.050	"	0.640	0.0183	97.4	60-128	1.33	20	
Zinc	0.614	0.025	0.050	"	0.640	ND	96.0	57-128	6.41	20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A209572 - EPA 3005A Filtered											
Matrix Spike Dup (A209572-MSD2)	**Source: 1204695-02**				Prepared: 26-Sep-12 Analyzed: 28-Sep-12						
Thallium	0.640	0.0029	0.0040	mg/L	0.640	ND	100	67-122	0.711	20	
Batch A209573 - EPA 7470A Prep											
Blank (A209573-BLK1)					Prepared & Analyzed: 26-Sep-12						
Mercury	ND	0.000100	0.000200	mg/L							
LCS (A209573-BS1)					Prepared & Analyzed: 26-Sep-12						
Mercury	0.0102	0.000100	0.000200	mg/L	0.0100		102	85-115			
LCS Dup (A209573-BSD1)					Prepared & Analyzed: 26-Sep-12						
Mercury	0.0106	0.000100	0.000200	mg/L	0.0100		106	85-115	4.00	20	
Duplicate (A209573-DUP1)	**Source: 1204695-09**				Prepared & Analyzed: 26-Sep-12						
Mercury	ND	0.000100	0.000200	mg/L		ND				25	
Matrix Spike (A209573-MS1)	**Source: 1204695-09**				Prepared & Analyzed: 26-Sep-12						
Mercury	0.00896	0.000100	0.000200	mg/L	0.0100	ND	89.6	75-125			
Matrix Spike Dup (A209573-MSD1)	**Source: 1204695-09**				Prepared & Analyzed: 26-Sep-12						
Mercury	0.00935	0.000100	0.000200	mg/L	0.0100	ND	93.5	75-125	4.30	20	

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369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
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TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A209495 - EPA 3510C MS											
Blank (A209495-BLK1)					Prepared: 24-Sep-12 Analyzed: 25-Sep-12						
TPH Diesel (C10-C25)	0.0264	0.020	0.050	mg/L							J
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"							
Surrogate: o-Terphenyl	*0.00547*			*"*	*0.00500*		*109*	*33-129*			
LCS (A209495-BS1)					Prepared & Analyzed: 24-Sep-12						
TPH Diesel (C10-C25)	0.691	0.020	0.050	mg/L	1.00		69.1	21-114			
Surrogate: o-Terphenyl	*0.00556*			*"*	*0.00500*		*111*	*33-129*			
LCS (A209495-BS2)					Prepared & Analyzed: 24-Sep-12						
TPH Oil Crude (C25-C40)	1.87	0.20	0.50	mg/L	2.00		93.6	47-108			
Surrogate: o-Terphenyl	*0.00645*			*"*	*0.00500*		*129*	*33-129*			
LCS Dup (A209495-BSD1)					Prepared & Analyzed: 24-Sep-12						
TPH Diesel (C10-C25)	0.614	0.020	0.050	mg/L	1.00		61.4	21-114	11.7	20	
Surrogate: o-Terphenyl	*0.00505*			*"*	*0.00500*		*101*	*33-129*			
LCS Dup (A209495-BSD2)					Prepared & Analyzed: 24-Sep-12						
TPH Oil Crude (C25-C40)	1.76	0.20	0.50	mg/L	2.00		87.8	47-108	6.45	20	
Surrogate: o-Terphenyl	*0.00617*			*"*	*0.00500*		*123*	*33-129*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A209541 - EPA 3510C MS											
Blank (A209541-BLK1)					Prepared: 25-Sep-12 Analyzed: 26-Sep-12						
Acenaphthene	ND	0.060	0.10	ug/L							
Acenaphthylene	ND	0.060	0.10	"							
Anthracene	ND	0.050	0.10	"							
Benz(a)anthracene	ND	0.050	0.10	"							
Benzo (b) fluoranthene	ND	0.050	0.10	"							
Benzo (k) fluoranthene	ND	0.050	0.10	"							
Benzo (a) pyrene	ND	0.050	0.10	"							
Benzo (g,h,i) perylene	ND	0.050	0.10	"							
Chrysene	ND	0.050	0.10	"							
Dibenz (a,h) anthracene	ND	0.050	0.10	"							
Fluoranthene	ND	0.050	0.10	"							
Fluorene	ND	0.060	0.10	"							
Indeno (1,2,3-cd) pyrene	ND	0.050	0.10	"							
Naphthalene	ND	0.060	0.10	"							
Phenanthrene	ND	0.050	0.10	"							
Pyrene	ND	0.050	0.10	"							
Surrogate: p-Terphenyl-d14	*0.720*			*"*	*0.800*		*90.0*	*27-159*			
LCS (A209541-BS1)					Prepared: 25-Sep-12 Analyzed: 26-Sep-12						
Acenaphthene	0.340	0.060	0.10	ug/L	0.800		42.5	40-120			
Acenaphthylene	0.330	0.060	0.10	"	0.800		41.2	40-120			
Anthracene	0.400	0.050	0.10	"	0.800		50.0	40-120			
Benz(a)anthracene	0.720	0.050	0.10	"	0.800		90.0	40-120			
Benzo (b) fluoranthene	0.500	0.050	0.10	"	0.800		62.5	40-120			
Benzo (k) fluoranthene	0.730	0.050	0.10	"	0.800		91.2	40-120			
Benzo (a) pyrene	0.550	0.050	0.10	"	0.800		68.8	40-120			
Benzo (g,h,i) perylene	0.700	0.050	0.10	"	0.800		87.5	40-120			
Chrysene	0.720	0.050	0.10	"	0.800		90.0	40-120			
Dibenz (a,h) anthracene	0.740	0.050	0.10	"	0.800		92.5	40-120			
Fluoranthene	0.530	0.050	0.10	"	0.800		66.2	40-120			
Fluorene	0.370	0.060	0.10	"	0.800		46.2	40-120			
Indeno (1,2,3-cd) pyrene	0.710	0.050	0.10	"	0.800		88.8	40-120			
Naphthalene	0.340	0.060	0.10	"	0.800		42.5	40-120			
Phenanthrene	0.440	0.050	0.10	"	0.800		55.0	40-120			
Pyrene	0.540	0.050	0.10	"	0.800		67.5	40-120			
Surrogate: p-Terphenyl-d14	*0.690*			*"*	*0.800*		*86.2*	*27-159*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A209541 - EPA 3510C MS											
LCS Dup (A209541-BSD1)					Prepared: 25-Sep-12 Analyzed: 26-Sep-12						
Acenaphthene	0.400	0.060	0.10	ug/L	0.800		50.0	40-120	16.2	30	
Acenaphthylene	0.410	0.060	0.10	"	0.800		51.2	40-120	21.6	30	
Anthracene	0.470	0.050	0.10	"	0.800		58.8	40-120	16.1	30	
Benz(a)anthracene	0.730	0.050	0.10	"	0.800		91.2	40-120	1.38	30	
Benzo (b) fluoranthene	0.550	0.050	0.10	"	0.800		68.8	40-120	9.52	30	
Benzo (k) fluoranthene	0.720	0.050	0.10	"	0.800		90.0	40-120	1.38	30	
Benzo (a) pyrene	0.540	0.050	0.10	"	0.800		67.5	40-120	1.83	30	
Benzo (g,h,i) perylene	0.680	0.050	0.10	"	0.800		85.0	40-120	2.90	30	
Chrysene	0.710	0.050	0.10	"	0.800		88.8	40-120	1.40	30	
Dibenz (a,h) anthracene	0.720	0.050	0.10	"	0.800		90.0	40-120	2.74	30	
Fluoranthene	0.600	0.050	0.10	"	0.800		75.0	40-120	12.4	30	
Fluorene	0.440	0.060	0.10	"	0.800		55.0	40-120	17.3	30	
Indeno (1,2,3-cd) pyrene	0.690	0.050	0.10	"	0.800		86.2	40-120	2.86	30	
Naphthalene	0.380	0.060	0.10	"	0.800		47.5	40-120	11.1	30	
Phenanthrene	0.510	0.050	0.10	"	0.800		63.8	40-120	14.7	30	
Pyrene	0.610	0.050	0.10	"	0.800		76.2	40-120	12.2	30	
Surrogate: p-Terphenyl-d14	*0.740*			*"*	*0.800*		*92.5*	*27-159*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A209654 - EPA 5030B VOCGCMS											
Blank (A209654-BLK1)					Prepared: 28-Sep-12 Analyzed: 29-Sep-12						
Benzene	ND	0.25	0.50	ug/L							
Bromobenzene	ND	0.25	0.50	"							
Bromochloromethane	ND	0.25	0.50	"							
Bromodichloromethane	ND	0.25	0.50	"							
Bromoform	ND	0.25	0.50	"							
Bromomethane	ND	0.25	0.50	"							
n-Butylbenzene	ND	0.25	0.50	"							
sec-Butylbenzene	ND	0.25	0.50	"							
tert-Butylbenzene	ND	0.25	0.50	"							
Carbon tetrachloride	ND	0.25	0.50	"							
Chlorobenzene	ND	0.25	0.50	"							
Chloroethane	ND	0.25	0.50	"							
Chloroform	ND	0.25	0.50	"							
Chloromethane	ND	0.25	0.50	"							
2-Chlorotoluene	ND	0.25	0.50	"							
4-Chlorotoluene	ND	0.25	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"							
Dibromochloromethane	ND	0.25	0.50	"							
Dibromomethane	ND	0.25	0.50	"							
1,2-Dichlorobenzene	ND	0.25	0.50	"							
1,3-Dichlorobenzene	ND	0.25	0.50	"							
1,4-Dichlorobenzene	ND	0.25	0.50	"							
Dichlorodifluoromethane	ND	0.26	0.50	"							
1,1-Dichloroethane	ND	0.25	0.50	"							
1,2-Dichloroethane	ND	0.25	0.50	"							
1,1-Dichloroethene	ND	0.25	0.50	"							
cis-1,2-Dichloroethene	ND	0.25	0.50	"							
trans-1,2-Dichloroethene	ND	0.25	0.50	"							
1,2-Dichloropropane	ND	0.25	0.50	"							
1,3-Dichloropropane	ND	0.25	0.50	"							
2,2-Dichloropropane	ND	0.25	0.50	"							
1,1-Dichloropropene	ND	0.25	0.50	"							
cis-1,3-Dichloropropene	ND	0.25	0.50	"							
trans-1,3-Dichloropropene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"							
Hexachlorobutadiene	ND	0.25	0.50	"							
Isopropylbenzene	ND	0.25	0.50	"							
4-Isopropyl Toluene	ND	0.25	0.50	"							
Methylene chloride	ND	0.50	1.0	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A209654 - EPA 5030B VOCGCMS											
Blank (A209654-BLK1)					Prepared: 28-Sep-12 Analyzed: 29-Sep-12						
Naphthalene	ND	0.25	0.50	ug/L							
n-Propylbenzene	ND	0.25	0.50	"							
Styrene	ND	0.25	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"							
Tetrachloroethene (PCE)	ND	0.25	0.50	"							
Toluene	0.290	0.25	0.50	"							J
1,2,3-Trichlorobenzene	ND	0.25	0.50	"							
1,2,4-Trichlorobenzene	ND	0.25	0.50	"							
1,1,1-Trichloroethane	ND	0.25	0.50	"							
1,1,2-Trichloroethane	ND	0.25	0.50	"							
Trichloroethene (TCE)	ND	0.25	0.50	"							
Trichlorofluoromethane	ND	0.25	0.50	"							
1,2,3-Trichloropropane	ND	0.25	0.50	"							
1,2,4-Trimethylbenzene	ND	0.25	0.50	"							
1,3,5-Trimethylbenzene	ND	0.25	0.50	"							
Vinyl chloride	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
t-Amyl Methyl Ether	ND	0.25	0.50	"							
t-Butyl alcohol	ND	2.5	10	"							
Diisopropyl Ether	ND	0.25	0.50	"							
Ethanol	ND	250	500	"							
Ethyl t-Butyl Ether	ND	0.25	0.50	"							
Methyl-t-butyl ether	ND	0.25	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*12.5*			*"*	*12.5*		*99.8*	*70-130*			
Surrogate: Toluene-d8	*12.4*			*"*	*12.5*		*99.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.7*			*"*	*12.5*		*101*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A209654 - EPA 5030B VOCGCMS											
LCS (A209654-BS1)					Prepared: 28-Sep-12 Analyzed: 29-Sep-12						
Benzene	26.1	0.25	0.50	ug/L	25.0		104	70-130			
Chlorobenzene	25.9	0.25	0.50	"	25.0		104	70-130			
1,1-Dichloroethene	26.8	0.25	0.50	"	25.0		107	70-130			
Toluene	25.7	0.25	0.50	"	25.0		103	70-130			
Trichloroethene (TCE)	27.2	0.25	0.50	"	25.0		109	70-130			
Surrogate: Dibromofluoromethane	*12.6*			"	*12.5*		*101*	*70-130*			
Surrogate: Toluene-d8	*12.6*			"	*12.5*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.9*			"	*12.5*		*103*	*70-130*			
LCS (A209654-BS2)					Prepared: 28-Sep-12 Analyzed: 29-Sep-12						
TPH Gasoline (C4-C10)	605	20	50	ug/L	500		121	70-130			
Surrogate: Dibromofluoromethane	*12.2*			"	*12.5*		*97.6*	*70-130*			
Surrogate: Toluene-d8	*12.8*			"	*12.5*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.8*			"	*12.5*		*102*	*70-130*			
LCS Dup (A209654-BSD1)					Prepared: 28-Sep-12 Analyzed: 29-Sep-12						
Benzene	26.4	0.25	0.50	ug/L	25.0		105	70-130	0.953	20	
Chlorobenzene	26.1	0.25	0.50	"	25.0		104	70-130	0.770	20	
1,1-Dichloroethene	26.4	0.25	0.50	"	25.0		105	70-130	1.65	20	
Toluene	26.0	0.25	0.50	"	25.0		104	70-130	1.24	20	
Trichloroethene (TCE)	27.0	0.25	0.50	"	25.0		108	70-130	0.960	20	
Surrogate: Dibromofluoromethane	*12.3*			"	*12.5*		*98.3*	*70-130*			
Surrogate: Toluene-d8	*12.4*			"	*12.5*		*99.5*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.6*			"	*12.5*		*101*	*70-130*			
LCS Dup (A209654-BSD2)					Prepared: 28-Sep-12 Analyzed: 29-Sep-12						
TPH Gasoline (C4-C10)	591	20	50	ug/L	500		118	70-130	2.32	20	
Surrogate: Dibromofluoromethane	*11.9*			"	*12.5*		*95.3*	*70-130*			
Surrogate: Toluene-d8	*12.4*			"	*12.5*		*99.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.0*			"	*12.5*		*104*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A209654 - EPA 5030B VOCGCMS											
Duplicate (A209654-DUP1)	**Source: 1204695-01**				Prepared: 28-Sep-12 Analyzed: 29-Sep-12						
Benzene	ND	0.25	0.50	ug/L		ND				20	
Bromobenzene	ND	0.25	0.50	"		ND				20	
Bromochloromethane	ND	0.25	0.50	"		ND				20	
Bromodichloromethane	ND	0.25	0.50	"		ND				20	
Bromoform	ND	0.25	0.50	"		ND				20	
Bromomethane	ND	0.25	0.50	"		ND				20	
n-Butylbenzene	ND	0.25	0.50	"		ND				20	
sec-Butylbenzene	ND	0.25	0.50	"		ND				20	
tert-Butylbenzene	ND	0.25	0.50	"		ND				20	
Carbon tetrachloride	ND	0.25	0.50	"		ND				20	
Chlorobenzene	ND	0.25	0.50	"		ND				20	
Chloroethane	ND	0.25	0.50	"		ND				20	
Chloroform	ND	0.25	0.50	"		ND				20	
Chloromethane	ND	0.25	0.50	"		ND				20	
2-Chlorotoluene	ND	0.25	0.50	"		ND				20	
4-Chlorotoluene	ND	0.25	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"		ND				20	
Dibromochloromethane	ND	0.25	0.50	"		ND				20	
Dibromomethane	ND	0.25	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.26	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.25	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.25	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.25	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
Ethylbenzene	ND	0.25	0.50	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				20	
Isopropylbenzene	ND	0.25	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.25	0.50	"		ND				20	
Methylene chloride	ND	0.50	1.0	"		ND				20	

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A209654 - EPA 5030B VOCGCMS											
Duplicate (A209654-DUP1)	**Source: 1204695-01**			Prepared: 28-Sep-12 Analyzed: 29-Sep-12							
Naphthalene	ND	0.25	0.50	ug/L		ND				20	
n-Propylbenzene	ND	0.25	0.50	"		ND				20	
Styrene	ND	0.25	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.25	0.50	"		ND				20	
Toluene	0.260	0.25	0.50	"		ND				20	J
1,2,3-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.25	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.25	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.25	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.25	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.25	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
Vinyl chloride	ND	0.25	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
t-Amyl Methyl Ether	ND	0.25	0.50	"		ND				20	
t-Butyl alcohol	ND	2.5	10	"		ND				20	
Diisopropyl Ether	ND	0.25	0.50	"		ND				20	
Ethanol	ND	250	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.25	0.50	"		ND				20	
Methyl-t-butyl ether	ND	0.25	0.50	"		ND				20	
TPH Gasoline (C4-C10)	ND	20	50	"		ND				20	
Surrogate: Dibromofluoromethane	*12.7*			*"*	*12.5*		*102*	*70-130*			
Surrogate: Toluene-d8	*12.4*			*"*	*12.5*		*99.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.5*			*"*	*12.5*		*99.9*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A209654 - EPA 5030B VOCGCMS											
Matrix Spike (A209654-MS1)	**Source: 1204695-01**				Prepared: 28-Sep-12 Analyzed: 30-Sep-12						
Benzene	26.0	0.25	0.50	ug/L	25.0	ND	104	70-130			
Chlorobenzene	24.8	0.25	0.50	"	25.0	ND	99.2	70-130			
1,1-Dichloroethene	25.2	0.25	0.50	"	25.0	ND	101	70-130			
Toluene	25.4	0.25	0.50	"	25.0	ND	102	70-130			
Trichloroethene (TCE)	25.4	0.25	0.50	"	25.0	ND	102	70-130			
Surrogate: Dibromofluoromethane	*13.1*			*"*	*12.5*		*105*	*70-130*			
Surrogate: Toluene-d8	*12.7*			*"*	*12.5*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.6*			*"*	*12.5*		*101*	*70-130*			
Batch A210010 - EPA 5030B VOCGCMS											
Blank (A210010-BLK2)					Prepared & Analyzed: 01-Oct-12						
Benzene	ND	0.25	0.50	ug/L							
Bromobenzene	ND	0.25	0.50	"							
Bromochloromethane	ND	0.25	0.50	"							
Bromodichloromethane	ND	0.25	0.50	"							
Bromoform	ND	0.25	0.50	"							
Bromomethane	ND	0.25	0.50	"							
n-Butylbenzene	ND	0.25	0.50	"							
sec-Butylbenzene	ND	0.25	0.50	"							
tert-Butylbenzene	ND	0.25	0.50	"							
Carbon tetrachloride	ND	0.25	0.50	"							
Chlorobenzene	ND	0.25	0.50	"							
Chloroethane	ND	0.25	0.50	"							
Chloroform	ND	0.25	0.50	"							
Chloromethane	ND	0.25	0.50	"							
2-Chlorotoluene	ND	0.25	0.50	"							
4-Chlorotoluene	ND	0.25	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"							
Dibromochloromethane	ND	0.25	0.50	"							
Dibromomethane	ND	0.25	0.50	"							
1,2-Dichlorobenzene	ND	0.25	0.50	"							
1,3-Dichlorobenzene	ND	0.25	0.50	"							
1,4-Dichlorobenzene	ND	0.25	0.50	"							
Dichlorodifluoromethane	ND	0.26	0.50	"							
1,1-Dichloroethane	ND	0.25	0.50	"							
1,2-Dichloroethane	ND	0.25	0.50	"							
1,1-Dichloroethene	ND	0.25	0.50	"							
cis-1,2-Dichloroethene	ND	0.25	0.50	"							
trans-1,2-Dichloroethene	ND	0.25	0.50	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210010 - EPA 5030B VOCGCMS											
Blank (A210010-BLK2)					Prepared & Analyzed: 01-Oct-12						
1,2-Dichloropropane	ND	0.25	0.50	ug/L							
1,3-Dichloropropane	ND	0.25	0.50	"							
2,2-Dichloropropane	ND	0.25	0.50	"							
1,1-Dichloropropene	ND	0.25	0.50	"							
cis-1,3-Dichloropropene	ND	0.25	0.50	"							
trans-1,3-Dichloropropene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"							
Hexachlorobutadiene	ND	0.25	0.50	"							
Isopropylbenzene	ND	0.25	0.50	"							
4-Isopropyl Toluene	ND	0.25	0.50	"							
Methylene chloride	ND	0.50	1.0	"							
Naphthalene	ND	0.25	0.50	"							
n-Propylbenzene	ND	0.25	0.50	"							
Styrene	ND	0.25	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"							
Tetrachloroethene (PCE)	ND	0.25	0.50	"							
Toluene	ND	0.25	0.50	"							
1,2,3-Trichlorobenzene	ND	0.25	0.50	"							
1,2,4-Trichlorobenzene	ND	0.25	0.50	"							
1,1,1-Trichloroethane	ND	0.25	0.50	"							
1,1,2-Trichloroethane	ND	0.25	0.50	"							
Trichloroethene (TCE)	ND	0.25	0.50	"							
Trichlorofluoromethane	ND	0.25	0.50	"							
1,2,3-Trichloropropane	ND	0.25	0.50	"							
1,2,4-Trimethylbenzene	ND	0.25	0.50	"							
1,3,5-Trimethylbenzene	ND	0.25	0.50	"							
Vinyl chloride	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
t-Amyl Methyl Ether	ND	0.25	0.50	"							
t-Butyl alcohol	ND	2.5	10	"							
Diisopropyl Ether	ND	0.25	0.50	"							
Ethanol	ND	250	500	"							
Ethyl t-Butyl Ether	ND	0.25	0.50	"							
Methyl-t-butyl ether	ND	0.25	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*14.3*			*"*	*12.5*		*114*	*70-130*			
Surrogate: Toluene-d8	*12.9*			*"*	*12.5*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.3*			*"*	*12.5*		*107*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210010 - EPA 5030B VOCGCMS											
LCS (A210010-BS1)					Prepared & Analyzed: 01-Oct-12						
Benzene	21.3	0.25	0.50	ug/L	25.0		85.1	70-130			
Chlorobenzene	23.5	0.25	0.50	"	25.0		94.0	70-130			
1,1-Dichloroethene	22.7	0.25	0.50	"	25.0		90.9	70-130			
Toluene	23.4	0.25	0.50	"	25.0		93.7	70-130			
Trichloroethene (TCE)	24.2	0.25	0.50	"	25.0		96.8	70-130			
Surrogate: Dibromofluoromethane	*13.2*			"	*12.5*		*106*	*70-130*			
Surrogate: Toluene-d8	*12.2*			"	*12.5*		*97.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.9*			"	*12.5*		*103*	*70-130*			
LCS (A210010-BS2)					Prepared & Analyzed: 01-Oct-12						
TPH Gasoline (C4-C10)	551	20	50	ug/L	500		110	70-130			
Surrogate: Dibromofluoromethane	*13.3*			"	*12.5*		*107*	*70-130*			
Surrogate: Toluene-d8	*12.5*			"	*12.5*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.1*			"	*12.5*		*105*	*70-130*			
LCS Dup (A210010-BSD1)					Prepared & Analyzed: 01-Oct-12						
Benzene	22.0	0.25	0.50	ug/L	25.0		87.9	70-130	3.24	20	
Chlorobenzene	23.8	0.25	0.50	"	25.0		95.0	70-130	1.10	20	
1,1-Dichloroethene	23.0	0.25	0.50	"	25.0		92.2	70-130	1.35	20	
Toluene	23.6	0.25	0.50	"	25.0		94.4	70-130	0.765	20	
Trichloroethene (TCE)	24.4	0.25	0.50	"	25.0		97.8	70-130	0.986	20	
Surrogate: Dibromofluoromethane	*13.2*			"	*12.5*		*106*	*70-130*			
Surrogate: Toluene-d8	*12.3*			"	*12.5*		*98.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.9*			"	*12.5*		*103*	*70-130*			
LCS Dup (A210010-BSD2)					Prepared & Analyzed: 01-Oct-12						
TPH Gasoline (C4-C10)	601	20	50	ug/L	500		120	70-130	8.64	20	
Surrogate: Dibromofluoromethane	*13.1*			"	*12.5*		*105*	*70-130*			
Surrogate: Toluene-d8	*12.3*			"	*12.5*		*98.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.2*			"	*12.5*		*106*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210010 - EPA 5030B VOCGCMS											
Duplicate (A210010-DUP1)	**Source: 1204695-06**			Prepared & Analyzed: 01-Oct-12							**ISlowS**
Benzene	ND	0.25	0.50	ug/L		ND				20	
Bromobenzene	ND	0.25	0.50	"		ND				20	
Bromochloromethane	ND	0.25	0.50	"		ND				20	
Bromodichloromethane	ND	0.25	0.50	"		ND				20	
Bromoform	ND	0.25	0.50	"		ND				20	
Bromomethane	ND	0.25	0.50	"		ND				20	
n-Butylbenzene	ND	0.25	0.50	"		ND				20	
sec-Butylbenzene	ND	0.25	0.50	"		ND				20	
tert-Butylbenzene	ND	0.25	0.50	"		ND				20	
Carbon tetrachloride	ND	0.25	0.50	"		ND				20	
Chlorobenzene	ND	0.25	0.50	"		ND				20	
Chloroethane	ND	0.25	0.50	"		ND				20	
Chloroform	ND	0.25	0.50	"		ND				20	
Chloromethane	ND	0.25	0.50	"		ND				20	
2-Chlorotoluene	ND	0.25	0.50	"		ND				20	
4-Chlorotoluene	ND	0.25	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"		ND				20	
Dibromochloromethane	ND	0.25	0.50	"		ND				20	
Dibromomethane	ND	0.25	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.26	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.25	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.25	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.25	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
Ethylbenzene	ND	0.25	0.50	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				20	
Isopropylbenzene	ND	0.25	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.25	0.50	"		ND				20	
Methylene chloride	ND	0.50	1.0	"		ND				20	

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210010 - EPA 5030B VOCGCMS											
Duplicate (A210010-DUP1)	**Source: 1204695-06**			Prepared & Analyzed: 01-Oct-12							**ISlowS**
Naphthalene	ND	0.25	0.50	ug/L		0.280				20	
n-Propylbenzene	ND	0.25	0.50	"		ND				20	
Styrene	ND	0.25	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.25	0.50	"		ND				20	
Toluene	ND	0.25	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.25	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.25	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.25	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.25	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.25	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
Vinyl chloride	ND	0.25	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
t-Amyl Methyl Ether	ND	0.25	0.50	"		ND				20	
t-Butyl alcohol	ND	2.5	10	"		ND				20	
Diisopropyl Ether	ND	0.25	0.50	"		ND				20	
Ethanol	ND	250	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.25	0.50	"		ND				20	
Methyl-t-butyl ether	ND	0.25	0.50	"		ND				20	
TPH Gasoline (C4-C10)	58.0	20	50	"		24.8			80.2	20	D-06, QR-04
Surrogate: Dibromofluoromethane	*14.2*			*"*	*12.5*		*114*	*70-130*			
Surrogate: Toluene-d8	*12.6*			*"*	*12.5*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.0*			*"*	*12.5*		*104*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210010 - EPA 5030B VOCGCMS											
Matrix Spike (A210010-MS1)	**Source: 1204695-06**				Prepared: 01-Oct-12 Analyzed: 02-Oct-12						
Benzene	22.9	0.25	0.50	ug/L	25.0	ND	91.7	70-130			
Chlorobenzene	22.3	0.25	0.50	"	25.0	ND	89.4	70-130			
1,1-Dichloroethene	20.4	0.25	0.50	"	25.0	ND	81.5	70-130			
Toluene	22.3	0.25	0.50	"	25.0	ND	89.3	70-130			
Trichloroethene (TCE)	22.2	0.25	0.50	"	25.0	ND	88.7	70-130			
Surrogate: Dibromofluoromethane	*13.5*			"	*12.5*		*108*	*70-130*			
Surrogate: Toluene-d8	*12.7*			"	*12.5*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.6*			"	*12.5*		*101*	*70-130*			
Matrix Spike (A210010-MS2)	**Source: 1204695-06**				Prepared: 01-Oct-12 Analyzed: 02-Oct-12						
TPH Gasoline (C4-C10)	559	20	50	ug/L	500	24.8	107	70-130			
Surrogate: Dibromofluoromethane	*13.2*			"	*12.5*		*106*	*70-130*			
Surrogate: Toluene-d8	*12.5*			"	*12.5*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.9*			"	*12.5*		*103*	*70-130*			
Batch A210042 - EPA 5030B VOCGCMS											
Blank (A210042-BLK1)					Prepared & Analyzed: 02-Oct-12						
Benzene	ND	0.25	0.50	ug/L							
Bromobenzene	ND	0.25	0.50	"							
Bromochloromethane	ND	0.25	0.50	"							
Bromodichloromethane	ND	0.25	0.50	"							
Bromoform	ND	0.25	0.50	"							
Bromomethane	ND	0.25	0.50	"							
n-Butylbenzene	ND	0.25	0.50	"							
sec-Butylbenzene	ND	0.25	0.50	"							
tert-Butylbenzene	ND	0.25	0.50	"							
Carbon tetrachloride	ND	0.25	0.50	"							
Chlorobenzene	ND	0.25	0.50	"							
Chloroethane	ND	0.25	0.50	"							
Chloroform	ND	0.25	0.50	"							
Chloromethane	ND	0.25	0.50	"							
2-Chlorotoluene	ND	0.25	0.50	"							
4-Chlorotoluene	ND	0.25	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"							
Dibromochloromethane	ND	0.25	0.50	"							
Dibromomethane	ND	0.25	0.50	"							
1,2-Dichlorobenzene	ND	0.25	0.50	"							
1,3-Dichlorobenzene	ND	0.25	0.50	"							
1,4-Dichlorobenzene	ND	0.25	0.50	"							

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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210042 - EPA 5030B VOCGCMS											
Blank (A210042-BLK1)					Prepared & Analyzed: 02-Oct-12						
Dichlorodifluoromethane	ND	0.26	0.50	ug/L							
1,1-Dichloroethane	ND	0.25	0.50	"							
1,2-Dichloroethane	ND	0.25	0.50	"							
1,1-Dichloroethene	ND	0.25	0.50	"							
cis-1,2-Dichloroethene	ND	0.25	0.50	"							
trans-1,2-Dichloroethene	ND	0.25	0.50	"							
1,2-Dichloropropane	ND	0.25	0.50	"							
1,3-Dichloropropane	ND	0.25	0.50	"							
2,2-Dichloropropane	ND	0.25	0.50	"							
1,1-Dichloropropene	ND	0.25	0.50	"							
cis-1,3-Dichloropropene	ND	0.25	0.50	"							
trans-1,3-Dichloropropene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"							
Hexachlorobutadiene	ND	0.25	0.50	"							
Isopropylbenzene	ND	0.25	0.50	"							
4-Isopropyl Toluene	ND	0.25	0.50	"							
Methylene chloride	ND	0.50	1.0	"							
Naphthalene	ND	0.25	0.50	"							
n-Propylbenzene	ND	0.25	0.50	"							
Styrene	ND	0.25	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"							
Tetrachloroethene (PCE)	ND	0.25	0.50	"							
Toluene	ND	0.25	0.50	"							
1,2,3-Trichlorobenzene	ND	0.25	0.50	"							
1,2,4-Trichlorobenzene	ND	0.25	0.50	"							
1,1,1-Trichloroethane	ND	0.25	0.50	"							
1,1,2-Trichloroethane	ND	0.25	0.50	"							
Trichloroethene (TCE)	ND	0.25	0.50	"							
Trichlorofluoromethane	ND	0.25	0.50	"							
1,2,3-Trichloropropane	ND	0.25	0.50	"							
1,2,4-Trimethylbenzene	ND	0.25	0.50	"							
1,3,5-Trimethylbenzene	ND	0.25	0.50	"							
Vinyl chloride	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
t-Amyl Methyl Ether	ND	0.25	0.50	"							
t-Butyl alcohol	ND	2.5	10	"							
Diisopropyl Ether	ND	0.25	0.50	"							
Ethanol	ND	250	500	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210042 - EPA 5030B VOCGCMS											
Blank (A210042-BLK1)					Prepared & Analyzed: 02-Oct-12						
Ethyl t-Butyl Ether	ND	0.25	0.50	ug/L							
Methyl-t-butyl ether	ND	0.25	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*13.1*			*"*	*12.5*		*105*	*70-130*			
Surrogate: Toluene-d8	*11.9*			*"*	*12.5*		*95.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.6*			*"*	*12.5*		*100*	*70-130*			
LCS (A210042-BS1)					Prepared & Analyzed: 02-Oct-12						
Benzene	22.0	0.25	0.50	ug/L	25.0		87.8	70-130			
Chlorobenzene	24.9	0.25	0.50	"	25.0		99.6	70-130			
1,1-Dichloroethene	22.7	0.25	0.50	"	25.0		90.9	70-130			
Toluene	23.4	0.25	0.50	"	25.0		93.6	70-130			
Trichloroethene (TCE)	24.2	0.25	0.50	"	25.0		96.7	70-130			
Surrogate: Dibromofluoromethane	*13.1*			*"*	*12.5*		*105*	*70-130*			
Surrogate: Toluene-d8	*12.1*			*"*	*12.5*		*96.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.5*			*"*	*12.5*		*99.8*	*70-130*			
LCS (A210042-BS2)					Prepared & Analyzed: 02-Oct-12						
TPH Gasoline (C4-C10)	542	20	50	ug/L	500		108	70-130			
Surrogate: Dibromofluoromethane	*12.9*			*"*	*12.5*		*103*	*70-130*			
Surrogate: Toluene-d8	*12.1*			*"*	*12.5*		*96.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.1*			*"*	*12.5*		*105*	*70-130*			
LCS Dup (A210042-BSD1)					Prepared & Analyzed: 02-Oct-12						
Benzene	20.9	0.25	0.50	ug/L	25.0		83.5	70-130	5.04	20	
Chlorobenzene	24.9	0.25	0.50	"	25.0		99.6	70-130	0.00	20	
1,1-Dichloroethene	21.4	0.25	0.50	"	25.0		85.5	70-130	6.17	20	
Toluene	22.2	0.25	0.50	"	25.0		88.6	70-130	5.53	20	
Trichloroethene (TCE)	22.6	0.25	0.50	"	25.0		90.6	70-130	6.49	20	
Surrogate: Dibromofluoromethane	*12.4*			*"*	*12.5*		*98.8*	*70-130*			
Surrogate: Toluene-d8	*11.5*			*"*	*12.5*		*91.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.7*			*"*	*12.5*		*101*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210042 - EPA 5030B VOCGCMS											
LCS Dup (A210042-BSD2)					Prepared & Analyzed: 02-Oct-12						
TPH Gasoline (C4-C10)	582	20	50	ug/L	500		116	70-130	7.18	20	
Surrogate: Dibromofluoromethane	*13.2*			"	*12.5*		*106*	*70-130*			
Surrogate: Toluene-d8	*12.2*			"	*12.5*		*97.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.0*			"	*12.5*		*104*	*70-130*			
Duplicate (A210042-DUP1)	**Source: 1204695-11**				Prepared & Analyzed: 02-Oct-12						
Benzene	ND	0.25	0.50	ug/L		ND				20	
Bromobenzene	ND	0.25	0.50	"		ND				20	
Bromochloromethane	ND	0.25	0.50	"		ND				20	
Bromodichloromethane	ND	0.25	0.50	"		ND				20	
Bromoform	ND	0.25	0.50	"		ND				20	
Bromomethane	ND	0.25	0.50	"		ND				20	
n-Butylbenzene	ND	0.25	0.50	"		ND				20	
sec-Butylbenzene	ND	0.25	0.50	"		ND				20	
tert-Butylbenzene	ND	0.25	0.50	"		ND				20	
Carbon tetrachloride	ND	0.25	0.50	"		ND				20	
Chlorobenzene	ND	0.25	0.50	"		ND				20	
Chloroethane	ND	0.25	0.50	"		ND				20	
Chloroform	ND	0.25	0.50	"		ND				20	
Chloromethane	ND	0.25	0.50	"		ND				20	
2-Chlorotoluene	ND	0.25	0.50	"		ND				20	
4-Chlorotoluene	ND	0.25	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"		ND				20	
Dibromochloromethane	ND	0.25	0.50	"		ND				20	
Dibromomethane	ND	0.25	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.26	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.25	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.25	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.25	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210042 - EPA 5030B VOCGCMS											
Duplicate (A210042-DUP1)	**Source: 1204695-11**			Prepared & Analyzed: 02-Oct-12							
Ethylbenzene	ND	0.25	0.50	ug/L		ND				20	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				20	
Isopropylbenzene	ND	0.25	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.25	0.50	"		ND				20	
Methylene chloride	ND	0.50	1.0	"		ND				20	
Naphthalene	ND	0.25	0.50	"		ND				20	
n-Propylbenzene	ND	0.25	0.50	"		ND				20	
Styrene	ND	0.25	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.25	0.50	"		ND				20	
Toluene	ND	0.25	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.25	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.25	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.25	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.25	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.25	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
Vinyl chloride	ND	0.25	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
t-Amyl Methyl Ether	ND	0.25	0.50	"		ND				20	
t-Butyl alcohol	ND	2.5	10	"		ND				20	
Diisopropyl Ether	ND	0.25	0.50	"		ND				20	
Ethanol	ND	250	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.25	0.50	"		ND				20	
Methyl-t-butyl ether	ND	0.25	0.50	"		ND				20	
TPH Gasoline (C4-C10)	24.1	20	50	"		26.8			10.8	20	D-06, J
Surrogate: Dibromofluoromethane	*13.1*			*"*	*12.5*		*104*	*70-130*			
Surrogate: Toluene-d8	*12.1*			*"*	*12.5*		*96.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.8*			*"*	*12.5*		*102*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210042 - EPA 5030B VOCGCMS											
Matrix Spike (A210042-MS1)	**Source: 1204695-11**				Prepared & Analyzed: 02-Oct-12						
Benzene	22.2	0.25	0.50	ug/L	25.0	ND	88.6	70-130			
Chlorobenzene	25.1	0.25	0.50	"	25.0	ND	100	70-130			
1,1-Dichloroethene	21.2	0.25	0.50	"	25.0	ND	85.0	70-130			
Toluene	23.2	0.25	0.50	"	25.0	ND	92.8	70-130			
Trichloroethene (TCE)	24.2	0.25	0.50	"	25.0	ND	97.0	70-130			
Surrogate: Dibromofluoromethane	*13.0*			"	*12.5*		*104*	*70-130*			
Surrogate: Toluene-d8	*12.4*			"	*12.5*		*98.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.2*			"	*12.5*		*105*	*70-130*			
Matrix Spike (A210042-MS2)	**Source: 1204695-11**				Prepared & Analyzed: 02-Oct-12						
TPH Gasoline (C4-C10)	502	20	50	ug/L	500	26.8	95.0	70-130			
Surrogate: Dibromofluoromethane	*12.9*			"	*12.5*		*103*	*70-130*			
Surrogate: Toluene-d8	*12.0*			"	*12.5*		*96.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.5*			"	*12.5*		*108*	*70-130*			
Batch A210100 - EPA 5030B VOCGCMS											
Blank (A210100-BLK1)					Prepared: 03-Oct-12 Analyzed: 04-Oct-12						
Benzene	ND	0.25	0.50	ug/L							
Bromobenzene	ND	0.25	0.50	"							
Bromochloromethane	ND	0.25	0.50	"							
Bromodichloromethane	ND	0.25	0.50	"							
Bromoform	ND	0.25	0.50	"							
Bromomethane	ND	0.25	0.50	"							
n-Butylbenzene	ND	0.25	0.50	"							
sec-Butylbenzene	ND	0.25	0.50	"							
tert-Butylbenzene	ND	0.25	0.50	"							
Carbon tetrachloride	ND	0.25	0.50	"							
Chlorobenzene	ND	0.25	0.50	"							
Chloroethane	ND	0.25	0.50	"							
Chloroform	ND	0.25	0.50	"							
Chloromethane	ND	0.25	0.50	"							
2-Chlorotoluene	ND	0.25	0.50	"							
4-Chlorotoluene	ND	0.25	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"							
Dibromochloromethane	ND	0.25	0.50	"							
Dibromomethane	ND	0.25	0.50	"							
1,2-Dichlorobenzene	ND	0.25	0.50	"							
1,3-Dichlorobenzene	ND	0.25	0.50	"							
1,4-Dichlorobenzene	ND	0.25	0.50	"							

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210100 - EPA 5030B VOCGCMS											
Blank (A210100-BLK1)					Prepared: 03-Oct-12 Analyzed: 04-Oct-12						
Dichlorodifluoromethane	ND	0.26	0.50	ug/L							
1,1-Dichloroethane	ND	0.25	0.50	"							
1,2-Dichloroethane	ND	0.25	0.50	"							
1,1-Dichloroethene	ND	0.25	0.50	"							
cis-1,2-Dichloroethene	ND	0.25	0.50	"							
trans-1,2-Dichloroethene	ND	0.25	0.50	"							
1,2-Dichloropropane	ND	0.25	0.50	"							
1,3-Dichloropropane	ND	0.25	0.50	"							
2,2-Dichloropropane	ND	0.25	0.50	"							
1,1-Dichloropropene	ND	0.25	0.50	"							
cis-1,3-Dichloropropene	ND	0.25	0.50	"							
trans-1,3-Dichloropropene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"							
Hexachlorobutadiene	ND	0.25	0.50	"							
Isopropylbenzene	ND	0.25	0.50	"							
4-Isopropyl Toluene	ND	0.25	0.50	"							
Methylene chloride	ND	0.50	1.0	"							
Naphthalene	ND	0.25	0.50	"							
n-Propylbenzene	ND	0.25	0.50	"							
Styrene	ND	0.25	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"							
Tetrachloroethene (PCE)	ND	0.25	0.50	"							
Toluene	ND	0.25	0.50	"							
1,2,3-Trichlorobenzene	ND	0.25	0.50	"							
1,2,4-Trichlorobenzene	ND	0.25	0.50	"							
1,1,1-Trichloroethane	ND	0.25	0.50	"							
1,1,2-Trichloroethane	ND	0.25	0.50	"							
Trichloroethene (TCE)	ND	0.25	0.50	"							
Trichlorofluoromethane	ND	0.25	0.50	"							
1,2,3-Trichloropropane	ND	0.25	0.50	"							
1,2,4-Trimethylbenzene	ND	0.25	0.50	"							
1,3,5-Trimethylbenzene	ND	0.25	0.50	"							
Vinyl chloride	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
t-Amyl Methyl Ether	ND	0.25	0.50	"							
t-Butyl alcohol	ND	2.5	10	"							
Diisopropyl Ether	ND	0.25	0.50	"							
Ethanol	ND	250	500	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210100 - EPA 5030B VOCGCMS											
Blank (A210100-BLK1)					Prepared: 03-Oct-12 Analyzed: 04-Oct-12						
Ethyl t-Butyl Ether	ND	0.25	0.50	ug/L							
Methyl-t-butyl ether	ND	0.25	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*13.5*			*"*	*12.5*		*108*	*70-130*			
Surrogate: Toluene-d8	*12.1*			*"*	*12.5*		*96.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.4*			*"*	*12.5*		*98.9*	*70-130*			
LCS (A210100-BS1)					Prepared & Analyzed: 03-Oct-12						
Benzene	24.2	0.25	0.50	ug/L	25.0		96.8	70-130			
Chlorobenzene	26.5	0.25	0.50	"	25.0		106	70-130			
1,1-Dichloroethene	23.1	0.25	0.50	"	25.0		92.5	70-130			
Toluene	24.8	0.25	0.50	"	25.0		99.3	70-130			
Trichloroethene (TCE)	25.0	0.25	0.50	"	25.0		100	70-130			
Surrogate: Dibromofluoromethane	*13.5*			*"*	*12.5*		*108*	*70-130*			
Surrogate: Toluene-d8	*12.2*			*"*	*12.5*		*97.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.6*			*"*	*12.5*		*101*	*70-130*			
LCS (A210100-BS2)					Prepared & Analyzed: 03-Oct-12						
TPH Gasoline (C4-C10)	514	20	50	ug/L	500		103	70-130			
Surrogate: Dibromofluoromethane	*13.3*			*"*	*12.5*		*106*	*70-130*			
Surrogate: Toluene-d8	*12.1*			*"*	*12.5*		*97.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.0*			*"*	*12.5*		*104*	*70-130*			
LCS Dup (A210100-BSD1)					Prepared & Analyzed: 03-Oct-12						
Benzene	25.6	0.25	0.50	ug/L	25.0		103	70-130	5.78	20	
Chlorobenzene	27.4	0.25	0.50	"	25.0		110	70-130	3.49	20	
1,1-Dichloroethene	24.0	0.25	0.50	"	25.0		95.8	70-130	3.53	20	
Toluene	25.6	0.25	0.50	"	25.0		102	70-130	2.94	20	
Trichloroethene (TCE)	25.6	0.25	0.50	"	25.0		102	70-130	2.13	20	
Surrogate: Dibromofluoromethane	*13.2*			*"*	*12.5*		*106*	*70-130*			
Surrogate: Toluene-d8	*11.9*			*"*	*12.5*		*95.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.2*			*"*	*12.5*		*97.6*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210100 - EPA 5030B VOCGCMS											
LCS Dup (A210100-BSD2)					Prepared & Analyzed: 03-Oct-12						
TPH Gasoline (C4-C10)	547	20	50	ug/L	500		109	70-130	6.31	20	
Surrogate: Dibromofluoromethane	*13.1*			"	*12.5*		*105*	*70-130*			
Surrogate: Toluene-d8	*12.0*			"	*12.5*		*96.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.8*			"	*12.5*		*102*	*70-130*			
Duplicate (A210100-DUP1)	**Source: 1204698-04**				Prepared: 03-Oct-12 Analyzed: 04-Oct-12						
Benzene	75.4	0.25	0.50	ug/L		71.7			4.95	20	E
Bromobenzene	ND	0.25	0.50	"		ND				20	
Bromochloromethane	ND	0.25	0.50	"		ND				20	
Bromodichloromethane	ND	0.25	0.50	"		ND				20	
Bromoform	ND	0.25	0.50	"		ND				20	
Bromomethane	ND	0.25	0.50	"		ND				20	
n-Butylbenzene	ND	0.25	0.50	"		ND				20	
sec-Butylbenzene	ND	0.25	0.50	"		ND				20	
tert-Butylbenzene	ND	0.25	0.50	"		ND				20	
Carbon tetrachloride	ND	0.25	0.50	"		ND				20	
Chlorobenzene	ND	0.25	0.50	"		ND				20	
Chloroethane	ND	0.25	0.50	"		ND				20	
Chloroform	0.840	0.25	0.50	"		0.840			0.00	20	
Chloromethane	ND	0.25	0.50	"		ND				20	
2-Chlorotoluene	ND	0.25	0.50	"		ND				20	
4-Chlorotoluene	ND	0.25	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"		ND				20	
Dibromochloromethane	ND	0.25	0.50	"		ND				20	
Dibromomethane	ND	0.25	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.26	0.50	"		ND				20	
1,1-Dichloroethane	0.330	0.25	0.50	"		0.340			2.99	20	J
1,2-Dichloroethane	18.5	0.25	0.50	"		18.4			0.487	20	
1,1-Dichloroethene	ND	0.25	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.25	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.25	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210100 - EPA 5030B VOCGCMS											
Duplicate (A210100-DUP1)	**Source: 1204698-04**			Prepared: 03-Oct-12 Analyzed: 04-Oct-12							
Ethylbenzene	20.3	0.25	0.50	ug/L		20.4			0.491	20	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				20	
Isopropylbenzene	0.670	0.25	0.50	"		0.680			1.48	20	
4-Isopropyl Toluene	ND	0.25	0.50	"		ND				20	
Methylene chloride	ND	0.50	1.0	"		ND				20	
Naphthalene	0.300	0.25	0.50	"		0.310			3.28	20	J
n-Propylbenzene	1.32	0.25	0.50	"		1.34			1.50	20	
Styrene	ND	0.25	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.25	0.50	"		ND				20	
Toluene	0.810	0.25	0.50	"		0.810			0.00	20	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.25	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.25	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.25	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.25	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.25	0.50	"		ND				20	
1,2,4-Trimethylbenzene	8.32	0.25	0.50	"		8.32			0.00	20	
1,3,5-Trimethylbenzene	0.250	0.25	0.50	"		0.250			0.00	20	J
Vinyl chloride	ND	0.25	0.50	"		ND				20	
Xylenes (total)	1.98	0.27	0.50	"		1.99			0.504	20	
t-Amyl Methyl Ether	ND	0.25	0.50	"		ND				20	
t-Butyl alcohol	16.1	2.5	10	"		15.9			1.63	20	
Diisopropyl Ether	0.530	0.25	0.50	"		0.540			1.87	20	
Ethanol	ND	250	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.25	0.50	"		ND				20	
Methyl-t-butyl ether	ND	0.25	0.50	"		ND				20	
TPH Gasoline (C4-C10)	276	20	50	"		272			1.27	20	
Surrogate: Dibromofluoromethane	*13.6*			*"*	*12.5*		*109*	*70-130*			
Surrogate: Toluene-d8	*12.2*			*"*	*12.5*		*97.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.6*			*"*	*12.5*		*101*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210100 - EPA 5030B VOCGCMS											
Matrix Spike (A210100-MS1)	**Source: 1204698-04**				Prepared & Analyzed: 03-Oct-12						
Benzene	83.8	0.25	0.50	ug/L	25.0	71.7	48.2	70-130			QM-08
Chlorobenzene	27.2	0.25	0.50	"	25.0	ND	109	70-130			
1,1-Dichloroethene	23.7	0.25	0.50	"	25.0	ND	94.8	70-130			
Toluene	26.1	0.25	0.50	"	25.0	0.810	101	70-130			
Trichloroethene (TCE)	25.6	0.25	0.50	"	25.0	ND	102	70-130			
Surrogate: Dibromofluoromethane	*13.4*			"	*12.5*		*107*	*70-130*			
Surrogate: Toluene-d8	*12.4*			"	*12.5*		*99.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.9*			"	*12.5*		*103*	*70-130*			
Matrix Spike (A210100-MS2)	**Source: 1204698-04**				Prepared & Analyzed: 03-Oct-12						
TPH Gasoline (C4-C10)	812	20	50	ug/L	500	272	108	70-130			
Surrogate: Dibromofluoromethane	*13.1*			"	*12.5*		*105*	*70-130*			
Surrogate: Toluene-d8	*12.4*			"	*12.5*		*99.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.9*			"	*12.5*		*104*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0897 3Q12	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	17-Oct-12 16:43

Notes and Definitions

R-06	The Reporting Limit has been raised to account for the presence of high levels of analytes.
QR-04	The RPD exceeded the QC control limits.
QM-08	The spike recovery was outside acceptance limits for the MS and/or MSD. The QC Batch was accepted based on LCS/LCSD percent recoveries and RPD values.
J	Detected but below the RL/PQL; therefore, result is an estimated concentration .
ISlowS	The internal standard associated with this sample fails the method criteria on the low side. Results may be biased high.
HT-06	Original analysis done in hold time. Re-analysis done out of hold time.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate (CLP E-flag).
D-06	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
D-03	The result for this hydrocarbon is elevated due to the presence of single analyte peak(s) in the quantitation range.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the Method Limit (MDL)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

DPRA
Creative People. Smart Solutions.

September 28, 2012

Ms. Meredith Sprister
OEC
307 Roemer Way, Suite 300
Santa Maria, CA. 93454

RE: Former Unocal Avila Terminal
Project Number: 1204695

ZYMAX
Environmental Forensics Solutions from DPRA

N 033 DEG 06 MIN 56.52 SEC
W 117 DEG 06 MIN 45.27 SEC

600 S. Andreasen Drive
Suite B
Escondido, CA 92029

760.781.3338 Voice
760.781.3339 Fax

www.dpra.com

Dear Ms. Sprister,

Enclosed are analytical results for two aqueous samples submitted to Zymax on September 21, 2012. The data were obtained from 8270M GC/MS SIM analysis on the extract samples.

The project was performed at Zymax forensics as Laboratory No. 42774.

Please call us at 760-781-3338 or email me at Shantan@zymaxusa.com if you have any questions regarding the analytical results.

Sincerely,

Shan-Tan Lu, Ph.D
Director of Forensic Geochemistry

Printed on recycled paper

REVISED EXTENDED PAH DATA

And

QA/QC PACKAGE

1204695

(W.O. 42774)

11/15/2012

SUBCONTRACT ORDER

Oilfield Environmental and Compliance

1204695

SENDING LABORATORY:

Oilfield Environmental and Compliance
307 Roemer Way, Ste. 300
Santa Maria, CA 93454
Phone: 805.922.4772
Fax: 805.925.3376
Project Manager: Meredith Sprister

RECEIVING LABORATORY:

ZymaX
600 South Andreasen Drive, Suite B
Escondido, CA 92029
Phone :(760) 781-3338
Fax: (760) 781-3339

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: 1204695-13	**Water**	**Sampled:19-Sep-12 11:09**	42774-1	**AT-B-230**
8270C PNA SIM Extended List	27-Sep-12 16:00	26-Sep-12 11:09		Lowest RL, J-flag MDL report
Containers Supplied:				
1000mL Glass (Amber) (C	1000mL Glass (Amber) (F			
Sample ID: 1204695-14	**Water**	**Sampled:19-Sep-12 12:35**	-2	**AT-B-230**
8270C PNA SIM Extended List	27-Sep-12 16:00	26-Sep-12 12:35		Lowest RL, J-flag MDL report
Containers Supplied:				
1000mL Glass (Amber) (C	1000mL Glass (Amber) (F			

Released By	Date	Received By	Date
			9/21/12 11:30
Released By	Date	Received By	Date

Extended PAHs Analysis

ZymaX FORENSICS

Client:	Meredith Sprister
	OEC
	307 Roemer Way, Suite 300
	Santa Maria, CA 93454

Lab Number:	42774-1
Collected:	9/19/2012
Received:	9/21/2012
Matrix:	Aqueous

Project:	1204695
Project Number:	
Collected by:	

Sample Description:	1204695-13
Analyzed:	9/25/2012
Method:	8270M

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzothiophene	0.05	12.91
C1 Benzothiophenes	0.05	2.84
C2 Benzothiophenes	0.05	0.76
C3 Benzothiophenes	0.05	0.31
C4 Benzothiophenes	0.05	0.18
Naphthalene	0.05	121.56
1-Methylnaphthalene	0.05	8.00
2-Methylnaphthalene	0.05	14.74
C2 Naphthalenes	0.05	0.61
C3 Naphthalenes	0.05	0.10
C4 Naphthalenes	0.05	0.10
Biphenyl	0.05	0.20
Acenaphthylene	0.05	ND
Dibenzofuran	0.05	ND
Acenaphthene	0.05	ND
Fluorene	0.05	0.06
C1 Fluorenes	0.05	0.09
C2 Fluorenes	0.05	ND
C3 Fluorenes	0.05	ND
Anthracene	0.05	ND
Phenanthrene	0.05	0.039J
C1 Phenanthrenes/Anthracenes	0.05	0.18
C2 Phenanthrenes/Anthracenes	0.05	0.044J
C3 Phenanthrenes/Anthracenes	0.05	ND
C4 Phenanthrenes/Anthracenes	0.05	ND

***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**
*****J: Values greater than 0.03ug/L but less than the PQL**

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

MSD 10
42774-1PAH.xls
STL

ZymaX FORENSICS

Client:	Meredith Sprister
	OEC
	307 Roemer Way, Suite 300
	Santa Maria, CA 93454

Lab Number:	42774-1
Collected:	9/19/2012
Received:	9/21/2012
Matrix:	Aqueous

Project:	1204695
Project Number:	
Collected by:	

Sample Description:	1204695-13
Analyzed:	9/25/2012
Method:	8270M

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Dibenzothiophene	0.05	ND
C1 Dibenzothiophenes	0.05	0.06
C2 Dibenzothiophenes	0.05	ND
C3 Dibenzothiophenes	0.05	ND
C4 Dibenzothiophenes	0.05	ND
Fluoranthene	0.05	ND
Pyrene	0.05	ND
C1 Pyrenes/Fluoranthenes	0.05	ND
C2 Pyrenes/Fluoranthenes	0.05	ND
C3 Pyrenes/Fluoranthenes	0.05	ND
Benz(a)anthracene	0.05	ND
Chrysene	0.05	ND
C1 Chrysenes	0.05	ND
C2 Chrysenes	0.05	ND
C3 Chrysenes	0.05	ND
C4 Chrysenes	0.05	ND
Benzo(b)fluroanthene	0.05	ND
Benzo(k)fluoranthene	0.05	ND
Benzo(e)pyrene	0.05	ND
Benzo(a)pyrene	0.05	ND
Perylene	0.05	ND
Indeno(1,2,3-c,d)pyrene	0.05	ND
Dibenz(a,h)anthracene	0.05	ND
Benzo(g,h,i)perylene	0.05	ND
o-terphenyl		90%

*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.
***J: Values greater than 0.03ug/L but less than the PQL

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
Zymax Forensics, a DPRA Company

Shan-Tan Lu, Ph.D.
Director, Forensic Geochemistry

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ZymaX FORENSICS

Client:	Meredith Sprister OEC 307 Roemer Way, Suite 300 Santa Maria, CA 93454	Lab Number: Collected: Received: Matrix:	42774-2 9/19/2012 9/21/2012 Aqueous
Project: Project Number: Collected by:	1204695	Sample Description: 1204695-14 Analyzed: Method:	 9/25/2012 8270M

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzothiophene	0.05	4.36
C1 Benzothiophenes	0.05	1.02
C2 Benzothiophenes	0.05	0.97
C3 Benzothiophenes	0.05	0.77
C4 Benzothiophenes	0.05	ND
Naphthalene	0.05	28.80
1-Methylnaphthalene	0.05	2.99
2-Methylnaphthalene	0.05	0.67
C2 Naphthalenes	0.05	0.32
C3 Naphthalenes	0.05	0.17
C4 Naphthalenes	0.05	0.59
Biphenyl	0.05	0.11
Acenaphthylene	0.05	ND
Dibenzofuran	0.05	ND
Acenaphthene	0.05	ND
Fluorene	0.05	0.048J
C1 Fluorenes	0.05	0.038J
C2 Fluorenes	0.05	0.05
C3 Fluorenes	0.05	ND
Anthracene	0.05	ND
Phenanthrene	0.05	0.037J
C1 Phenanthrenes/Anthracenes	0.05	0.15
C2 Phenanthrenes/Anthracenes	0.05	0.27
C3 Phenanthrenes/Anthracenes	0.05	0.048J
C4 Phenanthrenes/Anthracenes	0.05	ND

*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.
***J: Values greater than 0.03ug/L but less than the PQL

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

MSD 10
42774-2PAH.xls
STL

ZymaX FORENSICS

Client:	Meredith Sprister OEC 307 Roemer Way, Suite 300 Santa Maria, CA 93454	Lab Number: Collected: Received: Matrix:	42774-2 9/19/2012 9/21/2012 Aqueous
Project: Project Number: Collected by:	1204695	Sample Description: 1204695-14 Analyzed: Method:	 9/25/2012 8270M

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Dibenzothiophene	0.05	ND
C1 Dibenzothiophenes	0.05	0.13
C2 Dibenzothiophenes	0.05	0.30
C3 Dibenzothiophenes	0.05	0.40
C4 Dibenzothiophenes	0.05	ND
Fluoranthene	0.05	ND
Pyrene	0.05	ND
C1 Pyrenes/Fluoranthenes	0.05	0.031J
C2 Pyrenes/Fluoranthenes	0.05	ND
C3 Pyrenes/Fluoranthenes	0.05	ND
Benz(a)anthracene	0.05	ND
Chrysene	0.05	ND
C1 Chrysenes	0.05	ND
C2 Chrysenes	0.05	ND
C3 Chrysenes	0.05	ND
C4 Chrysenes	0.05	ND
Benzo(b)fluroanthene	0.05	ND
Benzo(k)fluoranthene	0.05	ND
Benzo(e)pyrene	0.05	ND
Benzo(a)pyrene	0.05	ND
Perylene	0.05	ND
Indeno(1,2,3-c,d)pyrene	0.05	ND
Dibenz(a,h)anthracene	0.05	ND
Benzo(g,h,i)perylene	0.05	ND
o-terphenyl		95%

*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.
***J: Values greater than 0.03ug/L but less than the PQL

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
Zymax Forensics, a DPRA Company

Shan-Tan Lu, Ph.D.
Director, Forensic Geochemistry

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Quality Control Data

1. Blank analysis
2. LCS and LCSD
3. Matrix Spike and Matrix Spike Duplicate

ZymaX FORENSICS

Client:	Meredith Sprister OEC 307 Roemer Way, Suite 300 Santa Maria, CA 93454	Lab Number: Collected: Received: Matrix:	42753-B 9/21/2012 Aqueous
Project: Project Number: Collected by:	1204695	Sample Description: Analyzed: Method:	Blank 9/25/2012 8270M

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzothiophene	0.050	ND
C1 Benzothiophenes	0.050	ND
C2 Benzothiophenes	0.050	ND
C3 Benzothiophenes	0.050	ND
C4 Benzothiophenes	0.050	ND
Naphthalene	0.050	ND
1-Methylnaphthalene	0.050	ND
2-Methylnaphthalene	0.050	ND
C2 Naphthalenes	0.050	ND
C3 Naphthalenes	0.050	ND
C4 Naphthalenes	0.050	ND
Biphenyl	0.050	ND
Acenaphthylene	0.050	ND
Dibenzofuran	0.050	ND
Acenaphthene	0.050	ND
Fluorene	0.050	ND
C1 Fluorenes	0.050	ND
C2 Fluorenes	0.050	ND
C3 Fluorenes	0.050	ND
Anthracene	0.050	ND
Phenanthrene	0.050	ND
C1 Phenanthrenes/Anthracenes	0.050	ND
C2 Phenanthrenes/Anthracenes	0.050	ND
C3 Phenanthrenes/Anthracenes	0.050	ND
C4 Phenanthrenes/Anthracenes	0.050	ND

***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**
*****J: Values greater than 0.03ug/L but less than the PQL**

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

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ZymaX FORENSICS

Client:	Meredith Sprister OEC 307 Roemer Way, Suite 300 Santa Maria, CA 93454	Lab Number: Collected: Received: Matrix:	42753-B 9/21/2012 Aqueous
Project: Project Number: Collected by:	1204695	Sample Description: Analyzed: Method:	Blank 9/25/2012 8270M

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Dibenzothiophene	0.050	ND
C1 Dibenzothiophenes	0.050	ND
C2 Dibenzothiophenes	0.050	ND
C3 Dibenzothiophenes	0.050	ND
C4 Dibenzothiophenes	0.050	ND
Fluoranthene	0.050	ND
Pyrene	0.050	ND
C1 Pyrenes/Fluoranthenes	0.050	ND
C2 Pyrenes/Fluoranthenes	0.050	ND
C3 Pyrenes/Fluoranthenes	0.050	ND
Benz(a)anthracene	0.050	ND
Chrysene	0.050	ND
C1 Chrysenes	0.050	ND
C2 Chrysenes	0.050	ND
C3 Chrysenes	0.050	ND
C4 Chrysenes	0.050	ND
Benzo(b)fluroanthene	0.050	ND
Benzo(k)fluoranthene	0.050	ND
Benzo(e)pyrene	0.050	ND
Benzo(a)pyrene	0.050	ND
Perylene	0.050	ND
Indeno(1,2,3-c,d)pyrene	0.050	ND
Dibenz(a,h)anthracene	0.050	ND
Benzo(g,h,i)perylene	0.050	ND
o-terphenyl		88%

*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.
***J: Values greater than 0.03ug/L but less than the PQL

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
Zymax Forensics, a DPRA Company

Shan-Tan Lu, Ph.D.
Director, Forensic Geochemistry

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STL

REPORT OF QA RESULTS

ZymaX FORENSICS

Client:	Meredith Sprister OEC 307 Roemer Way, Suite 300 Santa Maria, CA 93454	Lab Number: Collected: Received: Matrix:	42774-LCS 9/21/2012 Aqueous
Project:	1204695	Sample Description:	LCS
Project Number: Collected by:		Analyzed: Method:	9/25/2012 8270M

CONSTITUENT	AMOUNT ug/L	Spike Level ug/L	%REC	%REC Limit
Naphthalene	1.3	2.0	67.0%	40-130
2-methyl naphthalene	1.5	2.0	74.5%	40-130
1-methyl naphthalene	1.5	2.0	73.0%	40-130
Acenaphthylene	1.5	2.0	77.0%	40-130
Acenaphthene	1.5	2.0	77.0%	40-130
Fluorene	1.7	2.0	86.0%	40-130
Phenanthrene	2.1	2.0	106.0%	40-130
Fluoranthene	2.1	2.0	107.0%	40-130
Pyrene	2.0	2.0	101.5%	40-130
Benz(a)anthracene	1.8	2.0	89.5%	40-130
Chrysene	1.7	2.0	85.0%	40-130
Benzo(b)fluroanthene	1.2	2.0	59.5%	40-130
Benzo(k)fluoranthene	1.2	2.0	58.0%	40-130
Benzo(a)pyrene	1.3	2.0	64.0%	40-130
Indeno(1,2,3,cd)pyrene	1.4	2.0	72.0%	40-130
Dibenz(a,h)anthracene	1.8	2.0	91.5%	40-130
Benzo(g,h,i)perylene	1.4	2.0	71.5%	40-130
o-terphenyl	95.6			

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
Zymax Forensics, a DPRA Company

Shan-Tan Lu, Ph.D.
Director, Forensic Geochemistry

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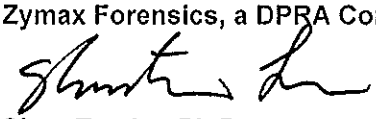
REPORT OF QA RESULTS

Client:	Meredith Sprister OEC 307 Roemer Way, Suite 300 Santa Maria, CA 93454	Lab Number: Collected: Received: Matrix:	42774-LCSD 9/21/2012 Aqueous
Project: Project Number: Collected by:	1204695	Sample Description: Analyzed: Method:	LCSD 9/25/2012 8270M

CONSTITUENT	AMOUNT ug/L	Spike Level ug/L	%REC	%REC Limit
Naphthalene	1.4	2.0	67.5%	40-130
2-methyl naphthalene	1.5	2.0	75.5%	40-130
1-methyl naphthalene	1.5	2.0	74.5%	40-130
Acenaphthylene	1.6	2.0	77.5%	40-130
Acenaphthene	1.5	2.0	76.0%	40-130
Fluorene	1.7	2.0	85.0%	40-130
Phenanthrene	2.1	2.0	107.0%	40-130
Fluoranthene	2.1	2.0	105.0%	40-130
Pyrene	2.0	2.0	102.0%	40-130
Benz(a)anthracene	1.8	2.0	89.0%	40-130
Chrysene	1.6	2.0	79.5%	40-130
Benzo(b)fluroanthene	1.3	2.0	63.0%	40-130
Benzo(k)fluoranthene	1.2	2.0	58.5%	40-130
Benzo(a)pyrene	1.3	2.0	62.5%	40-130
Indeno(1,2,3,cd)pyrene	1.8	2.0	90.0%	40-130
Dibenz(a,h)anthracene	1.6	2.0	82.0%	40-130
Benzo(g,h,i)perylene	1.3	2.0	66.0%	40-130
o-terphenyl	93.2			

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
Zymax Forensics, a DPRA Company



Shan-Tan Lu, Ph.D.
Director, Forensic Geochemistry

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QA-42774-LCSDPAH.xls
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REPORT OF QA RESULTS

ZymaX FORENSICS

Client:	Meredith Sprister OEC 307 Roemer Way, Suite 300 Santa Maria, CA 93454	Lab Number: Collected: Received: Matrix:	42774-MS 9/21/2012 Aqueous
Project: Project Number: Collected by:	1204695	Sample Description: Matrix Spike- Analyzed: Method:	 1204695-13 9/25/2012 8270M

CONSTITUENT	AMOUNT ug/L	Spike Level ug/L	%REC	%REC Limit
Naphthalene	2.0	2.0	101.0%	40-130
2-methyl naphthalene	1.8	2.0	89.5%	40-130
1-methyl naphthalene	1.6	2.0	80.0%	40-130
Acenaphthylene	1.3	2.0	65.0%	40-130
Acenaphthene	1.3	2.0	67.0%	40-130
Fluorene	1.6	2.0	80.5%	40-130
Phenanthrene	1.8	2.0	90.5%	40-130
Fluoranthene	1.9	2.0	96.0%	40-130
Pyrene	2.0	2.0	97.5%	40-130
Benz(a)anthracene	1.2	2.0	60.5%	40-130
Chrysene	1.1	2.0	57.0%	40-130
Benzo(b)fluroanthene	1.3	2.0	63.0%	40-130
Benzo(k)fluoranthene	1.2	2.0	60.5%	40-130
Benzo(a)pyrene	1.3	2.0	65.5%	40-130
Indeno(1,2,3,cd)pyrene	1.7	2.0	86.5%	40-130
Dibenz(a,h)anthracene	1.7	2.0	84.0%	40-130
Benzo(g,h,i)perylene	1.5	2.0	72.5%	40-130
o-terphenyl	88.5			

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
Zymax Forensics, a DPRA Company

Shan-Tan Lu, Ph.D.
Director, Forensic Geochemistry

MSD 10
QA-42774-MSPAH.xls
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REPORT OF QA RESULTS

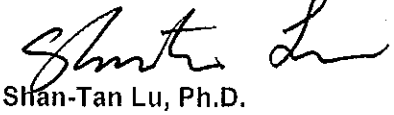
Zymax FORENSICS

Client:	Meredith Sprister OEC 307 Roemer Way, Suite 300 Santa Maria, CA 93454	Lab Number: Collected: Received: Matrix:	42774-MSD 9/21/2012 Aqueous
Project: Project Number: Collected by:	1204695	Sample Description: Matrix Spike- Analyzed: Method:	1204695-13 9/25/2012 8270M

CONSTITUENT	AMOUNT ug/L	Spike Level ug/L	%REC	%REC Limit
Naphthalene	2.0	2.0	99.0%	40-130
2-methyl naphthalene	1.8	2.0	90.5%	40-130
1-methyl naphthalene	1.4	2.0	71.0%	40-130
Acenaphthylene	1.5	2.0	72.5%	40-130
Acenaphthene	1.5	2.0	75.0%	40-130
Fluorene	1.7	2.0	86.0%	40-130
Phenanthrene	1.9	2.0	94.0%	40-130
Fluoranthene	2.1	2.0	102.5%	40-130
Pyrene	2.1	2.0	104.5%	40-130
Benz(a)anthracene	1.3	2.0	64.5%	40-130
Chrysene	1.2	2.0	61.5%	40-130
Benzo(b)fluroanthene	1.4	2.0	68.5%	40-130
Benzo(k)fluoranthene	1.2	2.0	59.0%	40-130
Benzo(a)pyrene	1.3	2.0	62.5%	40-130
Indeno(1,2,3,cd)pyrene	1.9	2.0	92.5%	40-130
Dibenz(a,h)anthracene	1.8	2.0	89.0%	40-130
Benzo(g,h,i)perylene	1.5	2.0	72.5%	40-130
o-terphenyl	95.2			

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
Zymax Forensics, a DPRA Company



Shan-Tan Lu, Ph.D.
Director, Forensic Geochemistry

MSD 10
QA-42774-MSDPAH.xls
STL

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 Fax No.: 805.786.2651
Project No. / Name: 0801-0897: Former Unocal Avila Terminal
3Q12 groundwater monitoring

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Cody Montoya, Harleigh Overton

Invoice To: CEMC
Rik Williams
AFE/WBS#:
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: 8270- TPH C10-C25, C25-C40 by GC/MS	8260- TPH C4-C10, VOCs & Oxys	8270C-SIM- PAHs	6000/7000- Dissolved Metals	8270M - PAHs (Zymax)				NOTES
AT-B-201	9/17/12	1325	4	Aq	HCl, none	voa, amber	X	X							1204695 - 1A-D
AT-B-210	↓	1229	5			voa, amber, poly	X	X		X					2A-E
AT-B-167-56	9/18/12	1452	4			voa, amber	X	X							3A-D
AT-B-190		1335	4			↓	X	X							4A-D
AT-B-216		1205	4				X	X							5A-D
AT-B-217		1017	4			↓	X	X							6A-D
AT-B-223-88		1435	6			voa, amber, poly	X	X	X	X					7A-~~F~~F (LJ)
AT-B-37-70		1301	5				X	X		X					8A-E
AT-B-225	↓	1023	6				X	X	X	X					9A-F
AT-B-224	9/19/12	0933	6				X	X	X	X					10A-F
AT-B-167-95		0930	5				X	X		X					11-A-E
AT-B-226		1055	6				X	X	X	X					12A-F
AT-B-230		1109	8				X	X	X	X	X				13A-H
AT-B-231	↓	1235	8	↓	↓	↓	X	X	X	X	X				14A-H

Special Instructions:

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
	9/20/12	0830		9-20-12	0830
	9/20/12	0935	Rynette Yeo	9-20-12	0933

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0897: Former Unocal Avila Terminal
3Q12 groundwater monitoring

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Cody Montoya, Harleigh Overton

Invoice To: CEMC
Rik Williams
AFE/WBS#:
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: 8270- TPH C10-C25, C25-C40 by GC/MS	8260- TPH C4-C10, VOCs & Oxys	8270C-SIM- PAHs	6000/7000- Dissolved Metals	8270M - PAHs (Zymax)				NOTES
DUP	9/19/12	0900	6	Ag	HCl, none	Voa, amber plastic	X	X	X	X		1204695-15A-F			
091412-01	9/17/12	—	1	↓	HCl	Voa		X						16A	Trip Blanks prepared on 9/14/12
091412-02	↓	—	1	↓	HCl	Voa		X				↓		17A	
														(40)	

Special Instructions:

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
	9/20/12	0830		9-20-12	0830
Relinquished by:	Date	Time	Received by:	Date	Time
	9/20/12	0933	Lynnette Yee	9-20-12	0933

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

OEC SAMPLE RECEIPT

Rev 01/15/10

CLIENT: Padre SLO OEC ID #: 1204695 Temp: 3 °C

Acceptable Range: 0°C to 6°C

COC RECEIVED
DATE/TIME: 9-20-12 0933

RECEIPT LOGIN
DATE/TIME: 9-20-12 1033

REFRIGERATOR(s): 8

SAMPLE TRANSPORT, RECEIPT, CONDITION & PRESERVATION:		Yes	No	N/A	(*) PROBLEM CHAIN FORM NEEDED
☒ OEC Courier/Sampler	COC document(s) received with samples	☒	☐*	☐	Custody Seals (circle): Present / Absent
☐ Delivery(Other than OEC Courier)	Correct containers for analysis requested	☒	☐*	☐	Samples / Coolers
☒ Samples Received on Ice	Container(s) intact and in good condition	☒	☐*	☐	Intact / Broken*
☐ Samples Received Outside Temp. Range*	Container label(s) consistent with COC	☒	☐*	☐	Method of Shipment & Tracking #(if applicable):
☐ Samples Direct from field (Outside Temp)	OEC preservative added (**note std ID)	☐**	☐	☒	
☐ After-Hours Outside Drop-off [Brought Inside]	Proper preservation on sample label(s)	☒	☐	☐	(**) OEC Preservative ID.
(Initials/Date/Time):	VOA containers free of headspace	☒	☐*	☐	Dissolved Metals Filtration: (Date/Init/Preserve ID)
	Tedlar Bags free of condensation	☐	☐*	☒	

CONTAINERS, COC CHANGES AND/OR CORRECTIONS — **CHANGES AUTHORIZED BY:**

OEC ID	Client ID ***If blank, refer to CoC	Container Description	Preservative	ResCl /pH	Matrix	Date/Time Sampled ***	Comments / Remarks / Condition Notes, Etc.
1-17A		1-VOA-Eq	HCl	—	AQ		
1-15B,C		2-VOA-Eq	HCl	—	AQ		
1-15D		1-1L Amber-Eq	—	—	AQ		
8,7,8-15E		1-8oz poly-Eq	—	—	AQ		
7,9,10,12-15F		1-1L Amber-Eq	—	—	AQ		
13,14G,H		2-1L Amber-EA	—	—	AQ		

RECEIPT LOGIN BY: JP RECEIPT REVIEWED BY: by

Oilfield Environmental and Compliance, INC.

Louis Cappel
Padre Associates, Inc. - SLO
369 Pacific Street
San Luis Obispo, CA 93401

07 November 2012

RE: Former Unocal Avila Terminal

Work Order: 1205196

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on 16-Oct-12 11:10 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Meredith Sprister

Project Manager

Oilfield Environmental and Compliance, INC.

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
IZ-3	1205196-01	Aqueous	15-Oct-12 17:30	16-Oct-12 11:10
091412-03	1205196-02	Aqueous	15-Oct-12 00:00	16-Oct-12 11:10

IZ-3

1205196-01 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
CEL										
EPA 504.1										
1,2-Dibromo-3-Chloropropane	ND	0.0023	0.010	ug/L	1	1024L02	24-Oct-12	24-Oct-12	EPA 504.1	
1,2-Dibromoethane	**0.099**	0.0020	0.010	"	"	"	"	"	"	
Oilfield Environmental and Compliance										
TPH with CVX column silica gel cleanup										
TPH Diesel (C10-C25)	**0.13**	0.023	0.057	mg/L	1	A211049	22-Oct-12	04-Nov-12	EPA 8270M +CVX SGC	
TPH Oil Crude (C25-C40)	**1.3**	0.23	0.57	"	"	"	"	"	"	
Capric Acid (Reverse Surrogate)	ND	0.000011	0.000023	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*102 %*	*34-137*		"	"	"	"	
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.14**	0.023	0.057	mg/L	1	A210523	22-Oct-12	24-Oct-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**1.2**	0.23	0.57	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*90.2 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**110**	2.5	5.0	ug/L	10	A210366	16-Oct-12	16-Oct-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	1	"	"	16-Oct-12	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	**0.31**	0.25	0.50	"	"	"	"	"	"	J
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

IZ-3

1205196-01 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
4-Chlorotoluene	ND	0.25	0.50	ug/L	1	A210366	16-Oct-12	16-Oct-12	EPA 8260B/LUFT	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	**6.8**	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	**4.5**	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	**3.2**	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	**1.6**	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	**1.3**	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**6.8**	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

IZ-3

1205196-01 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Trichloroethene (TCE)	ND	0.25	0.50	ug/L	1	A210366	16-Oct-12	16-Oct-12	EPA 8260B/LUFT	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**3.5**	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.67**	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	**13**	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**450**	25	100	"	10	"	"	16-Oct-12	"	
Diisopropyl Ether	ND	0.25	0.50	"	1	"	"	16-Oct-12	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**730**	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*114 %*		*70-130*		"	"	"	
Surrogate: Toluene-d8			*108 %*		*70-130*		"	"	"	
Surrogate: 4-Bromofluorobenzene			*106 %*		*70-130*		"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

091412-03

1205196-02 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.25	0.50	ug/L	1	A210388	16-Oct-12	17-Oct-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

091412-03

1205196-02 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dibromoethane (EDB)	ND	0.25	0.50	ug/L	1	A210388	16-Oct-12	17-Oct-12	EPA 8260B/LUFT	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*117 %*		*70-130*	"	"	"	"	
Surrogate: Toluene-d8			*109 %*		*70-130*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*101 %*		*70-130*	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

TPH with CVX column silica gel cleanup - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211049 - EPA 3510C MS											
Blank (A211049-BLK1)					Prepared: 02-Nov-12 Analyzed: 04-Nov-12						
TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L							
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"							
Capric Acid (Reverse Surrogate)	ND	0.000010	0.000020	"							
Surrogate: o-Terphenyl	*0.00459*			*"*	*0.00500*		*91.8*	*34-137*			
LCS (A211049-BS1)					Prepared: 02-Nov-12 Analyzed: 04-Nov-12						
TPH Diesel (C10-C25)	0.569	0.020	0.050	mg/L	1.00		56.9	15-119			
Surrogate: o-Terphenyl	*0.00522*			*"*	*0.00500*		*104*	*34-137*			
LCS (A211049-BS2)					Prepared: 02-Nov-12 Analyzed: 04-Nov-12						
TPH Oil Crude (C25-C40)	1.90	0.20	0.50	mg/L	2.00		94.8	40-106			
Surrogate: o-Terphenyl	*0.00604*			*"*	*0.00500*		*121*	*34-137*			
LCS Dup (A211049-BSD1)					Prepared: 02-Nov-12 Analyzed: 04-Nov-12						
TPH Diesel (C10-C25)	0.655	0.020	0.050	mg/L	1.00		65.5	15-119	14.0	20	
Surrogate: o-Terphenyl	*0.00599*			*"*	*0.00500*		*120*	*34-137*			
LCS Dup (A211049-BSD2)					Prepared: 02-Nov-12 Analyzed: 04-Nov-12						
TPH Oil Crude (C25-C40)	1.53	0.20	0.50	mg/L	2.00		76.6	40-106	21.2	20	QR-02
Surrogate: o-Terphenyl	*0.00552*			*"*	*0.00500*		*110*	*34-137*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210523 - EPA 3510C MS											
Blank (A210523-BLK1)					Prepared: 22-Oct-12 Analyzed: 24-Oct-12						
TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L							
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"							
Surrogate: o-Terphenyl	*0.00404*			*"*	*0.00500*		*80.8*	*34-137*			
LCS (A210523-BS1)					Prepared: 22-Oct-12 Analyzed: 23-Oct-12						
TPH Diesel (C10-C25)	0.568	0.020	0.050	mg/L	1.00		56.8	15-119			
Surrogate: o-Terphenyl	*0.00457*			*"*	*0.00500*		*91.4*	*34-137*			
LCS (A210523-BS2)					Prepared: 22-Oct-12 Analyzed: 23-Oct-12						
TPH Oil Crude (C25-C40)	1.48	0.20	0.50	mg/L	2.00		74.1	40-106			
Surrogate: o-Terphenyl	*0.00482*			*"*	*0.00500*		*96.4*	*34-137*			
LCS Dup (A210523-BSD1)					Prepared: 22-Oct-12 Analyzed: 23-Oct-12						
TPH Diesel (C10-C25)	0.535	0.020	0.050	mg/L	1.00		53.5	15-119	6.02	20	
Surrogate: o-Terphenyl	*0.00454*			*"*	*0.00500*		*90.8*	*34-137*			
LCS Dup (A210523-BSD2)					Prepared: 22-Oct-12 Analyzed: 23-Oct-12						
TPH Oil Crude (C25-C40)	1.48	0.20	0.50	mg/L	2.00		74.0	40-106	0.222	20	
Surrogate: o-Terphenyl	*0.00463*			*"*	*0.00500*		*92.6*	*34-137*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210366 - EPA 5030B VOCGCMS											
Blank (A210366-BLK1)					Prepared & Analyzed: 16-Oct-12						
Benzene	ND	0.25	0.50	ug/L							
Bromobenzene	ND	0.25	0.50	"							
Bromochloromethane	ND	0.25	0.50	"							
Bromodichloromethane	ND	0.25	0.50	"							
Bromoform	ND	0.25	0.50	"							
Bromomethane	ND	0.25	0.50	"							
n-Butylbenzene	ND	0.25	0.50	"							
sec-Butylbenzene	ND	0.25	0.50	"							
tert-Butylbenzene	ND	0.25	0.50	"							
Carbon tetrachloride	ND	0.25	0.50	"							
Chlorobenzene	ND	0.25	0.50	"							
Chloroethane	ND	0.25	0.50	"							
Chloroform	ND	0.25	0.50	"							
Chloromethane	ND	0.25	0.50	"							
2-Chlorotoluene	ND	0.25	0.50	"							
4-Chlorotoluene	ND	0.25	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"							
Dibromochloromethane	ND	0.25	0.50	"							
Dibromomethane	ND	0.25	0.50	"							
1,2-Dichlorobenzene	ND	0.25	0.50	"							
1,3-Dichlorobenzene	ND	0.25	0.50	"							
1,4-Dichlorobenzene	ND	0.25	0.50	"							
Dichlorodifluoromethane	ND	0.26	0.50	"							
1,1-Dichloroethane	ND	0.25	0.50	"							
1,2-Dichloroethane	ND	0.25	0.50	"							
1,1-Dichloroethene	ND	0.25	0.50	"							
cis-1,2-Dichloroethene	ND	0.25	0.50	"							
trans-1,2-Dichloroethene	ND	0.25	0.50	"							
1,2-Dichloropropane	ND	0.25	0.50	"							
1,3-Dichloropropane	ND	0.25	0.50	"							
2,2-Dichloropropane	ND	0.25	0.50	"							
1,1-Dichloropropene	ND	0.25	0.50	"							
cis-1,3-Dichloropropene	ND	0.25	0.50	"							
trans-1,3-Dichloropropene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"							
Hexachlorobutadiene	ND	0.25	0.50	"							
Isopropylbenzene	ND	0.25	0.50	"							
4-Isopropyl Toluene	ND	0.25	0.50	"							
Methylene chloride	ND	0.50	1.0	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210366 - EPA 5030B VOCGCMS											
Blank (A210366-BLK1)				Prepared & Analyzed: 16-Oct-12							
Naphthalene	ND	0.25	0.50	ug/L							
n-Propylbenzene	ND	0.25	0.50	"							
Styrene	ND	0.25	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"							
Tetrachloroethene (PCE)	ND	0.25	0.50	"							
Toluene	0.270	0.25	0.50	"							J
1,2,3-Trichlorobenzene	ND	0.25	0.50	"							
1,2,4-Trichlorobenzene	ND	0.25	0.50	"							
1,1,1-Trichloroethane	ND	0.25	0.50	"							
1,1,2-Trichloroethane	ND	0.25	0.50	"							
Trichloroethene (TCE)	ND	0.25	0.50	"							
Trichlorofluoromethane	ND	0.25	0.50	"							
1,2,3-Trichloropropane	ND	0.25	0.50	"							
1,2,4-Trimethylbenzene	ND	0.25	0.50	"							
1,3,5-Trimethylbenzene	ND	0.25	0.50	"							
Vinyl chloride	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
t-Amyl Methyl Ether	ND	0.25	0.50	"							
t-Butyl alcohol	ND	2.5	10	"							
Diisopropyl Ether	ND	0.25	0.50	"							
Ethanol	ND	250	500	"							
Ethyl t-Butyl Ether	ND	0.25	0.50	"							
Methyl-t-butyl ether	ND	0.25	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*12.8*			*"*	*12.5*		*102*	*70-130*			
Surrogate: Toluene-d8	*12.8*			*"*	*12.5*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.0*			*"*	*12.5*		*95.8*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210366 - EPA 5030B VOCGCMS											
LCS (A210366-BS1)					Prepared & Analyzed: 16-Oct-12						
Benzene	24.9	0.25	0.50	ug/L	25.0		99.7	70-130			
Chlorobenzene	23.8	0.25	0.50	"	25.0		95.1	70-130			
1,1-Dichloroethene	25.2	0.25	0.50	"	25.0		101	70-130			
Toluene	24.5	0.25	0.50	"	25.0		97.9	70-130			
Trichloroethene (TCE)	26.5	0.25	0.50	"	25.0		106	70-130			
Surrogate: Dibromofluoromethane	*13.2*			"	*12.5*		*106*	*70-130*			
Surrogate: Toluene-d8	*13.1*			"	*12.5*		*105*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.7*			"	*12.5*		*101*	*70-130*			
LCS (A210366-BS2)					Prepared & Analyzed: 16-Oct-12						
TPH Gasoline (C4-C10)	481	20	50	ug/L	500		96.1	70-130			
Surrogate: Dibromofluoromethane	*13.3*			"	*12.5*		*106*	*70-130*			
Surrogate: Toluene-d8	*13.1*			"	*12.5*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.8*			"	*12.5*		*102*	*70-130*			
LCS Dup (A210366-BSD1)					Prepared & Analyzed: 16-Oct-12						
Benzene	25.1	0.25	0.50	ug/L	25.0		100	70-130	0.520	20	
Chlorobenzene	22.8	0.25	0.50	"	25.0		91.2	70-130	4.12	20	
1,1-Dichloroethene	25.0	0.25	0.50	"	25.0		100	70-130	0.638	20	
Toluene	24.1	0.25	0.50	"	25.0		96.3	70-130	1.61	20	
Trichloroethene (TCE)	26.3	0.25	0.50	"	25.0		105	70-130	0.834	20	
Surrogate: Dibromofluoromethane	*12.5*			"	*12.5*		*99.8*	*70-130*			
Surrogate: Toluene-d8	*13.2*			"	*12.5*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.6*			"	*12.5*		*101*	*70-130*			
LCS Dup (A210366-BSD2)					Prepared & Analyzed: 16-Oct-12						
TPH Gasoline (C4-C10)	501	20	50	ug/L	500		100	70-130	4.09	20	
Surrogate: Dibromofluoromethane	*13.5*			"	*12.5*		*108*	*70-130*			
Surrogate: Toluene-d8	*13.2*			"	*12.5*		*105*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.0*			"	*12.5*		*104*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210366 - EPA 5030B VOCGCMS											
Duplicate (A210366-DUP1)	**Source: 1205127-05**				Prepared & Analyzed: 16-Oct-12						
Benzene	ND	0.25	0.50	ug/L		ND				20	
Bromobenzene	ND	0.25	0.50	"		ND				20	
Bromochloromethane	ND	0.25	0.50	"		ND				20	
Bromodichloromethane	ND	0.25	0.50	"		ND				20	
Bromoform	ND	0.25	0.50	"		ND				20	
Bromomethane	ND	0.25	0.50	"		ND				20	
n-Butylbenzene	ND	0.25	0.50	"		ND				20	
sec-Butylbenzene	ND	0.25	0.50	"		ND				20	
tert-Butylbenzene	ND	0.25	0.50	"		ND				20	
Carbon tetrachloride	ND	0.25	0.50	"		ND				20	
Chlorobenzene	ND	0.25	0.50	"		ND				20	
Chloroethane	ND	0.25	0.50	"		ND				20	
Chloroform	ND	0.25	0.50	"		ND				20	
Chloromethane	ND	0.25	0.50	"		ND				20	
2-Chlorotoluene	ND	0.25	0.50	"		ND				20	
4-Chlorotoluene	ND	0.25	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"		ND				20	
Dibromochloromethane	ND	0.25	0.50	"		ND				20	
Dibromomethane	ND	0.25	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.26	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.25	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.25	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.25	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
Ethylbenzene	ND	0.25	0.50	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				20	
Isopropylbenzene	ND	0.25	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.25	0.50	"		ND				20	
Methylene chloride	ND	0.50	1.0	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210366 - EPA 5030B VOCGCMS											
Duplicate (A210366-DUP1)	**Source: 1205127-05**			Prepared & Analyzed: 16-Oct-12							
Naphthalene	ND	0.25	0.50	ug/L		ND				20	
n-Propylbenzene	ND	0.25	0.50	"		ND				20	
Styrene	ND	0.25	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.25	0.50	"		ND				20	
Toluene	ND	0.25	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.25	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.25	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.25	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.25	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.25	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
Vinyl chloride	ND	0.25	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
t-Amyl Methyl Ether	ND	0.25	0.50	"		ND				20	
t-Butyl alcohol	ND	2.5	10	"		ND				20	
Diisopropyl Ether	ND	0.25	0.50	"		ND				20	
Ethanol	ND	250	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.25	0.50	"		ND				20	
Methyl-t-butyl ether	ND	0.25	0.50	"		ND				20	
TPH Gasoline (C4-C10)	ND	20	50	"		ND				20	
Surrogate: Dibromofluoromethane	*14.0*			*"*	*12.5*		*112*	*70-130*			
Surrogate: Toluene-d8	*13.3*			*"*	*12.5*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.9*			*"*	*12.5*		*103*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210366 - EPA 5030B VOCGCMS											
Matrix Spike (A210366-MS1)	**Source: 1205127-05**				Prepared & Analyzed: 16-Oct-12						
Benzene	25.0	0.25	0.50	ug/L	25.0	ND	99.8	70-130			
Chlorobenzene	21.7	0.25	0.50	"	25.0	ND	86.9	70-130			
1,1-Dichloroethene	24.0	0.25	0.50	"	25.0	ND	96.0	70-130			
Toluene	24.4	0.25	0.50	"	25.0	ND	97.5	70-130			
Trichloroethene (TCE)	26.2	0.25	0.50	"	25.0	ND	105	70-130			
Surrogate: Dibromofluoromethane	*14.5*			"	*12.5*		*116*	*70-130*			
Surrogate: Toluene-d8	*13.8*			"	*12.5*		*110*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.5*			"	*12.5*		*99.8*	*70-130*			
Matrix Spike (A210366-MS2)	**Source: 1205127-05**				Prepared & Analyzed: 16-Oct-12						
TPH Gasoline (C4-C10)	457	20	50	ug/L	500	ND	91.4	70-130			
Surrogate: Dibromofluoromethane	*13.8*			"	*12.5*		*110*	*70-130*			
Surrogate: Toluene-d8	*13.3*			"	*12.5*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.8*			"	*12.5*		*102*	*70-130*			
Batch A210388 - EPA 5030B VOCGCMS											
Blank (A210388-BLK1)					Prepared & Analyzed: 16-Oct-12						
Benzene	ND	0.25	0.50	ug/L							
Bromobenzene	ND	0.25	0.50	"							
Bromochloromethane	ND	0.25	0.50	"							
Bromodichloromethane	ND	0.25	0.50	"							
Bromoform	ND	0.25	0.50	"							
Bromomethane	ND	0.25	0.50	"							
n-Butylbenzene	ND	0.25	0.50	"							
sec-Butylbenzene	ND	0.25	0.50	"							
tert-Butylbenzene	ND	0.25	0.50	"							
Carbon tetrachloride	ND	0.25	0.50	"							
Chlorobenzene	ND	0.25	0.50	"							
Chloroethane	ND	0.25	0.50	"							
Chloroform	ND	0.25	0.50	"							
Chloromethane	ND	0.25	0.50	"							
2-Chlorotoluene	ND	0.25	0.50	"							
4-Chlorotoluene	ND	0.25	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"							
Dibromochloromethane	ND	0.25	0.50	"							
Dibromomethane	ND	0.25	0.50	"							
1,2-Dichlorobenzene	ND	0.25	0.50	"							
1,3-Dichlorobenzene	ND	0.25	0.50	"							
1,4-Dichlorobenzene	ND	0.25	0.50	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210388 - EPA 5030B VOCGCMS											
Blank (A210388-BLK1)					Prepared & Analyzed: 16-Oct-12						
Dichlorodifluoromethane	ND	0.26	0.50	ug/L							
1,1-Dichloroethane	ND	0.25	0.50	"							
1,2-Dichloroethane	ND	0.25	0.50	"							
1,1-Dichloroethene	ND	0.25	0.50	"							
cis-1,2-Dichloroethene	ND	0.25	0.50	"							
trans-1,2-Dichloroethene	ND	0.25	0.50	"							
1,2-Dichloropropane	ND	0.25	0.50	"							
1,3-Dichloropropane	ND	0.25	0.50	"							
2,2-Dichloropropane	ND	0.25	0.50	"							
1,1-Dichloropropene	ND	0.25	0.50	"							
cis-1,3-Dichloropropene	ND	0.25	0.50	"							
trans-1,3-Dichloropropene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"							
Hexachlorobutadiene	ND	0.25	0.50	"							
Isopropylbenzene	ND	0.25	0.50	"							
4-Isopropyl Toluene	ND	0.25	0.50	"							
Methylene chloride	ND	0.50	1.0	"							
Naphthalene	ND	0.25	0.50	"							
n-Propylbenzene	ND	0.25	0.50	"							
Styrene	ND	0.25	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"							
Tetrachloroethene (PCE)	ND	0.25	0.50	"							
Toluene	0.280	0.25	0.50	"							J
1,2,3-Trichlorobenzene	ND	0.25	0.50	"							
1,2,4-Trichlorobenzene	ND	0.25	0.50	"							
1,1,1-Trichloroethane	ND	0.25	0.50	"							
1,1,2-Trichloroethane	ND	0.25	0.50	"							
Trichloroethene (TCE)	ND	0.25	0.50	"							
Trichlorofluoromethane	ND	0.25	0.50	"							
1,2,3-Trichloropropane	ND	0.25	0.50	"							
1,2,4-Trimethylbenzene	ND	0.25	0.50	"							
1,3,5-Trimethylbenzene	ND	0.25	0.50	"							
Vinyl chloride	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
t-Amyl Methyl Ether	ND	0.25	0.50	"							
t-Butyl alcohol	ND	2.5	10	"							
Diisopropyl Ether	ND	0.25	0.50	"							
Ethanol	ND	250	500	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210388 - EPA 5030B VOCGCMS											
Blank (A210388-BLK1)					Prepared & Analyzed: 16-Oct-12						
Ethyl t-Butyl Ether	ND	0.25	0.50	ug/L							
Methyl-t-butyl ether	ND	0.25	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*13.7*			*"*	*12.5*		*110*	*70-130*			
Surrogate: Toluene-d8	*13.3*			*"*	*12.5*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.4*			*"*	*12.5*		*99.0*	*70-130*			
LCS (A210388-BS1)					Prepared & Analyzed: 16-Oct-12						
Benzene	24.6	0.25	0.50	ug/L	25.0		98.4	70-130			
Chlorobenzene	23.1	0.25	0.50	"	25.0		92.5	70-130			
1,1-Dichloroethene	23.4	0.25	0.50	"	25.0		93.5	70-130			
Toluene	24.5	0.25	0.50	"	25.0		97.9	70-130			
Trichloroethene (TCE)	26.2	0.25	0.50	"	25.0		105	70-130			
Surrogate: Dibromofluoromethane	*13.4*			*"*	*12.5*		*107*	*70-130*			
Surrogate: Toluene-d8	*12.7*			*"*	*12.5*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.6*			*"*	*12.5*		*101*	*70-130*			
LCS (A210388-BS2)					Prepared & Analyzed: 16-Oct-12						
TPH Gasoline (C4-C10)	459	20	50	ug/L	500		91.8	70-130			
Surrogate: Dibromofluoromethane	*13.6*			*"*	*12.5*		*109*	*70-130*			
Surrogate: Toluene-d8	*13.4*			*"*	*12.5*		*108*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.8*			*"*	*12.5*		*102*	*70-130*			
LCS Dup (A210388-BSD1)					Prepared & Analyzed: 16-Oct-12						
Benzene	24.6	0.25	0.50	ug/L	25.0		98.5	70-130	0.0812	20	
Chlorobenzene	21.3	0.25	0.50	"	25.0		85.1	70-130	8.38	20	
1,1-Dichloroethene	24.5	0.25	0.50	"	25.0		97.8	70-130	4.52	20	
Toluene	23.8	0.25	0.50	"	25.0		95.1	70-130	2.94	20	
Trichloroethene (TCE)	25.8	0.25	0.50	"	25.0		103	70-130	1.65	20	
Surrogate: Dibromofluoromethane	*13.7*			*"*	*12.5*		*110*	*70-130*			
Surrogate: Toluene-d8	*13.6*			*"*	*12.5*		*109*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.4*			*"*	*12.5*		*99.4*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210388 - EPA 5030B VOCGCMS											
LCS Dup (A210388-BSD2)					Prepared & Analyzed: 16-Oct-12						
TPH Gasoline (C4-C10)	456	20	50	ug/L	500		91.2	70-130	0.671	20	
Surrogate: Dibromofluoromethane	*13.5*			"	*12.5*		*108*	*70-130*			
Surrogate: Toluene-d8	*13.3*			"	*12.5*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.9*			"	*12.5*		*103*	*70-130*			
Duplicate (A210388-DUP1)	**Source: 1205164-02**				Prepared: 16-Oct-12 Analyzed: 17-Oct-12						
Benzene	ND	0.25	0.50	ug/L		ND				20	
Bromobenzene	ND	0.25	0.50	"		ND				20	
Bromochloromethane	ND	0.25	0.50	"		ND				20	
Bromodichloromethane	ND	0.25	0.50	"		ND				20	
Bromoform	ND	0.25	0.50	"		ND				20	
Bromomethane	ND	0.25	0.50	"		ND				20	
n-Butylbenzene	ND	0.25	0.50	"		ND				20	
sec-Butylbenzene	ND	0.25	0.50	"		ND				20	
tert-Butylbenzene	ND	0.25	0.50	"		ND				20	
Carbon tetrachloride	ND	0.25	0.50	"		ND				20	
Chlorobenzene	ND	0.25	0.50	"		ND				20	
Chloroethane	ND	0.25	0.50	"		ND				20	
Chloroform	ND	0.25	0.50	"		ND				20	
Chloromethane	ND	0.25	0.50	"		ND				20	
2-Chlorotoluene	ND	0.25	0.50	"		ND				20	
4-Chlorotoluene	ND	0.25	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"		ND				20	
Dibromochloromethane	ND	0.25	0.50	"		ND				20	
Dibromomethane	ND	0.25	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.26	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.25	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.25	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.25	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210388 - EPA 5030B VOCGCMS											
Duplicate (A210388-DUP1)	**Source: 1205164-02**			Prepared: 16-Oct-12 Analyzed: 17-Oct-12							
Ethylbenzene	ND	0.25	0.50	ug/L		ND				20	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				20	
Isopropylbenzene	ND	0.25	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.25	0.50	"		ND				20	
Methylene chloride	ND	0.50	1.0	"		ND				20	
Naphthalene	ND	0.25	0.50	"		ND				20	
n-Propylbenzene	ND	0.25	0.50	"		ND				20	
Styrene	ND	0.25	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
Tetrachloroethene (PCE)	0.620	0.25	0.50	"		0.630			1.60	20	
Toluene	ND	0.25	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.25	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.25	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.25	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.25	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.25	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
Vinyl chloride	ND	0.25	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
t-Amyl Methyl Ether	ND	0.25	0.50	"		ND				20	
t-Butyl alcohol	4.29	2.5	10	"		4.64			7.84	20	J
Diisopropyl Ether	ND	0.25	0.50	"		ND				20	
Ethanol	ND	250	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.25	0.50	"		ND				20	
Methyl-t-butyl ether	47.9	0.25	0.50	"		47.6			0.566	20	
TPH Gasoline (C4-C10)	39.7	20	50	"		50.9			24.7	20	QR-04, J
Surrogate: Dibromofluoromethane	*14.0*			*"*	*12.5*		*112*	*70-130*			
Surrogate: Toluene-d8	*13.3*			*"*	*12.5*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.4*			*"*	*12.5*		*98.9*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210388 - EPA 5030B VOCGCMS											
Matrix Spike (A210388-MS1)	**Source: 1205164-02**				Prepared: 16-Oct-12 Analyzed: 17-Oct-12						
Benzene	23.8	0.25	0.50	ug/L	25.0	ND	95.4	70-130			
Chlorobenzene	21.6	0.25	0.50	"	25.0	ND	86.4	70-130			
1,1-Dichloroethene	26.0	0.25	0.50	"	25.0	ND	104	70-130			
Toluene	23.2	0.25	0.50	"	25.0	ND	92.8	70-130			
Trichloroethene (TCE)	26.3	0.25	0.50	"	25.0	ND	105	70-130			
Surrogate: Dibromofluoromethane	*13.0*			"	*12.5*		*104*	*70-130*			
Surrogate: Toluene-d8	*13.2*			"	*12.5*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.5*			"	*12.5*		*92.3*	*70-130*			
Matrix Spike (A210388-MS2)	**Source: 1205164-02**				Prepared: 16-Oct-12 Analyzed: 17-Oct-12						
TPH Gasoline (C4-C10)	282	20	50	ug/L	250	50.9	92.6	70-130			
Surrogate: Dibromofluoromethane	*13.7*			"	*12.5*		*110*	*70-130*			
Surrogate: Toluene-d8	*13.3*			"	*12.5*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.1*			"	*12.5*		*96.6*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

EPA 504.1 - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1024L02 - EPA 504.1 Ext.											
LCS Dup (09912520366LCD)		**Source: 09912520366**			Prepared & Analyzed: 24-Oct-12						
1,2-Dibromo-3-Chloropropane	0.2460		0.010	ug/L	0.2857	ND	86	60-140	4	25	
1,2-Dibromoethane	0.2790		0.010	"	0.2857	ND	98	60-140	1	25	
LCS (09912520366LCS)		**Source: 09912520366**			Prepared & Analyzed: 24-Oct-12						
1,2-Dibromoethane	0.2830		0.010	ug/L	0.2857	ND	99	60-140			
1,2-Dibromo-3-Chloropropane	0.2570		0.010	"	0.2857	ND	90	60-140			
Blank (09912520366MB)		**Source: 09912520366**			Prepared & Analyzed: 24-Oct-12						**24-C**
1,2-Dibromo-3-Chloropropane	ND		0.010	ug/L				-			
1,2-Dibromoethane	ND		0.010	"				-			
Matrix Spike (121012551MS)		**Source: 121012551**			Prepared & Analyzed: 24-Oct-12						
1,2-Dibromo-3-Chloropropane	0.2160		0.010	ug/L	0.2857	ND	76	60-140			
1,2-Dibromoethane	0.2520		0.010	"	0.2857	0.03600	76	60-140			
Matrix Spike Dup (121012551MSD)		**Source: 121012551**			Prepared & Analyzed: 24-Oct-12						
1,2-Dibromoethane	0.2380		0.010	ug/L	0.2857	0.03600	71	60-140	6	25	
1,2-Dibromo-3-Chloropropane	0.2080		0.010	"	0.2857	ND	73	60-140	4	25	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	07-Nov-12 12:52

Notes and Definitions

QR-04	The RPD exceeded the QC control limits.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
J	Detected but below the RL/PQL; therefore, result is an estimated concentration .
24-C	Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the Method Limit (MDL)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

DPRA
Creative People. Smart Solutions.

October 24, 2012

Ms. Meredith Sprister
OEC
307 Roemer Way, Suite 300
Santa Maria, CA. 93454

RE: Former Unocal Avila Terminal
Project Number: 1205196

ZYMAX
Environmental Forensics Solutions from DPRA

N 033 DEG 06 MIN 56.52 SEC
W 117 DEG 06 MIN 45.27 SEC

600 S. Andreasen Drive
Suite B
Escondido, CA 92029

760.781.3338 Voice
760.781.3339 Fax

www.dpra.com

Dear Ms. Sprister,

Enclosed are analytical results for one aqueous sample ID 1205196-01 submitted to Zymax on October 18, 2012. The data were obtained from 8270M GC/MS SIM analysis on the extract sample.

The project was performed at Zymax forensics as Laboratory No. 42820.

Please call us at 760-781-3338 or email me at Shantan@zymaxusa.com if you have any questions regarding the analytical results.

Sincerely,

Shan-Tan Lu, Ph.D
Director of Forensic Geochemistry

Printed on recycled paper

REVISED EXTENDED PAH DATA

And

QA/QC PACKAGE

1205196 & 1205238

(W.O. 42820 & 42824)

11/15/2012

SUBCONTRACT ORDER

Oilfield Environmental and Compliance

1205196

SENDING LABORATORY:

Oilfield Environmental and Compliance
307 Roemer Way, Ste. 300
Santa Maria, CA 93454
Phone: 805.922.4772
Fax: 805.925.3376
Project Manager: Meredith Sprister

FORMER VICCAL AVILA

RECEIVING LABORATORY:

ZymaX
600 South Andreasen Drive, Suite B
Escondido, CA 92029
Phone :(760) 781-3338
Fax: (760) 781-3339

10/30/12

Analysis	Due	Expires	Laboratory ID	Comments
			42820-1	
Sample ID: 1205196-01	**Water**	**Sampled: 15-Oct-12 17:30**		**IZ-3**
8270C PNA SIM Extended List	23-Oct-12 16:00	22-Oct-12 17:30		Lowest RL, J-flag MDL report
Containers Supplied:				
1000mL Glass (Amber) (C				

Released By	Date	Received By	Date
	10/17/12		10/18/12 10:00
Released By	Date	Received By	Date

Extended PAHs Analysis

ZymaX FORENSICS

Client:	Meredith Sprister
	OEC
	307 Roemer Way, Suite 300
	Santa Maria, CA 93454

Lab Number:	42820-1
Collected:	10/15/2012
Received:	10/18/2012
Matrix:	Aqueous

Project:	Former Unocal Avila
Project Number:	1205196
Collected by:	

Sample Description:	1205196-01
Analyzed:	10/22/2012
Method:	8270M

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzothiophene	0.05	0.032J
C1 Benzothiophenes	0.05	ND
C2 Benzothiophenes	0.05	ND
C3 Benzothiophenes	0.05	ND
C4 Benzothiophenes	0.05	ND
Naphthalene	0.05	0.09
1-Methylnaphthalene	0.05	ND
2-Methylnaphthalene	0.05	ND
C2 Naphthalenes	0.05	ND
C3 Naphthalenes	0.05	ND
C4 Naphthalenes	0.05	ND
Biphenyl	0.05	ND
Acenaphthylene	0.05	ND
Dibenzofuran	0.05	ND
Acenaphthene	0.05	ND
Fluorene	0.05	ND
C1 Fluorenes	0.05	ND
C2 Fluorenes	0.05	ND
C3 Fluorenes	0.05	ND
Anthracene	0.05	ND
Phenanthrene	0.05	0.06
C1 Phenanthrenes/Anthracenes	0.05	0.06
C2 Phenanthrenes/Anthracenes	0.05	0.09
C3 Phenanthrenes/Anthracenes	0.05	ND
C4 Phenanthrenes/Anthracenes	0.05	ND

***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**
*****J: Values greater than 0.03ug/L but less than the PQL**

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

MSD 10
42820-1PAH.xls
STL

Client:	Meredith Sprister OEC 307 Roemer Way, Suite 300 Santa Maria, CA 93454	Lab Number: Collected: Received: Matrix:	42820-1 10/15/2012 10/18/2012 Aqueous
Project: Project Number: Collected by:	Former Unocal Avila 1205196	Sample Description: 1205196-01 Analyzed: Method:	 10/22/2012 8270M

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Dibenzothiophene	0.05	ND
C1 Dibenzothiophenes	0.05	ND
C2 Dibenzothiophenes	0.05	ND
C3 Dibenzothiophenes	0.05	ND
C4 Dibenzothiophenes	0.05	ND
Fluoranthene	0.05	0.27
Pyrene	0.05	0.32
C1 Pyrenes/Fluoranthenes	0.05	0.12
C2 Pyrenes/Fluoranthenes	0.05	0.08
C3 Pyrenes/Fluoranthenes	0.05	ND
Benz(a)anthracene	0.05	0.06
Chrysene	0.05	0.045J
C1 Chrysenes	0.05	ND
C2 Chrysenes	0.05	ND
C3 Chrysenes	0.05	ND
C4 Chrysenes	0.05	ND
Benzo(b)fluroanthene	0.05	ND
Benzo(k)fluoranthene	0.05	ND
Benzo(e)pyrene	0.05	ND
Benzo(a)pyrene	0.05	ND
Perylene	0.05	ND
Indeno(1,2,3-c,d)pyrene	0.05	ND
Dibenz(a,h)anthracene	0.05	ND
Benzo(g,h,i)perylene	0.05	ND
o-terphenyl		89%

*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.
***J: Values greater than 0.03ug/L but less than the PQL

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
Zymax Forensics, a DPRA Company

Shan-Tan Lu, Ph.D.
Director, Forensic Geochemistry

MSD 10
42820-1PAH.xls
STL

Quality Control Data

1. Blank analysis
2. LCS and LCSD

ZymaX FORENSICS

Client:	Meredith Sprister OEC 307 Roemer Way, Suite 300 Santa Maria, CA 93454	Lab Number: Collected: Received: Matrix:	42720-B 10/18/2012 Aqueous
Project: Project Number: Collected by:	Former Unocal Avila 1205196	Sample Description: Blank Analyzed: Method:	 10/21/2012 8270M

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzothiophene	0.05	ND
C1 Benzothiophenes	0.05	ND
C2 Benzothiophenes	0.05	ND
C3 Benzothiophenes	0.05	ND
C4 Benzothiophenes	0.05	ND
Naphthalene	0.05	ND
1-Methylnaphthalene	0.05	ND
2-Methylnaphthalene	0.05	ND
C2 Naphthalenes	0.05	ND
C3 Naphthalenes	0.05	ND
C4 Naphthalenes	0.05	ND
Biphenyl	0.05	ND
Acenaphthylene	0.05	ND
Dibenzofuran	0.05	ND
Acenaphthene	0.05	ND
Fluorene	0.05	ND
C1 Fluorenes	0.05	ND
C2 Fluorenes	0.05	ND
C3 Fluorenes	0.05	ND
Anthracene	0.05	ND
Phenanthrene	0.05	ND
C1 Phenanthrenes/Anthracenes	0.05	ND
C2 Phenanthrenes/Anthracenes	0.05	ND
C3 Phenanthrenes/Anthracenes	0.05	ND
C4 Phenanthrenes/Anthracenes	0.05	ND

***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**
*****J: Values greater than 0.03ug/L but less than the PQL**

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

MSD 10
42820-BPAH.xls
STL

Client:	Meredith Sprister OEC 307 Roemer Way, Suite 300 Santa Maria, CA 93454	Lab Number: Collected: Received: Matrix:	42720-B 10/18/2012 Aqueous
Project: Project Number: Collected by:	Former Unocal Avila 1205196	Sample Description: Analyzed: Method:	Blank 10/21/2012 8270M

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Dibenzothiophene	0.05	ND
C1 Dibenzothiophenes	0.05	ND
C2 Dibenzothiophenes	0.05	ND
C3 Dibenzothiophenes	0.05	ND
C4 Dibenzothiophenes	0.05	ND
Fluoranthene	0.05	ND
Pyrene	0.05	ND
C1 Pyrenes/Fluoranthenes	0.05	ND
C2 Pyrenes/Fluoranthenes	0.05	ND
C3 Pyrenes/Fluoranthenes	0.05	ND
Benz(a)anthracene	0.05	ND
Chrysene	0.05	ND
C1 Chrysenes	0.05	ND
C2 Chrysenes	0.05	ND
C3 Chrysenes	0.05	ND
C4 Chrysenes	0.05	ND
Benzo(b)fluroanthene	0.05	ND
Benzo(k)fluoranthene	0.05	ND
Benzo(e)pyrene	0.05	ND
Benzo(a)pyrene	0.05	ND
Perylene	0.05	ND
Indeno(1,2,3-c,d)pyrene	0.05	ND
Dibenz(a,h)anthracene	0.05	ND
Benzo(g,h,i)perylene	0.05	ND
o-terphenyl		89%

*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.
***J: Values greater than 0.03ug/L but less than the PQL

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
Zymax Forensics, a DPRA Company

Shan-Tan Lu, Ph.D.
Director, Forensic Geochemistry

MSD 10
42820-BPAH.xls
STL

REPORT OF QA RESULTS

ZymaX FORENSICS

Client:	Meredith Sprister OEC 307 Roemer Way, Suite 300 Santa Maria, CA 93454	Lab Number: Collected: Received: Matrix:	42820-LCS 10/18/2012 Aqueous
Project: Project Number: Collected by:	Former Unocal Avila	Sample Description: Analyzed: Method:	LCS 10/22/2012 8270M

CONSTITUENT	AMOUNT ug/L	Spike Level ug/L	%REC	%REC Limit
Naphthalene	1.3	2.0	67.0%	40-130
2-methyl naphthalene	1.4	2.0	69.5%	40-130
1-methyl naphthalene	1.4	2.0	68.0%	40-130
Acenaphthylene	1.3	2.0	66.5%	40-130
Acenaphthene	1.4	2.0	67.5%	40-130
Fluorene	1.4	2.0	72.0%	40-130
Phenanthrene	1.6	2.0	78.5%	40-130
Fluoranthene	1.7	2.0	83.0%	40-130
Pyrene	1.9	2.0	92.5%	40-130
Benz(a)anthracene	1.8	2.0	87.5%	40-130
Chrysene	1.7	2.0	84.5%	40-130
Benzo(b)fluroanthene	1.4	2.0	71.0%	40-130
Benzo(k)fluoranthene	1.5	2.0	74.5%	40-130
Benzo(a)pyrene	1.5	2.0	75.5%	40-130
Indeno(1,2,3,cd)pyrene	1.7	2.0	83.0%	40-130
Dibenz(a,h)anthracene	1.4	2.0	67.5%	40-130
Benzo(g,h,i)perylene	1.3	2.0	63.5%	40-130
o-terphenyl	86.5			

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
Zymax Forensics, a DPRA Company

Shan-Tan Lu, Ph.D.
Director, Forensic Geochemistry

MSD 10
QA-42820-LCSPAH.xls
STL

REPORT OF QA RESULTS

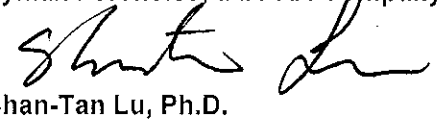
ZymaX FORENSICS

Client:	Meredith Sprister OEC 307 Roemer Way, Suite 300 Santa Maria, CA 93454	Lab Number: Collected: Received: Matrix:	42820-LCSD 10/18/2012 Aqueous
Project: Project Number: Collected by:	Former Unocal Avila	Sample Description: Analyzed: Method:	LCSD 10/22/2012 8270M

CONSTITUENT	AMOUNT ug/L	Spike Level ug/L	%REC	%REC Limit
Naphthalene	1.4	2.0	68.5%	40-130
2-methyl naphthalene	1.4	2.0	71.5%	40-130
1-methyl naphthalene	1.4	2.0	69.0%	40-130
Acenaphthylene	1.4	2.0	68.0%	40-130
Acenaphthene	1.4	2.0	68.5%	40-130
Fluorene	1.5	2.0	73.5%	40-130
Phenanthrene	1.6	2.0	80.5%	40-130
Fluoranthene	1.7	2.0	85.5%	40-130
Pyrene	1.7	2.0	87.0%	40-130
Benz(a)anthracene	1.4	2.0	69.5%	40-130
Chrysene	1.6	2.0	78.0%	40-130
Benzo(b)fluroanthene	1.3	2.0	63.5%	40-130
Benzo(k)fluoranthene	1.2	2.0	61.5%	40-130
Benzo(a)pyrene	1.3	2.0	65.0%	40-130
Indeno(1,2,3,cd)pyrene	1.7	2.0	83.0%	40-130
Dibenz(a,h)anthracene	1.4	2.0	68.5%	40-130
Benzo(g,h,i)perylene	1.2	2.0	61.0%	40-130
o-terphenyl	86.9			

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
Zymax Forensics, a DPRA Company



Shan-Tan Lu, Ph.D.
Director, Forensic Geochemistry

MSD 10
QA-42820-LCSDPAH.xls
STL

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 Fax No.: 805.786.2651
Project No. / Name: 0801-0898 / Former Unocal Avila Terminal, Avila Beach, CA
Intertidal Zone Assessment

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler(s): Cody Montoya, Harleigh Overton, Paul Lovelle

Invoice To: Chevron EMC
Mr. Rik Williams
SO# 0015065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: GC/MS-TPH(C4-10)	GC/MS-TPH(C10-C25;C25-C40)	504/8260B-VOCs + Oxys	8270M-PAHs (Zymax)	6010B-Total Lead	Organic Lead by GFAA (HML 939-M)	Total Organic Carbon (9060A)	** SGC GC/MS-TPH(C10-C25;C25-C40)	6010B-Dissolved Lead	NOTES
IZ-3	10/15/12	1730	8	Ag	see bottle	voa, amber	X	X	X	X		120519	6-1A-H			
091412-03	10/15/12	—	1	↓	HCl	voa			X				↓	2A		Trip Blank prepared on 09/14/12

Special Instructions:
** = If TPH C10-C40 is detected, re-analyze using CEMC Column Silica Gel Cleanup (SGC) Method. ☆Run 8260 on 24 hr. TAT (only) (Trip Blank Standard TAT)
Filter and preserve in lab for dissolved metals. Lowest Possible RLs. Report J-Flags. Perform STLC/TCLP where applicable.

Laboratory Comments:
Temperature Upon Receipt: 6°C
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Time
[signature]	10/16/12	1110	Lynnette Yeo	1110
Relinquished by:	Date	Time	Received by:	Time

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

OEC SAMPLE RECEIPT

Rev 01/15/10

CLIENT: ~~Padd~~ Padre SLO OEC ID #: 1205196 Temp: 6 °C

Acceptable Range: 0°C to 6°C

COC RECEIVED DATE/TIME: 10/16/12 1110

RECEIPT LOGIN DATE/TIME: 10/16/12 1140

REFRIGERATOR(s): 8, CALSCI, ZYMAX

SAMPLE TRANSPORT, RECEIPT, CONDITION & PRESERVATION:		Yes	No	N/A	(*) PROBLEM CHAIN FORM NEEDED
☐ OEC Courier/Sampler	COC document(s) received with samples	☒	☐*	☐	Custody Seals (circle): (Present) / Absent
☒ Delivery(Other than OEC Courier)	Correct containers for analysis requested	☒	☐*	☐	CUSTODY SEAL ON TRIP BLANK
☒ Samples Received on Ice	Container(s) intact and in good condition	☒	☐*	☐	(Samples) / Coolers
☐ Samples Received Outside Temp. Range*	Container label(s) consistent with COC	☒	☐*	☐	(Intact) / Broken*
☐ Samples Direct from field (Outside Temp)	OEC preservative added (**note std ID)	☐**	☐	☒	Method of Shipment & Tracking #(if applicable):
☐ After-Hours Outside Drop-off [Brought Inside]	Proper preservation on sample label(s)	☒	☐	☐	(**) OEC Preservative ID.
(Initials/Date/Time):	VOA containers free of headspace	☒	☐*	☐	Dissolved Metals Filtration: (Date/Init/Preserve ID)
	Tedlar Bags free of condensation	☐	☐*	☒	

CONTAINERS, COC CHANGES AND/OR CORRECTIONS — CHANGES AUTHORIZED BY:

OEC ID	Client ID ***If blank, refer to CoC	Container Description	Preservative	ResCl /pH	Matrix	Date/Time Sampled ***	Comments / Remarks / Condition Notes, Etc.
1A-C		3-VOAs	HCl	—	AQ		
2A		1-VOA	HCl	—	↓		
1D-F		3-VOAs	$Na_2S_2O_3$	—	↓		CAL SCIENCE
1G		1-1L AMBER	—	—	↓		ZYMAX
1H		1-1L AMBER	—	—	↓		

RECEIPT LOGIN BY: EH RECEIPT REVIEWED BY: LM

Oilfield Environmental and Compliance, INC.

Louis Cappel
Padre Associates, Inc. - SLO
369 Pacific Street
San Luis Obispo, CA 93401

12 November 2012

RE: Former Unocal Avila Terminal

Work Order: 1205238

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on 17-Oct-12 12:55 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Meredith Sprister

Project Manager

TEL: (805) 922-4772
307 Roemer Way, Suite 300, Santa Maria, CA 93454 **www.oecusa.com** FAX: (805) 925-3376

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
IZ-3	1205238-01	Aqueous	16-Oct-12 18:00	17-Oct-12 12:55
091412-04	1205238-02	Aqueous	16-Oct-12 00:00	17-Oct-12 12:55

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

IZ-3

1205238-01 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
CEL										
EPA 504.1										
1,2-Dibromoethane	**0.036**	0.0020	0.010	ug/L	1	1024L02	24-Oct-12	24-Oct-12	EPA 504.1	
1,2-Dibromo-3-Chloropropane	ND	0.0023	0.010	"	"	"	"	"	"	
Oilfield Environmental and Compliance										
Total Metals by EPA 6000/7000 Series Methods										
Lead	ND	0.0030	0.0050	mg/L	1	A210454	18-Oct-12	18-Oct-12	EPA 6010B	
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Lead	ND	0.0030	0.0050	mg/L	1	A210599	24-Oct-12	24-Oct-12	EPA 6010B	
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	0.021	0.052	mg/L	1	A210523	22-Oct-12	24-Oct-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.21	0.52	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*70.6 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**9.0**	0.25	0.50	ug/L	1	A210388	17-Oct-12	17-Oct-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

IZ-3

1205238-01 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	ug/L	1	A210388	17-Oct-12	17-Oct-12	EPA 8260B/LUFT	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	**1.9**	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	**0.53**	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	**0.57**	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**1.5**	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

IZ-3

1205238-01 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Trichlorofluoromethane	ND	0.25	0.50	ug/L	1	A210388	17-Oct-12	17-Oct-12	EPA 8260B/LUFT	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.49**	0.25	0.50	"	"	"	"	"	"	J
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	**2.4**	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**46**	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**82**	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*122 %*		*70-130*	"	"	"	"	
Surrogate: Toluene-d8			*109 %*		*70-130*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*103 %*		*70-130*	"	"	"	"	

TestAmerica Irvine

Organic Lead (GFAA)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organo-Lead	ND	5.0	13	ug/L	1	60748	21-Oct-12	25-Oct-12	939-M	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

091412-04

1205238-02 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.25	0.50	ug/L	1	A210388	17-Oct-12	17-Oct-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

091412-04

1205238-02 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dibromoethane (EDB)	ND	0.25	0.50	ug/L	1	A210388	17-Oct-12	17-Oct-12	EPA 8260B/LUFT	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*118 %*		*70-130*		"	"	"	
Surrogate: Toluene-d8			*111 %*		*70-130*		"	"	"	
Surrogate: 4-Bromofluorobenzene			*101 %*		*70-130*		"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210454 - EPA 3005A											
Blank (A210454-BLK1)					Prepared & Analyzed: 18-Oct-12						
Lead	ND	0.0030	0.0050	mg/L							
LCS (A210454-BS1)					Prepared & Analyzed: 18-Oct-12						
Lead	1.06	0.0030	0.0050	mg/L	1.00		106	80-120			
LCS Dup (A210454-BSD1)					Prepared & Analyzed: 18-Oct-12						
Lead	1.06	0.0030	0.0050	mg/L	1.00		106	80-120	0.282	20	
Duplicate (A210454-DUP2)	**Source: 1205242-01**				Prepared & Analyzed: 18-Oct-12						
Lead	ND	0.0030	0.0050	mg/L		ND				20	
Matrix Spike (A210454-MS2)	**Source: 1205242-01**				Prepared & Analyzed: 18-Oct-12						
Lead	4.03	0.0060	0.010	mg/L	4.00	ND	101	75-125			
Matrix Spike Dup (A210454-MSD2)	**Source: 1205242-01**				Prepared & Analyzed: 18-Oct-12						
Lead	3.75	0.0060	0.010	mg/L	4.00	ND	93.6	75-125	7.40	20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210599 - EPA 3005A Filtered											
Blank (A210599-BLK1)					Prepared & Analyzed: 24-Oct-12						
Lead	ND	0.0030	0.0050	mg/L							
LCS (A210599-BS1)					Prepared & Analyzed: 24-Oct-12						
Lead	1.06	0.0030	0.0050	mg/L	1.00		106	80-120			
LCS Dup (A210599-BSD1)					Prepared & Analyzed: 24-Oct-12						
Lead	1.04	0.0030	0.0050	mg/L	1.00		104	80-120	1.90	20	
Duplicate (A210599-DUP1)	**Source: 1205238-01**				Prepared & Analyzed: 24-Oct-12						
Lead	ND	0.0030	0.0050	mg/L		ND				20	
Matrix Spike (A210599-MS1)	**Source: 1205238-01**				Prepared & Analyzed: 24-Oct-12						
Lead	3.74	0.0060	0.010	mg/L	4.00	ND	93.6	75-125			
Matrix Spike Dup (A210599-MSD1)	**Source: 1205238-01**				Prepared & Analyzed: 24-Oct-12						
Lead	3.70	0.0060	0.010	mg/L	4.00	ND	92.6	75-125	1.13	20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210523 - EPA 3510C MS											
Blank (A210523-BLK1)					Prepared: 22-Oct-12 Analyzed: 24-Oct-12						
TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L							
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"							
Surrogate: o-Terphenyl	*0.00404*			*"*	*0.00500*		*80.8*	*34-137*			
LCS (A210523-BS1)					Prepared: 22-Oct-12 Analyzed: 23-Oct-12						
TPH Diesel (C10-C25)	0.568	0.020	0.050	mg/L	1.00		56.8	15-119			
Surrogate: o-Terphenyl	*0.00457*			*"*	*0.00500*		*91.4*	*34-137*			
LCS (A210523-BS2)					Prepared: 22-Oct-12 Analyzed: 23-Oct-12						
TPH Oil Crude (C25-C40)	1.48	0.20	0.50	mg/L	2.00		74.1	40-106			
Surrogate: o-Terphenyl	*0.00482*			*"*	*0.00500*		*96.4*	*34-137*			
LCS Dup (A210523-BSD1)					Prepared: 22-Oct-12 Analyzed: 23-Oct-12						
TPH Diesel (C10-C25)	0.535	0.020	0.050	mg/L	1.00		53.5	15-119	6.02	20	
Surrogate: o-Terphenyl	*0.00454*			*"*	*0.00500*		*90.8*	*34-137*			
LCS Dup (A210523-BSD2)					Prepared: 22-Oct-12 Analyzed: 23-Oct-12						
TPH Oil Crude (C25-C40)	1.48	0.20	0.50	mg/L	2.00		74.0	40-106	0.222	20	
Surrogate: o-Terphenyl	*0.00463*			*"*	*0.00500*		*92.6*	*34-137*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210388 - EPA 5030B VOCGCMS											
Blank (A210388-BLK1)					Prepared & Analyzed: 16-Oct-12						
Benzene	ND	0.25	0.50	ug/L							
Bromobenzene	ND	0.25	0.50	"							
Bromochloromethane	ND	0.25	0.50	"							
Bromodichloromethane	ND	0.25	0.50	"							
Bromoform	ND	0.25	0.50	"							
Bromomethane	ND	0.25	0.50	"							
n-Butylbenzene	ND	0.25	0.50	"							
sec-Butylbenzene	ND	0.25	0.50	"							
tert-Butylbenzene	ND	0.25	0.50	"							
Carbon tetrachloride	ND	0.25	0.50	"							
Chlorobenzene	ND	0.25	0.50	"							
Chloroethane	ND	0.25	0.50	"							
Chloroform	ND	0.25	0.50	"							
Chloromethane	ND	0.25	0.50	"							
2-Chlorotoluene	ND	0.25	0.50	"							
4-Chlorotoluene	ND	0.25	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"							
Dibromochloromethane	ND	0.25	0.50	"							
Dibromomethane	ND	0.25	0.50	"							
1,2-Dichlorobenzene	ND	0.25	0.50	"							
1,3-Dichlorobenzene	ND	0.25	0.50	"							
1,4-Dichlorobenzene	ND	0.25	0.50	"							
Dichlorodifluoromethane	ND	0.26	0.50	"							
1,1-Dichloroethane	ND	0.25	0.50	"							
1,2-Dichloroethane	ND	0.25	0.50	"							
1,1-Dichloroethene	ND	0.25	0.50	"							
cis-1,2-Dichloroethene	ND	0.25	0.50	"							
trans-1,2-Dichloroethene	ND	0.25	0.50	"							
1,2-Dichloropropane	ND	0.25	0.50	"							
1,3-Dichloropropane	ND	0.25	0.50	"							
2,2-Dichloropropane	ND	0.25	0.50	"							
1,1-Dichloropropene	ND	0.25	0.50	"							
cis-1,3-Dichloropropene	ND	0.25	0.50	"							
trans-1,3-Dichloropropene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"							
Hexachlorobutadiene	ND	0.25	0.50	"							
Isopropylbenzene	ND	0.25	0.50	"							
4-Isopropyl Toluene	ND	0.25	0.50	"							
Methylene chloride	ND	0.50	1.0	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210388 - EPA 5030B VOCGCMS											
Blank (A210388-BLK1)				Prepared & Analyzed: 16-Oct-12							
Naphthalene	ND	0.25	0.50	ug/L							
n-Propylbenzene	ND	0.25	0.50	"							
Styrene	ND	0.25	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"							
Tetrachloroethene (PCE)	ND	0.25	0.50	"							
Toluene	0.280	0.25	0.50	"							J
1,2,3-Trichlorobenzene	ND	0.25	0.50	"							
1,2,4-Trichlorobenzene	ND	0.25	0.50	"							
1,1,1-Trichloroethane	ND	0.25	0.50	"							
1,1,2-Trichloroethane	ND	0.25	0.50	"							
Trichloroethene (TCE)	ND	0.25	0.50	"							
Trichlorofluoromethane	ND	0.25	0.50	"							
1,2,3-Trichloropropane	ND	0.25	0.50	"							
1,2,4-Trimethylbenzene	ND	0.25	0.50	"							
1,3,5-Trimethylbenzene	ND	0.25	0.50	"							
Vinyl chloride	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
t-Amyl Methyl Ether	ND	0.25	0.50	"							
t-Butyl alcohol	ND	2.5	10	"							
Diisopropyl Ether	ND	0.25	0.50	"							
Ethanol	ND	250	500	"							
Ethyl t-Butyl Ether	ND	0.25	0.50	"							
Methyl-t-butyl ether	ND	0.25	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*13.7*			*"*	*12.5*		*110*	*70-130*			
Surrogate: Toluene-d8	*13.3*			*"*	*12.5*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.4*			*"*	*12.5*		*99.0*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210388 - EPA 5030B VOCGCMS											
LCS (A210388-BS1)					Prepared & Analyzed: 16-Oct-12						
Benzene	24.6	0.25	0.50	ug/L	25.0		98.4	70-130			
Chlorobenzene	23.1	0.25	0.50	"	25.0		92.5	70-130			
1,1-Dichloroethene	23.4	0.25	0.50	"	25.0		93.5	70-130			
Toluene	24.5	0.25	0.50	"	25.0		97.9	70-130			
Trichloroethene (TCE)	26.2	0.25	0.50	"	25.0		105	70-130			
Surrogate: Dibromofluoromethane	*13.4*			"	*12.5*		*107*	*70-130*			
Surrogate: Toluene-d8	*12.7*			"	*12.5*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.6*			"	*12.5*		*101*	*70-130*			
LCS (A210388-BS2)					Prepared & Analyzed: 16-Oct-12						
TPH Gasoline (C4-C10)	459	20	50	ug/L	500		91.8	70-130			
Surrogate: Dibromofluoromethane	*13.6*			"	*12.5*		*109*	*70-130*			
Surrogate: Toluene-d8	*13.4*			"	*12.5*		*108*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.8*			"	*12.5*		*102*	*70-130*			
LCS Dup (A210388-BSD1)					Prepared & Analyzed: 16-Oct-12						
Benzene	24.6	0.25	0.50	ug/L	25.0		98.5	70-130	0.0812	20	
Chlorobenzene	21.3	0.25	0.50	"	25.0		85.1	70-130	8.38	20	
1,1-Dichloroethene	24.5	0.25	0.50	"	25.0		97.8	70-130	4.52	20	
Toluene	23.8	0.25	0.50	"	25.0		95.1	70-130	2.94	20	
Trichloroethene (TCE)	25.8	0.25	0.50	"	25.0		103	70-130	1.65	20	
Surrogate: Dibromofluoromethane	*13.7*			"	*12.5*		*110*	*70-130*			
Surrogate: Toluene-d8	*13.6*			"	*12.5*		*109*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.4*			"	*12.5*		*99.4*	*70-130*			
LCS Dup (A210388-BSD2)					Prepared & Analyzed: 16-Oct-12						
TPH Gasoline (C4-C10)	456	20	50	ug/L	500		91.2	70-130	0.671	20	
Surrogate: Dibromofluoromethane	*13.5*			"	*12.5*		*108*	*70-130*			
Surrogate: Toluene-d8	*13.3*			"	*12.5*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.9*			"	*12.5*		*103*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210388 - EPA 5030B VOCGCMS											
Duplicate (A210388-DUP1)	**Source: 1205164-02**			Prepared: 16-Oct-12 Analyzed: 17-Oct-12							
Benzene	ND	0.25	0.50	ug/L		ND				20	
Bromobenzene	ND	0.25	0.50	"		ND				20	
Bromochloromethane	ND	0.25	0.50	"		ND				20	
Bromodichloromethane	ND	0.25	0.50	"		ND				20	
Bromoform	ND	0.25	0.50	"		ND				20	
Bromomethane	ND	0.25	0.50	"		ND				20	
n-Butylbenzene	ND	0.25	0.50	"		ND				20	
sec-Butylbenzene	ND	0.25	0.50	"		ND				20	
tert-Butylbenzene	ND	0.25	0.50	"		ND				20	
Carbon tetrachloride	ND	0.25	0.50	"		ND				20	
Chlorobenzene	ND	0.25	0.50	"		ND				20	
Chloroethane	ND	0.25	0.50	"		ND				20	
Chloroform	ND	0.25	0.50	"		ND				20	
Chloromethane	ND	0.25	0.50	"		ND				20	
2-Chlorotoluene	ND	0.25	0.50	"		ND				20	
4-Chlorotoluene	ND	0.25	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"		ND				20	
Dibromochloromethane	ND	0.25	0.50	"		ND				20	
Dibromomethane	ND	0.25	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.26	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.25	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.25	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.25	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
Ethylbenzene	ND	0.25	0.50	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				20	
Isopropylbenzene	ND	0.25	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.25	0.50	"		ND				20	
Methylene chloride	ND	0.50	1.0	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210388 - EPA 5030B VOCGCMS											
Duplicate (A210388-DUP1)	**Source: 1205164-02**			Prepared: 16-Oct-12 Analyzed: 17-Oct-12							
Naphthalene	ND	0.25	0.50	ug/L		ND				20	
n-Propylbenzene	ND	0.25	0.50	"		ND				20	
Styrene	ND	0.25	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
Tetrachloroethene (PCE)	0.620	0.25	0.50	"		0.630			1.60	20	
Toluene	ND	0.25	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.25	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.25	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.25	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.25	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.25	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
Vinyl chloride	ND	0.25	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
t-Amyl Methyl Ether	ND	0.25	0.50	"		ND				20	
t-Butyl alcohol	4.29	2.5	10	"		4.64			7.84	20	J
Diisopropyl Ether	ND	0.25	0.50	"		ND				20	
Ethanol	ND	250	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.25	0.50	"		ND				20	
Methyl-t-butyl ether	47.9	0.25	0.50	"		47.6			0.566	20	
TPH Gasoline (C4-C10)	39.7	20	50	"		50.9			24.7	20	QR-04, J
Surrogate: Dibromofluoromethane	*14.0*			*"*	*12.5*		*112*	*70-130*			
Surrogate: Toluene-d8	*13.3*			*"*	*12.5*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.4*			*"*	*12.5*		*98.9*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A210388 - EPA 5030B VOCGCMS											
Matrix Spike (A210388-MS1)	**Source: 1205164-02**				Prepared: 16-Oct-12 Analyzed: 17-Oct-12						
Benzene	23.8	0.25	0.50	ug/L	25.0	ND	95.4	70-130			
Chlorobenzene	21.6	0.25	0.50	"	25.0	ND	86.4	70-130			
1,1-Dichloroethene	26.0	0.25	0.50	"	25.0	ND	104	70-130			
Toluene	23.2	0.25	0.50	"	25.0	ND	92.8	70-130			
Trichloroethene (TCE)	26.3	0.25	0.50	"	25.0	ND	105	70-130			
Surrogate: Dibromofluoromethane	*13.0*			"	*12.5*		*104*	*70-130*			
Surrogate: Toluene-d8	*13.2*			"	*12.5*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.5*			"	*12.5*		*92.3*	*70-130*			
Matrix Spike (A210388-MS2)	**Source: 1205164-02**				Prepared: 16-Oct-12 Analyzed: 17-Oct-12						
TPH Gasoline (C4-C10)	282	20	50	ug/L	250	50.9	92.6	70-130			
Surrogate: Dibromofluoromethane	*13.7*			"	*12.5*		*110*	*70-130*			
Surrogate: Toluene-d8	*13.3*			"	*12.5*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.1*			"	*12.5*		*96.6*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

EPA 504.1 - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1024L02 - EPA 504.1 Ext.											
LCS Dup (09912520366LCD)		**Source: 09912520366**			Prepared & Analyzed: 24-Oct-12						
1,2-Dibromo-3-Chloropropane	0.2460		0.010	ug/L	0.2857	ND	86	60-140	4	25	
1,2-Dibromoethane	0.2790		0.010	"	0.2857	ND	98	60-140	1	25	
LCS (09912520366LCS)		**Source: 09912520366**			Prepared & Analyzed: 24-Oct-12						
1,2-Dibromo-3-Chloropropane	0.2570		0.010	ug/L	0.2857	ND	90	60-140			
1,2-Dibromoethane	0.2830		0.010	"	0.2857	ND	99	60-140			
Blank (09912520366MB)		**Source: 09912520366**			Prepared & Analyzed: 24-Oct-12						**24-C**
1,2-Dibromoethane	ND		0.010	ug/L				-			
1,2-Dibromo-3-Chloropropane	ND		0.010	"				-			
Matrix Spike (121012551MS)		**Source: 1205238-01**			Prepared & Analyzed: 24-Oct-12						
1,2-Dibromo-3-Chloropropane	0.2160		0.010	ug/L	0.2857	ND	76	60-140			
1,2-Dibromoethane	0.2520		0.010	"	0.2857	0.03600	76	60-140			
Matrix Spike Dup (121012551MSD)		**Source: 1205238-01**			Prepared & Analyzed: 24-Oct-12						
1,2-Dibromo-3-Chloropropane	0.2080		0.010	ug/L	0.2857	ND	73	60-140	4	25	
1,2-Dibromoethane	0.2380		0.010	"	0.2857	0.03600	71	60-140	6	25	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

Organic Lead (GFAA) - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 60748 - 939M											
Matrix Spike Dup (270931D)	**Source: 1205238-01**				Prepared: 21-Oct-12 Analyzed: 25-Oct-12						
Organo-Lead	25.2	5.0	13	ug/L	25.0	ND	101	80-120	17	20	
Matrix Spike (270931S)	**Source: 1205238-01**				Prepared: 21-Oct-12 Analyzed: 25-Oct-12						
Organo-Lead	29.8	5.0	13	ug/L	25.0	ND	119	80-120			
LCS (62087-10)					Prepared: 21-Oct-12 Analyzed: 25-Oct-12						
Organo-Lead	25.8	5.0	13	ug/L	25.0		103	80-120			
Blank (62087-9)					Prepared: 21-Oct-12 Analyzed: 25-Oct-12						
Organo-Lead	ND	5.0	13	ug/L				-			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 Intertidal Zone Assessment	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	12-Nov-12 11:58

Notes and Definitions

QR-04	The RPD exceeded the QC control limits.
J	Detected but below the RL/PQL; therefore, result is an estimated concentration .
24-C	Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the Method Limit (MDL)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

DPRA
Creative People. Smart Solutions.

October 24, 2012

Ms. Meredith Sprister
OEC
307 Roemer Way, Suite 300
Santa Maria, CA. 93454

RE: Former Unocal Avila Terminal
Project Number: 1205238

ZYMAX
Environmental Forensics Solutions from DPRA

N 033 DEG 06 MIN 56.52 SEC
W 117 DEG 06 MIN 45.27 SEC

600 S. Andreasen Drive
Suite B
Escondido, CA 92029

760.781.3338 Voice
760.781.3339 Fax

www.dpra.com

Dear Ms. Sprister,

Enclosed are analytical results for one aqueous sample ID 1205238-01 submitted to Zymax on October 18, 2012. The data were obtained from 8270M GC/MS SIM analysis on the extract sample.

The project was performed at Zymax forensics as Laboratory No. 42824.

Please call us at 760-781-3338 or email me at Shantan@zymaxusa.com if you have any questions regarding the analytical results.

Sincerely,

Shan-Tan Lu, Ph.D
Director of Forensic Geochemistry

Printed on recycled paper

REVISED EXTENDED PAH DATA

And

QA/QC PACKAGE

1205196 & 1205238

(W.O. 42820 & 42824)

11/15/2012

SUBCONTRACT ORDER

Oilfield Environmental and Compliance

1205238

SENDING LABORATORY:

Oilfield Environmental and Compliance
307 Roemer Way, Ste. 300
Santa Maria, CA 93454
Phone: 805.922.4772
Fax: 805.925.3376
Project Manager: Meredith Sprister

Project: 0801-0898
Former Unocal Avila Terminal

RECEIVING LABORATORY:

ZymaX
600 South Andreasen Drive, Suite B
Escondido, CA 92029
Phone :(760) 781-3338
Fax: (760) 781-3339

Due: 10-31-12

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: 1205238-01	**Water**	**Sampled: 16-Oct-12 18:00**	[illegible]	**IZ-3**
8270C PNA SIM Extended List	~~24-Oct-12 16:00~~	23-Oct-12 18:00	42824-1	Lowest RL, J-flag MDL report
Containers Supplied:				
1000mL Glass (Amber) (C				

Released By	Date	Received By	Date
Lynnette Yee	10-17-12	[signature]	10/18/12 10:00
Released By	Date	Received By	Date

Extended PAHs Analysis

ZymaX FORENSICS

Client:	Meredith Sprister	Lab Number:	42824-1
	OEC	Collected:	10/16/2012
	307 Roemer Way, Suite 300	Received:	10/18/2012
	Santa Maria, CA 93454	Matrix:	Aqueous

Project:	Former Unocal Avila Termina	Sample Description:	1205238-01
Project Number:	1205238	Analyzed:	10/22/2012
Collected by:		Method:	8270M

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzothiophene	0.05	0.06
C1 Benzothiophenes	0.05	0.034J
C2 Benzothiophenes	0.05	ND
C3 Benzothiophenes	0.05	ND
C4 Benzothiophenes	0.05	ND
Naphthalene	0.05	0.22
1-Methylnaphthalene	0.05	0.032J
2-Methylnaphthalene	0.05	0.038J
C2 Naphthalenes	0.05	ND
C3 Naphthalenes	0.05	ND
C4 Naphthalenes	0.05	ND
Biphenyl	0.05	ND
Acenaphthylene	0.05	ND
Dibenzofuran	0.05	ND
Acenaphthene	0.05	0.05
Fluorene	0.05	0.045J
C1 Fluorenes	0.05	ND
C2 Fluorenes	0.05	ND
C3 Fluorenes	0.05	ND
Anthracene	0.05	0.047J
Phenanthrene	0.05	0.07
C1 Phenanthrenes/Anthracenes	0.05	ND
C2 Phenanthrenes/Anthracenes	0.05	ND
C3 Phenanthrenes/Anthracenes	0.05	ND
C4 Phenanthrenes/Anthracenes	0.05	ND

***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**
*****J: Values greater than 0.03ug/L but less than the PQL**

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

MSD 10
42824-1PAH.xls
STL

ZymaX FORENSICS

Client:	Meredith Sprister	Lab Number:	42824-1
	OEC	Collected:	10/16/2012
	307 Roemer Way, Suite 300	Received:	10/18/2012
	Santa Maria, CA 93454	Matrix:	Aqueous
Project:	Former Unocal Avila Termina	Sample Description:	1205238-01
Project Number:	1205238	Analyzed:	10/22/2012
Collected by:		Method:	8270M

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Dibenzothiophene	0.05	ND
C1 Dibenzothiophenes	0.05	ND
C2 Dibenzothiophenes	0.05	ND
C3 Dibenzothiophenes	0.05	ND
C4 Dibenzothiophenes	0.05	ND
Fluoranthene	0.05	0.048J
Pyrene	0.05	0.039J
C1 Pyrenes/Fluoranthenes	0.05	ND
C2 Pyrenes/Fluoranthenes	0.05	ND
C3 Pyrenes/Fluoranthenes	0.05	ND
Benz(a)anthracene	0.05	ND
Chrysene	0.05	ND
C1 Chrysenes	0.05	ND
C2 Chrysenes	0.05	ND
C3 Chrysenes	0.05	ND
C4 Chrysenes	0.05	ND
Benzo(b)fluroanthene	0.05	ND
Benzo(k)fluoranthene	0.05	ND
Benzo(e)pyrene	0.05	ND
Benzo(a)pyrene	0.05	ND
Perylene	0.05	ND
Indeno(1,2,3-c,d)pyrene	0.05	ND
Dibenz(a,h)anthracene	0.05	ND
Benzo(g,h,i)perylene	0.05	ND
o-terphenyl		88%

*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.
***J: Values greater than 0.03ug/L but less than the PQL

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
Zymax Forensics, a DPRA Company

MSD 10
42824-1PAH.xls
STL

Shan-Tan Lu, Ph.D.
Director, Forensic Geochemistry

Quality Control Data

1. Blank analysis
2. LCS and LCSD

ZymaX FORENSICS

Client:	Meredith Sprister OEC 307 Roemer Way, Suite 300 Santa Maria, CA 93454	Lab Number: Collected: Received: Matrix:	42720-B 10/18/2012 Aqueous
Project: Project Number: Collected by:	Former Unocal Avila 1205196	Sample Description: Blank Analyzed: Method:	 10/21/2012 8270M

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzothiophene	0.05	ND
C1 Benzothiophenes	0.05	ND
C2 Benzothiophenes	0.05	ND
C3 Benzothiophenes	0.05	ND
C4 Benzothiophenes	0.05	ND
Naphthalene	0.05	ND
1-Methylnaphthalene	0.05	ND
2-Methylnaphthalene	0.05	ND
C2 Naphthalenes	0.05	ND
C3 Naphthalenes	0.05	ND
C4 Naphthalenes	0.05	ND
Biphenyl	0.05	ND
Acenaphthylene	0.05	ND
Dibenzofuran	0.05	ND
Acenaphthene	0.05	ND
Fluorene	0.05	ND
C1 Fluorenes	0.05	ND
C2 Fluorenes	0.05	ND
C3 Fluorenes	0.05	ND
Anthracene	0.05	ND
Phenanthrene	0.05	ND
C1 Phenanthrenes/Anthracenes	0.05	ND
C2 Phenanthrenes/Anthracenes	0.05	ND
C3 Phenanthrenes/Anthracenes	0.05	ND
C4 Phenanthrenes/Anthracenes	0.05	ND

***PQL - Practical Quantitation Limit**
****Results listed as ND would have been reported if present at or above the listed PQL.**
*****J: Values greater than 0.03ug/L but less than the PQL**

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

MSD 10
42820-BPAH.xls
STL

Client:	Meredith Sprister OEC 307 Roemer Way, Suite 300 Santa Maria, CA 93454	Lab Number: Collected: Received: Matrix:	42720-B 10/18/2012 Aqueous
Project: Project Number: Collected by:	Former Unocal Avila 1205196	Sample Description: Analyzed: Method:	Blank 10/21/2012 8270M

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Dibenzothiophene	0.05	ND
C1 Dibenzothiophenes	0.05	ND
C2 Dibenzothiophenes	0.05	ND
C3 Dibenzothiophenes	0.05	ND
C4 Dibenzothiophenes	0.05	ND
Fluoranthene	0.05	ND
Pyrene	0.05	ND
C1 Pyrenes/Fluoranthenes	0.05	ND
C2 Pyrenes/Fluoranthenes	0.05	ND
C3 Pyrenes/Fluoranthenes	0.05	ND
Benz(a)anthracene	0.05	ND
Chrysene	0.05	ND
C1 Chrysenes	0.05	ND
C2 Chrysenes	0.05	ND
C3 Chrysenes	0.05	ND
C4 Chrysenes	0.05	ND
Benzo(b)fluroanthene	0.05	ND
Benzo(k)fluoranthene	0.05	ND
Benzo(e)pyrene	0.05	ND
Benzo(a)pyrene	0.05	ND
Perylene	0.05	ND
Indeno(1,2,3-c,d)pyrene	0.05	ND
Dibenz(a,h)anthracene	0.05	ND
Benzo(g,h,i)perylene	0.05	ND
o-terphenyl		89%

*PQL - Practical Quantitation Limit
**Results listed as ND would have been reported if present at or above the listed PQL.
***J: Values greater than 0.03ug/L but less than the PQL

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
Zymax Forensics, a DPRA Company

Shan-Tan Lu, Ph.D.
Director, Forensic Geochemistry

MSD 10
42820-BPAH.xls
STL

REPORT OF QA RESULTS

ZymaX FORENSICS

Client:	Meredith Sprister OEC 307 Roemer Way, Suite 300 Santa Maria, CA 93454	Lab Number: Collected: Received: Matrix:	42820-LCS 10/18/2012 Aqueous
Project: Project Number: Collected by:	Former Unocal Avila	Sample Description: Analyzed: Method:	LCS 10/22/2012 8270M

CONSTITUENT	AMOUNT ug/L	Spike Level ug/L	%REC	%REC Limit
Naphthalene	1.3	2.0	67.0%	40-130
2-methyl naphthalene	1.4	2.0	69.5%	40-130
1-methyl naphthalene	1.4	2.0	68.0%	40-130
Acenaphthylene	1.3	2.0	66.5%	40-130
Acenaphthene	1.4	2.0	67.5%	40-130
Fluorene	1.4	2.0	72.0%	40-130
Phenanthrene	1.6	2.0	78.5%	40-130
Fluoranthene	1.7	2.0	83.0%	40-130
Pyrene	1.9	2.0	92.5%	40-130
Benz(a)anthracene	1.8	2.0	87.5%	40-130
Chrysene	1.7	2.0	84.5%	40-130
Benzo(b)fluroanthene	1.4	2.0	71.0%	40-130
Benzo(k)fluoranthene	1.5	2.0	74.5%	40-130
Benzo(a)pyrene	1.5	2.0	75.5%	40-130
Indeno(1,2,3,cd)pyrene	1.7	2.0	83.0%	40-130
Dibenz(a,h)anthracene	1.4	2.0	67.5%	40-130
Benzo(g,h,i)perylene	1.3	2.0	63.5%	40-130
o-terphenyl	86.5			

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
Zymax Forensics, a DPRA Company

Shan-Tan Lu, Ph.D.
Director, Forensic Geochemistry

MSD 10
QA-42820-LCSPAH.xls
STL

REPORT OF QA RESULTS

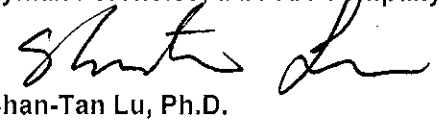
ZymaX FORENSICS

Client:	Meredith Sprister OEC 307 Roemer Way, Suite 300 Santa Maria, CA 93454	Lab Number: Collected: Received: Matrix:	42820-LCSD 10/18/2012 Aqueous
Project: Project Number: Collected by:	Former Unocal Avila	Sample Description: Analyzed: Method:	LCSD 10/22/2012 8270M

CONSTITUENT	AMOUNT ug/L	Spike Level ug/L	%REC	%REC Limit
Naphthalene	1.4	2.0	68.5%	40-130
2-methyl naphthalene	1.4	2.0	71.5%	40-130
1-methyl naphthalene	1.4	2.0	69.0%	40-130
Acenaphthylene	1.4	2.0	68.0%	40-130
Acenaphthene	1.4	2.0	68.5%	40-130
Fluorene	1.5	2.0	73.5%	40-130
Phenanthrene	1.6	2.0	80.5%	40-130
Fluoranthene	1.7	2.0	85.5%	40-130
Pyrene	1.7	2.0	87.0%	40-130
Benz(a)anthracene	1.4	2.0	69.5%	40-130
Chrysene	1.6	2.0	78.0%	40-130
Benzo(b)fluroanthene	1.3	2.0	63.5%	40-130
Benzo(k)fluoranthene	1.2	2.0	61.5%	40-130
Benzo(a)pyrene	1.3	2.0	65.0%	40-130
Indeno(1,2,3,cd)pyrene	1.7	2.0	83.0%	40-130
Dibenz(a,h)anthracene	1.4	2.0	68.5%	40-130
Benzo(g,h,i)perylene	1.2	2.0	61.0%	40-130
o-terphenyl	86.9			

Note: Analyzed in the Selected Ion Monitoring (SIM) mode.

Submitted by,
Zymax Forensics, a DPRA Company



Shan-Tan Lu, Ph.D.
Director, Forensic Geochemistry

MSD 10
QA-42820-LCSDPAH.xls
STL

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0898 / Former Unocal Avila Terminal, Avila Beach, CA
Intertidal Zone Assessment

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler(s): Cody Montoya, Harleigh Aerts, Paul Lavelle

Invoice To: Chevron EMC
Mr. Rik Williams
SO# 0015065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: GC/MS-TPH(C4-10)	GC/MS-TPH(C10-C25;C25-C40)	504/8260B-VOCs + Oxys	8270M-PAHs	6010B-Total Lead	Organic Lead by GFAA (HML 939-M)	Total Organic Carbon (9060A)	** SGC GC/MS-TPH(C10-C25;C25-C40)	6010B-Dissolved Lead	NOTES
IZ-3	10/16/12	1800	12	Ag	see bottle	voa, amber, poly	X	X	X	X	X	X	CM	X	X	1205238 - 1A-L
091412-04	↓	—	1	Ag	HCl	voa			X							Trip Blank prepared on 2A 9/14/12

Special Instructions:
** = If TPH C10-C40 is detected, re-analyze using CEMC Column Silica Gel Cleanup (SGC) Method.
Filter and preserve in lab for dissolved metals. Lowest Possible RLs. Report J-Flags. Perform STLC/TCLP where applicable.
* Run 8260 only on 24 hr. TAT (standard TAT for Trip Blank)

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Time
	10/17/12	1140		11:40
Relinquished by:	Date	Time	Received by:	Time
Luc	10-17-12	12:55		1255

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

OEC SAMPLE RECEIPT

Rev 01/15/10

CLIENT: PADRE SLO OEC ID #: 1205238 Temp: 6 °C

Acceptable Range: 0°C to 6°C

COC RECEIVED DATE/TIME: 10/17/12 1255

RECEIPT LOGIN DATE/TIME: 10/17/12 1340

REFRIGERATOR(s): 38, ~~WEEK~~, ZYMAX, CAL SCI

SAMPLE TRANSPORT, RECEIPT, CONDITION & PRESERVATION:		Yes	No	N/A	(*) PROBLEM CHAIN FORM NEEDED
☒ OEC Courier/Sampler	COC document(s) received with samples	☒	☐*	☐	Custody Seals (circle): (Present) / Absent
☐ Delivery(Other than OEC Courier)	Correct containers for analysis requested	☐	☒*	☐	TB Samples / Coolers
☒ Samples Received on Ice	Container(s) intact and in good condition	☒	☐*	☐	Intact / Broken*
☐ Samples Received Outside Temp. Range*	Container label(s) consistent with COC	☒	☐*	☐	Method of Shipment & Tracking #(if applicable):
☐ Samples Direct from field (Outside Temp)	OEC preservative added (**note std ID)	☒**	☐	☐	
☐ After-Hours Outside Drop-off [Brought Inside]	Proper preservation on sample label(s)	☒	☐	☐	(**) OEC Preservative ID. PREPRESERVED 8oz POLY w/ HNO3 LOT# L12065
(Initials/Date/Time):	VOA containers free of headspace	☒	☐*	☐	Dissolved Metals Filtration: (Date/Init/Preserve ID)
	Tedlar Bags free of condensation	☐	☐*	☒	

CONTAINERS, COC CHANGES AND/OR CORRECTIONS — **CHANGES AUTHORIZED BY:**

OEC ID	Client ID ***If blank, refer to CoC	Container Description	Preservative	ResCl /pH	Matrix	Date/Time Sampled ***	Comments / Remarks / Condition Notes, Etc.
1A-C		3-VOAs	HCl	–	AQ		FRIDGE (3) 8
1D-F		3-VOAs	$Na_2S_2O_3$	–		(NJ)	~~WEEK~~ Cal Science
1G		1-1L AMBER	–	–			ZYMAX
1H		1-1L AMBER	–	–		(NJ)	~~CAL SCIENCE~~ Test America
1I-K		3-1L AMBERS	–	–			8
1L		1-16oz POLY	–	–			8
1M		1-8oz POLY	**HNO_3	2			8
2A		1-VOA	HCl	–			

RECEIPT LOGIN BY: ELH RECEIPT REVIEWED BY: MJ

OEC PROBLEM CHAIN

CLIENT: PADRE SLO

OEC ID #: 1205238

ISSUES RECORDED BY (DATE/TIME/INITIALS): 10/17/12 1340 ELH

ISSUE(S): PLEASE PROVIDE DETAILS OF ISSUE(S) BELOW – Samples/Containers Affected, as necessary.

- ☐ Samples Received Outside Temp. Range (see below)
- ☒ Incorrect containers for analysis requested
- ☐ OTHER: (if multiple, identify with numbers)
- ☐ NO COC document(s) received with samples
- ☐ Container label(s) **NOT** consistent with COC
- ☐ Container(s) **NOT** intact or in good condition
- ☐ Custody Seals Broken

DID NOT RECEIVED CONTAINER FOR TOTAL LEAD.

RESOLUTIONS: MINIMUM INFO: Issue#[if necessary] – Description – Contact Type (Verbal, email, etc.) – Client Authorization Contact – Date/Time/Initials

POURED 1/2 OF SAMPLE 1L INTO 8-oz POLY PREPRESERVED w/ HNO_3 LOT# L12065.

PH: <2 10/17/12 1340 ELH

FINAL RESOLUTION OF ISSUES BY (DATE/TIME/INITIALS):

09/09/08

OEC PROBLEM CHAIN

CLIENT: PADRE-SLO

OEC ID #: 1205238

ISSUES RECORDED BY (DATE/TIME/INITIALS): 10/17/12 1340 ELH

ISSUE(S): PLEASE PROVIDE DETAILS OF ISSUE(S) BELOW – Samples/Containers Affected, as necessary.

- ☐ Samples Received Outside Temp. Range (see below)
- ☐ NO COC document(s) received with samples
- ☐ Container(s) **NOT** intact or in good condition
- ☒ Incorrect containers for analysis requested
- ☐ Container label(s) **NOT** consistent with COC
- ☐ Custody Seals Broken
- ☐ OTHER: (if multiple, identify with numbers)

DID NOT RECEIVED CONTAINER FOR TOTAL LEAD.

RESOLUTIONS: MINIMUM INFO: Issue#[if necessary] – Description – Contact Type (Verbal, email, etc.) – Client Authorization Contact – Date/Time/Initials

POURED 1/2 OF SAMPLE 1L INTO 8-02 POLY PREPRESERVED w/ HNO_3 LOT# L12065.

PH: <2 10/17/12 1340 ELH (1M)

10-18-12 0930 AAP analyst rechecked pH 1.5.

FINAL RESOLUTION OF ISSUES BY (DATE/TIME/INITIALS): 10-18-12 1425 LY

09/09/08

Oilfield Environmental and Compliance, INC.

Louis Cappel
Padre Associates, Inc. - SLO
369 Pacific Street
San Luis Obispo, CA 93401

03 December 2012

RE: Former Unocal Avila Terminal

Work Order: 1205597

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on 07-Nov-12 15:00 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Roy Diaz

Project Manager

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AT-B-212	1205597-01	Water	06-Nov-12 11:44	07-Nov-12 15:00
AT-B-211	1205597-02	Water	06-Nov-12 10:35	07-Nov-12 15:00
AT-B-184	1205597-03	Water	06-Nov-12 15:25	07-Nov-12 15:00
AT-GMW-16	1205597-04	Water	06-Nov-12 09:03	07-Nov-12 15:00
AT-GMW-15	1205597-05	Water	06-Nov-12 13:21	07-Nov-12 15:00
AT-GMW-14	1205597-06	Water	06-Nov-12 14:24	07-Nov-12 15:00
AT-SP-7A	1205597-07	Water	06-Nov-12 15:01	07-Nov-12 15:00
AT-B-196	1205597-08	Water	06-Nov-12 13:27	07-Nov-12 15:00
AT-B-210	1205597-09	Water	06-Nov-12 11:30	07-Nov-12 15:00
AT-B-209	1205597-10	Water	06-Nov-12 09:39	07-Nov-12 15:00
AT-B-147	1205597-11	Water	06-Nov-12 14:30	07-Nov-12 15:00
AT-B-202	1205597-12	Water	06-Nov-12 13:20	07-Nov-12 15:00
AT-B-146	1205597-13	Water	06-Nov-12 11:40	07-Nov-12 15:00
AT-B-144-50	1205597-14	Water	06-Nov-12 09:40	07-Nov-12 15:00
AT-B-185	1205597-15	Water	06-Nov-12 15:17	07-Nov-12 15:00
AT-B-208	1205597-16	Water	06-Nov-12 14:06	07-Nov-12 15:00
AT-B-194	1205597-17	Water	06-Nov-12 12:53	07-Nov-12 15:00
AT-B-192	1205597-18	Water	06-Nov-12 11:42	07-Nov-12 15:00
AT-B-193	1205597-19	Water	06-Nov-12 10:49	07-Nov-12 15:00
AT-SP-1	1205597-20	Water	06-Nov-12 09:29	07-Nov-12 15:00
103012-04	1205597-21	Water	06-Nov-12 00:00	07-Nov-12 15:00
103012-05	1205597-22	Water	06-Nov-12 00:00	07-Nov-12 15:00
103012-06	1205597-23	Water	06-Nov-12 00:00	07-Nov-12 15:00

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-212

1205597-01 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L	1	A211251	12-Nov-12	12-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*71.8 %*	*34-137*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*111 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*96.6 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*110 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-211

1205597-02 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	**0.032**	0.020	0.050	mg/L	1	A211251	12-Nov-12	12-Nov-12	EPA 8270C	J
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*79.8 %*	*34-137*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*109 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*95.6 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*111 %*	*70-130*		"	"	"	"	

AT-B-184

1205597-03 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.088**	0.020	0.051	mg/L	1	A211251	12-Nov-12	12-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.51	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*73.2 %*	*34-137*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	**0.061**	0.061	0.10	ug/L	1	A211229	09-Nov-12	10-Nov-12	EPA 8270M SIM	J
Acenaphthylene	ND	0.061	0.10	"	"	"	"	"	"	
Anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.051	0.10	"	"	"	"	"	"	
Chrysene	ND	0.051	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Fluorene	**0.092**	0.061	0.10	"	"	"	"	"	"	J
Indeno (1,2,3-cd) pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.061	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.051	0.10	"	"	"	"	"	"	
Pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*72.5 %*	*27-159*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-184

1205597-03 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloroethane	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B/LUFT	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-184

1205597-03 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Toluene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B/LUFT	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**26**	20	50	"	"	"	"	"	"	J
Surrogate: Dibromofluoromethane			*106 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*95.8 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*112 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-GMW-16

1205597-04 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.025**	0.020	0.051	mg/L	1	A211251	12-Nov-12	12-Nov-12	EPA 8270C	J
TPH Oil Crude (C25-C40)	ND	0.20	0.51	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*75.4 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**110**	20	50	"	"	"	"	"	"	D-06
Surrogate: Dibromofluoromethane			*112 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*97.8 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*113 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-GMW-15

1205597-05 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.022**	0.020	0.050	mg/L	1	A211251	12-Nov-12	12-Nov-12	EPA 8270C	J
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*80.0 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*114 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*97.7 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*111 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-GMW-14

1205597-06 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L	1	A211251	12-Nov-12	12-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*75.4 %*	*34-137*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*110 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*94.2 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*110 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-SP-7A

1205597-07 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.25**	0.021	0.053	mg/L	1	A211251	12-Nov-12	12-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.21	0.53	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*84.2 %*	*34-137*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	ND	0.060	0.10	ug/L	1	A211229	09-Nov-12	10-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.060	0.10	"	"	"	"	"	"	
Anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.050	0.10	"	"	"	"	"	"	
Chrysene	ND	0.050	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Fluorene	ND	0.060	0.10	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Naphthalene	**0.080**	0.060	0.10	"	"	"	"	"	"	J
Phenanthrene	ND	0.050	0.10	"	"	"	"	"	"	
Pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*86.2 %*	*27-159*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.32**	0.25	0.50	"	"	"	"	"	"	J
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**56**	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*109 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*98.2 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*110 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-196

1205597-08 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.19**	0.021	0.052	mg/L	1	A211251	12-Nov-12	12-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.21	0.52	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*86.8 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	09-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.25**	0.25	0.50	"	"	"	"	"	"	J
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**54**	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*107 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*97.6 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*108 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-210

1205597-09 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.010	0.025	mg/L	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.0085**	0.0070	0.010	"	10	A211531	21-Nov-12	26-Nov-12	"	J
Beryllium	ND	0.0039	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Cadmium	ND	0.0025	0.0050	"	"	"	"	"	"	
Chromium	**0.012**	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	J
Cobalt	ND	0.0025	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	**0.000102**	0.000100	0.000200	"	1	A211404	16-Nov-12	16-Nov-12	EPA 7470A	J
Molybdenum	**0.016**	0.0042	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Nickel	**0.041**	0.0025	0.0050	"	"	"	"	"	"	
Selenium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Silver	ND	0.0036	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	16-Nov-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	20-Nov-12	"	
Zinc	ND	0.025	0.050	"	10	A211531	21-Nov-12	26-Nov-12	"	

TEPH by GCMS

TPH Diesel (C10-C25)	**0.026**	0.021	0.052	mg/L	1	A211251	12-Nov-12	12-Nov-12	EPA 8270C	J
TPH Oil Crude (C25-C40)	ND	0.21	0.52	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*84.2 %*	*34-137*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B/LUFT
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"
Bromoform	ND	0.25	0.50	"	"	"	"	"	"
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-210

1205597-09 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Chloroform	**0.29**	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B/LUFT	J
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-210

1205597-09 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2,3-Trichlorobenzene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B/LUFT	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*108 %*		*70-130*	"	"	"	"	
Surrogate: Toluene-d8			*94.7 %*		*70-130*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*111 %*		*70-130*	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-209

1205597-10 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.010	0.025	mg/L	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Arsenic	**0.011**	0.010	0.025	"	"	"	"	"	"	J
Barium	**0.027**	0.0070	0.010	"	10	A211531	21-Nov-12	26-Nov-12	"	
Beryllium	ND	0.0039	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Cadmium	**0.013**	0.0025	0.0050	"	"	"	"	"	"	
Chromium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Cobalt	ND	0.0025	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A211404	16-Nov-12	16-Nov-12	EPA 7470A	
Molybdenum	**0.020**	0.0042	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Nickel	**0.11**	0.0025	0.0050	"	"	"	"	"	"	
Selenium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Silver	ND	0.0036	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	16-Nov-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	20-Nov-12	"	
Zinc	ND	0.025	0.050	"	10	A211531	21-Nov-12	26-Nov-12	"	
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	0.021	0.052	mg/L	1	A211251	12-Nov-12	12-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.21	0.52	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*76.4 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	09-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*112 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*97.1 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*111 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-147

1205597-11 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L	1	A211251	12-Nov-12	12-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*83.2 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211208	09-Nov-12	09-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.30**	0.25	0.50	"	"	"	"	"	"	J
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*108 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*96.8 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*107 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-202

1205597-12 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	0.021	0.053	mg/L	1	A211251	12-Nov-12	12-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.21	0.53	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*87.6 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211208	09-Nov-12	09-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.25**	0.25	0.50	"	"	"	"	"	"	J
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*111 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*97.4 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*110 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-146

1205597-13 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	0.021	0.052	mg/L	1	A211251	12-Nov-12	12-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.21	0.52	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*84.8 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211208	09-Nov-12	09-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.26**	0.25	0.50	"	"	"	"	"	"	J
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*112 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*97.7 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*110 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-144-50

1205597-14 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	0.021	0.053	mg/L	1	A211251	12-Nov-12	12-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.21	0.53	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*73.2 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211208	09-Nov-12	09-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.29**	0.25	0.50	"	"	"	"	"	"	J
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*112 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*95.9 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*108 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-185

1205597-15 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.010	0.025	mg/L	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	ND	0.0070	0.010	"	10	A211531	21-Nov-12	26-Nov-12	"	
Beryllium	ND	0.0039	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Cadmium	ND	0.0025	0.0050	"	"	"	"	"	"	
Chromium	**0.012**	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	J
Cobalt	ND	0.0025	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A211404	16-Nov-12	16-Nov-12	EPA 7470A	
Molybdenum	ND	0.0042	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Nickel	ND	0.0025	0.0050	"	"	"	"	"	"	
Selenium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Silver	ND	0.0036	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	16-Nov-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	20-Nov-12	"	
Zinc	**0.027**	0.025	0.050	"	10	A211531	21-Nov-12	26-Nov-12	"	J

TEPH by GCMS

TPH Diesel (C10-C25)	**0.17**	0.020	0.050	mg/L	1	A211251	12-Nov-12	13-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.23**	0.20	0.50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*88.2 %*	*34-137*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	**0.25**	0.061	0.10	ug/L	1	A211229	09-Nov-12	10-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.061	0.10	"	"	"	"	"	"	
Anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.051	0.10	"	"	"	"	"	"	
Chrysene	ND	0.051	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Fluorene	ND	0.061	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-185

1205597-15 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Indeno (1,2,3-cd) pyrene	ND	0.051	0.10	ug/L	1	A211229	09-Nov-12	10-Nov-12	EPA 8270M SIM	
Naphthalene	**0.41**	0.061	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.051	0.10	"	"	"	"	"	"	
Pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*86.2 %*		*27-159*	"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**1.1**	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-185

1205597-15 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**77**	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*111 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*96.9 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*110 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-208

1205597-16 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.16**	0.020	0.051	mg/L	1	A211251	12-Nov-12	13-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.28**	0.20	0.51	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*83.6 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-208

1205597-16 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B/LUFT	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.27**	0.25	0.50	"	"	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*112 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*95.1 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*110 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-194

1205597-17 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	0.020	0.051	mg/L	1	A211251	12-Nov-12	13-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.51	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*82.6 %*	*34-137*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211208	09-Nov-12	09-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.26**	0.25	0.50	"	"	"	"	"	"	J
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*106 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*97.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*111 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-192

1205597-18 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.010	0.025	mg/L	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.012**	0.0070	0.010	"	10	A211531	21-Nov-12	26-Nov-12	"	
Beryllium	ND	0.0039	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Cadmium	**0.012**	0.0025	0.0050	"	"	"	"	"	"	
Chromium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Cobalt	**0.011**	0.0025	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A211404	16-Nov-12	16-Nov-12	EPA 7470A	
Molybdenum	ND	0.0042	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Nickel	**0.22**	0.0025	0.0050	"	"	"	"	"	"	
Selenium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Silver	ND	0.0036	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	16-Nov-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	20-Nov-12	"	
Zinc	ND	0.025	0.050	"	10	A211531	21-Nov-12	26-Nov-12	"	
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	0.020	0.051	mg/L	1	A211251	12-Nov-12	13-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.51	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*87.2 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211208	09-Nov-12	09-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.26**	0.25	0.50	"	"	"	"	"	"	J
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*105 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*97.4 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*109 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-B-193

1205597-19 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.010	0.025	mg/L	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.0094**	0.0070	0.010	"	10	A211531	21-Nov-12	26-Nov-12	"	J
Beryllium	ND	0.0039	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Cadmium	**0.0095**	0.0025	0.0050	"	"	"	"	"	"	
Chromium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Cobalt	ND	0.0025	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Copper	**0.0049**	0.0036	0.0050	"	"	"	"	"	"	J
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A211404	16-Nov-12	16-Nov-12	EPA 7470A	
Molybdenum	**0.046**	0.0042	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Nickel	**0.26**	0.0025	0.0050	"	"	"	"	"	"	
Selenium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Silver	ND	0.0036	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	16-Nov-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	20-Nov-12	"	
Zinc	**0.043**	0.025	0.050	"	10	A211531	21-Nov-12	26-Nov-12	"	J
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	0.020	0.051	mg/L	1	A211251	12-Nov-12	13-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.51	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*84.4 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211208	09-Nov-12	09-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.26**	0.25	0.50	"	"	"	"	"	"	J
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*102 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*95.1 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*106 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

AT-SP-1

1205597-20 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	0.020	0.051	mg/L	1	A211251	12-Nov-12	13-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.51	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*78.4 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211208	09-Nov-12	09-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.25**	0.25	0.50	"	"	"	"	"	"	J
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*108 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*97.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*107 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

103012-04

1205597-21 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

103012-04

1205597-21 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Hexachlorobutadiene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.25**	0.25	0.50	"	"	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*106 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*95.4 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*105 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

103012-05

1205597-22 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

103012-05

1205597-22 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Hexachlorobutadiene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*106 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*95.7 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*113 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

103012-06

1205597-23 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

103012-06

1205597-23 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Hexachlorobutadiene	ND	0.25	0.50	ug/L	1	A211168	08-Nov-12	08-Nov-12	EPA 8260B	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*105 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*93.8 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*109 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211385 - EPA 3005A Filtered											
Blank (A211385-BLK1)					Prepared: 15-Nov-12 Analyzed: 16-Nov-12						
Thallium	ND	0.00072	0.0010	mg/L							
Blank (A211385-BLK2)					Prepared: 15-Nov-12 Analyzed: 20-Nov-12						
Antimony	ND	0.0020	0.0050	mg/L							
Arsenic	ND	0.0020	0.0050	"							
Beryllium	ND	0.00078	0.0010	"							
Cadmium	ND	0.00050	0.0010	"							
Cobalt	ND	0.00050	0.0010	"							
Copper	0.000866	0.00071	0.0010	"							J
Lead	ND	0.00080	0.0010	"							
Molybdenum	ND	0.00085	0.0010	"							
Nickel	ND	0.00050	0.0010	"							
Silver	ND	0.00073	0.0010	"							
Vanadium	ND	0.0030	0.0050	"							
LCS (A211385-BS1)					Prepared: 15-Nov-12 Analyzed: 16-Nov-12						
Thallium	0.169	0.00072	0.0010	mg/L	0.150		112	80-120			
LCS (A211385-BS2)					Prepared: 15-Nov-12 Analyzed: 20-Nov-12						
Antimony	0.171	0.0020	0.0050	mg/L	0.150		114	80-120			
Arsenic	0.171	0.0020	0.0050	"	0.150		114	80-120			
Beryllium	0.171	0.00078	0.0010	"	0.150		114	80-120			
Cadmium	0.172	0.00050	0.0010	"	0.150		115	80-120			
Cobalt	0.166	0.00050	0.0010	"	0.150		110	80-120			
Copper	0.173	0.00071	0.0010	"	0.150		115	80-120			
Lead	0.150	0.00080	0.0010	"	0.150		100	80-120			
Molybdenum	0.158	0.00085	0.0010	"	0.150		105	80-120			
Nickel	0.150	0.00050	0.0010	"	0.150		100	80-120			
Silver	0.173	0.00073	0.0010	"	0.150		115	80-120			
Vanadium	0.167	0.0030	0.0050	"	0.150		111	80-120			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211385 - EPA 3005A Filtered											
LCS Dup (A211385-BSD1)					Prepared: 15-Nov-12 Analyzed: 16-Nov-12						
Thallium	0.150	0.00072	0.0010	mg/L	0.150		100	80-120	11.5	20	
LCS Dup (A211385-BSD2)					Prepared: 15-Nov-12 Analyzed: 20-Nov-12						
Antimony	0.163	0.0020	0.0050	mg/L	0.150		109	80-120	4.80	20	
Arsenic	0.167	0.0020	0.0050	"	0.150		111	80-120	2.39	20	
Beryllium	0.163	0.00078	0.0010	"	0.150		109	80-120	4.35	20	
Cadmium	0.165	0.00050	0.0010	"	0.150		110	80-120	4.42	20	
Cobalt	0.163	0.00050	0.0010	"	0.150		109	80-120	1.34	20	
Copper	0.166	0.00071	0.0010	"	0.150		111	80-120	3.99	20	
Lead	0.153	0.00080	0.0010	"	0.150		102	80-120	1.82	20	
Molybdenum	0.155	0.00085	0.0010	"	0.150		104	80-120	1.73	20	
Nickel	0.155	0.00050	0.0010	"	0.150		103	80-120	2.93	20	
Silver	0.167	0.00073	0.0010	"	0.150		111	80-120	3.54	20	
Vanadium	0.156	0.0030	0.0050	"	0.150		104	80-120	6.76	20	
Duplicate (A211385-DUP1)		**Source: 1205635-01**			Prepared: 15-Nov-12 Analyzed: 16-Nov-12						
Thallium	ND	0.0014	0.0020	mg/L		ND				20	
Duplicate (A211385-DUP2)		**Source: 1205635-01**			Prepared: 15-Nov-12 Analyzed: 20-Nov-12						
Antimony	ND	0.010	0.025	mg/L		ND				20	
Arsenic	ND	0.010	0.025	"		ND				20	
Beryllium	ND	0.0039	0.0050	"		ND				20	
Cadmium	ND	0.0025	0.0050	"		ND				20	
Cobalt	ND	0.0025	0.0050	"		ND				20	
Copper	ND	0.0036	0.0050	"		ND				20	
Lead	ND	0.0040	0.0050	"		ND				20	
Molybdenum	0.0110	0.0042	0.0050	"		0.0120			8.46	20	
Nickel	0.0368	0.0025	0.0050	"		0.0350			4.93	20	
Silver	ND	0.0036	0.0050	"		ND				20	
Vanadium	ND	0.015	0.025	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211385 - EPA 3005A Filtered											
Matrix Spike (A211385-MS1)	**Source: 1205635-01**				Prepared: 15-Nov-12 Analyzed: 16-Nov-12						
Thallium	0.306	0.0029	0.0040	mg/L	0.300	ND	102	75-125			
Matrix Spike (A211385-MS2)	**Source: 1205635-01**				Prepared: 15-Nov-12 Analyzed: 20-Nov-12						
Antimony	0.309	0.020	0.050	mg/L	0.300	ND	103	75-125			
Arsenic	0.287	0.020	0.050	"	0.300	ND	95.5	75-125			
Beryllium	0.301	0.0078	0.010	"	0.300	ND	100	75-125			
Cadmium	0.302	0.0050	0.010	"	0.300	ND	101	75-125			
Cobalt	0.280	0.0050	0.010	"	0.300	ND	93.4	75-125			
Copper	0.297	0.0071	0.010	"	0.300	ND	98.9	75-125			
Lead	0.289	0.0080	0.010	"	0.300	ND	96.5	75-125			
Molybdenum	0.300	0.0085	0.010	"	0.300	0.0120	96.2	75-125			
Nickel	0.327	0.0050	0.010	"	0.300	0.0350	97.4	75-125			
Silver	0.317	0.0073	0.010	"	0.300	ND	106	75-125			
Vanadium	0.278	0.030	0.050	"	0.300	ND	92.8	75-125			
Batch A211404 - EPA 7470A Prep											
Blank (A211404-BLK1)					Prepared & Analyzed: 16-Nov-12						
Mercury	ND	0.000100	0.000200	mg/L							
LCS (A211404-BS1)					Prepared & Analyzed: 16-Nov-12						
Mercury	0.00954	0.000100	0.000200	mg/L	0.0100		95.4	85-115			
LCS Dup (A211404-BSD1)					Prepared & Analyzed: 16-Nov-12						
Mercury	0.0104	0.000100	0.000200	mg/L	0.0100		104	85-115	8.89	20	
Duplicate (A211404-DUP1)	**Source: 1205597-09**				Prepared & Analyzed: 16-Nov-12						
Mercury	ND	0.000100	0.000200	mg/L		0.000102				25	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211404 - EPA 7470A Prep											
Matrix Spike (A211404-MS1)		**Source: 1205597-09**			Prepared & Analyzed: 16-Nov-12						
Mercury	0.00954	0.000100	0.000200	mg/L	0.0100	0.000102	94.4	75-125			
Matrix Spike Dup (A211404-MSD1)		**Source: 1205597-09**			Prepared & Analyzed: 16-Nov-12						
Mercury	0.00971	0.000100	0.000200	mg/L	0.0100	0.000102	96.1	75-125	1.79	20	
Batch A211531 - EPA 3005A											
Blank (A211531-BLK1)					Prepared: 21-Nov-12 Analyzed: 26-Nov-12						
Barium	ND	0.00070	0.0010	mg/L							
Chromium	ND	0.0011	0.0020	"							
Selenium	ND	0.0011	0.0020	"							
Zinc	ND	0.0025	0.0050	"							
LCS (A211531-BS1)					Prepared: 21-Nov-12 Analyzed: 26-Nov-12						
Barium	0.150	0.00070	0.0010	mg/L	0.150		100	80-120			
Chromium	0.160	0.0011	0.0020	"	0.150		107	80-120			
Selenium	0.177	0.0011	0.0020	"	0.150		118	80-120			
Zinc	0.180	0.0025	0.0050	"	0.150		120	80-120			
LCS Dup (A211531-BSD1)					Prepared: 21-Nov-12 Analyzed: 26-Nov-12						
Barium	0.147	0.00070	0.0010	mg/L	0.150		98.2	80-120	1.97	20	
Chromium	0.160	0.0011	0.0020	"	0.150		107	80-120	0.320	20	
Selenium	0.177	0.0011	0.0020	"	0.150		118	80-120	0.358	20	
Zinc	0.177	0.0025	0.0050	"	0.150		118	80-120	1.55	20	
Duplicate (A211531-DUP1)		**Source: 1205635-10RE1**			Prepared: 21-Nov-12 Analyzed: 26-Nov-12						
Barium	0.00852	0.0070	0.010	mg/L		0.00889			4.25	20	J
Chromium	ND	0.011	0.020	"		ND				20	
Selenium	ND	0.011	0.020	"		ND				20	
Zinc	ND	0.025	0.050	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211531 - EPA 3005A											
Matrix Spike (A211531-MS1)	**Source: 1205635-10RE1**				Prepared: 21-Nov-12 Analyzed: 26-Nov-12						
Barium	0.300	0.014	0.020	mg/L	0.300	0.00889	97.2	75-125			
Chromium	0.359	0.022	0.040	"	0.300	ND	120	75-125			
Selenium	0.290	0.022	0.040	"	0.300	ND	96.7	75-125			
Zinc	0.274	0.050	0.10	"	0.300	ND	91.3	75-125			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211251 - EPA 3510C MS											
Blank (A211251-BLK1)					Prepared & Analyzed: 12-Nov-12						
TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L							
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"							
Surrogate: o-Terphenyl	*0.00344*			*"*	*0.00500*		*68.8*	*34-137*			
LCS (A211251-BS1)					Prepared & Analyzed: 12-Nov-12						
TPH Diesel (C10-C25)	0.640	0.020	0.050	mg/L	1.00		64.0	15-119			
Surrogate: o-Terphenyl	*0.00408*			*"*	*0.00500*		*81.6*	*34-137*			
LCS (A211251-BS2)					Prepared & Analyzed: 12-Nov-12						
TPH Oil Crude (C25-C40)	1.81	0.20	0.50	mg/L	2.00		90.4	40-106			
Surrogate: o-Terphenyl	*0.00454*			*"*	*0.00500*		*90.8*	*34-137*			
LCS Dup (A211251-BSD1)					Prepared & Analyzed: 12-Nov-12						
TPH Diesel (C10-C25)	0.648	0.020	0.050	mg/L	1.00		64.8	15-119	1.19	20	
Surrogate: o-Terphenyl	*0.00433*			*"*	*0.00500*		*86.6*	*34-137*			
LCS Dup (A211251-BSD2)					Prepared & Analyzed: 12-Nov-12						
TPH Oil Crude (C25-C40)	1.68	0.20	0.50	mg/L	2.00		83.9	40-106	7.54	20	
Surrogate: o-Terphenyl	*0.00359*			*"*	*0.00500*		*71.8*	*34-137*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211168 - EPA 5030B VOCGCMS											
Blank (A211168-BLK1)					Prepared & Analyzed: 08-Nov-12						
Benzene	ND	0.25	0.50	ug/L							
Bromobenzene	ND	0.25	0.50	"							
Bromochloromethane	ND	0.25	0.50	"							
Bromodichloromethane	ND	0.25	0.50	"							
Bromoform	ND	0.25	0.50	"							
Bromomethane	ND	0.25	0.50	"							
n-Butylbenzene	ND	0.25	0.50	"							
sec-Butylbenzene	ND	0.25	0.50	"							
tert-Butylbenzene	ND	0.25	0.50	"							
Carbon tetrachloride	ND	0.25	0.50	"							
Chlorobenzene	ND	0.25	0.50	"							
Chloroethane	ND	0.25	0.50	"							
Chloroform	ND	0.25	0.50	"							
Chloromethane	ND	0.25	0.50	"							
2-Chlorotoluene	ND	0.25	0.50	"							
4-Chlorotoluene	ND	0.25	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"							
Dibromochloromethane	ND	0.25	0.50	"							
Dibromomethane	ND	0.25	0.50	"							
1,2-Dichlorobenzene	ND	0.25	0.50	"							
1,3-Dichlorobenzene	ND	0.25	0.50	"							
1,4-Dichlorobenzene	ND	0.25	0.50	"							
Dichlorodifluoromethane	ND	0.26	0.50	"							
1,1-Dichloroethane	ND	0.25	0.50	"							
1,2-Dichloroethane	ND	0.25	0.50	"							
1,1-Dichloroethene	ND	0.25	0.50	"							
cis-1,2-Dichloroethene	ND	0.25	0.50	"							
trans-1,2-Dichloroethene	ND	0.25	0.50	"							
1,2-Dichloropropane	ND	0.25	0.50	"							
1,3-Dichloropropane	ND	0.25	0.50	"							
2,2-Dichloropropane	ND	0.25	0.50	"							
1,1-Dichloropropene	ND	0.25	0.50	"							
cis-1,3-Dichloropropene	ND	0.25	0.50	"							
trans-1,3-Dichloropropene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"							
Hexachlorobutadiene	ND	0.25	0.50	"							
Isopropylbenzene	ND	0.25	0.50	"							
4-Isopropyl Toluene	ND	0.25	0.50	"							
Methylene chloride	ND	0.50	1.0	"							

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211168 - EPA 5030B VOCGCMS											
Blank (A211168-BLK1)					Prepared & Analyzed: 08-Nov-12						
Naphthalene	ND	0.25	0.50	ug/L							
n-Propylbenzene	ND	0.25	0.50	"							
Styrene	ND	0.25	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"							
Tetrachloroethene (PCE)	ND	0.25	0.50	"							
Toluene	0.270	0.25	0.50	"							J
1,2,3-Trichlorobenzene	ND	0.25	0.50	"							
1,2,4-Trichlorobenzene	ND	0.25	0.50	"							
1,1,1-Trichloroethane	ND	0.25	0.50	"							
1,1,2-Trichloroethane	ND	0.25	0.50	"							
Trichloroethene (TCE)	ND	0.25	0.50	"							
Trichlorofluoromethane	ND	0.25	0.50	"							
1,2,3-Trichloropropane	ND	0.25	0.50	"							
1,2,4-Trimethylbenzene	ND	0.25	0.50	"							
1,3,5-Trimethylbenzene	ND	0.25	0.50	"							
Vinyl chloride	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
Surrogate: Dibromofluoromethane	*13.2*			*"*	*12.5*		*106*	*70-130*			
Surrogate: Toluene-d8	*11.8*			*"*	*12.5*		*94.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.9*			*"*	*12.5*		*111*	*70-130*			
LCS (A211168-BS1)					Prepared & Analyzed: 08-Nov-12						
Benzene	24.7	0.25	0.50	ug/L	25.0		98.9	70-130			
Chlorobenzene	26.7	0.25	0.50	"	25.0		107	70-130			
1,1-Dichloroethene	28.8	0.25	0.50	"	25.0		115	70-130			
Toluene	23.4	0.25	0.50	"	25.0		93.4	70-130			
Trichloroethene (TCE)	26.8	0.25	0.50	"	25.0		107	70-130			
Surrogate: Dibromofluoromethane	*12.9*			*"*	*12.5*		*103*	*70-130*			
Surrogate: Toluene-d8	*12.1*			*"*	*12.5*		*96.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.6*			*"*	*12.5*		*108*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211168 - EPA 5030B VOCGCMS											
LCS Dup (A211168-BSD1)					Prepared & Analyzed: 08-Nov-12						
Benzene	25.4	0.25	0.50	ug/L	25.0		101	70-130	2.60	20	
Chlorobenzene	28.1	0.25	0.50	"	25.0		112	70-130	5.07	20	
1,1-Dichloroethene	29.1	0.25	0.50	"	25.0		117	70-130	1.35	20	
Toluene	24.6	0.25	0.50	"	25.0		98.6	70-130	5.33	20	
Trichloroethene (TCE)	27.2	0.25	0.50	"	25.0		109	70-130	1.52	20	
Surrogate: Dibromofluoromethane	*13.0*			*"*	*12.5*		*104*	*70-130*			
Surrogate: Toluene-d8	*11.8*			*"*	*12.5*		*94.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.5*			*"*	*12.5*		*108*	*70-130*			
Duplicate (A211168-DUP1)	**Source: 1205597-03**				Prepared & Analyzed: 08-Nov-12						
Benzene	ND	0.25	0.50	ug/L		ND				20	
Bromobenzene	ND	0.25	0.50	"		ND				20	
Bromochloromethane	ND	0.25	0.50	"		ND				20	
Bromodichloromethane	ND	0.25	0.50	"		ND				20	
Bromoform	ND	0.25	0.50	"		ND				20	
Bromomethane	ND	0.25	0.50	"		ND				20	
n-Butylbenzene	ND	0.25	0.50	"		ND				20	
sec-Butylbenzene	ND	0.25	0.50	"		ND				20	
tert-Butylbenzene	ND	0.25	0.50	"		ND				20	
Carbon tetrachloride	ND	0.25	0.50	"		ND				20	
Chlorobenzene	ND	0.25	0.50	"		ND				20	
Chloroethane	ND	0.25	0.50	"		ND				20	
Chloroform	ND	0.25	0.50	"		ND				20	
Chloromethane	ND	0.25	0.50	"		ND				20	
2-Chlorotoluene	ND	0.25	0.50	"		ND				20	
4-Chlorotoluene	ND	0.25	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"		ND				20	
Dibromochloromethane	ND	0.25	0.50	"		ND				20	
Dibromomethane	ND	0.25	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.26	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.25	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.25	0.50	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211168 - EPA 5030B VOCGCMS											
Duplicate (A211168-DUP1)	**Source: 1205597-03**				Prepared & Analyzed: 08-Nov-12						
2,2-Dichloropropane	ND	0.25	0.50	ug/L		ND				20	
1,1-Dichloropropene	ND	0.25	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
Ethylbenzene	ND	0.25	0.50	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				20	
Isopropylbenzene	ND	0.25	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.25	0.50	"		ND				20	
Methylene chloride	ND	0.50	1.0	"		ND				20	
Naphthalene	ND	0.25	0.50	"		ND				20	
n-Propylbenzene	ND	0.25	0.50	"		ND				20	
Styrene	ND	0.25	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.25	0.50	"		ND				20	
Toluene	ND	0.25	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.25	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.25	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.25	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.25	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.25	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
Vinyl chloride	ND	0.25	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
Surrogate: Dibromofluoromethane	*13.2*			*"*	*12.5*		*106*	*70-130*			
Surrogate: Toluene-d8	*11.8*			*"*	*12.5*		*94.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.5*			*"*	*12.5*		*108*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211168 - EPA 5030B VOCGCMS											
Matrix Spike (A211168-MS1)	**Source: 1205597-03**				Prepared & Analyzed: 08-Nov-12						
Benzene	24.3	0.25	0.50	ug/L	25.0	ND	97.3	70-130			
Chlorobenzene	26.3	0.25	0.50	"	25.0	ND	105	70-130			
1,1-Dichloroethene	27.9	0.25	0.50	"	25.0	ND	111	70-130			
Toluene	23.5	0.25	0.50	"	25.0	ND	93.8	70-130			
Trichloroethene (TCE)	26.2	0.25	0.50	"	25.0	ND	105	70-130			
Surrogate: Dibromofluoromethane	*13.6*			*"*	*12.5*		*109*	*70-130*			
Surrogate: Toluene-d8	*12.0*			*"*	*12.5*		*95.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*14.0*			*"*	*12.5*		*112*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211229 - EPA 3510C MS											
Blank (A211229-BLK1)					Prepared: 09-Nov-12 Analyzed: 10-Nov-12						
Acenaphthene	ND	0.060	0.10	ug/L							
Acenaphthylene	ND	0.060	0.10	"							
Anthracene	ND	0.050	0.10	"							
Benz(a)anthracene	ND	0.050	0.10	"							
Benzo (b) fluoranthene	ND	0.050	0.10	"							
Benzo (k) fluoranthene	ND	0.050	0.10	"							
Benzo (a) pyrene	ND	0.050	0.10	"							
Benzo (g,h,i) perylene	ND	0.050	0.10	"							
Chrysene	ND	0.050	0.10	"							
Dibenz (a,h) anthracene	ND	0.050	0.10	"							
Fluoranthene	ND	0.050	0.10	"							
Fluorene	ND	0.060	0.10	"							
Indeno (1,2,3-cd) pyrene	ND	0.050	0.10	"							
Naphthalene	ND	0.060	0.10	"							
Phenanthrene	ND	0.050	0.10	"							
Pyrene	ND	0.050	0.10	"							
Surrogate: p-Terphenyl-d14	*0.730*			*"*	*0.800*		*91.2*	*27-159*			
LCS (A211229-BS1)					Prepared: 09-Nov-12 Analyzed: 10-Nov-12						
Acenaphthene	0.610	0.060	0.10	ug/L	0.800		76.2	40-120			
Acenaphthylene	0.610	0.060	0.10	"	0.800		76.2	40-120			
Anthracene	0.640	0.050	0.10	"	0.800		80.0	40-120			
Benz(a)anthracene	0.770	0.050	0.10	"	0.800		96.2	40-120			
Benzo (b) fluoranthene	0.750	0.050	0.10	"	0.800		93.8	40-120			
Benzo (k) fluoranthene	0.750	0.050	0.10	"	0.800		93.8	40-120			
Benzo (a) pyrene	0.660	0.050	0.10	"	0.800		82.5	40-120			
Benzo (g,h,i) perylene	0.770	0.050	0.10	"	0.800		96.2	40-120			
Chrysene	0.780	0.050	0.10	"	0.800		97.5	40-120			
Dibenz (a,h) anthracene	0.810	0.050	0.10	"	0.800		101	40-120			
Fluoranthene	0.650	0.050	0.10	"	0.800		81.2	40-120			
Fluorene	0.680	0.060	0.10	"	0.800		85.0	40-120			
Indeno (1,2,3-cd) pyrene	0.790	0.050	0.10	"	0.800		98.8	40-120			
Naphthalene	0.560	0.060	0.10	"	0.800		70.0	40-120			
Phenanthrene	0.740	0.050	0.10	"	0.800		92.5	40-120			
Pyrene	0.740	0.050	0.10	"	0.800		92.5	40-120			
Surrogate: p-Terphenyl-d14	*0.590*			*"*	*0.800*		*73.8*	*27-159*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211229 - EPA 3510C MS											
LCS Dup (A211229-BSD1)					Prepared: 09-Nov-12 Analyzed: 10-Nov-12						
Acenaphthene	0.580	0.060	0.10	ug/L	0.800		72.5	40-120	5.04	30	
Acenaphthylene	0.570	0.060	0.10	"	0.800		71.2	40-120	6.78	30	
Anthracene	0.590	0.050	0.10	"	0.800		73.8	40-120	8.13	30	
Benz(a)anthracene	0.740	0.050	0.10	"	0.800		92.5	40-120	3.97	30	
Benzo (b) fluoranthene	0.770	0.050	0.10	"	0.800		96.2	40-120	2.63	30	
Benzo (k) fluoranthene	0.740	0.050	0.10	"	0.800		92.5	40-120	1.34	30	
Benzo (a) pyrene	0.610	0.050	0.10	"	0.800		76.2	40-120	7.87	30	
Benzo (g,h,i) perylene	0.730	0.050	0.10	"	0.800		91.2	40-120	5.33	30	
Chrysene	0.740	0.050	0.10	"	0.800		92.5	40-120	5.26	30	
Dibenz (a,h) anthracene	0.740	0.050	0.10	"	0.800		92.5	40-120	9.03	30	
Fluoranthene	0.720	0.050	0.10	"	0.800		90.0	40-120	10.2	30	
Fluorene	0.640	0.060	0.10	"	0.800		80.0	40-120	6.06	30	
Indeno (1,2,3-cd) pyrene	0.730	0.050	0.10	"	0.800		91.2	40-120	7.89	30	
Naphthalene	0.530	0.060	0.10	"	0.800		66.2	40-120	5.50	30	
Phenanthrene	0.670	0.050	0.10	"	0.800		83.8	40-120	9.93	30	
Pyrene	0.680	0.050	0.10	"	0.800		85.0	40-120	8.45	30	
Surrogate: p-Terphenyl-d14	*0.620*			*"*	*0.800*		*77.5*	*27-159*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211168 - EPA 5030B VOCGCMS											
Blank (A211168-BLK1)					Prepared & Analyzed: 08-Nov-12						
Benzene	ND	0.25	0.50	ug/L							
Benzene	ND	0.25	0.50	"							
Bromobenzene	ND	0.25	0.50	"							
Bromochloromethane	ND	0.25	0.50	"							
Bromodichloromethane	ND	0.25	0.50	"							
Bromoform	ND	0.25	0.50	"							
Bromomethane	ND	0.25	0.50	"							
n-Butylbenzene	ND	0.25	0.50	"							
sec-Butylbenzene	ND	0.25	0.50	"							
tert-Butylbenzene	ND	0.25	0.50	"							
Carbon tetrachloride	ND	0.25	0.50	"							
Chlorobenzene	ND	0.25	0.50	"							
Chloroethane	ND	0.25	0.50	"							
Chloroform	ND	0.25	0.50	"							
Chloromethane	ND	0.25	0.50	"							
2-Chlorotoluene	ND	0.25	0.50	"							
4-Chlorotoluene	ND	0.25	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"							
Dibromochloromethane	ND	0.25	0.50	"							
Dibromomethane	ND	0.25	0.50	"							
1,2-Dichlorobenzene	ND	0.25	0.50	"							
1,3-Dichlorobenzene	ND	0.25	0.50	"							
1,4-Dichlorobenzene	ND	0.25	0.50	"							
Dichlorodifluoromethane	ND	0.26	0.50	"							
1,1-Dichloroethane	ND	0.25	0.50	"							
1,2-Dichloroethane	ND	0.25	0.50	"							
1,1-Dichloroethene	ND	0.25	0.50	"							
cis-1,2-Dichloroethene	ND	0.25	0.50	"							
trans-1,2-Dichloroethene	ND	0.25	0.50	"							
1,2-Dichloropropane	ND	0.25	0.50	"							
1,3-Dichloropropane	ND	0.25	0.50	"							
2,2-Dichloropropane	ND	0.25	0.50	"							
1,1-Dichloropropene	ND	0.25	0.50	"							
cis-1,3-Dichloropropene	ND	0.25	0.50	"							
trans-1,3-Dichloropropene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"							
Hexachlorobutadiene	ND	0.25	0.50	"							
Isopropylbenzene	ND	0.25	0.50	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211168 - EPA 5030B VOCGCMS											
Blank (A211168-BLK1)				Prepared & Analyzed: 08-Nov-12							
4-Isopropyl Toluene	ND	0.25	0.50	ug/L							
Methylene chloride	ND	0.50	1.0	"							
Naphthalene	ND	0.25	0.50	"							
n-Propylbenzene	ND	0.25	0.50	"							
Styrene	ND	0.25	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"							
Tetrachloroethene (PCE)	ND	0.25	0.50	"							
Toluene	0.270	0.25	0.50	"							J
Toluene	0.270	0.25	0.50	"							J
1,2,3-Trichlorobenzene	ND	0.25	0.50	"							
1,2,4-Trichlorobenzene	ND	0.25	0.50	"							
1,1,1-Trichloroethane	ND	0.25	0.50	"							
1,1,2-Trichloroethane	ND	0.25	0.50	"							
Trichloroethene (TCE)	ND	0.25	0.50	"							
Trichlorofluoromethane	ND	0.25	0.50	"							
1,2,3-Trichloropropane	ND	0.25	0.50	"							
1,2,4-Trimethylbenzene	ND	0.25	0.50	"							
1,3,5-Trimethylbenzene	ND	0.25	0.50	"							
Vinyl chloride	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*13.2*			*"*	*12.5*		*106*	*70-130*			
Surrogate: Dibromofluoromethane	*13.2*			*"*	*12.5*		*106*	*70-130*			
Surrogate: Toluene-d8	*11.8*			*"*	*12.5*		*94.6*	*70-130*			
Surrogate: Toluene-d8	*11.8*			*"*	*12.5*		*94.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.9*			*"*	*12.5*		*111*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.9*			*"*	*12.5*		*111*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211168 - EPA 5030B VOCGCMS											
LCS (A211168-BS1)					Prepared & Analyzed: 08-Nov-12						
Benzene	24.7	0.25	0.50	ug/L	25.0		98.9	70-130			
Benzene	24.7	0.25	0.50	"	25.0		98.9	70-130			
Chlorobenzene	26.7	0.25	0.50	"	25.0		107	70-130			
1,1-Dichloroethene	28.8	0.25	0.50	"	25.0		115	70-130			
Toluene	23.4	0.25	0.50	"	25.0		93.4	70-130			
Toluene	23.4	0.25	0.50	"	25.0		93.4	70-130			
Trichloroethene (TCE)	26.8	0.25	0.50	"	25.0		107	70-130			
Surrogate: Dibromofluoromethane	*12.9*			*"*	*12.5*		*103*	*70-130*			
Surrogate: Dibromofluoromethane	*12.9*			*"*	*12.5*		*103*	*70-130*			
Surrogate: Toluene-d8	*12.1*			*"*	*12.5*		*96.6*	*70-130*			
Surrogate: Toluene-d8	*12.1*			*"*	*12.5*		*96.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.6*			*"*	*12.5*		*108*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.6*			*"*	*12.5*		*108*	*70-130*			
LCS (A211168-BS2)					Prepared & Analyzed: 08-Nov-12						
TPH Gasoline (C4-C10)	556	20	50	ug/L	500		111	70-130			
TPH Gasoline (C4-C10)	556	20	50	"	500		111	70-130			
Surrogate: Dibromofluoromethane	*13.6*			*"*	*12.5*		*108*	*70-130*			
Surrogate: Dibromofluoromethane	*13.6*			*"*	*12.5*		*108*	*70-130*			
Surrogate: Toluene-d8	*12.1*			*"*	*12.5*		*96.7*	*70-130*			
Surrogate: Toluene-d8	*12.1*			*"*	*12.5*		*96.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*14.3*			*"*	*12.5*		*114*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*14.3*			*"*	*12.5*		*114*	*70-130*			
LCS Dup (A211168-BSD1)					Prepared & Analyzed: 08-Nov-12						
Benzene	25.4	0.25	0.50	ug/L	25.0		101	70-130	2.60	20	
Benzene	25.4	0.25	0.50	"	25.0		101	70-130	2.60	20	
Chlorobenzene	28.1	0.25	0.50	"	25.0		112	70-130	5.07	20	
1,1-Dichloroethene	29.1	0.25	0.50	"	25.0		117	70-130	1.35	20	
Toluene	24.6	0.25	0.50	"	25.0		98.6	70-130	5.33	20	
Toluene	24.6	0.25	0.50	"	25.0		98.6	70-130	5.33	20	
Trichloroethene (TCE)	27.2	0.25	0.50	"	25.0		109	70-130	1.52	20	
Surrogate: Dibromofluoromethane	*13.0*			*"*	*12.5*		*104*	*70-130*			
Surrogate: Dibromofluoromethane	*13.0*			*"*	*12.5*		*104*	*70-130*			
Surrogate: Toluene-d8	*11.8*			*"*	*12.5*		*94.6*	*70-130*			
Surrogate: Toluene-d8	*11.8*			*"*	*12.5*		*94.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.5*			*"*	*12.5*		*108*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.5*			*"*	*12.5*		*108*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211168 - EPA 5030B VOCGCMS											
LCS Dup (A211168-BSD2)					Prepared & Analyzed: 08-Nov-12						
TPH Gasoline (C4-C10)	528	20	50	ug/L	500		106	70-130	5.15	20	
TPH Gasoline (C4-C10)	528	20	50	"	500		106	70-130	5.15	20	
Surrogate: Dibromofluoromethane	*13.2*			*"*	*12.5*		*106*	*70-130*			
Surrogate: Dibromofluoromethane	*13.2*			*"*	*12.5*		*106*	*70-130*			
Surrogate: Toluene-d8	*11.7*			*"*	*12.5*		*93.7*	*70-130*			
Surrogate: Toluene-d8	*11.7*			*"*	*12.5*		*93.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.7*			*"*	*12.5*		*110*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.7*			*"*	*12.5*		*110*	*70-130*			
Duplicate (A211168-DUP1)	**Source: 1205597-03**				Prepared & Analyzed: 08-Nov-12						
Benzene	ND	0.25	0.50	ug/L		ND				20	
Benzene	ND	0.25	0.50	"		ND				20	
Bromobenzene	ND	0.25	0.50	"		ND				20	
Bromochloromethane	ND	0.25	0.50	"		ND				20	
Bromodichloromethane	ND	0.25	0.50	"		ND				20	
Bromoform	ND	0.25	0.50	"		ND				20	
Bromomethane	ND	0.25	0.50	"		ND				20	
n-Butylbenzene	ND	0.25	0.50	"		ND				20	
sec-Butylbenzene	ND	0.25	0.50	"		ND				20	
tert-Butylbenzene	ND	0.25	0.50	"		ND				20	
Carbon tetrachloride	ND	0.25	0.50	"		ND				20	
Chlorobenzene	ND	0.25	0.50	"		ND				20	
Chloroethane	ND	0.25	0.50	"		ND				20	
Chloroform	ND	0.25	0.50	"		ND				20	
Chloromethane	ND	0.25	0.50	"		ND				20	
2-Chlorotoluene	ND	0.25	0.50	"		ND				20	
4-Chlorotoluene	ND	0.25	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"		ND				20	
Dibromochloromethane	ND	0.25	0.50	"		ND				20	
Dibromomethane	ND	0.25	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.26	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.25	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.25	0.50	"		ND				20	

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211168 - EPA 5030B VOCGCMS											
Duplicate (A211168-DUP1)	**Source: 1205597-03**			Prepared & Analyzed: 08-Nov-12							
1,3-Dichloropropane	ND	0.25	0.50	ug/L		ND				20	
2,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.25	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
Ethylbenzene	ND	0.25	0.50	"		ND				20	
Ethylbenzene	ND	0.25	0.50	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				20	
Isopropylbenzene	ND	0.25	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.25	0.50	"		ND				20	
Methylene chloride	ND	0.50	1.0	"		ND				20	
Naphthalene	ND	0.25	0.50	"		ND				20	
n-Propylbenzene	ND	0.25	0.50	"		ND				20	
Styrene	ND	0.25	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.25	0.50	"		ND				20	
Toluene	ND	0.25	0.50	"		ND				20	
Toluene	ND	0.25	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.25	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.25	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.25	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.25	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.25	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
Vinyl chloride	ND	0.25	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
TPH Gasoline (C4-C10)	29.2	20	50	"		26.0			11.5	20	J
TPH Gasoline (C4-C10)	29.2	20	50	"		26.0			11.5	20	J
Surrogate: Dibromofluoromethane	*13.2*			*"*	*12.5*		*106*	*70-130*			
Surrogate: Dibromofluoromethane	*13.2*			*"*	*12.5*		*106*	*70-130*			
Surrogate: Toluene-d8	*11.8*			*"*	*12.5*		*94.6*	*70-130*			
Surrogate: Toluene-d8	*11.8*			*"*	*12.5*		*94.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.5*			*"*	*12.5*		*108*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.5*			*"*	*12.5*		*108*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211168 - EPA 5030B VOCGCMS											
Matrix Spike (A211168-MS1)	**Source: 1205597-03**				Prepared & Analyzed: 08-Nov-12						
Benzene	24.3	0.25	0.50	ug/L	25.0	ND	97.3	70-130			
Benzene	24.3	0.25	0.50	"	25.0	ND	97.3	70-130			
Chlorobenzene	26.3	0.25	0.50	"	25.0	ND	105	70-130			
1,1-Dichloroethene	27.9	0.25	0.50	"	25.0	ND	111	70-130			
Toluene	23.4	0.25	0.50	"	25.0	ND	93.8	70-130			
Toluene	23.4	0.25	0.50	"	25.0	ND	93.8	70-130			
Trichloroethene (TCE)	26.2	0.25	0.50	"	25.0	ND	105	70-130			
Surrogate: Dibromofluoromethane	*13.6*			"	*12.5*		*109*	*70-130*			
Surrogate: Dibromofluoromethane	*13.6*			"	*12.5*		*109*	*70-130*			
Surrogate: Toluene-d8	*12.0*			"	*12.5*		*95.8*	*70-130*			
Surrogate: Toluene-d8	*12.0*			"	*12.5*		*95.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*14.0*			"	*12.5*		*112*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*14.0*			"	*12.5*		*112*	*70-130*			
Matrix Spike (A211168-MS2)	**Source: 1205597-03**				Prepared & Analyzed: 08-Nov-12						
TPH Gasoline (C4-C10)	553	20	50	ug/L	500	26.0	105	70-130			
TPH Gasoline (C4-C10)	553	20	50	"	500	26.0	105	70-130			
Surrogate: Dibromofluoromethane	*13.7*			"	*12.5*		*109*	*70-130*			
Surrogate: Dibromofluoromethane	*13.7*			"	*12.5*		*109*	*70-130*			
Surrogate: Toluene-d8	*12.1*			"	*12.5*		*96.6*	*70-130*			
Surrogate: Toluene-d8	*12.1*			"	*12.5*		*96.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.8*			"	*12.5*		*111*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.8*			"	*12.5*		*111*	*70-130*			
Batch A211208 - EPA 5030B VOCGCMS											
Blank (A211208-BLK1)					Prepared & Analyzed: 09-Nov-12						
Benzene	ND	0.25	0.50	ug/L							
Ethylbenzene	ND	0.25	0.50	"							
Toluene	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*13.3*			"	*12.5*		*107*	*70-130*			
Surrogate: Toluene-d8	*12.1*			"	*12.5*		*96.5*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.4*			"	*12.5*		*107*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211208 - EPA 5030B VOCGCMS											
LCS (A211208-BS1)					Prepared & Analyzed: 09-Nov-12						
Benzene	24.5	0.25	0.50	ug/L	25.0		97.8	70-130			
Toluene	23.6	0.25	0.50	"	25.0		94.4	70-130			
Surrogate: Dibromofluoromethane	*13.4*			*"*	*12.5*		*107*	*70-130*			
Surrogate: Toluene-d8	*12.2*			*"*	*12.5*		*97.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.6*			*"*	*12.5*		*108*	*70-130*			
LCS (A211208-BS2)					Prepared & Analyzed: 09-Nov-12						
TPH Gasoline (C4-C10)	534	20	50	ug/L	500		107	70-130			
Surrogate: Dibromofluoromethane	*13.4*			*"*	*12.5*		*107*	*70-130*			
Surrogate: Toluene-d8	*12.4*			*"*	*12.5*		*99.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*14.1*			*"*	*12.5*		*113*	*70-130*			
LCS Dup (A211208-BSD1)					Prepared & Analyzed: 09-Nov-12						
Benzene	25.0	0.25	0.50	ug/L	25.0		100	70-130	2.34	20	
Toluene	24.0	0.25	0.50	"	25.0		96.1	70-130	1.76	20	
Surrogate: Dibromofluoromethane	*13.4*			*"*	*12.5*		*107*	*70-130*			
Surrogate: Toluene-d8	*11.9*			*"*	*12.5*		*95.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.6*			*"*	*12.5*		*109*	*70-130*			
LCS Dup (A211208-BSD2)					Prepared & Analyzed: 09-Nov-12						
TPH Gasoline (C4-C10)	504	20	50	ug/L	500		101	70-130	5.86	20	
Surrogate: Dibromofluoromethane	*13.3*			*"*	*12.5*		*107*	*70-130*			
Surrogate: Toluene-d8	*12.1*			*"*	*12.5*		*96.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.8*			*"*	*12.5*		*110*	*70-130*			
Duplicate (A211208-DUP1)	**Source: 1205597-11**				Prepared & Analyzed: 09-Nov-12						
Benzene	0.260	0.25	0.50	ug/L		ND				20	J
Ethylbenzene	ND	0.25	0.50	"		ND				20	
Toluene	0.310	0.25	0.50	"		0.300			3.28	20	J
Xylenes (total)	ND	0.27	0.50	"		ND				20	
TPH Gasoline (C4-C10)	ND	20	50	"		ND				20	
Surrogate: Dibromofluoromethane	*13.8*			*"*	*12.5*		*110*	*70-130*			
Surrogate: Toluene-d8	*11.9*			*"*	*12.5*		*95.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.4*			*"*	*12.5*		*108*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211208 - EPA 5030B VOCGCMS											
Matrix Spike (A211208-MS1)	**Source: 1205597-11**				Prepared & Analyzed: 09-Nov-12						
Benzene	25.2	0.25	0.50	ug/L	25.0	ND	101	70-130			
Toluene	23.9	0.25	0.50	"	25.0	0.300	94.4	70-130			
Surrogate: Dibromofluoromethane	*13.6*			*"*	*12.5*		*108*	*70-130*			
Surrogate: Toluene-d8	*12.0*			*"*	*12.5*		*96.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.6*			*"*	*12.5*		*109*	*70-130*			
Matrix Spike (A211208-MS2)	**Source: 1205597-11**				Prepared & Analyzed: 09-Nov-12						
TPH Gasoline (C4-C10)	531	20	50	ug/L	500	ND	106	70-130			
Surrogate: Dibromofluoromethane	*13.6*			*"*	*12.5*		*109*	*70-130*			
Surrogate: Toluene-d8	*12.0*			*"*	*12.5*		*95.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*14.1*			*"*	*12.5*		*113*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:55

Notes and Definitions

J	Detected but below the RL/PQL; therefore, result is an estimated concentration .
D-06	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the Method Limit (MDL)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTO

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 Fax No.: 805.786.2651
Project No. / Name: 0801-0898 / Former Unocal Avila Terminal, Avila Beach, CA
4Q12 Groundwater Monitoring Event

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler(s): Cody Montoya; Harleigh Overton; Daniel Rice; Deil Frazier

Invoice To: Chevron EMC
Mr. Rik Williams
SO# 0015065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: GC/MS-TPH(C4-10)	GC/MS-TPH(C10-C25;C25-C40)	8260-BTEX	8260-VOCs	8260-VOCs & Oxys	8260-MTBE & TBA	8270-SIM-PAHs	7000/6000-Metals	Organic Lead by GFAA (HML 939-M)	NOTES
AT-B-212	11/6/12	1144	4	Aq	HCl, none	voa amber	X	X	X							1205597-1A-D
AT-B-211		1035	4				X	X	X							2A-D
AT-B-184		1525	5				X	X		X			X			3A-E
AT-GMW-16		0903	4				X	X	X							4A-D
AT-GMW-15		1321	4				X	X	X							5A-D
AT-GMW-14		1424	4				X	X	X							6A-D
AT-SP-7A		1501	5				X	X	X				X			7A-E
AT-B-196		1327	4				X	X	X							8A-D
AT-B-210		1130	5			voa amber, poly	X	X		X				X		9A-E
AT-B-209		0939	5				X	X	X					X		10A-E
AT-B-147		1430	4			voa, amber	X	X	X							11AD
AT-B-202		1320	4				X	X	X							12A-D

Special Instructions:
Filter groundwater and preserve with nitric acid prior to analyses for metals.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
	11/7/12	1330		11-7-12	13:30
Relinquished by:	Date	Time	Received by:	Date	Time
	11-7-12	1500		11/07/12	1500

Turn Around Time (Check)

same day		72 hours	
24 hours		5 days	
48 hours		normal	X

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0898 / Former Unocal Avila Terminal, Avila Beach, CA
4Q12 Groundwater Monitoring Event

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler(s): Cody Montoya; Harleigh Overton; Daniel Rice; Deil Frazier

Invoice To: Chevron EMC
Mr. Rik Williams
SO# 0015065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: GC/MS-TPH(C4-10)	GC/MS-TPH(C10-C25;C25-C40)	8260-BTEX	8260-VOCs	8260-VOCs & Oxys	8260-MTBE & TBA	8270-SIM-PAHs	7000/6000-Metals	Organic Lead by GFAA (HML 939-M)	NOTES
AT-B-146	11/6/12	1140	4	Aq	HCl, none	voa, amber	X	X	X							1205597-13A-D
AT-B-144-50		0940	4			↓	X	X	X							14A-D
AT-B-185		1517	6			voa, amber, poly	X	X		X			X	X		15A-F
AT-B-208		1406	4			voa, amber	X	X		X						16A-D
AT-B-194		1253	4			↓	X	X	X							17A-D
AT-B-192		1142	5			voa, amber, poly	X	X	X					X		18A-E
AT-B-193		1049	5			↓	X	X	X					X		19A-E
AT-SP-1		0929	4			voa, amber	X	X	X							20A-D
103012-04		—	1		HCl	VOA				X						Trip Blanks 21A
103012-05		—	1			↓				X						prepared on 22A
103012-06	↓	—	1	↓	↓	↓				X						10/30/12 23A

Special Instructions:
Filter groundwater and preserve with nitric acid prior to analyses for metals.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
	11/7/12	1330		11-7-12	1330
Relinquished by:	Date	Time	Received by:	Date	Time
	11-7-12	1500		11/07/12	1500

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

OEC SAMPLE RECEIPT

Rev 01/15/10

CLIENT: Padre SLO OEC ID #: 1205597 Temp: 3 °C

Acceptable Range: 0°C to 6°C

COC RECEIVED DATE/TIME: 11/07/12 1500

RECEIPT LOGIN DATE/TIME: 11/07/12 1630

REFRIGERATOR(s): 8 (COOLER)

SAMPLE TRANSPORT, RECEIPT, CONDITION & PRESERVATION:		Yes	No	N/A	(*) PROBLEM CHAIN FORM NEEDED
☒ OEC Courier/Sampler	COC document(s) received with samples	☒	☐*	☐	Custody Seals (circle): Present / Absent
☐ Delivery(Other than OEC Courier)	Correct containers for analysis requested	☒	☐*	☐	TRIP BLANKS Samples / Coolers
☒ Samples Received on Ice	Container(s) intact and in good condition	☒	☐*	☐	Intact / Broken*
☐ Samples Received Outside Temp. Range*	Container label(s) consistent with COC	☒	☐*	☐	Method of Shipment & Tracking #(if applicable):
☐ Samples Direct from field (Outside Temp)	OEC preservative added (**note std ID)	☐**	☐	☒	
☐ After-Hours Outside Drop-off [Brought Inside]	Proper preservation on sample label(s)	☒	☐	☐	(**) OEC Preservative ID.
(Initials/Date/Time):	VOA containers free of headspace (EH) 11/7/12	☒	☒*	☐	Dissolved Metals Filtration: (Date/Init/Preserve ID)
	Tedlar Bags free of condensation	☐	☐*	☒	

CONTAINERS, COC CHANGES AND/OR CORRECTIONS

CHANGES AUTHORIZED BY:

OEC ID	Client ID ***If blank, refer to CoC	Container Description	Preservative	ResCl /pH	Matrix	Date/Time Sampled ***	Comments / Remarks / Condition Notes, Etc.
1-20 A		1-1L AMBER EA	—	–	AQ		
6,7,15 E		↓	—	–	↓		
1-20 B-D		3-VOAS EA	HCl	–			
9-10,18-19 E		1-8oz POLY EA	—	–			
15 F		1-8oz POLY	—	–			
21-23 A		1-VOA EA	HCl	–	↓		

RECEIPT LOGIN BY: ELH RECEIPT REVIEWED BY: LW

OEC PROBLEM CHAIN

CLIENT: PADRE-SLO

OEC ID #: 1205597

ISSUES RECORDED BY (DATE/TIME/INITIALS): 11/07/12 1635 ELH

ISSUE(S): PLEASE PROVIDE DETAILS OF ISSUE(S) BELOW – Samples/Containers Affected, as necessary.

- ☐ Samples Received Outside Temp. Range (see below)
- ☐ **NO** COC document(s) received with samples
- ☐ Container(s) **NOT** intact or in good condition
- ☐ Incorrect containers for analysis requested
- ☐ Container label(s) **NOT** consistent with COC
- ☐ Custody Seals Broken
- ☒ OTHER: (if multiple, identify with numbers)

SAMPLES 1D, 6B HAVE HEADSPACE IN VOAs.

RESOLUTIONS: MINIMUM INFO: Issue#[if necessary] – Description – Contact Type (Verbal, email, etc.) – Client Authorization Contact – Date/Time/Initials

MARKED VOAs WITH "X" ON TOP & SIDE TO ALERT ANALYSTS.

FINAL RESOLUTION OF ISSUES BY (DATE/TIME/INITIALS): 11/07/12 1640 ELH

09/09/08

Oilfield Environmental and Compliance, INC.

Louis Cappel
Padre Associates, Inc. - SLO
369 Pacific Street
San Luis Obispo, CA 93401

03 December 2012

RE: Former Unocal Avila Terminal

Work Order: 1205635

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on 08-Nov-12 16:15 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Roy Diaz

Project Manager

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AT-B-149	1205635-01	Water	07-Nov-12 15:19	08-Nov-12 16:15
AT-B-150	1205635-02	Water	07-Nov-12 10:45	08-Nov-12 16:15
AT-B-151	1205635-03	Water	07-Nov-12 09:46	08-Nov-12 16:15
AT-B-183	1205635-04	Water	07-Nov-12 14:03	08-Nov-12 16:15
AT-B-195	1205635-05	Water	07-Nov-12 12:15	08-Nov-12 16:15
AT-SP-9	1205635-06	Water	07-Nov-12 15:29	08-Nov-12 16:15
AT-B-173	1205635-07	Water	07-Nov-12 14:32	08-Nov-12 16:15
AT-B-204-150	1205635-08	Water	07-Nov-12 13:08	08-Nov-12 16:15
AT-B-204-85	1205635-09	Water	07-Nov-12 11:50	08-Nov-12 16:15
AT-B-197	1205635-10	Water	07-Nov-12 09:36	08-Nov-12 16:15
AT-B-205-90	1205635-11	Water	07-Nov-12 12:21	08-Nov-12 16:15
AT-B-205-120	1205635-12	Water	07-Nov-12 13:43	08-Nov-12 16:15
AT-B-139	1205635-13	Water	07-Nov-12 15:40	08-Nov-12 16:15
AT-B-145	1205635-14	Water	07-Nov-12 12:50	08-Nov-12 16:15
AT-B-148	1205635-15	Water	07-Nov-12 11:40	08-Nov-12 16:15
DUP-1	1205635-16	Water	07-Nov-12 10:21	08-Nov-12 16:15
103012-07	1205635-17	Water	07-Nov-12 00:00	08-Nov-12 16:15
103012-08	1205635-18	Water	07-Nov-12 00:00	08-Nov-12 16:15

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-149

1205635-01 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.010	0.025	mg/L	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	ND	0.0070	0.010	"	10	A211531	21-Nov-12	27-Nov-12	"	
Beryllium	ND	0.0039	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Cadmium	ND	0.0025	0.0050	"	"	"	"	"	"	
Chromium	ND	0.011	0.020	"	10	A211531	21-Nov-12	27-Nov-12	"	
Cobalt	ND	0.0025	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A211404	16-Nov-12	16-Nov-12	EPA 7470A	
Molybdenum	**0.012**	0.0042	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Nickel	**0.035**	0.0025	0.0050	"	"	"	"	"	"	
Selenium	ND	0.011	0.020	"	10	A211531	21-Nov-12	27-Nov-12	"	
Silver	ND	0.0036	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	16-Nov-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	20-Nov-12	"	
Zinc	ND	0.025	0.050	"	10	A211531	21-Nov-12	27-Nov-12	"	
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.18**	0.020	0.051	mg/L	1	A211336	14-Nov-12	14-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.51	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*92.4 %*	*34-137*		*"*	*"*	*"*	*"*	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211263	12-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-149

1205635-01 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Carbon tetrachloride	ND	0.25	0.50	ug/L	1	A211263	12-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-149

1205635-01 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	ug/L	1	A211263	12-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*115 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*95.6 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*111 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-150

1205635-02 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L	1	A211336	14-Nov-12	14-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*85.0 %*	*34-137*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211263	12-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*97.8 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*82.3 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*111 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-151

1205635-03 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	0.020	0.051	mg/L	1	A211336	14-Nov-12	14-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.51	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*74.6 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211263	12-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.82**	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*101 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*81.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*113 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-183

1205635-04 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	**0.32**	0.020	0.051	mg/L	1	A211334	13-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.51	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*99.4 %*	*34-137*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	**0.23**	0.061	0.10	ug/L	1	A211314	"	16-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.061	0.10	"	"	"	"	"	"	
Anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.051	0.10	"	"	"	"	"	"	
Chrysene	ND	0.051	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Fluorene	ND	0.061	0.10	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Naphthalene	**0.62**	0.061	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.051	0.10	"	"	"	"	"	"	
Pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*37.5 %*	*27-159*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211263	12-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**0.61**	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**1.0**	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-183

1205635-04 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloroethane	ND	0.25	0.50	ug/L	1	A211263	12-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-183

1205635-04 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Toluene	**0.27**	0.25	0.50	ug/L	1	A211263	12-Nov-12	13-Nov-12	EPA 8260B/LUFT	J
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**64**	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*101 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*91.7 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*113 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-195

1205635-05 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.010	0.025	mg/L	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	ND	0.0070	0.010	"	10	A211531	21-Nov-12	26-Nov-12	"	
Beryllium	ND	0.0039	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Cadmium	**0.0084**	0.0025	0.0050	"	"	"	"	"	"	
Chromium	**0.016**	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	J
Cobalt	**0.011**	0.0025	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Copper	**0.0046**	0.0036	0.0050	"	"	"	"	"	"	J
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A211404	16-Nov-12	16-Nov-12	EPA 7470A	
Molybdenum	ND	0.0042	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Nickel	**0.041**	0.0025	0.0050	"	"	"	"	"	"	
Selenium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Silver	ND	0.0036	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	16-Nov-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	20-Nov-12	"	
Zinc	**0.034**	0.025	0.050	"	10	A211531	21-Nov-12	26-Nov-12	"	J

TEPH by GCMS

TPH Diesel (C10-C25)	**0.037**	0.021	0.052	mg/L	1	A211334	13-Nov-12	15-Nov-12	EPA 8270C	J
TPH Oil Crude (C25-C40)	**0.30**	0.21	0.52	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*85.6 %*	*34-137*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	ND	0.062	0.10	ug/L	1	A211314	"	16-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.062	0.10	"	"	"	"	"	"	
Anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.052	0.10	"	"	"	"	"	"	
Chrysene	ND	0.052	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Fluorene	ND	0.062	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-195

1205635-05 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Indeno (1,2,3-cd) pyrene	ND	0.052	0.10	ug/L	1	A211314	13-Nov-12	16-Nov-12	EPA 8270M SIM	
Naphthalene	ND	0.062	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.052	0.10	"	"	"	"	"	"	
Pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*41.2 %*		*27-159*	"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	14-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
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AT-B-195

1205635-05 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	14-Nov-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*95.8 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*91.8 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*91.3 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-SP-9

1205635-06 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	**0.16**	0.020	0.050	mg/L	1	A211334	13-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*87.2 %*	*34-137*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	ND	0.060	0.10	ug/L	1	A211314	"	16-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.060	0.10	"	"	"	"	"	"	
Anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.050	0.10	"	"	"	"	"	"	
Chrysene	ND	0.050	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Fluorene	ND	0.060	0.10	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Naphthalene	**0.14**	0.060	0.10	"	"	"	"	"	"	
Phenanthrene	**0.080**	0.050	0.10	"	"	"	"	"	"	J
Pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*36.2 %*	*27-159*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	14-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**0.37**	0.25	0.50	"	"	"	"	"	"	J
tert-Butylbenzene	**0.25**	0.25	0.50	"	"	"	"	"	"	J
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-SP-9

1205635-06 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloroethane	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	14-Nov-12	EPA 8260B/LUFT	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-SP-9

1205635-06 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Toluene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	14-Nov-12	EPA 8260B/LUFT	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**150**	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*103 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*93.4 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*92.4 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-173

1205635-07 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L	1	A211336	14-Nov-12	14-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*104 %*	*34-137*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	14-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*97.0 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*91.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*92.2 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-204-150

1205635-08 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.029**	0.020	0.050	mg/L	1	A211336	14-Nov-12	14-Nov-12	EPA 8270C	J
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*92.0 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	14-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*98.0 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*92.4 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*94.3 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-204-85

1205635-09 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.010	0.025	mg/L	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.038**	0.0070	0.010	"	10	A211531	21-Nov-12	26-Nov-12	"	
Beryllium	ND	0.0039	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Cadmium	**0.0067**	0.0025	0.0050	"	"	"	"	"	"	
Chromium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Cobalt	ND	0.0025	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A211404	16-Nov-12	16-Nov-12	EPA 7470A	
Molybdenum	ND	0.0042	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Nickel	**0.079**	0.0025	0.0050	"	"	"	"	"	"	
Selenium	**0.013**	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	J
Silver	ND	0.0036	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	16-Nov-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	20-Nov-12	"	
Zinc	ND	0.025	0.050	"	10	A211531	21-Nov-12	26-Nov-12	"	

TEPH by GCMS

TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L	1	A211336	14-Nov-12	14-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*95.6 %*	*34-137*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	14-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*98.5 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*93.3 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*94.4 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-197

1205635-10 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.010	0.025	mg/L	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.0089**	0.0070	0.010	"	10	A211531	21-Nov-12	26-Nov-12	"	J
Beryllium	ND	0.0039	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Cadmium	ND	0.0025	0.0050	"	"	"	"	"	"	
Chromium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Cobalt	ND	0.0025	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A211404	16-Nov-12	16-Nov-12	EPA 7470A	
Molybdenum	ND	0.0042	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Nickel	ND	0.0025	0.0050	"	"	"	"	"	"	
Selenium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Silver	ND	0.0036	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	16-Nov-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	20-Nov-12	"	
Zinc	ND	0.025	0.050	"	10	A211531	21-Nov-12	26-Nov-12	"	

TEPH by GCMS

TPH Diesel (C10-C25)	**0.079**	0.020	0.050	mg/L	1	A211334	13-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.26**	0.20	0.50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*84.0 %*	*34-137*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	ND	0.060	0.10	ug/L	1	A211314	"	16-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.060	0.10	"	"	"	"	"	"	
Anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.050	0.10	"	"	"	"	"	"	
Chrysene	ND	0.050	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Fluorene	ND	0.060	0.10	"	"	"	"	"	"	

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1205635-10 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Indeno (1,2,3-cd) pyrene	ND	0.050	0.10	ug/L	1	A211314	13-Nov-12	16-Nov-12	EPA 8270M SIM	
Naphthalene	ND	0.060	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.050	0.10	"	"	"	"	"	"	
Pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*62.5 %*		*27-159*	"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	14-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-197

1205635-10 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	14-Nov-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**200**	20	50	"	"	"	"	"	"	D-03
Surrogate: Dibromofluoromethane			*97.7 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*92.4 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*94.9 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-205-90

1205635-11 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	**0.075**	0.021	0.053	mg/L	1	A211336	14-Nov-12	14-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.21	0.53	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*90.0 %*	*34-137*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	14-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*99.0 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*93.3 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*96.8 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-205-120

1205635-12 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.010	0.025	mg/L	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.019**	0.0070	0.010	"	10	A211531	21-Nov-12	26-Nov-12	"	
Beryllium	ND	0.0039	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Cadmium	ND	0.0025	0.0050	"	"	"	"	"	"	
Chromium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Cobalt	ND	0.0025	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A211404	16-Nov-12	16-Nov-12	EPA 7470A	
Molybdenum	**0.049**	0.0042	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Nickel	**0.31**	0.0025	0.0050	"	"	"	"	"	"	
Selenium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Silver	ND	0.0036	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	16-Nov-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	20-Nov-12	"	
Zinc	ND	0.025	0.050	"	10	A211531	21-Nov-12	26-Nov-12	"	
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.042**	0.022	0.054	mg/L	1	A211336	14-Nov-12	14-Nov-12	EPA 8270C	J
TPH Oil Crude (C25-C40)	ND	0.22	0.54	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*85.8 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	14-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*95.6 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*91.8 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*95.9 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-139

1205635-13 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.010	0.025	mg/L	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.023**	0.0070	0.010	"	10	A211531	21-Nov-12	26-Nov-12	"	
Beryllium	ND	0.0039	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Cadmium	ND	0.0025	0.0050	"	"	"	"	"	"	
Chromium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Cobalt	**0.0051**	0.0025	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A211404	16-Nov-12	16-Nov-12	EPA 7470A	
Molybdenum	**0.069**	0.0042	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Nickel	**0.066**	0.0025	0.0050	"	"	"	"	"	"	
Selenium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Silver	ND	0.0036	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	16-Nov-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	20-Nov-12	"	
Zinc	ND	0.025	0.050	"	10	A211531	21-Nov-12	26-Nov-12	"	
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.029**	0.021	0.052	mg/L	1	A211336	14-Nov-12	14-Nov-12	EPA 8270C	J
TPH Oil Crude (C25-C40)	ND	0.21	0.52	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*88.8 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	15-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*100 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*93.8 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*93.5 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-145

1205635-14 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	0.020	0.051	mg/L	1	A211336	14-Nov-12	14-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.51	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*87.6 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	15-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*96.9 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*91.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*94.7 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

AT-B-148

1205635-15 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	0.021	0.053	mg/L	1	A211336	14-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.21	0.53	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*89.8 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	15-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*97.4 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*91.9 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*98.8 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

DUP-1

1205635-16 (Water)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.010	0.025	mg/L	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.0095**	0.0070	0.010	"	10	A211531	21-Nov-12	26-Nov-12	"	J
Beryllium	ND	0.0039	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Cadmium	ND	0.0025	0.0050	"	"	"	"	"	"	
Chromium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Cobalt	ND	0.0025	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0040	0.0050	"	"	"	"	"	"	
Mercury	ND	0.000100	0.000200	"	1	A211404	16-Nov-12	16-Nov-12	EPA 7470A	
Molybdenum	ND	0.0042	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	EPA 6020	
Nickel	ND	0.0025	0.0050	"	"	"	"	"	"	
Selenium	ND	0.011	0.020	"	10	A211531	21-Nov-12	26-Nov-12	"	
Silver	ND	0.0036	0.0050	"	5	A211385	15-Nov-12	20-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	16-Nov-12	"	
Vanadium	ND	0.015	0.025	"	5	"	"	20-Nov-12	"	
Zinc	ND	0.025	0.050	"	10	A211531	21-Nov-12	26-Nov-12	"	
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.073**	0.020	0.051	mg/L	1	A211334	13-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.25**	0.20	0.51	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*85.6 %*	*34-137*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	ND	0.061	0.10	ug/L	1	A211314	"	16-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.061	0.10	"	"	"	"	"	"	
Anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.051	0.10	"	"	"	"	"	"	
Chrysene	ND	0.051	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Fluorene	ND	0.061	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1205635-16 (Water)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Indeno (1,2,3-cd) pyrene	ND	0.051	0.10	ug/L	1	A211314	13-Nov-12	16-Nov-12	EPA 8270M SIM	
Naphthalene	ND	0.061	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.051	0.10	"	"	"	"	"	"	
Pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*53.8 %*		*27-159*	"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	15-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1205635-16 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	15-Nov-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**210**	20	50	"	"	"	"	"	"	D-03
Surrogate: Dibromofluoromethane			*98.6 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*92.2 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*93.2 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

103012-07

1205635-17 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	14-Nov-12	EPA 8260B	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

103012-07

1205635-17 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Hexachlorobutadiene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	14-Nov-12	EPA 8260B	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.47**	0.25	0.50	"	"	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*94.2 %*		*70-130*	"	"	"	"	
Surrogate: Toluene-d8			*91.1 %*		*70-130*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*89.8 %*		*70-130*	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

103012-08

1205635-18 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	14-Nov-12	EPA 8260B	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

103012-08

1205635-18 (Water)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Hexachlorobutadiene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	14-Nov-12	EPA 8260B	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.38**	0.25	0.50	"	"	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*96.2 %*		*70-130*	"	"	"	"	
Surrogate: Toluene-d8			*90.6 %*		*70-130*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*90.1 %*		*70-130*	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211385 - EPA 3005A Filtered											
Blank (A211385-BLK1)					Prepared: 15-Nov-12 Analyzed: 16-Nov-12						
Thallium	ND	0.00072	0.0010	mg/L							
Blank (A211385-BLK2)					Prepared: 15-Nov-12 Analyzed: 20-Nov-12						
Antimony	ND	0.0020	0.0050	mg/L							
Arsenic	ND	0.0020	0.0050	"							
Beryllium	ND	0.00078	0.0010	"							
Cadmium	ND	0.00050	0.0010	"							
Cobalt	ND	0.00050	0.0010	"							
Copper	0.000866	0.00071	0.0010	"							J
Lead	ND	0.00080	0.0010	"							
Molybdenum	ND	0.00085	0.0010	"							
Nickel	ND	0.00050	0.0010	"							
Silver	ND	0.00073	0.0010	"							
Vanadium	ND	0.0030	0.0050	"							
LCS (A211385-BS1)					Prepared: 15-Nov-12 Analyzed: 16-Nov-12						
Thallium	0.169	0.00072	0.0010	mg/L	0.150		112	80-120			
LCS (A211385-BS2)					Prepared: 15-Nov-12 Analyzed: 20-Nov-12						
Antimony	0.171	0.0020	0.0050	mg/L	0.150		114	80-120			
Arsenic	0.171	0.0020	0.0050	"	0.150		114	80-120			
Beryllium	0.171	0.00078	0.0010	"	0.150		114	80-120			
Cadmium	0.172	0.00050	0.0010	"	0.150		115	80-120			
Cobalt	0.166	0.00050	0.0010	"	0.150		110	80-120			
Copper	0.173	0.00071	0.0010	"	0.150		115	80-120			
Lead	0.150	0.00080	0.0010	"	0.150		100	80-120			
Molybdenum	0.158	0.00085	0.0010	"	0.150		105	80-120			
Nickel	0.150	0.00050	0.0010	"	0.150		100	80-120			
Silver	0.173	0.00073	0.0010	"	0.150		115	80-120			
Vanadium	0.167	0.0030	0.0050	"	0.150		111	80-120			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211385 - EPA 3005A Filtered											
LCS Dup (A211385-BSD1)					Prepared: 15-Nov-12 Analyzed: 16-Nov-12						
Thallium	0.150	0.00072	0.0010	mg/L	0.150		100	80-120	11.5	20	
LCS Dup (A211385-BSD2)					Prepared: 15-Nov-12 Analyzed: 20-Nov-12						
Antimony	0.163	0.0020	0.0050	mg/L	0.150		109	80-120	4.80	20	
Arsenic	0.167	0.0020	0.0050	"	0.150		111	80-120	2.39	20	
Beryllium	0.163	0.00078	0.0010	"	0.150		109	80-120	4.35	20	
Cadmium	0.165	0.00050	0.0010	"	0.150		110	80-120	4.42	20	
Cobalt	0.163	0.00050	0.0010	"	0.150		109	80-120	1.34	20	
Copper	0.166	0.00071	0.0010	"	0.150		111	80-120	3.99	20	
Lead	0.153	0.00080	0.0010	"	0.150		102	80-120	1.82	20	
Molybdenum	0.155	0.00085	0.0010	"	0.150		104	80-120	1.73	20	
Nickel	0.155	0.00050	0.0010	"	0.150		103	80-120	2.93	20	
Silver	0.167	0.00073	0.0010	"	0.150		111	80-120	3.54	20	
Vanadium	0.156	0.0030	0.0050	"	0.150		104	80-120	6.76	20	
Duplicate (A211385-DUP1)	**Source: 1205635-01**				Prepared: 15-Nov-12 Analyzed: 16-Nov-12						
Thallium	ND	0.0014	0.0020	mg/L		ND				20	
Duplicate (A211385-DUP2)	**Source: 1205635-01**				Prepared: 15-Nov-12 Analyzed: 20-Nov-12						
Antimony	ND	0.010	0.025	mg/L		ND				20	
Arsenic	ND	0.010	0.025	"		ND				20	
Beryllium	ND	0.0039	0.0050	"		ND				20	
Cadmium	ND	0.0025	0.0050	"		ND				20	
Cobalt	ND	0.0025	0.0050	"		ND				20	
Copper	ND	0.0036	0.0050	"		ND				20	
Lead	ND	0.0040	0.0050	"		ND				20	
Molybdenum	0.0110	0.0042	0.0050	"		0.0120			8.46	20	
Nickel	0.0368	0.0025	0.0050	"		0.0350			4.93	20	
Silver	ND	0.0036	0.0050	"		ND				20	
Vanadium	ND	0.015	0.025	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211385 - EPA 3005A Filtered											
Matrix Spike (A211385-MS1)	**Source: 1205635-01**				Prepared: 15-Nov-12 Analyzed: 16-Nov-12						
Thallium	0.306	0.0029	0.0040	mg/L	0.300	ND	102	75-125			
Matrix Spike (A211385-MS2)	**Source: 1205635-01**				Prepared: 15-Nov-12 Analyzed: 20-Nov-12						
Antimony	0.309	0.020	0.050	mg/L	0.300	ND	103	75-125			
Arsenic	0.287	0.020	0.050	"	0.300	ND	95.5	75-125			
Beryllium	0.301	0.0078	0.010	"	0.300	ND	100	75-125			
Cadmium	0.302	0.0050	0.010	"	0.300	ND	101	75-125			
Cobalt	0.280	0.0050	0.010	"	0.300	ND	93.4	75-125			
Copper	0.297	0.0071	0.010	"	0.300	ND	98.9	75-125			
Lead	0.289	0.0080	0.010	"	0.300	ND	96.5	75-125			
Molybdenum	0.300	0.0085	0.010	"	0.300	0.0120	96.2	75-125			
Nickel	0.327	0.0050	0.010	"	0.300	0.0350	97.4	75-125			
Silver	0.317	0.0073	0.010	"	0.300	ND	106	75-125			
Vanadium	0.278	0.030	0.050	"	0.300	ND	92.8	75-125			
Batch A211404 - EPA 7470A Prep											
Blank (A211404-BLK1)					Prepared & Analyzed: 16-Nov-12						
Mercury	ND	0.000100	0.000200	mg/L							
LCS (A211404-BS1)					Prepared & Analyzed: 16-Nov-12						
Mercury	0.00954	0.000100	0.000200	mg/L	0.0100		95.4	85-115			
LCS Dup (A211404-BSD1)					Prepared & Analyzed: 16-Nov-12						
Mercury	0.0104	0.000100	0.000200	mg/L	0.0100		104	85-115	8.89	20	
Duplicate (A211404-DUP1)	**Source: 1205597-09**				Prepared & Analyzed: 16-Nov-12						
Mercury	ND	0.000100	0.000200	mg/L		0.000102				25	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211404 - EPA 7470A Prep											
Matrix Spike (A211404-MS1)		**Source: 1205597-09**			Prepared & Analyzed: 16-Nov-12						
Mercury	0.00954	0.000100	0.000200	mg/L	0.0100	0.000102	94.4	75-125			
Matrix Spike Dup (A211404-MSD1)		**Source: 1205597-09**			Prepared & Analyzed: 16-Nov-12						
Mercury	0.00971	0.000100	0.000200	mg/L	0.0100	0.000102	96.1	75-125	1.79	20	
Batch A211531 - EPA 3005A											
Blank (A211531-BLK1)					Prepared: 21-Nov-12 Analyzed: 26-Nov-12						
Barium	ND	0.00070	0.0010	mg/L							
Chromium	ND	0.0011	0.0020	"							
Selenium	ND	0.0011	0.0020	"							
Zinc	ND	0.0025	0.0050	"							
LCS (A211531-BS1)					Prepared: 21-Nov-12 Analyzed: 26-Nov-12						
Barium	0.150	0.00070	0.0010	mg/L	0.150		100	80-120			
Chromium	0.160	0.0011	0.0020	"	0.150		107	80-120			
Selenium	0.177	0.0011	0.0020	"	0.150		118	80-120			
Zinc	0.180	0.0025	0.0050	"	0.150		120	80-120			
LCS Dup (A211531-BSD1)					Prepared: 21-Nov-12 Analyzed: 26-Nov-12						
Barium	0.147	0.00070	0.0010	mg/L	0.150		98.2	80-120	1.97	20	
Chromium	0.160	0.0011	0.0020	"	0.150		107	80-120	0.320	20	
Selenium	0.177	0.0011	0.0020	"	0.150		118	80-120	0.358	20	
Zinc	0.177	0.0025	0.0050	"	0.150		118	80-120	1.55	20	
Duplicate (A211531-DUP1)		**Source: 1205635-10RE1**			Prepared: 21-Nov-12 Analyzed: 26-Nov-12						
Barium	0.00852	0.0070	0.010	mg/L		0.00889			4.25	20	J
Chromium	ND	0.011	0.020	"		ND				20	
Selenium	ND	0.011	0.020	"		ND				20	
Zinc	ND	0.025	0.050	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211531 - EPA 3005A											
Matrix Spike (A211531-MS1)	**Source: 1205635-10RE1**				Prepared: 21-Nov-12 Analyzed: 26-Nov-12						
Barium	0.300	0.014	0.020	mg/L	0.300	0.00889	97.2	75-125			
Chromium	0.359	0.022	0.040	"	0.300	ND	120	75-125			
Selenium	0.290	0.022	0.040	"	0.300	ND	96.7	75-125			
Zinc	0.274	0.050	0.10	"	0.300	ND	91.3	75-125			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211334 - EPA 3510C MS											
Blank (A211334-BLK1)					Prepared: 13-Nov-12 Analyzed: 15-Nov-12						
TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L							
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"							
Surrogate: o-Terphenyl	*0.00414*			*"*	*0.00500*		*82.8*	*34-137*			
LCS (A211334-BS1)					Prepared: 13-Nov-12 Analyzed: 15-Nov-12						
TPH Diesel (C10-C25)	0.633	0.020	0.050	mg/L	1.00		63.3	15-119			
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"				40-106			
Surrogate: o-Terphenyl	*0.00397*			*"*	*0.00500*		*79.4*	*34-137*			
LCS (A211334-BS2)					Prepared: 13-Nov-12 Analyzed: 15-Nov-12						
TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L				15-119			
TPH Oil Crude (C25-C40)	1.78	0.20	0.50	"	2.00		89.2	40-106			
Surrogate: o-Terphenyl	*0.00429*			*"*	*0.00500*		*85.8*	*34-137*			
LCS Dup (A211334-BSD1)					Prepared: 13-Nov-12 Analyzed: 15-Nov-12						
TPH Diesel (C10-C25)	0.611	0.020	0.050	mg/L	1.00		61.1	15-119	3.51	20	
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"				40-106		20	
Surrogate: o-Terphenyl	*0.00415*			*"*	*0.00500*		*83.0*	*34-137*			
LCS Dup (A211334-BSD2)					Prepared: 13-Nov-12 Analyzed: 15-Nov-12						
TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L				15-119		20	
TPH Oil Crude (C25-C40)	1.69	0.20	0.50	"	2.00		84.5	40-106	5.38	20	
Surrogate: o-Terphenyl	*0.00429*			*"*	*0.00500*		*85.8*	*34-137*			
Batch A211336 - EPA 3510C MS											
Blank (A211336-BLK1)					Prepared & Analyzed: 14-Nov-12						
TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L							
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"							
Surrogate: o-Terphenyl	*0.00441*			*"*	*0.00500*		*88.2*	*34-137*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211336 - EPA 3510C MS											
LCS (A211336-BS1)					Prepared & Analyzed: 14-Nov-12						
TPH Diesel (C10-C25)	0.753	0.020	0.050	mg/L	1.00		75.3	15-119			
Surrogate: o-Terphenyl	*0.00511*			*"*	*0.00500*		*102*	*34-137*			
LCS (A211336-BS2)					Prepared & Analyzed: 14-Nov-12						
TPH Oil Crude (C25-C40)	1.95	0.20	0.50	mg/L	2.00		97.4	40-106			
Surrogate: o-Terphenyl	*0.00450*			*"*	*0.00500*		*90.0*	*34-137*			
LCS Dup (A211336-BSD1)					Prepared & Analyzed: 14-Nov-12						
TPH Diesel (C10-C25)	0.736	0.020	0.050	mg/L	1.00		73.6	15-119	2.24	20	
Surrogate: o-Terphenyl	*0.00534*			*"*	*0.00500*		*107*	*34-137*			
LCS Dup (A211336-BSD2)					Prepared & Analyzed: 14-Nov-12						
TPH Oil Crude (C25-C40)	1.81	0.20	0.50	mg/L	2.00		90.4	40-106	7.44	20	
Surrogate: o-Terphenyl	*0.00421*			*"*	*0.00500*		*84.2*	*34-137*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211352 - EPA 5030B VOCGCMS											
Blank (A211352-BLK1)					Prepared & Analyzed: 14-Nov-12						
Benzene	ND	0.25	0.50	ug/L							
Bromobenzene	ND	0.25	0.50	"							
Bromochloromethane	ND	0.25	0.50	"							
Bromodichloromethane	ND	0.25	0.50	"							
Bromoform	ND	0.25	0.50	"							
Bromomethane	ND	0.25	0.50	"							
n-Butylbenzene	ND	0.25	0.50	"							
sec-Butylbenzene	ND	0.25	0.50	"							
tert-Butylbenzene	ND	0.25	0.50	"							
Carbon tetrachloride	ND	0.25	0.50	"							
Chlorobenzene	ND	0.25	0.50	"							
Chloroethane	ND	0.25	0.50	"							
Chloroform	ND	0.25	0.50	"							
Chloromethane	ND	0.25	0.50	"							
2-Chlorotoluene	ND	0.25	0.50	"							
4-Chlorotoluene	ND	0.25	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"							
Dibromochloromethane	ND	0.25	0.50	"							
Dibromomethane	ND	0.25	0.50	"							
1,2-Dichlorobenzene	ND	0.25	0.50	"							
1,3-Dichlorobenzene	ND	0.25	0.50	"							
1,4-Dichlorobenzene	ND	0.25	0.50	"							
Dichlorodifluoromethane	ND	0.26	0.50	"							
1,1-Dichloroethane	ND	0.25	0.50	"							
1,2-Dichloroethane	ND	0.25	0.50	"							
1,1-Dichloroethene	ND	0.25	0.50	"							
cis-1,2-Dichloroethene	ND	0.25	0.50	"							
trans-1,2-Dichloroethene	ND	0.25	0.50	"							
1,2-Dichloropropane	ND	0.25	0.50	"							
1,3-Dichloropropane	ND	0.25	0.50	"							
2,2-Dichloropropane	ND	0.25	0.50	"							
1,1-Dichloropropene	ND	0.25	0.50	"							
cis-1,3-Dichloropropene	ND	0.25	0.50	"							
trans-1,3-Dichloropropene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"							
Hexachlorobutadiene	ND	0.25	0.50	"							
Isopropylbenzene	ND	0.25	0.50	"							
4-Isopropyl Toluene	ND	0.25	0.50	"							
Methylene chloride	ND	0.50	1.0	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211352 - EPA 5030B VOCGCMS											
Blank (A211352-BLK1)					Prepared & Analyzed: 14-Nov-12						
Naphthalene	ND	0.25	0.50	ug/L							
n-Propylbenzene	ND	0.25	0.50	"							
Styrene	ND	0.25	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"							
Tetrachloroethene (PCE)	ND	0.25	0.50	"							
Toluene	ND	0.25	0.50	"							
1,2,3-Trichlorobenzene	ND	0.25	0.50	"							
1,2,4-Trichlorobenzene	ND	0.25	0.50	"							
1,1,1-Trichloroethane	ND	0.25	0.50	"							
1,1,2-Trichloroethane	ND	0.25	0.50	"							
Trichloroethene (TCE)	ND	0.25	0.50	"							
Trichlorofluoromethane	ND	0.25	0.50	"							
1,2,3-Trichloropropane	ND	0.25	0.50	"							
1,2,4-Trimethylbenzene	ND	0.25	0.50	"							
1,3,5-Trimethylbenzene	ND	0.25	0.50	"							
Vinyl chloride	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
Surrogate: Dibromofluoromethane	*11.7*			*"*	*12.5*		*93.9*	*70-130*			
Surrogate: Toluene-d8	*11.4*			*"*	*12.5*		*91.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.2*			*"*	*12.5*		*89.7*	*70-130*			
LCS (A211352-BS1)					Prepared & Analyzed: 14-Nov-12						
Benzene	24.2	0.25	0.50	ug/L	25.0		96.9	70-130			
Chlorobenzene	25.7	0.25	0.50	"	25.0		103	70-130			
1,1-Dichloroethene	26.8	0.25	0.50	"	25.0		107	70-130			
Toluene	24.6	0.25	0.50	"	25.0		98.5	70-130			
Trichloroethene (TCE)	26.1	0.25	0.50	"	25.0		104	70-130			
Surrogate: Dibromofluoromethane	*11.8*			*"*	*12.5*		*94.4*	*70-130*			
Surrogate: Toluene-d8	*11.5*			*"*	*12.5*		*91.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.4*			*"*	*12.5*		*91.1*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211352 - EPA 5030B VOCGCMS											
LCS Dup (A211352-BSD1)					Prepared & Analyzed: 14-Nov-12						
Benzene	24.8	0.25	0.50	ug/L	25.0		99.2	70-130	2.33	20	
Chlorobenzene	26.1	0.25	0.50	"	25.0		104	70-130	1.70	20	
1,1-Dichloroethene	27.3	0.25	0.50	"	25.0		109	70-130	1.81	20	
Toluene	24.9	0.25	0.50	"	25.0		99.7	70-130	1.21	20	
Trichloroethene (TCE)	26.8	0.25	0.50	"	25.0		107	70-130	2.65	20	
Surrogate: Dibromofluoromethane	*11.8*			*"*	*12.5*		*94.7*	*70-130*			
Surrogate: Toluene-d8	*11.6*			*"*	*12.5*		*92.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.5*			*"*	*12.5*		*91.8*	*70-130*			
Duplicate (A211352-DUP1)	**Source: 1205657-17**				Prepared: 14-Nov-12 Analyzed: 15-Nov-12						
Benzene	ND	0.25	0.50	ug/L		ND				20	
Bromobenzene	ND	0.25	0.50	"		ND				20	
Bromochloromethane	ND	0.25	0.50	"		ND				20	
Bromodichloromethane	ND	0.25	0.50	"		ND				20	
Bromoform	ND	0.25	0.50	"		ND				20	
Bromomethane	ND	0.25	0.50	"		ND				20	CCFL
n-Butylbenzene	ND	0.25	0.50	"		ND				20	
sec-Butylbenzene	ND	0.25	0.50	"		ND				20	
tert-Butylbenzene	ND	0.25	0.50	"		ND				20	
Carbon tetrachloride	ND	0.25	0.50	"		ND				20	
Chlorobenzene	ND	0.25	0.50	"		ND				20	
Chloroethane	ND	0.25	0.50	"		ND				20	
Chloroform	ND	0.25	0.50	"		ND				20	
Chloromethane	ND	0.25	0.50	"		ND				20	
2-Chlorotoluene	ND	0.25	0.50	"		ND				20	
4-Chlorotoluene	ND	0.25	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"		ND				20	
Dibromochloromethane	ND	0.25	0.50	"		ND				20	
Dibromomethane	ND	0.25	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.26	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,2-Dichloroethane	0.510	0.25	0.50	"		0.540			5.71	20	
1,1-Dichloroethene	ND	0.25	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.25	0.50	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211352 - EPA 5030B VOCGCMS											
Duplicate (A211352-DUP1)	**Source: 1205657-17**				Prepared: 14-Nov-12 Analyzed: 15-Nov-12						
2,2-Dichloropropane	ND	0.25	0.50	ug/L		ND				20	
1,1-Dichloropropene	ND	0.25	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
Ethylbenzene	ND	0.25	0.50	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				20	
Isopropylbenzene	ND	0.25	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.25	0.50	"		ND				20	
Methylene chloride	ND	0.50	1.0	"		ND				20	
Naphthalene	ND	0.25	0.50	"		ND				20	
n-Propylbenzene	ND	0.25	0.50	"		ND				20	
Styrene	ND	0.25	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.25	0.50	"		ND				20	
Toluene	ND	0.25	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.25	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.25	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.25	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.25	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.25	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
Vinyl chloride	ND	0.25	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
Surrogate: Dibromofluoromethane	*11.7*			*"*	*12.5*		*93.2*	*70-130*			
Surrogate: Toluene-d8	*11.2*			*"*	*12.5*		*89.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.3*			*"*	*12.5*		*90.4*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211352 - EPA 5030B VOCGCMS											
Matrix Spike (A211352-MS1)	**Source: 1205657-17**				Prepared: 14-Nov-12 Analyzed: 15-Nov-12						
Benzene	21.9	0.25	0.50	ug/L	25.0	ND	87.6	70-130			
Chlorobenzene	22.2	0.25	0.50	"	25.0	ND	88.6	70-130			
1,1-Dichloroethene	25.2	0.25	0.50	"	25.0	ND	101	70-130			
Toluene	21.6	0.25	0.50	"	25.0	ND	86.5	70-130			
Trichloroethene (TCE)	23.1	0.25	0.50	"	25.0	ND	92.5	70-130			
Surrogate: Dibromofluoromethane	*11.7*			*"*	*12.5*		*93.4*	*70-130*			
Surrogate: Toluene-d8	*11.2*			*"*	*12.5*		*89.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.4*			*"*	*12.5*		*90.9*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211314 - EPA 3510C MS											
Blank (A211314-BLK1)					Prepared: 13-Nov-12 Analyzed: 16-Nov-12						
Acenaphthene	ND	0.060	0.10	ug/L							
Acenaphthylene	ND	0.060	0.10	"							
Anthracene	ND	0.050	0.10	"							
Benz(a)anthracene	ND	0.050	0.10	"							
Benzo (b) fluoranthene	ND	0.050	0.10	"							
Benzo (k) fluoranthene	ND	0.050	0.10	"							
Benzo (a) pyrene	ND	0.050	0.10	"							
Benzo (g,h,i) perylene	ND	0.050	0.10	"							
Chrysene	ND	0.050	0.10	"							
Dibenz (a,h) anthracene	ND	0.050	0.10	"							
Fluoranthene	ND	0.050	0.10	"							
Fluorene	ND	0.060	0.10	"							
Indeno (1,2,3-cd) pyrene	ND	0.050	0.10	"							
Naphthalene	ND	0.060	0.10	"							
Phenanthrene	ND	0.050	0.10	"							
Pyrene	ND	0.050	0.10	"							
Surrogate: p-Terphenyl-d14	*0.720*			*"*	*0.800*		*90.0*	*27-159*			
LCS (A211314-BS1)					Prepared: 13-Nov-12 Analyzed: 16-Nov-12						
Acenaphthene	0.570	0.060	0.10	ug/L	0.800		71.2	40-120			
Acenaphthylene	0.550	0.060	0.10	"	0.800		68.8	40-120			
Anthracene	0.520	0.050	0.10	"	0.800		65.0	40-120			
Benz(a)anthracene	0.660	0.050	0.10	"	0.800		82.5	40-120			
Benzo (b) fluoranthene	0.650	0.050	0.10	"	0.800		81.2	40-120			
Benzo (k) fluoranthene	0.730	0.050	0.10	"	0.800		91.2	40-120			
Benzo (a) pyrene	0.560	0.050	0.10	"	0.800		70.0	40-120			
Benzo (g,h,i) perylene	0.630	0.050	0.10	"	0.800		78.8	40-120			
Chrysene	0.710	0.050	0.10	"	0.800		88.8	40-120			
Dibenz (a,h) anthracene	0.650	0.050	0.10	"	0.800		81.2	40-120			
Fluoranthene	0.700	0.050	0.10	"	0.800		87.5	40-120			
Fluorene	0.610	0.060	0.10	"	0.800		76.2	40-120			
Indeno (1,2,3-cd) pyrene	0.640	0.050	0.10	"	0.800		80.0	40-120			
Naphthalene	0.550	0.060	0.10	"	0.800		68.8	40-120			
Phenanthrene	0.640	0.050	0.10	"	0.800		80.0	40-120			
Pyrene	0.690	0.050	0.10	"	0.800		86.2	40-120			
Surrogate: p-Terphenyl-d14	*0.710*			*"*	*0.800*		*88.8*	*27-159*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211314 - EPA 3510C MS											
LCS Dup (A211314-BSD1)					Prepared: 13-Nov-12 Analyzed: 16-Nov-12						
Acenaphthene	0.530	0.060	0.10	ug/L	0.800		66.2	40-120	7.27	30	
Acenaphthylene	0.520	0.060	0.10	"	0.800		65.0	40-120	5.61	30	
Anthracene	0.510	0.050	0.10	"	0.800		63.8	40-120	1.94	30	
Benz(a)anthracene	0.670	0.050	0.10	"	0.800		83.8	40-120	1.50	30	
Benzo (b) fluoranthene	0.690	0.050	0.10	"	0.800		86.2	40-120	5.97	30	
Benzo (k) fluoranthene	0.700	0.050	0.10	"	0.800		87.5	40-120	4.20	30	
Benzo (a) pyrene	0.560	0.050	0.10	"	0.800		70.0	40-120	0.00	30	
Benzo (g,h,i) perylene	0.610	0.050	0.10	"	0.800		76.2	40-120	3.23	30	
Chrysene	0.690	0.050	0.10	"	0.800		86.2	40-120	2.86	30	
Dibenz (a,h) anthracene	0.640	0.050	0.10	"	0.800		80.0	40-120	1.55	30	
Fluoranthene	0.650	0.050	0.10	"	0.800		81.2	40-120	7.41	30	
Fluorene	0.570	0.060	0.10	"	0.800		71.2	40-120	6.78	30	
Indeno (1,2,3-cd) pyrene	0.620	0.050	0.10	"	0.800		77.5	40-120	3.17	30	
Naphthalene	0.540	0.060	0.10	"	0.800		67.5	40-120	1.83	30	
Phenanthrene	0.610	0.050	0.10	"	0.800		76.2	40-120	4.80	30	
Pyrene	0.670	0.050	0.10	"	0.800		83.8	40-120	2.94	30	
Surrogate: p-Terphenyl-d14	*0.710*			*"*	*0.800*		*88.8*	*27-159*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211263 - EPA 5030B VOCGCMS											
Blank (A211263-BLK1)					Prepared: 12-Nov-12 Analyzed: 13-Nov-12						
Benzene	ND	0.25	0.50	ug/L							
Benzene	ND	0.25	0.50	"							
Bromobenzene	ND	0.25	0.50	"							
Bromochloromethane	ND	0.25	0.50	"							
Bromodichloromethane	ND	0.25	0.50	"							
Bromoform	ND	0.25	0.50	"							
Bromomethane	ND	0.25	0.50	"							
n-Butylbenzene	ND	0.25	0.50	"							
sec-Butylbenzene	ND	0.25	0.50	"							
tert-Butylbenzene	ND	0.25	0.50	"							
Carbon tetrachloride	ND	0.25	0.50	"							
Chlorobenzene	ND	0.25	0.50	"							
Chloroethane	ND	0.25	0.50	"							
Chloroform	ND	0.25	0.50	"							
Chloromethane	ND	0.25	0.50	"							
2-Chlorotoluene	ND	0.25	0.50	"							
4-Chlorotoluene	ND	0.25	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"							
Dibromochloromethane	ND	0.25	0.50	"							
Dibromomethane	ND	0.25	0.50	"							
1,2-Dichlorobenzene	ND	0.25	0.50	"							
1,3-Dichlorobenzene	ND	0.25	0.50	"							
1,4-Dichlorobenzene	ND	0.25	0.50	"							
Dichlorodifluoromethane	ND	0.26	0.50	"							
1,1-Dichloroethane	ND	0.25	0.50	"							
1,2-Dichloroethane	ND	0.25	0.50	"							
1,1-Dichloroethene	ND	0.25	0.50	"							
cis-1,2-Dichloroethene	ND	0.25	0.50	"							
trans-1,2-Dichloroethene	ND	0.25	0.50	"							
1,2-Dichloropropane	ND	0.25	0.50	"							
1,3-Dichloropropane	ND	0.25	0.50	"							
2,2-Dichloropropane	ND	0.25	0.50	"							
1,1-Dichloropropene	ND	0.25	0.50	"							
cis-1,3-Dichloropropene	ND	0.25	0.50	"							
trans-1,3-Dichloropropene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"							
Hexachlorobutadiene	ND	0.25	0.50	"							
Isopropylbenzene	ND	0.25	0.50	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211263 - EPA 5030B VOCGCMS											
Blank (A211263-BLK1)					Prepared: 12-Nov-12 Analyzed: 13-Nov-12						
4-Isopropyl Toluene	ND	0.25	0.50	ug/L							
Methylene chloride	ND	0.50	1.0	"							
Naphthalene	ND	0.25	0.50	"							
n-Propylbenzene	ND	0.25	0.50	"							
Styrene	ND	0.25	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"							
Tetrachloroethene (PCE)	ND	0.25	0.50	"							
Toluene	0.340	0.25	0.50	"							J
Toluene	0.340	0.25	0.50	"							J
1,2,3-Trichlorobenzene	ND	0.25	0.50	"							
1,2,4-Trichlorobenzene	ND	0.25	0.50	"							
1,1,1-Trichloroethane	ND	0.25	0.50	"							
1,1,2-Trichloroethane	ND	0.25	0.50	"							
Trichloroethene (TCE)	ND	0.25	0.50	"							
Trichlorofluoromethane	ND	0.25	0.50	"							
1,2,3-Trichloropropane	ND	0.25	0.50	"							
1,2,4-Trimethylbenzene	ND	0.25	0.50	"							
1,3,5-Trimethylbenzene	ND	0.25	0.50	"							
Vinyl chloride	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*14.7*			*"*	*12.5*		*118*	*70-130*			
Surrogate: Dibromofluoromethane	*14.7*			*"*	*12.5*		*118*	*70-130*			
Surrogate: Toluene-d8	*12.4*			*"*	*12.5*		*99.3*	*70-130*			
Surrogate: Toluene-d8	*12.4*			*"*	*12.5*		*99.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*14.4*			*"*	*12.5*		*115*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*14.4*			*"*	*12.5*		*115*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211263 - EPA 5030B VOCGCMS											
LCS (A211263-BS1)					Prepared: 12-Nov-12 Analyzed: 13-Nov-12						
Benzene	22.2	0.25	0.50	ug/L	25.0		89.0	70-130			
Benzene	22.2	0.25	0.50	"	25.0		89.0	70-130			
Chlorobenzene	25.8	0.25	0.50	"	25.0		103	70-130			
1,1-Dichloroethene	30.2	0.25	0.50	"	25.0		121	70-130			
Toluene	22.2	0.25	0.50	"	25.0		89.0	70-130			
Toluene	22.2	0.25	0.50	"	25.0		89.0	70-130			
Trichloroethene (TCE)	25.0	0.25	0.50	"	25.0		100	70-130			
Surrogate: Dibromofluoromethane	*14.3*			"	*12.5*		*115*	*70-130*			
Surrogate: Dibromofluoromethane	*14.3*			"	*12.5*		*115*	*70-130*			
Surrogate: Toluene-d8	*11.8*			"	*12.5*		*94.1*	*70-130*			
Surrogate: Toluene-d8	*11.8*			"	*12.5*		*94.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.8*			"	*12.5*		*110*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.8*			"	*12.5*		*110*	*70-130*			
LCS (A211263-BS2)					Prepared: 12-Nov-12 Analyzed: 13-Nov-12						
TPH Gasoline (C4-C10)	513	20	50	ug/L	500		103	70-130			
TPH Gasoline (C4-C10)	513	20	50	"	500		103	70-130			
Surrogate: Dibromofluoromethane	*15.5*			"	*12.5*		*124*	*70-130*			
Surrogate: Dibromofluoromethane	*15.5*			"	*12.5*		*124*	*70-130*			
Surrogate: Toluene-d8	*12.2*			"	*12.5*		*97.8*	*70-130*			
Surrogate: Toluene-d8	*12.2*			"	*12.5*		*97.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*14.4*			"	*12.5*		*115*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*14.4*			"	*12.5*		*115*	*70-130*			
LCS Dup (A211263-BSD1)					Prepared: 12-Nov-12 Analyzed: 13-Nov-12						
Benzene	25.0	0.25	0.50	ug/L	25.0		99.8	70-130	11.4	20	
Benzene	25.0	0.25	0.50	"	25.0		99.8	70-130	11.4	20	
Chlorobenzene	27.0	0.25	0.50	"	25.0		108	70-130	4.43	20	
1,1-Dichloroethene	26.5	0.25	0.50	"	25.0		106	70-130	13.0	20	
Toluene	20.9	0.25	0.50	"	25.0		83.5	70-130	6.36	20	
Toluene	20.9	0.25	0.50	"	25.0		83.5	70-130	6.36	20	
Trichloroethene (TCE)	25.7	0.25	0.50	"	25.0		103	70-130	2.60	20	
Surrogate: Dibromofluoromethane	*13.0*			"	*12.5*		*104*	*70-130*			
Surrogate: Dibromofluoromethane	*13.0*			"	*12.5*		*104*	*70-130*			
Surrogate: Toluene-d8	*10.4*			"	*12.5*		*83.4*	*70-130*			
Surrogate: Toluene-d8	*10.4*			"	*12.5*		*83.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*14.1*			"	*12.5*		*113*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*14.1*			"	*12.5*		*113*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211263 - EPA 5030B VOCGCMS											
LCS Dup (A211263-BSD2)					Prepared: 12-Nov-12 Analyzed: 13-Nov-12						
TPH Gasoline (C4-C10)	554	20	50	ug/L	500		111	70-130	7.81	20	
TPH Gasoline (C4-C10)	554	20	50	"	500		111	70-130	7.81	20	
Surrogate: Dibromofluoromethane	*14.5*			*"*	*12.5*		*116*	*70-130*			
Surrogate: Dibromofluoromethane	*14.5*			*"*	*12.5*		*116*	*70-130*			
Surrogate: Toluene-d8	*11.9*			*"*	*12.5*		*95.0*	*70-130*			
Surrogate: Toluene-d8	*11.9*			*"*	*12.5*		*95.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*14.5*			*"*	*12.5*		*116*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*14.5*			*"*	*12.5*		*116*	*70-130*			
Duplicate (A211263-DUP1)	**Source: 1205639-01**				Prepared: 12-Nov-12 Analyzed: 13-Nov-12						
Benzene	ND	0.25	0.50	ug/L		ND				20	
Benzene	ND	0.25	0.50	"		ND				20	
Bromobenzene	ND	0.25	0.50	"		ND				20	
Bromochloromethane	ND	0.25	0.50	"		ND				20	
Bromodichloromethane	ND	0.25	0.50	"		ND				20	
Bromoform	ND	0.25	0.50	"		ND				20	
Bromomethane	ND	0.25	0.50	"		ND				20	
n-Butylbenzene	ND	0.25	0.50	"		ND				20	
sec-Butylbenzene	ND	0.25	0.50	"		ND				20	
tert-Butylbenzene	ND	0.25	0.50	"		ND				20	
Carbon tetrachloride	ND	0.25	0.50	"		ND				20	
Chlorobenzene	ND	0.25	0.50	"		ND				20	
Chloroethane	ND	0.25	0.50	"		ND				20	
Chloroform	ND	0.25	0.50	"		ND				20	
Chloromethane	ND	0.25	0.50	"		ND				20	
2-Chlorotoluene	ND	0.25	0.50	"		ND				20	
4-Chlorotoluene	ND	0.25	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"		ND				20	
Dibromochloromethane	ND	0.25	0.50	"		ND				20	
Dibromomethane	ND	0.25	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.26	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.25	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.25	0.50	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211263 - EPA 5030B VOCGCMS											
Duplicate (A211263-DUP1)	**Source: 1205639-01**			Prepared: 12-Nov-12 Analyzed: 13-Nov-12							
1,3-Dichloropropane	ND	0.25	0.50	ug/L		ND				20	
2,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.25	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
Ethylbenzene	ND	0.25	0.50	"		ND				20	
Ethylbenzene	ND	0.25	0.50	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				20	
Isopropylbenzene	ND	0.25	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.25	0.50	"		ND				20	
Methylene chloride	0.520	0.50	1.0	"		0.580			10.9	20	J
Naphthalene	ND	0.25	0.50	"		ND				20	
n-Propylbenzene	ND	0.25	0.50	"		ND				20	
Styrene	ND	0.25	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.25	0.50	"		ND				20	
Toluene	0.280	0.25	0.50	"		ND				20	J
Toluene	0.280	0.25	0.50	"		ND				20	J
1,2,3-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.25	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.25	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.25	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.25	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.25	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
Vinyl chloride	ND	0.25	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
TPH Gasoline (C4-C10)	31.7	20	50	"		32.6			2.68	20	J
TPH Gasoline (C4-C10)	31.7	20	50	"		32.6			2.68	20	J
Surrogate: Dibromofluoromethane	*13.7*			*"*	*12.5*		*110*	*70-130*			
Surrogate: Dibromofluoromethane	*13.7*			*"*	*12.5*		*110*	*70-130*			
Surrogate: Toluene-d8	*11.9*			*"*	*12.5*		*95.0*	*70-130*			
Surrogate: Toluene-d8	*11.9*			*"*	*12.5*		*95.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.3*			*"*	*12.5*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.3*			*"*	*12.5*		*107*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211263 - EPA 5030B VOCGCMS											
Matrix Spike (A211263-MS1)	**Source: 1205639-01**				Prepared: 12-Nov-12 Analyzed: 13-Nov-12						
Benzene	23.7	0.25	0.50	ug/L	25.0	ND	94.7	70-130			
Benzene	23.7	0.25	0.50	"	25.0	ND	94.7	70-130			
Chlorobenzene	24.9	0.25	0.50	"	25.0	ND	99.6	70-130			
1,1-Dichloroethene	31.8	0.25	0.50	"	25.0	ND	127	70-130			
Toluene	22.8	0.25	0.50	"	25.0	ND	91.4	70-130			
Toluene	22.8	0.25	0.50	"	25.0	ND	91.4	70-130			
Trichloroethene (TCE)	25.8	0.25	0.50	"	25.0	ND	103	70-130			
TPH Gasoline (C4-C10)	186	20	50	"		32.6		70-130			
Surrogate: Dibromofluoromethane	*15.1*			"	*12.5*		*121*	*70-130*			
Surrogate: Dibromofluoromethane	*15.1*			"	*12.5*		*121*	*70-130*			
Surrogate: Toluene-d8	*12.8*			"	*12.5*		*102*	*70-130*			
Surrogate: Toluene-d8	*12.8*			"	*12.5*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.9*			"	*12.5*		*111*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.9*			"	*12.5*		*111*	*70-130*			
Matrix Spike (A211263-MS2)	**Source: 1205639-01**				Prepared: 12-Nov-12 Analyzed: 13-Nov-12						
Benzene	5.97	0.25	0.50	ug/L		ND		70-130			
Chlorobenzene	ND	0.25	0.50	"		ND		70-130			
1,1-Dichloroethene	ND	0.25	0.50	"		ND		70-130			
Toluene	43.1	0.25	0.50	"		ND		70-130			
Trichloroethene (TCE)	ND	0.25	0.50	"		ND		70-130			
TPH Gasoline (C4-C10)	559	20	50	"	500	32.6	105	70-130			
TPH Gasoline (C4-C10)	559	20	50	"	500	32.6	105	70-130			
Surrogate: Dibromofluoromethane	*14.8*			"	*12.5*		*118*	*70-130*			
Surrogate: Dibromofluoromethane	*14.8*			"	*12.5*		*118*	*70-130*			
Surrogate: Toluene-d8	*12.1*			"	*12.5*		*96.9*	*70-130*			
Surrogate: Toluene-d8	*12.1*			"	*12.5*		*96.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.9*			"	*12.5*		*111*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.9*			"	*12.5*		*111*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211352 - EPA 5030B VOCGCMS											
Blank (A211352-BLK1)					Prepared & Analyzed: 14-Nov-12						
Benzene	ND	0.25	0.50	ug/L							
Benzene	ND	0.25	0.50	"							
Bromobenzene	ND	0.25	0.50	"							
Bromochloromethane	ND	0.25	0.50	"							
Bromodichloromethane	ND	0.25	0.50	"							
Bromoform	ND	0.25	0.50	"							
Bromomethane	ND	0.25	0.50	"							
n-Butylbenzene	ND	0.25	0.50	"							
sec-Butylbenzene	ND	0.25	0.50	"							
tert-Butylbenzene	ND	0.25	0.50	"							
Carbon tetrachloride	ND	0.25	0.50	"							
Chlorobenzene	ND	0.25	0.50	"							
Chloroethane	ND	0.25	0.50	"							
Chloroform	ND	0.25	0.50	"							
Chloromethane	ND	0.25	0.50	"							
2-Chlorotoluene	ND	0.25	0.50	"							
4-Chlorotoluene	ND	0.25	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"							
Dibromochloromethane	ND	0.25	0.50	"							
Dibromomethane	ND	0.25	0.50	"							
1,2-Dichlorobenzene	ND	0.25	0.50	"							
1,3-Dichlorobenzene	ND	0.25	0.50	"							
1,4-Dichlorobenzene	ND	0.25	0.50	"							
Dichlorodifluoromethane	ND	0.26	0.50	"							
1,1-Dichloroethane	ND	0.25	0.50	"							
1,2-Dichloroethane	ND	0.25	0.50	"							
1,1-Dichloroethene	ND	0.25	0.50	"							
cis-1,2-Dichloroethene	ND	0.25	0.50	"							
trans-1,2-Dichloroethene	ND	0.25	0.50	"							
1,2-Dichloropropane	ND	0.25	0.50	"							
1,3-Dichloropropane	ND	0.25	0.50	"							
2,2-Dichloropropane	ND	0.25	0.50	"							
1,1-Dichloropropene	ND	0.25	0.50	"							
cis-1,3-Dichloropropene	ND	0.25	0.50	"							
trans-1,3-Dichloropropene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"							
Hexachlorobutadiene	ND	0.25	0.50	"							
Isopropylbenzene	ND	0.25	0.50	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211352 - EPA 5030B VOCGCMS											
Blank (A211352-BLK1)					Prepared & Analyzed: 14-Nov-12						
4-Isopropyl Toluene	ND	0.25	0.50	ug/L							
Methylene chloride	ND	0.50	1.0	"							
Naphthalene	ND	0.25	0.50	"							
n-Propylbenzene	ND	0.25	0.50	"							
Styrene	ND	0.25	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"							
Tetrachloroethene (PCE)	ND	0.25	0.50	"							
Toluene	ND	0.25	0.50	"							
Toluene	ND	0.25	0.50	"							
1,2,3-Trichlorobenzene	ND	0.25	0.50	"							
1,2,4-Trichlorobenzene	ND	0.25	0.50	"							
1,1,1-Trichloroethane	ND	0.25	0.50	"							
1,1,2-Trichloroethane	ND	0.25	0.50	"							
Trichloroethene (TCE)	ND	0.25	0.50	"							
Trichlorofluoromethane	ND	0.25	0.50	"							
1,2,3-Trichloropropane	ND	0.25	0.50	"							
1,2,4-Trimethylbenzene	ND	0.25	0.50	"							
1,3,5-Trimethylbenzene	ND	0.25	0.50	"							
Vinyl chloride	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*11.7*			*"*	*12.5*		*93.9*	*70-130*			
Surrogate: Dibromofluoromethane	*11.7*			*"*	*12.5*		*93.9*	*70-130*			
Surrogate: Toluene-d8	*11.4*			*"*	*12.5*		*91.0*	*70-130*			
Surrogate: Toluene-d8	*11.4*			*"*	*12.5*		*91.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.2*			*"*	*12.5*		*89.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.2*			*"*	*12.5*		*89.7*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211352 - EPA 5030B VOCGCMS											
LCS (A211352-BS1)					Prepared & Analyzed: 14-Nov-12						
Benzene	24.2	0.25	0.50	ug/L	25.0		96.9	70-130			
Benzene	24.2	0.25	0.50	"	25.0		96.9	70-130			
Chlorobenzene	25.6	0.25	0.50	"	25.0		103	70-130			
1,1-Dichloroethene	26.8	0.25	0.50	"	25.0		107	70-130			
Toluene	24.6	0.25	0.50	"	25.0		98.5	70-130			
Toluene	24.6	0.25	0.50	"	25.0		98.5	70-130			
Trichloroethene (TCE)	26.1	0.25	0.50	"	25.0		104	70-130			
Surrogate: Dibromofluoromethane	*11.8*			*"*	*12.5*		*94.4*	*70-130*			
Surrogate: Dibromofluoromethane	*11.8*			*"*	*12.5*		*94.4*	*70-130*			
Surrogate: Toluene-d8	*11.4*			*"*	*12.5*		*91.6*	*70-130*			
Surrogate: Toluene-d8	*11.4*			*"*	*12.5*		*91.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.4*			*"*	*12.5*		*91.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.4*			*"*	*12.5*		*91.1*	*70-130*			
LCS (A211352-BS2)					Prepared & Analyzed: 14-Nov-12						
TPH Gasoline (C4-C10)	533	20	50	ug/L	500		107	70-130			
TPH Gasoline (C4-C10)	533	20	50	"	500		107	70-130			
Surrogate: Dibromofluoromethane	*12.0*			*"*	*12.5*		*96.0*	*70-130*			
Surrogate: Dibromofluoromethane	*12.0*			*"*	*12.5*		*96.0*	*70-130*			
Surrogate: Toluene-d8	*11.8*			*"*	*12.5*		*94.6*	*70-130*			
Surrogate: Toluene-d8	*11.8*			*"*	*12.5*		*94.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.1*			*"*	*12.5*		*96.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.1*			*"*	*12.5*		*96.6*	*70-130*			
LCS Dup (A211352-BSD1)					Prepared & Analyzed: 14-Nov-12						
Benzene	24.8	0.25	0.50	ug/L	25.0		99.2	70-130	2.33	20	
Benzene	24.8	0.25	0.50	"	25.0		99.2	70-130	2.33	20	
Chlorobenzene	26.1	0.25	0.50	"	25.0		104	70-130	1.70	20	
1,1-Dichloroethene	27.3	0.25	0.50	"	25.0		109	70-130	1.81	20	
Toluene	24.9	0.25	0.50	"	25.0		99.7	70-130	1.21	20	
Toluene	24.9	0.25	0.50	"	25.0		99.7	70-130	1.21	20	
Trichloroethene (TCE)	26.8	0.25	0.50	"	25.0		107	70-130	2.65	20	
Surrogate: Dibromofluoromethane	*11.8*			*"*	*12.5*		*94.7*	*70-130*			
Surrogate: Dibromofluoromethane	*11.8*			*"*	*12.5*		*94.7*	*70-130*			
Surrogate: Toluene-d8	*11.6*			*"*	*12.5*		*92.4*	*70-130*			
Surrogate: Toluene-d8	*11.6*			*"*	*12.5*		*92.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.5*			*"*	*12.5*		*91.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.5*			*"*	*12.5*		*91.8*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211352 - EPA 5030B VOCGCMS											
LCS Dup (A211352-BSD2)					Prepared & Analyzed: 14-Nov-12						
TPH Gasoline (C4-C10)	555	20	50	ug/L	500		111	70-130	3.90	20	
TPH Gasoline (C4-C10)	555	20	50	"	500		111	70-130	3.90	20	
Surrogate: Dibromofluoromethane	*11.8*			*"*	*12.5*		*94.4*	*70-130*			
Surrogate: Dibromofluoromethane	*11.8*			*"*	*12.5*		*94.4*	*70-130*			
Surrogate: Toluene-d8	*11.6*			*"*	*12.5*		*93.2*	*70-130*			
Surrogate: Toluene-d8	*11.6*			*"*	*12.5*		*93.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.7*			*"*	*12.5*		*93.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.7*			*"*	*12.5*		*93.3*	*70-130*			
Duplicate (A211352-DUP1)	**Source: 1205657-17**				Prepared: 14-Nov-12 Analyzed: 15-Nov-12						
Benzene	ND	0.25	0.50	ug/L		ND				20	
Benzene	ND	0.25	0.50	"		ND				20	
Bromobenzene	ND	0.25	0.50	"		ND				20	
Bromochloromethane	ND	0.25	0.50	"		ND				20	
Bromodichloromethane	ND	0.25	0.50	"		ND				20	
Bromoform	ND	0.25	0.50	"		ND				20	
Bromomethane	ND	0.25	0.50	"		ND				20	CCFL
n-Butylbenzene	ND	0.25	0.50	"		ND				20	
sec-Butylbenzene	ND	0.25	0.50	"		ND				20	
tert-Butylbenzene	ND	0.25	0.50	"		ND				20	
Carbon tetrachloride	ND	0.25	0.50	"		ND				20	
Chlorobenzene	ND	0.25	0.50	"		ND				20	
Chloroethane	ND	0.25	0.50	"		ND				20	
Chloroform	ND	0.25	0.50	"		ND				20	
Chloromethane	ND	0.25	0.50	"		ND				20	
2-Chlorotoluene	ND	0.25	0.50	"		ND				20	
4-Chlorotoluene	ND	0.25	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"		ND				20	
Dibromochloromethane	ND	0.25	0.50	"		ND				20	
Dibromomethane	ND	0.25	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.26	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,2-Dichloroethane	0.510	0.25	0.50	"		0.540			5.71	20	
1,1-Dichloroethene	ND	0.25	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.25	0.50	"		ND				20	

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211352 - EPA 5030B VOCGCMS											
Duplicate (A211352-DUP1)	**Source: 1205657-17**			Prepared: 14-Nov-12 Analyzed: 15-Nov-12							
1,3-Dichloropropane	ND	0.25	0.50	ug/L		ND				20	
2,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.25	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
Ethylbenzene	ND	0.25	0.50	"		ND				20	
Ethylbenzene	ND	0.25	0.50	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				20	
Isopropylbenzene	ND	0.25	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.25	0.50	"		ND				20	
Methylene chloride	ND	0.50	1.0	"		ND				20	
Naphthalene	ND	0.25	0.50	"		ND				20	
n-Propylbenzene	ND	0.25	0.50	"		ND				20	
Styrene	ND	0.25	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.25	0.50	"		ND				20	
Toluene	ND	0.25	0.50	"		ND				20	
Toluene	ND	0.25	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.25	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.25	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.25	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.25	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.25	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
Vinyl chloride	ND	0.25	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
TPH Gasoline (C4-C10)	151	20	50	"		161			6.14	20	
TPH Gasoline (C4-C10)	151	20	50	"		161			6.14	20	
Surrogate: Dibromofluoromethane	*11.6*			*"*	*12.5*		*93.2*	*70-130*			
Surrogate: Dibromofluoromethane	*11.6*			*"*	*12.5*		*93.2*	*70-130*			
Surrogate: Toluene-d8	*11.2*			*"*	*12.5*		*89.2*	*70-130*			
Surrogate: Toluene-d8	*11.2*			*"*	*12.5*		*89.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.3*			*"*	*12.5*		*90.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.3*			*"*	*12.5*		*90.4*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211352 - EPA 5030B VOCGCMS											
Matrix Spike (A211352-MS1)	**Source: 1205657-17**				Prepared: 14-Nov-12 Analyzed: 15-Nov-12						
Benzene	21.9	0.25	0.50	ug/L	25.0	ND	87.6	70-130			
Benzene	21.9	0.25	0.50	"	25.0	ND	87.6	70-130			
Chlorobenzene	22.2	0.25	0.50	"	25.0	ND	88.6	70-130			
1,1-Dichloroethene	25.2	0.25	0.50	"	25.0	ND	101	70-130			
Toluene	21.6	0.25	0.50	"	25.0	ND	86.5	70-130			
Toluene	21.6	0.25	0.50	"	25.0	ND	86.5	70-130			
Trichloroethene (TCE)	23.1	0.25	0.50	"	25.0	ND	92.5	70-130			
Surrogate: Dibromofluoromethane	*11.7*			"	*12.5*		*93.4*	*70-130*			
Surrogate: Dibromofluoromethane	*11.7*			"	*12.5*		*93.4*	*70-130*			
Surrogate: Toluene-d8	*11.2*			"	*12.5*		*89.8*	*70-130*			
Surrogate: Toluene-d8	*11.2*			"	*12.5*		*89.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.4*			"	*12.5*		*90.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.4*			"	*12.5*		*90.9*	*70-130*			
Matrix Spike (A211352-MS2)	**Source: 1205657-17**				Prepared: 14-Nov-12 Analyzed: 15-Nov-12						
TPH Gasoline (C4-C10)	620	20	50	ug/L	500	161	91.8	70-130			
TPH Gasoline (C4-C10)	620	20	50	"	500	161	91.8	70-130			
Surrogate: Dibromofluoromethane	*12.2*			"	*12.5*		*97.8*	*70-130*			
Surrogate: Dibromofluoromethane	*12.2*			"	*12.5*		*97.8*	*70-130*			
Surrogate: Toluene-d8	*11.9*			"	*12.5*		*94.9*	*70-130*			
Surrogate: Toluene-d8	*11.9*			"	*12.5*		*94.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.0*			"	*12.5*		*95.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.0*			"	*12.5*		*95.6*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	03-Dec-12 16:44

Notes and Definitions

J	Detected but below the RL/PQL; therefore, result is an estimated concentration .
D-03	The result for this hydrocarbon is elevated due to the presence of single analyte peak(s) in the quantitation range.
CCFL	The CCV for this analyte failed low. Results for this analyte may be biased low.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the Method Limit (MDL)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0898 / Former Unocal Avila Terminal, Avila Beach, CA
4Q12 Groundwater Monitoring Event

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler(s): Cody Montoya; Harleigh Overton; Daniel Rice; Deil Frazier

Invoice To: Chevron EMC
Mr. Rik Williams
SO# 0015065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: GC/MS-TPH(C4-10)	GC/MS-TPH(C10-C25;C25-C40)	8260-BTEX	8260-VOCs	8260-VOCs & Oxys	8260-MTBE & TBA	8270-SIM-PAHs	7000/6000-Metals	Organic Lead by GFAA (HML 939-M)	NOTES
AT-B-149	11/7/12	1519	5	Ag	HCl, none	voa, amber, poly	X	X		X				X		1205635-1A-E
AT-B-150		1045	4			voa amber	X	X	X							2A-D
AT-B-151		0946	4			↓	X	X	X							3A-D
AT-B-183		1403	5				X	X		X			X			4A-E
AT-B-195		1215	6			voa, amber, poly	X	X		X			X	X		5A-F
AT-SP-9		1529	5			voa amber	X	X		X			X			6A-E
AT-B-173		1432	4			↓	X	X	X							7A-D
AT-B-204-150		1308	4				X	X	X							8A-D
AT-B-204-85		1150	5			voa, amber, poly	X	X	X					X		9A-E
AT-B-197		0936	6			↓	X	X		X			X	X		10A-F
AT-B-205-90		1221	4			voa, amber	X	X	X							11A-D
AT-B-205-120	↓	1343	5	↓	↓	voa, amber, poly	X	X	X					X		12A-E

Special Instructions:
Filter groundwater and preserve with nitric acid prior to analyses for metals.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
	11/8/12	1425	L. Cappel	11-8-12	1425
Relinquished by:	Date	Time	Received by:	Date	Time
L. Cappel	11-8-12	1615		11/08/12	1615

Turn Around Time (Check)

same day		72 hours	
24 hours		5 days	
48 hours		normal	X

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0898 / Former Unocal Avila Terminal, Avila Beach, CA
4Q12 Groundwater Monitoring Event

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler(s): Cody Montoya; Harleigh Overton; Daniel Rice; Deil Frazier

Invoice To: Chevron EMC
Mr. Rik Williams
SO# 0015065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: GC/MS-TPH(C4-10)	GC/MS-TPH(C10-C25;C25-C40)	8260-BTEX	8260-VOCs	8260-VOCs & Oxys	8260-MTBE & TBA	8270-SIM-PAHs	7000/6000-Metals	Organic Lead by GFAA (HML 939-M)	NOTES
AT-B-139	11/7/12	1540	5	Aq	HCl, none	voa, amber, poly	X	X	X					X		1205635-BA-E
AT-B-145		1250	4			voa, amber	X	X	X							(4) ~~14A~~ -D
AT-B-148		1140	4				X	X	X							15A-D
DUP-1		1021	6			voa, amber, poly	X	X		X			X	X		16A-F
103012-07		—	1		HCl	voa				X						17A
103012-08		—	1							X						18A

Special Instructions:
Filter groundwater and preserve with nitric acid prior to analyses for metals.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
	11/8/12	1425		11-8-12	1425
Relinquished by:	Date	Time	Received by:	Date	Time
	11-8-12	1615		11/08/12	1615

Turn Around Time (Check)
same day [ ] 72 hours [ ]
24 hours [ ] 5 days [ ]
48 hours [ ] normal [X]

OEC SAMPLE RECEIPT

Rev 01/15/10

CLIENT: Padre OEC ID #: 1205635 Temp: 4 °C

Acceptable Range: 0°C to 6°C

COC RECEIVED DATE/TIME: 11/08/12 1615

RECEIPT LOGIN DATE/TIME: 11/08/12 1810

REFRIGERATOR(s): 8

SAMPLE TRANSPORT, RECEIPT, CONDITION & PRESERVATION:		Yes	No	N/A	(*) PROBLEM CHAIN FORM NEEDED
☒ OEC Courier/Sampler	COC document(s) received with samples	☒	☐*	☐	Custody Seals (circle): Present / Absent
☐ Delivery(Other than OEC Courier)	Correct containers for analysis requested	☒	☐*	☐	TRIP BLANKS Samples / Coolers
☒ Samples Received on Ice	Container(s) intact and in good condition	☒	☐*	☐	Intact / Broken*
☐ Samples Received Outside Temp. Range*	Container label(s) consistent with COC	☒	☐*	☐	Method of Shipment & Tracking #(if applicable)
☐ Samples Direct from field (Outside Temp)	OEC preservative added (**note std ID)	☐**	☐	☒	
☐ After-Hours Outside Drop-off [Brought Inside]	Proper preservation on sample label(s)	☒	☐	☐	(**) OEC Preservative ID.
(Initials/Date/Time):	VOA containers free of headspace	☒	☐*	☐	Dissolved Metals Filtration: (Date/Init/Preserve ID)
	Tedlar Bags free of condensation	☐	☐*	☒	

CONTAINERS, COC CHANGES AND/OR CORRECTIONS — **CHANGES AUTHORIZED BY:**

OEC ID	Client ID ***If blank, refer to CoC	Container Description	Preservative	ResCl /pH	Matrix	Date/Time Sampled ***	Comments / Remarks / Condition Notes, Etc.
1-16A		1-1L AMBER EA	—	—	AQ		
4-6,10,16E		1-1L AMBER EA	—	—	↓		
1,9,12-13E		1-8oz POLY EA	—	—			
5,10,16F		1-8oz POLY EA	—	—			
1-16 B-D		3-VOAs EA	HCl	—	↓		
17-18A		1-40mL VOA ea	HCl	-	aq		

RECEIPT LOGIN BY: ECH RECEIPT REVIEWED BY: [signature]

Oilfield Environmental and Compliance, INC.

Louis Cappel
Padre Associates, Inc. - SLO
369 Pacific Street
San Luis Obispo, CA 93401

13 December 2012

RE: Former Unocal Avila Terminal

Work Order: 1205657

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on 09-Nov-12 15:42 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Meredith Sprister

Project Manager

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AT-B-57-65	1205657-01	Aqueous	08-Nov-12 14:22	09-Nov-12 15:42
AT-B-200	1205657-02	Aqueous	08-Nov-12 12:11	09-Nov-12 15:42
AT-B-169	1205657-03	Aqueous	08-Nov-12 11:03	09-Nov-12 15:42
AT-B-85	1205657-04	Aqueous	08-Nov-12 09:29	09-Nov-12 15:42
AT-B-167-95	1205657-05	Aqueous	08-Nov-12 15:13	09-Nov-12 15:42
AT-B-190	1205657-06	Aqueous	08-Nov-12 13:55	09-Nov-12 15:42
AT-B-201	1205657-07	Aqueous	08-Nov-12 12:13	09-Nov-12 15:42
AT-B-153	1205657-08	Aqueous	08-Nov-12 10:24	09-Nov-12 15:42
AT-B-35-70	1205657-09	Aqueous	08-Nov-12 11:20	09-Nov-12 15:42
AT-B-35-45R	1205657-10	Aqueous	08-Nov-12 09:41	09-Nov-12 15:42
AT-B-37-70	1205657-11	Aqueous	08-Nov-12 13:30	09-Nov-12 15:42
AT-B-191	1205657-12	Aqueous	08-Nov-12 15:36	09-Nov-12 15:42
AT-B-224	1205657-13	Aqueous	08-Nov-12 15:25	09-Nov-12 15:42
AT-B-217	1205657-14	Aqueous	08-Nov-12 10:15	09-Nov-12 15:42
AT-B-216	1205657-15	Aqueous	08-Nov-12 12:25	09-Nov-12 15:42
AT-B-57-20	1205657-16	Aqueous	08-Nov-12 15:24	09-Nov-12 15:42
DUP-2	1205657-17	Aqueous	08-Nov-12 09:00	09-Nov-12 15:42
DUP-3	1205657-18	Aqueous	08-Nov-12 11:13	09-Nov-12 15:42
EB-1	1205657-19	Aqueous	08-Nov-12 16:39	09-Nov-12 15:42
EB-2	1205657-20	Aqueous	08-Nov-12 16:55	09-Nov-12 15:42
103012-09	1205657-21	Aqueous	08-Nov-12 00:00	09-Nov-12 15:42
103012-10	1205657-22	Aqueous	08-Nov-12 00:00	09-Nov-12 15:42
103012-11	1205657-23	Aqueous	08-Nov-12 00:00	09-Nov-12 15:42
AT-B-167-56	1205657-24	Aqueous	09-Nov-12 09:38	09-Nov-12 15:42
AT-B-225	1205657-25	Aqueous	09-Nov-12 09:45	09-Nov-12 15:42
AT-B-226	1205657-26	Aqueous	09-Nov-12 09:50	09-Nov-12 15:42

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AT-B-223-88	1205657-27	Aqueous	09-Nov-12 09:47	09-Nov-12 15:42
AT-B-231	1205657-28	Aqueous	09-Nov-12 12:37	09-Nov-12 15:42
DUP-4	1205657-29	Aqueous	09-Nov-12 09:00	09-Nov-12 15:42

The reporting limit for Organic Lead was raised for sample AT-B-231, OEC ID 1205657-28, due to the nature of the sample matrix.

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-57-65

1205657-01 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	**0.18**	0.020	0.050	mg/L	1	A211336	14-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.23**	0.20	0.50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*90.6 %*	*34-137*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"
Bromoform	ND	0.25	0.50	"	"	"	"	"	"
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"
Chloroform	ND	0.25	0.50	"	"	"	"	"	"
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"
1,2-Dichloroethane	**0.66**	0.25	0.50	"	"	"	"	"	"
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-57-65

1205657-01 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	**0.37**	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	J
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-57-65

1205657-01 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methyl-t-butyl ether	**1.2**	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*99.7 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*98.0 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*103 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-200

1205657-02 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.11**	0.020	0.051	mg/L	1	A211334	13-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.39**	0.20	0.51	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*88.8 %*	*34-137*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	ND	0.061	0.10	ug/L	1	A211314	"	16-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.061	0.10	"	"	"	"	"	"	
Anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.051	0.10	"	"	"	"	"	"	
Chrysene	ND	0.051	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Fluorene	ND	0.061	0.10	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.061	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.051	0.10	"	"	"	"	"	"	
Pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*61.2 %*	*27-159*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-200

1205657-02 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloroethane	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-200

1205657-02 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Toluene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	**0.92**	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*103 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*98.5 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*103 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-169

1205657-03 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	**0.051**	0.020	0.051	mg/L	1	A211336	14-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.51	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*86.6 %*	*34-137*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*104 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*98.9 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*100 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-85

1205657-04 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	**0.093**	0.020	0.051	mg/L	1	A211336	14-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.51	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*94.2 %*	*34-137*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**20**	20	50	"	"	"	"	"	"	J
Surrogate: Dibromofluoromethane			*107 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*100 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*102 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-167-95

1205657-05 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.010	0.025	mg/L	5	A211532	21-Nov-12	28-Nov-12	EPA 6020	
Arsenic	**0.014**	0.010	0.025	"	"	"	"	"	"	J
Barium	**0.15**	0.0070	0.010	"	10	"	"	26-Nov-12	"	
Beryllium	ND	0.0039	0.0050	"	5	"	"	28-Nov-12	"	
Cadmium	ND	0.0050	0.010	"	10	"	"	26-Nov-12	"	
Chromium	ND	0.0055	0.010	"	5	"	"	28-Nov-12	"	
Cobalt	ND	0.0025	0.0050	"	"	"	"	"	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0080	0.010	"	10	"	"	26-Nov-12	"	
Mercury	ND	0.000100	0.000200	"	1	A211440	19-Nov-12	19-Nov-12	EPA 7470A	
Molybdenum	**0.039**	0.0085	0.010	"	10	A211532	21-Nov-12	26-Nov-12	EPA 6020	
Nickel	**0.036**	0.0025	0.0050	"	5	"	"	28-Nov-12	"	
Selenium	**0.016**	0.0055	0.010	"	"	"	"	"	"	
Silver	ND	0.0073	0.010	"	10	"	"	26-Nov-12	"	
Thallium	ND	0.0036	0.0050	"	5	"	"	28-Nov-12	"	R-05
Vanadium	ND	0.015	0.025	"	"	"	"	"	"	
Zinc	**0.039**	0.012	0.025	"	"	"	"	"	"	
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.12**	0.020	0.051	mg/L	1	A211336	14-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.51	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*92.6 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-167-95

1205657-05 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloroform	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-167-95

1205657-05 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

1,2,3-Trichlorobenzene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"
Ethanol	ND	250	500	"	"	"	"	"	"
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"
Surrogate: Dibromofluoromethane			*99.2 %*		*70-130*	"	"	"	"
Surrogate: Toluene-d8			*98.6 %*		*70-130*	"	"	"	"
Surrogate: 4-Bromofluorobenzene			*103 %*		*70-130*	"	"	"	"

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-190

1205657-06 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.28**	0.020	0.051	mg/L	1	A211336	14-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.32**	0.20	0.51	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*98.0 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	14-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

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1205657-06 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	14-Nov-12	EPA 8260B/LUFT	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	**2.3**	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**110**	20	50	"	"	"	"	"	"	D-06

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1205657-06 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*102 %*	*70-130*	*A211307*	*13-Nov-12*	*14-Nov-12*	*EPA 8260B/LUFT*		
Surrogate: Toluene-d8	*99.4 %*	*70-130*	"	"	"	"		
Surrogate: 4-Bromofluorobenzene	*102 %*	*70-130*	"	"	"	"		

AT-B-201

1205657-07 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TEPH by GCMS

TPH Diesel (C10-C25)	ND	0.021	0.052	mg/L	1	A211336	14-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.21	0.52	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*86.0 %*	*34-137*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*102 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*99.4 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*104 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-153

1205657-08 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.15**	0.021	0.052	mg/L	1	A211334	13-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.21	0.52	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*84.4 %*	*34-137*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	ND	0.062	0.10	ug/L	1	A211314	"	16-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.062	0.10	"	"	"	"	"	"	
Anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.052	0.10	"	"	"	"	"	"	
Chrysene	ND	0.052	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Fluorene	ND	0.062	0.10	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Naphthalene	**0.12**	0.062	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.052	0.10	"	"	"	"	"	"	
Pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*55.0 %*	*27-159*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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AT-B-153

1205657-08 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloroethane	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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AT-B-153

1205657-08 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Toluene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**31**	20	50	"	"	"	"	"	"	J
Surrogate: Dibromofluoromethane			*105 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*100 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*105 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-35-70

1205657-09 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**1.2**	0.020	0.050	mg/L	1	A211334	13-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.30**	0.20	0.50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*125 %*	*34-137*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	**0.070**	0.060	0.10	ug/L	1	A211314	"	16-Nov-12	EPA 8270M SIM	J
Acenaphthylene	ND	0.060	0.10	"	"	"	"	"	"	
Anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.050	0.10	"	"	"	"	"	"	
Chrysene	ND	0.050	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Fluorene	**0.15**	0.060	0.10	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Naphthalene	**13**	1.2	2.0	"	20	"	"	20-Nov-12	"	
Phenanthrene	**0.20**	0.050	0.10	"	1	"	"	16-Nov-12	"	
Pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*42.5 %*	*27-159*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**190**	2.5	5.0	ug/L	10	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	1	"	"	14-Nov-12	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	**0.59**	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**2.8**	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.40**	0.25	0.50	"	"	"	"	"	"	J
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1205657-09 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloroethane	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	14-Nov-12	EPA 8260B/LUFT	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	**0.79**	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	**17**	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	**13**	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	**0.33**	0.25	0.50	"	"	"	"	"	"	J
Methylene chloride	**0.76**	0.50	1.0	"	"	"	"	"	"	J
Naphthalene	**28**	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	**4.3**	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.34**	0.25	0.50	"	"	"	"	"	"	J

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-35-70

1205657-09 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2,3-Trichlorobenzene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	14-Nov-12	EPA 8260B/LUFT	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**2.3**	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**2.3**	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	**15**	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**45**	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	**3.2**	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**880**	20	50	"	"	"	"	"	"	D-03
Surrogate: Dibromofluoromethane			*102 %*		*70-130*	"	"	"	"	
Surrogate: Toluene-d8			*100 %*		*70-130*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*108 %*		*70-130*	"	"	"	"	

AT-B-35-45R

1205657-10 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.010	0.025	mg/L	5	A211532	21-Nov-12	28-Nov-12	EPA 6020	
Arsenic	**0.017**	0.010	0.025	"	"	"	"	"	"	J
Barium	ND	0.0070	0.010	"	10	"	"	26-Nov-12	"	
Beryllium	ND	0.0039	0.0050	"	5	"	"	28-Nov-12	"	
Cadmium	ND	0.0050	0.010	"	10	"	"	26-Nov-12	"	
Chromium	ND	0.0055	0.010	"	5	"	"	28-Nov-12	"	
Cobalt	ND	0.0025	0.0050	"	"	"	"	"	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0080	0.010	"	10	"	"	26-Nov-12	"	
Mercury	**0.000122**	0.000100	0.000200	"	1	A211440	19-Nov-12	19-Nov-12	EPA 7470A	J
Molybdenum	ND	0.0085	0.010	"	10	A211532	21-Nov-12	26-Nov-12	EPA 6020	
Nickel	ND	0.0025	0.0050	"	5	"	"	28-Nov-12	"	
Selenium	ND	0.0055	0.010	"	"	"	"	"	"	
Silver	ND	0.0073	0.010	"	10	"	"	26-Nov-12	"	
Thallium	ND	0.0036	0.0050	"	5	"	"	28-Nov-12	"	R-05
Vanadium	ND	0.015	0.025	"	"	"	"	"	"	
Zinc	ND	0.012	0.025	"	"	"	"	"	"	

TEPH by GCMS

TPH Diesel (C10-C25)	**0.60**	0.020	0.051	mg/L	1	A211334	13-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**1.2**	0.20	0.51	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*85.0 %*	*34-137*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	ND	0.061	0.10	ug/L	1	A211314	"	16-Nov-12	EPA 8270M SIM
Acenaphthylene	ND	0.061	0.10	"	"	"	"	"	"
Anthracene	ND	0.051	0.10	"	"	"	"	"	"
Benz(a)anthracene	ND	0.051	0.10	"	"	"	"	"	"
Benzo (b) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"
Benzo (k) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"
Benzo (a) pyrene	ND	0.051	0.10	"	"	"	"	"	"
Benzo (g,h,i) perylene	ND	0.051	0.10	"	"	"	"	"	"
Chrysene	ND	0.051	0.10	"	"	"	"	"	"
Dibenz (a,h) anthracene	ND	0.051	0.10	"	"	"	"	"	"
Fluoranthene	ND	0.051	0.10	"	"	"	"	"	"
Fluorene	ND	0.061	0.10	"	"	"	"	"	"

AT-B-35-45R

1205657-10 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Indeno (1,2,3-cd) pyrene	ND	0.051	0.10	ug/L	1	A211314	13-Nov-12	16-Nov-12	EPA 8270M SIM	
Naphthalene	ND	0.061	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.051	0.10	"	"	"	"	"	"	
Pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*32.5 %*		*27-159*	"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1205657-10 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	**0.34**	0.25	0.50	"	"	"	"	"	"	J
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1205657-10 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methyl-t-butyl ether	**2.5**	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	**33**	20	50	"	"	"	"	"	"	J
Surrogate: Dibromofluoromethane			*106 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*100 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*104 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-37-70

1205657-11 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.010	0.025	mg/L	5	A211532	21-Nov-12	28-Nov-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.029**	0.0070	0.010	"	10	"	"	26-Nov-12	"	
Beryllium	ND	0.0039	0.0050	"	5	"	"	28-Nov-12	"	
Cadmium	ND	0.0050	0.010	"	10	"	"	26-Nov-12	"	
Chromium	ND	0.0055	0.010	"	5	"	"	28-Nov-12	"	
Cobalt	ND	0.0025	0.0050	"	"	"	"	"	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0080	0.010	"	10	"	"	26-Nov-12	"	
Mercury	ND	0.000100	0.000200	"	1	A211440	19-Nov-12	19-Nov-12	EPA 7470A	
Molybdenum	**0.012**	0.0085	0.010	"	10	A211532	21-Nov-12	26-Nov-12	EPA 6020	
Nickel	ND	0.0025	0.0050	"	5	"	"	28-Nov-12	"	
Selenium	**0.0064**	0.0055	0.010	"	"	"	"	"	"	J
Silver	ND	0.0073	0.010	"	10	"	"	26-Nov-12	"	
Thallium	ND	0.0036	0.0050	"	5	"	"	28-Nov-12	"	R-05
Vanadium	ND	0.015	0.025	"	"	"	"	"	"	
Zinc	ND	0.012	0.025	"	"	"	"	"	"	

TEPH by GCMS

TPH Diesel (C10-C25)	**0.16**	0.020	0.050	mg/L	1	A211336	14-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.39**	0.20	0.50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*87.8 %*	*34-137*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	**0.47**	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	J
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1205657-11 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloroform	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1205657-11 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

1,2,3-Trichlorobenzene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**98**	20	50	"	"	"	"	"	"	D-03
Surrogate: Dibromofluoromethane			*105 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*102 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*104 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-191

1205657-12 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L	1	A211336	14-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*91.8 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

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1205657-12 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	13-Nov-12	EPA 8260B/LUFT	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	**20**	20	50	"	"	"	"	"	"	J

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-191

1205657-12 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*105 %*	*70-130*	*A211307*	*13-Nov-12*	*13-Nov-12*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*99.8 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*100 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-224

1205657-13 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.010	0.025	mg/L	5	A211532	21-Nov-12	29-Nov-12	EPA 6020	
Arsenic	**0.16**	0.010	0.025	"	"	"	"	"	"	
Barium	**0.11**	0.0070	0.010	"	10	"	"	26-Nov-12	"	
Beryllium	ND	0.0039	0.0050	"	5	"	"	29-Nov-12	"	
Cadmium	ND	0.0050	0.010	"	10	"	"	26-Nov-12	"	
Chromium	**0.0056**	0.0055	0.010	"	5	"	"	29-Nov-12	"	J
Cobalt	ND	0.0025	0.0050	"	"	"	"	"	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0080	0.010	"	10	"	"	26-Nov-12	"	
Mercury	ND	0.000100	0.000200	"	1	A211440	19-Nov-12	19-Nov-12	EPA 7470A	
Molybdenum	**0.018**	0.0085	0.010	"	10	A211532	21-Nov-12	26-Nov-12	EPA 6020	
Nickel	**0.020**	0.0025	0.0050	"	5	"	"	29-Nov-12	"	
Selenium	**0.016**	0.0055	0.010	"	"	"	"	"	"	
Silver	ND	0.0073	0.010	"	10	"	"	26-Nov-12	"	
Thallium	ND	0.0036	0.0050	"	5	"	"	29-Nov-12	"	R-05
Vanadium	ND	0.015	0.025	"	"	"	"	"	"	
Zinc	ND	0.012	0.025	"	"	"	"	"	"	

TEPH by GCMS

TPH Diesel (C10-C25)	**0.98**	0.020	0.050	mg/L	1	A211334	13-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.93**	0.20	0.50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*129 %*	*34-137*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	ND	0.060	0.10	ug/L	1	A211314	"	16-Nov-12	EPA 8270M SIM	
Acenaphthylene	**0.15**	0.060	0.10	"	"	"	"	"	"	
Anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.050	0.10	"	"	"	"	"	"	
Chrysene	ND	0.050	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Fluorene	ND	0.060	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-224

1205657-13 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Indeno (1,2,3-cd) pyrene	ND	0.050	0.10	ug/L	1	A211314	13-Nov-12	16-Nov-12	EPA 8270M SIM	
Naphthalene	ND	0.060	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.050	0.10	"	"	"	"	"	"	
Pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*31.2 %*		*27-159*	"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211519	21-Nov-12	22-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.40**	0.25	0.50	"	"	"	"	"	"	J
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-224

1205657-13 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211519	21-Nov-12	22-Nov-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	**0.69**	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**18**	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-224

1205657-13 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methyl-t-butyl ether	**53**	0.50	1.0	ug/L	2	A211307	13-Nov-12	14-Nov-12	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	**110**	20	50	"	1	A211519	21-Nov-12	22-Nov-12	"	
Surrogate: Dibromofluoromethane			*109 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*104 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*100 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-217

1205657-14 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.0040	0.010	mg/L	2	A211532	21-Nov-12	27-Nov-12	EPA 6020	
Arsenic	ND	0.0040	0.010	"	"	"	"	"	"	
Barium	**0.051**	0.0070	0.010	"	10	"	"	26-Nov-12	"	
Beryllium	ND	0.0016	0.0020	"	2	"	"	27-Nov-12	"	
Cadmium	ND	0.0050	0.010	"	10	"	"	26-Nov-12	"	
Chromium	**0.0023**	0.0022	0.0040	"	2	"	"	27-Nov-12	"	J
Cobalt	ND	0.0010	0.0020	"	"	"	"	"	"	
Copper	**0.0025**	0.0014	0.0020	"	"	"	"	"	"	
Lead	ND	0.0080	0.010	"	10	"	"	26-Nov-12	"	
Mercury	ND	0.000100	0.000200	"	1	A211440	19-Nov-12	19-Nov-12	EPA 7470A	
Molybdenum	ND	0.0085	0.010	"	10	A211532	21-Nov-12	26-Nov-12	EPA 6020	
Nickel	**0.0040**	0.0010	0.0020	"	2	"	"	27-Nov-12	"	
Selenium	**0.0052**	0.0022	0.0040	"	"	"	"	"	"	
Silver	ND	0.0073	0.010	"	10	"	"	26-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	27-Nov-12	"	
Vanadium	ND	0.0060	0.010	"	"	"	"	"	"	
Zinc	ND	0.012	0.025	"	5	"	"	27-Nov-12	"	

TEPH by GCMS

TPH Diesel (C10-C25)	**0.032**	0.021	0.052	mg/L	1	A211334	13-Nov-12	15-Nov-12	EPA 8270C	J
TPH Oil Crude (C25-C40)	ND	0.21	0.52	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*91.0 %*	*34-137*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	ND	0.062	0.10	ug/L	1	A211314	"	16-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.062	0.10	"	"	"	"	"	"	
Anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.052	0.10	"	"	"	"	"	"	
Chrysene	ND	0.052	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Fluorene	ND	0.062	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-217

1205657-14 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Indeno (1,2,3-cd) pyrene	ND	0.052	0.10	ug/L	1	A211314	13-Nov-12	16-Nov-12	EPA 8270M SIM	
Naphthalene	**0.083**	0.062	0.10	"	"	"	"	"	"	J
Phenanthrene	ND	0.052	0.10	"	"	"	"	"	"	
Pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*63.8 %*		*27-159*	"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	14-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

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1205657-14 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	14-Nov-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	**0.41**	0.25	0.50	"	"	"	"	"	"	J
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-217

1205657-14 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methyl-t-butyl ether	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	14-Nov-12	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	**76**	20	50	"	"	"	"	"	"	D-06
Surrogate: Dibromofluoromethane			*105 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*98.9 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*106 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-216

1205657-15 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.0040	0.010	mg/L	2	A211532	21-Nov-12	27-Nov-12	EPA 6020	
Arsenic	ND	0.0040	0.010	"	"	"	"	"	"	
Barium	**0.041**	0.0070	0.010	"	10	"	"	26-Nov-12	"	
Beryllium	ND	0.0016	0.0020	"	2	"	"	27-Nov-12	"	
Cadmium	ND	0.0050	0.010	"	10	"	"	26-Nov-12	"	
Chromium	**0.0026**	0.0022	0.0040	"	2	"	"	27-Nov-12	"	J
Cobalt	ND	0.0010	0.0020	"	"	"	"	"	"	
Copper	**0.0019**	0.0014	0.0020	"	"	"	"	"	"	J
Lead	ND	0.0080	0.010	"	10	"	"	26-Nov-12	"	
Mercury	ND	0.000100	0.000200	"	1	A211440	19-Nov-12	19-Nov-12	EPA 7470A	
Molybdenum	ND	0.0085	0.010	"	10	A211532	21-Nov-12	26-Nov-12	EPA 6020	
Nickel	**0.0028**	0.0010	0.0020	"	2	"	"	27-Nov-12	"	
Selenium	**0.0074**	0.0022	0.0040	"	"	"	"	"	"	
Silver	ND	0.0073	0.010	"	10	"	"	26-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	27-Nov-12	"	
Vanadium	ND	0.0060	0.010	"	"	"	"	"	"	
Zinc	ND	0.012	0.025	"	5	"	"	27-Nov-12	"	

TEPH by GCMS

TPH Diesel (C10-C25)	**0.13**	0.021	0.052	mg/L	1	A211334	13-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.21	0.52	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*88.2 %*	*34-137*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	ND	0.062	0.10	ug/L	1	A211314	"	16-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.062	0.10	"	"	"	"	"	"	
Anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.052	0.10	"	"	"	"	"	"	
Chrysene	ND	0.052	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Fluorene	ND	0.062	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

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1205657-15 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Indeno (1,2,3-cd) pyrene	ND	0.052	0.10	ug/L	1	A211314	13-Nov-12	16-Nov-12	EPA 8270M SIM	
Naphthalene	ND	0.062	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.052	0.10	"	"	"	"	"	"	
Pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*57.5 %*		*27-159*	"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	14-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	**0.57**	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

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1205657-15 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	14-Nov-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**100**	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

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1205657-15 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methyl-t-butyl ether	**2.2**	0.25	0.50	ug/L	1	A211307	13-Nov-12	14-Nov-12	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	**150**	20	50	"	"	"	"	"	"	D-06
Surrogate: Dibromofluoromethane			*109 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*103 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*105 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-57-20

1205657-16 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.0040	0.010	mg/L	2	A211532	21-Nov-12	27-Nov-12	EPA 6020	
Arsenic	**0.11**	0.0040	0.010	"	"	"	"	"	"	
Barium	ND	0.0070	0.010	"	10	"	"	26-Nov-12	"	
Beryllium	ND	0.0016	0.0020	"	2	"	"	27-Nov-12	"	
Cadmium	ND	0.0050	0.010	"	10	"	"	26-Nov-12	"	
Chromium	**0.0050**	0.0022	0.0040	"	2	"	"	27-Nov-12	"	
Cobalt	ND	0.0010	0.0020	"	"	"	"	"	"	
Copper	ND	0.0014	0.0020	"	"	"	"	"	"	
Lead	ND	0.0080	0.010	"	10	"	"	26-Nov-12	"	
Mercury	ND	0.000100	0.000200	"	1	A211440	19-Nov-12	19-Nov-12	EPA 7470A	
Molybdenum	**0.032**	0.0085	0.010	"	10	A211532	21-Nov-12	26-Nov-12	EPA 6020	
Nickel	**0.0026**	0.0010	0.0020	"	2	"	"	27-Nov-12	"	
Selenium	ND	0.0022	0.0040	"	"	"	"	"	"	
Silver	ND	0.0073	0.010	"	10	"	"	26-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	27-Nov-12	"	
Vanadium	ND	0.0060	0.010	"	"	"	"	"	"	
Zinc	ND	0.012	0.025	"	5	"	"	27-Nov-12	"	

TEPH by GCMS

TPH Diesel (C10-C25)	**0.51**	0.020	0.050	mg/L	1	A211334	13-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.36**	0.20	0.50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*96.6 %*	*34-137*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	**0.36**	0.060	0.10	ug/L	1	A211314	"	16-Nov-12	EPA 8270M SIM	
Acenaphthylene	**0.070**	0.060	0.10	"	"	"	"	"	"	J
Anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.050	0.10	"	"	"	"	"	"	
Chrysene	ND	0.050	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Fluorene	**0.50**	0.060	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-57-20

1205657-16 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Indeno (1,2,3-cd) pyrene	ND	0.050	0.10	ug/L	1	A211314	13-Nov-12	16-Nov-12	EPA 8270M SIM	
Naphthalene	**0.46**	0.060	0.10	"	"	"	"	"	"	
Phenanthrene	**0.050**	0.050	0.10	"	"	"	"	"	"	J
Pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*32.5 %*		*27-159*	"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	14-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	**0.94**	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**3.5**	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.64**	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-57-20

1205657-16 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211307	13-Nov-12	14-Nov-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	**13**	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	**8.3**	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.49**	0.25	0.50	"	"	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	**0.38**	0.27	0.50	"	"	"	"	"	"	J
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**11**	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-57-20

1205657-16 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	**870**	20	50	ug/L	1	A211307	13-Nov-12	14-Nov-12	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*111 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*110 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*107 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

DUP-2

1205657-17 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.0040	0.010	mg/L	2	A211532	21-Nov-12	27-Nov-12	EPA 6020	
Arsenic	ND	0.0040	0.010	"	"	"	"	"	"	
Barium	**0.040**	0.0070	0.010	"	10	"	"	26-Nov-12	"	
Beryllium	ND	0.0016	0.0020	"	2	"	"	27-Nov-12	"	
Cadmium	ND	0.0050	0.010	"	10	"	"	26-Nov-12	"	
Chromium	**0.0034**	0.0022	0.0040	"	2	"	"	27-Nov-12	"	J
Cobalt	ND	0.0010	0.0020	"	"	"	"	"	"	
Copper	**0.0020**	0.0014	0.0020	"	"	"	"	"	"	
Lead	ND	0.0080	0.010	"	10	"	"	26-Nov-12	"	
Mercury	ND	0.000100	0.000200	"	1	A211440	19-Nov-12	19-Nov-12	EPA 7470A	
Molybdenum	ND	0.0085	0.010	"	10	A211532	21-Nov-12	26-Nov-12	EPA 6020	
Nickel	**0.0032**	0.0010	0.0020	"	2	"	"	27-Nov-12	"	
Selenium	**0.0076**	0.0022	0.0040	"	"	"	"	"	"	
Silver	ND	0.0073	0.010	"	10	"	"	26-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	27-Nov-12	"	
Vanadium	ND	0.0060	0.010	"	"	"	"	"	"	
Zinc	ND	0.012	0.025	"	5	"	"	27-Nov-12	"	
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.13**	0.021	0.053	mg/L	1	A211334	13-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.21	0.53	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*85.0 %*	*34-137*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	ND	0.063	0.11	ug/L	1	A211314	"	16-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.063	0.11	"	"	"	"	"	"	
Anthracene	ND	0.053	0.11	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.053	0.11	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.053	0.11	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.053	0.11	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.053	0.11	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.053	0.11	"	"	"	"	"	"	
Chrysene	ND	0.053	0.11	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.053	0.11	"	"	"	"	"	"	
Fluoranthene	ND	0.053	0.11	"	"	"	"	"	"	
Fluorene	ND	0.063	0.11	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
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DUP-2

1205657-17 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Indeno (1,2,3-cd) pyrene	ND	0.053	0.11	ug/L	1	A211314	13-Nov-12	16-Nov-12	EPA 8270M SIM	
Naphthalene	ND	0.063	0.11	"	"	"	"	"	"	
Phenanthrene	ND	0.053	0.11	"	"	"	"	"	"	
Pyrene	ND	0.053	0.11	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*56.3 %*		*27-159*	"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	15-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	**0.54**	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

DUP-2

1205657-17 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	15-Nov-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**95**	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

DUP-2

1205657-17 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methyl-t-butyl ether	**2.1**	0.25	0.50	ug/L	1	A211352	14-Nov-12	15-Nov-12	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	**160**	20	50	"	"	"	"	"	"	D-03
Surrogate: Dibromofluoromethane			*101 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*94.6 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*93.7 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

DUP-3

1205657-18 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.0040	0.010	mg/L	2	A211532	21-Nov-12	27-Nov-12	EPA 6020	
Arsenic	**0.11**	0.0040	0.010	"	"	"	"	"	"	
Barium	ND	0.0070	0.010	"	10	"	"	26-Nov-12	"	
Beryllium	ND	0.0016	0.0020	"	2	"	"	27-Nov-12	"	
Cadmium	ND	0.0050	0.010	"	10	"	"	26-Nov-12	"	
Chromium	**0.0056**	0.0022	0.0040	"	2	"	"	27-Nov-12	"	
Cobalt	ND	0.0010	0.0020	"	"	"	"	"	"	
Copper	ND	0.0014	0.0020	"	"	"	"	"	"	
Lead	ND	0.0080	0.010	"	10	"	"	26-Nov-12	"	
Mercury	ND	0.000100	0.000200	"	1	A211440	19-Nov-12	19-Nov-12	EPA 7470A	
Molybdenum	**0.032**	0.0085	0.010	"	10	A211532	21-Nov-12	26-Nov-12	EPA 6020	
Nickel	**0.0029**	0.0010	0.0020	"	2	"	"	27-Nov-12	"	
Selenium	ND	0.0022	0.0040	"	"	"	"	"	"	
Silver	ND	0.0073	0.010	"	10	"	"	26-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	27-Nov-12	"	
Vanadium	ND	0.0060	0.010	"	"	"	"	"	"	
Zinc	ND	0.012	0.025	"	5	"	"	27-Nov-12	"	
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.55**	0.020	0.051	mg/L	1	A211334	13-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.36**	0.20	0.51	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*86.2 %*	*34-137*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	**0.34**	0.061	0.10	ug/L	1	A211314	"	16-Nov-12	EPA 8270M SIM	
Acenaphthylene	**0.071**	0.061	0.10	"	"	"	"	"	"	J
Anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.051	0.10	"	"	"	"	"	"	
Chrysene	ND	0.051	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Fluorene	**0.49**	0.061	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

DUP-3

1205657-18 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Indeno (1,2,3-cd) pyrene	ND	0.051	0.10	ug/L	1	A211314	13-Nov-12	16-Nov-12	EPA 8270M SIM	
Naphthalene	**0.41**	0.061	0.10	"	"	"	"	"	"	
Phenanthrene	**0.061**	0.051	0.10	"	"	"	"	"	"	J
Pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*30.0 %*		*27-159*	"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	15-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	A211443	19-Nov-12	19-Nov-12	"	
n-Butylbenzene	**0.87**	0.25	0.50	"	"	A211352	14-Nov-12	15-Nov-12	"	
sec-Butylbenzene	**3.3**	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.59**	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

DUP-3

1205657-18 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	**0.37**	0.25	0.50	ug/L	1	A211352	14-Nov-12	15-Nov-12	EPA 8260B/LUFT	J
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	**12**	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	**7.9**	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**0.34**	0.25	0.50	"	"	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	**0.34**	0.27	0.50	"	"	"	"	"	"	J
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**10**	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
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DUP-3

1205657-18 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	**740**	20	50	ug/L	1	A211352	14-Nov-12	15-Nov-12	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*100 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*94.9 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*93.9 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

EB-1

1205657-19 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.0040	0.010	mg/L	2	A211532	21-Nov-12	27-Nov-12	EPA 6020	
Arsenic	ND	0.0040	0.010	"	"	"	"	"	"	
Barium	**0.0098**	0.0070	0.010	"	10	"	"	26-Nov-12	"	J
Beryllium	ND	0.0016	0.0020	"	2	"	"	27-Nov-12	"	
Cadmium	ND	0.0050	0.010	"	10	"	"	26-Nov-12	"	
Chromium	**0.0032**	0.0022	0.0040	"	2	"	"	27-Nov-12	"	J
Cobalt	ND	0.0010	0.0020	"	"	"	"	"	"	
Copper	ND	0.0014	0.0020	"	"	"	"	"	"	
Lead	ND	0.0080	0.010	"	10	"	"	26-Nov-12	"	
Mercury	ND	0.000100	0.000200	"	1	A211440	19-Nov-12	19-Nov-12	EPA 7470A	
Molybdenum	ND	0.0085	0.010	"	10	A211532	21-Nov-12	26-Nov-12	EPA 6020	
Nickel	**0.0011**	0.0010	0.0020	"	2	"	"	27-Nov-12	"	J
Selenium	ND	0.0022	0.0040	"	"	"	"	"	"	
Silver	ND	0.0073	0.010	"	10	"	"	26-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	27-Nov-12	"	
Vanadium	ND	0.0060	0.010	"	"	"	"	"	"	
Zinc	ND	0.012	0.025	"	5	"	"	27-Nov-12	"	

TEPH by GCMS

TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L	1	A211334	13-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*91.6 %*	*34-137*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	ND	0.060	0.10	ug/L	1	A211314	"	16-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.060	0.10	"	"	"	"	"	"	
Anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.050	0.10	"	"	"	"	"	"	
Chrysene	ND	0.050	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Fluorene	ND	0.060	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1205657-19 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Indeno (1,2,3-cd) pyrene	ND	0.050	0.10	ug/L	1	A211314	13-Nov-12	16-Nov-12	EPA 8270M SIM	
Naphthalene	**0.14**	0.060	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.050	0.10	"	"	"	"	"	"	
Pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*63.8 %*		*27-159*	"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	15-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1205657-19 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	15-Nov-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1205657-19 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Methyl-t-butyl ether	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	15-Nov-12	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	**25**	20	50	"	"	"	"	"	"	D-06, J
Surrogate: Dibromofluoromethane			*99.9 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*92.6 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*92.7 %*	*70-130*		"	"	"	"	

EB-2

1205657-20 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.0040	0.010	mg/L	2	A211532	21-Nov-12	27-Nov-12	EPA 6020	
Arsenic	ND	0.0040	0.010	"	"	"	"	"	"	
Barium	**0.011**	0.0070	0.010	"	10	"	"	26-Nov-12	"	
Beryllium	ND	0.0016	0.0020	"	2	"	"	27-Nov-12	"	
Cadmium	ND	0.0050	0.010	"	10	"	"	26-Nov-12	"	
Chromium	**0.0032**	0.0022	0.0040	"	2	"	"	27-Nov-12	"	J
Cobalt	ND	0.0010	0.0020	"	"	"	"	"	"	
Copper	ND	0.0014	0.0020	"	"	"	"	"	"	
Lead	ND	0.0080	0.010	"	10	"	"	26-Nov-12	"	
Mercury	ND	0.000100	0.000200	"	1	A211440	19-Nov-12	19-Nov-12	EPA 7470A	
Molybdenum	ND	0.0085	0.010	"	10	A211532	21-Nov-12	26-Nov-12	EPA 6020	
Nickel	**0.0016**	0.0010	0.0020	"	2	"	"	27-Nov-12	"	J
Selenium	ND	0.0022	0.0040	"	"	"	"	"	"	
Silver	ND	0.0073	0.010	"	10	"	"	26-Nov-12	"	
Thallium	ND	0.0014	0.0020	"	2	"	"	27-Nov-12	"	
Vanadium	ND	0.0060	0.010	"	"	"	"	"	"	
Zinc	ND	0.012	0.025	"	5	"	"	27-Nov-12	"	
TEPH by GCMS										
TPH Diesel (C10-C25)	ND	0.021	0.052	mg/L	1	A211334	13-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.21	0.52	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*74.0 %*	*34-137*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	ND	0.062	0.10	ug/L	1	A211314	"	16-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.062	0.10	"	"	"	"	"	"	
Anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.052	0.10	"	"	"	"	"	"	
Chrysene	ND	0.052	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Fluorene	ND	0.062	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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EB-2

1205657-20 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Indeno (1,2,3-cd) pyrene	ND	0.052	0.10	ug/L	1	A211314	13-Nov-12	16-Nov-12	EPA 8270M SIM	
Naphthalene	**0.11**	0.062	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.052	0.10	"	"	"	"	"	"	
Pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*66.3 %*		*27-159*	"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	15-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

EB-2

1205657-20 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	15-Nov-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

EB-2

1205657-20 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methyl-t-butyl ether	ND	0.25	0.50	ug/L	1	A211352	14-Nov-12	15-Nov-12	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*97.8 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*90.9 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*91.9 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

103012-09

1205657-21 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.25	0.50	ug/L	1	A211443	19-Nov-12	19-Nov-12	EPA 8260B	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

103012-09

1205657-21 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Hexachlorobutadiene	ND	0.25	0.50	ug/L	1	A211443	19-Nov-12	19-Nov-12	EPA 8260B	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*105 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*91.7 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*102 %*	*70-130*		"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

103012-10

1205657-22 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.25	0.50	ug/L	1	A211443	19-Nov-12	19-Nov-12	EPA 8260B	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

103012-10

1205657-22 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Hexachlorobutadiene	ND	0.25	0.50	ug/L	1	A211443	19-Nov-12	19-Nov-12	EPA 8260B	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*82.2 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*81.7 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*103 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

103012-11

1205657-23 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.25	0.50	ug/L	1	A211507	21-Nov-12	21-Nov-12	EPA 8260B	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

103012-11

1205657-23 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Hexachlorobutadiene	ND	0.25	0.50	ug/L	1	A211507	21-Nov-12	21-Nov-12	EPA 8260B	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*98.3 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*101 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*94.1 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-167-56

1205657-24 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.093**	0.020	0.050	mg/L	1	A211336	14-Nov-12	15-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.21**	0.20	0.50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*86.8 %*	*34-137*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	ND	0.25	0.50	ug/L	1	A211443	19-Nov-12	19-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-167-56

1205657-24 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211443	19-Nov-12	19-Nov-12	EPA 8260B/LUFT	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	
TPH Gasoline (C4-C10)	ND	20	50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-167-56

1205657-24 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Surrogate: Dibromofluoromethane	*86.6 %*	*70-130*	*A211443*	*19-Nov-12*	*19-Nov-12*	*EPA 8260B/LUFT*	
Surrogate: Toluene-d8	*89.8 %*	*70-130*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene	*98.7 %*	*70-130*	*"*	*"*	*"*	*"*	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-225

1205657-25 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.010	0.025	mg/L	5	A211532	21-Nov-12	28-Nov-12	EPA 6020	
Arsenic	**0.086**	0.010	0.025	"	"	"	"	"	"	
Barium	**0.064**	0.0070	0.010	"	10	"	"	26-Nov-12	"	
Beryllium	ND	0.0039	0.0050	"	5	"	"	28-Nov-12	"	
Cadmium	ND	0.0050	0.010	"	10	"	"	26-Nov-12	"	
Chromium	ND	0.0055	0.010	"	5	"	"	28-Nov-12	"	
Cobalt	ND	0.0025	0.0050	"	"	"	"	"	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0080	0.010	"	10	"	"	26-Nov-12	"	
Mercury	ND	0.000100	0.000200	"	1	A211440	19-Nov-12	19-Nov-12	EPA 7470A	
Molybdenum	**0.074**	0.0085	0.010	"	10	A211532	21-Nov-12	26-Nov-12	EPA 6020	
Nickel	**0.0034**	0.0025	0.0050	"	5	"	"	28-Nov-12	"	J
Selenium	**0.012**	0.0055	0.010	"	"	"	"	"	"	
Silver	ND	0.0073	0.010	"	10	"	"	26-Nov-12	"	
Thallium	ND	0.0036	0.0050	"	5	"	"	28-Nov-12	"	R-05
Vanadium	ND	0.015	0.025	"	"	"	"	"	"	
Zinc	ND	0.012	0.025	"	"	"	"	"	"	

TEPH by GCMS

TPH Diesel (C10-C25)	**0.041**	0.020	0.050	mg/L	1	A211374	15-Nov-12	16-Nov-12	EPA 8270C	J
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*89.8 %*	*34-137*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	ND	0.060	0.10	ug/L	1	A211373	15-Nov-12	20-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.060	0.10	"	"	"	"	"	"	
Anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.050	0.10	"	"	"	"	"	"	
Chrysene	ND	0.050	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.050	0.10	"	"	"	"	"	"	
Fluorene	ND	0.060	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-225

1205657-25 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Indeno (1,2,3-cd) pyrene	ND	0.050	0.10	ug/L	1	A211373	15-Nov-12	20-Nov-12	EPA 8270M SIM	
Naphthalene	ND	0.060	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.050	0.10	"	"	"	"	"	"	
Pyrene	ND	0.050	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*93.8 %*		*27-159*	"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B/LUFT

Benzene	ND	0.25	0.50	ug/L	1	A211443	19-Nov-12	19-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	**0.43**	0.25	0.50	"	"	"	"	"	"	J
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-225

1205657-25 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211443	19-Nov-12	19-Nov-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	ND	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-225

1205657-25 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methyl-t-butyl ether	ND	0.25	0.50	ug/L	1	A211443	19-Nov-12	19-Nov-12	EPA 8260B/LUFT	
TPH Gasoline (C4-C10)	**23**	20	50	"	"	"	"	"	"	J
Surrogate: Dibromofluoromethane			*98.1 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*87.2 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*102 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

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1205657-26 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.010	0.025	mg/L	5	A211532	21-Nov-12	29-Nov-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.047**	0.0070	0.010	"	10	"	"	26-Nov-12	"	
Beryllium	ND	0.0039	0.0050	"	5	"	"	29-Nov-12	"	
Cadmium	ND	0.0050	0.010	"	10	"	"	26-Nov-12	"	
Chromium	ND	0.0055	0.010	"	5	"	"	29-Nov-12	"	
Cobalt	ND	0.0025	0.0050	"	"	"	"	"	"	
Copper	**0.0041**	0.0036	0.0050	"	"	"	"	"	"	J
Lead	ND	0.0080	0.010	"	10	"	"	26-Nov-12	"	
Mercury	ND	0.000100	0.000200	"	1	A211440	19-Nov-12	19-Nov-12	EPA 7470A	
Molybdenum	ND	0.0085	0.010	"	10	A211532	21-Nov-12	26-Nov-12	EPA 6020	
Nickel	ND	0.0025	0.0050	"	5	"	"	29-Nov-12	"	
Selenium	**0.0094**	0.0055	0.010	"	"	"	"	"	"	J
Silver	ND	0.0073	0.010	"	10	"	"	26-Nov-12	"	
Thallium	ND	0.0036	0.0050	"	5	"	"	29-Nov-12	"	R-05
Vanadium	ND	0.015	0.025	"	"	"	"	"	"	
Zinc	ND	0.012	0.025	"	"	"	"	"	"	

TEPH by GCMS

TPH Diesel (C10-C25)	**0.048**	0.021	0.052	mg/L	1	A211374	15-Nov-12	16-Nov-12	EPA 8270C	J
TPH Oil Crude (C25-C40)	ND	0.21	0.52	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*73.2 %*	*34-137*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	ND	0.063	0.10	ug/L	1	A211373	15-Nov-12	20-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.063	0.10	"	"	"	"	"	"	
Anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.052	0.10	"	"	"	"	"	"	
Chrysene	ND	0.052	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Fluorene	ND	0.063	0.10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
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1205657-26 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Indeno (1,2,3-cd) pyrene	ND	0.052	0.10	ug/L	1	A211373	15-Nov-12	20-Nov-12	EPA 8270M SIM	
Naphthalene	**7.5**	0.63	1.0	"	10	"	"	20-Nov-12	"	
Phenanthrene	ND	0.052	0.10	"	1	"	"	20-Nov-12	"	
Pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*90.0 %*	*27-159*		*"*	*"*	*"*	*"*	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**15**	0.25	0.50	ug/L	1	A211507	21-Nov-12	22-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	**0.90**	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**2.1**	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.34**	0.25	0.50	"	"	"	"	"	"	J
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

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Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211507	21-Nov-12	22-Nov-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	**44**	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	**15**	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	**4.3**	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	**10**	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	**13**	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**5.3**	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**80**	1.2	2.5	"	5	A211443	19-Nov-12	19-Nov-12	"	
1,3,5-Trimethylbenzene	**0.34**	0.25	0.50	"	1	A211507	21-Nov-12	22-Nov-12	"	J
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	**33**	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**14**	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	

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1205657-26 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	**950**	20	50	ug/L	1	A211507	21-Nov-12	22-Nov-12	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*101 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*101 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*99.9 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-223-88

1205657-27 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Metals by EPA 6000/7000 Series Methods										
Antimony	ND	0.010	0.025	mg/L	5	A211532	21-Nov-12	27-Nov-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.043**	0.0070	0.010	"	10	"	"	26-Nov-12	"	
Beryllium	ND	0.0039	0.0050	"	5	"	"	27-Nov-12	"	
Cadmium	ND	0.0050	0.010	"	10	"	"	26-Nov-12	"	
Chromium	ND	0.0055	0.010	"	5	"	"	27-Nov-12	"	
Cobalt	ND	0.0025	0.0050	"	"	"	"	"	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0080	0.010	"	10	"	"	26-Nov-12	"	
Mercury	ND	0.000100	0.000200	"	1	A211440	19-Nov-12	19-Nov-12	EPA 7470A	
Molybdenum	ND	0.0085	0.010	"	10	A211532	21-Nov-12	26-Nov-12	EPA 6020	
Nickel	ND	0.0025	0.0050	"	5	"	"	27-Nov-12	"	
Selenium	**0.014**	0.0055	0.010	"	"	"	"	"	"	
Silver	ND	0.0073	0.010	"	10	"	"	26-Nov-12	"	
Thallium	ND	0.0036	0.0050	"	5	"	"	27-Nov-12	"	R-05
Vanadium	ND	0.015	0.025	"	"	"	"	"	"	
Zinc	ND	0.012	0.025	"	"	"	"	"	"	
TEPH by GCMS										
TPH Diesel (C10-C25)	**0.16**	0.021	0.052	mg/L	1	A211374	15-Nov-12	16-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	ND	0.21	0.52	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*68.6 %*	*34-137*		"	"	"	"	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	ND	0.062	0.10	ug/L	1	A211373	15-Nov-12	20-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.062	0.10	"	"	"	"	"	"	
Anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.052	0.10	"	"	"	"	"	"	
Chrysene	ND	0.052	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.052	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.052	0.10	"	"	"	"	"	"	
Fluorene	ND	0.062	0.10	"	"	"	"	"	"	

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1205657-27 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Indeno (1,2,3-cd) pyrene	ND	0.052	0.10	ug/L	1	A211373	15-Nov-12	20-Nov-12	EPA 8270M SIM	
Naphthalene	**0.27**	0.062	0.10	"	"	"	"	"	"	
Phenanthrene	ND	0.052	0.10	"	"	"	"	"	"	
Pyrene	ND	0.052	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*101 %*		*27-159*	"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**130**	2.5	5.0	ug/L	10	A211507	21-Nov-12	21-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	1	"	"	22-Nov-12	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	ND	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**0.89**	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.43**	0.25	0.50	"	"	"	"	"	"	J
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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1205657-27 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211507	21-Nov-12	22-Nov-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	**8.3**	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	**3.7**	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	**0.77**	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	**2.0**	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**15**	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**3.7**	0.25	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.47**	0.25	0.50	"	"	"	"	"	"	J
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	**11**	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**1100**	25	100	"	10	"	"	21-Nov-12	"	
Diisopropyl Ether	ND	0.25	0.50	"	1	"	"	22-Nov-12	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-223-88

1205657-27 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	**1600**	20	50	ug/L	1	A211507	21-Nov-12	22-Nov-12	EPA 8260B/LUFT	D-03
Surrogate: Dibromofluoromethane			*109 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*106 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*107 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-231

1205657-28 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.010	0.025	mg/L	5	A211532	21-Nov-12	29-Nov-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.18**	0.0070	0.010	"	10	"	"	26-Nov-12	"	
Beryllium	ND	0.0039	0.0050	"	5	"	"	29-Nov-12	"	
Cadmium	ND	0.0050	0.010	"	10	"	"	26-Nov-12	"	
Chromium	ND	0.0055	0.010	"	5	"	"	29-Nov-12	"	
Cobalt	ND	0.0025	0.0050	"	"	"	"	"	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0080	0.010	"	10	"	"	26-Nov-12	"	
Mercury	ND	0.000100	0.000200	"	1	A211440	19-Nov-12	19-Nov-12	EPA 7470A	
Molybdenum	ND	0.0085	0.010	"	10	A211532	21-Nov-12	26-Nov-12	EPA 6020	
Nickel	ND	0.0025	0.0050	"	5	"	"	29-Nov-12	"	
Selenium	**0.0076**	0.0055	0.010	"	"	"	"	"	"	J
Silver	ND	0.0073	0.010	"	10	"	"	26-Nov-12	"	
Thallium	ND	0.0036	0.0050	"	5	"	"	29-Nov-12	"	R-05
Vanadium	ND	0.015	0.025	"	"	"	"	"	"	
Zinc	ND	0.012	0.025	"	"	"	"	"	"	

TEPH by GCMS

TPH Diesel (C10-C25)	**1.1**	0.021	0.051	mg/L	1	A211374	15-Nov-12	16-Nov-12	EPA 8270C	
TPH Oil Crude (C25-C40)	**0.22**	0.21	0.51	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*81.6 %*	*34-137*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	ND	0.062	0.10	ug/L	1	A211373	15-Nov-12	20-Nov-12	EPA 8270M SIM	
Acenaphthylene	**0.092**	0.062	0.10	"	"	"	"	"	"	J
Anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.051	0.10	"	"	"	"	"	"	
Chrysene	ND	0.051	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.051	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.051	0.10	"	"	"	"	"	"	
Fluorene	ND	0.062	0.10	"	"	"	"	"	"	

AT-B-231

1205657-28 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Indeno (1,2,3-cd) pyrene	ND	0.051	0.10	ug/L	1	A211373	15-Nov-12	20-Nov-12	EPA 8270M SIM	
Naphthalene	**24**	0.62	1.0	"	10	"	"	20-Nov-12	"	
Phenanthrene	**0.062**	0.051	0.10	"	1	"	"	20-Nov-12	"	J
Pyrene	ND	0.051	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*92.5 %*	*27-159*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**2700**	50	100	ug/L	200	A211507	21-Nov-12	21-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	5.0	10	"	20	"	"	22-Nov-12	"	
Bromochloromethane	ND	5.0	10	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	10	"	"	"	"	"	"	
Bromoform	ND	5.0	10	"	"	"	"	"	"	
Bromomethane	ND	5.0	10	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	10	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	10	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	10	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	10	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	10	"	"	"	"	"	"	
Chloroethane	ND	5.0	10	"	"	"	"	"	"	
Chloroform	ND	5.0	10	"	"	"	"	"	"	
Chloromethane	ND	5.0	10	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	10	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	10	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	15	20	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	10	"	"	"	"	"	"	
Dibromomethane	ND	5.0	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	10	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	10	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.2	10	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	10	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	10	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-231

1205657-28 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	5.0	10	ug/L	20	A211507	21-Nov-12	22-Nov-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	5.0	10	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	10	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	10	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	10	"	"	"	"	"	"	
Ethylbenzene	**48**	5.0	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	10	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	10	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	10	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	5.0	10	"	"	"	"	"	"	
Methylene chloride	ND	10	20	"	"	"	"	"	"	
Naphthalene	**30**	5.0	10	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	10	"	"	"	"	"	"	
Styrene	ND	5.0	10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	10	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	5.0	10	"	"	"	"	"	"	
Toluene	**65**	5.0	10	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	10	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	10	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	5.0	10	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	10	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**43**	5.0	10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	10	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	10	"	"	"	"	"	"	
Xylenes (total)	**85**	5.4	10	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	5.0	10	"	"	"	"	"	"	
t-Butyl alcohol	**5200**	500	2000	"	200	"	"	21-Nov-12	"	
Diisopropyl Ether	ND	5.0	10	"	20	"	"	22-Nov-12	"	
Ethanol	ND	5000	10000	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	5.0	10	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	5.0	10	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

AT-B-231

1205657-28 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

TPH Gasoline (C4-C10)	**8100**	400	1000	ug/L	20	A211507	21-Nov-12	22-Nov-12	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*106 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*105 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*101 %*	*70-130*		"	"	"	"	

TestAmerica Irvine

Organic Lead (GFAA)

Organo-Lead	ND	25	63	ug/L	5	66639	14-Nov-12	15-Nov-12	939-M	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

DUP-4

1205657-29 (Aqueous)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Total Dissolved Metals by EPA 6000/7000 Series Methods

Antimony	ND	0.010	0.025	mg/L	5	A211532	21-Nov-12	29-Nov-12	EPA 6020	
Arsenic	ND	0.010	0.025	"	"	"	"	"	"	
Barium	**0.049**	0.0070	0.010	"	10	"	"	26-Nov-12	"	
Beryllium	ND	0.0039	0.0050	"	5	"	"	29-Nov-12	"	
Cadmium	ND	0.0050	0.010	"	10	"	"	26-Nov-12	"	
Chromium	**0.0076**	0.0055	0.010	"	5	"	"	29-Nov-12	"	J
Cobalt	ND	0.0025	0.0050	"	"	"	"	"	"	
Copper	ND	0.0036	0.0050	"	"	"	"	"	"	
Lead	ND	0.0080	0.010	"	10	"	"	26-Nov-12	"	
Mercury	ND	0.000100	0.000200	"	1	A211440	19-Nov-12	19-Nov-12	EPA 7470A	
Molybdenum	ND	0.0085	0.010	"	10	A211532	21-Nov-12	26-Nov-12	EPA 6020	
Nickel	**0.0057**	0.0025	0.0050	"	5	"	"	29-Nov-12	"	
Selenium	**0.030**	0.0055	0.010	"	"	"	"	"	"	
Silver	ND	0.0073	0.010	"	10	"	"	26-Nov-12	"	
Thallium	ND	0.0036	0.0050	"	5	"	"	29-Nov-12	"	R-05
Vanadium	ND	0.015	0.025	"	"	"	"	"	"	
Zinc	ND	0.012	0.025	"	"	"	"	"	"	

TEPH by GCMS

TPH Diesel (C10-C25)	**0.047**	0.020	0.050	mg/L	1	A211374	15-Nov-12	16-Nov-12	EPA 8270C	J
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*68.2 %*	*34-137*		"	"	"	"	

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Acenaphthene	ND	0.60	1.0	ug/L	10	A211373	15-Nov-12	20-Nov-12	EPA 8270M SIM	
Acenaphthylene	ND	0.60	1.0	"	"	"	"	"	"	
Anthracene	ND	0.50	1.0	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.50	1.0	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.50	1.0	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.50	1.0	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.50	1.0	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.50	1.0	"	"	"	"	"	"	
Chrysene	ND	0.50	1.0	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.50	1.0	"	"	"	"	"	"	
Fluoranthene	ND	0.50	1.0	"	"	"	"	"	"	
Fluorene	ND	0.60	1.0	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

DUP-4

1205657-29 (Aqueous)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Indeno (1,2,3-cd) pyrene	ND	0.50	1.0	ug/L	10	A211373	15-Nov-12	20-Nov-12	EPA 8270M SIM	
Naphthalene	**9.6**	0.60	1.0	"	"	"	"	"	"	
Phenanthrene	ND	0.50	1.0	"	"	"	"	"	"	
Pyrene	ND	0.50	1.0	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*62.5 %*		*27-159*	"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B/LUFT										
Benzene	**13**	0.25	0.50	ug/L	1	A211507	21-Nov-12	22-Nov-12	EPA 8260B/LUFT	
Bromobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Bromoform	ND	0.25	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.25	0.50	"	"	"	"	"	"	
n-Butylbenzene	**0.71**	0.25	0.50	"	"	"	"	"	"	
sec-Butylbenzene	**1.7**	0.25	0.50	"	"	"	"	"	"	
tert-Butylbenzene	**0.27**	0.25	0.50	"	"	"	"	"	"	J
Carbon tetrachloride	ND	0.25	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Chloroform	ND	0.25	0.50	"	"	"	"	"	"	
Chloromethane	ND	0.25	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	0.25	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.26	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

DUP-4

1205657-29 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,2-Dichloropropane	ND	0.25	0.50	ug/L	1	A211507	21-Nov-12	22-Nov-12	EPA 8260B/LUFT	
1,3-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.25	0.50	"	"	"	"	"	"	
Ethylbenzene	**36**	0.25	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.25	0.50	"	"	"	"	"	"	
Isopropylbenzene	**12**	0.25	0.50	"	"	"	"	"	"	
4-Isopropyl Toluene	**3.4**	0.25	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	**8.2**	0.25	0.50	"	"	"	"	"	"	
n-Propylbenzene	**10**	0.25	0.50	"	"	"	"	"	"	
Styrene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.25	0.50	"	"	"	"	"	"	
Toluene	**4.3**	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.25	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.25	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.25	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**86**	1.2	2.5	"	5	A211443	19-Nov-12	19-Nov-12	"	
1,3,5-Trimethylbenzene	**0.26**	0.25	0.50	"	1	A211507	21-Nov-12	22-Nov-12	"	J
Vinyl chloride	ND	0.25	0.50	"	"	"	"	"	"	
Xylenes (total)	**26**	0.27	0.50	"	"	"	"	"	"	
t-Amyl Methyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
t-Butyl alcohol	**12**	2.5	10	"	"	"	"	"	"	
Diisopropyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Ethanol	ND	250	500	"	"	"	"	"	"	
Ethyl t-Butyl Ether	ND	0.25	0.50	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.25	0.50	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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DUP-4

1205657-29 (Aqueous)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B/LUFT

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TPH Gasoline (C4-C10)	**860**	20	50	ug/L	1	A211507	21-Nov-12	22-Nov-12	EPA 8260B/LUFT	
Surrogate: Dibromofluoromethane			*104 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*105 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*103 %*	*70-130*		"	"	"	"	

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211440 - EPA 7470A Prep											
Blank (A211440-BLK1)					Prepared & Analyzed: 19-Nov-12						
Mercury	ND	0.000100	0.000200	mg/L							
LCS (A211440-BS1)					Prepared & Analyzed: 19-Nov-12						
Mercury	0.00997	0.000100	0.000200	mg/L	0.0100		99.7	85-115			
LCS Dup (A211440-BSD1)					Prepared & Analyzed: 19-Nov-12						
Mercury	0.0108	0.000100	0.000200	mg/L	0.0100		108	85-115	8.27	20	
Duplicate (A211440-DUP1)	**Source: 1205657-10**				Prepared & Analyzed: 19-Nov-12						
Mercury	ND	0.000100	0.000200	mg/L		0.000122				25	
Matrix Spike (A211440-MS1)	**Source: 1205657-10**				Prepared & Analyzed: 19-Nov-12						
Mercury	0.00891	0.000100	0.000200	mg/L	0.0100	0.000122	87.9	75-125			
Matrix Spike Dup (A211440-MSD1)	**Source: 1205657-10**				Prepared & Analyzed: 19-Nov-12						
Mercury	0.00888	0.000100	0.000200	mg/L	0.0100	0.000122	87.5	75-125	0.405	20	
Batch A211532 - EPA 3005A Filtered											
Blank (A211532-BLK1)					Prepared: 21-Nov-12 Analyzed: 26-Nov-12						
Barium	ND	0.00070	0.0010	mg/L							
Cadmium	ND	0.00050	0.0010	"							
Lead	ND	0.00080	0.0010	"							
Molybdenum	ND	0.00085	0.0010	"							
Silver	ND	0.00073	0.0010	"							
Blank (A211532-BLK3)					Prepared: 21-Nov-12 Analyzed: 27-Nov-12						
Antimony	ND	0.0020	0.0050	mg/L							
Arsenic	ND	0.0020	0.0050	"							
Beryllium	ND	0.00078	0.0010	"							
Chromium	ND	0.0011	0.0020	"							
Cobalt	ND	0.00050	0.0010	"							
Copper	ND	0.00071	0.0010	"							
Nickel	ND	0.00050	0.0010	"							
Selenium	ND	0.0011	0.0020	"							
Thallium	ND	0.00072	0.0010	"							
Vanadium	ND	0.0030	0.0050	"							
Zinc	ND	0.0025	0.0050	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211532 - EPA 3005A Filtered											
LCS (A211532-BS1)					Prepared: 21-Nov-12 Analyzed: 26-Nov-12						
Barium	0.147	0.00070	0.0010	mg/L	0.150		98.1	80-120			
Cadmium	0.160	0.00050	0.0010	"	0.150		107	80-120			
Lead	0.142	0.00080	0.0010	"	0.150		94.8	80-120			
Molybdenum	0.154	0.00085	0.0010	"	0.150		103	80-120			
Silver	0.158	0.00073	0.0010	"	0.150		105	80-120			
LCS (A211532-BS3)					Prepared: 21-Nov-12 Analyzed: 27-Nov-12						
Antimony	0.162	0.0020	0.0050	mg/L	0.150		108	80-120			
Arsenic	0.153	0.0020	0.0050	"	0.150		102	80-120			
Beryllium	0.169	0.00078	0.0010	"	0.150		112	80-120			
Chromium	0.126	0.0011	0.0020	"	0.150		83.9	80-120			
Cobalt	0.169	0.00050	0.0010	"	0.150		113	80-120			
Copper	0.166	0.00071	0.0010	"	0.150		111	80-120			
Nickel	0.173	0.00050	0.0010	"	0.150		115	80-120			
Selenium	0.162	0.0011	0.0020	"	0.150		108	80-120			
Thallium	0.163	0.00072	0.0010	"	0.150		108	80-120			
Vanadium	0.141	0.0030	0.0050	"	0.150		93.8	80-120			
Zinc	0.170	0.0025	0.0050	"	0.150		114	80-120			
LCS Dup (A211532-BSD1)					Prepared: 21-Nov-12 Analyzed: 26-Nov-12						
Barium	0.141	0.00070	0.0010	mg/L	0.150		94.0	80-120	4.32	20	
Cadmium	0.155	0.00050	0.0010	"	0.150		103	80-120	3.27	20	
Lead	0.141	0.00080	0.0010	"	0.150		93.7	80-120	1.11	20	
Molybdenum	0.147	0.00085	0.0010	"	0.150		98.3	80-120	4.44	20	
Silver	0.153	0.00073	0.0010	"	0.150		102	80-120	3.14	20	
LCS Dup (A211532-BSD3)					Prepared: 21-Nov-12 Analyzed: 27-Nov-12						
Antimony	0.158	0.0020	0.0050	mg/L	0.150		105	80-120	2.61	20	
Arsenic	0.151	0.0020	0.0050	"	0.150		100	80-120	1.47	20	
Beryllium	0.163	0.00078	0.0010	"	0.150		108	80-120	3.67	20	
Chromium	0.126	0.0011	0.0020	"	0.150		84.2	80-120	0.423	20	
Cobalt	0.163	0.00050	0.0010	"	0.150		109	80-120	3.92	20	
Copper	0.159	0.00071	0.0010	"	0.150		106	80-120	4.21	20	
Nickel	0.166	0.00050	0.0010	"	0.150		111	80-120	4.01	20	
Selenium	0.164	0.0011	0.0020	"	0.150		109	80-120	0.972	20	
Thallium	0.161	0.00072	0.0010	"	0.150		107	80-120	0.980	20	
Vanadium	0.139	0.0030	0.0050	"	0.150		92.4	80-120	1.49	20	
Zinc	0.162	0.0025	0.0050	"	0.150		108	80-120	4.80	20	

Total Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211532 - EPA 3005A Filtered											
Duplicate (A211532-DUP1)	**Source: 1205657-27RE1**				Prepared: 21-Nov-12 Analyzed: 26-Nov-12						
Barium	0.00512	0.00070	0.0010	mg/L		0.0430			158	20	QR-04
Cadmium	ND	0.00050	0.0010	"		ND				20	
Lead	ND	0.00080	0.0010	"		ND				20	
Molybdenum	ND	0.00085	0.0010	"		ND				20	
Silver	ND	0.00073	0.0010	"		ND				20	
Duplicate (A211532-DUP3)	**Source: 1205657-27RE1**				Prepared: 21-Nov-12 Analyzed: 27-Nov-12						
Antimony	ND	0.010	0.025	mg/L		ND				20	
Arsenic	ND	0.010	0.025	"		ND				20	
Beryllium	ND	0.0039	0.0050	"		ND				20	
Chromium	ND	0.0055	0.010	"		ND				20	
Cobalt	ND	0.0025	0.0050	"		ND				20	
Copper	ND	0.0036	0.0050	"		ND				20	
Nickel	ND	0.0025	0.0050	"		ND				20	
Selenium	0.0126	0.0055	0.010	"		0.0136			7.56	20	
Thallium	ND	0.0036	0.0050	"		ND				20	
Vanadium	ND	0.015	0.025	"		ND				20	
Zinc	ND	0.012	0.025	"		ND				20	
Matrix Spike (A211532-MS1)	**Source: 1205657-27RE1**				Prepared: 21-Nov-12 Analyzed: 26-Nov-12						
Barium	0.0339	0.0014	0.0020	mg/L	0.300	0.0430	NR	75-125			QM-08
Cadmium	0.0189	0.0010	0.0020	"	0.300	ND	6.30	75-125			QM-08
Lead	0.0309	0.0016	0.0020	"	0.300	ND	10.3	75-125			QM-08
Molybdenum	0.0312	0.0017	0.0020	"	0.300	ND	10.4	75-125			QM-08
Silver	0.0310	0.0015	0.0020	"	0.300	ND	10.3	75-125			QM-08
Matrix Spike (A211532-MS3)	**Source: 1205657-27RE1**				Prepared: 21-Nov-12 Analyzed: 27-Nov-12						
Antimony	0.288	0.020	0.050	mg/L	0.300	ND	95.9	75-125			
Arsenic	0.259	0.020	0.050	"	0.300	ND	86.4	75-125			
Beryllium	0.275	0.0078	0.010	"	0.300	ND	91.6	75-125			
Chromium	0.273	0.011	0.020	"	0.300	ND	91.1	75-125			
Cobalt	0.259	0.0050	0.010	"	0.300	ND	86.5	75-125			
Copper	0.252	0.0071	0.010	"	0.300	ND	84.1	75-125			
Nickel	0.265	0.0050	0.010	"	0.300	ND	88.3	75-125			
Selenium	0.273	0.011	0.020	"	0.300	0.0136	86.5	75-125			
Thallium	0.261	0.0072	0.010	"	0.300	ND	86.9	75-125			
Vanadium	0.273	0.030	0.050	"	0.300	ND	90.9	75-125			
Zinc	0.271	0.025	0.050	"	0.300	ND	90.4	75-125			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211334 - EPA 3510C MS											
Blank (A211334-BLK1)					Prepared: 13-Nov-12 Analyzed: 15-Nov-12						
TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L							
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"							
Surrogate: o-Terphenyl	*0.00414*			*"*	*0.00500*		*82.8*	*34-137*			
LCS (A211334-BS1)					Prepared: 13-Nov-12 Analyzed: 15-Nov-12						
TPH Diesel (C10-C25)	0.633	0.020	0.050	mg/L	1.00		63.3	15-119			
Surrogate: o-Terphenyl	*0.00397*			*"*	*0.00500*		*79.4*	*34-137*			
LCS (A211334-BS2)					Prepared: 13-Nov-12 Analyzed: 15-Nov-12						
TPH Oil Crude (C25-C40)	1.78	0.20	0.50	mg/L	2.00		89.2	40-106			
Surrogate: o-Terphenyl	*0.00429*			*"*	*0.00500*		*85.8*	*34-137*			
LCS Dup (A211334-BSD1)					Prepared: 13-Nov-12 Analyzed: 15-Nov-12						
TPH Diesel (C10-C25)	0.611	0.020	0.050	mg/L	1.00		61.1	15-119	3.51	20	
Surrogate: o-Terphenyl	*0.00415*			*"*	*0.00500*		*83.0*	*34-137*			
LCS Dup (A211334-BSD2)					Prepared: 13-Nov-12 Analyzed: 15-Nov-12						
TPH Oil Crude (C25-C40)	1.69	0.20	0.50	mg/L	2.00		84.5	40-106	5.38	20	
Surrogate: o-Terphenyl	*0.00429*			*"*	*0.00500*		*85.8*	*34-137*			
Batch A211336 - EPA 3510C MS											
Blank (A211336-BLK1)					Prepared & Analyzed: 14-Nov-12						
TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L							
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"							
Surrogate: o-Terphenyl	*0.00441*			*"*	*0.00500*		*88.2*	*34-137*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
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TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211336 - EPA 3510C MS											
LCS (A211336-BS1)					Prepared & Analyzed: 14-Nov-12						
TPH Diesel (C10-C25)	0.753	0.020	0.050	mg/L	1.00		75.3	15-119			
Surrogate: o-Terphenyl	*0.00511*			*"*	*0.00500*		*102*	*34-137*			
LCS (A211336-BS2)					Prepared & Analyzed: 14-Nov-12						
TPH Oil Crude (C25-C40)	1.95	0.20	0.50	mg/L	2.00		97.4	40-106			
Surrogate: o-Terphenyl	*0.00450*			*"*	*0.00500*		*90.0*	*34-137*			
LCS Dup (A211336-BSD1)					Prepared & Analyzed: 14-Nov-12						
TPH Diesel (C10-C25)	0.736	0.020	0.050	mg/L	1.00		73.6	15-119	2.24	20	
Surrogate: o-Terphenyl	*0.00534*			*"*	*0.00500*		*107*	*34-137*			
LCS Dup (A211336-BSD2)					Prepared & Analyzed: 14-Nov-12						
TPH Oil Crude (C25-C40)	1.81	0.20	0.50	mg/L	2.00		90.4	40-106	7.44	20	
Surrogate: o-Terphenyl	*0.00421*			*"*	*0.00500*		*84.2*	*34-137*			
Batch A211374 - EPA 3510C MS											
Blank (A211374-BLK1)					Prepared: 15-Nov-12 Analyzed: 16-Nov-12						
TPH Diesel (C10-C25)	ND	0.020	0.050	mg/L							
TPH Oil Crude (C25-C40)	ND	0.20	0.50	"							
Surrogate: o-Terphenyl	*0.00327*			*"*	*0.00500*		*65.4*	*34-137*			
LCS (A211374-BS1)					Prepared: 15-Nov-12 Analyzed: 16-Nov-12						
TPH Diesel (C10-C25)	0.607	0.020	0.050	mg/L	1.00		60.7	15-119			
Surrogate: o-Terphenyl	*0.00428*			*"*	*0.00500*		*85.6*	*34-137*			
LCS (A211374-BS2)					Prepared: 15-Nov-12 Analyzed: 16-Nov-12						
TPH Oil Crude (C25-C40)	1.85	0.20	0.50	mg/L	2.00		92.7	40-106			
Surrogate: o-Terphenyl	*0.00449*			*"*	*0.00500*		*89.8*	*34-137*			

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TEPH by GCMS - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211374 - EPA 3510C MS											
LCS Dup (A211374-BSD1)					Prepared: 15-Nov-12 Analyzed: 16-Nov-12						
TPH Diesel (C10-C25)	0.602	0.020	0.050	mg/L	1.00		60.2	15-119	0.851	20	
Surrogate: o-Terphenyl	*0.00445*			"	*0.00500*		*89.0*	*34-137*			
LCS Dup (A211374-BSD2)					Prepared: 15-Nov-12 Analyzed: 16-Nov-12						
TPH Oil Crude (C25-C40)	1.58	0.20	0.50	mg/L	2.00		79.0	40-106	16.0	20	
Surrogate: o-Terphenyl	*0.00357*			"	*0.00500*		*71.4*	*34-137*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211314 - EPA 3510C MS											
Blank (A211314-BLK1)					Prepared: 13-Nov-12 Analyzed: 16-Nov-12						
Acenaphthene	ND	0.060	0.10	ug/L							
Acenaphthylene	ND	0.060	0.10	"							
Anthracene	ND	0.050	0.10	"							
Benz(a)anthracene	ND	0.050	0.10	"							
Benzo (b) fluoranthene	ND	0.050	0.10	"							
Benzo (k) fluoranthene	ND	0.050	0.10	"							
Benzo (a) pyrene	ND	0.050	0.10	"							
Benzo (g,h,i) perylene	ND	0.050	0.10	"							
Chrysene	ND	0.050	0.10	"							
Dibenz (a,h) anthracene	ND	0.050	0.10	"							
Fluoranthene	ND	0.050	0.10	"							
Fluorene	ND	0.060	0.10	"							
Indeno (1,2,3-cd) pyrene	ND	0.050	0.10	"							
Naphthalene	ND	0.060	0.10	"							
Phenanthrene	ND	0.050	0.10	"							
Pyrene	ND	0.050	0.10	"							
Surrogate: p-Terphenyl-d14	*0.720*			*"*	*0.800*		*90.0*	*27-159*			
LCS (A211314-BS1)					Prepared: 13-Nov-12 Analyzed: 16-Nov-12						
Acenaphthene	0.570	0.060	0.10	ug/L	0.800		71.2	40-120			
Acenaphthylene	0.550	0.060	0.10	"	0.800		68.8	40-120			
Anthracene	0.520	0.050	0.10	"	0.800		65.0	40-120			
Benz(a)anthracene	0.660	0.050	0.10	"	0.800		82.5	40-120			
Benzo (b) fluoranthene	0.650	0.050	0.10	"	0.800		81.2	40-120			
Benzo (k) fluoranthene	0.730	0.050	0.10	"	0.800		91.2	40-120			
Benzo (a) pyrene	0.560	0.050	0.10	"	0.800		70.0	40-120			
Benzo (g,h,i) perylene	0.630	0.050	0.10	"	0.800		78.8	40-120			
Chrysene	0.710	0.050	0.10	"	0.800		88.8	40-120			
Dibenz (a,h) anthracene	0.650	0.050	0.10	"	0.800		81.2	40-120			
Fluoranthene	0.700	0.050	0.10	"	0.800		87.5	40-120			
Fluorene	0.610	0.060	0.10	"	0.800		76.2	40-120			
Indeno (1,2,3-cd) pyrene	0.640	0.050	0.10	"	0.800		80.0	40-120			
Naphthalene	0.550	0.060	0.10	"	0.800		68.8	40-120			
Phenanthrene	0.640	0.050	0.10	"	0.800		80.0	40-120			
Pyrene	0.690	0.050	0.10	"	0.800		86.2	40-120			
Surrogate: p-Terphenyl-d14	*0.710*			*"*	*0.800*		*88.8*	*27-159*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211314 - EPA 3510C MS											
LCS Dup (A211314-BSD1)					Prepared: 13-Nov-12 Analyzed: 16-Nov-12						
Acenaphthene	0.530	0.060	0.10	ug/L	0.800		66.2	40-120	7.27	30	
Acenaphthylene	0.520	0.060	0.10	"	0.800		65.0	40-120	5.61	30	
Anthracene	0.510	0.050	0.10	"	0.800		63.8	40-120	1.94	30	
Benz(a)anthracene	0.670	0.050	0.10	"	0.800		83.8	40-120	1.50	30	
Benzo (b) fluoranthene	0.690	0.050	0.10	"	0.800		86.2	40-120	5.97	30	
Benzo (k) fluoranthene	0.700	0.050	0.10	"	0.800		87.5	40-120	4.20	30	
Benzo (a) pyrene	0.560	0.050	0.10	"	0.800		70.0	40-120	0.00	30	
Benzo (g,h,i) perylene	0.610	0.050	0.10	"	0.800		76.2	40-120	3.23	30	
Chrysene	0.690	0.050	0.10	"	0.800		86.2	40-120	2.86	30	
Dibenz (a,h) anthracene	0.640	0.050	0.10	"	0.800		80.0	40-120	1.55	30	
Fluoranthene	0.650	0.050	0.10	"	0.800		81.2	40-120	7.41	30	
Fluorene	0.570	0.060	0.10	"	0.800		71.2	40-120	6.78	30	
Indeno (1,2,3-cd) pyrene	0.620	0.050	0.10	"	0.800		77.5	40-120	3.17	30	
Naphthalene	0.540	0.060	0.10	"	0.800		67.5	40-120	1.83	30	
Phenanthrene	0.610	0.050	0.10	"	0.800		76.2	40-120	4.80	30	
Pyrene	0.670	0.050	0.10	"	0.800		83.8	40-120	2.94	30	
Surrogate: p-Terphenyl-d14	*0.710*			*"*	*0.800*		*88.8*	*27-159*			
Batch A211373 - EPA 3510C MS											
Blank (A211373-BLK1)					Prepared: 15-Nov-12 Analyzed: 20-Nov-12						
Acenaphthene	ND	0.060	0.10	ug/L							
Acenaphthylene	ND	0.060	0.10	"							
Anthracene	ND	0.050	0.10	"							
Benz(a)anthracene	ND	0.050	0.10	"							
Benzo (b) fluoranthene	ND	0.050	0.10	"							
Benzo (k) fluoranthene	ND	0.050	0.10	"							
Benzo (a) pyrene	ND	0.050	0.10	"							
Benzo (g,h,i) perylene	ND	0.050	0.10	"							
Chrysene	ND	0.050	0.10	"							
Dibenz (a,h) anthracene	ND	0.050	0.10	"							
Fluoranthene	ND	0.050	0.10	"							
Fluorene	ND	0.060	0.10	"							
Indeno (1,2,3-cd) pyrene	ND	0.050	0.10	"							
Naphthalene	ND	0.060	0.10	"							
Phenanthrene	ND	0.050	0.10	"							
Pyrene	ND	0.050	0.10	"							
Surrogate: p-Terphenyl-d14	*0.690*			*"*	*0.800*		*86.2*	*27-159*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211373 - EPA 3510C MS											
LCS (A211373-BS1)					Prepared: 15-Nov-12 Analyzed: 20-Nov-12						
Acenaphthene	0.550	0.060	0.10	ug/L	0.800		68.8	40-120			
Acenaphthylene	0.550	0.060	0.10	"	0.800		68.8	40-120			
Anthracene	0.600	0.050	0.10	"	0.800		75.0	40-120			
Benz(a)anthracene	0.700	0.050	0.10	"	0.800		87.5	40-120			
Benzo (b) fluoranthene	0.670	0.050	0.10	"	0.800		83.8	40-120			
Benzo (k) fluoranthene	0.710	0.050	0.10	"	0.800		88.8	40-120			
Benzo (a) pyrene	0.610	0.050	0.10	"	0.800		76.2	40-120			
Benzo (g,h,i) perylene	0.840	0.050	0.10	"	0.800		105	40-120			
Chrysene	0.690	0.050	0.10	"	0.800		86.2	40-120			
Dibenz (a,h) anthracene	0.850	0.050	0.10	"	0.800		106	40-120			
Fluoranthene	0.720	0.050	0.10	"	0.800		90.0	40-120			
Fluorene	0.570	0.060	0.10	"	0.800		71.2	40-120			
Indeno (1,2,3-cd) pyrene	0.850	0.050	0.10	"	0.800		106	40-120			
Naphthalene	0.560	0.060	0.10	"	0.800		70.0	40-120			
Phenanthrene	0.700	0.050	0.10	"	0.800		87.5	40-120			
Pyrene	0.720	0.050	0.10	"	0.800		90.0	40-120			
Surrogate: p-Terphenyl-d14	*0.710*			*"*	*0.800*		*88.8*	*27-159*			
LCS Dup (A211373-BSD1)					Prepared: 15-Nov-12 Analyzed: 20-Nov-12						
Acenaphthene	0.610	0.060	0.10	ug/L	0.800		76.2	40-120	10.3	30	
Acenaphthylene	0.620	0.060	0.10	"	0.800		77.5	40-120	12.0	30	
Anthracene	0.640	0.050	0.10	"	0.800		80.0	40-120	6.45	30	
Benz(a)anthracene	0.680	0.050	0.10	"	0.800		85.0	40-120	2.90	30	
Benzo (b) fluoranthene	0.700	0.050	0.10	"	0.800		87.5	40-120	4.38	30	
Benzo (k) fluoranthene	0.740	0.050	0.10	"	0.800		92.5	40-120	4.14	30	
Benzo (a) pyrene	0.630	0.050	0.10	"	0.800		78.8	40-120	3.23	30	
Benzo (g,h,i) perylene	0.840	0.050	0.10	"	0.800		105	40-120	0.00	30	
Chrysene	0.720	0.050	0.10	"	0.800		90.0	40-120	4.26	30	
Dibenz (a,h) anthracene	0.890	0.050	0.10	"	0.800		111	40-120	4.60	30	
Fluoranthene	0.780	0.050	0.10	"	0.800		97.5	40-120	8.00	30	
Fluorene	0.660	0.060	0.10	"	0.800		82.5	40-120	14.6	30	
Indeno (1,2,3-cd) pyrene	0.890	0.050	0.10	"	0.800		111	40-120	4.60	30	
Naphthalene	0.610	0.060	0.10	"	0.800		76.2	40-120	8.55	30	
Phenanthrene	0.740	0.050	0.10	"	0.800		92.5	40-120	5.56	30	
Pyrene	0.780	0.050	0.10	"	0.800		97.5	40-120	8.00	30	
Surrogate: p-Terphenyl-d14	*0.740*			*"*	*0.800*		*92.5*	*27-159*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211307 - EPA 5030B VOCGCMS											
Blank (A211307-BLK1)					Prepared & Analyzed: 13-Nov-12						
Benzene	ND	0.25	0.50	ug/L							
Bromobenzene	ND	0.25	0.50	"							
Bromochloromethane	ND	0.25	0.50	"							
Bromodichloromethane	ND	0.25	0.50	"							
Bromoform	ND	0.25	0.50	"							
Bromomethane	ND	0.25	0.50	"							
n-Butylbenzene	ND	0.25	0.50	"							
sec-Butylbenzene	ND	0.25	0.50	"							
tert-Butylbenzene	ND	0.25	0.50	"							
Carbon tetrachloride	ND	0.25	0.50	"							
Chlorobenzene	ND	0.25	0.50	"							
Chloroethane	ND	0.25	0.50	"							
Chloroform	ND	0.25	0.50	"							
Chloromethane	ND	0.25	0.50	"							
2-Chlorotoluene	ND	0.25	0.50	"							
4-Chlorotoluene	ND	0.25	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"							
Dibromochloromethane	ND	0.25	0.50	"							
Dibromomethane	ND	0.25	0.50	"							
1,2-Dichlorobenzene	ND	0.25	0.50	"							
1,3-Dichlorobenzene	ND	0.25	0.50	"							
1,4-Dichlorobenzene	ND	0.25	0.50	"							
Dichlorodifluoromethane	ND	0.26	0.50	"							
1,1-Dichloroethane	ND	0.25	0.50	"							
1,2-Dichloroethane	ND	0.25	0.50	"							
1,1-Dichloroethene	ND	0.25	0.50	"							
cis-1,2-Dichloroethene	ND	0.25	0.50	"							
trans-1,2-Dichloroethene	ND	0.25	0.50	"							
1,2-Dichloropropane	ND	0.25	0.50	"							
1,3-Dichloropropane	ND	0.25	0.50	"							
2,2-Dichloropropane	ND	0.25	0.50	"							
1,1-Dichloropropene	ND	0.25	0.50	"							
cis-1,3-Dichloropropene	ND	0.25	0.50	"							
trans-1,3-Dichloropropene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"							
Hexachlorobutadiene	ND	0.25	0.50	"							
Isopropylbenzene	ND	0.25	0.50	"							
4-Isopropyl Toluene	ND	0.25	0.50	"							
Methylene chloride	ND	0.50	1.0	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211307 - EPA 5030B VOCGCMS											
Blank (A211307-BLK1)					Prepared & Analyzed: 13-Nov-12						
Naphthalene	ND	0.25	0.50	ug/L							
n-Propylbenzene	ND	0.25	0.50	"							
Styrene	ND	0.25	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"							
Tetrachloroethene (PCE)	ND	0.25	0.50	"							
Toluene	ND	0.25	0.50	"							
1,2,3-Trichlorobenzene	ND	0.25	0.50	"							
1,2,4-Trichlorobenzene	ND	0.25	0.50	"							
1,1,1-Trichloroethane	ND	0.25	0.50	"							
1,1,2-Trichloroethane	ND	0.25	0.50	"							
Trichloroethene (TCE)	ND	0.25	0.50	"							
Trichlorofluoromethane	ND	0.25	0.50	"							
1,2,3-Trichloropropane	ND	0.25	0.50	"							
1,2,4-Trimethylbenzene	ND	0.25	0.50	"							
1,3,5-Trimethylbenzene	ND	0.25	0.50	"							
Vinyl chloride	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
t-Amyl Methyl Ether	ND	0.25	0.50	"							
t-Butyl alcohol	ND	2.5	10	"							
Diisopropyl Ether	ND	0.25	0.50	"							
Ethanol	ND	250	500	"							
Ethyl t-Butyl Ether	ND	0.25	0.50	"							
Methyl-t-butyl ether	ND	0.25	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*12.4*			*"*	*12.5*		*99.4*	*70-130*			
Surrogate: Toluene-d8	*12.2*			*"*	*12.5*		*97.5*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.5*			*"*	*12.5*		*100*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211307 - EPA 5030B VOCGCMS											
LCS (A211307-BS1)					Prepared & Analyzed: 13-Nov-12						
Benzene	24.5	0.25	0.50	ug/L	25.0		98.2	70-130			
Chlorobenzene	25.4	0.25	0.50	"	25.0		101	70-130			
1,1-Dichloroethene	24.7	0.25	0.50	"	25.0		98.8	70-130			
Toluene	25.0	0.25	0.50	"	25.0		100	70-130			
Trichloroethene (TCE)	26.6	0.25	0.50	"	25.0		106	70-130			
Surrogate: Dibromofluoromethane	*12.3*			"	*12.5*		*98.6*	*70-130*			
Surrogate: Toluene-d8	*12.4*			"	*12.5*		*99.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.6*			"	*12.5*		*101*	*70-130*			
LCS (A211307-BS2)					Prepared & Analyzed: 13-Nov-12						
TPH Gasoline (C4-C10)	565	20	50	ug/L	500		113	70-130			
Surrogate: Dibromofluoromethane	*12.3*			"	*12.5*		*98.7*	*70-130*			
Surrogate: Toluene-d8	*12.1*			"	*12.5*		*96.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.1*			"	*12.5*		*105*	*70-130*			
LCS Dup (A211307-BSD1)					Prepared & Analyzed: 13-Nov-12						
Benzene	25.4	0.25	0.50	ug/L	25.0		102	70-130	3.64	20	
Chlorobenzene	26.4	0.25	0.50	"	25.0		106	70-130	3.98	20	
1,1-Dichloroethene	24.5	0.25	0.50	"	25.0		98.2	70-130	0.609	20	
Toluene	26.0	0.25	0.50	"	25.0		104	70-130	3.80	20	
Trichloroethene (TCE)	27.5	0.25	0.50	"	25.0		110	70-130	3.48	20	
Surrogate: Dibromofluoromethane	*12.5*			"	*12.5*		*100*	*70-130*			
Surrogate: Toluene-d8	*12.3*			"	*12.5*		*98.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.7*			"	*12.5*		*101*	*70-130*			
LCS Dup (A211307-BSD2)					Prepared & Analyzed: 13-Nov-12						
TPH Gasoline (C4-C10)	585	20	50	ug/L	500		117	70-130	3.50	20	
Surrogate: Dibromofluoromethane	*12.2*			"	*12.5*		*97.5*	*70-130*			
Surrogate: Toluene-d8	*12.1*			"	*12.5*		*96.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.1*			"	*12.5*		*104*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211307 - EPA 5030B VOCGCMS											
Duplicate (A211307-DUP1)	**Source: 1205657-16**			Prepared: 13-Nov-12 Analyzed: 14-Nov-12							
Benzene	ND	0.25	0.50	ug/L		ND				20	
Bromobenzene	ND	0.25	0.50	"		ND				20	
Bromochloromethane	ND	0.25	0.50	"		ND				20	
Bromodichloromethane	ND	0.25	0.50	"		ND				20	
Bromoform	ND	0.25	0.50	"		ND				20	
Bromomethane	ND	0.25	0.50	"		ND				20	
n-Butylbenzene	0.970	0.25	0.50	"		0.940			3.14	20	
sec-Butylbenzene	3.59	0.25	0.50	"		3.54			1.40	20	
tert-Butylbenzene	0.660	0.25	0.50	"		0.640			3.08	20	
Carbon tetrachloride	ND	0.25	0.50	"		ND				20	
Chlorobenzene	ND	0.25	0.50	"		ND				20	
Chloroethane	ND	0.25	0.50	"		ND				20	
Chloroform	ND	0.25	0.50	"		ND				20	
Chloromethane	ND	0.25	0.50	"		ND				20	
2-Chlorotoluene	ND	0.25	0.50	"		ND				20	
4-Chlorotoluene	ND	0.25	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"		ND				20	
Dibromochloromethane	ND	0.25	0.50	"		ND				20	
Dibromomethane	ND	0.25	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.26	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.25	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.25	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.25	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
Ethylbenzene	ND	0.25	0.50	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				20	
Isopropylbenzene	13.2	0.25	0.50	"		13.2			0.380	20	
4-Isopropyl Toluene	ND	0.25	0.50	"		ND				20	
Methylene chloride	ND	0.50	1.0	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211307 - EPA 5030B VOCGCMS											
Duplicate (A211307-DUP1)	**Source: 1205657-16**			Prepared: 13-Nov-12 Analyzed: 14-Nov-12							
Naphthalene	ND	0.25	0.50	ug/L		ND				20	
n-Propylbenzene	8.42	0.25	0.50	"		8.34			0.955	20	
Styrene	ND	0.25	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.25	0.50	"		ND				20	
Toluene	0.480	0.25	0.50	"		0.490			2.06	20	J
1,2,3-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.25	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.25	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.25	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.25	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.25	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
Vinyl chloride	ND	0.25	0.50	"		ND				20	
Xylenes (total)	0.390	0.27	0.50	"		0.380			2.60	20	J
t-Amyl Methyl Ether	ND	0.25	0.50	"		ND				20	
t-Butyl alcohol	ND	2.5	10	"		11.2				20	
Diisopropyl Ether	ND	0.25	0.50	"		ND				20	
Ethanol	ND	250	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.25	0.50	"		ND				20	
Methyl-t-butyl ether	ND	0.25	0.50	"		ND				20	
TPH Gasoline (C4-C10)	836	20	50	"		873			4.36	20	
Surrogate: Dibromofluoromethane	*13.3*			*"*	*12.5*		*106*	*70-130*			
Surrogate: Toluene-d8	*13.0*			*"*	*12.5*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.2*			*"*	*12.5*		*105*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211307 - EPA 5030B VOCGCMS											
Matrix Spike (A211307-MS1)	**Source: 1205657-16**				Prepared: 13-Nov-12 Analyzed: 14-Nov-12						
Benzene	26.9	0.25	0.50	ug/L	25.0	ND	108	70-130			
Chlorobenzene	24.9	0.25	0.50	"	25.0	ND	99.6	70-130			
1,1-Dichloroethene	27.3	0.25	0.50	"	25.0	ND	109	70-130			
Toluene	26.3	0.25	0.50	"	25.0	0.490	103	70-130			
Trichloroethene (TCE)	27.8	0.25	0.50	"	25.0	ND	111	70-130			
Surrogate: Dibromofluoromethane	*13.4*			"	*12.5*		*107*	*70-130*			
Surrogate: Toluene-d8	*13.2*			"	*12.5*		*105*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.3*			"	*12.5*		*106*	*70-130*			
Matrix Spike (A211307-MS2)	**Source: 1205657-16**				Prepared: 13-Nov-12 Analyzed: 14-Nov-12						
TPH Gasoline (C4-C10)	1390	20	50	ug/L	500	873	103	70-130			
Surrogate: Dibromofluoromethane	*13.3*			"	*12.5*		*106*	*70-130*			
Surrogate: Toluene-d8	*13.0*			"	*12.5*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.4*			"	*12.5*		*107*	*70-130*			
Batch A211352 - EPA 5030B VOCGCMS											
Blank (A211352-BLK1)					Prepared & Analyzed: 14-Nov-12						
Benzene	ND	0.25	0.50	ug/L							
Bromobenzene	ND	0.25	0.50	"							
Bromochloromethane	ND	0.25	0.50	"							
Bromodichloromethane	ND	0.25	0.50	"							
Bromoform	ND	0.25	0.50	"							
Bromomethane	ND	0.25	0.50	"							
n-Butylbenzene	ND	0.25	0.50	"							
sec-Butylbenzene	ND	0.25	0.50	"							
tert-Butylbenzene	ND	0.25	0.50	"							
Carbon tetrachloride	ND	0.25	0.50	"							
Chlorobenzene	ND	0.25	0.50	"							
Chloroethane	ND	0.25	0.50	"							
Chloroform	ND	0.25	0.50	"							
Chloromethane	ND	0.25	0.50	"							
2-Chlorotoluene	ND	0.25	0.50	"							
4-Chlorotoluene	ND	0.25	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"							
Dibromochloromethane	ND	0.25	0.50	"							
Dibromomethane	ND	0.25	0.50	"							
1,2-Dichlorobenzene	ND	0.25	0.50	"							
1,3-Dichlorobenzene	ND	0.25	0.50	"							
1,4-Dichlorobenzene	ND	0.25	0.50	"							

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211352 - EPA 5030B VOCGCMS											
Blank (A211352-BLK1)					Prepared & Analyzed: 14-Nov-12						
Dichlorodifluoromethane	ND	0.26	0.50	ug/L							
1,1-Dichloroethane	ND	0.25	0.50	"							
1,2-Dichloroethane	ND	0.25	0.50	"							
1,1-Dichloroethene	ND	0.25	0.50	"							
cis-1,2-Dichloroethene	ND	0.25	0.50	"							
trans-1,2-Dichloroethene	ND	0.25	0.50	"							
1,2-Dichloropropane	ND	0.25	0.50	"							
1,3-Dichloropropane	ND	0.25	0.50	"							
2,2-Dichloropropane	ND	0.25	0.50	"							
1,1-Dichloropropene	ND	0.25	0.50	"							
cis-1,3-Dichloropropene	ND	0.25	0.50	"							
trans-1,3-Dichloropropene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"							
Hexachlorobutadiene	ND	0.25	0.50	"							
Isopropylbenzene	ND	0.25	0.50	"							
4-Isopropyl Toluene	ND	0.25	0.50	"							
Methylene chloride	ND	0.50	1.0	"							
Naphthalene	ND	0.25	0.50	"							
n-Propylbenzene	ND	0.25	0.50	"							
Styrene	ND	0.25	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"							
Tetrachloroethene (PCE)	ND	0.25	0.50	"							
Toluene	ND	0.25	0.50	"							
1,2,3-Trichlorobenzene	ND	0.25	0.50	"							
1,2,4-Trichlorobenzene	ND	0.25	0.50	"							
1,1,1-Trichloroethane	ND	0.25	0.50	"							
1,1,2-Trichloroethane	ND	0.25	0.50	"							
Trichloroethene (TCE)	ND	0.25	0.50	"							
Trichlorofluoromethane	ND	0.25	0.50	"							
1,2,3-Trichloropropane	ND	0.25	0.50	"							
1,2,4-Trimethylbenzene	ND	0.25	0.50	"							
1,3,5-Trimethylbenzene	ND	0.25	0.50	"							
Vinyl chloride	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
t-Amyl Methyl Ether	ND	0.25	0.50	"							
t-Butyl alcohol	ND	2.5	10	"							
Diisopropyl Ether	ND	0.25	0.50	"							
Ethanol	ND	250	500	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211352 - EPA 5030B VOCGCMS											
Blank (A211352-BLK1)					Prepared & Analyzed: 14-Nov-12						
Ethyl t-Butyl Ether	ND	0.25	0.50	ug/L							
Methyl-t-butyl ether	ND	0.25	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*11.7*			*"*	*12.5*		*93.9*	*70-130*			
Surrogate: Toluene-d8	*11.4*			*"*	*12.5*		*91.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.2*			*"*	*12.5*		*89.7*	*70-130*			
LCS (A211352-BS1)					Prepared & Analyzed: 14-Nov-12						
Benzene	24.2	0.25	0.50	ug/L	25.0		96.9	70-130			
Chlorobenzene	25.6	0.25	0.50	"	25.0		103	70-130			
1,1-Dichloroethene	26.8	0.25	0.50	"	25.0		107	70-130			
Toluene	24.6	0.25	0.50	"	25.0		98.5	70-130			
Trichloroethene (TCE)	26.1	0.25	0.50	"	25.0		104	70-130			
Surrogate: Dibromofluoromethane	*11.8*			*"*	*12.5*		*94.4*	*70-130*			
Surrogate: Toluene-d8	*11.4*			*"*	*12.5*		*91.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.4*			*"*	*12.5*		*91.1*	*70-130*			
LCS (A211352-BS2)					Prepared & Analyzed: 14-Nov-12						
TPH Gasoline (C4-C10)	533	20	50	ug/L	500		107	70-130			
Surrogate: Dibromofluoromethane	*12.0*			*"*	*12.5*		*96.0*	*70-130*			
Surrogate: Toluene-d8	*11.8*			*"*	*12.5*		*94.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.1*			*"*	*12.5*		*96.6*	*70-130*			
LCS Dup (A211352-BSD1)					Prepared & Analyzed: 14-Nov-12						
Benzene	24.8	0.25	0.50	ug/L	25.0		99.2	70-130	2.33	20	
Chlorobenzene	26.1	0.25	0.50	"	25.0		104	70-130	1.70	20	
1,1-Dichloroethene	27.3	0.25	0.50	"	25.0		109	70-130	1.81	20	
Toluene	24.9	0.25	0.50	"	25.0		99.7	70-130	1.21	20	
Trichloroethene (TCE)	26.8	0.25	0.50	"	25.0		107	70-130	2.65	20	
Surrogate: Dibromofluoromethane	*11.8*			*"*	*12.5*		*94.7*	*70-130*			
Surrogate: Toluene-d8	*11.6*			*"*	*12.5*		*92.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.5*			*"*	*12.5*		*91.8*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211352 - EPA 5030B VOCGCMS											
LCS Dup (A211352-BSD2)					Prepared & Analyzed: 14-Nov-12						
TPH Gasoline (C4-C10)	555	20	50	ug/L	500		111	70-130	3.90	20	
Surrogate: Dibromofluoromethane	*11.8*			"	*12.5*		*94.4*	*70-130*			
Surrogate: Toluene-d8	*11.6*			"	*12.5*		*93.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.7*			"	*12.5*		*93.3*	*70-130*			
Duplicate (A211352-DUP1)	**Source: 1205657-17**				Prepared: 14-Nov-12 Analyzed: 15-Nov-12						
Benzene	ND	0.25	0.50	ug/L		ND				20	
Bromobenzene	ND	0.25	0.50	"		ND				20	
Bromochloromethane	ND	0.25	0.50	"		ND				20	
Bromodichloromethane	ND	0.25	0.50	"		ND				20	
Bromoform	ND	0.25	0.50	"		ND				20	
Bromomethane	ND	0.25	0.50	"		ND				20	CCFL
n-Butylbenzene	ND	0.25	0.50	"		ND				20	
sec-Butylbenzene	ND	0.25	0.50	"		ND				20	
tert-Butylbenzene	ND	0.25	0.50	"		ND				20	
Carbon tetrachloride	ND	0.25	0.50	"		ND				20	
Chlorobenzene	ND	0.25	0.50	"		ND				20	
Chloroethane	ND	0.25	0.50	"		ND				20	
Chloroform	ND	0.25	0.50	"		ND				20	
Chloromethane	ND	0.25	0.50	"		ND				20	
2-Chlorotoluene	ND	0.25	0.50	"		ND				20	
4-Chlorotoluene	ND	0.25	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"		ND				20	
Dibromochloromethane	ND	0.25	0.50	"		ND				20	
Dibromomethane	ND	0.25	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.26	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,2-Dichloroethane	0.510	0.25	0.50	"		0.540			5.71	20	
1,1-Dichloroethene	ND	0.25	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.25	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.25	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211352 - EPA 5030B VOCGCMS											
Duplicate (A211352-DUP1)	**Source: 1205657-17**			Prepared: 14-Nov-12 Analyzed: 15-Nov-12							
Ethylbenzene	ND	0.25	0.50	ug/L		ND				20	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				20	
Isopropylbenzene	ND	0.25	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.25	0.50	"		ND				20	
Methylene chloride	ND	0.50	1.0	"		ND				20	
Naphthalene	ND	0.25	0.50	"		ND				20	
n-Propylbenzene	ND	0.25	0.50	"		ND				20	
Styrene	ND	0.25	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.25	0.50	"		ND				20	
Toluene	ND	0.25	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.25	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.25	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.25	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.25	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.25	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
Vinyl chloride	ND	0.25	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
t-Amyl Methyl Ether	ND	0.25	0.50	"		ND				20	
t-Butyl alcohol	88.3	2.5	10	"		94.8			7.09	20	
Diisopropyl Ether	ND	0.25	0.50	"		ND				20	
Ethanol	ND	250	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.25	0.50	"		ND				20	
Methyl-t-butyl ether	1.98	0.25	0.50	"		2.13			7.30	20	
TPH Gasoline (C4-C10)	151	20	50	"		161			6.14	20	
Surrogate: Dibromofluoromethane	*11.6*			*"*	*12.5*		*93.2*	*70-130*			
Surrogate: Toluene-d8	*11.2*			*"*	*12.5*		*89.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.3*			*"*	*12.5*		*90.4*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211352 - EPA 5030B VOCGCMS											
Matrix Spike (A211352-MS1)	**Source: 1205657-17**				Prepared: 14-Nov-12 Analyzed: 15-Nov-12						
Benzene	21.9	0.25	0.50	ug/L	25.0	ND	87.6	70-130			
Chlorobenzene	22.2	0.25	0.50	"	25.0	ND	88.6	70-130			
1,1-Dichloroethene	25.2	0.25	0.50	"	25.0	ND	101	70-130			
Toluene	21.6	0.25	0.50	"	25.0	ND	86.5	70-130			
Trichloroethene (TCE)	23.1	0.25	0.50	"	25.0	ND	92.5	70-130			
Surrogate: Dibromofluoromethane	*11.7*			"	*12.5*		*93.4*	*70-130*			
Surrogate: Toluene-d8	*11.2*			"	*12.5*		*89.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.4*			"	*12.5*		*90.9*	*70-130*			
Matrix Spike (A211352-MS2)	**Source: 1205657-17**				Prepared: 14-Nov-12 Analyzed: 15-Nov-12						
TPH Gasoline (C4-C10)	620	20	50	ug/L	500	161	91.8	70-130			
Surrogate: Dibromofluoromethane	*12.2*			"	*12.5*		*97.8*	*70-130*			
Surrogate: Toluene-d8	*11.9*			"	*12.5*		*94.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.0*			"	*12.5*		*95.6*	*70-130*			
Batch A211443 - EPA 5030B VOCGCMS											
Blank (A211443-BLK1)					Prepared & Analyzed: 19-Nov-12						
Benzene	ND	0.25	0.50	ug/L							
Bromobenzene	ND	0.25	0.50	"							
Bromochloromethane	ND	0.25	0.50	"							
Bromodichloromethane	ND	0.25	0.50	"							
Bromoform	ND	0.25	0.50	"							
Bromomethane	ND	0.25	0.50	"							
n-Butylbenzene	ND	0.25	0.50	"							
sec-Butylbenzene	ND	0.25	0.50	"							
tert-Butylbenzene	ND	0.25	0.50	"							
Carbon tetrachloride	ND	0.25	0.50	"							
Chlorobenzene	ND	0.25	0.50	"							
Chloroethane	ND	0.25	0.50	"							
Chloroform	ND	0.25	0.50	"							
Chloromethane	ND	0.25	0.50	"							
2-Chlorotoluene	ND	0.25	0.50	"							
4-Chlorotoluene	ND	0.25	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"							
Dibromochloromethane	ND	0.25	0.50	"							
Dibromomethane	ND	0.25	0.50	"							
1,2-Dichlorobenzene	ND	0.25	0.50	"							
1,3-Dichlorobenzene	ND	0.25	0.50	"							
1,4-Dichlorobenzene	ND	0.25	0.50	"							

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211443 - EPA 5030B VOCGCMS											
Blank (A211443-BLK1)					Prepared & Analyzed: 19-Nov-12						
Dichlorodifluoromethane	ND	0.26	0.50	ug/L							
1,1-Dichloroethane	ND	0.25	0.50	"							
1,2-Dichloroethane	ND	0.25	0.50	"							
1,1-Dichloroethene	ND	0.25	0.50	"							
cis-1,2-Dichloroethene	ND	0.25	0.50	"							
trans-1,2-Dichloroethene	ND	0.25	0.50	"							
1,2-Dichloropropane	ND	0.25	0.50	"							
1,3-Dichloropropane	ND	0.25	0.50	"							
2,2-Dichloropropane	ND	0.25	0.50	"							
1,1-Dichloropropene	ND	0.25	0.50	"							
cis-1,3-Dichloropropene	ND	0.25	0.50	"							
trans-1,3-Dichloropropene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"							
Hexachlorobutadiene	ND	0.25	0.50	"							
Isopropylbenzene	ND	0.25	0.50	"							
4-Isopropyl Toluene	ND	0.25	0.50	"							
Methylene chloride	ND	0.50	1.0	"							
Naphthalene	ND	0.25	0.50	"							
n-Propylbenzene	ND	0.25	0.50	"							
Styrene	ND	0.25	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"							
Tetrachloroethene (PCE)	ND	0.25	0.50	"							
Toluene	ND	0.25	0.50	"							
1,2,3-Trichlorobenzene	ND	0.25	0.50	"							
1,2,4-Trichlorobenzene	ND	0.25	0.50	"							
1,1,1-Trichloroethane	ND	0.25	0.50	"							
1,1,2-Trichloroethane	ND	0.25	0.50	"							
Trichloroethene (TCE)	ND	0.25	0.50	"							
Trichlorofluoromethane	ND	0.25	0.50	"							
1,2,3-Trichloropropane	ND	0.25	0.50	"							
1,2,4-Trimethylbenzene	ND	0.25	0.50	"							
1,3,5-Trimethylbenzene	ND	0.25	0.50	"							
Vinyl chloride	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
t-Amyl Methyl Ether	ND	0.25	0.50	"							
t-Butyl alcohol	ND	2.5	10	"							
Diisopropyl Ether	ND	0.25	0.50	"							
Ethanol	ND	250	500	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211443 - EPA 5030B VOCGCMS											
Blank (A211443-BLK1)					Prepared & Analyzed: 19-Nov-12						
Ethyl t-Butyl Ether	ND	0.25	0.50	ug/L							
Methyl-t-butyl ether	ND	0.25	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*12.2*			*"*	*12.5*		*97.3*	*70-130*			
Surrogate: Toluene-d8	*11.8*			*"*	*12.5*		*94.5*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.7*			*"*	*12.5*		*101*	*70-130*			
LCS (A211443-BS1)					Prepared & Analyzed: 19-Nov-12						
Benzene	24.0	0.25	0.50	ug/L	25.0		96.1	70-130			
Chlorobenzene	28.5	0.25	0.50	"	25.0		114	70-130			
1,1-Dichloroethene	26.9	0.25	0.50	"	25.0		108	70-130			
Toluene	21.7	0.25	0.50	"	25.0		86.6	70-130			
Trichloroethene (TCE)	26.0	0.25	0.50	"	25.0		104	70-130			
Surrogate: Dibromofluoromethane	*14.2*			*"*	*12.5*		*113*	*70-130*			
Surrogate: Toluene-d8	*11.5*			*"*	*12.5*		*91.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.6*			*"*	*12.5*		*101*	*70-130*			
LCS (A211443-BS2)					Prepared & Analyzed: 19-Nov-12						
TPH Gasoline (C4-C10)	531	20	50	ug/L	500		106	70-130			
Surrogate: Dibromofluoromethane	*11.0*			*"*	*12.5*		*87.8*	*70-130*			
Surrogate: Toluene-d8	*11.8*			*"*	*12.5*		*94.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.6*			*"*	*12.5*		*101*	*70-130*			
LCS Dup (A211443-BSD1)					Prepared & Analyzed: 19-Nov-12						
Benzene	24.6	0.25	0.50	ug/L	25.0		98.4	70-130	2.35	20	
Chlorobenzene	29.4	0.25	0.50	"	25.0		118	70-130	2.97	20	
1,1-Dichloroethene	23.9	0.25	0.50	"	25.0		95.7	70-130	11.7	20	
Toluene	21.6	0.25	0.50	"	25.0		86.4	70-130	0.324	20	
Trichloroethene (TCE)	24.7	0.25	0.50	"	25.0		98.8	70-130	5.32	20	
Surrogate: Dibromofluoromethane	*12.2*			*"*	*12.5*		*97.7*	*70-130*			
Surrogate: Toluene-d8	*12.2*			*"*	*12.5*		*97.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.9*			*"*	*12.5*		*103*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211443 - EPA 5030B VOCGCMS											
LCS Dup (A211443-BSD2)					Prepared & Analyzed: 19-Nov-12						
TPH Gasoline (C4-C10)	558	20	50	ug/L	500		112	70-130	4.92	20	
Surrogate: Dibromofluoromethane	*13.3*			"	*12.5*		*107*	*70-130*			
Surrogate: Toluene-d8	*12.0*			"	*12.5*		*95.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.2*			"	*12.5*		*106*	*70-130*			
Duplicate (A211443-DUP1)	**Source: 1205657-24**				Prepared & Analyzed: 19-Nov-12						
Benzene	ND	0.25	0.50	ug/L		ND				20	
Bromobenzene	ND	0.25	0.50	"		ND				20	
Bromochloromethane	ND	0.25	0.50	"		ND				20	
Bromodichloromethane	ND	0.25	0.50	"		ND				20	
Bromoform	ND	0.25	0.50	"		ND				20	
Bromomethane	ND	0.25	0.50	"		ND				20	
n-Butylbenzene	ND	0.25	0.50	"		ND				20	
sec-Butylbenzene	ND	0.25	0.50	"		ND				20	
tert-Butylbenzene	ND	0.25	0.50	"		ND				20	
Carbon tetrachloride	ND	0.25	0.50	"		ND				20	
Chlorobenzene	ND	0.25	0.50	"		ND				20	
Chloroethane	ND	0.25	0.50	"		ND				20	
Chloroform	ND	0.25	0.50	"		ND				20	
Chloromethane	ND	0.25	0.50	"		ND				20	
2-Chlorotoluene	ND	0.25	0.50	"		ND				20	
4-Chlorotoluene	ND	0.25	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"		ND				20	
Dibromochloromethane	ND	0.25	0.50	"		ND				20	
Dibromomethane	ND	0.25	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.26	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.25	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.25	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.25	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211443 - EPA 5030B VOCGCMS											
Duplicate (A211443-DUP1)	**Source: 1205657-24**			Prepared & Analyzed: 19-Nov-12							
Ethylbenzene	ND	0.25	0.50	ug/L		ND				20	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				20	
Isopropylbenzene	ND	0.25	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.25	0.50	"		ND				20	
Methylene chloride	ND	0.50	1.0	"		ND				20	
Naphthalene	ND	0.25	0.50	"		ND				20	
n-Propylbenzene	ND	0.25	0.50	"		ND				20	
Styrene	ND	0.25	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.25	0.50	"		ND				20	
Toluene	ND	0.25	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.25	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.25	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.25	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.25	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.25	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
Vinyl chloride	ND	0.25	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
t-Amyl Methyl Ether	ND	0.25	0.50	"		ND				20	
t-Butyl alcohol	ND	2.5	10	"		ND				20	
Diisopropyl Ether	ND	0.25	0.50	"		ND				20	
Ethanol	ND	250	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.25	0.50	"		ND				20	
Methyl-t-butyl ether	ND	0.25	0.50	"		ND				20	
TPH Gasoline (C4-C10)	ND	20	50	"		ND				20	
Surrogate: Dibromofluoromethane	*9.36*			*"*	*12.5*		*74.9*	*70-130*			
Surrogate: Toluene-d8	*11.1*			*"*	*12.5*		*89.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.9*			*"*	*12.5*		*95.4*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211507 - EPA 5030B VOCGCMS											
Blank (A211507-BLK1)					Prepared & Analyzed: 21-Nov-12						
Benzene	ND	0.25	0.50	ug/L							
Bromobenzene	ND	0.25	0.50	"							
Bromochloromethane	ND	0.25	0.50	"							
Bromodichloromethane	ND	0.25	0.50	"							
Bromoform	ND	0.25	0.50	"							
Bromomethane	ND	0.25	0.50	"							
n-Butylbenzene	ND	0.25	0.50	"							
sec-Butylbenzene	ND	0.25	0.50	"							
tert-Butylbenzene	ND	0.25	0.50	"							
Carbon tetrachloride	ND	0.25	0.50	"							
Chlorobenzene	ND	0.25	0.50	"							
Chloroethane	ND	0.25	0.50	"							
Chloroform	ND	0.25	0.50	"							
Chloromethane	ND	0.25	0.50	"							
2-Chlorotoluene	ND	0.25	0.50	"							
4-Chlorotoluene	ND	0.25	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"							
Dibromochloromethane	ND	0.25	0.50	"							
Dibromomethane	ND	0.25	0.50	"							
1,2-Dichlorobenzene	ND	0.25	0.50	"							
1,3-Dichlorobenzene	ND	0.25	0.50	"							
1,4-Dichlorobenzene	ND	0.25	0.50	"							
Dichlorodifluoromethane	ND	0.26	0.50	"							
1,1-Dichloroethane	ND	0.25	0.50	"							
1,2-Dichloroethane	ND	0.25	0.50	"							
1,1-Dichloroethene	ND	0.25	0.50	"							
cis-1,2-Dichloroethene	ND	0.25	0.50	"							
trans-1,2-Dichloroethene	ND	0.25	0.50	"							
1,2-Dichloropropane	ND	0.25	0.50	"							
1,3-Dichloropropane	ND	0.25	0.50	"							
2,2-Dichloropropane	ND	0.25	0.50	"							
1,1-Dichloropropene	ND	0.25	0.50	"							
cis-1,3-Dichloropropene	ND	0.25	0.50	"							
trans-1,3-Dichloropropene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"							
Hexachlorobutadiene	ND	0.25	0.50	"							
Isopropylbenzene	ND	0.25	0.50	"							
4-Isopropyl Toluene	ND	0.25	0.50	"							
Methylene chloride	ND	0.50	1.0	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211507 - EPA 5030B VOCGCMS											
Blank (A211507-BLK1)					Prepared & Analyzed: 21-Nov-12						
Naphthalene	ND	0.25	0.50	ug/L							
n-Propylbenzene	ND	0.25	0.50	"							
Styrene	ND	0.25	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"							
Tetrachloroethene (PCE)	ND	0.25	0.50	"							
Toluene	ND	0.25	0.50	"							
1,2,3-Trichlorobenzene	ND	0.25	0.50	"							
1,2,4-Trichlorobenzene	ND	0.25	0.50	"							
1,1,1-Trichloroethane	ND	0.25	0.50	"							
1,1,2-Trichloroethane	ND	0.25	0.50	"							
Trichloroethene (TCE)	ND	0.25	0.50	"							
Trichlorofluoromethane	ND	0.25	0.50	"							
1,2,3-Trichloropropane	ND	0.25	0.50	"							
1,2,4-Trimethylbenzene	ND	0.25	0.50	"							
1,3,5-Trimethylbenzene	ND	0.25	0.50	"							
Vinyl chloride	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
t-Amyl Methyl Ether	ND	0.25	0.50	"							
t-Butyl alcohol	ND	2.5	10	"							
Diisopropyl Ether	ND	0.25	0.50	"							
Ethanol	ND	250	500	"							
Ethyl t-Butyl Ether	ND	0.25	0.50	"							
Methyl-t-butyl ether	ND	0.25	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*12.5*			*"*	*12.5*		*100*	*70-130*			
Surrogate: Toluene-d8	*12.7*			*"*	*12.5*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.2*			*"*	*12.5*		*97.4*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211507 - EPA 5030B VOCGCMS											
LCS (A211507-BS1)					Prepared & Analyzed: 21-Nov-12						
Benzene	26.5	0.25	0.50	ug/L	25.0		106	70-130			
Chlorobenzene	25.7	0.25	0.50	"	25.0		103	70-130			
1,1-Dichloroethene	27.8	0.25	0.50	"	25.0		111	70-130			
Toluene	25.6	0.25	0.50	"	25.0		102	70-130			
Trichloroethene (TCE)	26.8	0.25	0.50	"	25.0		107	70-130			
Surrogate: Dibromofluoromethane	*12.1*			"	*12.5*		*97.0*	*70-130*			
Surrogate: Toluene-d8	*12.4*			"	*12.5*		*98.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*11.9*			"	*12.5*		*95.2*	*70-130*			
LCS (A211507-BS2)					Prepared & Analyzed: 21-Nov-12						
TPH Gasoline (C4-C10)	568	20	50	ug/L	500		114	70-130			
Surrogate: Dibromofluoromethane	*12.7*			"	*12.5*		*101*	*70-130*			
Surrogate: Toluene-d8	*12.7*			"	*12.5*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.7*			"	*12.5*		*102*	*70-130*			
LCS Dup (A211507-BSD1)					Prepared & Analyzed: 21-Nov-12						
Benzene	26.6	0.25	0.50	ug/L	25.0		106	70-130	0.151	20	
Chlorobenzene	25.1	0.25	0.50	"	25.0		101	70-130	2.40	20	
1,1-Dichloroethene	27.5	0.25	0.50	"	25.0		110	70-130	1.08	20	
Toluene	25.3	0.25	0.50	"	25.0		101	70-130	1.18	20	
Trichloroethene (TCE)	26.2	0.25	0.50	"	25.0		105	70-130	2.07	20	
Surrogate: Dibromofluoromethane	*12.3*			"	*12.5*		*98.6*	*70-130*			
Surrogate: Toluene-d8	*12.5*			"	*12.5*		*99.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.4*			"	*12.5*		*99.3*	*70-130*			
LCS Dup (A211507-BSD2)					Prepared & Analyzed: 21-Nov-12						
TPH Gasoline (C4-C10)	502	20	50	ug/L	500		100	70-130	12.5	20	
Surrogate: Dibromofluoromethane	*12.7*			"	*12.5*		*101*	*70-130*			
Surrogate: Toluene-d8	*12.9*			"	*12.5*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.5*			"	*12.5*		*99.7*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211507 - EPA 5030B VOCGCMS											
Duplicate (A211507-DUP1)	**Source: 1205767-03**			Prepared & Analyzed: 21-Nov-12							
Benzene	ND	0.25	0.50	ug/L		ND				20	
Bromobenzene	ND	0.25	0.50	"		ND				20	
Bromochloromethane	ND	0.25	0.50	"		ND				20	
Bromodichloromethane	ND	0.25	0.50	"		ND				20	
Bromoform	ND	0.25	0.50	"		ND				20	
Bromomethane	ND	0.25	0.50	"		ND				20	
n-Butylbenzene	ND	0.25	0.50	"		ND				20	
sec-Butylbenzene	ND	0.25	0.50	"		ND				20	
tert-Butylbenzene	ND	0.25	0.50	"		ND				20	
Carbon tetrachloride	ND	0.25	0.50	"		ND				20	
Chlorobenzene	ND	0.25	0.50	"		ND				20	
Chloroethane	ND	0.25	0.50	"		ND				20	
Chloroform	ND	0.25	0.50	"		ND				20	
Chloromethane	ND	0.25	0.50	"		ND				20	
2-Chlorotoluene	ND	0.25	0.50	"		ND				20	
4-Chlorotoluene	ND	0.25	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"		ND				20	
Dibromochloromethane	ND	0.25	0.50	"		ND				20	
Dibromomethane	ND	0.25	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.26	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.25	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.25	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.25	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.25	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
Ethylbenzene	ND	0.25	0.50	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				20	
Isopropylbenzene	ND	0.25	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.25	0.50	"		ND				20	
Methylene chloride	ND	0.50	1.0	"		ND				20	

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211507 - EPA 5030B VOCGCMS											
Duplicate (A211507-DUP1)	**Source: 1205767-03**			Prepared & Analyzed: 21-Nov-12							
Naphthalene	ND	0.25	0.50	ug/L		ND				20	
n-Propylbenzene	ND	0.25	0.50	"		ND				20	
Styrene	ND	0.25	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.25	0.50	"		ND				20	
Toluene	ND	0.25	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.25	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.25	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.25	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.25	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.25	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
Vinyl chloride	ND	0.25	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
t-Amyl Methyl Ether	ND	0.25	0.50	"		ND				20	
t-Butyl alcohol	ND	2.5	10	"		ND				20	
Diisopropyl Ether	ND	0.25	0.50	"		ND				20	
Ethanol	ND	250	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.25	0.50	"		ND				20	
Methyl-t-butyl ether	ND	0.25	0.50	"		ND				20	
TPH Gasoline (C4-C10)	ND	20	50	"		ND				20	
Surrogate: Dibromofluoromethane	*12.6*			*"*	*12.5*		*101*	*70-130*			
Surrogate: Toluene-d8	*12.4*			*"*	*12.5*		*99.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.0*			*"*	*12.5*		*96.2*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211507 - EPA 5030B VOCGCMS											
Matrix Spike (A211507-MS1)	**Source: 1205767-03**				Prepared & Analyzed: 21-Nov-12						
Benzene	20.1	0.25	0.50	ug/L	25.0	ND	80.3	70-130			
Chlorobenzene	22.7	0.25	0.50	"	25.0	ND	90.8	70-130			
1,1-Dichloroethene	25.2	0.25	0.50	"	25.0	ND	101	70-130			
Toluene	22.2	0.25	0.50	"	25.0	ND	88.9	70-130			
Trichloroethene (TCE)	23.8	0.25	0.50	"	25.0	ND	95.4	70-130			
Surrogate: Dibromofluoromethane	*12.3*			"	*12.5*		*98.6*	*70-130*			
Surrogate: Toluene-d8	*12.4*			"	*12.5*		*99.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.4*			"	*12.5*		*99.0*	*70-130*			
Matrix Spike (A211507-MS2)	**Source: 1205767-03**				Prepared & Analyzed: 21-Nov-12						
TPH Gasoline (C4-C10)	486	20	50	ug/L	500	ND	97.1	70-130			
Surrogate: Dibromofluoromethane	*12.3*			"	*12.5*		*98.3*	*70-130*			
Surrogate: Toluene-d8	*12.8*			"	*12.5*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.6*			"	*12.5*		*101*	*70-130*			
Batch A211519 - EPA 5030B VOCGCMS											
Blank (A211519-BLK1)					Prepared: 21-Nov-12 Analyzed: 22-Nov-12						
Benzene	ND	0.25	0.50	ug/L							
Bromobenzene	ND	0.25	0.50	"							
Bromochloromethane	ND	0.25	0.50	"							
Bromodichloromethane	ND	0.25	0.50	"							
Bromoform	ND	0.25	0.50	"							
Bromomethane	ND	0.25	0.50	"							
n-Butylbenzene	ND	0.25	0.50	"							
sec-Butylbenzene	ND	0.25	0.50	"							
tert-Butylbenzene	ND	0.25	0.50	"							
Carbon tetrachloride	ND	0.25	0.50	"							
Chlorobenzene	ND	0.25	0.50	"							
Chloroethane	ND	0.25	0.50	"							
Chloroform	ND	0.25	0.50	"							
Chloromethane	ND	0.25	0.50	"							
2-Chlorotoluene	ND	0.25	0.50	"							
4-Chlorotoluene	ND	0.25	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"							
Dibromochloromethane	ND	0.25	0.50	"							
Dibromomethane	ND	0.25	0.50	"							
1,2-Dichlorobenzene	ND	0.25	0.50	"							
1,3-Dichlorobenzene	ND	0.25	0.50	"							
1,4-Dichlorobenzene	ND	0.25	0.50	"							

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211519 - EPA 5030B VOCGCMS											
Blank (A211519-BLK1)					Prepared: 21-Nov-12 Analyzed: 22-Nov-12						
Dichlorodifluoromethane	ND	0.26	0.50	ug/L							
1,1-Dichloroethane	ND	0.25	0.50	"							
1,2-Dichloroethane	ND	0.25	0.50	"							
1,1-Dichloroethene	ND	0.25	0.50	"							
cis-1,2-Dichloroethene	ND	0.25	0.50	"							
trans-1,2-Dichloroethene	ND	0.25	0.50	"							
1,2-Dichloropropane	ND	0.25	0.50	"							
1,3-Dichloropropane	ND	0.25	0.50	"							
2,2-Dichloropropane	ND	0.25	0.50	"							
1,1-Dichloropropene	ND	0.25	0.50	"							
cis-1,3-Dichloropropene	ND	0.25	0.50	"							
trans-1,3-Dichloropropene	ND	0.25	0.50	"							
Ethylbenzene	ND	0.25	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"							
Hexachlorobutadiene	ND	0.25	0.50	"							
Isopropylbenzene	ND	0.25	0.50	"							
4-Isopropyl Toluene	ND	0.25	0.50	"							
Methylene chloride	ND	0.50	1.0	"							
Naphthalene	ND	0.25	0.50	"							
n-Propylbenzene	ND	0.25	0.50	"							
Styrene	ND	0.25	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"							
Tetrachloroethene (PCE)	ND	0.25	0.50	"							
Toluene	ND	0.25	0.50	"							
1,2,3-Trichlorobenzene	ND	0.25	0.50	"							
1,2,4-Trichlorobenzene	ND	0.25	0.50	"							
1,1,1-Trichloroethane	ND	0.25	0.50	"							
1,1,2-Trichloroethane	ND	0.25	0.50	"							
Trichloroethene (TCE)	ND	0.25	0.50	"							
Trichlorofluoromethane	ND	0.25	0.50	"							
1,2,3-Trichloropropane	ND	0.25	0.50	"							
1,2,4-Trimethylbenzene	ND	0.25	0.50	"							
1,3,5-Trimethylbenzene	ND	0.25	0.50	"							
Vinyl chloride	ND	0.25	0.50	"							
Xylenes (total)	ND	0.27	0.50	"							
t-Amyl Methyl Ether	ND	0.25	0.50	"							
t-Butyl alcohol	ND	2.5	10	"							
Diisopropyl Ether	ND	0.25	0.50	"							
Ethanol	ND	250	500	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211519 - EPA 5030B VOCGCMS											
Blank (A211519-BLK1)					Prepared: 21-Nov-12 Analyzed: 22-Nov-12						
Ethyl t-Butyl Ether	ND	0.25	0.50	ug/L							
Methyl-t-butyl ether	ND	0.25	0.50	"							
TPH Gasoline (C4-C10)	ND	20	50	"							
Surrogate: Dibromofluoromethane	*13.2*			*"*	*12.5*		*106*	*70-130*			
Surrogate: Toluene-d8	*13.1*			*"*	*12.5*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.5*			*"*	*12.5*		*99.8*	*70-130*			
LCS (A211519-BS1)					Prepared: 21-Nov-12 Analyzed: 22-Nov-12						
Benzene	26.0	0.25	0.50	ug/L	25.0		104	70-130			
Chlorobenzene	25.7	0.25	0.50	"	25.0		103	70-130			
1,1-Dichloroethene	29.9	0.25	0.50	"	25.0		119	70-130			
Toluene	25.8	0.25	0.50	"	25.0		103	70-130			
Trichloroethene (TCE)	27.9	0.25	0.50	"	25.0		112	70-130			
Surrogate: Dibromofluoromethane	*13.2*			*"*	*12.5*		*105*	*70-130*			
Surrogate: Toluene-d8	*12.8*			*"*	*12.5*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.7*			*"*	*12.5*		*101*	*70-130*			
LCS (A211519-BS2)					Prepared: 21-Nov-12 Analyzed: 22-Nov-12						
TPH Gasoline (C4-C10)	559	20	50	ug/L	500		112	70-130			
Surrogate: Dibromofluoromethane	*13.1*			*"*	*12.5*		*105*	*70-130*			
Surrogate: Toluene-d8	*13.0*			*"*	*12.5*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.5*			*"*	*12.5*		*100*	*70-130*			
LCS Dup (A211519-BSD1)					Prepared: 21-Nov-12 Analyzed: 22-Nov-12						
Benzene	25.7	0.25	0.50	ug/L	25.0		103	70-130	1.43	20	
Chlorobenzene	25.0	0.25	0.50	"	25.0		100	70-130	2.44	20	
1,1-Dichloroethene	28.3	0.25	0.50	"	25.0		113	70-130	5.33	20	
Toluene	25.6	0.25	0.50	"	25.0		102	70-130	0.701	20	
Trichloroethene (TCE)	27.1	0.25	0.50	"	25.0		108	70-130	2.98	20	
Surrogate: Dibromofluoromethane	*13.1*			*"*	*12.5*		*105*	*70-130*			
Surrogate: Toluene-d8	*13.3*			*"*	*12.5*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.3*			*"*	*12.5*		*98.6*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211519 - EPA 5030B VOCGCMS											
LCS Dup (A211519-BSD2)					Prepared: 21-Nov-12 Analyzed: 22-Nov-12						
TPH Gasoline (C4-C10)	541	20	50	ug/L	500		108	70-130	3.14	20	
Surrogate: Dibromofluoromethane	*13.0*			"	*12.5*		*104*	*70-130*			
Surrogate: Toluene-d8	*13.0*			"	*12.5*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.8*			"	*12.5*		*102*	*70-130*			
Duplicate (A211519-DUP1)	**Source: 1205802-01**				Prepared: 21-Nov-12 Analyzed: 22-Nov-12						
Benzene	ND	0.25	0.50	ug/L		ND				20	
Bromobenzene	ND	0.25	0.50	"		ND				20	
Bromochloromethane	ND	0.25	0.50	"		ND				20	
Bromodichloromethane	ND	0.25	0.50	"		ND				20	
Bromoform	ND	0.25	0.50	"		ND				20	
Bromomethane	ND	0.25	0.50	"		ND				20	
n-Butylbenzene	ND	0.25	0.50	"		ND				20	
sec-Butylbenzene	0.940	0.25	0.50	"		0.960			2.11	20	
tert-Butylbenzene	ND	0.25	0.50	"		ND				20	
Carbon tetrachloride	ND	0.25	0.50	"		ND				20	
Chlorobenzene	ND	0.25	0.50	"		ND				20	
Chloroethane	ND	0.25	0.50	"		ND				20	
Chloroform	ND	0.25	0.50	"		ND				20	
Chloromethane	ND	0.25	0.50	"		ND				20	
2-Chlorotoluene	ND	0.25	0.50	"		ND				20	
4-Chlorotoluene	ND	0.25	0.50	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.75	1.0	"		ND				20	
Dibromochloromethane	ND	0.25	0.50	"		ND				20	
Dibromomethane	ND	0.25	0.50	"		ND				20	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				20	
Dichlorodifluoromethane	ND	0.26	0.50	"		ND				20	
1,1-Dichloroethane	0.640	0.25	0.50	"		0.650			1.55	20	
1,2-Dichloroethane	6.40	0.25	0.50	"		6.07			5.29	20	
1,1-Dichloroethene	ND	0.25	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.25	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.25	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.25	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.25	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.25	0.50	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211519 - EPA 5030B VOCGCMS											
Duplicate (A211519-DUP1)	**Source: 1205802-01**			Prepared: 21-Nov-12 Analyzed: 22-Nov-12							
Ethylbenzene	ND	0.25	0.50	ug/L		ND				20	
1,2-Dibromoethane (EDB)	ND	0.25	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				20	
Isopropylbenzene	ND	0.25	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.25	0.50	"		ND				20	
Methylene chloride	ND	0.50	1.0	"		ND				20	
Naphthalene	ND	0.25	0.50	"		ND				20	
n-Propylbenzene	ND	0.25	0.50	"		ND				20	
Styrene	ND	0.25	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.25	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.25	0.50	"		ND				20	
Toluene	ND	0.25	0.50	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.25	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.25	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.25	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.25	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.25	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.25	0.50	"		ND				20	
Vinyl chloride	ND	0.25	0.50	"		ND				20	
Xylenes (total)	ND	0.27	0.50	"		ND				20	
t-Amyl Methyl Ether	ND	0.25	0.50	"		ND				20	
t-Butyl alcohol	27.9	2.5	10	"		29.0			3.84	20	
Diisopropyl Ether	ND	0.25	0.50	"		ND				20	
Ethanol	ND	250	500	"		ND				20	
Ethyl t-Butyl Ether	ND	0.25	0.50	"		ND				20	
Methyl-t-butyl ether	0.270	0.25	0.50	"		0.280			3.64	20	J
TPH Gasoline (C4-C10)	76.5	20	50	"		78.1			2.16	20	
Surrogate: Dibromofluoromethane	*13.4*			*"*	*12.5*		*107*	*70-130*			
Surrogate: Toluene-d8	*13.0*			*"*	*12.5*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*12.7*			*"*	*12.5*		*102*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

Volatile Organic Compounds by EPA Method 8260B/LUFT - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A211519 - EPA 5030B VOCGCMS											
Matrix Spike (A211519-MS1)	**Source: 1205802-01**				Prepared: 21-Nov-12 Analyzed: 22-Nov-12						
Benzene	24.9	0.25	0.50	ug/L	25.0	ND	99.8	70-130			
Chlorobenzene	23.6	0.25	0.50	"	25.0	ND	94.2	70-130			
1,1-Dichloroethene	26.8	0.25	0.50	"	25.0	ND	107	70-130			
Toluene	24.6	0.25	0.50	"	25.0	ND	98.3	70-130			
Trichloroethene (TCE)	25.7	0.25	0.50	"	25.0	ND	103	70-130			
Surrogate: Dibromofluoromethane	*13.5*			*"*	*12.5*		*108*	*70-130*			
Surrogate: Toluene-d8	*13.4*			*"*	*12.5*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*13.0*			*"*	*12.5*		*104*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

Organic Lead (GFAA) - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 66639 - 939M											
LCS (67201-10)					Prepared: 14-Nov-12 Analyzed: 15-Nov-12						
Organo-Lead	124	25	63	ug/L	25.0		497	80-120			
LCS Dup (67201-11)					Prepared: 14-Nov-12 Analyzed: 15-Nov-12						
Organo-Lead	120	25	63	ug/L	25.0		480	80-120	3	20	
Blank (67201-8)					Prepared: 14-Nov-12 Analyzed: 15-Nov-12						
Organo-Lead	ND	25	63	ug/L				-			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0898 4Q12 Groundwater Monitoring Event	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	13-Dec-12 15:39

Notes and Definitions

R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
QR-04	The RPD exceeded the QC control limits.
QM-08	The spike recovery was outside acceptance limits for the MS and/or MSD. The QC Batch was accepted based on LCS/LCSD percent recoveries and RPD values.
J	Detected but below the RL/PQL; therefore, result is an estimated concentration .
D-06	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
D-03	The result for this hydrocarbon is elevated due to the presence of single analyte peak(s) in the quantitation range.
CCFL	The CCV for this analyte failed low. Results for this analyte may be biased low.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the Method Limit (MDL)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTO

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0898 / Former Unocal Avila Terminal, Avila Beach, CA
4Q12 Groundwater Monitoring Event

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler(s): Cody Montoya; Harleigh Overton; Daniel Rice; Deil Frazier

Invoice To: Chevron EMC
Mr. Rik Williams
SO# 0015065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: GC/MS-TPH(C4-10)	GC/MS-TPH(C10-C25;C25-C40)	8260-BTEX	8260-VOCs	8260-VOCs & Oxys	8260-MTBE & TBA	8270-SIM-PAHs	7000/6000-Metals	Organic Lead by GFAA (HML 939-M)	NOTES
AT-B-57-65	11/8/12	1422	4	Aq	HCl, cool	voa, amber	X	X			X					1205657-1A-D
AT-B-200		1211	5				X	X			X		X			2A-E
AT-B-169		1103	4				X	X	X							3A-D
AT-B-85		0929	4				X	X	X							4A-D
AT-B-167-95		1513	5			voa, amber, poly	X	X			X			X		5A-E
AT-B-190		1355	4			voa, amber	X	X			X					6A-D
AT-B-201		1213	4				X	X	X							7A-D
AT-B-153		1024	5				X	X		X			X			8A-E
AT-B-35-70		1120	5				X	X			X		X			9A-E
AT-B-35-45R		0941	6			voa, amber, poly	X	X			X		X	X		10A-F
AT-B-37-70		1330	5				X	X			X			X		11A-E
AT-B-191		1536	4			voa, amber	X	X			X					12A-D

Special Instructions:
Filter groundwater and preserve with nitric acid prior to analyses for metals.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
	11/9/12	1430		11-9-12	1430
Relinquished by:	Date	Time	Received by:	Date	Time
	11-9-12	1542		11-9-12	1542

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0898 / Former Unocal Avila Terminal, Avila Beach, CA
4Q12 Groundwater Monitoring Event

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler(s): Cody Montoya; Harleigh Overton; Daniel Rice; Deil Frazier

Invoice To: Chevron EMC
Mr. Rik Williams
SO# 0015065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: GC/MS-TPH(C4-10)	GC/MS-TPH(C10-C25;C25-C40)	8260-BTEX	8260-VOCs	8260-VOCs & Oxys	8260-MTBE & TBA	8270-SIM-PAHs	7000/6000-Metals	Organic Lead by GFAA (HML 939-M)	NOTES	F
AT-B-224	11/8/12	1525	6	Ag	HCl, none	VOA, amber poly	X	X			X		X	X		1205657-13A-F	
AT-B-217		1015	6				X	X			X		X	X			14A-F
AT-B-216		1225	6				X	X			X		X	X			15A-F
AT-B-57-20		1524	6				X	X			X		X	X			16A-F
DUP-2		0900	6				X	X			X		X	X			17A-F
DUP-3		1113	6				X	X			X		X	X			18A-F
EB-1		1639	6				X	X			X		X	X			19A-F
EB-2		1655	6				X	X			X		X	X			20A-F
103012-09		—	1			VOA				X						Trip Blanks prepared on 10/30/12	21A
103012-10		—	1							X							22A
103012-11		—	1							X							23A
AT-B-167-56	11/9/12	0938	4			VOA, amber	X	X			X						24A-D

Special Instructions:
Filter groundwater and preserve with nitric acid prior to analyses for metals.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
	11/9/12	1430		11-9-12	1430
Relinquished by:	Date	Time	Received by:	Date	Time
	11-9-12	1542		11-9-12	1542

Turn Around Time (Check)
same day [ ] 72 hours [ ]
24 hours [ ] 5 days [ ]
48 hours [ ] normal [X]

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0898 / Former Unocal Avila Terminal, Avila Beach, CA
4Q12 Groundwater Monitoring Event

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler(s): Cody Montoya; Harleigh Overton; Daniel Rice; Deil Frazier

Invoice To: Chevron EMC
Mr. Rik Williams
SO# 0015065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: GC/MS-TPH(C4-10)	GC/MS-TPH(C10-C25;C25-C40)	8260-BTEX	8260-VOCs	8260-VOCs & Oxys	8260-MTBE & TBA	8270-SIM-PAHs	7000/6000-Metals	Organic Lead by GFAA (HML 939-M)	NOTES
AT-B-225	11/9/12	0945	6	Ag	HCl, none	voa, amber poly	X	X			X		X	X		1205657-25A-F
AT-B-226	↓	0950	6	↓	↓	↓	X	X			X		X	X		26A-F
AT-B-223-88		0947	6				X	X			X		X	X		27A-F
AT-B-231		1237	7 cm				X	X			X		X	X	X	28A-G
DUP-4		0900	6				X	X			X		X	X		29A-F

Special Instructions:
Filter groundwater and preserve with nitric acid prior to analyses for metals.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
	11/9/12	1430		11-9-12	1430
	11-9-12	15:12	Lynnette Yeo	11-9-12	1542

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

SAMPLE RECEIPT

Rev 01/15/10

CLIENT: Padre SLO OEC ID #: 1205657 Temp: 6 °C

Acceptable Range: 0°C to 6°C

COC RECEIVED
DATE/TIME: 11/09/12 1542

RECEIPT LOGIN
DATE/TIME: 11/12/12 1135

REFRIGERATOR(s): 8 (COOLER) Test America,

SAMPLE TRANSPORT, RECEIPT, CONDITION & PRESERVATION:		Yes	No	N/A	(*) PROBLEM CHAIN FORM NEEDED
☒ OEC Courier/Sampler	COC document(s) received with samples	☒	☐*	☐	Custody Seals (circle): Present / Absent
☐ Delivery(Other than OEC Courier)	Correct containers for analysis requested	☒	☐*	☐	TRIP BLANKS Samples / Coolers
☒ Samples Received on Ice	Container(s) intact and in good condition	☒	☐*	☐	Intact / Broken*
☐ Samples Received Outside Temp. Range*	Container label(s) consistent with COC	☒	☐*	☐	Method of Shipment & Tracking #(if applicable):
☐ Samples Direct from field (Outside Temp)	OEC preservative added (**note std ID)	☐**	☐	☒	
☐ After-Hours Outside Drop-off [Brought Inside]	Proper preservation on sample label(s)	☒	☐	☐	(**) OEC Preservative ID:
(Initials/Date/Time):	VOA containers free of headspace	☒	☐*	☐	Dissolved Metals Filtration: (Date/Init/Preserve ID)
	Tedlar Bags free of condensation	☐	☐*	☒	

CONTAINERS, COC CHANGES AND/OR CORRECTIONS CHANGES AUTHORIZED BY:

OEC ID	Client ID ***If blank, refer to CoC	Container Description	Preservative	ResCl /pH	Matrix	Date/Time Sampled ***	Comments / Remarks / Condition Notes, Etc.
1-20A-C		3-VOAs EA	HCl	–	AQ		
21-23 A		1-VOA EA	HCl	–	↓		
24-29 A-C		3-VOAs EA	HCl	–			
1-29 D		1-1L AMBER EA	–	–			
2,8-10,13-20E		1-1L AMBER EA	–	–			
25-29 E		1-1L AMBER EA	–	–			
5,11 E		1-8oz POLY EA	–	–			
10-20F,25-29F		1-8oz POLY EA	–	–			
28G		1-1L AMBER	–	–	↓		Test America - Irvine

RECEIPT LOGIN BY: ECH RECEIPT REVIEWED BY: MDN

APPENDIX B
3Q12 GROUNDWATER MONITORING FIELD OBSERVATION FORMS

GROUNDWATER GAUGING / LNAPL THICKNESS MEASUREMENT FORM

Project Name / Number: Former Unocal Avila Terminal / 0801-0897

Well ID	Date	Depth to LNAPL (ft below TOC)	DTW (ft below TOC)	Total Depth (ft below TOC)	LNAPL Thickness (ft)	Water Column Height (ft)	Sheen (Y or N)	Well Head Condition
B-37-70	9/17/12	—	69.60	QED	—	—	N odor	Good
B-78		52.43	53.16	—	0.73	—	LNAPL	Good
B-83		65.05	67.15	—	2.10	—	LNAPL	Good
B-167-56		—	50.90	QED	—	—	N	Good
B-167-95		—	71.02	QED	—	—	N	Good
B-190		—	51.06	QED	—	—	N	Good
B-201		—	74.00	QED	—	—	N	Good
B-203		62.26	65.02	—	2.76	—	LNAPL	Good
B-210		—	66.49	QED	—	—	N	Good
B-216		—	40.15	QED	—	—	N	Need new I.d
B-217		—	46.42	QED	—	—	N	Need new I.d
B-223-48		—	DRY	48.03	—	—	N	Need new I.d
B-223-88		—	80.58	QED	—	—	N odor	↓
B-224		—	73.57	QED	—	—	N	Good
B-225		—	71.58	QED	—	—	N	Good
B-226		—	76.75	QED	—	—	N	Good
B-230		—	91.72	QED	—	—	Y	Good
B-231		—	88.69	QED	—	—	N	Good

TOC = top of casing
LNAPL = light non aqueous phase liquid
ft = feet
DTW = depth to water

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name: Former Unocal Avila Terminal		Site Location: Avila Beach, CA
Well No. B-37-70	Sample ID: AT-B-37-70	Date: 9-18-12

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 50 feet to 70 feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 69.60	PURGE PUMP TYPE OR BAILER: QED BP dedicated
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	PURGING INITIATED AT: 1217	PURGING ENDED AT: 1300	APPROXIMATE VOLUME PURGED (gallons): —	HYDROCARBON SHEEN OR ODOR? ODOR

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation)	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1221	69.70	7.10	23.15	837	4.39	-131.3	clear	10	5	35	20
1224	69.75	6.92	23.25	817	2.13	-142.8	"	"	"	"	"
1228	69.76	6.67	22.79	870	1.00	-133.9	"	"	"	"	"
1232	69.78	6.65	22.45	1396	0.95	-111.7	"	"	"	"	"
1236	69.82	6.66	21.92	2033	0.62	-112.6	"	"	"	"	"
1240	69.84	6.65	22.21	2396	0.79	-113.2	"	"	"	"	"
1244	69.87	6.65	22.41	2699	0.25	-119.5	"	"	"	"	"
1248	69.90	6.65	22.95	2811	0.53	-117.1	"	"	"	"	"
1252	69.92	6.65	22.76	2882	0.26	-124.2	"	"	"	"	"
1256	69.95	6.65	23.37	2937	0.25	-122.5	"	"	"	"	"
1300	69.97	6.65	23.43	2993	0.26	-127.9	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Harleigh Ouerton	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1301
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 20	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ___µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-37-70	3 VOA; 1 AG; 1 PE	AG, CG, PE	2L, 120mL 250mL	None/HCl	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							Metals (6000/7000)	
							MTBE, TBA	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-167-56	Sample ID:	AT-B-167-56
Date:	9/18/12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 36 feet to 56 feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 50.90	PURGE PUMP TYPE OR BAILER: ~~Portable~~ BP Dedicated

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	PURGING INITIATED AT: 1422	PURGING ENDED AT: 1450	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? slight odor

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or ~~mS/cm~~)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1426	51.11	6.57	21.35	5505	5.50	40.2	clear/none	11	4	28	25
1430	51.12	6.51	21.99	5609	4.82	61.8	"	"	"	"	"
1434	51.13	6.48	22.38	5696	4.29	77.1	"	"	"	"	"
1438	51.14	6.46	22.49	5783	4.12	104.3	"	"	"	"	"
1442	51.14	6.46	22.44	5782	4.10	108.1	"	"	"	"	"
1446	51.16	6.45	22.15	5762	4.14	116.3	"	"	"	"	"
1450	51.18	6.45	22.12	5759	4.19	117.8	"	"	"	"	"

PURGE STABILITY CRITERIA: ~~3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART~~ - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Cody Montoya		1452
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):** 25	**TUBING MATERIAL CODE:** HDPE
FIELD DECONTAMINATION: (YES) NO	**FIELD FILTERED:** YES (NO) **Filtration Equipment Type:**	**FILTER SIZE:** ____µm **DUPLICATE:** YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-167-56	3 VOA; 1 AG	CG, AG	40mL, 1L	HCl, none	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							MTBE, TBA	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-167-95	Sample ID:	AT-B-167-95
Date:	9/19/12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 65 feet to 95 feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 71.02	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	PURGING INITIATED AT: 0852	PURGING ENDED AT: 0928	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? ODOR

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0856	71.31	6.67	18.74	5156	7.06	233.3	clear/odor	11	4	37	50
0900	71.34	6.51	18.25	5095	6.29	239.8	"	"	"	35	25
0904	71.37	6.43	18.36	5094	5.36	306.9	"	"	"	"	"
0908	71.39	6.38	18.46	5109	4.53	423.2	"	"	"	"	"
0912	71.41	6.35	18.44	5107	4.10	490.1	"	"	"	"	"
0916	71.43	6.33	18.53	5121	3.60	549.2	"	"	"	"	"
0920	71.44	6.32	18.45	5113	3.21	560.1	"	"	"	"	"
0924	71.46	6.31	18.58	5123	3.13	558.2	"	"	"	"	"
0928	71.48	6.31	18.49	5123	3.09	566.3	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Cody Montoya	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 0930
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 25	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: YES / NO	FIELD FILTERED: YES / NO Filtration Equipment Type:	FILTER SIZE: ____µm
		DUPLICATE: YES / NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-167-95	3 VOA; 1AG; 1 PE	CG, AG, PE	40mL, 1L, 250mL	HCl, none, none	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							Metals (6000/7000)	
							MTBE, TBA	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name: Former Unocal Avila Terminal		Site Location: Avila Beach, CA
Well No. B-190	Sample ID: AT-B-190	Date: 9/18/12

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 50 feet to 80 feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 51.06	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	PURGING INITIATED AT: 1305	PURGING ENDED AT: 1333	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? ODOR

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1309	51.23	6.12	20.88	1518	0.52	-118.2	clear/odor	10	5	31	50
1313	51.24	6.10	20.91	1556	0.34	-142.1	"	"	"	"	"
1317	51.24	6.19	21.20	1626	0.28	-161.3	"	"	"	"	"
1321	51.25	6.24	21.41	1653	0.25	-170.1	"	"	"	"	"
1325	51.25	6.31	22.10	1701	0.22	-182.6	"	"	"	"	"
1329	51.26	6.33	21.17	1672	0.22	-186.6	"	"	"	"	"
1333	51.26	6.31	21.08	1621	0.21	-190.4	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Cody Montoya	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1335
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 50	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-190	3 VOA; 1 AG	CG, AG	40mL, 1L	HCl, none	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							MTBE, TBA	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-201	Sample ID:	AT-B-201
Date:	9/17/12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	50 feet to 85 feet	—	74.00	Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
Dedicated	1247	1323		No

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or ~~µS/cm~~)	DO (circle mg/L or % saturation)	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1251	74.09	6.87	22.43	2076	8.63	105.7	clear	10	5	40	25
1255	74.10	6.80	22.07	2052	7.80	109.8	"	"	"	"	"
1259	74.12	6.81	22.36	2064	6.59	111.9	"	"	"	"	"
1303	74.14	6.85	22.39	2066	6.26	112.5	"	"	"	"	"
1307	74.15	6.87	22.45	2067	5.70	114.0	"	"	"	"	"
1311	74.17	6.90	22.41	2067	5.68	113.7	"	"	"	"	"
1315	74.19	6.92	22.64	2076	5.29	113.0	"	"	"	"	"
1319	74.21	6.93	22.61	2077	5.22	114.3	"	"	"	"	"
1323	74.22	6.94	22.63	2079	5.18	113.9	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

(pH: +/-0.1) (EC: +/-3%) (DO: +/-10%) (ORP: +/-10 mV) (Temperature: +/-1°C)

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Cody Montoya		1325
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):**	**TUBING MATERIAL CODE:**
Dedicated	25	HDPE
FIELD DECONTAMINATION: (YES) NO	**FIELD FILTERED:** YES (NO) **Filtration Equipment Type:**	**FILTER SIZE:** ____µm **DUPLICATE:** YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-201	3 VOA; 1 AG	CG, AG	40mL, 1L	HCl, none	—	—	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name: Former Unocal Avila Terminal		Site Location: Avila Beach, CA
Well No. B-210	Sample ID: AT-B-210	Date: 9-17-12

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 30 feet to 75 feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 66.49	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	PURGING INITIATED AT: 1200	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? NO

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or (µS/cm))	DO (circle mg/l or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1204	66.55	6.52	19.32	1079	8.30	179.6	Clear	11	4	38	20
1208	66.57	6.27	19.89	1096	8.44	175.7	"	"	"	"	"
1212	66.60	6.22	20.16	1113	7.91	176.2	"	"	"	"	"
1216	66.62	6.21	20.26	1131	10.54	174.0	"	"	"	"	"
1220	66.63	6.21	20.74	1164	7.63	174.0	"	"	"	"	"
1224	66.64	6.21	21.45	1212	7.31	168.5	"	"	"	"	"
1228	66.67	6.21	21.70	1220	7.15	165.3	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Harleigh Overton	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1229
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 20	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-210	3 VOA; 1 AG; 1 PE	CG, AG, PE	120mL, 1L, 250mL	HCl, None	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							Metals (6000/7000)	

REMARKS: Leak at air fitting

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-216	Sample ID:	AT-B-216
Date:	9/18/12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	37.5 feet to 77.5 feet	—	40.15	~~Portable~~ BP Dedicated

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
Dedicated	1130	1202		ODOR

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1134	40.35	6.24	19.22	2742	0.67	-96.3	clear/none	10	5	34	200
1138	40.35	6.13	19.21	2530	0.44	-103.7	"	"	"	"	"
1142	40.35	6.12	19.14	2467	0.31	-115.8	"	"	"	"	"
1146	40.35	6.13	19.18	2486	0.24	-123.7	"	"	"	"	"
1150	40.36	6.14	18.96	2474	0.23	-127.8	"	"	"	"	"
1154	40.36	6.14	19.32	2481	0.21	-134.6	"	"	"	"	"
1158	40.36	6.15	19.29	2478	0.20	-142.4	"	"	"	"	"
1202	40.36	6.16	19.24	2474	0.19	-144.2	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN ~~5~~ MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Cody Montoya		1205
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):**	**TUBING MATERIAL CODE:**
Dedicated	200	HDPE
FIELD DECONTAMINATION: YES NO	**FIELD FILTERED:** YES (NO) **Filtration Equipment Type:** **FILTER SIZE:** ____µm	**DUPLICATE:** YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-216	3 VOA; 2 AG; 1 PE	CG, AG	40mL, 1L	HCl, none	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							PAHs (8270-SIM)*	
							Metals (6000/7000)*	
							MTBE, TBA	

REMARKS: * = PAHs and Metals in Q2 and Q4 only.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-217	Sample ID:	AT-B-217
Date:	9/18/12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	39.5 feet to 79.5 feet	—	46.42	~~Peristaltic~~ BP Dedicated

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
Dedicated	0935	1015		odor

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0939	46.68	6.45	17.82	2845	0.92	-124.4	clear/odor	10	5	31	50
0943	46.74	6.49	17.82	2852	0.83	-163.0	"	"	"	"	"
0947	46.79	6.52	17.78	2864	0.58	-169.7	"	"	"	30	25
0951	46.80	6.52	17.79	2861	0.54	-168.4	"	"	"	"	"
0955	46.82	6.51	18.01	2878	0.51	-159.9	"	"	"	"	"
0959	46.83	6.49	18.07	2886	0.49	-150.1	"	"	"	"	"
1003	46.85	6.48	18.23	2892	0.48	-142.0	"	"	"	"	"
1007	46.87	6.48	18.81	2936	0.45	-128.1	"	"	"	"	"
1011	46.88	6.47	18.95	2958	0.45	-121.5	"	"	"	"	"
1015	46.89	6.47	19.09	2966	0.46	-120.2	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Cody Mantaya		1017
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):**	**TUBING MATERIAL CODE:**
Dedicated	25	HDPE
FIELD DECONTAMINATION: YES NO	**FIELD FILTERED:** YES NO **Filtration Equipment Type:**	**FILTER SIZE:** ____µm **DUPLICATE:** YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-217	3 VOA; 2 AG; 1 PE	CG, AG	40mL, 1L	HCl, none	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							PAHs (8270-SIM)*	
							Metals (6000/7000)*	
							MTBE, TBA	

REMARKS: * = PAHs and Metals in Q2 and Q4 only.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name: Former Unocal Avila Terminal		Site Location: Avila Beach, CA
Well No. B-223-48	Sample ID: AT-B-223-48	Date: 9/17/12

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 10 feet to 45 feet	WELL TOTAL DEPTH (feet): 48.03	STATIC DEPTH TO WATER (feet): DRY	PURGE PUMP TYPE OR BAILER:

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
					Well is DRY						
					NO SAMPLE TAKEN						

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:
FIELD DECONTAMINATION: YES NO	FIELD FILTERED: YES NO FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-223-48	3 VOA; 2 AG; 1 PE						TPH C4-C40 (GC/MS)	
							VOCs (8260)	
							PAHs (8270-SIM)	
							Metals (6000/7000)	
							MTBE, TBA	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name: Former Unocal Avila Terminal		Site Location: Avila Beach, CA
Well No. B-223-88	Sample ID: AT-B-223-88	Date: 9-18-12

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 55 feet to 85 feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 80.58	PURGE PUMP TYPE OR BAILER: ~~Portable BP~~ Dedicated BP
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	PURGING INITIATED AT: 1406	PURGING ENDED AT: 1434	APPROXIMATE VOLUME PURGED (gallons): —	HYDROCARBON SHEEN OR ODOR? Strong Odor

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1410	80.60	7.01	23.52	9059	2.78	1.9	Clear, Strong Odor	11	41	40	30
1414	80.61	6.98	22.87	8973	1.26	-222.0	"	"	"	"	"
1418	80.65	6.80	22.26	8900	0.70	-255.0	"	"	"	"	"
1422	80.67	6.79	21.90	8961	0.41	-255.2	"	"	"	"	"
1426	80.72	6.60	21.91	9254	0.33	-251.8	"	"	"	"	"
1430	80.75	6.60	21.95	9440	0.30	-249.6	"	"	"	"	"
1434	80.77	6.59	22.35	9388	0.29	-246.7	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Harley Overton	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1435
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 30	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-223-88	3 VOA; 2 AG; 1 PE	AG	2L	—	—	—	TPH C4-C40 (GC/MS)	BP
		PE	250mL	—	—	—	VOCs (8260)	
		CG	120mL	HCl	—	—	PAHs (8270-SIM)	
							Metals (6000/7000)	
							MBTE, TBA	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-224	Sample ID:	AT-B-224
Date:	9-19-12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	65 feet to 95 feet	—	73.57	Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
Dedicated	844		—	ODOR

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0848	73.65	6.99	18.73	4699	5.57	192.0	clear	12	3	37	30
0852	73.65	6.80	18.27	4644	5.01	179.0	"	"	"	"	"
0856	73.66	6.78	18.26	4630	4.03	-62.6	"	11	4	"	45
0900	73.71	6.62	18.30	4664	1.21	-82.6	"	"	"	"	"
0904	73.73	6.63	18.27	4679	0.83	-78.4	"	"	"	"	"
0908	73.75	6.61	18.23	4689	0.56	-70.0	"	"	"	"	"
0912	73.77	6.60	18.46	4725	0.42	-58.9	"	"	"	"	"
0916	73.80	6.60	18.69	4754	0.35	-48.1	"	"	"	"	"
0920	73.82	6.60	18.51	4730	0.27	-35.6	"	"	"	"	"
0924	73.85	6.60	18.52	4726	0.23	-22.3	"	"	"	"	"
0928	73.87	6.60	18.61	4736	0.22	-17.5	"	"	"	"	"
0932	73.89	6.60	18.72	4737	0.21	-12.9	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Harleigh Overton		0933
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):**	**TUBING MATERIAL CODE:**
Dedicated	45	HDPE
FIELD DECONTAMINATION: YES (NO)	**FIELD FILTERED:** YES (NO) Filtration Equipment Type: **FILTER SIZE:** ____µm	**DUPLICATE:** YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-224	3 VOA; 2 AG; 1 PE	CG,AG,PE	120mL,2L,250mL	HCl, None	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							PAHs (8270-SIM)	
							Metals (6000/7000)	
							MBTE, TBA	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-225	Sample ID:	AT-B-225
Date:	9-18-12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	65 feet to 95 feet	—	71.58	(Dedicated BP)

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
—	0938	1022	—	NO

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or (µS/cm))	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0942	71.64	7.00	18.59	3772	4.67	203.7	clear	11	4	35	30
0946	71.67	6.57	18.20	3747	3.80	121.0	"	12	3	"	25
0950	71.70	6.56	17.88	3717	2.88	-222.1	"	"	"	"	"
0954	71.73	6.55	18.06	3751	2.22	-224.1	"	"	"	"	"
0958	71.76	6.55	18.16	3811	1.83	-222.3	"	"	"	"	"
1002	71.78	6.54	18.37	3875	1.50	-222.1	"	"	"	"	"
1006	71.81	6.54	19.85	4071	1.03	-217.9	"	"	"	"	"
1010	71.84	6.54	19.87	4101	0.96	-212.8	"	"	"	"	"
1014	71.87	6.54	19.67	4117	0.92	-203.3	"	"	"	"	"
1018	71.89	6.54	20.01	4170	0.93	-198.2	"	"	"	"	"
1022	71.92	6.54	20.49	4200	0.98	-194.0	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

(pH: +/-0.1) EC: +/-3% DO: +/-10% (ORP: +/-10 mV) (Temperature: +/-1°C)

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Harleigh Querton		1023
FINAL PUMP OR TUBING DEPTH IN WELL (feet): —	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):** 25	**TUBING MATERIAL CODE:** HDPE
FIELD DECONTAMINATION: (YES) NO	**FIELD FILTERED:** YES (NO) **FILTER SIZE:** ___µm Filtration Equipment Type:	**DUPLICATE:** YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-225	3 VOA; 2 AG; 1 PE	CG, AG, PE	120mL,	HCL	—	—	TPH C4-C40 (GC/MS)	BP
			2L, 250mL	None	—	—	VOCs (8260)	↓
							PAHs (8270-SIM)	
							Metals (6000/7000)	
							MBTE, TBA	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name: Former Unocal Avila Terminal		Site Location: Avila Beach, CA	
Well No. B-226	Sample ID: AT-B-226	Date: 9/19/12	

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 65 feet to 95 feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 76.75	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	PURGING INITIATED AT: 1020	PURGING ENDED AT: 1052	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? ODOR

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1024	76.84	6.56	20.14	5136	1.29	-177.3	clear/none	10	5	40	60
1028	76.86	6.49	19.77	5103	0.61	-231.8	"	"	"	"	"
1032	76.90	6.55	19.51	5082	0.51	-234.9	"	"	4	39	40
1036	76.91	6.58	19.61	5094	0.48	-236.2	"	"	"	"	"
1040	76.92	6.58	19.89	5127	0.46	-233.6	"	"	"	"	"
1044	76.93	6.59	20.17	5160	0.41	-236.9	"	"	"	"	"
1048	76.94	6.60	20.08	5163	0.39	-235.7	"	"	"	"	"
1052	76.95	6.60	20.12	5168	0.38	-237.2	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Cody Mantoya	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1055
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 40	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: YES NO	FIELD FILTERED: YES NO Filtration Equipment Type:	FILTER SIZE: ____µm DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-226	3 VOA; 2 AG; 1 PE	CG, AG, PE	40mL, 1L, 250mL	HCl, none, none	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							PAHs (8270-SIM)	
							Metals (6000/7000)	
							MBTE, TBA	
DUP	"	"	"	"	—	—		BP

REMARKS:

DUP @ 0900

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-230	Sample ID:	AT-B-230
Date:	9-18-12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	65 feet to 95 feet	—	91.72	~~Portable~~ BP Dedicated

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
Dedicated	1044	1108		YES

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1048	92.09	6.79	18.47	6769	0.66	242.2	clear, ODOR	10	5	41	150
1052	92.10	6.77	18.32	6776	0.53	227.7	"	"	"	"	"
1056	92.10	6.70	18.29	6768	0.47	227.0	"	"	"	"	"
1100	92.10	6.72	18.18	6746	0.41	230.2	"	"	"	"	"
1104	92.10	6.68	18.20	6748	0.40	230.0	"	"	"	"	"
1108	92.10	6.65	18.24	6751	0.41	235.5	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Harleigh Overton		1109
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 150	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: YES NO	FIELD FILTERED: YES NO FILTER SIZE: ___µm Filtration Equipment Type:	DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-230	4 3 VOA; ~~2~~ AG; 1 PE	CG	120mL	HCl	—	—	TPH C4-C40 (GC/MS)	BP
		AG	4L	—	—	—	VOCs (8260)	↓
		PE	250mL	—	—	—	PAHs (8270-SIM)	
							Metals (6000/7000)	
							MBTE, TBA	
AT-B-230	1	Teflon Net	—	—	—	—	8015C	↓

REMARKS:

Sheen Sample collected with Teflon net while purging. Purged water directly through Teflon Net ~~with~~ H2O from 1044 to 1108. Sample time 1109

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name: Former Unocal Avila Terminal		Site Location: Avila Beach, CA
Well No. B-231	Sample ID: AT-B-231	Date: 9-19-12

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 70 feet to 100 feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 88.69	PURGE PUMP TYPE OR BAILER: ~~Portable~~ BP Dedicated

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1206	PURGING ENDED AT: 1234	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? ODOR

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1210	89.00	8.00	19.09	7707	10.08	-91.7	clear	12	3	42	50
1214	89.02	7.92	19.81	7889	~~8~~ 1.10	-84.5	"	"	"	"	"
1218	89.05	7.90	20.07	7935	1.01	-84.4	"	"	"	"	"
1222	89.10	7.87	20.31	7986	0.83	-90.2	"	"	"	"	"
1226	89.11	7.86	20.80	8080	0.69	-89.2	"	"	"	"	"
1230	89.15	7.86	21.05	8138	0.64	-87.0	"	"	"	"	"
1234	89.17	7.85	21.33	8184	0.64	-86.2	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Harleigh Overton	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1235
FINAL PUMP OR TUBING DEPTH IN WELL (feet): —	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 50	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-231	4 3 VOA; ~~2~~ AG; 1 PE	CG	120mL				TPH C4-C40 (GC/MS)	ESP
		AG	4L				VOCs (8260)	↓
		PE	250mL				PAHs (8270-SIM), 8270M	
							Metals (6000/7000)	
							MBTE, TBA	
AT-B-231	1	Teflon Net	—	—	—	—	8015C	↓

REMARKS:

Sheen sample collected with teflon net while purging. Purged water directly through Teflon net from 1206 to 1234. Sample time, 1235

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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WATER QUALITY INSTRUMENT CALIBRATION LOG

Project No. / Name: 0801-0897 / Avila Tank Farm 3Q12 GWM

DATE/TIME	EQUIPMENT #	PARAMETER	STANDARD USED	METER READING	CALIBRATED READING	INITIALS
9/17/12 1130	YSI 556 11J102421	pH	7.00 4.00 10.00	7.03 4.05 9.99	7.00 4.01 10.00	CM
		Conductivity	1413 µS/cm	1417 µS/cm	1413 µS/cm	CM
		ORP	237.5 mV	215.1 mV	237.3 mV	CM
		D.O.	100.0%	90.5 %	100.1 %	CM
9/18/12 0845	YSI 556 11J102421	pH	7.00 4.00 10.00	7.12 4.07 10.01	7.00 4.01 10.00	CM
		Conductivity	1413 µS/cm	1458 µS/cm	1412 µS/cm	CM
		ORP	240.0 mV	243.1 mV	240.0 mV	CM
		D.O.	100.0%	107.0 %	100.1 %	CM
9/19/12 0815	YSI 556 11J102421	pH	7.00 4.00 10.00	7.00 4.02 10.03	7.00 4.00 10.00	CM
		Conductivity	1413 µS/cm	1419 µS/cm	1415 µS/cm	CM
		ORP	~~1419~~ 239.0 mV	237.1 mV	239.0 mV	CM
		D.O.	100.0%	101.1 %	99.8 %	CM
		pH	7.00 4.00 10.00			
		Conductivity	1413 µS/cm	µS/cm	µS/cm	
		ORP	mV	mV	mV	
		D.O.	100.0%	%	%	

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WATER QUALITY INSTRUMENT CALIBRATION LOG

Project No. / Name: 0801-0897 / Former Unocal Avila Terminal 3Q12 GWM

DATE/TIME	EQUIPMENT #	PARAMETER	STANDARD USED	METER READING	CALIBRATED READING	INITIALS
9-17-12 1130	YSI 556 11J102419	pH	7.00 4.00 10.00	-3.96 — —	7.02 — —	HO
		Conductivity	1413 µS/cm	1421 µS/cm	1413 µS/cm	HO
		ORP	235.0 mV	237.5 mV	235.0 mV	HO
↓	↓	D.O.	100.0%	131.5 %	100.0 %	HO
9-18-12 0850	YSI 556 11J102419	pH	7.00 4.00 10.00	—	—	HO
		Conductivity	1413 µS/cm	1494 µS/cm	1413 µS/cm	HO
		ORP	242.0 mV	244.0 mV	242.0 mV	HO
↓	↓	D.O.	100.0%	97.0 %	100.1 %	HO
9-19-12 0818	YSI 556 11J102419	pH	7.00 4.00 10.00	—	—	HO
		Conductivity	1413 µS/cm	15.08 µS/cm	1413 µS/cm	HO
		ORP	240.0 mV	218.0 mV	240.2 mV	HO
↓	↓	D.O.	100.0%	101.9 %	100.0 %	HO
		pH	7.00 4.00 10.00			
		Conductivity	1413 µS/cm	µS/cm	µS/cm	
		ORP	mV	mV	mV	
		D.O.	100.0%	%	%	

APPENDIX C
4Q12 GROUNDWATER MONITORING FIELD OBSERVATION FORMS

GROUNDWATER GAUGING / LNAPL THICKNESS MEASUREMENT FORM

Project Name / Number: Former Unocal Avila Terminal / 0801-0898

Well ID	Date	Depth to LNAPL (ft below TOC)	DTW (ft below TOC)	Total Depth (ft below TOC)	LNAPL Thickness (ft)	Water Column Height (ft)	Sheen (Y or N)	Well Head Condition
B-12	11/5/12	—	DRY	30.15	—	DRY	—	Good
B-14		—	DRY	29.11	—	DRY	—	Good
B-17		32.64	32.74	—	0.10	—	LNAPL	Good
B-29-30		—	28.07	—	Sheen	—	Y	No lid
B-29-50		—	32.78	—	Sheen	—	Y	No lid
B-30		—	42.32	—	Sheen	—	Y	No lock
B-33		—	13.97	—	Sheen	—	Y	Good
B-35-45R		—	13.87	—	—	—	N	Good
B-35-70		—	29.90	QED	—	—	N	Good
B-36		—	DRY	55.78	—	DRY	—	Good
B-37-40		—	42.32	42.62	—	0.30	N	Good
B-37-70		—	70.27	QED	—	—	N	Good
B-46		12.44	12.45	—	0.01	—	LNAPL	Good
B-49		20.16	20.44	—	0.28	—	LNAPL	Good
B-54		20.85	21.94	—	1.09	—	LNAPL	Good
B-57-20		—	1.99	14.80	—	12.81	N	Good
B-57-65		—	37.12	QED	—	—	N	Good
B-78		53.94	54.50	—	0.56	—	LNAPL	Good
B-81-67		57.88	63.70	—	5.82	—	LNAPL	Good
B-81-90		57.70	58.02	—	0.32	—	LNAPL	Good
B-82		—	DRY	34.37	—	DRY	—	Good
B-83		69.43	70.52	—	1.09	—	LNAPL	Good
B-85		—	41.98	69.09	—	27.11	N	Good
B-139		—	30.91	QED	—	—	N	Good
B-143-45		—	27.17	—	—	—	N	Good
B-143-70		—	26.34	—	—	—	N	Good
B-144-50		—	28.66	QED	—	—	N	Good
B-144-75		—	28.49	QED	—	—	N	Good
B-145		—	76.19	QED	—	—	N	Good
B-146		—	13.22	QED	—	—	N	Good
B-147		—	6.75	QED	—	—	N	Good
B-148		—	124.77	128.26	—	3.49	N	Good
B-149		—	61.97	QED	—	—	N	Good
B-150	✓	—	102.39	QED	—	—	N	Good

GROUNDWATER GAUGING / LNAPL THICKNESS MEASUREMENT FORM

Well ID	Date	Depth to LNAPL (ft below TOC)	DTW (ft below TOC)	Total Depth (ft below TOC)	LNAPL Thickness (ft)	Water Column Height (ft)	Sheen (Y or N)	Well Head Condition
B-151	11/5/12	—	82.07	QED	—	—	N	Good
B-153		—	75.66	QED	—	—	N	Good
B-163		63.77	64.75	—	0.98	—	LNAPL	Good
B-167-56		—	52.24	56.40	—	4.16	N	Good
B-167-95		—	71.88	QED	—	—	N	Good
B-169		—	87.26	QED	—	—	N	Good
B-172		—	5.98	38.62	—	32.64	N	Good
B-173		—	53.53	QED	—	—	N	Good
B-182		—	92.97	—	Sheen	—	Y	Good
B-183		—	65.92	QED	—	—	N	Good
B-184		—	96.61	QED	—	—	N	Good
B-185		—	73.14	92.96	—	19.82	N	Good
B-186-38		—	36.46	—	Sheen	—	Y	Good
B-186-56		49.77	55.02	—	5.25	—	LNAPL	Good
B-187		48.46	49.16	—	0.70	—	LNAPL	Good
B-189		21.86	21.87	—	0.01	—	LNAPL	Good
B-190		—	51.46	QED	—	—	N	Good
B-191		—	62.77	QED	—	—	N	Good
B-192		—	45.14	QED	—	—	N	Good
B-193		—	74.92	QED	—	—	N	Good
B-194		—	92.89	QED	—	—	N	Good
B-195		—	52.02	57.98	—	5.96	N	Good
B-196		—	79.47	QED	—	—	N	Good
B-197		—	187.05	194.32	—	7.27	N	Good
B-200		—	39.17	47.44	—	8.27	N	Good
B-201		—	73.76	QED	—	—	N	Good
B-202		—	9.73	QED	—	—	N	Good
B-203		63.66	66.55	—	2.89	—	LNAPL	Good
B-204-150		—	148.38	QED	—	—	N	Good
B-204-85		—	80.19	QED	—	—	N	Good
B-205-120		—	92.30	QED	—	—	N	Good
B-205-90		—	77.36	QED	—	—	N	Good
B-206		—	58.36	—	Sheen	—	Y	Good
B-207		—	48.66	—	Sheen	—	Y	Good
B-208	″	—	87.55	94.18	—	6.63	N	Good

GROUNDWATER GAUGING / LNAPL THICKNESS MEASUREMENT FORM

Well ID	Date	Depth to LNAPL (ft below TOC)	DTW (ft below TOC)	Total Depth (ft below TOC)	LNAPL Thickness (ft)	Water Column Height (ft)	Sheen (Y or N)	Well Head Condition
B-209	11/5/12	—	48.29	QED	—	—	N	Good
B-210		—	68.17	QED	—	—	N	Good
B-211		—	31.60	QED	—	—	N	Good
B-212		—	21.36	QED	—	—	N	Good
B-213-50		—	52.23	52.44	—	0.21	N	Good
B-213-80		—	DRY	82.72	—	DRY	N	Good
B-215		—	DRY	139.68	—	DRY	N	Good
B-216		—	39.89	QED	—	—	N	Good
B-217		—	46.15	QED	—	—	N	Good
B-223-48		—	47.99	48.03	—	0.04	N	Good
B-223-88		—	80.75	QED	—	—	N	Good
B-224		—	74.21	QED	—	—	N	Good
B-225		—	72.70	QED	—	—	N	Good
B-226		—	77.26	QED	—	—	N	Good
B-230		91.39	91.50	—	0.11	—	LNAPL	Good
B-231		—	89.33	QED	—	—	N	Good
GMW-14		—	82.48	QED	—	—	N	Good
GMW-15		—	28.31	QED	—	—	N	Good
GMW-16		—	23.29	QED	—	—	N	Good
SP-1		—	117.54	QED	—	—	N	Good
SP-2		—	48.82	—	Sheen	—	Y	Good
SP-6		—	51.88	—	Sheen	—	Y	Good
SP-7A		—	114.37	QED	—	—	N	Good
SP-9	↓	—	102.68	QED	—	—	N	Good

Notes:
TOC = top of casing
LNAPL = light non aqueous phase liquid
ft = feet
DTW = depth to water

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-35-45R	Sample ID:	AT-B-35-45R
Date:	11-8-12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	5 feet to 30 feet	29.44	13.87	SAMPLEPRO

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
21'	0900	0940	—	NONE

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0904	14.08	6.06	18.7	1085	5.30	-97.6	CLEAR	12	3	10	50
0908	14.10	6.09	18.9	1077	3.55	-104.3					
0912	14.11	6.11	18.7	1065	2.68	-108.2					
0916	14.12	6.13	18.9	1069	0.85	-111.7					
0920	14.13	6.14	18.9	1055	0.42	-112.5					
0924	14.13	6.16	18.9	1051	0.28	-114.5					
0928	14.15	6.17	18.9	1049	0.25	-115.2					
0932	14.16	6.18	18.9	1051	0.22	-116.8					
0936	14.17	6.18	18.9	1045	0.21	-117.7					
0940	14.19	6.20	18.9	1043	0.20	-118.5					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
D. FRAZIER		0941
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 21'	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):**	**TUBING MATERIAL CODE:** HDPE
FIELD DECONTAMINATION: (YES) NO	**FIELD FILTERED:** YES (NO) **Filtration Equipment Type:**	**FILTER SIZE:** ____µm **DUPLICATE:** YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-35-45R	3 VOA; 2 AG; 1 PE	CG	3x40mL	HCl	—	—	TPH C4-C40 (GC/MS)	BP
		AG	2L	NONE	—	—	VOCs + MTBE* (8260)	
		PE	1 250mL	NONE	—	—	PAHs (8270 SIM)	↓
							Metals (6000/7000)	

REMARKS: MTBE in Q2 and Q4.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-35-70	Sample ID:	AT-B-35-70
Date:	11.8.12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 50 feet to 70 feet	WELL TOTAL DEPTH (feet): DED	STATIC DEPTH TO WATER (feet): 29.90	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1050	PURGING ENDED AT: 1118	APPROXIMATE VOLUME PURGED (gallons): —	HYDROCARBON SHEEN OR ODOR? NONE

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1054	29.99	5.35	18.9	2141	4.62	4.1	CLEAR	16	4	21	25
1058	30.05	5.38	18.8	2100	1.12	7.1					
1102	30.07	5.33	18.9	2053	0.72	-4.2					
1106	30.08	5.33	18.9	2045	0.36	-17.1					
1110	30.10	5.33	19.1	2039	0.32	-13.1					
1114	30.11	5.33	19.1	2037	0.29	-10.9					
1118	30.12	5.33	19.0	2010	0.31	-8.5					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) D. FRAZIER	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1120
FINAL PUMP OR TUBING DEPTH IN WELL (feet): DED.	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-35-70	3 VOA; 2 AG	CG	120 mL	HCl	—	—	TPH C4-C40 (GC/MS)	BP
		AG	2 L	—	—	—	VOCs + MTBE* (8260)	↓
							PAHs (8270 SIM)	

REMARKS: MTBE in Q2

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-37-70	Sample ID:	AT-B-37-70
Date:	11·8·12		

PURGING DATA

WELL DIAMETER (inches):	2-inch	WELL SCREEN INTERVAL DEPTH:	50 feet to 70 feet	WELL TOTAL DEPTH (feet):	—	STATIC DEPTH TO WATER (feet):	70.27	PURGE PUMP TYPE OR BAILER:	
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	QED	PURGING INITIATED AT:	1256	PURGING ENDED AT:	1328	APPROXIMATE VOLUME PURGED (gallons):	—	HYDROCARBON SHEEN OR ODOR?	NONE

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation)	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1300	70.35	6.17	19.3	2521	0.38	-179.9	CLEAR	12	3	26	25
1304	70.36	6.10	19.0	2557	0.24	-221.6					
1308	70.37	6.00	18.7	2632	0.35	-202.3					
1312	70.38	6.00	18.6	2678	0.37	-181.6					
1316	70.39	6.01	18.4	2650	0.35	-161.0					
1320	70.40	6.02	18.3	2639	0.37	-150.3					
1324	70.40	6.02	18.3	2631	0.36	-149.8					
1328	70.42	6.02	18.3	2630	0.37	-148.5					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	D. FRAZER	SAMPLER(S) SIGNATURES:		SAMPLE TIME:	1330
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	QED	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):		TUBING MATERIAL CODE:	HDPE
FIELD DECONTAMINATION:	YES NO	FIELD FILTERED: YES NO Filtration Equipment Type:		FILTER SIZE: ____µm	DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-37-70	3 VOA; 1 AG; 1 PE						TPH C4-C40 (GC/MS)	
							VOCs (8260)	
							Metals (6000/7000)	
							MTBE, TBA	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-57-20	Sample ID:	AT-B-57-20
Date:	4/8/12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	WELL TOTAL DEPTH (feet): 14-80	STATIC DEPTH TO WATER (feet): 1-99	PURGE PUMP TYPE OR BAILER: Portable DP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~~80~~ 15	PURGING INITIATED AT: 1503	PURGING ENDED AT: 1523	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? N

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1507	2.30	5.88	20.0	802	0.92	-87.9	clear	12	3	15	100
1511	2.32	5.84	20.0	804	0.77	-92.9	↓	↓	↓	↓	↓
1515	2.34	5.82	20.1	804	0.71	-95.6					
1519	2.35	5.83	20.1	803	0.68	-98.5					
1523	2.37	5.83	20.2	803	0.66	-100.5					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Donny Rice	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1524
FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~~80~~ 15	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) Filtration Equipment Type:	FILTER SIZE: ____µm DUPLICATE: (YES) NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-57-20	3 VOA; 2 AG; 1 PE	CE/AG/PE	—	HCl / —	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							PAHs (8270 SIM)	
							Metals (6000/7000)	

REMARKS: DUP-3 @ 1113

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-57-65	Sample ID:	AT-B-57-65
Date:	11/8/12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 40 feet to 65 feet	WELL TOTAL DEPTH (feet): QED	STATIC DEPTH TO WATER (feet): 37.12	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	PURGING INITIATED AT: 1349	PURGING ENDED AT: 1421	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? N

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1353	37.89	5.86	20.8	1244	1.46	2.3	clear	10	5	30	25
1357	37.89	5.81	20.7	1264	0.96	9.6					
1401	37.91	5.78	20.7	1238	0.65	3.2					
1405	37.91	5.78	20.6	1217	0.60	-2.7					
1409	37.91	5.78	20.7	1198	0.49	-9.0					
1413	37.91	5.79	20.8	1181	0.40	-14.5					
1417	37.91	5.79	20.6	1166	0.39	-19.6					
1421	37.91	5.79	20.6	1163	0.40	-20.8	↓	↓	↓	↓	↓

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW ~~WHEN ACHIEVED~~

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Danny Rice	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1422
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): ~~40~~ 25	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: YES (NO)	FIELD FILTERED: YES (NO) Filtration Equipment Type:	FILTER SIZE: ____µm
		DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-57-65	3 VOA; 1 AG	CG/AG	—	HCl/—	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-85	Sample ID:	AT-B-85
Date:	11-8-12		

PURGING DATA

WELL DIAMETER (inches): 2-inch ~~4~~	WELL SCREEN INTERVAL DEPTH: 55 feet to 70 feet	WELL TOTAL DEPTH (feet): 69.09	STATIC DEPTH TO WATER (feet): 41.98	PURGE PUMP TYPE OR BAILER: Portable BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
~~4~~	0904	0928		N

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0908	41.98	5.81	18.1	2914	1.95	24.1	Cloudy	12	3	40	25
0912	42.01	5.82	17.5	3413	1.70	-6.0					
0916	42.04	5.79	17.5	3614	1.55	-16.5					
0920	42.06	5.79	17.5	3649	1.43	-20.3					
0924	42.09	5.79	17.3	3671	1.37	-23.7					
0928	42.11	5.79	17.4	3667	1.35	-25.4					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Danny Rice		0929
FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~~0~~	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 25	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: ~~YES~~ NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-85	3 VOA; 1AG	CG/AG	~	HCl/~	~	~	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-139	Sample ID:	AT-B-139
Date:	11/7/12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	34 feet to 44 feet	—	30.91	dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
Dedicated	1459	1539		No

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1503	31.14	5.73	21.19	795	4.26	136.8	clear	10	5	20	75
1507	31.15	5.48	20.17	902	1.98	145.3	"	"	"	"	"
1511	31.15	5.47	20.42	996	1.03	152.9	"	"	"	"	"
1515	31.15	5.48	20.17	1007	0.74	156.5	"	"	"	"	"
1519	31.15	5.48	19.97	1005	0.58	159.5	"	"	"	"	"
1523	31.15	5.49	20.15	1006	0.47	161.4	"	"	"	"	"
1527	31.15	5.49	19.86	998	0.38	163.2	"	"	"	"	"
1531	31.16	5.49	19.69	994	0.31	164.3	"	"	"	"	"
1535	31.16	5.49	19.63	992	0.32	164.8	"	"	"	"	"
1539	31.16	5.49	19.62	994	0.31	165.5	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED
pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Cody Montara		1540
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):**	**TUBING MATERIAL CODE:**
Dedicated	75	HDPE
FIELD DECONTAMINATION: YES NO	**FIELD FILTERED:** YES NO **FILTER SIZE:** ____µm Filtration Equipment Type:	**DUPLICATE:** YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-139	3 VOA; 1 AG; 1 PE	CG, AG, PE	40mL, 1L, 250mL	HCl, none, none	—	—	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	
							Metals (6000/7000)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-144-50	Sample ID:	AT-B-144-50
Date:	11/6/12		

PURGING DATA

WELL DIAMETER (inches):	2-inch	WELL SCREEN INTERVAL DEPTH:	40 feet to 50 feet	WELL TOTAL DEPTH (feet):	—	STATIC DEPTH TO WATER (feet):	28.66	PURGE PUMP TYPE OR BAILER:	dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	Dedicated	PURGING INITIATED AT:	0903	PURGING ENDED AT:	0939	APPROXIMATE VOLUME PURGED (gallons):		HYDROCARBON SHEEN OR ODOR?	No

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation)	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0907	29.10	6.88	18.12	1903	6.53	222.1	clear	11	4	21	25
0911	29.17	6.63	18.30	1910	5.97	220.2	"	"	"	"	"
0915	29.22	6.47	18.27	1912	5.19	219.8	"	"	"	"	"
0919	29.26	6.40	18.32	1918	4.20	219.1	"	"	"	"	"
0923	29.29	6.36	18.47	1927	3.33	218.1	"	"	"	"	"
0927	29.31	6.33	18.57	1934	2.80	217.1	"	"	"	"	"
0931	29.33	6.31	18.67	1939	2.38	216.1	"	"	"	"	"
0935	29.35	6.30	18.74	1942	2.26	215.2	"	"	"	"	"
0939	29.37	6.29	18.79	1944	2.23	214.2	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	Cody Mantapa	SAMPLER(S) SIGNATURES:		SAMPLE TIME:	0940
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	25	TUBING MATERIAL CODE:	HDPE
FIELD DECONTAMINATION:	YES / NO	FIELD FILTERED: YES / NO Filtration Equipment Type:		FILTER SIZE: ____µm	DUPLICATE: YES / NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-144-50	3 VOA; 1 AG	CG, AG	40mL, 1L	HCl, none	—	—	TPH C4-C40 (GC/MS)	BP
							* BTEX (8260)	
							** VOCs (8260)	

REMARKS: ** VOCs analyses performed in 2Q. * BTEX analyses performed in 4Q.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name: Former Unocal Avila Terminal		Site Location: Avila Beach, CA
Well No. B-145	Sample ID: AT-B-145	Date: 11/7/12

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 79 feet to 109 feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 76.19	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	PURGING INITIATED AT: 1207	PURGING ENDED AT: 1247	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? No

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1211	76.59	7.38	15.53	1693	9.72	218.8	clear	10	5	45	75
1215	76.58	7.02	15.53	1698	7.90	72.1	"	"	"	"	"
1219	76.58	6.82	15.57	1708	5.59	23.5	"	"	"	"	"
1223	76.58	6.73	15.66	1718	3.80	6.2	"	"	"	"	"
1227	76.58	6.70	15.74	1725	2.69	2.2	"	"	"	"	"
1231	76.58	6.69	15.78	1729	1.98	0.6	"	"	"	"	"
1235	76.58	6.70	15.83	1734	1.50	-1.5	"	"	"	"	"
1239	76.58	6.70	15.92	1740	1.09	-4.1	"	"	"	"	"
1243	76.58	6.70	1593	1740	1.10	-4.6	"	"	"	"	"
1247	76.58	6.71	15.95	1742	1.06	-5.1	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Cody Montaje	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1250
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 75	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: YES NO	FIELD FILTERED: YES NO Filtration Equipment Type:	FILTER SIZE: ____µm DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-145	3 VOA; 1 AG	CG, AG,	40mL, 1L	HCl, none	—	—	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-146	Sample ID:	AT-B-146
Date:	11/6/12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	12 feet to 42 feet	—	13.22	Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
Dedicated	1054	1138		No

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1058	13.48	6.52	20.67	4596	4.68	2.0	clear	10	5	14	60
1102	13.48	6.52	21.43	4711	3.68	10.9	"	"	"	"	"
1106	13.48	6.52	22.22	4813	2.81	29.5	"	"	"	"	"
1110	13.48	6.52	22.64	4864	2.43	51.8	"	"	"	"	"
1114	13.48	6.52	22.65	4865	2.37	64.4	"	"	"	"	"
1118	13.48	6.52	23.01	4900	2.16	78.2	"	"	"	"	"
1122	13.48	6.52	22.98	4906	1.95	87.7	"	"	"	"	"
1126	13.48	6.52	22.50	4860	1.88	93.3	"	"	"	"	"
1130	13.48	6.52	22.74	4878	1.66	99.6	"	"	"	"	"
1134	13.48	6.52	23.51	4949	1.59	101.8	"	"	"	"	"
1138	13.48	6.52	20.98	4969	1.53	104.9	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Cody Montapa		1140
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):**	**TUBING MATERIAL CODE:**
Dedicated	60	HDPE
FIELD DECONTAMINATION: YES (NO)	**FIELD FILTERED:** YES (NO) Filtration Equipment Type:	**FILTER SIZE:** ____µm **DUPLICATE:** YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-146	3 VOA; 1 AG	CG, AG	40mL, 1L	HCl, none	—	—	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-147	Sample ID:	AT-B-147
Date:	11/6/12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	12 feet to 42 feet	—	6.75	Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
Dedicated	1353	1425		No

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1357	6.97	5.24	19.81	8535	3.43	91.9	clear	10	5	11	100
1401	6.99	5.23	19.06	8414	1.40	129.5	"	"	"	"	"
1405	7.00	5.22	19.07	8416	1.21	143.1	"	"	"	"	"
1409	7.00	5.23	19.58	8502	1.03	152.6	"	"	"	"	"
1413	6.99	5.23	19.75	8543	0.97	159.8	"	"	"	"	"
1417	6.99	5.22	19.35	8470	0.96	165.9	"	"	"	"	"
1421	6.99	5.23	19.32	8455	0.91	168.7	"	"	"	"	"
1425	6.99	5.23	19.30	8450	0.90	169.2	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED
pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Cody Mantaja		1430
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):**	**TUBING MATERIAL CODE:**
Dedicated	100	HDPE
FIELD DECONTAMINATION: YES NO	**FIELD FILTERED:** YES NO **FILTER SIZE:** ____µm Filtration Equipment Type:	**DUPLICATE:** YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-147	3 VOA; 1 AG	CG, AG	40mL, 1L	HCl, none	—	—	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

REPORT OF GROUNDWATER PURGING / SAMPLING DATA

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Job No.: 0801-0898	Well I.D. No. B-148	Date: 11/7/12	M T (W) T F S S
Client: Chevron		Project: 4Q12 GWM	
Location: Avila Terminal		Weather: Sunny, calm	
Observer: Cody Montoya		Observation Period	Start: 1110 Stop: 1155

PURGING DATA

A	Total Depth of Well (ft)	128.26
B	Static Water Level (ft)	124.77
C	Depth of Water Column (ft) (A-B=C)	3.49
D	Volume Multiplier (gal/ft)	0.16
E	Casing Volume, One (gal) (CxD=E)	0.56
F	Casing Volume, Three (gal) (3xE=F)	1.68
G	Purge, Time Start (Military)	1117
H	Purge, Time Stop (Military)	1135
I	Total Time of Purge (hrs, min)	18 mins
J	Purge Rate (gal/min)	
K	Actual Purge Volume (gal)	2.0
L	Drawdown	0.22
M	Type of Purge Pump	Disposable Bailer
N	DTW @ 80% Recharge (0.20xC+B=N)	125.47

VOLUME MULTIPLIER

Casing Diameter, 2-inch	0.16 gal/ft
Casing Diameter, 4-inch	0.65 gal/ft
Casing Diameter, 6-inch	1.46 gal/ft

CONVERSION EQUIVALENTS

1 Gallon	231 inches^3
1 Foot	1,728 inches^3 = 7.5 gallons
Area of Circle	πr^2

INDICATOR DATA

Time	Temperature (C°)	pH	Conductivity (uS or mS)	Turbidity	Gallons Removed	Observations
1118	19.00	7.13	2030	clear	0	
1127	18.24	7.06	2007	cloudy	1.0	
1131	17.81	7.08	1992	cloudy	1.5	
1135	17.80	7.08	1995	cloudy	2.0	

SAMPLING DATA

Sample No.	Date	Time (Military)	Sampling Device	Type of Container	Number of Containers	Preservative	Laboratory Tests A	B	C	D	E	F
AT-B-148	11/7/12	1140	Disposable Bailer	Voa, amber	3, 1	HCl, none	X	X				

Depth of Water at Sampling: 124.99

Comments

Test Method

A TPH C4-C40
B BTEX
C
D
E
F

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-149	Sample ID:	AT-B-149
Date:	11-7-12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 50 feet to 90 feet	WELL TOTAL DEPTH (feet): QED	STATIC DEPTH TO WATER (feet): 61.97	PURGE PUMP TYPE OR BAILER: Portable BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1442	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? NONE

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation)	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1446	62.33	6.11	16.5	1053	6.78	55.3	CLEAR	11	4	38	50
1450	62.33	6.03	16.4	1055	3.33	10.7					
1454	62.34	6.00	16.4	1058	2.60	1.1					
1457	62.34	6.00	16.4	1062	1.64	-16.2					
1501	62.34	6.01	16.4	1099	0.96	-23.1					
1505	62.34	6.00	16.5	1094	0.50	-25.1					
1509	62.34	6.00	16.5	1111	0.42	-29.1					
1513	62.34	6.00	16.5	1113	0.40	-29.4					
1517	62.34	6.00	16.5	1118	0.38	-29.5	↓	↓	↓	↓	↓

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) D. FRAZIER	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1519
FINAL PUMP OR TUBING DEPTH IN WELL (feet): QED	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-149	3 VOA; 1 AG; 1 PE	AG	1L	NONE	—	—	TPH C4-C40 (GC/MS)	BP
		CG	120 ml	HCl	—	—	VOCs (8260)	↓
		PE	250	NONE	—	—	Metals (6000/7000)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-150	Sample ID:	AT-B-150
Date:	11.7.12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 105 feet to 135 feet	WELL TOTAL DEPTH (feet): QED	STATIC DEPTH TO WATER (feet): 102.39	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): QED	PURGING INITIATED AT: 1000	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? NONE

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1004	102.41	6.87	15.1	1065	4.32	81.8	CLEAR	10	5	61	100
1008	102.41	6.83	15.1	1063	2.62	86.1	CLOUDY				
1012	102.41	6.83	15.3	1064	2.11	87.9					
1016	102.43	6.83	15.8	1063	2.00	92.9					
1020	102.43	6.83	15.7	1064	1.85	94.9					
1024	102.43	6.79	15.6	1063	1.75	79.2					
1028	102.43	6.61	15.3	1065	1.70	21.2					
1032	102.43	6.53	15.3	1069	1.69	-10.3					
1036	102.43	6.53	15.1	1069	0.49	-87.7					
1040	102.43	6.53	15.1	1071	0.45	-90.1					
1044	102.43	6.53	15.1	1067	0.48	-86.1					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) D. FRAZIER	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1045
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: YES NO	FIELD FILTERED: YES NO Filtration Equipment Type:	FILTER SIZE: ____µm DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-150	3 VOA; 1 AG	CG/AG	120ml/1L	HCl/NONE	—	—	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethiene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-151	Sample ID:	AT-B-151
Date:	11-7-12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 90 feet to 120 feet	WELL TOTAL DEPTH (feet): DED	STATIC DEPTH TO WATER (feet): 82.07	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): DED	PURGING INITIATED AT: 0857	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? NONE

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation)	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0901	82.36	6.38	15.9	1217	7.95	-32.1	CLEAR	12	3	41	50
0905	82.40	6.34	15.9	1219	7.37	-80.1					
0909	82.44	6.31	15.9	1221	6.85	-91.3					
0913	82.46	6.30	16.0	1235	6.31	-84.5					
0917	82.48	6.30	16.0	1240	6.01	-88.5					
0921	82.50	6.25	16.1	1266	3.99	-58.3					
0925	82.51	6.21	16.1	1280	2.66	-55.2					
0929	82.52	6.21	16.1	1283	2.14	-55.4					
0933	82.53	6.21	16.1	1284	1.86	-51.5					
0937	82.54	6.21	16.3	1288	0.49	-48.0					
0941	82.55	6.21	16.4	1291	0.51	-45.1					
0945	82.56	6.21	16.4	1295	0.54	-39.9					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) D. FRAZIER	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 0946
FINAL PUMP OR TUBING DEPTH IN WELL (feet): DED	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 50	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-151	3 VOA; 1 AG	CG/AG	120ML/1L	HCl/NONE	-	-	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-153	Sample ID:	AT-B-153
Date:	11-8-12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	75 feet to 110 feet	—	75.66	Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
—	0935	1023	—	NO

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation)	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0939	76.08	6.83	15.46	698	6.42	230.0	clear	10	5	40	20
0943	76.09	6.41	15.47	699	4.93	225.6	"	"	"	"	15
0947	76.10	6.27	15.53	693	3.94	217.9	"	9	6	"	20
0951	76.10	6.24	15.62	694	3.00	213.8	"	"	"	"	"
0955	76.12	6.23	15.88	696	2.41	210.7	"	"	"	"	"
0959	76.13	6.20	15.78	696	1.41	67.3	"	"	"	"	"
1003	76.15	6.19	15.76	698	1.07	42.8	"	"	"	"	"
1007	76.17	6.19	16.01	706	0.86	26.2	"	"	"	"	"
1011	76.19	6.20	16.39	719	0.66	12.0	"	"	"	"	"
1015	76.19	6.21	16.37	734	0.53	1.8	"	"	"	"	"
1019	76.20	6.21	16.20	743	0.49	-0.9	"	"	"	"	"
1023	76.21	6.22	16.09	751	0.50	-3.9	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Harleigh Overton		1024

FINAL PUMP OR TUBING DEPTH IN WELL (feet):	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:
—	20	HDPE

FIELD DECONTAMINATION: (YES) NO

FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:

DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-153	3 VOA; 2 AG	CG ~~AG~~	120mL	HCl			TPH C4-C40 (GC/MS)	
		AG	1L	—			VOCs (8260)	
							PAHs (8270 SIM)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name: Former Unocal Avila Terminal		Site Location: Avila Beach, CA
Well No. B-167-56	Sample ID: AT-B-167-56	Date: 11/9/12

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 36 feet to 56 feet	WELL TOTAL DEPTH (feet): 56.40	STATIC DEPTH TO WATER (feet): 52.24	PURGE PUMP TYPE OR BAILER: Portable BP
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 57'	PURGING INITIATED AT: 0913	PURGING ENDED AT: 0937	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? N

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0917	52.49	6.48	15.1	6372	4.73	228.5	Cloudy	12	3	30	35
0921	52.50	6.48	14.6	6377	4.50	222.7					
0925	52.51	6.48	14.7	6378	4.28	215.0					
0929	52.52	6.48	14.5	6388	4.26	208.4					
0933	52.54	6.48	14.0	6405	4.24	202.6					
0937	52.55	6.48	13.6	6398	4.19	200.1					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Danny Rice	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 0938
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 57'	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 35	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: YES NO	FIELD FILTERED: YES NO FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-167-56	3 VOA; 1 AG	G/AG	—	HCl/—	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							MTBE, TBA	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-167-95	Sample ID:	AT-B-167-95
Date:	11-8-12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	65 feet to 95 feet	—	71.88	Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
—	1422	1512	—	NO

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation)	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1428	72.05	7.30	20.81	4850	10.41	-47.7	clear	10	5	35	40
1432	72.10	6.88	20.38	5437	7.67	66.4	"	12	3	"	35
1436	72.15	6.77	20.31	5464	7.30	85.2	"	"	"	"	"
1440	72.17	6.67	20.56	5491	7.05	91.5	"	"	"	"	"
1444	72.19	6.60	20.40	5487	6.74	105.9	"	"	"	"	"
1448	72.19	6.55	20.43	5484	6.20	112.1	"	"	"	"	"
1452	72.20	6.51	20.25	5455	5.55	128.1	"	"	"	"	"
1456	72.21	6.46	20.20	5462	4.92	151.1	"	"	"	"	"
1500	72.21	6.45	20.30	5466	4.56	171.0	"	"	"	"	"
1504	72.21	6.43	20.08	5443	3.98	241.7	"	"	"	"	"
1508	72.22	6.42	20.03	5453	3.91	240.2	"	"	"	"	"
1512	72.23	6.41	19.90	5419	3.78	247.1	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

(pH: +/-0.1) (EC: +/-3%) (DO: +/-10%) (ORP: +/-10 mV) (Temperature: +/-1°C)

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Hackley Overton	[signature]	1513
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):**	**TUBING MATERIAL CODE:**
—	35	HDPE

FIELD DECONTAMINATION: (YES) NO

FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:

DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-167-95	3 VOA; 1AG; 1 PE	AG	1L	None	—	—	TPH C4-C40 (GC/MS)	BP
		CG	120mL	HCl	—	—	VOCs (8260)	
		PE	250mL	None	—	—	Metals (6000/7000)	
							MTBE, TBA	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-169	Sample ID:	AT-B-169
Date:	11-8-12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
4-inch	80 feet to 120 feet	QED	87.26	Dedicated

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
Dedicated	1030	1102		N

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation)	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1034	87.41	7.50	18.8	1668	6.53	27.1	Clear	10	5	54	100
1038	87.43	6.86	18.6	1775	3.76	10.8	↓	↓	↓	↓	↓
1042	87.44	6.59	18.8	1795	2.00	-2.0					
1046	87.46	6.48	18.5	1812	1.10	-6.7					
1050	87.48	6.46	18.7	1809	0.87	-10.6					
1054	87.49	6.47	18.6	1813	0.76	-16.0					
1058	87.51	6.47	18.6	1814	0.73	-18.2					
1102	87.52	6.45	18.8	1808	0.71	-20.0					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Danny Roca		1103
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):**	**TUBING MATERIAL CODE:**
Dedicated	100	HDPE
FIELD DECONTAMINATION: YES NO	**FIELD FILTERED:** YES NO **Filtration Equipment Type:**	**FILTER SIZE:** ____µm **DUPLICATE:** YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-169	3 VOA; 1 AG	CG/AG	—	HCl/—	—	—	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-173	Sample ID:	AT-B-173
Date:	11/7/12		

PURGING DATA

WELL DIAMETER (inches): 4-inch	WELL SCREEN INTERVAL DEPTH: 65 feet to 95 feet	WELL TOTAL DEPTH (feet): OED	STATIC DEPTH TO WATER (feet): 53.53	PURGE PUMP TYPE OR BAILER: Dedicated BP
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	PURGING INITIATED AT: 1411	PURGING ENDED AT: 1431	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? N

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1415	54.90	7.76	19.0	3070	0.48	-112.8	Clear	10	5	45	65
1419	54.90	7.85	19.1	3078	0.36	-111.2					
1423	54.90	7.87	19.0	3089	0.34	-107.8					
1427	54.91	7.87	19.0	3087	0.32	-105.5					
1431	54.91	7.87	19.0	3088	0.31	-105.5					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Danny Rice		1432
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 65	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) Filtration Equipment Type:	FILTER SIZE: ____µm DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-173	3 VOA; 1 AG	G/lab	—	HCl/—	—	—	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-183	Sample ID:	AT-B-183
Date:	11.7.12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 50 feet to 90 feet	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet): 65.92	PURGE PUMP TYPE OR BAILER: Portable BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1330	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1334	66.21	6.00	17.9	818	1.30	-29.6	cloudy	11	4	41	75
1337	66.24	5.95	18.0	840	1.07	-55.2					
1341	66.26	5.91	18.0	915	0.55	-70.3					
1345	66.29	5.91	18.0	951	0.63	-74.2					
1349	66.31	5.91	18.0	961	0.64	-77.5					
1353	66.32	5.91	18.1	1001	0.58	-80.1					
1357	66.34	5.91	18.1	1013	0.56	-81.3					
1401	66.33	5.91	18.0	1026	0.53	-83.1					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
D. FRAZIER		1403
FINAL PUMP OR TUBING DEPTH IN WELL (feet): DED.	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: YES NO	FIELD FILTERED: YES NO Filtration Equipment Type:	FILTER SIZE: ____µm DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-183	3 VOA; 2 AG; ~~4 PE~~	CG	120 mL	HCL	—	—	TPH C4-C40 (GC/MS)	BP
		AG	1L x2	NONE	—	—	VOCs (8260)	↓
							PAHs (8270 SIM)	
							Metals (6000/7000)*	

REMARKS: * = Metals in 2Q only

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-184	Sample ID:	AT-B-184
Date:	11-6-12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 45 feet to 120 feet	WELL TOTAL DEPTH (feet): DED	STATIC DEPTH TO WATER (feet): 96.61	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1459	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? NONE

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1503	96.85	5.86	18.5	2939	0.89	-147.7	CLEAR	10	5	53	100
1507	96.84	5.86	18.6	2933	0.61	-135.5					
1511	96.89	5.87	18.6	2932	0.59	-134.6					
1515	96.89	5.87	18.5	2930	0.55	-132.1					
1519	96.91	5.86	18.5	2929	0.50	-130.6					
1523	96.91	5.86	18.5	2921	0.51	-128.5					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) D. FRAZIER	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1525
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-184	3 VOA; 2 AG; ~~1 PE~~	CG/AG	120mL/1L	HCl/NONE			TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							PAHs (8270 SIM)	
							Metals (6000/7000)*	

REMARKS: * = Metals in Q2 only

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-185	Sample ID:	AT-B-185
Date:	11/6/12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 50 feet to 100 feet	WELL TOTAL DEPTH (feet): 92.96	STATIC DEPTH TO WATER (feet): 73.14	PURGE PUMP TYPE OR BAILER: Portable BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): DEDICATED	PURGING INITIATED AT: 1456	PURGING ENDED AT: 1516	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? N

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1500	73.71	5.97	21.9	1166	0.73	-76.8	CLOUDY	10	5	63	75
1504	73.71	5.97	21.8	1178	0.54	-80.8					
1508	73.73	5.98	21.9	1178	0.50	-83.6					
1512	73.73	5.99	21.8	1179	0.48	-86.1					
1516	73.73	6.01	21.7	1176	0.46	-87.7					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Danny Rice	DSR	1517
FINAL PUMP OR TUBING DEPTH IN WELL (feet): DEDICATED	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):** 75	**TUBING MATERIAL CODE:** HDPE
FIELD DECONTAMINATION: (YES) NO	**FIELD FILTERED:** YES (NO) **Filtration Equipment Type:**	**FILTER SIZE:** ____µm
DUPLICATE: (YES) NO		

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-185	3 VOA; 2 AG; 1 PE	G6/AG/PE	—	HCl/—	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							PAHs (8270 SIM)	
							Metals (6000/7000)	

REMARKS: Dup-1 @ 1107

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-190	Sample ID:	AT-B-190
Date:	11-8-12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	50 feet to 80 feet	—	51.46	Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
—	1316		—	NO

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1318	51.70	7.02	20.74	1725	6.50	92.8	Clear	10	5	30	60
1322	51.72	6.54	19.71	1668	1.69	-59.1	"	"	"	"	"
1326	51.73	6.48	19.70	1702	0.62	-92.7	"	"	"	"	"
1330	51.74	6.52	19.57	1713	0.29	-119.2	"	"	"	"	"
1334	51.75	6.56	19.74	1732	0.15	-146.2	"	"	"	"	"
1338	51.76	6.57	19.63	1727	0.14	-151.4	"	"	"	"	"
1342	51.76	6.57	19.85	1738	0.09	-159.3	"	"	"	"	"
1346	51.77	6.58	19.52	1720	0.08	-168.2	"	"	"	"	"
1350	51.77	6.56	19.66	1725	0.07	-172.1	"	"	"	"	"
1354	51.78	6.59	19.53	1715	0.07	-177.9	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Harleigh Ourton		1355

FINAL PUMP OR TUBING DEPTH IN WELL (feet):	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:
—	60	HDPE

FIELD DECONTAMINATION: (YES) NO

FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:

DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-190	3 VOA; 1 AG	AG	1L	—	—	—	TPH C4-C40 (GC/MS)	BP
		CG	120mL	HCl	—	—	VOCs (8260)	
							MTBE, TBA	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-191	Sample ID:	AT-B-191
Date:	11.3.12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 65 feet to 110 feet	WELL TOTAL DEPTH (feet): DEDICATED	STATIC DEPTH TO WATER (feet): 62.77	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1458	PURGING ENDED AT: 1534	APPROXIMATE VOLUME PURGED (gallons): —	HYDROCARBON SHEEN OR ODOR? NONE

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation)	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1502	62.82	7.00	19.1	1969	7.10	32.7	CLEAR	10	5	38	100
1506	62.82	6.72	19.2	1970	3.21	10.2					
1510	62.82	6.61	19.3	1965	2.00	-20.3					
1514	62.82	6.59	19.3	1961	0.91	-81.3					
1518	62.82	6.59	19.1	1959	0.61	-95.2					
1522	62.82	6.61	19.1	1945	0.51	-85.3					
1526	62.82	6.59	19.1	1953	0.48	-50.1					
1530	62.82	6.59	19.1	1956	0.48	-48.5					
1534	62.82	6.59	19.0	1952	0.46	-48.1	↓	↓	↓	↓	↓

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
D. FRAZIER		1536
FINAL PUMP OR TUBING DEPTH IN WELL (feet): SED	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-191	3 VOA; 1 AG	CG	120 mL	HCL	—	—	TPH C4-C40 (GC/MS)	BP
		AG	1L	NONE	—	—	BTEX (8260)	↓

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-192	Sample ID:	AT-B-192
Date:	11/6/12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 40 feet to 70 feet	WELL TOTAL DEPTH (feet): QED	STATIC DEPTH TO WATER (feet): 45.14	PURGE PUMP TYPE OR BAILER: Dedicated BP
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	PURGING INITIATED AT: 1117	PURGING ENDED AT: 1141	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? N

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1121	45.26	5.04	22.1	1800	5.15	198.4	Clear	10	5	50	75
1125	45.26	4.69	20.6	1677	1.67	197.4					
1129	45.26	4.69	20.7	1656	1.19	221.0					
1133	45.26	4.69	20.8	1637	1.01	234.4					
1137	45.26	4.71	20.9	1636	1.03	237.7					
1141	45.26	4.70	21.1	1627	1.05	239.8					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Danny Rice	DRR	1142
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 75	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) Filtration Equipment Type:	FILTER SIZE: ____µm DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-192	3 VOA; 1 AG; 1 PE	CG/AG/PE	—	HCl/—	—	—	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	
							Metals (6000/7000)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-193	Sample ID:	AT-B-193
Date:	11/6/12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	50 feet to 90 feet	QED	74.92	Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
DEDICATED	1020	1048		N

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1024	75.11	5.46	20.2	3911	4.17	155.4	CLEAR	10	5	64	100
1028	75.11	5.28	20.4	3730	2.43	184.5	↓	↓	↓	↓	↓
1032	75.11	5.25	20.4	3619	1.85	194.8					
1036	75.11	5.23	20.3	3547	1.40	202.1					
1040	75.11	5.22	20.3	3509	1.29	206.7					
1044	75.11	5.22	20.3	3464	1.21	210.7					
1048	75.11	5.21	20.3	3444	1.17	213.9	↓	↓	↓	↓	↓

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
DAWNY RICE	DR	1049
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):**	**TUBING MATERIAL CODE:**
DEDICATED	100	HDPE

FIELD DECONTAMINATION: (YES) NO

FIELD FILTERED: YES (NO) FILTER SIZE: ____µm
Filtration Equipment Type:

DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-193	3 VOA; 1 AG; 1 PE	6/AG/PE	—	HCl/—	—	—	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	
							Metals (6000/7000)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-194	Sample ID:	AT-B-194
Date:	11/6/12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 80 feet to 110 feet	WELL TOTAL DEPTH (feet): RED	STATIC DEPTH TO WATER (feet): 92.89	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): DEDICATED	PURGING INITIATED AT: 1216	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? N

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation)	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1220	93.30	6.52	21.0	1159	2.18	14.6	Clear	10	5	77	100
1224	93.31	6.48	20.8	1158	1.55	7.9					
1228	93.33	6.38	21.0	1157	1.28	4.5					
1232	93.35	6.38	21.0	1161	0.97	3.3					
1236	93.36	6.41	21.1	1163	0.57	-1.3					
1240	93.37	6.43	21.1	1166	0.46	-3.7					
1244	93.39	6.42	21.1	1163	0.40	-4.0					
1248	93.40	6.43	21.2	1162	0.40	-4.8					
1252	93.42	6.42	21.4	1161	0.38	-5.2					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Danny Rice		1253
FINAL PUMP OR TUBING DEPTH IN WELL (feet): DEDICATED	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: YES (NO)	FIELD FILTERED: YES (NO) Filtration Equipment Type:	FILTER SIZE: ____µm DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-194	3 VOA; 1 AG	CG/AG	—	HCl/—	—	—	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-195	Sample ID:	AT-B-195
Date:	11.7.12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 28 feet to 58 feet	WELL TOTAL DEPTH (feet): 57.92	STATIC DEPTH TO WATER (feet): 52.02	PURGE PUMP TYPE OR BAILER: SAMPLEPRO

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1139	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? NONE

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1143	52.35	5.15	19.2	491	5.62	101.3	CLOUDY	10	5	27	75
1147	52.36	5.01	19.2	424	5.01	116.3					
1151	52.37	4.96	19.2	401	4.68	121.6	LESS CLOUDY				
1155	52.39	4.81	19.3	375	4.51	128.7					
1159	52.41	4.76	19.3	370	4.00	137.6					
1202	52.44	4.76	19.2	365	3.91	142.5	CLEAR				
1206	52.47	4.77	19.2	351	3.03	143.6					
1210	52.48	4.77	19.2	355	3.00	145.7					
1214	52.48	4.76	19.2	348	2.90	145.1					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED
pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
D. FRAZIER		1215
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: YES NO	FIELD FILTERED: YES NO FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-195	3 VOA; 2 AG; 1 PE	CG	120ML	HCl	—	—	TPH C4-C40 (GC/MS)	BP
		AG	1L X2	NONE	—	—	VOCs (8260)	
		PE	250 ML	NONE	—	—	PAHs (8270 SIM)	
							Metals (6000/7000)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-196	Sample ID:	AT-B-196
Date:	11-6-12		

PURGING DATA

WELL DIAMETER (inches):	2-inch	WELL SCREEN INTERVAL DEPTH:	77 feet to 127 feet	WELL TOTAL DEPTH (feet):	—	STATIC DEPTH TO WATER (feet):	79.47	PURGE PUMP TYPE OR BAILER:	Dedicated BP
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	—	PURGING INITIATED AT:	1244	PURGING ENDED AT:	1326	APPROXIMATE VOLUME PURGED (gallons):	—	HYDROCARBON SHEEN OR ODOR?	NO

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1250	79.85	6.44	25.67	5822	1.32	92.5	Clear	10	5	45	20
1254	79.87	6.38	24.35	5722	0.78	108.3	"	"	"	"	"
1258	79.90	6.28	23.95	5674	0.63	125.0	"	"	"	"	"
1302	79.92	6.20	23.70	5650	0.51	129.0	"	"	"	"	"
1306	79.94	6.19	23.90	5671	0.44	7.2	"	"	"	"	"
1310	79.97	6.19	23.88	5680	0.40	-37.7	"	"	"	"	"
1314	79.99	6.19	23.81	5677	0.34	-59.0	"	"	"	"	"
1318	80.01	6.18	23.85	5675	0.30	-68.2	"	"	"	"	"
1322	80.03	6.19	23.88	5694	0.28	-70.0	"	"	"	"	"
1326	80.07	6.19	24.21	5723	0.30	-70.3	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	Harleigh Overton	SAMPLER(S) SIGNATURES:		SAMPLE TIME:	1327
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	—	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):		TUBING MATERIAL CODE:	HDPE
FIELD DECONTAMINATION:	(YES) NO	FIELD FILTERED: YES (NO) Filtration Equipment Type:		FILTER SIZE: ____µm	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-196	3 VOA; 1 AG	CG	120mL	HCl	—	—	TPH C4-C40 (GC/MS)	BP
		AG	1L	—			BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-197	Sample ID:	AT-B-197
Date:	11/7/12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	145 feet to 195 feet	194.32	187.05	Portable BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
DEDICATED	0911	0935		N

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0915	187.28	6.29	17.1	1073	0.91	26.4	CLEAR	11	9	100	100
0919	187.28	6.29	17.4	1079	0.53	-5.3					
0923	187.28	6.28	17.1	1083	0.52	-9.4					
0927	187.28	6.28	17.2	1082	0.37	-16.0					
0931	187.28	6.27	17.0	1084	0.35	-17.9					
0935	187.25	6.28	17.2	1078	0.35	-18.7					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Danny Rice		0936
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) Filtration Equipment Type: FILTER SIZE: ____µm	DUPLICATE: (YES) NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-197	3 VOA; 2 AG; 1 PE	C6/AG/PE	—	HCl/—	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							PAHs (8270 SIM)	
							Metals (6000/7000)	

REMARKS: DUP-1 @ 1021

3 cycles per minute
11 - 9 - 100 PSI

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethelene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-200	Sample ID:	AT-B-200
Date:	11-8-12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	3 feet to 43 feet	47.44	39.17	Portable BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
Dedicated	1146	1210		N

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation)	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1150	39.26	5.50	18.8	762	1.59	52.9	Clear	12	3	30	25
1154	39.30	5.47	18.9	760	1.27	55.6					
1158	39.32	5.45	18.9	761	1.16	56.7					
1202	39.35	5.45	19.1	761	1.04	57.3					
1206	39.37	5.45	19.1	761	1.06	57.1					
1210		5.44	19.1	760	1.02	57.6					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Danny Rice		1211
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):** 25	**TUBING MATERIAL CODE:** HDPE
FIELD DECONTAMINATION: YES (NO)	**FIELD FILTERED:** YES (NO) Filtration Equipment Type:	**FILTER SIZE:** ____µm
		DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-200	3 VOA; 2 AG; ~~1 PE~~	CG/AG/~~PE~~	—	HCl/—	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							PAHs (8270 SIM)	
							~~Metals (6000/7000)*~~	

REMARKS: * = Metals in Q2 only.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-201	Sample ID:	AT-B-201
Date:	11-8-12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 50 feet to 85 feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 73.76	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1142	PURGING ENDED AT: 1212	APPROXIMATE VOLUME PURGED (gallons): —	HYDROCARBON SHEEN OR ODOR? NO

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1148	74.00	7.22	19.78	1903	7.45	98.4	Clear	10	5	40	20
1152	74.03	7.21	19.91	1913	7.21	99.2	"	"	"	"	"
1156	74.05	7.12	19.77	1916	7.11	100.9	"	"	"	"	"
1200	74.08	6.89	19.71	1917	6.40	106.2	"	"	"	"	"
1204	74.10	6.80	19.64	1915	~~5.84~~	107.7	"	"	"	—	"
1208	74.12	6.74	19.73	1917	5.61	110.2	"	"	"	"	"
1212	74.13	6.73	19.69	1919	5.31	112.4	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Harleigh Overton		1213
FINAL PUMP OR TUBING DEPTH IN WELL (feet): —	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 20	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-201	3 VOA; 1 AG	AG	1L	None	—	—	TPH C4-C40 (GC/MS)	BP
		CG	120mL	HCl	—	—	BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-202	Sample ID:	AT-B-202
Date:	11/6/12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 3 feet to 23 feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 9.73	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	PURGING INITIATED AT: 1235	PURGING ENDED AT: 1319	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? No

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1239	9.97	5.84	19.05	6565	2.02	176.6	clear	10	5	5	75
1243	9.98	5.84	19.45	6670	1.12	164.9	"	"	"	"	"
1247	9.99	5.84	19.54	6694	0.98	159.3	"	"	"	"	"
1251	10.00	5.84	19.62	6705	0.86	151.7	"	"	"	"	"
1255	10.00	5.84	19.63	6718	0.68	145.3	"	"	"	"	"
1259	10.01	5.84	19.43	6695	0.55	139.9	"	"	"	"	"
1303	10.02	5.84	19.42	6698	0.51	137.5	"	"	"	"	"
1307	10.03	5.84	19.47	6703	0.40	134.3	"	"	"	"	"
1311	10.03	5.84	19.18	6651	0.33	133.1	"	"	"	"	"
1315	10.04	5.84	19.35	6691	0.31	133.4	"	"	"	"	"
1319	10.05	5.83	19.39	6694	0.30	133.9	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED
pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT): Cody Mantaro	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1320
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 75	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: YES NO	FIELD FILTERED: YES NO FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-202	3 VOA; 1 AG	CG, AG	40mL, 1L	HCl, none	—	—	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-204-85	Sample ID:	AT-B-204-85
Date:	11/7/12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 20 feet to 85 feet	WELL TOTAL DEPTH (feet): 85	STATIC DEPTH TO WATER (feet): 80.19	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	PURGING INITIATED AT: 1109	PURGING ENDED AT: 1149	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? N

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1113	80.36	5.83	18.5	8490	3.13	113.8	Clear	10	5	63	40
1117	80.40	5.78	18.6	8454	2.03	120.9					
1121	80.43	5.84	18.6	8107	1.47	110.1					
1125	80.45	5.87	18.6	7855	1.19	93.0					
1129	80.46	5.91	18.7	7529	0.91	80.3					
1133	80.47	5.93	18.7	7294	0.76	68.9					
1137	80.48	5.94	18.8	7132	0.61	61.4					
1141	80.48	5.95	18.8	7094	0.55	55.0					
1145	80.46	5.96	18.8	7011	0.53	52.7					
1149	80.48	5.96	18.7	6942	0.51	51.1	↓	↓	↓	↓	↓

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Danny Rice	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1150
FINAL PUMP OR TUBING DEPTH IN WELL (feet): DEDICATED	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 40	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: YES NO	FIELD FILTERED: YES NO Filtration Equipment Type:	FILTER SIZE: ____µm DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-204-85	3 VOA; 1 AG; 1 PE	CG/AG/PE	—	HCl/—	—	—	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	
							Metals (6000/7000)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-204-150	Sample ID:	AT-B-204-150
Date:	11/7/12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 115 feet to 150 feet	WELL TOTAL DEPTH (feet): 150	STATIC DEPTH TO WATER (feet): 148-38	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): DEDICATED	PURGING INITIATED AT: 1232	PURGING ENDED AT: 1307	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? N

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1236	148-57	7-13	19-2	4233	4.09	46-3	CLEAR	10	5	76	30
1240	148-57	7.12	19-1	4208	3.36	48-2					
1244	148-57	7.10	19-2	4176	3-11	50-7					
1248	148-58	7-08	19-2	4165	2.14	51-3					
1251	148-58	7-05	19-3	4146	2.11	51-6					
1255	148-58	7.01	19-5	4135	1.89	50-2					
1259	148-59	6-97	19-6	4132	1-64	49-8					
1303	148-59	6-94	19-7	4130	1-61	48-6					
1307	148-59	6-93	19-8	4131	1.55	47-2	✓	✓	✓	✓	✓

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: ~~+/-0.1~~ EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Danny Rice	DR	1308
FINAL PUMP OR TUBING DEPTH IN WELL (feet): DEDICATED	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 30	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) Filtration Equipment Type:	FILTER SIZE: ____µm DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-204-150	3 VOA; 1 AG	cg/AG	—	HCl/—	—	—	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-205-90	Sample ID:	AT-B-205-90
Date:	11-7-12		

PURGING DATA

WELL DIAMETER (inches):	2-inch	WELL SCREEN INTERVAL DEPTH:	70 feet to 90 feet	WELL TOTAL DEPTH (feet):	—	STATIC DEPTH TO WATER (feet):	77.36	PURGE PUMP TYPE OR BAILER:	Dedicated BP
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	—	PURGING INITIATED AT:	1132	PURGING ENDED AT:	1220	APPROXIMATE VOLUME PURGED (gallons):	—	HYDROCARBON SHEEN OR ODOR?	NO

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1140	77.73	7.34	18.78	1407	6.08	208.0	clear	10	5	38	20
1144	77.75	6.90	18.62	1390	4.48	208.6	"	"	"	"	"
1148	77.79	6.74	18.58	1374	2.92	68.1	"	"	"	"	"
1152	77.83	6.63	18.53	1398	2.25	21.8	"	"	"	"	"
1156	77.85	6.58	18.58	1667	1.48	1.7	"	"	"	"	"
1200	77.88	6.59	18.60	2008	1.03	-8.2	"	"	"	"	"
1204	77.92	6.67	18.65	2742	0.60	-29.8	"	"	"	"	"
1208	77.95	6.68	18.58	2788	0.57	-31.6	"	"	"	"	"
1212	78.00	6.72	18.48	3035	0.43	-40.8	"	"	"	"	"
1216	78.03	6.73	18.40	3097	0.41	-43.4	"	"	"	"	"
1220	78.05	6.75	18.52	3159	0.40	-44.1	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

(pH: +/-0.1) EC: +/-3% DO: +/-10% ORP: +/-10 mV (Temperature: +/-1°C)

SAMPLING DATA

SAMPLED BY: (PRINT)	Harleigh Overton	SAMPLER(S) SIGNATURES:		SAMPLE TIME:	1221
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	—	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	20	TUBING MATERIAL CODE:	HDPE
FIELD DECONTAMINATION:	(YES) NO	FIELD FILTERED: YES (NO) Filtration Equipment Type:		FILTER SIZE: ____µm	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-205-90	3 VOA; 1 AG	CG	120mL	HCl			TPH C4-C40 (GC/MS)	
		AG	1L	—			BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-205-120	Sample ID:	AT-B-205-120
Date:	11-6-12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	110 feet to 120 feet	—	92.30	Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
—	1317	1342	—	~~No~~ Yes (ODOR)

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1326	92.68	8.21	19.76	58.61	8.37	60.6	Clear	10	5	50	20
1330	92.77	8.12	20.42	6056	7.19	68.3	"	"	"	"	"
1334	92.85	8.08	19.97	6046	7.40	71.0	"	"	"	"	"
1338	92.90	8.00	19.96	6036	7.40	75.8	"	"	"	"	"
1342	92.94	7.99	20.13	6067	7.56	78.7	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Hayleigh Overton		1343
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):**	**TUBING MATERIAL CODE:**
—	20	HDPE
FIELD DECONTAMINATION: YES (NO)	**FIELD FILTERED:** YES (NO) Filtration Equipment Type:	**FILTER SIZE:** ____µm
		DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-205-120	3 VOA; 1 AG; 1 PE	CG	120mL	HCl			TPH C4-C40 (GC/MS)	BP
		AG	1L	—			BTEX (8260)	
		PE	250mL	—			Metals (6000/7000)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name: Former Unocal Avila Terminal		Site Location: Avila Beach, CA
Well No. B-208	Sample ID: AT-B-208	Date: 11/6/12

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 50 feet to 95 feet	WELL TOTAL DEPTH (feet): 94.18	STATIC DEPTH TO WATER (feet): 87.55	PURGE PUMP TYPE OR BAILER: Portable BP
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~~85~~ Bailed	PURGING INITIATED AT: 1341	PURGING ENDED AT: 1405	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? N

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1345	87.75	6.11	21.4	1261	1.78	-76.7	clear	10	5	60	40
1349	87.78	6.12	21.6	1260	1.53	-78.6					
1353	87.80	6.15	21.7	1261	1.38	-81.2					
1357	87.80	6.17	21.9	1261	1.31	-83.1					
1401	87.81	6.18	21.9	1263	1.24	-83.1					
1405	87.83	6.18	22.0	1264	1.24	-82.8					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Danny Rice	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1406
FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~~85~~ Bailed	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 40	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: YES NO	FIELD FILTERED: YES NO Filtration Equipment Type:	FILTER SIZE: ____µm DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-208	3 VOA; 1 AG	CG/AG	—	HCl/—	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	

REMARKS: H2O Below Pump, Pulled Pump & used Portable BP

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-209	Sample ID:	AT-B-209
Date:	11-6-12		

PURGING DATA

WELL DIAMETER (inches):	2-inch	WELL SCREEN INTERVAL DEPTH:	20 feet to 55 feet	WELL TOTAL DEPTH (feet):	—	STATIC DEPTH TO WATER (feet):	48.29	PURGE PUMP TYPE OR BAILER:	~~Portable BP~~ Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	—	PURGING INITIATED AT:	0910	PURGING ENDED AT:	0938	APPROXIMATE VOLUME PURGED (gallons):	—	HYDROCARBON SHEEN OR ODOR?	NO

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation)	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0914	48.67	6.22	15.90	2515	8.00	265.7	clear	12	3	25	35
0918	48.70	5.57	15.90	2551	6.62	269.4	"	"	"	"	"
0922	48.74	5.34	16.08	2649	5.67	270.1	"	"	"	22	20
0926	48.76	5.27	16.25	2721	5.32	269.6	"	"	"	"	"
0930	48.76	5.24	16.47	2764	4.69	268.7	"	"	"	"	"
0934	48.78	5.21	16.63	2806	4.75	267.6	"	"	"	"	"
0938	48.80	5.20	16.55	2820	4.77	267.2	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	Hackleigh Overton	SAMPLER(S) SIGNATURES:		SAMPLE TIME:	0939
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	—	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	20 mL/min	TUBING MATERIAL CODE:	HDPE
FIELD DECONTAMINATION:	(YES) NO	FIELD FILTERED: YES (NO) Filtration Equipment Type:		FILTER SIZE: ___µm	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-209	3 VOA; 1 AG; 1 PE	CG	120mL	HCl	—	—	TPH C4-C40 (GC/MS)	BP
		AG	1L	—	—	—	BTEX (8260)	
		PE	250mL	—	—	—	Metals (6000/7000)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-210	Sample ID:	AT-B-210
Date:	11-6-12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 30 feet to 75 feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 68.17	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	PURGING INITIATED AT: 1055	PURGING ENDED AT: 1129	APPROXIMATE VOLUME PURGED (gallons): —	HYDROCARBON SHEEN OR ODOR? NO

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1105	68.42	6.44	18.88	1255	9.42	222.5	clear	12	3	40	20
1109	68.44	6.34	18.31	1197	8.75	222.6	"	"	"	"	"
1113	68.44	6.21	17.54	1158	8.69	223.1	"	"	"	"	"
1117	68.45	6.09	17.38	1167	8.18	223.3	"	"	"	"	"
1121	68.46	5.95	17.35	1224	6.88	224.2	"	"	"	"	"
1125	68.45	5.90	17.39	1260	6.44	224.0	"	"	"	"	"
1129	68.46	5.85	17.40	1296	6.30	224.5	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED
pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Harleigh Overton	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1130
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 20	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-210	3 VOA; 1 AG; 1 PE	CG	120mL	HCl	—	—	TPH C4-C40 (GC/MS)	BP
		AG	1L	—	—	—	VOCs (8260)	
		PE	250mL	—	—	—	Metals (6000/7000)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-211	Sample ID:	AT-B-211
Date:	11-6-12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 5 feet to 40 feet	WELL TOTAL DEPTH (feet): DED.	STATIC DEPTH TO WATER (feet): 31.60	PURGE PUMP TYPE OR BAILER: Dedicated BP
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): DED	PURGING INITIATED AT: 1010	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? NONE

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1014	31.70	6.03	17.4	2927	3.02	-95.4	Cloudy	10	5	2	75
1018	31.73	6.03	17.3	2917	1.65	-90.3					
1022	31.73	6.03	17.2	2910	0.41	-88.5					
1026	31.74	6.02	17.1	2909	0.30	-87.6					
1030	31.74	6.02	17.1	2914	0.27	-85.3					
1034	31.74	6.02	17.0	2917	0.27	-79.3					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
DEN FRAZER		1035
FINAL PUMP OR TUBING DEPTH IN WELL (feet): DEDICATED	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 75	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-211	3 VOA; 1 AG	CG/AG	120ml/1L	HCl/NONE	—	—	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-212	Sample ID:	AT-B-212
Date:	11-6-12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	5 feet to 30 feet	DED.	21.36	Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
DED	1111			

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1115	21.49	5.81	16.4	1626	3.32	91.9	cloudy	10	5	24	150
1119	21.50	5.80	16.3	1616	2.99	96.6					
1123	21.50	5.80	16.3	1609	2.63	99.5					
1127	21.50	5.80	16.3	1607	2.49	99.9					
1131	21.50	5.80	16.3	1607	2.01	100.3					
1135	21.50	5.80	16.3	1607	1.75	101.3					
1139	2150	5.80	16.3	1608	1.77	101.9					
1143	21.50	5.80	16.3	1608	1.73	102.1					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
DELL FRAZIER	DL-S	1144
FINAL PUMP OR TUBING DEPTH IN WELL (feet): DED.	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):** 150	**TUBING MATERIAL CODE:** HDPE
FIELD DECONTAMINATION: (YES) NO	**FIELD FILTERED:** YES (NO) **FILTER SIZE:** ____µm Filtration Equipment Type:	**DUPLICATE:** YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-212	3 VOA; 1 AG	CG/AG	120ml/1L	HCl/NONE			TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-216	Sample ID:	AT-B-216
Date:	11/8/12		

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 37.5 feet to 77.5 feet	WELL TOTAL DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 39.89	PURGE PUMP TYPE OR BAILER: ~~Portable~~ BP Dedicated

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	PURGING INITIATED AT: 1148	PURGING ENDED AT: 1220	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? odor

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1152	40.19	6.22	18.74	2535	1.93	-103.6	clear/odor	10	5	33	100
1156	40.19	6.38	18.62	2673	0.73	-112.3	"	"	"	"	"
1200	40.19	6.32	18.82	2537	0.68	-112.2	"	"	"	"	"
1204	40.19	6.29	18.84	2450	0.51	-116.7	"	"	"	"	"
1208	40.19	6.28	18.83	2437	0.39	-121.0	"	"	"	"	"
1212	40.20	6.28	18.86	2427	0.31	-126.0	"	"	"	"	"
1216	40.20	6.29	18.87	2420	0.29	-130.2	"	"	"	"	"
1220	40.20	6.30	18.90	2419	0.28	-134.1	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Cody Marks	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1225
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) Filtration Equipment Type: FILTER SIZE: ____µm	DUPLICATE: (YES) NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-216	3 VOA; 2 AG; 1 PE	CG, AG, PE	40mL, 1L, 250mL	HCl, none, none	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							PAHs (8270-SIM)*	
							Metals (6000/7000)*	
DUP-2	"	"	"	"	—	—	MTBE, TBA	"

REMARKS: * = PAHs and Metals in Q2 and Q4 only.

DUP-2 @ 0900

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-217	Sample ID:	AT-B-217
Date:	11/8/12		

PURGING DATA

WELL DIAMETER (inches):	2-inch	WELL SCREEN INTERVAL DEPTH:	39.5 feet to 79.5 feet	WELL TOTAL DEPTH (feet):	—	STATIC DEPTH TO WATER (feet):	46.15	PURGE PUMP TYPE OR BAILER:	~~Portable BP~~ Dedicated

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	Dedicated	PURGING INITIATED AT:	0939	PURGING ENDED AT:	1011	APPROXIMATE VOLUME PURGED (gallons):		HYDROCARBON SHEEN OR ODOR?	slight odor

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0943	46.55	6.59	18.05	2830	3.42	218.6	clear/odor	11	4	30	30
0947	46.58	6.60	18.09	2838	3.20	-53.0	"	"	"	"	"
0951	46.61	6.55	18.12	2844	2.78	-107.4	"	"	"	"	"
0955	46.63	6.45	18.06	2847	2.62	-119.1	"	"	"	"	"
0959	46.65	6.42	18.15	2859	2.54	-128.6	"	"	"	"	"
1003	46.67	6.40	18.44	2881	2.45	-136.0	"	"	"	"	"
1007	46.70	6.38	18.77	2906	2.46	-137.5	"	"	"	"	"
1011	46.73	6.37	18.56	2891	2.50	-135.5	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: ~~+/-~~3% DO: +/-10% ORP: +/-~~10~~ mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	Cody Montoya	SAMPLER(S) SIGNATURES:		SAMPLE TIME:	1015
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	30	TUBING MATERIAL CODE:	HDPE
FIELD DECONTAMINATION:	YES (NO)	FIELD FILTERED: YES (NO) Filtration Equipment Type:	FILTER SIZE: ___µm	DUPLICATE:	YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-217	3 VOA; 2 AG; 1 PE	CG, AG, PE	40mL, 1L, 250mL	HCl, none, none	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							PAHs (8270-SIM)*	
							Metals (6000/7000)*	
							MTBE, TBA	

REMARKS: * = PAHs and Metals in Q2 and Q4 only.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-223-88	Sample ID:	AT-B-223-88
Date:	11-9-12		

PURGING DATA

WELL DIAMETER (inches):	2-inch	WELL SCREEN INTERVAL DEPTH:	55 feet to 85 feet	WELL TOTAL DEPTH (feet):	—	STATIC DEPTH TO WATER (feet):	80.75	PURGE PUMP TYPE OR BAILER:	Portable BP
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	—	PURGING INITIATED AT:	0915	PURGING ENDED AT:		APPROXIMATE VOLUME PURGED (gallons):	—	HYDROCARBON SHEEN OR ODOR?	ODOR

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0918	81.17	6.48	15.76	7252	2.60	50.3	clear	11	41	40	25
0922	81.17	6.51	17.31	7556	1.02	+180.4	"	"	"	"	"
0926	81.19	6.48	17.79	7857	0.54	-208.3	"	"	"	"	"
0930	81.20	6.48	17.55	7917	0.47	-208.8	"	"	"	"	"
0934	81.21	6.46	17.6	8026	0.36	-207.9	"	"	"	"	"
0938	81.22	6.42	16.58	8043	0.34	-197.4	"	"	"	"	"
0942	81.22	6.40	16.44	8022	0.36	-193.6	"	"	"	"	"
0946	81.30	6.37	17.18	8139	0.36	-189.5	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Harleigh Overton		0947
FINAL PUMP OR TUBING DEPTH IN WELL (feet): —	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 25	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-223-88	3 VOA; 2 AG; 1 PE	AG	2 L	None	—	—	TPH C4-C40 (GC/MS)	BP
		CG	120mL	HCl	—	—	VOCs (8260)	
		PE	250mL	None	—	—	PAHs (8270-SIM)	
							Metals (6000/7000)	
							MBTE, TBA	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-224	Sample ID:	AT-B-224
Date:	11/8/12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	65 feet to 95 feet	—	74.21	Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
Dedicated	1447	1523		ODOR

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1451	74.65	6.65	19.35	4985	6.20	75.9	clear/odor	10	5	41	30
1455	74.67	6.40	19.04	4951	4.95	85.8	"	"	"	"	"
1459	74.68	6.26	19.05	4944	4.07	92.8	"	"	"	"	"
1503	74.69	6.09	19.11	4939	2.72	10.1	"	"	"	"	"
1507	74.70	5.99	18.93	4919	2.29	-26.0	"	"	"	"	"
1511	74.71	5.92	19.07	4959	1.62	-40.2	"	"	"	"	"
1515	74.73	5.88	18.91	4969	1.30	-41.3	"	"	"	"	"
1519	74.75	5.85	18.95	4990	1.25	-37.8	"	"	"	"	"
1523	74.76	5.84	19.02	5015	1.22	-32.6	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Cody Montejo		1525
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):**	**TUBING MATERIAL CODE:**
Dedicated	30	HDPE
FIELD DECONTAMINATION:	**FIELD FILTERED:**	**DUPLICATE:**
YES NO	YES NO Filtration Equipment Type:	FILTER SIZE: ___µm YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-224	3 VOA; 2 AG; 1 PE	CG, AG, PE	40mL, 1L, 250mL	HCl, none, none	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							PAHs (8270-SIM)	
							Metals (6000/7000)	
							MBTE, TBA	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-225	Sample ID:	AT-B-225
Date:	11-9-12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	65 feet to 95 feet	QED	72.70	Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
	0855			NONE

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0859	72.80	6.36	14.4	4127	6.43	245.3	CLEAR	12	3	35	50
0903	72.81	6.34	14.0	4015	5.35	240.5					
0907	72.82	6.36	14.0	4000	5.17	241.2					
0911	72.85	6.36	13.5	3956	4.88	240.3					
0915	72.85	6.36	13.2	3925	4.14	241.5					
0919	72.85	6.36	13.1	3916	4.10	242.0					
0123	72.86	6.38	13.1	3901	3.54	60.5					
0927	72.86	6.38	13.5	3929	2.47	58.0					
0931	72.87	6.38	13.4	3999	2.39	51.2					
0935	72.87	6.38	13.5	4020	0.85	-39.9					
0939	72.87	6.38	13.5	4033	0.89	-43.5					
0943	72.88	6.38	13.6	4040	0.87	-49.3					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
D. FRAZIER		0945
FINAL PUMP OR TUBING DEPTH IN WELL (feet): DEDICATED	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) Filtration Equipment Type:	FILTER SIZE: ____µm
		DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-225	3 VOA; 2 AG; 1 PE						TPH C4-C40 (GC/MS)	
							VOCs (8260)	
							PAHs (8270-SIM)	
							Metals (6000/7000)	
							MBTE, TBA	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-226	Sample ID:	AT-B-226
Date:	11/9/12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	65 feet to 95 feet	—	77.26	Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
Dedicated	0921	0949		ODOR

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation)	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0925	77.67	6.61	19.29	5070	3.09	140.5	clear/odor	60	5	39	40
0929	77.67	6.80	18.15	4969	2.05	-63.4	"	"	"	"	"
0933	77.67	6.59	17.89	4917	1.64	-114.7	"	"	"	"	"
0937	77.68	6.43	18.09	4940	1.21	-122.3	"	"	"	"	"
0941	77.68	6.36	19.03	5035	0.98	-133.9	"	"	"	"	"
0945	77.69	6.32	19.13	5054	0.94	-137.6	"	"	"	"	"
0949	77.69	6.33	19.01	5067	0.90	-141.2	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 | EC: +/-3% | DO: +/-10% | ORP: +/-10 mV | Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Cody Montoya		0950
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	**APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):**	**TUBING MATERIAL CODE:**
Dedicated	40	HDPE
FIELD DECONTAMINATION: YES NO	**FIELD FILTERED:** YES NO **Filtration Equipment Type:**	**FILTER SIZE:** ____µm **DUPLICATE:** YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-226	3 VOA; 2 AG; 1 PE	CG, AG, PE	40mL, 1L, 250mL	HCl, none, none	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							PAHs (8270-SIM)	
							Metals (6000/7000)	
							MBTE, TBA	
DUP-4	"	"	"	"	—	—	"	BP

REMARKS:

DUP-4 @ 0900

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

P 1/2

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	B-231	Sample ID:	AT-B-231
Date:	11-9-12		

PURGING DATA

WELL DIAMETER (inches):	2-inch	WELL SCREEN INTERVAL DEPTH:	70 feet to 100 feet	WELL TOTAL DEPTH (feet):	—	STATIC DEPTH TO WATER (feet):		PURGE PUMP TYPE OR BAILER:	~~Portable BP~~ Dedicated BP
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	—	PURGING INITIATED AT:	1128	PURGING ENDED AT:		APPROXIMATE VOLUME PURGED (gallons):	—	HYDROCARBON SHEEN OR ODOR?	ODOR

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1132	89.75	7.12	18.93	7881	5.46	24.1	clear	12	3	42	40
1136	89.77	6.53	18.46	7797	6.52	-0.7	"	"	"	"	"
1140	89.79	6.52	18.30	7799	6.70	1.0	"	"	"	"	"
1144	89.82	6.52	18.14	7800	6.96	2.0	"	"	"	"	"
1148	89.83	6.44	18.78	7921	6.90	-7.0	"	"	"	"	"
1152	89.85	6.32	18.77	7990	4.16	-21.0	"	"	"	"	"
1156	89.87	6.31	18.90	8271	4.00	-37.3	"	"	"	"	"
1200	89.90	6.30	18.82	8307	3.83	-44.4	"	"	"	"	"
1204	89.91	6.33	18.31	8251	2.36	-53.1	"	"	"	"	"
1208	89.95	6.33	18.11	8224	1.75	-57.6	"	"	"	"	"
1212	89.97	6.34	18.41	8275	1.40	-61.0	"	"	"	"	"
1216	90.00	6.36	18.65	8338	1.01	-66.2	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Harleigh Overton		1237
FINAL PUMP OR TUBING DEPTH IN WELL (feet): —	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 40	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-B-231	3 VOA; 3 AG; 1 PE	AG	3L	—	—	—	TPH C4-C40 (GC/MS)	BP
		CG	120mL	HCl	—	—	VOCs (8260)	
		PE	250mL	—	—	—	PAHs (8270-SIM)	
							Metals (6000/7000)	
							MBTE, TBA	
							Organic Lead (GFAA)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

P 2/2

Site Name: Former Unocal Avila Terminal	Site Location: Avila Beach, CA	
Well No. B-231	Sample ID: AT-B-231	Date: 11-9-12

PURGING DATA

WELL DIAMETER (inches): 2"	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
See P1				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1220	90.02	6.36	18.41	8294	0.89	-67.4	Clear	12	3	42	40
1224	90.05	6.36	18.96	8378	0.74	-68.8	"	"	"	"	"
1228	90.07	6.36	19.54	8491	0.68	-70.3	"	"	"	"	"
1232	90.11	6.36	19.73	8547	0.67	-71.2	"	"	"	"	"
1236	90.12	6.36	19.16	8440	0.65	-70.3	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT) Harlidy Overton	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 1237
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:
FIELD DECONTAMINATION: YES NO	FIELD FILTERED: YES NO FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE

SEE

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	GMW-14	Sample ID:	AT-GMW-14
Date:	11-6-12		

PURGING DATA

WELL DIAMETER (inches): 4-inch	WELL SCREEN INTERVAL DEPTH: 65 feet to 130 feet	WELL TOTAL DEPTH (feet): DED.	STATIC DEPTH TO WATER (feet): 82.48	PURGE PUMP TYPE OR BAILER: Dedicated BP
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): DED	PURGING INITIATED AT: 1340	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? NONE

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1344	82.59	6.68	19.9	1056	4.36	-112.8	CLEAR	10	5	54	100
1348	82.61	6.70	19.8	1039	0.99	-164.5					
1352	82.64	6.71	19.9	1032	0.77	-158.4					
1356	82.66	6.72	19.9	1034	0.63	-156.7					
1400	82.68	6.72	19.9	1034	0.57	-154.3					
1404	82.69	6.72	20.7	1032	0.55	-142.6					
1408	82.70	6.74	20.9	1039	0.50	-141.2					
1412	82.70	6.74	20.6	1039	0.47	-132.4					
1416	82.70	6.74	20.5	1034	0.46	-119.6					
1420	82.70	6.74	20.3	1024	0.43	-115.2					
1424	82.71	6.74	20.2	1026	0.45	-110.0					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
D. FRAZIER		1424
FINAL PUMP OR TUBING DEPTH IN WELL (feet): DEDICATED	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-GMW-14	3 VOA; 1 AG	CG/AG	125ml/1L	HCL/NONE	—	—	TPH C4-C40 (GC/MS)	
							VOCs (8260)*	
							BTEX (8260)**	

REMARKS: * = VOCs in Q2 only

** = BTEX in Q4 only

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	GMW-15	Sample ID:	AT-GMW-15
Date:	11.6.12		

PURGING DATA

WELL DIAMETER (inches): 4-inch	WELL SCREEN INTERVAL DEPTH: 15 feet to 65 feet	WELL TOTAL DEPTH (feet): DED	STATIC DEPTH TO WATER (feet): 28.31 ~~21.36~~	PURGE PUMP TYPE OR BAILER: Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1255	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? NONE

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1259	28.58	5.32	20.8	532	3.50	118.2	CLEAR	10	5	27	150 mL
1303	28.58	5.32	20.8	540	3.78	120.2					
1307	28.58	5.34	20.7	533	3.85	123.8					
1311	28.58	5.34	20.7	534	3.90	124.5					
1315	28.58	5.34	20.7	556	3.89	125.3					
1319	28.58	5.33	20.7	551	3.81	126.2					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
DELL FRAZIER		1321
FINAL PUMP OR TUBING DEPTH IN WELL (feet): DED	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: YES NO	FIELD FILTERED: YES NO Filtration Equipment Type:	FILTER SIZE: ____µm DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-GMW-15	3 VOA; 1 AG	CG/AG	120 ml/1L	HCl/NONE	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)*	
							BTEX (8260)**	

REMARKS: * = VOCs in Q2 only

** = BTEX in Q4 only

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	GMW-16	Sample ID:	AT-GMW-16
Date:	11-6-12		

PURGING DATA

WELL DIAMETER (inches):	4-inch	WELL SCREEN INTERVAL DEPTH:	15 feet to 75 feet	WELL TOTAL DEPTH (feet):	DED	STATIC DEPTH TO WATER (feet):	23.29	PURGE PUMP TYPE OR BAILER:	Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	DED	PURGING INITIATED AT:	0838	PURGING ENDED AT:		APPROXIMATE VOLUME PURGED (gallons):		HYDROCARBON SHEEN OR ODOR?	NONE

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0842	23.36	6.43	17.5	2922	0.97	-216.8	CLEAR	9.5	5.5	26	140
0846	23.39	6.45	17.6	2905	0.46	-243.1					
0850	23.41	6.45	17.6	2901	0.48	-243.9					
0854	23.44	6.45	17.6	2906	0.44	-245.1					
0858	23.46	6.46	17.7	2908	0.40	-249.9					
0902	23.48	6.46	17.7	2909	0.41	-250.4					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	DEN FRAZER	SAMPLER(S) SIGNATURES:		SAMPLE TIME:	0903
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	DED.	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	140	TUBING MATERIAL CODE:	HDPE
FIELD DECONTAMINATION:	YES NO	FIELD FILTERED: YES NO Filtration Equipment Type:		FILTER SIZE: ____µm	DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-GMW-16	3 VOA; 1 AG	CG/AG	120ml/1L	HCl/NONE	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)*	
							BTEX (8260)**	

REMARKS: * = VOCs in Q2 only

** = BTEX in Q4 only

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name: Former Unocal Avila Terminal		Site Location: Avila Beach, CA
Well No. SP-1	Sample ID: AT-SP-1	Date: 11/6/12

PURGING DATA

WELL DIAMETER (inches): 2-inch	WELL SCREEN INTERVAL DEPTH: 95 feet to 120 feet	WELL TOTAL DEPTH (feet): QED	STATIC DEPTH TO WATER (feet): 117.54	PURGE PUMP TYPE OR BAILER: Dedicated BP
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): DEDICATED	PURGING INITIATED AT: 0856	PURGING ENDED AT: 0928	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR? N

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
0900	117.85	6.91	17.5	1278	4.57	186.8	CLEAR	10	5	80	25
0904	117.89	6.73	17.5	1286	3.14	160.7					
0908	117.90	6.67	17.7	1284	2.79	142.0					
0912	117.91	6.64	17.7	1287	2.41	128.0					
0916	117.91	6.62	17.8	1288	1.98	118.5					
0920	117.92	6.618	17.9	1287	1.72	112.4					
0924	117.93	6.60	18.1	1286	1.76	108.4					
0928	117.94	6.60	18.2	1287	1.68	105.6					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

(pH: +/-0.1) (EC: +/-3%) (DO: +/-10%) (ORP: +/-10 mV) (Temperature: +/-1°C)

SAMPLING DATA

SAMPLED BY: (PRINT) Danny Rice	SAMPLER(S) SIGNATURES:	SAMPLE TIME: 0929
FINAL PUMP OR TUBING DEPTH IN WELL (feet): DEDICATED	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 25	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: YES (YES) NO	FIELD FILTERED: YES (NO) FILTER SIZE: ____µm Filtration Equipment Type:	DUPLICATE: YES (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-SP-1	3 VOA; 1 AG	CG/AG	—	HCL/—	—	—	TPH C4-C40 (GC/MS)	BP
							BTEX (8260)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	SP-7A	Sample ID:	AT-SP-7A
Date:	11-6-12		

PURGING DATA

WELL DIAMETER (inches):	2-inch	WELL SCREEN INTERVAL DEPTH:	50 feet to 125 feet	WELL TOTAL DEPTH (feet):	—	STATIC DEPTH TO WATER (feet):	114.37	PURGE PUMP TYPE OR BAILER:	Dedicated BP
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	—	PURGING INITIATED AT:	1432	PURGING ENDED AT:	1500	APPROXIMATE VOLUME PURGED (gallons):	—	HYDROCARBON SHEEN OR ODOR?	ODOR

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1436	114.77	6.07	21.78	1149	0.47	-103.7	Clear	10	5	57	75
1440	114.89	5.90	20.20	994	0.26	-79.9	"	"	"	55	40
1444	114.92	5.91	20.69	997	0.22	-76.3	"	"	"	"	"
1448	114.96	5.95	20.99	1003	0.15	-70.9	"	"	"	"	"
1452	115.00	5.96	20.89	1012	0.13	-70.8	"	"	"	"	"
1456	115.02	5.98	20.84	1028	0.12	-70.6	"	"	"	"	"
1500	115.06	5.99	20.74	1033	0.12	-69.9	"	"	"	"	"

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED
pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	Hackley Overton	SAMPLER(S) SIGNATURES:		SAMPLE TIME:	1501
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	—	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute):	40	TUBING MATERIAL CODE:	HDPE
FIELD DECONTAMINATION:	YES NO	FIELD FILTERED: YES NO Filtration Equipment Type:		FILTER SIZE: ____µm	DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-SP-7A	3 VOA; 2 AG	CG	120mL	HCl			TPH C4-C40 (GC/MS)	BP
		AG	2L	—			BTEX (8260)	
							PAHs (8270 SIM)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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LOW-FLOW GROUNDWATER PURGING AND SAMPLING FORM

Site Name:	Former Unocal Avila Terminal	Site Location:	Avila Beach, CA
Well No.	SP-9	Sample ID:	AT-SP-9
Date:	11/7/12		

PURGING DATA

WELL DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	WELL TOTAL DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2-inch	75 feet to 115 feet	120	102.68	Dedicated BP

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	APPROXIMATE VOLUME PURGED (gallons):	HYDROCARBON SHEEN OR ODOR?
Dedicated	1504	1528		N

TIME	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	DO (circle mg/L or % saturation	ORP (mV)	COLOR/ODOR (describe)	REFILL SETTING (sec)	DISCHARGE SETTING (sec)	PRESSURE SETTING (psi)	FLOW RATE (mL/min)
1508	102.93	6.16	17.9	2029	0.25	-78.5	Clear	10	5	64	50
1512	102.96	6.35	17.8	2018	0.20	-102.7					
1516	102.98	6.51	17.5	1990	0.15	-116.6					
1520	102.99	6.65	17.6	1974	0.15	-124.7					
1524	103.01	6.67	17.5	1969	0.15	-125.0					
1528	103.01	6.69	17.4	1953	0.14	-124.8					

PURGE STABILITY CRITERIA: 3 SUCCESSIVE READINGS TAKEN 3-5 MINUTES APART - CIRCLE BELOW WHEN ACHIEVED

pH: +/-0.1 EC: +/-3% DO: +/-10% ORP: +/-10 mV Temperature: +/-1°C

SAMPLING DATA

SAMPLED BY: (PRINT)	SAMPLER(S) SIGNATURES:	SAMPLE TIME:
Danny Rice		1529
FINAL PUMP OR TUBING DEPTH IN WELL (feet): Dedicated	APPROXIMATE SAMPLE PUMP FLOW RATE (mL per minute): 50	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: YES NO	FIELD FILTERED: YES NO Filtration Equipment Type:	FILTER SIZE: ____µm DUPLICATE: YES NO

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
AT-SP-9	3 VOA; 2 AG	CG/AG	—	HCl/—	—	—	TPH C4-C40 (GC/MS)	BP
							VOCs (8260)	
							PAHs (8270 SIM)	

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethlene; PP = Polpropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer;. BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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WATER QUALITY INSTRUMENT CALIBRATION LOG

Project No. / Name: 0801-0898 / Former Unocal Avila Terminal 4Q12 GWM

DATE/TIME	EQUIPMENT #	PARAMETER	STANDARD USED	METER READING	CALIBRATED READING	INITIALS
11/6/12 0815	YSI 556 11J102419	pH	7.00 4.00 10.00	6.74 4.51 10.37	7.00 4.10 10.00	CM
		Conductivity	1413 µS/cm	1472 µS/cm	1411 µS/cm	CM
		ORP	240.5 mV	239.0 mV	240.2 mV	CM
		D.O.	100.0%	94.3 %	100.1 %	CM
11/7/12 0815	YSI 556 11J102419	pH	7.00 4.00 10.00	6.77 4.27 10.28	7.00 4.05 10.00	CM
		Conductivity	1413 µS/cm	1387 µS/cm	1413 µS/cm	CM
		ORP	238.0 mV	235.6 mV	238.0 mV	CM
		D.O.	100.0%	99.4 %	99.9 %	CM
11/8/12 0845	YSI 556 11J102419	pH	7.00 4.00 10.00	6.94 4.19 10.14	6.99 4.03 10.00	CM
		Conductivity	1413 µS/cm	1435 µS/cm	1412 µS/cm	CM
		ORP	242.0 mV	242.6 mV	242.0 mV	CM
		D.O.	100.0%	101.6 %	99.9 %	CM
11/9/12 0830	YSI 556 11J102419	pH	7.00 4.00 10.00	6.97 4.56 9.90	7.00 4.11 10.00	CM
		Conductivity	1413 µS/cm	1394 µS/cm	1412 µS/cm	CM
		ORP	248.0 mV	250.6 mV	248.0 mV	CM
		D.O.	100.0%	101.9 %	99.9 %	CM

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WATER QUALITY INSTRUMENT CALIBRATION LOG

Project No. / Name: 0801-0898 / Former Unocal Avila Terminal 4QIZ GWM

DATE/TIME	EQUIPMENT #	PARAMETER	STANDARD USED	METER READING	CALIBRATED READING	INITIALS
11-6-12 0826	YSI 556 11J102421	pH	7.00 4.00 10.00	6.98 4.01 9.96	7.00 3.99 9.99	HO
		Conductivity	1413 µS/cm	1450 µS/cm	1413 µS/cm	HO
		ORP	243.0 mV	241.3 mV	243.0 mV	HO
		D.O.	100.0%	100.0 %	99.9 %	HO
11-7-12 1052	YSI 556 11J102421	pH	7.00 4.00 10.00	6.85 3.97 9.98	7.00 4.00 10.01	HO
		Conductivity	1413 µS/cm	1353 µS/cm	1413 µS/cm	HO
		ORP	238.0 mV	239.4 mV	238.0 mV	HO
		D.O.	100.0%	108.0 %	100.1 %	HO
11-8-12 0855	YSI 556 11J102421	pH	7.00 4.00 10.00	7.00 3.96 9.93	7.00 4.00 9.99	HO
		Conductivity	1413 µS/cm	1480 µS/cm	1413 µS/cm	HO
		ORP	243.0 mV	241.3 mV	243.0 mV	HO
		D.O.	100.0%	96.7 %	97.0 %	HO
11-9-12 0841	YSI 556 11J102421	pH	7.00 4.00 10.00	6.95 4.17 10.10	7.00 4.00 10.00	HO
		Conductivity	1413 µS/cm	1420 µS/cm	1413 µS/cm	HO
		ORP	250.5 mV	250.7 mV	250.5 mV	HO
		D.O.	100.0%	98.3 %	99.5 %	HO

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME				PROJECT NUMBER			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
YSI PRO PLUS	12H100513	11/6/12 0645	PH. 4.00 10.00 3900 7.00	4.01 10.02 7.07 3900	YES	8.84	DE
		↓	DO. 100% ORP 249.8	100% 249.8	YES	10.7	DE
		11/7/12 0700	PH 4.00 7.00 10.00 3900	3.98 7.00 10.00 3911	YES	9.7	DE
		↓	DO. 100% ORP 250.5	DO 99.6% 250.1	YES	9.5	DE
		11/8/12 0645	DO 100% ORP 244.5	100% 244.5	YES	14.4	DE
		↓	PH. 7.00 4.0 10.00 3900	7.03 4.02 10.01 3598	YES	14.5	DE
		11/9/12 0700	PH. 7.00 4.00 10.00 3900	7.00 10.00 4.04 3900	YES	7.0	DE
		↓	DO 100% ORP 254.3	DO 100% 254.3	YES	7.5	DE

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME Prop @ Avila Beach				PROJECT NUMBER 121105-DFR			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP. °C	INITIALS
YSI ProPlus	12H101387	11-6-12 0645	PH 4.00	4.00	Y	10.9	RD
↓	↓	↓	↓ 7.00	7.04	Y	10.5	
			↓ 10.00	10.08	Y	10.8	
			COND 3900	3900	Y	10.9	RD
↓	↓	↓	ORP 250.5	250.5	Y	10.8	
			DO% 100	100.0 %	Y	10.1	RD
YSI ProPlus	12H101387	11-7-12 0645	PH 4.00	4.00	Y	8.4	
↓	↓	↓	↓ 7.00	7.02	Y	8.2	RD
			↓ 10.00	10.05	Y	8.5	
			COND 3900	3900	Y	8.4	RD
↓	↓	↓	ORP 253.7	253.7	Y	8.3	
			DO% 100	99.7 %	Y	10.7	RD
YSI ProPlus	12H101387	11-8-12 0645	PH 4.00	4.00	Y	13.9	
↓	↓	↓	↓ 7.00	7.02	Y	13.5	RD
			↓ 10.00	10.01	Y	13.8	
			COND 3900	3899	Y	13.7	RD
↓	↓	↓	ORP 246.4	246.4	Y	13.9	
			DO% 100	99.9 %	Y	14.4	RD

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME Pacific Avila Beach				PROJECT NUMBER 121105-R01			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
YSI Pro8Plus	12H 101387	11-8-12 0955	pH 4.00	3.99	Y	6.7	RD
↓	↓	↓	7.00	6.98	Y	6.5	
			10.00	10.01	Y	6.7	RD
			cond 3900	3900	Y	6.6	
↓	↓	↓	ORP 255.9	255.9	Y	6.6	RD
			DO% 100	99.8%	Y	7.8	

APPENDIX D
2S12 CLIFF SPRING MONITORING FORMS

Cliff Spring Monitoring and Sampling Form
Former Unocal Avila Terminal, Avila Beach, California

Date / Time: 7-20-12 / 0700
Monitor Names: Louis Cappel and Pam Landle
Weather Conditions: Clear and Calm

Location ID	Sample Time	Sample ID	Estimated Discharge (gpm)[1]	Observations[2]
A	—	—	0.02	No Hydrocarbon odor or sheen. 15'x15' wet area on cliff face. Ponded water @ toe of cliff. Vegetation.
B			—	No hydrocarbon odor or sheen. 3'x4' moist area on cliff face. Vegetation.
C			0.01	No hydrocarbon odor or sheen. 12'x8' wet area on cliff face. Ponded water at toe of slope. Vegetation.
D			—	No hydrocarbon odor or sheen. DRY.
E			0.01	No hydrocarbon odor or sheen. 8'x10' wet area on cliff face. Ponded water at toe of cliff. Vegetation.
F			—	No hydrocarbon odor or sheen. Covered by rock fall.
G			—	No hydrocarbon odor or sheen, Dry.
H			—	No hydrocarbon odor or sheen. Dry.

Notes:
1 - Visual flow estimation, quantified where possible by filling a container of known volume over a period of time
2 - Including rock/soil discoloration, vegetation patterns and odor/sheen if applicable

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Cliff Spring Monitoring and Sampling Form
Former Unocal Avila Terminal, Avila Beach, California

Date / Time: 8/23/12, 0815
Monitor Names: Cody Montoya, Harleigh Overton
Weather Conditions: Overcast, foggy, cool

Location ID	Sample Time	Sample ID	Estimated Discharge (gpm)[1]	Observations[2]
A	NA	NA	≈0.05	Approximately 10 drip locations (4 fast, 6 slow) small ponded water area at base ≈ 10'×4' and 6'×10' wet areas, w/vegetation. No odor or sheen observed
B	NA	NA	No measurable flow	Slightly damp at location, ≈ 2'×6' area w/minimal vegetation, No visible drip locations, No odor or sheen observed
C	NA	NA	≈0.02	Approximately 6 drip locations (2 fast, 4 slow) small ponded water area at base, vegetation at location, ≈ 7'×4' wet area, No odor or sheen observed
D	NA	NA	No measurable flow	Location is DRY, no visible discharge in area, No odor or sheen observed
E	NA	NA	No measurable flow	Slightly damp at location ≈ 6'×8' area w/tall vegetation, no visible drips, No odor or sheen observed
F	NA	NA	NA	Location covered by rock fall, unable to observe spring area
G	NA	NA	No measurable flow	Location is DRY, no visible discharge in area, mostly covered by rock, No odor or sheen observed
H	NA	NA	No measurable flow	Location is DRY, some vegetation but no visible discharge, No odor or sheen observed

Notes:
1 - Visual flow estimation, quantified where possible by filling a container of known volume over a period of time
2 - Including rock/soil discoloration, vegetation patterns and odor/sheen if applicable

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Cliff Spring Inspection and Sampling Form
Former Unocal Avila Terminal, Avila Beach, California

Date: 9/21/12, 0800
Sampling Personel: Cody Montoya / Paul Lavelle
Weather Conditions: Cool partly overcast

Location ID	Sample Time	Sample ID	Estimated Discharge (gpm)[1]	Observations[2]
A	NA	NA	≈0.10	Approximately 20' x 20' wet area ≈ 19 drip locations (15 fast, 4 slow); ponded water at base; no visible sheen or odor, vegetation/algae
B	NA	NA	No measurable flow	4 seperate Damp locations with location B ≈ 8' x 8' damp areas; some vegetation; no visible drips
C	NA	NA	≈0.05	Approximately 18' x 10' wet area; ≈ 9 drip locations (3 fast, 6 slow); abundant vegetation and algae; ponded water at base of cliff; slight sulfur odor; no visible sheen
D	—	—	—	Unable to access; low tide of 2.54'
E	NA	NA	No measurable flow	Approximately 15' x 10' damp/wet area; no visible drips but ponded water at base; no visible sheen or odor; abundant vegetation/algae
F	—	—	—	location covered by rock fall; unable to observe
G	—	—	—	location covered by rockfall; unable to observe
H	—	—	—	location covered by rockfall; unable to observe

Notes:
1 - Visual flow estimation, quantified where possible by filling a container of known volume over a period of time
2 - Including rock/soil discoloration, vegetation patterns and odor/sheen if applicable

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Cliff Spring Monitoring and Sampling Form
Former Unocal Avila Terminal, Avila Beach, California

Date / Time: 10/26/12 1500
Monitor Names: Harleigh Overton, Cody Montoya
Weather Conditions: Sunny, calm

Location ID	Sample Time	Sample ID	Estimated Discharge (gpm)[1]	Observations[2]
A	NA	NA	NA	5'x5' wet area with 5 drips (1 fast and 4 slow), abundant algae growth and grass vegitation, no sheen or odor. 4'x 12' wet area 2 fast / 5 slow drips, algae and grass vegitation, slight Sulfur like odor.
B	NA	NA	NA	~~Location is damp~~ (2'x6' and 3x4) wet no drips, some vegitation growing on wet/damp areas, no sheen or odor Damp
C	NA	NA	NA	Approximately 5 drip locations (2 fast, 3 slow), 4'x8' wet area, small pond at base of location (≈ 0.5'x2'), abundant algae and Vegitation. No odor or sheen observed
D	Na	Na	Na	Location is dry, no visable discharge area, no odor, no vegitation.
E	NA	NA	NA	6'x8' wet area, no drips, water ponded at bottom (0.5'x1'), Tall vegitation, abundant algae growth, no sheen or odor.
F	NA	NA	NA	Location covered by rock fall, unable to access.
G	NA	NA	NA	Location mostly covered by rock no observed discharge, Vegitation (grass/iceplant) at location. Location is Dry
H	NA	NA	NA	Location is Dry, yellow sulfur like deposits at location, some grass vegitation.

Notes:
1 - Visual flow estimation, quantified where possible by filling a container of known volume over a period of time
2 - Including rock/soil discoloration, vegetation patterns and odor/sheen if applicable

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Cliff Spring Monitoring and Sampling Form
Former Unocal Avila Terminal, Avila Beach, California

Date / Time: 11/9/12, 1500
Monitor Names: Cady Montoya, Harleigh Overton
Weather Conditions: Overcast, slightly windy

Location ID	Sample Time	Sample ID	Estimated Discharge (gpm)[1]	Observations[2]
A	NA	NA	~0.05	Approximately 8 drip locations (3 fast 5 slow) ponded water at toe of cliff, 15' x 15' wet area, vegetation, no odor or sheen
B	NA	NA	No measurable flow	Approximately 2' x 5' damp area w/some vegetation, no visible drips, no odor or sheen
C	NA	NA	~0.02	Approximately 5 drip locations (1 fast, 4 slow) small ponded water at toe of cliff, ~ 5' x 5' wet area, no odor or sheen observed
D	NA	NA	No measurable flow	Location is DRY, no odor or sheen observed
E	NA	NA	No measurable flow	Approximately 4' x 4' damp area w/tall vegetation, no visible drips, no odor or sheen observed
F	NA	NA	NA	Location covered by rockfall, unable to observe area
G	NA	NA	No measurable flow	Location is dry, no odor or sheen observed
H	NA	NA	No measurable flow	Location is dry, no odor or sheen observed

Notes:
1 - Visual flow estimation, quantified where possible by filling a container of known volume over a period of time
2 - Including rock/soil discoloration, vegetation patterns and odor/sheen if applicable

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Cliff Spring Monitoring and Sampling Form
Former Unocal Avila Terminal, Avila Beach, California

Date / Time: 12/21/12 1315
Monitor Names: Cody Montoya, Hadeigh Overton
Weather Conditions: Overcast, windy

Location ID	Sample Time	Sample ID	Estimated Discharge (gpm)[1]	Observations[2]
A	NA	NA	≈0.04	No hydrocarbon odor or sheen, ≈ 10' x 15' wet area, no ponded water due to high sand levels, some vegetation
B	NA	NA	No measurable flow	No hydrocarbon odor or sheen, ≈ 2' x 4' damp area; no visible drips, some vegetation, no sample collected
C	NA	NA	≈0.01 ~~NA~~	No hydrocarbon odor or sheen, ≈ 10' x 6' wet area; ponded water at toe of cliff, vegetation, no sample collected
D	NA	NA	NA	Unable to access due to tide
E	NA	NA	No measurable flow	No hydrocarbon odor or sheen, ≈ 2' x 4' damp area, no visible drips, tall vegetation
F	NA	NA	NA	Location is covered by rockfall, unable to observe
G	NA	NA	NA	Location is Dry, no odor or sheen observed
H	NA	NA	NA	Location is covered by rockfall, unable to observe

Notes:
1 - Visual flow estimation, quantified where possible by filling a container of known volume over a period of time
2 - Including rock/soil discoloration, vegetation patterns and odor/sheen if applicable

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APPENDIX E
2S12 INTERTIDAL ZONE MONITORING FIELD OBSERVATION FORMS

Former Unocal Avila Terminal Intertidal Zone Monitoring Form

Date: 7/5/12		Monitor #1 Name: Louis Cappel		
Time: 0610		Monitor #2 Name: Harleigh Overton		
Additional Person(s) in attendance: –				
Tides: (time and elev.)	AM Low Tide: 6:09 / -1.3	PM Low Tide: 5:46 / 2.1		
	AM High Tide: 12:45 / 4.4	PM High Tide: 11:45 / 6.0		
Wind Speed: 0.0 mph	Wind Direction: –		Air Temperature: 65.0 °F	
Beach Conditions:	BEACH AREA SCOURED: Yes / (No)		TIDE POOLS PRESENT: Yes / (No)	
Location: Beach deposits present at IZ-1, IZ-2, & IZ-3				
Notes: –				
Surf Conditions:	(CALM)	MODERATE	ROUGH/STORMY	
Notes: –				
Presence of General Public:	0	1	(2)	3+
Notes: –				
Hydrocarbon Odor:	NONE	(INTERMITTENT)	PERSISTENT	
Location: Hydrocarbon odor at IZ-3				
FID Reading: 0.0 ppmv at IZ-1, IZ-2, & IZ-3				
Notes: –				
Tide Pool/Ocean Water Appearance:	(CLEAR)	TURBID		
Hydrocarbon Sheen:	YES	(NO)	COLOR:	
Area of Sheen (ft^2): –				
Location: –				
Notes: –				
NOTIFICATIONS				
Notification to Padre PM (date, time, type): –				
Notification to Chevron (date, time, type): –				
Notification to Agencies (date, time, type): –				
Notes: –				
NOTES: –				

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Former Unocal Avila Terminal Intertidal Zone Monitoring Form

Date: 7-6-12		Monitor #1 Name: Louis Cappel		
Time: 0645		Monitor #2 Name: Harleigh Overton		
Additional Person(s) in attendance: –				
Tides: (time and elev.) PM	AM Low Tide: 6:51 / -0.9	PM Low Tide: 6:44 / 2.1		
	AM High Tide: 1:32 / 4.5	PM High Tide: –		
Wind Speed: 2 mph	Wind Direction: South		Air Temperature: 60 °F	
Beach Conditions:	BEACH AREA SCOURED: Yes / (No)		TIDE POOLS PRESENT: Yes / (No)	
Location: Beach Deposits present at IZ-1, IZ-2, & IZ-3				
Notes: –				
Surf Conditions:	(CALM)	MODERATE	ROUGH/STORMY	
Notes: –				
Presence of General Public:	0	(1)	2	3+
Notes: –				
Hydrocarbon Odor:	NONE	(INTERMITTENT)	PERSISTENT	
Location: Hydrocarbon odor at IZ-3				
FID Reading: 0.0 ppmv at IZ-1, IZ-2, & IZ-3				
Notes: –				
Tide Pool/Ocean Water Appearance:	(CLEAR)	TURBID		
Hydrocarbon Sheen:	YES	(NO)	COLOR:	
Area of Sheen (ft^2): –				
Location: –				
Notes: –				
NOTIFICATIONS				
Notification to Padre PM (date, time, type): –				
Notification to Chevron (date, time, type): –				
Notification to Agencies (date, time, type): –				
Notes: –				
NOTES: –				

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Former Unocal Avila Terminal Intertidal Zone Monitoring Form

Date: 7-19-12		Monitor #1 Name: Louis Cappel		
Time: 0630		Monitor #2 Name: Harleigh Overton		
Additional Person(s) in attendance: Tricia Atkins - SLOEHS				
Tides: (time and elev.)	AM Low Tide: 0515 / -0.6	PM Low Tide: 4:33 / 2.3		
	AM High Tide: 11:50 / 4.1	PM High Tide: 10:37 / 5.9		
Wind Speed: 0.0 mph	Wind Direction: NA	Air Temperature: 66.0 °F		
Beach Conditions:	BEACH AREA SCOURED: Yes / (No)	TIDE POOLS PRESENT: Yes / (No)		
Location: Beach Deposits present at IZ-1, IZ-2, and IZ-3				
Notes: —				
Surf Conditions:	CALM	(MODERATE)	ROUGH/STORMY	
Notes: —				
Presence of General Public:	0	1	(2)	3+
Notes: —				
Hydrocarbon Odor:	NONE	(INTERMITTENT)	PERSISTENT	
Location: Odor at IZ-3. No odor at IZ-1 and IZ-2				
FID Reading: 0.0 ppm at IZ-1, IZ-2, and IZ-3				
Notes: —				
Tide Pool/Ocean Water Appearance:	(CLEAR)	TURBID		
Hydrocarbon Sheen:	YES	(NO)	COLOR: NA	
Area of Sheen (ft^2): —				
Location: —				
Notes: —				
NOTIFICATIONS				
Notification to Padre PM (date, time, type): —				
Notification to Chevron (date, time, type): —				
Notification to Agencies (date, time, type): —				
Notes: —				
NOTES: —				

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Former Unocal Avila Terminal Intertidal Zone Monitoring Form

Date: 7-20-12	Monitor #1 Name: Louis Cappel			
Time: 0545	Monitor #2 Name: Harleigh Durton			
Additional Person(s) in attendance: —				
Tides: (time and elev.)	AM Low Tide: 5:46 / -0.5	PM Low Tide: 5:17 / 2.2		
	AM High Tide: 12:20 / 4.2	PM High Tide: 11:16 / 5.7		
Wind Speed: 0.0 mph	Wind Direction: —	Air Temperature: 59°F		
Beach Conditions:	BEACH AREA SCOURED: Yes / (No)	TIDE POOLS PRESENT: Yes / (No)		
Location: Beach deposits at IZ-1, IZ-2, and IZ-3				
Notes: —				
Surf Conditions:	(CALM)	MODERATE	ROUGH/STORMY	
Notes: —				
Presence of General Public:	(0)	1	2	3+
Notes: —				
Hydrocarbon Odor:	NONE	(INTERMITTENT)	PERSISTENT	
Location: Hydrocarbon odor at IZ-3. No odor at IZ-1 & IZ-2				
FID Reading: 0.0 ppmv @ IZ-1, IZ-2, & IZ-3				
Notes: —				
Tide Pool/Ocean Water Appearance:	(CLEAR)	TURBID		
Hydrocarbon Sheen:	YES	(NO)	COLOR: —	
Area of Sheen (ft^2): —				
Location: —				
Notes: —				
NOTIFICATIONS				
Notification to Padre PM (date, time, type): —				
Notification to Chevron (date, time, type): —				
Notification to Agencies (date, time, type): —				
Notes: —				
NOTES: —				

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Former Unocal Avila Terminal Intertidal Zone Monitoring Form

Date: 8-2-12	Monitor #1 Name: Louis Cappel		
Time: 0630	Monitor #2 Name: Harleigh Overton		
Additional Person(s) in attendance: Rik Williams, CEMC			
Tides: (time and elev.)	AM Low Tide: 0503 / -0.8	PM Low Tide: 4:44 / 1.8	
	AM High Tide: 1130 / 4.6	PM High Tide: 10:47 / 6.1	
Wind Speed: 0.0 mph	Wind Direction: —	Air Temperature: 61.3 °F	
Beach Conditions:	BEACH AREA SCOURED: Yes / (No)	TIDE POOLS PRESENT: Yes / (No)	
Location: IZ-1, IZ-2, & IZ-3 Covered with beach deposits			
Notes: —			

Surf Conditions:	(CALM)	MODERATE	ROUGH/STORMY	
Notes: —				
Presence of General Public:	0	1	(2)	3+
Notes: —				
Hydrocarbon Odor:	NONE	(INTERMITTENT)	PERSISTENT	
Location: Intermittent hydrocarbon odor at IZ-3. No Odor at IZ-1 or IZ-2				
FID Reading: 0.0 ppmv at IZ-1, IZ-2, and IZ-3				
Notes: —				
Tide Pool/Ocean Water Appearance:	(CLEAR)	TURBID		
Hydrocarbon Sheen:	YES	(NO)	COLOR: —	
Area of Sheen (ft^2): —				
Location: —				
Notes: —				

NOTIFICATIONS
Notification to Padre PM (date, time, type): —
Notification to Chevron (date, time, type): —
Notification to Agencies (date, time, type): —
Notes: —
NOTES: —

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Former Unocal Avila Terminal Intertidal Zone Monitoring Form

Date: 10/15/12		Monitor #1 Name: Cody Montoya		
Time: 1635		Monitor #2 Name: Harleigh Overton		
Additional Person(s) in attendance:		Paul Lavelle		
Tides: (time and elev.)	AM Low Tide: 0346 / 1.2	PM Low Tide: 1645 / -0.5		
	AM High Tide: 0958 / 6.2	PM High Tide: 2303 / 4.6		
Wind Speed: 2.7 mph	Wind Direction: from West		Air Temperature: 88.9 °F	
Beach Conditions:	BEACH AREA SCOURED: (Yes) / No		TIDE POOLS PRESENT: (Yes) / No	
Location: IZ-1, IZ-2, & IZ-3 showing scoured areas and some beach deposits				
Notes:				
Surf Conditions:	CALM	(MODERATE)	ROUGH/STORMY	
Notes:				
Presence of General Public:	0	1	2	(3+)
Notes:				
Hydrocarbon Odor:	NONE	(INTERMITTENT)	PERSISTENT	
Location: ODOR observed at IZ-3 location, no odor at IZ-1 or IZ-2				
FID Reading: 0.0 ppm				
Notes:				
Tide Pool/Ocean Water Appearance:	(CLEAR)	TURBID		
Hydrocarbon Sheen:	(YES)	NO	COLOR: Silver/Grey	
Area of Sheen (ft^2): ≈ 1 ft^2 area over ≈ 6 ft^2 tide pool area				
Location: IZ-3 (no sheen observed at IZ-1 or IZ-2)				
Notes:				
NOTIFICATIONS				
Notification to Padre PM (date, time, type): 10/15/12, 1649, Phone call				
Notification to Chevron (date, time, type): 10/15/12, 1655, Phone call				
Notification to Agencies (date, time, type):				
Notes:				
NOTES: Sheen and aqueous samples collected at location IZ-3 @ 1730				

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Former Unocal Avila Terminal Intertidal Zone Monitoring Form

Date: 10/16/12		Monitor #1 Name: Cody Montoya		
Time: 1715		Monitor #2 Name: Harleigh Overton		
Additional Person(s) in attendance:		Paul Lavelle		
Tides: (time and elev.)	AM Low Tide: 0423 / 1.5	PM Low Tide: 1734 / -0.8		
	AM High Tide: 1035 / 6.4	PM High Tide: 1159 / 4.4		
Wind Speed: Calm	Wind Direction: Calm		Air Temperature: 88.9°F	
Beach Conditions:	BEACH AREA SCOURED: (Yes) / No		TIDE POOLS PRESENT: (Yes) / No	
Location: IZ-1, IZ-2, IZ-3 beach scour and some beach deposits, more scour visible than 10/15/12				
Notes:				
Surf Conditions:	CALM	(MODERATE)	ROUGH/STORMY	
Notes:				
Presence of General Public:	0	1	2	(3+)
Notes:				
Hydrocarbon Odor:	NONE	(INTERMITTENT)	PERSISTENT	
Location: Intermittent odor at IZ-3 (no odor at IZ-2, IZ-1)				
FID Reading: 0.0 ppm				
Notes:				
Tide Pool/Ocean Water Appearance:	(CLEAR)	TURBID		
Hydrocarbon Sheen:	(YES)	NO	COLOR:	
Area of Sheen (ft^2): ≈ 0.25 ft^2 in ≈ 1.0 ft^2 tide pool area				
Location: IZ-3 (no sheen observed at IZ-2 or IZ-1) sheen observed at				
Notes: different tide pool location than 10/15/12, no sheen observed at previous location (10/15/12)				
NOTIFICATIONS				
Notification to Padre PM (date, time, type): 10/16/12, 1740, phone call				
Notification to Chevron (date, time, type): 10/16/12, 1740, Chevron PM present at site				
Notification to Agencies (date, time, type):				
Notes:				
NOTES: CDFG representative Melissa Boggs and Chevron PM Rik Williams present. CDFG collected sheen samples; given limited area of sheen/tidepool area & minimal amount of water left to collect aqueous samples. Collected aqueous sample full bottle set from tidepool immediately adjacent to tidepool with visible sheen.				

Former Unocal Avila Terminal Intertidal Zone Monitoring Form

Date: 11-12-12		Monitor #1 Name: Harleigh Overton		
Time: 1430		Monitor #2 Name: Cody Montoya		
Additional Person(s) in attendance:				
Tides: (time and elev.)	AM Low Tide: 0128 / 1.48	PM Low Tide: 1449 / -0.87		
	AM High Tide: 0747 / 6.39	PM High Tide: 2111 / 4.23		
Wind Speed: 0.0 (calm)	Wind Direction: NA		Air Temperature: 74.0°F	
Beach Conditions:	BEACH AREA SCOURED: Yes / (No)		TIDE POOLS PRESENT: Yes / (No)	
Location: IZ-1, IZ-2, and IZ-3				
Notes: Some standing water on sand,				
Surf Conditions:	(CALM)	MODERATE	ROUGH/STORMY	
Notes:				
Presence of General Public:	0	1	2	(3+)
Notes:				
Hydrocarbon Odor:	NONE	(INTERMITTENT)	PERSISTENT	
Location: IZ-3				
FID Reading: 0.0				
Notes:				
Tide Pool/Ocean Water Appearance:	(CLEAR)	TURBID		
Hydrocarbon Sheen:	YES	(NO)	COLOR:	
Area of Sheen (ft^2): NA				
Location: NA				
Notes:				
NOTIFICATIONS				
Notification to Padre PM (date, time, type): NA				
Notification to Chevron (date, time, type): NA				
Notification to Agencies (date, time, type): NA				
Notes:				
NOTES:				

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Former Unocal Avila Terminal Intertidal Zone Monitoring Form

Date: 11/13/12		Monitor #1 Name: Paul Lavelle		
Time: 1521		Monitor #2 Name: Cody Montoya		
Additional Person(s) in attendance: Harleigh Overton, Pete Moreci (Rick Eng.); Jake B. (Rick Eng.)				
Tides: (time and elev.)	AM Low Tide:	PM Low Tide:		
	AM High Tide:	PM High Tide:		
Wind Speed: 2.7 mph	Wind Direction: South	Air Temperature: 69.5 F°		
Beach Conditions:	BEACH AREA SCOURED: Yes / (No)	TIDE POOLS PRESENT: Yes / (No)		
Location: IZ-3 Area				
Notes: Abundant beach deposits (sand) aggraded at mon. area. Few small, standing sfc. water. No tidepools				
Surf Conditions:	(CALM)	MODERATE	ROUGH/STORMY	
Notes:				
Presence of General Public:	0	1	2	(3+)
Notes: Some individuals inquired why we were here.				
Hydrocarbon Odor:	NONE	(INTERMITTENT)	PERSISTENT	
Location: IZ-3 Area. Intermittent, at times potent gasoline-like hydrocarbon odor.				
FID Reading: 0.0				
Notes:				
Tide Pool/Ocean Water Appearance:	(CLEAR)	TURBID		
Hydrocarbon Sheen:	YES	(NO)	COLOR:	
Area of Sheen (ft^2): NA				
Location: NA				
Notes:				
NOTIFICATIONS				
Notification to Padre PM (date, time, type):				
Notification to Chevron (date, time, type):				
Notification to Agencies (date, time, type):				
Notes:				
NOTES: SLO EHD representative onsite for observation				

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Former Unocal Avila Terminal Intertidal Zone Monitoring Form

Date: 12-10-12		Monitor #1 Name: Hadleigh Omerton		
Time: 1326		Monitor #2 Name: Louis Cappel		
Additional Person(s) in attendance: Paul Lanelle				
Tides: (time and elev.)	AM Low Tide: 0004 / 1.8	PM Low Tide: 1354 / -0.7		
	AM High Tide: 0637 / 6.3	PM High Tide: 2018 / 3.7		
Wind Speed: 2.2 mph	Wind Direction: South		Air Temperature: 72.1 °F	
Beach Conditions:	BEACH AREA SCOURED: (Yes) / No		TIDE POOLS PRESENT: (Yes) / No	
Location: IZ-1, IZ-2, IZ-3				
Notes:				
Surf Conditions:	CALM	(MODERATE)	ROUGH/STORMY	
Notes: Ocean Water is ~~clear~~ No slightly turbid				
Presence of General Public:	0	1	2	(3+)
Notes:				
Hydrocarbon Odor:	NONE	(INTERMITTENT)	PERSISTENT	
Location: IZ-3				
FID Reading: 0.0 ppm				
Notes:				
Tide Pool/Ocean Water Appearance:	CLEAR	TURBID	(Slightly Turbid)	
Hydrocarbon Sheen:	YES	(NO)	COLOR:	
Area of Sheen (ft^2): NA				
Location:				
Notes:				
NOTIFICATIONS				
Notification to Padre PM (date, time, type): NA				
Notification to Chevron (date, time, type): NA				
Notification to Agencies (date, time, type): NA				
Notes:				
NOTES: No sheen present on tide pools. No samples collected. IZ-1, IZ-2, and IZ-3 scoured of beach deposits.				

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Former Unocal Avila Terminal Intertidal Zone Monitoring Form

Date: 12-11-12		Monitor #1 Name: Harleigh Overton		
Time: 1400		Monitor #2 Name: Louis Cappel		
Additional Person(s) in attendance: Octavio Camacho, Scott McAlpin, Paul Lavelle				
Tides: (time and elev.)	AM Low Tide: 1255 / 2.0	PM Low Tide: 1441 / -1.3		
	AM High Tide: 0721 / 6.7	PM High Tide: 2128 / 3.9		
Wind Speed: 2.0 mph	Wind Direction: South		Air Temperature: 72.0 °F	
Beach Conditions:	BEACH AREA SCOURED: (Yes) / No		TIDE POOLS PRESENT: (Yes) / No	
Location: IZ-1, IZ-2, IZ-3				
Notes:				
Surf Conditions:	(CALM)	MODERATE	ROUGH/STORMY	
Notes:				
Presence of General Public:	0	1	2	(3+)
Notes:				
Hydrocarbon Odor:	NONE	(INTERMITTENT)	PERSISTENT	
Location: IZ-3				
FID Reading: 0.0 ppm				
Notes:				
Tide Pool/Ocean Water Appearance:	(CLEAR)	TURBID		
Hydrocarbon Sheen:	(YES)	NO	COLOR: Silver/Grey	
Area of Sheen (ft^2): 5 ft^2 in ≈ 10 ft^2 tide pool area.				
Location: IZ-3				
Notes:				
NOTIFICATIONS				
Notification to Padre PM (date, time, type):				
Notification to Chevron (date, time, type):				
Notification to Agencies (date, time, type):				
Notes:				
NOTES: Intertidal Zone Assessment event completed. Sheen Sample collected at IZ-3.				

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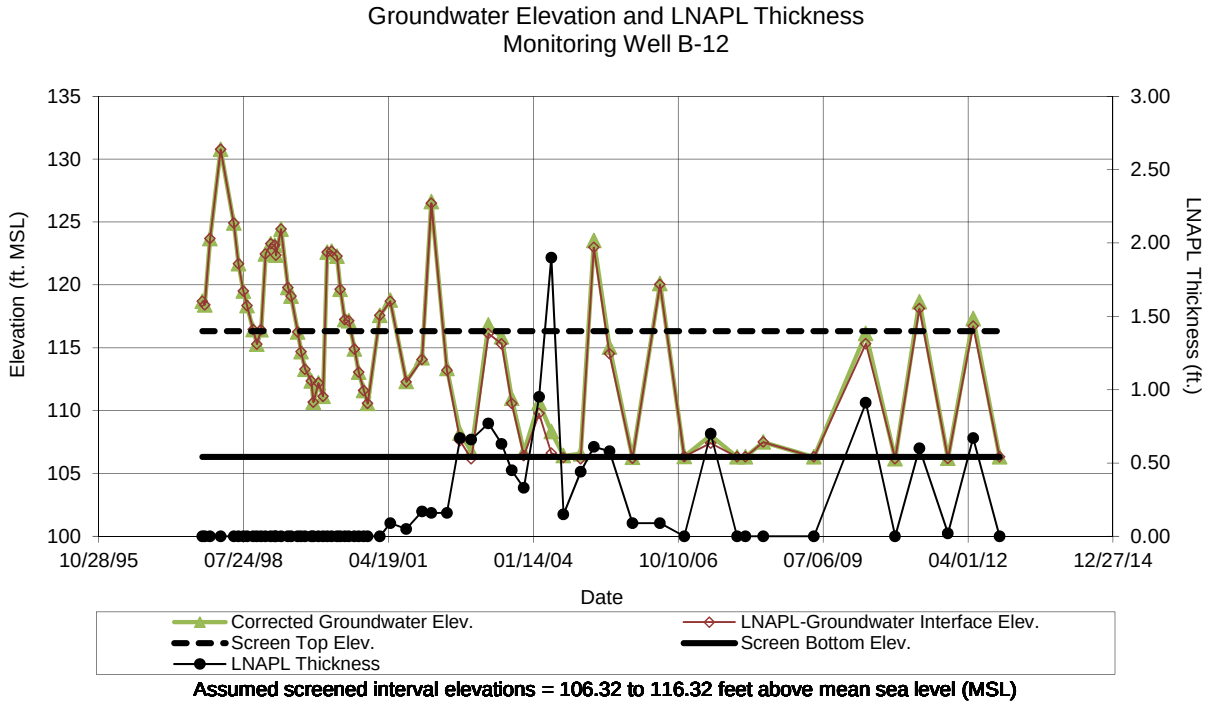
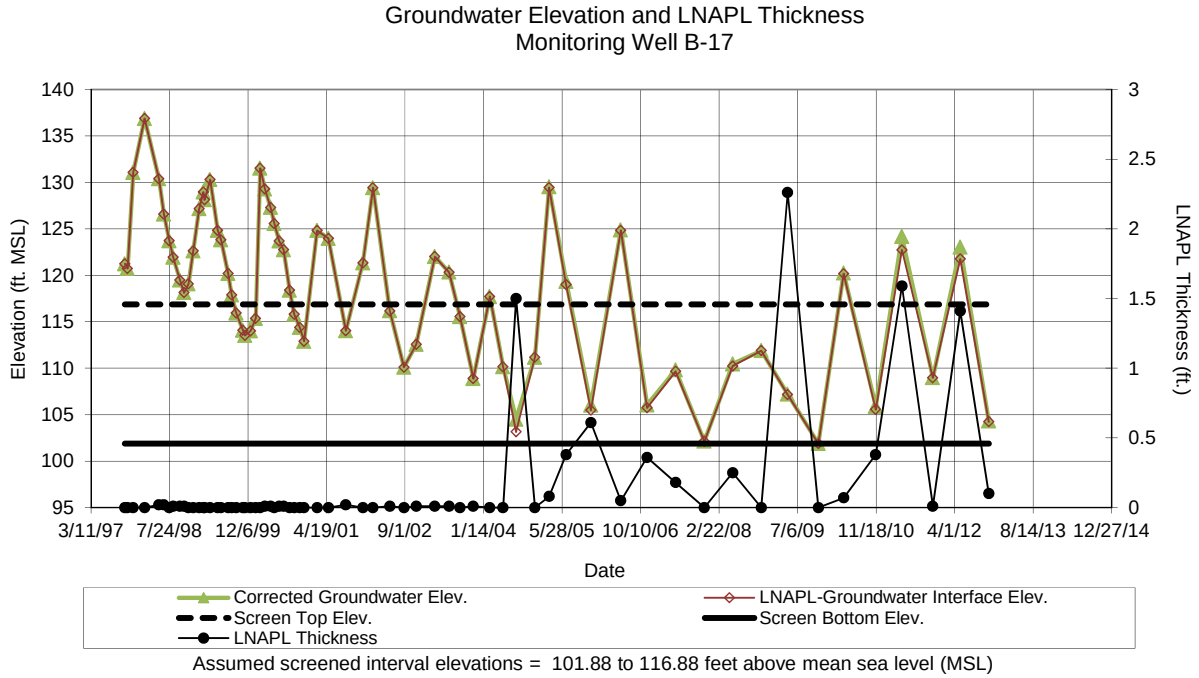
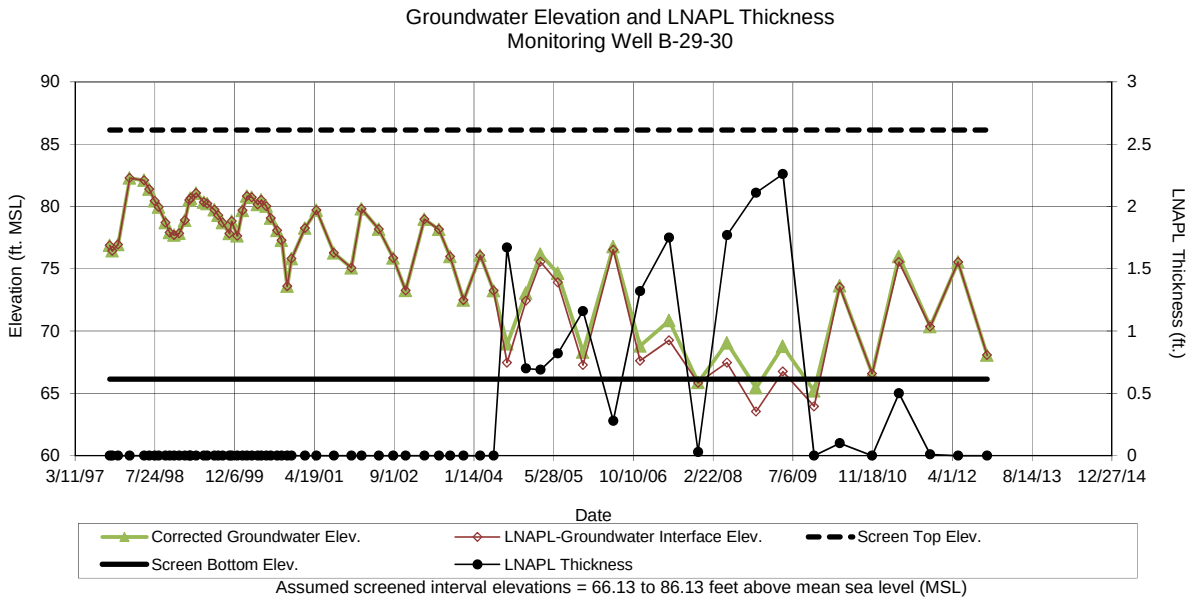
APPENDIX F
GROUNDWATER MONITORING WELL HYDROGRAPHS FOR SELECTED WELLS WITH MEASUREABLE LNAPL



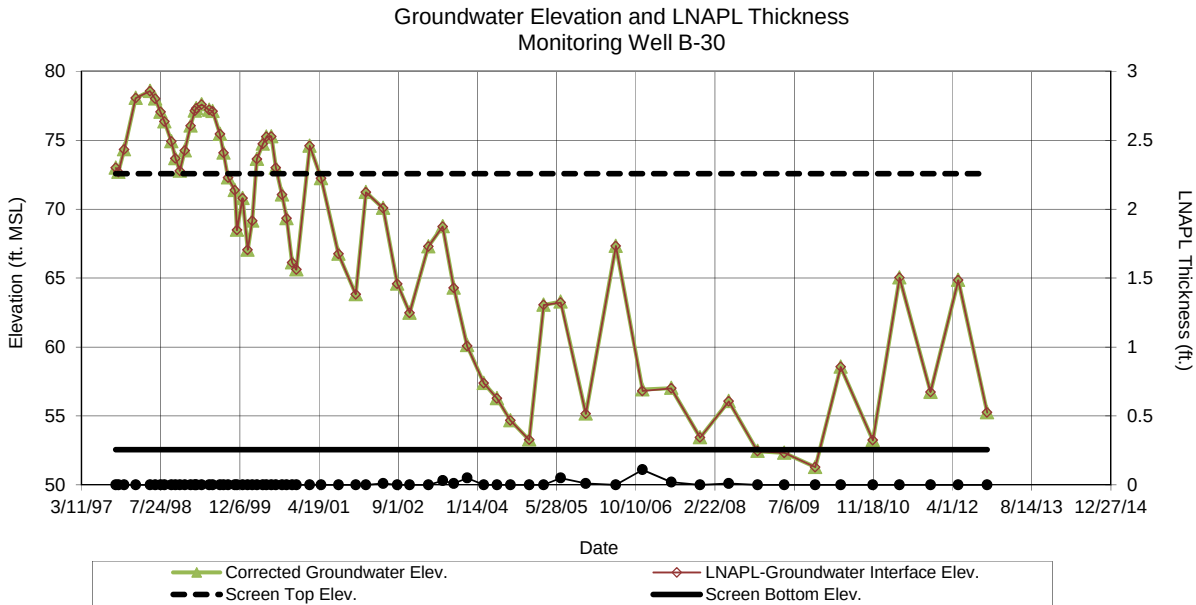
Assumed screened interval elevations = 106.32 to 116.32 feet above mean sea level (MSL)



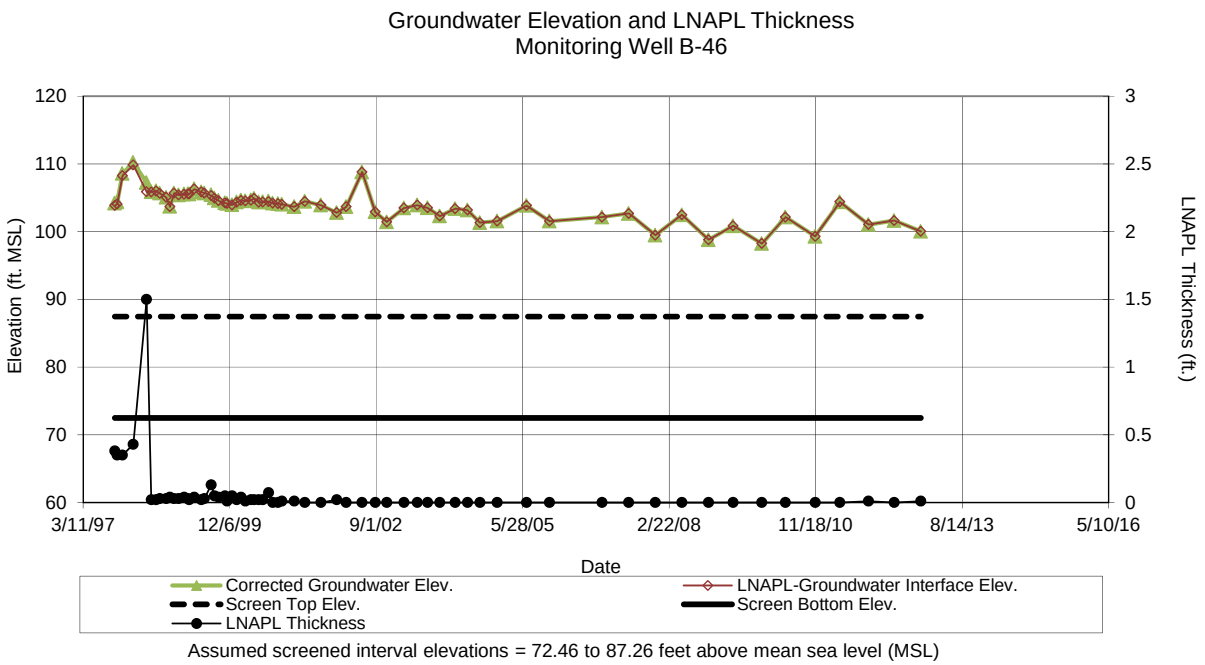
Assumed screened interval elevations = 101.88 to 116.88 feet above mean sea level (MSL)



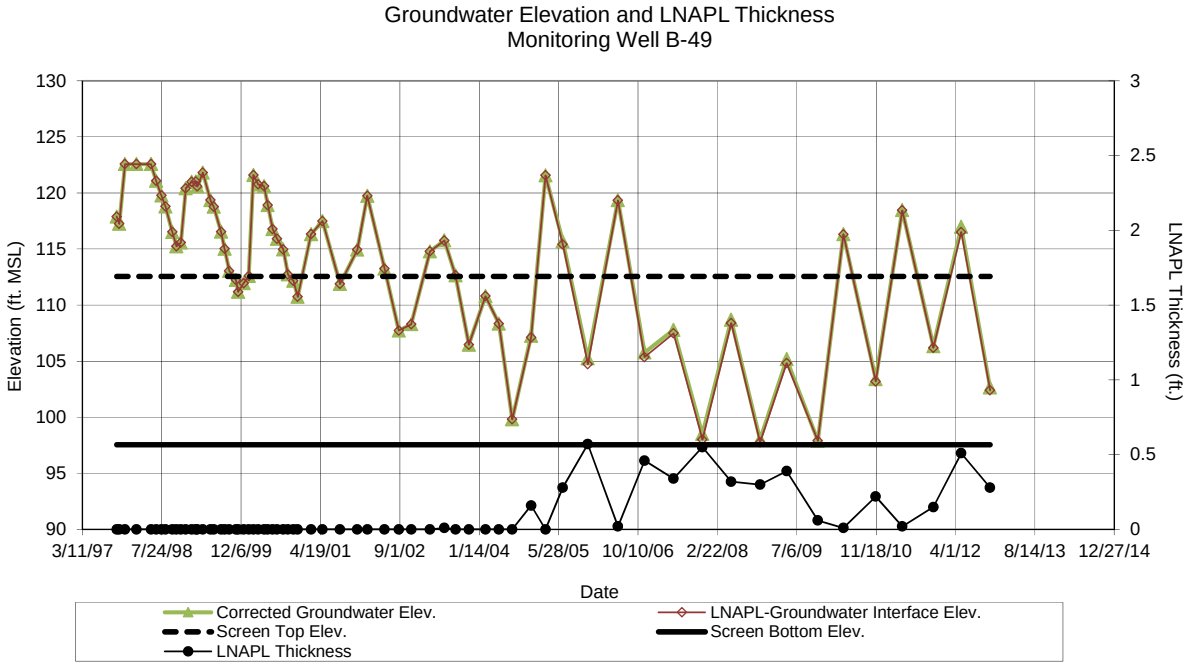
Assumed screened interval elevations = 66.13 to 86.13 feet above mean sea level (MSL)



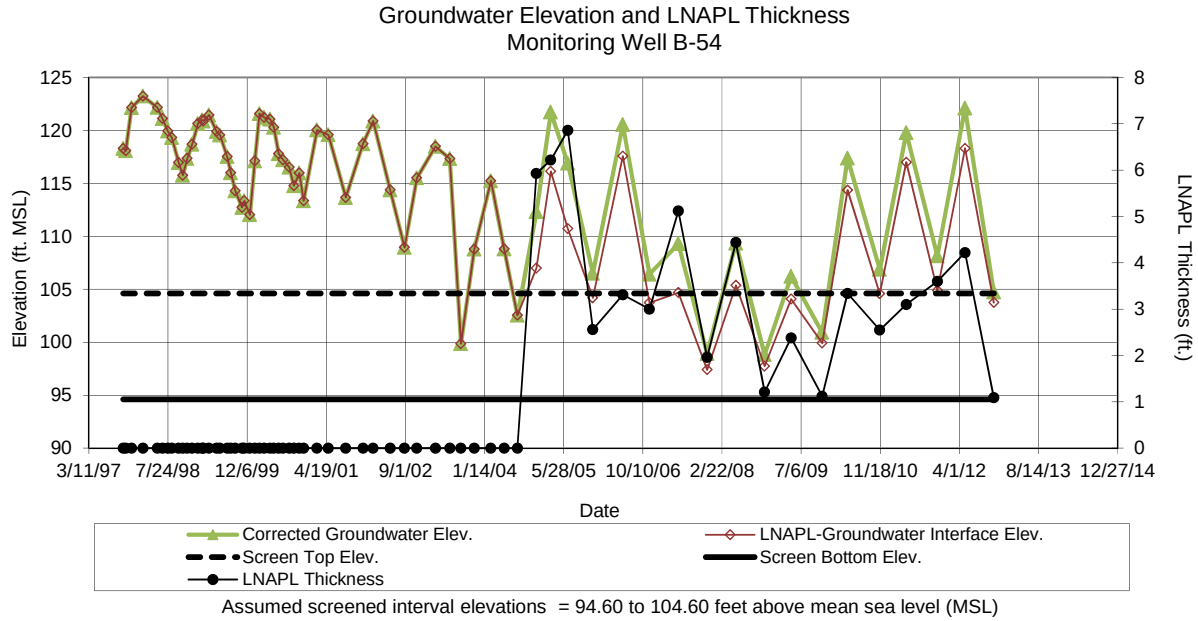
Assumed screened interval elevations = 52.57 to 72.57 feet above mean sea level (MSL)



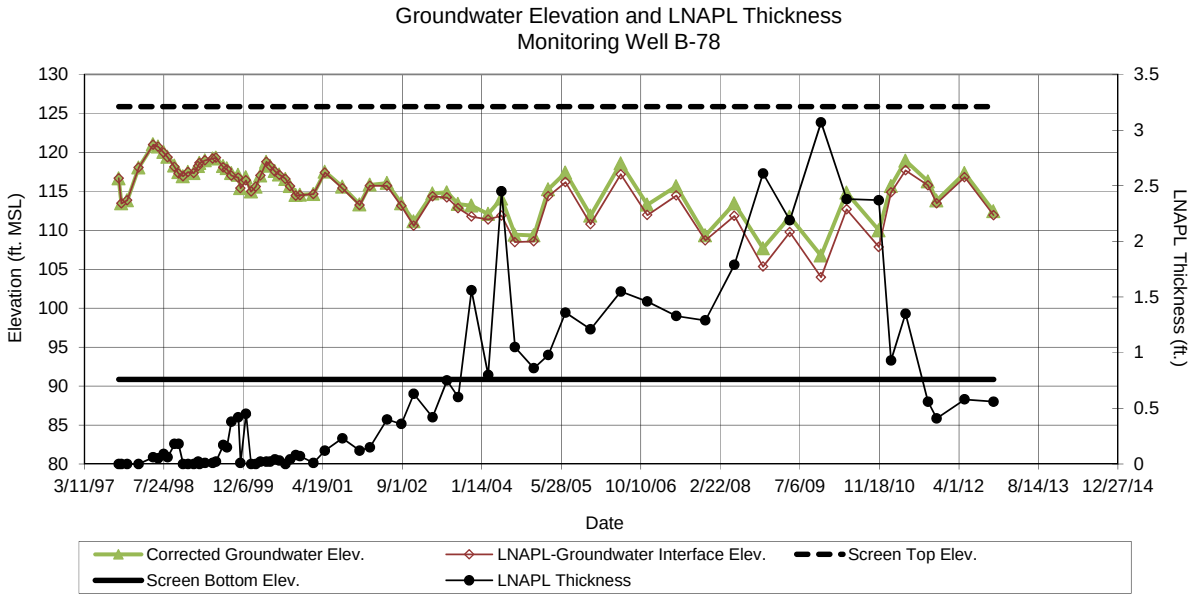
Assumed screened interval elevations = 72.46 to 87.26 feet above mean sea level (MSL)



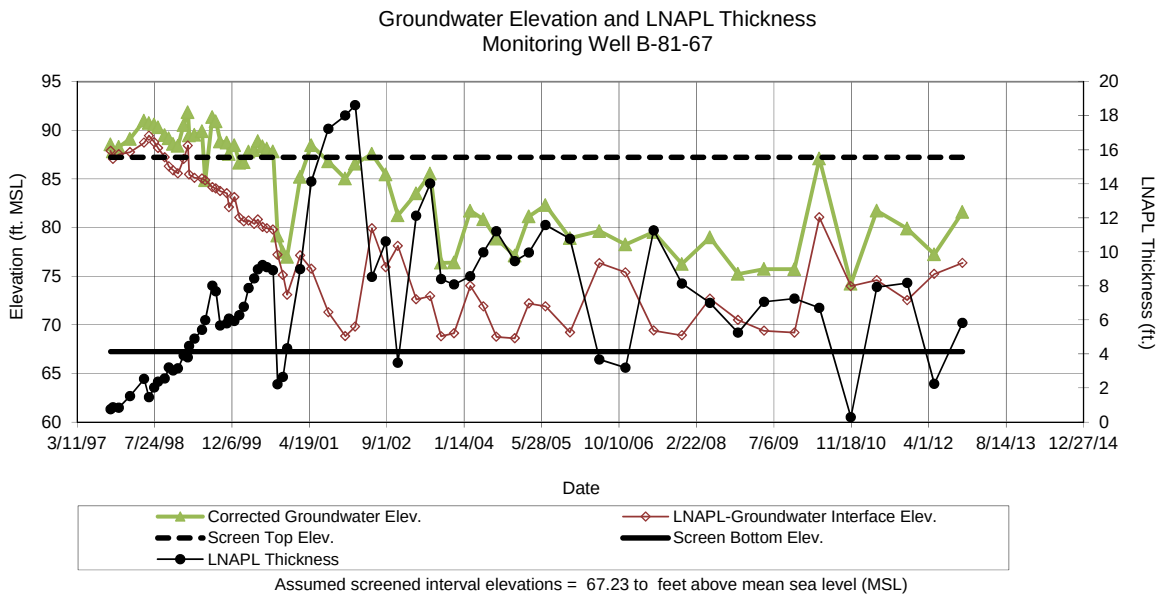
Assumed screened interval elevations = 97.55 to 112.55 feet above mean sea level (MSL)



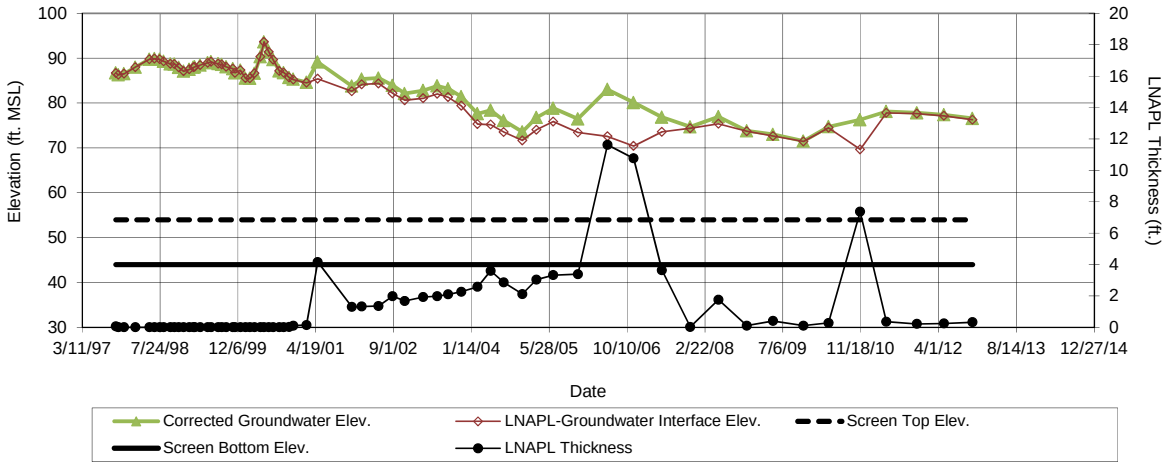
Assumed screened interval elevations = 94.60 to 104.60 feet above mean sea level (MSL)



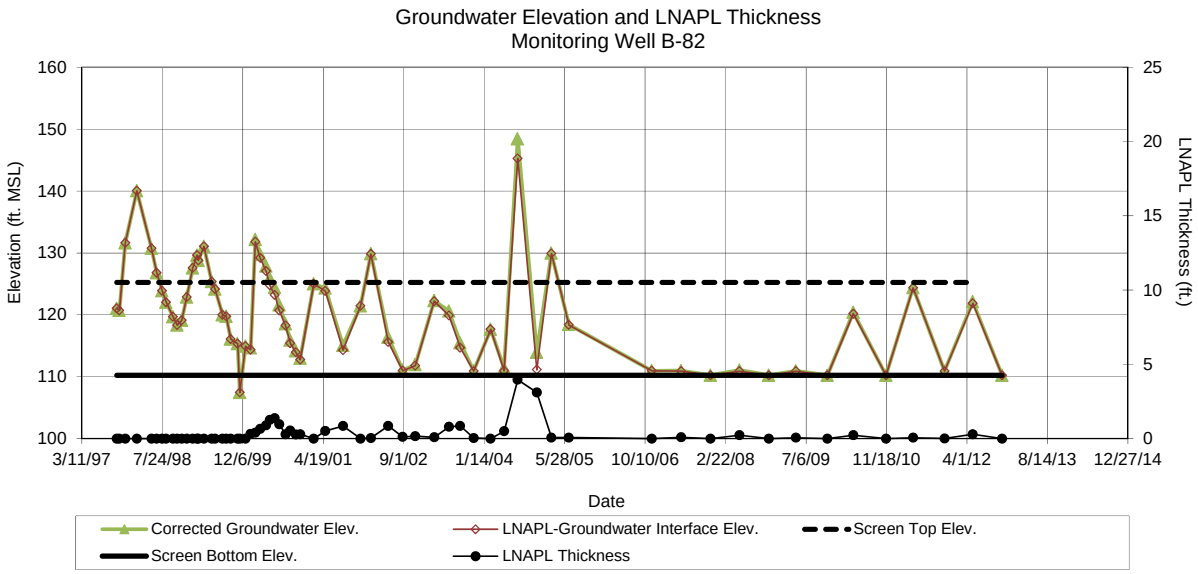
Assumed screened interval elevations = 90.88 to 125.88 feet above mean sea level (MSL)



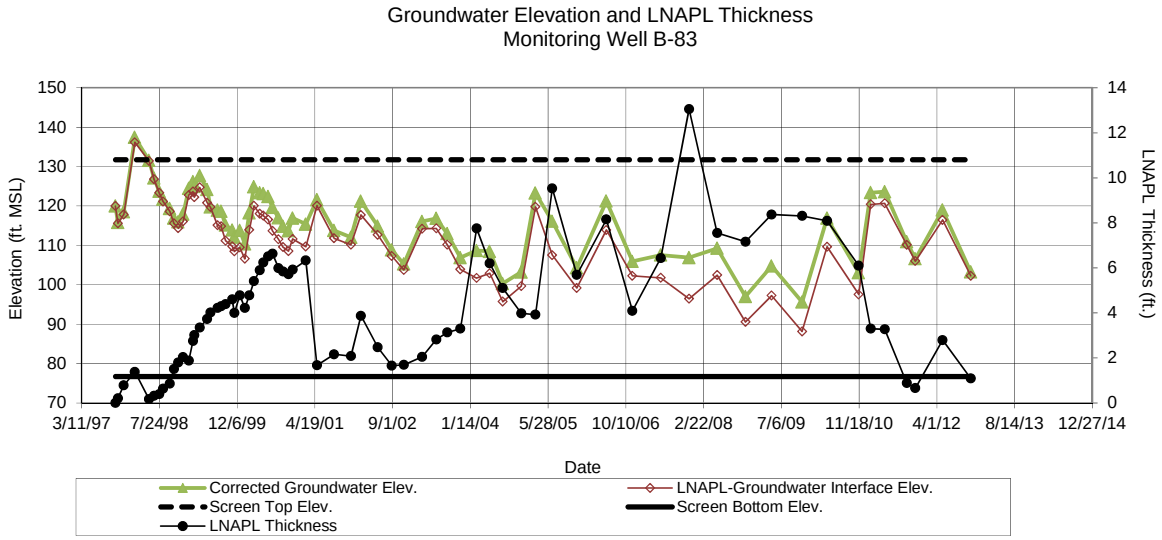
Assumed screened interval elevations = 67.23 to feet above mean sea level (MSL)



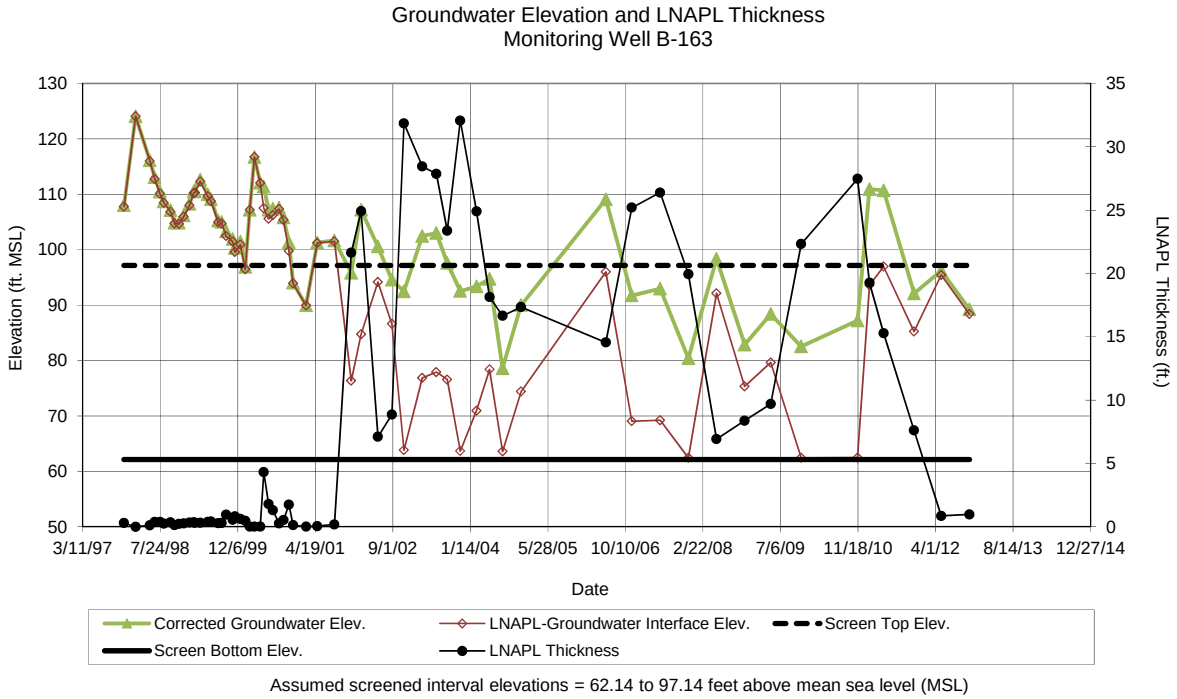
Assumed screened interval elevations = 43.96 to 53.96 feet above mean sea level (MSL)



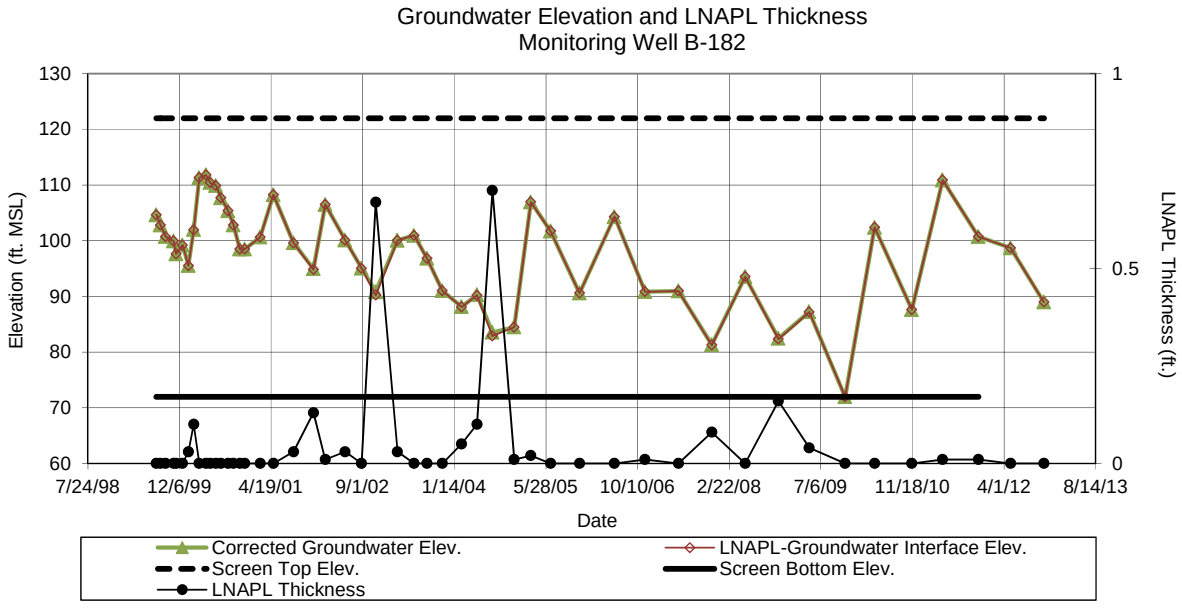
Assumed screened interval elevations = 110.24 to 125.24 feet above mean sea level (MSL)



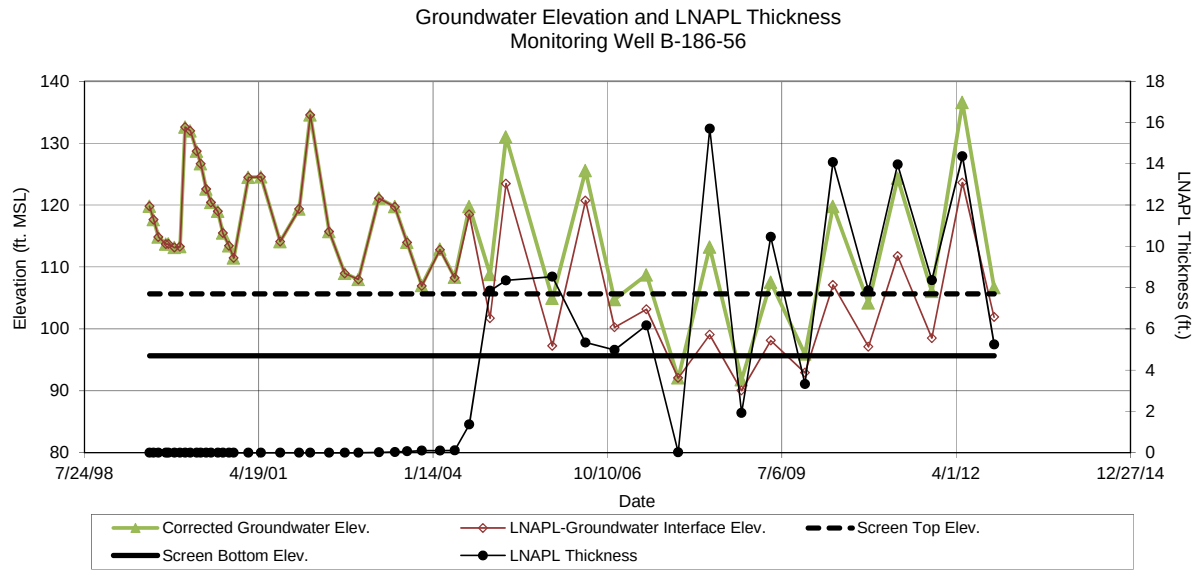
Assumed screened interval elevations = 76.70 to 131.70 feet above mean sea level (MSL)



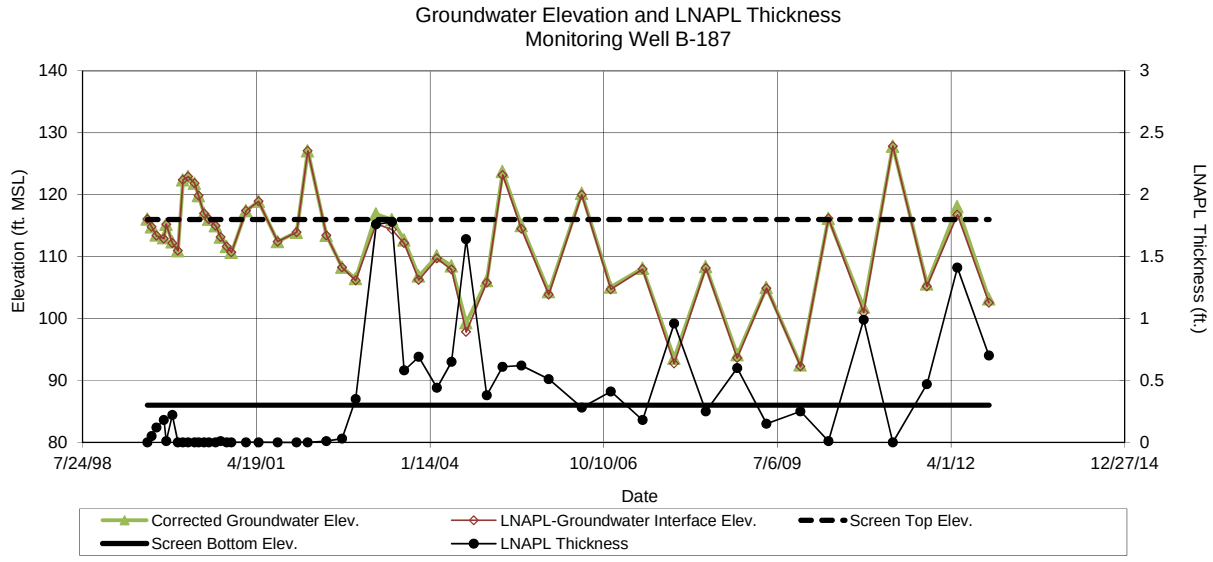
Assumed screened interval elevations = 62.14 to 97.14 feet above mean sea level (MSL)



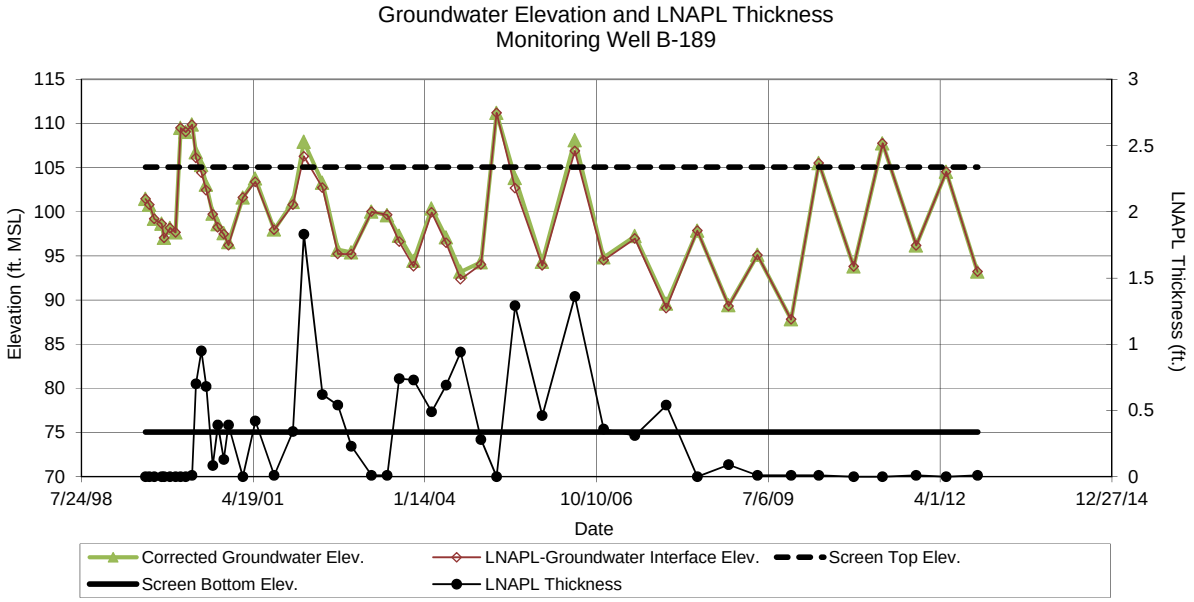
Assumed screened interval elevations = 71.94 to 121.94 feet above mean sea level



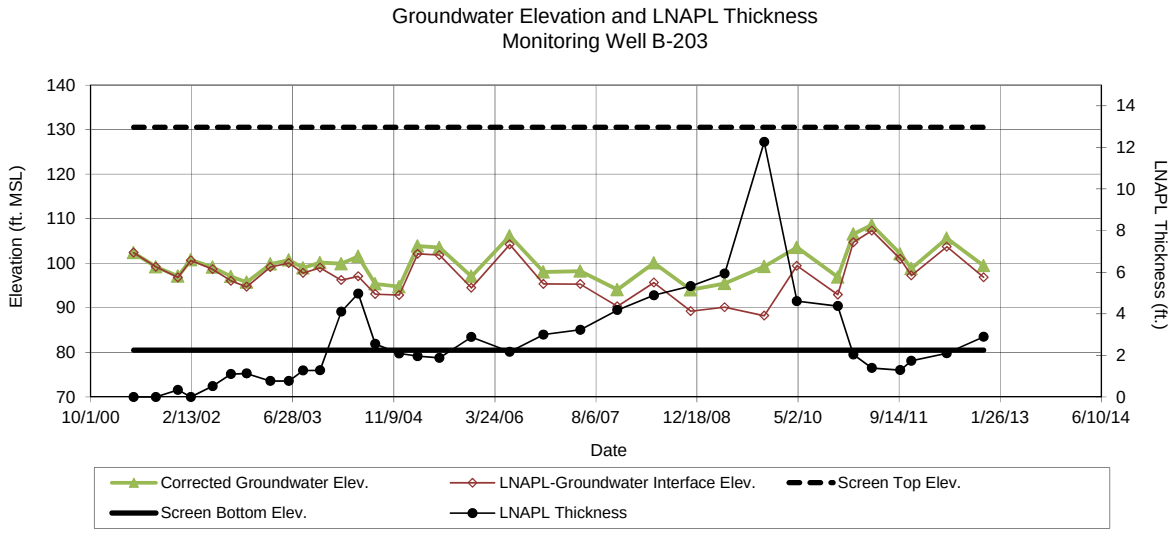
Assumed screened interval elevations = 95.67 to 105.67 feet above mean sea level (MSL)



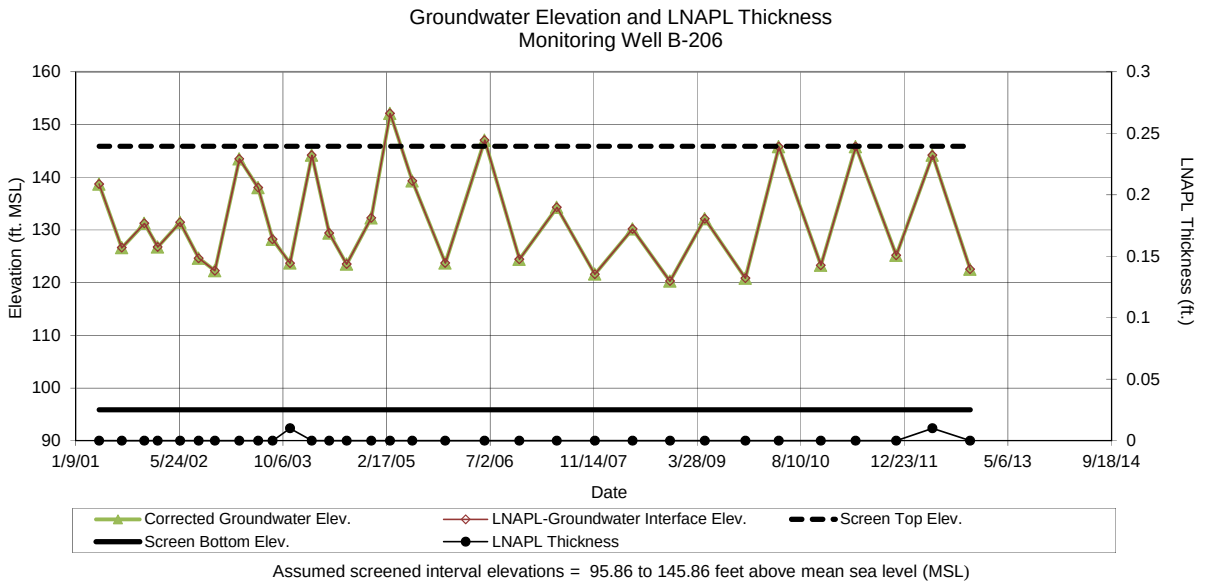
Assumed screened interval elevations = 86.00 to 116.00 feet above mean sea level (MSL)



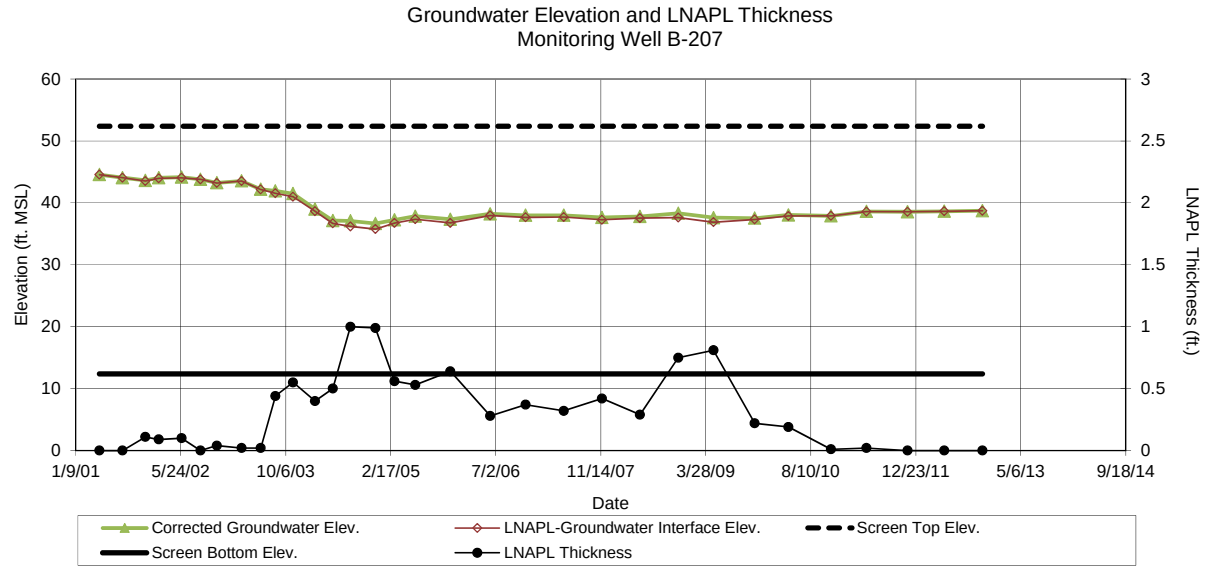
Assumed screened interval elevations = 75.06 to 105.06 feet above mean sea level (MSL)



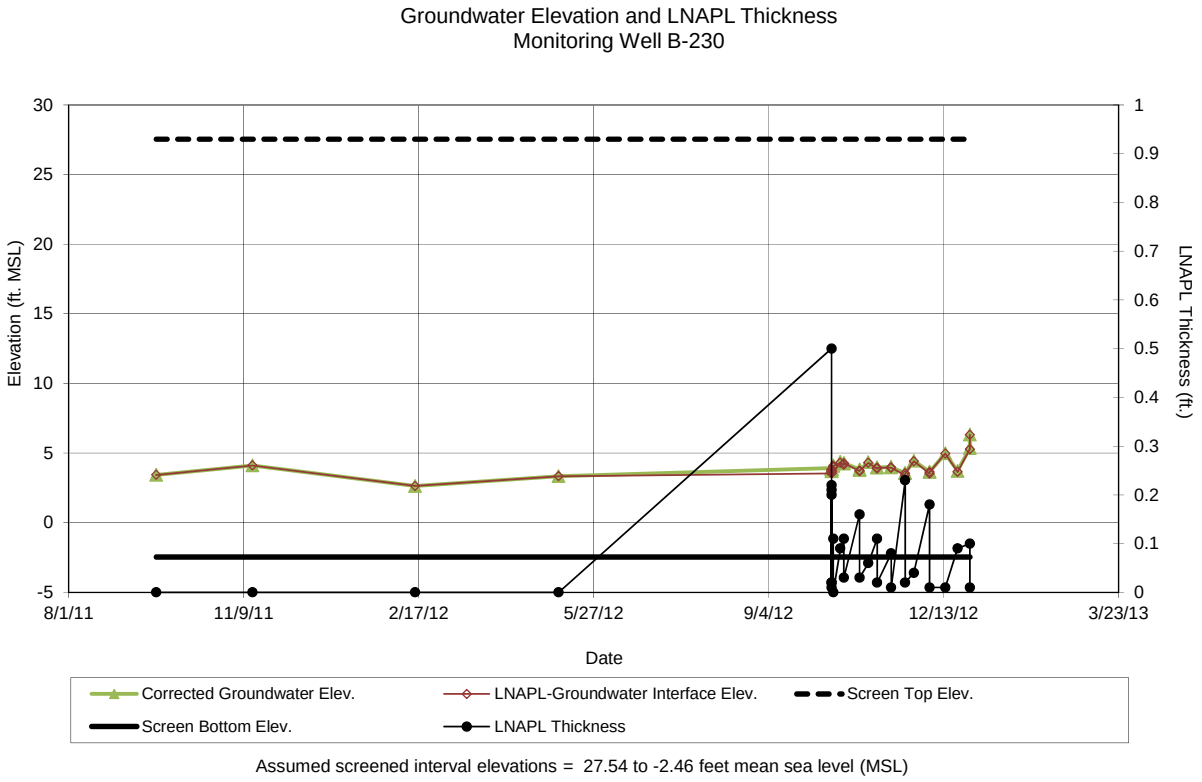
Assumed screened interval elevations = 80.52 to 130.52 feet above mean sea level (MSL)



Assumed screened interval elevations = 95.86 to 145.86 feet above mean sea level (MSL)



Assumed screened interval elevations = 12.38 to 52.38 feet above mean sea level (MSL)



Assumed screened interval elevations = 27.54 to -2.46 feet mean sea level (MSL)

Table 1
Summary of Soil Sample Analytical Results - Land Farming Bench-Scale Study
Total Petroleum Hydrocarbons
Former Unocal Avila Terminal
10 San Rafael Street, Avila Beach, California

Sample ID	Test Trench ID / Location	Sample Depth (feet)	Date Collected	TPH C4 - C10	TPH C10 - C25	TPH C25 - C40	Sum of TPH C4 - C40 (1)
T1A-1'	T1 / Refinery	1	10/31/2011	<0.49	**24**	**180**	**204**
T1A-2'	T1 / Refinery	2	10/31/2011	<0.5	**11**	**38 J**	**11**
T1A-3'	T1 / Refinery	3	10/31/2011	<0.49	**9.6 J**	<50	<60.49
T1A-4'	T1 / Refinery	4	10/31/2011	<0.5	<10	<50	<60.5
T1A-5'	T1 / Refinery	5	10/31/2011	<0.5	<10	<50	<60.5
T1A-6'	T1 / Refinery	6	10/31/2011	<0.49	<10	<50	<60.49
T1B-1'	T1 / Refinery	1	10/31/2011	<0.5	**41**	**370**	**411**
T1B-2'	T1 / Refinery	2	10/31/2011	<0.49	**69**	**350**	**419**
T1B-3'	T1 / Refinery	3	10/31/2011	<0.5	**13**	**78**	**91**
T1B-4'	T1 / Refinery	4	10/31/2011	<0.5	<10	<50	<60.5
T1B-5'	T1 / Refinery	5	10/31/2011	<0.5	<10	**16 J**	<60.5
T1B-6'	T1 / Refinery	6	10/31/2011	<0.49	**69**	**73**	**142**
T1C-1'	T1 / Refinery	1	10/31/2011	<0.5	**170**	**1700**	**1870**
T1C-2'	T1 / Refinery	2	10/31/2011	<0.49	**17**	**62**	**79**
T1C-3'	T1 / Refinery	3	10/31/2011	<0.5	**24**	**140**	**164**
T1C-4'	T1 / Refinery	4	10/31/2011	<0.5	<10	**30 J**	<60.5
T1C-5'	T1 / Refinery	5	10/31/2011	<0.5	<10	**20 J**	<60.5
T1C-6'	T1 / Refinery	6	10/31/2011	<0.5	**22**	**21 J**	**22**
T2A-1'	T2 / E. Pipeline Corr.	1	11/1/2011	<0.51	**150**	**1000**	**1150**
T2A-2'	T2 / E. Pipeline Corr.	2	11/1/2011	<0.5	**1500**	**7400**	**8900**
T2A-3'	T2 / E. Pipeline Corr.	3	11/1/2011	<0.51	**3100**	**6500**	**9600**
T2A-4'	T2 / E. Pipeline Corr.	4	11/1/2011	**4.4**	**8600**	**6500**	**15104.4**
T2A-5'	T2 / E. Pipeline Corr.	5	11/1/2011	**81**	**7700**	**5500**	**13281**
T2A-6'	T2 / E. Pipeline Corr.	6	11/1/2011	**2.2**	**170**	**110**	**282.2**
T2B-1'	T2 / E. Pipeline Corr.	1	11/1/2011	<0.49	**150**	**800**	**950**
T2B-2'	T2 / E. Pipeline Corr.	2	11/1/2011	<0.5	**420**	**1500**	**1920**
T2B-3'	T2 / E. Pipeline Corr.	3	11/1/2011	**1.8**	**7000**	**8500**	**15501.8**
T2B-4'	T2 / E. Pipeline Corr.	4	11/1/2011	<0.5	**580**	**870**	**1450**
T2B-5'	T2 / E. Pipeline Corr.	5	11/1/2011	**32**	**850**	**840**	**1722**
T2B-6'	T2 / E. Pipeline Corr.	6	11/1/2011	**2.7**	**590**	**280**	**872.7**
T2C-1'	T2 / E. Pipeline Corr.	1	11/1/2011	<0.48	**510**	**2300**	**2810**
T2C-2'	T2 / E. Pipeline Corr.	2	11/1/2011	<0.49	**650**	**3000**	**3650**
T2C-3'	T2 / E. Pipeline Corr.	3	11/1/2011	**1000**	**16000**	**8600**	**25600**
T2C-4'	T2 / E. Pipeline Corr.	4	11/1/2011	**210**	**4400**	**1700**	**6310**
T2C-5'	T2 / E. Pipeline Corr.	5	11/1/2011	**35**	**490**	**160**	**685**
T2C-6'	T2 / E. Pipeline Corr.	6	11/1/2011	**83**	**1600**	**470**	**2153**
T3A-1'	T3 / Pump House	1	11/2/2011	**11**	**9800**	**11000**	**20811**
T3A-2'	T3 / Pump House	2	11/2/2011	**2.5**	**1100**	**2100**	**3202.5**
T3A-3'	T3 / Pump House	3	11/2/2011	**2.9**	**120**	**130**	**252.9**
T3A-4'	T3 / Pump House	4	11/2/2011	**140**	**3500**	**1600**	**5240**
T3A-5'	T3 / Pump House	5	11/2/2011	**940**	**11000**	**3500**	**15440**
T3A-6'	T3 / Pump House	6	11/2/2011	**900**	**8500**	**2700**	**12100**
T3B-1'	T3 / Pump House	1	11/2/2011	**46**	**9000**	**11000**	**20046**
T3B-2'	T3 / Pump House	2	11/2/2011	**1.4**	**520**	**1100**	**1621.4**
T3B-3'	T3 / Pump House	3	11/2/2011	**0.74**	**51**	**41 J**	**51.74**
T3B-4'	T3 / Pump House	4	11/2/2011	**200**	**940**	**390**	**1530**
T3B-5'	T3 / Pump House	5	11/2/2011	**910**	**19000**	**6500**	**26410**
T3B-6'	T3 / Pump House	6	11/2/2011	**810**	**7000**	**2300**	**10110**
T3C-1'	T3 / Pump House	1	11/2/2011	**2.3**	**9800**	**11000**	**20802.3**
T3C-2'	T3 / Pump House	2	11/2/2011	**2.6**	**7000**	**8600**	**15602.6**
T3C-3'	T3 / Pump House	3	11/2/2011	**3.7**	**1200**	**430**	**1633.7**
T3C-4'	T3 / Pump House	4	11/2/2011	**640**	**2600**	**1400**	**4640**
T3C-5'	T3 / Pump House	5	11/2/2011	**880**	**13000**	**5400**	**19280**
T3C-6'	T3 / Pump House	6	11/2/2011	**180**	**3600**	**1500**	**5280**

Notes:
All results in milligrams per kilogram (mg/kg)
<10 = not indicated at or above the method reporting limit
TPH = total petroleum hydrocarbons
(1) = TPH sum does not include J flag results
J = Estimated value; results are less than the reporting limit and above the detection limit.

Table 2
Summary of Soil Sample Analytical Results - Land Farming Bench-Scale Study
Metals, VOCs, SVOCs, PCBs and Pesticides
Former Unocal Avila Terminal
10 San Rafael Street, Avila Beach, California

Analytes	T2C-4	T2C-6	T3A-2	T3B-6
4,4'-DDE	<0.003	<0.003	<0.015	<0.015
4,4'-DDT	<0.003	<0.003	<0.015	<0.015
4,6-Dinitro-2-methylphenol	<1	<1	<1	<1
4-Bromophenyl phenyl ether	<1	<1	<1	<1
4-Chloro-3-methylphenol	<1	<1	<1	<1
4-Chloroaniline	<1	<1	<1	<1
4-Chlorophenyl phenyl ether	<1	<1	<1	<1
4-Chlorotoluene	<0.023	<0.025	<0.0048	<0.024
4-Nitroaniline	<2.5	<2.5	<2.5	<2.5
4-Nitrophenol	<1	<1	<1	<1
Acenaphthene	**0.17**	**0.096**	<0.05	**0.75**
Acenaphthylene	**0.087**	**0.06**	<0.05	**0.35**
Aldrin	<0.003	<0.003	<0.015	<0.015
alpha-BHC	<0.003	<0.003	<0.015	<0.015
alpha-Chlordane	<0.003	<0.003	<0.015	<0.015
Aniline	<1	<1	<1	<1
Anthracene	<0.05	<0.05	<0.05	<0.05
Antimony	<4.9	<4.5	<4.4	<4.7
Aroclor 1016	<0.02	<0.02	<0.1	<0.1
Aroclor 1221	<0.02	<0.02	<0.1	<0.1
Aroclor 1232	<0.02	<0.02	<0.1	<0.1
Aroclor 1242	<0.02	<0.02	<0.1	<0.1
Aroclor 1248	<0.02	<0.02	<0.1	<0.1
Aroclor 1254	<0.02	<0.02	<0.1	<0.1
Aroclor 1260	<0.02	<0.02	<0.1	<0.1
Arsenic	**2.9**	**4.3**	**5.3**	**1.9**
Azobenzene	<1	<1	<1	<1
Barium	**48**	**52**	**48**	**42**
Benzene	**0.0097**	**0.0064**	**0.0064**	**0.082**
Benzo(a)anthracene	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	**0.03**	<0.05	**0.08**	**0.063**
Benzo(b)fluoranthene	<0.05	<0.05	**0.04**	<0.05
Benzo(g,h,i)perylene	<0.1	<0.1	**0.06**	<0.1
Benzo(k)fluoranthene	<0.05	<0.05	<0.05	<0.05
Benzoic acid	<1	<1	<1	<1
Benzyl alcohol	<1	<1	<1	<1
Beryllium	<0.99	<0.9	<0.88	<0.94
beta-BHC	<0.003	<0.003	<0.015	<0.015
Bis(2-chloroethoxy)methane	<1	<1	<1	<1

Table 2
Summary of Soil Sample Analytical Results - Land Farming Bench-Scale Study
Metals, VOCs, SVOCs, PCBs and Pesticides
Former Unocal Avila Terminal
10 San Rafael Street, Avila Beach, California

Analytes	T2C-4	T2C-6	T3A-2	T3B-6
Bis(2-chloroethyl)ether	<1	<1	<1	<1
Bis(2-chloroisopropyl)ether	<1	<1	<1	<1
Bis(2-ethylhexyl)phthalate	<1	<1	<1	<1
Bromobenzene	<0.023	<0.025	<0.0048	<0.024
Bromochloromethane	<0.023	<0.025	<0.0048	<0.024
Bromodichloromethane	<0.023	<0.025	<0.0048	<0.024
Bromoform	<0.023	<0.025	<0.0048	<0.024
Bromomethane	<0.023	<0.025	<0.0048	<0.024
Butyl benzyl phthalate	<1	<1	<1	<1
Cadmium	**0.63**	**0.86**	**0.78**	**0.32**
Carbazole	<1	<1	<1	<1
Carbon tetrachloride	<0.023	<0.025	<0.0048	<0.024
Chlorobenzene	<0.023	<0.025	<0.0048	<0.024
Chloroethane	<0.023	<0.025	<0.0048	<0.024
Chloroform	<0.023	<0.025	<0.0048	<0.024
Chloromethane	<0.023	<0.025	<0.0048	<0.024
Chromium	**41**	**47**	**33**	**23**
Chrysene	0.083	0.03	0.083	0.27
cis-1,2-Dichloroethene	<0.023	<0.025	<0.0048	<0.024
cis-1,3-Dichloropropene	<0.023	<0.025	<0.0048	<0.024
Cobalt	**2.4**	**2.7**	**3.5**	**1.5**
Copper	**4.6**	**5**	**11**	**3.8**
Cyanide, reactive	<0.5	<0.5	<0.5	<0.5
delta-BHC	<0.003	<0.003	<0.015	<0.015
Dibenz(a,h)anthracene	<0.1	<0.1	<0.1	<0.1
Dibenzofuran	<1	<1	<1	<1
Dibromochloromethane	<0.023	<0.025	<0.0048	<0.024
Dibromomethane	<0.023	<0.025	<0.0048	<0.024
Dichlorodifluoromethane	<0.023	<0.025	<0.0048	<0.024
Dieldrin	<0.003	<0.003	<0.015	<0.015
Diethyl phthalate	<1	<1	<1	<1
Dimethyl phthalate	<1	<1	<1	<1
Di-n-butyl phthalate	<1	<1	<1	<1
Di-n-octyl phthalate	<1	<1	<1	<1
Endosulfan I	<0.003	<0.003	<0.015	<0.015
Endosulfan II	<0.003	<0.003	<0.015	<0.015
Endosulfan sulfate	<0.003	<0.003	<0.015	<0.015
Endrin	<0.003	<0.003	<0.015	<0.015
Endrin aldehyde	0.0023	<0.003	<0.015	<0.015

Table 2
Summary of Soil Sample Analytical Results - Land Farming Bench-Scale Study
Metals, VOCs, SVOCs, PCBs and Pesticides
Former Unocal Avila Terminal
10 San Rafael Street, Avila Beach, California

Analytes	T2C-4	T2C-6	T3A-2	T3B-6
1,1,1,2-Tetrachloroethane	<0.023	<0.025	<0.0048	<0.024
1,1,1-Trichloroethane	<0.023	<0.025	<0.0048	<0.024
1,1,2,2-Tetrachloroethane	<0.023	<0.025	<0.0048	<0.024
1,1,2-Trichloroethane	<0.023	<0.025	<0.0048	<0.024
1,1-Dichloroethane	<0.023	<0.025	<0.0048	<0.024
1,1-Dichloroethene	<0.023	<0.025	<0.0048	<0.024
1,1-Dichloropropene	<0.023	<0.025	<0.0048	<0.024
1,2,3-Trichlorobenzene	<0.023	<0.025	<0.0048	<0.024
1,2,3-Trichloropropane	<0.023	<0.025	<0.0048	<0.024
1,2,4-Trichlorobenzene	<0.023	<0.025	<0.0048	<0.024
1,2,4-Trimethylbenzene	**4.3**	**0.99**	**0.0048**	<0.024
1,2-Dibromo-3-chloropropane	<0.023	<0.025	<0.0048	<0.024
1,2-Dibromoethane	<0.023	<0.025	<0.0048	<0.024
1,2-Dichlorobenzene	<0.023	<0.025	<0.0048	<0.024
1,2-Dichloroethane	<0.023	<0.025	<0.0048	<0.024
1,2-Dichloropropane	<0.023	<0.025	<0.0048	<0.024
1,3,5-Trimethylbenzene	**0.38**	**0.28**	**0.002**	<0.024
1,3-Dichlorobenzene	<0.023	<0.025	<0.0048	<0.024
1,3-Dichloropropane	<0.023	<0.025	<0.0048	<0.024
1,4-Dichlorobenzene	<0.023	<0.025	<0.0048	<0.024
2,2-Dichloropropane	<0.023	<0.025	<0.0048	<0.024
2,4,5-Trichlorophenol	<1	<1	<1	<1
2,4,6-Trichlorophenol	<1	<1	<1	<1
2,4-Dichlorophenol	<1	<1	<1	<1
2,4-Dimethylphenol	<1	<1	<1	<1
2,4-Dinitrophenol	<1	<1	<1	<1
2,4-Dinitrotoluene	<1	<1	<1	**0.64**
2,6-Dinitrotoluene	<1	<1	<1	<1
2-Chloronaphthalene	<1	<1	<1	<1
2-Chlorophenol	<1	<1	<1	<1
2-Chlorotoluene	<0.023	<0.025	<0.0048	<0.024
2-Methylnaphthalene	**8.4**	**3.5**	<1	**15**
2-Methylphenol	<1	<1	<1	<1
2-Nitroaniline	<1	<1	<1	<1
2-Nitrophenol	<1	<1	<1	<1
3,3-Dichlorobenzidine	<5	<5	<5	<5
3/4-Methylphenol	<1	<1	<1	<1
3-Nitroaniline	<1	<1	<1	<1
4,4'-DDD	<0.003	<0.003	<0.015	<0.015

Table 2
Summary of Soil Sample Analytical Results - Land Farming Bench-Scale Study
Metals, VOCs, SVOCs, PCBs and Pesticides
Former Unocal Avila Terminal
10 San Rafael Street, Avila Beach, California

Analytes	T2C-4	T2C-6	T3A-2	T3B-6
Endrin ketone	<0.003	<0.003	<0.015	<0.015
Ethylbenzene	**0.36**	**0.18**	**0.0032**	<0.024
Fluoranthene	**0.033**	<0.05	**0.037**	**0.053**
Fluorene	**0.73**	**0.24**	**0.03**	**2.3**
gamma-BHC	<0.003	<0.003	<0.015	<0.015
gamma-Chlordane	<0.003	<0.003	<0.015	<0.015
Heptachlor	<0.003	<0.003	<0.015	<0.015
Heptachlor epoxide	<0.003	<0.003	<0.015	<0.015
Hexachlorobenzene	<1	<1	<1	<1
Hexachlorobutadiene	<0.023	<0.025	<0.0048	<0.024
Hexachlorocyclopentadiene	<1	<1	<1	<1
Hexachloroethane	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	<0.05	<0.05	<0.05	<0.05
Isophorone	<1	<1	<1	<1
Isopropylbenzene	**0.2**	**0.13**	**0.018**	**0.18**
Lead	**5.2**	**6.8**	**13**	**4.1**
Mercury	**0.013**	**0.012**	**0.089**	<0.088
Methoxychlor	<0.003	<0.003	<0.015	<0.015
Methyl tert-butyl ether	<0.023	0.005	<0.0048	<0.024
Methylene Chloride	**0.004**	**0.0048**	<0.0048	**0.006**
Molybdenum	<0.99	<0.9	<0.88	<0.94
Naphthalene	**2.4**	**0.75**	**0.15**	**0.65**
n-Butylbenzene	**0.15**	**0.11**	<0.0048	0.13
Nickel	**13**	**18**	**23**	**7.8**
Nitrobenzene	<1	<1	<1	<1
n-Nitrosodimethylamine	<1	<1	<1	<1
N-Nitrosodi-n-propylamine	<1	<1	<1	<1
n-Nitrosodiphenylamine	<1	<1	<1	<1
n-Propylbenzene	**0.22**	**0.14**	**0.012**	<0.024
Pentachlorophenol	<1	<1	<1	<1
Phenanthrene	**1.2**	**0.52**	**0.087**	**4.5**
Phenol	<1	<1	<1	<1
p-Isopropyltoluene	**0.14**	**0.1**	**0.0044**	<0.024
Pyrene	**0.11**	**0.037**	**0.067**	**0.35**
Pyridine	<1	<1	<1	<1
sec-Butylbenzene	**0.11**	**0.073**	**0.0025**	**0.2**
Selenium	<2	<1.8	<1.8	<1.9
Silver	<2	<1.8	<1.8	<1.9
Styrene	<0.023	<0.025	<0.0048	<0.024

Table 2
Summary of Soil Sample Analytical Results - Land Farming Bench-Scale Study
Metals, VOCs, SVOCs, PCBs and Pesticides
Former Unocal Avila Terminal
10 San Rafael Street, Avila Beach, California

Analytes	T2C-4	T2C-6	T3A-2	T3B-6
Sulfide, reactive	<2	<2	<2	<2
tert-Butylbenzene	<0.023	<0.025	<0.0048	<0.024
Tetrachloroethene	<0.023	<0.025	<0.0048	<0.024
Thallium	<0.99	<0.9	<0.88	<0.94
Toluene	**0.0084**	**0.0094**	**0.0026**	<0.024
Toxaphene	<0.02	<0.02	<0.1	<0.1
trans-1,2-Dichloroethene	<0.023	<0.025	<0.0048	<0.024
trans-1,3-Dichloropropene	<0.023	<0.025	<0.0048	<0.024
Trichloroethene	<0.023	<0.025	<0.0048	<0.024
Trichlorofluoromethane	<0.023	<0.025	<0.0048	<0.024
Vanadium	**22**	**27**	**24**	**14**
Vinyl chloride	<0.023	<0.025	<0.0048	<0.024
Xylenes (total)	**0.88**	**0.91**	**0.015**	<0.024
Zinc	**19**	**24**	**47**	**8.4**

Notes:
All results in milligrams per kilogram (mg/kg)
<10 = not indicated at or above the method reporting limit

Oilfield Environmental and Compliance, INC.

Louis Cappel
Padre Associates, Inc. - SLO
369 Pacific Street
San Luis Obispo, CA 93401

16 November 2011

RE: Former Unocal Avila Terminal

Work Order: 1105253

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on 02-Nov-11 16:22 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Lisa Race

Laboratory Manager

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T1A-1'	1105253-01	Solid	31-Oct-11 14:45	02-Nov-11 16:22
T1B-1'	1105253-02	Solid	31-Oct-11 14:50	02-Nov-11 16:22
T1C-1'	1105253-03	Solid	31-Oct-11 14:55	02-Nov-11 16:22
T1A-2'	1105253-04	Solid	31-Oct-11 14:56	02-Nov-11 16:22
T1B-2'	1105253-05	Solid	31-Oct-11 14:57	02-Nov-11 16:22
T1C-2'	1105253-06	Solid	31-Oct-11 15:00	02-Nov-11 16:22
T1A-3'	1105253-07	Solid	31-Oct-11 15:17	02-Nov-11 16:22
T1B-3'	1105253-08	Solid	31-Oct-11 15:20	02-Nov-11 16:22
T1C-3'	1105253-09	Solid	31-Oct-11 15:22	02-Nov-11 16:22
T1A-4'	1105253-10	Solid	31-Oct-11 15:25	02-Nov-11 16:22
T1B-4'	1105253-11	Solid	31-Oct-11 15:27	02-Nov-11 16:22
T1C-4'	1105253-12	Solid	31-Oct-11 15:35	02-Nov-11 16:22
T1A-5'	1105253-13	Solid	31-Oct-11 15:40	02-Nov-11 16:22
T1B-5'	1105253-14	Solid	31-Oct-11 15:42	02-Nov-11 16:22
T1C-5'	1105253-15	Solid	31-Oct-11 15:45	02-Nov-11 16:22
T1A-6'	1105253-16	Solid	31-Oct-11 15:50	02-Nov-11 16:22
T1B-6'	1105253-17	Solid	31-Oct-11 15:52	02-Nov-11 16:22
T1C-6'	1105253-18	Solid	31-Oct-11 15:55	02-Nov-11 16:22
T2A-1'	1105253-19	Solid	01-Nov-11 10:25	02-Nov-11 16:22
T2B-1'	1105253-20	Solid	01-Nov-11 10:27	02-Nov-11 16:22
T2C-1'	1105253-21	Solid	01-Nov-11 10:30	02-Nov-11 16:22
T2A-2'	1105253-22	Solid	01-Nov-11 10:40	02-Nov-11 16:22
T2B-2'	1105253-23	Solid	01-Nov-11 10:42	02-Nov-11 16:22
T2C-2'	1105253-24	Solid	01-Nov-11 10:45	02-Nov-11 16:22
T2A-3'	1105253-25	Solid	01-Nov-11 10:55	02-Nov-11 16:22
T2B-3'	1105253-26	Solid	01-Nov-11 11:00	02-Nov-11 16:22

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T2C-3'	1105253-27	Solid	01-Nov-11 11:02	02-Nov-11 16:22
T2A-4'	1105253-28	Solid	01-Nov-11 11:11	02-Nov-11 16:22
T2B-4'	1105253-29	Solid	01-Nov-11 11:15	02-Nov-11 16:22
T2C-4'	1105253-30	Solid	01-Nov-11 11:19	02-Nov-11 16:22
T2A-5'	1105253-31	Solid	01-Nov-11 11:25	02-Nov-11 16:22
T2B-5'	1105253-32	Solid	01-Nov-11 11:30	02-Nov-11 16:22
T2C-5'	1105253-33	Solid	01-Nov-11 11:33	02-Nov-11 16:22
T2A-6'	1105253-34	Solid	01-Nov-11 11:42	02-Nov-11 16:22
T2B-6'	1105253-35	Solid	01-Nov-11 11:48	02-Nov-11 16:22
T2C-6'	1105253-36	Solid	01-Nov-11 11:53	02-Nov-11 16:22
T3A-1'	1105253-37	Solid	02-Nov-11 09:35	02-Nov-11 16:22
T3B-1'	1105253-38	Solid	02-Nov-11 09:37	02-Nov-11 16:22
T3C-1'	1105253-39	Solid	02-Nov-11 09:45	02-Nov-11 16:22
T3A-2'	1105253-40	Solid	02-Nov-11 09:55	02-Nov-11 16:22
T3B-2'	1105253-41	Solid	02-Nov-11 10:03	02-Nov-11 16:22
T3C-2'	1105253-42	Solid	02-Nov-11 10:10	02-Nov-11 16:22
T3A-3'	1105253-43	Solid	02-Nov-11 10:20	02-Nov-11 16:22
T3B-3'	1105253-44	Solid	02-Nov-11 10:25	02-Nov-11 16:22
T3C-3'	1105253-45	Solid	02-Nov-11 10:33	02-Nov-11 16:22
T3A-4'	1105253-46	Solid	02-Nov-11 10:40	02-Nov-11 16:22
T3B-4'	1105253-47	Solid	02-Nov-11 10:45	02-Nov-11 16:22
T3C-4'	1105253-48	Solid	02-Nov-11 10:50	02-Nov-11 16:22
T3A-5'	1105253-49	Solid	02-Nov-11 11:05	02-Nov-11 16:22
T3B-5'	1105253-50	Solid	02-Nov-11 11:08	02-Nov-11 16:22
T3C-5'	1105253-51	Solid	02-Nov-11 11:12	02-Nov-11 16:22
T3A-6'	1105253-52	Solid	02-Nov-11 11:20	02-Nov-11 16:22

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T3B-6'	1105253-53	Solid	02-Nov-11 11:25	02-Nov-11 16:22
T3C-6'	1105253-54	Solid	02-Nov-11 11:30	02-Nov-11 16:22

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T1A-1'

1105253-01 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.098	0.49	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*78.8 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**24**	7.6	10	mg/kg	1	A111064	03-Nov-11	03-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**180**	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*101 %*	*50-150*		"	"	"	"	

T1B-1'

1105253-02 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.099	0.50	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*84.6 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**41**	7.6	10	mg/kg	1	A111064	03-Nov-11	03-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**370**	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*106 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T1C-1'

1105253-03 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.099	0.50	mg/kg	1	A111125	08-Nov-11	09-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*104 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**170**	15	20	mg/kg	2	A111064	03-Nov-11	03-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**1700**	30	100	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*102 %*	*50-150*		"	"	"	"	

T1A-2'

1105253-04 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.099	0.50	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*91.5 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**11**	7.6	10	mg/kg	1	A111064	03-Nov-11	03-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**38**	15	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*100 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T1B-2'

1105253-05 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.098	0.49	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*86.8 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**69**	7.6	10	mg/kg	1	A111064	03-Nov-11	03-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**350**	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*108 %*	*50-150*		"	"	"	"	

T1C-2'

1105253-06 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.098	0.49	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*76.2 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**17**	7.6	10	mg/kg	1	A111064	03-Nov-11	03-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**62**	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*107 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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T1A-3'

1105253-07 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.097	0.49	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*93.2 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**9.6**	7.6	10	mg/kg	1	A111068	03-Nov-11	04-Nov-11	EPA 8015M	J
TPH Motor Oil (C25-C40)	ND	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*99.6 %*	*50-150*		"	"	"	"	

T1B-3'

1105253-08 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.099	0.50	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*87.1 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**13**	7.6	10	mg/kg	1	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**78**	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*91.3 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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T1C-3'

1105253-09 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.10	0.50	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*82.7 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**24**	7.6	10	mg/kg	1	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**140**	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*99.7 %*	*50-150*		"	"	"	"	

T1A-4'

1105253-10 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.10	0.50	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*91.6 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	ND	7.6	10	mg/kg	1	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	ND	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*102 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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T1B-4'

1105253-11 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.099	0.50	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*87.6 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	ND	7.6	10	mg/kg	1	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	ND	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*95.6 %*	*50-150*		"	"	"	"	

T1C-4'

1105253-12 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.10	0.50	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*89.6 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	ND	7.6	10	mg/kg	1	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**30**	15	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*108 %*	*50-150*		"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T1A-5'

1105253-13 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.10	0.50	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*90.4 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	ND	7.6	10	mg/kg	1	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	ND	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*72.6 %*	*50-150*		"	"	"	"	

T1B-5'

1105253-14 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.099	0.50	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*93.6 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	ND	7.6	10	mg/kg	1	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**16**	15	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*92.7 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T1C-5'

1105253-15 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.099	0.50	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*93.1 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	ND	7.6	10	mg/kg	1	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**20**	15	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*97.8 %*	*50-150*		"	"	"	"	

T1A-6'

1105253-16 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.098	0.49	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*91.9 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	ND	7.6	10	mg/kg	1	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	ND	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*77.8 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T1B-6'

1105253-17 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Flashpoint , Closed Cup										
Flashpoint	>212	72	72	°F	1	A111219	11-Nov-11	11-Nov-11	EPA 1010	
Wet Chemistry by EPA or APHA Standard Methods										
pH	**6.26**	0.100	0.200	pH Units	1	A111089	03-Nov-11	03-Nov-11	EPA 9045	HT-pH
Reactives										
Cyanide, reactive	ND	0.167	0.500	mg/kg	1	A111119	07-Nov-11	07-Nov-11	SW846. 7.3	
Sulfide, reactive	ND	0.672	2.00	"	"	"	"	"	SW 846 7.3	
Total Metals by EPA 6000/7000 Series Methods										
Antimony	ND	1.8	4.5	mg/kg	1	A111109	07-Nov-11	08-Nov-11	EPA 6010B	
Arsenic	**5.4**	0.45	0.90	"	"	"	"	"	"	
Barium	**38**	0.18	0.45	"	"	"	"	"	"	
Beryllium	ND	0.45	0.90	"	"	"	"	"	"	
Cadmium	**0.73**	0.18	0.45	"	"	"	"	"	"	
Chromium	**46**	0.18	0.45	"	"	"	"	"	"	
Cobalt	**1.8**	0.18	0.45	"	"	"	"	"	"	
Copper	**3.6**	0.27	0.45	"	"	"	"	"	"	
Lead	**7.4**	0.45	0.90	"	"	"	"	"	"	
Mercury	ND	0.0098	0.091	"	"	A111110	07-Nov-11	07-Nov-11	EPA 7471A	
Molybdenum	ND	0.45	0.90	"	"	A111109	07-Nov-11	08-Nov-11	EPA 6010B	
Nickel	**9.7**	0.18	0.45	"	"	"	"	"	"	
Selenium	ND	0.99	1.8	"	"	"	"	"	"	
Silver	ND	0.27	0.90	"	"	"	"	"	"	
Thallium	ND	0.45	0.90	"	"	"	"	"	"	
Vanadium	**25**	0.90	1.8	"	"	"	"	"	"	
Zinc	**14**	0.31	0.45	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T1B-6'

1105253-17 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C12)	ND	0.098	0.49	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015M	
Surrogate: 4-Bromofluorobenzene			*89.7 %*	*70-130*		"	"	"	"	
TPH Gasoline (C4-C10)	ND	0.098	0.49	"	"	"	"	"	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*89.7 %*	*70-130*		"	"	"	"	
DI WET/STLC/ZHE Volatiles										
TPH Gasoline (C4-C12)	ND	21	50	ug/L	1	A111177	10-Nov-11	10-Nov-11	ZHE-DIWET /EPA 8015M	
Surrogate: 4-Bromofluorobenzene			*125 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**69**	7.6	10	mg/kg	1	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**73**	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*93.5 %*	*50-150*		"	"	"	"	
TPH Diesel (C13-C22)	**45**	7.6	10	"	"	"	"	"	"	
TPH Motor Oil (C23-C40)	**73**	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*93.5 %*	*50-150*		"	"	"	"	
DI WET/STLC Semi-Volatiles										
TPH Diesel (C13-C22)	**0.099**	0.041	0.050	mg/L	1	A111142	08-Nov-11	10-Nov-11	DIWET/EPA 8015M	
TPH Motor Oil (C23-C40)	**0.077**	0.050	0.10	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*94.4 %*	*50-150*		"	"	"	"	
Polychlorinated Biphenyls by EPA Method 8082										
PCB-1016	ND	0.0040	0.020	mg/kg	1	A111097	04-Nov-11	07-Nov-11	EPA 8082	
PCB-1221	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1232	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1242	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1248	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1254	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1260	ND	0.0040	0.020	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl			*82.8 %*	*60-120*		"	"	"	"	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene			*61.5 %*	*60-120*		"	"	"	"	

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T1B-6'

1105253-17 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.00068	0.0049	mg/kg	1	A111152	10-Nov-11	10-Nov-11	EPA 8260B	
Bromobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromochloromethane	ND	0.00098	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.00059	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0017	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00068	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.00088	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0018	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.00049	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0020	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00059	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00039	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.00078	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00029	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00039	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0016	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00078	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00078	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0049	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00098	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00059	0.0049	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.00039	0.0049	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.00088	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00078	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00039	0.0049	"	"	"	"	"	"	
Ethylbenzene	ND	0.00059	0.0049	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"	"	"	"	"	"	

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T1B-6'

1105253-17 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Hexachlorobutadiene	ND	0.00098	0.0049	mg/kg	1	A111152	10-Nov-11	10-Nov-11	EPA 8260B	
Isopropylbenzene	ND	0.00068	0.0049	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.00068	0.0049	"	"	"	"	"	"	
Methylene chloride	**0.00078**	0.00078	0.0049	"	"	"	"	"	"	J
Naphthalene	**0.0071**	0.00078	0.0049	"	"	"	"	"	"	
n-Propylbenzene	ND	0.00078	0.0049	"	"	"	"	"	"	
Styrene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00088	0.0049	"	"	"	"	"	"	
Toluene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.00088	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00088	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00059	0.0049	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00078	0.0049	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0017	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00098	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.00068	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.00078	0.0049	"	"	"	"	"	"	
Vinyl chloride	ND	0.0020	0.0049	"	"	"	"	"	"	
Xylenes (total)	ND	0.0013	0.0049	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00059	0.0049	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*111 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*99.1 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*112 %*	*70-130*		"	"	"	"	

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T1B-6'

1105253-17 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										
Acenaphthene	ND	0.0047	0.0050	mg/kg	1	A111199	11-Nov-11	11-Nov-11	EPA 8270M SIM	
Acenaphthylene	ND	0.0035	0.0050	"	"	"	"	"	"	
Anthracene	ND	0.0042	0.0050	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.0030	0.0050	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.0040	0.0050	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.0030	0.0050	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.0026	0.0050	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.0050	0.010	"	"	"	"	"	"	
Chrysene	ND	0.0030	0.0050	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.0050	0.010	"	"	"	"	"	"	
Fluoranthene	ND	0.0030	0.0050	"	"	"	"	"	"	
Fluorene	**0.0033**	0.0030	0.0050	"	"	"	"	"	"	J
Indeno (1,2,3-cd) pyrene	ND	0.0035	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0050	0.010	"	"	"	"	"	"	
Phenanthrene	**0.012**	0.0047	0.0050	"	"	"	"	"	"	
Pyrene	ND	0.0030	0.0050	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*90.0 %*	*0-191*		"	"	"	"	
Organochlorine Pesticides by EPA Method 8081A										
alpha-BHC	ND	0.0010	0.0030	mg/kg	1	A111097	04-Nov-11	08-Nov-11	EPA 8081A	
alpha-Chlordane	ND	0.0010	0.0030	"	"	"	"	"	"	
Aldrin	ND	0.0010	0.0030	"	"	"	"	"	"	
beta-BHC	ND	0.0010	0.0030	"	"	"	"	"	"	
delta-BHC	ND	0.0010	0.0030	"	"	"	"	"	"	
4,4´-DDD	ND	0.0010	0.0030	"	"	"	"	"	"	
4,4´-DDE	ND	0.0010	0.0030	"	"	"	"	"	"	
4,4´-DDT	ND	0.0010	0.0030	"	"	"	"	"	"	
Dieldrin	ND	0.0010	0.0030	"	"	"	"	"	"	
Endosulfan I	ND	0.0010	0.0030	"	"	"	"	"	"	
Endosulfan II	ND	0.0010	0.0030	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0010	0.0030	"	"	"	"	"	"	
Endrin	ND	0.0010	0.0030	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	0.0030	"	"	"	"	"	"	
Endrin ketone	ND	0.0010	0.0030	"	"	"	"	"	"	
gamma-BHC	ND	0.0010	0.0030	"	"	"	"	"	"	

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Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Organochlorine Pesticides by EPA Method 8081A

gamma-Chlordane	ND	0.0010	0.0030	mg/kg	1	A111097	04-Nov-11	08-Nov-11	EPA 8081A
Heptachlor	ND	0.0010	0.0030	"	"	"	"	"	"
Heptachlor epoxide	ND	0.0010	0.0030	"	"	"	"	"	"
Methoxychlor	ND	0.0010	0.0030	"	"	"	"	"	"
Chlordane (tech)	ND	0.010	0.020	"	"	"	"	"	"
Toxaphene	ND	0.010	0.020	"	"	"	"	"	"
Surrogate: Decachlorobiphenyl			*79.7 %*	*50-150*		"	"	"	"
Surrogate: 2,4,5,6 Tetrachloro-m-xylene			*74.2 %*	*50-150*		"	"	"	"

Semivolatile Organic Compounds by EPA Method 8270C

Acenaphthene	ND	0.050	0.099	mg/kg	1	A111123	08-Nov-11	08-Nov-11	EPA 8270C
Acenaphthylene	ND	0.050	0.099	"	"	"	"	"	"
Aniline	ND	0.050	0.099	"	"	"	"	"	"
Anthracene	ND	0.050	0.099	"	"	"	"	"	"
Azobenzene	ND	0.050	0.099	"	"	"	"	"	"
Benz(a)anthracene	ND	0.050	0.099	"	"	"	"	"	"
Benzo (b) fluoranthene	ND	0.050	0.099	"	"	"	"	"	"
Benzo (k) fluoranthene	ND	0.050	0.099	"	"	"	"	"	"
Benzo (a) pyrene	ND	0.050	0.099	"	"	"	"	"	"
Benzo (g,h,i) perylene	ND	0.050	0.099	"	"	"	"	"	"
Benzoic acid	ND	0.050	0.099	"	"	"	"	"	"
Benzyl alcohol	ND	0.050	0.099	"	"	"	"	"	"
Bis(2-chloroethoxy)methane	ND	0.050	0.099	"	"	"	"	"	"
Bis(2-chloroethyl)ether	ND	0.050	0.099	"	"	"	"	"	"
Bis(2-chloroisopropyl) ether	ND	0.050	0.099	"	"	"	"	"	"
Bis(2-ethylhexyl) phthalate	ND	0.050	0.099	"	"	"	"	"	"
4-Bromophenyl phenyl ether	ND	0.050	0.099	"	"	"	"	"	"
Butyl benzyl phthalate	ND	0.050	0.099	"	"	"	"	"	"
4-Chloroaniline	ND	0.050	0.099	"	"	"	"	"	"
2-Chloronaphthalene	ND	0.050	0.099	"	"	"	"	"	"
4-Chlorophenyl phenyl ether	ND	0.050	0.099	"	"	"	"	"	"
Chrysene	ND	0.050	0.099	"	"	"	"	"	"
Dibenz (a,h) anthracene	ND	0.050	0.099	"	"	"	"	"	"
Dibenzofuran	ND	0.050	0.099	"	"	"	"	"	"
Di-n-butyl phthalate	ND	0.050	0.099	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.050	0.099	"	"	"	"	"	"

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T1B-6'

1105253-17 (Solid)

Oilfield Environmental and Compliance

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,3-Dichlorobenzene	ND	0.050	0.099	mg/kg	1	A111123	08-Nov-11	08-Nov-11	EPA 8270C	
1,4-Dichlorobenzene	ND	0.050	0.099	"	"	"	"	"	"	
3,3'-Dichlorobenzidine	ND	0.20	0.50	"	"	"	"	"	"	
Diethyl phthalate	ND	0.050	0.099	"	"	"	"	"	"	
Dimethyl phthalate	ND	0.050	0.099	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	0.060	0.099	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	0.050	0.099	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	0.050	0.099	"	"	"	"	"	"	
Fluoranthene	ND	0.050	0.099	"	"	"	"	"	"	
Fluorene	ND	0.050	0.099	"	"	"	"	"	"	
Hexachlorobenzene	ND	0.050	0.099	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.050	0.099	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.050	0.099	"	"	"	"	"	"	
Hexachloroethane	ND	0.050	0.099	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.050	0.099	"	"	"	"	"	"	
Isophorone	ND	0.050	0.099	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.050	0.099	"	"	"	"	"	"	
Naphthalene	ND	0.050	0.099	"	"	"	"	"	"	
2-Nitroaniline	ND	0.050	0.099	"	"	"	"	"	"	
3-Nitroaniline	ND	0.050	0.099	"	"	"	"	"	"	
4-Nitroaniline	ND	0.050	0.25	"	"	"	"	"	"	
Nitrobenzene	ND	0.050	0.099	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	0.050	0.099	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	0.050	0.099	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.050	0.099	"	"	"	"	"	"	
Phenanthrene	ND	0.050	0.099	"	"	"	"	"	"	
Pyrene	ND	0.050	0.099	"	"	"	"	"	"	
Carbazole	ND	0.050	0.099	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.050	0.099	"	"	"	"	"	"	
4-Chloro-3-methylphenol (Parachlorometa cresol)	ND	0.050	0.099	"	"	"	"	"	"	
2-Chlorophenol	ND	0.050	0.099	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	0.050	0.099	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	0.050	0.099	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	0.050	0.099	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	0.050	0.099	"	"	"	"	"	"	

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T1B-6'

1105253-17 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Semivolatile Organic Compounds by EPA Method 8270C

2-Methylphenol	ND	0.050	0.099	mg/kg	1	A111123	08-Nov-11	08-Nov-11	EPA 8270C	
3 & 4-Methylphenol	ND	0.050	0.099	"	"	"	"	"	"	
2-Nitrophenol	ND	0.050	0.099	"	"	"	"	"	"	
4-Nitrophenol	ND	0.050	0.099	"	"	"	"	"	"	
Pentachlorophenol	ND	0.050	0.099	"	"	"	"	"	"	
Phenol	ND	0.050	0.099	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	0.050	0.099	"	"	"	"	"	"	
Pyridine	ND	0.050	0.099	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	0.050	0.099	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol			*76.0 %*	*4-109*		"	"	"	"	
Surrogate: Phenol-d5			*85.3 %*	*0-116*		"	"	"	"	
Surrogate: Nitrobenzene-d5			*83.5 %*	*2-132*		"	"	"	"	
Surrogate: 2-Fluorobiphenyl			*92.2 %*	*18-123*		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol			*88.2 %*	*2-126*		"	"	"	"	
Surrogate: p-Terphenyl-d14			*105 %*	*0-164*		"	"	"	"	

T1C-6'

1105253-18 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TVPH by GC FID

TPH Gasoline (C4-C10)	ND	0.099	0.50	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*95.7 %*	*70-130*		"	"	"	"	

TEPH by GC FID

TPH Diesel (C10-C25)	**22**	7.6	10	mg/kg	1	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**21**	15	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*75.4 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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T2A-1'

1105253-19 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.10	0.51	mg/kg	1	A111071	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*89.1 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**150**	7.6	10	mg/kg	1	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**1000**	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*84.3 %*	*50-150*		"	"	"	"	

T2B-1'

1105253-20 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.099	0.49	mg/kg	1	A111071	04-Nov-11	08-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*90.0 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**150**	15	20	mg/kg	2	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**800**	30	100	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*70.1 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
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T2C-1'

1105253-21 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.097	0.48	mg/kg	1	A111073	04-Nov-11	08-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*90.3 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**510**	38	50	mg/kg	5	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**2300**	75	250	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*67.6 %*	*50-150*		"	"	"	"	

T2A-2'

1105253-22 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.10	0.50	mg/kg	1	A111073	04-Nov-11	08-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*89.0 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**1500**	38	50	mg/kg	5	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**7400**	75	250	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*79.1 %*	*50-150*		"	"	"	"	

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T2B-2'

1105253-23 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.10	0.50	mg/kg	1	A111073	04-Nov-11	08-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*96.2 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**420**	15	20	mg/kg	2	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**1500**	30	100	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*73.5 %*	*50-150*		"	"	"	"	

T2C-2'

1105253-24 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.099	0.49	mg/kg	1	A111073	04-Nov-11	08-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*89.0 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**650**	38	50	mg/kg	5	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**3000**	75	250	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*81.7 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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T2A-3'

1105253-25 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	ND	0.10	0.51	mg/kg	1	A111073	04-Nov-11	08-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*88.6 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**3100**	38	50	mg/kg	5	A111068	03-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**6500**	75	250	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*77.8 %*	*50-150*		"	"	"	"	

T2B-3'

1105253-26 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**1.8**	0.10	0.50	mg/kg	1	A111073	04-Nov-11	08-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*132 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**7000**	76	100	mg/kg	10	A111068	03-Nov-11	08-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**8500**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*91.8 %*	*50-150*		"	"	"	"	

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T2C-3'

1105253-27 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**1000**	50	250	mg/kg	500	A111134	08-Nov-11	09-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*218 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**16000**	380	500	mg/kg	50	A111091	04-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**8600**	750	2500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*98.0 %*	*50-150*		"	"	"	"	

T2A-4'

1105253-28 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**4.4**	0.099	0.50	mg/kg	1	A111073	04-Nov-11	08-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*213 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**8600**	76	100	mg/kg	10	A111091	04-Nov-11	04-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**6500**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*103 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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T2B-4'

1105253-29 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TVPH by GC FID

TPH Gasoline (C4-C10)	ND	0.10	0.50	mg/kg	1	A111073	04-Nov-11	08-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*94.6 %*	*70-130*		"	"	"	"	

TEPH by GC FID

TPH Diesel (C10-C25)	**580**	7.6	10	mg/kg	1	A111091	04-Nov-11	04-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**870**	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*116 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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T2C-4'

1105253-30 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Flashpoint , Closed Cup										
Flashpoint	>212	72	72	°F	1	A111219	11-Nov-11	11-Nov-11	EPA 1010	
Wet Chemistry by EPA or APHA Standard Methods										
pH	**6.39**	0.100	0.200	pH Units	1	A111089	03-Nov-11	03-Nov-11	EPA 9045	HT-pH
Reactives										
Cyanide, reactive	ND	0.167	0.500	mg/kg	1	A111146	08-Nov-11	08-Nov-11	SW846. 7.3	
Sulfide, reactive	ND	0.672	2.00	"	"	"	"	"	SW 846 7.3	
Total Metals by EPA 6000/7000 Series Methods										
Antimony	ND	2.0	4.9	mg/kg	1	A111109	07-Nov-11	08-Nov-11	EPA 6010B	
Arsenic	**2.9**	0.49	0.99	"	"	"	"	"	"	
Barium	**48**	0.20	0.49	"	"	"	"	"	"	
Beryllium	ND	0.49	0.99	"	"	"	"	"	"	
Cadmium	**0.63**	0.20	0.49	"	"	"	"	"	"	
Chromium	**41**	0.20	0.49	"	"	"	"	"	"	
Cobalt	**2.4**	0.20	0.49	"	"	"	"	"	"	
Copper	**4.6**	0.30	0.49	"	"	"	"	"	"	
Lead	**5.2**	0.49	0.99	"	"	"	"	"	"	
Mercury	**0.013**	0.0097	0.090	"	"	A111110	07-Nov-11	07-Nov-11	EPA 7471A	J
Molybdenum	ND	0.49	0.99	"	"	A111109	07-Nov-11	08-Nov-11	EPA 6010B	
Nickel	**13**	0.20	0.49	"	"	"	"	"	"	
Selenium	ND	1.1	2.0	"	"	"	"	"	"	
Silver	ND	0.59	2.0	"	2	"	"	09-Nov-11	"	
Thallium	ND	0.49	0.99	"	1	"	"	08-Nov-11	"	
Vanadium	**22**	0.99	2.0	"	"	"	"	"	"	
Zinc	**19**	0.35	0.49	"	"	"	"	"	"	

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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T2C-4'

1105253-30 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C12)	**210**	5.0	25	mg/kg	50	A111134	08-Nov-11	09-Nov-11	EPA 8015M	
Surrogate: 4-Bromofluorobenzene			*16400 %*	*70-130*		"	"	"	"	
TPH Gasoline (C4-C10)	**210**	5.0	25	"	"	"	"	"	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*328 %*	*70-130*		"	"	"	"	*S-04*
DI WET/STLC/ZHE Volatiles										
TPH Gasoline (C4-C12)	ND	21	50	ug/L	1	A111177	10-Nov-11	10-Nov-11	ZHE-DIWET /EPA 8015M	
Surrogate: 4-Bromofluorobenzene			*121 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**4400**	76	100	mg/kg	10	A111091	04-Nov-11	04-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**1700**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*107 %*	*50-150*		"	"	"	"	
TPH Diesel (C13-C22)	**2900**	76	100	"	"	"	"	"	"	
TPH Motor Oil (C23-C40)	**2000**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*107 %*	*50-150*		"	"	"	"	
DI WET/STLC Semi-Volatiles										
TPH Diesel (C13-C22)	**1.4**	0.041	0.050	mg/L	1	A111142	08-Nov-11	10-Nov-11	DIWET/EPA 8015M	
TPH Motor Oil (C23-C40)	**0.32**	0.050	0.10	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*68.8 %*	*50-150*		"	"	"	"	
Polychlorinated Biphenyls by EPA Method 8082										**C-03**
PCB-1016	ND	0.0040	0.020	mg/kg	1	A111097	04-Nov-11	14-Nov-11	EPA 8082	
PCB-1221	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1232	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1242	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1248	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1254	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1260	ND	0.0040	0.020	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl			*61.3 %*	*60-120*		"	"	"	"	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene			*65.8 %*	*60-120*		"	"	"	"	

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T2C-4'

1105253-30 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**0.0097**	0.0032	0.023	mg/kg	1	A111055	03-Nov-11	04-Nov-11	EPA 8260B	J
Bromobenzene	ND	0.0018	0.023	"	"	"	"	"	"	
Bromochloromethane	ND	0.0046	0.023	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0018	0.023	"	"	"	"	"	"	
Bromoform	ND	0.0028	0.023	"	"	"	"	"	"	
Bromomethane	ND	0.0078	0.023	"	"	"	"	"	"	
n-Butylbenzene	**0.15**	0.0032	0.023	"	"	"	"	"	"	
sec-Butylbenzene	**0.11**	0.0028	0.023	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0041	0.023	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0050	0.023	"	"	"	"	"	"	
Chlorobenzene	ND	0.0028	0.023	"	"	"	"	"	"	
Chloroethane	ND	0.0083	0.023	"	"	"	"	"	"	
Chloroform	ND	0.0023	0.023	"	"	"	"	"	"	
Chloromethane	ND	0.0092	0.023	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0028	0.023	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0018	0.023	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0060	0.023	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0018	0.023	"	"	"	"	"	"	
Dibromomethane	ND	0.0037	0.023	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0014	0.023	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0018	0.023	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0018	0.023	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0073	0.023	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0037	0.023	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0037	0.023	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0060	0.023	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0023	0.023	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0046	0.023	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0028	0.023	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0018	0.023	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0041	0.023	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0037	0.023	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0028	0.023	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0018	0.023	"	"	"	"	"	"	
Ethylbenzene	**0.36**	0.0028	0.023	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0028	0.023	"	"	"	"	"	"	

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T2C-4'

1105253-30 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Hexachlorobutadiene	ND	0.0046	0.023	mg/kg	1	A111055	03-Nov-11	04-Nov-11	EPA 8260B	
Isopropylbenzene	**0.20**	0.0032	0.023	"	"	"	"	"	"	
4-Isopropyl Toluene	**0.14**	0.0032	0.023	"	"	"	"	"	"	
Methylene chloride	**0.0040**	0.0037	0.023	"	"	"	"	"	"	J
Naphthalene	**0.69**	0.0037	0.023	"	"	"	"	"	"	
n-Propylbenzene	**0.22**	0.0037	0.023	"	"	"	"	"	"	
Styrene	ND	0.0023	0.023	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0018	0.023	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0023	0.023	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.0041	0.023	"	"	"	"	"	"	
Toluene	**0.0084**	0.0023	0.023	"	"	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	0.0041	0.023	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0023	0.023	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0041	0.023	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0028	0.023	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.0037	0.023	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0078	0.023	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0046	0.023	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**4.3**	0.017	0.12	"	100	A111243	14-Nov-11	14-Nov-11	"	
1,3,5-Trimethylbenzene	**0.38**	0.0037	0.023	"	1	A111055	03-Nov-11	04-Nov-11	"	
Vinyl chloride	ND	0.0092	0.023	"	"	"	"	"	"	
Xylenes (total)	**0.88**	0.0060	0.023	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.0028	0.023	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*102 %*		*70-130*		"	"	"	
Surrogate: 4-Bromofluorobenzene			*101 %*		*70-130*		"	"	"	
Surrogate: Toluene-d8			*96.3 %*		*70-130*		"	"	"	

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T2C-4'

1105253-30 (Solid)

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	**0.17**	0.047	0.050	mg/kg	10	A111199	11-Nov-11	11-Nov-11	EPA 8270M SIM	
Acenaphthylene	**0.087**	0.035	0.050	"	"	"	"	"	"	
Anthracene	ND	0.042	0.050	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.030	0.050	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.040	0.050	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.030	0.050	"	"	"	"	"	"	
Benzo (a) pyrene	**0.030**	0.026	0.050	"	"	"	"	"	"	J
Benzo (g,h,i) perylene	ND	0.050	0.10	"	"	"	"	"	"	
Chrysene	**0.083**	0.030	0.050	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Fluoranthene	**0.033**	0.030	0.050	"	"	"	"	"	"	J
Fluorene	**0.50**	0.030	0.050	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.035	0.050	"	"	"	"	"	"	
Naphthalene	**1.7**	0.10	0.20	"	20	"	"	14-Nov-11	"	
Phenanthrene	**0.95**	0.047	0.050	"	10	"	"	11-Nov-11	"	
Pyrene	**0.11**	0.030	0.050	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*100 %*	*0-191*		"	"	"	"	

Organochlorine Pesticides by EPA Method 8081A **C-03**

alpha-BHC	ND	0.0010	0.0030	mg/kg	1	A111097	04-Nov-11	14-Nov-11	EPA 8081A	
alpha-Chlordane	ND	0.0010	0.0030	"	"	"	"	"	"	
Aldrin	ND	0.0010	0.0030	"	"	"	"	"	"	
beta-BHC	ND	0.0010	0.0030	"	"	"	"	"	"	
delta-BHC	ND	0.0010	0.0030	"	"	"	"	"	"	
4,4´-DDD	ND	0.0010	0.0030	"	"	"	"	"	"	
4,4´-DDE	ND	0.0010	0.0030	"	"	"	"	"	"	
4,4´-DDT	ND	0.0010	0.0030	"	"	"	"	"	"	
Dieldrin	ND	0.0010	0.0030	"	"	"	"	"	"	
Endosulfan I	ND	0.0010	0.0030	"	"	"	"	"	"	
Endosulfan II	ND	0.0010	0.0030	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0010	0.0030	"	"	"	"	"	"	
Endrin	ND	0.0010	0.0030	"	"	"	"	"	"	
Endrin aldehyde	**0.0023**	0.0010	0.0030	"	"	"	"	"	"	J
Endrin ketone	ND	0.0010	0.0030	"	"	"	"	"	"	
gamma-BHC	ND	0.0010	0.0030	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	0.0030	"	"	"	"	"	"	

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T2C-4'

1105253-30 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Organochlorine Pesticides by EPA Method 8081A **C-03**

Heptachlor	ND	0.0010	0.0030	mg/kg	1	A111097	04-Nov-11	14-Nov-11	EPA 8081A	
Heptachlor epoxide	ND	0.0010	0.0030	"	"	"	"	"	"	
Methoxychlor	ND	0.0010	0.0030	"	"	"	"	"	"	
Chlordane (tech)	ND	0.010	0.020	"	"	"	"	"	"	
Toxaphene	ND	0.010	0.020	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl			*39.6 %*		*50-150*	"	"	"	"	*S-GC*
Surrogate: 2,4,5,6 Tetrachloro-m-xylene			*70.8 %*		*50-150*	"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270C **R-05**

Acenaphthene	ND	0.50	1.0	mg/kg	10	A111123	08-Nov-11	08-Nov-11	EPA 8270C
Acenaphthylene	ND	0.50	1.0	"	"	"	"	"	"
Aniline	ND	0.50	1.0	"	"	"	"	"	"
Anthracene	ND	0.50	1.0	"	"	"	"	"	"
Azobenzene	ND	0.50	1.0	"	"	"	"	"	"
Benz(a)anthracene	ND	0.50	1.0	"	"	"	"	"	"
Benzo (b) fluoranthene	ND	0.50	1.0	"	"	"	"	"	"
Benzo (k) fluoranthene	ND	0.50	1.0	"	"	"	"	"	"
Benzo (a) pyrene	ND	0.50	1.0	"	"	"	"	"	"
Benzo (g,h,i) perylene	ND	0.50	1.0	"	"	"	"	"	"
Benzoic acid	ND	0.50	1.0	"	"	"	"	"	"
Benzyl alcohol	ND	0.50	1.0	"	"	"	"	"	"
Bis(2-chloroethoxy)methane	ND	0.50	1.0	"	"	"	"	"	"
Bis(2-chloroethyl)ether	ND	0.50	1.0	"	"	"	"	"	"
Bis(2-chloroisopropyl) ether	ND	0.50	1.0	"	"	"	"	"	"
Bis(2-ethylhexyl) phthalate	ND	0.50	1.0	"	"	"	"	"	"
4-Bromophenyl phenyl ether	ND	0.50	1.0	"	"	"	"	"	"
Butyl benzyl phthalate	ND	0.50	1.0	"	"	"	"	"	"
4-Chloroaniline	ND	0.50	1.0	"	"	"	"	"	"
2-Chloronaphthalene	ND	0.50	1.0	"	"	"	"	"	"
4-Chlorophenyl phenyl ether	ND	0.50	1.0	"	"	"	"	"	"
Chrysene	ND	0.50	1.0	"	"	"	"	"	"
Dibenz (a,h) anthracene	ND	0.50	1.0	"	"	"	"	"	"
Dibenzofuran	ND	0.50	1.0	"	"	"	"	"	"
Di-n-butyl phthalate	ND	0.50	1.0	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.50	1.0	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.50	1.0	"	"	"	"	"	"

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T2C-4'

1105253-30 (Solid)

Oilfield Environmental and Compliance

Semivolatile Organic Compounds by EPA Method 8270C **R-05**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,4-Dichlorobenzene	ND	0.50	1.0	mg/kg	10	A111123	08-Nov-11	08-Nov-11	EPA 8270C	
3,3'-Dichlorobenzidine	ND	2.0	5.0	"	"	"	"	"	"	
Diethyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
Dimethyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	0.60	1.0	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	0.50	1.0	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
Fluoranthene	ND	0.50	1.0	"	"	"	"	"	"	
Fluorene	**0.73**	0.50	1.0	"	"	"	"	"	"	J
Hexachlorobenzene	ND	0.50	1.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.50	1.0	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.50	1.0	"	"	"	"	"	"	
Hexachloroethane	ND	0.50	1.0	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.50	1.0	"	"	"	"	"	"	
Isophorone	ND	0.50	1.0	"	"	"	"	"	"	
2-Methylnaphthalene	**8.4**	0.50	1.0	"	"	"	"	"	"	
Naphthalene	**2.4**	0.50	1.0	"	"	"	"	"	"	
2-Nitroaniline	ND	0.50	1.0	"	"	"	"	"	"	
3-Nitroaniline	ND	0.50	1.0	"	"	"	"	"	"	
4-Nitroaniline	ND	0.50	2.5	"	"	"	"	"	"	
Nitrobenzene	ND	0.50	1.0	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	0.50	1.0	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	0.50	1.0	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.50	1.0	"	"	"	"	"	"	
Phenanthrene	**1.2**	0.50	1.0	"	"	"	"	"	"	
Pyrene	ND	0.50	1.0	"	"	"	"	"	"	
Carbazole	ND	0.50	1.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.50	1.0	"	"	"	"	"	"	
4-Chloro-3-methylphenol (Parachlorometa cresol)	ND	0.50	1.0	"	"	"	"	"	"	
2-Chlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	0.50	1.0	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	0.50	1.0	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	0.50	1.0	"	"	"	"	"	"	
2-Methylphenol	ND	0.50	1.0	"	"	"	"	"	"	

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T2C-4'

1105253-30 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Semivolatile Organic Compounds by EPA Method 8270C **R-05**

3 & 4-Methylphenol	ND	0.50	1.0	mg/kg	10	A111123	08-Nov-11	08-Nov-11	EPA 8270C	
2-Nitrophenol	ND	0.50	1.0	"	"	"	"	"	"	
4-Nitrophenol	ND	0.50	1.0	"	"	"	"	"	"	
Pentachlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
Phenol	ND	0.50	1.0	"	"	"	"	"	"	
Pyridine	ND	0.50	1.0	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol			*69.4 %*	*4-109*		"	"	"	"	
Surrogate: Phenol-d5			*61.4 %*	*0-116*		"	"	"	"	
Surrogate: Nitrobenzene-d5			*83.4 %*	*2-132*		"	"	"	"	
Surrogate: 2-Fluorobiphenyl			*109 %*	*18-123*		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol			*97.2 %*	*2-126*		"	"	"	"	
Surrogate: p-Terphenyl-d14			*118 %*	*0-164*		"	"	"	"	

T2A-5'

1105253-31 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TVPH by GC FID

TPH Gasoline (C4-C10)	**81**	4.9	25	mg/kg	50	A111134	08-Nov-11	09-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*206 %*	*70-130*		"	"	"	"	*S-04*

TEPH by GC FID

TPH Diesel (C10-C25)	**7700**	76	100	mg/kg	10	A111091	04-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**5500**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*110 %*	*50-150*		"	"	"	"	

T2B-5'

1105253-32 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**32**	5.0	25	mg/kg	50	A111134	08-Nov-11	09-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*108 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**850**	76	100	mg/kg	10	A111091	04-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**840**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*99.1 %*	*50-150*		"	"	"	"	

T2C-5'

1105253-33 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**35**	5.0	25	mg/kg	50	A111134	08-Nov-11	09-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*138 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**490**	7.6	10	mg/kg	1	A111091	04-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**160**	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*71.9 %*	*50-150*		"	"	"	"	

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T2A-6'

1105253-34 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**2.2**	0.10	0.50	mg/kg	1	A111073	04-Nov-11	08-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*212 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**170**	7.6	10	mg/kg	1	A111091	04-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**110**	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*76.7 %*	*50-150*		"	"	"	"	

T2B-6'

1105253-35 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**2.7**	0.10	0.50	mg/kg	1	A111073	04-Nov-11	08-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*243 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**590**	7.6	10	mg/kg	1	A111091	04-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**280**	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*91.4 %*	*50-150*		"	"	"	"	

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T2C-6'

1105253-36 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Flashpoint , Closed Cup										
Flashpoint	>212	72	72	°F	1	A111219	11-Nov-11	11-Nov-11	EPA 1010	
Wet Chemistry by EPA or APHA Standard Methods										
pH	**5.72**	0.100	0.200	pH Units	1	A111089	03-Nov-11	03-Nov-11	EPA 9045	HT-pH
Reactives										
Cyanide, reactive	ND	0.167	0.500	mg/kg	1	A111146	08-Nov-11	08-Nov-11	SW846. 7.3	
Sulfide, reactive	ND	0.672	2.00	"	"	"	"	"	SW 846 7.3	
Total Metals by EPA 6000/7000 Series Methods										
Antimony	ND	1.8	4.5	mg/kg	1	A111109	07-Nov-11	08-Nov-11	EPA 6010B	
Arsenic	**4.3**	0.45	0.90	"	"	"	"	"	"	
Barium	**52**	0.18	0.45	"	"	"	"	"	"	
Beryllium	ND	0.45	0.90	"	"	"	"	"	"	
Cadmium	**0.86**	0.18	0.45	"	"	"	"	"	"	
Chromium	**47**	0.18	0.45	"	"	"	"	"	"	
Cobalt	**2.7**	0.18	0.45	"	"	"	"	"	"	
Copper	**5.0**	0.27	0.45	"	"	"	"	"	"	
Lead	**6.8**	0.45	0.90	"	"	"	"	"	"	
Mercury	**0.012**	0.0092	0.085	"	"	A111110	07-Nov-11	07-Nov-11	EPA 7471A	J
Molybdenum	ND	0.45	0.90	"	"	A111109	07-Nov-11	08-Nov-11	EPA 6010B	
Nickel	**18**	0.18	0.45	"	"	"	"	"	"	
Selenium	ND	0.99	1.8	"	"	"	"	"	"	
Silver	ND	0.54	1.8	"	2	"	"	09-Nov-11	"	
Thallium	ND	0.45	0.90	"	1	"	"	08-Nov-11	"	
Vanadium	**27**	0.90	1.8	"	"	"	"	"	"	
Zinc	**24**	0.31	0.45	"	"	"	"	"	"	

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T2C-6'

1105253-36 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C12)	**83**	5.0	25	mg/kg	50	A111134	08-Nov-11	09-Nov-11	EPA 8015M	
Surrogate: 4-Bromofluorobenzene			*175 %*	*70-130*		"	"	"	"	
TPH Gasoline (C4-C10)	**83**	5.0	25	"	50	"	"	"	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*175 %*	*70-130*		"	"	"	"	*S-04*
DI WET/STLC/ZHE Volatiles										
TPH Gasoline (C4-C12)	ND	21	50	ug/L	1	A111177	10-Nov-11	10-Nov-11	ZHE-DIWET /EPA 8015M	
Surrogate: 4-Bromofluorobenzene			*111 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**1600**	38	50	mg/kg	5	A111091	04-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**470**	75	250	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*88.8 %*	*50-150*		"	"	"	"	
TPH Diesel (C13-C22)	**1100**	7.6	10	"	1	"	"	07-Nov-11	"	
TPH Motor Oil (C23-C40)	**600**	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*97.5 %*	*50-150*		"	"	"	"	
DI WET/STLC Semi-Volatiles										
TPH Diesel (C13-C22)	**0.87**	0.041	0.050	mg/L	1	A111142	08-Nov-11	10-Nov-11	DIWET/EPA 8015M	
TPH Motor Oil (C23-C40)	**0.21**	0.050	0.10	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*107 %*	*50-150*		"	"	"	"	
Polychlorinated Biphenyls by EPA Method 8082										**C-03**
PCB-1016	ND	0.0040	0.020	mg/kg	1	A111097	04-Nov-11	11-Nov-11	EPA 8082	
PCB-1221	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1232	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1242	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1248	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1254	ND	0.0040	0.020	"	"	"	"	"	"	
PCB-1260	ND	0.0040	0.020	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl			*64.4 %*	*60-120*		"	"	"	"	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene			*63.4 %*	*60-120*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T2C-6'

1105253-36 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B **R-05**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**0.0064**	0.0035	0.025	mg/kg	1	A111055	03-Nov-11	04-Nov-11	EPA 8260B	J
Bromobenzene	ND	0.0020	0.025	"	"	"	"	"	"	
Bromochloromethane	ND	0.0050	0.025	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0020	0.025	"	"	"	"	"	"	
Bromoform	ND	0.0030	0.025	"	"	"	"	"	"	
Bromomethane	ND	0.0085	0.025	"	"	"	"	"	"	
n-Butylbenzene	**0.11**	0.0035	0.025	"	"	"	"	"	"	
sec-Butylbenzene	**0.073**	0.0030	0.025	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0045	0.025	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0055	0.025	"	"	"	"	"	"	
Chlorobenzene	ND	0.0030	0.025	"	"	"	"	"	"	
Chloroethane	ND	0.0090	0.025	"	"	"	"	"	"	
Chloroform	ND	0.0025	0.025	"	"	"	"	"	"	
Chloromethane	ND	0.010	0.025	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0030	0.025	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0020	0.025	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0065	0.025	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0020	0.025	"	"	"	"	"	"	
Dibromomethane	ND	0.0040	0.025	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0015	0.025	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0020	0.025	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0020	0.025	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0080	0.025	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0040	0.025	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0040	0.025	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0065	0.025	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0025	0.025	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0050	0.025	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0030	0.025	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0020	0.025	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0045	0.025	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0040	0.025	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0030	0.025	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0020	0.025	"	"	"	"	"	"	
Ethylbenzene	**0.18**	0.0030	0.025	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0030	0.025	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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T2C-6'

1105253-36 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B **R-05**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Hexachlorobutadiene	ND	0.0050	0.025	mg/kg	1	A111055	03-Nov-11	04-Nov-11	EPA 8260B	
Isopropylbenzene	**0.13**	0.0035	0.025	"	"	"	"	"	"	
4-Isopropyl Toluene	**0.10**	0.0035	0.025	"	"	"	"	"	"	
Methylene chloride	**0.0048**	0.0040	0.025	"	"	"	"	"	"	J
Naphthalene	**0.72**	0.0040	0.025	"	"	"	"	"	"	
n-Propylbenzene	**0.14**	0.0040	0.025	"	"	"	"	"	"	
Styrene	ND	0.0025	0.025	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0020	0.025	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0025	0.025	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.0045	0.025	"	"	"	"	"	"	
Toluene	**0.0094**	0.0025	0.025	"	"	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	0.0045	0.025	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0025	0.025	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0045	0.025	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0030	0.025	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.0040	0.025	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0085	0.025	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0050	0.025	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.99**	0.0035	0.025	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.28**	0.0040	0.025	"	"	"	"	"	"	
Vinyl chloride	ND	0.010	0.025	"	"	"	"	"	"	
Xylenes (total)	**0.91**	0.0065	0.025	"	"	"	"	"	"	
Methyl-t-butyl ether	**0.0050**	0.0030	0.025	"	"	"	"	"	"	J
Surrogate: Dibromofluoromethane			*99.2 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*101 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*90.9 %*	*70-130*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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T2C-6'

1105253-36 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										**R-05**
Acenaphthene	**0.096**	0.047	0.050	mg/kg	10	A111199	11-Nov-11	11-Nov-11	EPA 8270M SIM	
Acenaphthylene	**0.060**	0.035	0.050	"	"	"	"	"	"	
Anthracene	ND	0.042	0.050	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.030	0.050	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.040	0.050	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.030	0.050	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.026	0.050	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.050	0.10	"	"	"	"	"	"	
Chrysene	**0.030**	0.030	0.050	"	"	"	"	"	"	J
Dibenz (a,h) anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Fluoranthene	ND	0.030	0.050	"	"	"	"	"	"	
Fluorene	**0.24**	0.030	0.050	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.035	0.050	"	"	"	"	"	"	
Naphthalene	**0.68**	0.050	0.10	"	"	"	"	"	"	
Phenanthrene	**0.52**	0.047	0.050	"	"	"	"	"	"	
Pyrene	**0.037**	0.030	0.050	"	"	"	"	"	"	J
Surrogate: p-Terphenyl-d14			*100 %*	*0-191*		"	"	"	"	
Organochlorine Pesticides by EPA Method 8081A										**C-03**
alpha-BHC	ND	0.0010	0.0030	mg/kg	1	A111097	04-Nov-11	11-Nov-11	EPA 8081A	
alpha-Chlordane	ND	0.0010	0.0030	"	"	"	"	"	"	
Aldrin	ND	0.0010	0.0030	"	"	"	"	"	"	
beta-BHC	ND	0.0010	0.0030	"	"	"	"	"	"	
delta-BHC	ND	0.0010	0.0030	"	"	"	"	"	"	
4,4´-DDD	ND	0.0010	0.0030	"	"	"	"	"	"	
4,4´-DDE	ND	0.0010	0.0030	"	"	"	"	"	"	
4,4´-DDT	ND	0.0010	0.0030	"	"	"	"	"	"	
Dieldrin	ND	0.0010	0.0030	"	"	"	"	"	"	
Endosulfan I	ND	0.0010	0.0030	"	"	"	"	"	"	
Endosulfan II	ND	0.0010	0.0030	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0010	0.0030	"	"	"	"	"	"	
Endrin	ND	0.0010	0.0030	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	0.0030	"	"	"	"	"	"	
Endrin ketone	ND	0.0010	0.0030	"	"	"	"	"	"	
gamma-BHC	ND	0.0010	0.0030	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	0.0030	"	"	"	"	"	"	

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T2C-6'

1105253-36 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A										**C-03**
Heptachlor	ND	0.0010	0.0030	mg/kg	1	A111097	04-Nov-11	11-Nov-11	EPA 8081A	
Heptachlor epoxide	ND	0.0010	0.0030	"	"	"	"	"	"	
Methoxychlor	ND	0.0010	0.0030	"	"	"	"	"	"	
Chlordane (tech)	ND	0.010	0.020	"	"	"	"	"	"	
Toxaphene	ND	0.010	0.020	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl			*66.2 %*		*50-150*	"	"	"	"	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene			*68.2 %*		*50-150*	"	"	"	"	
Semivolatile Organic Compounds by EPA Method 8270C										**R-05**
Acenaphthene	ND	0.50	1.0	mg/kg	10	A111123	08-Nov-11	08-Nov-11	EPA 8270C	
Acenaphthylene	ND	0.50	1.0	"	"	"	"	"	"	
Aniline	ND	0.50	1.0	"	"	"	"	"	"	
Anthracene	ND	0.50	1.0	"	"	"	"	"	"	
Azobenzene	ND	0.50	1.0	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.50	1.0	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.50	1.0	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.50	1.0	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.50	1.0	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.50	1.0	"	"	"	"	"	"	
Benzoic acid	ND	0.50	1.0	"	"	"	"	"	"	
Benzyl alcohol	ND	0.50	1.0	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	0.50	1.0	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	0.50	1.0	"	"	"	"	"	"	
Bis(2-chloroisopropyl) ether	ND	0.50	1.0	"	"	"	"	"	"	
Bis(2-ethylhexyl) phthalate	ND	0.50	1.0	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.50	1.0	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
4-Chloroaniline	ND	0.50	1.0	"	"	"	"	"	"	
2-Chloronaphthalene	ND	0.50	1.0	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	0.50	1.0	"	"	"	"	"	"	
Chrysene	ND	0.50	1.0	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.50	1.0	"	"	"	"	"	"	
Dibenzofuran	ND	0.50	1.0	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.50	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	1.0	"	"	"	"	"	"	

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T2C-6'

1105253-36 (Solid)

Oilfield Environmental and Compliance

Semivolatile Organic Compounds by EPA Method 8270C **R-05**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,4-Dichlorobenzene	ND	0.50	1.0	mg/kg	10	A111123	08-Nov-11	08-Nov-11	EPA 8270C	
3,3'-Dichlorobenzidine	ND	2.0	5.0	"	"	"	"	"	"	
Diethyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
Dimethyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	0.60	1.0	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	0.50	1.0	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
Fluoranthene	ND	0.50	1.0	"	"	"	"	"	"	
Fluorene	ND	0.50	1.0	"	"	"	"	"	"	
Hexachlorobenzene	ND	0.50	1.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.50	1.0	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.50	1.0	"	"	"	"	"	"	
Hexachloroethane	ND	0.50	1.0	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.50	1.0	"	"	"	"	"	"	
Isophorone	ND	0.50	1.0	"	"	"	"	"	"	
2-Methylnaphthalene	**3.5**	0.50	1.0	"	"	"	"	"	"	
Naphthalene	**0.75**	0.50	1.0	"	"	"	"	"	"	J
2-Nitroaniline	ND	0.50	1.0	"	"	"	"	"	"	
3-Nitroaniline	ND	0.50	1.0	"	"	"	"	"	"	
4-Nitroaniline	ND	0.50	2.5	"	"	"	"	"	"	
Nitrobenzene	ND	0.50	1.0	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	0.50	1.0	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	0.50	1.0	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.50	1.0	"	"	"	"	"	"	
Phenanthrene	ND	0.50	1.0	"	"	"	"	"	"	
Pyrene	ND	0.50	1.0	"	"	"	"	"	"	
Carbazole	ND	0.50	1.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.50	1.0	"	"	"	"	"	"	
4-Chloro-3-methylphenol (Parachlorometa cresol)	ND	0.50	1.0	"	"	"	"	"	"	
2-Chlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	0.50	1.0	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	0.50	1.0	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	0.50	1.0	"	"	"	"	"	"	
2-Methylphenol	ND	0.50	1.0	"	"	"	"	"	"	

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T2C-6'

1105253-36 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Semivolatile Organic Compounds by EPA Method 8270C **R-05**

3 & 4-Methylphenol	ND	0.50	1.0	mg/kg	10	A111123	08-Nov-11	08-Nov-11	EPA 8270C	
2-Nitrophenol	ND	0.50	1.0	"	"	"	"	"	"	
4-Nitrophenol	ND	0.50	1.0	"	"	"	"	"	"	
Pentachlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
Phenol	ND	0.50	1.0	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
Pyridine	ND	0.50	1.0	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol			*73.1 %*	*4-109*		"	"	"	"	
Surrogate: Phenol-d5			*73.0 %*	*0-116*		"	"	"	"	
Surrogate: Nitrobenzene-d5			*82.0 %*	*2-132*		"	"	"	"	
Surrogate: 2-Fluorobiphenyl			*112 %*	*18-123*		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol			*99.8 %*	*2-126*		"	"	"	"	
Surrogate: p-Terphenyl-d14			*126 %*	*0-164*		"	"	"	"	

T3A-1'

1105253-37 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TVPH by GC FID

TPH Gasoline (C4-C10)	**11**	0.91	4.5	mg/kg	1	A111073	04-Nov-11	08-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*139 %*	*70-130*		"	"	"	"	*S-04*

TEPH by GC FID

TPH Diesel (C10-C25)	**9800**	380	500	mg/kg	50	A111091	04-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**11000**	750	2500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*99.0 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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T3B-1'

1105253-38 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**46**	5.0	25	mg/kg	50	A111134	08-Nov-11	09-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*130 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**9000**	76	100	mg/kg	10	A111091	04-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**11000**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*101 %*	*50-150*		"	"	"	"	

T3C-1'

1105253-39 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**2.3**	0.099	0.50	mg/kg	1	A111073	04-Nov-11	08-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*161 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**9800**	380	500	mg/kg	50	A111091	04-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**11000**	750	2500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*98.9 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T3A-2'

1105253-40 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Flashpoint , Closed Cup										
Flashpoint	>212	72	72	°F	1	A111219	11-Nov-11	11-Nov-11	EPA 1010	
Wet Chemistry by EPA or APHA Standard Methods										
pH	**8.42**	0.100	0.200	pH Units	1	A111089	03-Nov-11	03-Nov-11	EPA 9045	HT-pH
Reactives										
Cyanide, reactive	ND	0.167	0.500	mg/kg	1	A111146	08-Nov-11	08-Nov-11	SW846. 7.3	
Sulfide, reactive	ND	0.672	2.00	"	"	"	"	"	SW 846 7.3	
Total Metals by EPA 6000/7000 Series Methods										
Antimony	ND	1.8	4.4	mg/kg	1	A111109	07-Nov-11	08-Nov-11	EPA 6010B	
Arsenic	**5.3**	0.44	0.88	"	"	"	"	"	"	
Barium	**48**	0.18	0.44	"	"	"	"	"	"	
Beryllium	ND	0.44	0.88	"	"	"	"	"	"	
Cadmium	**0.78**	0.18	0.44	"	"	"	"	"	"	
Chromium	**33**	0.18	0.44	"	"	"	"	"	"	
Cobalt	**3.5**	0.18	0.44	"	"	"	"	"	"	
Copper	**11**	0.26	0.44	"	"	"	"	"	"	
Lead	**13**	0.44	0.88	"	"	"	"	"	"	
Mercury	**0.089**	0.010	0.093	"	"	A111110	07-Nov-11	07-Nov-11	EPA 7471A	J
Molybdenum	ND	0.44	0.88	"	"	A111109	07-Nov-11	08-Nov-11	EPA 6010B	
Nickel	**23**	0.18	0.44	"	"	"	"	"	"	
Selenium	ND	0.97	1.8	"	"	"	"	"	"	
Silver	ND	0.53	1.8	"	2	"	"	09-Nov-11	"	
Thallium	ND	0.44	0.88	"	1	"	"	08-Nov-11	"	
Vanadium	**24**	0.88	1.8	"	"	"	"	"	"	
Zinc	**47**	0.31	0.44	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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T3A-2'

1105253-40 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C12)	**2.5**	0.098	0.49	mg/kg	1	A111073	04-Nov-11	08-Nov-11	EPA 8015M	
Surrogate: 4-Bromofluorobenzene			*123 %*	*70-130*		"	"	"	"	
TPH Gasoline (C4-C10)	**2.5**	0.098	0.49	"	"	"	"	"	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*123 %*	*70-130*		"	"	"	"	
DI WET/STLC/ZHE Volatiles										
TPH Gasoline (C4-C12)	ND	21	50	ug/L	1	A111177	10-Nov-11	10-Nov-11	ZHE-DIWET /EPA 8015M	
Surrogate: 4-Bromofluorobenzene			*117 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**1100**	76	100	mg/kg	10	A111091	04-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**2100**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*93.5 %*	*50-150*		"	"	"	"	
TPH Diesel (C13-C22)	**700**	76	100	"	"	"	"	"	"	
TPH Motor Oil (C23-C40)	**2400**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*93.5 %*	*50-150*		"	"	"	"	
DI WET/STLC Semi-Volatiles										
TPH Diesel (C13-C22)	**0.72**	0.041	0.050	mg/L	1	A111142	08-Nov-11	10-Nov-11	DIWET/EPA 8015M	
TPH Motor Oil (C23-C40)	**1.0**	0.050	0.10	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*99.2 %*	*50-150*		"	"	"	"	
Polychlorinated Biphenyls by EPA Method 8082										**C-03, R-05**
PCB-1016	ND	0.020	0.10	mg/kg	5	A111097	04-Nov-11	11-Nov-11	EPA 8082	
PCB-1221	ND	0.020	0.10	"	"	"	"	"	"	
PCB-1232	ND	0.020	0.10	"	"	"	"	"	"	
PCB-1242	ND	0.020	0.10	"	"	"	"	"	"	
PCB-1248	ND	0.020	0.10	"	"	"	"	"	"	
PCB-1254	ND	0.020	0.10	"	"	"	"	"	"	
PCB-1260	ND	0.020	0.10	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl			*64.0 %*	*60-120*		"	"	"	"	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene			*60.6 %*	*60-120*		"	"	"	"	

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T3A-2'

1105253-40 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Benzene	**0.0064**	0.00068	0.0048	mg/kg	1	A111152	10-Nov-11	10-Nov-11	EPA 8260B	
Bromobenzene	ND	0.00039	0.0048	"	"	"	"	"	"	
Bromochloromethane	ND	0.00097	0.0048	"	"	"	"	"	"	
Bromodichloromethane	ND	0.00039	0.0048	"	"	"	"	"	"	
Bromoform	ND	0.00058	0.0048	"	"	"	"	"	"	
Bromomethane	ND	0.0016	0.0048	"	"	"	"	"	"	
n-Butylbenzene	ND	0.00068	0.0048	"	"	"	"	"	"	
sec-Butylbenzene	**0.0025**	0.00058	0.0048	"	"	"	"	"	"	J
tert-Butylbenzene	ND	0.00087	0.0048	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0011	0.0048	"	"	"	"	"	"	
Chlorobenzene	ND	0.00058	0.0048	"	"	"	"	"	"	
Chloroethane	ND	0.0017	0.0048	"	"	"	"	"	"	
Chloroform	ND	0.00048	0.0048	"	"	"	"	"	"	
Chloromethane	ND	0.0019	0.0048	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.00058	0.0048	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.00039	0.0048	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0048	"	"	"	"	"	"	
Dibromochloromethane	ND	0.00039	0.0048	"	"	"	"	"	"	
Dibromomethane	ND	0.00077	0.0048	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.00029	0.0048	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.00039	0.0048	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.00039	0.0048	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0015	0.0048	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.00077	0.0048	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.00077	0.0048	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0013	0.0048	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.00048	0.0048	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.00097	0.0048	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.00058	0.0048	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.00039	0.0048	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.00087	0.0048	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.00077	0.0048	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.00058	0.0048	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.00039	0.0048	"	"	"	"	"	"	
Ethylbenzene	**0.0032**	0.00058	0.0048	"	"	"	"	"	"	J
1,2-Dibromoethane (EDB)	ND	0.00058	0.0048	"	"	"	"	"	"	

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T3A-2'

1105253-40 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Hexachlorobutadiene	ND	0.00097	0.0048	mg/kg	1	A111152	10-Nov-11	10-Nov-11	EPA 8260B	
Isopropylbenzene	**0.018**	0.00068	0.0048	"	"	"	"	"	"	
4-Isopropyl Toluene	**0.0044**	0.00068	0.0048	"	"	"	"	"	"	J
Methylene chloride	ND	0.00077	0.0048	"	"	"	"	"	"	
Naphthalene	**0.014**	0.00077	0.0048	"	"	"	"	"	"	
n-Propylbenzene	**0.012**	0.00077	0.0048	"	"	"	"	"	"	
Styrene	ND	0.00048	0.0048	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0048	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.00048	0.0048	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.00087	0.0048	"	"	"	"	"	"	
Toluene	**0.0026**	0.00048	0.0048	"	"	"	"	"	"	J
1,2,3-Trichlorobenzene	ND	0.00087	0.0048	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.00048	0.0048	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.00087	0.0048	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.00058	0.0048	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.00077	0.0048	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0016	0.0048	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.00097	0.0048	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.0048**	0.00068	0.0048	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.0020**	0.00077	0.0048	"	"	"	"	"	"	J
Vinyl chloride	ND	0.0019	0.0048	"	"	"	"	"	"	
Xylenes (total)	**0.015**	0.0013	0.0048	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.00058	0.0048	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*97.9 %*		*70-130*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*97.2 %*		*70-130*	"	"	"	"	
Surrogate: Toluene-d8			*103 %*		*70-130*	"	"	"	"	

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T3A-2'

1105253-40 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring **R-01**

Acenaphthene	ND	0.047	0.050	mg/kg	5	A111199	11-Nov-11	11-Nov-11	EPA 8270M SIM	
Acenaphthylene	ND	0.035	0.050	"	"	"	"	"	"	
Anthracene	ND	0.042	0.050	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.030	0.050	"	"	"	"	"	"	
Benzo (b) fluoranthene	**0.040**	0.040	0.050	"	"	"	"	"	"	J
Benzo (k) fluoranthene	ND	0.030	0.050	"	"	"	"	"	"	
Benzo (a) pyrene	**0.080**	0.026	0.050	"	"	"	"	"	"	
Benzo (g,h,i) perylene	**0.060**	0.050	0.10	"	"	"	"	"	"	J
Chrysene	**0.083**	0.030	0.050	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.050	0.10	"	"	"	"	"	"	
Fluoranthene	**0.037**	0.030	0.050	"	"	"	"	"	"	J
Fluorene	**0.030**	0.030	0.050	"	"	"	"	"	"	J
Indeno (1,2,3-cd) pyrene	ND	0.035	0.050	"	"	"	"	"	"	
Naphthalene	**0.15**	0.050	0.10	"	"	"	"	"	"	
Phenanthrene	**0.087**	0.047	0.050	"	"	"	"	"	"	
Pyrene	**0.067**	0.030	0.050	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*112 %*	*0-191*		"	"	"	"	

Organochlorine Pesticides by EPA Method 8081A **C-03, R-05**

alpha-BHC	ND	0.0050	0.015	mg/kg	5	A111097	04-Nov-11	11-Nov-11	EPA 8081A
alpha-Chlordane	ND	0.0050	0.015	"	"	"	"	"	"
Aldrin	ND	0.0050	0.015	"	"	"	"	"	"
beta-BHC	ND	0.0050	0.015	"	"	"	"	"	"
delta-BHC	ND	0.0050	0.015	"	"	"	"	"	"
4,4´-DDD	ND	0.0050	0.015	"	"	"	"	"	"
4,4´-DDE	ND	0.0050	0.015	"	"	"	"	"	"
4,4´-DDT	ND	0.0050	0.015	"	"	"	"	"	"
Dieldrin	ND	0.0050	0.015	"	"	"	"	"	"
Endosulfan I	ND	0.0050	0.015	"	"	"	"	"	"
Endosulfan II	ND	0.0050	0.015	"	"	"	"	"	"
Endosulfan sulfate	ND	0.0050	0.015	"	"	"	"	"	"
Endrin	ND	0.0050	0.015	"	"	"	"	"	"
Endrin aldehyde	ND	0.0050	0.015	"	"	"	"	"	"
Endrin ketone	ND	0.0050	0.015	"	"	"	"	"	"
gamma-BHC	ND	0.0050	0.015	"	"	"	"	"	"
gamma-Chlordane	ND	0.0050	0.015	"	"	"	"	"	"

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T3A-2'

1105253-40 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Organochlorine Pesticides by EPA Method 8081A **C-03, R-05**

Heptachlor	ND	0.0050	0.015	mg/kg	5	A111097	04-Nov-11	11-Nov-11	EPA 8081A	
Heptachlor epoxide	ND	0.0050	0.015	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	0.015	"	"	"	"	"	"	
Chlordane (tech)	ND	0.050	0.10	"	"	"	"	"	"	
Toxaphene	ND	0.050	0.10	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl			*66.8 %*	*50-150*		"	"	"	"	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene			*66.4 %*	*50-150*		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270C **R-01**

Acenaphthene	ND	0.50	1.0	mg/kg	5	A111123	08-Nov-11	10-Nov-11	EPA 8270C	
Acenaphthylene	ND	0.50	1.0	"	"	"	"	"	"	
Aniline	ND	0.50	1.0	"	"	"	"	"	"	
Anthracene	ND	0.50	1.0	"	"	"	"	"	"	
Azobenzene	ND	0.50	1.0	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.50	1.0	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.50	1.0	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.50	1.0	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.50	1.0	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.50	1.0	"	"	"	"	"	"	
Benzoic acid	ND	0.50	1.0	"	"	"	"	"	"	
Benzyl alcohol	ND	0.50	1.0	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	0.50	1.0	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	0.50	1.0	"	"	"	"	"	"	
Bis(2-chloroisopropyl) ether	ND	0.50	1.0	"	"	"	"	"	"	
Bis(2-ethylhexyl) phthalate	ND	0.50	1.0	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.50	1.0	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
4-Chloroaniline	ND	0.50	1.0	"	"	"	"	"	"	
2-Chloronaphthalene	ND	0.50	1.0	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	0.50	1.0	"	"	"	"	"	"	
Chrysene	ND	0.50	1.0	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.50	1.0	"	"	"	"	"	"	
Dibenzofuran	ND	0.50	1.0	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.50	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	1.0	"	"	"	"	"	"	

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T3A-2'

1105253-40 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Semivolatile Organic Compounds by EPA Method 8270C **R-01**

1,4-Dichlorobenzene	ND	0.50	1.0	mg/kg	5	A111123	08-Nov-11	10-Nov-11	EPA 8270C	
3,3'-Dichlorobenzidine	ND	2.0	5.0	"	"	"	"	"	"	
Diethyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
Dimethyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	0.60	1.0	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	0.50	1.0	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
Fluoranthene	ND	0.50	1.0	"	"	"	"	"	"	
Fluorene	ND	0.50	1.0	"	"	"	"	"	"	
Hexachlorobenzene	ND	0.50	1.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.50	1.0	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.50	1.0	"	"	"	"	"	"	
Hexachloroethane	ND	0.50	1.0	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.50	1.0	"	"	"	"	"	"	
Isophorone	ND	0.50	1.0	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.50	1.0	"	"	"	"	"	"	
2-Nitroaniline	ND	0.50	1.0	"	"	"	"	"	"	
3-Nitroaniline	ND	0.50	1.0	"	"	"	"	"	"	
4-Nitroaniline	ND	0.50	2.5	"	"	"	"	"	"	
Nitrobenzene	ND	0.50	1.0	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	0.50	1.0	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	0.50	1.0	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.50	1.0	"	"	"	"	"	"	
Phenanthrene	ND	0.50	1.0	"	"	"	"	"	"	
Pyrene	ND	0.50	1.0	"	"	"	"	"	"	
Carbazole	ND	0.50	1.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.50	1.0	"	"	"	"	"	"	
4-Chloro-3-methylphenol (Parachlorometa cresol)	ND	0.50	1.0	"	"	"	"	"	"	
2-Chlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	0.50	1.0	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	0.50	1.0	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	0.50	1.0	"	"	"	"	"	"	
2-Methylphenol	ND	0.50	1.0	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T3A-2'

1105253-40 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Semivolatile Organic Compounds by EPA Method 8270C **R-01**

3 & 4-Methylphenol	ND	0.50	1.0	mg/kg	5	A111123	08-Nov-11	10-Nov-11	EPA 8270C	
2-Nitrophenol	ND	0.50	1.0	"	"	"	"	"	"	
4-Nitrophenol	ND	0.50	1.0	"	"	"	"	"	"	
Pentachlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
Phenol	ND	0.50	1.0	"	"	"	"	"	"	
Pyridine	ND	0.50	1.0	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol			*99.4 %*	*4-109*		"	"	"	"	
Surrogate: Phenol-d5			*118 %*	*0-116*		"	"	"	"	*S-04*
Surrogate: Nitrobenzene-d5			*101 %*	*2-132*		"	"	"	"	
Surrogate: 2-Fluorobiphenyl			*120 %*	*18-123*		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol			*95.4 %*	*2-126*		"	"	"	"	
Surrogate: p-Terphenyl-d14			*169 %*	*0-164*		"	"	"	"	*S-04*

T3B-2'

1105253-41 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TVPH by GC FID

TPH Gasoline (C4-C10)	**1.4**	0.10	0.50	mg/kg	1	A111082	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*192 %*	*70-130*		"	"	"	"	*S-04*

TEPH by GC FID

TPH Diesel (C10-C25)	**520**	76	100	mg/kg	10	A111091	04-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**1100**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*108 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T3C-2'

1105253-42 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**2.6**	0.10	0.50	mg/kg	1	A111082	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*207 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**7000**	76	100	mg/kg	10	A111091	04-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**8600**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*107 %*	*50-150*		"	"	"	"	

T3A-3'

1105253-43 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**2.9**	0.098	0.49	mg/kg	1	A111082	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*314 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**120**	7.6	10	mg/kg	1	A111091	04-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**130**	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*88.7 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T3B-3'

1105253-44 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**0.74**	0.10	0.50	mg/kg	1	A111082	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*161 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**51**	7.6	10	mg/kg	1	A111091	04-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**41**	15	50	"	"	"	"	"	"	J
Surrogate: o-Terphenyl			*97.5 %*	*50-150*		"	"	"	"	

T3C-3'

1105253-45 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**3.7**	0.097	0.49	mg/kg	1	A111082	04-Nov-11	07-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*297 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**1200**	7.6	10	mg/kg	1	A111091	04-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**430**	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*112 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T3A-4'

1105253-46 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**140**	5.0	25	mg/kg	50	A111134	08-Nov-11	09-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*266 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**3500**	76	100	mg/kg	10	A111091	04-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**1600**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*104 %*	*50-150*		"	"	"	"	

T3B-4'

1105253-47 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**200**	4.9	25	mg/kg	50	A111134	08-Nov-11	09-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*325 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**940**	7.6	10	mg/kg	1	A111115	07-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**390**	15	50	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*97.6 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T3C-4'

1105253-48 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**640**	20	100	mg/kg	200	A111134	08-Nov-11	10-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*289 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**2600**	76	100	mg/kg	10	A111115	07-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**1400**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*92.3 %*	*50-150*		"	"	"	"	

T3A-5'

1105253-49 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**940**	20	99	mg/kg	200	A111134	08-Nov-11	10-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*538 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**11000**	76	100	mg/kg	10	A111115	07-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**3500**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*109 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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T3B-5'

1105253-50 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**910**	19	97	mg/kg	200	A111134	08-Nov-11	10-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*601 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**19000**	380	500	mg/kg	50	A111115	07-Nov-11	08-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**6500**	750	2500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*111 %*	*50-150*		"	"	"	"	

T3C-5'

1105253-51 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**880**	20	99	mg/kg	200	A111134	08-Nov-11	10-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*466 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**13000**	76	100	mg/kg	10	A111115	07-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**5400**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*104 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T3A-6'

1105253-52 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C10)	**900**	20	100	mg/kg	200	A111134	08-Nov-11	10-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*491 %*	*70-130*		"	"	"	"	*S-04*
TEPH by GC FID										
TPH Diesel (C10-C25)	**8500**	76	100	mg/kg	10	A111115	07-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**2700**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*102 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T3B-6'

1105253-53 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Flashpoint , Closed Cup										
Flashpoint	>212	72	72	°F	1	A111219	11-Nov-11	11-Nov-11	EPA 1010	
Wet Chemistry by EPA or APHA Standard Methods										
pH	**8.76**	0.100	0.200	pH Units	1	A111089	03-Nov-11	03-Nov-11	EPA 9045	HT-pH
Reactives										
Cyanide, reactive	ND	0.167	0.500	mg/kg	1	A111146	08-Nov-11	08-Nov-11	SW846. 7.3	
Sulfide, reactive	ND	0.672	2.00	"	"	"	"	"	SW 846 7.3	
Total Metals by EPA 6000/7000 Series Methods										
Antimony	ND	1.9	4.7	mg/kg	1	A111109	07-Nov-11	08-Nov-11	EPA 6010B	
Arsenic	**1.9**	0.47	0.94	"	"	"	"	"	"	
Barium	**42**	0.19	0.47	"	"	"	"	"	"	
Beryllium	ND	0.47	0.94	"	"	"	"	"	"	
Cadmium	**0.32**	0.19	0.47	"	"	"	"	"	"	J
Chromium	**23**	0.19	0.47	"	"	"	"	"	"	
Cobalt	**1.5**	0.19	0.47	"	"	"	"	"	"	
Copper	**3.8**	0.28	0.47	"	"	"	"	"	"	
Lead	**4.1**	0.47	0.94	"	"	"	"	"	"	
Mercury	ND	0.0095	0.088	"	"	A111110	07-Nov-11	07-Nov-11	EPA 7471A	
Molybdenum	ND	0.47	0.94	"	"	A111109	07-Nov-11	08-Nov-11	EPA 6010B	
Nickel	**7.8**	0.19	0.47	"	"	"	"	"	"	
Selenium	ND	1.0	1.9	"	"	"	"	"	"	
Silver	ND	0.56	1.9	"	2	"	"	09-Nov-11	"	
Thallium	ND	0.47	0.94	"	1	"	"	08-Nov-11	"	
Vanadium	**14**	0.94	1.9	"	"	"	"	"	"	
Zinc	**8.4**	0.33	0.47	"	"	"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T3B-6'

1105253-53 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Oilfield Environmental and Compliance										
TVPH by GC FID										
TPH Gasoline (C4-C12)	**1300**	97	490	mg/kg	1000	A111134	08-Nov-11	15-Nov-11	EPA 8015M	
Surrogate: 4-Bromofluorobenzene			*188 %*	*70-130*		"	"	"	"	*S-04*
TPH Gasoline (C4-C10)	**810**	19	97	"	200	"	"	10-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*481 %*	*70-130*		"	"	"	"	*S-04*
DI WET/STLC/ZHE Volatiles										
TPH Gasoline (C4-C12)	ND	21	50	ug/L	1	A111177	10-Nov-11	10-Nov-11	ZHE-DIWET /EPA 8015M	
Surrogate: 4-Bromofluorobenzene			*129 %*	*70-130*		"	"	"	"	
TEPH by GC FID										
TPH Diesel (C10-C25)	**7000**	76	100	mg/kg	10	A111115	07-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**2300**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*95.4 %*	*50-150*		"	"	"	"	
TPH Diesel (C13-C22)	**4600**	76	100	"	"	"	"	"	"	
TPH Motor Oil (C23-C40)	**3000**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*95.4 %*	*50-150*		"	"	"	"	
DI WET/STLC Semi-Volatiles										
TPH Diesel (C13-C22)	**1.4**	0.041	0.050	mg/L	1	A111142	08-Nov-11	10-Nov-11	DIWET/EPA 8015M	
TPH Motor Oil (C23-C40)	**0.44**	0.050	0.10	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*79.2 %*	*50-150*		"	"	"	"	
Polychlorinated Biphenyls by EPA Method 8082										**C-03, R-05**
PCB-1016	ND	0.020	0.10	mg/kg	5	A111097	04-Nov-11	11-Nov-11	EPA 8082	
PCB-1221	ND	0.020	0.10	"	"	"	"	"	"	
PCB-1232	ND	0.020	0.10	"	"	"	"	"	"	
PCB-1242	ND	0.020	0.10	"	"	"	"	"	"	
PCB-1248	ND	0.020	0.10	"	"	"	"	"	"	
PCB-1254	ND	0.020	0.10	"	"	"	"	"	"	
PCB-1260	ND	0.020	0.10	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl			*68.4 %*	*60-120*		"	"	"	"	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene			*67.2 %*	*60-120*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

T3B-6'

1105253-53 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B **R-05**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**0.082**	0.0034	0.024	mg/kg	1	A111055	03-Nov-11	04-Nov-11	EPA 8260B	
Bromobenzene	ND	0.0019	0.024	"	"	"	"	"	"	
Bromochloromethane	ND	0.0049	0.024	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0019	0.024	"	"	"	"	"	"	
Bromoform	ND	0.0029	0.024	"	"	"	"	"	"	
Bromomethane	ND	0.0083	0.024	"	"	"	"	"	"	
n-Butylbenzene	**0.13**	0.0034	0.024	"	"	"	"	"	"	
sec-Butylbenzene	**0.20**	0.0029	0.024	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0044	0.024	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0053	0.024	"	"	"	"	"	"	
Chlorobenzene	ND	0.0029	0.024	"	"	"	"	"	"	
Chloroethane	ND	0.0087	0.024	"	"	"	"	"	"	
Chloroform	ND	0.0024	0.024	"	"	"	"	"	"	
Chloromethane	ND	0.0097	0.024	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0029	0.024	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0019	0.024	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0063	0.024	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0019	0.024	"	"	"	"	"	"	
Dibromomethane	ND	0.0039	0.024	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0015	0.024	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0019	0.024	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0019	0.024	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0078	0.024	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0039	0.024	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0039	0.024	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0063	0.024	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0024	0.024	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0049	0.024	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0029	0.024	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0019	0.024	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0044	0.024	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0039	0.024	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0029	0.024	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0019	0.024	"	"	"	"	"	"	
Ethylbenzene	ND	0.0029	0.024	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0029	0.024	"	"	"	"	"	"	

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T3B-6'

1105253-53 (Solid)

Oilfield Environmental and Compliance

Volatile Organic Compounds by EPA Method 8260B **R-05**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Hexachlorobutadiene	ND	0.0049	0.024	mg/kg	1	A111055	03-Nov-11	04-Nov-11	EPA 8260B	
Isopropylbenzene	**0.18**	0.0034	0.024	"	"	"	"	"	"	
4-Isopropyl Toluene	ND	0.0034	0.024	"	"	"	"	"	"	
Methylene chloride	**0.0060**	0.0039	0.024	"	"	"	"	"	"	J
Naphthalene	ND	0.0039	0.024	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0039	0.024	"	"	"	"	"	"	
Styrene	ND	0.0024	0.024	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0019	0.024	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0024	0.024	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.0044	0.024	"	"	"	"	"	"	
Toluene	ND	0.0024	0.024	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0044	0.024	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0024	0.024	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0044	0.024	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0029	0.024	"	"	"	"	"	"	
Trichloroethene (TCE)	ND	0.0039	0.024	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0083	0.024	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0049	0.024	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0034	0.024	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0039	0.024	"	"	"	"	"	"	
Vinyl chloride	ND	0.0097	0.024	"	"	"	"	"	"	
Xylenes (total)	ND	0.0063	0.024	"	"	"	"	"	"	
Methyl-t-butyl ether	ND	0.0029	0.024	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane			*102 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8			*92.2 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			*102 %*	*70-130*		"	"	"	"	

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T3B-6'

1105253-53 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring										**R-05**
Acenaphthene	**0.50**	0.23	0.25	mg/kg	50	A111199	11-Nov-11	14-Nov-11	EPA 8270M SIM	
Acenaphthylene	**0.35**	0.17	0.25	"	"	"	"	"	"	
Anthracene	ND	0.042	0.050	"	10	"	"	11-Nov-11	"	
Benz(a)anthracene	ND	0.030	0.050	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.040	0.050	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.030	0.050	"	"	"	"	"	"	
Benzo (a) pyrene	**0.063**	0.026	0.050	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.050	0.10	"	"	"	"	"	"	
Chrysene	**0.27**	0.15	0.25	"	50	"	"	14-Nov-11	"	
Dibenz (a,h) anthracene	ND	0.050	0.10	"	10	"	"	11-Nov-11	"	
Fluoranthene	**0.053**	0.030	0.050	"	"	"	"	"	"	
Fluorene	**2.3**	0.15	0.25	"	50	"	"	14-Nov-11	"	
Indeno (1,2,3-cd) pyrene	ND	0.035	0.050	"	10	"	"	11-Nov-11	"	
Naphthalene	**0.65**	0.25	0.50	"	50	"	"	14-Nov-11	"	
Phenanthrene	**4.5**	0.23	0.25	"	"	"	"	"	"	
Pyrene	**0.35**	0.15	0.25	"	"	"	"	"	"	
Surrogate: p-Terphenyl-d14			*12.5 %*		*0-191*	"	"	*11-Nov-11*	"	
Organochlorine Pesticides by EPA Method 8081A										**C-03, R-05**
alpha-BHC	ND	0.0050	0.015	mg/kg	5	A111097	04-Nov-11	11-Nov-11	EPA 8081A	
alpha-Chlordane	ND	0.0050	0.015	"	"	"	"	"	"	
Aldrin	ND	0.0050	0.015	"	"	"	"	"	"	
beta-BHC	ND	0.0050	0.015	"	"	"	"	"	"	
delta-BHC	ND	0.0050	0.015	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	0.015	"	"	"	"	"	"	
4,4´-DDE	ND	0.0050	0.015	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	0.015	"	"	"	"	"	"	
Dieldrin	ND	0.0050	0.015	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	0.015	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	0.015	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	0.015	"	"	"	"	"	"	
Endrin	ND	0.0050	0.015	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	0.015	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	0.015	"	"	"	"	"	"	
gamma-BHC	ND	0.0050	0.015	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	0.015	"	"	"	"	"	"	

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T3B-6'

1105253-53 (Solid)

Oilfield Environmental and Compliance

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A										**C-03, R-05**
Heptachlor	ND	0.0050	0.015	mg/kg	5	A111097	04-Nov-11	11-Nov-11	EPA 8081A	
Heptachlor epoxide	ND	0.0050	0.015	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	0.015	"	"	"	"	"	"	
Chlordane (tech)	ND	0.050	0.10	"	"	"	"	"	"	
Toxaphene	ND	0.050	0.10	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl			*61.9 %*		*50-150*	"	"	"	"	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene			*62.7 %*		*50-150*	"	"	"	"	
Semivolatile Organic Compounds by EPA Method 8270C										**R-05**
Acenaphthene	**0.75**	0.50	1.0	mg/kg	10	A111123	08-Nov-11	11-Nov-11	EPA 8270C	J
Acenaphthylene	ND	0.50	1.0	"	"	"	"	"	"	
Aniline	ND	0.50	1.0	"	"	"	"	"	"	
Anthracene	ND	0.50	1.0	"	"	"	"	"	"	
Azobenzene	ND	0.50	1.0	"	"	"	"	"	"	
Benz(a)anthracene	ND	0.50	1.0	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.50	1.0	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.50	1.0	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.50	1.0	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.50	1.0	"	"	"	"	"	"	
Benzoic acid	ND	0.50	1.0	"	"	"	"	"	"	
Benzyl alcohol	ND	0.50	1.0	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	0.50	1.0	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	0.50	1.0	"	"	"	"	"	"	
Bis(2-chloroisopropyl) ether	ND	0.50	1.0	"	"	"	"	"	"	
Bis(2-ethylhexyl) phthalate	ND	0.50	1.0	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.50	1.0	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
4-Chloroaniline	ND	0.50	1.0	"	"	"	"	"	"	
2-Chloronaphthalene	ND	0.50	1.0	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	0.50	1.0	"	"	"	"	"	"	
Chrysene	ND	0.50	1.0	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.50	1.0	"	"	"	"	"	"	
Dibenzofuran	ND	0.50	1.0	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.50	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	1.0	"	"	"	"	"	"	

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T3B-6'

1105253-53 (Solid)

Oilfield Environmental and Compliance

Semivolatile Organic Compounds by EPA Method 8270C **R-05**

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,4-Dichlorobenzene	ND	0.50	1.0	mg/kg	10	A111123	08-Nov-11	11-Nov-11	EPA 8270C	
3,3'-Dichlorobenzidine	ND	2.0	5.0	"	"	"	"	"	"	
Diethyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
Dimethyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
2,4-Dinitrotoluene	**0.64**	0.60	1.0	"	"	"	"	"	"	J
2,6-Dinitrotoluene	ND	0.50	1.0	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	0.50	1.0	"	"	"	"	"	"	
Fluoranthene	ND	0.50	1.0	"	"	"	"	"	"	
Fluorene	**1.4**	0.50	1.0	"	"	"	"	"	"	
Hexachlorobenzene	ND	0.50	1.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.50	1.0	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.50	1.0	"	"	"	"	"	"	
Hexachloroethane	ND	0.50	1.0	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.50	1.0	"	"	"	"	"	"	
Isophorone	ND	0.50	1.0	"	"	"	"	"	"	
2-Methylnaphthalene	**15**	0.50	1.0	"	"	"	"	"	"	
Naphthalene	ND	0.50	1.0	"	"	"	"	"	"	
2-Nitroaniline	ND	0.50	1.0	"	"	"	"	"	"	
3-Nitroaniline	ND	0.50	1.0	"	"	"	"	"	"	
4-Nitroaniline	ND	0.50	2.5	"	"	"	"	"	"	
Nitrobenzene	ND	0.50	1.0	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	0.50	1.0	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	0.50	1.0	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.50	1.0	"	"	"	"	"	"	
Phenanthrene	**2.0**	0.50	1.0	"	"	"	"	"	"	
Pyrene	ND	0.50	1.0	"	"	"	"	"	"	
Carbazole	ND	0.50	1.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.50	1.0	"	"	"	"	"	"	
4-Chloro-3-methylphenol (Parachlorometa cresol)	ND	0.50	1.0	"	"	"	"	"	"	
2-Chlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	0.50	1.0	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	0.50	1.0	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	0.50	1.0	"	"	"	"	"	"	
2-Methylphenol	ND	0.50	1.0	"	"	"	"	"	"	

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T3B-6'

1105253-53 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

Semivolatile Organic Compounds by EPA Method 8270C **R-05**

3 & 4-Methylphenol	ND	0.50	1.0	mg/kg	10	A111123	08-Nov-11	11-Nov-11	EPA 8270C	
2-Nitrophenol	ND	0.50	1.0	"	"	"	"	"	"	
4-Nitrophenol	ND	0.50	1.0	"	"	"	"	"	"	
Pentachlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
Phenol	ND	0.50	1.0	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
Pyridine	ND	0.50	1.0	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	0.50	1.0	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol			*73.0 %*	*4-109*		"	"	"	"	
Surrogate: Phenol-d5			*76.0 %*	*0-116*		"	"	"	"	
Surrogate: Nitrobenzene-d5			*90.0 %*	*2-132*		"	"	"	"	
Surrogate: 2-Fluorobiphenyl			*96.0 %*	*18-123*		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol			*81.4 %*	*2-126*		"	"	"	"	
Surrogate: p-Terphenyl-d14			*110 %*	*0-164*		"	"	"	"	

T3C-6'

1105253-54 (Solid)

Analyte	Result	Method Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Oilfield Environmental and Compliance

TVPH by GC FID

TPH Gasoline (C4-C10)	**180**	4.9	25	mg/kg	50	A111134	08-Nov-11	09-Nov-11	EPA 8015	
Surrogate: 4-Bromofluorobenzene			*318 %*	*70-130*		"	"	"	"	*S-04*

TEPH by GC FID

TPH Diesel (C10-C25)	**3600**	76	100	mg/kg	10	A111115	07-Nov-11	07-Nov-11	EPA 8015M	
TPH Motor Oil (C25-C40)	**1500**	150	500	"	"	"	"	"	"	
Surrogate: o-Terphenyl			*96.4 %*	*50-150*		"	"	"	"	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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Flashpoint , Closed Cup - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111219 - EPA 1010 Prep											
Blank (A111219-BLK1)					Prepared & Analyzed: 11-Nov-11						
Flashpoint	>212	72	72	°F							
LCS (A111219-BS1)					Prepared & Analyzed: 11-Nov-11						
Flashpoint	83	72	72	°F	82.0		101	95-105			
Duplicate (A111219-DUP1)	**Source: 1105253-17**				Prepared & Analyzed: 11-Nov-11						
Flashpoint	>212	72	72	°F		>212				10	

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Wet Chemistry by EPA or APHA Standard Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111089 - EPA 9045 pH Prep											
LCS (A111089-BS1)					Prepared & Analyzed: 03-Nov-11						
pH	3.99	0.0500	0.100	pH Units	4.00		99.8	90-110			
LCS (A111089-BS2)					Prepared & Analyzed: 03-Nov-11						
pH	7.00	0.0500	0.100	pH Units	7.00		100	90-110			
LCS (A111089-BS3)					Prepared & Analyzed: 03-Nov-11						
pH	9.96	0.0500	0.100	pH Units	10.0		99.6	90-110			
Duplicate (A111089-DUP1)	**Source: 1105233-01**				Prepared & Analyzed: 03-Nov-11						
pH	6.21	0.100	0.200	pH Units		6.21			0.00	10	

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Reactives - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111119 - EPA 9030											
Blank (A111119-BLK1)					Prepared & Analyzed: 07-Nov-11						
Cyanide, reactive	ND	0.167	0.500	mg/kg							
Sulfide, reactive	ND	0.672	2.00	"							
LCS (A111119-BS1)					Prepared & Analyzed: 07-Nov-11						
Cyanide, reactive	0.677	0.167	0.500	mg/kg	0.750		90.3	70-130			
Sulfide, reactive	59.3	0.672	2.00	"	50.0		119	70-130			
Duplicate (A111119-DUP1)	**Source: 1105233-01**				Prepared & Analyzed: 07-Nov-11						
Cyanide, reactive	ND	0.167	0.500	mg/kg		ND				20	
Sulfide, reactive	ND	0.672	2.00	"		ND				20	
Batch A111146 - EPA 9030											
Blank (A111146-BLK1)					Prepared & Analyzed: 08-Nov-11						
Cyanide, reactive	ND	0.167	0.500	mg/kg							
Sulfide, reactive	ND	0.672	2.00	"							
LCS (A111146-BS1)					Prepared & Analyzed: 08-Nov-11						
Cyanide, reactive	0.690	0.167	0.500	mg/kg	0.750		92.0	70-130			
Sulfide, reactive	58.9	0.672	2.00	"	50.0		118	70-130			
Duplicate (A111146-DUP1)	**Source: 1105253-30**				Prepared & Analyzed: 08-Nov-11						
Cyanide, reactive	ND	0.167	0.500	mg/kg		ND				20	
Sulfide, reactive	ND	0.672	2.00	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111109 - EPA 3050B											
Blank (A111109-BLK1)					Prepared: 07-Nov-11 Analyzed: 08-Nov-11						
Antimony	ND	2.0	5.0	mg/kg							
Arsenic	ND	0.50	1.0	"							
Barium	ND	0.20	0.50	"							
Beryllium	ND	0.50	1.0	"							
Cadmium	ND	0.20	0.50	"							
Chromium	ND	0.20	0.50	"							
Cobalt	ND	0.20	0.50	"							
Copper	ND	0.30	0.50	"							
Lead	ND	0.50	1.0	"							
Molybdenum	ND	0.50	1.0	"							
Nickel	ND	0.20	0.50	"							
Selenium	ND	1.1	2.0	"							
Silver	ND	0.30	1.0	"							
Thallium	ND	0.50	1.0	"							
Vanadium	ND	1.0	2.0	"							
Zinc	ND	0.35	0.50	"							
LCS (A111109-BS1)					Prepared: 07-Nov-11 Analyzed: 08-Nov-11						
Antimony	97.1	2.0	5.0	mg/kg	100		97.1	85-115			
Arsenic	94.3	0.50	1.0	"	100		94.3	85-115			
Barium	97.5	0.20	0.50	"	100		97.5	85-115			
Beryllium	97.9	0.50	1.0	"	100		97.9	85-115			
Cadmium	103	0.20	0.50	"	100		103	85-115			
Chromium	101	0.20	0.50	"	100		101	85-115			
Cobalt	101	0.20	0.50	"	100		101	85-115			
Copper	104	0.30	0.50	"	100		104	85-115			
Lead	104	0.50	1.0	"	100		104	85-115			
Molybdenum	98.0	0.50	1.0	"	100		98.0	85-115			
Nickel	104	0.20	0.50	"	100		104	85-115			
Selenium	94.4	1.1	2.0	"	100		94.4	85-115			
Silver	94.1	0.30	1.0	"	100		94.1	85-115			
Thallium	106	0.50	1.0	"	100		106	85-115			
Vanadium	95.7	1.0	2.0	"	100		95.7	85-115			
Zinc	101	0.35	0.50	"	100		101	85-115			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111109 - EPA 3050B											
LCS Dup (A111109-BSD1)					Prepared: 07-Nov-11 Analyzed: 08-Nov-11						
Antimony	97.4	2.0	5.0	mg/kg	100		97.4	85-115	0.329	20	
Arsenic	95.1	0.50	1.0	"	100		95.1	85-115	0.792	20	
Barium	98.1	0.20	0.50	"	100		98.1	85-115	0.624	20	
Beryllium	98.8	0.50	1.0	"	100		98.8	85-115	0.976	20	
Cadmium	103	0.20	0.50	"	100		103	85-115	0.00	20	
Chromium	104	0.20	0.50	"	100		104	85-115	3.11	20	
Cobalt	103	0.20	0.50	"	100		103	85-115	2.25	20	
Copper	107	0.30	0.50	"	100		107	85-115	3.04	20	
Lead	104	0.50	1.0	"	100		104	85-115	0.0964	20	
Molybdenum	98.1	0.50	1.0	"	100		98.1	85-115	0.0612	20	
Nickel	104	0.20	0.50	"	100		104	85-115	0.481	20	
Selenium	94.4	1.1	2.0	"	100		94.4	85-115	0.00	20	
Silver	95.9	0.30	1.0	"	100		95.9	85-115	1.94	20	
Thallium	106	0.50	1.0	"	100		106	85-115	0.283	20	
Vanadium	96.6	1.0	2.0	"	100		96.6	85-115	0.915	20	
Zinc	101	0.35	0.50	"	100		101	85-115	0.0991	20	
Duplicate (A111109-DUP1)	**Source: 1105245-01**				Prepared: 07-Nov-11 Analyzed: 08-Nov-11						
Antimony	ND	1.8	4.6	mg/kg		ND				20	
Arsenic	6.63	0.46	0.92	"		11.1			50.3	20	QR-04
Barium	158	0.18	0.46	"		172			8.54	20	
Beryllium	ND	0.46	0.92	"		ND				20	
Cadmium	2.77	0.18	0.46	"		1.55			56.6	20	QR-04
Chromium	45.2	0.18	0.46	"		45.8			1.24	20	
Cobalt	9.71	0.18	0.46	"		9.01			7.57	20	
Copper	52.2	0.28	0.46	"		39.5			27.8	20	QR-04
Lead	90.0	0.46	0.92	"		49.8			57.6	20	QR-04
Molybdenum	1.13	0.46	0.92	"		1.96			53.5	20	QR-04
Nickel	25.7	0.18	0.46	"		20.5			22.7	20	QR-04
Selenium	ND	1.0	1.8	"		ND				20	
Silver	ND	0.28	0.92	"		ND				20	
Thallium	ND	0.46	0.92	"		ND				20	
Vanadium	34.0	0.92	1.8	"		30.9			9.63	20	
Zinc	146	0.32	0.46	"		115			24.2	20	QR-04

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111109 - EPA 3050B											
Matrix Spike (A111109-MS1)	**Source: 1105245-01**				Prepared: 07-Nov-11 Analyzed: 08-Nov-11						
Antimony	311	40	100	mg/kg	996	ND	31.2	0-134			
Arsenic	989	10	20	"	996	11.1	98.1	77-112			
Barium	1180	4.0	10	"	996	172	101	65-146			
Beryllium	1050	10	20	"	996	ND	105	85-122			
Cadmium	1070	4.0	10	"	996	1.55	107	85-122			
Chromium	1140	4.0	10	"	996	45.8	110	82-124			
Cobalt	1070	4.0	10	"	996	9.01	107	83-123			
Copper	1160	6.0	10	"	996	39.5	112	82-125			
Lead	1140	10	20	"	996	49.8	110	80-126			
Molybdenum	996	10	20	"	996	1.96	99.8	74-116			
Nickel	1100	4.0	10	"	996	20.5	108	83-122			
Selenium	976	22	40	"	996	ND	98.0	78-115			
Silver	295	6.0	20	"	996	ND	29.6	0-105			
Thallium	1080	10	20	"	996	ND	109	83-126			
Vanadium	1050	20	40	"	996	30.9	102	81-120			
Zinc	1260	7.0	10	"	996	115	115	63-142			
Matrix Spike Dup (A111109-MSD1)	**Source: 1105245-01**				Prepared: 07-Nov-11 Analyzed: 08-Nov-11						
Antimony	301	39	99	mg/kg	986	ND	30.5	0-134	2.07	20	
Arsenic	1010	9.9	20	"	986	11.1	101	77-112	2.98	20	
Barium	1210	3.9	9.9	"	986	172	105	65-146	4.16	20	
Beryllium	1070	9.9	20	"	986	ND	109	85-122	3.67	20	
Cadmium	1090	3.9	9.9	"	986	1.55	110	85-122	2.59	20	
Chromium	1150	3.9	9.9	"	986	45.8	112	82-124	2.26	20	
Cobalt	1080	3.9	9.9	"	986	9.01	108	83-123	1.55	20	
Copper	1180	5.9	9.9	"	986	39.5	116	82-125	3.35	20	
Lead	1160	9.9	20	"	986	49.8	112	80-126	2.30	20	
Molybdenum	1020	9.9	20	"	986	1.96	103	74-116	3.54	20	
Nickel	1110	3.9	9.9	"	986	20.5	111	83-122	2.41	20	
Selenium	996	22	39	"	986	ND	101	78-115	3.10	20	
Silver	258	5.9	20	"	986	ND	26.1	0-105	12.3	20	
Thallium	1100	9.9	20	"	986	ND	111	83-126	2.62	20	
Vanadium	1070	20	39	"	986	30.9	106	81-120	3.43	20	
Zinc	1240	6.9	9.9	"	986	115	115	63-142	0.725	20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111110 - EPA 7471A Prep											
Blank (A111110-BLK1)					Prepared & Analyzed: 07-Nov-11						
Mercury	ND	0.011	0.10	mg/kg							
LCS (A111110-BS1)					Prepared & Analyzed: 07-Nov-11						
Mercury	0.850	0.011	0.10	mg/kg	0.833		102	85-115			
LCS Dup (A111110-BSD1)					Prepared & Analyzed: 07-Nov-11						
Mercury	0.859	0.011	0.10	mg/kg	0.833		103	85-115	0.995	20	
Duplicate (A111110-DUP1)		**Source: 1105245-01**			Prepared & Analyzed: 07-Nov-11						
Mercury	0.0630	0.010	0.093	mg/kg		0.0601			4.72	20	J
Matrix Spike (A111110-MS1)		**Source: 1105245-01**			Prepared & Analyzed: 07-Nov-11						
Mercury	0.839	0.010	0.093	mg/kg	0.774	0.0601	101	75-125			
Matrix Spike Dup (A111110-MSD1)		**Source: 1105245-01**			Prepared & Analyzed: 07-Nov-11						
Mercury	0.875	0.011	0.097	mg/kg	0.812	0.0601	100	75-125	0.278	20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

TVPH by GC FID - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111071 - EPA 5035/5030B MEOH GC											
Blank (A111071-BLK1)					Prepared: 03-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	ND	0.099	0.49	mg/kg							
TPH Gasoline (C4-C12)	ND	0.099	0.49	"							
Surrogate: 4-Bromofluorobenzene	*0.106*			*"*	*0.123*		*86.3*	*70-130*			
LCS (A111071-BS1)					Prepared: 03-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	0.595	0.10	0.50	mg/kg	0.599		99.4	70-130			
TPH Gasoline (C4-C12)	0.595	0.10	0.50	"	0.599		99.4	70-130			
Surrogate: 4-Bromofluorobenzene	*0.119*			*"*	*0.125*		*95.7*	*70-130*			
LCS Dup (A111071-BSD1)					Prepared: 03-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	0.614	0.10	0.50	mg/kg	0.600		102	70-130	3.09	20	
TPH Gasoline (C4-C12)	0.614	0.10	0.50	"	0.600		102	70-130	3.09	20	
Surrogate: 4-Bromofluorobenzene	*0.120*			*"*	*0.125*		*95.8*	*70-130*			
Duplicate (A111071-DUP1)	**Source: 1105253-01**				Prepared: 03-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	ND	0.10	0.50	mg/kg		ND				20	
TPH Gasoline (C4-C12)	ND	0.10	0.50	"		ND				20	
Surrogate: 4-Bromofluorobenzene	*0.112*			*"*	*0.125*		*89.7*	*70-130*			
Matrix Spike (A111071-MS1)	**Source: 1105253-01**				Prepared: 03-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	0.504	0.099	0.50	mg/kg	0.594	ND	84.8	70-130			
TPH Gasoline (C4-C12)	0.504	0.099	0.50	"	0.594	ND	84.8	70-130			
Surrogate: 4-Bromofluorobenzene	*0.111*			*"*	*0.124*		*89.4*	*70-130*			
Matrix Spike Dup (A111071-MSD1)	**Source: 1105253-01**				Prepared: 03-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	0.631	0.10	0.50	mg/kg	0.601	ND	105	70-130	22.5	20	QR-04
TPH Gasoline (C4-C12)	0.631	0.10	0.50	"	0.601	ND	105	70-130	22.5	20	QR-04
Surrogate: 4-Bromofluorobenzene	*0.116*			*"*	*0.125*		*92.3*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

TVPH by GC FID - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111073 - EPA 5035/5030B MEOH GC											
Blank (A111073-BLK1)					Prepared: 03-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	ND	0.10	0.50	mg/kg							
TPH Gasoline (C4-C12)	ND	0.10	0.50	"							
Surrogate: 4-Bromofluorobenzene	*0.0970*			*"*	*0.125*		*77.8*	*70-130*			
LCS (A111073-BS1)					Prepared: 03-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	0.651	0.10	0.50	mg/kg	0.598		109	70-130			
TPH Gasoline (C4-C12)	0.651	0.10	0.50	"	0.598		109	70-130			
Surrogate: 4-Bromofluorobenzene	*0.117*			*"*	*0.125*		*94.3*	*70-130*			
LCS Dup (A111073-BSD1)					Prepared: 03-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	0.603	0.099	0.50	mg/kg	0.595		101	70-130	7.68	20	
TPH Gasoline (C4-C12)	0.603	0.099	0.50	"	0.595		101	70-130	7.68	20	
Surrogate: 4-Bromofluorobenzene	*0.116*			*"*	*0.124*		*93.9*	*70-130*			
Duplicate (A111073-DUP1)	**Source: 1105253-21**				Prepared: 03-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	ND	0.099	0.50	mg/kg		ND				20	
TPH Gasoline (C4-C12)	ND	0.099	0.50	"		ND				20	
Surrogate: 4-Bromofluorobenzene	*0.111*			*"*	*0.124*		*90.0*	*70-130*			
Matrix Spike (A111073-MS1)	**Source: 1105253-21**				Prepared: 03-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	0.583	0.099	0.50	mg/kg	0.596	ND	97.8	70-130			
TPH Gasoline (C4-C12)	0.583	0.099	0.50	"	0.596	ND	97.8	70-130			
Surrogate: 4-Bromofluorobenzene	*0.103*			*"*	*0.124*		*83.3*	*70-130*			
Matrix Spike Dup (A111073-MSD1)	**Source: 1105253-21**				Prepared: 03-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	0.540	0.10	0.50	mg/kg	0.599	ND	90.2	70-130	7.63	20	
TPH Gasoline (C4-C12)	0.540	0.10	0.50	"	0.599	ND	90.2	70-130	7.63	20	
Surrogate: 4-Bromofluorobenzene	*0.116*			*"*	*0.125*		*93.3*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

TVPH by GC FID - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111082 - EPA 5035/5030B MEOH GC											
Blank (A111082-BLK1)					Prepared: 04-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	ND	0.098	0.49	mg/kg							
TPH Gasoline (C4-C12)	ND	0.098	0.49	"							
Surrogate: 4-Bromofluorobenzene	*0.152*			*"*	*0.123*		*124*	*70-130*			
LCS (A111082-BS1)					Prepared: 04-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	0.650	0.10	0.50	mg/kg	0.599		109	70-130			
TPH Gasoline (C4-C12)	0.650	0.10	0.50	"	0.599		109	70-130			
Surrogate: 4-Bromofluorobenzene	*0.153*			*"*	*0.125*		*122*	*70-130*			
LCS Dup (A111082-BSD1)					Prepared: 04-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	0.620	0.10	0.50	mg/kg	0.600		103	70-130	4.72	20	
TPH Gasoline (C4-C12)	0.620	0.10	0.50	"	0.600		103	70-130	4.72	20	
Surrogate: 4-Bromofluorobenzene	*0.152*			*"*	*0.125*		*121*	*70-130*			
Duplicate (A111082-DUP1)	**Source: 1105254-02**				Prepared: 04-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	ND	0.099	0.49	mg/kg		ND				20	
TPH Gasoline (C4-C12)	ND	0.099	0.49	"		ND				20	
Surrogate: 4-Bromofluorobenzene	*0.150*			*"*	*0.124*		*121*	*70-130*			
Matrix Spike (A111082-MS1)	**Source: 1105254-02**				Prepared: 04-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	0.565	0.10	0.50	mg/kg	0.600	ND	94.1	70-130			
TPH Gasoline (C4-C12)	0.565	0.10	0.50	"	0.600	ND	94.1	70-130			
Surrogate: 4-Bromofluorobenzene	*0.158*			*"*	*0.125*		*126*	*70-130*			
Matrix Spike Dup (A111082-MSD1)	**Source: 1105254-02**				Prepared: 04-Nov-11 Analyzed: 07-Nov-11						
TPH Gasoline (C4-C10)	0.628	0.099	0.50	mg/kg	0.596	ND	105	70-130	10.5	20	
TPH Gasoline (C4-C12)	0.628	0.099	0.50	"	0.596	ND	105	70-130	10.5	20	
Surrogate: 4-Bromofluorobenzene	*0.153*			*"*	*0.124*		*123*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

TVPH by GC FID - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111125 - EPA 5035/5030B MEOH GC											
Blank (A111125-BLK1)					Prepared: 08-Nov-11 Analyzed: 09-Nov-11						
TPH Gasoline (C4-C10)	ND	0.098	0.49	mg/kg							
Surrogate: 4-Bromofluorobenzene	*0.131*			*"*	*0.123*		*107*	*70-130*			
LCS (A111125-BS1)					Prepared: 08-Nov-11 Analyzed: 09-Nov-11						
TPH Gasoline (C4-C10)	0.619	0.098	0.49	mg/kg	0.589		105	70-130			
Surrogate: 4-Bromofluorobenzene	*0.129*			*"*	*0.123*		*105*	*70-130*			
LCS Dup (A111125-BSD1)					Prepared: 08-Nov-11 Analyzed: 09-Nov-11						
TPH Gasoline (C4-C10)	0.592	0.10	0.50	mg/kg	0.598		99.0	70-130	4.41	20	
Surrogate: 4-Bromofluorobenzene	*0.131*			*"*	*0.125*		*105*	*70-130*			
Duplicate (A111125-DUP1)	**Source: 1105340-01**				Prepared: 08-Nov-11 Analyzed: 09-Nov-11						
TPH Gasoline (C4-C10)	ND	0.099	0.50	mg/kg		ND				20	
Surrogate: 4-Bromofluorobenzene	*0.134*			*"*	*0.124*		*108*	*70-130*			
Matrix Spike (A111125-MS1)	**Source: 1105340-01**				Prepared: 08-Nov-11 Analyzed: 09-Nov-11						
TPH Gasoline (C4-C10)	0.638	0.099	0.50	mg/kg	0.595	ND	107	70-130			
Surrogate: 4-Bromofluorobenzene	*0.130*			*"*	*0.124*		*105*	*70-130*			
Matrix Spike Dup (A111125-MSD1)	**Source: 1105340-01**				Prepared: 08-Nov-11 Analyzed: 09-Nov-11						
TPH Gasoline (C4-C10)	0.602	0.099	0.50	mg/kg	0.595	ND	101	70-130	5.90	20	
Surrogate: 4-Bromofluorobenzene	*0.133*			*"*	*0.124*		*107*	*70-130*			
Batch A111134 - EPA 5035/5030B MEOH GC											
Blank (A111134-BLK1)					Prepared: 08-Nov-11 Analyzed: 09-Nov-11						
TPH Gasoline (C4-C10)	ND	0.099	0.50	mg/kg							
Surrogate: 4-Bromofluorobenzene	*0.0908*			*"*	*0.124*		*73.4*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

TVPH by GC FID - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111134 - EPA 5035/5030B MEOH GC											
LCS (A111134-BS1)					Prepared: 08-Nov-11 Analyzed: 09-Nov-11						
TPH Gasoline (C4-C10)	0.538	0.099	0.49	mg/kg	0.592		90.9	70-130			
Surrogate: 4-Bromofluorobenzene	*0.105*			*"*	*0.123*		*84.9*	*70-130*			
LCS Dup (A111134-BSD1)					Prepared: 08-Nov-11 Analyzed: 09-Nov-11						
TPH Gasoline (C4-C10)	0.560	0.097	0.49	mg/kg	0.583		96.2	70-130	4.05	20	
Surrogate: 4-Bromofluorobenzene	*0.120*			*"*	*0.121*		*98.6*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

DI WET/STLC/ZHE Volatiles - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111177 - EPA 5030B Leachate											
Blank (A111177-BLK1)					Prepared & Analyzed: 10-Nov-11						
TPH Gasoline (C4-C12)	ND	21	50	ug/L							
Surrogate: 4-Bromofluorobenzene	*142*			*"*	*125*		*113*	*70-130*			
LCS (A111177-BS1)					Prepared & Analyzed: 10-Nov-11						
TPH Gasoline (C4-C12)	667	21	50	ug/L	600		111	70-130			
Surrogate: 4-Bromofluorobenzene	*135*			*"*	*125*		*108*	*70-130*			
LCS Dup (A111177-BSD1)					Prepared & Analyzed: 10-Nov-11						
TPH Gasoline (C4-C12)	676	21	50	ug/L	600		113	70-130	1.39	20	
Surrogate: 4-Bromofluorobenzene	*149*			*"*	*125*		*120*	*70-130*			
Duplicate (A111177-DUP1)	**Source: 1105265-01**				Prepared & Analyzed: 10-Nov-11						
TPH Gasoline (C4-C12)	814	21	50	ug/L		889			8.84	20	
Surrogate: 4-Bromofluorobenzene	*145*			*"*	*125*		*116*	*70-130*			
Matrix Spike (A111177-MS1)	**Source: 1105265-01**				Prepared & Analyzed: 10-Nov-11						
TPH Gasoline (C4-C12)	1820	21	50	ug/L	600	889	156	70-130			
Surrogate: 4-Bromofluorobenzene	*138*			*"*	*125*		*111*	*70-130*			
Matrix Spike Dup (A111177-MSD1)	**Source: 1105265-01**				Prepared & Analyzed: 10-Nov-11						
TPH Gasoline (C4-C12)	1750	21	50	ug/L	600	889	143	70-130	4.24	20	
Surrogate: 4-Bromofluorobenzene	*143*			*"*	*125*		*114*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

TEPH by GC FID - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111064 - EPA 3550B											
Blank (A111064-BLK1)					Prepared & Analyzed: 03-Nov-11						
TPH Diesel (C10-C25)	ND	7.6	10	mg/kg							
TPH Motor Oil (C25-C40)	ND	15	50	"							
Surrogate: o-Terphenyl	*53.1*			*"*	*50.0*		*106*	*50-150*			
LCS (A111064-BS1)					Prepared & Analyzed: 03-Nov-11						
TPH Diesel (C10-C25)	518	7.6	10	mg/kg	500		104	70-130			
Surrogate: o-Terphenyl	*50.0*			*"*	*50.0*		*100*	*50-150*			
LCS Dup (A111064-BSD1)					Prepared & Analyzed: 03-Nov-11						
TPH Diesel (C10-C25)	543	7.6	10	mg/kg	500		109	70-130	4.65	20	
Surrogate: o-Terphenyl	*52.1*			*"*	*50.0*		*104*	*50-150*			
Duplicate (A111064-DUP1)	**Source: 1105224-01**				Prepared & Analyzed: 03-Nov-11						
TPH Diesel (C10-C25)	ND	7.6	10	mg/kg		ND				20	
TPH Motor Oil (C25-C40)	ND	15	50	"		ND				20	
Surrogate: o-Terphenyl	*52.6*			*"*	*50.0*		*105*	*50-150*			
Matrix Spike (A111064-MS1)	**Source: 1105224-01**				Prepared & Analyzed: 03-Nov-11						
TPH Diesel (C10-C25)	508	7.6	10	mg/kg	500	ND	102	70-130			
Surrogate: o-Terphenyl	*50.6*			*"*	*50.0*		*101*	*50-150*			
Matrix Spike Dup (A111064-MSD1)	**Source: 1105224-01**				Prepared & Analyzed: 03-Nov-11						
TPH Diesel (C10-C25)	473	7.6	10	mg/kg	500	ND	94.6	70-130	7.05	20	
Surrogate: o-Terphenyl	*47.1*			*"*	*50.0*		*94.2*	*50-150*			
Batch A111068 - EPA 3550B											
Blank (A111068-BLK1)					Prepared: 03-Nov-11 Analyzed: 04-Nov-11						
TPH Diesel (C10-C25)	ND	7.6	10	mg/kg							
TPH Diesel (C13-C22)	ND	7.6	10	"							
TPH Motor Oil (C25-C40)	ND	15	50	"							
TPH Motor Oil (C23-C40)	ND	15	50	"							
Surrogate: o-Terphenyl	*46.8*			*"*	*50.0*		*93.6*	*50-150*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

TEPH by GC FID - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111068 - EPA 3550B											
LCS (A111068-BS1)					Prepared: 03-Nov-11 Analyzed: 04-Nov-11						
TPH Diesel (C10-C25)	445	7.6	10	mg/kg	500		89.1	70-130			
TPH Diesel (C13-C22)	445	7.6	10	"	500		89.1	70-130			
Surrogate: o-Terphenyl	*43.0*			*"*	*50.0*		*86.0*	*50-150*			
LCS Dup (A111068-BSD1)					Prepared: 03-Nov-11 Analyzed: 04-Nov-11						
TPH Diesel (C10-C25)	434	7.6	10	mg/kg	500		86.8	70-130	2.57	20	
TPH Diesel (C13-C22)	434	7.6	10	"	500		86.8	70-130	2.57	20	
Surrogate: o-Terphenyl	*41.6*			*"*	*50.0*		*83.1*	*50-150*			
Duplicate (A111068-DUP1)	**Source: 1105253-07**				Prepared: 03-Nov-11 Analyzed: 04-Nov-11						
TPH Diesel (C10-C25)	21.2	7.6	10	mg/kg		9.55			75.7	20	QR-03
TPH Diesel (C13-C22)	ND	7.6	10	"		ND				20	
TPH Motor Oil (C25-C40)	26.2	15	50	"		ND				20	QR-03, J
TPH Motor Oil (C23-C40)	ND	15	50	"		ND				20	
Surrogate: o-Terphenyl	*46.4*			*"*	*50.0*		*92.8*	*50-150*			
Matrix Spike (A111068-MS1)	**Source: 1105253-07**				Prepared: 03-Nov-11 Analyzed: 04-Nov-11						
TPH Diesel (C10-C25)	516	7.6	10	mg/kg	500	9.55	101	70-130			
TPH Diesel (C13-C22)	516	7.6	10	"	500	ND	103	70-130			
Surrogate: o-Terphenyl	*46.7*			*"*	*50.0*		*93.3*	*50-150*			
Matrix Spike Dup (A111068-MSD1)	**Source: 1105253-07**				Prepared: 03-Nov-11 Analyzed: 04-Nov-11						
TPH Diesel (C10-C25)	434	7.6	10	mg/kg	500	9.55	84.8	70-130	17.3	20	
TPH Diesel (C13-C22)	434	7.6	10	"	500	ND	86.8	70-130	17.3	20	
Surrogate: o-Terphenyl	*31.0*			*"*	*50.0*		*62.0*	*50-150*			
Batch A111091 - EPA 3550B											
Blank (A111091-BLK1)					Prepared & Analyzed: 04-Nov-11						
TPH Diesel (C10-C25)	ND	7.6	10	mg/kg							
TPH Diesel (C13-C22)	ND	7.6	10	"							
TPH Motor Oil (C25-C40)	ND	15	50	"							
TPH Motor Oil (C23-C40)	ND	15	50	"							
Surrogate: o-Terphenyl	*57.1*			*"*	*50.0*		*114*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

TEPH by GC FID - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111091 - EPA 3550B											
LCS (A111091-BS1)					Prepared & Analyzed: 04-Nov-11						
TPH Diesel (C10-C25)	524	7.6	10	mg/kg	500		105	70-130			
TPH Diesel (C13-C22)	525	7.6	10	"	500		105	70-130			
Surrogate: o-Terphenyl	*53.7*			*"*	*50.0*		*107*	*50-150*			
LCS Dup (A111091-BSD1)					Prepared & Analyzed: 04-Nov-11						
TPH Diesel (C10-C25)	527	7.6	10	mg/kg	500		105	70-130	0.482	20	
TPH Diesel (C13-C22)	527	7.6	10	"	500		105	70-130	0.411	20	
Surrogate: o-Terphenyl	*54.2*			*"*	*50.0*		*108*	*50-150*			
Duplicate (A111091-DUP1)	**Source: 1105253-30**				Prepared & Analyzed: 04-Nov-11						
TPH Diesel (C10-C25)	3400	76	100	mg/kg		4380			25.4	20	QR-03
TPH Diesel (C13-C22)	2220	76	100	"		2880			25.8	20	QR-03
TPH Motor Oil (C25-C40)	1250	150	500	"		1660			28.0	20	QR-03
TPH Motor Oil (C23-C40)	1550	150	500	"		2030			26.4	20	QR-03
Surrogate: o-Terphenyl	*52.3*			*"*	*50.0*		*105*	*50-150*			
Matrix Spike (A111091-MS1)	**Source: 1105253-29**				Prepared & Analyzed: 04-Nov-11						
TPH Diesel (C10-C25)	1150	7.6	10	mg/kg	500	585	113	70-130			
TPH Diesel (C13-C22)	1000	7.6	10	"	500	380	124	70-130			
Surrogate: o-Terphenyl	*59.1*			*"*	*50.0*		*118*	*50-150*			
Matrix Spike Dup (A111091-MSD1)	**Source: 1105253-29**				Prepared & Analyzed: 04-Nov-11						
TPH Diesel (C10-C25)	1050	7.6	10	mg/kg	500	585	93.0	70-130	8.99	20	
TPH Diesel (C13-C22)	939	7.6	10	"	500	380	112	70-130	6.46	20	
Surrogate: o-Terphenyl	*53.1*			*"*	*50.0*		*106*	*50-150*			
Batch A111115 - EPA 3550B											
Blank (A111115-BLK1)					Prepared & Analyzed: 07-Nov-11						
TPH Diesel (C10-C25)	ND	7.6	10	mg/kg							
TPH Diesel (C13-C22)	ND	7.6	10	"							
TPH Motor Oil (C25-C40)	ND	15	50	"							
TPH Motor Oil (C23-C40)	ND	15	50	"							
Surrogate: o-Terphenyl	*49.0*			*"*	*50.0*		*98.0*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

TEPH by GC FID - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111115 - EPA 3550B											
LCS (A111115-BS1)					Prepared & Analyzed: 07-Nov-11						
TPH Diesel (C10-C25)	468	7.6	10	mg/kg	500		93.7	70-130			
TPH Diesel (C13-C22)	463	7.6	10	"	500		92.5	70-130			
Surrogate: o-Terphenyl	*47.9*			*"*	*50.0*		*95.8*	*50-150*			
LCS Dup (A111115-BSD1)					Prepared & Analyzed: 07-Nov-11						
TPH Diesel (C10-C25)	475	7.6	10	mg/kg	500		95.0	70-130	1.42	20	
TPH Diesel (C13-C22)	476	7.6	10	"	500		95.1	70-130	2.80	20	
Surrogate: o-Terphenyl	*47.8*			*"*	*50.0*		*95.6*	*50-150*			
Duplicate (A111115-DUP1)	**Source: 1105253-53**				Prepared & Analyzed: 07-Nov-11						
TPH Diesel (C10-C25)	7730	76	100	mg/kg		6980			10.2	20	
TPH Diesel (C13-C22)	5050	76	100	"		4560			10.3	20	
TPH Motor Oil (C25-C40)	2770	150	500	"		2340			16.8	20	
TPH Motor Oil (C23-C40)	3520	150	500	"		3050			14.4	20	
Surrogate: o-Terphenyl	*50.3*			*"*	*50.0*		*101*	*50-150*			
Matrix Spike (A111115-MS2)	**Source: 1105265-01RE1**				Prepared: 07-Nov-11 Analyzed: 08-Nov-11						
TPH Diesel (C10-C25)	2410	38	50	mg/kg	500	1900	102	70-130			
TPH Diesel (C13-C22)	1990	38	50	"	500	1390	121	70-130			
Surrogate: o-Terphenyl	*50.2*			*"*	*50.0*		*100*	*50-150*			
Matrix Spike Dup (A111115-MSD2)	**Source: 1105265-01RE1**				Prepared: 07-Nov-11 Analyzed: 08-Nov-11						
TPH Diesel (C10-C25)	2470	38	50	mg/kg	500	1900	113	70-130	2.41	20	
TPH Diesel (C13-C22)	2020	38	50	"	500	1390	126	70-130	1.33	20	
Surrogate: o-Terphenyl	*52.1*			*"*	*50.0*		*104*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

DI WET/STLC Semi-Volatiles - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111142 - EPA 3510C											
Blank (A111142-BLK1)					Prepared: 08-Nov-11 Analyzed: 10-Nov-11						
TPH Diesel (C13-C22)	ND	0.041	0.050	mg/L							
TPH Motor Oil (C23-C40)	ND	0.050	0.10	"							
Surrogate: o-Terphenyl	*0.106*			*"*	*0.100*		*106*	*50-150*			
Blank (A111142-BLK2)					Prepared: 08-Nov-11 Analyzed: 10-Nov-11						
TPH Diesel (C13-C22)	ND	0.041	0.050	mg/L							
TPH Motor Oil (C23-C40)	ND	0.050	0.10	"							
Surrogate: o-Terphenyl	*0.114*			*"*	*0.100*		*114*	*50-150*			
LCS (A111142-BS1)					Prepared: 08-Nov-11 Analyzed: 10-Nov-11						
TPH Diesel (C13-C22)	0.915	0.041	0.050	mg/L	1.00		91.5	70-130			
Surrogate: o-Terphenyl	*0.102*			*"*	*0.100*		*102*	*50-150*			
LCS Dup (A111142-BSD1)					Prepared: 08-Nov-11 Analyzed: 10-Nov-11						
TPH Diesel (C13-C22)	0.896	0.041	0.050	mg/L	1.00		89.6	70-130	2.07	20	
Surrogate: o-Terphenyl	*0.110*			*"*	*0.100*		*110*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111097 - EPA 3550B											
Blank (A111097-BLK2)					Prepared: 04-Nov-11 Analyzed: 07-Nov-11						**C-01**
PCB-1016	ND	0.0040	0.020	mg/kg							
PCB-1221	ND	0.0040	0.020	"							
PCB-1232	ND	0.0040	0.020	"							
PCB-1242	ND	0.0040	0.020	"							
PCB-1248	ND	0.0040	0.020	"							
PCB-1254	ND	0.0040	0.020	"							
PCB-1260	ND	0.0040	0.020	"							
Surrogate: Decachlorobiphenyl	*0.00810*			"	*0.00833*		*97.2*	*60-120*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00686*			"	*0.00833*		*82.3*	*60-120*			
LCS (A111097-BS2)					Prepared: 04-Nov-11 Analyzed: 07-Nov-11						**C-01**
PCB-1016	0.0537	0.0040	0.020	mg/kg	0.0667		80.5	60-120			
PCB-1260	0.0540	0.0040	0.020	"	0.0667		81.0	60-120			
Surrogate: Decachlorobiphenyl	*0.00769*			"	*0.00833*		*92.2*	*60-120*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00614*			"	*0.00833*		*73.7*	*60-120*			
LCS Dup (A111097-BSD2)					Prepared: 04-Nov-11 Analyzed: 07-Nov-11						**C-01**
PCB-1016	0.0537	0.0040	0.020	mg/kg	0.0667		80.5	60-120	0.0460	30	
PCB-1260	0.0553	0.0040	0.020	"	0.0667		83.0	60-120	2.34	30	
Surrogate: Decachlorobiphenyl	*0.00789*			"	*0.00833*		*94.7*	*60-120*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00591*			"	*0.00833*		*71.0*	*60-120*			
Duplicate (A111097-DUP2)	**Source: 1105253-17**				Prepared: 04-Nov-11 Analyzed: 07-Nov-11						
PCB-1016	ND	0.0040	0.020	mg/kg		ND				30	
PCB-1221	ND	0.0040	0.020	"		ND				30	
PCB-1232	ND	0.0040	0.020	"		ND				30	
PCB-1242	ND	0.0040	0.020	"		ND				30	
PCB-1248	ND	0.0040	0.020	"		ND				30	
PCB-1254	ND	0.0040	0.020	"		ND				30	
PCB-1260	ND	0.0040	0.020	"		ND				30	
Surrogate: Decachlorobiphenyl	*0.00679*			"	*0.00833*		*81.5*	*60-120*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00513*			"	*0.00833*		*61.6*	*60-120*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111097 - EPA 3550B											
Matrix Spike (A111097-MS2)	**Source: 1105253-17**				Prepared: 04-Nov-11 Analyzed: 07-Nov-11						
PCB-1016	0.0490	0.0040	0.020	mg/kg	0.0667	ND	73.5	60-120			
PCB-1260	0.0520	0.0040	0.020	"	0.0667	ND	78.1	60-120			
Surrogate: Decachlorobiphenyl	*0.00689*			*"*	*0.00833*		*82.7*	*60-120*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00506*			*"*	*0.00833*		*60.7*	*60-120*			
Matrix Spike Dup (A111097-MSD2)	**Source: 1105253-17**				Prepared: 04-Nov-11 Analyzed: 07-Nov-11						
PCB-1016	0.0472	0.0040	0.020	mg/kg	0.0667	ND	70.8	60-120	3.69	30	
PCB-1260	0.0415	0.0040	0.020	"	0.0667	ND	62.3	60-120	22.5	30	
Surrogate: Decachlorobiphenyl	*0.00700*			*"*	*0.00833*		*84.0*	*60-120*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00529*			*"*	*0.00833*		*63.4*	*60-120*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111055 - EPA 5035/5030B MEOH											
Blank (A111055-BLK1)					Prepared & Analyzed: 03-Nov-11						
Benzene	ND	0.00068	0.0049	mg/kg							
Bromobenzene	ND	0.00039	0.0049	"							
Bromochloromethane	ND	0.00098	0.0049	"							
Bromodichloromethane	ND	0.00039	0.0049	"							
Bromoform	ND	0.00059	0.0049	"							
Bromomethane	ND	0.0017	0.0049	"							
n-Butylbenzene	ND	0.00068	0.0049	"							
sec-Butylbenzene	ND	0.00059	0.0049	"							
tert-Butylbenzene	ND	0.00088	0.0049	"							
Carbon tetrachloride	ND	0.0011	0.0049	"							
Chlorobenzene	ND	0.00059	0.0049	"							
Chloroethane	ND	0.0018	0.0049	"							
Chloroform	ND	0.00049	0.0049	"							
Chloromethane	ND	0.0020	0.0049	"							
2-Chlorotoluene	ND	0.00059	0.0049	"							
4-Chlorotoluene	ND	0.00039	0.0049	"							
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0049	"							
Dibromochloromethane	ND	0.00039	0.0049	"							
Dibromomethane	ND	0.00078	0.0049	"							
1,2-Dichlorobenzene	ND	0.00029	0.0049	"							
1,3-Dichlorobenzene	ND	0.00039	0.0049	"							
1,4-Dichlorobenzene	ND	0.00039	0.0049	"							
Dichlorodifluoromethane	ND	0.0016	0.0049	"							
1,1-Dichloroethane	ND	0.00078	0.0049	"							
1,2-Dichloroethane	ND	0.00078	0.0049	"							
1,1-Dichloroethene	ND	0.0013	0.0049	"							
cis-1,2-Dichloroethene	ND	0.00049	0.0049	"							
trans-1,2-Dichloroethene	ND	0.00098	0.0049	"							
1,2-Dichloropropane	ND	0.00059	0.0049	"							
1,3-Dichloropropane	ND	0.00039	0.0049	"							
2,2-Dichloropropane	ND	0.00088	0.0049	"							
1,1-Dichloropropene	ND	0.00078	0.0049	"							
cis-1,3-Dichloropropene	ND	0.00059	0.0049	"							
trans-1,3-Dichloropropene	ND	0.00039	0.0049	"							
Ethylbenzene	ND	0.00059	0.0049	"							
1,2-Dibromoethane (EDB)	ND	0.00059	0.0049	"							
Hexachlorobutadiene	ND	0.00098	0.0049	"							
Isopropylbenzene	ND	0.00068	0.0049	"							
4-Isopropyl Toluene	ND	0.00068	0.0049	"							
Methylene chloride	ND	0.00078	0.0049	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111055 - EPA 5035/5030B MEOH											
Blank (A111055-BLK1)					Prepared & Analyzed: 03-Nov-11						
Naphthalene	ND	0.00078	0.0049	mg/kg							
n-Propylbenzene	ND	0.00078	0.0049	"							
Styrene	ND	0.00049	0.0049	"							
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0049	"							
1,1,2,2-Tetrachloroethane	ND	0.00049	0.0049	"							
Tetrachloroethene (PCE)	ND	0.00088	0.0049	"							
Toluene	ND	0.00049	0.0049	"							
1,2,3-Trichlorobenzene	ND	0.00088	0.0049	"							
1,2,4-Trichlorobenzene	ND	0.00049	0.0049	"							
1,1,1-Trichloroethane	ND	0.00088	0.0049	"							
1,1,2-Trichloroethane	ND	0.00059	0.0049	"							
Trichloroethene (TCE)	ND	0.00078	0.0049	"							
Trichlorofluoromethane	ND	0.0017	0.0049	"							
1,2,3-Trichloropropane	ND	0.00098	0.0049	"							
1,2,4-Trimethylbenzene	ND	0.00068	0.0049	"							
1,3,5-Trimethylbenzene	ND	0.00078	0.0049	"							
Vinyl chloride	ND	0.0020	0.0049	"							
Xylenes (total)	ND	0.0013	0.0049	"							
Methyl-t-butyl ether	ND	0.00059	0.0049	"							
Surrogate: Dibromofluoromethane	*0.0986*			*"*	*0.0978*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0920*			*"*	*0.0978*		*94.0*	*70-130*			
Surrogate: Toluene-d8	*0.0913*			*"*	*0.0978*		*93.3*	*70-130*			
LCS (A111055-BS1)					Prepared & Analyzed: 03-Nov-11						
Benzene	0.0995	0.00069	0.0049	mg/kg	0.0988		101	70-130			
Chlorobenzene	0.107	0.00059	0.0049	"	0.0988		108	70-130			
1,1-Dichloroethene	0.105	0.0013	0.0049	"	0.0988		107	70-130			
Toluene	0.0930	0.00049	0.0049	"	0.0988		94.1	70-130			
Trichloroethene (TCE)	0.103	0.00079	0.0049	"	0.0988		105	70-130			
Surrogate: Dibromofluoromethane	*0.101*			*"*	*0.0988*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.0895*			*"*	*0.0988*		*90.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0916*			*"*	*0.0988*		*92.7*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111055 - EPA 5035/5030B MEOH											
LCS Dup (A111055-BSD1)					Prepared & Analyzed: 03-Nov-11						
Benzene	0.102	0.00070	0.0050	mg/kg	0.100		102	70-130	2.92	20	
Chlorobenzene	0.109	0.00060	0.0050	"	0.100		109	70-130	2.23	20	
1,1-Dichloroethene	0.104	0.0013	0.0050	"	0.100		104	70-130	1.54	20	
Toluene	0.0953	0.00050	0.0050	"	0.100		95.3	70-130	2.46	20	
Trichloroethene (TCE)	0.106	0.00080	0.0050	"	0.100		106	70-130	2.33	20	
Surrogate: Dibromofluoromethane	*0.102*			*"*	*0.100*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.0924*			*"*	*0.100*		*92.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0940*			*"*	*0.100*		*94.0*	*70-130*			
Duplicate (A111055-DUP1)	**Source: 1105233-01**				Prepared: 03-Nov-11 Analyzed: 04-Nov-11						
Benzene	ND	0.00069	0.0050	mg/kg		ND				20	
Bromobenzene	ND	0.00040	0.0050	"		ND				20	
Bromochloromethane	ND	0.00099	0.0050	"		ND				20	
Bromodichloromethane	ND	0.00040	0.0050	"		ND				20	
Bromoform	ND	0.00060	0.0050	"		ND				20	
Bromomethane	ND	0.0017	0.0050	"		ND				20	
n-Butylbenzene	ND	0.00069	0.0050	"		ND				20	
sec-Butylbenzene	ND	0.00060	0.0050	"		ND				20	
tert-Butylbenzene	ND	0.00089	0.0050	"		ND				20	
Carbon tetrachloride	ND	0.0011	0.0050	"		ND				20	
Chlorobenzene	ND	0.00060	0.0050	"		ND				20	
Chloroethane	ND	0.0018	0.0050	"		ND				20	
Chloroform	ND	0.00050	0.0050	"		ND				20	
Chloromethane	ND	0.0020	0.0050	"		ND				20	
2-Chlorotoluene	ND	0.00060	0.0050	"		ND				20	
4-Chlorotoluene	ND	0.00040	0.0050	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"		ND				20	
Dibromochloromethane	ND	0.00040	0.0050	"		ND				20	
Dibromomethane	ND	0.00079	0.0050	"		ND				20	
1,2-Dichlorobenzene	ND	0.00030	0.0050	"		ND				20	
1,3-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
1,4-Dichlorobenzene	ND	0.00040	0.0050	"		ND				20	
Dichlorodifluoromethane	ND	0.0016	0.0050	"		ND				20	
1,1-Dichloroethane	ND	0.00079	0.0050	"		ND				20	
1,2-Dichloroethane	ND	0.00079	0.0050	"		ND				20	
1,1-Dichloroethene	ND	0.0013	0.0050	"		ND				20	
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"		ND				20	
trans-1,2-Dichloroethene	ND	0.00099	0.0050	"		ND				20	
1,2-Dichloropropane	ND	0.00060	0.0050	"		ND				20	
1,3-Dichloropropane	ND	0.00040	0.0050	"		ND				20	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111055 - EPA 5035/5030B MEOH											
Duplicate (A111055-DUP1)	**Source: 1105233-01**			Prepared: 03-Nov-11 Analyzed: 04-Nov-11							
2,2-Dichloropropane	ND	0.00089	0.0050	mg/kg		ND				20	
1,1-Dichloropropene	ND	0.00079	0.0050	"		ND				20	
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"		ND				20	
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"		ND				20	
Ethylbenzene	ND	0.00060	0.0050	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"		ND				20	
Hexachlorobutadiene	ND	0.00099	0.0050	"		ND				20	
Isopropylbenzene	ND	0.00069	0.0050	"		ND				20	
4-Isopropyl Toluene	ND	0.00069	0.0050	"		ND				20	
Methylene chloride	0.00187	0.00079	0.0050	"		0.00215			14.1	20	J
Naphthalene	ND	0.00079	0.0050	"		ND				20	
n-Propylbenzene	ND	0.00079	0.0050	"		ND				20	
Styrene	ND	0.00050	0.0050	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"		ND				20	
Tetrachloroethene (PCE)	ND	0.00089	0.0050	"		ND				20	
Toluene	0.387	0.00050	0.0050	"		0.368			5.03	20	
1,2,3-Trichlorobenzene	ND	0.00089	0.0050	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"		ND				20	
1,1,1-Trichloroethane	ND	0.00089	0.0050	"		ND				20	
1,1,2-Trichloroethane	ND	0.00060	0.0050	"		ND				20	
Trichloroethene (TCE)	ND	0.00079	0.0050	"		ND				20	
Trichlorofluoromethane	ND	0.0017	0.0050	"		ND				20	
1,2,3-Trichloropropane	ND	0.00099	0.0050	"		ND				20	
1,2,4-Trimethylbenzene	0.00127	0.00069	0.0050	"		0.00131			3.28	20	J
1,3,5-Trimethylbenzene	ND	0.00079	0.0050	"		ND				20	
Vinyl chloride	ND	0.0020	0.0050	"		ND				20	
Xylenes (total)	ND	0.0013	0.0050	"		ND				20	
Methyl-t-butyl ether	ND	0.00060	0.0050	"		ND				20	
Surrogate: Dibromofluoromethane	*0.101*			*"*	*0.0992*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.0913*			*"*	*0.0992*		*92.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0923*			*"*	*0.0992*		*93.0*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111055 - EPA 5035/5030B MEOH											
Matrix Spike (A111055-MS1)	**Source: 1105233-01**				Prepared: 03-Nov-11 Analyzed: 04-Nov-11						
Benzene	0.0717	0.00068	0.0049	mg/kg	0.0978	ND	73.3	70-130			
Chlorobenzene	0.0514	0.00059	0.0049	"	0.0978	ND	52.6	70-130			QM-07
1,1-Dichloroethene	0.0756	0.0013	0.0049	"	0.0978	ND	77.2	70-130			
Toluene	0.678	0.00049	0.0049	"	0.0978	0.368	316	70-130			QM-07
Trichloroethene (TCE)	0.0614	0.00078	0.0049	"	0.0978	ND	62.8	70-130			QM-07
Surrogate: Dibromofluoromethane	*0.0972*			*"*	*0.0978*		*99.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0899*			*"*	*0.0978*		*91.9*	*70-130*			
Surrogate: Toluene-d8	*0.0894*			*"*	*0.0978*		*91.3*	*70-130*			
Batch A111152 - EPA 5035/5030B MEOH											
Blank (A111152-BLK1)					Prepared & Analyzed: 10-Nov-11						
Benzene	ND	0.00070	0.0050	mg/kg							
Bromobenzene	ND	0.00040	0.0050	"							
Bromochloromethane	ND	0.0010	0.0050	"							
Bromodichloromethane	ND	0.00040	0.0050	"							
Bromoform	ND	0.00060	0.0050	"							
Bromomethane	ND	0.0017	0.0050	"							
n-Butylbenzene	ND	0.00070	0.0050	"							
sec-Butylbenzene	ND	0.00060	0.0050	"							
tert-Butylbenzene	ND	0.00090	0.0050	"							
Carbon tetrachloride	ND	0.0011	0.0050	"							
Chlorobenzene	ND	0.00060	0.0050	"							
Chloroethane	ND	0.0018	0.0050	"							
Chloroform	ND	0.00050	0.0050	"							
Chloromethane	ND	0.0020	0.0050	"							
2-Chlorotoluene	ND	0.00060	0.0050	"							
4-Chlorotoluene	ND	0.00040	0.0050	"							
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"							
Dibromochloromethane	ND	0.00040	0.0050	"							
Dibromomethane	ND	0.00080	0.0050	"							
1,2-Dichlorobenzene	ND	0.00030	0.0050	"							
1,3-Dichlorobenzene	ND	0.00040	0.0050	"							
1,4-Dichlorobenzene	ND	0.00040	0.0050	"							
Dichlorodifluoromethane	ND	0.0016	0.0050	"							
1,1-Dichloroethane	ND	0.00080	0.0050	"							
1,2-Dichloroethane	ND	0.00080	0.0050	"							
1,1-Dichloroethene	ND	0.0013	0.0050	"							
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"							
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111152 - EPA 5035/5030B MEOH											
Blank (A111152-BLK1)					Prepared & Analyzed: 10-Nov-11						
1,2-Dichloropropane	ND	0.00060	0.0050	mg/kg							
1,3-Dichloropropane	ND	0.00040	0.0050	"							
2,2-Dichloropropane	ND	0.00090	0.0050	"							
1,1-Dichloropropene	ND	0.00080	0.0050	"							
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"							
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"							
Ethylbenzene	ND	0.00060	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"							
Hexachlorobutadiene	ND	0.0010	0.0050	"							
Isopropylbenzene	ND	0.00070	0.0050	"							
4-Isopropyl Toluene	ND	0.00070	0.0050	"							
Methylene chloride	0.000996	0.00080	0.0050	"							J
Naphthalene	ND	0.00080	0.0050	"							
n-Propylbenzene	ND	0.00080	0.0050	"							
Styrene	ND	0.00050	0.0050	"							
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"							
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"							
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"							
Toluene	ND	0.00050	0.0050	"							
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"							
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"							
1,1,1-Trichloroethane	ND	0.00090	0.0050	"							
1,1,2-Trichloroethane	ND	0.00060	0.0050	"							
Trichloroethene (TCE)	ND	0.00080	0.0050	"							
Trichlorofluoromethane	ND	0.0017	0.0050	"							
1,2,3-Trichloropropane	ND	0.0010	0.0050	"							
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"							
Vinyl chloride	ND	0.0020	0.0050	"							
Xylenes (total)	ND	0.0013	0.0050	"							
Methyl-t-butyl ether	ND	0.00060	0.0050	"							
Surrogate: Dibromofluoromethane	*0.128*			*"*	*0.0996*		*128*	*70-130*			
Surrogate: Toluene-d8	*0.117*			*"*	*0.0996*		*118*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0961*			*"*	*0.0996*		*96.5*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111152 - EPA 5035/5030B MEOH											
LCS (A111152-BS1)					Prepared & Analyzed: 10-Nov-11						
Benzene	0.100	0.00069	0.0049	mg/kg	0.0988		101	70-130			
Chlorobenzene	0.106	0.00059	0.0049	"	0.0988		107	70-130			
1,1-Dichloroethene	0.110	0.0013	0.0049	"	0.0988		111	70-130			
Toluene	0.110	0.00049	0.0049	"	0.0988		112	70-130			
Trichloroethene (TCE)	0.109	0.00079	0.0049	"	0.0988		110	70-130			
Surrogate: Dibromofluoromethane	*0.107*			*"*	*0.0988*		*109*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0917*			*"*	*0.0988*		*92.8*	*70-130*			
Surrogate: Toluene-d8	*0.101*			*"*	*0.0988*		*103*	*70-130*			
LCS Dup (A111152-BSD1)					Prepared & Analyzed: 10-Nov-11						
Benzene	0.117	0.00068	0.0049	mg/kg	0.0978		119	70-130	15.3	20	
Chlorobenzene	0.110	0.00059	0.0049	"	0.0978		113	70-130	4.51	20	
1,1-Dichloroethene	0.123	0.0013	0.0049	"	0.0978		126	70-130	11.8	20	
Toluene	0.129	0.00049	0.0049	"	0.0978		132	70-130	15.6	20	QM-09
Trichloroethene (TCE)	0.125	0.00078	0.0049	"	0.0978		128	70-130	14.3	20	
Surrogate: Dibromofluoromethane	*0.120*			*"*	*0.0978*		*123*	*70-130*			
Surrogate: Toluene-d8	*0.112*			*"*	*0.0978*		*115*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0916*			*"*	*0.0978*		*93.6*	*70-130*			
Duplicate (A111152-DUP1)	**Source: 1105377-01**				Prepared & Analyzed: 10-Nov-11						
Benzene	ND	0.00068	0.0048	mg/kg		ND				20	
Bromobenzene	ND	0.00039	0.0048	"		ND				20	
Bromochloromethane	ND	0.00097	0.0048	"		ND				20	
Bromodichloromethane	ND	0.00039	0.0048	"		ND				20	
Bromoform	ND	0.00058	0.0048	"		ND				20	
Bromomethane	ND	0.0016	0.0048	"		ND				20	
n-Butylbenzene	ND	0.00068	0.0048	"		ND				20	
sec-Butylbenzene	ND	0.00058	0.0048	"		ND				20	
tert-Butylbenzene	ND	0.00087	0.0048	"		ND				20	
Carbon tetrachloride	ND	0.0011	0.0048	"		ND				20	
Chlorobenzene	ND	0.00058	0.0048	"		ND				20	
Chloroethane	ND	0.0017	0.0048	"		ND				20	
Chloroform	ND	0.00048	0.0048	"		ND				20	
Chloromethane	ND	0.0019	0.0048	"		ND				20	
2-Chlorotoluene	ND	0.00058	0.0048	"		ND				20	
4-Chlorotoluene	ND	0.00039	0.0048	"		ND				20	
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0048	"		ND				20	
Dibromochloromethane	ND	0.00039	0.0048	"		ND				20	
Dibromomethane	ND	0.00078	0.0048	"		ND				20	
1,2-Dichlorobenzene	ND	0.00029	0.0048	"		ND				20	

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111152 - EPA 5035/5030B MEOH											
Duplicate (A111152-DUP1)	**Source: 1105377-01**			Prepared & Analyzed: 10-Nov-11							
1,3-Dichlorobenzene	ND	0.00039	0.0048	mg/kg		ND				20	
1,4-Dichlorobenzene	ND	0.00039	0.0048	"		ND				20	
Dichlorodifluoromethane	ND	0.0016	0.0048	"		ND				20	
1,1-Dichloroethane	ND	0.00078	0.0048	"		ND				20	
1,2-Dichloroethane	ND	0.00078	0.0048	"		ND				20	
1,1-Dichloroethene	ND	0.0013	0.0048	"		ND				20	
cis-1,2-Dichloroethene	ND	0.00048	0.0048	"		ND				20	
trans-1,2-Dichloroethene	ND	0.00097	0.0048	"		ND				20	
1,2-Dichloropropane	ND	0.00058	0.0048	"		ND				20	
1,3-Dichloropropane	ND	0.00039	0.0048	"		ND				20	
2,2-Dichloropropane	ND	0.00087	0.0048	"		ND				20	
1,1-Dichloropropene	ND	0.00078	0.0048	"		ND				20	
cis-1,3-Dichloropropene	ND	0.00058	0.0048	"		ND				20	
trans-1,3-Dichloropropene	ND	0.00039	0.0048	"		ND				20	
Ethylbenzene	ND	0.00058	0.0048	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.00058	0.0048	"		ND				20	
Hexachlorobutadiene	ND	0.00097	0.0048	"		ND				20	
Isopropylbenzene	ND	0.00068	0.0048	"		ND				20	
4-Isopropyl Toluene	ND	0.00068	0.0048	"		ND				20	
Methylene chloride	0.000853	0.00078	0.0048	"		0.00138			47.5	20	QR-04, J
Naphthalene	ND	0.00078	0.0048	"		ND				20	
n-Propylbenzene	ND	0.00078	0.0048	"		ND				20	
Styrene	ND	0.00048	0.0048	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.00039	0.0048	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.00048	0.0048	"		ND				20	
Tetrachloroethene (PCE)	ND	0.00087	0.0048	"		ND				20	
Toluene	ND	0.00048	0.0048	"		ND				20	
1,2,3-Trichlorobenzene	ND	0.00087	0.0048	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.00048	0.0048	"		ND				20	
1,1,1-Trichloroethane	ND	0.00087	0.0048	"		ND				20	
1,1,2-Trichloroethane	ND	0.00058	0.0048	"		ND				20	
Trichloroethene (TCE)	ND	0.00078	0.0048	"		ND				20	
Trichlorofluoromethane	ND	0.0016	0.0048	"		ND				20	
1,2,3-Trichloropropane	ND	0.00097	0.0048	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.00068	0.0048	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.00078	0.0048	"		ND				20	
Vinyl chloride	ND	0.0019	0.0048	"		ND				20	
Xylenes (total)	ND	0.0013	0.0048	"		ND				20	
Methyl-t-butyl ether	ND	0.00058	0.0048	"		ND				20	
Surrogate: Dibromofluoromethane	*0.113*			*"*	*0.0969*		*117*	*70-130*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111152 - EPA 5035/5030B MEOH											
Duplicate (A111152-DUP1)		**Source: 1105377-01**			Prepared & Analyzed: 10-Nov-11						
Surrogate: 4-Bromofluorobenzene	*0.0933*			*mg/kg*	*0.0969*		*96.3*	*70-130*			
Surrogate: Toluene-d8	*0.103*			*"*	*0.0969*		*106*	*70-130*			
Matrix Spike (A111152-MS1)		**Source: 1105377-01**			Prepared & Analyzed: 10-Nov-11						
Benzene	0.113	0.00069	0.0049	mg/kg	0.0982	ND	115	70-130			
Chlorobenzene	0.104	0.00059	0.0049	"	0.0982	ND	106	70-130			
1,1-Dichloroethene	0.118	0.0013	0.0049	"	0.0982	ND	120	70-130			
Toluene	0.126	0.00049	0.0049	"	0.0982	ND	128	70-130			
Trichloroethene (TCE)	0.120	0.00079	0.0049	"	0.0982	ND	123	70-130			
Surrogate: Dibromofluoromethane	*0.122*			*"*	*0.0982*		*125*	*70-130*			
Surrogate: Toluene-d8	*0.114*			*"*	*0.0982*		*116*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0914*			*"*	*0.0982*		*93.1*	*70-130*			
Batch A111243 - EPA 5035/5030B MEOH											
Blank (A111243-BLK1)					Prepared & Analyzed: 14-Nov-11						
Benzene	ND	0.00070	0.0050	mg/kg							
Bromobenzene	ND	0.00040	0.0050	"							
Bromochloromethane	ND	0.0010	0.0050	"							
Bromodichloromethane	ND	0.00040	0.0050	"							
Bromoform	ND	0.00060	0.0050	"							
Bromomethane	ND	0.0017	0.0050	"							
n-Butylbenzene	ND	0.00070	0.0050	"							
sec-Butylbenzene	ND	0.00060	0.0050	"							
tert-Butylbenzene	ND	0.00090	0.0050	"							
Carbon tetrachloride	ND	0.0011	0.0050	"							
Chlorobenzene	ND	0.00060	0.0050	"							
Chloroethane	ND	0.0018	0.0050	"							
Chloroform	ND	0.00050	0.0050	"							
Chloromethane	ND	0.0020	0.0050	"							
2-Chlorotoluene	ND	0.00060	0.0050	"							
4-Chlorotoluene	ND	0.00040	0.0050	"							
1,2-Dibromo-3-chloropropane	ND	0.0013	0.0050	"							
Dibromochloromethane	ND	0.00040	0.0050	"							
Dibromomethane	ND	0.00080	0.0050	"							
1,2-Dichlorobenzene	ND	0.00030	0.0050	"							
1,3-Dichlorobenzene	ND	0.00040	0.0050	"							
1,4-Dichlorobenzene	ND	0.00040	0.0050	"							
Dichlorodifluoromethane	ND	0.0016	0.0050	"							
1,1-Dichloroethane	ND	0.00080	0.0050	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111243 - EPA 5035/5030B MEOH											
Blank (A111243-BLK1)					Prepared & Analyzed: 14-Nov-11						
1,2-Dichloroethane	ND	0.00080	0.0050	mg/kg							
1,1-Dichloroethene	ND	0.0013	0.0050	"							
cis-1,2-Dichloroethene	ND	0.00050	0.0050	"							
trans-1,2-Dichloroethene	ND	0.0010	0.0050	"							
1,2-Dichloropropane	ND	0.00060	0.0050	"							
1,3-Dichloropropane	ND	0.00040	0.0050	"							
2,2-Dichloropropane	ND	0.00090	0.0050	"							
1,1-Dichloropropene	ND	0.00080	0.0050	"							
cis-1,3-Dichloropropene	ND	0.00060	0.0050	"							
trans-1,3-Dichloropropene	ND	0.00040	0.0050	"							
Ethylbenzene	ND	0.00060	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.00060	0.0050	"							
Hexachlorobutadiene	ND	0.0010	0.0050	"							
Isopropylbenzene	ND	0.00070	0.0050	"							
4-Isopropyl Toluene	ND	0.00070	0.0050	"							
Methylene chloride	0.00187	0.00080	0.0050	"							J
Naphthalene	ND	0.00080	0.0050	"							
n-Propylbenzene	ND	0.00080	0.0050	"							
Styrene	ND	0.00050	0.0050	"							
1,1,1,2-Tetrachloroethane	ND	0.00040	0.0050	"							
1,1,2,2-Tetrachloroethane	ND	0.00050	0.0050	"							
Tetrachloroethene (PCE)	ND	0.00090	0.0050	"							
Toluene	ND	0.00050	0.0050	"							
1,2,3-Trichlorobenzene	ND	0.00090	0.0050	"							
1,2,4-Trichlorobenzene	ND	0.00050	0.0050	"							
1,1,1-Trichloroethane	ND	0.00090	0.0050	"							
1,1,2-Trichloroethane	ND	0.00060	0.0050	"							
Trichloroethene (TCE)	ND	0.00080	0.0050	"							
Trichlorofluoromethane	ND	0.0017	0.0050	"							
1,2,3-Trichloropropane	ND	0.0010	0.0050	"							
1,2,4-Trimethylbenzene	ND	0.00070	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.00080	0.0050	"							
Vinyl chloride	ND	0.0020	0.0050	"							
Xylenes (total)	ND	0.0013	0.0050	"							
Methyl-t-butyl ether	ND	0.00060	0.0050	"							
Surrogate: Dibromofluoromethane	*0.103*			*"*	*0.0996*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.101*			*"*	*0.0996*		*101*	*70-130*			
Surrogate: Toluene-d8	*0.118*			*"*	*0.0996*		*118*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111243 - EPA 5035/5030B MEOH											
LCS (A111243-BS1)					Prepared & Analyzed: 14-Nov-11						
Benzene	0.0941	0.00068	0.0049	mg/kg	0.0977		96.4	70-130			
Chlorobenzene	0.103	0.00059	0.0049	"	0.0977		105	70-130			
1,1-Dichloroethene	0.105	0.0013	0.0049	"	0.0977		108	70-130			
Toluene	0.108	0.00049	0.0049	"	0.0977		110	70-130			
Trichloroethene (TCE)	0.107	0.00078	0.0049	"	0.0977		110	70-130			
Surrogate: Dibromofluoromethane	*0.103*			"	*0.0977*		*105*	*70-130*			
Surrogate: Toluene-d8	*0.0967*			"	*0.0977*		*99.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0890*			"	*0.0977*		*91.2*	*70-130*			
LCS Dup (A111243-BSD1)					Prepared & Analyzed: 14-Nov-11						
Benzene	0.0939	0.00068	0.0049	mg/kg	0.0973		96.5	70-130	0.224	20	
Chlorobenzene	0.103	0.00058	0.0049	"	0.0973		106	70-130	0.481	20	
1,1-Dichloroethene	0.0989	0.0013	0.0049	"	0.0973		102	70-130	6.31	20	
Toluene	0.106	0.00049	0.0049	"	0.0973		109	70-130	1.01	20	
Trichloroethene (TCE)	0.103	0.00078	0.0049	"	0.0973		106	70-130	3.58	20	
Surrogate: Dibromofluoromethane	*0.102*			"	*0.0973*		*105*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0902*			"	*0.0973*		*92.8*	*70-130*			
Surrogate: Toluene-d8	*0.0965*			"	*0.0973*		*99.2*	*70-130*			
Matrix Spike (A111243-MS1)	**Source: 1105253-30RE2**				Prepared & Analyzed: 14-Nov-11						
Benzene	2.24	0.017	0.12	mg/kg	2.94	ND	76.2	70-130			
Chlorobenzene	2.54	0.015	0.12	"	2.94	0.0643	84.3	70-130			
1,1-Dichloroethene	2.53	0.032	0.12	"	2.94	ND	86.0	70-130			
Toluene	3.04	0.012	0.12	"	2.94	ND	103	70-130			
Trichloroethene (TCE)	2.96	0.020	0.12	"	2.94	ND	101	70-130			
Surrogate: Dibromofluoromethane	*0.0993*			"	*0.0980*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.101*			"	*0.0980*		*103*	*70-130*			
Surrogate: Toluene-d8	*0.118*			"	*0.0980*		*120*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111243 - EPA 5035/5030B MEOH											
Matrix Spike Dup (A111243-MSD1)	**Source: 1105253-30RE2**				Prepared & Analyzed: 14-Nov-11						
Benzene	2.19	0.017	0.12	mg/kg	2.94	ND	74.4	70-130	2.35	20	
Chlorobenzene	2.56	0.015	0.12	"	2.94	0.0643	85.0	70-130	0.806	20	
1,1-Dichloroethene	2.47	0.032	0.12	"	2.94	ND	84.0	70-130	2.35	20	
Toluene	3.08	0.012	0.12	"	2.94	ND	105	70-130	1.41	20	
Trichloroethene (TCE)	3.01	0.020	0.12	"	2.94	ND	102	70-130	1.58	20	
Surrogate: Dibromofluoromethane	*0.0969*			*"*	*0.0980*		*98.8*	*70-130*			
Surrogate: Toluene-d8	*0.120*			*"*	*0.0980*		*122*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.102*			*"*	*0.0980*		*104*	*70-130*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111199 - EPA 3550B MS											
Blank (A111199-BLK1)					Prepared & Analyzed: 10-Nov-11						
Acenaphthene	ND	0.0047	0.0050	mg/kg							
Acenaphthylene	ND	0.0035	0.0050	"							
Anthracene	ND	0.0042	0.0050	"							
Benz(a)anthracene	ND	0.0030	0.0050	"							
Benzo (b) fluoranthene	ND	0.0040	0.0050	"							
Benzo (k) fluoranthene	ND	0.0030	0.0050	"							
Benzo (a) pyrene	ND	0.0026	0.0050	"							
Benzo (g,h,i) perylene	ND	0.0050	0.010	"							
Chrysene	ND	0.0030	0.0050	"							
Dibenz (a,h) anthracene	ND	0.0050	0.010	"							
Fluoranthene	ND	0.0030	0.0050	"							
Fluorene	ND	0.0030	0.0050	"							
Indeno (1,2,3-cd) pyrene	ND	0.0035	0.0050	"							
Naphthalene	ND	0.0050	0.010	"							
Phenanthrene	ND	0.0047	0.0050	"							
Pyrene	ND	0.0030	0.0050	"							
Surrogate: p-Terphenyl-d14	*0.0217*			*"*	*0.0267*		*81.3*	*0-191*			
LCS (A111199-BS1)					Prepared & Analyzed: 10-Nov-11						
Acenaphthene	0.0123	0.0047	0.0050	mg/kg	0.0267		46.2	40-120			
Acenaphthylene	0.0120	0.0035	0.0050	"	0.0267		45.0	40-120			
Anthracene	0.0190	0.0042	0.0050	"	0.0267		71.2	40-120			
Benz(a)anthracene	0.0233	0.0030	0.0050	"	0.0267		87.5	40-120			
Benzo (b) fluoranthene	0.0227	0.0040	0.0050	"	0.0267		85.0	40-120			
Benzo (k) fluoranthene	0.0303	0.0030	0.0050	"	0.0267		114	40-120			
Benzo (a) pyrene	0.0237	0.0026	0.0050	"	0.0267		88.8	40-120			
Benzo (g,h,i) perylene	0.0250	0.0050	0.010	"	0.0267		93.7	40-120			
Chrysene	0.0277	0.0030	0.0050	"	0.0267		104	40-120			
Dibenz (a,h) anthracene	0.0270	0.0050	0.010	"	0.0267		101	40-120			
Fluoranthene	0.0233	0.0030	0.0050	"	0.0267		87.5	40-120			
Fluorene	0.0140	0.0030	0.0050	"	0.0267		52.5	40-120			
Indeno (1,2,3-cd) pyrene	0.0277	0.0035	0.0050	"	0.0267		104	40-120			
Naphthalene	0.0110	0.0050	0.010	"	0.0267		41.2	40-120			
Phenanthrene	0.0190	0.0047	0.0050	"	0.0267		71.2	40-120			
Pyrene	0.0233	0.0030	0.0050	"	0.0267		87.5	40-120			
Surrogate: p-Terphenyl-d14	*0.0207*			*"*	*0.0267*		*77.5*	*0-191*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111199 - EPA 3550B MS											
LCS Dup (A111199-BSD1)					Prepared & Analyzed: 10-Nov-11						
Acenaphthene	0.0113	0.0047	0.0050	mg/kg	0.0267		42.5	40-120	8.45	30	
Acenaphthylene	0.0110	0.0035	0.0050	"	0.0267		41.2	40-120	8.70	30	
Anthracene	0.0160	0.0042	0.0050	"	0.0267		60.0	40-120	17.1	30	
Benz(a)anthracene	0.0197	0.0030	0.0050	"	0.0267		73.8	40-120	17.1	30	
Benzo (b) fluoranthene	0.0203	0.0040	0.0050	"	0.0267		76.2	40-120	10.9	30	
Benzo (k) fluoranthene	0.0233	0.0030	0.0050	"	0.0267		87.5	40-120	26.1	30	
Benzo (a) pyrene	0.0200	0.0026	0.0050	"	0.0267		75.0	40-120	16.8	30	
Benzo (g,h,i) perylene	0.0203	0.0050	0.010	"	0.0267		76.2	40-120	20.6	30	
Chrysene	0.0237	0.0030	0.0050	"	0.0267		88.8	40-120	15.6	30	
Dibenz (a,h) anthracene	0.0223	0.0050	0.010	"	0.0267		83.7	40-120	18.9	30	
Fluoranthene	0.0193	0.0030	0.0050	"	0.0267		72.5	40-120	18.8	30	
Fluorene	0.0133	0.0030	0.0050	"	0.0267		50.0	40-120	4.88	30	
Indeno (1,2,3-cd) pyrene	0.0230	0.0035	0.0050	"	0.0267		86.2	40-120	18.4	30	
Naphthalene	0.0110	0.0050	0.010	"	0.0267		41.2	40-120	0.00	30	
Phenanthrene	0.0147	0.0047	0.0050	"	0.0267		55.0	40-120	25.7	30	
Pyrene	0.0193	0.0030	0.0050	"	0.0267		72.5	40-120	18.8	30	
Surrogate: p-Terphenyl-d14	*0.0173*			*"*	*0.0267*		*65.0*	*0-191*			
Duplicate (A111199-DUP1)	**Source: 1105377-01**				Prepared & Analyzed: 10-Nov-11						
Acenaphthene	ND	0.0047	0.0050	mg/kg		ND				30	
Acenaphthylene	ND	0.0035	0.0050	"		ND				30	
Anthracene	ND	0.0042	0.0050	"		ND				30	
Benz(a)anthracene	ND	0.0030	0.0050	"		ND				30	
Benzo (b) fluoranthene	ND	0.0040	0.0050	"		ND				30	
Benzo (k) fluoranthene	ND	0.0030	0.0050	"		ND				30	
Benzo (a) pyrene	ND	0.0026	0.0050	"		ND				30	
Benzo (g,h,i) perylene	ND	0.0050	0.010	"		ND				30	
Chrysene	ND	0.0030	0.0050	"		ND				30	
Dibenz (a,h) anthracene	ND	0.0050	0.010	"		ND				30	
Fluoranthene	ND	0.0030	0.0050	"		ND				30	
Fluorene	ND	0.0030	0.0050	"		ND				30	
Indeno (1,2,3-cd) pyrene	ND	0.0035	0.0050	"		ND				30	
Naphthalene	ND	0.0050	0.010	"		ND				30	
Phenanthrene	ND	0.0047	0.0050	"		ND				30	
Pyrene	ND	0.0030	0.0050	"		ND				30	
Surrogate: p-Terphenyl-d14	*0.0183*			*"*	*0.0266*		*68.8*	*0-191*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111199 - EPA 3550B MS											
Matrix Spike (A111199-MS1)	**Source: 1105253-17**				Prepared & Analyzed: 11-Nov-11						
Acenaphthene	0.0200	0.0047	0.0050	mg/kg	0.0266	ND	75.0	18-113			
Acenaphthylene	0.0206	0.0035	0.0050	"	0.0266	ND	77.5	17-112			
Anthracene	0.0210	0.0042	0.0050	"	0.0266	ND	78.8	32-119			
Benz(a)anthracene	0.0276	0.0030	0.0050	"	0.0266	ND	104	53-131			
Benzo (b) fluoranthene	0.0203	0.0040	0.0050	"	0.0266	ND	76.2	35-163			
Benzo (k) fluoranthene	0.0213	0.0030	0.0050	"	0.0266	ND	80.0	62-149			
Benzo (a) pyrene	0.0253	0.0026	0.0050	"	0.0266	ND	95.0	47-145			
Benzo (g,h,i) perylene	0.0260	0.0050	0.010	"	0.0266	ND	97.5	59-137			
Chrysene	0.0213	0.0030	0.0050	"	0.0266	ND	80.0	65-136			
Dibenz (a,h) anthracene	0.0300	0.0050	0.010	"	0.0266	ND	112	57-144			
Fluoranthene	0.0263	0.0030	0.0050	"	0.0266	ND	98.8	43-149			
Fluorene	0.0260	0.0030	0.0050	"	0.0266	0.00333	85.0	22-113			
Indeno (1,2,3-cd) pyrene	0.0273	0.0035	0.0050	"	0.0266	ND	102	51-149			
Naphthalene	0.0190	0.0050	0.010	"	0.0266	ND	71.2	14-107			
Phenanthrene	0.0379	0.0047	0.0050	"	0.0266	0.0117	98.7	35-113			
Pyrene	0.0290	0.0030	0.0050	"	0.0266	ND	109	41-154			
Surrogate: p-Terphenyl-d14	*0.0263*			*"*	*0.0266*		*98.8*	*0-191*			
Matrix Spike Dup (A111199-MSD1)	**Source: 1105253-17**				Prepared & Analyzed: 11-Nov-11						
Acenaphthene	0.0203	0.0047	0.0050	mg/kg	0.0266	ND	76.3	18-113	1.59	30	
Acenaphthylene	0.0200	0.0035	0.0050	"	0.0266	ND	75.0	17-112	3.35	30	
Anthracene	0.0210	0.0042	0.0050	"	0.0266	ND	78.7	32-119	0.0666	30	
Benz(a)anthracene	0.0273	0.0030	0.0050	"	0.0266	ND	102	53-131	1.28	30	
Benzo (b) fluoranthene	0.0240	0.0040	0.0050	"	0.0266	ND	90.0	35-163	16.5	30	
Benzo (k) fluoranthene	0.0220	0.0030	0.0050	"	0.0266	ND	82.5	62-149	3.01	30	
Benzo (a) pyrene	0.0243	0.0026	0.0050	"	0.0266	ND	91.2	47-145	4.09	30	
Benzo (g,h,i) perylene	0.0259	0.0050	0.010	"	0.0266	ND	97.5	59-137	0.0666	30	
Chrysene	0.0230	0.0030	0.0050	"	0.0266	ND	86.2	65-136	7.45	30	
Dibenz (a,h) anthracene	0.0293	0.0050	0.010	"	0.0266	ND	110	57-144	2.31	30	
Fluoranthene	0.0263	0.0030	0.0050	"	0.0266	ND	98.7	43-149	0.0666	30	
Fluorene	0.0256	0.0030	0.0050	"	0.0266	0.00333	83.7	22-113	1.36	30	
Indeno (1,2,3-cd) pyrene	0.0269	0.0035	0.0050	"	0.0266	ND	101	51-149	1.29	30	
Naphthalene	0.0176	0.0050	0.010	"	0.0266	ND	66.2	14-107	7.34	30	
Phenanthrene	0.0379	0.0047	0.0050	"	0.0266	0.0117	98.7	35-113	0.0666	30	
Pyrene	0.0279	0.0030	0.0050	"	0.0266	ND	105	41-154	3.58	30	
Surrogate: p-Terphenyl-d14	*0.0256*			*"*	*0.0266*		*96.3*	*0-191*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111097 - EPA 3550B											
Blank (A111097-BLK1)					Prepared: 04-Nov-11 Analyzed: 07-Nov-11						
alpha-BHC	ND	0.0010	0.0030	mg/kg							
alpha-Chlordane	ND	0.0010	0.0030	"							
Aldrin	ND	0.0010	0.0030	"							
beta-BHC	ND	0.0010	0.0030	"							
delta-BHC	ND	0.0010	0.0030	"							
4,4´-DDD	ND	0.0010	0.0030	"							
4,4´-DDE	ND	0.0010	0.0030	"							
4,4´-DDT	ND	0.0010	0.0030	"							
Dieldrin	ND	0.0010	0.0030	"							
Endosulfan I	ND	0.0010	0.0030	"							
Endosulfan II	ND	0.0010	0.0030	"							
Endosulfan sulfate	ND	0.0010	0.0030	"							
Endrin	ND	0.0010	0.0030	"							
Endrin aldehyde	ND	0.0010	0.0030	"							
Endrin ketone	ND	0.0010	0.0030	"							
gamma-BHC	ND	0.0010	0.0030	"							
gamma-Chlordane	ND	0.0010	0.0030	"							
Heptachlor	ND	0.0010	0.0030	"							
Heptachlor epoxide	ND	0.0010	0.0030	"							
Methoxychlor	ND	0.0010	0.0030	"							
Chlordane (tech)	ND	0.010	0.020	"							
Toxaphene	ND	0.010	0.020	"							
Surrogate: Decachlorobiphenyl	*0.00751*			"	*0.00833*		*90.2*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00622*			"	*0.00833*		*74.7*	*50-150*			
Blank (A111097-BLK3)					Prepared: 04-Nov-11 Analyzed: 08-Nov-11						**C-03**
alpha-BHC	ND	0.0010	0.0030	mg/kg							
alpha-Chlordane	ND	0.0010	0.0030	"							
Aldrin	ND	0.0010	0.0030	"							
beta-BHC	ND	0.0010	0.0030	"							
delta-BHC	ND	0.0010	0.0030	"							
4,4´-DDD	ND	0.0010	0.0030	"							
4,4´-DDE	ND	0.0010	0.0030	"							
4,4´-DDT	ND	0.0010	0.0030	"							
Dieldrin	ND	0.0010	0.0030	"							
Endosulfan I	ND	0.0010	0.0030	"							
Endosulfan II	ND	0.0010	0.0030	"							
Endosulfan sulfate	ND	0.0010	0.0030	"							
Endrin	ND	0.0010	0.0030	"							

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111097 - EPA 3550B											
Blank (A111097-BLK3)					Prepared: 04-Nov-11 Analyzed: 08-Nov-11						**C-03**
Endrin aldehyde	ND	0.0010	0.0030	mg/kg							
Endrin ketone	ND	0.0010	0.0030	"							
gamma-BHC (Lindane)	ND	0.0010	0.0030	"							
gamma-Chlordane	ND	0.0010	0.0030	"							
Heptachlor	ND	0.0010	0.0030	"							
Heptachlor epoxide	ND	0.0010	0.0030	"							
Methoxychlor	ND	0.0010	0.0030	"							
Chlordane (tech)	ND	0.010	0.020	"							
Toxaphene	ND	0.010	0.020	"							
Surrogate: Decachlorobiphenyl	*0.00937*			"	*0.00833*		*112*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00560*			"	*0.00833*		*67.1*	*50-150*			
Blank (A111097-BLK4)					Prepared: 04-Nov-11 Analyzed: 09-Nov-11						**C-05**
alpha-BHC	ND	0.0010	0.0030	mg/kg							
alpha-Chlordane	ND	0.0010	0.0030	"							
Aldrin	ND	0.0010	0.0030	"							
beta-BHC	ND	0.0010	0.0030	"							
delta-BHC	ND	0.0010	0.0030	"							
4,4´-DDD	ND	0.0010	0.0030	"							
4,4´-DDE	ND	0.0010	0.0030	"							
4,4´-DDT	ND	0.0010	0.0030	"							
Dieldrin	ND	0.0010	0.0030	"							
Endosulfan I	ND	0.0010	0.0030	"							
Endosulfan II	ND	0.0010	0.0030	"							
Endosulfan sulfate	ND	0.0010	0.0030	"							
Endrin	ND	0.0010	0.0030	"							
Endrin aldehyde	ND	0.0010	0.0030	"							
Endrin ketone	ND	0.0010	0.0030	"							
gamma-BHC (Lindane)	ND	0.0010	0.0030	"							
gamma-Chlordane	ND	0.0010	0.0030	"							
Heptachlor	ND	0.0010	0.0030	"							
Heptachlor epoxide	ND	0.0010	0.0030	"							
Methoxychlor	ND	0.0010	0.0030	"							
Chlordane (tech)	ND	0.010	0.020	"							
Toxaphene	ND	0.010	0.020	"							
Surrogate: Decachlorobiphenyl	*0.00747*			"	*0.00833*		*89.6*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00394*			"	*0.00833*		*47.2*	*50-150*			*S-GC*

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111097 - EPA 3550B											
LCS (A111097-BS1)					Prepared: 04-Nov-11 Analyzed: 07-Nov-11						
alpha-BHC	0.00388	0.0010	0.0030	mg/kg	0.00667		58.3	50-150			
alpha-Chlordane	0.00429	0.0010	0.0030	"	0.00667		64.3	50-150			
Aldrin	0.00379	0.0010	0.0030	"	0.00667		56.9	50-150			
beta-BHC	0.00415	0.0010	0.0030	"	0.00667		62.2	50-150			
delta-BHC	0.00450	0.0010	0.0030	"	0.00667		67.4	50-150			
4,4´-DDD	0.00492	0.0010	0.0030	"	0.00667		73.8	50-150			
4,4´-DDE	0.00431	0.0010	0.0030	"	0.00667		64.6	50-150			
4,4´-DDT	0.00468	0.0010	0.0030	"	0.00667		70.3	50-150			
Dieldrin	0.00438	0.0010	0.0030	"	0.00667		65.7	50-150			
Endosulfan I	0.00418	0.0010	0.0030	"	0.00667		62.8	50-150			
Endosulfan II	0.00476	0.0010	0.0030	"	0.00667		71.5	50-150			
Endosulfan sulfate	0.00507	0.0010	0.0030	"	0.00667		76.0	50-150			
Endrin	0.00455	0.0010	0.0030	"	0.00667		68.2	50-150			
Endrin aldehyde	0.00485	0.0010	0.0030	"	0.00667		72.8	50-150			
Endrin ketone	0.00546	0.0010	0.0030	"	0.00667		81.8	50-150			
gamma-BHC (Lindane)	0.00402	0.0010	0.0030	"	0.00667		60.3	50-150			
gamma-Chlordane	0.00418	0.0010	0.0030	"	0.00667		62.8	50-150			
Heptachlor	0.00392	0.0010	0.0030	"	0.00667		58.9	50-150			
Heptachlor epoxide	0.00413	0.0010	0.0030	"	0.00667		61.9	50-150			
Methoxychlor	0.00530	0.0010	0.0030	"	0.00667		79.5	50-150			
Surrogate: Decachlorobiphenyl	*0.00740*			*"*	*0.00833*		*88.8*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00568*			*"*	*0.00833*		*68.1*	*50-150*			
LCS (A111097-BS3)					Prepared: 04-Nov-11 Analyzed: 08-Nov-11						**C-03**
alpha-BHC	0.00343	0.0010	0.0030	mg/kg	0.00667		51.5	50-150			
alpha-Chlordane	0.00438	0.0010	0.0030	"	0.00667		65.8	50-150			
Aldrin	0.00337	0.0010	0.0030	"	0.00667		50.6	50-150			
beta-BHC	0.00393	0.0010	0.0030	"	0.00667		58.9	50-150			
delta-BHC	0.00425	0.0010	0.0030	"	0.00667		63.8	50-150			
4,4´-DDD	0.00565	0.0010	0.0030	"	0.00667		84.7	50-150			
4,4´-DDE	0.00477	0.0010	0.0030	"	0.00667		71.6	50-150			
4,4´-DDT	0.00569	0.0010	0.0030	"	0.00667		85.4	50-150			
Dieldrin	0.00467	0.0010	0.0030	"	0.00667		70.1	50-150			
Endosulfan I	0.00411	0.0010	0.0030	"	0.00667		61.7	50-150			
Endosulfan II	0.00492	0.0010	0.0030	"	0.00667		73.8	50-150			
Endosulfan sulfate	0.00550	0.0010	0.0030	"	0.00667		82.6	50-150			
Endrin	0.00481	0.0010	0.0030	"	0.00667		72.1	50-150			
Endrin aldehyde	0.00366	0.0010	0.0030	"	0.00667		54.9	50-150			
Endrin ketone	0.00510	0.0010	0.0030	"	0.00667		76.6	50-150			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111097 - EPA 3550B											
LCS (A111097-BS3)					Prepared: 04-Nov-11 Analyzed: 08-Nov-11						**C-03**
gamma-BHC (Lindane)	0.00343	0.0010	0.0030	mg/kg	0.00667		51.5	50-150			
gamma-Chlordane	0.00428	0.0010	0.0030	"	0.00667		64.2	50-150			
Heptachlor	0.00345	0.0010	0.0030	"	0.00667		51.7	50-150			
Heptachlor epoxide	0.00382	0.0010	0.0030	"	0.00667		57.3	50-150			
Methoxychlor	0.00766	0.0010	0.0030	"	0.00667		115	50-150			
Surrogate: Decachlorobiphenyl	*0.00817*			*"*	*0.00833*		*98.0*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00504*			*"*	*0.00833*		*60.4*	*50-150*			
LCS (A111097-BS4)					Prepared: 04-Nov-11 Analyzed: 09-Nov-11						**C-05**
alpha-BHC	0.00351	0.0010	0.0030	mg/kg	0.00667		52.7	50-150			
alpha-Chlordane	0.00400	0.0010	0.0030	"	0.00667		60.0	50-150			
Aldrin	0.00358	0.0010	0.0030	"	0.00667		53.6	50-150			
beta-BHC	0.00383	0.0010	0.0030	"	0.00667		57.5	50-150			
delta-BHC	0.00411	0.0010	0.0030	"	0.00667		61.6	50-150			
4,4´-DDD	0.00524	0.0010	0.0030	"	0.00667		78.6	50-150			
4,4´-DDE	0.00441	0.0010	0.0030	"	0.00667		66.1	50-150			
4,4´-DDT	0.00505	0.0010	0.0030	"	0.00667		75.7	50-150			
Dieldrin	0.00425	0.0010	0.0030	"	0.00667		63.8	50-150			
Endosulfan I	0.00387	0.0010	0.0030	"	0.00667		58.0	50-150			
Endosulfan II	0.00473	0.0010	0.0030	"	0.00667		70.9	50-150			
Endosulfan sulfate	0.00466	0.0010	0.0030	"	0.00667		69.8	50-150			
Endrin	0.00470	0.0010	0.0030	"	0.00667		70.5	50-150			
Endrin aldehyde	0.00468	0.0010	0.0030	"	0.00667		70.1	50-150			
Endrin ketone	0.00473	0.0010	0.0030	"	0.00667		70.9	50-150			
gamma-BHC (Lindane)	0.00349	0.0010	0.0030	"	0.00667		52.3	50-150			
gamma-Chlordane	0.00387	0.0010	0.0030	"	0.00667		58.0	50-150			
Heptachlor	0.00345	0.0010	0.0030	"	0.00667		51.7	50-150			
Heptachlor epoxide	0.00393	0.0010	0.0030	"	0.00667		59.0	50-150			
Methoxychlor	0.00876	0.0010	0.0030	"	0.00667		131	50-150			
Surrogate: Decachlorobiphenyl	*0.00735*			*"*	*0.00833*		*88.2*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00523*			*"*	*0.00833*		*62.8*	*50-150*			

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111097 - EPA 3550B											
LCS Dup (A111097-BSD1)					Prepared: 04-Nov-11 Analyzed: 07-Nov-11						
alpha-BHC	0.00465	0.0010	0.0030	mg/kg	0.00667		69.8	50-150	18.0	25	
alpha-Chlordane	0.00513	0.0010	0.0030	"	0.00667		76.9	50-150	17.8	25	
Aldrin	0.00454	0.0010	0.0030	"	0.00667		68.1	50-150	18.1	25	
beta-BHC	0.00484	0.0010	0.0030	"	0.00667		72.7	50-150	15.5	25	
delta-BHC	0.00527	0.0010	0.0030	"	0.00667		79.1	50-150	15.9	25	
4,4´-DDD	0.00585	0.0010	0.0030	"	0.00667		87.8	50-150	17.3	25	
4,4´-DDE	0.00523	0.0010	0.0030	"	0.00667		78.5	50-150	19.4	25	
4,4´-DDT	0.00560	0.0010	0.0030	"	0.00667		84.0	50-150	17.8	25	
Dieldrin	0.00546	0.0010	0.0030	"	0.00667		81.9	50-150	22.0	25	
Endosulfan I	0.00517	0.0010	0.0030	"	0.00667		77.5	50-150	21.0	25	
Endosulfan II	0.00570	0.0010	0.0030	"	0.00667		85.5	50-150	17.8	25	
Endosulfan sulfate	0.00571	0.0010	0.0030	"	0.00667		85.7	50-150	11.9	25	
Endrin	0.00559	0.0010	0.0030	"	0.00667		83.9	50-150	20.6	25	
Endrin aldehyde	0.00543	0.0010	0.0030	"	0.00667		81.5	50-150	11.3	25	
Endrin ketone	0.00602	0.0010	0.0030	"	0.00667		90.2	50-150	9.76	25	
gamma-BHC (Lindane)	0.00472	0.0010	0.0030	"	0.00667		70.9	50-150	16.1	25	
gamma-Chlordane	0.00503	0.0010	0.0030	"	0.00667		75.5	50-150	18.4	25	
Heptachlor	0.00470	0.0010	0.0030	"	0.00667		70.6	50-150	18.1	25	
Heptachlor epoxide	0.00506	0.0010	0.0030	"	0.00667		75.8	50-150	20.2	25	
Methoxychlor	0.00621	0.0010	0.0030	"	0.00667		93.1	50-150	15.7	25	
Surrogate: Decachlorobiphenyl	*0.00762*			*"*	*0.00833*		*91.5*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00598*			*"*	*0.00833*		*71.7*	*50-150*			
LCS Dup (A111097-BSD3)					Prepared: 04-Nov-11 Analyzed: 08-Nov-11						**C-03**
alpha-BHC	0.00352	0.0010	0.0030	mg/kg	0.00667		52.7	50-150	2.44	25	
alpha-Chlordane	0.00502	0.0010	0.0030	"	0.00667		75.2	50-150	13.4	25	
Aldrin	0.00389	0.0010	0.0030	"	0.00667		58.4	50-150	14.3	25	
beta-BHC	0.00439	0.0010	0.0030	"	0.00667		65.9	50-150	11.2	25	
delta-BHC	0.00484	0.0010	0.0030	"	0.00667		72.5	50-150	12.8	25	
4,4´-DDD	0.00687	0.0010	0.0030	"	0.00667		103	50-150	19.5	25	
4,4´-DDE	0.00564	0.0010	0.0030	"	0.00667		84.6	50-150	16.7	25	
4,4´-DDT	0.00680	0.0010	0.0030	"	0.00667		102	50-150	17.7	25	
Dieldrin	0.00590	0.0010	0.0030	"	0.00667		88.4	50-150	23.2	25	
Endosulfan I	0.00495	0.0010	0.0030	"	0.00667		74.2	50-150	18.4	25	
Endosulfan II	0.00660	0.0010	0.0030	"	0.00667		99.0	50-150	29.1	25	QR-02
Endosulfan sulfate	0.00618	0.0010	0.0030	"	0.00667		92.7	50-150	11.6	25	
Endrin	0.00601	0.0010	0.0030	"	0.00667		90.2	50-150	22.3	25	
Endrin aldehyde	0.00599	0.0010	0.0030	"	0.00667		89.9	50-150	48.3	25	QR-02
Endrin ketone	0.00627	0.0010	0.0030	"	0.00667		94.1	50-150	20.6	25	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111097 - EPA 3550B											
LCS Dup (A111097-BSD3)					Prepared: 04-Nov-11 Analyzed: 08-Nov-11						**C-03**
gamma-BHC (Lindane)	0.00365	0.0010	0.0030	mg/kg	0.00667		54.7	50-150	5.97	25	
gamma-Chlordane	0.00488	0.0010	0.0030	"	0.00667		73.2	50-150	13.1	25	
Heptachlor	0.00381	0.0010	0.0030	"	0.00667		57.2	50-150	10.0	25	
Heptachlor epoxide	0.00450	0.0010	0.0030	"	0.00667		67.5	50-150	16.3	25	
Methoxychlor	0.00813	0.0010	0.0030	"	0.00667		122	50-150	6.00	25	
Surrogate: Decachlorobiphenyl	*0.00845*			*"*	*0.00833*		*101*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00507*			*"*	*0.00833*		*60.8*	*50-150*			
LCS Dup (A111097-BSD4)					Prepared: 04-Nov-11 Analyzed: 09-Nov-11						**C-05**
alpha-BHC	0.00369	0.0010	0.0030	mg/kg	0.00667		55.4	50-150	5.03	25	
alpha-Chlordane	0.00426	0.0010	0.0030	"	0.00667		63.9	50-150	6.34	25	
Aldrin	0.00389	0.0010	0.0030	"	0.00667		58.3	50-150	8.40	25	
beta-BHC	0.00362	0.0010	0.0030	"	0.00667		54.4	50-150	5.59	25	
delta-BHC	0.00400	0.0010	0.0030	"	0.00667		60.0	50-150	2.58	25	
4,4´-DDD	0.00567	0.0010	0.0030	"	0.00667		85.1	50-150	7.97	25	
4,4´-DDE	0.00466	0.0010	0.0030	"	0.00667		69.9	50-150	5.65	25	
4,4´-DDT	0.00546	0.0010	0.0030	"	0.00667		81.9	50-150	7.79	25	
Dieldrin	0.00468	0.0010	0.0030	"	0.00667		70.2	50-150	9.54	25	
Endosulfan I	0.00419	0.0010	0.0030	"	0.00667		62.8	50-150	7.90	25	
Endosulfan II	0.00520	0.0010	0.0030	"	0.00667		78.0	50-150	9.57	25	
Endosulfan sulfate	0.00514	0.0010	0.0030	"	0.00667		77.1	50-150	9.86	25	
Endrin	0.00517	0.0010	0.0030	"	0.00667		77.5	50-150	9.52	25	
Endrin aldehyde	0.00497	0.0010	0.0030	"	0.00667		74.6	50-150	6.15	25	
Endrin ketone	0.00517	0.0010	0.0030	"	0.00667		77.5	50-150	8.90	25	
gamma-BHC (Lindane)	0.00380	0.0010	0.0030	"	0.00667		57.1	50-150	8.66	25	
gamma-Chlordane	0.00409	0.0010	0.0030	"	0.00667		61.4	50-150	5.66	25	
Heptachlor	0.00393	0.0010	0.0030	"	0.00667		58.9	50-150	13.1	25	
Heptachlor epoxide	0.00397	0.0010	0.0030	"	0.00667		59.5	50-150	0.864	25	
Methoxychlor	0.00887	0.0010	0.0030	"	0.00667		133	50-150	1.17	25	
Surrogate: Decachlorobiphenyl	*0.00707*			*"*	*0.00833*		*84.8*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00508*			*"*	*0.00833*		*61.0*	*50-150*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111097 - EPA 3550B											
Duplicate (A111097-DUP1)	**Source: 1105253-17**				Prepared: 04-Nov-11 Analyzed: 08-Nov-11						
alpha-BHC	ND	0.0010	0.0030	mg/kg		ND				25	
alpha-Chlordane	ND	0.0010	0.0030	"		ND				25	
Aldrin	ND	0.0010	0.0030	"		ND				25	
beta-BHC	ND	0.0010	0.0030	"		ND				25	
delta-BHC	ND	0.0010	0.0030	"		ND				25	
4,4´-DDD	ND	0.0010	0.0030	"		ND				25	
4,4´-DDE	ND	0.0010	0.0030	"		ND				25	
4,4´-DDT	ND	0.0010	0.0030	"		ND				25	
Dieldrin	ND	0.0010	0.0030	"		ND				25	
Endosulfan I	ND	0.0010	0.0030	"		ND				25	
Endosulfan II	ND	0.0010	0.0030	"		ND				25	
Endosulfan sulfate	ND	0.0010	0.0030	"		ND				25	
Endrin	ND	0.0010	0.0030	"		ND				25	
Endrin aldehyde	ND	0.0010	0.0030	"		ND				25	
Endrin ketone	ND	0.0010	0.0030	"		ND				25	
gamma-BHC	ND	0.0010	0.0030	"		ND				25	
gamma-Chlordane	ND	0.0010	0.0030	"		ND				25	
Heptachlor	ND	0.0010	0.0030	"		ND				25	
Heptachlor epoxide	ND	0.0010	0.0030	"		ND				25	
Methoxychlor	ND	0.0010	0.0030	"		ND				25	
Surrogate: Decachlorobiphenyl	*0.00688*			*"*	*0.00833*		*82.6*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00660*			*"*	*0.00833*		*79.2*	*50-150*			
Matrix Spike (A111097-MS1)	**Source: 1105253-17**				Prepared: 04-Nov-11 Analyzed: 08-Nov-11						
alpha-BHC	0.00478	0.0010	0.0030	mg/kg	0.00667	ND	71.8	50-150			
alpha-Chlordane	0.00558	0.0010	0.0030	"	0.00667	ND	83.7	50-150			
Aldrin	0.00535	0.0010	0.0030	"	0.00667	ND	80.3	50-150			
beta-BHC	0.00558	0.0010	0.0030	"	0.00667	ND	83.7	50-150			
delta-BHC	0.00532	0.0010	0.0030	"	0.00667	ND	79.8	50-150			
4,4´-DDD	0.00699	0.0010	0.0030	"	0.00667	ND	105	50-150			
4,4´-DDE	0.00569	0.0010	0.0030	"	0.00667	ND	85.4	50-150			
4,4´-DDT	0.00614	0.0010	0.0030	"	0.00667	ND	92.2	50-150			
Dieldrin	0.00647	0.0010	0.0030	"	0.00667	ND	97.1	50-150			
Endosulfan I	0.00599	0.0010	0.0030	"	0.00667	ND	89.8	50-150			
Endosulfan II	0.00607	0.0010	0.0030	"	0.00667	ND	91.1	50-150			
Endosulfan sulfate	0.00644	0.0010	0.0030	"	0.00667	ND	96.6	50-150			
Endrin	0.00764	0.0010	0.0030	"	0.00667	ND	115	50-150			
Endrin aldehyde	0.00522	0.0010	0.0030	"	0.00667	ND	78.4	50-150			
Endrin ketone	0.00644	0.0010	0.0030	"	0.00667	ND	96.6	50-150			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111097 - EPA 3550B											
Matrix Spike (A111097-MS1)	**Source: 1105253-17**				Prepared: 04-Nov-11 Analyzed: 08-Nov-11						
gamma-BHC (Lindane)	0.00496	0.0010	0.0030	mg/kg	0.00667	ND	74.4	50-150			
gamma-Chlordane	0.00530	0.0010	0.0030	"	0.00667	ND	79.5	50-150			
Heptachlor	0.00575	0.0010	0.0030	"	0.00667	ND	86.2	50-150			
Heptachlor epoxide	0.00571	0.0010	0.0030	"	0.00667	ND	85.6	50-150			
Methoxychlor	0.00722	0.0010	0.0030	"	0.00667	ND	108	50-150			
Surrogate: Decachlorobiphenyl	*0.00671*			*"*	*0.00833*		*80.5*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00644*			*"*	*0.00833*		*77.3*	*50-150*			
Matrix Spike Dup (A111097-MSD1)	**Source: 1105253-17**				Prepared: 04-Nov-11 Analyzed: 08-Nov-11						
alpha-BHC	0.00453	0.0010	0.0030	mg/kg	0.00667	ND	67.9	50-150	5.54	25	
alpha-Chlordane	0.00543	0.0010	0.0030	"	0.00667	ND	81.4	50-150	2.81	25	
Aldrin	0.00513	0.0010	0.0030	"	0.00667	ND	77.0	50-150	4.25	25	
beta-BHC	0.00565	0.0010	0.0030	"	0.00667	ND	84.7	50-150	1.16	25	
delta-BHC	0.00524	0.0010	0.0030	"	0.00667	ND	78.5	50-150	1.59	25	
4,4´-DDD	0.00679	0.0010	0.0030	"	0.00667	ND	102	50-150	2.85	25	
4,4´-DDE	0.00550	0.0010	0.0030	"	0.00667	ND	82.5	50-150	3.46	25	
4,4´-DDT	0.00548	0.0010	0.0030	"	0.00667	ND	82.2	50-150	11.5	25	
Dieldrin	0.00624	0.0010	0.0030	"	0.00667	ND	93.7	50-150	3.56	25	
Endosulfan I	0.00574	0.0010	0.0030	"	0.00667	ND	86.1	50-150	4.19	25	
Endosulfan II	0.00592	0.0010	0.0030	"	0.00667	ND	88.8	50-150	2.57	25	
Endosulfan sulfate	0.00721	0.0010	0.0030	"	0.00667	ND	108	50-150	11.2	25	
Endrin	0.00708	0.0010	0.0030	"	0.00667	ND	106	50-150	7.63	25	
Endrin aldehyde	0.00614	0.0010	0.0030	"	0.00667	ND	92.1	50-150	16.1	25	
Endrin ketone	0.00690	0.0010	0.0030	"	0.00667	ND	103	50-150	6.94	25	
gamma-BHC (Lindane)	0.00480	0.0010	0.0030	"	0.00667	ND	72.0	50-150	3.22	25	
gamma-Chlordane	0.00517	0.0010	0.0030	"	0.00667	ND	77.6	50-150	2.42	25	
Heptachlor	0.00533	0.0010	0.0030	"	0.00667	ND	79.9	50-150	7.58	25	
Heptachlor epoxide	0.00550	0.0010	0.0030	"	0.00667	ND	82.5	50-150	3.69	25	
Methoxychlor	0.00720	0.0010	0.0030	"	0.00667	ND	108	50-150	0.363	25	
Surrogate: Decachlorobiphenyl	*0.00699*			*"*	*0.00833*		*83.8*	*50-150*			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00623*			*"*	*0.00833*		*74.7*	*50-150*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111123 - EPA 3550B MS											
Blank (A111123-BLK1)				Prepared & Analyzed: 08-Nov-11							
Acenaphthene	ND	0.050	0.10	mg/kg							
Acenaphthylene	ND	0.050	0.10	"							
Aniline	ND	0.050	0.10	"							
Anthracene	ND	0.050	0.10	"							
Azobenzene	ND	0.050	0.10	"							
Benz(a)anthracene	ND	0.050	0.10	"							
Benzo (b) fluoranthene	ND	0.050	0.10	"							
Benzo (k) fluoranthene	ND	0.050	0.10	"							
Benzo (a) pyrene	ND	0.050	0.10	"							
Benzo (g,h,i) perylene	ND	0.050	0.10	"							
Benzoic acid	ND	0.050	0.10	"							
Benzyl alcohol	ND	0.050	0.10	"							
Bis(2-chloroethoxy)methane	ND	0.050	0.10	"							
Bis(2-chloroethyl)ether	ND	0.050	0.10	"							
Bis(2-chloroisopropyl) ether	ND	0.050	0.10	"							
Bis(2-ethylhexyl) phthalate	ND	0.050	0.10	"							
4-Bromophenyl phenyl ether	ND	0.050	0.10	"							
Butyl benzyl phthalate	ND	0.050	0.10	"							
4-Chloroaniline	ND	0.050	0.10	"							
2-Chloronaphthalene	ND	0.050	0.10	"							
4-Chlorophenyl phenyl ether	ND	0.050	0.10	"							
Chrysene	ND	0.050	0.10	"							
Dibenz (a,h) anthracene	ND	0.050	0.10	"							
Dibenzofuran	ND	0.050	0.10	"							
Di-n-butyl phthalate	ND	0.050	0.10	"							
1,2-Dichlorobenzene	ND	0.050	0.10	"							
1,3-Dichlorobenzene	ND	0.050	0.10	"							
1,4-Dichlorobenzene	ND	0.050	0.10	"							
3,3'-Dichlorobenzidine	ND	0.20	0.50	"							
Diethyl phthalate	ND	0.050	0.10	"							
Dimethyl phthalate	ND	0.050	0.10	"							
2,4-Dinitrotoluene	ND	0.060	0.10	"							
2,6-Dinitrotoluene	ND	0.050	0.10	"							
Di-n-octyl phthalate	ND	0.050	0.10	"							
Fluoranthene	ND	0.050	0.10	"							
Fluorene	ND	0.050	0.10	"							
Hexachlorobenzene	ND	0.050	0.10	"							
Hexachlorobutadiene	ND	0.050	0.10	"							
Hexachlorocyclopentadiene	ND	0.050	0.10	"							
Hexachloroethane	ND	0.050	0.10	"							

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111123 - EPA 3550B MS											
Blank (A111123-BLK1)					Prepared & Analyzed: 08-Nov-11						
Indeno (1,2,3-cd) pyrene	ND	0.050	0.10	mg/kg							
Isophorone	ND	0.050	0.10	"							
2-Methylnaphthalene	ND	0.050	0.10	"							
Naphthalene	ND	0.050	0.10	"							
2-Nitroaniline	ND	0.050	0.10	"							
3-Nitroaniline	ND	0.050	0.10	"							
4-Nitroaniline	ND	0.050	0.25	"							
Nitrobenzene	ND	0.050	0.10	"							
N-Nitrosodimethylamine	ND	0.050	0.10	"							
N-Nitrosodi-n-propylamine	ND	0.050	0.10	"							
N-Nitrosodiphenylamine	ND	0.050	0.10	"							
Phenanthrene	ND	0.050	0.10	"							
Pyrene	ND	0.050	0.10	"							
Carbazole	ND	0.050	0.10	"							
1,2,4-Trichlorobenzene	ND	0.050	0.10	"							
4-Chloro-3-methylphenol (Parachlorometa cresol)	ND	0.050	0.10	"							
2-Chlorophenol	ND	0.050	0.10	"							
2,4-Dichlorophenol	ND	0.050	0.10	"							
2,4-Dimethylphenol	ND	0.050	0.10	"							
2,4-Dinitrophenol	ND	0.050	0.10	"							
4,6-Dinitro-2-methylphenol	ND	0.050	0.10	"							
2-Methylphenol	ND	0.050	0.10	"							
3 & 4-Methylphenol	ND	0.050	0.10	"							
2-Nitrophenol	ND	0.050	0.10	"							
4-Nitrophenol	ND	0.050	0.10	"							
Pentachlorophenol	ND	0.050	0.10	"							
Phenol	ND	0.050	0.10	"							
Pyridine	ND	0.050	0.10	"							
2,4,5-Trichlorophenol	ND	0.050	0.10	"							
2,4,6-Trichlorophenol	ND	0.050	0.10	"							
Surrogate: 2-Fluorophenol	*1.97*			*"*	*2.67*		*73.7*	*4-109*			
Surrogate: Phenol-d5	*2.31*			*"*	*2.67*		*86.7*	*0-116*			
Surrogate: Nitrobenzene-d5	*2.17*			*"*	*2.67*		*81.6*	*2-132*			
Surrogate: 2-Fluorobiphenyl	*2.47*			*"*	*2.67*		*92.6*	*18-123*			
Surrogate: 2,4,6-Tribromophenol	*2.48*			*"*	*2.67*		*92.9*	*2-126*			
Surrogate: p-Terphenyl-d14	*3.03*			*"*	*2.67*		*113*	*0-164*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111123 - EPA 3550B MS											
LCS (A111123-BS1)					Prepared & Analyzed: 08-Nov-11						
Acenaphthene	2.26	0.050	0.10	mg/kg	2.67		84.9	41-107			
1,4-Dichlorobenzene	1.95	0.050	0.10	"	2.67		73.2	38-92			
2,4-Dinitrotoluene	2.34	0.060	0.10	"	2.67		87.6	46-110			
N-Nitrosodi-n-propylamine	2.10	0.050	0.10	"	2.67		78.8	48-102			
Pyrene	2.42	0.050	0.10	"	2.67		90.6	35-128			
1,2,4-Trichlorobenzene	2.05	0.050	0.10	"	2.67		76.9	44-96			
4-Chloro-3-methylphenol (Parachlorometa cresol)	2.13	0.050	0.10	"	2.67		80.0	45-106			
2-Chlorophenol	1.98	0.050	0.10	"	2.67		74.1	38-95			
4-Nitrophenol	2.19	0.050	0.10	"	2.67		82.1	33-114			
Pentachlorophenol	2.46	0.050	0.10	"	2.67		92.1	37-112			
Phenol	1.93	0.050	0.10	"	2.67		72.4	33-94			
Surrogate: 2-Fluorophenol	*1.78*			*"*	*2.67*		*66.9*	*4-109*			
Surrogate: Phenol-d5	*1.99*			*"*	*2.67*		*74.6*	*0-116*			
Surrogate: Nitrobenzene-d5	*2.06*			*"*	*2.67*		*77.4*	*2-132*			
Surrogate: 2-Fluorobiphenyl	*2.38*			*"*	*2.67*		*89.4*	*18-123*			
Surrogate: 2,4,6-Tribromophenol	*2.52*			*"*	*2.67*		*94.4*	*2-126*			
Surrogate: p-Terphenyl-d14	*2.89*			*"*	*2.67*		*108*	*0-164*			
LCS Dup (A111123-BSD1)					Prepared & Analyzed: 08-Nov-11						
Acenaphthene	2.21	0.050	0.10	mg/kg	2.67		82.7	41-107	2.64	30	
1,4-Dichlorobenzene	1.48	0.050	0.10	"	2.67		55.6	38-92	27.4	30	
2,4-Dinitrotoluene	2.30	0.060	0.10	"	2.67		86.1	46-110	1.78	30	
N-Nitrosodi-n-propylamine	2.01	0.050	0.10	"	2.67		75.4	48-102	4.46	30	
Pyrene	2.40	0.050	0.10	"	2.67		90.0	35-128	0.747	30	
1,2,4-Trichlorobenzene	1.89	0.050	0.10	"	2.67		70.7	44-96	8.43	30	
4-Chloro-3-methylphenol (Parachlorometa cresol)	2.12	0.050	0.10	"	2.67		79.5	45-106	0.627	30	
2-Chlorophenol	2.02	0.050	0.10	"	2.67		75.6	38-95	1.97	30	
4-Nitrophenol	2.21	0.050	0.10	"	2.67		82.8	33-114	0.879	30	
Pentachlorophenol	2.40	0.050	0.10	"	2.67		90.0	37-112	2.25	30	
Phenol	1.93	0.050	0.10	"	2.67		72.5	33-94	0.0862	30	
Surrogate: 2-Fluorophenol	*2.05*			*"*	*2.67*		*76.9*	*4-109*			
Surrogate: Phenol-d5	*2.09*			*"*	*2.67*		*78.4*	*0-116*			
Surrogate: Nitrobenzene-d5	*2.25*			*"*	*2.67*		*84.3*	*2-132*			
Surrogate: 2-Fluorobiphenyl	*2.42*			*"*	*2.67*		*90.9*	*18-123*			
Surrogate: 2,4,6-Tribromophenol	*2.56*			*"*	*2.67*		*96.1*	*2-126*			
Surrogate: p-Terphenyl-d14	*2.80*			*"*	*2.67*		*105*	*0-164*			

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111123 - EPA 3550B MS											
Duplicate (A111123-DUP1)	**Source: 1105265-01**			Prepared & Analyzed: 08-Nov-11							
Acenaphthene	ND	0.25	0.50	mg/kg		ND				30	
Acenaphthylene	ND	0.25	0.50	"		ND				30	
Aniline	ND	0.25	0.50	"		ND				30	
Anthracene	ND	0.25	0.50	"		ND				30	
Azobenzene	ND	0.25	0.50	"		ND				30	
Benz(a)anthracene	ND	0.25	0.50	"		ND				30	
Benzo (b) fluoranthene	ND	0.25	0.50	"		ND				30	
Benzo (k) fluoranthene	ND	0.25	0.50	"		ND				30	
Benzo (a) pyrene	ND	0.25	0.50	"		ND				30	
Benzo (g,h,i) perylene	ND	0.25	0.50	"		ND				30	
Benzoic acid	ND	0.25	0.50	"		ND				30	
Benzyl alcohol	ND	0.25	0.50	"		ND				30	
Bis(2-chloroethoxy)methane	ND	0.25	0.50	"		ND				30	
Bis(2-chloroethyl)ether	ND	0.25	0.50	"		ND				30	
Bis(2-chloroisopropyl) ether	ND	0.25	0.50	"		ND				30	
Bis(2-ethylhexyl) phthalate	ND	0.25	0.50	"		ND				30	
4-Bromophenyl phenyl ether	ND	0.25	0.50	"		ND				30	
Butyl benzyl phthalate	ND	0.25	0.50	"		ND				30	
4-Chloroaniline	ND	0.25	0.50	"		ND				30	
2-Chloronaphthalene	ND	0.25	0.50	"		ND				30	
4-Chlorophenyl phenyl ether	ND	0.25	0.50	"		ND				30	
Chrysene	ND	0.25	0.50	"		ND				30	
Dibenz (a,h) anthracene	ND	0.25	0.50	"		ND				30	
Dibenzofuran	ND	0.25	0.50	"		ND				30	
Di-n-butyl phthalate	ND	0.25	0.50	"		ND				30	
1,2-Dichlorobenzene	ND	0.25	0.50	"		ND				30	
1,3-Dichlorobenzene	ND	0.25	0.50	"		ND				30	
1,4-Dichlorobenzene	ND	0.25	0.50	"		ND				30	
3,3'-Dichlorobenzidine	ND	1.0	2.5	"		ND				30	
Diethyl phthalate	ND	0.25	0.50	"		ND				30	
Dimethyl phthalate	ND	0.25	0.50	"		ND				30	
2,4-Dinitrotoluene	ND	0.30	0.50	"		ND				30	
2,6-Dinitrotoluene	ND	0.25	0.50	"		ND				30	
Di-n-octyl phthalate	ND	0.25	0.50	"		ND				30	
Fluoranthene	ND	0.25	0.50	"		ND				30	
Fluorene	ND	0.25	0.50	"		ND				30	
Hexachlorobenzene	ND	0.25	0.50	"		ND				30	
Hexachlorobutadiene	ND	0.25	0.50	"		ND				30	
Hexachlorocyclopentadiene	ND	0.25	0.50	"		ND				30	
Hexachloroethane	ND	0.25	0.50	"		ND				30	

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111123 - EPA 3550B MS											
Duplicate (A111123-DUP1)	**Source: 1105265-01**			Prepared & Analyzed: 08-Nov-11							
Indeno (1,2,3-cd) pyrene	ND	0.25	0.50	mg/kg		ND				30	
Isophorone	ND	0.25	0.50	"		ND				30	
2-Methylnaphthalene	0.338	0.25	0.50	"		0.416			20.6	30	J
Naphthalene	ND	0.25	0.50	"		ND				30	
2-Nitroaniline	ND	0.25	0.50	"		ND				30	
3-Nitroaniline	ND	0.25	0.50	"		ND				30	
4-Nitroaniline	ND	0.25	1.2	"		ND				30	
Nitrobenzene	ND	0.25	0.50	"		ND				30	
N-Nitrosodimethylamine	ND	0.25	0.50	"		ND				30	
N-Nitrosodi-n-propylamine	ND	0.25	0.50	"		ND				30	
N-Nitrosodiphenylamine	ND	0.25	0.50	"		ND				30	
Phenanthrene	ND	0.25	0.50	"		ND				30	
Pyrene	ND	0.25	0.50	"		ND				30	
Carbazole	ND	0.25	0.50	"		ND				30	
1,2,4-Trichlorobenzene	ND	0.25	0.50	"		ND				30	
4-Chloro-3-methylphenol (Parachlorometa cresol)	ND	0.25	0.50	"		ND				30	
2-Chlorophenol	ND	0.25	0.50	"		ND				30	
2,4-Dichlorophenol	ND	0.25	0.50	"		ND				30	
2,4-Dimethylphenol	ND	0.25	0.50	"		ND				30	
2,4-Dinitrophenol	ND	0.25	0.50	"		ND				30	
4,6-Dinitro-2-methylphenol	0.927	0.25	0.50	"		ND				30	
2-Methylphenol	ND	0.25	0.50	"		ND				30	
3 & 4-Methylphenol	ND	0.25	0.50	"		ND				30	
2-Nitrophenol	ND	0.25	0.50	"		ND				30	
4-Nitrophenol	ND	0.25	0.50	"		ND				30	
Pentachlorophenol	ND	0.25	0.50	"		ND				30	
Phenol	ND	0.25	0.50	"		ND				30	
2,4,5-Trichlorophenol	ND	0.25	0.50	"		ND				30	
Pyridine	ND	0.25	0.50	"		ND				30	
2,4,6-Trichlorophenol	ND	0.25	0.50	"		ND				30	
Surrogate: 2-Fluorophenol	*2.14*			*"*	*2.67*		*80.1*	*4-109*			
Surrogate: Phenol-d5	*2.02*			*"*	*2.67*		*75.6*	*0-116*			
Surrogate: Nitrobenzene-d5	*2.68*			*"*	*2.67*		*100*	*2-132*			
Surrogate: 2-Fluorobiphenyl	*3.33*			*"*	*2.67*		*125*	*18-123*			
Surrogate: 2,4,6-Tribromophenol	*2.67*			*"*	*2.67*		*100*	*2-126*			
Surrogate: p-Terphenyl-d14	*3.75*			*"*	*2.67*		*141*	*0-164*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Method Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A111123 - EPA 3550B MS											
Matrix Spike (A111123-MS1)	**Source: 1105265-01**				Prepared & Analyzed: 08-Nov-11						
Acenaphthene	3.13	0.25	0.50	mg/kg	2.65	ND	118	27-136			
1,4-Dichlorobenzene	2.26	0.25	0.50	"	2.65	ND	85.1	36-110			
2,4-Dinitrotoluene	2.21	0.30	0.50	"	2.65	ND	83.4	21-134			
N-Nitrosodi-n-propylamine	2.29	0.25	0.50	"	2.65	ND	86.3	29-130			
Pyrene	3.18	0.25	0.50	"	2.65	ND	120	1-193			
1,2,4-Trichlorobenzene	2.59	0.25	0.50	"	2.65	ND	97.7	37-116			
4-Chloro-3-methylphenol (Parachlorometa cresol)	2.32	0.25	0.50	"	2.65	ND	87.6	28-133			
2-Chlorophenol	2.46	0.25	0.50	"	2.65	ND	92.6	28-122			
4-Nitrophenol	2.33	0.25	0.50	"	2.65	ND	87.8	14-142			
Pentachlorophenol	3.00	0.25	0.50	"	2.65	ND	113	12-136			
Phenol	2.22	0.25	0.50	"	2.65	ND	83.9	16-131			
Surrogate: 2-Fluorophenol	*2.27*			*"*	*2.65*		*85.4*	*4-109*			
Surrogate: Phenol-d5	*2.20*			*"*	*2.65*		*82.9*	*0-116*			
Surrogate: Nitrobenzene-d5	*2.32*			*"*	*2.65*		*87.6*	*2-132*			
Surrogate: 2-Fluorobiphenyl	*3.52*			*"*	*2.65*		*133*	*18-123*			
Surrogate: 2,4,6-Tribromophenol	*3.00*			*"*	*2.65*		*113*	*2-126*			
Surrogate: p-Terphenyl-d14	*3.86*			*"*	*2.65*		*145*	*0-164*			
Matrix Spike Dup (A111123-MSD1)	**Source: 1105265-01**				Prepared & Analyzed: 08-Nov-11						
Acenaphthene	3.17	0.50	0.99	mg/kg	2.65	ND	120	27-136	1.21	30	
1,4-Dichlorobenzene	2.76	0.50	0.99	"	2.65	ND	104	36-110	20.0	30	
2,4-Dinitrotoluene	2.13	0.60	0.99	"	2.65	ND	80.1	21-134	3.98	30	
N-Nitrosodi-n-propylamine	2.31	0.50	0.99	"	2.65	ND	87.0	29-130	0.793	30	
Pyrene	3.33	0.50	0.99	"	2.65	ND	126	1-193	4.69	30	
1,2,4-Trichlorobenzene	2.69	0.50	0.99	"	2.65	ND	101	37-116	3.70	30	
4-Chloro-3-methylphenol (Parachlorometa cresol)	1.76	0.50	0.99	"	2.65	ND	66.4	28-133	27.6	30	
2-Chlorophenol	2.33	0.50	0.99	"	2.65	ND	87.9	28-122	5.20	30	
4-Nitrophenol	2.99	0.50	0.99	"	2.65	ND	113	14-142	25.0	30	
Pentachlorophenol	3.48	0.50	0.99	"	2.65	ND	131	12-136	15.0	30	
Phenol	2.05	0.50	0.99	"	2.65	ND	77.1	16-131	8.39	30	
Surrogate: 2-Fluorophenol	*2.07*			*"*	*2.65*		*77.9*	*4-109*			
Surrogate: Phenol-d5	*2.67*			*"*	*2.65*		*101*	*0-116*			
Surrogate: Nitrobenzene-d5	*2.09*			*"*	*2.65*		*78.7*	*2-132*			
Surrogate: 2-Fluorobiphenyl	*3.59*			*"*	*2.65*		*136*	*18-123*			
Surrogate: 2,4,6-Tribromophenol	*3.12*			*"*	*2.65*		*118*	*2-126*			
Surrogate: p-Terphenyl-d14	*4.11*			*"*	*2.65*		*155*	*0-164*			

Padre Associates, Inc. - SLO	Project: Former Unocal Avila Terminal	
369 Pacific Street	Project Number: 0801-0896 Land Farming Bench-Scale Test	**Reported:**
San Luis Obispo CA, 93401	Project Manager: Louis Cappel	16-Nov-11 17:10

Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogates.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
R-01	The Reporting Limit has been raised to account for matrix interference.
QR-04	The RPD exceeded the QC control limits.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-09	The spike recovery was outside acceptance limits for the LCSD. The batch was accepted based on acceptable LCS recovery.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
J	Detected but below the RL/PQL; therefore, result is an estimated concentration .
HT-pH	Water pH should be analyzed within 15 minutes of sampling. Soil pH should be analyzed as soon as possible.
C-05	To reduce matrix interference, the sample extract has undergone GPC clean-up, method 3640, which is specific to contamination from high molecular weight material.
C-03	To reduce matrix interference, the sample extract has undergone silica-gel clean-up, method 3630, which is specific to polar compound contamination.
C-01	To reduce matrix interference, the sample extract has undergone sulfuric acid clean-up, method 3665, which is specific to hydrocarbon contamination.
>212	>212
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the Method Limit (MDL)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Abalone Coast Analytical, Inc.
141 Suburban Rd, Ste C-1San Luis Obispo CA, 93401
Phone: 595-1080 Fax: 595-1080

Order # 11-6910
Date/Time Rec'd: 11/17/11 1826
Analyst: JH

Hazardous Material Bioassay Screen
Polisini and Miller. CA Fish & Game Lab. 1988

Project: Former Onocal Avila 0801-0896

Sample #	Sample description	Date / Time	Analysis	Method	Result	Units	Completed
-1	**OEC# 1105253-30**	11/1/11 1119	Haz. Mat Bioassay (Screen)	Polisini & Miller	**PASS**	Pass/Fail	**11/23/11**
	T2C-4'						
-2	**OEC#1105253-36**	11/1/11 1153	Haz. Mat Bioassay (Screen)	Polisini & Miller	**PASS**	Pass/Fail	**11/23/11**
	T2C-6'						
-3	**OEC# 1105253-40**	11/2/11 0955	Haz. Mat Bioassay (Screen)	Polisini & Miller	**PASS**	Pass/Fail	**11/23/11**
	T3A-2'						
-4	**OEC# 1105253-53**	11/2/11 1125	Haz. Mat Bioassay (Screen)	Polisini & Miller	**PASS**	Pass/Fail	**11/23/11**
	T3B-6'						

The Hazardous Waste Bioassay Screen (Static/Acute) is conducted under the guidelines of Polisini & Miller, 1988. The tests are conducted under the conditions listed below unless noted (*****) and accompanied with written explanation.

Sample Extraction: Mechanical Shaker/ ASTM II Water
Control Water Source: Reverse Osmosis with 5% Tap
Control Water Hardness: 40-48 mg/L CaCO3

Feeding: None
Temperature Range: 18 - 22°C
Photoperiod: 16hr. Light/ 8hr. Dark

Test Chamber Volume: 10L
Number of Replicates: 2
Fish per Chamber: 10.
Tanks aerated: None
Aeration Rate: (Maintain DO > 4ppm.)

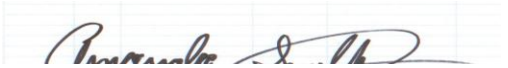
Test Endpoints: Survival at 96 hours
Test Organism: *Pimephales promelas*

Source: Thomas Fish Company
Fish Batch Number: 102

Ave. Length (mm) 34. min 32. max 35.
Ave. Wt. (g) 0.44 min 0.28 max 0.53

Results Explained:
State of CA limit for Non-Haz. Designation > 500. mg/L
Pass: LC50 > 750 mg/l (<40% dead in 750 mg/l conc)
Fail>40% dead in 750mg/l (definitive test recommended)

Start Bioassay: 11/19/2011
Report Completion Date: 11/23/2011
Data Review:



Fail LC50< 400mg/l (>60% dead in 400 mg/l conc.)

Lab Director

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 Fax No.: 805.786.2651
Project No. / Name: 0801-0896 / Former Unocal Avila Terminal Land Farming Bench-Scale Test

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle

Invoice To: CEMC
Kyle Rutherford
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: TPH C4-C10, C10-C25, C25-C40 - EPA 8015	ANALYSIS REQUIRED: Santa Maria Landfill Waste Criteria	NOTES
T1A-1'	10/31/11	1445	1	Soil/ solid	None	glass jars	X		1105253 - 1A
T1B-1'		1450					X		2A
T1C-1'		1455					X		3A
T1A-2'		1456					X		4A
T1B-2'		1457					X		5A
T1C-2'		1500					X		6A
T1A-3'		1517					X		7A
T1B-3'		1520					X		8A
T1C-3'		1522					X		9A
T1A-4'		1525					X		10A
T1B-4'		(PL) 1527					X		11A
T1C-4'		1535					X		12A
T1A-5'		1540					X		13A
T1B-5'		1542					X		14A
T1C-5'		1545					X		15A
T1A-6'		1550					X		16A

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	11/2/11	1540	[signature]	11/2/11	1540
Relinquished by: [signature]	Date 11/2/11	Time 1622	Received by: Lynnette Yee	Date 11-2-11	Time 1622

Turn Around Time (Check)
same day [ ] 72 hours [ ]
24 hours [ ] 5 days [ ]
48 hours [ ] normal [X]

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF C

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0896 / Former Unocal Avila Terminal Land Farming Bench-Scale Test

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle

Invoice To: CEMC
Kyle Rutherford
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: TPH C4-C10, C10-C25, C25-C40 - EPA 8015	ANALYSIS REQUIRED: Santa Maria Landfill Waste Criteria	NOTES
T1B-6'	10/31/11	1552	2	soil/solid	None	glass jars	X	X	1105253-17A-B
T1C-6'	↓	1555	1	↓	↓	↓	X		18A
T2A-1'	11/1/11	1025	↓	↓	↓	↓	X		19A
T2B-1'	↓	1027	↓	↓	↓	↓	X		20A
T2C-1'	↓	1030	↓	↓	↓	↓	X		21A
T2A-2'	↓	1040	↓	↓	↓	↓	X		22A
T2B-2'	↓	1042	↓	↓	↓	↓	X		23A
T2C-2'	↓	1045	↓	↓	↓	↓	X		24A
T2A-3'	↓	1055	↓	↓	↓	↓	X		25A
T2B-3'	↓	1100	↓	↓	↓	↓	X		26A
T2C-3'	↓	1102	↓	↓	↓	↓	X		27A
T2A-4'	↓	1111	↓	↓	↓	↓	X		28A
T2B-4'	↓	1115	↓	↓	↓	↓	X		29A
T2C-4'	↓	1119	2	↓	↓	↓	X	X	30A-B
T2A-5'	↓	1125	1	↓	↓	↓	X		31A
T2B-5'	↓	1130	↓	↓	↓	↓	X		32A

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
Paul Lavelle	11/2/11	1540		11/2/11	1540
	Date	Time	Received by:	Date	Time
	11/2/11	1622	Lynnette Yo	11-2-11	1622

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 Fax No.: 805.786.2651
Project No. / Name: 0801-0896 / Former Unocal Avila Terminal Land Farming Bench-Scale Test

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle

Invoice To: CEMC
Kyle Rutherford
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: TPH C4-C10, C10-C25, C25-C40 - EPA 8015	ANALYSIS REQUIRED: Santa Maria Landfill Waste Criteria	NOTES
T2C-5'	11/1/11	1133	1	soil/solid	None	glass jars	X		1105253-33A
T2A-6'		1142					X		34A
T2B-6'		1148					X		35A
T2C-6'		1153	2				X	X	36A-B
T3A-1'	11/2/11	0935	1				X		37A
T3B-1'		0937					X		38A
T3C-1'		0945					X		39A
T3A-2'		0955	2				X	X	40A-B
T3B-2'		1003	1				X		41A
T3C-2'		1010					X		42A
T3A-3'		1020					X		43A
T3B-3'		1025					X		44A
T3C-3'		1033					X		45A
T3A-4'		1040					X		46A
T3B-4'		1045					X		47A
T3C-4'		1050					X		48A

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
Paul Lavelle	11/2/11	1540		11/2/11	1540
	Date	Time	Received by:	Date	Time
	11/2/11	1622	Lynnette Yeo	11-2-11	1622

Turn Around Time (Check)
same day [ ] 72 hours [ ]
24 hours [ ] 5 days [ ]
48 hours [ ] normal [X]

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 **Fax No.:** 805.786.2651
Project No. / Name: 0801-0896 / Former Unocal Avila Terminal Land Farming Bench-Scale Test

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle

Invoice To: CEMC
Kyle Rutherford
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: TPH C4-C10, C10-C25, C25-C40 - EPA 8015	ANALYSIS REQUIRED: Santa Maria Landfill Waste Criteria	NOTES
T3A-5'	11/2/11	1105	1	soil/solid	None	glass jars	X		1105253-49A
T3B-5'		1108					X		50A
T3C-5'		1112					X		51A
T3A-6'		1120					X		52A
T3B-6'		1125	2				X	X	53A-B
T3C-6'		1130	1				X		54A

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	11/2/11	1540	[signature]	11/2/11	1540
[signature]	11/2/11	1622	Lynnette Yeo	11-2-11	1622

Turn Around Time (Check)
same day [ ] 72 hours [ ]
24 hours [ ] 5 days [ ]
48 hours [ ] normal [X]

OEC SAMPLE RECEIPT

Rev 01/15/10

CLIENT: Padre SLO OEC ID #: 1105253 Temp: 5 °C

Acceptable Range: 0°C to 6°C

COC RECEIVED DATE/TIME: 11-2-11 1622

RECEIPT LOGIN DATE/TIME: 11-3-11 0950

REFRIGERATOR(s): 8

SAMPLE TRANSPORT, RECEIPT, CONDITION & PRESERVATION:		Yes	No	N/A	(*) PROBLEM CHAIN FORM NEEDED
☒ OEC Courier/Sampler	COC document(s) received with samples	☒	☐*	☐	Custody Seals (circle): Present / ~~Absent~~
☐ Delivery(Other than OEC Courier)	Correct containers for analysis requested	☒	☐*	☐	Samples / Coolers
☒ Samples Received on Ice	Container(s) intact and in good condition	☒	☐*	☐	Intact / Broken*
☐ Samples Received Outside Temp. Range*	Container label(s) consistent with COC	☒	☐*	☐	Method of Shipment & Tracking #(if applicable):
☐ Samples Direct from field (Outside Temp)	OEC preservative added (**note std ID)	☐**	☐	☒	
☐ After-Hours Outside Drop-off [Brought Inside]	Proper preservation on sample label(s)	☐	☐	☒	(**) OEC Preservative ID:
(Initials/Date/Time):	VOA containers free of headspace	☐	☐*	☒	Dissolved Metals Filtration (Date/Init/Preserve ID)
	Tedlar Bags free of condensation	☐	☐*	☒	

CONTAINERS, COC CHANGES AND/OR CORRECTIONS — **CHANGES AUTHORIZED BY:**

OEC ID	Client ID ***If blank, refer to CoC	Container Description	Preservative	ResCl /pH	Matrix	Date/Time Sampled ***	Comments / Remarks / Condition Notes, Etc.
~~1-54A~~ EH 11-3-11							
1-16, 18-29A		1-4oz GLASS EA	—	—	SOLID		
31-35, 37-39A		1-4oz GLASS EA	—	—	SOLID		
41-52, 54A		1-4oz GLASS EA	—	—	SOLID		
17, 30, 36A-B		2-8oz GLASS EA	—	—	SOLID		
40, 53A-B		2-8oz GLASS EA	—	—	SOLID		

RECEIPT LOGIN BY: ELH RECEIPT REVIEWED BY: [signature]

padre associates, inc.

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 Fax No.: 805.786.2651
Project No. / Name: 0801-0896 / Former Unocal Avila Terminal Land Farming Bench-Scale Test

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle

Invoice To: CEMC
Kyle Rutherford
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: TPH C4-C10, C10-C25, C25-C40 - EPA 8015	ANALYSIS REQUIRED: Santa Maria Landfill Waste Criteria	NOTES
T1A-1'	10/31/11	1445	1	Soil/Solid	None	glass jars	X		1105253 - 1A
T1B-1'		1450					X		2A
T1C-1'		1455					X		3A
T1A-2'		1456					X		4A
T1B-2'		1457					X		5A
T1C-2'		1500					X		6A
T1A-3'		1517					X		7A
T1B-3'		1520					X		8A
T1C-3'		1522					X		9A
T1A-4'		1525					X		10A
T1B-4'		(Re) 1527					X		11A
T1C-4'		1535					X		12A
T1A-5'		1540					X		13A
T1B-5'		1542					X		14A
T1C-5'		1545					X		15A
T1A-6'		1550					X		16A

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	11/2/11	1540	[signature]	11/2/11	1540
[signature]	11/2/11	1622	Lynnette Tyler	11-2-11	1622

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

padre associates, inc.

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 Fax No.: 805.786.2651
Project No. / Name: 0801-0896 / Former Unocal Avila Terminal Land Farming Bench-Scale Test

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle

Invoice To: CEMC
Kyle Rutherford
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: TPH C4-C10, C10-C25, C25-C40 - EPA 8015	ANALYSIS REQUIRED: Santa Maria Landfill Waste Criteria	ANALYSIS REQUIRED: B; Glassy J	ANALYSIS REQUIRED	ANALYSIS REQUIRED	ANALYSIS REQUIRED	ANALYSIS REQUIRED	NOTES
T1B-6'	10/31/11	1552	2	Soil	None	glass jars	X	X	(X)					1105253-17A-B
T1C-6'	↓	1555	1				X							18A
T2A-1'	11/1/11	1025					X							19A
T2B-1'		1027					X							20A
T2C-1'		1030					X							21A
T2A-2'		1040					X							22A
T2B-2'		1042					X							23A
T2C-2'		1045					X							24A
T2A-3'		1055					X							25A
T2B-3'		1100					X							26A
T2C-3'		1102					X							27A
T2A-4'		1111					X							28A
T2B-4'		1115	↓				X							29A
T2C-4'		1119	2				X	X	(X)					30A-B
T2A-5'		1125	1				X							31A
T2B-5'	↓	1130	↓	↓	↓	↓	X							32A

(X) Added std TAT per client 11/17/11 LP

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
Paul Lavelle	11/2/11	1540		11/2/11	1540
Relinquished by:	Date	Time	Received by:	Date	Time
	11/2/11	1622	Lynnette Yee	11-2-11	1622

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

padre associates, inc.

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 Fax No.: 805.786.2651
Project No. / Name: 0801-0896 / Former Unocal Avila Terminal Land Farming Bench-Scale Test

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle

Invoice To: CEMC
Kyle Rutherford
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: TPH C4-C10, C10-C25, C25-C40 - EPA 8015	ANALYSIS REQUIRED: Santa Maria Landfill Waste Criteria	ANALYSIS REQUIRED: B's (8260B)	NOTES
T2C-5'	11/1/11	1133	1	Soil	None	Glass jars	X			(X) Added std TAT per client 11/7/11 CJC 1105253-33A
T2A-6'		1142					X			34A
T2B-6'		1148					X			35A
T2C-6'		1153	2				X	X	(X)	36A-B
T3A-1'	11/2/11	0935	1				X			37A
T3B-1'		0937					X			38A
T3C-1'		0945					X			39A
T3A-2'		0955	2				X	X	(X)	40A-B
T3B-2'		1003	1				X			41A
T3C-2'		1010					X			42A
T3A-3'		1020					X			43A
T3B-3'		1025					X			44A
T3C-3'		1033					X			45A
T3A-4'		1040					X			46A
T3B-4'		1045					X			47A
T3C-4'		1050					X			48A

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
Paul J Lavelle	11/2/11	1540		11/2/11	1540
Relinquished by:	Date	Time	Received by:	Date	Time
	11/2/11	1622	Lynnette Yeo	11-2-11	1622

Turn Around Time (Check)

same day		72 hours	
24 hours		5 days	
48 hours		normal	X

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 Fax No.: 805.786.2651
Project No. / Name: 0801-0896 / Former Unocal Avila Terminal Land Farming Bench-Scale Test

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Laville

Invoice To: CEMC
Kyle Rutherford
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: TPH C4-C10, C10-C25, C25-C40 - EPA 8015	Santa Maria Landfill Waste Criteria	BTEX (8021B)					NOTES
T3A-5'	11/2/11	1105	1	Soil	None	5 Glass jars	X							1105253-49A
T3B-5'		1108					X							50A
T3C-5'		1112					X							51A
T3A-6'		1120					X							52A
T3B-6'		1125	2				X	X	(2)					53A-B
T3C-6'		1130	1				X							54A

(2) Added Std DAT percent with MR

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
Paul Laville	11/2/11	1540		11/2/11	1540
Relinquished by:	Date	Time	Received by:	Date	Time
	11/2/11	1622	Lynnette Yeo	11-2-11	1622

Turn Around Time (Check)
same day [ ] 72 hours [ ]
24 hours [ ] 5 days [ ]
48 hours [ ] normal [X]

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

CHAIN OF CUSTODY RECORD

Client Name/Account #: Padre Associates, Inc.
Address: 369 Pacific Street
City/State/Zip: San Luis Obispo, California 93401
Telephone Number: 805.786.2650 Fax No.: 805.786.2651
Project No. / Name: 0801-0896 / Former Unocal Avila Terminal Land Farming Bench-Scale Test

Report To: Louis Cappel (lcappel@padreinc.com)
Sampler: Paul Lavelle

Invoice To: CEMC
Kyle Rutherford
SO# 15065036

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers	Sample Matrix	Preservative	Container Type	ANALYSIS REQUIRED: TPH C4-C10, C10-C25, C25-C40 - EPA 8015	ANALYSIS REQUIRED: Santa Maria Landfill Waste Criteria	ANALYSIS REQUIRED: B; Class 1	ANALYSIS REQUIRED	ANALYSIS REQUIRED	ANALYSIS REQUIRED	ANALYSIS REQUIRED	NOTES
T1B-6'	10/31/11	1552	2	soil/solid	None	glass jars	X	X	(X)	(A)				1105253-17A-B
T1C-6'	↓	1555	1				X							18A
T2A-1'	11/1/11	1025					X							19A
T2B-1'		1027					X							20A
T2C-1'		1030					X							21A
T2A-2'		1040					X							22A
T2B-2'		1042					X							23A
T2C-2'		1045					X							24A
T2A-3'		1055					X							25A
T2B-3'		1100					X							26A
T2C-3'		1102					X							27A
T2A-4'		1111					X							28A
T2B-4'		1115	↓				X							29A
T2C-4'		1119	2				X	X	(4)					30A-B
T2A-5'		1125	1				X							31A
T2B-5'	↓	1130	↓	↓	↓	↓	X							32A

(X) Added std TAT per client 11/17/11 LR

Special Instructions:
LOWEST POSSIBLE RLs. REPORT MDLs AND J-FLAG RESULTS. PERFORM STLC/TCLP ANALYSES WHERE APPLICABLE.

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
Paul Lavelle	11/2/11	1540		11/2/11	1540
Relinquished by:	Date	Time	Received by:	Date	Time
	11/2/11	1622	Lynnette Yee	11-2-11	1622

Turn Around Time (Check)
same day ☐ 72 hours ☐
24 hours ☐ 5 days ☐
48 hours ☐ normal ☒

OEC PROBLEM CHAIN

CLIENT: Paace

OEC ID #: 1105253-17

ISSUES RECORDED BY (DATE/TIME/INITIALS): 11-17-11

ISSUE(S): PLEASE PROVIDE DETAILS OF ISSUE(S) BELOW – Samples/Containers Affected, as necessary.

- ☐ Samples Received Outside Temp. Range (see below)
- ☐ **NO** COC document(s) received with samples
- ☐ Container(s) **NOT** intact or in good condition
- ☐ Incorrect containers for analysis requested
- ☐ Container label(s) **NOT** consistent with COC
- ☐ Custody Seals Broken
- ☑ OTHER: (if multiple, identify with numbers)

NOT ENOUGH SAMPLE TO RUN BIOASSAY
1105253-17

RESOLUTIONS: MINIMUM INFO: Issue#[if necessary] – Description – Contact Type (Verbal, email, etc.) – Client Authorization Contact – Date/Time/Initials

LIZA with INTERIM LOWES/PAACE 11-17-11
11/18/11 @ 9:45 Left message for Lowes letting him know there was not enough sample for bioassay on T1B-6". Asked for a call back in case he has more sample or wants to use a different sample. MK

FINAL RESOLUTION OF ISSUES BY (DATE/TIME/INITIALS):

OEC SAMPLE RECEIPT

Rev 01/15/10

CLIENT: Padre SLO OEC ID #: 1105253 Temp: 5 °C

Acceptable Range: 0°C to 6°C

COC RECEIVED DATE/TIME: 11-2-11 1622

RECEIPT LOGIN DATE/TIME: 11-3-11 0950

REFRIGERATOR(s): 8

SAMPLE TRANSPORT, RECEIPT, CONDITION & PRESERVATION:		Yes	No	N/A	(*) PROBLEM CHAIN FORM NEEDED
☒ OEC Courier/Sampler	COC document(s) received with samples	☒	☐*	☐	Custody Seals (circle): Present / ~~Absent~~
☐ Delivery(Other than OEC Courier)	Correct containers for analysis requested	☒	☐*	☐	Samples / Coolers
☒ Samples Received on Ice	Container(s) intact and in good condition	☒	☐*	☐	Intact / Broken*
☐ Samples Received Outside Temp. Range*	Container label(s) consistent with COC	☒	☐*	☐	Method of Shipment & Tracking #(if applicable):
☐ Samples Direct from field (Outside Temp)	OEC preservative added (**note std ID)	☐**	☐	☒	
☐ After-Hours Outside Drop-off [Brought Inside]	Proper preservation on sample label(s)	☐	☐	☒	(**) OEC Preservative ID:
(Initials/Date/Time):	VOA containers free of headspace	☐	☐*	☒	Dissolved Metals Filtration: (Date/Init/Preserve ID)
	Tedlar Bags free of condensation	☐	☐*	☒	

CONTAINERS, COC CHANGES AND/OR CORRECTIONS — **CHANGES AUTHORIZED BY:**

OEC ID	Client ID ***If blank, refer to CoC	Container Description	Preservative	ResCl /pH	Matrix	Date/Time Sampled ***	Comments / Remarks / Condition Notes, Etc.
~~1-54A~~ EH 11-3-11							
1-16, 18-29A		1-4oz GLASS EA	—	—	SOLID		
31-35, 37-39A		1-4oz GLASS EA	—	—	SOLID		
41-52, 54A		1-4oz GLASS EA	—	—	SOLID		
17, 30, 36A-B		2-8oz GLASS EA	—	—	SOLID		
40, 53A-B	(44)	2-8oz GLASS EA	—	—	SOLID		
1105253-17, 30, 36, 40, 53		DIGI TUBE					~~SUB TO~~ SUB TO OASIS ~~PA~~ 11-17-11 (8)

RECEIPT LOGIN BY: ELH RECEIPT REVIEWED BY: MJ

ATTACHMENT 8

Data Usability Evaluation – Human Health Risk Assessment
(Avocet Environmental, Inc. 2004)

AVOCET
ENVIRONMENTAL, INC.

October 25, 2004 Project No. 1007.006

Charles E. Lambert, Ph.D., DABT
McDANIEL LAMBERT, INC.
1608 Pacific Avenue, Suite 201
Venice, California 90291

Data Usability Evaluation
Human Health Risk Assessment Database
Unocal Avila Tank Farm
Avila Beach, California

Dear Dr. Lambert:

The purpose of this document is to evaluate the usability of the Unocal Avila Beach Tank Farm historical environmental analytical data (data) for use in the human health risk assessment. This data has been collected over the past 7 years by one primary investigator (England & Associates, Inc., who after October 2000 conducted business as England Geosystem, Inc.) and two secondary investigators (Fluor Daniel GTI, Inc. and Avocet Environmental, Inc.). With few exceptions, the environmental samples were tested by a single analytical laboratory, ZymaX envirotechnology, inc. The United States Environmental Protection Agency (USEPA), in their document entitled *Guidance for Data Usability in Risk Assessment (Part A)*, lists six criteria for evaluating the usability of environmental analytical data (data) collected for baseline human health risk assessment (USEPA, April 1992). These include:

Criterion I - Reports: In this case, the assessment and characterization reports containing the historical or legacy environmental analytical data. The data should be reported in a format that provides adequate data and data documentation.

Criterion II - Documentation: Data collection and analysis procedures must be accurately documented to substantiate the analysis of the sample, conclusions derived from the data, and the reliability of the analytical data.

Criterion III - Data Sources: For historical analytical data to be useful in quantitative risk assessment, sampling design, sampling and analytical techniques, and detection limits must be well documented.

Criterion IV - Analytical Methods and Detection Limits: Appropriate analytical methods are able to identify chemicals of potential concern (COPCs) and have detection limits that meet risk assessment requirements.

Criterion V - Data Review: An examination of laboratory and method performance for the samples and analytes.

Criterion VI - Data Quality Indicators: Data quality indicators provide quantitative measures of the completeness, comparability, representativeness, precision, and accuracy of the environmental analytical data. These indicators are evaluated through the review of sampling and analytical data and accompanying documentation.

The following sections will review the soil, soil gas and ground water environmental analytical data intended for use in the human health risk assessment in light of these six criteria.

CRITERION I – REPORTS

Over forty reports were used to assemble the soil, soil gas and ground water environmental analytical database intended for use in the human health risk assessment. Following is a review of each report or group of reports in terms of the presence or absence of certain types of documentation suggested by the USEPA (1992). The review will be conducted in the form of a Report Content Checklist. The items in the checklist are abbreviated descriptions derived from Exhibit 19. Data and Documentation Needed for Risk Assessment as reproduced below:

Data and Documentation
• Site description with a detailed map indicating site location, showing the site relative to surrounding structures, terrain features, population or receptors, indicating air and water flow, and describing the operative industrial processes, if appropriate.
• Site map with sample locations (including soil depths) identified.
• Description of the sampling design and procedures including rationale.
• Description of analytical method used and detection limits including SQLs and detection limits for non-detect data.
• Results given on a per-sample basis, qualified for analytical limitations and error, and accompanied by SQLs. Estimated quantities of compounds/tentatively identified compounds.
• Field conditions and physical parameter data as appropriate for the media involved in the exposure assessment.
• Narrative explanation of qualified data on an analyte and sample basis, indicating direction of bias.
• QC data results for audits, blanks, replicates and spikes from the field and laboratory.
• Definitions and descriptions of flagged data.
• Hardcopy or diskette results (from the analytical laboratory).
• Raw data (instrument output, chromatograms, spectra).

In the Report Content Checklists, the word "Yes" to the left of the documentation item indicates that the report(s) contain the recommended information and the word "No" indicates that the suggested documentation is not contained within the report(s). In general, the reports include very good documentation of the: 1) site location and surrounding features, 2) sampling design rationale and procedures, 3) analytical methods and detection limits, 4) analytical results on a

per-sample basis, and 5) descriptions of the field conditions and physical parameters (e.g., soil texture, porosity, moisture content, etc.). The reports include good documentation of field and laboratory quality control (QC) data results and laboratory raw data – particularly GC/MS total ion current traces (TICs) for samples containing hydrocarbons; and relatively poor documentation of qualified data and tentatively identified compounds.

Soil and Bedrock Data

Fluor Daniel GTI, Inc., 1997, *Additional Assessment Report, Areas West of San Luis Obispo Creek and at Avila Terminal Western Boundary, Unocal Avila Beach Remediation Project*, Fluor Daniel GTI Project No. 022300114, report dated June 2, 1997.

Report Content Checklist	
Yes	Site description with detailed map
Yes	Site map with sample locations identified
Yes	Description of sampling design and procedures
Yes[1]	Description of analytical methods and detection limits Lab: ZymaX envirotechnology, San Luis Obispo, CA[2]
Yes No No	Results given on a per-sample basis Qualified data Tentatively identified compounds
Yes	Field conditions and physical parameter data (as appropriate)
No	Narrative explanation of qualified data (direction of bias)
Yes[3]	QC data results from the field and laboratory
No	Definitions and descriptions of flagged data
No[4]	Hardcopy of laboratory electronic files
No[4]	Raw laboratory data

Notes: [1] Detection limits available on laboratory report in Appendix.
[2] Analyses performed by a California DHS certified laboratory.
[3] Laboratory QC data given in laboratory report in Appendix.
[4] Laboratory electronic files and raw data are available.

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Report Content Checklist	
Yes	Site description with detailed map
Yes	Site map with sample locations identified
Yes	Description of sampling design and procedures
Yes[1]	Description of analytical methods and detection limits Lab: ZymaX envirotechnology, San Luis Obispo, CA[2]
Yes No No	Results given on a per-sample basis Qualified data Tentatively identified compounds
Yes	Field conditions and physical parameter data (as appropriate)
No	Narrative explanation of qualified data (direction of bias)
Yes[3]	QC data results from the field and laboratory
No	Definitions and descriptions of flagged data
No[4]	Hardcopy of laboratory electronic files
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Notes: [1] Detection limits available on laboratory report in Appendix.
[2] Analyses performed by a California DHS certified laboratory.
[3] Laboratory QC data given in laboratory report in Appendix.
[4] Laboratory electronic files and raw data are available.

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Report Content Checklist	
Yes	Site description with detailed map
Yes	Site map with sample locations identified
Yes	Description of sampling design and procedures

Yes[1]	Description of analytical methods and detection limits Lab: ZymaX envirotechnology, San Luis Obispo, CA[2]
Yes No No	Results given on a per-sample basis Qualified data Tentatively identified compounds
Yes	Field conditions and physical parameter data (as appropriate)
No	Narrative explanation of qualified data (direction of bias)
Yes[3]	QC data results from the field and laboratory
No	Definitions and descriptions of flagged data
No[4]	Hardcopy of laboratory electronic files
No[4]	Raw laboratory data

Notes: [1] Detection limits available on laboratory report in Appendix.
[2] Analyses performed by a California DHS certified laboratory.
[3] Laboratory QC data given in laboratory report in Appendix.
[4] Laboratory electronic files and raw data are available.

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England & Associates, 1998c, *Ground Water Monitoring Report, Second Quarter 1998, Unocal Avila Station, Avila Beach, California*, England & Associates Project No. 526-A, report dated July 20, 1998.

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England & Associates, 1999b, *Ground Water Monitoring Report, First Quarter 1999, Unocal Avila Station, Avila Beach, California*, England & Associates Project No. 526-A, report dated April 15, 1999.

England & Associates, 1999c, *Ground Water Monitoring Report, Second Quarter 1999, Unocal Avila Station, Avila Beach, California*, England & Associates Project No. 526-A, report dated July 15, 1999.

England & Associates, 1999d, *Ground Water Monitoring Report, Third Quarter 1999, Unocal Avila Station, Avila Beach, California*, England & Associates Project No. 526-A, report dated October 27, 1999.

England & Associates, 2000a, *Ground Water Monitoring Report, Fourth Quarter 1999, Unocal Avila Station, Avila Beach, California*, England & Associates Project No. 526-A, report dated January 7, 2000.

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England & Associates, 2000d, *Ground Water Monitoring Report, Third Quarter 2000, Unocal Avila Station, Avila Beach, California*, England & Associates Project No. 526-A, report dated October 20, 2000.

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England Geosystem, Inc., 2002e, *Ground Water Monitoring Report, Third Quarter 2002, Unocal Avila Station, Avila Beach, California*, England Geosystem, Inc. Project No. 526-A, report dated October 2002.

England Geosystem, Inc., 2002f, *Ground Water Natural Attenuation Monitoring Report, RTP Recommendation No. 9, Unocal Avila Station, Avila Beach, California,* England Geosystem, Inc. Project No. 526.006, report dated December 17, 2002.

England Geosystem, Inc., 2003a, *Ground Water Monitoring Report, Fourth Quarter 2002, Unocal Avila Station, Avila Beach, California*, England Geosystem, Inc. Project No. 526-A, report dated January 20, 2003.

England Geosystem, Inc., 2003b, *Ground Water Monitoring Report, First Quarter 2003, Unocal Avila Station, Avila Beach, California*, England Geosystem, Inc. Project No. 526-A, report dated April 17, 2003.

England Geosystem, Inc., 2003c, *Ground Water Monitoring Report, Second Quarter 2003, Unocal Avila Station, Avila Beach, California*, England Geosystem, Inc. Project No. 526-A, report dated July 20, 2003.

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England Geosystem, Inc., 2004c, *Ground Water Monitoring Report, Second Quarter 2004, Unocal Avila Station, Avila Beach, California*, England Geosystem, Inc. Project No. 526-A, report dated July 20, 2004.

Report Content Checklist	
Yes	Site description with detailed map
Yes	Site map with sample locations identified
Yes	Description of sampling design and procedures
Yes[(1)]	Description of analytical methods and detection limits Lab: ZymaX envirotechnology, San Luis Obispo, CA[(2)]
Yes No No	Results given on a per-sample basis Qualified data Tentatively identified compounds
Yes	Field conditions and physical parameter data (as appropriate)

No	Narrative explanation of qualified data (direction of bias)
Yes[3]	QC data results from the field and laboratory
No	Definitions and descriptions of flagged data
No[4]	Hardcopy of laboratory electronic files
No[4]	Raw laboratory data

Notes: [1] Detection limits available on laboratory report in Appendix.
[2] Analyses performed by a California DHS certified laboratory.
[3] Laboratory QC data given in laboratory report in Appendix.
[4] Laboratory electronic files and raw data are available.

Soil Gas Data

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England Geosystem, Inc., 2002b, *Soil Gas Monitoring Report, Unocal Avila Pump Station, Avila Beach, CA*: Report dated July 22, 2002.

England Geosystem, Inc., 2002c, *Soil Gas Monitoring Report – September 2002, Unocal Avila Pump Station, Avila Beach, CA*: Report dated November 27, 2002.

Report Content Checklist	
Yes	Site description with detailed map
Yes	Site map with sample locations identified
Yes	Description of sampling design and procedures
Yes[1]	Description of analytical methods and detection limits Labs: Inland Empire Analytical, Norco, CA. ZymaX envirotechnology, San Luis Obispo, CA[2]
Yes No No	Results given on a per-sample basis Qualified data Tentatively identified compounds
Yes	Field conditions and physical parameter data (as appropriate)
No	Narrative explanation of qualified data (direction of bias)
Yes[3]	QC data results from the field and laboratory
No	Definitions and descriptions of flagged data
No[4]	Hardcopy of laboratory electronic files
No[4]	Raw laboratory data

Notes: [1] Detection limits available on laboratory report in Appendix.
[2] Analyses performed by a California DHS certified laboratory.
[3] Laboratory (ZymaX) QC data given in laboratory report in Appendix.
[4] Laboratory (ZymaX) electronic files and raw data are available.

Miscellaneous Data

England & Associates, 2000c, *Refractory Glass Characterization, Unocal Avila Pump Station, Avila Beach, California*. England & Associates Project No. 526-A, report dated March 9, 2000.

Report Content Checklist	
Yes	Site description with detailed map
Yes	Site map with sample locations identified
Yes	Description of sampling design and procedures
Yes[(1)]	Description of analytical methods and detection limits Lab: ZymaX envirotechnology, San Luis Obispo, CA. [(2)]
Yes No No	Results given on a per-sample basis Qualified data Tentatively identified compounds
Yes	Field conditions and physical parameter data (as appropriate)
No	Narrative explanation of qualified data (direction of bias)
Yes[(3)]	QC data results from the field and laboratory
No	Definitions and descriptions of flagged data
No[(4)]	Hardcopy of laboratory electronic files
No[(4)]	Raw laboratory data

Notes: [(1)] Detection limits available in tables and on laboratory report.
[(2)] Analyses performed by a California DHS certified laboratory.
[(3)] Laboratory QC data given in laboratory report in Appendix.
[(4)] Laboratory electronic files and raw data are available.

CRITERION II – DOCUMENTATION

The objective of the documentation review is to ensure that each analytical result can be traced to a sample location and that the procedure(s) used to collect the environmental samples were appropriate. The three acceptable types of documentation used to trace samples and analytical methods are chain-of-custody forms, standard operating procedures (SOPs), and field and analytical records. All of the reports contain very good maps depicting the geographic location of sample collection. Almost all of the sample locations were surveyed by a licensed land surveyor to permit accurate location of the sample collection point on a map. All the reports contained descriptions of sample collection procedures which were judged to be in general compliance with standard operating procedures common to the environmental engineering industry. All of the samples were appropriately labeled and handled in accordance with standard chain-of-custody protocols and copies of the chains-of-custody are included in the laboratory reports. All of the reports contain field records describing the time of sample collection, the nature and appearance of the sample, and documentation of field measurements (pH, temperature, etc.), where appropriate.

CRITERION III – DATA SOURCES

The objective of the data source review is to ensure that the analytical techniques used for the investigation are appropriate to identify COPCs for each exposure area and environmental medium of interest. The Avila facility served as a petroleum storage and distribution facility for more than 80 years. Therefore, most of the samples collected at the site were analyzed for the presence of petroleum (total petroleum hydrocarbons, TPH) and petroleum-related compounds including volatile aromatic hydrocarbons (benzene, toluene, ethyl benzene, and total xylenes, collectively referred to as BTEX), volatile organic compounds (VOCs) and polycyclic (or

polynuclear) aromatic hydrocarbons (PAHs). Samples were also analyzed for various non-petroleum compounds such as metals, polychlorinated biphenyls (PCBs), herbicides, and pesticides. All of these tests were performed using USEPA, State of California, or other approved methods. A panel of three university professors with expertise in site characterization and remediation who were commissioned by the Regional Water Quality Control Board and Unocal to review the Avila Tank Farm site characterization documents concluded that *"This level of chemical identification is considered to be appropriate for this type of site and no recommendations regarding additional constituents are warranted at this time"*.

Since characterization of the site began in late 1997, essentially all of the samples collected at the site have been tested by ZymaX envirotechnology, a California Department of Health Services certified environmental testing laboratory located in San Luis Obispo, California. All of the samples tested by ZymaX were tested using the same USEPA, State of California, or other approved methods and, therefore, the data are considered comparable.

CRITERION IV – ANALYTICAL METHODS AND DETECTION LIMITS

For a chemical result to be usable for assessing risk, the analytical method must appropriately identify the chemical form or species, and the sample detection limit must be at or below a concentration that is associated with risk benchmark levels. The Unocal Avila Tank Farm environmental monitoring dataset contains almost 100,000 records. All of these samples were tested by California Department of Health Services-certified environmental testing laboratories using USEPA, State of California, or other (ASTM, LUFT, etc.) approved analytical methods. The analytical methods utilized by the laboratories are considered appropriate to identify the COPCs at the site. In general, the detection limits associated with these analytical methods were significantly below risk benchmarks (e.g., USEPA Region IX Preliminary Remediation Goals [PRGs]).

CRITERION V – DATA REVIEW

For the most part, analytical data collected during site characterization of the Unocal Avila Tank Farm have received a minimum level of review. In general, reviews were performed and documented to demonstrate that all analyses were performed in accordance with USEPA, State of California, or other (ASTM, LUFT, etc.) approved analytical methods. The data were also reviewed for data completeness to ensure that all of the samples delivered to the laboratory and scheduled for testing were analyzed and reported and that the samples were tested within the appropriate holding times. Less frequently were field (duplicates, trip blanks) and/or laboratory (instrument calibration, surrogate recovery, etc.) quality control procedures reviewed to comment on the quality of the analytical data. The ground water monitoring program routinely uses field duplicates and trip blanks to assess the accuracy and representativeness of the data. The most commonly performed laboratory quality control review was an inspection of surrogate standard recoveries (method accuracy) to ensure that the recoveries were within the acceptable range.

CRITERION VI – DATA QUALITY INDICATORS

The data quality indicators (DQI) provide quantitative measures of the achievement of quality objectives. The five DQIs include: 1) completeness – a measure of the amount of usable data resulting from a data collection activity; 2) comparability – the confidence with which data are considered to be equivalent – only comparable data sets can be combined; 3) representativeness – the extent to which data define the true risk to human health and the environment; 4) precision – a quantitative measure of variability; and 5) accuracy – a measure of the closeness of a reported concentrations to the true value.

Several phases of site characterization extending over a period of seven years have resulted in the collection and testing of thousands of soil, soil gas and ground water samples for a variety of petroleum and petroleum-related compounds. This number of samples is considered adequate to provide a database of sufficient size and completeness for risk assessment purposes. Essentially all of the samples collected at the Avila Tank Farm were tested by ZymaX envirotechnology. All of these samples were collected using comparable and standard field procedures, handled in accordance with standard chain-of-custody protocols, and tested by the same analytical laboratory using the same USEPA, State of California, or other approved analytical methods. Therefore, the data comprising the database are considered reasonably comparable for use in risk assessment.

One objective of the site characterizations has been to investigate "areas of concern" based on historical land-use patterns for "constituents of potential concern". These investigations started off using broad spectrum tests (VOCs, sVOCs, metals, PCBs, etc.) to evaluate the potential for a wide range of potential contaminants. Once areas of contamination were identified, these areas were further studied to characterize the nature and extent of the contaminant. Hundreds of borings have been drilled and thousands of samples have been collected and tested for petroleum and petroleum-related compounds. The density of borings covering the site and the number of samples tested suggest that the database is reasonably representative of the range of COPC concentrations present at the site for use in risk assessment. A review of the reports indicates that holding times, extraction procedures, and the results of field quality control samples (equipment and trip blanks) are within acceptable limits and support the representativeness of the analytical data.

Precision is determined by evaluating: (1) the sampling variability; and (2) the measurement error. Assessment of measurement error is accomplished using the results of field duplicate samples, which are commonly used for liquid samples, but rarely used for solid samples. More than 90 field (ground water) duplicates (field quality control samples) have been collected at the Avila Tank Farm to assess data precision. These samples were generally tested for TPH in three carbon ranges (C_4-C_{10}, C_{10}-C_{25}, and C_{25}-C_{40}) and BTEX. Commonly, the relative percent difference (RPD) for duplicate samples (the absolute difference between two duplicate measurements divided by the mean, and multiplied by 100), is calculated to rapidly assess the precision of a set of measurements. Precision is deemed acceptable when the obtained precision result is less than or equal to (≤) 30 percent. Of the 93 duplicate ground water samples evaluated, representing over 500 individual measurements (e.g., 93 samples tested for TPH and

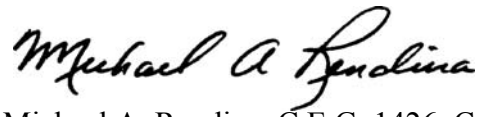
BTEX), only five measurements have exceeded an RPD of 30 percent. Therefore, the overall precision of the analytical data is deemed acceptable.

Accuracy is a measure of overestimation or underestimation of reported concentrations and is evaluated from the results of spiked samples. To acquire and maintain DHS-certification, the laboratories routinely perform a number of internal quality checks to ensure the accuracy of the analytical process. These internal checks include: matrix spikes – adding some or all of the analytes of interest to a sample, sample extract, or a blank and measuring the percent recovery (%R); duplicate analysis – the analysis of duplicate samples to measure precision; method blanks – a sample free of contaminants to assess the integrity of the analytical system; and surrogate standards – samples are spiked with compounds closely related to the analytes of interest (surrogates) before sample preparation and surrogate recoveries are documented. If any of these internal checks do not meet quality control standards (i.e., %R within acceptable ranges and/or contaminant free blanks) designed to ensure analytical precision and accuracy, corrective action must be taken and the samples reanalyzed. Essentially all of the samples comprising the risk assessment dataset were analyzed by ZymaX envirotechnology. All of these samples were subjected to the above-described internal checks, but in general only the results of the percent surrogate recovery are included on the laboratory reports. A review of a representative sampling of these reports indicates that the surrogate recoveries are within acceptable ranges for the various analytical methods (e.g., 40-120% for EPA 8270 SIM). Although we are unable to quantitate accuracy using the information provided on the laboratory reports, the data is available and may be requested from ZymaX. Based on the known analytical laboratory internal checks it is our opinion that the laboratory performance is sufficiently accurate to allow the data to be used in human health risk assessment.

Avocet Environmental, Inc. sincerely appreciates the opportunity to be of service. If you have any questions, please do not hesitate to call (949) 296-0977.

Respectfully submitted,

AVOCET ENVIRONMENTAL, INC.



Michael A. Rendina, C.E.G. 1426, C.HG. 292
Principal

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ATTACHMENT 9

Avila Tank Farms Data Validation and Data Usability Report
(Neptune and Company, Inc. 2008)

Avila Tank Farms Data Validation and Data Usability report

Prepared by

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April 2008

Executive Summary

The purpose of this document is to evaluate the usability of the Unocal Avila Beach Tank Farm 2007 environmental analytical data, the 2005 trench samples analytical data, and the 2005 wetland samples analytical data (data) for use in the human health risk assessment. This has been done by performing data validation and data usability on the data following EPA guidance.

The data validation evaluation summarizes the quality assurance evaluation of the data according to precision, accuracy, representativeness, completeness, and comparability (PARCC) relative to the National Functional Guidelines, providing an assessment of the data and identifying potential sources of error, uncertainty, and bias that may affect the overall usability. The laboratory reports were evaluated based on the following documents: *Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999, *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004. Professional judgment was used in some cases to qualify the results. Attachments A through C show the results of the data validation evaluation for the 2007 Soil and Air data, the 2005 Trench data, and the 2005 Wetlands data.

The data usability evaluation was performed using the criteria provided by USEPA in the *Guidance for Data Usability in Risk Assessment* (Part A), Final (USEPA, 1992a). The 6 criteria are labeled: Reports; Documentation; Data Sources; Analytical Methods and Detection Limits; Data Review; and, Data Quality Indicators, and are described in detail in Attachment D. Spatial representativeness of the data is explicitly addressed in Attachment E, in the context of coverage of the source terms, and adequacy of the data to support risk assessment.

There is some overlap between data validation and data usability. The overlap mostly concerns the role of the PARCC parameters evaluation, which occurs in both evaluations. However, the data validation is aimed summarizing according to quality assurance metrics. Qualifiers are added to data as a consequence of any inconsistencies with the functional guidelines. Data usability also involves evaluation of the data with respect to the PARCC parameters, but the goal is to evaluate data for a specific use or purpose. This evaluation does not address the adequacy of the data to support a decision, but does address the usability of the data for the given purpose, which in this case is a human health risk assessment. That is: Can the data be used in a risk assessment? Note that data adequacy is a statistical issue for which guidance is provided in EPA's Data Quality Assessment (DQA) document (EPA G-9, 2006). DQA is associated more directly with and Data Quality Objectives that were established for the site risk assessment, although DQA can be used to evaluate retrospective DQOs. Data adequacy or data quality assessment is ultimately performed through sample size calculations.

The data usability performed for these data reached into some data adequacy areas, but only on a qualitative way. That is, evaluations were performed of the spatial representativeness or adequacy of the data to characterize each source term on the site,

and to support risk assessment in each evaluation area that has been defined. Evaluation areas A through M have been defined (see Attachment D). The intended land use for evaluation areas A through L is commercial, for evaluation are is residential, which has an associated parking area, and recreational use is assumed for land that winds between evaluation areas A through M.

This document is organized by Attachments that are stand-alone documents for the data validation and data usability that have been performed. Data validation for the different data sets are presented in Attachments A through C, followed by the data usability evaluation in Attachment D, and spatial representativeness in Attachment E. Highlights of the most significant findings in the Avila data validation and data usability that were conducted include (note that each item is described in more detail in the Attachments):

- Comparability of the various data sets is an issue. The results were not consistently reported in wet weight or dry weight. In some cases, how the results were reported was not specifically noted in the laboratory documentation. Assumptions were made based on the available information to complete the data validation and data usability evaluations.
- Data packages from 2005 sampling were not complete enough to do a full review of all QC data to provide a complete discussion of data usability. For example, the Sediment results only include QC data for surrogates, no other positive and negative control (blanks, spikes, replicates) were included; for the Trench data, in many cases the continuing calibration verification recovery was not within limits, but the magnitude and direction of the recovery was not specified to fully determine the effect. All Sediment results are considered usable only for screening information.
- Most of the reporting limit issues were related to high dilution factors during the sample analysis. Thus, in general sensitivity was acceptable for risk assessment.
- There were results associated with only one sample that were not considered usable. Volatile fuel hydrocarbons in sample SV-51-01 had severely low recoveries for the associated matrix spike and MSD, so these data should not be used for this human health risk assessment.
- Several air samples were received with significant vacuum remaining in the canister which resulted in elevated reporting limits.
- The data in the south-east corner were analyzed at a different laboratory, and the concentrations are greater than elsewhere in general, despite a lack of apparent source term.
- The source terms appear to be adequately characterized, however, it is not clear that there is enough data in each evaluation area to support evaluation area specific human health risk assessments. There might be sufficient justification to combine and/or redraw areas to bring more data into play. For example, there are as many samples outside the evaluation areas as there are inside them. So, in effect, there are more samples than needed for the risk assessment for the "in between" recreational scenario, but not enough samples for risk assessment in some evaluation areas. This latter statement is of most concern for the only residential area (evaluation area M), which has very few samples in general, and

very few surface soil samples in particular. The few data points do not seem sufficient for risk assessment. Note that DQOs have not been presented, in which case DQA cannot be performed easily to determine adequacy of the data to support risk assessment. That is, sample size calculations cannot be performed to determine adequacy of the data unless (retrospective) DQOs are established. The data usability evaluation performed has qualitatively considered spatial representation of the data to support risk assessment. If a quantitative analysis were to be performed, more samples might be indicated for some evaluation areas.

Attachment A

Data Validation Report: Avila Soil Gas Investigation
February 13, 2008

Prepared for:
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Prepared by:
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List of Acronyms and Abbreviations

LCS/LCSD	Laboratory Control Sample / Laboratory Control Sample Duplicate
MS/MSD	Matrix Spike / Matrix Spike Duplicate
mg/L	Milligrams per Liter
ND	Not Detected
NFG	National Functional Guidelines
PARCC	Precision, Accuracy, Representativeness, Comparability, Completeness
QA/QC	Quality Assurance / Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference
SDG	Sample Delivery Group
SVOC	Semivolatile Organic Compound
µg/L	Micrograms per Liter
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
%D	Percent Difference
%R	Percent Recovery
%RSD	Percent Relative Standard Deviation

1. INTRODUCTION

This Data Validation Report has been prepared by Neptune and Company, Inc. to assess the validity of laboratory analytical data associated with work at the Avila Tank Farm Property in Avila Beach, California. For this data validation laboratory reports were provided from TestAmerica, Irvine, California. The TestAmerica laboratory reports were provided as Adobe Acrobat files, with file names IQG1327_REVISION, IQG1351_REVISION, and IQG1730_REVISION. These laboratory reports contained the results for samples analyzed for Elements/Metals, Volatile Fuel Hydrocarbons, Hydrocarbon Distribution, Volatile Organics with Oxygenates, and Semi-Volatile Organic Compounds (PAHs). Laboratory reports, as Adobe Acrobat files, were also received that included analyses conducted by Air Toxics Ltd, Folsom, California for Modified TO-15 and Modified ASTM Method D-1946.

Analysis	Number of Samples*	Matrix
Air Toxics, Modified TO-15	231	Air
Methane and fixed gases, Modified ASTM Method D-1946	100	Air
Elements/Metals, Method 6010B	89	Soil
Arsenic, Method 6020	89	Soil
Mercury, Method 7471A	89	Soil
Volatile Fuel Hydrocarbons, Methods 5030/8015M	85	Soil
Hydrocarbon Distribution, Method CADHS/8015Mod	89	Soil
Volatile Organics with Oxygenates, Method 8260B	92	Soil
Semi-Volatile Organic Hydrocarbons (PAHs), Method 8270C, Single Ion Monitoring	89	Soil

* Sample count does not include QC samples such as Laboratory Blanks, LCS, CCV, or similar.

The laboratory reports included summary results for both the samples and quality control samples analyzed with the sample batches. This summary information included analyte results, surrogate recovery data (where applicable), Continuing Calibration Verification (CCV) and LCS/LCSD and MS/MSD results (where applicable). No internal standard information (other than qualifiers added by the laboratory), raw data (e.g. chromatograms) ICP Interference Check Sample, ICP Serial Dilution initial or continuing calibration was provided unless noted below. All data appear to be censored at the reporting limit, with no data reported below

this value. The reporting limit was not defined in the laboratory reports. It is assumed the RL is greater than the method detection limit.

The laboratory reports were evaluated based on the following documents: *Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999, *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004. Professional judgment was used in some cases to qualify the results.

This report summarizes the quality assurance evaluation of the data according to precision, accuracy, representativeness, completeness, and comparability (PARCC) relative to the National Functional Guidelines. This report provides an assessment of the data and identifies potential sources of error, uncertainty, and bias that may affect the overall usability.

Qualifiers	
J-	Estimated: The associated numerical value is an estimated quantity with a potentially negative bias. The analyte was detected but the reported value may not be accurate or precise. The "J-" qualification indicates the data fell outside the QC limits, but the exceedance was not sufficient to cause rejection of the data.
J+	Estimated: The associated numerical value is an estimated quantity with a potentially positive bias. The analyte was detected but the reported value may not be accurate or precise. The "J+" qualification indicates the data fell outside the QC limits, but the exceedance was not sufficient to cause rejection of the data.
J	Estimated: The associated numerical value is an estimated quantity. It is not possible to assess the direction of the potential bias. The analyte was detected but the reported value may not be accurate or precise. The "J" qualification indicates the data fell outside the QC limits, but the exceedance was not sufficient to cause rejection of the data.
R	Rejected: The datum is unusable (the compound or analyte may or may not be present). Use of the "R" qualifier indicates a significant variance from functional guideline acceptance criteria.
UJ	Estimated/Nondetected: Analyses were performed for the compound or analyte, but it was not detected. This qualification is used to flag possible false negative results in the case where low bias in the analytical system is indicated by low calibration response, surrogate, or other spike recovery.
E	The analyte exceeded the calibration range of the instrument. There is greater uncertainty associated with the reported value.

PARCC Criteria

Precision is a measure of the agreement or reproducibility of analytical results under a given
set of conditions. It is a quantity that cannot be measured directly but is calculated from percent recovery data. Precision is expressed as the relative percent difference (RPD):

$$RPD = \text{Absolute Value of } (D1-D2)/\{1/2(D1+D2)\} \times 100$$

Where D1 and D2 are the reported concentrations for sample and duplicate analyses.

An RPD outside the numerical QC limit in either MS/MSD samples or LCS/LCSD indicates imprecision but does not imply accuracy or allow for directional qualification (e.g. J+ or J-). For this data set, duplicate results were only reviewed for replicate LCS and MS data. No replicate native sample results were evaluated.

Accuracy is a measure of the agreement of an experimental determination and the true value of the parameter being measured. It is used to identify bias in a given measurement system Recoveries outside acceptable QC limits may be caused by factors such as instrumentation, analyst error, or matrix interference. Accuracy is assessed through the analysis of spiked matrix samples and laboratory control samples containing analytes of interest and surrogate compounds. Surrogate spikes were added to every environmental sample, blank, LCS, MS/MSD, and standard, for the organic analyses. The soil samples analyzed in this report also included LCS and MS results. Accuracy of inorganic analyses is determined using the percent recoveries of MS and LCS analyses.

Percent recovery (%R) is calculated using the following equation:

$$\%R = (A-B)/C \times 100$$

where:
A = measured concentration in the spiked sample
B = measured concentration of the spike compound in the unspiked sample
C = concentration of the spike

Spike recoveries outside the acceptable QC accuracy limits provide an indication of bias, where the reported data may overestimate or underestimate the actual concentration of compounds detected. This directional bias information can be used to provide J- or J+ qualification, when no other qualifiers complicate the datum.

Representativeness is a qualitative parameter that expresses the degree to which the sample data are characteristic of a population. It is evaluated herein by reviewing the QC results of blanks, samples and holding times. Positive detects

of compounds in the blank samples identify compounds that may have been introduced into the samples during sample collection, transport, preparation, or analysis. The QA/QC blanks collected and analyzed are method blanks, trip blanks, and field blanks.

Contamination found in both the environmental sample and a laboratory blank sample are usually assumed to be laboratory artifact if the concentration in the environmental sample is less than 10 times the blank value for common laboratory contaminants or 5 times the blank value for other laboratory contaminants.

Holding times are evaluated to assure that the sample integrity is intact for accurate sample preparation and analysis. Holding times will be specific for each method and matrix analyzed. Holding time exceedances can cause loss of sample constituents due to biodegradation, precipitation, volatization, and chemical degradation. In accordance with EPA guidance (USEPA 1999 and 2004), sample results for analyses that were performed after the method holding time but less than two times the method holding time were qualified as estimated (J- or UJ) and sample results for analyses that were performed after two times the method holding time were qualified as rejected (R).

Comparability is a qualitative expression of the confidence with which one data set may be compared to another. In the data validation context it provides an assessment of the equivalence of the analytical results to data obtained from other analyses. Comparability is also dependent upon other PARCC criteria, because only when precision, accuracy, and representativeness are known can data sets be compared with confidence.

Completeness is defined as the percentage of acceptable sample results compared to the total number of sample results. Completeness equals the total number of sample results for each fraction minus the total number of rejected sample results divided by the total number of sample results multiplied by 100. Percent completeness is calculated using the following equation:

$$\%C = (T - R)/T \times 100$$

where:
%C = percent completeness
T = total number of sample results
R = total number of rejected sample results

Basis for qualifying data**:**

Surrogates: A directional qualifier (e.g. +/-) was not used for surrogate. The sample was J qualified if the recovery exceeded limits (above or below) and

sample had detected analytes. If the sample was ND for all analytes, and the recovery exceeded the upper limit, the sample was qualified with a U. If the sample was ND for all analytes, and the recovery was below the lower limit, the sample was qualified with a UJ. Qualifiers were not applied to individual sets of analytes since the raw data was not available to verify which surrogates were associated with which analytes.

CCV: CCV samples were qualified with a J- / J+ for all detected analytes in which the recovery was below/above the QC limit. These qualifiers apply to all samples within the associated batch. Samples were qualified with a UJ if the analytes were ND and the recovery was below limit. Samples that were ND, and the recovery exceeded the QC limit were not qualified.

LCS: LCS samples were qualified with a J- / J+ for all detected analytes in which the recovery was below/above the QC limit. These qualifiers apply to all samples within the associated batch. Samples were qualified with a UJ if the analytes were ND and the recovery was below limit. Samples that were ND, and the recovery exceeded the QC limit were not qualified.

MS/MSD: LCS samples were qualified with a J- / J+ for all detected analytes in which the recovery was below/above the QC limit. These qualifiers only apply to the samples that were spiked. Samples were qualified with a UJ if the analytes were ND and the recovery was below limit. Samples that were ND, and the recovery exceeded the QC limit were not qualified.

Blanks: Samples were only qualified based upon blank information if the analyte was detected in a sample and its concentration was equal or less than 5X the value in the associated blank.

The following sections present a review of QC data for each analytical method.

2. EPA Method TO-15 Modified – Determination of VOCs in Air

A total of 231 samples air samples that were analyzed using EPA Method TO-15 were validated. None of the sample results were rejected based on holding time or other quality assurance/control issues. The TO-15 samples did not include matrix spikes. A number of samples were received with significant vacuum remaining in the canister. The residual canister vacuum resulted in elevated reporting limits. All samples were analyzed within the required holding time of 30 days from date of collection.

2.1. Quality Control Results

2.1.1. Surrogates

Surrogates were reviewed for each sample. All surrogates were within the QC limits with the following exceptions in the table below.

Lab Sample ID	Client Sample ID	Compound	Recovery (limits)	Qualifier
0711373B-14A	SV-39-15	1,2-Dichloroethane-d4	167% (70-130%)	J
0711373B-16A	SV-61A-15	1,2-Dichloroethane-d4	142% (70-130%)	J
0711413C-14A	SV-35-15	1,2-Dichloroethane-d4	188% (70-130%)	J
0711413C-34A	SV-27-05	1,2-Dichloroethane-d4	140% (70-130%)	J
0707341BR1-31A	SV-36-05	1,2-Dichloroethane-d4	136% (70-130%)	J
0707341BR1-33A	SV-66-05	1,2-Dichloroethane-d4	140% (70-130%)	J
0707341BR1-35A	SV-35-05	1,2-Dichloroethane-d4	170% (70-130%)	J
0707341BR1-38A	SV-38-15	1,2-Dichloroethane-d4	155% (70-130%)	J
0707341CR1-40A	SV-01-15	1,2-Dichloroethane-d4	133% (70-130%)	J
0707373BR1-21A	SV-58-15	1,2-Dichloroethane-d4	155% (70-130%)	J
0707373BR1-23A	SV-43-14	1,2-Dichloroethane-d4	228% (70-130%)	J
0707373BR1-24A	SV-60-05	1,2-Dichloroethane-d4	143% (70-130%)	J
0707373C-47A	SV-15-15	1,2-Dichloroethane-d4	161% (70-130%)	J
0707390A-04A	SV-39-06	1,2-Dichloroethane-d4	147% (70-130%)	J
0707390A-15A	SV-16-15	1,2-Dichloroethane-d4	239% (70-130%)	J
0707390A-18A	SV-62-15	1,2-Dichloroethane-d4	131% (70-130%)	J
0707390B-32A	SV-58A-15	1,2-Dichloroethane-d4	154% (70-130%)	J

2.1.2. Continuing Calibration Samples (CCV)

Continuing Calibration Verification (CCV) samples were reviewed for each sample batch. All analytes were within the QC limits with the following exceptions. The samples associated with those CCVs that did not meet the QC criteria are provided below.

Lab Sample ID	Client Sample ID	Compound	Recovery (limits)	Qualifier
0707341A-22B	CCV	Dichlorodifluoromethane (Freon 12)	69% (70-130%)	J-, all associated samples
0707341BR1-40A	CCV	Naphthalene	68% (70-130%)	J-, all associated samples
0707341BR1-40A	CCV	2,2,4-Trimethylpentane	67% (70-130%)	J-, all associated samples
0707341BR1-40B	CCV	Naphthalene	68% (70-130%)	J-, all associated samples
0707341BR1-40C	CCV	Dichlorodifluoromethane (Freon 12)	69% (70-130%)	J-, all associated samples
0707341CR1-51A	CCV	Dichlorodifluoromethane (Freon 12)	63% (70-130%)	J-, all associated samples
0707341CR1-51B	CCV	Hexachlorobutadiene	132% (70-130%)	None, recovery was above the QC limits
0707373A-21A	CCV	Naphthalene	68% (70-130%)	J-, all associated samples
0707373A-21B	CCV	Dichlorodifluoromethane (Freon 12)	69% (70-130%)	J-, all associated samples
0707373A-21C	CCV	Dichlorodifluoromethane (Freon 12)	63% (70-130%)	J-, all associated samples
0707373BR1-41A	CCV	Hexachlorobutadiene	132% (70-130%)	None, recovery was above the QC limits
0707373BR1-41C	CCV	Naphthalene	65% (70-130%)	J-, all associated samples
0707390A-20B	CCV	Naphthalene	65% (70-130%)	J-, all associated samples
0707390B-38A	CCV	Hexachlorobutadiene	139% (70-130%)	None, recovery was above the QC limits
0707390B-38B	CCV	Hexachlorobutadiene	134% (70-130%)	None, recovery was above the QC limits
0707407A-08A	CCV	Hexachlorobutadiene	134% (70-130%)	None, recovery was above the QC limits
0709236A-22B	CCV	1,2-Dichloro-1,1,2,2-tetrafluroethane	131% (70-130%)	None, recovery was above the QC limits
0709236C-08A	CCV	Methyl tert-butyl ether (MTBE)	64% (70-130%)	J-, all associated samples

2.1.3. Laboratory Control Samples (LCS)

Laboratory Control Samples met the QC limits with the following exceptions.

Lab Sample ID	Client Sample ID	Compound	Recovery (limits)	Qualifier
0707341BR1-41A	LCS	Hexachlorobutadiene	132% (70-130%)	J+, all associated samples
0707341CR1-52B	LCS	Hexachlorobutadiene	136% (70-130%)	J+, all associated samples
0707373BR1-42A	LCS	Hexachlorobutadiene	136% (70-130%)	J+, all associated samples
0707373BR1-42B	LCS	Hexachlorobutadiene	134% (70-130%)	J+, all associated samples
0707390B-39A	LCS	Hexachlorobutadiene	133% (70-130%)	J+, all associated samples
0707390B-39B	LCS	Hexachlorobutadiene	134% (70-130%)	J+, all associated samples
0707407A-09A	LCS	Hexachlorobutadiene	134% (70-130%)	J+, all associated samples
0711373A-18A	LCS	1,2-Dichloro-1,1,2,2-tetrafluroethane	69% (70-130%)	J-, all associated samples
0711373A-18A	LCS	1,2,4-Trichlorobenzene	64% (70-130%)	J-, all associated samples
0711373A-18A	LCS	Hexachlorobutadiene	67% (70-130%)	J-, all associated samples
0711373A-18A	LCS	Naphthalene	60% (70-130%)	J-, all associated samples
0711373B-19A	LCS	1,1,1-Trichloroethane	141% (70-130%)	J+, all associated samples
0711373B-19A	LCS	1,1,2,2-Tetrachloroethane	132% (70-130%)	J+, all associated samples
0711373B-19A	LCS	1,2,4-Trichlorobenzene	139% (70-130%)	J+, all associated samples
0711413C-38A	LCS	1,1,1-Trichloroethane	131% (70-130%)	J+, all associated samples
0711413C-38A	LCS	1,4-Dioxane	143% (70-130%)	J+, all associated samples
0711413C-38A	LCS	2-Hexanone	148% (70-130%)	J+, all associated samples
0711413C-38A	LCS	1,4-Dichlorobenzene	136% (70-130%)	J+, all associated samples

2.1.4. Blank Samples

There were no analytes detected in any of the Laboratory Blanks run under this method. No data are qualified due to laboratory blanks issues. The Equipment Blank 0001 (laboratory ID 0711413A-19A), sampled on 11/17/2007 contained the analytes m,p-xylenes at 2.0 ppbv (.0095 µg/L). The following samples were collected and analyzed in the same batch as this Equipment Blank. Levels of m,p-xylenes in those samples are provided below.

Lab Sample ID	Client Sample ID	m,p-xylenes Concentration (µg/L)	Qualifier
0711413A-05A	SV-69-05a	0.042	none
0711413A-05AA	SV-69-05a Lab Duplicate	0.044	None
0711413A-06A	SV-69-05b	0.025	None
0711413A-07A	SV-69-15	0.2	None
0711413A-11A	SV-53-15	0.064	None
0711413A-12A	SV-54-13	1	None
0711413A-12AA	SV-54-13 Lab Duplicate	1	None
0711413A-15A	SV-45-05	0.084	None
0711413A-16A	SV-45-15	0.0083	J

2.1.5. Other Qualifications

Lab Sample ID	Client Sample ID	Analyte	Qualifier
0707341BR1-38A	SV-38-15	Cyclohexane	E
0709236C-05A	SV-10-15	Chloroform	E

2.2.Summary

Several samples contained surrogates that exceeded the QC limits. However, all of these recoveries were above the limits, indicating a potential for bias high but limited potential for false negatives. The CCV and LCS data show a number of compounds that were below or above the QC limits; however the recoveries were either slightly low or high. This indicates the potential for slight bias as noted with the qualifiers. M,p-Xylenes was detected in one Equipment Blank and also indentified in a number of samples associated with that blank. In most cases the concentration of m,p-xylenes was well above the concentration in the blank. This indicates most samples likely were not contaminated.

3. Modified ASTM D-1946

A total of 100 samples air samples that were analyzed using Modified ASTM Method D-1946 for methane and fixed gases, were validated. No quality assurance or quality control issues were identified with these samples.

4. Elements by ICP, ICP-MS, and Atomic Absorption

A total of 89 soil samples that were analyzed using EPA Methods 6010B, 6020, and 7471A for metals and elements were validated. Quality control results for the metals/elements data included laboratory blanks, laboratory control samples (blank spikes or LCSs), and matrix spikes. No initial or continuing calibration or interference check sample (ICP) data was included with the laboratory reports. None of the sample results were rejected based on holding time or other quality

assurance/control issues. All samples were analyzed within the required holding time of 180 days from date of collection.

4.1. Quality Control Results

4.1.1. Laboratory Control Samples (LCS)

All laboratory Control Sample results were within the QC limits of 80-120% recovery. No data are qualified based on LCS results.

4.1.2. Blank Samples

All analytes were "not detected" in all laboratory blanks samples. No data are qualified based on laboratory blank results.

4.1.3. Matrix Spike and Matrix Spike Duplicate Samples

Matrix Spike and Matrix Spike Duplicate Samples met the QC limits with the following exceptions.

SDG	MS/MSD ID	Analytes	%R /%R of duplicate and limits	Associated Sample	Qualifiers
IQG1327	7G20082-MS1 (07/20/2007) and the MS duplicate 7G20082-MSD1 Method 6010B	Antimony Beryllium Cadmium Cobalt Copper Lead Molybdenum Nickel Selenium Thallium Zinc	19%/ 23% (75-125%) 61%/ 77% (75-125%) 57%/ 73% (75-125%) 58%/73% (75-125%) 63%/ 77% (75-125%) 59%/ 74% (75-125%) 46%/ 59% (75-125%) 63%/ 77% (75-125%) 53%/ 69% (75-125%) 54%/ 70% (75-125%) 61%/ 74% (75-125%)	IQG1327-21	J- None* J- J- J- J- J- None* J- J- J-
	7G20083-MS1 Method 6020	Arsenic	50%/ 66% (75-125%)	IQG1327-21	J-
	7G21038-MS1 (07/21/2007) and the MS duplicate 7G21038-MSD1	Antimony	47%/ 53% (75-125%)	IQG1327-06	UJ
IQG1352	7G19089-MS1 and MSD1 (07/19/2007)	Mercury	115%/ 153% (75-125%)	IQG1351-29	J+
	7G23072-MS1 and MSD1 (07/23/2007)	Antimony Barium	53%/ 51% (75-125%) 136%/ 154% (75-125%)	IQG1351-11	UJ J+

	7G23074-MS1 and MSD1 (07/24/2007) Method 6020	Arsenic	73%/ 72% (75-125%)	IQG1351-11	J-
	7G23073-MS1 and MSD1 (07/23/2007)	Antimony Barium Molybdenum	25%/ 30% (75-125%) 150%/ 91% (75-125%) 64%/ 66% (75-125%)	IQG1351-38	UJ None* UJ
	7G23076-MS1 and MSD1 (07/24/2007) Method 6020	Arsenic	58%/ 61% (75-125%)	IQG1351-38	UJ
IQG1730	7G27083-MS1 and MSD1 (07/27/2007)	Antimony	54%/ 56% (75-125%)	IQG1730-07	UJ
	7G27084-MS1 and MSD1 (07/28/2007) Method 6020	Arsenic	72%/ 71% (75-125%)	IQG1730-07	J-

* One of two spike recovery percentage was within the QC limit

4.2. Summary

All blanks and LCS samples meet the QC limits. A limited number of matrix spike and MSDs exceeded the QC limits, primarily at a recovery slightly below the limit. This indicates that the matrix may have caused a slight bias for the analytes shown and qualified above.

5. EPA Method 8260: VOLATILE ORGANICS with OXYGENATES by GC/MS

A total of 92 soil samples that were analyzed using EPA Method 8260 for Volatile Organic Compounds with Oxygenates were validated. The laboratory reports do not specify the preparation method used, but it is assumed that EPA Method 5035 was used. Quality control results for the data included laboratory blanks, laboratory control samples (blank spikes or LCSs), and matrix spikes, and surrogate recoveries. No initial or continuing calibration data was included with the laboratory reports. None of the sample results were rejected based on holding time or other quality assurance/control issues. All samples were extracted and analyzed within the required 14 days.

5.1. Quality Control Results

5.1.1. Surrogates

Surrogates were reviewed for each sample. All surrogates were within the QC limits with the following exceptions:

Lab Sample ID	Client Sample ID	Compound	Recovery (limits)	Qualifier
IQG1327-02	SV-63-01	Dibromofluoromethane	127% (80-125%)	J
IQG1327-02	SV-63-01	4-Bromofluorobenzene	69% (80-120%)	J
IQG1327-12	SV-58-02	4-Bromofluorobenzene	75% (80-120%)	J
IQG1327-13	SV-58-05	4-Bromofluorobenzene	69% (80-120%)	J
IQG1327-14	SV-60-01	4-Bromofluorobenzene	61% (80-120%)	J
IQG1327-17	SV-62-05	4-Bromofluorobenzene	124% (80-120%)	J
IQG1327-18	SV-36-01	Dibromofluoromethane	127% (80-125%)	J
IQG1327-21	SV-61-05	Dibromofluoromethane	80% (55-140%)	J
IQG1327-21	SV-61-05	4-Bromofluorobenzene	115% (65-140%)	J
IQG1327-21	SV-61-05	Toluene-d8	92% (60-140%)	J
IQG1327-22	SV-56-01	4-Bromofluorobenzene	66% (80-120%)	J
IQG1327-25	S-49-01	4-Bromofluorobenzene	78% (80-120%)	J
IQG1327-28	S-48-01	4-Bromofluorobenzene	76% (80-120%)	J
IQG1327-31	SV-55-01	4-Bromofluorobenzene	66% (80-120%)	J
IQG1351-09	SV-02-01	4-Bromofluorobenzene	72% (80-120%)	J
IQG1351-12	SV-03-01	4-Bromofluorobenzene	70% (80-120%)	J
IQG1351-15	SV-04-01	4-Bromofluorobenzene	68% (80-120%)	J
IQG1351-16	SV-04-05	4-Bromofluorobenzene	68% (80-120%)	J
IQG1351-21	SV-35-01	Dibromofluoromethane	153% (80-125)%	J
IQG1351-21	SV-35-01	4-Bromofluorobenzene	79% (80-120%)	J
IQG1351-21	SV-35-01	Toluene-d8	77% (80-120%)	J
IQG1351-32	SV-06-05	4-Bromofluorobenzene	68% (80-120%)	J
IQG1351-34	SV-45-01	4-Bromofluorobenzene	76% (80-120%)	J
IQG1351-36	SV-50-01	4-Bromofluorobenzene	78% (80-120%)	J
IQG1730-04	SV-41-01	4-Bromofluorobenzene	63% (80-120%)	J
IQG1730-10	S-1C-01	4-Bromofluorobenzene	58% (80-120%)	J
IQG1730-12	S-40A-01	4-Bromofluorobenzene	61% (80-120%)	J
IQG1730-13	S-40A-03	4-Bromofluorobenzene	74% (80-120%)	J
IQG1730-18	S-38B-01	4-Bromofluorobenzene	70% (80-120%)	J

5.1.2. Laboratory Control Samples (LCS)

A number of LCS samples had recoveries for carbon tetrachloride above the QC limits. Since these recoveries were greater than the limit and the associated samples did not detect this analyte, no data are qualified.

5.1.3. Blank Samples

All analytes were "not detected" in all laboratory blanks samples. No data are qualified based on laboratory blank results.

5.1.4. Matrix Spike and Matrix Spike Duplicate Samples

All sample batches included a matrix spike and matrix spike duplicate. For samples in which the MS and/or MSD recovery was above the QC limit, and the native sample was ND for that analyte, no data was qualified. The following matrix spikes and MSDs had recoveries below the QC limits.

MS/MSD ID	Analytes	%R/%R of duplicate (if also below limit) and limits	Associated Sample	Qualifier
7G17003-MS1/MSD1	1,2,3-Trichlorobenzene	57%/ 42% (45-145%)	IQG1327-12 SV-58-02	None*
7G16021-MS1	n-Butylbenzene	53%/54% (65-135%)	IQG1327-19 SV-36-05	UJ
	sec-Butylbenzene	63%/63% (70-125%)		UJ
	Hexachlorobutadiene	22%/24% (60-135%)		UJ
	p-Isopropyltoluene	64%/ 63% (65-130%)		UJ
	Naphthalene	49%/ 52% (50-140%)		UJ
	1,2,3-Trichlorobenzene	28%/ 30% (60-135%)		UJ
	1,2,4-Trichlorobenzene	34%/ 34% (65-135%)		UJ
	Dichlorodifluoromethane	14%/ 14% (30-160%)	IQG1351-29 SV-08-01	UJ
	Hexachlorobutadiene	48%/ 45% (50-145%)		UJ
	Hexachlorobutadiene	18%/ 19% (50-145%)	IQG1351-16 SV-04-05	UJ
	1,2,3-Trichlorobenzene	27%/ 29% (45-145%)		UJ
	1,2,4-Trichlorobenzene	33%/ 36% (50-140%)		UJ
	Dichlorodifluoromethane	26%/ 24% (30-160%)	IQG1351-26 SV-38-05	UJ

* Only one of two spike recovery exceeded the QC limits.

5.2. Summary

A number of samples had surrogate recoveries that exceeded the QC limits. However, all LCS recoveries met the requirements. A limited number of analytes has low recoveries in the matrix spike which indicates the potential for low bias in this matrix.

6. Volatile Fuel Hydrocarbons (EPA Method 5030/8015M)

A total of 85 soil samples that were analyzed using EPA Method 8015M (preparation by EPA Method 5030) for Volatile Fuel Hydrocarbons (C4-C10) and

Gasoline Range Organics (C4-C12) were validated. Quality control results for the data included laboratory blanks, laboratory control samples (blank spikes or LCSs), and matrix spikes, and surrogate recoveries. No initial or continuing calibration data was included with the laboratory reports. All samples were extracted and analyzed within the required holding times. None of the sample results were rejected based on holding time or other quality assurance/control issues.

6.1. Quality Control Results

6.1.1. Surrogates

The surrogates were reviewed in all samples and they met the QC limits with the following exceptions.

Lab Sample ID	Client Sample ID	Compound	Recovery (limits)	Qualifier
IQG1327-14	SV-60-01	4-Bromofluorobenzene	61% (65-140%)	UJ
IQG1327-15	SV-60-05	4-Bromofluorobenzene	1070% (65-140%)	U
IQG1327-18	SV-36-01	4-Bromofluorobenzene	189% (65-140%)	U
IQG1327-19	SV-36-05	4-Bromofluorobenzene	63% (65-140%)	UJ
IQG1327-21	SV-61-05	4-Bromofluorobenzene	3850% (65-140%)	U
IQG1351-07	S-47-01	4-Bromofluorobenzene	52% (65-140%)	UJ
IQG1351-09	SV-02-01	4-Bromofluorobenzene	46% (65-140%)	UJ
IQG1351-16	SV-04-05	4-Bromofluorobenzene	30% (65-140%)	UJ
IQG1351-17	SV-04-10	4-Bromofluorobenzene	0.08%* (diluted out) (65-140%)	None
IQG1351-25	SV-38-01	4-Bromofluorobenzene	62% (65-140%)	UJ
IQG1730-12	S-40A-01	4-Bromofluorobenzene	14% (65-140%)	UJ
IQG1730-13	S-40A-03	4-Bromofluorobenzene	50% (65-140%)	UJ
IQG1730-14	S-40B-01	4-Bromofluorobenzene	40% (65-140%)	UJ
IQG1730-15	S-40B-03	4-Bromofluorobenzene	52% (65-140%)	UJ
IQG1730-16	S-38A-01	4-Bromofluorobenzene	34% (65-140%)	UJ

6.1.2. Laboratory Control Samples (LCS)

All laboratory control samples were within the QC limits, no data were qualified based on LCS/LCSD results.

6.1.3. Blank Samples

All analytes were "not detected" in all laboratory blanks samples. No data are qualified based on laboratory blank results.

6.1.4. Matrix Spike and Matrix Spike Duplicate Samples

The surrogates were reviewed in all samples and they met the QC limits with the following exceptions.

MS/MSD ID	Analytes	%R/%R of duplicate (if also below limit) and limits	Associated Sample	Qualifier
7G16141-MS1 and MSD1 07/16/2007	Volatile Fuel Hydrocarbons (C4-C10)	-2%/ -20% (60-140%)	IQG1327-10	J-

6.2. Summary

A number of samples had surrogate recoveries that exceeded the QC limits and in many cases there were below the lower limit. However, these recoveries were not significantly below the lower limit.

7. Hydrocarbon Distribution (Methods CADHS/8015 Modified)

A total of 89 soil samples that were analyzed using EPA Method 8015M/CADHS for Extractable Fuel Hydrocarbon Distributions (C8-C40) were validated. Quality control results for the data included laboratory blanks, laboratory control samples, and matrix spikes, and surrogate recoveries. No initial or continuing calibration data was included with the laboratory reports. All samples were extracted and analyzed within the required holding times. None of the sample results were rejected based on holding time or other quality assurance/control issues.

7.1. Quality Control Results

7.1.1. Surrogates

The surrogates were reviewed in all samples and they met the QC limits with the following exceptions. All J qualified samples below had detected levels of Extractable Fuel Hydrocarbons.

Lab Sample ID	Client Sample ID	Compound	Recovery (limits)	Qualifier
IQG1327-02	SV-63-01	n-Octacosane	366% (40-125%)	J
IQG1327-13	SV-58-05	n-Octacosane	164% (40-125%)	J
IQG1327-14	SV-60-01	n-Octacosane	322% (40-125%)	J
IQG1327-15	SV-60-05	n-Octacosane	155% (40-125%)	J
IQG1327-16	SV-62-01	n-Octacosane	545% (40-125%)	J
IQG1327-17	SV-62-05	n-Octacosane	867% (40-125%)	J
IQG1327-18	SV-36-01	n-Octacosane	410% (40-125%)	J
IQG1327-19	SV-36-05	n-Octacosane	207% (40-125%)	J
IQG1327-21	SV-61-05	n-Octacosane	293% (40-125%)	J
IQG1351-16	SV-04-05	n-Octacosane	207% (40-125%)	J
IQG1351-17	SV-04-10	n-Octacosane	194% (40-125%)	J
IQG1351-21	SV-35-01	n-Octacosane	525% (40-125%)	J
IQG1351-25	SV-38-01	n-Octacosane	165% (40-125%)	J
IQG1351-29	SV-08-01	n-Octacosane	143% (40-125%)	J
IQG1351-36	SV-50-01	n-Octacosane	228% (40-125%)	J
IQG1730-12	S-40A-01	n-Octacosane	15% (40-125%)	J
IQG1730-19	S-38B-03	n-Octacosane	143% (40-125%)	J

7.1.2. Laboratory Control Samples (LCS)

All laboratory control sample results for EFH (C8-C40) were within the QC limits. No data was qualified based on the LCS samples.

7.1.3. Blank Samples

All analytes were “not detected” in all laboratory blanks samples. No data are qualified based on laboratory blank results.

7.1.4. Matrix Spike and Matrix Spike Duplicate Samples

All matrix spike sample results for EFH (C8-C40) were within the QC limits. No data was qualified based on the matrix spike samples.

7.2. Summary

All QC results for EFH data met the required limits with the exception of surrogates. Most surrogates exceeded the upper limit. Since the MS/MSD and LCS data met all QC requirements the surrogate recoveries are not considered an indication of significant bias.

8. Semivolatile Organic Compounds by GC/MS (SIM) – PAHs (EPA Method 8270)

A total of 89 soil samples, that were analyzed using EPA Method 8270 (using Single Ion Monitoring) for Polyaromatic Hydrocarbons, were validated. Quality control results for the data included laboratory blanks, laboratory control samples

(blank spikes or LCSs), and matrix spikes, and surrogate recoveries. No initial or continuing calibration data was included with the laboratory reports. All samples were extracted and analyzed within the required holding time. None of the sample results were rejected based on holding time or other quality assurance/control issues.

8.1. Quality Control Results

8.1.1. Surrogates

The surrogates were reviewed in all samples and they met the QC limits with the following exceptions. PAH results were not qualified with respect to surrogate recovery unless two or more semi-volatile surrogates were out of specification. All J qualified samples below had detected levels of PAHs.

Lab Sample ID	Client Sample ID	Compound	Recovery (limits)	Qualifier
IQG1327-02	SV-63-01	2-Fluorobiphenyl	22% (42-140%)	J
IQG1327-02	SV-63-01	Terphenyl-d14	14% (42-151%)	J
IQG1327-14	SV-60-01	Nitrobenzene-d5	231% (38-141%)	J
IQG1327-14	SV-60-01	Terphenyl-d14	213% (42-151%)	J
IQG1327-15	SV-60-05	2-Fluorobiphenyl	40% (42-140%)	None*
IQG1327-16	SV-62-01	Nitrobenzene-d5	177% (38-141%)	J
IQG1327-16	SV-62-01	Terphenyl-d14	12% (42-151%)	J
IQG1327-17	SV-62-05	Nitrobenzene-d5	699% (38-141%)	J
IQG1327-17	SV-62-05	2-Fluorobiphenyl	13% (42-140%)	J
IQG1327-18	SV-36-01	Nitrobenzene-d5	183% (38-141%)	J
IQG1327-18	SV-36-01	2-Fluorobiphenyl	17% (42-140%)	J
IQG1327-21	SV-61-05	Nitrobenzene-d5	221% (38-141%)	J
IQG1327-21	SV-61-05	Terphenyl-d14	216% (42-151%)	J
IQG1327-29	S-48-05	Nitrobenzene-d5	30% (38-141%)	None*
IQG1351-09	SV-02-01	Terphenyl-d14	156% (42-151%)	None*
IQG1351-11	SV-02-10	Nitrobenzene-d5	34% (38-141%)	None*
IQG1351-12	SV-03-01	Nitrobenzene-d5	34% (38-141%)	None*
IQG1351-13	SV-03-05	Nitrobenzene-d5	34% (38-141%)	None*
IQG1351-14	SV-03-10	Terphenyl-d14	163% (42-151%)	None*
IQG1351-18	SV-05-01	Nitrobenzene-d5	21% (38-141%)	None*
IQG1351-21	SV-35-01	Nitrobenzene-d5	534% (38-141%)	J
IQG1351-21	SV-35-01	2-Fluorobiphenyl	37% (42-140%)	J
IQG1351-36	SV-50-01	Terphenyl-d14	158% (42-151%)	None*

* Only one surrogate was out of the QC limits.

8.1.2. Laboratory Control Samples (LCS)

For SDG IQG1327 two the LCS/LCSD pairs met the individual recovery limits for all compounds. However, 2-Methylnaphthalene, 1-Methylnaphthalene, Indeno[1,2,3-cd]pyrene, and Dibenz(a,h)anthracene exceeded the RPD limits. No data are qualified since the recoveries met the QC limits.

8.1.3. Blank Samples

All analytes were "not detected" in all laboratory blanks samples. No data are qualified based on laboratory blank results.

8.1.4. Matrix Spike and Matrix Spike Duplicate Samples

All Matrix Spike and Matrix Spike Duplicates met the QC limits with the following exception.

MS/MSD ID	Analytes	%R/%R of duplicate (if also below limit) and limits	Associated Sample	Qualifier
IQG1327: 657518S/D Analyzed 07/25/2007	2-Methylnaphthalene Benzo[g,h,i]perylene Indeno[1,2,3-cd]pyrene	53%/ 93% (65-125%) 38%/ 49% (57-142%) 53%/ 63% (59-139%)	IQG1327-19	None* J- None*
IQG1351: 657718S/D Analyzed 07/28/2007	Naphthalene 2-Methylnaphthalene 1-Methylnaphthalene Chrysene Acenaphthene Fluorene Benzo[a]anthracene	257%/ 261% (64-129%) 188%/ 195% (65-125%) 193%/ 183% (48-148%) 55%/ 47% (71-126%) 66%/ 62% (65-130) 56%/ 48% (68-128%) 57%/ 57% (64-124%)	IQG1351-21	UJ UJ UJ J- None* UJ UJ

* Only one of two spike recovery exceeded the QC limits.

8.2. Summary

A number of samples were qualified based on two or more surrogates exceeding the QC limits in the same direction. This information, combined with the MS/MSD results indicate the matrix may have resulted in some bias as shown in the qualified data above. However, all results are usable as qualified.

9. PARCC

Precision and accuracy assessments were included in each individual section above. The precision and accuracy of the data are considered acceptable with the qualifiers included.
Representativeness: All holding times were met as described at the beginning of each section. Only one set of analyses showed blank contamination and this did not appear to have significant impact upon the associated samples. The representativeness of the project data is considered acceptable.

Comparability: The laboratory used standard analytical methods for all of the analyses, though they did indicate some methods were modified. No method

detection limit information was provided to compare with the reporting limits. No data was flagged by the laboratory due to the results below the reporting limit. This indicates the results were censored at the reporting limit. There is no information provided that would question the comparability of the results. The overall comparability is considered acceptable.

Completeness: No results were rejected based on this data validation. The completeness level attained for the samples was 100 percent.

Attachment B

Data Validation Report: Avila April 2005 Trench Investigation April 3, 2008

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List of Acronyms and Abbreviations

LCS/LCSD Laboratory Control Sample / Laboratory Control Sample Duplicate
MS/MSD Matrix Spike / Matrix Spike Duplicate
mg/L Milligrams per Liter
ND Not Detected
NFG National Functional Guidelines
PARCC Precision, Accuracy, Representativeness, Comparability, Completeness
QA/QC Quality Assurance / Quality Control
RL Reporting Limit
RPD Relative Percent Difference
SDG Sample Delivery Group
SVOC Semivolatile Organic Compound
µg/L Micrograms per Liter
USEPA United States Environmental Protection Agency
VOC Volatile Organic Compound
%D Percent Difference
%R Percent Recovery
%RSD Percent Relative Standard Deviation

1. INTRODUCTION

This Data Validation Report has been prepared by Neptune and Company, Inc. to assess the validity of laboratory analytical data associated with the April 2005 Trench Investigation at the Avila Tank Farm Property in Avila Beach, California. Laboratory reports were provided from BC Laboratories, Inc, Bakersfield, California. The BC Laboratories report was provided as an Adobe Acrobat file, with file name "Trench lab data 0425056.pdf." The laboratory report contained the results for solid samples analyzed for Total Petroleum Hydrocarbons (TPH), TPH C10-C25, TPH C25-C40, Total Purgeable Petroleum Hydrocarbons, Polycyclic Aromatic Hydrocarbons (PAHs), Organochlorine Pesticides, PCBs (Aroclors), Semi-Volatile Organic Compounds (Base Neutral and Acid Extractables), and Metals (Title 22).

Analysis	Number of Samples*
TPH (C4-C10), EPA 8260	55
TPH (C10-C25 and C25-C40), EPA 8015	55
PAHs, EPA 8270 SIM	24
Title 22 Metals, EPA 6010B/7471A	24
Organochlorine Pesticides and PCBs (EPA 8080)	3
SVOCs (BNAs using EPA 8270)	3

*Sample count does not include QC samples such as Laboratory Blanks, LCS, CCV, duplicate samples or similar.

The laboratory report included summary results for the samples. This summary information included analyte results and surrogate recovery data (where applicable). Results that did not meet Continuing Calibration Verification (CCV) were qualified by the laboratory but the recovery information was not provided. Other QC results, including LCS/LCSD, MS/MSD, or Method Blank results were provided. QC data and laboratory qualification information is included in this data validation. All data are censored at the practical quantitation limit in the database (Excel spreadsheet). However, Method Detection Limits are reported for each analyte in the laboratory report. This report summarizes the quality assurance evaluation of the data according to precision, accuracy, representativeness, completeness, and comparability (PARCC) relative to the National Functional Guidelines. This report provides an assessment of the data and identifies potential sources of error, uncertainty, and bias that may affect the overall usability.

Qualifiers	
J-	Estimated: The associated numerical value is an estimated quantity with a potentially negative bias. The analyte was detected but the reported value may not be accurate or precise. The "J-" qualification indicates the data fell outside the QC limits, but the exceedance was not sufficient to cause rejection of the data.
J+	Estimated: The associated numerical value is an estimated quantity with a potentially positive bias. The analyte was detected but the reported value may not be accurate or precise. The "J+" qualification indicates the data fell outside the QC limits, but the exceedance was not sufficient to cause rejection of the data.
J	Estimated: The associated numerical value is an estimated quantity. It is not possible to assess the direction of the potential bias. The analyte was detected but the reported value may not be accurate or precise. The "J" qualification indicates the data fell outside the QC limits, but the exceedance was not sufficient to cause rejection of the data.
R	Rejected: The datum is unusable (the compound or analyte may or may not be present). Use of the "R" qualifier indicates a significant variance from functional guideline acceptance criteria.
UJ	Estimated/Nondetected: Analyses were performed for the compound or analyte, but it was not detected. This qualification is used to flag possible false negative results in the case where low bias in the analytical system is indicated by low calibration response, surrogate, or other spike recovery.
E	The analyte exceeded the calibration range of the instrument. There is greater uncertainty associated with the reported value.

PARCC Criteria

Precision is a measure of the agreement or reproducibility of analytical results under a given set of conditions. It is a quantity that cannot be measured directly but is calculated from percent recovery data. Precision is expressed as the relative percent difference
(RPD):

$$RPD = \text{Absolute Value of } (D1-D2)/\{1/2(D1+D2)\} \times 100$$

where D1 and D2 are the reported concentrations for sample and duplicate analyses.

An RPD outside the numerical QC limit in either MS/MSD samples or LCS/LCSD indicates imprecision but does not imply accuracy or allow for directional qualification (e.g. J+ or J-).

Accuracy is a measure of the agreement of an experimental determination and the true value of the parameter being measured. It is used to identify bias in a given measurement system. Recoveries outside acceptable QC limits may be caused by factors such as instrumentation, analyst error, or matrix interference.

Accuracy is assessed through the analysis of spiked matrix samples and laboratory control samples containing analytes of interest and surrogate compounds. Surrogate spikes were added to every environmental sample for the organic analyses; spiked matrix samples or laboratory control sample results were also included in the data package. Accuracy of inorganic analyses is determined using the percent recoveries of MS and LCS analyses; MS or LCS sample results were included in the data package.

Percent recovery (%R) is calculated using the following equation:

$$\%R = (A-B)/C \times 100$$

where:

A = measured concentration in the spiked sample
B = measured concentration of the spike compound in the unspiked sample
C = concentration of the spike

Spike recoveries outside the acceptable QC accuracy limits provide an indication of bias, where the reported data may overestimate or underestimate the actual concentration of compounds detected. This directional bias information can be used to provide J- or J+ qualification, when no other qualifiers complicate the datum.

Representativeness is a qualitative parameter that expresses the degree to which the sample data are characteristic of a population. It is evaluated herein by reviewing the QC results of blanks, samples and holding times. Positive detects of compounds in the blank samples identify compounds that may have been introduced into the samples during sample collection, transport, preparation, or analysis. The QA/QC blanks usually collected and analyzed are method blanks, trip blanks, and field blanks.

Contamination found in both the environmental sample and a laboratory blank sample are usually assumed to be laboratory artifact if the concentration in the environmental sample is less than 10 times the blank value for common laboratory contaminants or 5 times the blank value for other laboratory contaminants.

Holding times are evaluated to assure that the sample integrity is intact for accurate sample preparation and analysis. Holding times will be specific for each method and matrix analyzed. Holding time exceedances can cause loss of sample constituents due to biodegradation, precipitation, volatization, and chemical degradation. In accordance with EPA guidance (USEPA 1999 and 2004), sample results for analyses that are performed after the method holding time but less than two times the method holding time are qualified as estimated

(J- or UJ) and sample results for analyses that are performed after two times the method holding time are qualified as rejected (R).

Comparability is a qualitative expression of the confidence with which one data set may be compared to another. In the data validation context it provides an assessment of the equivalence of the analytical results to data obtained from other analyses. Comparability is also dependent upon other PARCC criteria, because only when precision, accuracy, and representativeness are known can data sets be compared with confidence.

Completeness is defined as the percentage of acceptable sample results compared to the total number of sample results. Completeness equals the total number of sample results for each fraction minus the total number of rejected sample results divided by the total number of sample results multiplied by 100. Percent completeness is calculated using the following equation:

$$\%C = (T - R)/T \times 100$$

where:

%C = percent completeness
T = total number of sample results
R = total number of rejected sample results

Basis for qualifying data**:**

Holding Times: The time between sampling and extraction (where applicable) and extraction and analysis was reviewed for all samples. All steps meet the method required holding times.

Basis for qualifying data**:**

Surrogates: A directional qualifier (e.g. +/-) was not used for surrogate. The sample was J qualified if the recovery exceeded limits (above or below) and sample had detected analytes. Though in some cases professional judgment was use, for example if matrix interference affected surrogate recovery or if the recovery was slightly outside limits the data may not have been qualified. If the sample was ND for all analytes, and the recovery exceeded the upper limit, the sample was qualified with a U. If the sample was ND for all analytes, and the recovery was below the lower limit, the sample was qualified with a UJ. Qualifiers were not applied to individual sets of analytes since the raw data was not available to verify which surrogates were associated with which analytes.

CCV: CCV results were not provided other than a laboratory assigned qualifier. If a result was qualified by the laboratory it is noted in this report. However, since

neither the magnitude nor direction of the CCV recovery was provided the effect cannot be fully assessed and no data were qualified.

LCS: LCS samples were qualified with a J- / J+ for all detected analytes in which the recovery was below/above the QC limit. These qualifiers apply to all samples within the associated batch. Samples were qualified with a UJ if the analytes were ND and the recovery was below limit. Samples that were ND, and the recovery exceeded the QC limit were not qualified.

MS/MSD: LCS samples were qualified with a J- / J+ for all detected analytes in which the recovery was below/above the QC limit. These qualifiers only apply to the samples that were spiked. Samples were qualified with a UJ if the analytes were ND and the recovery was below limit. Samples that were ND, and the recovery exceeded the QC limit were not qualified.

Blanks: Samples were only qualified based upon blank information if the analyte was detected in a sample and its concentration was equal or less than 5X the value in the associated blank.

The following sections present a review of QC data for each analytical method.

2. TPH (C10-C25) and TPH (C25-C40) by EPA Method 8015C

A total of 55 solid samples that were extracted and then analyzed for TPH (C10-C25) and TPH (C25-C40) by EPA Method 8015C were validated. Surrogate recoveries were compared to the lower and upper control limits. QC sample results for CCV, LCS, MS/MSD and blanks were also validated. All holding times were met. QC results not meeting method or laboratory specific criteria are discussed below.

Batch-specific QC:

QC Batch ID BOE0335
Matrix Spike/Matrix Spike Duplicate (MS/MSD) (pp. 172): The MS/MSD percent recoveries and relative percent differences were **all within limits** and a surrogate was included with the sample.

Laboratory Control Sample (LCS) (p. 179): The LCS percent recoveries were **within limits** and a surrogate was included with the sample.

Method Blank (MB) (p. 189): The percent recovery for the MB sample surrogate was low; the recovery was 26.5% and the control limits were 45-142%. The results for the other constituents in the MB were not detected.

No data in this batch were qualified.

QC Batch ID BOE0734

Matrix Spike/Matrix Spike Duplicate (MS/MSD) (pp. 172): The MS/MSD percent recoveries and relative percent differences were **within limits** and a surrogate was included with the sample. The surrogate recovery in the CCV was not within limits and apparently this was isolated to the CCV; however, the associated CCV results were not provided.

Laboratory Control Sample (LCS) (p. 179): The LCS percent recoveries were **within limits** and a surrogate was included with the sample. The surrogate recovery in the CCV was not within limits and apparently this was isolated to the CCV; however, the associated CCV results were not provided.

Method Blank (MB) (p. 189): The percent recovery for the MB sample surrogate was within limits. The surrogate recovery in the CCV was not within limits and apparently this was isolated to the CCV; however, the associated CCV results were not provided. The results for the other constituents in the MB were ND. No data in this batch were qualified.

QC Batch ID BOE0735

Matrix Spike/Matrix Spike Duplicate (MS/MSD) (pp. 172): The MS/MSD percent recoveries and relative percent differences were **within limits** and a surrogate was included with the sample. The surrogate recovery in the CCV was not within limits and apparently this was isolated to the CCV; however, the associated CCV results were not provided.

Laboratory Control Sample (LCS) (p. 179) for the Diesel Range TPH: The LCS percent recovery for TPH-Diesel was high; the recovery was 108% and the limits were 64-97%. The surrogate recovery was within limits. The associated samples may be biased high. The surrogate recovery in the CCV was not within limits and apparently this was isolated to the CCV; however, the associated CCV results were not provided.

Method Blank (MB) (p. 189): The percent recovery for the MB sample surrogate was within limits. The surrogate recovery in the CCV was not within limits and apparently this was isolated to the CCV; however, the associated CCV results were not provided. The results for the other constituents in the MB were ND.

Due to the LCS recovery beyond the quality limits, there is a slight chance the sample results are biased high.

Sample-specific QC:

For the two samples, STR-6-1-0.5 and STR-9-1-0.5 the recovery for the only surrogate, Tetracosane, was not reportable due to matrix interference. Because these samples were diluted due to the matrix no data are qualified.

For sample STR-10-4-1.5 the surrogate recovery for the only surrogate, Tetracosane, was 24.3% versus the limits of 45-142%. This sample had levels of TPH at concentrations around the PQL. **These results are qualified with a J.**

For sample STR-5-1-0.5, the surrogate recovery was above the control limits. No data was qualified.

For samples STR-6-5-1.0, STR-10-1-0.5, STR-8-1-0.5, STR-12-2-4.5, STR-12-2-4.5, STR-12-3-1.5, STR-11-3-4.5, STR-11-2-1.5, STR 11-3-4.5, STR-11-4-1.5, STR-13-2-1.5, STR-13-3-5.5, STR-13-4-1.5, STR-14-1-0.5, STR-9-1-0.5, STR 14-1-0.5, STR-14-2-1.5, STR-14-3-4.0, STR-14-4-1.5, STR 1-3-1.5, STR-1-4-1.5, STR-4-1-1.0, STR-4-2-1.5, STR-4-3-2.5, STR-4-4-2.5, STR-2-1-1.5, STR-2-2-7.0, STR-2-3-1.5, STR-3-1-1.5, STR-3-2-5.5, STR-3-3-1.5, STR-7-2-1.5, STR-7-3-5.0,STR-7-4-1.5, STR-5-2-1.5, STR-5-3-1.5, STR-5-5-5.0: The surrogate recovery in the CCV was not within limits and apparently this was isolated to the CCV; however, the associated CCV results were not provided. No data were qualified.

3. PAHs by EPA 8270 SIM

A total of 24 solid samples that were extracted then analyzed using EPA Method 8270 SIM for PAHs were validated. Surrogate recoveries were compared to the lower and upper control limits. QC sample results for CCV, LCS, MS/MSD and blanks were also validated. All holding times were met. QC results not meeting method or laboratory specific criteria are discussed below.

Batch-specific QC:

QC Batch ID BOE0333

Matrix Spike/Matrix Spike Duplicate (MS/MSD) (pp. 170-171): The MS/MSD percent recoveries and relative percent differences were **all within limits** and surrogates were included with the sample.

The Continuing Calibration Verification (CCV) recovery was **not within limits for Benzo[b]fluoranthene**; however, the associated CCV results were not provided. The accuracy of benzo(b)fluoranthene is in question, but since neither the magnitude nor direction of the CCV recovery was provided, the effect cannot be fully assessed.

Laboratory Control Sample (LCS) (p. 178): The LCS percent recoveries were **within limits** and surrogates were included with the sample.

Method Blank (MB) (p. 184): The percent recoveries for the MB sample surrogates were **within limits**. The results for all other analytes in the MB were ND.

Sample-specific QC:

STR-6-1-0.5, STR-8-1-0.5, STR-13-1-0.5, STR-1-2-1.0, STR-4-1-1.0: One of three surrogates, Nitrobenzene-d5, was not reportable due to matrix interference.

STR-1-1-1.0: The recovery of one of three surrogates, Nitrobenzene-d5, was 4.25% and limits were 31-112%.

STR-7-1-0.5: One of three surrogates, Nitrobenzene-d5, was not reportable due to matrix interference. Another surrogate, 2-Fluorobiphenyl, was recovered at 26.5% and the limits were 32-110%.

STR-5-1-0.5: All three surrogates were not within control limits: Nitrobenzene was recovered at 23.5% (limits 31-112%), 2-Fluorobiphenyl was recovered at 15.8% (limits 32-110%) and p-Terphenyl-d-14 was recovered at 20.5% (limits 29-113%).

Low recovery of the surrogates is believed to be due to matrix interference noted by the laboratory. No data were qualified.

4. TPH (C4-C10) by EPA Method 8260

A total of 55 solid samples that were analyzed for VOCs and TPH (C4-C10) by EPA Method 8260 and GC/MS Combination were validated. Surrogate recoveries were compared to the lower and upper control limits. QC sample results for CCV, LCS, MS/MSD and blanks were also validated. All holding times were met. QC results not meeting method or laboratory specific criteria are discussed below.

Batch-specific QC:

QC Batch ID BOE0311

Matrix Spike/Matrix Spike Duplicate (MS/MSD) (p. 167): The MS/MSD percent recoveries and relative percent differences were **all within limits**. However, only surrogates were reported so the precision and accuracy of the analysis for Total Purgeable Petroleum Hydrocarbons could not fully be assessed.

Laboratory Control Sample (LCS) (p. 176): The LCS percent recoveries were **within limits.** However, only surrogates were reported so the accuracy of the analysis for Total Purgeable Petroleum Hydrocarbons could not fully be assessed.

Method Blank (MB) (p. 184): The percent recoveries for the MB sample surrogates were within limits. The result for Total Purgeable Petroleum Hydrocarbons in the MB was a non-detect (ND).

No data were qualified

QC Batch ID BOE0313

Matrix Spike/Matrix Spike Duplicate (MS/MSD) (p. 167): The MS/MSD percent recoveries and relative percent differences were **all within limits**. However, only surrogates were reported so the precision and accuracy of the analysis for Total Purgeable Petroleum Hydrocarbons could not fully be assessed.

Laboratory Control Sample (LCS) (p. 176): The LCS percent recoveries were **within limits**. However, only surrogates were reported so the accuracy of the analysis for Total Purgeable Petroleum Hydrocarbons could not fully be assessed.

Method Blank (MB) (p. 184): The percent recoveries for the MB sample surrogates were within limits. The result for Total Purgeable Petroleum Hydrocarbons in the MB was a non-detect (ND).

No data were qualified

QC Batch ID BOE0314

Matrix Spike/Matrix Spike Duplicate (MS/MSD) (p. 167): The MS/MSD percent recoveries and relative percent differences were **all within limits**. However, only surrogates were reported so the precision and accuracy of the analysis for Total Purgeable Petroleum Hydrocarbons could not fully be assessed.

Laboratory Control Sample (LCS) (p. 176): The LCS percent recoveries were **within limits**. However, only surrogates were reported so the accuracy of the analysis for Total Purgeable Petroleum Hydrocarbons could not fully be assessed.

Method Blank (MB) (p. 184): The percent recoveries for the MB sample surrogates were within limits. The result for Total Purgeable Petroleum Hydrocarbons in the MB was a non-detect (ND).
No data were qualified

5. Title 22 Metals by EPA Method 6010B/7471A

A total of 24 solid samples that were analyzed using EPA Methods 6010B and 7471A for Title 22 metals were validated. QC sample results for CCV, LCS, MS/MSD and blanks were also validated. All holding times were met. QC results not meeting method or laboratory specific criteria are discussed below.

Batch-specific QC:

QC Batch ID BOE0095

Source Duplicate Samples (pp. 173-174): The percent recoveries for the duplicate samples were **within limits**. The relative percent differences for three

analytes (Cadmium, Cobalt, and Molybdenum) were above control limits. However, for these same three analytes, both the source results and duplicate results were less than the practical quantitation limit.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) (pp. 173-174): The MS/MSD percent recoveries were **all within limits**. The MS/MSD relative percent differences were within limits except for zinc. The relative percent difference was 23.2 for zinc, with a control limit of 20.

Laboratory Control Sample (LCS) (p. 180): The LCS percent recoveries were **within limits**.

Method Blank (MB) (p. 190): All MB constituents were NDs except for Barium, Beryllium, and Copper. Barium was detected at 0.0014000 mg/kg and qualified J because it was below the PQL of 0.010 mg/kg. Beryllium was detected at 0.00050000 mg/kg and qualified J because it was below the PQL of 0.010 mg/kg. Copper was detected at 0.015400 mg/kg and qualified J because it was below the PQL of 0.040 mg/kg.

No data were qualified

6. Organochlorine Pesticides and PCBs

A total of 3 solid samples that were extracted and then analyzed using EPA Method 8080 for organochlorine pesticides and PCBs were validated. QC sample results for CCV, LCS, MS/MSD and blanks were also validated. All holding times were met. QC results not meeting method or laboratory specific criteria are discussed below.

Batch-specific QC:

QC Batch ID BOE0332

Matrix Spike/Matrix Spike Duplicate (MS/MSD) (p. 166): The MS/MSD percent recoveries and relative percent differences were **all within limits** and surrogates were included with the sample.

Laboratory Control Sample (LCS) (p. 175): The LCS percent recoveries were **within limits** and surrogates were included with the sample.

Method Blank (MB) (pp. 181-182): The percent recoveries for the MB sample surrogates were within limits. The results for all other analytes in the MB were ND.

No data were qualified

Sample-specific QC:

STR-1-1-1.0: The CCV for 4,4'-DDT and Methoxychlor was out of limits, but no CCV results were provided. The recovery for one of two surrogates, dibutyl chlorendate, was 40.3% and the limits were 47-133%. None of the organochlorine or PCB analytes were detected. Because the surrogate recovery was below the lower control limit these **data are qualified UJ.**

STR-4-1-1.0: The CCV for 4,4'-DDT and Methoxychlor was out of limits, but no CCV results were provided. The recoveries for both surrogates were out of limits: TCMX was recovered at 29.9% (limits 36-106%) and Dibutyl chlorendate was recovered at 24.3% (limits 47-133%). None of the organochlorine or PCB analytes were detected. Because the surrogate recovery was below the lower control limit these **data are qualified UJ.**

STR-7-1-0.5: The CCV for 4,4'-DDT and Methoxychlor was out of limits, but no CCV results were provided. The recoveries for one of two surrogates, TCMX, was 34.4% and the limits were 36-106%. Only gamma-BHC (Lindane) was detected, at the PQL of 0.06 mg/kg. Because the surrogate recovery was only slightly below the lower control limit these data were not qualified.

The accuracy of the associated analytes due to the CCV are in question since the recovery was out of the laboratory limits. However, since neither the magnitude nor direction of the CCV recovery was provided the effect cannot be fully assessed.

7. Semi-Volatile Organic Compounds

A total of 3 solid samples that were extracted and then analyzed using EPA Method 8270 for Base Neutral and Acid-Extractable Semi-Volatile Organic Compounds were validated. QC sample results for CCV, LCS, MS/MSD and blanks were also validated. All holding times were met. QC results not meeting method or laboratory specific criteria are discussed below.

Batch-specific QC:

QC Batch ID BOE0466

Matrix Spike/Matrix Spike Duplicate (MS/MSD) (pp. 168-169): The MS/MSD percent recoveries were all within limits except for 3-&4-Methylphenol, which had a recovery of 140% for the MS (limits 30-121%) and a recovery of 132% for the MSD (limits 30-121%). All relative percent differences were within limits and surrogates were included with the sample.

Laboratory Control Sample (LCS) (p. 175): The LCS percent recoveries were within limits except for 3-&4-Methylphenol and surrogates were included with the sample. The recovery for 3-&4-Methylphenol was 129% with limits of 46-115%.

Method Blank (MB) (pp. 184-187): The percent recoveries for the MB sample surrogates were within limits. The results for all other analytes in the MB were ND.

The CCV recovery for Benzidine, Benzo[k]fluoranthene, 4,4'-DDT, Endosulfan I, Endosulfan II, and 2-Naphthylamine was not within limits; however, the associated CCV results were not provided. The accuracy of the associated analytes due to the CCV are in question since the recovery was out of the laboratory limits. However, since neither the magnitude nor direction of the CCV recovery was provided the effect cannot be fully assessed.

No data were qualified.

8. PARCC

Precision and accuracy assessments were included in each individual section above. The precision and accuracy of the data are considered acceptable with the qualifiers included.

Representativeness: All holding times were met as described at the beginning of each section. Only one set of analyses (metals) showed blank contamination and this did not appear to have significant impact upon the associated samples. The representativeness of the project data is considered acceptable.

Comparability: The laboratory used standard analytical methods for all of the analyses, though they did indicate some methods were modified. All data were censored by the laboratory at the PQL, though the MDL was reported. There is no information provided that would question the comparability of the results. The overall comparability is considered acceptable.

Completeness: No results were rejected based on this data validation. The completeness level attained for the samples was 100 percent.

Attachment C

Data Validation Report: Avila 2005 Sediment Investigation
March 31, 2008

Prepared for:

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List of Acronyms and Abbreviations

LCS/LCSD Laboratory Control Sample / Laboratory Control Sample Duplicate
MS/MSD Matrix Spike / Matrix Spike Duplicate
mg/L Milligrams per Liter
ND Not Detected
NFG National Functional Guidelines
PARCC Precision, Accuracy, Representativeness, Comparability, Completeness
QA/QC Quality Assurance / Quality Control
RL Reporting Limit
RPD Relative Percent Difference
SDG Sample Delivery Group
SVOC Semivolatile Organic Compound
µg/L Micrograms per Liter
USEPA United States Environmental Protection Agency
VOC Volatile Organic Compound
%D Percent Difference
%R Percent Recovery
%RSD Percent Relative Standard Deviation

1. INTRODUCTION

This Data Validation Report has been prepared by Neptune and Company, Inc. to assess the validity of laboratory analytical data associated with the 2005 Surface Water and Sediment Sampling Event at the Avila Tank Farm Property in Avila Beach, California. For this data validation only the sediment data was requested for validation. Laboratory reports were provided from ZymaX envirotechnology, San Luis Obispo, California. The ZymaX envirotechnology laboratory report was provided as an Adobe Acrobat file, with file name "Surface Water & Sediment_022405_Final.pdf." The laboratory report contained the results for sediment samples (the matrix is called "soil" in the laboratory report) analyzed for Total Petroleum Hydrocarbons (TPH) C4-C10, TPH C10-C25, TPH C25-C40, Polycyclic Aromatic Hydrocarbons (PAHs), Volatile Organic Compounds (VOCs), Metals, Moisture Content, Total Organic Carbon (TOC) and Grain Size Distribution. Moisture Content, TOC, and Grain Size Distribution were not within the scope of this data validation because results of these analyses are not used for the risk assessment. The laboratory report also contained the results for water samples analyzed for Total Petroleum Hydrocarbons (TPH) C4-C10, TPH C10-C25, TPH C25-C40, Polycyclic Aromatic Hydrocarbons (PAHs), Volatile Organic Compounds (VOCs), Metals, Minerals, Dissolved Organic Carbon and Ammonia-Nitrogen. The water samples were not within the scope of this data validation.

Analysis	Number of Sediment Samples*
TPH (C4-C10), EPA 8260	12
TPH (C10-C25 and C25-C40), GS/MS Comb.	12
PAHs, EPA 8270 SIM	12
VOCs, EPA 8260B	12
Title 22 Metals, EPA 6010B/7471A	12

*Sample count does not include QC samples such as Laboratory Blanks, LCS, CCV, or similar.

The laboratory report included summary results for the samples. This summary information included analyte results and surrogate recovery data (where applicable), however no surrogate limits were included in the report. No Continuing Calibration Verification (CCV), LCS/LCSD, MS/MSD, or Method Blank results were provided. All data are censored at the practical quantitation limit, with no data reported below this value. This report summarizes the quality assurance evaluation of the data according to precision, accuracy, representativeness, completeness, and comparability (PARCC) relative to the National Functional Guidelines. This report provides an assessment of the data and identifies potential sources of error, uncertainty, and bias that may affect the overall usability.

Qualifiers	
J-	Estimated: The associated numerical value is an estimated quantity with a potentially negative bias. The analyte was detected but the reported value may not be accurate or precise. The "J-" qualification indicates the data fell outside the QC limits, but the exceedance was not sufficient to cause rejection of the data.
J+	Estimated: The associated numerical value is an estimated quantity with a potentially positive bias. The analyte was detected but the reported value may not be accurate or precise. The "J+" qualification indicates the data fell outside the QC limits, but the exceedance was not sufficient to cause rejection of the data.
J	Estimated: The associated numerical value is an estimated quantity. It is not possible to assess the direction of the potential bias. The analyte was detected but the reported value may not be accurate or precise. The "J" qualification indicates the data fell outside the QC limits, but the exceedance was not sufficient to cause rejection of the data.
R	Rejected: The datum is unusable (the compound or analyte may or may not be present). Use of the "R" qualifier indicates a significant variance from functional guideline acceptance criteria.
UJ	Estimated/Nondetected: Analyses were performed for the compound or analyte, but it was not detected. This qualification is used to flag possible false negative results in the case where low bias in the analytical system is indicated by low calibration response, surrogate, or other spike recovery.
E	The analyte exceeded the calibration range of the instrument. There is greater uncertainty associated with the reported value.

PARCC Criteria

Precision is a measure of the agreement or reproducibility of analytical results under a given set of conditions. It is a quantity that cannot be measured directly but is calculated from percent recovery data. Precision is expressed as the relative percent difference (RPD):

$$RPD = \text{Absolute Value of } (D1-D2)/\{1/2(D1+D2)\} \times 100$$

where D1 and D2 are the reported concentrations for sample and duplicate analyses.

An RPD outside the numerical QC limit in either MS/MSD samples or LCS/LCSD indicates imprecision but does not imply accuracy or allow for directional qualification (e.g. J+ or J-). For this data set, there were no samples identified as duplicates and precision could not be determined.

Accuracy is a measure of the agreement of an experimental determination and the true value of the parameter being measured. It is used to identify bias in a given measurement system. Recoveries outside acceptable QC limits may be

caused by factors such as instrumentation, analyst error, or matrix interference. Accuracy is assessed through the analysis of spiked matrix samples and laboratory control samples containing analytes of interest and surrogate compounds. Surrogate spikes were added to every environmental sample for the organic analyses; however no spiked matrix samples or laboratory control sample results were included in the data package. Accuracy of inorganic analyses is determined using the percent recoveries of MS and LCS analyses; however no MS or LCS sample results were included in the data package.

Percent recovery (%R) is calculated using the following equation:

$$\%R = (A-B)/C \times 100$$

where:

A = measured concentration in the spiked sample
B = measured concentration of the spike compound in the unspiked sample
C = concentration of the spike

Spike recoveries outside the acceptable QC accuracy limits provide an indication of bias, where the reported data may overestimate or underestimate the actual concentration of compounds detected. This directional bias information can be used to provide J- or J+ qualification, when no other qualifiers complicate the datum. No QC accuracy limits were provided in the data package.

Representativeness is a qualitative parameter that expresses the degree to which the sample data are characteristic of a population. It is evaluated herein by reviewing the QC results of blanks, samples and holding times. Positive detects of compounds in the blank samples identify compounds that may have been introduced into the samples during sample collection, transport, preparation, or analysis. The QA/QC blanks usually collected and analyzed are method blanks, trip blanks, and field blanks. In the laboratory data package provided, there were no results for blanks.

Contamination found in both the environmental sample and a laboratory blank sample are usually assumed to be laboratory artifact if the concentration in the environmental sample is less than 10 times the blank value for common laboratory contaminants or 5 times the blank value for other laboratory contaminants.

Holding times are evaluated to assure that the sample integrity is intact for accurate sample preparation and analysis. Holding times will be specific for each method and matrix analyzed. Holding time exceedances can cause loss of sample constituents due to biodegradation, precipitation, volatization, and chemical degradation. In accordance with EPA guidance (USEPA 1999 and 2004), sample results for analyses that are performed after the method holding time but less than two times the method holding time are qualified as estimated

(J- or UJ) and sample results for analyses that are performed after two times the method holding time are qualified as rejected (R). There was no holding time data included with the laboratory data package provided.

Comparability is a qualitative expression of the confidence with which one data set may be compared to another. In the data validation context it provides an assessment of the equivalence of the analytical results to data obtained from other analyses. Comparability is also dependent upon other PARCC criteria, because only when precision, accuracy, and representativeness are known can data sets be compared with confidence.

Completeness is defined as the percentage of acceptable sample results compared to the total number of sample results. Completeness equals the total number of sample results for each fraction minus the total number of rejected sample results divided by the total number of sample results multiplied by 100. Percent completeness is calculated using the following equation:

$$\%C = (T - R)/T \times 100$$

where:

%C = percent completeness
T = total number of sample results
R = total number of rejected sample results

Basis for qualifying data**:**

Holding Times: The time between sampling and extraction (where applicable) and extraction and analysis was reviewed for all samples. All steps meet the method required holding times.

Surrogates: Surrogate recoveries were provided with organic data; however, no surrogate recovery limits were provided.

CCV: No CCV sample results were provided.

LCS: No LCS sample results were provided.

MS/MSD: No MS/MSD sample results were provided.

Blanks: No blank sample results were provided.

The following sections present a review of QC data for each analytical method.

2. TPH (C10-C25) and TPH (C25-C40) by GC/MS Combination

A total of 12 sediment samples that were extracted by EPA 3550 and then analyzed for TPH (C10-C25) and TPH (C25-C40) by GC/MS Combination were validated. The only QC sample results provided were surrogate recoveries; however, no surrogate limits were included. No information was provided for other types of QC samples such as CCV, LCS, MS/MSD or blanks. No holding times were reported.

3. PAHs by EPA 8270 SIM

A total of 12 sediment samples that were extracted by EPA 3550 and then analyzed using EPA Method 8270 SIM for PAHs were validated. The only QC sample results provided were surrogate recoveries; however, no surrogate limits were included. No information was provided for other types of QC samples such as CCV, LCS, MS/MSD or blanks. No holding times were reported.

4. VOCs and TPH (C4-C10) by EPA Method 8260 and GC/MS Combination

A total of 12 sediment samples that were analyzed for VOCs and TPH (C4-C10) by EPA Method 8260 and GC/MS Combination were validated. The only QC sample results provided were surrogate recoveries; however, no surrogate limits were included. No information was provided for other types of QC samples such as CCV, LCS, MS/MSD or blanks. No holding times were reported.

5. Title 22 Metals by EPA Method 6010B/7471A

A total of 12 sediment samples that were analyzed using EPA Methods 6010B and 7471A for Title 22 metals were validated. No information was provided for QC samples such as CCV, LCS, MS/MSD or blanks. No holding times were reported.

6. PARCC

The precision and accuracy of the data cannot be determined because of the limited QC results provided.

The representativeness of the data cannot be fully determined because no results of blank QC samples were provided.

Comparability: The laboratory used standard analytical methods for all of the analyses, though they did indicate some methods were modified. Results were censored at the practical quantitation limit.

Completeness: The only QC data provided in the laboratory report were surrogate recovery results; however, no surrogate limits were reported. There is not enough information with which to accept or reject the analytical results for the sediment samples.

Attachment D

Data Usability Report for Avila Tank Farm Events: 2007 Soil and Air Sampling; 2005 Wetland Sampling; 2005 Trench Sampling. March 31, 2008

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The purpose of this document is to evaluate the usability of the Unocal Avila Beach Tank Farm 2007 environmental analytical data, the 2005 trench samples analytical data, and the 2005 wetland samples analytical data (data) for use in the human health risk assessment. The 2007 environmental samples were collected by Avocet Environmental (Irvine, CA) and analyzed by Air Toxics Ltd (Folsom, CA),and TestAmerica (Irvine, CA). The 2005 trench samples were analyzed by BC Laboratories, Bakersfield, California. The 2005 wetland samples were analyzed by ZymaX envirotechnology, San Luis Obispo, California. Evaluation of analytical data, in terms of usability for this assessment, was conducted using the criteria provided by USEPA in the *Guidance for Data Usability in Risk Assessment* (Part A), Final (USEPA, 1992a). These USEPA criteria include:

1. Reports –confirmation that report(s) relied upon are complete and appropriate for use in the HRA;

2. Documentation –confirmation that each analytical result is associated with a specific sample location and that the appropriate sampling procedure is documented;

3. Data Sources – confirmation that the analytical methods used are appropriate to identify the chemicals of potential concern for the media of interest;

4. Analytical Methods and Detection Limits - confirmation that analytical methods appropriately identify the chemical form or species and that the sample detection limit is at or below a concentration appropriate for the risk assessment application;

5. Data Review – confirmation that the quality of analytical results is assessed by a professional knowledgeable in field collection procedures and analytical chemistry and that data quality are adequate to estimate exposure concentrations; and

6. Data Quality Indicators – documentation that sampling and analysis data quality indicators (including precision, accuracy, holding time, and reproducibility) are evaluated using criteria specific to the risk assessment.

An evaluation of the provided analytical data was conducted. A summary of the data analysis relevant to usability criteria for risk assessment is provided in Section 2.0. The Data Validation Reports associated with these data are provided in Appendix A. All tables referenced in this report (highlighted in yellow) are provided in an Excel spreadsheet. Spatial analysis of the sample locations is presented in a separate memorandum (attached).

1.0 Analytical Methods

Samples from multiple sampling events at Avila Beach Tank Farm were analyzed for one or more of the following: metals, volatile fuel hydrocarbons, hydrocarbon distribution, volatile organics with oxygenates, organochlorine pesticides, chlorinated herbicides, and semi-volatile organic hydrocarbons (BNAs, PAHs and PCBs). Samples collected prior to 2005 are referred to as "historical samples". Background samples were also collected and analyzed. The historical samples and background samples are discussed in the Avila Human Health Risk Assessment v2.0 (2005). Trench samples and wetland samples collected in 2005 as well as soil and air samples collected in 2007 are discussed in this data usability report. Because these samples were analyzed by multiple laboratories over multiple years, a review of analytical methods was performed in order to look at the overall comparability of the data. Table 1 provides a summary of the analytical methods used for sample analysis in each of these events.

This data usability evaluation was performed on three sets of data: soil samples collected in 2005 from a trench, sediment samples collected in 2005 from wetlands, and soils samples collected in 2007 from various locations. Historical data and background data are also discussed in this evaluation.

All analytical sample data results for the environmental media of interest were provided in adequate formats. Broad suite analyses were conducted. The laboratory reports that were provided were summary reports that included at least one of the following: a case narrative, a copy of the Chain-of-Custody records, surrogates, blanks, matrix spike and laboratory control sample (and replicate) results. The laboratory reports did not include the raw results or other QC information typically characterized as a Level IV report.

Because data were collected during multiple sampling events and analyzed in different laboratories, the comparability between analytical methods was reviewed for the data sources discussed in this report as well as for the historical data that was presented in the Avila Human Health Risk Assessment v2.0 (2005). Table 1 provides a list of analytical methods used. Approximately 6.5% of the historical data were reported with an analytical method labeled as unknown, so analytical methods were compared when the method information was available. No specific analytical method information was available for the background data presented in Attachment 8, which contains the background evaluation. The analytical methods for arsenic (SW6020), mercury (SW7471), PCBs (SW8080), PAHs (SW8270), VOCs (SW8260), and SVOCs (SW8270) were consistent across sampling events. The 2005 Trench sampling event analyzed for PCBs and pesticides using SW-846 method 8080 according to the laboratory reports. Method 8080 was replaced in 1996 with two methods, 8081 and 8082 which separate the organochlorine pesticides from the PCB analysis. Method 8080 does not provide the cleanup and quantitation procedures designed for PCBs. Method 8080 is subject to false positives and greater quantitative uncertainty due to non-PCB interferences. Samples from the trench, wetland, and samples collected in 2007 were analyzed for metals by SW6010B. Method SW6020 was used to analyze the historical samples for metals. Methods SW6010 and SW6020 are generally comparable when similar digestion

methods (environmentally available digestion, no HF) are used. Method SW6020 can provide more sensitive reporting limits for a number of the analytes. Sensitivity issues are discussed Section 2.0. There were also comparability issues for the TPH analyses. TPH was reported in the ranges of C4-C10, C10-C25, and C25-C40. Method SW8015 was used to analyze samples for all TPH ranges in the 2007 samples as well as the C10-C25 and C25-C40 ranges of the trench and wetland samples. The results for the C4-C10 range for the trench data and wetland samples as well as all of the historical TPH samples were analyzed by SW8260. The 2007 TPH results were reported in C2-C5 carbon intervals above C8. These individual results were combined for final reporting. Both SW 8015 and SW 8260 methods used purge and trap concentrations. However, SW8015 is a GC/FID method compared to SW8260, which is a GC/MS method. Slight differences in quantitation between these methods is likely.

Although analytical methods were comparable with only a few exceptions, it is also noted that the historical data were reported in mg/kg wet weight. The 2007 data were reported in dry weight and are therefore directly comparable to the California Human Health Screening Levels (CHHSLs) and the Region 9 Preliminary Remediation Goals (PRGs). It is not apparent whether wet weight or dry weight results were reported for trench and wetland samples. The laboratory reports only indicate units of mg/kg. Because specific footnotes that specify dry weight results are not present, the results are assumed to be reported in wet weight.

Table 1: Analytical Methods

Suite	2007 Soil	Trench soil	Wetland sediment	Historical soil	Background data
Hexavalent Chromium				7199	Not available
metals	6010B*	6010B	6010B	6020	Not available
Arsenic	6020			6020	Not available
Mercury	7471	7471	7471A	7471	Not available
PCBs		8080		8080	
organochlorine pesticides		8080		8081	
chlorinated herbicides				8151	
VOCs			8260	8260	
PAHs	8270	8270 SIM**	8270 SIM	8270	
SVOCs (Base Neutral and Acid Extractable)		8270C			
TPH C4-C10	8015	8260	8260	8260	
TPH C10-C25	8015	8015	8015	8260	
TPH C25-C40	8015	8015	8015	8260	
Volatile Fuel hydrocarbons	8015				
Air Toxics	TO-15 modified***				

*The method numbers in the table refer to SW-846 analytical methods defined in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods
** SIM=Simple Ion Monitoring
*** TO-15 modified in full scan mode.

2.0 Data Usability

2.1 2007 Soil Matrix Data

Data Usability Criterion	Evaluation Result
I. Reports	Laboratory analytical reports for soil samples collected in 2007 were provided by TestAmerica, Irvine, California. The TestAmerica laboratory reports were provided as Adobe Acrobat files with filenames IQG1327_REVISION, IQG1351_REVISION, and IQG1730_REVISION. Samples associated with each Laboratory Report are provided in Table 2. No site map with sample locations that included soil depths or description of the sampling design and procedures including rationale was provided.
II. Documentation	The chain of custody record was included in all of the Adobe Acrobat files provided by the laboratory.
III. Data Sources	The analytical methods, as discussed in Section 1.0, were appropriate to identify the chemicals of concern in the 2007 soil samples.
IV. Analytical Method and Detection Limit	**2007 Soil Samples** Metals EPA Methods 7471A (mercury), 6020 (Arsenic), and 6010B (all other metals) are considered adequate to characterize metals in soil. Reporting Limits were provided for each sample and analyte. Data in the laboratory reports appear to be censored at the Reporting Limit as no data were flagged due to results below the RL. Some reporting limits were elevated due to sample dilutions for specific metals. Two metals, arsenic and thallium, had RLs that exceeded CHHSLs (details are provided below). All other elements met the applicable CHHSL or EPA Region 9 PRG. The standard reporting limits for the metals are reported Table 3. The reporting limits of arsenic and thallium compared to the screening levels are presented in Table 4. Arsenic: There were six non-detects with a reporting limit of 0.5 mg/kg compared to the Residential CHHSLL, 0.07 mg/kg. The database shows an "MDL" of 0.35 mg/kg, which is also above the CHHSL. There were 83 detects of arsenic with a range of 0.82 to 54 mg/kg. Thallium: All thallium results were non-detects (89 records) with reporting limits of 9.9, 10, or 20 mg/kg. For those samples with a dilution factor of 2, the reporting limit was 20 mg/kg (MDL of 1.6 mg/kg). For those samples with a dilution factor of 1, the reporting limit ranged from 9.9 to 10 mg/kg (MDL of 0.79 to 0.81 mg/kg).The Residential CHHSLL for thallium is 5 mg/kg, so all of the reporting limits are above this level yet the MDLs are below the CHHSLL.

	Total Petroleum Hydrocarbons EPA Method 8015M (preparation by EPA Method 5030) is adequate to characterize volatile fuel hydrocarbons and gasoline range organics (GRO), C4-C10, in soil. Data in the laboratory reports appear to be censored at the Reporting Limit as no data were flagged due to results below the RL. The reporting limit for the volatile fuel hydrocarbons and GRO is 0.40 mg/kg when the sample dilution factor is 1. The range of the majority of the reporting limits was between 0.37 and 0.42 mg/kg. A limited number of reporting limits were higher than 0.42 mg/kg due to elevated levels of hydrocarbons or GRO in those samples. A PRG for volatile fuel hydrocarbons or GRO was not available for comparison to the reporting limits. The reporting limits are adequate based on use of TPH data in HRA (i.e., to identify the need for indicator chemical analysis). Extractable Fuel Hydrocarbons Method CADHS/8015Mod is adequate to characterize extractable fuel hydrocarbon (EFH) distribution (C8-C40) in soil. Data in the laboratory reports appear to be censored at the Reporting Limit as no data were flagged due to results below the RL. The reporting limits were 5 and 10 mg/kg. Some reporting limits were elevated due to sample dilution in samples with high concentrations of particular analytes. The reporting limits are adequate based on use of TPH data in HRA (i.e., to identify the need for indicator chemical analysis). Volatile Organic Hydrocarbons EPA Method 8260B is adequate to characterize VOCs with Oxygenates in soil. The preparation method for these samples was not specified, but is assumed to be EPA Method 5035. Reporting Limits were provided though some reporting limits were elevated due to sample dilution in samples with high concentrations of particular analytes. The standard reporting limit for most of the analytes ranged between 0.002 mg/kg and 0.01 mg/kg when the samples were not diluted. A few analytes, methylene chloride and tert-Butyl alcohol, have slightly higher reporting limits. Results for sample SV-60-05 (dilution factor of 200) and SV-61-05 (dilution factor of 1000) also had elevated reporting limits due to the dilutions. Table 4 shows the comparison of RLs to CHHSLs and PRGs. Semi-volatile Organic Hydrocarbons EPA Modified Method 8270C was utilized in the Single Ion Monitoring mode to measure PAHs in soil matrix. This method is adequate to characterize PAHs in soil and provides improved sensitivity relative to the full scan method. All reporting limits are adequate for HRA. Only one analyte, (Benzo(a)pyrene), exceeded the applicable screening value, as discussed below. Benzo(a)pyrene: There were sixty-five non-detects with a reporting limit range of 0.0049 to 0.0079 mg/kg for those samples with a dilution factor of 1. There is one non-detect sample with a reporting limit of 0.056 mg/kg (dilution factor 10). These

	reporting limits are compared to a Residential CHHSLL of 0.038 mg/kg. There were 23 detects of benzo(a)pyrene with a range of 0.0064 to 0.26 mg/kg. As a note, there were no results for PCB analysis provided either in the databases or laboratory reports. Rationale was not provided for the lack of PCB data in the 2007 sampling event.
V. Data Review	Data review of the laboratory reports and two excel spreadsheets (files *2007-08-13 Data to Append.xls* and *2007-12-18.xls*) was conducted by Neptune and Company. The Data Validation Report prepared by Neptune and Company is provided in Appendix A. The laboratory reports included summary results for both the samples and quality control samples analyzed with the sample batches. This summary information included analyte results, surrogate recovery data (where applicable), Continuing Calibration Verification (CCV) and LCS/LCSD and MS/MSD results (where applicable). No internal standard information (other than qualifiers added by the laboratory), raw data (e.g. chromatograms) ICP Interference Check Sample, ICP Serial Dilution initial or continuing calibration was provided unless noted in the report. The laboratory reports were evaluated based on the following documents: *Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999, *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004. Professional judgment was used in some cases to qualify the results. No results were rejected during the data review and no data gaps are identified based on the analytical data.
VI. Data Quality Indicators	**Precision, Accuracy, Representativeness, Comparability and Completeness (PARCC)** data quality indicator information is provided below. This discussion is provided separately for the analytical data and conceptual site model. The data quality indicators (DQI) address field and analytical data quality aspects as they relate to uncertainties in selection of COPCs, EPCs (exposure point concentrations), and risk characterization. The DQIs are briefly discussed below. Precision is determined by evaluating: (1) the sampling variability; and (2) the measurement error. Assessment of sampling variability is critical to identifying the appropriate statistical measures and the number of required samples. Assessment of measurement error is accomplished by using the results of field duplicate samples. Field duplicates determine total within-batch measurement error (including analytical error if the samples are also analyzed as laboratory duplicates). Accuracy is a measure of overestimation or underestimation of reported concentrations and is evaluated from the results of spiked samples. Accuracy is controlled primarily by the analytical process and is reported as bias. Bias is estimated for the measurement process by calculating the percent recovery (%R) for the spiked or reference compound.

	Completeness is measured, for risk assessment purposes, by the total number of data points available and acceptable for each COPC for each medium of interest. For risk assessment purposes, the adequacy of the number of samples is evaluated in terms of: (1) acceptable uncertainty regarding the identification of COPCs in each environmental medium of interest and within each exposure area; and (2) acceptable uncertainty regarding the estimation of exposure point concentration of each COPC within each exposure area. Comparability is a critical parameter when considering the combination of data sets from different analyses for the same COPCs. Only comparable data sets can readily be combined for the purpose of generating a single risk assessment decision/calculation. The use of standard sampling and analytical methods simplifies the determination of comparability. All non-routine methods should be specifically evaluated for comparability in the DU evaluation. Representativeness of data used in risk assessment should be documented. The results of the risk assessment will be biased to the degree that the data do or do not reflect the chemicals and concentrations present in the exposure area of interest. In cases where sampling was not specifically designed to characterize representative COPCs and exposure concentrations for all potential exposure areas of the site, it is critical to evaluate what the impact on the risk assessment results may be. In addition to sampling strategy issues, analytical data quality should be assessed in regard to representativeness. Holding time, sample preservation, extraction procedures, and results from analyses of blanks affect the representativeness of analytical data. **PARCC parameters in terms of CSM/CEM:** **PARCC parameters are discussed in terms of the analytical data only.** **Soil Matrix Data for Metals**: Precision and accuracy of the metals analysis were assessed by analyzing matrix spikes, matrix spike duplicates, laboratory blanks, and laboratory control samples. With the exception of a limited number of matrix spike and matrix spike duplicates (MSDs) that had recoveries slightly below the QC limit, the quality control parameters were reported by the laboratory to be within acceptable laboratory limits. The exceptions indicate that the matrix may have caused a slight bias for the analytes referenced in the data validation report. QC results that did not meet the limits are discussed below. In general all metal data are considered useable for the HRA. Accuracy for soil samples SV-53-01 and SV-61-05: Recoveries for eleven metals in matrix spikes were slightly below the laboratory target range (75-125%), resulting in estimated values potentially biased low or non-detected values reported with a slight potential for false negatives around the reporting limit (see the Data Validation Report, Section 4.1.3 for details). These data are regarded as usable for HRA, but should be discussed in the uncertainty analysis section of the HRA. Accuracy for soil samples SV-02-10, SV-08-01, and SV-47-10: Recoveries for three metals in matrix spikes were slightly below the laboratory target range (75-125%), resulting in estimated values potentially biased low or non-detected values reported with a slight potential for false negatives around the reporting limit. One barium

	recovery and one mercury recovery for the duplicate were slightly above the laboratory target range, resulting in estimated values potentially biased high (see the Data Validation Report, Section 4.1.3 for details). These data are regarded as usable for HRA, but should be discussed in the uncertainty analysis section of the HRA. Accuracy for soil sample S-1A-03: The recoveries for two metals in matrix spikes were slightly below the laboratory target range (75-125%), resulting in estimated values potentially biased low or non-detected values reported with a slight potential for false negatives around the reporting limit (see the Data Validation Report, Section 4.1.3 for details). These data are regarded as usable for HRA, but should be discussed in the uncertainty analysis section of the HRA. All data quality indicators used to assess precision met the quality limits for the metals suite. **Soil Matrix Data for Volatile Fuel Hydrocarbons:** Precision and accuracy of the volatile fuel hydrocarbons and GRO (C4-C10) analyses were assessed by analyzing laboratory blanks, laboratory control samples, surrogates, and matrix spikes. All results met the quality control limits except those samples described below. Accuracy for soil samples: The surrogate compound 4-Bromoflourobenzene had recoveries below the laboratory target range (65-140%) in eleven samples. Three samples had recoveries for 4-bromofluorobenzene above the laboratory target range (see the Data Validation Report in Appendix A, Section 6.1.1 for details). All of the sample results that were qualified based on surrogate recoveries were reported as not detected. These data are regarded as usable for HRA, but should be discussed in the uncertainty analysis section of the HRA. Sample SV-51-01 had the associated matrix spike and MSD recoveries outside of the laboratory target range (60-140%). This sample was qualified as J- . Due to the severely low recovery of Volatile Fuel Hydrocarbon of -2% and -20% in the MS and MSD respectively, there is a strong potential for low bias with this sample. Due to the severely low recovery of the sample SV-51-01 matrix spike these data should not be used for this HRA. All other data are considered useable for the HRA. Attention should be given to indicator chemical data at this location. All data quality indicators used to assess precision met the quality limits for the volatile fuel hydrocarbons suite. **Soil Matrix Data for Volatile Organics with Oxygenates:** Precision and accuracy of the volatile organics with oxygenates was assessed by analyzing laboratory blanks, laboratory control samples, surrogates, and matrix spikes. With the exception of surrogate recoveries outside of laboratory target range and some low matrix spike recoveries (discussed below), the quality control parameters are within acceptable laboratory limits. Data are considered useable for the HRA. Accuracy for soil samples: A number of samples had surrogate recoveries that were outside of the QC limits, which resulted in estimated values. All of these samples were qualified in the Data Validation Report. Most of these recoveries were just slightly below the lower range of the laboratory target range (see the Data Validation Report, Section 5.1.1 for specific recoveries and laboratory target ranges). These data are regarded as usable for HRA, but should be discussed in the uncertainty analysis section of the HRA.

	A limited number of analytes in five samples (SV-58-02, SV-36-05, SV-08-01, SV-04-05, SV-38-05) had low recoveries in the matrix spike. None of these target analytes were detected in the unspiked samples (see the Data Validation Report, Section 5.1.4 for details). The low recovery of these spiked analytes does indicate the potential for false negatives at concentrations around the reporting limits. For reference, the spike level is approximately 50 ug/kg, with a reporting limit of 2-5 ug/kg. These data are considered usable for the HRA (i.e., soil ingestion route) as risks associated with VOCs are driven by the inhalation route, which will be assessed using soil vapor data. These results should be discussed in the uncertainty analysis section of the HRA. All data quality indicators used to assess precision met the quality limits for the volatile organics with oxygenates suite. **Soil Matrix Data for PAHs:** Precision and accuracy of the PAH analyses were assessed by analyzing laboratory blanks, laboratory control samples, surrogates, and matrix spikes. All quality checks met the requirements with the exceptions discussed below. <u>Precision for the LCS/LCSD pair in SDG IQG1327:</u> The analytes 2-Methylnaphthalene, 1-Methylnaphthalene, Indeno[1,2,3-cd]pyrene, and Dibenz(a,h)anthracene exceeded the RPD limits indicating variability of greater than 30% for these analytes in this sample. Data are considered usable for HRA but these results should be discussed in the uncertainty analysis section of the HRA. <u>Accuracy for soil sample SV-36-05</u>: The matrix spike pair in sample SV-36-05 for Benzo[g,h,i]perylene had recoveries of 38% and 49% which are below the limits of 57-142%. This indicates the concentration of this analyte in this sample is potentially biased low. This data point is regarded as usable for HRA, but should be discussed in the uncertainty analysis section of the HRA. <u>Accuracy for soil sample SV-36-01:</u> The matrix spike pair in sample SV-35-01 for Chrysene had recoveries of 55% and 47% which are below the limits of 71-126%. This indicates the concentration of this analyte in this sample is potentially biased low. Fluorene also had low recoveries of 56%/ 48% below the limits of 68-128% in sample SV-35-01. Benzo[a]anthracene had low recoveries in this sample of 57%/ 57% (limits of 64-124%). Fluorene and Benzo[a]anthracene were not detected in the native sample. These data are regarded as usable for HRA, but should be discussed in the uncertainty analysis section of the HRA. <u>Precision of LCS pair associated with SDG IQG1327</u>: SDG IQG1327 had the LCS/LCSD pairs meet the individual recovery limits for all compounds. However, 2-Methylnaphthalene, 1-Methylnaphthalene, Indeno[1,2,3-cd]pyrene, and Dibenz(a,h)anthracene exceeded the RPD limits. No data are qualified since the recoveries met the QC limits and all associated samples are considered usable. **Soil Matrix Data for Hydrocarbon Distribution :** Precision and accuracy of the Extractable Fuel Hydrocarbons (EFH) (C10-C40) were assessed by analyzing laboratory blanks, laboratory control samples, surrogates, and matrix spikes. With the exception of some surrogate recoveries outside of laboratory target range (discuss below), the quality control parameters are within acceptable laboratory limits. The surrogate recoveries are not considered an indication of significant bias; therefore the

	data are considered useable for HRA. Accuracy for soil samples: The recoveries of the surrogate n-Octacosane in seventeen samples (9 samples from IQG1327, 6 samples from IQG1351, and 2 samples from IQG1730) were outside of the laboratory target range (40-125%). Most of these recoveries were above the upper range of the laboratory target range between 143% and 867% indicating a potential for high bias (see Data Validation Report, Section 7.1.1 for details). The results for the analytes associated with these surrogates and sample numbers are reported as estimated. The data are considered adequate based on use of TPH data in HRA (i.e., to identify the need for indicator chemical analysis) but should be discussed in the uncertainty analysis section of the HRA. All data quality indicators used to assess precision met the quality limits for the EFHs suite. **All Soil Matrix Samples:** Completeness: One analytical results for sample SV-51-01, Volatile Fuel Hydrocarbons and GRO should not be used for HRA, all other results are considered acceptable. Completeness is greater than 99%. Representativeness: The representativeness of these analytical data was evaluated by reviewing the laboratory QC results of the blanks, samples and holding times. There were no data qualified based on the laboratory blanks. Some sample results were qualified based on matrix spikes and surrogate recoveries, but these qualifications do not appear to have a significant impact on the analytical data. All holding times were met. The analytical data are considered useable with respect to representativeness. Comparability: The laboratory used standard analytical methods for all of the analyses. The data reported and reviewed were all obtained in the year 2007 and were analyzed by the same laboratories as described above. The overall comparability of the data is acceptable based on the information that was provided.

Table 2. Soil Matrix Samples and Laboratory Reports from 2007

Object Name	Sample ID	Laboratory Sample ID	Filename
S-1A	S-1A-01	IQG1730-06	IQG1730_REVISION.pdf
S-1A	S-1A-03	IQG1730-07	IQG1730_REVISION.pdf
S-1B	S-1B-01	IQG1730-08	IQG1730_REVISION.pdf
S-1B	S-1B-04	IQG1730-09	IQG1730_REVISION.pdf
S-1C	S-1C-01	IQG1730-10	IQG1730_REVISION.pdf
S-1C	S-1C-04	IQG1730-11	IQG1730_REVISION.pdf
S-38A	S-38A-01	IQG1730-16	IQG1730_REVISION.pdf
S-38A	S-38A-03	IQG1730-17	IQG1730_REVISION.pdf
S-38B	S-38B-01	IQG1730-18	IQG1730_REVISION.pdf
S-38B	S-38B-03	IQG1730-19	IQG1730_REVISION.pdf
S-40A	S-40A-01	IQG1730-12	IQG1730_REVISION.pdf
S-40A	S-40A-03	IQG1730-13	IQG1730_REVISION.pdf
S-40B	S-40B-01	IQG1730-14	IQG1730_REVISION.pdf
S-40B	S-40B-03	IQG1730-15	IQG1730_REVISION.pdf
S-47	S-47-01	IQG1351-07	IQG1351_REVISION.pdf
S-47	S-47-05	IQG1351-08	IQG1351_REVISION.pdf
S-47	S-47-10	IQG1351-38	IQG1351_REVISION.pdf
S-48	S-48-01	IQG1327-28	IQG1327_REVISION.pdf
S-48	S-48-05	IQG1327-29	IQG1327_REVISION.pdf
S-48	S-48-10	IQG1327-30	IQG1327_REVISION.pdf
S-49	S-49-01	IQG1327-25	IQG1327_REVISION.pdf
S-49	S-49-05	IQG1327-26	IQG1327_REVISION.pdf
S-49	S-49-10	IQG1327-27	IQG1327_REVISION.pdf
S-50	S-50-01*	IQG1351-04	IQG1351_REVISION.pdf
S-50	S-50-05*	IQG1351-05	IQG1351_REVISION.pdf
S-50	S-50-10*	IQG1351-06	IQG1351_REVISION.pdf
SV-01	SV-01-01	IQG1327-34	IQG1327_REVISION.pdf
SV-01	SV-01-05	IQG1327-35	IQG1327_REVISION.pdf
SV-01	SV-01-10	IQG1327-36	IQG1327_REVISION.pdf
SV-02	SV-02-01	IQG1351-09	IQG1351_REVISION.pdf
SV-02	SV-02-05	IQG1351-10	IQG1351_REVISION.pdf
SV-02	SV-02-10	IQG1351-11	IQG1351_REVISION.pdf
SV-03	SV-03-01	IQG1351-12	IQG1351_REVISION.pdf
SV-03	SV-03-05	IQG1351-13	IQG1351_REVISION.pdf
SV-03	SV-03-10	IQG1351-14	IQG1351_REVISION.pdf
SV-04	SV-04-01	IQG1351-15	IQG1351_REVISION.pdf
SV-04	SV-04-05	IQG1351-16	IQG1351_REVISION.pdf
SV-04	SV-04-10	IQG1351-17	IQG1351_REVISION.pdf
SV-04	SV-04-10	IQG1351-17RE1	IQG1351_REVISION.pdf
SV-05	SV-05-01	IQG1351-18	IQG1351_REVISION.pdf
SV-05	SV-05-05	IQG1351-19	IQG1351_REVISION.pdf
SV-05	SV-05-10	IQG1351-20	IQG1351_REVISION.pdf
SV-06	SV-06-01	IQG1351-31	IQG1351_REVISION.pdf
SV-06	SV-06-05	IQG1351-32	IQG1351_REVISION.pdf
SV-06	SV-06-10	IQG1351-33	IQG1351_REVISION.pdf
SV-08	SV-08-01	IQG1351-29	IQG1351_REVISION.pdf

SV-08	SV-08-05	IQG1351-30	IQG1351_REVISION.pdf
SV-32	SV-32-01	IQG1730-01	IQG1730_REVISION.pdf
SV-32	SV-32-05	IQG1730-02	IQG1730_REVISION.pdf
SV-32	SV-32-10	IQG1730-03	IQG1730_REVISION.pdf
SV-35	SV-35-01	IQG1351-21	IQG1351_REVISION.pdf
SV-35	SV-35-05	IQG1351-22	IQG1351_REVISION.pdf
SV-36	SV-36-01	IQG1327-18	IQG1327_REVISION.pdf
SV-36	SV-36-05	IQG1327-19	IQG1327_REVISION.pdf
SV-37	SV-37-01	IQG1351-23	IQG1351_REVISION.pdf
SV-37	SV-37-05	IQG1351-24	IQG1351_REVISION.pdf
SV-38	SV-38-01	IQG1351-25	IQG1351_REVISION.pdf
SV-38	SV-38-05	IQG1351-26	IQG1351_REVISION.pdf
SV-41	SV-41-01	IQG1730-04	IQG1730_REVISION.pdf
SV-41	SV-41-05	IQG1730-05	IQG1730_REVISION.pdf
SV-45	SV-45-01	IQG1351-34	IQG1351_REVISION.pdf
SV-45	SV-45-05	IQG1351-35	IQG1351_REVISION.pdf
SV-50	SV-50-01	IQG1351-36	IQG1351_REVISION.pdf
SV-50	SV-50-05	IQG1351-37	IQG1351_REVISION.pdf
SV-51	SV-51-01	IQG1327-10	IQG1327_REVISION.pdf
SV-51	SV-51-05	IQG1327-11	IQG1327_REVISION.pdf
SV-52	SV-52-01	IQG1327-08	IQG1327_REVISION.pdf
SV-52	SV-52-05	IQG1327-09	IQG1327_REVISION.pdf
SV-53	SV-53-01	IQG1327-06	IQG1327_REVISION.pdf
SV-53	SV-53-05	IQG1327-07	IQG1327_REVISION.pdf
SV-54	SV-54-02	IQG1327-04	IQG1327_REVISION.pdf
SV-54	SV-54-05	IQG1327-05	IQG1327_REVISION.pdf
SV-55	SV-55-01	IQG1327-31	IQG1327_REVISION.pdf
SV-55	SV-55-05	IQG1327-32	IQG1327_REVISION.pdf
SV-55	SV-55-10	IQG1327-33	IQG1327_REVISION.pdf
SV-56	SV-56-01	IQG1327-22	IQG1327_REVISION.pdf
SV-56	SV-56-05	IQG1327-23	IQG1327_REVISION.pdf
SV-56	SV-56-10	IQG1327-24	IQG1327_REVISION.pdf
SV-57	SV-57-01	IQG1351-27	IQG1351_REVISION.pdf
SV-57	SV-57-05	IQG1351-28	IQG1351_REVISION.pdf
SV-58	SV-58-02	IQG1327-12	IQG1327_REVISION.pdf
SV-58	SV-58-05	IQG1327-13	IQG1327_REVISION.pdf
SV-60	SV-60-01	IQG1327-14	IQG1327_REVISION.pdf
SV-60	SV-60-05	IQG1327-15	IQG1327_REVISION.pdf
SV-61	SV-61-01	IQG1327-20	IQG1327_REVISION.pdf
SV-61	SV-61-05	IQG1327-21	IQG1327_REVISION.pdf
SV-62	SV-62-01	IQG1327-16	IQG1327_REVISION.pdf
SV-62	SV-62-05	IQG1327-17	IQG1327_REVISION.pdf
SV-63	SV-63-01	IQG1327-02	IQG1327_REVISION.pdf
SV-63	SV-63-05	IQG1327-03	IQG1327_REVISION.pdf
Trip Blank	QCTB-070907	IQG1327-01	IQG1327_REVISION.pdf
Trip Blank	QCTB-071707	IQG1730-20	IQG1730_REVISION.pdf

*There is a discrepancy between the database and laboratory reports for samples S-50-01, S-50-05, and S-50-10 above. The laboratory report (IQG1351) identifies samples IQG1351-4, 05, and 06 as S-46-01, S-46-05, and S-46-10 respectively. This is also consistent with the analysis data and time included in the database.

Table 3. Nominal Reporting Limits from 2007 Soil Samples and CHHSLs for Metals

Analyte	CAS Number	Reporting Limit* (mg/kg)	CalEPA CHHSL (res) (mg/kg)
Antimony	7440-36-0	10	30
Arsenic	7440-38-2	0.5	0.07
Barium	7440-39-3	1	5200
Beryllium	7440-41-7	0.5	150
Cadmium	7440-43-9	0.5	1.7
Chromium	7440-47-3	1	n/a
Cobalt	7440-48-4	1	660
Copper	7440-50-8	2	3000
Lead	7439-92-1	2	150
Mercury	7439-97-6	0.02	18
Molybdenum	7439-98-7	2	380
Nickel	7440-02-0	2	1600
Selenium	7782-49-2	2	380
Silver	7440-22-4	1	380
Thallium	7440-28-0	10	5
Vanadium	7440-62-2	1	530
Zinc	7440-66-6	5	23000

n/a = Not available
*The RL applies to those samples with a nominal dilution factor of 1. Samples with dilution factors greater than this will have correspondingly higher reporting limits.

Table 4. Comparison of Maximum RLs and Screening Levels from 2007 Soil Samples

Analyte	Max. RL (mg/kg)	CHHSLL Res (mg/kg)	PRG, Res (mg/kg)	NOTES
Arsenic	0.5	0.07	0.390	six non-detect results with RL=0.5 mg/kg which is above CHHSLLs and Res PRG; 83 detected values
Thallium	20	5	5.162	all 89 are non-detect; RLs of 9.9, 10, or 20 mg/kg which are above Residential CHHSLL and Res PRG
1,1,2,2-Tetrachloro-ethane	1	NA	0.408	all 89 are non-detect; one record with DF=1000 and RL=1 mg/kg; range of remaining RLs is 0.0019 to 0.2 mg/kg which is below PRGs
1,1,2-Trichloro-ethane	1	NA	0.729	all 89 are non-detect; one record with DF=1000 and RL=1 mg/kg; range of remaining RLs is 0.0019 to 0.2 mg/kg which is below PRGs
1,2,3-Trichloro-propane	5	NA	0.034	all 89 are non-detect; two records with DFs of 200 and 1000 and RLs 1 and 5 mg/kg; range of remaining RLs is 0.0093 to 0.049 mg/kg; RL of 0.049 is also > Res PRG; all other RLs are below PRGs
1,2-Dibromo-3-chloropropane	2.5	NA	0.460	all 89 are non-detect; one record has RL=0.5 mg/kg (DF=200) and one record has RL= 2.5 (DF= 1000); all other RLs range between 0.0046 and

				0.024 mg/kg which are below PRGs
1,2-Dibromoethane	1	NA	0.032	all 89 are non-detect; one record has RL=0.2 mg/kg (DF=200) and one record has RL= 1 (DF= 1000); all other RLs range between 0.0046 and 0.0097 mg/kg which are below PRGs
1,2-Dichloroethane	1	NA	0.278	all 89 are non-detect; one record has RL=0.2 mg/kg (DF=200 and below PRGs) and one record has RL= 1 (DF= 1000); all other RLs range between 0.0046 and 0.0097 mg/kg which are below PRGs
1,2-Dichloro-propane	1	NA	0.342	all 89 are non-detect; one record has RL=0.2 mg/kg (DF=200 and below PRGs) and one record has RL= 1 (DF= 1000); all other RLs range between 0.0046 and 0.0097 mg/kg which are below PRGs
Benzo(a)-pyrene	0.056	0.038	0.062	66 records are non-detect; one record has RL=0.056 mg/kg (DF=10) which is above the Res CHHSLL; all other RLs range between 0.0049 and 0.0079 mg/kg which are below Ind CHHSLL and PRGs
Bromo-dichloro-methane	1	NA	0.824	all 89 are non-detect; one record has RL=0.2 mg/kg (DF=200 and below PRGs) and one record has RL= 1 (DF= 1000); all other RLs range between 0.0046 and 0.0097 mg/kg which are below PRGs
Carbon tetrachloride	2.5	NA	0.251	all 89 are non-detect; one record has RL=0.5 mg/kg (DF=200) and one record has RL= 2.5 (DF= 1000); all other RLs range between 0.0046 and 0.024 mg/kg which are below PRGs
Chloroform	1	NA	0.221	87 records are non-detect; one record has RL=0.2 mg/kg (DF=200 and below PRGs) and one record has RL= 1 (DF= 1000); all other RLs range between 0.0019 and 0.0097 mg/kg which are below PRGs
Methylene chloride	10	NA	9.107	all 89 are non-detect; one record has RL=2 mg/kg (DF=200 and below PRGs) and one record has RL= 10 (DF= 1000); all other RLs range between 0.0097 and 0.097 mg/kg which are below PRGs
Tetrachloro-ethene	1	NA	0.484	all 89 are non-detect; one record has RL=0.2 mg/kg (DF=200 and below PRGs) and one record has RL= 1 (DF= 1000); all other RLs range between 0.0019 and 0.0097 mg/kg which are below PRGs
Trichloro-ethene	1	NA	0.053	all 89 records are non-detect; one record has RL=0.2 mg/kg (DF=200) and one record has RL= 1 (DF= 1000); all other RLs range between 0.0019 and 0.0097 mg/kg which are below PRGs
Vinyl chloride	2.5	NA	0.079	all 89 are non-detect; one record has RL=0.5 mg/kg (DF=200) and one record has RL= 2.5 (DF= 1000); all other RLs range between 0.0046 and 0.024 mg/kg which are below PRGs

YELLOW shading indicates that the maximum RL exceeded the screening level.

2.2 2005 Wetland Sediment Matrix Data

Data Usability Criterion	Evaluation Result
I. Reports	Laboratory analytical reports for sediment samples collected from wetlands in 2005 were provided by ZymaX envirotechnology, San Luis Obispo, California. The ZymaX envirotechnology reports were provided in an Adobe Acrobat file named "Surface Water & Sediment_022405_Final.pdf". Samples reported in this Laboratory Report are provided in Table 5. No site map with sample locations that included soil depths or description of the sampling design and procedures including rationale was provided.
II. Documentation	The chain of custody record was included in the Adobe Acrobat file provided by the laboratory.
III. Data Sources	The analytical methods, as presented in Table 1, were appropriate for the analytes reported. However, the results appear to be reported in mg/kg wet weight which causes a comparability issue with screening levels.
IV. Analytical Method and Detection Limit	The analytical sample data results for the sediment samples were provided in adequate formats. The sediment samples were classified as soil by the laboratory and were analyzed for TPH, PAHs, VOCs, and metals. The laboratory reports that were provided included surrogate recoveries as the only QC information. However no surrogate limits were included in the report. No Continuing Calibration Verification (CCV), Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD), Matrix Spike/Matrix Spike Duplicate (MS/MSD), or Method Blank results were provided. All data were censored at the practical quantitation limit (PQL), with no data reported below this value. The results were also assumed to be reported in mg/kg wet weight, as discussed in Section 1.0. Table 6 presents the maximum reporting limit of analytes which have PQLs greater than 1/10 of the CHHSL or 1/10 of the PRG.
V. Data Review	Data review of the laboratory report and an excel spreadsheet (file *Feb 2005 Wetland Samples_020808.xls*) was conducted by Neptune and Company. The Data Validation Report prepared by Neptune and Company is provided in Appendix A. Since no QC results (other than surrogate information) were provided, the data shouldn't be used for risk assessment purposes. It could be used as screening information to indicate the semi-quantitative values of the analytes. A comparison to 1/10 of appropriate screening levels is provided for information only.
VI. Data Quality Indicators	**Precision, Accuracy, Representativeness, Comparability and Completeness (PARCC)** data quality indicator information is provided below. This discussion is provided separately for the analytical data and conceptual site model. The data quality indicators (DQI) address field and analytical data quality aspects as they relate to uncertainties in selection of COPCs, EPCs (exposure point concentrations), and risk characterization. **Precision and accuracy** could not be determined due to lack of quality control information. The only quality control information provided was for surrogates, but no

	acceptance limits were provided for these recoveries. **Representativeness**: The representativeness of these analytical data was evaluated by reviewing the laboratory QC results. Only surrogate recoveries were reported, but no acceptance criteria were provided for these recoveries. All holding times were met. The analytical data are considered useable only in the context of screening since no quality control information, other than surrogate recoveries, was provided. **Comparability:** The laboratory used standard analytical methods to analyze the wetland samples for metals, VOCs, and PAHs. The analytical methods used to measure total petroleum hydrocarbons were slightly different than other analyses used to analyze for the same carbon ranges in other samples. The overall comparability of the data is acceptable with the exception of TPH. The analytical methods for TPH should be considered when combining data from multiple sampling events. **Completeness:** The analytical results were reported for all of the samples. Due to lack of QC information, it is difficult to assess whether or not these sample results are "complete".

Table 5. Sediment Matrix Samples and Laboratory Reports from 2005 Wetland Samples

Sample Name	Lab Sample ID	Filename
WL-1-1	39095-5	Surface Water & Sediment_022405.pdf
WL-1-2	39095-6	Surface Water & Sediment_022405.pdf
WL-2-1	39095-8	Surface Water & Sediment_022405.pdf
WL-2-2	39095-9	Surface Water & Sediment_022405.pdf
WL-3-1	39095-11	Surface Water & Sediment_022405.pdf
WL-3-2	39095-12	Surface Water & Sediment_022405.pdf
WL-4-1	39095-15	Surface Water & Sediment_022405.pdf
WL-4-2	39095-16	Surface Water & Sediment_022405.pdf
WL-5-1	39095-18	Surface Water & Sediment_022405.pdf
WL-5-2	39095-19	Surface Water & Sediment_022405.pdf
WL-6-1	39095-1	Surface Water & Sediment_022405.pdf
WL-6-2	39095-2	Surface Water & Sediment_022405.pdf

Table 6. Comparison of Maximum RLs and Screening Levels from 2005 Wetland Samples

Analyte	Maximum PQL (mg/kg wet wt*)	1/10 CHHSLL, Res (mg/kg)	1/10 PRG, Res (mg/kg)
1,2,3-Trichloropropane	0.005	NA	0.003
1,2-Dibromoethane	0.005	NA	0.003
Antimony	5	3	3.13
Benzo(a)pyrene	0.005	0.0038	0.01
Cadmium	1	0.17	3.70
Dibenzo(a,h)anthracene	0.01	NA	0.006
Thallium	5	0.5	0.52

* units are assumed to be wet weight, so comparisons are made to 1/10 of the screening level to be conservative.
YELLOW shading indicates that the maximum PQL exceeded 1/10 of the screening level.

2.3 2005 Trench Soil Matrix Data

Data Usability Criterion	Evaluation Result
I. Reports	Laboratory analytical reports for sediment samples collected from wetlands in 2005 were provided by ZymaX Envirotechnology, San Luis Obispo, California. The ZymaX Envirotechnology reports were provided in an Adobe Acrobat file named "Surface Water & Sediment_022405_Final.pdf". Samples reported in this Laboratory Report and the associated QC batch numbers are provided in Table 7.
II. Documentation	The chain of custody record was included in the Adobe Acrobat file provided by the laboratory.
III. Data Sources	The analytical methods, as discussed in Section 1.0, were appropriate to identify the chemicals of concern in the 2005 soil samples. The analytical methods, as presented in Table 1, were appropriate for the analytes reported. However, the results appear to be reported in mg/kg wet weight which causes a comparability issue with screening levels.
IV. Analytical Method and Detection Limit	Total Purgeable Petroleum Hydrocarbons Method 8260 is adequate to characterize total purgeable petroleum hydrocarbons (C4-C10) in soil. Data in the laboratory reports appear to be censored at the PQL as no data were flagged below the PQL. The PQL for C4-C10 range results is 0.2 mg/kg. A screening level for TPH is not available for comparison to the PQL. The PQL is adequate based on the use of TPH data in HRA (i.e., to identify the need for indicator chemical analysis). PAHs EPA Modified Method 8270 was utilized in the Single Ion Monitoring mode to measure PAHs in soil matrix. This method is adequate to characterize PAHs in soil

	and provides improved sensitivity relative to the full scan method. The samples analyzed for PAHs had elevated PQLs due to matrix interference, sample dilution, or both. There were three samples in particular (STR-1-1-1.0, STR-4-1-1.0, STR-7-1-0.5) that have high PQLs for PAH results. Maximum PQLs that were reported above CHHSLs are shown in Table 8. <u>TPH</u> EPA modified 8015 was adequate to characterize C10-C25 and C25-C40 ranges of total petroleum hydrocarbons in soil. Data in the laboratory reports appear to be censored at the PQL as no data were flagged due to results below the PQL. The samples without dilutions had reported PQLs of 1 mg/kg. A screening level for TPH is not available for comparison to the PQL. The PQL is adequate based on the use of TPH data in HRA (i.e., to identify the need for indicator chemical analysis). <u>Metals</u> EPA methods 7471 (mercury) and 6010 (all other metals reported) were considered adequate to characterize metals in soil. Non-detected results in the laboratory reports appear to be censored at the PQL as no data were flagged due to results below the PQL. Antimony, cadmium, and thallium had at least one PQL that exceeded CHHSLs (Table 8). Antimony: There were eight non-detected concentrations of antimony ranging between 5 and 100 mg/kg. These PQLs are all above 1/10 of the CHHSL of 3 mg/kg. The detected concentrations range between 0.28 and 1.5 mg/kg, which are below the PQLs. Cadmium: The two non-detected concentrations were reported at 2.5 and 10 mg/kg, which are above 1/10 the CHHSL of .0.17 mg/kg. The detected concentrations range between 0.14 and 0.86 mg/kg, which are below the PQLs. Thallium: The six non-detected concentrations of thallium ranged between 5 and 25 mg/kg. All of these PQLs are above 1/10 of the CHHSL of 0.5 mg/kg. The detected concentrations range between 0.74 and 16 mg/kg. <u>Organopesticides and PCBs</u> EPA method 8080 was utilized to measure organopesticides and PCBs in the soil matrix. This method is adequate to characterize pesticides and PCBs in soil. There were samples with elevated PQLs due to matrix interference, sample dilutions, or both. Multiple Pesticides and PCBs have at least one PQL above the CHHSL (Table 8). <u>Base Neutral and Acid Extractables Organic Chemicals</u> EPA method 8270C was used to measure base neutral and acid extractable organic chemicals. This method is adequate to characterize base neutral and acid extractable

	organic chemicals in soil. There were samples with elevated PQLs due to dilutions of the sample for analysis. Table 8 shows the analytes that had at least one PQL above 1/10 of the CHHSL or 1/10 of the PRG.
V. Data Review	Data review of the laboratory report and an excel spreadsheet (file *April 2005 Trench Samples_020808.xls*) was conducted by Neptune and Company. The Data Validation Report prepared by Neptune and Company is provided in Appendix A. The laboratory reports included summary results for both the samples and quality control samples analyzed with the sample batches. This summary information included analyte results, surrogate recovery data (where applicable), Continuing Calibration Verification (CCV) and LCS/LCSD and MS/MSD results (where applicable). No internal standard information (other than qualifiers added by the laboratory), raw data (e.g. chromatograms) ICP Interference Check Sample, ICP Serial Dilution initial or continuing calibration was provided unless noted in the report. The laboratory reports were evaluated based on the following documents: *Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999, *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004. Professional judgment was used in some cases to qualify the results.
VI. Data Quality Indicators	**Precision, Accuracy, Representativeness, Comparability and Completeness (PARCC)** data quality indicator information is provided below. This discussion is provided separately for the analytical data and conceptual site model. **PARCC parameters in terms of CSM/CEM:** **PARCC parameters are discussed in terms of the analytical data only.** **Soil Matrix data for Total Purgeable Petroleum Hydrocarbons (C4-C10):** Precision and accuracy of the C4-C10 analysis was assessed by analyzing matrix spikes, matrix spike duplicates, laboratory control samples, and method blanks. All three QC batches, including the MS/MSD, LCS, and method blank results, only included surrogate recovery data. All surrogates were within limits indicating good accuracy. However the accuracy of the full range of purgeable petroleum hydrocarbons cannot be fully assessed since they were not reported. **Soil Matrix data for PAHs:** Precision and accuracy of the PAH analysis was assessed by analyzing matrix spikes, matrix spike duplicates, laboratory control samples, and method blanks. Three samples (STR-13-1-0.5, STR-4-1-1.0, and STR8-1-0.5) had detects of PAHs. The CCV recovery was not within limits for benzo(b)fluoranthene. The accuracy of benzo(b)fluoranthene is in question, but since neither the magnitude nor direction of the CCV recovery was provided, the effect cannot be fully assessed. **Soil Matrix data for TPH (C10-C25 and C25-C40):** Precision and accuracy of the C10-C25 and C25-C40 analyses were assessed by analyzing matrix spikes, matrix spike duplicates, laboratory control samples, and method blanks. All of the MS/MSD and LCS percent recoveries, and surrogates were all within limits with the following exceptions. The LCS percent recovery associated with QC batch BOE0735 for TPH-

	Diesel was high; the recovery was 108% and the limits were 64-97%. The associated samples may be biased high. Two samples, STR-6-1-0.5 and STR9-1-0.5, did not have surrogate recoveries reported due to matrix interference. The surrogate for sample STR-10-4-1.5 was low and the results are qualified J. Multiple samples (see Trench validation report in Appendix A for details) had CCV out of limits for the surrogate, Tetracosane, but no CCV results were provided. The accuracy of the associated analytes are in question since neither the magnitude nor direction of the CCV recovery was provided, so the effect cannot be fully assessed. The recovery of tetracosane in sample STR-5-1-0.5 was 510% and the limits were 45-142%. The results for the associated samples may be biased high. **Soil Matrix data for Metals:** Precision and accuracy of the metals analysis was assessed by analyzing source duplicate samples, laboratory control samples, and method blanks. For QC batch BOE0095, all of the percent recoveries were within limits. The MS/MSD relative percent difference for zinc in QC batch BOE0095 (see Table 7 for associated sample numbers) was 23.3 percent with a control limit of 20. Therefore the matrix spike precision is not within control limits, however this exceedance is not significant. All method blank constituents were non-detected concentrations except for Barium, Beryllium, and Copper. Barium was detected at 0.0014 mg/kg and qualified J, the PQL for barium was 0.010 mg/kg. Beryllium was detected at 0.0005 mg/kg and qualified J, the PQL was 0.010 mg/kg. Copper was detected at 0.0154 mg/kg and qualified J, the PQL was 0.040 mg/kg. The results for these samples were not censored. **Soil Matrix data for Organochlorine Pesticides and PCBs:** Precision and accuracy of the metals analysis was assessed by analyzing matrix spikes, matrix spike duplicates, laboratory control samples, and method blanks. All results were within acceptable limits with the following exceptions. Samples STR-1-1-1.0, STR-4-1-1.0, and STR7-1-0.5 showed that the CCV for 4,4'-DDT and methoxyclor was out of limits. The accuracy of the associated analytes are in question since neither the magnitude nor direction of the CCV recovery was provided, so the effect cannot be fully assessed. For sample STR-1-1-1.0: The recovery for one of two surrogates, dibutyl chlorendate, was 40.3% and the limits were 47-133%. None of the organochlorine or PCB analytes were detected. Because the surrogate recovery was below the lower control limit these **data are qualified UJ.** For sampe STR-4-1-1.0: The recoveries for both surrogates were out of limits: TCMX was recovered at 29.9% (limits 36-106%) and Dibutyl chlorendate was recovered at 24.3% (limits 47-133%). None of the organochlorine or PCB analytes were detected. Because the surrogate recovery was below the lower control limit these **data are qualified UJ.** **Soil Matrix data for Base Neutral and Acid Extractables Organic Chemicals:** Precision and accuracy of the SVOC analysis was assessed by analyzing matrix spikes, matrix spike duplicates, laboratory control samples, and method blanks. The MS/MSD and LCS percent recoveries (QC batch BOE0466) for 3-&4-methylphenol were above the upper acceptance limit; however, 3-&4-methylphenol were not detected in client samples. The percent recoveries for the method blank sample surrogates were within limits. The results for all other analytes in the method blank were non-detected concentrations. The CCV recovery for Benzidine, Benzo[k]fluoranthene, 4,4'-DDT,

	Endosulfan I, Endosulfan II, and 2-Naphthylamine was not within limits; however, no information about the magnitude or direction of the CCV results were provided. The sample results for these analytes were reported as non-detected. There is a slight chance of false negatives due to the lack of complete CCV information. **All Soil Matrix Samples:** Representativeness: The representativeness of these analytical data was evaluated by reviewing the laboratory QC results of the blanks, samples and holding times. There were no data qualified based on the laboratory blanks. Some sample results were qualified based on matrix spikes and surrogate recoveries, but these qualifications do not appear to have a significant impact on the analytical data. All holding times were met. The analytical data are considered useable with respect to representativeness. Comparability: The laboratory used standard analytical methods for all of the analyses. The data reported and reviewed were all obtained in the year 2005 and were analyzed by the laboratory described above. The overall comparability within the trench data set is acceptable based on the information that was provided. Completeness: No results were rejected based on the data validation. The completeness level for the data set is 100%.

Table 7. Soil Matrix Samples and Laboratory Reports from 2005 Trench Samples

SampleName	Lab sample ID	Filename	C4-C10 (8260)	Base Neutral and Acid Extractable (8270C)	PAHs (8270 SIM)	TPH	METALS	PCB AND Pesticides (8080)	Mercury (7471A)
STR-6-1-0.5	0504297-01	Trench lab data 0426056.pdf	BOE0311*		BOE0333	BOE0335	BOE0095		BOE0568
STR-6-2-1.5	0504297-02	Trench lab data 0426056.pdf	BOE0311			BOE0335			
STR-6-3-5	0504297-03	Trench lab data 0426056.pdf	BOE0311			BOE0335			
STR-6-4-1.5	0504297-04	Trench lab data 0426056.pdf	BOE0311			BOE0335			
STR-6-5-1.0	0504297-05	Trench lab data 0426056.pdf	BOE0311			BOE0335			
STR-9-1-0.5	0504297-06	Trench lab data 0426056.pdf	BOE0311		BOE0333	BOE0335	BOE0095		BOE0568
STR-9-2-1.5	0504297-07	Trench lab data 0426056.pdf	BOE0311			BOE0335			
STR-9-3-1.5	0504297-08	Trench lab data 0426056.pdf	BOE0311			BOE0335			
STR-9-4-5.0	0504297-09	Trench lab data 0426056.pdf	BOE0311			BOE0335			
STR-10-1-0.5	0504297-10	Trench lab data 0426056.pdf	BOE0311		BOE0333	BOE0335	BOE0095		BOE0568

STR-10-2-1.5	0504297-11	Trench lab data 0426056.pdf	BOE0311			BOE0335			
STR-10-3-5.0	0504297-12	Trench lab data 0426056.pdf	BOE0311			BOE0335			
STR-10-4-1.5	0504297-13	Trench lab data 0426056.pdf	BOE0311			BOE0335			
STR-8-1-0.5	0504297-14	Trench lab data 0426056.pdf	BOE0311		BOE0333	BOE0335	BOE0095		BOE0568
STR-8-2-1.5	0504297-15	Trench lab data 0426056.pdf	BOE0311			BOE0335			
STR-8-3-8	0504297-16	Trench lab data 0426056.pdf	BOE0311			BOE0335			
STR-8-4-1.5	0504297-17	Trench lab data 0426056.pdf	BOE0311			BOE0335			
STR-12-1-1.5	0504297-18	Trench lab data 0426056.pdf	BOE0311			BOE0335			
STR-12-2-4.5	0504297-19	Trench lab data 0426056.pdf	BOE0311			BOE0335			
STR-12-3-1.5	0504297-20	Trench lab data 0426056.pdf	BOE0313			BOE0335			
STR-11-1-0.5	0504297-21	Trench lab data 0426056.pdf	BOE0313		BOE0333	BOE0735	BOE0095		BOE0568
STR-11-2-1.5	0504297-22	Trench lab data 0426056.pdf	BOE0313			BOE0735			
STR-11-3-4.5	0504297-23	Trench lab data 0426056.pdf	BOE0313			BOE0735			
STR-11-4-1.5	0504297-24	Trench lab data 0426056.pdf	BOE0313			BOE0735			
STR-13-1-0.5	0504297-25	Trench lab data 0426056.pdf	BOE0313		BOE0333	BOE0735	BOE0095		BOE0568
STR-13-2-1.5	0504297-26	Trench lab data 0426056.pdf	BOE0313			BOE0735			
STR-13-3-5.5	0504297-27	Trench lab data 0426056.pdf	BOE0313			BOE0735			
STR-13-4-1.5	0504297-28	Trench lab data 0426056.pdf	BOE0313			BOE0735			
STR-14-1-0.5	0504297-29	Trench lab data 0426056.pdf	BOE0313		BOE0333	BOE0735	BOE0095		BOE0568
STR-14-2-1.5	0504297-30	Trench lab data 0426056.pdf	BOE0313			BOE0735			
STR-14-3-4.0	0504297-31	Trench lab data 0426056.pdf	BOE0313			BOE0735			
STR-14-4-1.5	0504297-32	Trench lab data 0426056.pdf	BOE0313			BOE0735			
STR-1-1-1.0	0504297-33	Trench lab data 0426056.pdf	BOE0313	BOE0466	BOE0333	BOE0735	BOE0095	BOE0332	BOE0568

STR-1-2-1.0	0504297-34	Trench lab data 0426056.pdf	BOE0313		BOE0333	BOE0735	BOE0095		
STR-1-3-1.5	0504297-35	Trench lab data 0426056.pdf	BOE0313			BOE0735			
STR-1-4-1.5	0504297-36	Trench lab data 0426056.pdf	BOE0313			BOE0735			
STR-4-1-1.0	0504297-37	Trench lab data 0426056.pdf	BOE0313	BOE0466	BOE0333	BOE0735	BOE0095	BOE0332	BOE0568
STR-4-2-1.5	0504297-38	Trench lab data 0426056.pdf	BOE0313		BOE0333	BOE0735	BOE0095		BOE0568
STR-4-3-2.5	0504297-39	Trench lab data 0426056.pdf	BOE0314			BOE0735			
STR-4-4-2.5	0504297-40	Trench lab data 0426056.pdf	BOE0314			BOE0735			
STR-2-1-1.5	0504297-41	Trench lab data 0426056.pdf	BOE0314			BOE0734			
STR-2-2-7.0	0504297-42	Trench lab data 0426056.pdf	BOE0314			BOE0734			
STR-2-3-1.5	0504297-43	Trench lab data 0426056.pdf	BOE0314			BOE0734			
STR-3-1-1.5	0504297-44	Trench lab data 0426056.pdf	BOE0314			BOE0734			
STR-3-2-5.5	0504297-45	Trench lab data 0426056.pdf	BOE0314			BOE0734			
STR-3-3-1.5	0504297-46	Trench lab data 0426056.pdf	BOE0314			BOE0734			
STR-7-1-0.5	0504297-47	Trench lab data 0426056.pdf	BOE0314	BOE0466	BOE0333	BOE0734	BOE0095	BOE0332	BOE0568
STR-7-2-1.5	0504297-48	Trench lab data 0426056.pdf	BOE0314			BOE0734			
STR-7-3-5.0	0504297-49	Trench lab data 0426056.pdf	BOE0314			BOE0734			
STR-7-4-1.5	0504297-50	Trench lab data 0426056.pdf	BOE0314			BOE0734			
STR-5-1-0.5	0504297-51	Trench lab data 0426056.pdf	BOE0314		BOE0333	BOE0734	BOE0095		BOE0568
STR-5-2-1.5	0504297-52	Trench lab data 0426056.pdf	BOE0314			BOE0734			
STR-5-3-1.5	0504297-53	Trench lab data 0426056.pdf	BOE0314			BOE0734			
STR-5-4-1.5	0504297-54	Trench lab data 0426056.pdf	BOE0314			BOE0734			
STR-5-5-5.0	0504297-55	Trench lab data 0426056.pdf	BOE0314			BOE0734			

* QC batch number

Table 8. Comparison of Maximum RLs and Screening Levels from 2005 Trench Samples

Analyte	Maximum RL (mg/kg wet wt*)	1/10 CHHSL, Res (mg/kg)	1/10 PRG, Res (mg/kg)
1,2,4-Trichlorobenzene	300	NA	6.22
1,2-Dichlorobenzene	300	NA	60.00
1,2-Diphenylhydrazine	300	NA	0.06
1,3-Dichlorobenzene	300	NA	53.13
1,4-Dichlorobenzene	300	NA	0.34
2,4,6-Trichlorophenol	600	NA	0.61
2,4-Dichlorophenol	300	NA	18.33
2,4-Dimethylphenol	300	NA	122.21
2,4-Dinitrophenol	1500	NA	12.22
2,4-Dinitrotoluene	300	NA	12.22
2,6-Dinitrotoluene	300	NA	6.11
2-Chlorophenol	300	NA	6.34
2-Nitroaniline	300	NA	18.28
3,3'-Dichlorobenzidine	600	NA	0.11
3-Nitroaniline	300	NA	1.83
4,4'-DDD	300	0.23	0.24
4,4'-DDE	300	0.16	0.17
4,4'-DDT	300	0.16	0.17
4-Chloroaniline	300	NA	24.44
4-Nitroaniline	600	NA	2.32
Aldrin	300	0.0033	0.003
alpha-BHC	300	NA	0.009
Aniline	600	NA	8.53
Antimony	100	3	3.13
Aroclor 1016	1.5	NA	0.39
Aroclor 1221	1.5	NA	0.39
Aroclor 1232	1.5	NA	0.39
Aroclor 1242	1.5	NA	0.39
Aroclor 1248	1.5	NA	0.39
Aroclor 1254	1.5	NA	0.02
Aroclor 1260	1.5	NA	0.02
Benzidine	9000	NA	0.00
Benzo(a)anthracene	300	NA	0.06
Benzo(a)pyrene	300	0.0038	0.01
Benzo(b)fluoranthene	300	NA	0.06
Benzo(k)fluoranthene	300	NA	0.62
beta-BHC	300	NA	0.03
bis(2-Chloroethyl) ether	300	NA	0.02
bis(2-Ethylhexyl) phthalate	600	NA	3.47
Cadmium	10	0.17	3.70

Chlordane	7.5	NA	0.16
Chrysene	300	NA	6.21
Dibenzo(a,h)anthracene	300	NA	0.01
Dibenzofuran	300	NA	14.53
Dieldrin	300	0.0035	0.003
Di-n-octyl phthalate	300	NA	244.41
Endrin	600	2.1	1.83
Fluoranthene	300	NA	229.36
Fluorene	300	NA	274.71
gamma-BHC (Lindane)	300	0.05	0.04
Heptachlor	300	0.013	0.01
Heptachlor epoxide	300	NA	0.01
Hexachlorobenzene	300	NA	0.03
Hexachlorobutadiene	300	NA	0.62
Hexachlorocyclopentadiene	300	NA	36.55
Hexachloroethane	300	NA	3.47
Indeno(1,2,3-cd)pyrene	300	NA	0.06
Isophorone	300	NA	51.20
Naphthalene	300	NA	5.59
Nitrobenzene	300	NA	1.96
n-Nitrosodimethylamine	300	NA	0.00
N-Nitrosodi-n-propylamine	300	NA	0.01
n-Nitrosodiphenylamine	300	NA	9.93
Pentachlorophenol	600	0.44	0.30
Pyrene	300	NA	231.60
Thallium	25	0.5	0.52
Toxaphene	7.5	NA	0.04

* units are assumed to be wet weight, so comparisons are made to 1/10 of the screening level to be conservative.
YELLOW shading indicates that the maximum RL exceeded 1/10 of the screening level.

2.4 Air Matrix Data

Data Usability Criteria	Evaluation Result
I. Reports	Results for the Air Toxic Compound analysis (EPA Method TO-15) reports included the laboratory analytical reports provided by Air Toxics Ltd (Table 9). The individual work orders are listed in Table 10. No SAP, QAPP, or other planning information was available to review for this data usability. No site map with sample locations that included soil depths or description of the sampling design and procedures including rationale was provided. **Methane and Fixed Gases:** The results for Methane and Fixed Gases in air using ASTM Method D-1946 is considered usable since no quality issues were identified in the laboratory reports. No SAP, QAPP, or other planning information was available to review for this data usability. This analytical suite is not discussed below since there is no known use of this data for HRA.

II. Documentation	No information on sampling location or sampling information was available for this data usability process. The laboratory reports indicated that a Chain-of-Custody copy was included but none was found.
III. Data Sources	The laboratory data reports provided named analytical methods. Modified method TO-15 was used to measure air toxic chemical in 1-Liter Summa Canisters using GC/MS in the full scan mode. All analytical sample data results for the environmental media of interest (air) were provided in adequate format. These samples were analyzed for air toxics and methane plus fixed gases. The laboratory reports that were provide were summary reports that included a case narrative, a copy of the Chain-of-Custody, surrogates, blanks, matrix spike and laboratory control sample (and replicate) results. The laboratory reports did not include the raw results or other QC information typically characterized as a Level IV report. Data usability, especially representativeness with respect to sample locations could not be assessed due to lack of such documentation.
IV. Analytical Method and Detection Limit	**Air Toxics Samples:** EPA Modified Method TO-15 is generally considered the method of choice for characterization of air toxics. No method detection limit values were provided. All data appear to be censored at the reporting limit, with no data reported below this value. The reporting limit (RL) was not defined in the laboratory reports. It is assumed the RL is greater than the method detection limit. Reporting Limits were compared to the residential CHHSLs and ESLs for shallow soil gas. The Reporting Limits provided were below the CHHSLs and ESLs for shallow soil gas with the exceptions shown in Table 11. Also note, a number of samples were received with significant vacuum remaining in the canister. The residual canister vacuum resulted in elevated reporting limits.
V. Data Review	Data review of the laboratory reports and two excel spreadsheets (files *2007-08-13 Data to Append.xls* and *2007-12-18.xls*) was conducted by Neptune and Company. The Data Validation Report is provided in Appendix A. The laboratory report included a Narrative and Results Sections with quality control information. The reports indicated a Chain-of-Custody was included but none were located in the files provided. The laboratory reports included summary results for both the samples and quality control samples analyzed with the sample batches. This summary information included analyte results, surrogate recovery data (where applicable), Continuing Calibration Verification (CCV) and LCS/LCSD and MS/MSD results (where applicable). No internal standard information (other than qualifiers added by the laboratory), or raw data (e.g. chromatograms) was provided unless noted in the report. The laboratory reports indicated that a Chain-of-Custody copy was included but none was found. The laboratory reports were evaluated based on the following documents: *Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999, *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004. Professional judgment was used in some cases to qualify the results. No results were rejected during the data review and no data gaps are identified based on the analytical data.

VI. Data Quality Indicators	**Air Toxics Data:** Precision and accuracy of the air toxic compound analysis were assessed by analyzing surrogates, matrix spikes, matrix spike duplicates, blanks, and laboratory control samples. The quality control parameters for TO-15 Air Toxics data were reported by the laboratory to be within acceptable laboratory limits with the following exceptions: The surrogate recoveries for seventeen air samples were above the upper control limit indicating a small potential for high bias. Details are provided in Section 2.1.1 of the Data Validation Report (Appendix A). Accuracy for air toxics samples: Twelve continuing calibration verification samples had recoveries that were slightly below (63-69%) the lower (70%) recovery limit indicating a potential for low bias or false negatives. The analytes associated with the low CCV sample were Dichlorodifluoromethane (Freon 12), Naphthalene, 2,2,4-Trimethlypentane, Hexachlorobutadiene, and MTBE (see Section 2.1.2 in Appendix A). Because these recoveries are only slightly below the lower limit the bias associated with these samples is expected to be minimal and the samples are considered usable for HRA. Four laboratory control samples (LCS) had recoveries that were slightly below (60-69%) the lower limit (70%) for 1,2-Dichloro-1,1,2,2-tetrafluroethane, 1,2,4-Trichlorobenzene, Hexachlorobutadiene, and Naphthalene, detail are provided in Section 2.1.3 of Appendix A. These data are regarded as usable for HRA but should be discussed in the uncertainty analysis section of the HRA. Cyclohexane was found in sample SV-38-15 and chloroform was found in sample SV-10-15 at a concentration that exceeded the calibration range for these analytes. The reported values are therefore uncertain and the direction of potential bias is unknown. Without additional information that can be used to assess the magnitude of these calibration range exceedances it is difficult to determine the potential and direction of bias. These data are usable but should be considered highly uncertain. M,p-Xylenes were detection in one Equipment Blank. All associated samples had concentrations of m,p-xylenes well above the value in the blank with the exception of sample SV-45-15. The value of m,p-xylenes in this sample is potentially associated with contamination. These data are regarded as usable for HRA but should be discussed in the uncertainty analysis section of the HRA. **All Air Toxics Samples:** Completeness: No results were rejected, therefore completeness was 100%. Representativeness: The representativeness of these analytical data was evaluated by reviewing the laboratory QC results of the blanks, samples and holding times. One sample was qualified based on the equipment blank. Some sample results were qualified based on matrix spikes and surrogate recoveries, but these qualifications do not appear to have a significant impact on the analytical data. All holding times were met. The analytical data are considered useable with respect to representativeness. Comparability: The laboratory used standard analytical methods for all of the analyses. No method detection limits were reported, so they cannot be compared to the reporting limits. No data was flagged by the laboratory due to results below the reporting limit.

	This indicates the results were censored at the reporting limit. The overall comparability of the data is acceptable based on the information that was provided.

Table 9. Air Matrix Samples and Laboratory Reports

Sample ID	Laboratory Sample ID	Filename
AB-1	0711413B-30A	0711413B_d.pdf
AB-2	0711413B-31A	0711413B_d.pdf
AB-3	0711413B-32A	0711413B_d.pdf
EQUIPMENT_BLANK_0001	0711413A-19A	0711413A_d.pdf
SP-2-6	0707407A-01A	0707407A_d.pdf
SP-3-6	0707407A-02A	0707407A_d.pdf
SP-6-06	0707390B-33A	0707390B_d.pdf
SP-6-15	0707390B-34A	0707390B_d.pdf
SV-01-05	0707341CR1-39A	0707341CR1_d.pdf
SV-01-05	0709236A-01A	0709236A_d.pdf
SV-01-15	0707341CR1-40A	0707341CR1_d.pdf
SV-01-05	0711413A-01A	0711413A_d.pdf
SV-02-05	0707341CR1-47A	0707341CR1_d.pdf
SV-03-05	0707341CR1-45A	0707341CR1_d.pdf
SV-03-05	0711413A-08A	0711413A_d.pdf
SV-03-15	0707341CR1-46A	0707341CR1_d.pdf
SV-04-05	0707341CR1-43A	0707341CR1_d.pdf
SV-04-15	0707341CR1-44A	0707341CR1_d.pdf
SV-04-15 Lab Duplicate	0707341CR1-44AA	0707341CR1_d.pdf
SV-05-05	0707341CR1-41A	0707341CR1_d.pdf
SV-05-05	0709236A-02A	0709236A_d.pdf
SV-05-15	0707341CR1-42A	0707341CR1_d.pdf
SV-05-15	0709236A-03A	0709236A_d.pdf
SV-05-15a	0711413A-03A	0711413A_d.pdf
SV-05-15b	0711413A-04A	0711413A_d.pdf
SV-05-05	0711413A-02A	0711413A_d.pdf
SV-06-05	0707341CR1-48A	0707341CR1_d.pdf
SV-06-15	0707341CR1-49A	0707341CR1_d.pdf
SV-07-05	0707373A-01A	0707373A_d.pdf
SV-07-15	0707373A-02A	0707373A_d.pdf
SV-08-05	0707373A-03A	0707373A_d.pdf
SV-08-15	0707373A-04A	0707373A_d.pdf
SV-09-15	0707341A-12A	0707341A_d.pdf
SV-09-5	0707341A-11A	0707341A_d.pdf
SV-10-05	0707373C-40A	0707373C_d.pdf
SV-10-05	0709236A-04A	0709236A_d.pdf
SV-10-15	0707373C-41A	0707373C_d.pdf
SV-10-15	0709236B-05A	0709236B_d.pdf
SV-10-15 Lab Duplicate	0707373C-41AA	0707373C_d.pdf
SV-10-15 Lab Duplicate	0709236B-05AA	0709236B_d.pdf
SV-10-15	0709236C-05A	0709236C_d.pdf
SV-11-05	0707373BR1-38A	0707373BR1_d.pdf

SV-11-05	0709236B-06A	0709236B_d.pdf
SV-11-05 Lab Duplicate	0707373BR1-38AA	0707373BR1_d.pdf
SV-11-15	0707373BR1-39A	0707373BR1_d.pdf
SV-11-15	0709236A-07A	0709236A_d.pdf
SV-11-05	0709236C-06A	0709236C_d.pdf
SV-12-05	0707373BR1-36A	0707373BR1_d.pdf
SV-12-15	0707373BR1-37A	0707373BR1_d.pdf
SV-13-05	0707373BR1-34A	0707373BR1_d.pdf
SV-13-15	0707373BR1-35A	0707373BR1_d.pdf
SV-13-15 Lab Duplicate	0707373BR1-35AA	0707373BR1_d.pdf
SV-14-05	0707373BR1-32A	0707373BR1_d.pdf
SV-14-15	0707373BR1-33A	0707373BR1_d.pdf
SV-15-05	0707373C-46A	0707373C_d.pdf
SV-15-15	0707373C-47A	0707373C_d.pdf
SV-16-05	0707390A-14A	0707390A_d.pdf
SV-16-05	0711413B-25A	0711413B_d.pdf
SV-16-15	0707390A-15A	0707390A_d.pdf
SV-16-15	0711413C-26A	0711413C_d.pdf
SV-17-04	0707390A-02A	0707390A_d.pdf
SV-17-04	0711413B-27A	0711413B_d.pdf
SV-17-04 Lab Duplicate	0707390A-02AA	0707390A_d.pdf
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SV-54-05	0709236A-19A	0709236A_d.pdf
SV-54-13	0707390A-17A	0707390A_d.pdf
SV-54-13	0709236A-20A	0709236A_d.pdf
SV-54-13 Lab Duplicate	0711413A-12AA	0711413A_d.pdf

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SV-56-15	0707341A-02A	0707341A_d.pdf
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SV-58A-05 Lab Duplicate	0707390B-31AA	0707390B_d.pdf
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SV-61-05	0707373BR1-26A	0707373BR1_d.pdf
SV-61-05	0711373A-15A	0711373A_d.pdf
SV-61-15	0707373BR1-27A	0707373BR1_d.pdf
SV-61A-15	0711373B-16A	0711373B_d.pdf
SV-62-05	0707390A-01A	0707390A_d.pdf
SV-62-05 Lab Duplicate	0707390A-01AA	0707390A_d.pdf
SV-62-15	0707390A-18A	0707390A_d.pdf
SV-63-05	0707390A-06A	0707390A_d.pdf
SV-63-15	0707390A-07A	0707390A_d.pdf
SV-64-05	0707373A-07A	0707373A_d.pdf
SV-64-05 Lab Duplicate	0707373A-07AA	0707373A_d.pdf
SV-64-15	0707373A-08A	0707373A_d.pdf
SV-65-05	0707373A-09A	0707373A_d.pdf
SV-65-15	0707373A-10A	0707373A_d.pdf
SV-66-05	0707341BR1-33A	0707341BR1_d.pdf
SV-66-15	0707341BR1-34A	0707341BR1_d.pdf
SV-67-05	0711373A-08A	0711373A_d.pdf
SV-67-15	0711373A-09A	0711373A_d.pdf
SV-68-05	0711373A-10A	0711373A_d.pdf
SV-68-15	0711373A-11A	0711373A_d.pdf
SV-68-15 Lab Duplicate	0711373A-11AA	0711373A_d.pdf
SV-69-05a	0711413A-05A	0711413A_d.pdf
SV-69-05a Lab Duplicate	0711413A-05AA	0711413A_d.pdf
SV-69-05b	0711413A-06A	0711413A_d.pdf
SV-69-15	0711413A-07A	0711413A_d.pdf
SV-70-05	0711413A-09A	0711413A_d.pdf
SV-70-15a	0711413A-10A	0711413A_d.pdf
SV-70-15b	0711413B-33A	0711413B_d.pdf

Table 10. Air Toxics Laboratory Reports

TO-15 File Names (Work Order)
0707341BR1
0707373C
0707341A
0707373A
0707341CR1
0707390A
0707390B
0707373BR1
0707407A
0711373A
0711373B
0711413C
0711413A
0711413B
0709236C
0709236B
0709236A

Table 11. Comparison of Reporting Limits and Screening Levels for Air samples

Analyte	Maximum RL (ug/m3)	CHHSL (ug/m3) shallow soil gas (Res)	ESL (ug/m3) shallow soil gas (Res)
1,1,1,2-Tetrachloroethane	650000	NA	320
1,1,1-Trichloroethane	130000	991000	460000
1,1,2,2-Tetrachloroethane	160000	NA	42
1,1,2-Trichloro-1,2,2-trifluoroethane	180000	NA	NA
1,1,2-Trichloroethane	130000	NA	150
1,1-Dichloroethane	96000	NA	1500
1,1-Dichloroethene	94000	NA	49
1,2,3-Trichloropropane	570000	NA	NA
1,2,4-Trichlorobenzene	710000	NA	830
1,2,4-Trimethylbenzene	120000	NA	NA
1,2-Dibromoethane	180000	NA	4.1
1,2-Dichlorobenzene	140000	NA	42000
1,2-Dichloroethane	96000	49.6	94
1,2-Dichloropropane	110000	NA	240
1,3,5-Trimethylbenzene	120000	NA	NA
1,3-Butadiene	53000	NA	NA
1,3-Dichlorobenzene	140000	NA	22000

1,4-Dichlorobenzene	140000	NA	220
1,4-Dioxane	340000	NA	NA
2-Butanone	70000	NA	NA
4-Methyl-2-pentanone	97000	NA	630000
Acetone	230000	NA	660000
Allyl chloride	300000	NA	NA
Benzene	15000	36.2	84
Benzyl chloride	120000	NA	NA
Bromodichloromethane	160000	NA	140
Bromoform	250000	NA	NA
Bromomethane	92000	NA	NA
Carbon Disulfide	74000	NA	NA
Carbon Tetrachloride	150000	25.1	19
Chlorobenzene	110000	NA	210000
Chloroethane	63000	NA	21000
Chloroform	120000	NA	460
Chloromethane	200000	NA	NA
cis-1,2-Dichloroethene	94000	15900	NA
Dibromochloromethane	200000	NA	NA
Dichlorodifluoromethane	120000	NA	NA
Ethylbenzene	100000	NA	210000
Hexachlorobutadiene	1000000	NA	NA
Hexane	2200	NA	NA
Isopropyl ether	400000	NA	NA
Isopropylbenzene	120000	NA	NA
Methyl tert-butyl ether (MTBE)	86000	4000	NA
Methylene Chloride	83000	NA	5200
Naphthalene	500000	31.9	NA
n-Propylbenzene	120000	NA	NA
Styrene	100000	NA	190000
Tetrachloroethene	160000	180	NA
Tetrahydrofuran	70000	NA	NA
Toluene	90000	135000	63000
trans-1,2-Dichloroethene	94000	31900	NA
Trichloroethene	130000	528	NA
Trichlorofluoromethane	130000	NA	NA
Vinyl Chloride	61000	13.3	NA

Attachment E

Data Usability Report for Avila Tank Farm Events: 2007 Soil and Air Sampling; 2005 Wetland Sampling; 2005 Trench Sampling. March 31, 2008 – Spatial Representation

Prepared for:

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Prepared by:

Neptune and Company, Inc.
8550 W. 14th Street, Lakewood CO 80215
Point of Contact: Paul Black, Doug Bronson

Introduction

This document supports the data validation and data usability reports that have been submitted separately (Attachments A through D). Whereas the data validation and data usability report focuses on chemical analytical issues and data quality indicators (precision, accuracy, representativeness, comparability and completeness), this document focuses only on representativeness in terms of spatial coverage of source terms and land use scenarios. Specifically, the soil and soil vapor sample locations are viewed spatially while overlaid on maps of source terms and land use scenarios, to evaluate adequate representation of the data to both characterize the source terms and to perform risk assessment on the different evaluation areas. The intent, therefore, of this analysis is to identify data gaps in the sampling, if any, that have occurred at the Avila site.

Assumptions made in this analysis are related to the form that the risk assessment will take at this site. Specifically, evaluation areas A through M have been established, in which case it is assumed that risk assessment is intended to be performed separately for each of these evaluation areas. Evaluation areas A through L will be evaluated for commercial use, whereas, Area M will be evaluated for residential use. The entirety of the area in between these evaluation areas will be evaluated for recreational use. Alternate options exist for the risk assessment, including combining some of the evaluation areas that have similar land use scenarios, and merging some of the recreational areas into the commercial areas to create larger contiguous areas for risk assessment. However, if either of these types of combination were to be considered, it would be important to verify that underlying statistical assumptions are supportive. For example, similar statistical distributions should be evident in areas that are combined.

Based on the assumptions described above (separate risk assessment for each evaluation area), the analysis presented herein consists of summary tables by area and depth and spatial plots by depth. For each area and depth, the summary tables provide sample size, number of detects, and the number of samples greater than some statistically-based concentrations. These statistically-based concentrations are used only to evaluate whether some sub-areas exhibit high concentrations more often than other sub-areas for a specific chemical. They are based initially on the 95% upper confidence limit (UCL) of the data for each chemical in turn. Arbitrary multipliers are used to evaluate data further into the upper tail of the data distributions. These multipliers are 125% UCL, 150% UCL, and 200% UCL. The intent is to identify locations where groups of comparatively high concentrations might occur. In this context, high means high relative to the remainder of the samples from the site. The actual concentrations may or may not pose a risk.

Bubbleplots for each chemical and depth interval are used to show samples and concentrations spatially by drawing a circle (area proportional to concentration) at the sample location coordinates. Concentrations greater than the 150% UCL value are plotted as filled triangles for easier identification of higher concentrations.

Note that the evaluation areas are shown first in the figure titled “Avila Site Map.”

Soil Gas Evaluation

The chemicals evaluated here are benzene, chloroform, and naphthalene, which are the VOCs of greatest concern for the risk assessment. Surface soil gas was defined as sample depths 0-10 feet and deep soil gas was defined as sample depths 12-95 feet. Generally speaking, the soil gas sampling locations cover the site uniformly both spatially and with depth, as can be seen in the figure "Soil Gas Sampling Locations."

Benzene and chloroform had detection rates of approximately 50% while naphthalene had only a single detect. The highest concentrations of benzene and chloroform occur in and around Area E in both surface and deep samples. Sample support in and around Area E appears adequate for characterization, especially since the entire surrounding area is designated for commercial land use. Sample support in some of the other evaluation areas could be considered inadequate. Often there are only 1 or 2 samples per evaluation area, upon which the assumption made here is that a risk assessment will be performed. This few samples might be considered inadequate for some evaluation areas. We note, however, that there are many other samples outside the evaluation areas that could be used to offer support to a specific evaluation-area risk evaluation if the statistical properties are comparable between the evaluation area and the other samples. This might require redrawing the evaluation areas.

Soil Evaluation

Surface soil was defined as sample depths 0-1 feet and deep soil was defined as sample depths 1.5-10.5 feet. Generally speaking, the soil sampling locations cover the site reasonably both spatially and with depth, as can be seen in the figure "Soil Sampling Locations", with the possible exception of evaluation area M, which is designated for residential land use. There are only 2 surface soil samples in evaluation area M, upon which a residential risk assessment will be performed.

More generally, by evaluation area, sample support could be considered inadequate. Often there are only 2 or 3 surface or near-surface samples per evaluation area, upon which the assumption made here is that a risk assessment will be performed. These few samples might be considered inadequate to support risk assessment for some evaluation areas. We note, however, that there are many other samples outside the evaluation areas that could be used to offer support to a specific evaluation-area risk evaluation if the statistical properties are comparable between the evaluation area and the other samples. This might require redrawing the evaluation areas.

Additionally, we note that the deepest soil sample from the site is 10.5 feet. This might be reasonable depending on the depth to groundwater and the possibility of transport to groundwater combined with an exposure pathway from groundwater. If contamination of groundwater is a concern, then samples from greater depths might be necessary.

The analytical laboratory labeled "BC" analyzed soil samples collected in April 2005. These are the only samples analyzed by this laboratory. These samples came from the southeast corner of the site between Areas K and L where no known source terms appear to exist. Many of the highest sample values for PAHs (many of them non-detects), all metals, DRO, and ORO occur in this area. The lack of known source terms, the magnitude of the concentrations, and the highly variable RDLs indicate these samples should be investigated for possible data issues or other possible source terms in this area.

Each group of chemicals is discussed in turn below with emphasis on the evaluation areas. Following these discussions is a brief discussion of the area between the evaluation areas, which is termed here the recreational area.

Metals

The metals evaluated here are arsenic, lead, mercury, nickel, vanadium, and zinc, which are the metals of greatest concern for the risk assessment. All metals have comparatively large surface soil values in the southeast corner as mentioned previously. In addition to this:

- Arsenic has high concentrations relative to background concentrations throughout the site in both surface and deep soil.
- Lead concentrations are generally low with only a few surface values above 400 mg/kg.
- Mercury values are relatively low when compared to those from the southeast corner.
- Nickel, Vanadium, and Zinc have some comparatively high surface and deep soil concentrations in and around Area D.
- Nearly all of the Vanadium surface and deep soil concentrations in and around Area M are comparatively high.

BTEX

The BTEX chemicals of interest are benzene, toluene, ethylbenzene, and xylenes (total). There was a single BTEX detect in surface soil which occurred in Area E. The highest BTEX concentrations occurred in deep soil in and around area E, with some others coming from the area of the pipeline that runs directly to the east. The sample support in this area appears adequate to support a risk assessment for these chemicals. However, the number of samples for risk assessment is small in other evaluation areas, particularly in area M which is intended for residential land use.

PAHs

The PAHs of interest are anthracene, benzo(a)pyrene, chrysene, naphthalene, phenanthrene, and pyrene. The site wide detection rates for the PAHs are approximately 33%. A large percentage of the detected results occur in deep soil in Area E, but these are not generally the greatest sample concentrations. The greatest concentrations occur in

the southeast part of the site between Evaluation Areas K and L. By evaluation area the sample sizes are quite small, with as few as 1 or 2 surface soil sample results for some evaluation areas. This is of particular concern for Evaluation Area M, which is intended for residential use.

TPHs

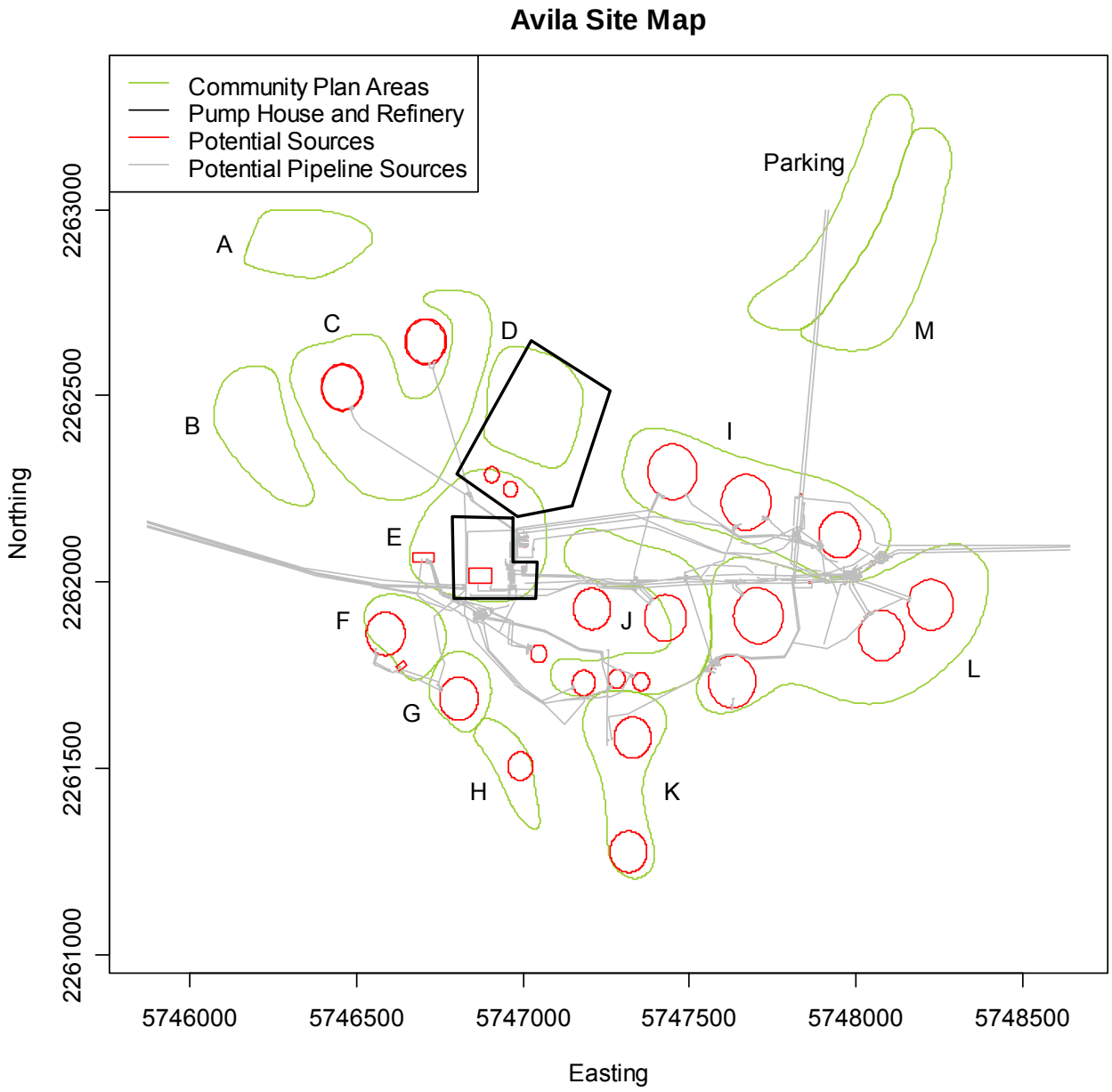
The TPH groups of interest are GRO (C4-C10), DRO (C10-C25), and ORO (C25-C40). In addition to the large DRO and ORO surface soil concentrations in the southeast corner:

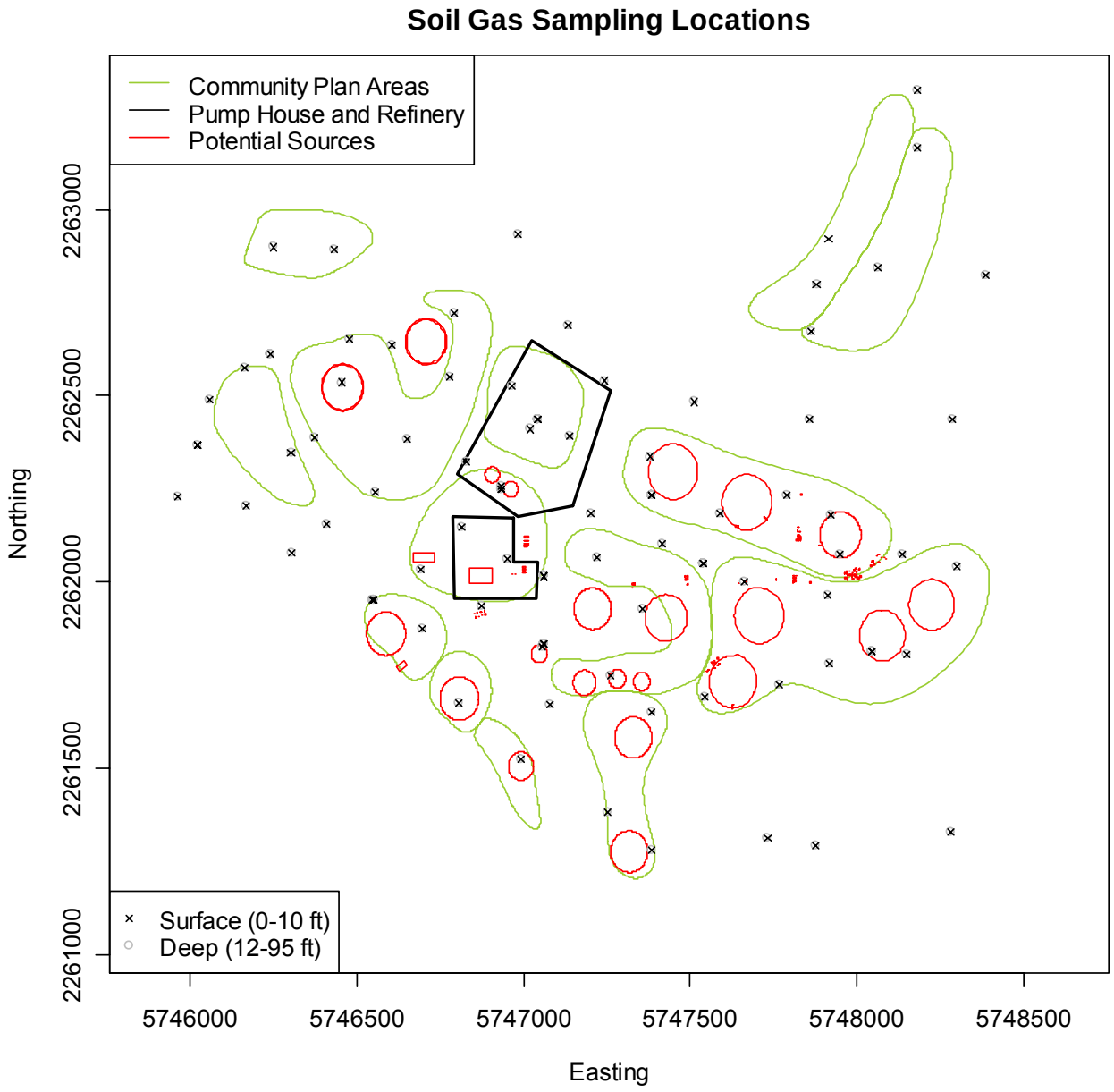
- TPH chemicals and groups of TPH chemicals exhibit similar behavior in deep soil with the highest concentrations beginning in and around Area E and then running directly east along the pipelines.
- DRO and ORO have further high concentrations scattered around the commercial land use region.

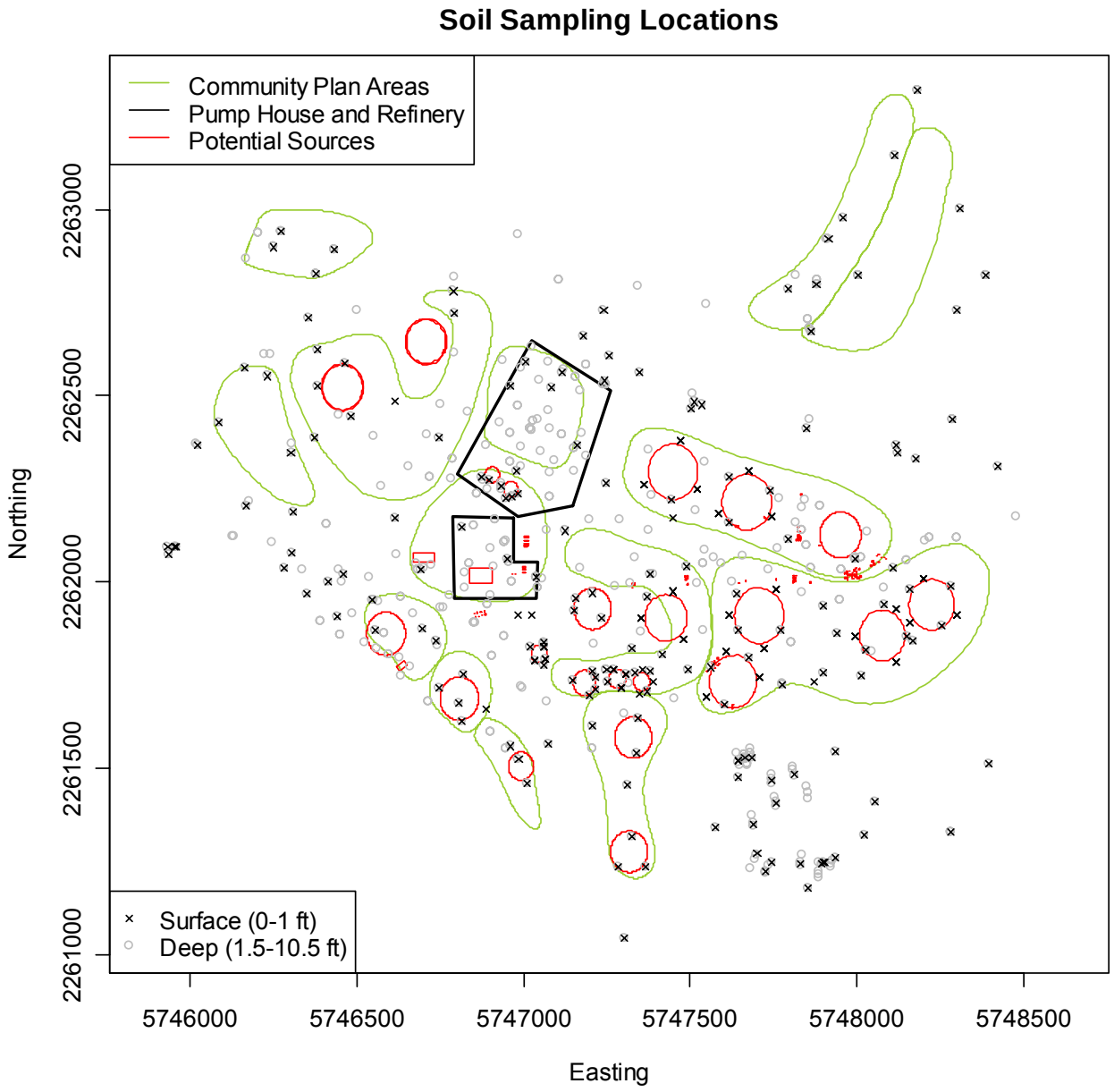
As with the other chemical groups, the sample support by evaluation area might be deemed insufficient to support risk assessment. This is of greatest concern for Evaluation Area M, which is intended for residential use.

Unaffected Areas

Across all chemicals, areas A, B, and C (the northwest corner of the site) have comparatively low concentrations. The sample support in the recreational area appears more than adequate to support a recreational risk assessment. As noted in the introduction, some realignment of the Evaluation areas and land use scenarios might be considered if these data are to be considered adequate to support the planned risk assessment.


Avila Site Map
Community Plan Areas
Pump House and Refinery
Potential Sources
Potential Pipeline Sources
Parking
A
B
C
D
E
F
G
H
I
J
K
L
M
Northing
2263000
2262500
2262000
2261500
2261000
5746000
5746500
5747000
5747500
5748000
5748500
Easting


Soil Gas Sampling Locations
Community Plan Areas
Pump House and Refinery
Potential Sources
Surface (0-10 ft)
Deep (12-95 ft)
Northing
2263000
2262500
2262000
2261500
2261000
Easting
5746000
5746500
5747000
5747500
5748000
5748500


Soil Sampling Locations
Community Plan Areas
Pump House and Refinery
Potential Sources
Surface (0-1 ft)
Deep (1.5-10.5 ft)
Northing
2261000
2261500
2262000
2262500
2263000
Easting
5746000
5746500
5747000
5747500
5748000
5748500

Soil Gas Summary Tables

Benzene

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	270	130	23.3 µg/L

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	2	2	0	0	0	2	2	0	0	0
Area B	6	1	0	0	0	6	2	0	0	0
Area C	9	7	0	0	0	9	7	0	0	0
Area D	7	1	0	0	0	10	5	0	0	0
Area E	12	7	5	4	2	12	7	3	3	3
Area F	4	1	0	0	0	5	1	1	1	1
Area G	2	1	0	0	0	2	2	0	0	0
Area H	1	1	0	0	0	1	1	1	1	1
Area I	9	5	0	0	0	11	5	0	0	0
Area J	4	2	0	0	0	4	2	1	1	0
Area K	3	2	0	0	0	3	2	0	0	0
Area L	11	4	0	0	0	14	7	0	0	0
Area M	4	1	0	0	0	4	1	0	0	0
Area Parking	3	1	0	0	0	1	1	0	0	0
Open Space	53	23	0	0	0	56	26	2	2	2
Total	130	59	5	4	2	140	71	8	8	7

Chloroform

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	212	99	37.1 µg/L

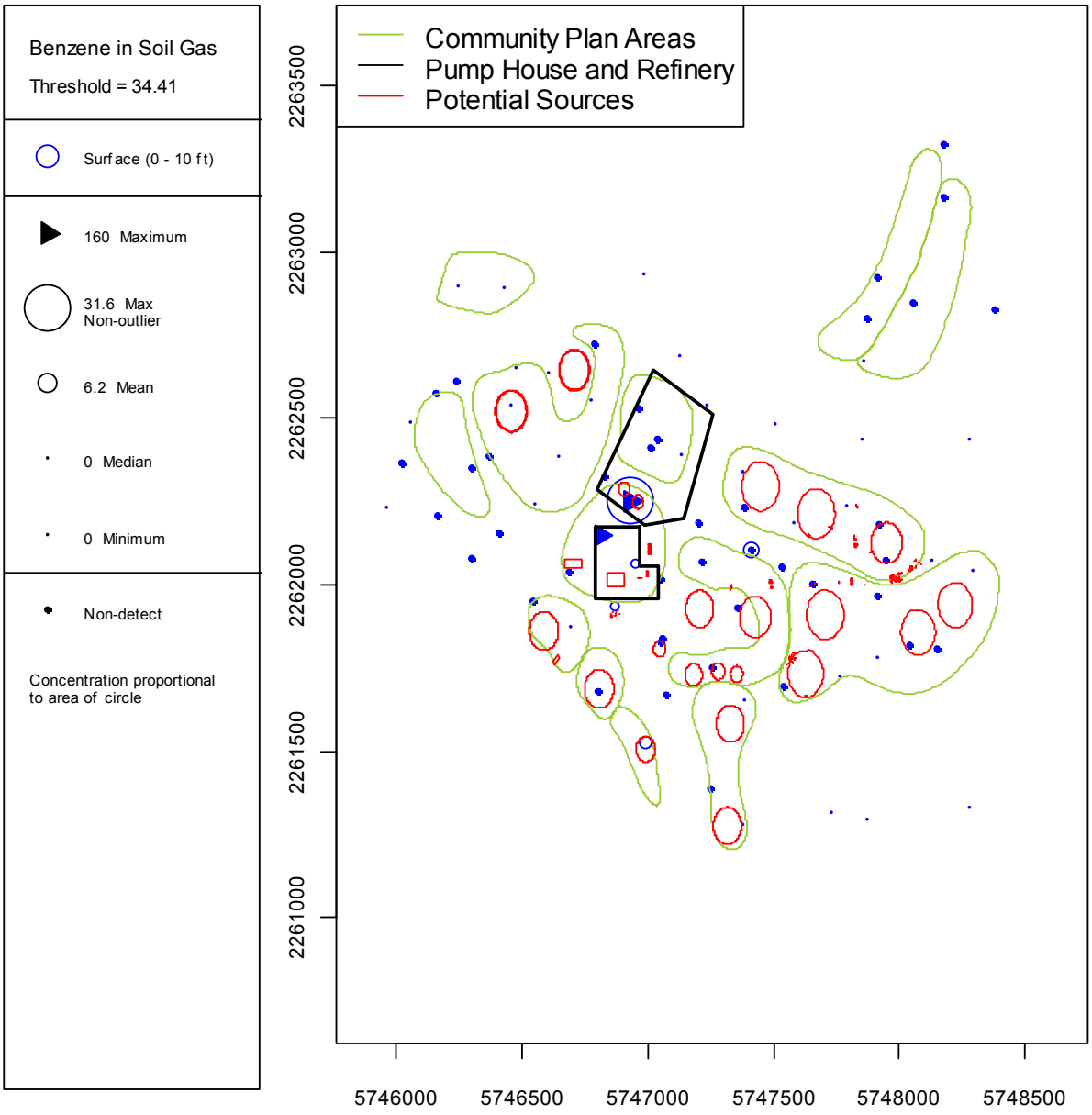
	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	2	2	0	0	0	2	1	0	0	0
Area B	6	1	0	0	0	6	6	0	0	0
Area C	9	7	0	0	0	9	6	0	0	0
Area D	5	1	0	0	0	4	2	0	0	0
Area E	8	0	1	1	1	5	1	3	3	3
Area F	2	0	0	0	0	1	0	0	0	0
Area G	2	2	0	0	0	2	2	0	0	0
Area H	1	0	0	0	0	1	0	0	0	0
Area I	7	5	0	0	0	7	6	1	1	1
Area J	4	3	0	0	0	4	2	2	2	2
Area K	3	3	0	0	0	3	3	1	1	1
Area L	9	7	0	0	0	8	7	0	0	0
Area M	4	0	0	0	0	4	0	0	0	0
Area Parking	3	1	0	0	0	1	0	0	0	0
Open Space	48	22	2	2	1	42	9	2	2	2
Total	113	54	3	3	2	99	45	9	9	9

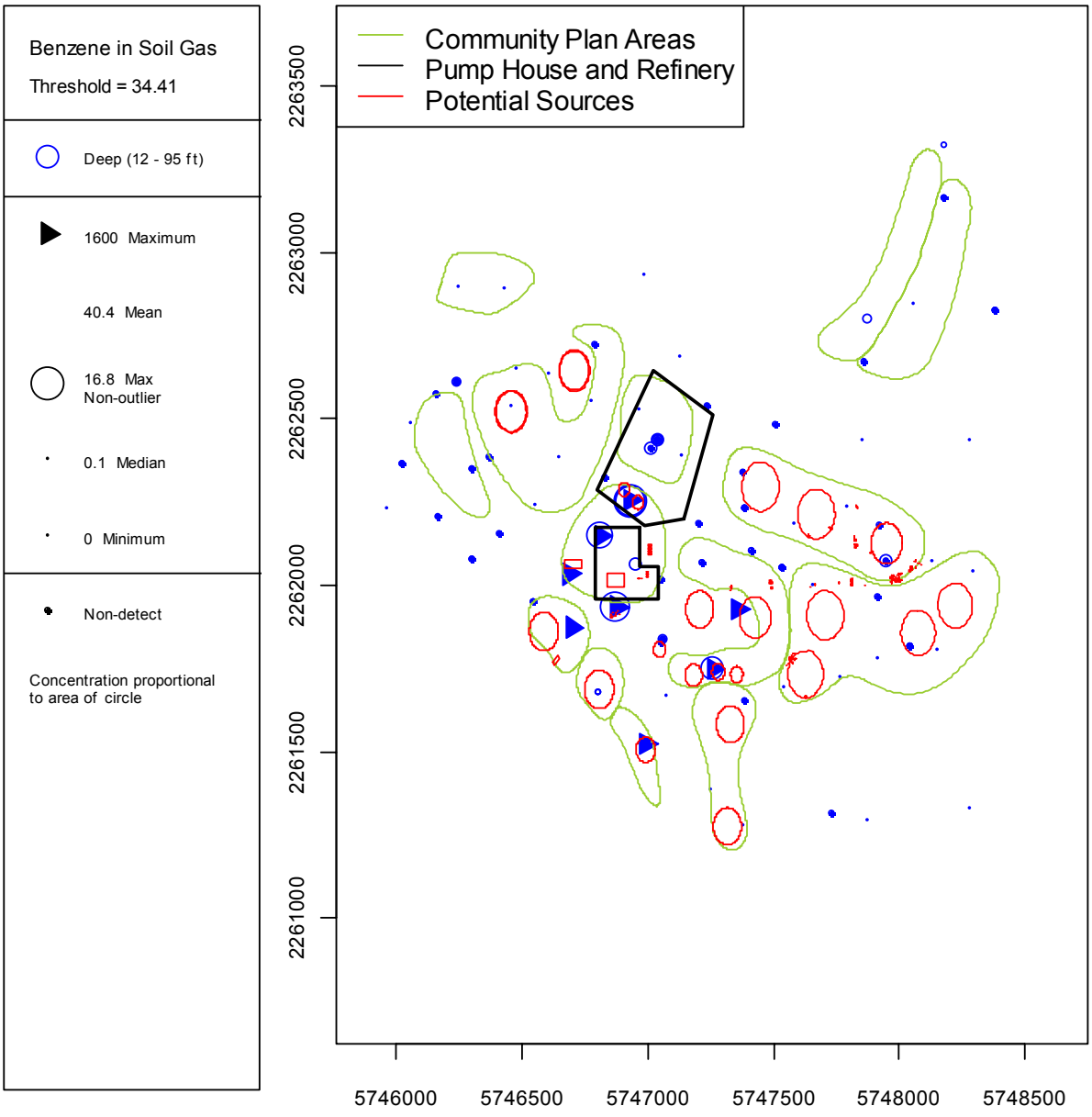
Naphthalene

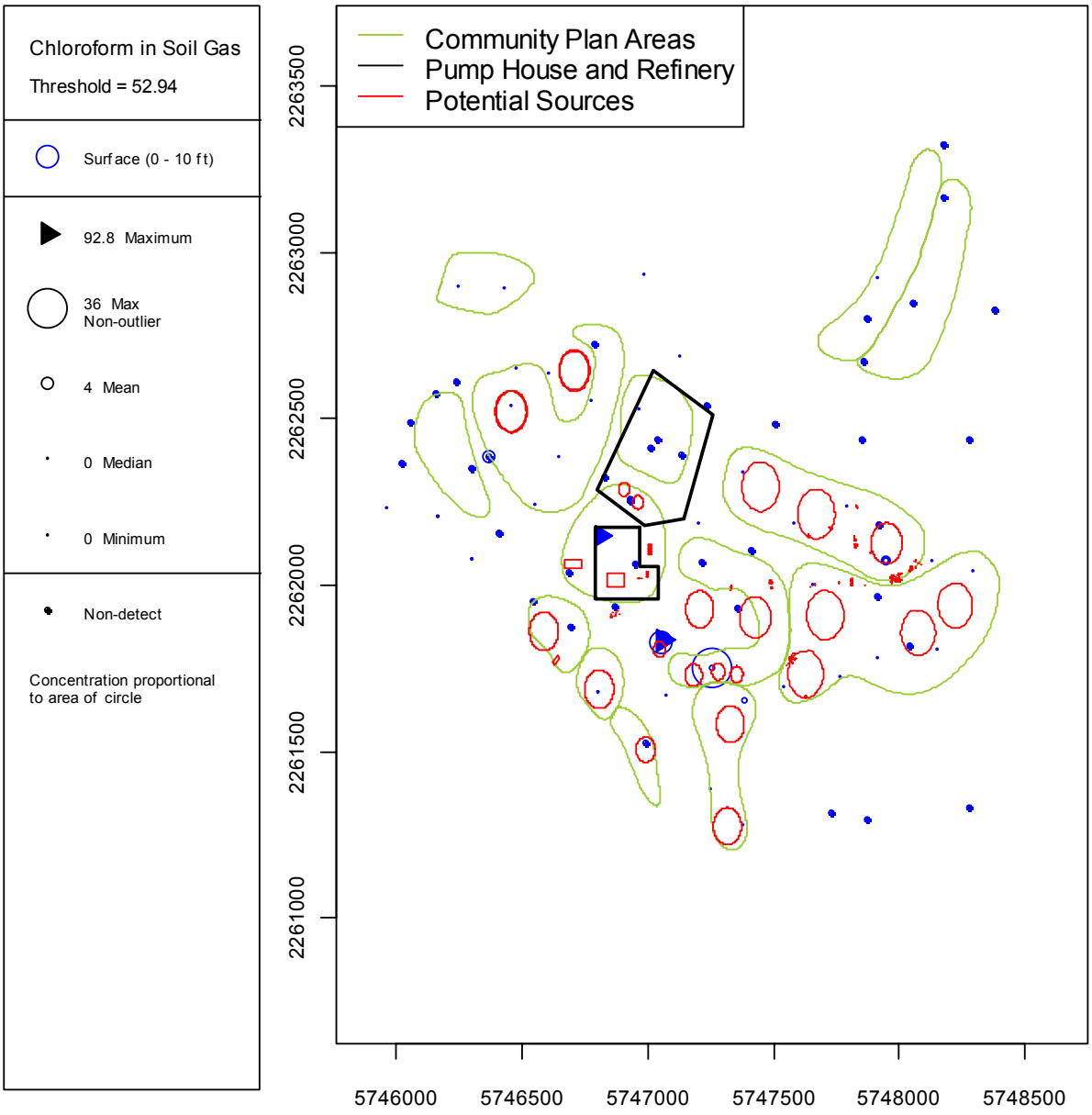
	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	206	1	0.027 µg/L

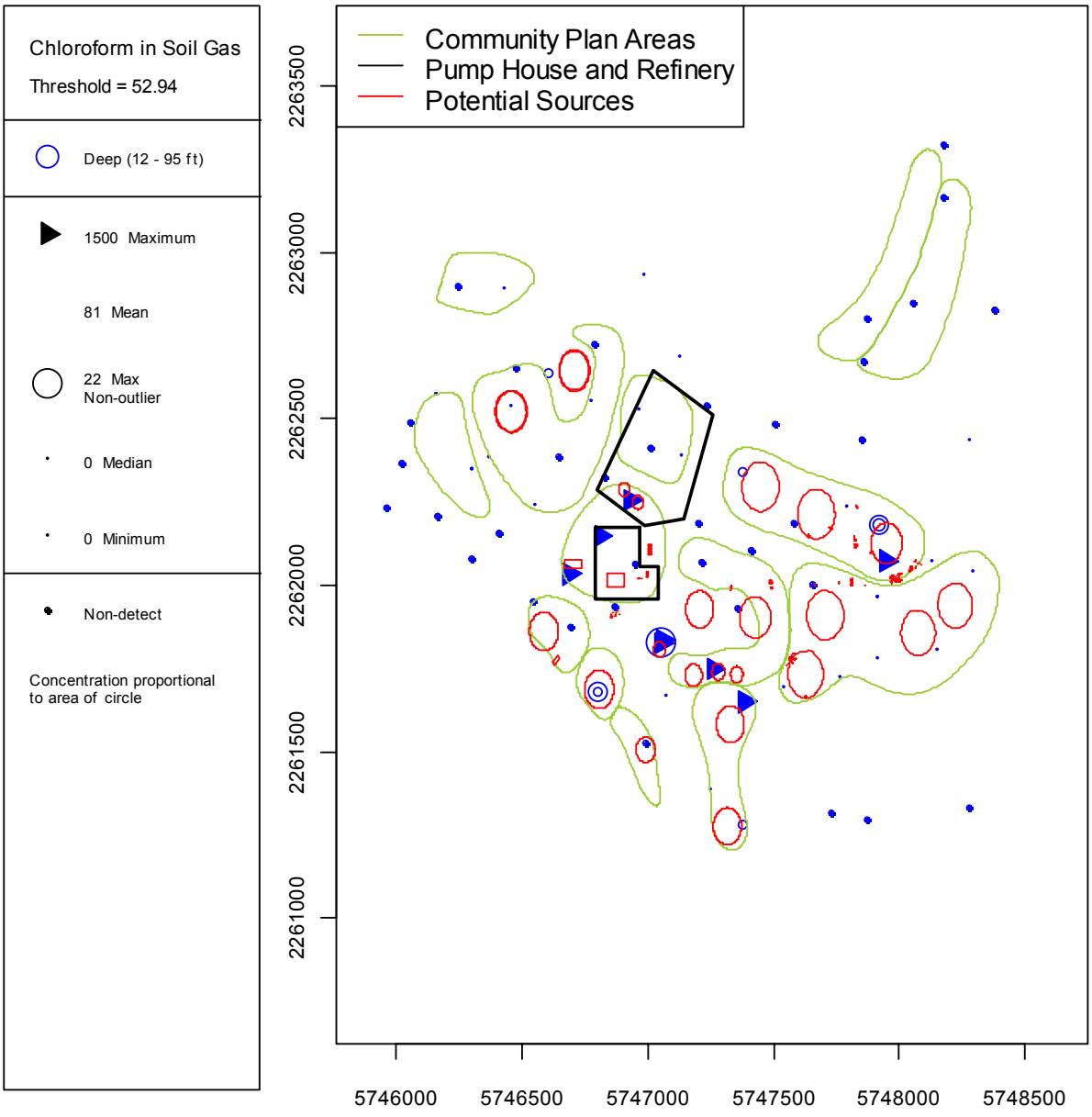
	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	2	0	---	---	---	2	0	---	---	---
Area B	6	0	---	---	---	6	0	---	---	---
Area C	9	0	---	---	---	9	0	---	---	---
Area D	4	0	---	---	---	4	0	---	---	---
Area E	6	0	---	---	---	5	0	---	---	---
Area F	2	0	---	---	---	1	0	---	---	---
Area G	2	1	---	---	---	2	0	---	---	---
Area H	1	0	---	---	---	1	0	---	---	---
Area I	7	0	---	---	---	7	0	---	---	---
Area J	4	0	---	---	---	4	0	---	---	---
Area K	3	0	---	---	---	3	0	---	---	---
Area L	8	0	---	---	---	8	0	---	---	---
Area M	4	0	---	---	---	4	0	---	---	---
Area Parking	3	0	---	---	---	1	0	---	---	---
Open Space	46	0	---	---	---	42	0	---	---	---
Total	107	1	---	---	---	99	0	---	---	---

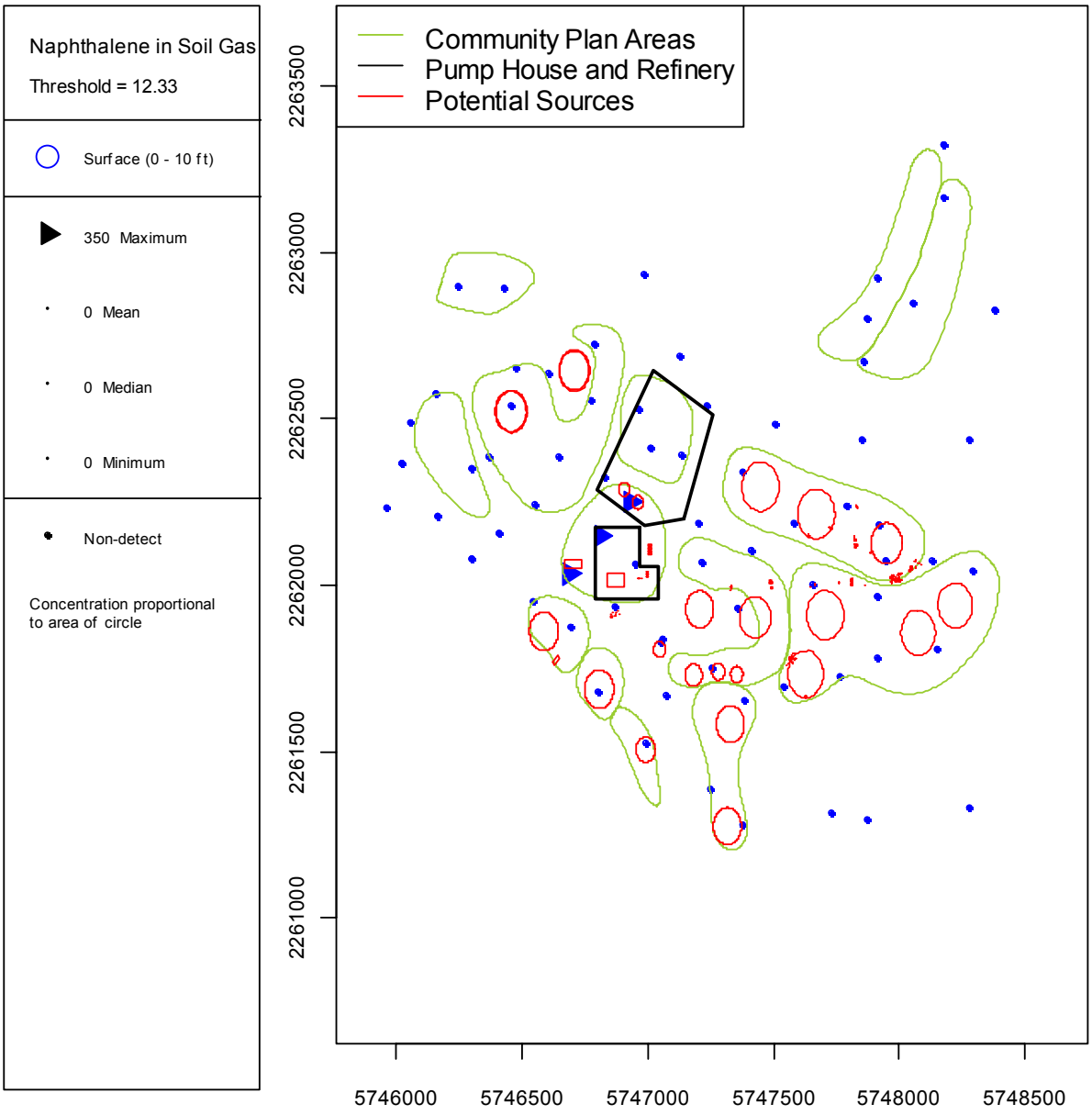
Soil Gas Bubbleplots

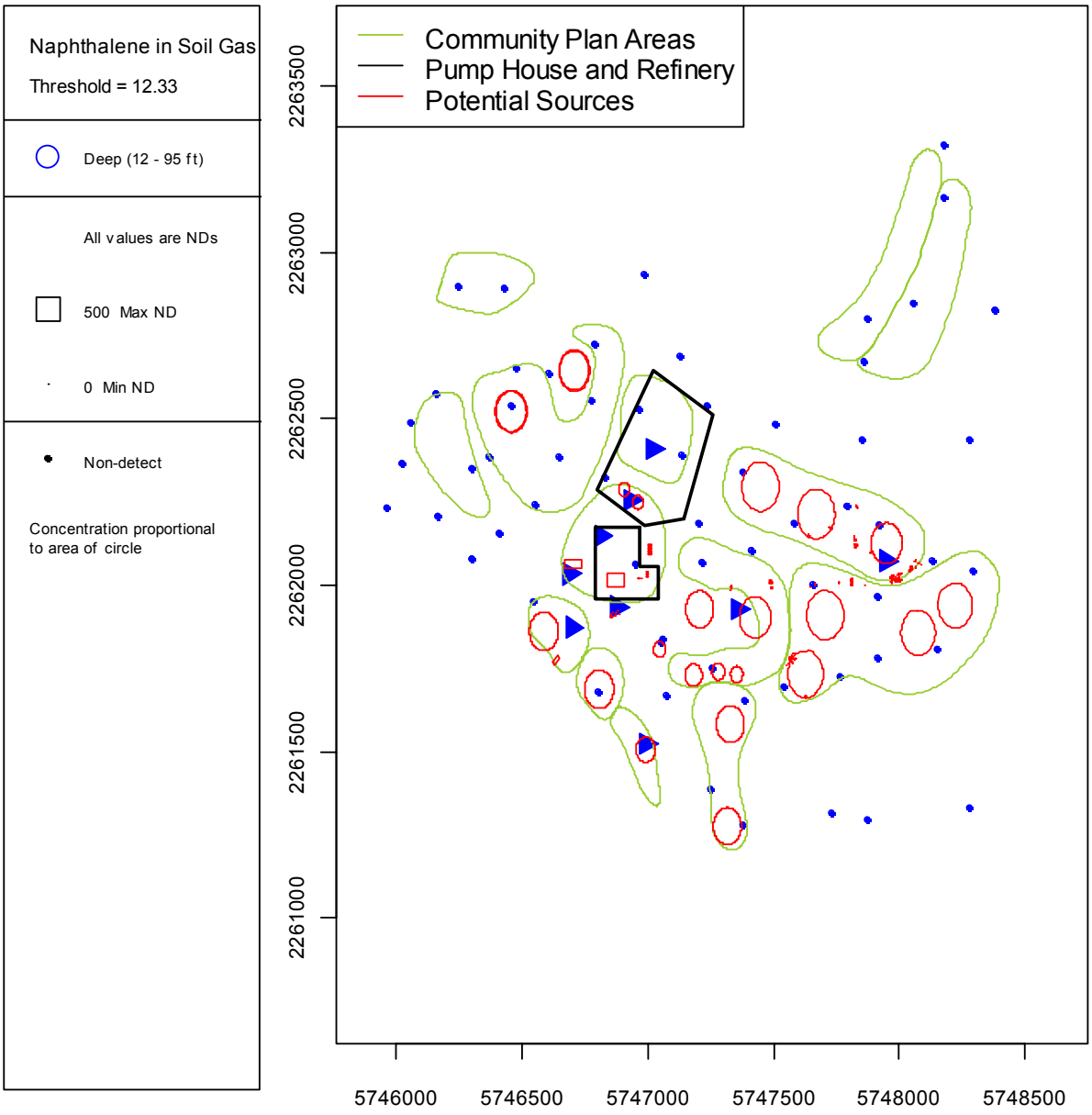



Benzene in Soil Gas
Threshold = 34.41
Deep (12 - 95 ft)
1600 Maximum
40.4 Mean
16.8 Max Non-outlier
0.1 Median
0 Minimum
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
2263500
2263000
2262500
2262000
2261500
2261000
5746000
5746500
5747000
5747500
5748000
5748500


Chloroform in Soil Gas
Threshold = 52.94
Surface (0 - 10 ft)
92.8 Maximum
36 Max
Non-outlier
4 Mean
0 Median
0 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
2263500
2263000
2262500
2262000
2261500
2261000
5746000
5746500
5747000
5747500
5748000
5748500


Chloroform in Soil Gas
Threshold = 52.94
Deep (12 - 95 ft)
1500 Maximum
81 Mean
22 Max
Non-outlier
0 Median
0 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
2263500
2263000
2262500
2262000
2261500
2261000
5746000
5746500
5747000
5747500
5748000
5748500


Naphthalene in Soil Gas
Threshold = 12.33
Surface (0 - 10 ft)
350 Maximum
0 Mean
0 Median
0 Minimum
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
2263500
2263000
2262500
2262000
2261500
2261000
5746000
5746500
5747000
5747500
5748000
5748500


Naphthalene in Soil Gas
Threshold = 12.33
Deep (12 - 95 ft)
All values are NDs
500 Max ND
0 Min ND
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
2263500
2263000
2262500
2262000
2261500
2261000
5746000
5746500
5747000
5747500
5748000
5748500

Metals in Soil Summary Tables

Arsenic

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	317	261	6.12 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	4	0	0	0	8	7	1	1	1
Area B	4	4	1	1	0	4	4	1	1	0
Area C	6	5	2	2	1	5	5	1	0	0
Area D	4	4	2	2	0	16	13	1	1	0
Area E	7	5	0	0	0	20	9	2	1	1
Area F	4	4	2	2	1	7	5	1	1	1
Area G	2	2	0	0	0	1	1	0	0	0
Area H	3	3	2	2	2	4	3	2	2	2
Area I	3	2	0	0	0	7	2	0	0	0
Area J	3	3	1	0	0	8	4	2	1	1
Area K	3	2	2	2	1	3	3	1	1	0
Area L	5	4	2	1	0	6	3	2	2	2
Area M	2	2	0	0	0	5	2	0	0	0
Area Parking	5	5	0	0	0	8	8	0	0	0
Open Space	68	63	15	13	9	92	80	17	13	7
Total	123	112	29	25	14	194	149	31	24	15

Lead

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	433	421	42.3 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	4	0	0	0	8	8	0	0	0
Area B	4	3	0	0	0	4	4	0	0	0
Area C	9	9	2	1	0	5	5	0	0	0
Area D	4	4	3	3	2	16	15	2	1	0
Area E	10	10	2	2	2	20	20	0	0	0
Area F	4	4	1	1	0	7	7	0	0	0
Area G	5	5	0	0	0	1	1	0	0	0
Area H	3	3	0	0	0	4	4	0	0	0
Area I	18	18	9	7	5	7	7	0	0	0
Area J	26	26	4	4	4	14	14	1	1	1
Area K	9	9	1	0	0	3	3	0	0	0
Area L	44	44	12	10	5	6	6	0	0	0
Area M	2	2	0	0	0	5	4	0	0	0
Area Parking	5	5	0	0	0	8	8	0	0	0
Open Space	83	83	16	12	9	95	86	1	1	1
Total	230	229	50	40	27	203	192	4	3	2

Mercury

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	317	98	1.19 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	2	0	0	0	8	0	0	0	0
Area B	4	2	0	0	0	4	2	0	0	0
Area C	6	3	0	0	0	5	2	0	0	0
Area D	4	3	0	0	0	16	4	0	0	0
Area E	7	5	0	0	0	20	0	0	0	0
Area F	4	2	0	0	0	7	3	0	0	0
Area G	2	0	0	0	0	1	0	0	0	0
Area H	3	0	0	0	0	4	0	0	0	0
Area I	3	1	0	0	0	7	0	0	0	0
Area J	3	1	0	0	0	8	2	0	0	0
Area K	3	1	0	0	0	3	0	0	0	0
Area L	5	1	0	0	0	6	0	0	0	0
Area M	2	1	0	0	0	5	0	0	0	0
Area Parking	5	2	0	0	0	8	3	0	0	0
Open Space	68	38	13	10	10	92	20	1	0	0
Total	123	62	13	10	10	194	36	1	0	0

Nickel

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	317	312	23.8 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	4	0	0	0	8	6	0	0	0
Area B	4	4	0	0	0	4	4	0	0	0
Area C	6	6	0	0	0	5	5	0	0	0
Area D	4	4	2	2	2	16	16	2	2	2
Area E	7	7	1	0	0	20	20	1	1	1
Area F	4	4	1	1	0	7	7	1	1	0
Area G	2	2	0	0	0	1	1	0	0	0
Area H	3	3	0	0	0	4	4	0	0	0
Area I	3	3	0	0	0	7	7	0	0	0
Area J	3	3	0	0	0	8	8	0	0	0
Area K	3	3	0	0	0	3	3	0	0	0
Area L	5	5	0	0	0	6	5	0	0	0
Area M	2	2	0	0	0	5	3	0	0	0
Area Parking	5	5	0	0	0	8	8	2	1	0
Open Space	68	68	21	18	12	92	92	12	12	9
Total	123	123	25	21	14	194	189	18	17	12

Vanadium

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	317	316	29.9 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	4	0	0	0	8	8	0	0	0
Area B	4	4	0	0	0	4	4	0	0	0
Area C	6	6	0	0	0	5	5	0	0	0
Area D	4	4	2	2	2	16	16	2	2	2
Area E	7	7	1	0	0	20	20	0	0	0
Area F	4	4	0	0	0	7	7	1	1	1
Area G	2	2	0	0	0	1	1	0	0	0
Area H	3	3	0	0	0	4	4	0	0	0
Area I	3	3	0	0	0	7	7	0	0	0
Area J	3	3	0	0	0	8	8	0	0	0
Area K	3	3	0	0	0	3	3	0	0	0
Area L	5	5	0	0	0	6	5	0	0	0
Area M	2	2	1	1	0	5	5	3	2	2
Area Parking	5	5	5	5	1	8	8	6	6	1
Open Space	68	68	25	19	9	92	92	14	13	11
Total	123	123	34	27	12	194	193	26	24	17

Zinc

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	317	308	42.2 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	3	0	0	0	8	5	0	0	0
Area B	4	4	0	0	0	4	4	0	0	0
Area C	6	6	2	2	1	5	5	0	0	0
Area D	4	4	3	3	3	16	16	3	3	3
Area E	7	7	3	2	2	20	19	2	2	0
Area F	4	4	2	2	0	7	7	1	1	0
Area G	2	2	0	0	0	1	1	0	0	0
Area H	3	3	0	0	0	4	4	0	0	0
Area I	3	3	1	1	0	7	7	0	0	0
Area J	3	3	0	0	0	8	8	1	0	0
Area K	3	3	0	0	0	3	3	0	0	0
Area L	5	4	1	1	1	6	4	0	0	0
Area M	2	2	1	1	0	5	5	0	0	0
Area Parking	5	5	2	0	0	8	8	1	0	0
Open Space	68	68	20	14	7	92	91	12	7	3
Total	123	121	35	26	14	194	187	20	13	6

BTEX in Soil Summary Tables

Benzene

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	454	40	0.214 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	0	0	0	0	11	0	0	0	0
Area B	4	0	0	0	0	5	0	0	0	0
Area C	6	0	1	1	1	18	0	0	0	0
Area D	3	0	0	0	0	26	1	0	0	0
Area E	5	1	0	0	0	43	15	8	7	6
Area F	3	0	0	0	0	13	4	2	2	2
Area G	2	0	1	1	1	4	1	0	0	0
Area H	1	0	0	0	0	5	1	0	0	0
Area I	3	0	1	1	1	28	5	2	1	1
Area J	3	0	0	0	0	25	3	1	1	1
Area K	2	0	0	0	0	9	0	0	0	0
Area L	5	0	1	1	1	28	3	0	0	0
Area M	2	0	0	0	0	6	0	0	0	0
Area Parking	5	0	0	0	0	14	0	0	0	0
Open Space	40	0	1	1	1	131	6	1	1	1
Total	88	1	5	5	5	366	39	14	12	11

Toluene

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	454	30	0.423 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	0	0	0	0	11	0	0	0	0
Area B	4	0	0	0	0	5	0	0	0	0
Area C	6	0	0	0	0	18	0	0	0	0
Area D	3	0	0	0	0	26	1	0	0	0
Area E	5	1	0	0	0	43	7	3	3	3
Area F	3	0	0	0	0	13	1	0	0	0
Area G	2	0	0	0	0	4	0	0	0	0
Area H	1	0	0	0	0	5	2	0	0	0
Area I	3	0	0	0	0	28	3	1	1	1
Area J	3	0	0	0	0	25	8	1	1	1
Area K	2	0	0	0	0	9	0	0	0	0
Area L	5	0	0	0	0	28	2	0	0	0
Area M	2	0	0	0	0	6	1	0	0	0
Area Parking	5	0	0	0	0	14	0	0	0	0
Open Space	40	0	0	0	0	131	4	0	0	0
Total	88	1	0	0	0	366	29	5	5	5

Ethylbenzene

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	454	58	1.01 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	0	0	0	0	11	0	0	0	0
Area B	4	0	0	0	0	5	0	0	0	0
Area C	6	0	0	0	0	18	0	0	0	0
Area D	3	0	0	0	0	26	1	0	0	0
Area E	5	1	0	0	0	43	18	6	5	5
Area F	3	0	0	0	0	13	4	2	2	1
Area G	2	0	0	0	0	4	0	0	0	0
Area H	1	0	0	0	0	5	2	0	0	0
Area I	3	0	0	0	0	28	8	3	3	3
Area J	3	0	0	0	0	25	11	2	2	2
Area K	2	0	0	0	0	9	0	0	0	0
Area L	5	0	0	0	0	28	3	0	0	0
Area M	2	0	0	0	0	6	1	0	0	0
Area Parking	5	0	0	0	0	14	0	0	0	0
Open Space	40	0	0	0	0	131	9	1	1	1
Total	88	1	0	0	0	366	57	14	13	12

Xylenes (total)

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	454	73	6.95 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	0	0	0	0	11	0	0	0	0
Area B	4	0	0	0	0	5	0	0	0	0
Area C	6	0	0	0	0	18	0	0	0	0
Area D	3	0	0	0	0	26	1	0	0	0
Area E	5	1	0	0	0	43	28	5	3	3
Area F	3	0	0	0	0	13	5	0	0	0
Area G	2	0	0	0	0	4	0	0	0	0
Area H	1	0	0	0	0	5	2	0	0	0
Area I	3	0	0	0	0	28	9	2	2	2
Area J	3	0	0	0	0	25	11	2	2	2
Area K	2	0	0	0	0	9	0	0	0	0
Area L	5	0	0	0	0	28	4	0	0	0
Area M	2	0	0	0	0	6	1	0	0	0
Area Parking	5	0	0	0	0	14	0	0	0	0
Open Space	40	0	0	0	0	131	11	0	0	0
Total	88	1	0	0	0	366	72	9	7	7

PAHs in Soil Summary Tables

Anthracene

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	214	19	3.66 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	1	0	0	0	8	0	0	0	0
Area B	3	1	0	0	0	3	0	0	0	0
Area C	5	0	0	0	0	3	0	0	0	0
Area D	3	0	1	1	1	5	0	0	0	0
Area E	5	2	0	0	0	27	7	0	0	0
Area F	2	0	0	0	0	4	0	0	0	0
Area G	1	1	0	0	0	2	0	0	0	0
Area H	1	1	0	0	0	1	1	0	0	0
Area I	2	0	0	0	0	7	0	1	0	0
Area J	3	0	0	0	0	9	0	1	1	1
Area K	1	0	0	0	0	1	0	0	0	0
Area L	2	0	0	0	0	3	0	0	0	0
Area M	2	0	0	0	0	5	1	0	0	0
Area Parking	3	1	0	0	0	6	0	0	0	0
Open Space	47	3	12	12	10	46	0	2	2	1
Total	84	10	13	13	11	130	9	4	3	2

Benzo(a)pyrene

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	214	78	3.50 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	1	0	0	0	8	0	0	0	0
Area B	3	1	0	0	0	3	1	0	0	0
Area C	5	3	0	0	0	3	1	0	0	0
Area D	3	2	1	1	1	5	0	0	0	0
Area E	5	3	0	0	0	27	4	0	0	0
Area F	2	1	0	0	0	4	2	0	0	0
Area G	1	1	0	0	0	2	1	0	0	0
Area H	1	1	0	0	0	1	1	0	0	0
Area I	2	2	0	0	0	7	3	1	0	0
Area J	3	3	0	0	0	9	3	1	1	1
Area K	1	1	0	0	0	1	1	0	0	0
Area L	2	2	0	0	0	3	1	0	0	0
Area M	2	1	0	0	0	5	2	0	0	0
Area Parking	3	2	0	0	0	6	0	0	0	0
Open Space	47	27	4	4	4	46	7	1	1	1
Total	84	51	5	5	5	130	27	3	2	2

Chrysene

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	214	89	3.69 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	1	0	0	0	8	1	0	0	0
Area B	3	2	0	0	0	3	1	0	0	0
Area C	5	4	0	0	0	3	1	0	0	0
Area D	3	2	1	1	1	5	1	0	0	0
Area E	5	2	0	0	0	27	11	0	0	0
Area F	2	1	0	0	0	4	2	0	0	0
Area G	1	1	0	0	0	2	1	0	0	0
Area H	1	1	0	0	0	1	1	0	0	0
Area I	2	2	0	0	0	7	3	1	0	0
Area J	3	3	0	0	0	9	3	1	1	1
Area K	1	1	0	0	0	1	1	0	0	0
Area L	2	2	0	0	0	3	2	0	0	0
Area M	2	2	0	0	0	5	2	0	0	0
Area Parking	3	1	0	0	0	6	0	0	0	0
Open Space	47	25	9	9	6	46	9	2	2	1
Total	84	50	10	10	7	130	39	4	3	2

Naphthalene

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	417	67	1.99 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	8	1	0	0	0	16	0	0	0	0
Area B	7	0	0	0	0	7	0	0	0	0
Area C	10	0	0	0	0	8	0	0	0	0
Area D	5	0	1	1	1	12	0	1	1	0
Area E	10	3	0	0	0	46	37	7	5	2
Area F	5	1	0	0	0	9	4	1	0	0
Area G	2	1	0	0	0	3	0	0	0	0
Area H	2	0	0	0	0	2	0	0	0	0
Area I	4	0	0	0	0	9	3	2	2	2
Area J	6	0	0	0	0	12	4	2	2	2
Area K	3	0	0	0	0	3	0	0	0	0
Area L	6	0	0	0	0	7	1	0	0	0
Area M	4	1	0	0	0	10	5	0	0	0
Area Parking	8	1	0	0	0	14	0	0	0	0
Open Space	86	2	15	15	13	93	3	3	3	2
Total	166	10	16	16	14	251	57	16	13	8

Phenanthrene

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	219	79	3.82 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	1	0	0	0	8	0	0	0	0
Area B	3	1	0	0	0	3	0	0	0	0
Area C	6	1	0	0	0	3	0	0	0	0
Area D	3	2	1	1	1	5	1	0	0	0
Area E	5	3	0	0	0	27	25	1	1	0
Area F	2	1	0	0	0	4	2	0	0	0
Area G	2	1	0	0	0	2	1	0	0	0
Area H	1	1	0	0	0	1	1	0	0	0
Area I	3	2	0	0	0	7	4	2	1	0
Area J	3	1	0	0	0	9	5	1	1	1
Area K	1	0	0	0	0	1	0	0	0	0
Area L	3	0	0	0	0	3	2	0	0	0
Area M	2	1	0	0	0	5	2	0	0	0
Area Parking	3	1	0	0	0	6	0	0	0	0
Open Space	48	13	11	11	7	46	7	2	2	1
Total	89	29	12	12	8	130	50	6	5	2

Pyrene

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	214	80	3.80 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	1	0	0	0	8	0	0	0	0
Area B	3	2	0	0	0	3	1	0	0	0
Area C	5	3	0	0	0	3	1	0	0	0
Area D	3	2	1	1	1	5	1	0	0	0
Area E	5	3	0	0	0	27	13	0	0	0
Area F	2	1	0	0	0	4	2	0	0	0
Area G	1	1	0	0	0	2	1	0	0	0
Area H	1	1	0	0	0	1	1	0	0	0
Area I	2	2	0	0	0	7	2	1	0	0
Area J	3	3	0	0	0	9	3	1	1	1
Area K	1	1	0	0	0	1	0	0	0	0
Area L	2	2	0	0	0	3	2	0	0	0
Area M	2	1	0	0	0	5	2	0	0	0
Area Parking	3	2	0	0	0	6	0	0	0	0
Open Space	47	20	12	11	7	46	6	2	2	1
Total	84	45	13	12	8	130	35	4	3	2

TPHs in Soil Summary Tables

GRO (C4-C10)

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	535	82	98.43 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	0	0	0	0	11	0	0	0	0
Area B	4	0	0	0	0	5	0	0	0	0
Area C	6	0	0	0	0	18	0	0	0	0
Area D	3	0	0	0	0	26	1	0	0	0
Area E	5	1	0	0	0	43	34	27	26	24
Area F	4	0	0	0	0	14	5	2	2	2
Area G	2	1	0	0	0	4	0	0	0	0
Area H	1	0	0	0	0	5	1	0	0	0
Area I	3	0	0	0	0	28	9	5	5	5
Area J	3	0	0	0	0	26	6	4	4	3
Area K	2	0	0	0	0	9	0	0	0	0
Area L	5	0	0	0	0	28	2	1	1	0
Area M	2	0	0	0	0	6	1	0	0	0
Area Parking	5	0	0	0	0	14	0	0	0	0
Open Space	61	7	2	1	1	188	14	5	4	4
Total	110	9	2	1	1	425	73	44	42	38

DRO (C10-C25)

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	537	269	1410 mg/kg

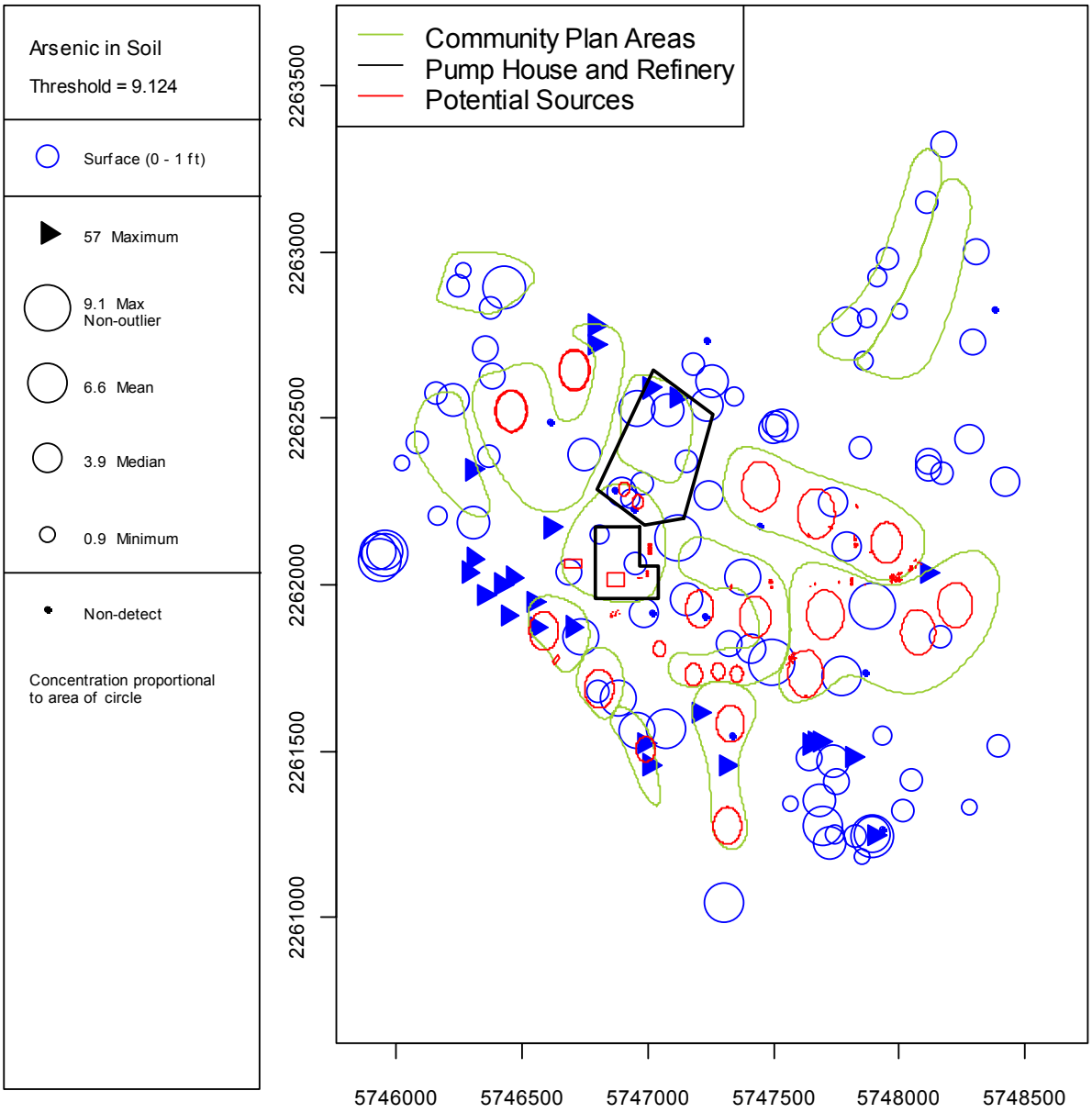
	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	1	0	0	0	11	0	0	0	0
Area B	4	3	0	0	0	5	2	0	0	0
Area C	6	4	1	1	1	18	2	0	0	0
Area D	3	3	1	1	1	26	13	0	0	0
Area E	5	5	2	1	1	43	40	15	12	10
Area F	4	3	1	1	1	14	9	1	1	0
Area G	2	2	2	2	2	4	2	0	0	0
Area H	1	1	0	0	0	5	2	0	0	0
Area I	3	3	1	1	1	28	17	6	5	5
Area J	3	3	0	0	0	26	17	5	5	5
Area K	2	1	0	0	0	9	4	0	0	0
Area L	5	3	1	1	1	28	9	0	0	0
Area M	2	1	0	0	0	6	4	2	2	2
Area Parking	5	2	0	0	0	14	0	0	0	0
Open Space	61	39	16	15	14	190	74	10	10	8
Total	110	74	25	23	22	427	195	39	35	30

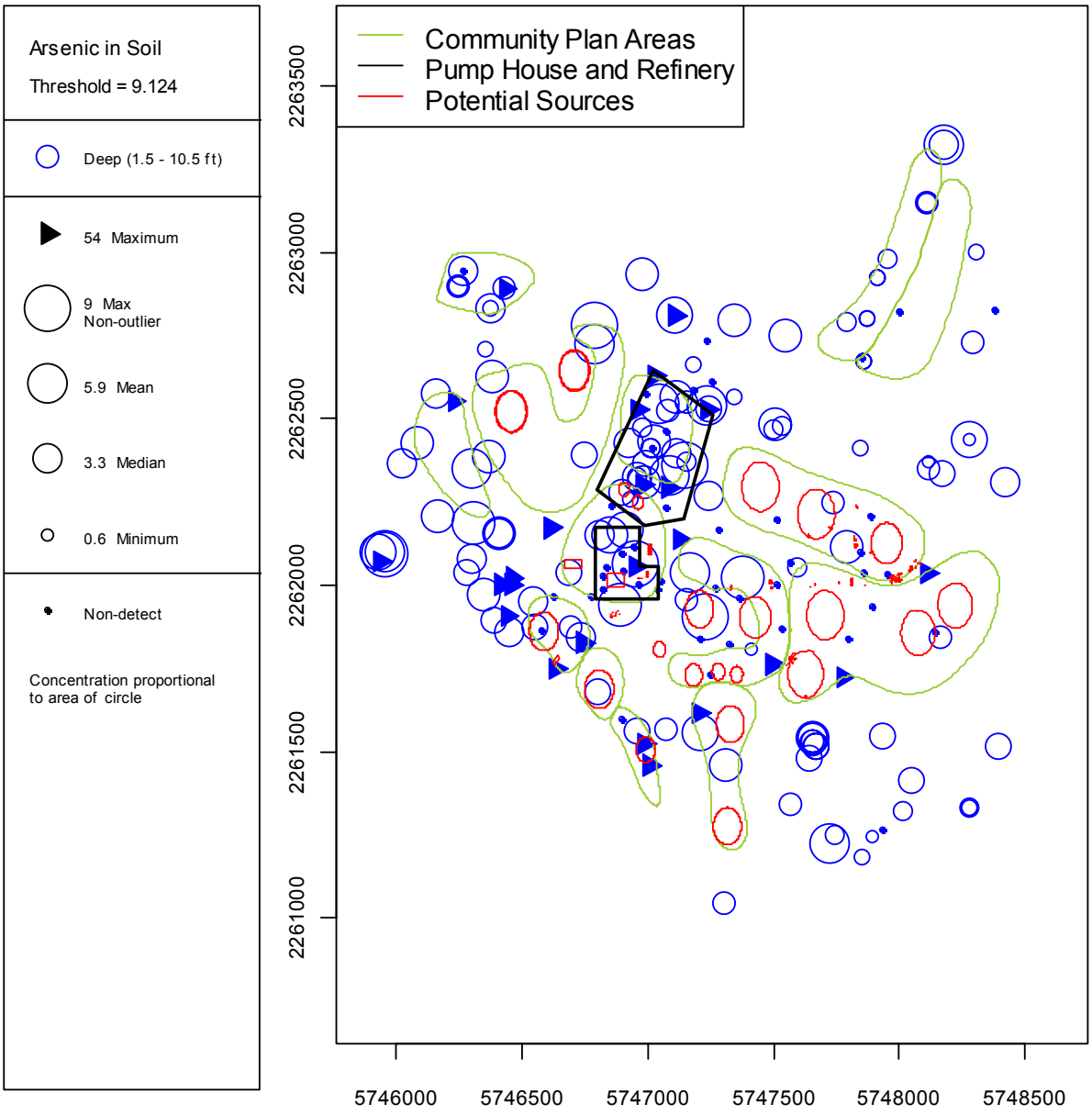
ORO (C25-C40)

	Sample Size	Number of Detects	Bootstrap Percentile UCL
Site Wide	537	296	1550 mg/kg

	Surface					Deep				
	N	Detects	125%	150%	200%	N	Detects	125%	150%	200%
Area A	4	2	0	0	0	11	1	0	0	0
Area B	4	4	0	0	0	5	2	0	0	0
Area C	6	5	1	1	1	18	4	0	0	0
Area D	3	3	1	1	1	26	11	1	0	0
Area E	5	5	1	1	1	43	38	6	6	5
Area F	4	4	1	1	1	14	9	0	0	0
Area G	2	2	1	1	1	4	2	0	0	0
Area H	1	1	0	0	0	5	1	0	0	0
Area I	3	3	1	1	1	28	18	6	4	3
Area J	3	3	0	0	0	26	15	4	3	2
Area K	2	2	1	0	0	9	5	0	0	0
Area L	5	4	1	1	1	28	11	0	0	0
Area M	2	1	0	0	0	6	4	2	2	1
Area Parking	5	2	0	0	0	14	1	0	0	0
Open Space	61	50	18	18	16	190	83	4	4	3
Total	110	91	26	25	23	427	205	23	19	14

Metals in Soil Bubbleplots




Arsenic in Soil
Threshold = 9.124
Deep (1.5 - 10.5 ft)
54 Maximum
9 Max
Non-outlier
5.9 Mean
3.3 Median
0.6 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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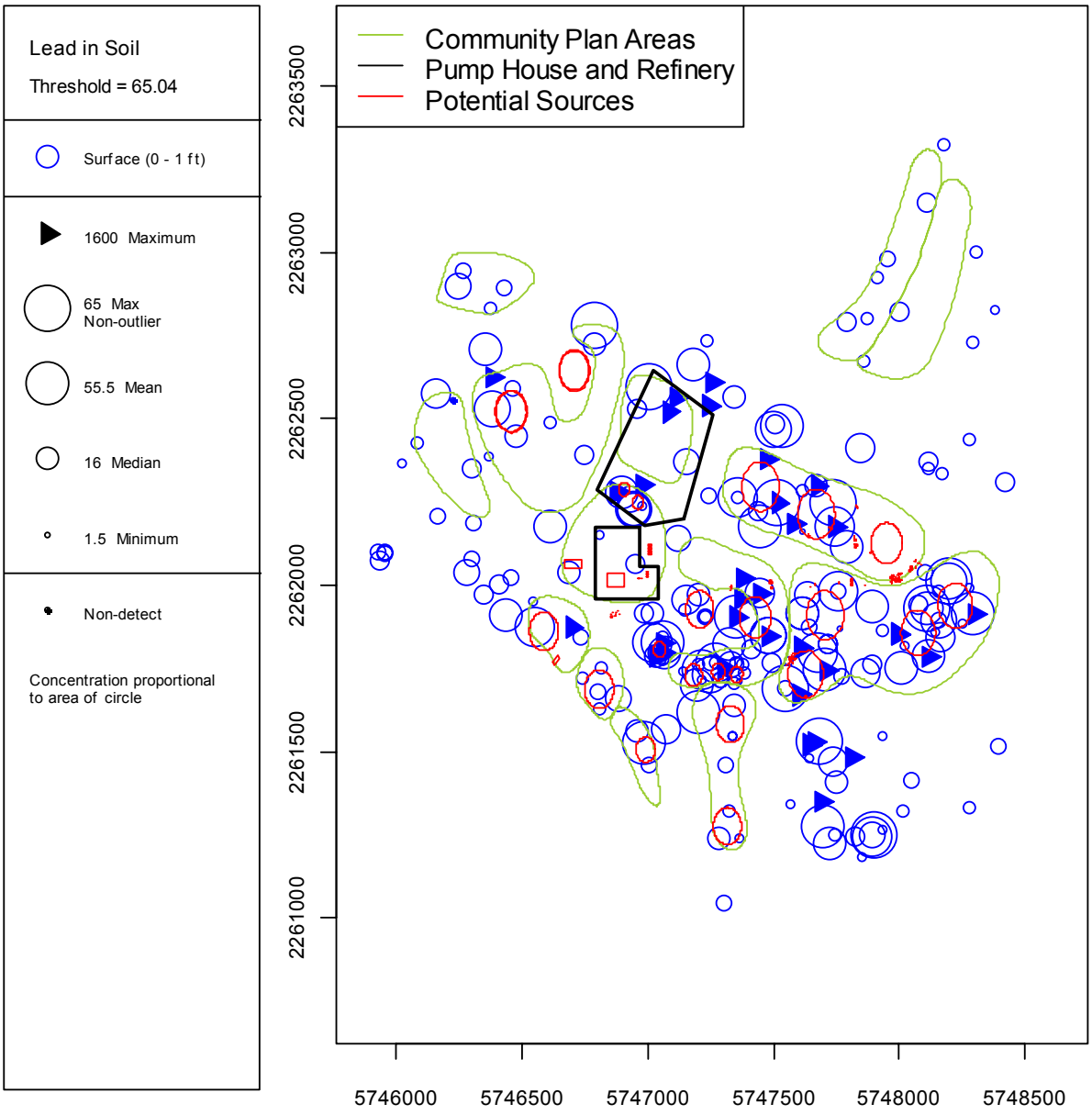
Lead in Soil
Threshold = 65.04
Surface (0 - 1 ft)
1600 Maximum
65 Max
Non-outlier
55.5 Mean
16 Median
1.5 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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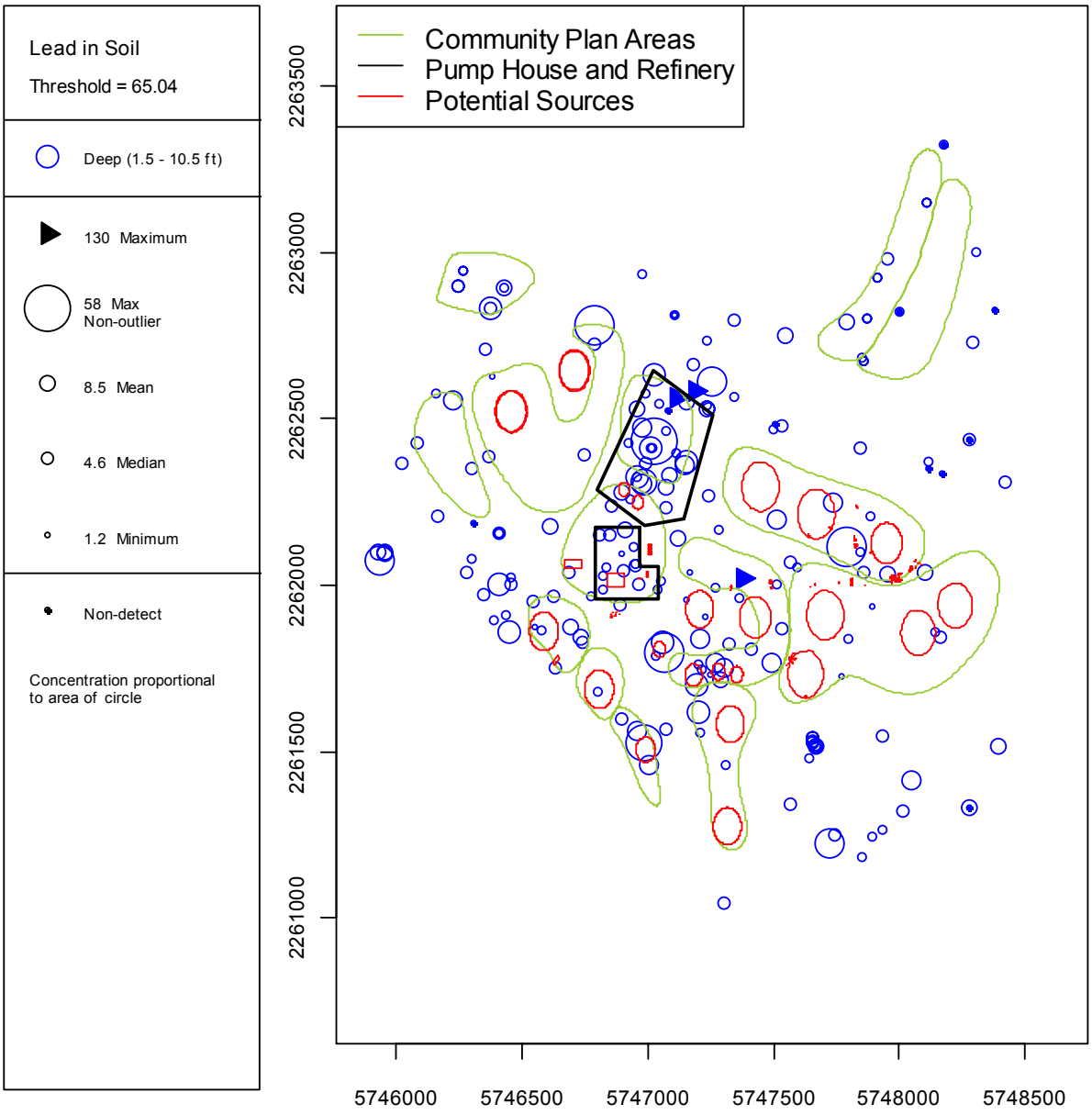
Lead in Soil
Threshold = 65.04
Deep (1.5 - 10.5 ft)
130 Maximum
58 Max
Non-outlier
8.5 Mean
4.6 Median
1.2 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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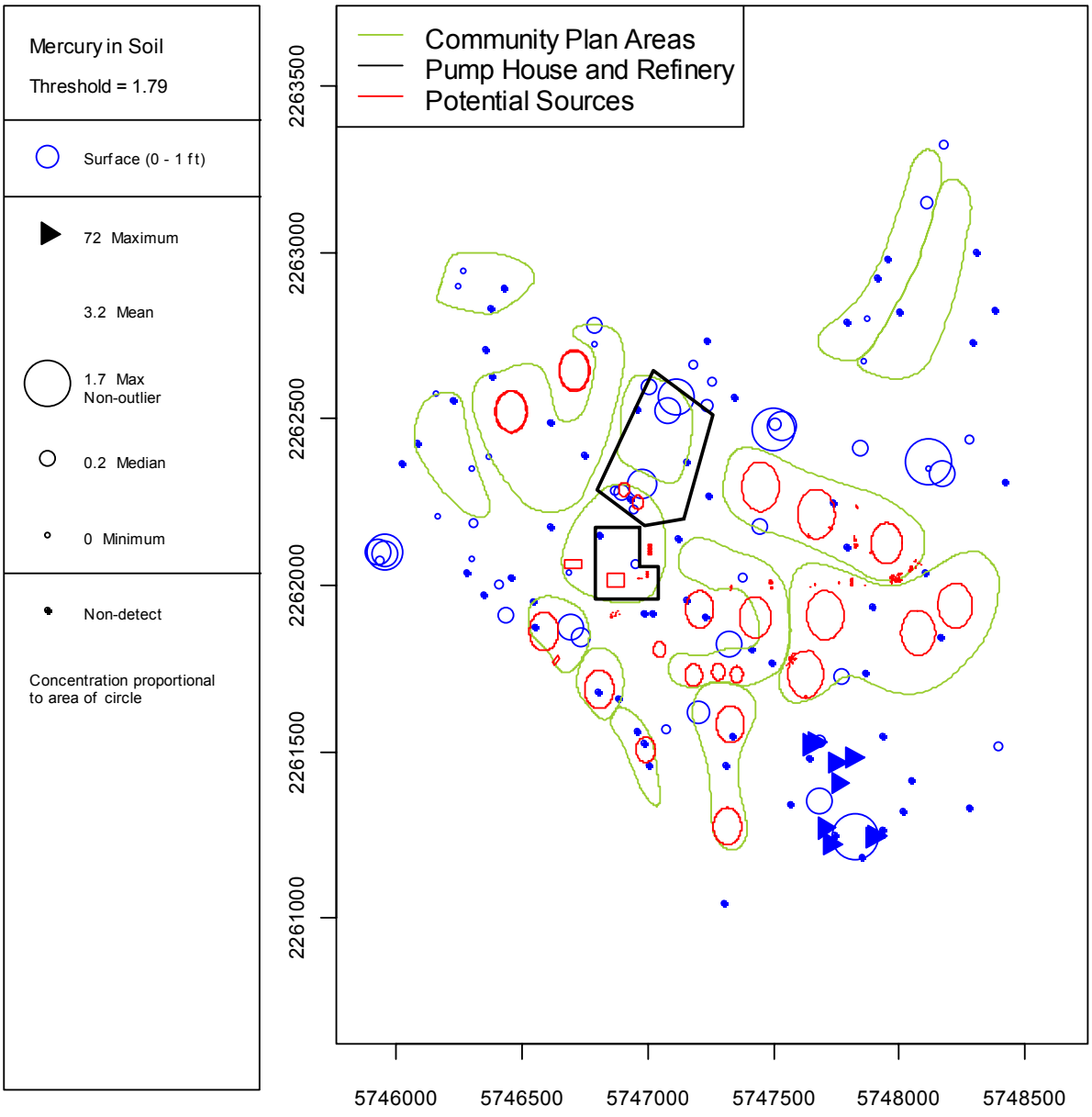
Mercury in Soil
Threshold = 1.79
Surface (0 - 1 ft)
72 Maximum
3.2 Mean
1.7 Max Non-outlier
0.2 Median
0 Minimum
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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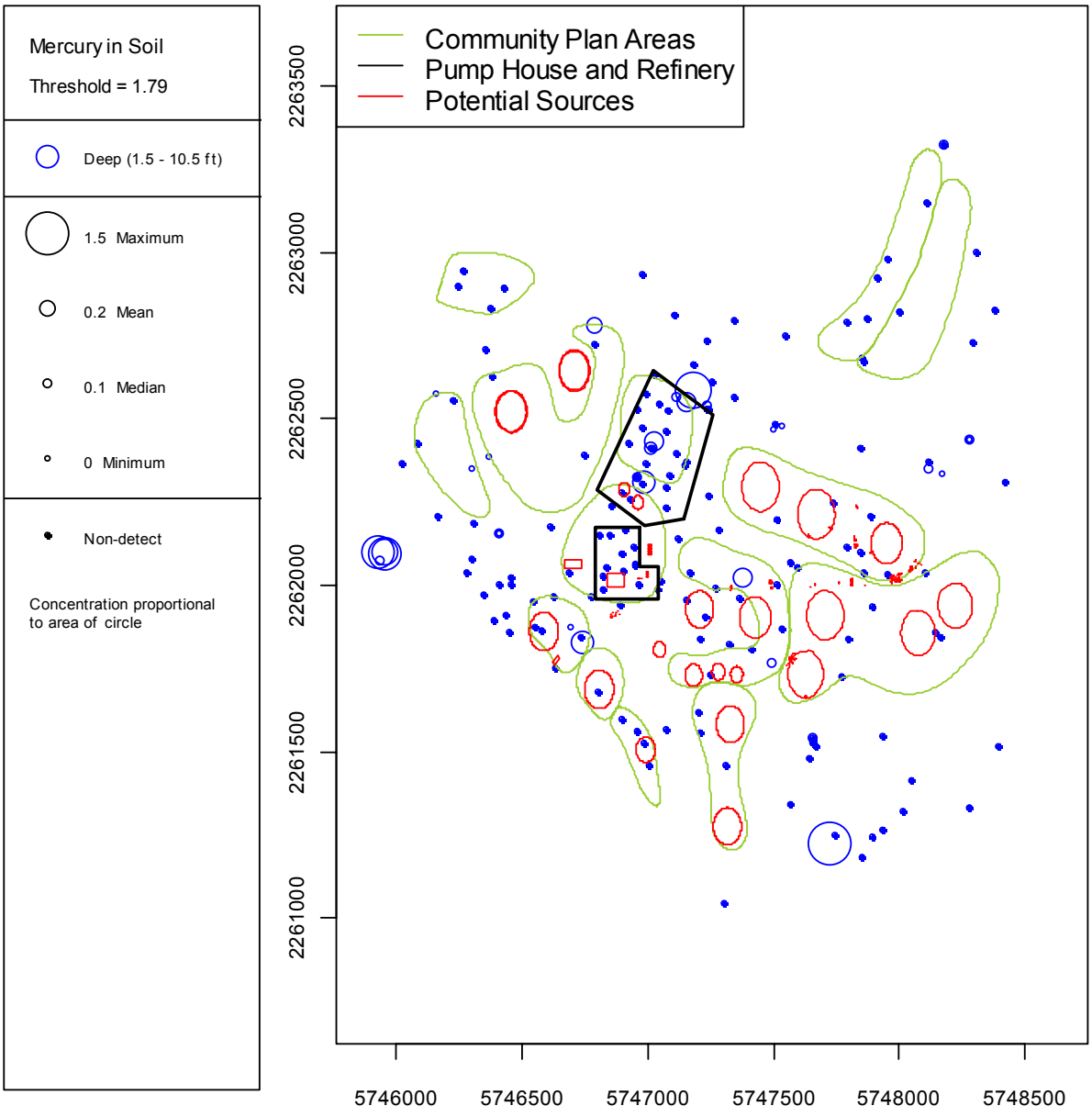
Mercury in Soil
Threshold = 1.79
Deep (1.5 - 10.5 ft)
1.5 Maximum
0.2 Mean
0.1 Median
0 Minimum
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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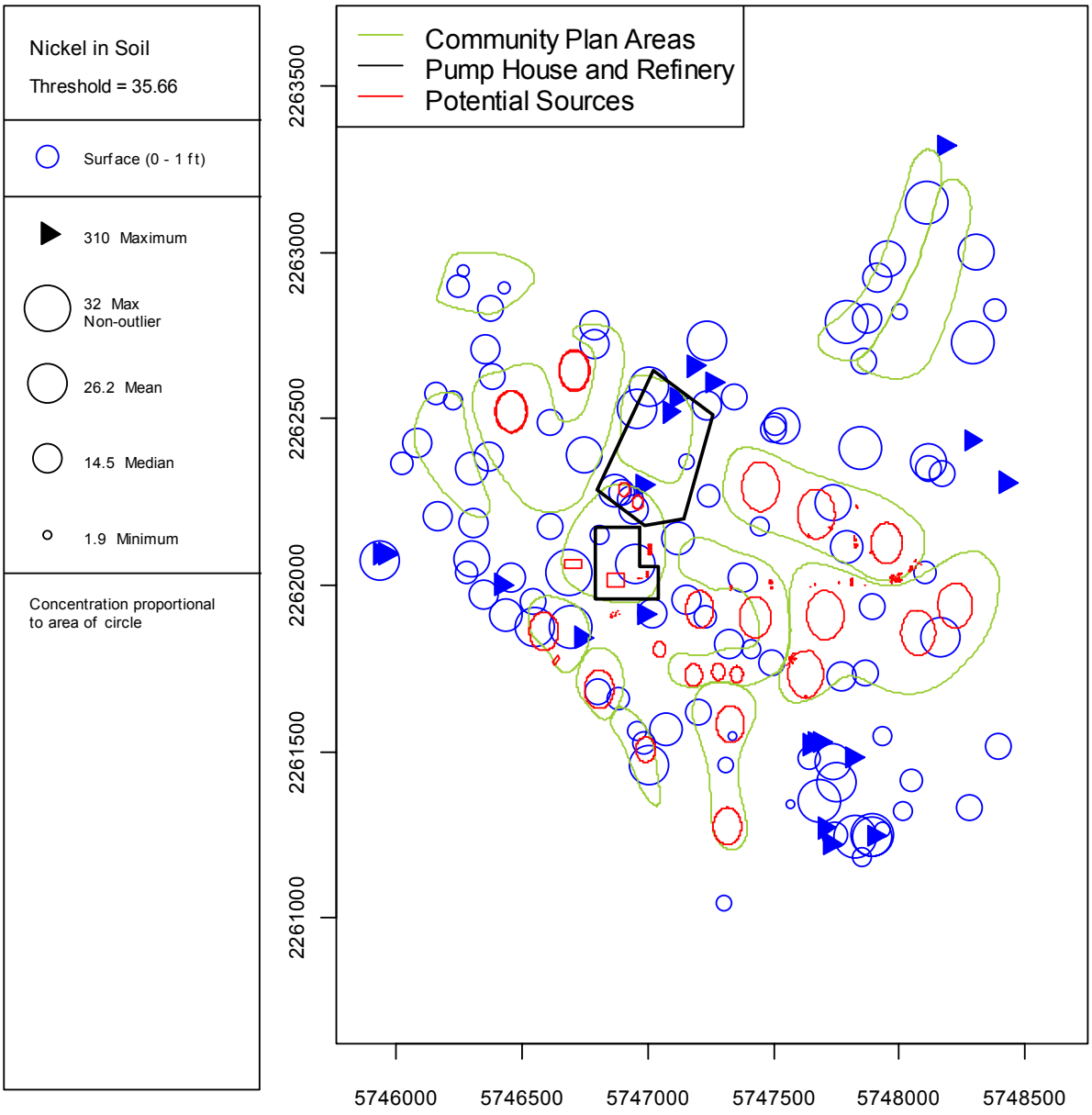
Nickel in Soil
Threshold = 35.66
Surface (0 - 1 ft)
310 Maximum
32 Max
Non-outlier
26.2 Mean
14.5 Median
1.9 Minimum
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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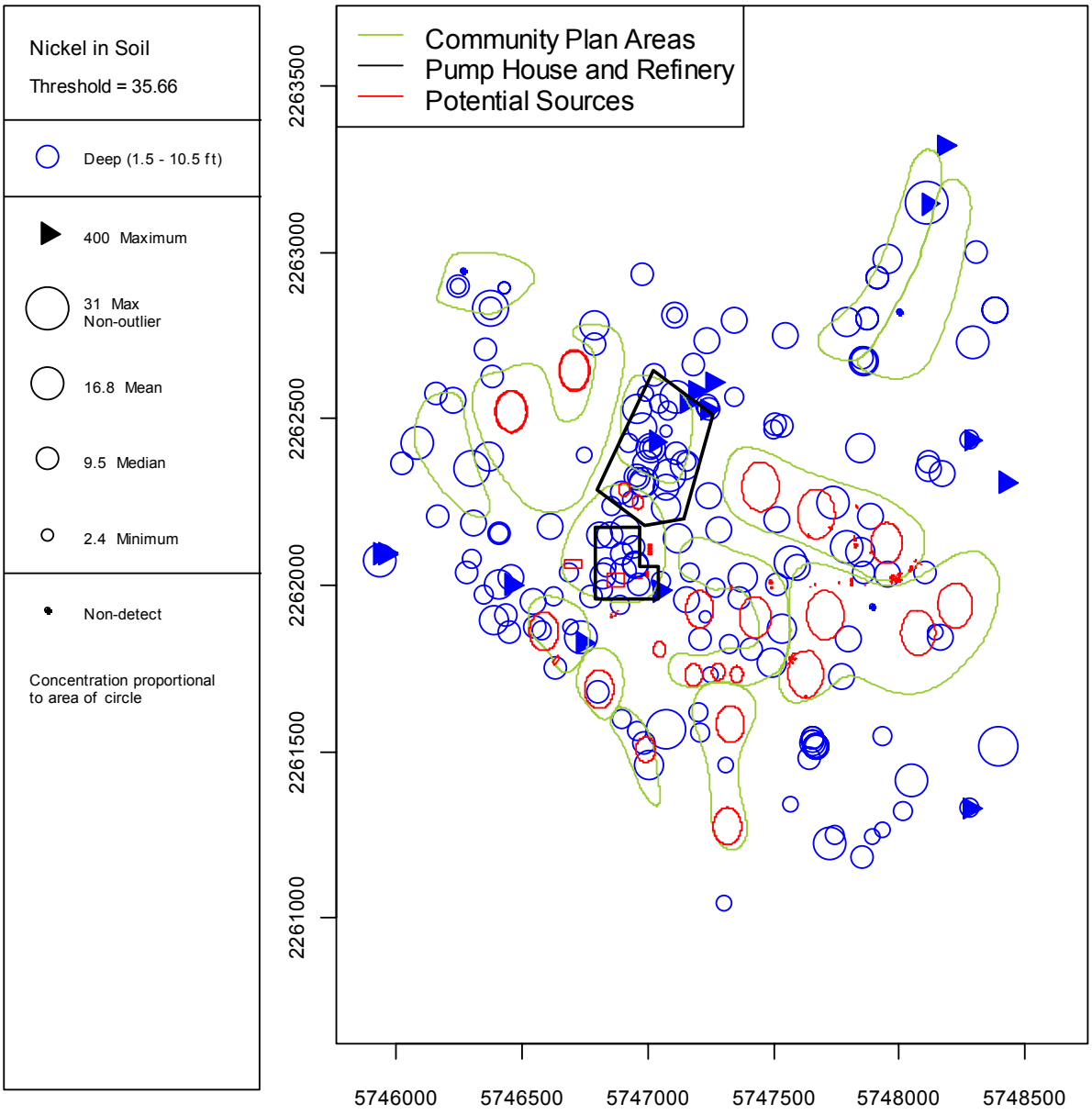
Nickel in Soil
Threshold = 35.66
Deep (1.5 - 10.5 ft)
400 Maximum
31 Max
Non-outlier
16.8 Mean
9.5 Median
2.4 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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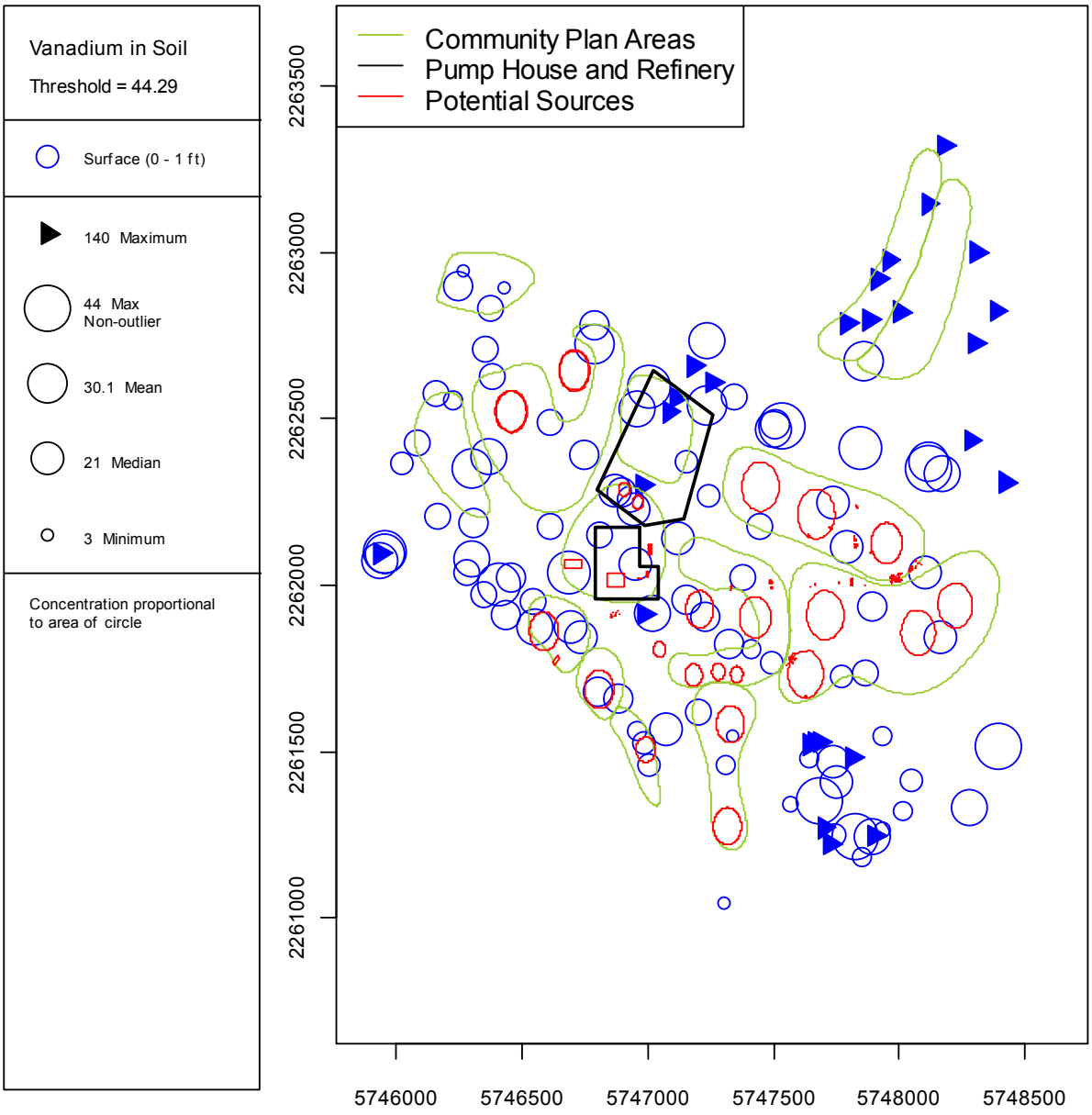
Vanadium in Soil
Threshold = 44.29
Surface (0 - 1 ft)
140 Maximum
44 Max
Non-outlier
30.1 Mean
21 Median
3 Minimum
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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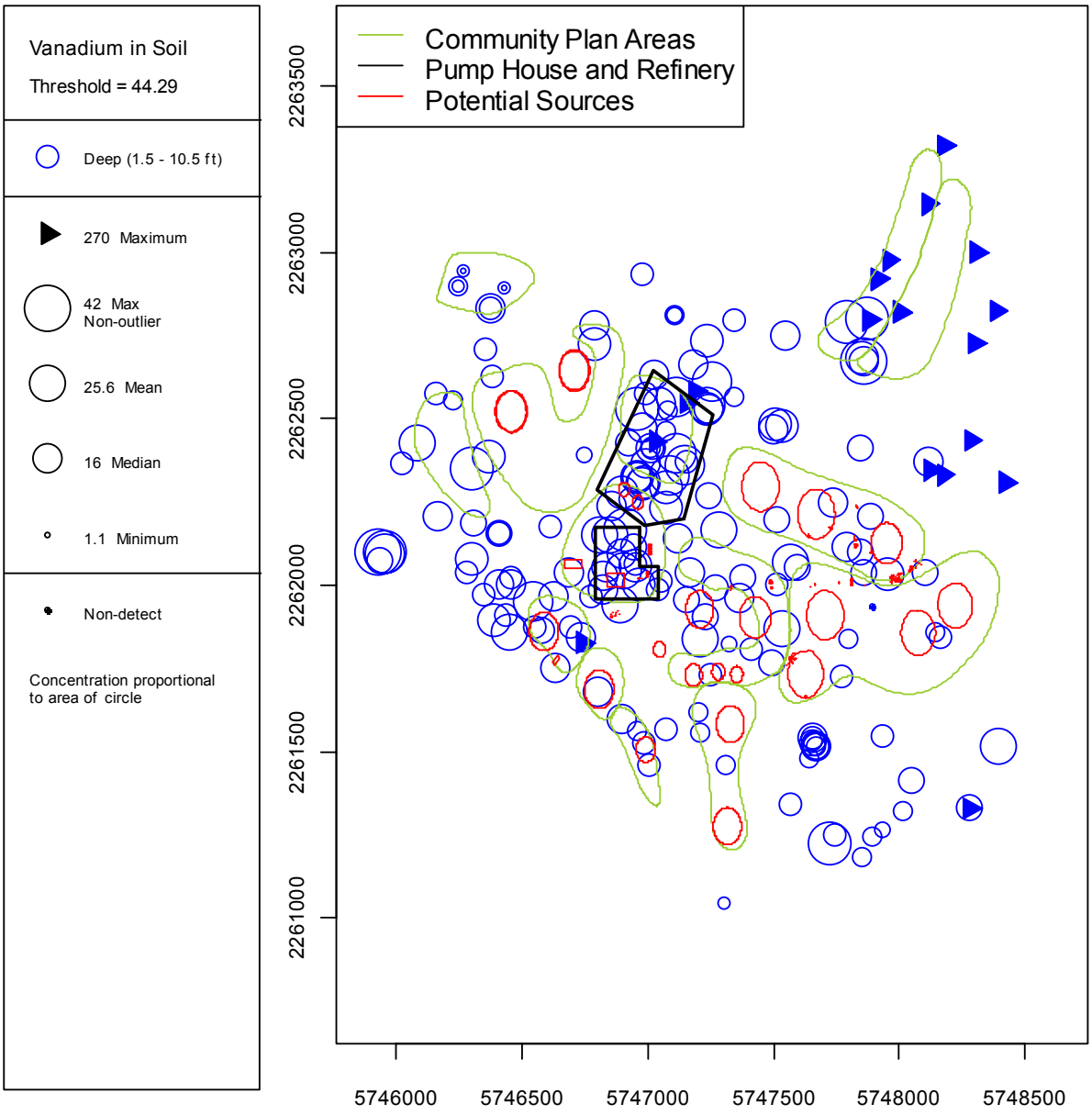
Vanadium in Soil
Threshold = 44.29
Deep (1.5 - 10.5 ft)
270 Maximum
42 Max
Non-outlier
25.6 Mean
16 Median
1.1 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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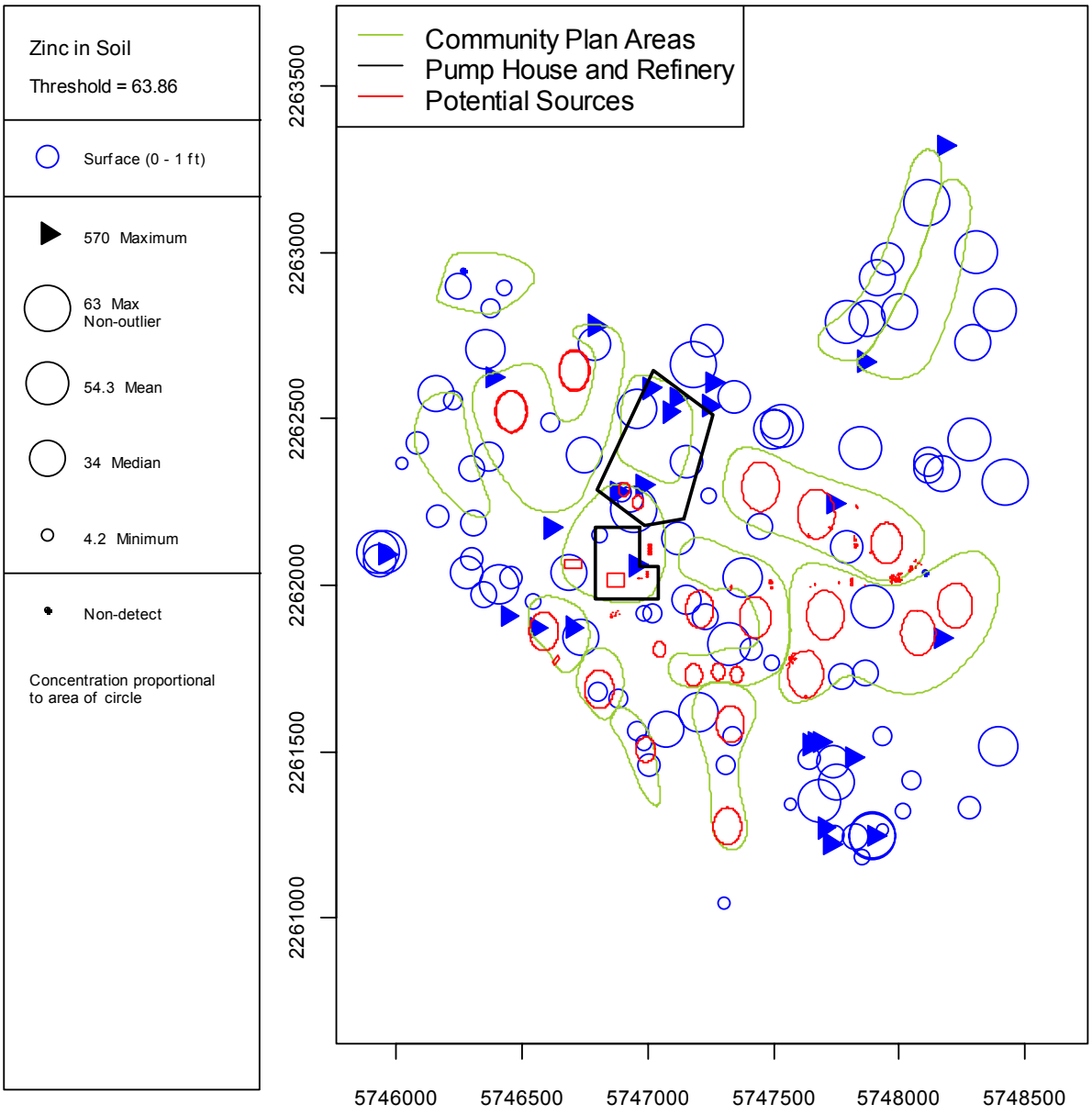
5748500


Zinc in Soil
Threshold = 63.86
Surface (0 - 1 ft)
570 Maximum
63 Max
Non-outlier
54.3 Mean
34 Median
4.2 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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2262500
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2261500
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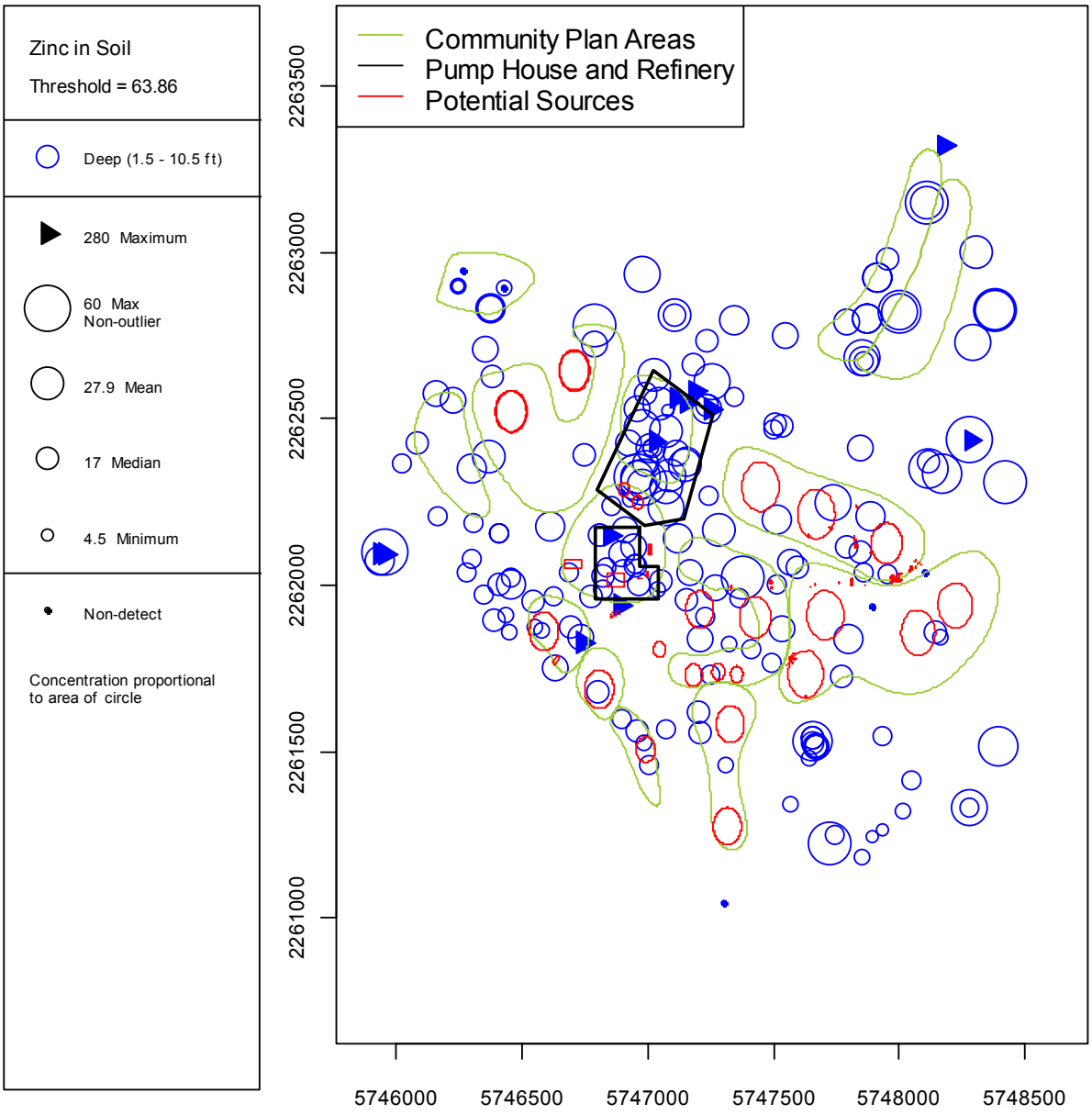
Zinc in Soil
Threshold = 63.86
Deep (1.5 - 10.5 ft)
280 Maximum
60 Max
Non-outlier
27.9 Mean
17 Median
4.5 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
2263500
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5746000
5746500
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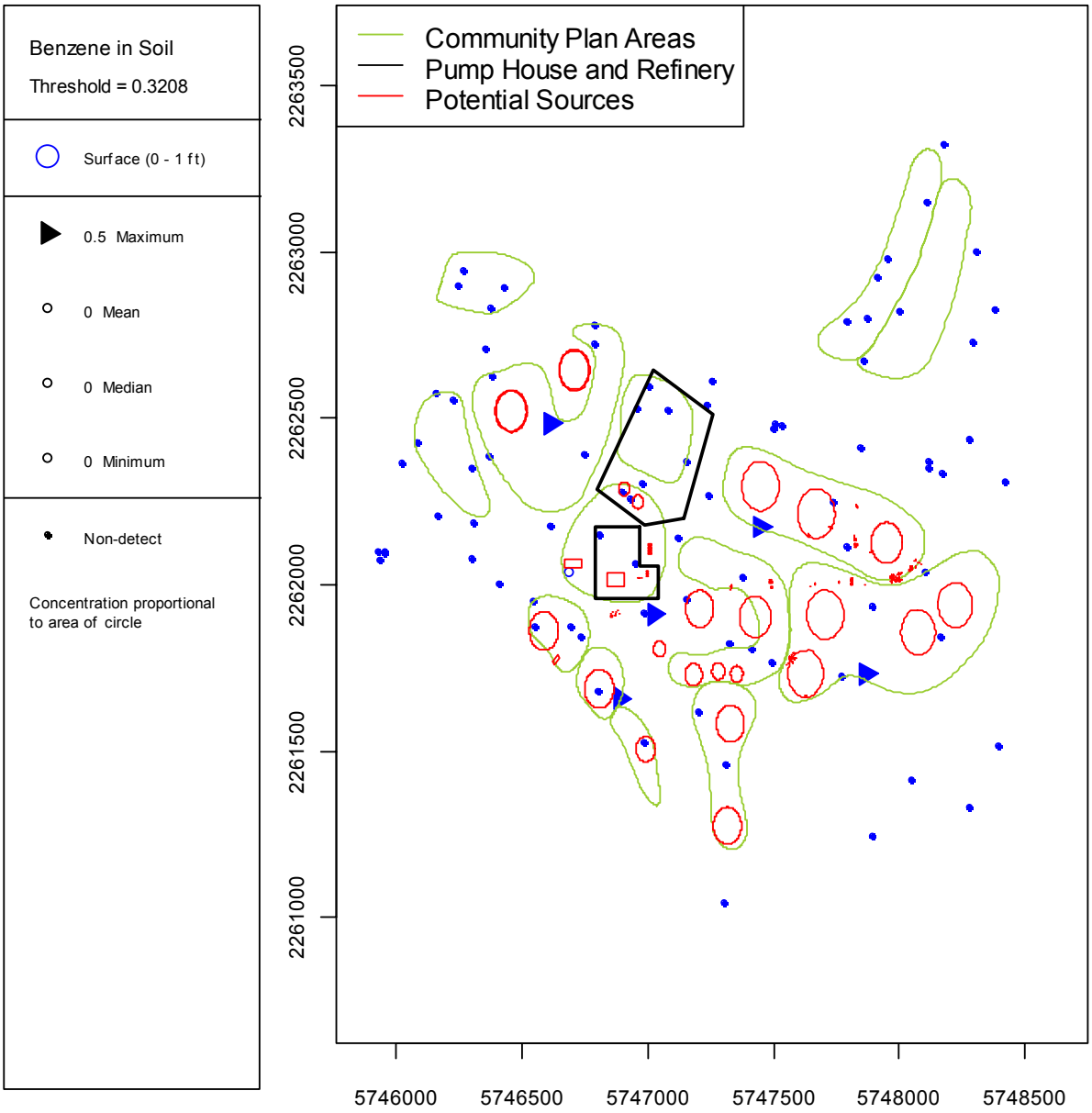
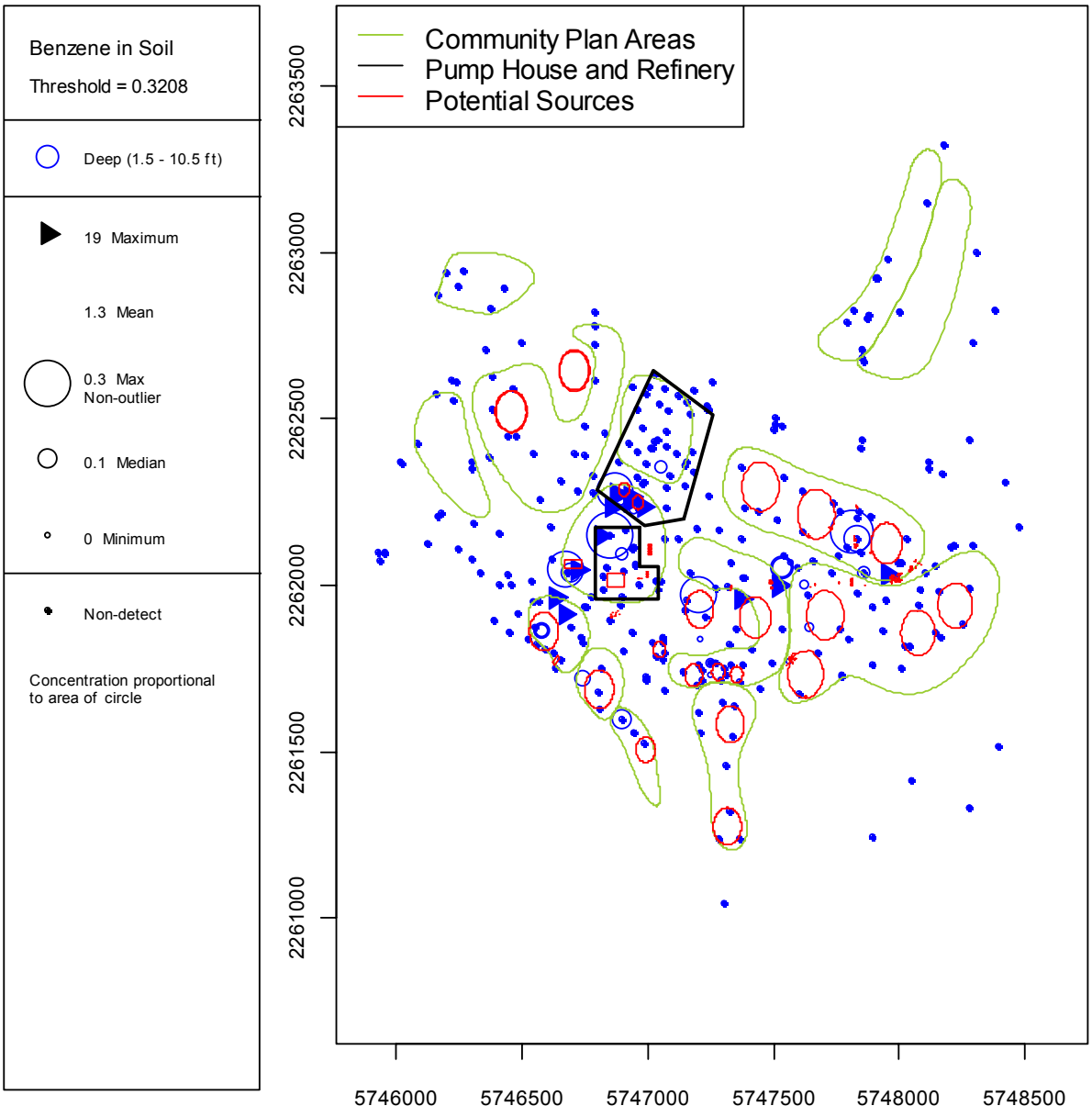
5747500
5748000
5748500

BTEX in Soil Bubbleplots




Benzene in Soil
Threshold = 0.3208
Deep (1.5 - 10.5 ft)
19 Maximum
1.3 Mean
0.3 Max Non-outlier
0.1 Median
0 Minimum
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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5746000
5746500
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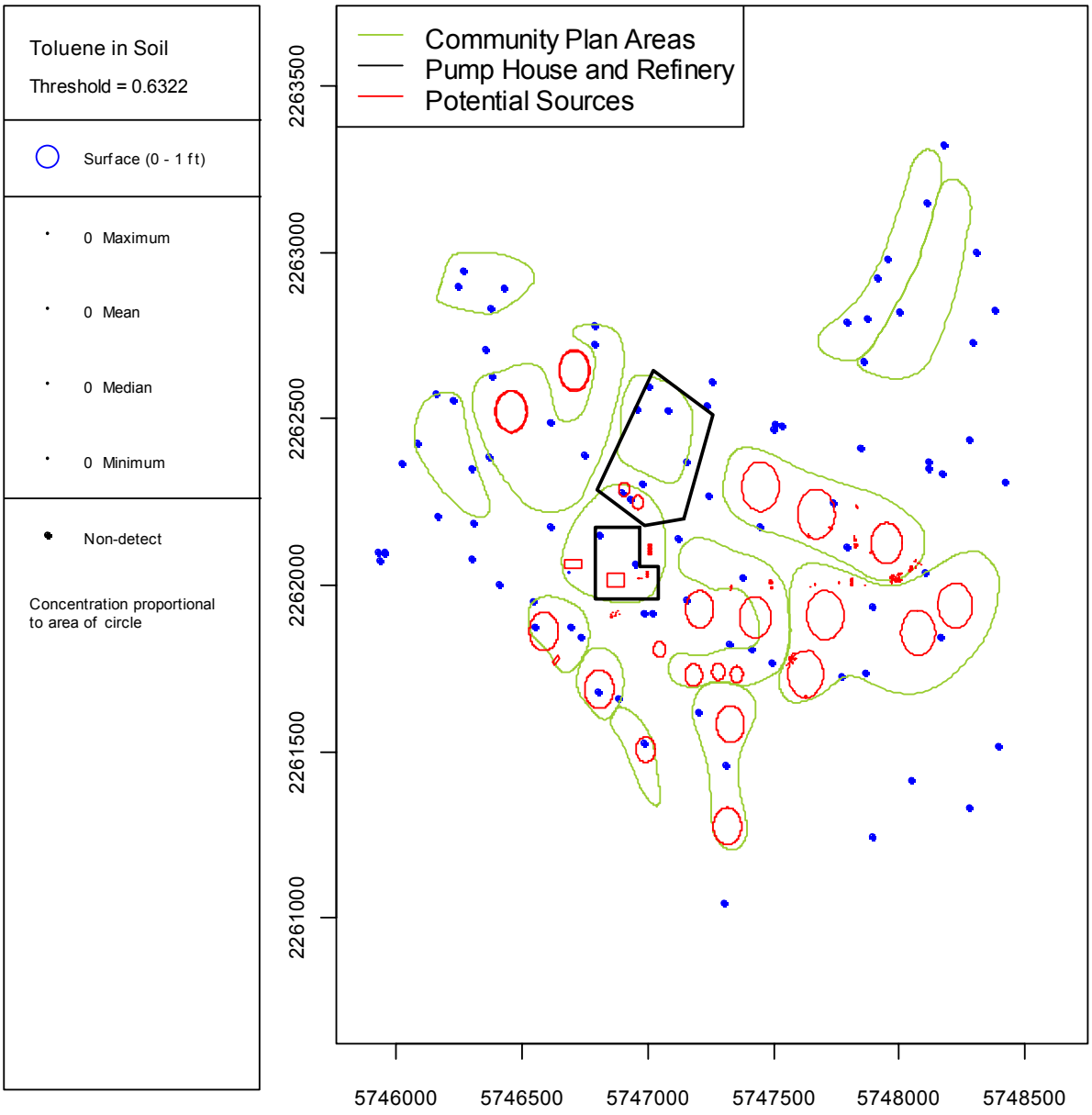
5748500


Toluene in Soil
Threshold = 0.6322
Surface (0 - 1 ft)
0 Maximum
0 Mean
0 Median
0 Minimum
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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2262000
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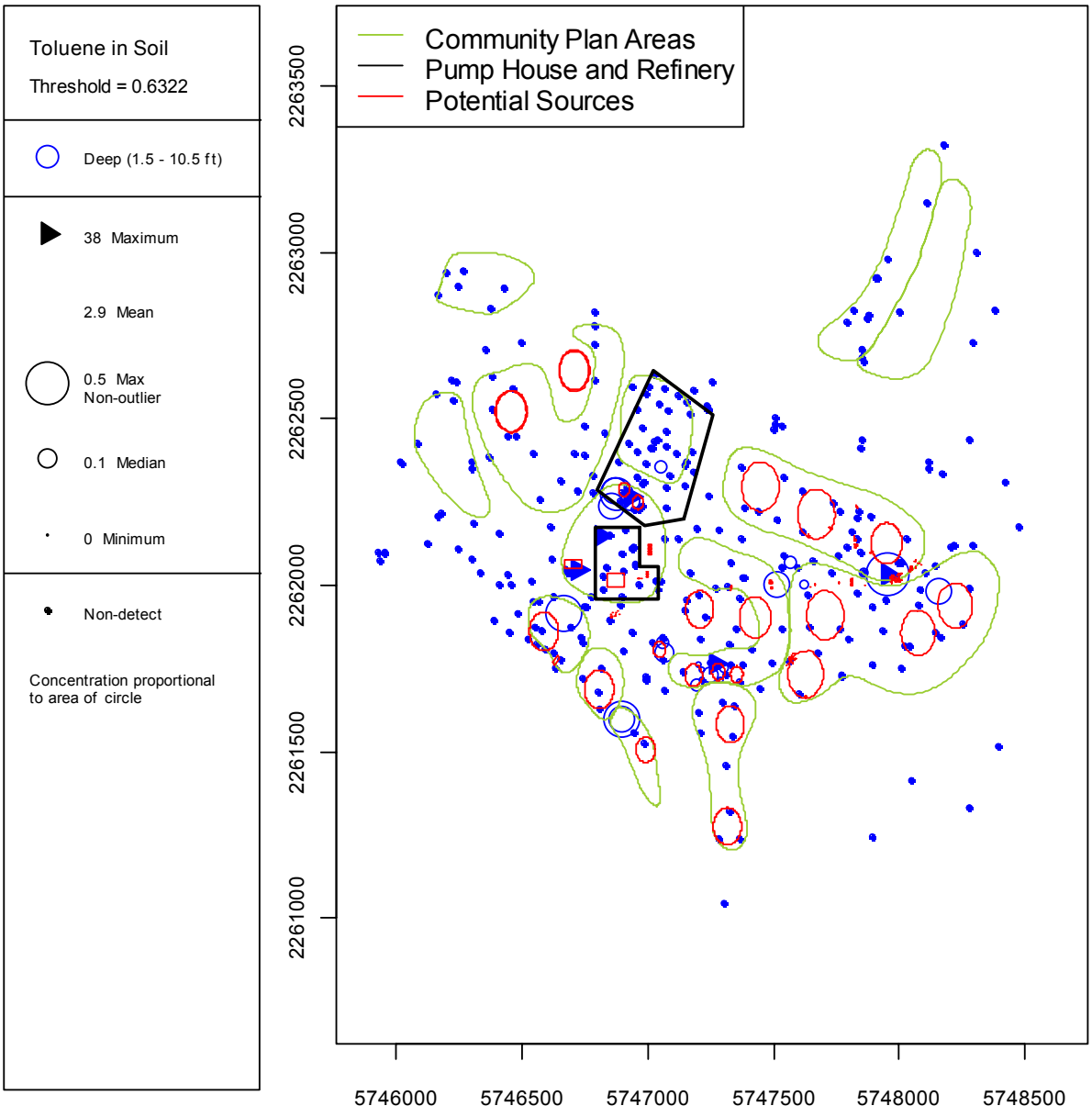
Toluene in Soil
Threshold = 0.6322
Deep (1.5 - 10.5 ft)
38 Maximum
2.9 Mean
0.5 Max Non-outlier
0.1 Median
0 Minimum
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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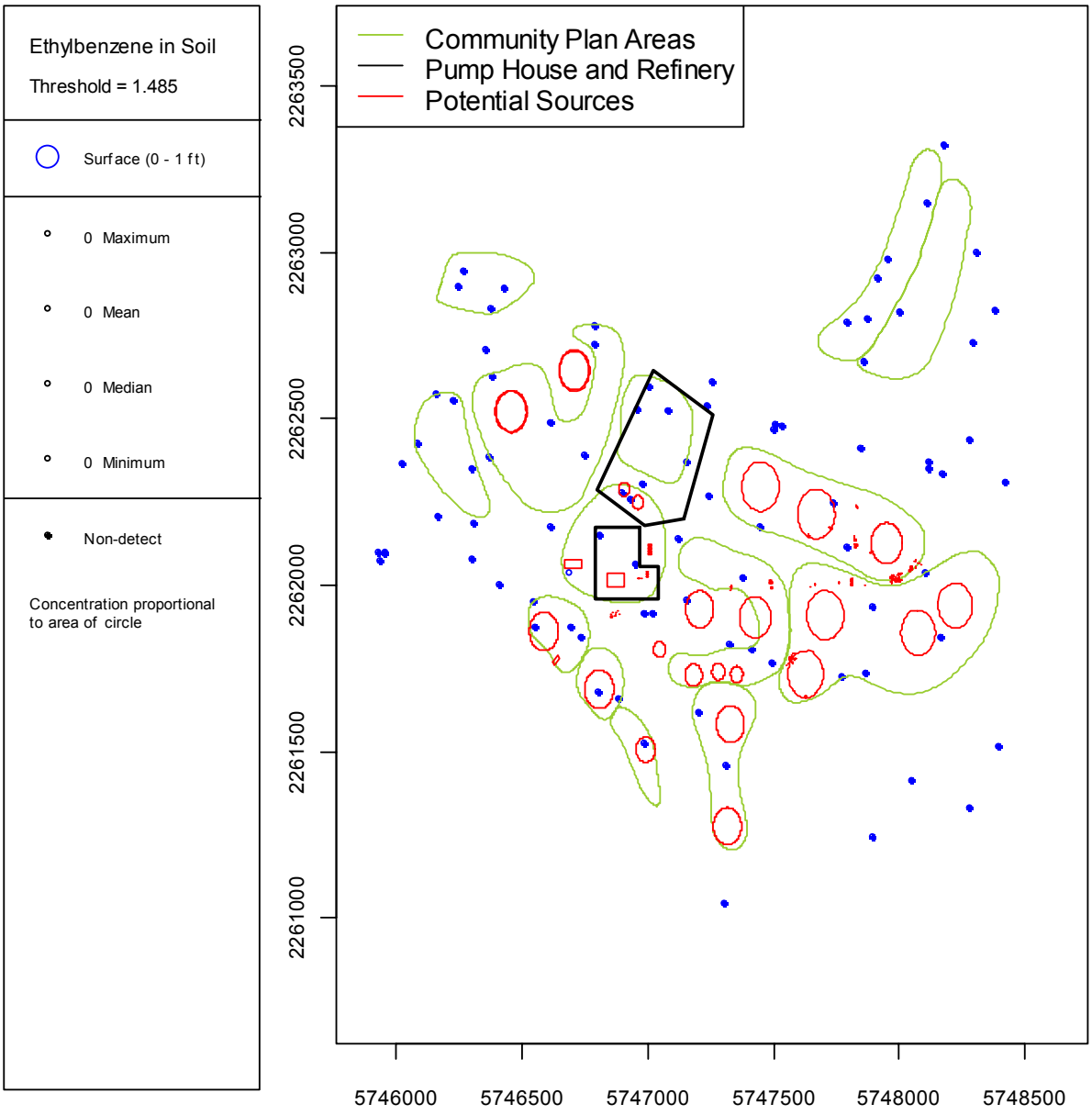
Ethylbenzene in Soil
Threshold = 1.485
Surface (0 - 1 ft)
0 Maximum
0 Mean
0 Median
0 Minimum
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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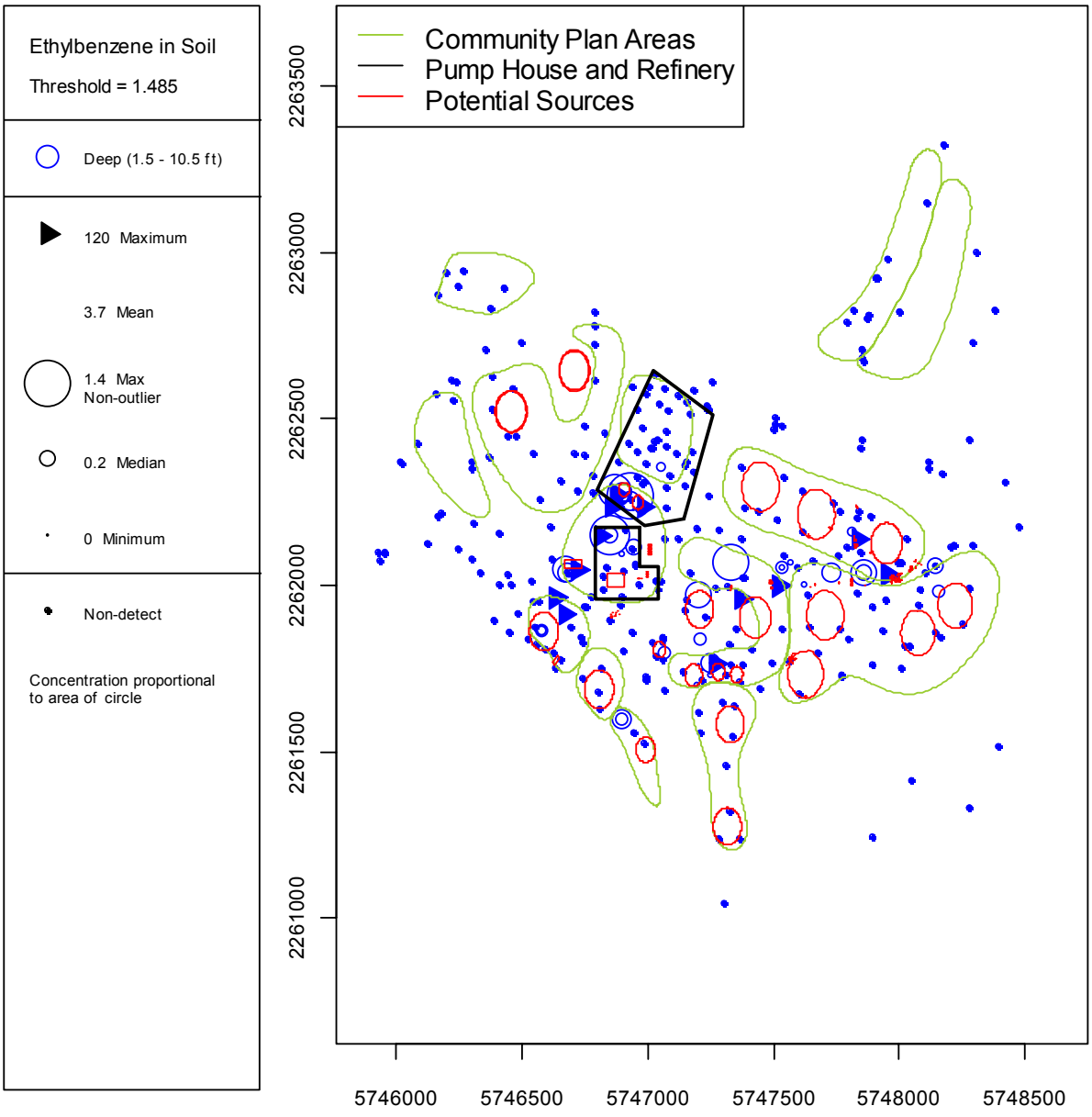
Ethylbenzene in Soil
Threshold = 1.485
Deep (1.5 - 10.5 ft)
120 Maximum
3.7 Mean
1.4 Max Non-outlier
0.2 Median
0 Minimum
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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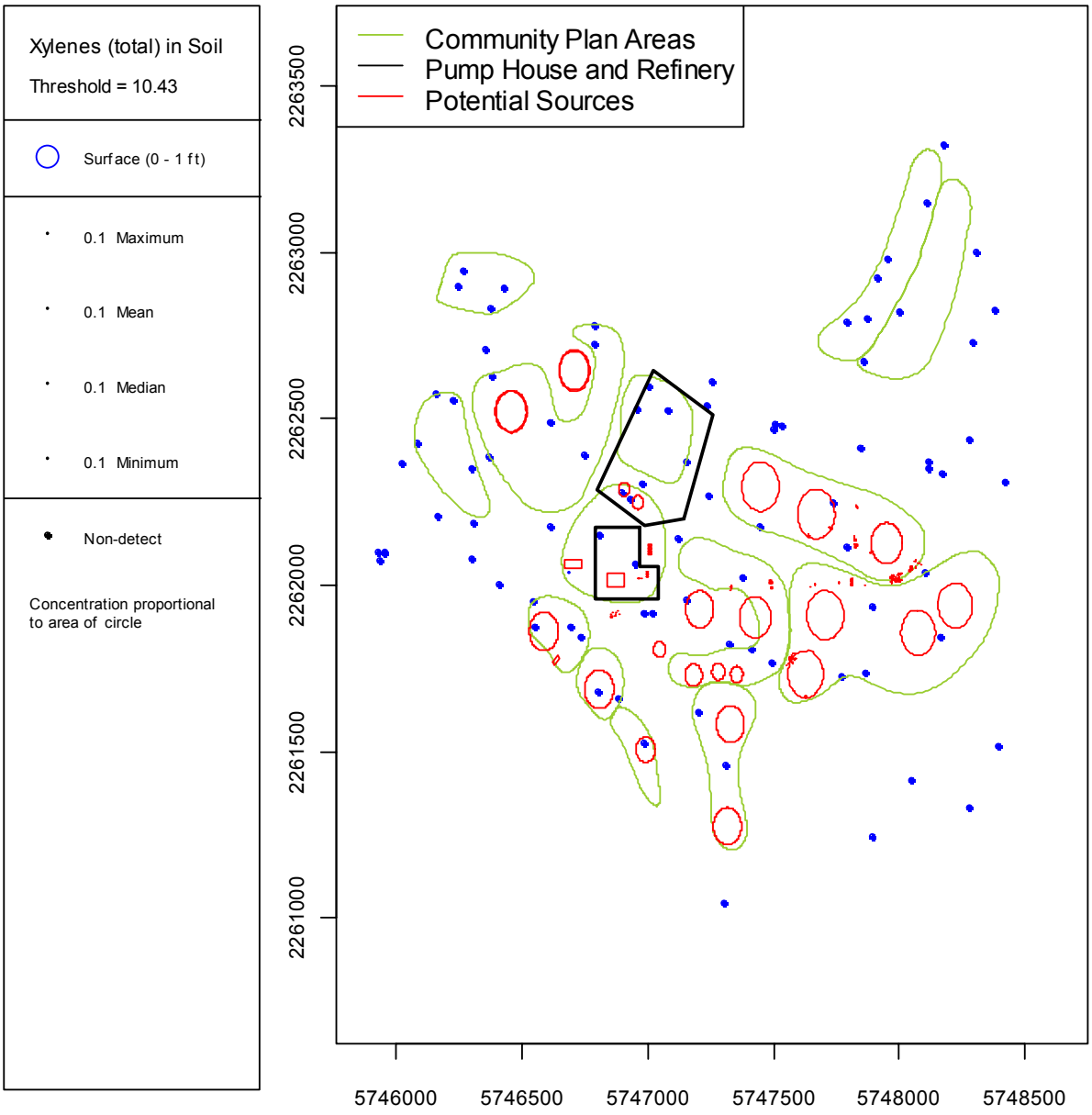
Xylenes (total) in Soil
Threshold = 10.43
Surface (0 - 1 ft)
0.1 Maximum
0.1 Mean
0.1 Median
0.1 Minimum
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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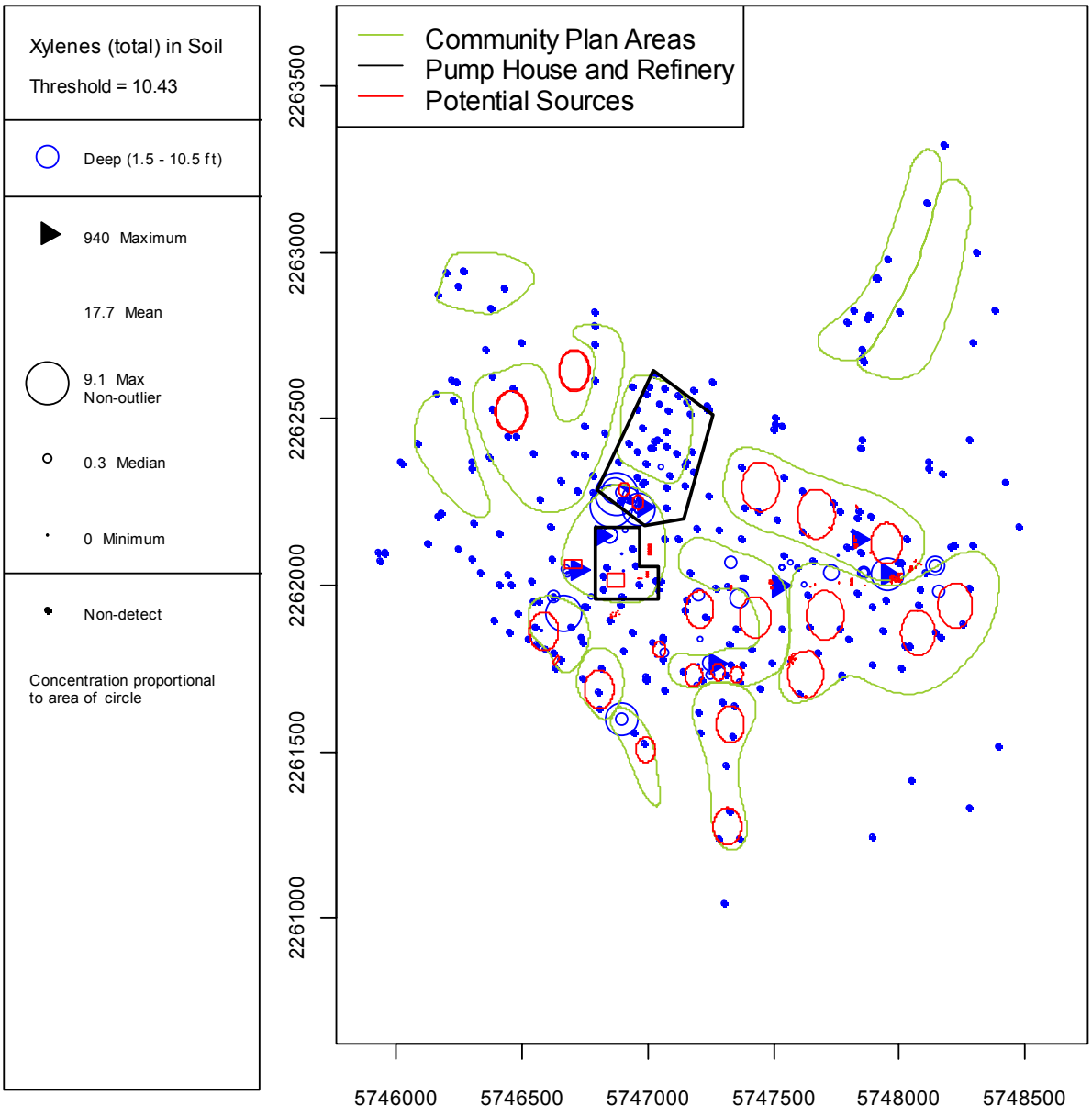
Xylenes (total) in Soil
Threshold = 10.43
Deep (1.5 - 10.5 ft)
940 Maximum
17.7 Mean
9.1 Max Non-outlier
0.3 Median
0 Minimum
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
2263500
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5746000
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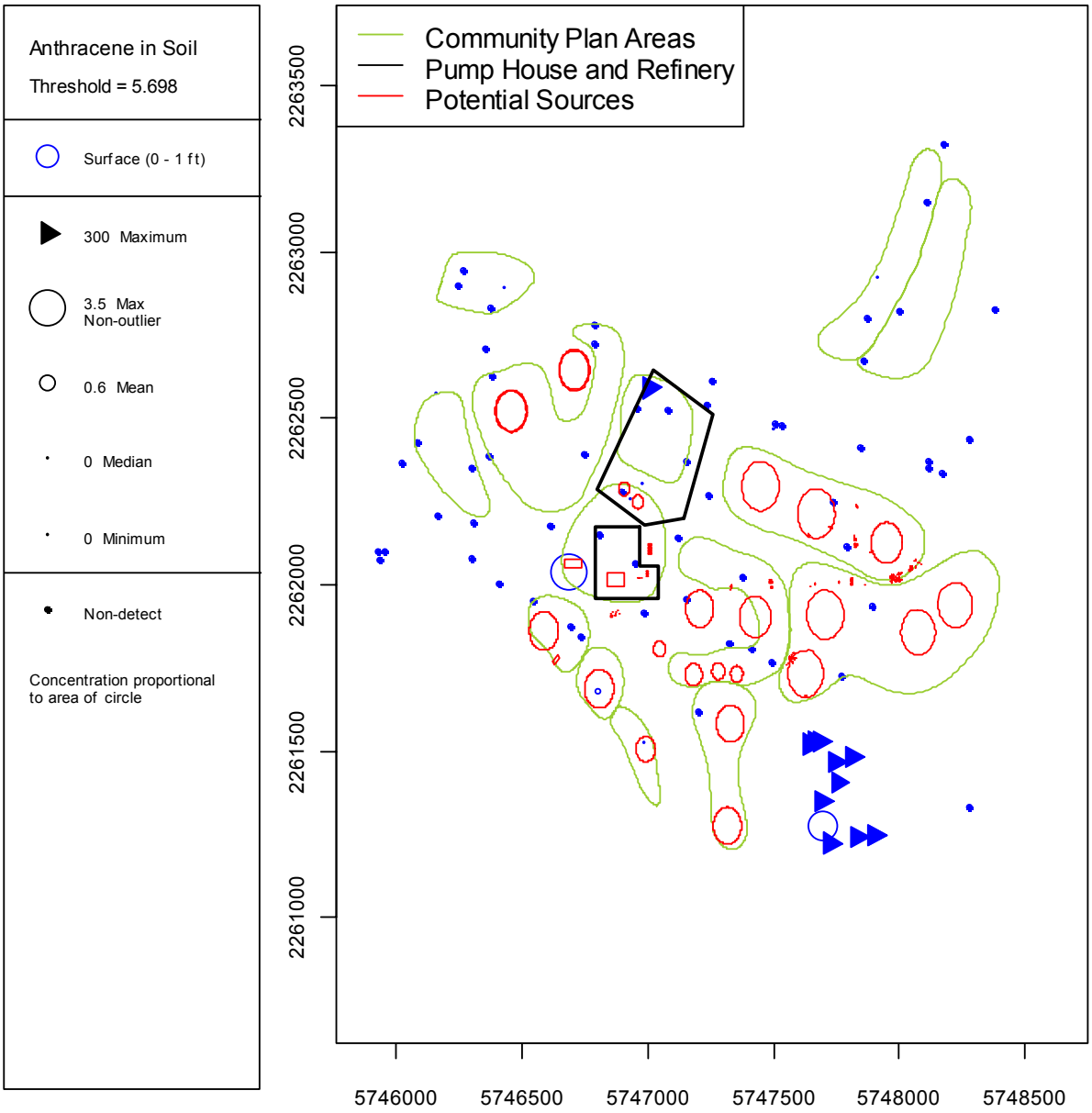
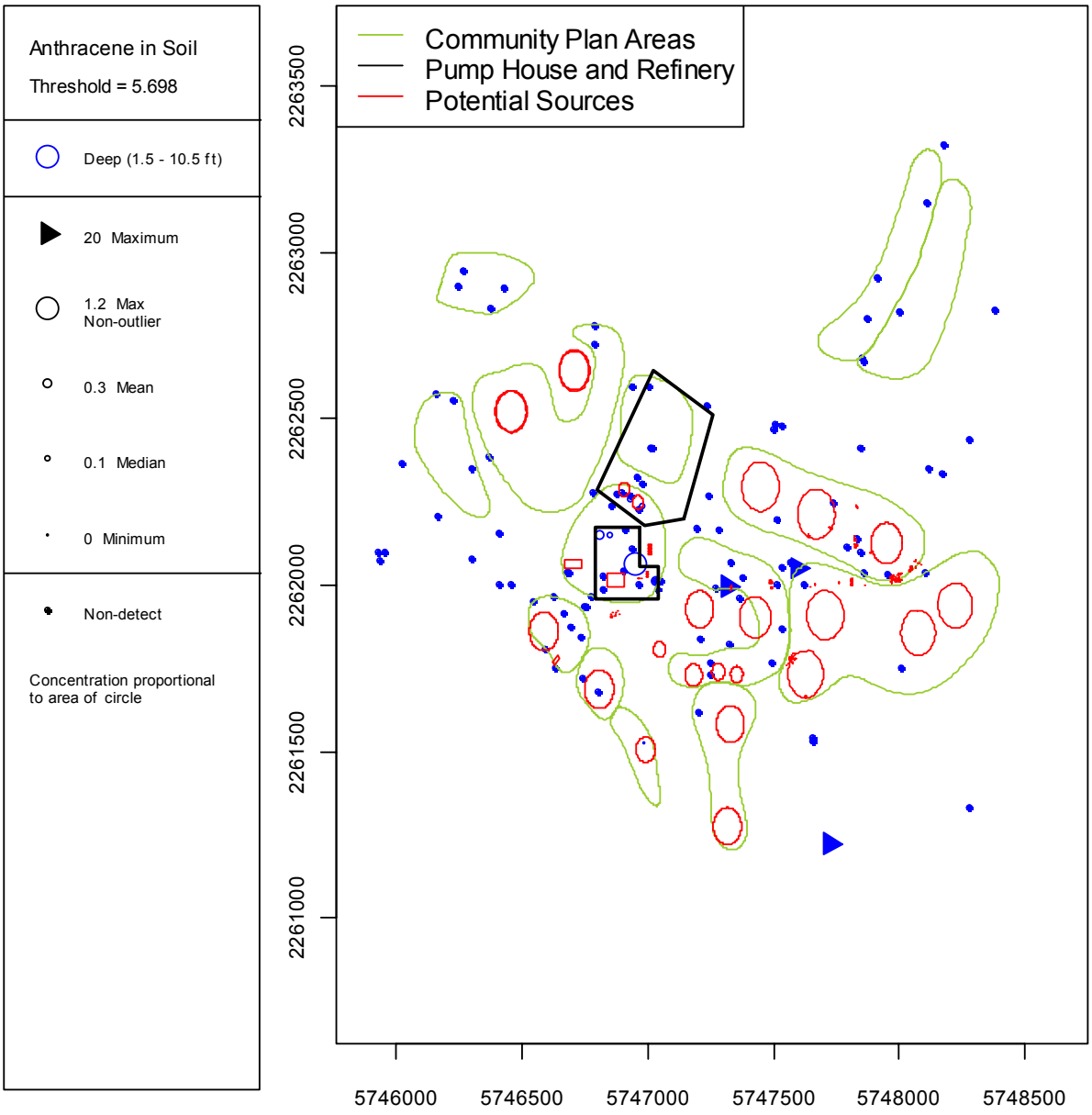
5747500
5748000
5748500

PAHs in Soil Bubbleplots




Anthracene in Soil
Threshold = 5.698
Deep (1.5 - 10.5 ft)
20 Maximum
1.2 Max
Non-outlier
0.3 Mean
0.1 Median
0 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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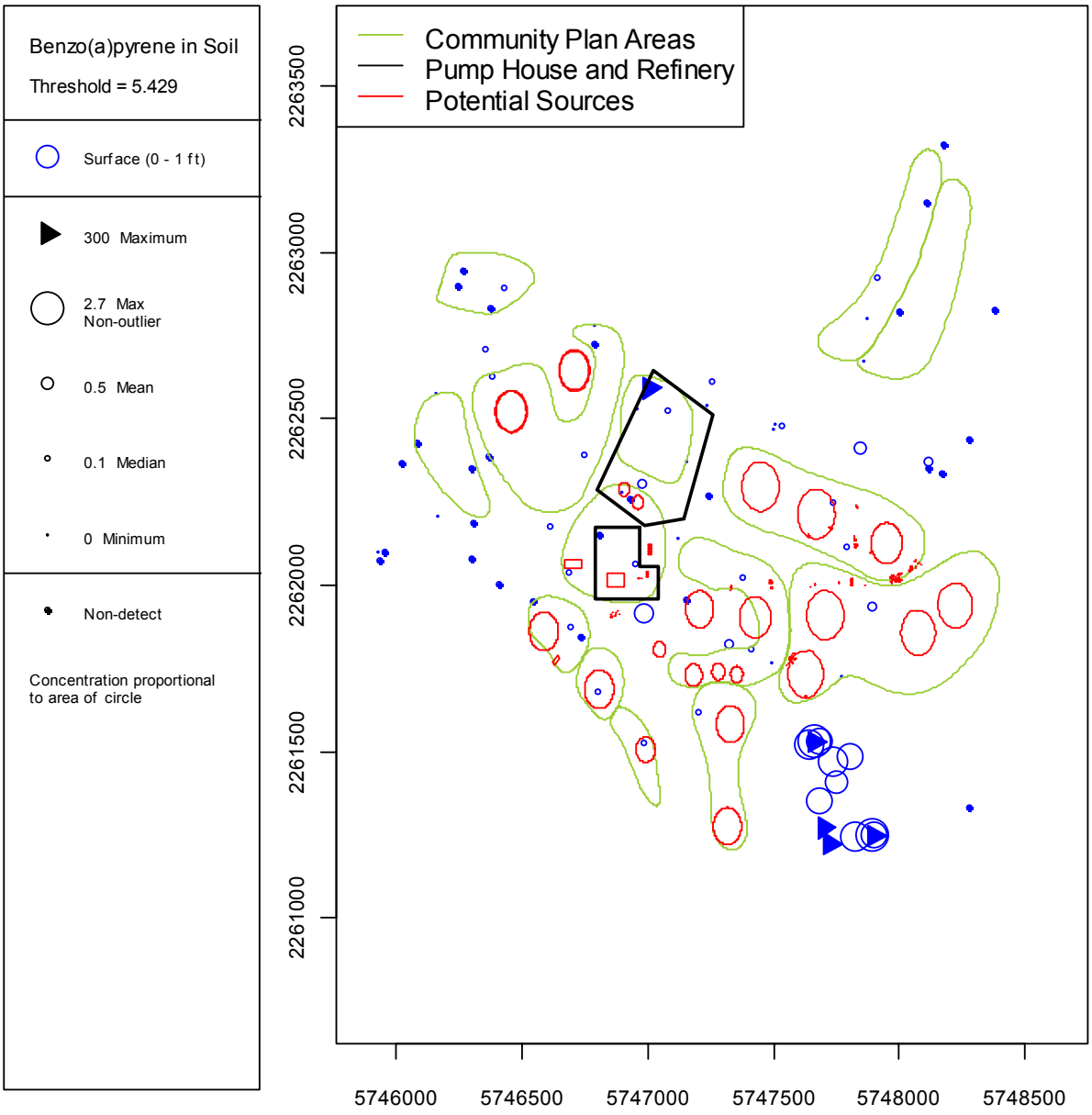
Benzo(a)pyrene in Soil
Threshold = 5.429
Surface (0 - 1 ft)
300 Maximum
2.7 Max Non-outlier
0.5 Mean
0.1 Median
0 Minimum
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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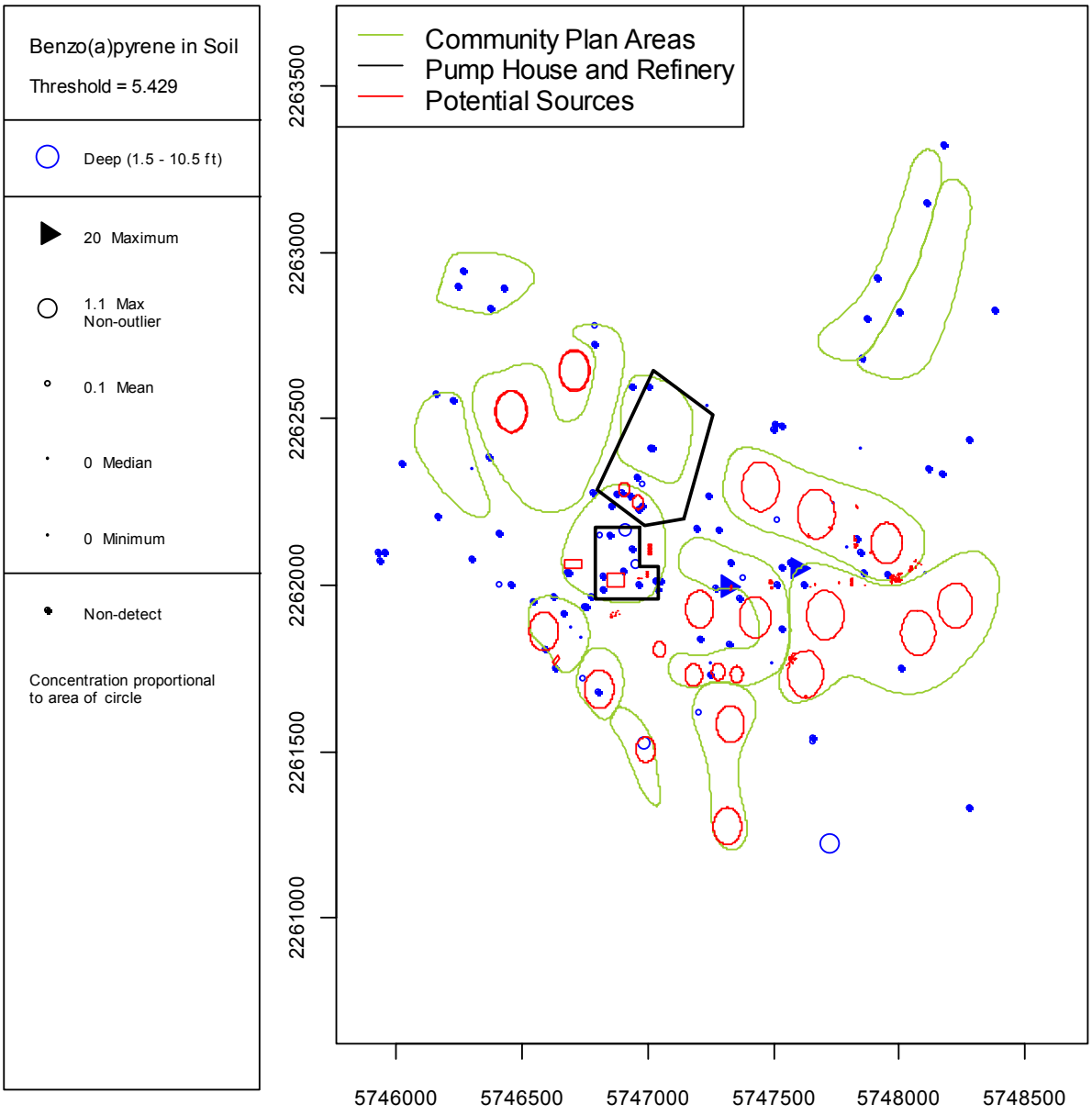
Benzo(a)pyrene in Soil
Threshold = 5.429
Deep (1.5 - 10.5 ft)
20 Maximum
1.1 Max
Non-outlier
0.1 Mean
0 Median
0 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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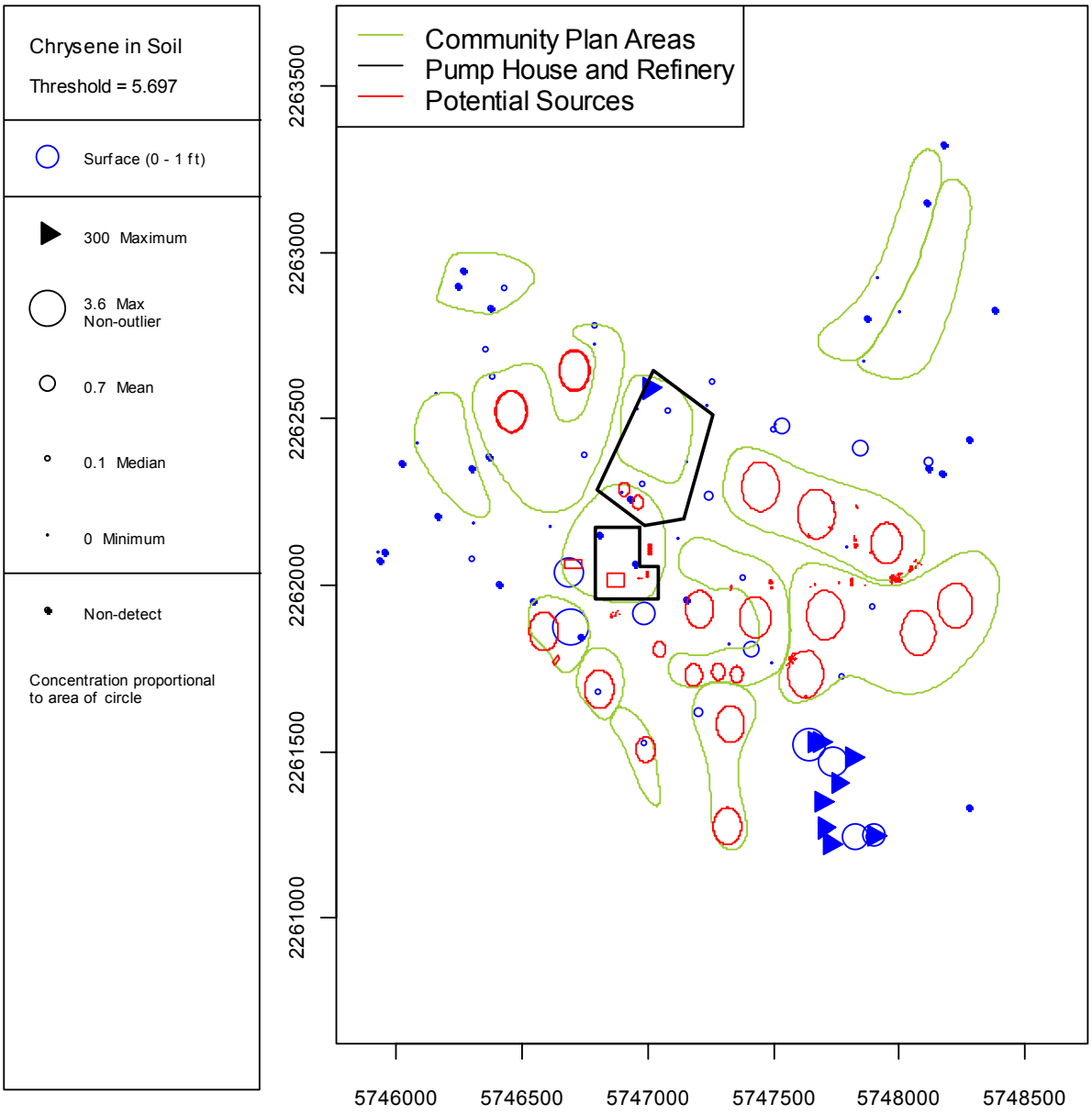
Chrysene in Soil
Threshold = 5.697
Surface (0 - 1 ft)
300 Maximum
3.6 Max Non-outlier
0.7 Mean
0.1 Median
0 Minimum
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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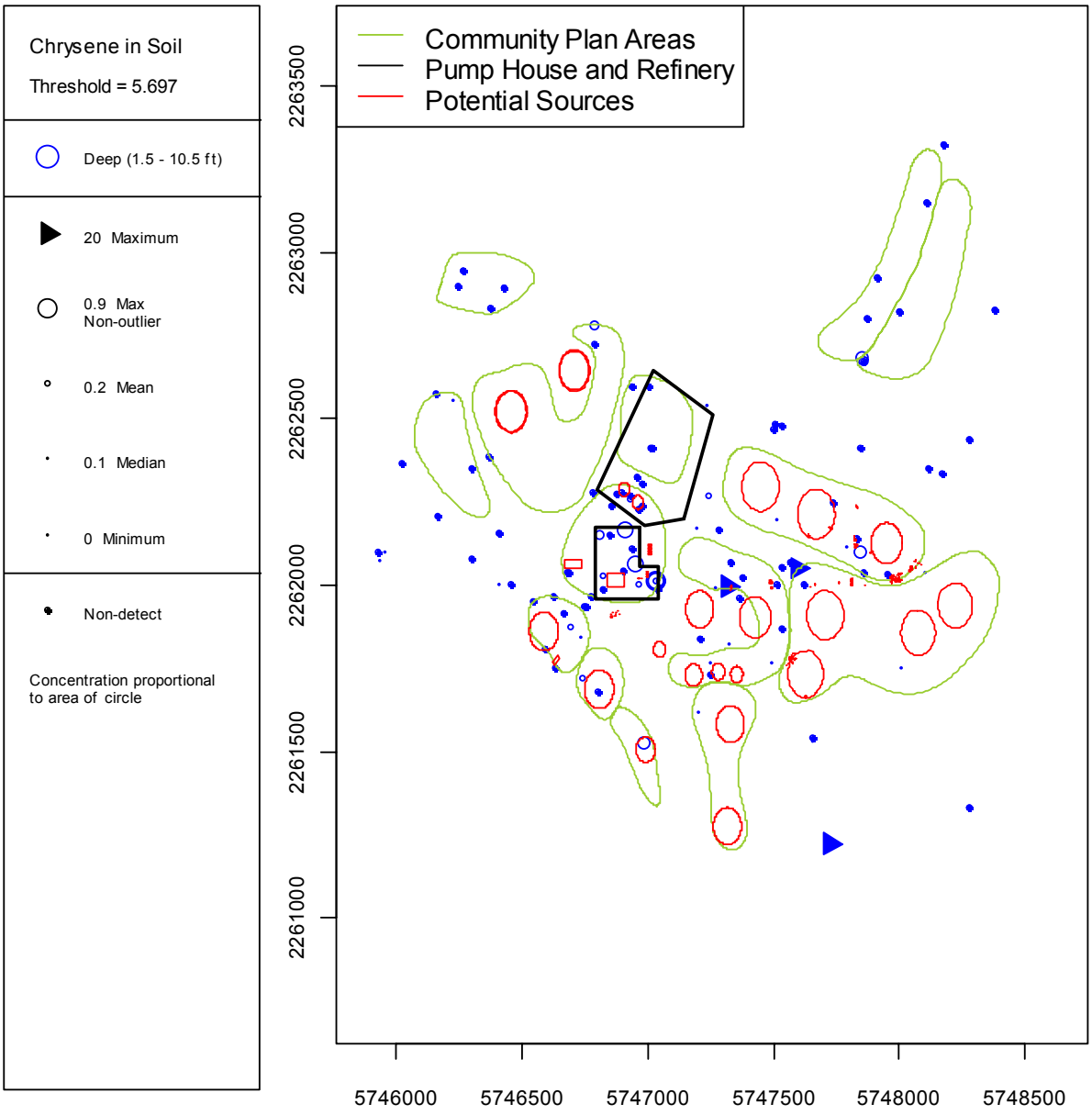
Chrysene in Soil
Threshold = 5.697
Deep (1.5 - 10.5 ft)
20 Maximum
0.9 Max Non-outlier
0.2 Mean
0.1 Median
0 Minimum
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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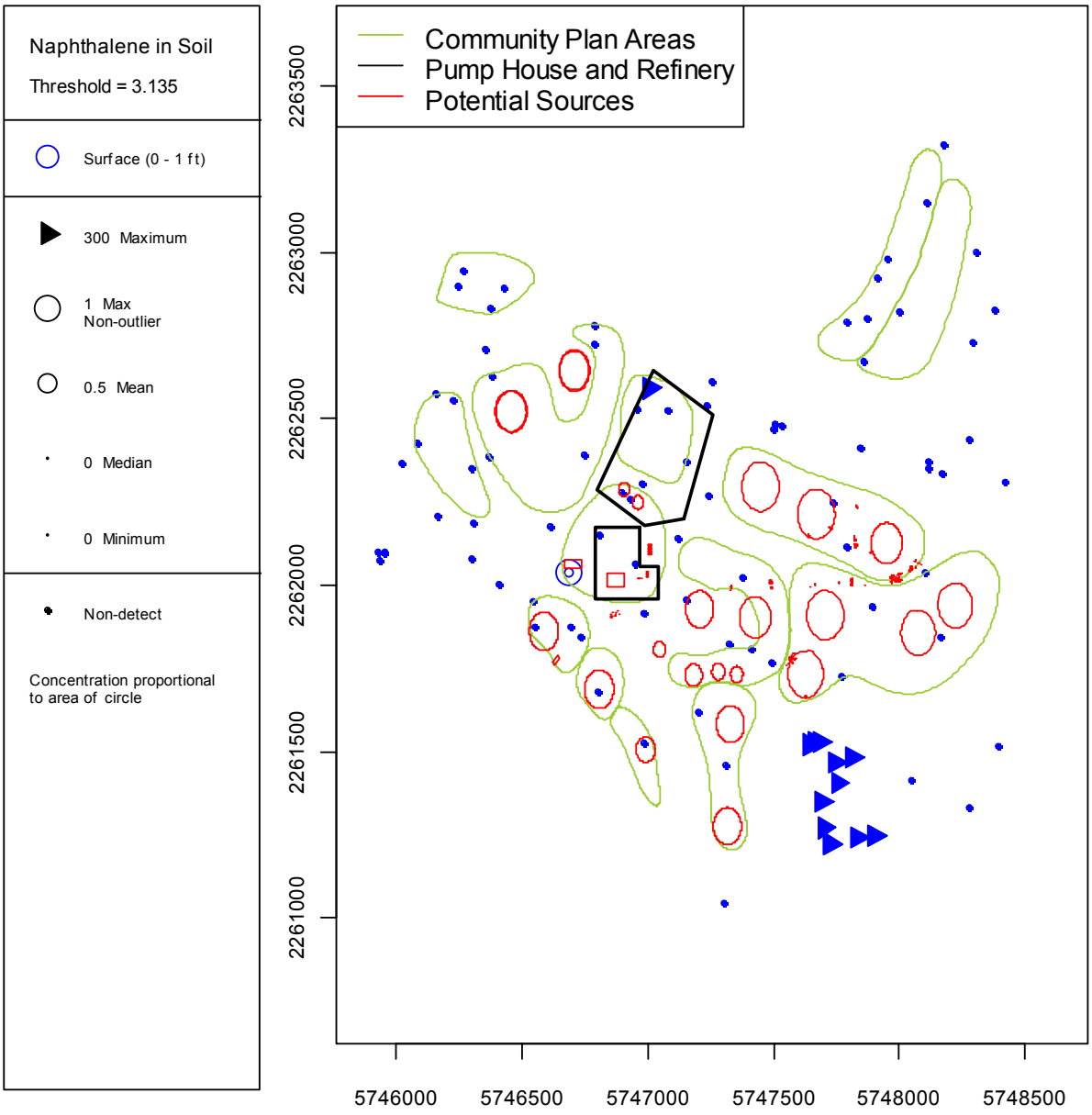
Naphthalene in Soil
Threshold = 3.135
Surface (0 - 1 ft)
300 Maximum
1 Max
Non-outlier
0.5 Mean
0 Median
0 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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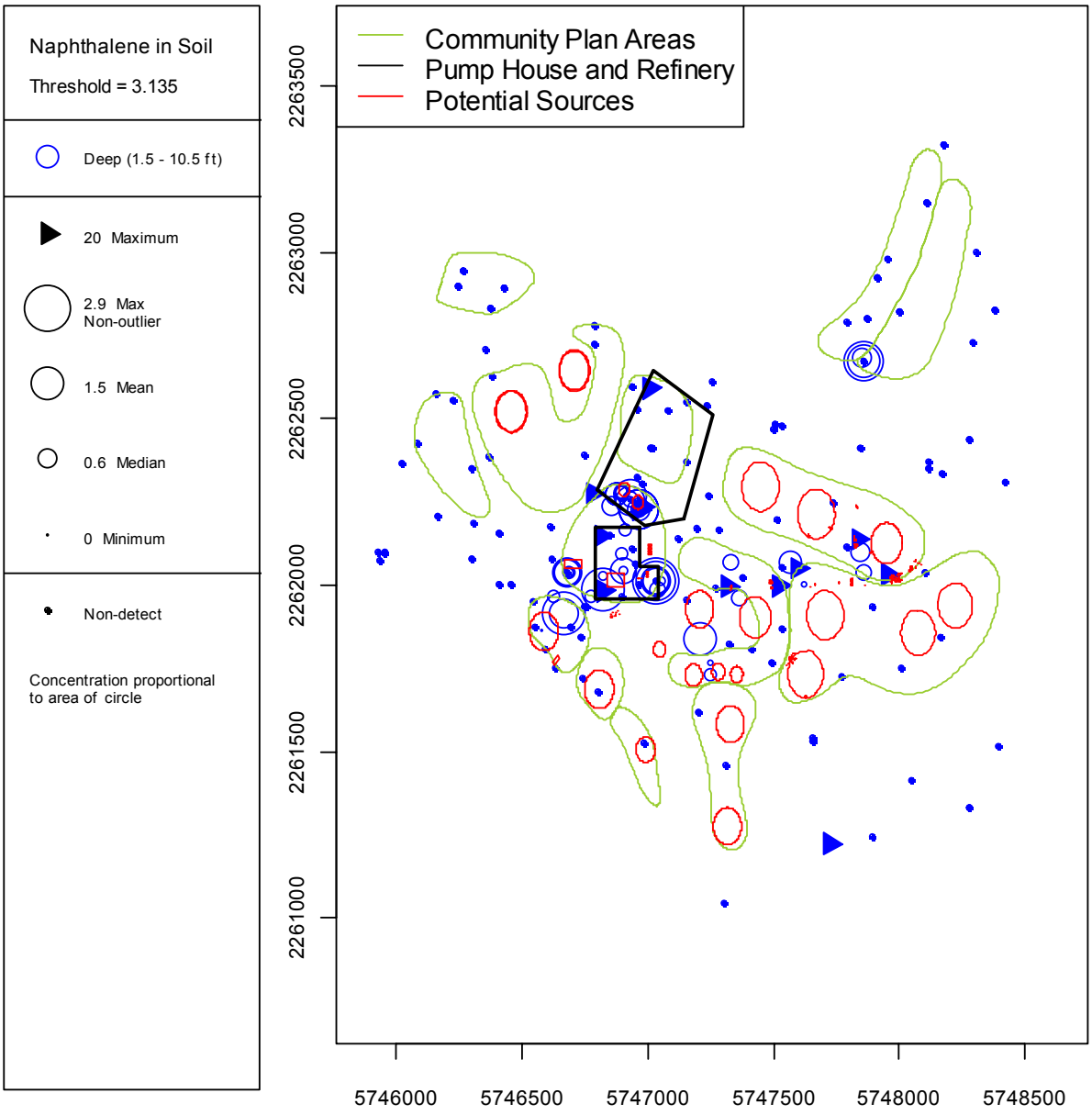
Naphthalene in Soil
Threshold = 3.135
Deep (1.5 - 10.5 ft)
20 Maximum
2.9 Max Non-outlier
1.5 Mean
0.6 Median
0 Minimum
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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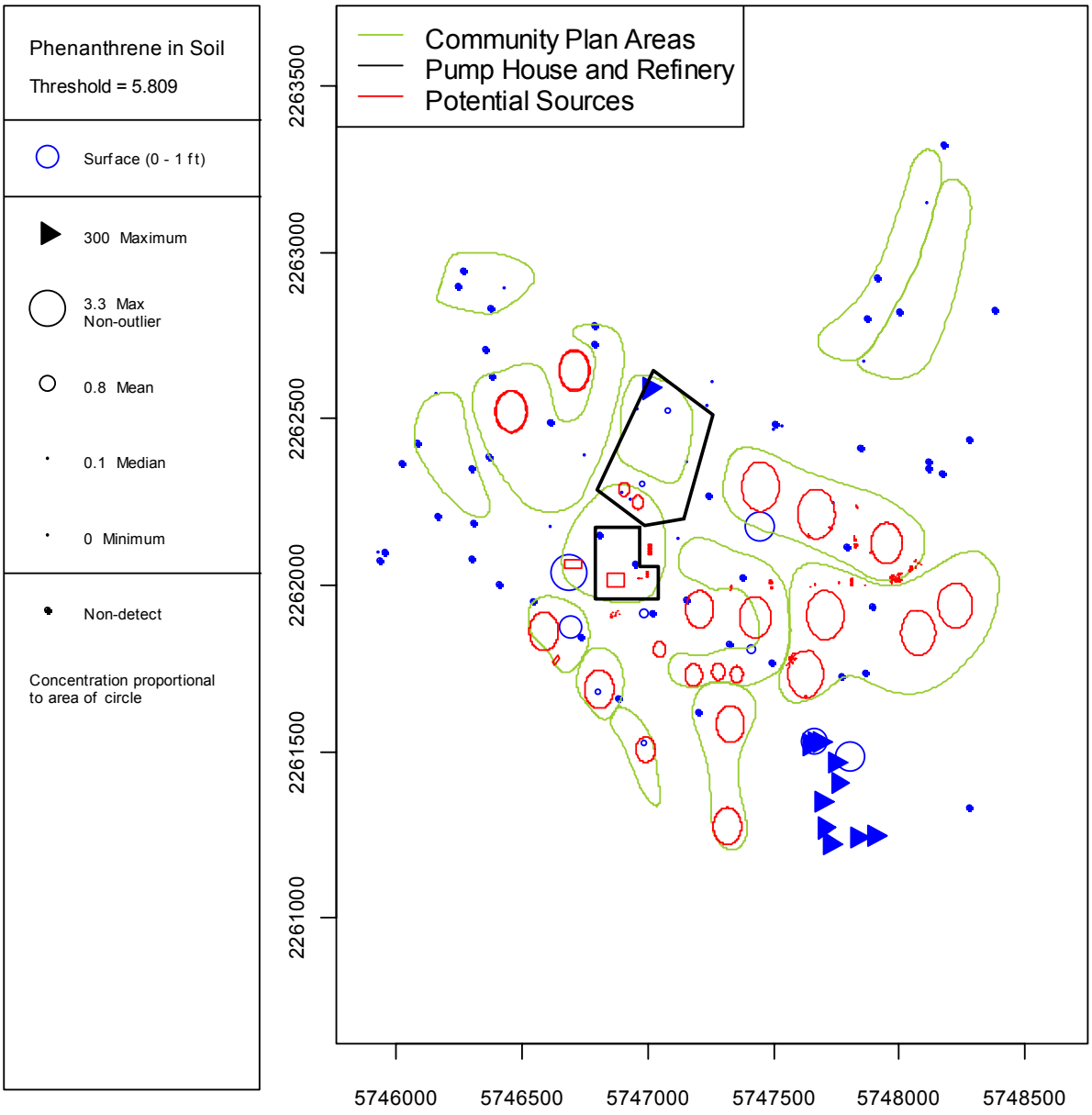
Phenanthrene in Soil
Threshold = 5.809
Surface (0 - 1 ft)
300 Maximum
3.3 Max Non-outlier
0.8 Mean
0.1 Median
0 Minimum
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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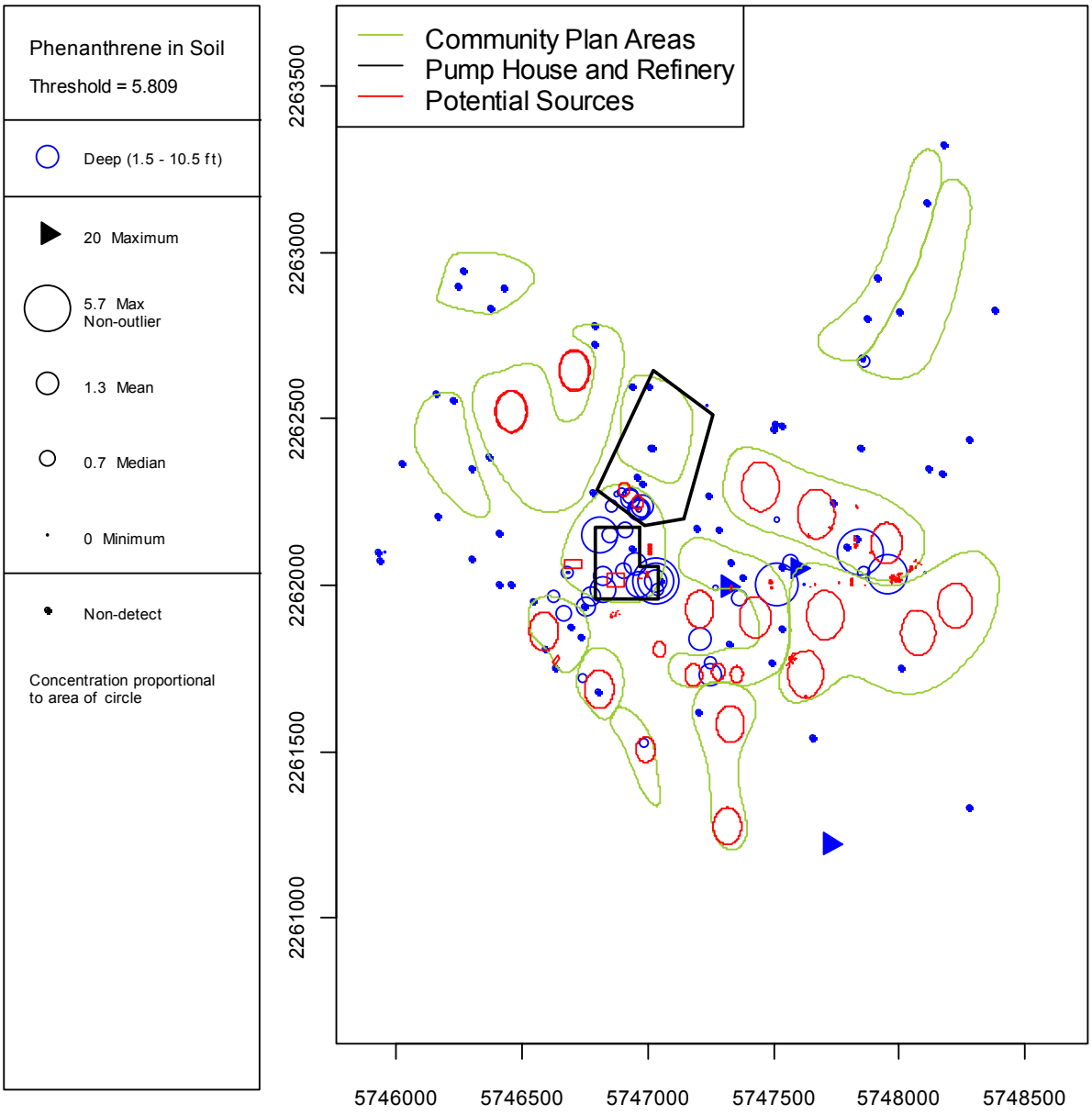
Phenanthrene in Soil
Threshold = 5.809
Deep (1.5 - 10.5 ft)
20 Maximum
5.7 Max
Non-outlier
1.3 Mean
0.7 Median
0 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
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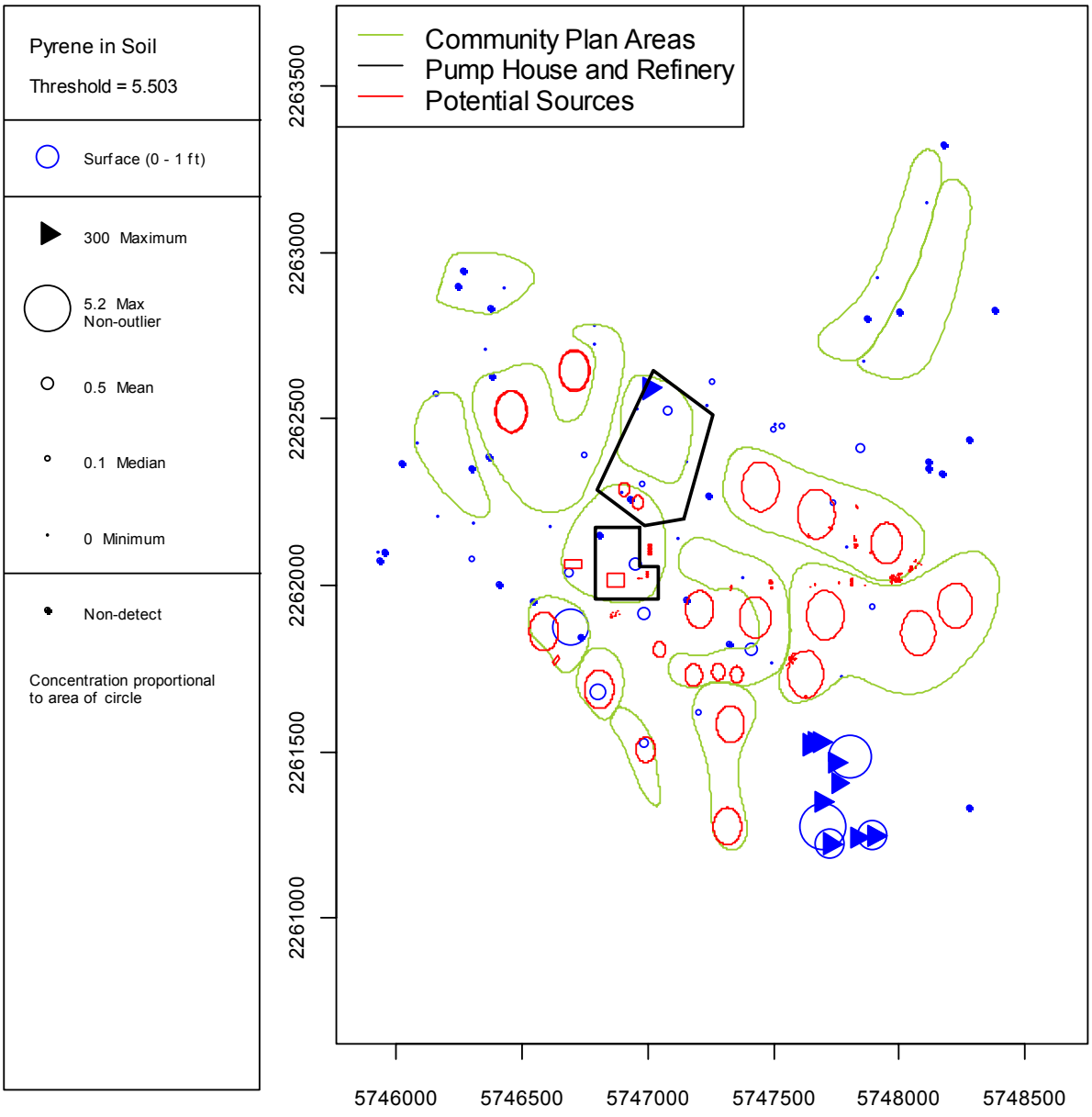
Pyrene in Soil
Threshold = 5.503
Surface (0 - 1 ft)
300 Maximum
5.2 Max
Non-outlier
0.5 Mean
0.1 Median
0 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
2263500
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2262500
2262000
2261500
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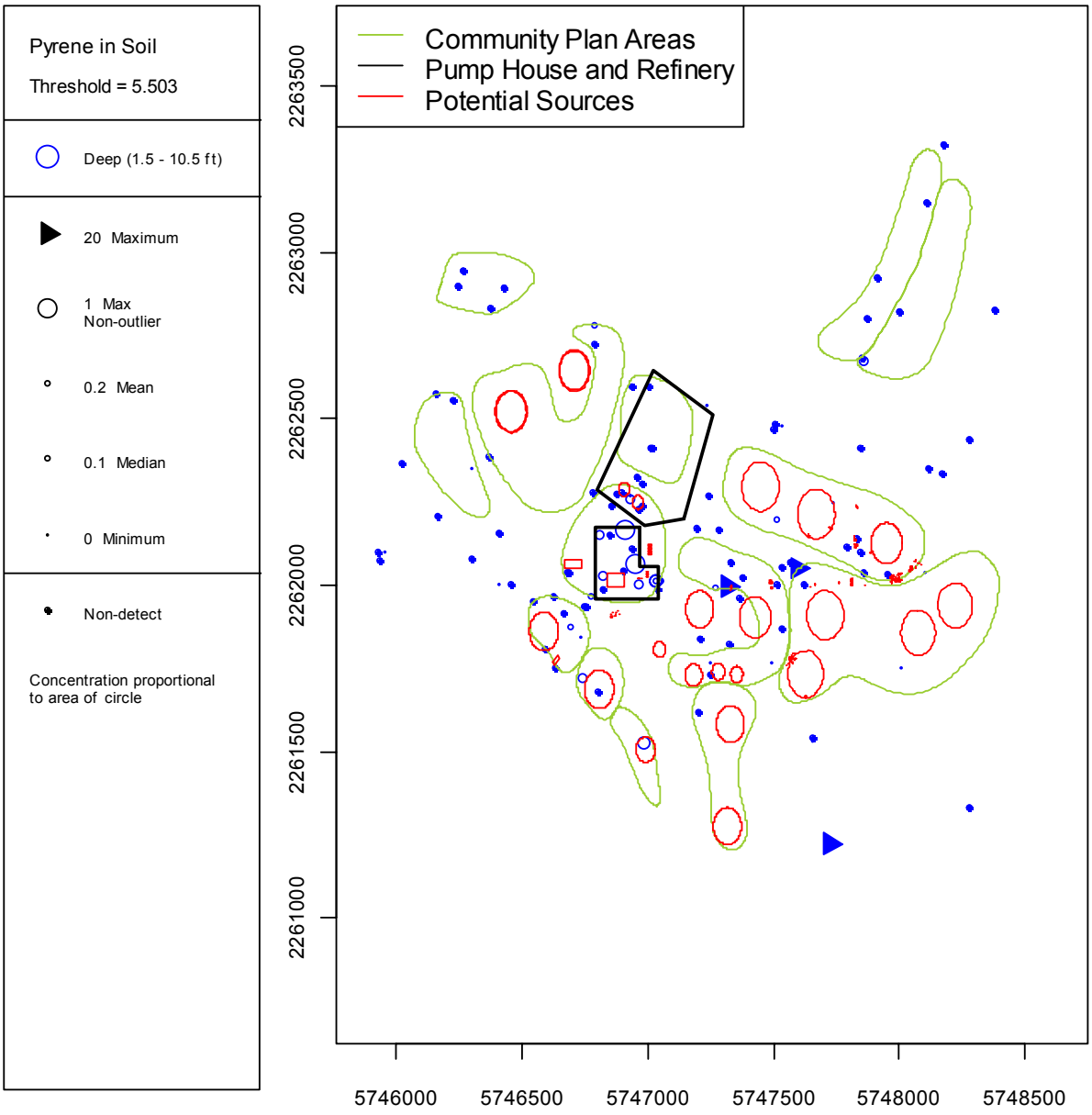
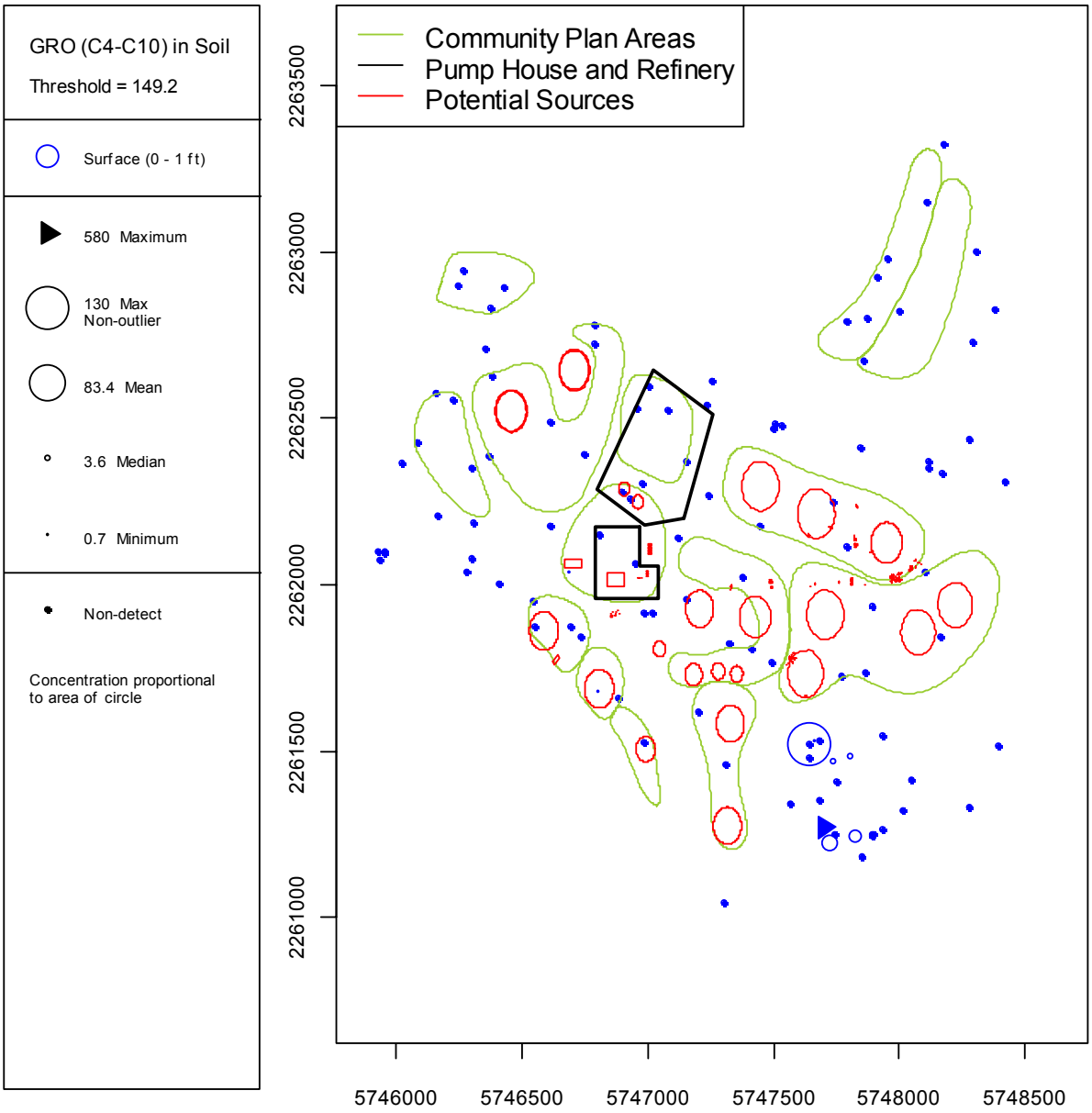
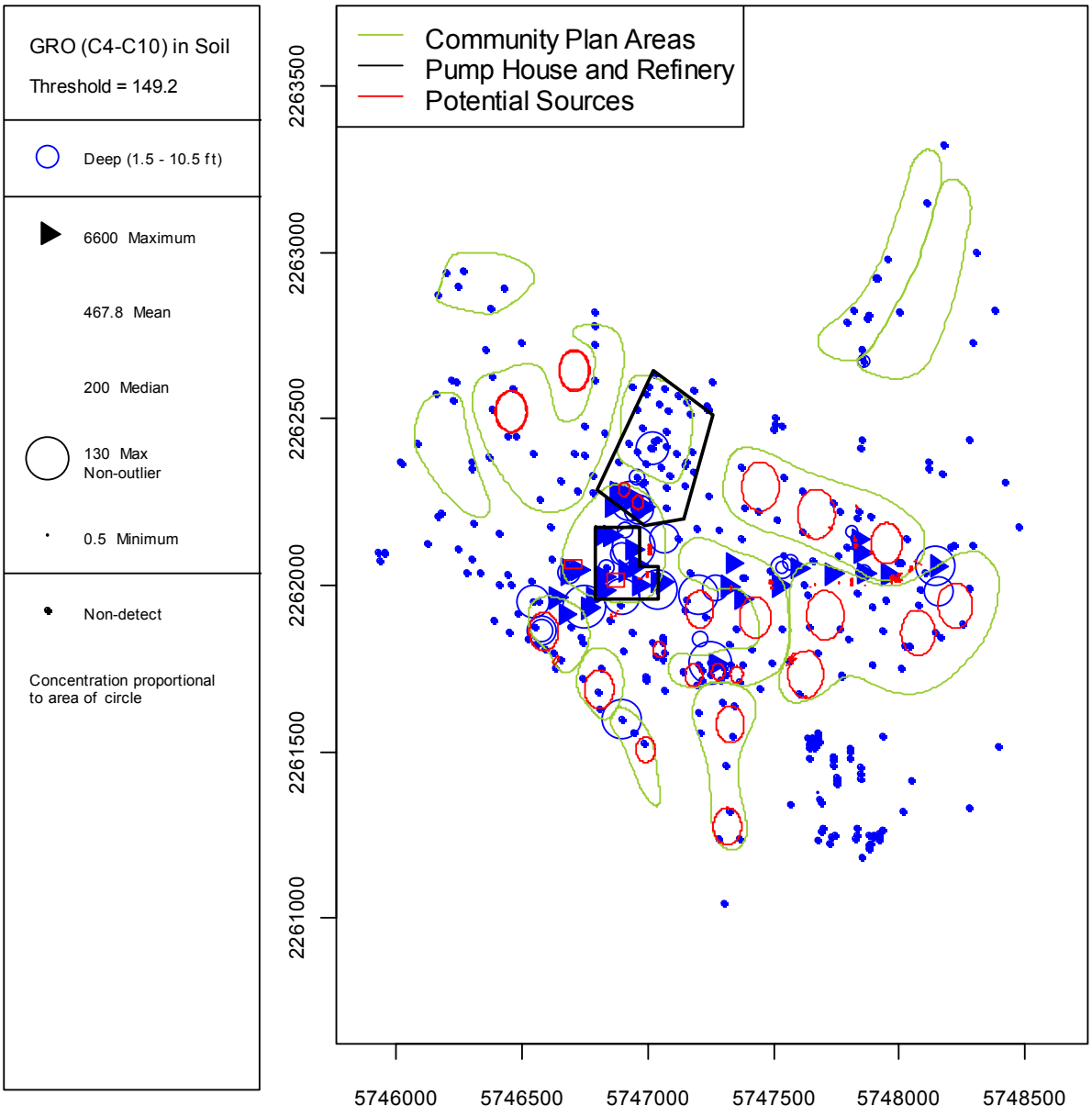
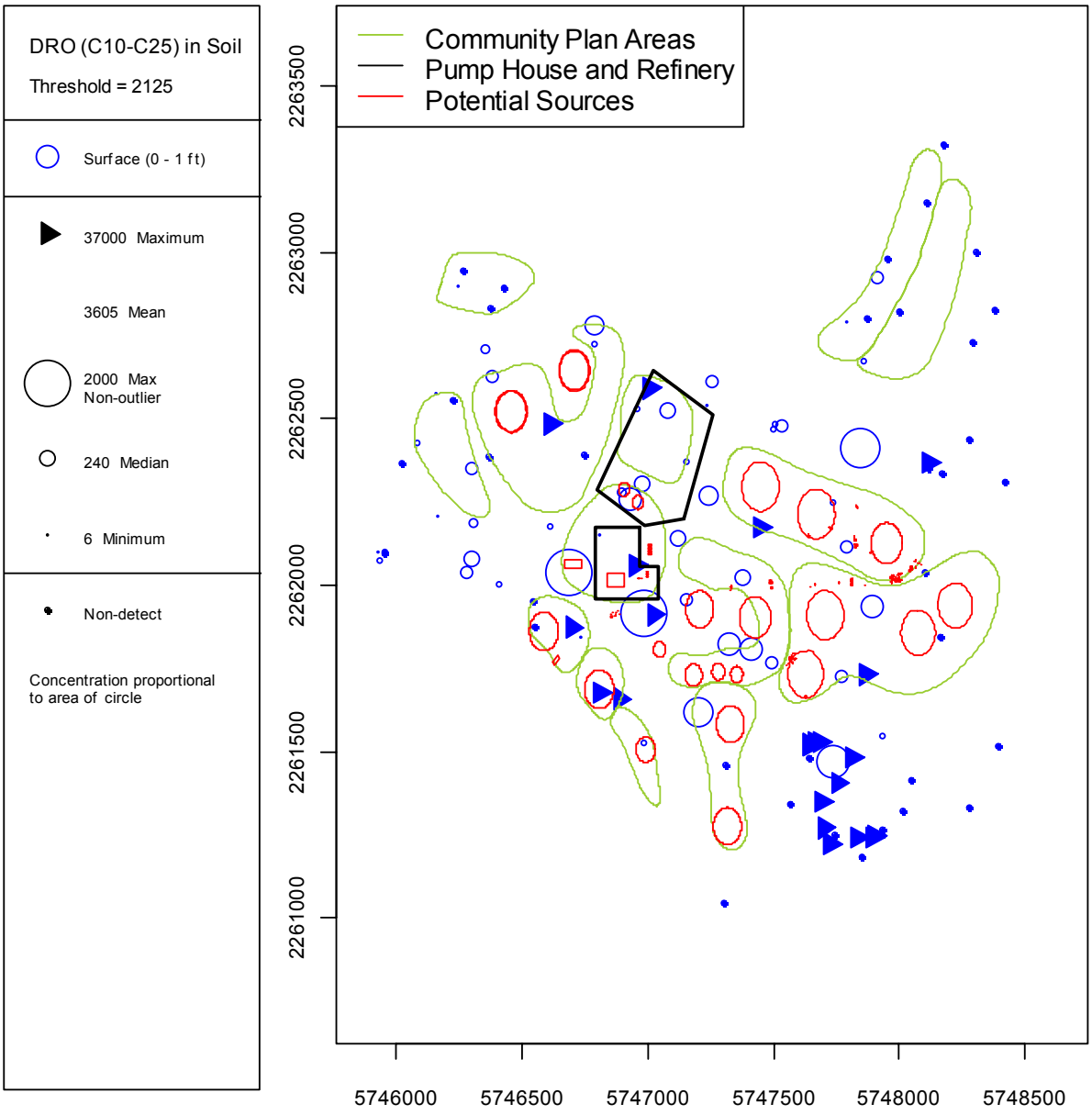
5748000
5748500

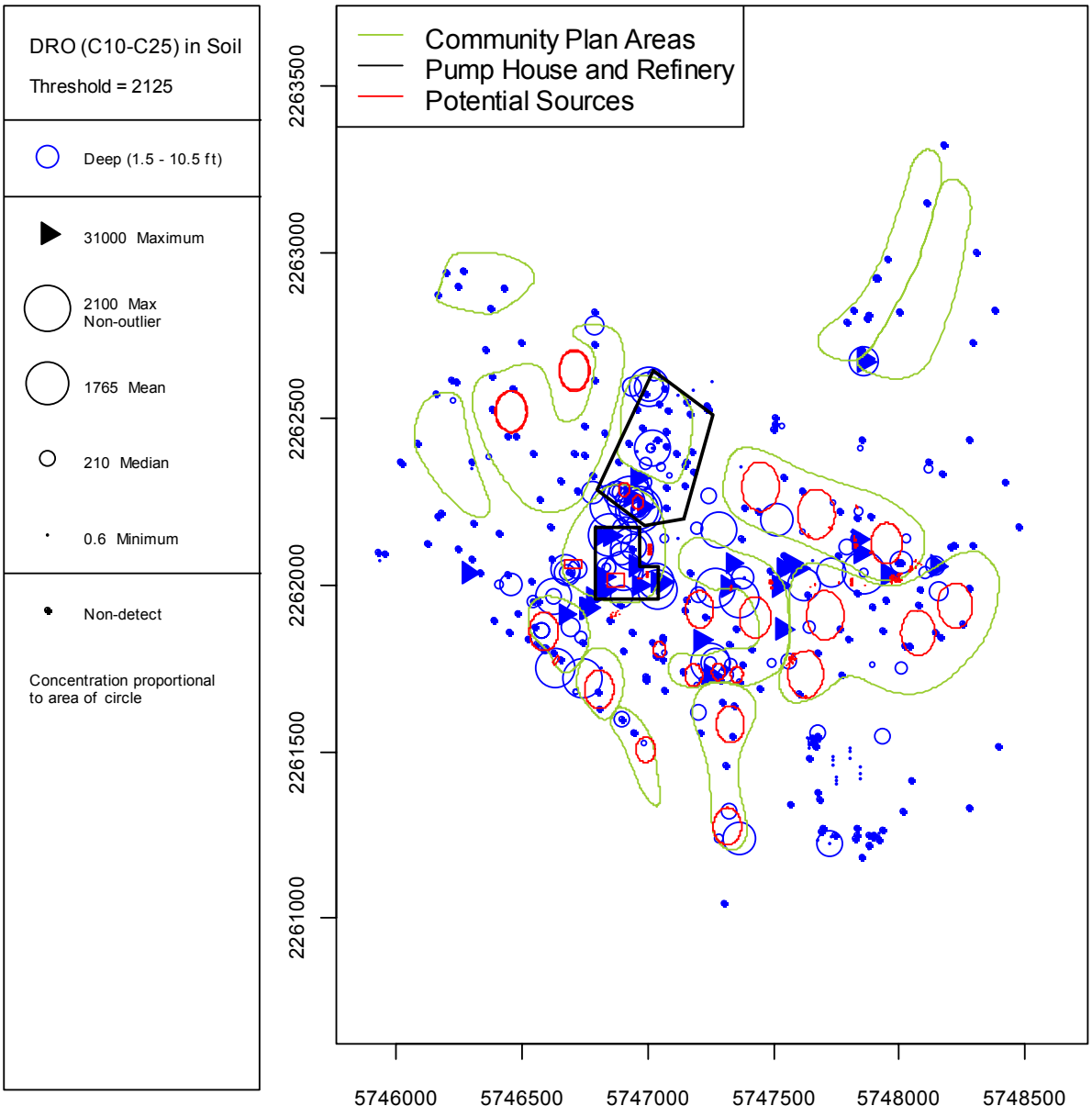

Pyrene in Soil
Threshold = 5.503
Deep (1.5 - 10.5 ft)
20 Maximum
1 Max
Non-outlier
0.2 Mean
0.1 Median
0 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
2263500
2263000
2262500
2262000
2261500
2261000
5746000
5746500
5747000
5747500
5748000
5748500

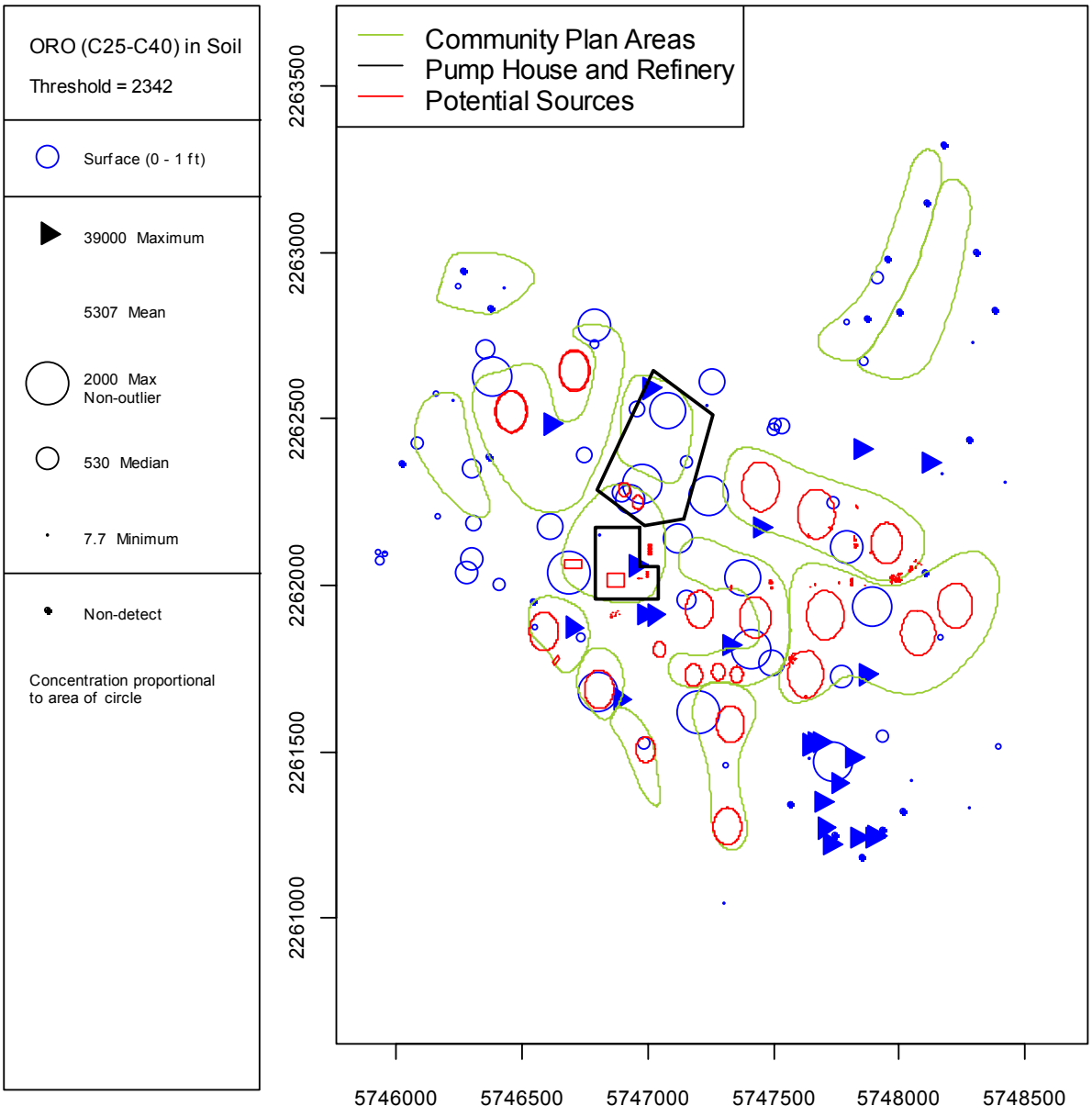
TPHs in Soil Bubbleplots

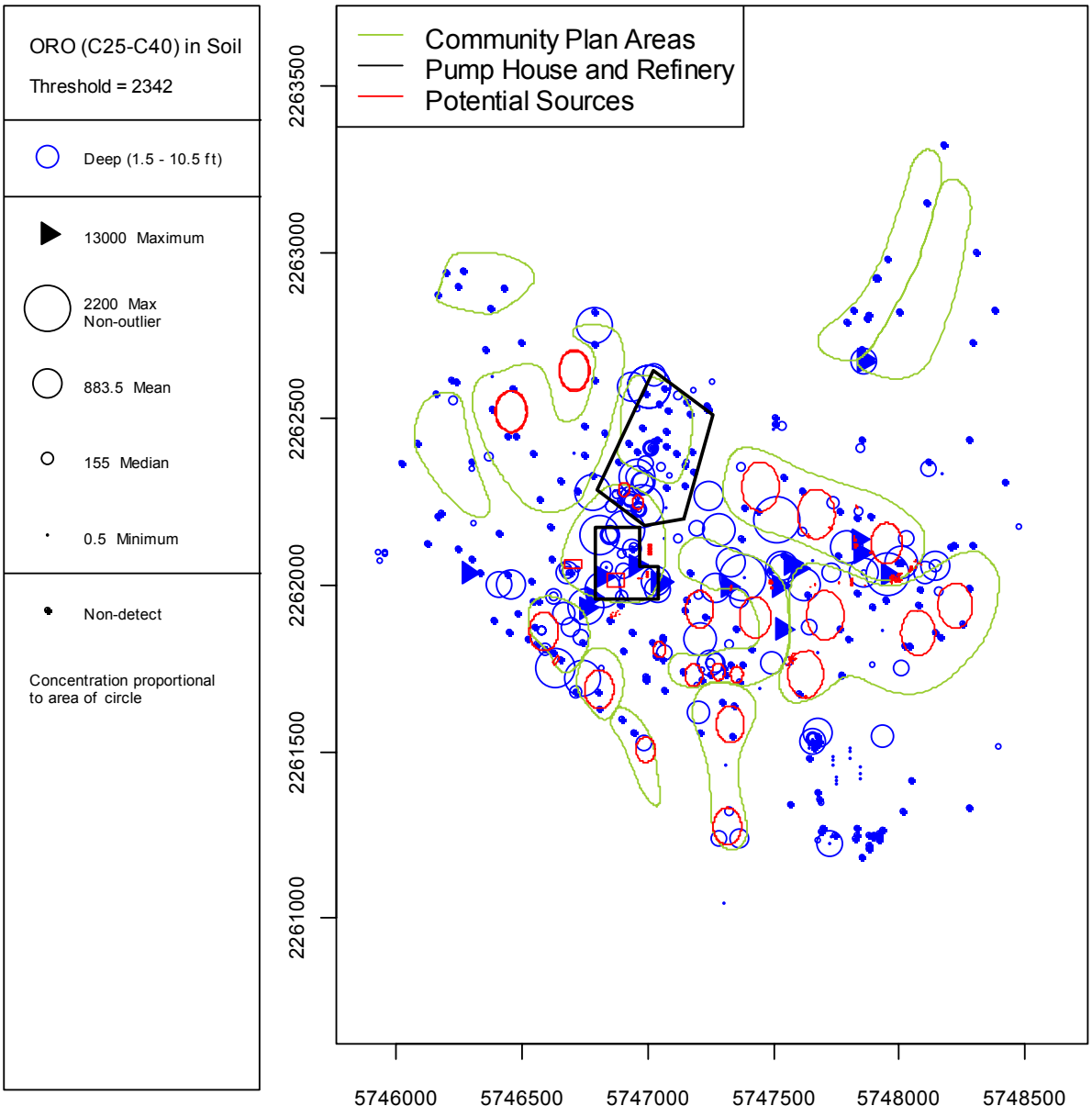



GRO (C4-C10) in Soil
Threshold = 149.2
Deep (1.5 - 10.5 ft)
6600 Maximum
467.8 Mean
200 Median
130 Max
Non-outlier
0.5 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
2263500
2263000
2262500
2262000
2261500
2261000
5746000
5746500
5747000
5747500
5748000
5748500


DRO (C10-C25) in Soil
Threshold = 2125
Surface (0 - 1 ft)
37000 Maximum
3605 Mean
2000 Max
Non-outlier
240 Median
6 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
2263500
2263000
2262500
2262000
2261500
2261000
5746000
5746500
5747000
5747500
5748000
5748500


DRO (C10-C25) in Soil
Threshold = 2125
Deep (1.5 - 10.5 ft)
31000 Maximum
2100 Max
Non-outlier
1765 Mean
210 Median
0.6 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
2263500
2263000
2262500
2262000
2261500
2261000
5746000
5746500
5747000
5747500
5748000
5748500


ORO (C25-C40) in Soil
Threshold = 2342
Surface (0 - 1 ft)
39000 Maximum
5307 Mean
2000 Max Non-outlier
530 Median
7.7 Minimum
Non-detect
Concentration proportional to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
2263500
2263000
2262500
2262000
2261500
2261000
5746000
5746500
5747000
5747500
5748000
5748500


ORO (C25-C40) in Soil
Threshold = 2342
Deep (1.5 - 10.5 ft)
13000 Maximum
2200 Max
Non-outlier
883.5 Mean
155 Median
0.5 Minimum
Non-detect
Concentration proportional
to area of circle
Community Plan Areas
Pump House and Refinery
Potential Sources
2263500
2263000
2262500
2262000
2261500
2261000
5746000
5746500
5747000
5747500
5748000
5748500

ATTACHMENT 10

Laboratory Data Package Reviews

OEC Report for Sample Group Number 1102999

Samples collected on 20 June 2011
Analyzed by *Oilfield Environmental and Compliance, Inc.*
Laboratory samples IDs 110299-01 through 1102999-38
Matrix: Soil

	Samples: 4 soil samples collected and submitted for analyses; all within 10 feet bgs Client sample IDs: B-224-5', B-224-10', B-225-5', B-225-10'
	Analyses: Total Petroleum Hydrocarbons (TPH Diesel (C10-C25) and TPH Oil Crude (C25-C40)) via 8015 (all samples) Volatile Organic Compounds (VOCs) and TPH Gasoline (C4-C10) via 8260B/LUFT (all samples)
Yes	Includes all chain of custody forms All requested analyses completed (100% complete)
Yes	Identification of analytical methods and detection limits
Yes Yes No	Results given on a per sample basis – *soil on wet weight basis* Qualified Data Tentatively identified compounds Qualified Data Notes: 1) Detected above MDL but below the RL/PQL; therefore result is an estimated concentration (J): a. TPH Diesel (C10-C25) and TPH Oil Crude (C25-C40) in sample B-224-5'
N/A	Narrative explanation of qualified data Narrative Notes: None
Yes	Includes project quality control data (Blanks, Duplicates, LCS/LCSD, MS/MSD) Quality Control Notes: 1) Blanks: All method blank recoveries and relative percent differences within laboratory-specified control limits except:

Lab Sample ID	Samples in Batch (LabIDs)	Analyte (Analysis)	Result (RL)
A106433-BLK1	4 (1102999-01, 02, 20, and 21)	*Methylene chloride* (VOCs)	0.00208 (0.0050)[1]
A106433-BLK1	4 (1102999-01, 02, 20, and 21)	*1,2,4-Trimethylbenzene* (VOCs)	0.00668 (0.0050)[2]

[1]detected but below the RL/PQL; therefore, result is an estimated concentration; all associated field samples were nondetected for this compound therefore no qualifiers were applied to the data (J)

[2]the method blank contains analyte at a concentration above the RL/PQL (B-06)

2) Duplicates: All laboratory control spike recoveries and relative percent differences within laboratory-specified control limits.
3) MS/MSD: All matrix spike recoveries and relative percent differences (RPDs) within laboratory-specified control limits except:

Lab Sample ID	Samples in Batch (LabIDs)	Analyte (Analysis)	Recovery/RPD (limit)
A106433-MS1	4 (1102999-01, 02,	*Toluene* (VOCs)	158% (70-130%)[1]

		20, and 21)		
	A106523-MS2	4 (1102999-01, 02, 20, and 21)	*Oil Crude (C25-C40)* (TPH)	27.9% (70-130%)[2]
	A106523-MSD2	4 (1102999-01, 02, 20, and 21)	*Oil Crude (C25-C40)* (TPH)	31.9 (70-130%)[2]
	[1]the spike level was outside acceptance limits. The batch was accepted based on acceptable recovery of the remaining spikes (QM-12) [2]detected but below the RL/PQL; therefore, result is an estimated concentration (J) 4) LCS/LCSD: All laboratory control spike recoveries and relative percent differences within laboratory-specified control limits.			
Yes	Definitions and descriptions of flagged data			
Yes	Hardcopy of laboratory electronic files			
No	Raw laboratory data			

OEC Report for Sample Group Number 1103073

Samples collected on 22 June 2011 Analyzed by *Oilfield Environmental and Compliance, Inc.* Laboratory samples IDs 1103073-01 through 1103073-55 Matrix: Soil	
	Samples: 8 soil samples collected and submitted for analyses; all within 10 feet bgs Client sample IDs: B-226-5', B-226-10', B-227-5', B-227-10', B-228-5', B-228-10', B-229-5', B-229-10'
	Analyses: Total Petroleum Hydrocarbons (TPH Diesel (C10-C25) and TPH Oil Crude (C25-C40)) via 8015 (all samples) Volatile Organic Compounds (VOCs) and TPH Gasoline (C4-C10) via 8260B/LUFT (all samples) Lead via 6010B (2 samples)
Yes	Includes all chain of custody forms All requested analyses completed (100% complete)
Yes	Identification of analytical methods and detection limits
Yes Yes No	Results given on a per sample basis – *soil on wet weight basis* Qualified Data Tentatively identified compounds Qualified Data Notes: 1) Surrogate Recovery: All surrogate recoveries were within laboratory specified control limits except: a. The surrogate recovery for 4-bromorfluorobenzene in sample B-228-5'. The data was accepted based on valid recovery of the remaining surrogates (S-GC)
N/A	Narrative explanation of qualified data Narrative Notes: None
Yes	Includes project quality control data (Blanks, Duplicates, LCS/LCSD, MS/MSD) Quality Control Notes: 1) Blanks: All method blank recoveries and relative percent differences within

<table>
<tr><td></td><td>laboratory-specified control limits.
2) Duplicates: All laboratory control spike recoveries and relative percent differences within laboratory-specified control limits except:
a. TPH Diesel (C10-C25) and TPH Oil Crude (C25-C40) in Lab Sample ID A107039-DUP1. No samples within 0-10 ft bgs region are included in batch A107039; data is not affected.
3) MS/MSD: All matrix spike recoveries and relative percent differences (RPDs) within laboratory-specified control limits except:
a. 1,1-Dichloroethene in Lab Sample ID A106583-MS1 and 1103068 and TPH Gasoline (C4-C10) in Lab Sample ID A106607-MS2. No samples within 0-10 ft bgs region are included in batches A106583-MS1 or A106607-MS2; data is not affected.
4) LCS/LCSD: All laboratory control spike recoveries and relative percent differences within laboratory-specified control limits except:
<table>
<tr><th>Lab Sample ID</th><th>Samples in Batch (LabIDs)</th><th>Analyte (Analysis)</th><th>Recovery (limit)</th></tr>
<tr><td>A107068-BS1</td><td>5 (1103073-21RE1, 32RE1, 33RE1, 44RE1, and 45RE1)</td><td>Trichloroethene (VOCs)</td><td>131% (70-130%)[1]</td></tr>
</table>
[1]the spike level was outside acceptance limits. The batch was accepted based on acceptable recovery of the remaining spikes (QM-12)</td></tr>
<tr><td>Yes</td><td>Definitions and descriptions of flagged data</td></tr>
<tr><td>Yes</td><td>Hardcopy of laboratory electronic files</td></tr>
<tr><td>No</td><td>Raw laboratory data</td></tr>
</table>

OEC Report for Sample Group Number 1103124

<table>
<tr><td colspan="2">Samples collected on 27 June 2011
Analyzed by Oilfield Environmental and Compliance, Inc.
Laboratory samples IDs 1103124-01 through 1103124-16
Matrix: Soil</td></tr>
<tr><td></td><td>Samples:
4 soil samples collected and submitted for analyses; all within 10 feet bgs
Client sample IDs: B-230-5', B-230-10', B-231-5', B-231-10'</td></tr>
<tr><td></td><td>Analyses:
Total Petroleum Hydrocarbons (TPH Diesel (C10-C25) and TPH Oil Crude (C25-C40)) via 8015 (all samples)
Volatile Organic Compounds (VOCs) and TPH Gasoline (C4-C10) via 8260B/LUFT (all samples)
Lead via 6010B (3 samples)</td></tr>
<tr><td>Yes</td><td>Includes all chain of custody forms
All requested analyses completed (100% complete)</td></tr>
<tr><td>Yes</td><td>Identification of analytical methods and detection limits</td></tr>
<tr><td>Yes
Yes
No</td><td>Results given on a per sample basis – soil on wet weight basis
Qualified Data
Tentatively identified compounds
Qualified Data Notes:</td></tr>
</table>

1) Detected above MDL but below the RL/PQL; therefore result is an estimated concentration (J):
    a. Tert-butylbenzene and TPH Oil Crude (C25-C40) in sample B-230-5'; tert-butylbenzene and TPH Oil Crude (C25-C40) in sample B-230-10'; TPH Diesel (C10-C25) and TPH Oil Crude (C25-C40) in sample B-231-5'; and isopropylbenzene and 1,2,4-trimethylbenzene in sample B-231-10'
2) High frequency of "R-06": The reporting limit has been raised to account for the presence of high levels of analytes. Reporting limits for VOCs equal 0.5 mg/kg in samples B-230-5' and B-230-10'.

N/A

Narrative explanation of qualified data
Narrative Notes: None

Yes

Includes project quality control data (Blanks, Duplicates, LCS/LCSD, MS/MSD)
Quality Control Notes:

1) Blanks: All method blank recoveries and relative percent differences within laboratory-specified control limits.
2) Duplicates: All laboratory control spike recoveries and relative percent differences within laboratory-specified control limits except:

Lab Sample ID	Samples in Batch (LabIDs)	Analyte (Analysis)	Recovery/RPD/ Result (limit)
A107005-DUP1	2 (1103124-01 and 1103124-02)	*Benzene* (VOC)	0.139 (0.50)[1] 20.5 (20)[3]
A107005-DUP1	2 (1103124-01 and 1103124-02)	*1,3,5-Trimethylbenzene* (VOC)	21.8 (20)[3]
A107005-DUP1	2 (1103124-01 and 1103124-02)	*Xylenes (total)* (VOC)	21.8 (20)[3]
A107005-DUP1	2 (1103124-01 and 1103124-02)	*tert-Butylbenzene* (VOC)	0.123 (0.50)[1]
A107071-DUP1	6 (1103124-01, 01RE1, 02, 02RE2, 08, and 09)	*Oil Crude (C25-C40)* (TPH)	71.3 (20)[3]
A107071-DUP2	6 (1103124-01, 01RE1, 02, 02RE2, 08, and 09)	*Diesel (C10-C25)* (TPH)	29.5 (20)[2]
A107099-DUP1	2 (1103124-01RE1 and 02RE2)	*4-Bromofluorobenzene* (VOC, surrogate)	132% (70% - 130%)[4]

[1]detected but below the RL/PQL; therefore, result is an estimated concentration (J)
[2]the RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values (QR-03)
[3]the RPD exceeded the QC control limits (QR-04)
[4]surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogates (S-GC)

3) MS/MSD: All matrix spike recoveries and relative percent differences (RPDs) within laboratory-specified control limits except:

Lab Sample ID	Samples in Batch (LabIDs)	Analyte (Analysis)	Recovery/RPD/ Result (limit)
A106607-MS2	2 (1103124-08 and	*Gasoline (C4-C10)*	63.2% (70% -

		1103124-09)	(TPH)	130%)[2]
	A107005-MS2	2 (1103124-01 and 1103124-02)	*Gasoline (C4-C10)* (TPH)	276% (70% - 130%)[2]
	A107005-MS2	2 (1103124-01 and 1103124-02)	*4-Bromofluorobenzene* (VOC, surrogate)	132% (70% - 130%)[3]
	A107071-MS3	6 (1103124-01, 01RE1, 02, 02RE2, 08, and 09)	*Diesel (C10-C25)* (TPH)	77.3 (100)[1] -594% (70% - 130%)[2]
	A107071-MS4	6 (1103124-01, 01RE1, 02, 02RE2, 08, and 09)	*Oil Crude (C25-C40)* (TPH)	776% (70% - 130%)[2]
	A107071-MSD3	6 (1103124-01, 01RE1, 02, 02RE2, 08, and 09)	*Diesel (C10-C25)* (TPH)	-94% (70% - 130%)[2]
	A107071-MSD4	6 (1103124-01, 01RE1, 02, 02RE2, 08, and 09)	*Oil Crude (C25-C40)* (TPH)	496 (500)[1] 723% (70% - 130%)[2]

[1]detected but below the RL/PQL; therefore, result is an estimated concentration (J)
[2]the spike recovery was outside acceptance limits for the MS and/or MSD. The QC Batch was accepted based on LCS/LCSD percent recoveries and RPD values (QM-08)
[3]surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogates (S-GC)

4) LCS/LCSD: All laboratory control spike recoveries and relative percent differences within laboratory-specified control limits except:

Lab Sample ID	Samples in Batch (LabIDs)	Analyte (Analysis)	Recovery/RPD/ Result (limit)
A107071-BS2	6 (1103124-01, 01RE1, 02, 02RE2, 08, and 09)	*Oil Crude (C25-C40)* (TPH)	48.3 (50)[1]
A107099-BSD1	2 (1103124-01RE1 and 02RE2)	*Toulene* (VOC)	20.6 (20)[2]
A107099-BSD2	2 (1103124-01RE1 and 02RE2)	*4-Bromofluorobenzene* (VOC, surrogate)	139% (70% - 130%)[3]

[1]detected but below the RL/PQL; therefore, result is an estimated concentration (J)
[2]the RPD exceeded the QC control limits (QR-04)
[3]surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogates (S-GC)

Yes	Definitions and descriptions of flagged data
Yes	Hardcopy of laboratory electronic files
No	Raw laboratory data

OEC Report for Work Order E206093

Report dated July 13, 2012

Samples collected on 20 June 2012 Analyzed by *H&P Mobile Geochemistry, Inc.* Laboratory samples IDs E206093-01 through E206093-31 Matrix: Vapor	
	Samples: 31 soil gas samples submitted for analyses Client Sample IDs: SV-71-5', SV-72-5', SV-73-5', SV-74-5', SV-75-5', SV-76-5', SV-77-5', SV-78-5', SV-79-5', SV-80-5', SV-80-15', SV-81-5', SV-81-15', SV-82-5', SV-82-15', SV-83-5', SV-83-15', SV-84-5', SV-84-15', SV-85-5', SV-85-15', SV-86-15', SV-87-15', SV-88-15', SV-89-15', SV-90-15', SV-91-15', DUP-1, DUP-2, Trip Blank A, Trip Blank B
	Analyses: Volatile Organic Compounds via MA APHm and USEPA Method T0-15 TVPH by USEPA Method TO-15 Modified Fixed Gases by ATSM 1945-96 Methane by USEPA 8015M
Yes	Includes all chain of custody forms All requested analyses completed (100% complete)
Yes	Identification of analytical methods and detection limits 1) All analyses include method detection limits (MDLs; in electronic file) except: a. Fixed Gases (Carbon Dioxide, Nitrogen, and Oxygen) by ATSM 1945-96, Methane by EPA 8015M, and 1,1-Difluoroethane (LCC) by EPA T0-15 2) All analyses include reporting limits (RLs)
Yes Yes No	Results given on a per sample basis Qualified Data Tentatively identified compounds Qualified Data Notes: 1) High frequency of "J"-qualified data: detected but below the RL/PQL; therefore, result is an estimated concentration
No	Narrative explanation of qualified data Narrative Notes: None
Yes	Includes project quality control data (blanks, LCS) Quality Control Notes: 1) Surrogates: All surrogate recoveries within laboratory-specified control limits 2) LCS: All laboratory control spike recoveries and relative percent differences within laboratory-specified control limits 3) Trip Blanks: Chloroform was detected in Trip Blank A (12 µg/m_3) and in Trip Blank B (13 µg/m^3)
Yes	Definitions and descriptions of flagged data
Yes	Hardcopy of laboratory electronic files
No	Raw laboratory data

Attachment 10: Laboratory Data Package Review

OEC Report for Sample Group Number 1205657

Samples collected on 08 November 2012 Analyzed by *Oilfield Environmental and Compliance, Inc.* Laboratory samples IDs 1205657-01 through 1205657-29 Matrix: Groundwater	
	Samples: 3 groundwater samples where groundwater was encountered within 15 feet bgs Client sample IDs: B-35-45R, B-57-20, DUP-3
	Analyses: Total Petroleum Hydrocarbons (TPH Gasoline (C4-C10), Diesel (C10-C25) and TPH Oil Crude (C25-C40)) (all samples) Volatile Organic Compounds (VOCs) and oxygenates via Method 8260 Polycyclic Aromatic Hydrocarbons (PAHs) SIM via Method 8270 Metals via 7000/6000
Yes	Includes all chain of custody forms All requested analyses completed (100% complete)
Yes	Identification of analytical methods and detection limits
Yes Yes No	Results given on a per sample basis Qualified Data Tentatively identified compounds Qualified Data Notes: 1) Sample dilution (R-05): Sample B-35-45R was diluted due to the presence of high levels of non-target analytes and resulted in elevated reporting limit for thallium (ND<0.005 mg/kg) 2) Detected above MDL but below the RL/PQL; therefore result is an estimated concentration (J): a. TPH Diesel (C10-C25) and TPH Oil Crude (C25-C40) in sample B-224-5’
N/A	Narrative explanation of qualified data Narrative Notes: None
Yes	Includes project quality control data (Blanks, Duplicates, LCS/LCSD, MS/MSD) Quality Control Notes: 1) Blanks: No blank detections. 2) Duplicates: All laboratory control spike recoveries and relative percent differences within laboratory-specified control limits (DUP3) 3) MS/MSD: All matrix spike recoveries and relative percent differences (RPDs) within laboratory-specified control limits. 4) LCS/LCSD: All laboratory control spike recoveries and relative percent differences within laboratory-specified control limits.
Yes	Definitions and descriptions of flagged data
Yes	Hardcopy of laboratory electronic files
No	Raw laboratory data

OEC Report for Sample Group Number 1205597

Samples collected on 06 November 2012

Attachment 10: Laboratory Data Package Review

Analyzed by *Oilfield Environmental and Compliance, Inc.* Laboratory samples IDs 11205597-11 through 11205597-13 Matrix: Groundwater	
	Samples: 3 groundwater samples where groundwater was encountered within 15 feet bgs Client sample IDs: AT-B-147, AT-B-202, AT-B-146
	Analyses: Total Petroleum Hydrocarbons (TPH Gasoline (C4-C10), Diesel (C10-C25) and TPH Oil Crude (C25-C40)) (all samples) Volatile Organic Compounds (VOCs) and oxygenates via Method 8260
Yes	Includes all chain of custody forms All requested analyses completed (100% complete)
Yes	Identification of analytical methods and detection limits
Yes Yes No	Results given on a per sample basis Qualified Data Tentatively identified compounds Qualified Data Notes: 1) Detected above MDL but below the RL/PQL; therefore result is an estimated concentration (J): a. Toluene in sample AT-B-147 b. Toluene in sample AT-B-202 c. Toluene in sample AT-B-146
N/A	Narrative explanation of qualified data Narrative Notes: None
Yes	Includes project quality control data (Blanks, Duplicates, LCS/LCSD, MS/MSD) Quality Control Notes: 1) Blanks: No blank detections. 2) Duplicates: All laboratory control spike recoveries and relative percent differences within laboratory-specified control limits. 3) MS/MSD: All matrix spike recoveries and relative percent differences (RPDs) within laboratory-specified control limits. 4) LCS/LCSD: All laboratory control spike recoveries and relative percent differences within laboratory-specified control limits.
Yes	Definitions and descriptions of flagged data
Yes	Hardcopy of laboratory electronic files
No	Raw laboratory data

Attachment 10: Laboratory Data Package Review

OEC Report for Sample Group Number 1302214

Samples collected on 07 May 2013 Analyzed by *Oilfield Environmental and Compliance, Inc.* Laboratory samples IDs 1302214-07 through 1302214-09 Matrix: Groundwater	
	Samples: 3 groundwater samples where groundwater was encountered within 15 feet bgs Client sample IDs: AT-B-147, AT-B-202, AT-B-146
	Analyses: Total Petroleum Hydrocarbons (TPH Gasoline (C4-C10), Diesel (C10-C25) and TPH Oil Crude (C25-C40)) (all samples) Volatile Organic Compounds (VOCs) and oxygenates via Method 8260B/LUFT
Yes	Includes all chain of custody forms All requested analyses completed (100% complete)
Yes	Identification of analytical methods and detection limits
Yes Yes No	Results given on a per sample basis Qualified Data Tentatively identified compounds Qualified Data Notes: 1) Detected above MDL but below the RL/PQL; therefore result is an estimated concentration (J): a. TPH Gasoline in AT-B-173
N/A	Narrative explanation of qualified data Narrative Notes: None
Yes	Includes project quality control data (Blanks, Duplicates, LCS/LCSD, MS/MSD) Quality Control Notes: 1) Blanks: No blank detections. 2) Duplicates: All laboratory control spike recoveries and relative percent differences within laboratory-specified control limits except arsenic (DUP1). 3) MS/MSD: All matrix spike recoveries and relative percent differences (RPDs) within laboratory-specified control limits except vanadium, antimony, molybdenum. 4) LCS/LCSD: All laboratory control spike recoveries and relative percent differences within laboratory-specified control limits.
Yes	Definitions and descriptions of flagged data
Yes	Hardcopy of laboratory electronic files
No	Raw laboratory data

Attachment 10: Laboratory Data Package Review

OEC Report for Sample Group Number 1302269

Samples collected on 09 May 2013 Analyzed by *Oilfield Environmental and Compliance, Inc.* Laboratory samples IDs 1302214-07 through 1302214-09 Matrix: Groundwater	
	Samples: 3 groundwater samples where groundwater was encountered within 15 feet bgs Client sample IDs: AT-B-35-45R, AT-B-57-20, DUP-2
	Analyses: Total Petroleum Hydrocarbons (TPH Gasoline (C4-C10), Diesel (C10-C25) and TPH Oil Crude (C25-C40)) (all samples) Volatile Organic Compounds (VOCs) and oxygenates via Method 8260B/LUFT
Yes	Includes all chain of custody forms All requested analyses completed (100% complete)
Yes	Identification of analytical methods and detection limits
Yes Yes No	Results given on a per sample basis Qualified Data Tentatively identified compounds Qualified Data Notes: 1) Detected above MDL but below the RL/PQL; therefore result is an estimated concentration (J): a. Nickel in B-35-45R b. Anthracene, ethylbenzene, 4-isopropyl toluene, toluene, 1,2,4-trimethylbenzene, xylenes (total), t-butyl alcohol in B-57-20 c. Anthracene, ethylbenzene, 4-isopropyl toluene, toluene, 1,2,4-trimethylbenzene, xylenes (total), t-butyl alcohol in DUP-2.
N/A	Narrative explanation of qualified data Narrative Notes: None
Yes	Includes project quality control data (Blanks, Duplicates, LCS/LCSD, MS/MSD) Quality Control Notes: 1) Blanks: No blank detections except thallium (BLK1). 2) Duplicates: All laboratory control spike recoveries and relative percent differences within laboratory-specified control limits except molybdenum (DUP2). 3) MS/MSD: All matrix spike recoveries and relative percent differences (RPDs) within laboratory-specified control limits except: a. Antimony (MS1, MSD1). 4) LCS/LCSD: All laboratory control spike recoveries and relative percent differences within laboratory-specified control limits except: a. Antimony, chromium, and cobalt (BS1).
Yes	Definitions and descriptions of flagged data
Yes	Hardcopy of laboratory electronic files
No	Raw laboratory data

ATTACHMENT 11

Data Quality Assessment
(McDaniel Lambert, Inc. 2013)

Attachment 11

Data Quality Assessment in Support of the Final Human Health Risk Assessment, Avila Tank Farm Property, Avila Beach, CA

August 2013
Final

Prepared for:

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1.0 INTRODUCTION

To respond to comments from San Luis Obispo County Environmental Health Services (SLO County EHS), a quantitative data quality assessment (DQA) was conducted for the former Avila Tank Farm (the Site) to determine if data used in the Final Human Health Risk Assessment (Final HHRA) are sufficient to support risk-based decisions with the desired confidence. The *Avila Tank Farm Data Validation and Data Usability Report* (DVDU, Neptune and Company, Inc. 2008) determined that the data collected during environmental site investigations were appropriate to use in a human health risk assessment, but did not address the sufficiency of the data to support risk-based decisions. While the Neptune and Company, Inc. (Neptune) DVDU addressed data sufficiency qualitatively through spatial representation of the data, this document focuses on evaluating data sufficiency quantitatively through sample size calculations.

The DQA process used in this evaluation is based on USEPA guidance (USEPA 2006a and b), and was developed in general concurrence with Neptune & Company, Inc. The primary purpose of the DQA process is to verify that data quality objectives (DQOs) were satisfied. When human health risk assessment activities recommenced in 2007, qualitative DQOs were developed for soil and soil gas sampling based on visual inspection of sample coverage and professional judgment. This evaluation provides quantitative DQO statements and a DQA to verify that sufficient data have been collected to support future risk management decisions – that is, to decide on no further action, or on further action. The data sufficiency conclusions summarized in this evaluation are based on the data used in the Final HHRA and exposure areas as defined in the proposed Vision Plan (see main document). As requested by SLO County EHS, this document is an update of the 2011 Data Quality Assessment in order to incorporate changes made to the Vision Plan, supplemental sampling conducted since 2007, and the Final HHRA results.

2.0 DATA QUALITY ASSESSMENT PROCESS

2.1 Data Quality Objectives

The first step of the DQA process is to review the sampling objectives set forth in the DQOs. The DQOs developed during the planning phase of the 2007 site investigations were qualitative statements, and would allow for a qualitative DQA. As requested by SLO County EHS, this DQA is quantitative. Prior to performing sample size calculations in this DQA, it was necessary to develop quantitative DQO statements. Therefore, the seven steps of the DQO process were revisited to specify risk-based concentrations (RBCs), and acceptable performance criteria.

1. *State the Problem*: Both petroleum and non-petroleum chemicals are present in various media on the Site. Although the Site is currently zoned industrial, potentially exposed populations include short-term residents, indoor and outdoor commercial employees, intrusive utility workers, and recreational users.
2. *Identify the Goals of the Study:* Human health risk assessment results are to be used in the development of risk management recommendations in order to protect human health.
3. *Identify the Information Inputs:*
    - Site conceptual model showing potential sources of contamination and dominant exposure pathways.
    - Key chemical-pathway receptor combinations accounting for the majority of cancer risk and noncancer hazard in each exposure area (e.g. benzene in soil gas for short-term residents in Area M).
    - Environmental data to determine sample variability.
    - Risk goals to be achieved (e.g. cancer risk no greater than 10^{-6} for short-term residents, recreational users and offsite residents; 10^{-5} for commercial employees and intrusive utility workers; and hazard quotient no greater than 1.0 for all receptors) and corresponding RBCs.
    - Risk assessment inputs from the Final HHRA to back-calculate soil and soil gas RBCs that will result in achievement of risk goals.
4. *Define the Boundaries of the Study:*
    - Exposure areas outlined in the Vision Plan, as described in the Final HHRA.
    - Site soil gas data used must have been collected after the DTSC 2004 vapor intrusion guidance was published (includes 2007 and 2013 sampling events).
    - Data used includes site data determined valid according to the ATF DVDU (Neptune 2008) and supplemental soil and soil gas sampling collected in 2011 and 2012, as requested by SLO County EHS (Padre 2012a,b).
5. *Develop the Analytical Approach:* For short-term residents and indoor/outdoor employees, if the 95 percent upper confidence limit (UCL) of the average concentration of any chemical of potential concern within the upper 10 feet (ft) of soil is greater than its risk-based goal, then propose remedial action or institutional controls. Recreational users and offsite residents are evaluated using the 0-2 ft soil horizon. If there are not enough data to support a 95 percent UCL calculation, then the maximum detected concentration is compared to risk goals. For intrusive utility workers, risk management decisions are based on the maximum concentration.
6. *Specify Performance or Acceptance Criteria:* To be health protective, the null hypothesis assumes that the mean concentrations are greater than the respective RBCs. Based on agreement with SLO County EHS, the acceptable error rate for incorrectly accepting the

null hypothesis is determined to be 20% (remediate a clean site; Type II error), and for incorrectly rejecting the null is 5% (no further action taken at a contaminated site; Type I error). These error rates are consistent with the USEPA default performance criteria. The acceptable minimum detectable difference (MDD), or the width of the gray region was selected to be 20% of the RBC for each risk-significant chemical.

7. *Optimize the Design:* The final step typically develops the most efficient design to meet the acceptable limits on decision errors specified in Step 6. Because sampling has already occurred, the sample sizes used in the Final HHRA will be compared to the required sample size calculated from the USEPA default error rates. If the Final HHRA sample size does not meet the desired sample size calculated with the above USEPA default performance criteria, a sensitivity analysis was conducted by calculating optimal sample sizes based on a range of limits of decision errors: Type II error range of 15%, 20% and 25%; Type I error range of 5%, 10% and 15%; and MDDs of 10%, 20%, and 30%. Sample sizes were then compared to this range of statistically calculated sample sizes.

2.2 Data Quality Assessment Process

The USEPA's DQA process focuses on evaluating one chemical at a time. In the risk assessment context, the goal is to verify that enough data have been collected for each chemical that contributes significantly to the overall risk (referred to as the risk-significant chemical). This retrospective DQA is applied to a range of possible DQO inputs. As described in the previous section, these inputs include risk-significant chemicals, data variability, risk-based goals and error rates.

2.2.1 Risk-Significant Chemicals

Risk-significant chemicals were identified for soil and soil gas pathways by reviewing the Final HHRA results (McDaniel Lambert 2013), and calculating the percentage of risk accounted for by a single chemical. Risk-significant chemicals were identified as any chemical(s) accounting for a cumulative 40% of the total cancer risk or noncancer hazard for each receptor. Because it is evaluated separately in the Final HHRA, lead also was considered a risk-significant chemical for every exposure area. For risk-significant chemicals other than lead, the chemical-pathway-receptor combinations are summarized in Table 1. Carcinogenic polycyclic aromatic hydrocarbons (except dibenzo[a,h]anthracene and naphthalene) are evaluated collectively as one risk-significant chemical (benzo[a]pyrene toxic equivalents, or BaP TEQ).

2.2.2 Final HHRA Data Variability

In a prospective DQO effort, the anticipated data variability typically is specified based on a combination of historical data and expert opinion. Since this is a retrospective DQO effort and

the Final HHRA dataset is available, the *actual* sample standard deviation was calculated from the site-specific data for each chemical identified as risk-significant. In the case of non-detects, the reporting limit was substituted as the chemical concentration. For each risk-significant chemical, the Final HHRA soil and soil gas datasets were reviewed for elevated reporting limits to avoid skewing the standard deviation. Outlying reporting limits (generally two or more orders of magnitude larger than other reporting limits) were excluded from the datasets. The elevated reporting limits were due to sample dilution as a result of the presence of non-target analytes. Table 2 indicates the reporting limits that were removed and the rationale for exclusion. Although these elevated reporting limits were included in the Final HHRA, they do not significantly affect the risk results.

2.2.3 Risk-based Concentrations

For purposes of the DQA, the desired risk goals (e.g. 10^{-6}/10^{-5} and 1.0) are translated into RBCs for each risk-significant chemical. The RBCs were back-calculated using equations, exposure assumptions, and toxicity criteria presented in Sections 3 and 5 of the Final HHRA (McDaniel Lambert 2013). For potential cancer health effects of risk-significant chemicals in every exposure area, RBCs were calculated using thresholds within the USEPA risk management range. Specifically, a cancer risk threshold of 10^{-6} is used to calculate RBCs for offsite residents, short-term residents and recreational users, and a threshold of 10^{-5} is used for commercial employees and intrusive utility workers (personal communication, June 25, 2013, Aaron LaBarre). For potential noncancer health effects, the RBC corresponds to a chemical-specific hazard quotient of 1.0. Consistent with the Final HHRA, the noncarcinogenic health effects of lead are assessed separately from other COPCs. The lead RBCs for soil are based on the residential California Human Health Screening Level (CHHSL) of 80 mg/kg and the commercial CHHSL of 320 mg/kg (Cal/EPA 2009). The residential CHHSL is used as the RBC to evaluate recreational receptors, and the commercial CHHSL of 320 mg/kg is protective of the short-term resident child (see Final HHRA Attachment 13).

If the same risk-significant chemical was identified for multiple receptors in the same exposure area, then the most conservative RBC was carried forward in the DQA process to be health protective of the most sensitive receptor in each area. The cancer and noncancer RBCs used in the DQA are presented in Table 3. The RBCs calculated in this assessment are intended for the sole purpose of guiding this DQA effort, and it should be noted that these RBCs are not cleanup standards.

2.2.4 Performance and Acceptance Criteria

Similar to the other inputs, tolerable limits on decision errors also are developed as part of quantitative DQOs during the sample design phase. The decision errors are framed in the context of the hypothesis being tested by considering the impacts of falsely rejecting or falsely

accepting the null hypothesis. SLO County EHS has selected acceptable decision errors, which are described below.

For each risk-significant chemical, the null hypothesis is that the mean concentration is above the RBC. In other words, the hypothesis is a health protective assumption that remediation is necessary unless the collected data contain sufficient evidence to conclude otherwise. A false acceptance decision error (Type II) would occur if the results concluded the mean site concentration is above the RBC, when in fact they are below. A false rejection decision error (Type I) would occur if the results concluded that the mean site concentration is not below the RBC, when in fact it is above. In this case, false rejection would be a more serious error in terms of protecting public health; therefore it is important to place more stringent criteria on the probability of this occurring (alpha value). For further action areas, the probability of making a false rejection error equals 5%, and the probability of making a false acceptance error equals 20%. These are consistent with the error rates that EPA guidance generally recommends –5% for the more severe error that would lead to compromising public health, and 20% for the chance of remediating when it is not necessary (USEPA 1994).

The minimum detectable difference (MDD), or the width of the gray region, is typically a specified proportion of the RBC. In this DQA, an MDD equal to 20% of the RBC was selected as an acceptable value in conjunction with SLO County EHS and its consultants.

2.2.5 Sensitivity Analysis

If Final HHRA sample sizes did not meet the default criteria described above, a sensitivity analysis was conducted to calculate optimal sample sizes based on a range of inputs for various acceptance criteria. False rejection errors ranged from 15% to 25%; false acceptance errors ranged from 5% to 15%; and the MDD was set at 10%, 20% and 30% of the RBC. Depending on where the Final HHRA sample size falls within the desired range of statistically calculated sample sizes, the level of confidence in possible risk management decisions varies. If the actual sample size is at the low end of the calculated range, there is a 15% probability that no further action will be taken at a contaminated site and a 25% probability that a clean site will be remediated.

2.3 Sample Size Calculations

Using the DQA inputs identified above, the software package Visual Sample Plan (Version 6.0, Pacific Northwest National Laboratory, 2010) was used to calculate sample sizes. This software includes a module that calculates the sample size required to compare the mean site concentration with an RBC. The formula used in this calculation is based on a non-parametric test; therefore it provides an approach that is robust to datasets such as those in the Final

HHRA exposure areas that deviate from a normal distribution. The formula developed by Pacific Northwest National Laboratory and used in this exercise is as follows:

$$n = 1.16\left[\frac{s^2}{\Delta^2}\left(z_{1-\alpha} + z_{1-\beta(\mu)}\right)^2 + 0.5z_{1-\alpha}^2\right]$$

where,

n = number of samples
s = sample standard deviation of concentrations evaluated in Final HHRA
Δ = width of gray region (difference between the RBC and the point at which β is specified)
α = significance level or Type I error tolerance
β = Type II error tolerance; and
z = quantile from the standard normal distribution

3.0 ARSENIC BACKGROUND DATA

In addition to the DQO and DQA for soil and soil gas risk-significant chemicals identified in the Final HHRA, SLO County Health requested a review of the data sufficiency for arsenic. The *Analysis of Background Metals* (McDaniel Lambert 2009) examined multiple lines of evidence to determine if site concentrations are within background levels, including statistical comparison tests of metal concentrations by geology, and concluded that Site arsenic concentrations are consistent with background levels. SLO County Health previously agreed that the exclusion of arsenic as a COPC was appropriate, and has requested a quantitative DQA to verify that sample sizes were sufficient to complete the statistical comparison tests.

The background evaluation included two sets of comparison tests for arsenic – one for each of the predominant geologies (Obispo and Pismo) at the Site. The DQA was conducted by calculating the sample sizes required for the Student's t-test with independent, unequal group sizes, which was one of the four comparison tests used in the background evaluation. As in the DQA process for risk-significant chemicals at the Site, acceptable performance criteria were selected for this arsenic evaluation. The Type I and Type II error rates are consistent with those discussed in Section 2.2.4, however the MDD values were selected specifically to evaluate background arsenic at the Site. The USEPA guidance (USEPA 2002) discusses several options for establishing an appropriate MDD when testing for differences between background and onsite areas. One of these options was chosen for this analysis, which is to use a specified proportion of the mean background concentrations. Several proportions of the mean background concentrations were considered, including 50%, 100% and 150%. Given the potential human health risk, regional background levels and lack of historical sources, reasonable MDDs were

selected for each geology as described in more detail below: (1) a difference of 100% was considered important for arsenic in the Pismo geologic formation, and (2) a difference of 50% for the Obispo formation. The reason for the different percent MDDs is that the natural concentrations of arsenic in the Obispo formation are greater than those in the Pismo formation. The different percent MDDs for each geology hence correspond to very similar differences in mean concentration for the two geologies.

A reasonable MDD is typically established by considering a contaminant level that does not pose a risk. However, the arsenic residential CHHSL of 0.07 mg/kg is less than reporting limits used by analytical laboratories. Therefore, any positive confirmation of arsenic by a laboratory will be reported at a concentration that exceeds the CHHSL. Nevertheless, the risk concerns support the idea of a small MDD to protect against potentially adverse risk. Other factors to consider, however, include the lack of known historical source term for arsenic, and background concentrations of arsenic in the general area or region of the site. These factors lend themselves to the idea of a larger MDD. The MDD values chosen for the DQA balance the risk, lack of source, and regional background concerns.

Naturally occurring (or background) concentrations of arsenic in California soils are known to exceed the CHHSLs and other risk-based concentrations. The following table presents the range of results from background metal concentration data sets conducted in various California locations, which range from 1.5 to 46 mg/kg. The nearest data source to the Site is Shell Beach, with background arsenic concentrations ranging from 8.1 to 11.9 mg/kg. The Human Health Risk Assessment Working Group[1] agreed that these regional background levels for arsenic are appropriate to use in determining a reasonable MDD.

Table 4. Regional Background Arsenic Data

Source	Background arsenic concentration (mg/kg)
San Miguel, San Luis Obispo County, CA (EIS 2009)	1.5 – 7.1
San Miguel, San Luis Obispo County, CA (DMI 2004)	<1.0 – 46
Paso Robles, San Luis Obispo County, CA (OEC 2008)	3.1 – 5.4
Shell Beach, San Luis Obispo County, CA (Lancaster Laboratories 2008)	8.1 – 11.9

Note: SLO County Health provided these regional arsenic data for various background locations in SLO County (email communication, January 21, 2010, Aaron LaBarre).

[1] The Human Health Working Group consists of members of the Avila Tank Farm Collaborative Assessment Team, including the Regional Water Quality Control Board, the Air Pollution Control District, and the SLO County Health and its consultants.

A difference of 100% of the background mean for arsenic in Pismo soils (3.9 mg/kg) equates to an MDD of 3.9 mg/kg. This means that an inaccurate decision is more likely to be made if the true arsenic concentration onsite is between 3.9 mg/kg (the lower bound of the grey region) and 7.7 mg/kg (the upper bound of the grey region). In other words, the desired error rates apply (i.e., Type II error probability of falsely excluding arsenic as a COPC) if the true arsenic concentration in onsite Pismo soils is above 7.7 mg/kg. Since this concentration is within the range of regional background concentrations, and below the background levels detected at nearby Shell Beach, a difference of 100% of the background mean is considered reasonable.

A difference of 50% of the background mean for arsenic in Obispo soils (6.3 mg/kg) equates to an MDD of 3.2 mg/kg. This means that an inaccurate decision is more likely to be made if the true arsenic concentration onsite is between 6.3 mg/kg (the mean background concentration, and the lower bound of the grey region) and 9.5 mg/kg (the upper bound of the grey region). In other words, the desired error rates apply (i.e., Type II error probability of falsely excluding arsenic as a COPC) if the true arsenic concentration in onsite Obispo soils is above 9.5 mg/kg. Since this concentration is within the range of regional background concentrations, and similar to the background levels detected at nearby Shell Beach, a difference of 50% of the background mean is considered reasonable. Given the propensity for arsenic to occur naturally within the volcaniclastic rocks of the Obispo formation, it is reasonable that the upper bound of the grey region for arsenic in Obispo is greater than that for Pismo. Electron probe analysis of one of the highest arsenic concentrations found in the onsite Obispo formation confirmed its geogenic source (Avocet 2004).

Lastly, potential anthropogenic sources of arsenic (e.g. pesticides) at the Site have been thoroughly investigated since environmental sampling began in 1998. The only available information regarding historical weed management is a report by England & Associates (1998) that cites a 1982 weed abatement contract for the application of oil (also referred to as asphalt) to large portions of the property as a means of weed and erosion control. Analyses of pesticides in Site soils further support the limited use of pesticides; only one pesticide (gamma-BHC) was detected in one of 12 soil samples collected site-wide. Furthermore, arsenic is not a metal usually associated with petroleum products (WHO 1989). There is some evidence of arsenic being present in crude oil in the parts-per-billion range (Stigter 2000), which is nominal compared to the minimum background concentration in Obispo. The absence of operational practices using arsenic further supports the MDDs selected.

The sample size calculations for arsenic in Pismo and Obispo are summarized in Tables 5 and 6 below. In addition to the error rates that correspond to the USEPA default criteria (α = 5% and β = 20%), the tables show a sensitivity analysis with a range of error rates consistent with those

described in Section 2.2.5. Given the regional background data and lack of arsenic sources onsite, the DQA confirmed there are enough arsenic samples to conclude background and site concentrations are similar.

Table 5. Sample Size Calculations for Arsenic in Pismo

Analyte: Arsenic, Pismo		Matrix: Soil		
Null Hypothesis= Site mean ≤ Background		Allocation Ratio: 1 : 25.57		s= 3.73
No. Bkgd Samples=7	No. Site Samples= 179	α = 5%	α = 10%	α = 15%
MDD = 100% (3.87)	β = 15%	7 : 179	6 : 135	5 : 108
	β = 20%	7 : 155	5 : 113	4 : 89
	β = 25%	6 : 135	4 : 97	3 : 75

Table 6. Sample Size Calculations for Arsenic in Obispo

Analyte: Arsenic, Obispo	Matrix: Soil			
Null Hypothesis= Site mean ≤ Background		Allocation Ratio: 1 : 5.14		s= 5.25
No. Bkgd Samples=22*	No. Site Samples=113	α = 5%	α = 10%	α = 15%
MDD = 50% (3.155)	β = 15%	25 : 124	19 : 93	15 : 75
	β = 20%	21 : 108	16 : 78	12 : 62
	β = 25%	19 : 93	13 : 67	10 : 52

α = alpha, probability of correctly concluding that the mean site concentration is within background (Type I error)
β = beta, probability of incorrectly concluding that the mean site concentration is within background (Type II error)
MDD = minimum detectable difference
Grey shading indicates USEPA default performance criteria, α=5% and β=20%
*Two outliers were removed for the sample size calculations. Results of comparison tests with outliers removed suggest background and site data are similar.

The sample size calculations were conducted using the open source statistical software program R (www.r-project.org). The programming code is provided in Attachment 1 for the Pismo scenario. The program uses a 1-sided 2-sample t-test, which compares mean concentrations. The inputs to the program include:

- a range of possible desired Type I and Type II error rates,
- the selected MDDs,
- the standard deviation of the background data (since the intent is to demonstrate that the site arsenic concentrations are similar to the background concentrations), and,
- an allocation ratio of the number of site samples to background samples, which is also based on the actual number of site and background samples taken.

The actual numbers of background and site samples collected for arsenic in the Pismo formation are 7 and 179. For the range of conditions provided in Table 5, the maximum numbers of samples needed are, coincidentally, 7 and 179. The number of samples needed when the default Type I and Type II error rates (5% and 20%) are used are 7 and 155. This suggests that enough samples have been collected to confirm the finding that the site arsenic concentrations in the Pismo formation are close enough to background concentrations. The p-

value for the test of the difference between site and background concentrations in the Pismo formation is 0.22, suggesting that the site and background concentrations are similar. This DQA confirms that there are enough samples to support this conclusion.

The actual numbers of background and site samples collected for arsenic in the Obispo formation are 24 and 179. However, two of the 24 background samples have been removed for this DQA analysis, because their concentrations are considerably greater than the site concentrations (110 and 220 mg//kg compared to the maximum site concentration of 57 mg/kg). Note, these two data points are still considered part of the background dataset, but are removed for this DQA only. For the range of conditions provided in Table 6, the maximum numbers of samples needed are 25 and 124. The number of samples needed when the default Type I and Type II error rates (5% and 20%) are used are 21 and 108. This suggests that enough samples have been collected to confirm the finding that the site arsenic concentrations in the Obispo formation are close enough to background concentrations. The p-value for the test of the difference between site and background concentrations in the Obispo formation is 0.32, suggesting that the site and background concentrations are similar. This DQA confirms that there are enough samples to support this conclusion.

Note that if the two outliers are included, then the background mean concentration is 19.5 mg/kg, which is much larger than the site mean concentration of 7.4 mg/kg, in which case DQA is not necessary, and the conclusion that site concentrations are no greater than background concentrations is appropriate.

4.0 RESULTS

The sample size results determined in this DQA process are presented for risk-significant chemicals and corresponding pathways and receptors for each exposure area. The desired sample sizes are presented as a single value, which is based on the performance criteria that were determined acceptable by SLO County EHS. These correspond to a Type I error of 5%, Type II error of 20%, and a MDD equal to 20% of the RBC. In other words, there is a 5% probability that no further action will be taken at a contaminated site and a 20% probability that a clean site will be remediated. Table 7 summarizes the DQA results for soil and Table 8 presents the DQA results for the soil gas data, which are presented separately for 5 and 15 ft data. As requested by SLO County EHS, sample size results in Tables 7 and 8 are identified with a check mark if the sample size is sufficient based on the USEPA default performance criteria. Results that do not meet these criteria, which are referred to as the default USEPA criteria, are summarized below by exposure area and detailed in Attachment 2. Additionally, when soil results did not meet the sample size criteria, quantile-quantile plots (Q-Q plots) were constructed to determine if the effect could be explained by sample distribution, and whether

the majority of concentrations are below or above the risk-based threshold. The Q-Q plots are included as Attachment 3.

Area D:

- *Lead in soil*: The Final HHRA sample size of 25 does not meet the default USEPA criteria. The Final HHRA sample also does not meet any of the acceptance criteria calculated in the sensitivity analysis (falls below the range of 38 to 822 samples). The wide range of desired sample sizes is due to one elevated concentration above the threshold level of 320 mg/kg, while the other results consist of a well-defined population below the RBC.
- *Ethylbenzene in soil gas*: Potential indoor air health risk estimates are based on four samples collected from 15-ft soil gas samples in Area D. This sample size does not meet the default USEPA criteria for the 10^{-6} cancer risk threshold, although it falls at the low end of the sample size range of 2 to 29. The 5-ft soil gas sample size is sufficient to meet the USEPA criteria.

Area E:

- *Benzene in soil gas:* Potential indoor air health risk estimates were based on eight 15-ft soil gas samples in Area E. These samples do not meet the default USEPA criteria for the 10^{-6} cancer risk threshold. Additionally, the seven 5-ft soil gas samples are not sufficient to meet the default USEPA criteria for the 10^{-6} cancer risk threshold.

Area Ia:

- *Lead in soil:* The Final HHRA sample size of 22 does not meet the default USEPA criteria, although falls towards the low end of the calculated sample size range of 20 to 428. The wide range of desired sample sizes is due to one elevated concentration above the threshold level of 320 mg/kg, while the other results consist of a well-defined population below the RBC.
- *Chloroform in soil gas:* Potential indoor air health risk estimates were based on three 15-ft soil gas samples in Area Ia. These samples do not meet the default USEPA criteria for the 10^{-6} cancer risk threshold, but fall between the calculated sample size range of 2 to 24. The three 5-ft soil gas samples are sufficient to meet default USEPA criteria for the 10^{-6} risk threshold.

Area Ib:

- *Chloroform in soil gas:* Potential indoor air health risk estimates are based on four 15-ft soil gas samples in Area Ib. These samples are not sufficient to meet the default USEPA criteria for the 10^{-6} cancer risk threshold, or the noncancer threshold of 1.0. The 5-ft soil

gas sample size does not meet USEPA criteria for the 10^{-6} cancer risk threshold, however it equals the low end of the range of 4 to 74 samples.

Area J:

- *Chloroform in soil gas:* Potential indoor air health risk estimates are based on eleven 15-ft soil gas samples. These samples are not sufficient to meet the default USEPA criteria for 10^{-6} cancer risk threshold. The ten 5-ft soil gas samples also are not sufficient to meet the default USEPA criteria.

Area K:

- *Chloroform in soil gas:* Potential indoor air health risk estimates are based on nine 15-ft soil gas samples, which do not meet the default USEPA criteria for the 10^{-6} cancer risk thresholds. However, the three 5-ft soil gas samples are sufficient to meet default USEPA criteria for 10^{-6} risk goal.

Area M:

- *Benzene in soil gas:* Since the potential indoor air health risk estimates are based on a single sample collected from 15-ft, the data variability could not be estimated; therefore a desired sample size could not be calculated. However, the six 5-ft soil gas samples are sufficient to meet the default USEPA criteria for the 10^{-6} risk goal.

Open Space:

- *Dibenz(a,h)anthracene in soil:* The Final HHRA sample size of 23 for the 0 to 2 ft soil horizon does not meet the USEPA default criteria for the 10^{-6} risk goal for recreational users in Open Space, however this sample size does fall within the calculated range of 11 to 228 samples. The wide range of desired sample sizes is due to one elevated detected concentration and two elevated non-detected values above the threshold level of 0.15 mg/kg, while the other results consist of a well-defined population below the RBC.
- *Benzene in soil:* Benzene in soil is a risk-driver for recreational users in Open Space for evaluation of the 0 to 10 ft soil horizon, although it is not likely for recreators to be exposed to soil at depths below 2 ft. The 91 soil samples collected in this area do not meet the default USEPA criteria for the 10^{-6} risk goal, although this sample size falls within the calculated range of 47 to 1021 samples. The large number of desired sample sizes is due to three elevated detects (approximately 3% of all the samples) above the threshold level of 1.1 mg/kg, while the other results consist of a well-defined population below the RBC.

Site-Wide:

- *2,4-Dinitrotoluene in soil:* The Final HHRA sample size of five for 2,4-dinitrotoluene does not meet the USEPA default criteria for the 10^{-6} risk goal for recreational users in the no-development scenario. Additionally, this sample size of five falls below the calculated range of 8 to 153 samples.

5.0 CONCLUSIONS

As requested by SLO County EHS, this quantitative DQA was focused on evaluating whether the data used in the Final HHRA were sufficient to make health protective risk-based decisions. The approach used USEPA DQO and DQA guidance to calculate the number of samples needed based on the Final HHRA data and the specified range of acceptable performance criteria. This quantitative DQA supplements the previous data quality evaluations that have been conducted for the Site, including the *Data Validation and Data Usability Report* and the qualitative DQOs and DQA that were initially used. The results presented in this report are limited to the Vision Plan presented in the Final HHRA. If exposure area boundaries or land uses are modified, the data sufficiency for that specific area will need to be reevaluated.

One of the main limitations of this evaluation is the disconnect between USEPA guidance for the classical approach to DQA and that for human health risk assessment. This DQA evaluates whether or not the data are sufficient to determine if the sample mean is below the specified risk-based goal, while health risks for some scenarios in the Final HHRA (e.g. intrusive utility worker and soil gas) were calculated using the maximum detected concentration. Although the maximum concentration is a much less stable measurement than the mean, the use of the maximum to estimate risk in the Final HHRA is common practice and health protective.

Generally, depth horizons of the data used in the Final HHRA and in this DQA are consistent. For most exposure areas, soil risks in the risk assessment are based on the greater of the EPCs (maximum or UCL, as appropriate) calculated for the 0-2 and 0-10 ft depth horizons. Since all of the data collected from the upper 10 ft plays a role in the risk-based decision making process, the soil samples from the entire 0 to 10 ft soil horizon were used to evaluate data sufficiency in this DQA. Consistent with the data used to estimate risks in the Final HHRA, the DQA for the produce pathway is based on soil samples collected from 0-5 ft in the Native Gardens. Also, the DQA sample size calculations for the offsite resident, who is potentially exposed to COPCs in outdoor air in the no development scenario, and the recreational user are based on soil samples collected from 0-2 ft across the Site. The soil gas risks in the risk assessment are based on the greater of the indoor air EPCs that result from the 5 and 15 ft soil gas data. Since there is considerable variability between the 5 and 15 ft soil gas data, the DQA evaluated the 5 and 15 ft

data separately. As discussed in the Final HHRA (see Section 7.4.3.7), indoor air concentrations are generally much lower based on 5-ft samples, suggesting that natural attenuation is occurring.

Overall, the results of this DQA show that the soil and soil gas sampling designs accomplished the sampling objectives to support defensible risk management decisions. Table 9 provides a comprehensive summary of the DQA results for cancer and noncancer risk drivers for each receptor evaluated in the Final HHRA. As requested by SLO County EHS, sample size results in Table 9 are highlighted with orange text when specific performance criteria within the range are not met (α=5%, β=20%, MDD=20%); these alpha and beta values are consistent with the default USEPA criteria (USEPA 2006a,b).

5.1 Soil Risk-Significant Chemicals

The following risk-significant chemicals in soil do not meet the default USEPA criteria, however the respective sample sizes fall within the sample size ranges calculated during the sensitivity analysis:

- Benzene – Open Space
- Dibenz(a,h)anthracene – Open Space
- Lead – Area Ia

The following risk-significant chemicals in soil do not meet the default USEPA criteria, nor do they fall within the desired sample size ranges calculated during the sensitivity analysis:

- Lead - Area D
- 2,4-dinitrotoluene - Site-wide no development scenario

The Q-Q plots of dibenz(a,h)anthracene in Open Space, and lead in Areas D and Ia show that the data are below the risk-based thresholds, with the exception of one outlying detection in each instance. The outlying concentrations in each instance were detected in the upper 1 ft of soil in areas near the former pump house and refinery, where there is a high density of soil sampling. Similarly, the Q-Q plot for benzene in Open Space shows that the data are below the RBC, with the exception of three detects from samples collected at depths of 5 and 10 ft. Two of the three benzene detects were found in the same borehole (BH-230 at 5 and 10 ft bgs), and this sample location is bounded by six nearby soil samples (see Figure 1-7 in the Final HHRA). The third elevated benzene concentration is located in Open Space near the former pump house in a petroleum-impacted area that has been well characterized through historic sampling events. Because the majority of benzene data show little variability below the RBC, and the areas surrounding the elevated benzene concentrations have been well characterized, there is evidence suggesting sufficient data have been collected for this risk driver.

The SVOC 2,4-dinitrotoluene is a risk driver for the Site-wide recreational user based on an evaluation of the 0-10 ft soil horizon, as opposed to the more likely shallow soil exposure scenario (0-2 ft). Only five samples were analyzed for 2,4-dinitrotoluene, because it was included in the analyte list for select samples in the November 2011 soil sampling event. The single detection is a concentration estimated to be below the reporting limit of 1 mg/kg, and is located in Exposure Area E. This was not previously analyzed in other samples, because it is not a chemical typically associated with petroleum-related activities at the Site.

Overall, the results of this DQA show that the soil sampling designs accomplished the objective of collecting data to conduct a risk assessment and support defensible risk management decisions. Several risk drivers with sample sizes that do not meet the USEPA default criteria are summarized above, and any issues related to insufficient samples sizes will be addressed in the Pre-Feasibility and/or Feasibility Study.

5.2 Soil Gas Risk-Significant Chemicals

In the Final HHRA, worst-case indoor air concentrations were derived from the maximum 5- or 15-ft soil gas concentrations that resulted in the highest indoor air concentrations. In most cases, the maximum indoor air concentration resulted from the 15-ft soil gas data. As discussed in the Final HHRA (see Section 7.4.3.7), indoor air concentrations are generally much lower if based on 5-ft samples, suggesting that natural attenuation is occurring. The sufficiency of the 5-ft soil gas data was also evaluated for exposure areas where the Final HHRA indoor air risks are based on 15-ft soil gas data. Table 8 summarizes the DQA results for the 5- and 15-ft soil gas data, and indicates the depth that resulted in the worst-case indoor air concentration used in the Final HHRA.

The following risk-significant chemicals in soil gas do not meet the default USEPA criteria for either the 10^{-6} or the 10^{-5} cancer risk threshold:

- Area D: ethylbenzene (15 ft; data are sufficient for 5-ft soil gas)
- Area E: benzene (5 and 15 ft)
- Area Ia: chloroform (15 ft; data are sufficient for 5-ft soil gas)
- Area Ib: chloroform (5 and 15 foot)
- Area J: chloroform (5 and 15 foot)
- Area K: chloroform (15 foot; data are sufficient for 5-ft soil gas)

To be health protective, the Final HHRA used the maximum estimated indoor air vapor concentrations resulting from *either* the 5- or 15-ft soil gas result, despite the observation of substantial attenuation with depth. Because both depths were considered in the HHRA to

support risk management decisions, it is important to note that there are sufficient samples for 5-ft soil gas in Areas D, Ia, and K.

In summary, the results of this DQA show that the soil gas sampling designs accomplished the objective of collecting data to conduct a risk assessment and support defensible risk management decisions. Areas and depth horizons with insufficient data will be addressed as part of the Pre-Feasibility and/or Feasibility Study. Either remedial action will be required or discussions with the agencies will be needed in order to support a decision of *no further action*.

5.3 Arsenic Background Screen

In addition to the DQA for risk-significant chemicals evaluated in the Final HHRA, an additional evaluation was completed to determine whether there are sufficient samples to support the arsenic background evaluation conclusion that onsite arsenic concentrations are consistent with background. The results presented in Section 3 confirmed there are enough arsenic samples to support this conclusion.

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TABLES

Table 1
Risk-Significant Chemicals and Associated Receptor-Pathways

Exposure Area	Chemical	Dominate Pathways	Receptor	% Total Cancer Risk	% Total Hazard Quotient (HQ)
A	1,3-butadiene	InhV	Default Bldg. Short-term Resident Adult	18%	
	BaP TEQ	Dermal	Default Bldg. Short-term Resident Adult	21%	
	Benzene	InhV	Default Bldg. Indoor Employee	25%	
	1,3-butadiene	InhV	Default Bldg. Indoor Employee	38%	
	BaP TEQ	Dermal	Outdoor Employee	51%	
	Chromium	InhP	Intrusive Utility Worker	70%	
	Cadmium	Ing -Produce	Default Bldg. Short-term Resident Adult		59%
			Default Bldg. Short-term Resident Child		45%
	Vanadium	Ing	Default Bldg. Indoor Employee		46%
		Dermal	Outdoor Employee		79%
		Ing, Dermal	Intrusive Utility Worker		77%
C	Chloroform	InhV	Bungalow Short-term Resident Adult	63%	
			Bungalow Indoor Employee	67%	
			Default Bldg. Short-term Resident Adult	57%	
			Default Bldg. Indoor Employee	66%	
	BaP TEQ	Dermal	Outdoor Employee	41%	
	Chromium	InhP	Outdoor Employee	35%	
		InhP	Intrusive Utility Worker	69%	
	1,2,4-TMB	InhV	Bungalow Short-term Resident Adult		30%
	Cadmium	Ing -Produce	Bungalow Short-term Resident Adult		20%
	Vanadium	Dermal	Bungalow Short-term Resident Child		25%
	TPH-mo	Ing,Dermal	Bungalow Short-term Resident Child		18%
	1,2,4-TMB	InhV	Bungalow Indoor Employee		34%
	TPH-mo	Ing	Bungalow Indoor Employee		19%
	Cadmium	Ing -Produce	Default Bldg. Short-term Resident Adult		27%
	1,2,4-TMB	InhV	Default Bldg. Short-term Resident Adult		19%
	Vanadium	Dermal	Default Bldg. Short-term Resident Child		27%
	TPH-mo	Ing, Dermal	Default Bldg. Short-term Resident Child		20%
	1,2,4-TMB	InhV	Default Bldg. Indoor Employee		24%
	TPH-mo	Ing	Default Bldg. Indoor Employee		27%
	Vanadium	Dermal	Outdoor Employee		37%
	TPH-mo	Ing,Dermal	Outdoor Employee		30%
			Intrusive Utility Worker		34%
	Vanadium	Ing,Dermal	Intrusive Utility Worker		32%

Table 1
Risk-Significant Chemicals and Associated Receptor-Pathways

Exposure Area	Chemical	Dominate Pathways	Receptor	% Total Cancer Risk	% Total Hazard Quotient (HQ)
D	Ethylbenzene	InhV	Bungalow Short-term Resident Adult	44%	
			Bungalow Indoor Employee	55%	
			Default Bldg. Short-term Resident Adult	37%	
			Default Bldg. Indoor Employee	55%	
	BaP TEQ	Ing,Dermal	Outdoor Employee	30%	
	Chromium	InhP	Outdoor Employee	33%	
		InhP	Intrusive Utility Worker	45%	
	Antimony	Dermal	Bungalow Short-term Resident Adult		24%
	1,2,4-TMB	InhV	Bungalow Short-term Resident Adult		24%
	Vanadium	Dermal	Bungalow Short-term Resident Child		19%
	Antimony	Ing, Dermal	Bungalow Short-term Resident Child		38%
		Ing	Bungalow Indoor Employee		47%
		Dermal	Default Bldg. Short-term Resident Adult		28%
	Vanadium	Dermal	Default Bldg. Short-term Resident Adult		17%
			Default Bldg. Short-term Resident Child		20%
	Antimony	Ing, Dermal	Default Bldg. Short-term Resident Child		39%
		Ing	Default Bldg. Indoor Employee		52%
		Ing	Outdoor Employee		44%
	TPH-d	Ing, Dermal	Intrusive Utility Worker		26%
	Antimony	Ing	Intrusive Utility Worker		33%
E	Benzene	InhV	Bungalow Short-Term Resident Adult	95%	
			Bungalow Indoor Employee	96%	
			Default Bldg. Short-Term Resident Adult	95%	
			Default Bldg. Indoor Employee	96%	
			Outdoor Employee	56%	
	BaP TEQ	Dermal	Outdoor Employee	15%	
	Benzene	InhP	Intrusive Utility Worker	82%	
		InhV	Bungalow Short-Term Resident Adult		63%
			Bungalow Short-Term Resident Child		48%
			Bungalow Indoor Employee		63%
			Default Bldg. Short-term Resident Adult		58%
			Default Bldg. Short-term Resident Child		37%
			Default Bldg. Indoor Employee		58%
	TPH-mo	Ing, Dermal	Outdoor Employee		32%
	TPH-d	Ing, Dermal	Outdoor Employee		13%
			Intrusive Utility Worker		23%
	1,2,4-TMB	InhP	Intrusive Utility Worker		32%
G	Chloroform	InhV	Default Bldg. Indoor Employee	46%	
	Benzene	InhV	Default Bldg. Indoor Employee	22%	
	Tetrachloroethene	InhV	Default Bldg. Indoor Employee	22%	
	BaP TEQ	Dermal	Outdoor Employee	26%	
	Chromium	InhP	Outdoor Employee	30%	
			Intrusive Utility Worker	56%	
	TPH-d	Ing	Default Bldg. Indoor Employee		46%
	Vanadium	Ing, Dermal	Outdoor Employee		41%
	TPH-d	Ing, Dermal	Outdoor Employee		35%
	Vanadium	Ing, Dermal	Intrusive Utility Worker		36%
	TPH-d	Ing, Dermal	Intrusive Utility Worker		40%

Table 1
Risk-Significant Chemicals and Associated Receptor-Pathways

Exposure Area	Chemical	Dominate Pathways	Receptor	% Total Cancer Risk	% Total Hazard Quotient (HQ)
Ia	Chloroform	InhV	Bungalow Short-term Resident Adult	46%	
	Benzene	InhP	Bungalow Short-term Resident Adult	19%	
	Chloroform	InhV	Bungalow Indoor Employee	71%	
			Default Bldg. Short-term Resident Adult	32%	
	Benzene	InhP	Default Bldg. Short-term Resident Adult	29%	
	Chloroform	InhV	Default Bldg. Indoor Employee	69%	
	Benzene	InhP	Outdoor Employee	58%	
			Intrusive Utility Worker	44%	
	Chromium	InhP	Intrusive Utility Worker	39%	
	Cadmium	Ing -Produce	Bungalow Short-term Resident Adult		40%
			Bungalow Short-term Resident Child		25%
	Vanadium	Dermal	Bungalow Short-term Resident Child		25%
	TPH-mo	Ing	Bungalow Indoor Employee		40%
	Cadmium	Ing -Produce	Default Bldg. Short-term Resident Adult		44%
			Default Bldg. Short-term Resident Child		26%
	Vanadium	Dermal	Default Bldg. Short-term Resident Child		26%
	TPH-mo	Ing	Default Bldg. Indoor Employee		45%
	Vanadium	Dermal	Outdoor Employee		37%
	TPH-mo	Ing, Dermal	Outdoor Employee		42%
			Intrusive Utility Worker		42%
	Vanadium	Dermal	Intrusive Utility Worker		20%
Ib	Chloroform	InhV	Bungalow Short-term Resident Adult	75%	
			Bungalow Indoor Employee	75%	
			Default Bldg. Short-term Resident Adult	75%	
			Default Bldg. Indoor Employee	75%	
	Naphthalene	InhP	Outdoor Employee	48%	
			Intrusive Utility Worker	36%	
	Benzene	InhP	Intrusive Utility Worker	35%	
	Chloroform	InhV	Bungalow Short-term Resident Adult		64%
			Bungalow Short-term Resident Child		51%
			Bungalow Indoor Employee		64%
			Default Bldg. Short-term Resident Adult		60%
			Default Bldg. Short-term Resident Child		40%
			Default Bldg. Indoor Employee		60%
	TPH-d	Ing	Outdoor Employee		49%
			Intrusive Utility Worker		63%
J	Chloroform	InhV	Bungalow Short-term Resident Adult	68%	
			Bungalow Indoor Employee	68%	
			Default Bldg. Short-term Resident Adult	68%	
			Default Bldg. Indoor Employee	68%	
	Ethylbenzene	InhP	Outdoor Employee	66%	
			Intrusive Utility Worker	74%	
	Chloroform	InhV	Bungalow Short-term Resident Adult		54%
			Bungalow Short-term Resident Child		43%
			Bungalow Indoor Employee		54%
			Default Bldg. Short-term Resident Adult		51%
			Default Bldg. Short-term Resident Child		34%
			Default Bldg. Indoor Employee		51%
	TPH-g	Ing	Outdoor Employee		46%
	TPH-d	Ing, Dermal	Outdoor Employee		19%
		Ing	Intrusive Utility Worker		35%
	Xylenes (Total)	InhP	Intrusive Utility Worker		32%

Table 1
Risk-Significant Chemicals and Associated Receptor-Pathways

Exposure Area	Chemical	Dominate Pathways	Receptor	% Total Cancer Risk	% Total Hazard Quotient (HQ)
K	Chloroform	InhV	Default Bldg. Short-term Resident Adult	88%	
			Default Bldg. Indoor Employee	90%	
	Dibenz(a,h)anthracene	Dermal	Outdoor Employee	57%	
	Chromium	InhP	Intrusive Utility Worker	48%	
	Chloroform	InhV	Default Bldg. Short-term Resident Adult		45%
	Cadmium	Ing -Produce	Default Bldg. Short-term Resident Adult		19%
	TPH-mo	Ing, Dermal	Default Bldg. Short-term Resident Child		21%
	Mercury	Dermal	Default Bldg. Short-term Resident Child		20%
	Chloroform	InhV	Default Bldg. Indoor Employee		53%
	TPH-mo	Ing, Dermal	Outdoor Employee		35%
	Mercury	Dermal	Outdoor Employee		29%
	TPH-mo	Ing, Dermal	Intrusive Utility Worker		39%
	TPH-d	Ing,Dermal	Intrusive Utility Worker		28%
L	Chloroform	InhV	Bungalow Short-term Resident Adult	21%	
	BaP TEQ	Dermal	Bungalow Short-term Resident Adult	17%	
	Naphthalene	InhP	Bungalow Short-term Resident Adult	15%	
	Chloroform	InhV	Bungalow Indoor Employee	44%	
	Benzene	InhV	Bungalow Indoor Employee	24%	
	Chloroform	InhV	Default Bldg. Short-term Resident Adult	12%	
	BaP TEQ	Dermal	Default Bldg. Short-term Resident Adult	23%	
	Naphthalene	InhP	Default Bldg. Short-term Resident Adult	19%	
	Chloroform	InhV	Default Bldg. Indoor Employee	37%	
	Benzene	InhV	Default Bldg. Indoor Employee	23%	
	BaP TEQ	Dermal	Outdoor Employee	37%	
	Naphthalene	InhP	Outdoor Employee	29%	
	Chromium	InhP	Intrusive Utility Worker	49%	
	1,2,4-TMB	InhP	Bungalow Short-term Resident Adult		37%
	Cadmium	Ing -Produce	Bungalow Short-term Resident Adult		15%
	TPH-d	Ing,Dermal	Bungalow Short-term Resident Child		31%
	TPH-mo	Ing,Dermal	Bungalow Short-term Resident Child		19%
	TPH-d	Ing	Bungalow Indoor Employee		49%
	1,2,4-TMB	InhP	Default Bldg. Short-term Resident Adult		37%
	Cadmium	Ing -Produce	Default Bldg. Short-term Resident Adult		16%
	TPH-d	Ing,Dermal	Default Bldg. Short-term Resident Child		31%
	TPH-mo	Ing,Dermal	Default Bldg. Short-term Resident Child		19%
	TPH-d	Ing	Default Bldg. Indoor Employee		50%
			Outdoor Employee		34%
	1,2,4-TMB	InhP	Outdoor Employee		21%
	TPH-mo	Ing	Outdoor Employee		21%
	TPH-d	Ing	Intrusive Utility Worker		60%

Table 1
Risk-Significant Chemicals and Associated Receptor-Pathways

Exposure Area	Chemical	Dominate Pathways	Receptor	% Total Cancer Risk	% Total Hazard Quotient (HQ)
M	Benzene	InhV	Default Bldg. Short-term Resident Adult	55%	
			Default Bldg. Indoor Employee	92%	
	Naphthalene	InhP	Outdoor Employee	37%	
	BaP TEQ	Dermal	Outdoor Employee	29%	
	Naphthalene	InhP	Intrusive Utility Worker	37%	
	Vanadium	InhP	Intrusive Utility Worker	29%	
	Cadmium	Ing -Produce	Default Bldg. Short-term Resident Adult		26%
	Vanadium	Dermal	Default Bldg. Short-term Resident Adult		26%
	Vanadium	Dermal	Default Bldg. Short-term Resident Child		36%
	TPH-d	Ing, Dermal	Default Bldg. Short-term Resident Child		30%
	TPH-d	Ing	Default Bldg. Indoor Employee		46%
	Vanadium	Dermal	Outdoor Employee		41%
	TPH-d	Ing, Dermal	Outdoor Employee		37%
	TPH-d	Ing	Intrusive Utility Worker		53%
N	BaP TEQ	Dermal	Default Bldg. Short-term Resident Adult	19%	
	Chromium	InhP	Default Bldg. Short-term Resident Adult	18%	
	Vanadium	InhP	Default Bldg. Short-term Resident Adult	17%	
	Benzene	InhV	Default Bldg. Indoor Employee	29%	
	BaP TEQ	Ing	Default Bldg. Indoor Employee	15%	
	BaP TEQ	Dermal	Outdoor Employee	38%	
	Chromium	InhP	Outdoor Employee	32%	
		Ing, Dermal	Intrusive Utility Worker	55%	
	Cadmium	Ing -Produce	Default Bldg. Short-term Resident Adult		37%
	Vanadium	Dermal	Default Bldg. Short-term Resident Adult		42%
		Dermal	Default Bldg. Short-term Resident Child		60%
		Ing	Default Bldg. Indoor Employee		69%
		Dermal	Outdoor Employee		79%
		Dermal	Intrusive Utility Worker		80%
O	Benzene	InhV	Default Bldg. Short-term Resident Adult	56%	
			Default Bldg. Indoor Employee	94%	
	Chromium	InhP	Outdoor Employee	53%	
	Vanadium	InhP	Outdoor Employee	46%	
	Chromium	InhP	Intrusive Utility Worker	53%	
	Vanadium	InhP	Intrusive Utility Worker	46%	
	Vanadium	Dermal	Default Bldg. Short-term Resident Adult		49%
	Cadmium	Ing -Produce	Default Bldg. Short-term Resident Adult		25%
	Vanadium	Dermal	Default Bldg. Short-term Resident Child		73%
			Default Bldg. Indoor Employee		61%
	1,2,4-TMB	Inhv	Default Bldg. Indoor Employee		20%
	Vanadium	Dermal	Outdoor Employee		90%
			Intrusive Utility Worker		88%

Table 1
Risk-Significant Chemicals and Associated Receptor-Pathways

Exposure Area	Chemical	Dominate Pathways	Receptor	% Total Cancer Risk	% Total Hazard Quotient (HQ)
Drainage	Benzene	InhP	Outdoor Employee	76%	
			Intrusive Utility Worker	61%	
	TPH-mo	Ing,Dermal	Outdoor Employee		42%
			Intrusive Utility Worker		55%
Open Space	Dibenz(a,h)anthracene	Ing,Dermal	Recreational Adult (0-2 ft bgs)	81%	
			Recreational Adult (0-10 ft bgs)	22%	
	Naphthalene	Ing,Dermal	Recreational Adult (0-10 ft bgs)	22%	
	Benzene	InhP	Recreational Adult (0-10 ft bgs)	31%	
	BaP TEQ	Ing,Dermal	Recreational Adult (0-10 ft bgs)	17%	
	Benzene	InhP	Outdoor Employee	38%	
	Naphthalene	InhP	Outdoor Employee	41%	
	TPH-mo	Ing	Recreational Adult (0-2 ft bgs)		28%
	Vanadium	Ing,Dermal	Recreational Adult (0-2 ft bgs)		24%
		Dermal	Recreational Child (0-2 ft bgs)		26%
	Mercury	Dermal	Recreational Child (0-2 ft bgs)		26%
	TPH-mo	Ing,Dermal	Recreational Child (0-2 ft bgs)		25%
	1,2,4-TMB	InhP	Recreational Adult (0-10 ft bgs)		50%
		Ing	Recreational Child (0-10 ft bgs)		26%
	Vanadium	Dermal	Recreational Child (0-10 ft bgs)		23%
	1,2,4-TMB	InhP	Outdoor Employee		41%
	Mercury	Dermal	Outdoor Employee		14%
Native Gardens	Chromium	InhP	Outdoor Employee	37%	
	Dibenz(a,h)anthracene	Dermal	Outdoor Employee	39%	
		Ing -Produce	Restaurant Visitor Adult	60%	
	BaP TEQ	Ing -Produce	Restaurant Visitor Adult	40%	
	Vanadium	Dermal	Outdoor Employee		61%
	Cadmium	Ing -Produce	Restaurant Visitor Adult		82%
			Restaurant Visitor Child		82%
Site wide	Ethylbenzene	InhP	Offsite Resident Adult	65%	
	BaP TEQ	Ing, Dermal	Recreational Adult (0-2 ft bgs)	29%	
	Ethylbenzene	Ing	Recreational Adult (0-2 ft bgs)	38%	
	2,4-Dinitrotoluene	Ing	Recreational Adult (0-10 ft bgs)	52%	
	Xylenes (Total)	InhP	Offsite Resident Adult		52%
		Ing	Offsite Resident Child		52%
	TPH-mo	Ing	Recreational Adult (0-2 ft bgs)		28%
	TPH-d	Ing	Recreational Adult (0-2 ft bgs)		28%
	Vanadium	Ing	Recreational Child (0-2 ft bgs)		23%
	TPH-mo	Ing	Recreational Child (0-2 ft bgs)		28%
	Antimony	Ing	Recreational Adult (0-10 ft bgs)		81%
		Ing	Recreational Child (0-10 ft bgs)		82%

Dermal = Direct contact via dermal exposure to soil

Ing = Direct contact via ingestion of soil

InhP = Inhalation of soil-associated particulates in outdoor air

InhV = Inhalation of vapors in indoor air, as modeled from soil gas

Ing - Produce = Ingestion of produce grown onsite in the Native Gardens

Table 2
Rational for Exclusion of Elevated Reporting Limits

Exposure Area	Chemical	Media	Excluded Reporting Limits	Rationale
M	Benzene	Soil Gas (15 feet)	0.26 ug/L	Excluded RL from SV-04-15 sampled on 7/18/2007 is greater than maximum detect (0.18 ug/L); 2 orders of magnitude greater than all other RL's (0.0041 ug/L)
D	Benzo(a)pyrene	Soil	4, 20 mg/kg	Excluded RL's from B-158-1 and B-158-4.5 sampled on 7/1/1999 are 2 orders of magnitude greater than maximum detect (0.084 mg/kg); 2-4 orders of magnitude greater than other RL's (0.005-0.05 mg/kg)
L	Benzo(a)pyrene	Soil	20 mg/kg	Excluded RL from B-196-5 sampled on 7/1/1999 is 2 orders of magnitude greater than the maximum BaP TEQ result of 0.2 mg/kg; 1-4 orders of magnitude greater than other reporting limits (0.001 to 1 mg/kg)

RL = Reporting Limit

Table 3
Risk-based Concentrations - Noncancer

Exposure Area	COPC	Receptor	Dominant Pathway	HHRA EPC	HHRA HI	Target Risk	SL	Units
Soil								
A	Cadmium	Default Bldg. Short-term Resident Adult	Ing - Produce	0.66	0.002	1.0	416	mg/kg
		Default Bldg. Short-term Resident Child	Ing - Produce	0.66	0.004	1.0	175	mg/kg
	Vanadium	Default Bldg. Indoor Employee	Ing	16.00	0.001	1.0	16,352	mg/kg
		Intrusive Utility Worker	Ing, Dermal	17.00	0.005	1.0	3,109	mg/kg
		Outdoor Employee	Ing, Dermal	16.00	0.006	1.0	2,476	mg/kg
	Lead	Commercial User					320	mg/kg
C	Cadmium	Default Bldg. Short-term Resident Adult	Ing - Produce	0.66	0.002	1.0	416	mg/kg
		Bungalow Short-term Resident Adult	Ing - Produce	0.66	0.002	1.0	416	mg/kg
	TPH-mo	Default Bldg. Short-term Resident Child	Ing, Dermal	1700.00	0.004	1.0	388,148	mg/kg
		Default Bldg. Indoor Employee	Ing	1700.00	0.004	1.0	455,361	mg/kg
		Bungalow Short-term Resident Child	Ing, Dermal	1700.00	0.004	1.0	388,148	mg/kg
		Bungalow Indoor Employee	Ing	1700.00	0.004	1.0	455,361	mg/kg
		Outdoor Employee	Ing, Dermal	1700.00	0.011	1.0	149,338	mg/kg
		Intrusive Utility Worker	Ing, Dermal	1700.00	0.012	1.0	145,691	mg/kg
	Vanadium	Default Bldg. Short-term Resident Child	Ing, Dermal	34.00	0.006	1.0	5,815	mg/kg
		Bungalow Short-term Resident Child	Ing, Dermal	34.00	0.006	1.0	5,815	mg/kg
		Outdoor Employee	Ing, Dermal	34.00	0.014	1.0	2,476	mg/kg
		Intrusive Utility Worker	Ing, Dermal	34.00	0.011	1.0	3,108	mg/kg
	Lead	Commercial User					320	mg/kg
D	Antimony	Default Bldg. Short-term Resident Adult	Ing, Dermal	46.00	0.006	1.0	7,850	mg/kg
		Default Bldg. Short-term Resident Child	Ing, Dermal	46.00	0.048	1.0	952	mg/kg
		Default Bldg. Indoor Employee	Ing	46.00	0.049	1.0	934	mg/kg
		Bungalow Short-term Resident Adult	Ing, Dermal	46.00	0.006	1.0	7,850	mg/kg
		Bungalow Short-term Resident Child	Ing, Dermal	46.00	0.048	1.0	952	mg/kg
		Bungalow Indoor Employee	Ing	46.00	0.049	1.0	934	mg/kg
		Outdoor Employee	Ing, Dermal	46.00	0.130	1.0	355	mg/kg
		Intrusive Utility Worker	Ing	46.00	0.142	1.0	325	mg/kg
	TPH-d	Intrusive Utility Worker	Ing, Dermal	11000	0.112	1.0	98,249	mg/kg
	Vanadium	Default Bldg. Short-term Resident Child	Ing, Dermal	140.00	0.024	1.0	5,815	mg/kg
		Bungalow Short-term Resident Child	Ing, Dermal	140.00	0.024	1.0	5,815	mg/kg
		Default Bldg. Short-term Resident Adult	Ing, Dermal	140.00	0.004	1.0	38,963	mg/kg
	Lead	Commercial User					320	mg/kg
E	TPH-mo	Outdoor Employee	Ing, Dermal	7002.00	0.047	1.0	149,338	mg/kg
	TPH-d	Outdoor Employee	Ing, Dermal	5689.00	0.056	1.0	100,797	mg/kg
		Intrusive Utility Worker	Ing, Dermal	19000	0.193	1.0	98,250	mg/kg
	1,2,4-Trimethylbenzene	Intrusive Utility Worker	InhP	25.00	0.270	1.0	93	mg/kg
	Lead	Commercial User					320	mg/kg
G	TPH-d	Default Bldg. Indoor Employee	Ing	3300.00	0.011	1.0	307,368	mg/kg
		Bungalow Indoor Employee	Ing	3300.00	0.011	1.0	307,368	mg/kg
		Outdoor Employee	Ing, Dermal	3300.00	0.033	1.0	100,797	mg/kg
		Intrusive Utility Worker	Ing, Dermal	3300.00	0.034	1.0	98,263	mg/kg
	Vanadium	Outdoor Employee	Ing, Dermal	95.00	0.038	1.0	2,476	mg/kg
		Intrusive Utility Worker	Ing, Dermal	95.00	0.031	1.0	3,109	mg/kg
	Lead	Commercial User					320	mg/kg
Ia	Cadmium	Bungalow Short-term Resident Adult	Ing - Produce	0.66	0.002	1.0	416	mg/kg
		Bungalow Short-term Resident Child	Ing - Produce	0.66	0.004	1.0	175	mg/kg
		Default Bldg. Short-term Resident Adult	Ing - Produce	0.66	0.002	1.0	416	mg/kg
		Default Bldg. Short-term Resident Child	Ing - Produce	0.66	0.004	1.0	175	mg/kg
	TPH-mo	Bungalow Indoor Employee	Ing	1500.00	0.003	1.0	455,361	mg/kg
		Default Bldg. Indoor Employee	Ing	1500.00	0.003	1.0	455,361	mg/kg
		Outdoor Employee	Ing, Dermal	1500.00	0.010	1.0	149,338	mg/kg
		Intrusive Utility Worker	Ing, Dermal	2200.00	0.015	1.0	145,691	mg/kg
	Vanadium	Bungalow Short-term Resident Child	Ing, Dermal	22.00	0.004	1.0	5,815	mg/kg
		Default Bldg. Short-term Resident Child	Ing, Dermal	22.00	0.004	1.0	5,815	mg/kg
		Outdoor Employee	Ing, Dermal	22.00	0.009	1.0	2,476	mg/kg
		Intrusive Utility Worker	Ing, Dermal	22.00	0.007	1.0	3,109	mg/kg
	Lead	Commercial User					320	mg/kg
Ib	TPH-d	Outdoor Employee	Ing, Dermal	5583.00	0.055	1.0	100,797	mg/kg
		Intrusive Utility Worker	Ing, Dermal	20000.00	0.204	1.0	98,259	mg/kg
	Lead	Commercial User					320	mg/kg
J	TPH-d	Outdoor Employee	Ing, Dermal	2359.00	0.023	1.0	100,797	mg/kg
		Intrusive Utility Worker	Ing, Dermal	24000.00	0.244	1.0	98,236	mg/kg
	TPH-g	Outdoor Employee	Ing	6600.00	0.056	1.0	117,861	mg/kg
	Xylenes (total)	Intrusive Utility Worker	InhP	940.00	0.221	1.0	4,246	mg/kg
	Lead	Commercial User					320	mg/kg
K	Cadmium	Default Bldg. Short-term Resident Adult	Ing - Produce	0.66	0.002	1.0	416	mg/kg
	Mercury	Default Bldg. Short-term Resident Child	Dermal	0.40	0.005	1.0	79	mg/kg
		Outdoor Employee	Dermal	0.40	0.011	1.0	36	mg/kg
	TPH-d	Intrusive Utility Worker	Ing, Dermal	980.0	0.010	1.0	98,251	mg/kg
	TPH-mo	Default Bldg. Short-term Resident Child	Ing, Dermal	2000.00	0.005	1.0	388,148	mg/kg
		Outdoor Employee	Ing, Dermal	2000.00	0.013	1.0	149,338	mg/kg
		Intrusive Utility Worker	Ing, Dermal	2000.00	0.014	1.0	145,691	mg/kg
	Lead	Commercial User					320	mg/kg

Table 3
Risk-based Concentrations - Noncancer

Exposure Area	COPC	Receptor	Dominant Pathway	HHRA EPC	HHRA HI	Target Risk	SL	Units
L	1,2,4-Trimethylbenzene	Bungalow Short-term Resident Adult	InhP	4.30	0.004	1.0	1,124	mg/kg
		Default Bldg. Short-term Resident Adult	InhP	4.30	0.004	1.0	1,124	mg/kg
		Outdoor Employee	InhP	4.30	0.018	1.0	244	mg/kg
	Cadmium	Bungalow Short-term Resident Adult	Ing - Produce	0.66	0.002	1.0	416	mg/kg
		Default Bldg. Short-term Resident Adult	Ing - Produce	0.66	0.002	1.0	416	mg/kg
	TPH-d	Bungalow Short-term Resident Adult	Dermal	2888.00	0.001	1.0	2,041,025	mg/kg
		Bungalow Short-term Resident Child	Ing,Dermal	2888.00	0.011	1.0	261,990	mg/kg
		Bungalow Indoor Employee	Ing	2888.00	0.009	1.0	307,368	mg/kg
		Default Bldg. Short-term Resident Adult	Dermal	2888.00	0.001	1.0	2,041,025	mg/kg
		Default Bldg. Short-term Resident Child	Ing,Dermal	2888.00	0.011	1.0	261,990	mg/kg
		Default Bldg. Indoor Employee	Ing	2888.00	0.009	1.0	307,368	mg/kg
		Outdoor Employee	Ing, Dermal	2888.00	0.029	1.0	100,797	mg/kg
		Intrusive Utility Worker	Ing, Dermal	31000.00	0.316	1.0	98,229	mg/kg
	TPH-mo	Bungalow Short-term Resident Child	Ing,Dermal	2633.00	0.007	1.0	388,148	mg/kg
		Default Bldg. Short-term Resident Child	Ing,Dermal	2633.00	0.007	1.0	388,148	mg/kg
		Outdoor Employee	Ing	2633.00	0.018	1.0	149,338	mg/kg
	Lead	Commercial User					320	mg/kg
M	Cadmium	Default Bldg. Short-term Resident Adult	Ing - Produce	0.66	0.002	1.0	416	mg/kg
	TPH-d	Default Bldg. Short-term Resident Child	Ing, Dermal	2291.00	0.009	1.0	261,990	mg/kg
		Default Bldg. Indoor Employee	Ing	2291.00	0.007	1.0	307,368	mg/kg
		Outdoor Employee	Ing, Dermal	2291.00	0.023	1.0	100,797	mg/kg
		Intrusive Utility Worker	Ing, Dermal	7600.00	0.077	1.0	98,261	mg/kg
	Vanadium	Default Bldg. Short-term Resident Adult	Ing, Dermal	62.00	0.002	1.0	38,963	mg/kg
		Default Bldg. Short-term Resident Child	Ing, Dermal	62.00	0.011	1.0	5,815	mg/kg
		Outdoor Employee	Ing, Dermal	62.00	0.025	1.0	2,476	mg/kg
	Lead	Commercial User					320	mg/kg
N	Cadmium	Default Bldg. Short-term Resident Adult	Ing - Produce	0.66	0.002	1.0	416	mg/kg
	Vanadium	Default Bldg. Short-term Resident Adult	Ing, Dermal	68.96	0.002	1.0	38,963	mg/kg
		Default Bldg. Short-term Resident Child	Ing, Dermal	68.96	0.012	1.0	5,815	mg/kg
		Default Bldg. Indoor Employee	Ing	68.96	0.004	1.0	16,352	mg/kg
		Intrusive Utility Worker	Ing, Dermal	91.00	0.029	1.0	3,109	mg/kg
		Outdoor Employee	Ing, Dermal	68.96	0.028	1.0	2,476	mg/kg
	Lead	Commercial User					320	mg/kg
O	Cadmium	Bungalow Short-term Resident Adult	Ing - Produce	0.66	0.002	1.0	416	mg/kg
		Default Bldg. Short-term Resident Adult	Ing - Produce	0.66	0.002	1.0	416	mg/kg
	Vanadium	Default Bldg. Short-term Resident Adult	Ing, Dermal	120.00	0.003	1.0	38,963	mg/kg
		Bungalow Short-term Resident Adult	Ing, Dermal	120.00	0.003	1.0	38,963	mg/kg
		Bungalow Short-term Resident Child	Ing, Dermal	120.00	0.021	1.0	5,815	mg/kg
		Default Bldg. Short-term Resident Child	Ing, Dermal	120.00	0.021	1.0	5,815	mg/kg
		Default Bldg. Indoor Employee	Ing	120.00	0.007	1.0	16,352	mg/kg
		Outdoor Employee	Ing, Dermal	120.00	0.048	1.0	2,476	mg/kg
		Intrusive Utility Worker	Ing, Dermal	130.00	0.042	1.0	3,108	mg/kg
	Lead	Commercial User					320	mg/kg
Open Space	1,2,4-Trimethylbenzene	Recreational Adult (0-10 ft bgs)	InhP	9.49	0.014	1.0	669	mg/kg
		Recreational Child (0-10 ft bgs)	Ing	9.49	0.045	1.0	211	mg/kg
		Recreational Child (0-10 ft bgs)	Ing	9.49	0.045	1.0	211	mg/kg
		Outdoor Employee	InhP	9.49	0.039	1.0	244	mg/kg
	Mercury	Recreational Child (0-2 ft bgs)	Dermal	0.49	0.041	1.0	12	mg/kg
		Recreational Child (0-10 ft bgs)	Dermal	0.49	0.024	1.0	20.65	mg/kg
		Outdoor Employee	Dermal	0.49	0.014	1.0	36	mg/kg
	TPH-mo	Recreational Adult (0-2 ft bgs)	Ing	1068.00	0.00328	1.0	325,268	mg/kg
		Recreational Child (0-2 ft bgs)	Ing,Dermal	1068	0.039	1.0	27,564	mg/kg
	Vanadium	Recreational Adult (0-2 ft bgs)	Ing,Dermal	25.37	0.00284	1.0	8,923	mg/kg
		Recreational Child (0-10 ft bgs)	Ing, Dermal	25.78	0.04044	1.0	637	mg/kg
		Recreational Child (0-2 ft bgs)	Ing, Dermal	25.37	0.03980	1.0	637	mg/kg
	Lead	Recreational User					80	mg/kg
Native Gardens	Vanadium	Outdoor Employee	Ing, Dermal	18.00	0.007	1.0	2,476	mg/kg
	Cadmium	Restaurant Visitor Adult	Ing - Produce	0.66	0.002	1.0	416	mg/kg
		Restaurant Visitor Child	Ing - Produce	0.66	0.004	1.0	175	mg/kg
Drainage	TPH-mo	Outdoor Employee	Ing, Dermal	4009.00	0.027	1.0	149,338	mg/kg
		Intrusive Utility Worker	Ing,Dermal	12000.00	0.082	1.0	145,691	mg/kg
	Lead	Commercial User					320	mg/kg
Site Wide	Xylenes (total)	Offsite Resident Adult	InhP	26.70	0.004	1.0	6,866	mg/kg
		Offsite Resident Child	InhP	26.70	0.004	1.0	6,866	mg/kg
	Antimony	Recreational Adult (0-10 ft bgs)	Ing	46.00	0.066	1.0	693	mg/kg
		Recreational Child (0-10 ft bgs)	Ing	46.00	0.761	1.0	60	mg/kg
	TPH-d	Recreational Adult (0-2 ft bgs)	Ing, Dermal	1160.00	0.004	1.0	289,402	mg/kg
	TPH-mo	Recreational Adult (0-2 ft bgs)	Ing	1339.00	0.00412	1.0	325,268	mg/kg
		Recreational Child (0-2 ft bgs)	Ing	1339.00	0.049	1.0	27,564	mg/kg
	Vanadium	Recreational Child (0-2 ft bgs)	Ing, Dermal	28.03	0.04013	1.0	699	mg/kg
	Lead	Recreational User					80	mg/kg

Table 3
Risk-based Concentrations - Noncancer

Exposure Area	COPC	Receptor	Dominant Pathway	HHRA EPC	HHRA HI	Target Risk	SL	Units
Soil Gas								
C	1,2,4-Trimethylbenzene	Default Bldg. Short-term Resident Adult	InhV	0.49	0.001	1.0	480	µg/L
		Default Bldg. Short-term Resident Child	InhV	0.49	0.001	1.0	480	µg/L
		Default Bldg. Indoor Employee	InhV	0.49	0.003	1.0	161	µg/L
		Bungalow Short-term Resident Adult	InhV	0.49	0.002	1.0	217	µg/L
		Bungalow Short-term Resident Child	InhV	0.49	0.002	1.0	217	µg/L
		Bungalow Indoor Employee	InhV	0.49	0.007	1.0	73	µg/L
D	1,2,4-Trimethylbenzene	Default Bldg. Short-term Resident Adult	InhV	14.00	0.002	1.0	5,614	µg/L
		Default Bldg. Short-term Resident Child	InhV	14.00	0.002	1.0	5,614	µg/L
		Default Bldg. Indoor Employee	InhV	14.00	0.007	1.0	1,886	µg/L
		Bungalow Short-term Resident Adult	InhV	14.00	0.005	1.0	2,784	µg/L
		Bungalow Short-term Resident Child	InhV	14.00	0.005	1.0	2,784	µg/L
		Bungalow Indoor Employee	InhV	14.00	0.015	1.0	933	µg/L
E	Benzene	Default Bldg. Short-term Resident Adult	InhV	1600.00	0.048	1.0	33,393	µg/L
		Default Bldg. Short-term Resident Child	InhV	1600.00	0.048	1.0	33,393	µg/L
		Default Bldg. Indoor Employee	InhV	1600.00	0.143	1.0	11,220	µg/L
		Bungalow Short-term Resident Adult	InhV	1600.00	0.097	1.0	16,497	µg/L
		Bungalow Short-term Resident Child	InhV	1600.00	0.097	1.0	16,497	µg/L
		Bungalow Indoor Employee	InhV	1600.00	0.289	1.0	5,543	µg/L
Ib	Chloroform	Default Bldg. Short-term Resident Adult	InhV	1500.00	0.048	1.0	31,482	µg/L
		Default Bldg. Short-term Resident Child	InhV	1500.00	0.048	1.0	31,482	µg/L
		Default Bldg. Indoor Employee	InhV	1500.00	0.142	1.0	10,578	µg/L
		Bungalow Short-term Resident Adult	InhV	1500.00	0.102	1.0	14,741	µg/L
		Bungalow Short-term Resident Child	InhV	1500.00	0.102	1.0	14,741	µg/L
		Bungalow Indoor Employee	InhV	1500.00	0.303	1.0	4,953	µg/L
J	Chloroform	Default Bldg. Short-term Resident Adult	InhV	1300.00	0.041	1.0	31,482	µg/L
		Default Bldg. Short-term Resident Child	InhV	1300.00	0.041	1.0	31,482	µg/L
		Default Bldg. Indoor Employee	InhV	1300.00	0.123	1.0	10,578	µg/L
		Bungalow Short-term Resident Adult	InhV	1300.00	0.088	1.0	14,741	µg/L
		Bungalow Short-term Resident Child	InhV	1300.00	0.088	1.0	14,741	µg/L
		Bungalow Indoor Employee	InhV	1300.00	0.262	1.0	4,953	µg/L
K	Chloroform	Default Bldg. Short-term Resident Adult	InhV	120.00	0.004	1.0	31,482	µg/L
		Default Bldg. Indoor Employee	InhV	120.00	0.011	1.0	10,578	µg/L
O	1,2,4-Trimethylbenzene	Default Bldg. Short-term Resident Child	InhV	1.30	0.001	1.0	1,615	µg/L
		Default Bldg. Indoor Employee	InhV	1.30	0.002	1.0	543	µg/L

Table 3
Risk-based Concentrations - Cancer

Exposure Area	COPC	Receptor	Dominant Pathway	HHRA EPC	HHRA Risk	Target Risk	SL	Units
Soil								
A	Bap TEQ	Default Bldg. Short-term Resident Adult	Dermal	0.0997	3.5E-08	1.00E-06	2.8	mg/kg
		Outdoor Employee	Ing, Dermal	0.0997	5.0E-08	1.00E-05	20	mg/kg
	Chromium	Intrusive Utility Worker	InhP	25	1.5E-08	1.00E-05	16,813	mg/kg
C	Bap TEQ	Outdoor Employee	Ing, Dermal	0.093	4.7E-08	1.00E-05	20	mg/kg
	Chromium	Outdoor Employee	InhP	34	2.8E-08	1.00E-05	12,331	mg/kg
		Intrusive Utility Worker	InhP	39	3.25E-08	1.00E-05	12,002	mg/kg
D	Bap TEQ	Outdoor Employee	Ing, Dermal	0.115	5.8E-08	1.00E-05	20	mg/kg
	Chromium	Outdoor Employee	InhP	61	6.3E-08	1.00E-05	9,637	mg/kg
		Intrusive Utility Worker	InhP	61	4.1E-08	1.00E-05	14,699	mg/kg
E	BaP TEQ	Outdoor Employee	Dermal	0.33927	1.7E-07	1.00E-05	20	mg/kg
	Benzene	Outdoor Employee	InhP	1.203	6.5E-07	1.00E-05	18	mg/kg
		Intrusive Utility Worker	InhP	19	1.0E-06	1.00E-05	186	mg/kg
G	Bap TEQ	Outdoor Employee	Dermal	0.106	5.3E-08	1.00E-05	20.0	mg/kg
		Default Bldg. Indoor Employee	Ing	0.11	7.2E-09	1.00E-05	147.8	mg/kg
	Chromium	Outdoor Employee	InhP	58	6.0E-08	1.00E-05	9,637	mg/kg
		Intrusive Utility Worker	InhP	58	3.3E-08	1.00E-05	17,426	mg/kg
Ia	Benzene	Outdoor Employee	InhP	0.28	1.5E-07	1.00E-05	18	mg/kg
		Bungalow Short-term Resident Adult	InhP	0.28	1.2E-07	1.00E-06	2	mg/kg
		Default Bldg. Short-term Resident Adult	InhP	0.28	1.2E-07	1.00E-06	2	mg/kg
		Intrusive Utility Worker	InhP	0.28	2.4E-08	1.00E-05	116	mg/kg
	Chromium	Intrusive Utility Worker	InhP	30	2.1E-08	1.00E-05	14,087	mg/kg
Ib	Benzene	Intrusive Utility Worker	InhP	0.7	5.1E-08	1.00E-05	137	mg/kg
	Naphthalene	Outdoor Employee	InhP	7.4	3.3E-07	1.00E-05	223	mg/kg
		Intrusive Utility Worker	InhP	7.4	5.2E-08	1.00E-05	1,422	mg/kg
J	Ethylbenzene	Outdoor Employee	InhP	20	6.3E-07	1.00E-05	316	mg/kg
		Intrusive Utility Worker	InhP	120	6.6E-07	1.00E-05	1,824	mg/kg
K	Dibenz(a,h)anthracene	Outdoor Employee	Dermal	0.089	1.1E-07	1.00E-05	8.3	mg/kg
	Chromium	Intrusive Utility Worker	InhP	12	8.0E-09	1.00E-05	15,062	mg/kg
L	Bap TEQ	Bungalow Short-term Resident Adult	Dermal	0.204	7.2E-08	1.00E-06	2.8	mg/kg
		Default Bldg. Short-term Resident Adult	Dermal	0.204	7.2E-08	1.00E-06	2.8	mg/kg
		Outdoor Employee	InhP	0.204	1.0E-07	1.00E-05	20	mg/kg
	Chromium	Intrusive Utility Worker	InhP	47	3.9E-08	1.00E-05	12,044	mg/kg
	Naphthalene	Bungalow Short-term Resident Adult	InhP	1.778	6.2E-08	1.00E-06	29	mg/kg
		Default Bldg. Short-term Resident Adult	InhP	1.778	6.2E-08	1.00E-06	29	mg/kg
		Outdoor Employee	Dermal	1.778	8.0E-08	1.00E-05	223	mg/kg
M	Bap TEQ	Outdoor Employee	InhP	0.144	7.2E-08	1.00E-05	20	mg/kg
	Naphthalene	Outdoor Employee	Dermal	2	9.0E-08	1.00E-05	223	mg/kg
		Intrusive Utility Worker	InhP	2	1.8E-08	1.00E-05	1,101	mg/kg
	Vanadium	Intrusive Utility Worker	InhP	62	1.4E-08	1.00E-05	43,665	mg/kg
N	Bap TEQ	Default Bldg. Short-term Resident Adult	Dermal	0.069	2.5E-08	1.00E-06	2.8	mg/kg
		Default Bldg. Indoor Employee	Ing	0.069	4.7E-09	1.00E-05	147.8	mg/kg
		Outdoor Employee	Dermal	0.069	3.5E-08	1.00E-05	20	mg/kg
	Chromium	Default Bldg. Short-term Resident Adult	InhP	28	2.3E-08	1.00E-06	1,233	mg/kg
		Outdoor Employee	InhP	28	2.9E-08	1.00E-05	9,637	mg/kg
		Intrusive Utility Worker	InhP	24.5	3.0E-08	1.00E-05	8,150	mg/kg
	Vanadium	Default Bldg. Short-term Resident Adult	InhP	68.96	2.2E-08	1.00E-06	3,184	mg/kg
O	Chromium	Outdoor Employee	InhP	54	5.6E-08	1.00E-05	9,637	mg/kg
		Intrusive Utility Worker	InhP	58.00	4.5E-08	1.00E-05	12,863	mg/kg
	Vanadium	Outdoor Employee	InhP	120	4.8E-08	1.00E-05	24,880	mg/kg
		Intrusive Utility Worker	InhP	130.00	3.9E-08	1.00E-05	33,210	mg/kg
Open Space	Bap TEQ	Recreational Adult (0-10 ft bgs)	Ing, Dermal	0.09	2.6E-07	1.00E-06	.36	mg/kg
	Benzene	Outdoor Employee	InhP	0.54	2.8E-07	1.00E-05	19.01	mg/kg
		Recreational Adult (0-10 ft bgs)	InhP	0.54	4.8E-07	1.00E-06	1.1	mg/kg
	Dibenz(a,h)anthracene	Recreational Adult (0-2 ft bgs)	Ing, Dermal	0.28	1.9E-06	1.00E-06	.15	mg/kg
		Recreational Adult (0-10 ft bgs)	Ing, Dermal	0.28	3.4E-07	1.00E-06	.81	mg/kg
	Naphthalene	Recreational Adult (0-10 ft bgs)	InhP	6.79	3.3E-07	1.00E-06	20.47	mg/kg
		Outdoor Employee	InhP	6.79	3.0E-07	1.00E-05	223	mg/kg
Native Gardens	Chromium	Outdoor Employee	InhP	24.00	2.5E-08	1.00E-05	9,637	mg/kg
	Dibenz(a,h)anthracene	Outdoor Employee	Dermal	0.02	2.7E-08	1.00E-05	8.3	mg/kg
		Restaurant Visitor Adult	Ing-produce	0.02	1.8E-08	1.00E-05	12	mg/kg
	Bap TEQ	Restaurant Visitor Adult	Ing-produce	0.02	1.2E-08	1.00E-05	15	mg/kg
Drainage	Benzene	Outdoor Employee	InhP	1.40	7.6E-07	1.00E-05	18	mg/kg
		Intrusive Utility Worker	InhP	1.40	1.2E-07	1.00E-05	119	mg/kg
	Chromium	Intrusive Utility Worker	InhP	97.00	5.5E-08	1.00E-05	17,690	mg/kg
Site Wide	2,4-Dinitrotoluene	Recreational Adult (0-10 ft bgs)	Ing	0.64	6.9E-07	1.00E-06	1	mg/kg
	Bap TEQ	Recreational Adult (0-2 ft bgs)	Ing, Dermal	0.08	2.4E-07	1.00E-06	.36	mg/kg
	Ethylbenzene	Offsite Resident Adult	InhP	4.50	1.2E-06	1.00E-06	4	mg/kg
		Recreational Adult (0-2 ft bgs)	Ing	4.50	3.1E-07	1.00E-06	15	mg/kg

Table 3
Risk-based Concentrations - Cancer

Exposure Area	COPC	Receptor	Dominant Pathway	HHRA EPC	HHRA Risk	Target Risk	SL	Units
Soil Gas								
A	1,3-Butadiene	Default Bldg. Short-term Resident Adult	InhV	0.0055	3.1E-08	1.00E-06	0.180	µg/L
		Default Bldg. Indoor Employee	InhV	0.0055	2.9E-08	1.00E-05	1.895	µg/L
	Benzene	Default Bldg. Indoor Employee	InhV	0.041	1.87E-08	1.00E-05	22	µg/L
C	Chloroform	Default Bldg. Short-term Resident Adult	InhV	3.5	4.2E-07	1.00E-06	8.3	µg/L
		Default Bldg. Indoor Employee	InhV	3.5	4.0E-07	1.00E-05	88	µg/L
		Bungalow Short-term Resident Adult	InhV	3.5	9.9E-07	1.00E-06	3.5	µg/L
		Bungalow Indoor Employee	InhV	3.5	9.4E-07	1.00E-05	37	µg/L
D	Ethylbenzene	Default Bldg. Short-term Resident Adult	InhV	49	1.9E-07	1.00E-06	259	µg/L
		Default Bldg. Indoor Employee	InhV	49	1.8E-07	1.00E-05	2,736	µg/L
		Bungalow Short-term Resident Adult	InhV	49	3.8E-07	1.00E-06	128	µg/L
		Bungalow Indoor Employee	InhV	49	3.6E-07	1.00E-05	1,354	µg/L
E	Benzene	Bungalow Short-term Resident Adult	InhV	1600	1.7E-04	1.00E-06	9	µg/L
		Bungalow Indoor Employee	InhV	1600	1.6E-04	1.00E-05	99	µg/L
		Default Bldg. Short-term Resident Adult	InhV	1600	8.4E-05	1.00E-06	19	µg/L
		Default Bldg. Indoor Employee	InhV	1600	8.0E-05	1.00E-05	201	µg/L
G	Benzene	Default Bldg. Indoor Employee	InhV	0.93	4.6E-08	1.00E-05	201	µg/L
	Chloroform	Default Bldg. Indoor Employee	InhV	9.00	9.6E-08	1.00E-05	933	µg/L
	Tetrachloroethene	Default Bldg. Indoor Employee	InhV	5.50	4.5E-08	1.00E-05	1,210	µg/L
Ia	Chloroform	Default Bldg. Short-term Resident Adult	InhV	2.60	1.3E-07	1.00E-06	20	µg/L
		Default Bldg. Indoor Employee	InhV	2.6	1.25E-07	1.00E-05	208	µg/L
		Bungalow Short-term Resident Adult	InhV	2.6	2.8E-07	1.00E-06	9	µg/L
		Bungalow Indoor Employee	InhV	2.6	2.7E-07	1.00E-05	97	µg/L
Ib	Chloroform	Default Bldg. Short-term Resident Adult	InhV	1500	7.6E-05	1.00E-06	20	µg/L
		Default Bldg. Indoor Employee	InhV	1500	7.2E-05	1.00E-05	208	µg/L
		Bungalow Short-term Resident Adult	InhV	1500	1.6E-04	1.00E-06	9	µg/L
		Bungalow Indoor Employee	InhV	1500	1.5E-04	1.00E-05	97	µg/L
J	Chloroform	Default Bldg. Short-term Resident Adult	InhV	1300	6.6E-05	1.00E-06	20	µg/L
		Default Bldg. Indoor Employee	InhV	1300	6.3E-05	1.00E-05	208	µg/L
		Bungalow Short-term Resident Adult	InhV	1300	1.4E-04	1.00E-06	9	µg/L
		Bungalow Indoor Employee	InhV	1300	1.3E-04	1.00E-05	97	µg/L
K	Chloroform	Default Bldg. Short-term Resident Adult	InhV	120	6.1E-06	1.00E-06	20	µg/L
		Default Bldg. Indoor Employee	InhV	120	5.8E-06	1.00E-05	208	µg/L
L	Benzene	Bungalow Indoor Employee	InhV	0.1	4.8E-08	1.00E-05	21	µg/L
		Default Bldg. Indoor Employee	InhV	0.1	2.27E-08	1.00E-05	44	µg/L
	Chloroform	Bungalow Short-term Resident Adult	InhV	0.32	9.1E-08	1.00E-06	3.5	µg/L
		Default Bldg. Short-term Resident Adult	InhV	0.32	3.8E-08	1.00E-06	8.3	µg/L
		Bungalow Indoor Employee	InhV	0.32	8.6E-08	1.00E-05	37	µg/L
		Default Bldg. Indoor Employee	InhV	0.32	3.6E-08	1.00E-05	88	µg/L
M	Benzene	Default Bldg. Short-term Resident Adult	InhV	1.5	2.7E-07	1.00E-06	6	µg/L
		Default Bldg. Indoor Employee	InhV	1.5	2.6E-07	1.00E-05	59	µg/L
N	Benzene	Default Bldg. Indoor Employee	InhV	0.015	9.0E-09	1.00E-05	17	µg/L
O	Benzene	Default Bldg. Short-term Resident Adult	InhV	0.87	1.6E-07	1.00E-06	6	µg/L
		Default Bldg. Indoor Employee	InhV	0.87	1.5E-07	1.00E-05	59	µg/L

Table 7
Sample Size Calculation Summary - Soil

Exposure Area	COPC	Receptor	RBC Basis[1]	RBC (mg/kg)[1]	Std. Dev.[2]	Desired Sample Size (range)	HHRA Sample Size	Meets USEPA criteria[3]
Soil - Cancer								
A	Bap TEQ	Default Bldg. Short-term Resident Adult	1.0E-06	2.8	0.028	2	12	✓
	Chromium	Intrusive Utility Worker	1.0E-05	16813	7.2	2	12	✓
C	Bap TEQ	Outdoor Employee	1.0E-05	20.0	0.048	2	14	✓
	Chromium	Intrusive Utility Worker	1.0E-05	12002	9.0	2	18	✓
D	Bap TEQ	Outdoor Employee	1.0E-05	19.9	0.038	2	8	✓
	Chromium	Outdoor Employee	1.0E-05	9637	13.0	2	25	✓
E	Benzene	Outdoor Employee	1.0E-05	18.4	2.7	6	70	✓
	BaP TEQ	Outdoor Employee	1.0E-05	20.0	0.49	2	42	✓
G	Bap TEQ	Outdoor Employee	1.0E-05	20.0	0.050	2	5	✓
	Chromium	Outdoor Employee	1.0E-05	9637	15.5	2	5	✓
Ia	Benzene	Bungalow Short-term Resident Adult	1.0E-06	2.4	0.069	2	16	✓
	Chromium	Intrusive Utility Worker	1.0E-05	14087	6.6	2	7	✓
Ib	Naphthalene	Outdoor Employee	1.0E-05	223	3.2	2	6	✓
	Benzene	Intrusive Utility Worker	1.0E-05	137	0.16	2	18	✓
J	Ethylbenzene	Outdoor Employee	1.0E-05	316	15.1	2	63	✓
K	Dibenz(a,h)anthracene	Outdoor Employee	1.0E-05	8.3	0.049	2	2	✓
	Chromium	Intrusive Utility Worker	1.0E-05	15062	3.0	2	6	✓
L	Bap TEQ	Bungalow Short-term Resident Adult	1.0E-06	2.8	0.060	2	11	✓
	Naphthalene	Bungalow Short-term Resident Adult	1.0E-06	29	4.0	6	25	✓
	Chromium	Intrusive Utility Worker	1.0E-05	12044	11.8	2	17	✓
M	Bap TEQ	Outdoor Employee	1.0E-05	20.0	0.049	2	7	✓
	Naphthalene	Outdoor Employee	1.0E-05	223	0.59	2	16	✓
	Vanadium	Intrusive Utility Worker	1.0E-05	43665	14.2	2	9	✓
N	Bap TEQ	Default Bldg. Short-term Resident Adult	1.0E-06	2.8	0.021	2	9	✓
	Chromium	Default Bldg. Short-term Resident Adult	1.0E-06	1233	12.6	2	11	✓
	Vanadium	Default Bldg. Short-term Resident Adult	1.0E-06	3184	14.7	2	11	✓
O	Chromium	Outdoor Employee	1.0E-05	9637	18.3	2	10	✓
	Vanadium	Outdoor Employee	1.0E-05	24880	28.0	2	10	✓
Open Space	Dibenz(a,h)anthracene	Recreational Adult (0-2 ft bgs)	1.0E-05	0.15	0.08	51 (11 - 228)	23	
	Benzene	Recreational Adult (0-10 ft bgs)	1.0E-05	1.1	1.2	221 (47 - 1021)	91	
	Bap TEQ	Recreational Adult (0-10 ft bgs)	1.0E-06	0.36	0.12	23	45	✓
	Naphthalene	Recreational Adult (0-10 ft bgs)	1.0E-06	20	1.2	3	105	✓
Native Gardens	Chromium	Outdoor Employee	1.0E-05	9637	3.5	2	8	✓
	Dibenz(a,h)anthracene	Outdoor Employee	1.0E-05	8.3	0.0061	2	7	✓
	Bap TEQ	Restaurant Visitor Adult	1.0E-05	15.1	0.0054	2	7	✓
Drainage	Benzene	Outdoor Employee	1.0E-05	18.4	0.49	2	8	✓
	Chromium	Intrusive Utility Worker	1.0E-05	17690	29.1	2	8	✓
Site Wide	Ethylbenzene	Offsite Resident Adult	1.0E-06	3.8	5.8	424	481	✓
	Bap TEQ	Recreational Adult (0-2 ft bgs)	1.0E-06	0.36	0.10	15	82	✓
	2,4-Dinitrotoluene	Recreational Adult (0-10 ft bgs)	1.0E-06	0.93	0.39	34 (8 - 153)	5	
Soil - Noncancer								
A	Cadmium	Default Bldg. Short-term Resident Child	1.0	175	0.23	2	12	✓
	Vanadium	Outdoor Employee	1.0	2476	5.8	2	12	✓
	Lead	Commercial User	CHHSL	320	5.3	2	12	✓
C	Cadmium	Bungalow Short-term Resident Adult	1.0	416	0.23	2	18	✓
	Vanadium	Outdoor Employee	1.0	2476	8.2	2	18	✓
	TPH-mo	Intrusive Utility Worker	1.0	145691	404	2	34	✓
	Lead	Commercial User	CHHSL	320	19.6	3	21	✓
D	Vanadium	Bungalow Short-term Resident Child	1.0	5815	42	2	25	✓
	Antimony	Intrusive Utility Worker	1.0	325	8.2	2	25	✓
	TPH-d	Intrusive Utility Worker	1.0	98249	1523	2	53	✓
	Lead	Commercial User	CHHSL	320	317	178 (38 - 822)	25	
E	TPH-mo	Outdoor Employee	1.0	149338	2841	2	86	✓
	TPH-d	Intrusive Utility Worker	1.0	98250	4115	2	86	✓
	1,2,4-Trimethylbenzene	Intrusive Utility Worker	1.0	93	4.4	2	33	✓
	Lead	Commercial User	CHHSL	320	100	20	43	✓
G	Vanadium	Outdoor Employee	1.0	2476	34	2	5	✓
	TPH-d	Intrusive Utility Worker	1.0	98263	886	2	16	✓
	Lead	Commercial User	CHHSL	320	1.9	2	8	✓
Ia	Cadmium	Bungalow Short-term Resident Child	1.0	175	0.23	2	7	✓
	Vanadium	Outdoor Employee	1.0	2476	4.0	2	7	✓
	TPH-mo	Intrusive Utility Worker	1.0	145691	692	2	16	✓
	Lead	Commercial User	CHHSL	320	229	94 (20 - 428)	22	
Ib	TPH-d	Intrusive Utility Worker	1.0	98259	5958	3	18	✓
	Lead	Commercial User	CHHSL	320	17.9	3	6	✓
J	TPH-g	Outdoor Employee	1.0	117861	836	2	64	✓
	Xylenes	Intrusive Utility Worker	1.0	4246	118	2	63	✓
	TPH-d	Intrusive Utility Worker	1.0	98236	4534	2	64	✓
	Lead	Commercial User	CHHSL	320	74.4	12	70	✓

Table 7
Sample Size Calculation Summary - Soil

Exposure Area	COPC	Receptor	RBC Basis[1]	RBC (mg/kg)[1]	Std. Dev.[2]	Desired Sample Size (range)	HHRA Sample Size	Meets USEPA criteria[3]
K	Cadmium	Default Bldg. Short-term Resident Adult	1.0	416	0.23	2	6	✓
	Mercury	Outdoor Employee	1.0	36	0.12	2	6	✓
	TPH-mo	Intrusive Utility Worker	1.0	145691	565	2	12	✓
	TPH-d	Intrusive Utility Worker	1.0	98251	343	2	12	✓
	Lead	Commercial User	CHHSL	320	15.7	3	11	✓
L	Cadmium	Bungalow Short-term Resident Adult	1.0	416	0.094	2	17	✓
	1,2,4-Trimethylbenzene	Outdoor Employee	1.0	244	1.20	2	13	✓
	TPH-mo	Outdoor Employee	1.0	149338	2594	2	61	✓
	TPH-d	Intrusive Utility Worker	1.0	98229	4749	2	61	✓
	Lead	Commercial User	CHHSL	320	112	24	56	✓
M	Cadmium	Default Bldg. Short-term Resident Adult	1.0	416	0.23	2	9	✓
	Vanadium	Outdoor Employee	1.0	2476	14.2	2	9	✓
	TPH-d	Intrusive Utility Worker	1.0	98261	2479	2	14	✓
	Lead	Commercial User	CHHSL	320	2.7	2	9	✓
N	Cadmium	Default Bldg. Short-term Resident Adult	1.0	416	0.23	2	11	✓
	Vanadium	Intrusive Utility Worker	1.0	3109	14.7	2	11	✓
	Lead	Commercial User	CHHSL	320	3.6	2	11	✓
O	Cadmium	Bungalow Short-term Resident Adult	1.0	416	0.23	2	10	✓
	Cadmium	Default Bldg. Short-term Resident Adult	1.0	416	0.23	2	10	✓
	Vanadium	Outdoor Employee	1.0	2476	28.0	2	10	✓
	Lead	Commercial User	CHHSL	320	1.4	2	10	✓
Open Space	TPH-mo	Recreational Child (0-2 ft bgs)	1.0	27564	2062	3	64	✓
	Mercury	Recreational Child (0-2 ft bgs)	1.0	11.8	0.79	3	45	✓
	1,2,4-Trimethylbenzene	Recreational Child (0-10 ft bgs)	1.0	211	7.1	2	66	✓
	Vanadium	Recreational Child (0-10 ft bgs)	1.0	637	20.5	2	103	✓
	Lead	Recreational User	CHHSL	80	42	52	108	✓
Native Gardens	Vanadium	Outdoor Employee	1.0	2476	2.7	2	8	✓
	Cadmium	Restaurant Visitor Child	1.0	175	0.23	2	8	✓
Drainage	TPH-mo	Intrusive Utility Worker	1.0	145691	3710	2	10	✓
	Lead	Commercial User	CHHSL	320	6.4	3	8	✓
Site Wide	Lead	Recreational User	CHHSL	80	113	359	433	✓
	Xylenes	Offsite Resident Child	1.0	6866	44	2	481	✓
	TPH-d	Recreational Adult (0-2 ft bgs)	1.0	289402	1951	2	159	✓
	Vanadium	Recreational Child (0-2 ft bgs)	1.0	699	21.3	2	120	✓
	TPH-mo	Recreational Child (0-2 ft bgs)	1.0	27564	2536	4	159	✓
	Antimony	Recreational Child (0-10 ft bgs)	1.0	60	3.6	3	313	✓

[1]RBCs (Risk-based Concentrations) are derived using sHHRA methodology except for lead. Units are mg/kg for soil, µg/L for soil gas and mg/L for groundwater

[2]Samples with elevated reporting limits were removed from dataset. See Table 2 for a complete list of excluded reporting limits and rationale.

[3]Meets USEPA default criteria and assumptions specified by SLO County EHS: alpha = 5%, beta = 20%, MDD = 20%

CHHSL =California Human Health Screening Level for lead (Cal/EPA 2009)

Table 8
Sample Size Calculation Summary

					Shallow Data (5 to <10 ft)				
Exposure Area	**COPC**	**Receptor**	**HHRA Max**	**RBC Basis**	**RBC (ug/L)[1]**	**Std. Dev.[2]**	**HHRA Sample Size**	**Desired Sample Size (range)**	**Meets USEPA criteria[3]**
Cancer Risk Drivers									
A	1,3-Butadiene	Default Bldg. Short-term Resident Adult	Shallow (5 ft)	1.0E-06	0.18	0.0010	5	2	✓
	Benzene	Default Bldg. Indoor Employee	Shallow (5 ft)	1.0E-05	22	0.016	5	2	✓
C	Chloroform	Bungalow Short-term Resident Adult	Shallow (5 ft)	1.0E-06	3.5	0.87	16	13	✓
D	Ethylbenzene	Bungalow Short-term Resident Adult	Deep (15 ft)	1.0E-06	36	1.0	4	2	✓
E	Benzene	Bungalow Short-term Resident Adult	Deep (15 ft)	1.0E-06	2.6	59	7	>10000	
G	Benzene	Default Bldg. Indoor Employee	Shallow (5 ft)	1.0E-05	1148.5	0.031	2	2	✓
	Chloroform	Default Bldg. Indoor Employee	Shallow (5 ft)	1.0E-05	17454.4	0.093	2	2	✓
	Tetrachloroethene	Default Bldg. Indoor Employee	Shallow (5 ft)	1.0E-05	42284.7	0.026	2	2	✓
Ia	Chloroform	Bungalow Short-term Resident Adult	Deep (15 ft)	1.0E-06	3.5	0.24	3	3	✓
Ib	Chloroform	Bungalow Short-term Resident Adult	Deep (15 ft)	1.0E-06	3.5	1.0	4	17 (4-74)	
J	Chloroform	Bungalow Short-term Resident Adult	Deep (15 ft)	1.0E-06	3.5	20	10	5629 (1,209-26,691)	
K	Chloroform	Default Bldg. Short-term Resident Adult	Deep (15 ft)	1.0E-06	8.3	0.61	3	3	✓
L	Chloroform	Bungalow Short-term Resident Adult	Shallow (5 ft)	1.0E-06	3.5	0.098	9	2	✓
	Benzene	Bungalow Indoor Employee	Deep (15 ft)	1.0E-05	7.9	0.010	9	2	✓
M	Benzene	Default Bldg. Short-term Resident Adult	Deep (15 ft)	1.0E-06	2.1	0.072	6	2	✓
N	Benzene	Default Bldg. Indoor Employee	Shallow (5 ft)	1.0E-05	17	0.0045	8	2	✓
O	Benzene	Default Bldg. Short-term Resident Adult	Deep (15 ft)	1.0E-06	2.1	0.084	10	2	✓
Noncancer Risk Drivers									
C	1,2,4-Trimethylbenzene	Bungalow Indoor Employee	Shallow (5 ft)	1.0	73	0.12	16	2	✓
D	1,2,4-Trimethylbenzene	Bungalow Short-term Resident Adult	Deep (15 ft)	1.0	775	1.0	4	2	✓
E	Benzene	Bungalow Indoor Employee	Deep (15 ft)	1.0	1551	59	7	2	✓
Ib	Chloroform	Bungalow Indoor Employee	Deep (15 ft)	1.0	1900	1.0	4	2	✓
J	Chloroform	Bungalow Indoor Employee	Deep (15 ft)	1.0	1900	20	10	2	✓
K	Chloroform	Default Bldg. Indoor Employee	Deep (15 ft)	1.0	4473	0.61	3	2	✓
O	1,2,4-Trimethylbenzene	Default Bldg. Indoor Employee	Deep (15 ft)	1.0	198	0.022	10	2	✓

[1]RBCs (Risk-based Concentrations) are derived using sHHRA methodology except for lead.

[2]Samples with elevated reporting limits were removed from dataset. See Table 2 for a complete list of excluded reporting limits and rationale.

[3]Meets USEPA default criteria and assumptions specified by SLO County EHS: alpha = 5%, beta = 20%, MDD = 20%

Table 8
Sample Size Calculation Summary

					Deep Data (10 to 15 ft)				
Exposure Area	**COPC**	**Receptor**	**HHRA Max**	**RBC Basis**	**RBC (ug/L)[1]**	**Std. Dev.[2]**	**HHRA Sample Size**	**Desired Sample Size (range)**	**Meets USEPA criteria[3]**
Cancer Risk Drivers									
A	1,3-Butadiene	Default Bldg. Short-term Resident Adult	Shallow (5 ft)	1.0E-06					
	Benzene	Default Bldg. Indoor Employee	Shallow (5 ft)	1.0E-05					
C	Chloroform	Bungalow Short-term Resident Adult	Shallow (5 ft)	1.0E-06					
D	Ethylbenzene	Bungalow Short-term Resident Adult	Deep (15 ft)	1.0E-06	128.33	23	4	8 (2-29)	
E	Benzene	Bungalow Short-term Resident Adult	Deep (15 ft)	1.0E-06	9.4	546	8	>10000	
G	Benzene	Default Bldg. Indoor Employee	Shallow (5 ft)	1.0E-05	201	0.19	2	2	✓
	Chloroform	Default Bldg. Indoor Employee	Shallow (5 ft)	1.0E-05	933	4.2	2	2	✓
	Tetrachloroethene	Default Bldg. Indoor Employee	Shallow (5 ft)	1.0E-05	1210	2.5	2	2	✓
Ia	Chloroform	Bungalow Short-term Resident Adult	Deep (15 ft)	1.0E-06	9.2	1.5	3	7 (2-24)	
Ib	Chloroform	Bungalow Short-term Resident Adult	Deep (15 ft)	1.0E-06	9.2	748	4	>10000	
J	Chloroform	Bungalow Short-term Resident Adult	Deep (15 ft)	1.0E-06	9.2	384	11	>10000	
K	Chloroform	Default Bldg. Short-term Resident Adult	Deep (15 ft)	1.0E-06	20	42	9	827 (169-3,715)	
L	Chloroform	Bungalow Short-term Resident Adult	Shallow (5 ft)	1.0E-06					
	Benzene	Bungalow Indoor Employee	Deep (15 ft)	1.0E-05	20.9	0.030	9	2	✓
M	Benzene	Default Bldg. Short-term Resident Adult	Deep (15 ft)	1.0E-06	5.6	NA	1	NA	
N	Benzene	Default Bldg. Indoor Employee	Shallow (5 ft)	1.0E-05					
O	Benzene	Default Bldg. Short-term Resident Adult	Deep (15 ft)	1.0E-06	5.6	0.31	8	3	✓
Noncancer Risk Drivers									
C	1,2,4-Trimethylbenzene	Bungalow Indoor Employee	Shallow (5 ft)	1.0					
D	1,2,4-Trimethylbenzene	Bungalow Short-term Resident Adult	Deep (15 ft)	1.0	2784	7.5	4	2	✓
E	Benzene	Bungalow Indoor Employee	Deep (15 ft)	1.0	5543	546	8	4	✓
Ib	Chloroform	Bungalow Indoor Employee	Deep (15 ft)	1.0	4953	748	4	6 (2-21)	
J	Chloroform	Bungalow Indoor Employee	Deep (15 ft)	1.0	4953	384	11	3	✓
K	Chloroform	Default Bldg. Indoor Employee	Deep (15 ft)	1.0	10578	42	9	2	✓
O	1,2,4-Trimethylbenzene	Default Bldg. Indoor Employee	Deep (15 ft)	1.0	543	0.45	8	2	✓

[1]RBCs (Risk-based Concentrations) are derived using sHHRA methodology except for lead.

[2]Samples with elevated reporting limits were removed from dataset. See Table 2 for a complete list of excluded reporting limits and rationale.

[3]Meets USEPA default criteria and assumptions specified by SLO County EHS: alpha = 5%, beta = 20%, MDD = 20%

Table 9
Data Quality Assessment Summary

Receptor	ILCR[1]	Cancer DQA Summary[2,3]				HI[6]	Noncancer DQA Summary[2,3]				DQA Conclusions
		Cancer Risk Driver(s)[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size		Noncancer Hazard Drivers[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size	
Exposure Area A	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Default Bldg. Short-term Resident Adult	2E-07	BaP TEQ (21%), Soil	2.8	2	12	0.003	Cadmium (59%), Produce	416			Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes using USEPA default criteria are met for all risk drivers.
		1,3-butadiene (18%), 5 ft Soil Gas	0.18	2	5						
Default Bldg. Short-term Resident Child	NA					0.008	Cadmium (45%), Produce	175	2	12	
Default Bldg. Indoor Employee	8E-08	1,3-butadiene (38%), 5 ft Soil Gas	1.9			0.002	Vanadium (46%), Soil	16352			
		Benzene (25%), 5 ft Soil Gas	22	2	5						
Outdoor Employee	1E-07	BaP TEQ (51%), Soil	20			0.008	Vanadium (79%), Soil	2476	2	12	
Intrusive Utility Worker	2E-08	Chromium (70%), Soil	16813	2	12	0.007	Vanadium (77%), Soil	3109			
Lead Evaluation						<CHHSL		320	2	12	
Exposure Area C	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Bungalow Short-term Resident Adult	2E-06	Chloroform (63%), 5 ft Soil Gas	3.53	13	16	0.008	Cadmium (20%), Produce	416	2	18	Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes using USEPA default criteria are met for all risk drivers.
							1,2,4-Trimethylbenzene (30%), 5 ft Soil Gas	217			
Bungalow Short-term Resident Child	NA					0.02	TPH-mo (18%), Soil	388148			
							Vanadium (25%), Soil	5815			
Bungalow Indoor Employee	1E-06	Chloroform (67%), 5 ft Soil Gas	37			0.02	TPH-mo (19%), Soil	455361			
							1,2,4-Trimethylbenzene (34%), 5 ft Soil Gas	73	2	16	
Default Bldg. Short-term Resident Adult	7E-07	Chloroform (57%), 5 ft Soil Gas	8.3			0.006	Cadmium (27%), Produce	416			
							1,2,4-Trimethylbenzene (19%), 5 ft Soil Gas	480			
Default Bldg. Short-term Resident Child	NA					0.02	TPH-mo (20%), Soil	388148			
							Vanadium (27%), Soil	5815			
Default Bldg. Indoor Employee	6E-07	Chloroform (66%), 5 ft Soil Gas	88			0.01	TPH-mo (27%), Soil	455361			
							1,2,4-Trimethylbenzene (24%), 5 ft Soil Gas	161			
Outdoor Employee	1E-07	BaP TEQ (41%), Soil	20	2	14	0.04	TPH-mo (30%), Soil	149338			
		Chromium (35%), Soil	12331				Vanadium (37%), Soil	2476	2	18	
Intrusive Utility Worker	5E-08	Chromium (69%), Soil	12002	2	18	0.03	TPH-mo (34%), Soil	145691	2	34	
							Vanadium (32%), Soil	3108			
Lead Evaluation						<CHHSL		320	3	21	
Exposure Area D	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Bungalow Short-term Resident Adult	9E-07	Ethylbenzene (44%), 15 ft Soil Gas	128	8 (2-29)	4	0.02	Antimony (24%), Soil	7850			Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers, except lead. Soil Gas: Desired sample sizes using USEPA default criteria are not met for ethylbenzene at the 15 ft depth but are met for ethylbenzene at the 5 ft depth.
		Ethylbenzene (25%), 5 ft Soil Gas	36	2	4		1,2,4-Trimethylbenzene (24%), 15 ft Soil Gas	2784	2	4	
Bungalow Short-term Resident Child	NA					0.1	Antimony (38%), Soil	952			
							Vanadium (19%), Soil	5815	2	25	
Bungalow Indoor Employee	7E-07	Ethylbenzene (55%), 15 ft Soil Gas	1354			0.1	Antimony (47%), Soil	934			
Default Bldg. Short-term Resident Adult	5E-07	Ethylbenzene (37%), 15 ft Soil Gas	259			0.02	Antimony (28%), Soil	7850			
							Vanadium (17%), Soil	38963			
Default Bldg. Short-term Resident Child	NA					0.1	Antimony (39%), Soil	952			
							Vanadium (20%), Soil	5815			
Default Bldg. Indoor Employee	3E-07	Ethylbenzene (55%), 15 ft Soil Gas	2736			0.1	Antimony (52%), Soil	934			
Outdoor Employee	2E-07	BaP TEQ (30%), Soil	19.9	2	8	0.3	Antimony (44%), Soil	355			
		Chromium (33%), Soil	9637	2	25						
Intrusive Utility Worker	9E-08	Chromium (45%), Soil	14699			0.4	Antimony (33%), Soil	325	2	25	
							TPH-d (26%), Soil	98249	2	53	
Lead Evaluation						>CHHSL		320	178 (38 - 822)	25	

Table 9
Data Quality Assessment Summary

Receptor	ILCR[1]	Cancer DQA Summary[2,3]				HI[6]	Noncancer DQA Summary[2,3]				DQA Conclusions
		Cancer Risk Driver(s)[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size		Noncancer Hazard Drivers[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size	
Exposure Area E	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Bungalow Short-term Resident Adult	2E-04	Benzene (95%), 15 ft Soil Gas	9.4	>10000	8	0.2	Benzene (63%), 15 ft Soil Gas	16497			Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers, except lead which exceeds the commercial CHHSL . Soil Gas: Desired sample sizes using USEPA default criteria are not met for benzene at the 15 ft or 5 ft depth.
		Benzene (98%), 5 ft Soil Gas	2.6	>10000	7						
Bungalow Short-term Resident Child	NA					0.2	Benzene (48%), 15 ft Soil Gas	16497			
Bungalow Indoor Employee	2E-04	Benzene (96%), 15 ft Soil Gas	99			0.5	Benzene (63%), 15 ft Soil Gas	5543	4	8	
		Benzene (100%), 5 ft Soil Gas	28								
Default Bldg. Short-term Resident Adult	9E-05	Benzene (95%), 15 ft Soil Gas	19.1			0.08	Benzene (58%), 15 ft Soil Gas	33393			
		Benzene (97%), 5 ft Soil Gas	5.5								
Default Bldg. Short-term Resident Child	NA					0.1	Benzene (37%), 15 ft Soil Gas	33393			
Default Bldg. Indoor Employee	8E-05	Benzene (96%), 15 ft Soil Gas	201			0.2	Benzene (58%), 15 ft Soil Gas	11220			
		Benzene (99%), 5 ft Soil Gas	58								
Outdoor Employee	1E-06	BaP TEQ (15%), Soil	20.0	2	42	0.1	TPH-d (13%), Soil	100797			
		Benzene (56%), Soil	18.4	6	70		TPH-mo (32%), Soil	149338	2	86	
Intrusive Utility Worker	1E-06	Benzene (82%), Soil	186			0.8	1,2,4-Trimethylbenzene (32%), Soil	93	2	33	
							TPH-d (23%), Soil	98250	2	86	
Lead Evaluation						<CHHSL (except IUW)		320	20	43	
Exposure Area G	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Default Bldg. Indoor Employee	2E-07	Benzene (22%), 15 ft Soil Gas	201	2	2	0.02	TPH-d (46%), Soil	307368			Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes using USEPA default criteria are met for all risk drivers.
		Chloroform (46%), 15 ft Soil Gas	933	2	2						
		Tetrachloroethene (22%), 15 ft Soil Gas	1210	2	2						
Outdoor Employee	2E-07	BaP TEQ (26%), Soil	20	2	5	0.09	TPH-d (35%), Soil	100797			
		Chromium (30%), Soil	9637	2	5		Vanadium (41%), Soil	2476	2	5	
Intrusive Utility Worker	6E-08	Chromium (56%), Soil	17426			0.08	TPH-d (40%), Soil	98263	2	16	
							Vanadium (36%), Soil	3109			
Lead Evaluation						<CHHSL		320	2	8	
Exposure Area Ia	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Bungalow Short-term Resident Adult	6E-07	Benzene (19%), Soil	2.4	2	16	0.004	Cadmium (40%), Produce	416			Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers, except for lead. Soil Gas: Desired sample sizes using USEPA default criteria are not met for chloroform at the 15 ft depth but are met for chloroform at the 5 ft depth.
		Chloroform (46%), 15 ft Soil Gas	9.2	7 (2-24)	3						
		Chloroform (32%), 5 ft Soil Gas	3.5	3	3						
Bungalow Short-term Resident Child	NA					0.01	Cadmium (25%), Produce	175	2	7	
							Vanadium (25%), Soil	5815			
Bungalow Indoor Employee	4E-07	Chloroform (71%), 15 ft Soil Gas	97			0.008	TPH-mo (40%), Soil	455361			
		Chloroform (59%), 5 ft Soil Gas	37								
Default Bldg. Short-term Resident Adult	4E-07	Benzene (29%), Soil	2.4			0.004	Cadmium (44%), Produce	416			
		Chloroform (32%), 15 ft Soil Gas	19.7								
		Chloroform (19%), 5 ft Soil Gas	8.3								
Default Bldg. Short-term Resident Child	NA					0.01	Cadmium (26%), Produce	175			
							Vanadium (26%), Soil	5815			
Default Bldg. Indoor Employee	2E-07	Chloroform (69%), 15 ft Soil Gas	208			0.007	TPH-mo (45%), Soil	455361			
		Chloroform (54%), 5 ft Soil Gas	88								
Outdoor Employee	3E-07	Benzene (58%), Soil	18.4			0.02	TPH-mo (42%), Soil	149338			
							Vanadium (37%), Soil	2476	2	7	
Intrusive Utility Worker	5E-08	Benzene (44%), Soil	116			0.04	TPH-mo (42%), Soil	145691	2	16	
		Chromium (39%), Soil	14087	2	7		Vanadium (20%), Soil	3109			
Lead Evaluation						<CHHSL (except IUW)		320	94 (20 - 428)	22	

Table 9
Data Quality Assessment Summary

Receptor	ILCR[1]	Cancer DQA Summary[2,3]				HI[6]	Noncancer DQA Summary[2,3]				DQA Conclusions
		Cancer Risk Driver(s)[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size		Noncancer Hazard Drivers[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size	
Exposure Area Ib	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Bungalow Short-term Resident Adult	2E-04	Chloroform (75%), 15 ft Soil Gas	9.2	>10000	4	0.2	Chloroform (64%), 15 ft Soil Gas	14741			Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample size ranges using USEPA default criteria are not met for chloroform at the 15 ft depth or 5 ft depth, though the sample size for chloroform at the 5 ft depth falls equals the low end of the desired range.
		Chloroform (45%), 5 ft Soil Gas	3.5	17 (4-74)	4						
Bungalow Short-term Resident Child	NA					0.2	Chloroform (51%), 15 ft Soil Gas	14741			
Bungalow Indoor Employee	2E-04	Chloroform (75%), 15 ft Soil Gas	97			0.5	Chloroform (64%), 15 ft Soil Gas	4953	6 (2-21)	4	
		Chloroform (69%), 5 ft Soil Gas	37				Chloroform (4%), 5 ft Soil Gas	1900	2	4	
Default Bldg. Short-term Resident Adult	1E-04	Chloroform (75%), 15 ft Soil Gas	19.7			0.08	Chloroform (60%), 15 ft Soil Gas	31482			
		Chloroform (31%), 5 ft Soil Gas	8.3								
Default Bldg. Short-term Resident Child	NA					0.1	Chloroform (40%), 15 ft Soil Gas	31482			
Default Bldg. Indoor Employee	1E-04	Chloroform (75%), 15 ft Soil Gas	208			0.2	Chloroform (60%), 15 ft Soil Gas	10578			
		Chloroform (66%), 5 ft Soil Gas	88								
Outdoor Employee	7E-07	Naphthalene (48%), Soil	223	2	6	0.1	TPH-d (49%), Soil	100797			
Intrusive Utility Worker	1E-07	Benzene (35%), Soil	137	2	18	0.3	TPH-d (63%), Soil	98259	3	18	
		Naphthalene (36%), Soil	1422								
Lead Evaluation						<CHHSL		320	3	6	
Exposure Area J	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Bungalow Short-term Resident Adult	2E-04	Chloroform (68%), 15 ft Soil Gas	9.2	>10000	11	0.2	Chloroform (54%), 15 ft Soil Gas	14741			Soil: Desired samples using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes using USEPA default criteria are not met for chloroform at the 15 ft depth or 5 ft depth.
		Chloroform (49%), 5 ft Soil Gas	3.5	5629 (1209-26691)	10						
Bungalow Short-term Resident Child	NA					0.2	Chloroform (43%), 15 ft Soil Gas	14741			
Bungalow Indoor Employee	2E-04	Chloroform (68%), 15 ft Soil Gas	97			0.5	Chloroform (54%), 15 ft Soil Gas	4953	3	11	
		Chloroform (51%), 5 ft Soil Gas	37								
Default Bldg. Short-term Resident Adult	1E-04	Chloroform (68%), 15 ft Soil Gas	19.7			0.08	Chloroform (51%), 15 ft Soil Gas	31482			
		Chloroform (47%), 5 ft Soil Gas	8.3								
Default Bldg. Short-term Resident Child	NA					0.1	Chloroform (34%), 15 ft Soil Gas	31482			
Default Bldg. Indoor Employee	9E-05	Chloroform (68%), 15 ft Soil Gas	208			0.2	Chloroform (51%), 15 ft Soil Gas	10578			
		Chloroform (51%), 5 ft Soil Gas	88								
Outdoor Employee	1E-06	Ethylbenzene (66%), Soil	316	2	63	0.1	TPH-d (19%), Soil	100797			
							TPH-g (46%), Soil	117861	2	64	
Intrusive Utility Worker	9E-07	Ethylbenzene (74%), Soil	1824			0.7	TPH-d (35%), Soil	98236	2	64	
							Xylenes (Total) (32%), Soil	4246	2	63	
Lead Evaluation						<CHHSL (except IUW)		320	12	70	
Exposure Area K	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Default Bldg. Short-term Resident Adult	7E-06	Chloroform (88%), 15 ft Soil Gas	19.7	827 (169-3715)	9	0.009	Cadmium (19%), Produce	416	2	6	Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes using USEPA default criteria are not met for chloroform at the 15 ft depth but are met for chloroform at the 5 ft depth.
		Chloroform (42%), 5 ft Soil Gas	8.3	3	3		Chloroform (45%), 15 ft Soil Gas	31482			
Default Bldg. Short-term Resident Child	NA					0.02	Mercury (20%), Soil	79			
							TPH-mo (21%), Soil	388148			
Default Bldg. Indoor Employee	6E-06	Chloroform (90%), 15 ft Soil Gas	208			0.02	Chloroform (53%), 15 ft Soil Gas	10578	2	9	
		Chloroform (71%), 5 ft Soil Gas	87.8								
Outdoor Employee	2E-07	Dibenz(a,h)anthracene (57%), Soil	8.3	2	2	0.04	Mercury (29%), Soil	36	2	6	
							TPH-mo (35%), Soil	149338			
Intrusive Utility Worker	2E-08	Chromium (48%), Soil	15062	2	6	0.04	TPH-d (28%), Soil	98251	2	12	
							TPH-mo (39%), Soil	145691	2	12	
Lead Evaluation						<CHHSL		320	3	11	

Table 9
Data Quality Assessment Summary

Receptor	ILCR[1]	Cancer DQA Summary[2,3]				HI[6]	Noncancer DQA Summary[2,3]				DQA Conclusions
		Cancer Risk Driver(s)[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size		Noncancer Hazard Drivers[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size	
Exposure Area L	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Bungalow Short-term Resident Adult	4E-07	BaP TEQ (17%), Soil	2.8	2	11	0.01	Cadmium (15%), Produce	416	2	17	Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes using USEPA default criteria are met for all risk drivers.
		Naphthalene (15%), Soil	29	6	25		1,2,4-Trimethylbenzene (37%), Soil	1124			
		Chloroform (21%), 5 ft Soil Gas	3.5	2	9						
Bungalow Short-term Resident Child	NA					0.04	TPH-d (31%), Soil	261990			
							TPH-mo (19%), Soil	388148			
Bungalow Indoor Employee	2E-07	Benzene (24%), 5 ft Soil Gas	21	2	9	0.02	TPH-d (49%), Soil	307368			
		Chloroform (44%), 5 ft Soil Gas	37								
Default Bldg. Short-term Resident Adult	3E-07	BaP TEQ (23%), Soil	2.8			0.01	Cadmium (16%), Produce	416			
		Naphthalene (19%), Soil	29				1,2,4-Trimethylbenzene (37%), Soil	1124			
		Chloroform (12%), 5 ft Soil Gas	8.3								
Default Bldg. Short-term Resident Child	NA					0.04	TPH-d (31%), Soil	261990			
							TPH-mo (19%), Soil	388148			
Default Bldg. Indoor Employee	1E-07	Benzene (23%), 5 ft Soil Gas	44			0.02	TPH-d (50%), Soil	307368			
		Chloroform (37%), 5 ft Soil Gas	88								
Outdoor Employee	3E-07	BaP TEQ (37%), Soil	20			0.09	1,2,4-Trimethylbenzene (21%), Soil	244	2	13	
		Naphthalene (29%), Soil	223				TPH-d (34%), Soil	100797			
							TPH-mo (21%), Soil	149338	2	61	
Intrusive Utility Worker	8E-08	Chromium (49%), Soil	12044	2	17	0.5	TPH-d (60%), Soil	98229	2	61	
Lead Evaluation						<CHHSL (except IUW)		320	24	56	
Exposure Area M	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Default Bldg. Short-term Resident Adult	5E-07	Benzene (55%), 15 ft Soil Gas	5.6	NE	1	0.006	Cadmium (26%), Produce	416	2	9	Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes for benzene using USEPA default criteria are met for the 5 ft data. The maximum detect occurred in the 15 ft data which consists of only one sample.
		Benzene (28%), 5 ft Soil Gas	2.1	2	6		Vanadium (26%), Soil	38963			
Default Bldg. Short-term Resident Child	NA					0.03	TPH-d (30%), Soil	261990			
							Vanadium (36%), Soil	5815			
Default Bldg. Indoor Employee	3E-07	Benzene (92%), 15 ft Soil Gas	59			0.02	TPH-d (46%), Soil	307368			
		Benzene (81%), 5 ft Soil Gas	22								
Outdoor Employee	2E-07	BaP TEQ (29%), Soil	20	2	7	0.06	TPH-d (37%), Soil	100797			
		Naphthalene (37%), Soil	223	2	16		Vanadium (41%), Soil	2476	2	9	
Intrusive Utility Worker	5E-08	Naphthalene (37%), Soil	1101			0.1	TPH-d (53%), Soil	98261	2	14	
		Vanadium (29%), Soil	43665	2	9						
Lead Evaluation						<CHHSL		320	2	9	
Exposure Area N	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Default Bldg. Short-term Resident Adult	1E-07	BaP TEQ (19%), Soil	2.81	2	9	0.004	Cadmium (37%), Produce	416	2	11	Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes using USEPA default criteria are met for all risk drivers.
		Chromium (18%), Soil	1233	2	11		Vanadium (42%), Soil	38963			
		Vanadium (17%), Soil	3184	2	11						
Default Bldg. Short-term Resident Child	NA					0.02	Vanadium (60%), Soil	5815			
Default Bldg. Indoor Employee	3E-08	BaP TEQ (15%), Soil	148			0.006	Vanadium (69%), Soil	16352			
		Benzene (29%), 5 ft Soil Gas	16.61	2	8						
Outdoor Employee	9E-08	BaP TEQ (38%), Soil	19.86			0.04	Vanadium (79%), Soil	2476			
		Chromium (32%), Soil	9637								
Intrusive Utility Worker	5E-08	Chromium (55%), Soil	8150			0.04	Vanadium (80%), Soil	3109	2	11	
Lead Evaluation						<CHHSL		320	2	11	
Exposure Area O	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Default Bldg. Short-term Resident Adult	3E-07	Benzene (56%), 15 ft Soil Gas	5.6	3	8	0.006	Cadmium (25%), Produce	416	2	10	Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers. Soil Gas: Desired sample sizes using USEPA default criteria are met for all risk drivers.
		Benzene (53%), 5 ft Soil Gas	2.1	2	10		Vanadium (49%), Soil	38963			
Default Bldg. Short-term Resident Child	NA					0.03	Vanadium (73%), Soil	5815			
Default Bldg. Indoor Employee	2E-07	Benzene (94%), 15 ft Soil Gas	59			0.01	Vanadium (61%), Soil	16352			
		Benzene (98%), 5 ft Soil Gas	22				1,2,4-Trimethylbenzene (20%), 15 ft Soil Gas	543	2	8	
Outdoor Employee	1E-07	Chromium (53%), Soil	9637	2	10	0.05	Vanadium (90%), Soil	2476	2	10	
		Vanadium (46%), Soil	24880	2	10						
Intrusive Utility Worker	8E-08	Chromium (53%), Soil	12863			0.05	Vanadium (88%), Soil	3108			
		Vanadium (46%), Soil	33210								
Lead Evaluation						<CHHSL		320	2	10	

Table 9
Data Quality Assessment Summary

Receptor	ILCR[1]	Cancer DQA Summary[2,3]				HI[6]	Noncancer DQA Summary[2,3]				DQA Conclusions
		Cancer Risk Driver(s)[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size		Noncancer Hazard Drivers[4]	RBC[5]	Desired Sample Size (range)	HHRA Sample Size	
Exposure Area Drainage	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Outdoor Employee	1E-06	Benzene (76%), Soil	18	2	8	0.06	TPH-mo (42%), Soil	149338			Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers
Intrusive Utility Worker	2E-07	Benzene (61%), Soil	119			0.2	TPH-mo (55%), Soil	145691	2	10	
Lead Evaluation						<CHHSL		80	3	8	
Exposure Area Native Gardens	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Outdoor Employee	7E-08	Chromium (37%), Soil	9637	2	8	0.01	Vanadium (61%), Soil	2476	2	8	Soil: Desired sample sizes using USEPA default criteria are met for all risk drivers
		Dibenz(a,h)anthracene (39%), Soil	8.3	2	7						
Restaurant Visitor Adult	3E-08	BaP TEQ (40%), Produce	15	2	7	0.002	Cadmium (82%), Produce	416			
		Dibenz(a,h)anthracene (60%), Produce	12								
Restaurant Visitor Child	NA					0.005	Cadmium (82%), Produce	175	2	8	
Exposure Area Open Space	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Outdoor Employee	7E-07	Benzene (38%), Soil	19.0			0.1	1,2,4-Trimethylbenzene (41%), Soil	244			Soil: Desired sample sizes using USEPA default criteria are not met for benzene (0 to 10 ft) or dibenz(a,h)anthracene (0 to 2 ft) in soil, although sample sizes for both fall within the desired range. Soil Gas: Desired sample sizes using USEPA default criteria are met for all risk drivers.
		Naphthalene (41%), Soil	223				Mercury (14%), Soil	36			
Recreational Adult (0-10 ft bgs)	2E-06	Benzene (31%), Soil	1.1	221 (47 - 1021)	91	0.03	1,2,4-Trimethylbenzene (50%), Soil	669			
		Dibenz(a,h)anthracene (22%), Soil	0.81								
		Naphthalene (22%), Soil	20	3	105						
		BaP TEQ (17%), Soil	0.36	23	45						
Recreational Adult (0-2 ft bgs)	2E-06	Dibenz(a,h)anthracene (81%), Soil	0.15	51 (11 - 228)	23	0.01	Vanadium (24%), Soil	8923			
							TPH-mo (28%), Soil	325268			
Recreational Child (0-10 ft bgs)	NA					0.2	1,2,4-Trimethylbenzene (26%), Soil	211	2	66	
							Vanadium (23%), Soil	637			
Recreational Child (0-2 ft bgs)	NA					0.2	TPH-mo (25%), Soil	27564	3	64	
							Mercury (26%), Soil	11.8	3	45	
							Vanadium (26%), Soil	637			
Lead Evaluation						<CHHSL		80	52	108	
Exposure Area Site wide	#N/A	(0%)	#N/A			#N/A	(0%)	#N/A			
Recreational Adult (0-10 ft bgs)	1E-06	2,4-Dinitrotoluene (52%), Soil	0.93	34 (8 - 153)	5	0.08	Antimony (81%), Soil	693			Soil: Desired sample size using USEPA default criteria is not met for 2,4-dinitrotoluene in soil. Soil Gas: Desired sample sizes using USEPA default criteria are met for all risk drivers.
Recreational Adult (0-2 ft bgs)	8E-07	BaP TEQ (29%), Soil	0.36	15	82	0.01	TPH-d (28%), Soil	289402	2	159	
		Ethylbenzene (38%), Soil	14.7				TPH-mo (28%), Soil	325268			
Recreational Child (0-10 ft bgs)	NA					0.9	Antimony (82%), Soil	60	3	313	
Recreational Child (0-2 ft bgs)						0.2	TPH-mo (28%), Soil	27564	4	159	
							Vanadium (23%), Soil	699	2	120	
Offsite Resident Adult	2E-06	Ethylbenzene (65%), Soil	3.8	424	481	0.008	Xylenes (Total) (52%), Soil	6866			
Offsite Resident Child	NA						Xylenes (Total) (52%), Soil	6866	2	481	
Lead Evaluation						<CHHSL		80	359	433	

Notes:

[1]ILCR is the incremental probability of an individual developing cancer over a lifetime as a result of exposure to the potential carcinogen; cancer risk is age-weighted and assumes 6 years of exposure as a child and 24 years as an adult, therefore risk is reported for adult and not applicable (NA) to child receptors; 2E-07 = 0.0000002 = two in ten million.

[2]The shaded boxes in the DQA summary indicate that a more conservative receptor was evaluated in the DQA.

[3]Orange text indicates sample size does not meet USEPA acceptable performance criteria (alpha= 5%, beta= 20%, MDD=20%) for corresponding RBC .

[4]Risk and hazard drivers identified are the chemicals of potential concern (COPCs) accounting for the greatest percentage(s) of the total risk or hazard. For example, for residents in Exposure Area A, exposure to BaP TEQ in soil account for 21% of the total risk and 1,3-butadiene in soil gas (via inhalation of indoor air) accounts for 18% of the total risk. The chemical(s) accounting for at least 40% of the total risk or hazard are identified.

[5]Results for soil presented in mg/kg; for soil gas in ug/L

[6]HI is the noncancer hazard index.

CHHSL = California Human Health Screening Level. The HHRA compared area-specific exposure point concentrations to the residential or commercial CHHSL, as appropriate. As shown in Attachment 13 of the HHRA, the commercial CHHSL for lead in soil (320 mg/kg) is protective of short-term residents.

IUW = Intrusive utility worker

NE = Not evaluated; cannot calculate standard deviation for sample size of one.

ATTACHMENTS

ATTACHMENT 1

ARSENIC SAMPLE SIZE R CODE

SAMPLE SIZE CALCULATION R CODE

```
require("samplesize")

alpha = c(0.05, 0.1, 0.15)
beta = c(0.15, 0.2, 0.25)
mean.background = 3.87
sds = c(3.73)
delta = c(0.5*mean.background, 1*mean.background, 1.5*mean.background)
k = c(25.57)

combs = expand.grid(alpha,beta,delta,sds,k)
colnames(combs) = c("alpha","beta","delta","sds","k")
nc = nrow(combs)

sampsize = matrix(nrow=nc,ncol=2)
colnames(sampsize) = c("Group 1","Group 2")
for(i in 1:nc){
    tmp = samplesize::n.indep.t.test.neq( alpha=1-combs$alpha[i],
                                                    power=1 -
combs$beta[i], mean.diff=combs$delta[i], sd.est=combs$sds[i],
                                                    k = combs$k[i] )
    sampsize[i,1] = ceiling(as.numeric(tmp[4]))
    sampsize[i,2] = ceiling(as.numeric(tmp[6]))
}
sampsize = ceiling(sampsize)

output = cbind(combs,sampsize)
```

ATTACHMENT 2

SENSITIVITY ANALYSIS TABLES

Attachment 2
Sensitivity Analysis Tables

Sample Size Calculations for Cancer Risk Drivers in Soil

Analyte: Dibenz(a,h)anthracene	Matrix: Soil		Exposure Area Open Space	
Null Hypothesis = Site median ≥ threshold (or RBC)		RBC = 0.15 mg/kg		s = 0.078 mg/kg
Threshold = 1.00E-06	No. Samples = 23	α = 5%	α = 10%	α = 15%
MDD = 10% (0.015)	β = 15%	228	170	136
	β = 20%	196	143	112
	β = 25%	171	121	93
MDD = 20% (0.030)	β = 15%	58	44	35
	β = 20%	51	37	29
	β = 25%	44	31	24
MDD = 30% (0.044)	β = 15%	27	20	16
	β = 20%	24	17	13
	β = 25%	21	15	11

Analyte: Benzene	Matrix: Soil		Exposure Area Open Space	
Null Hypothesis = Site median ≥ threshold (or RBC)		RBC = 1.12 mg/kg		s = 1.238 mg/kg
Threshold = 1.00E-06	No. Samples = 91	α = 5%	α = 10%	α = 15%
MDD = 10% (0.112)	β = 15%	1021	763	610
	β = 20%	878	640	501
	β = 25%	764	544	416
MDD = 20% (0.224)	β = 15%	257	192	153
	β = 20%	221	161	126
	β = 25%	193	137	105
MDD = 30% (0.336)	β = 15%	115	86	69
	β = 20%	99	72	57
	β = 25%	87	62	47

Analyte: 2,4-Dinitrotoluene	Matrix: Soil		Exposure Area Site Wide	
Null Hypothesis = Site median ≥ threshold (or RBC)		RBC = 0.93 mg/kg		s = .0395 mg/kg
Threshold = 1.00E-06	No. Samples =5	α = 5%	α = 10%	α = 15%
MDD = 10% (0.093)	β = 15%	153	114	91
	β = 20%	131	96	75
	β = 25%	115	82	62
MDD = 20% (0.186)	β = 15%	40	30	24
	β = 20%	34	25	20
	β = 25%	30	21	16
MDD = 30% (0.279)	β = 15%	19	14	11
	β = 20%	16	12	9
	β = 25%	15	10	8

α = Type I error rate
β = Type II error rate
s = standard deviation of sample data
RBC =Risk Based Concentration

Attachment 2
Sensitivity Analysis Tables

Sample Size Calculations for Non-Cancer Risk Drivers in Soil

Analyte: Lead	Matrix: Soil	Exposure Area D		
Null Hypothesis = Site median ≥ threshold (or RBC)		RBC = 320 mg/kg		s = 317.32 mg/kg
Threshold = CHHSL	No. Samples = 25	α = 5%	α = 10%	α = 15%
MDD = 10% (32.0)	β = 15%	822	614	491
	β = 20%	707	516	403
	β = 25%	616	438	335
MDD = 20% (64.0)	β = 15%	207	155	124
	β = 20%	178	130	102
	β = 25%	155	111	85
MDD = 30% (96.0)	β = 15%	93	70	56
	β = 20%	80	59	46
	β = 25%	70	50	38

Analyte: Lead	Matrix: Soil	Exposure Area Ia		
Null Hypothesis = Site median ≥ threshold (or RBC)		RBC = 320 mg/kg		s = 228.76 mg/kg
Threshold = CHHSL	No. Samples = 22	α = 5%	α = 10%	α = 15%
MDD = 10% (32.0)	β = 15%	428	320	256
	β = 20%	369	269	210
	β = 25%	321	228	175
MDD = 20% (64.0)	β = 15%	109	81	65
	β = 20%	94	68	53
	β = 25%	82	58	45
MDD = 30% (96.0)	β = 15%	49	37	29
	β = 20%	43	31	24
	β = 25%	38	27	20

α = Type I error rate
β = Type II error rate
s = standard deviation of sample data
RBC =Risk Based Concentration

Attachment 2
Sensitivity Analysis Tables

Sample Size Calculations for Cancer Risk Drivers in Soil Gas- 5 ft.

Analyte: Benzene	Matrix: Soil Gas	Exposure Area E		
Null Hypothesis = Site median ≥ threshold (or RBC)		RBC = 2.6 ug/L		s = 59.5 ug/L
Threshold = 1.0E-6	No. Samples = 7	α = 5%	α = 10%	α = 15%
MDD = 10% (0.26)	β = 15%	436751	326414	261030
	β = 20%	375592	273853	214271
	β = 25%	326797	232436	177832
MDD = 20% (0.53)	β = 15%	109189	81605	65258
	β = 20%	93899	68464	53569
	β = 25%	81701	58110	44459
MDD = 30% (0.79)	β = 15%	48530	36269	29004
	β = 20%	41734	30429	23809
	β = 25%	36313	25828	19760

Analyte: Chloroform	Matrix: Soil Gas	Exposure Area Ib		
Null Hypothesis = Site median ≥ threshold (or RBC)		RBC = 3.5 ug/L		s = 1.03 ug/L
Threshold = 1.0E-6	No. Samples = 4	α = 5%	α = 10%	α = 15%
MDD = 10% (0.35)	β = 15%	74	55	44
	β = 20%	64	47	37
	β = 25%	56	40	31
MDD = 20% (0.71)	β = 15%	20	15	12
	β = 20%	18	13	10
	β = 25%	16	11	8
MDD = 30% (1.06)	β = 15%	10	7	6
	β = 20%	9	6	5
	β = 25%	8	6	4

Analyte: Chloroform	Matrix: Soil Gas	Exposure Area Ia		
Null Hypothesis = Site median ≥ threshold (or RBC)		RBC = 9.2 ug/L		s = 1.5 ug/L
Threshold = 1.0E-6	No. Samples = 3	α = 5%	α = 10%	α = 15%
MDD = 10% (0.92)	β = 15%	24	18	14
	β = 20%	21	15	12
	β = 25%	19	13	10
MDD = 20% (1.84)	β = 15%	8	6	4
	β = 20%	7	5	4
	β = 25%	6	4	3
MDD = 30% (2.76)	β = 15%	5	3	3
	β = 20%	4	3	2
	β = 25%	4	3	2

α = Type I error rate
β = Type II error rate
s = standard deviation of sample data
RBC =Risk Based Concentration

Attachment 2
Sensitivity Analysis Tables

Analyte: Chloroform	Matrix: Soil Gas	Exposure Area Ib		
Null Hypothesis = Site median ≥ threshold (or RBC)		RBC = 9.2 ug/L		s = 747.6 ug/L
Threshold = 1.0E-6	No. Samples = 4	α = 5%	α = 10%	α = 15%
MDD = 10% (0.92)	β = 15%	5506906	4115687	3291273
	β = 20%	4735755	3452962	2701703
	β = 25%	4120513	2930739	2242240
MDD = 20% (1.84)	β = 15%	1376728	1028923	822819
	β = 20%	1183940	863242	675426
	β = 25%	1030130	732686	560561
MDD = 30% (2.76)	β = 15%	611880	457300	365398
	β = 20%	526197	383664	300190
	β = 25%	457837	325639	249139

Analyte: Chloroform	Matrix: Soil Gas	Exposure Area J		
Null Hypothesis = Site median ≥ threshold (or RBC)		RBC = 9.2 ug/L		s = 384.3 ug/L
Threshold = 1.0E-6	No. Samples = 11	α = 5%	α = 10%	α = 15%
MDD = 10% (0.92)	β = 15%	1455159	1087539	869694
	β = 20%	1251388	912419	713905
	β = 25%	1088815	774426	592495
MDD = 20% (1.84)	β = 15%	363791	271886	217424
	β = 20%	312849	228106	178477
	β = 25%	272205	193608	148125
MDD = 30% (2.76)	β = 15%	161686	120839	96634
	β = 20%	139045	101381	79324
	β = 25%	120981	86049	65834

Sample Size Calculations for Non-Cancer Risk Drivers in Soil Gas- 15 ft.

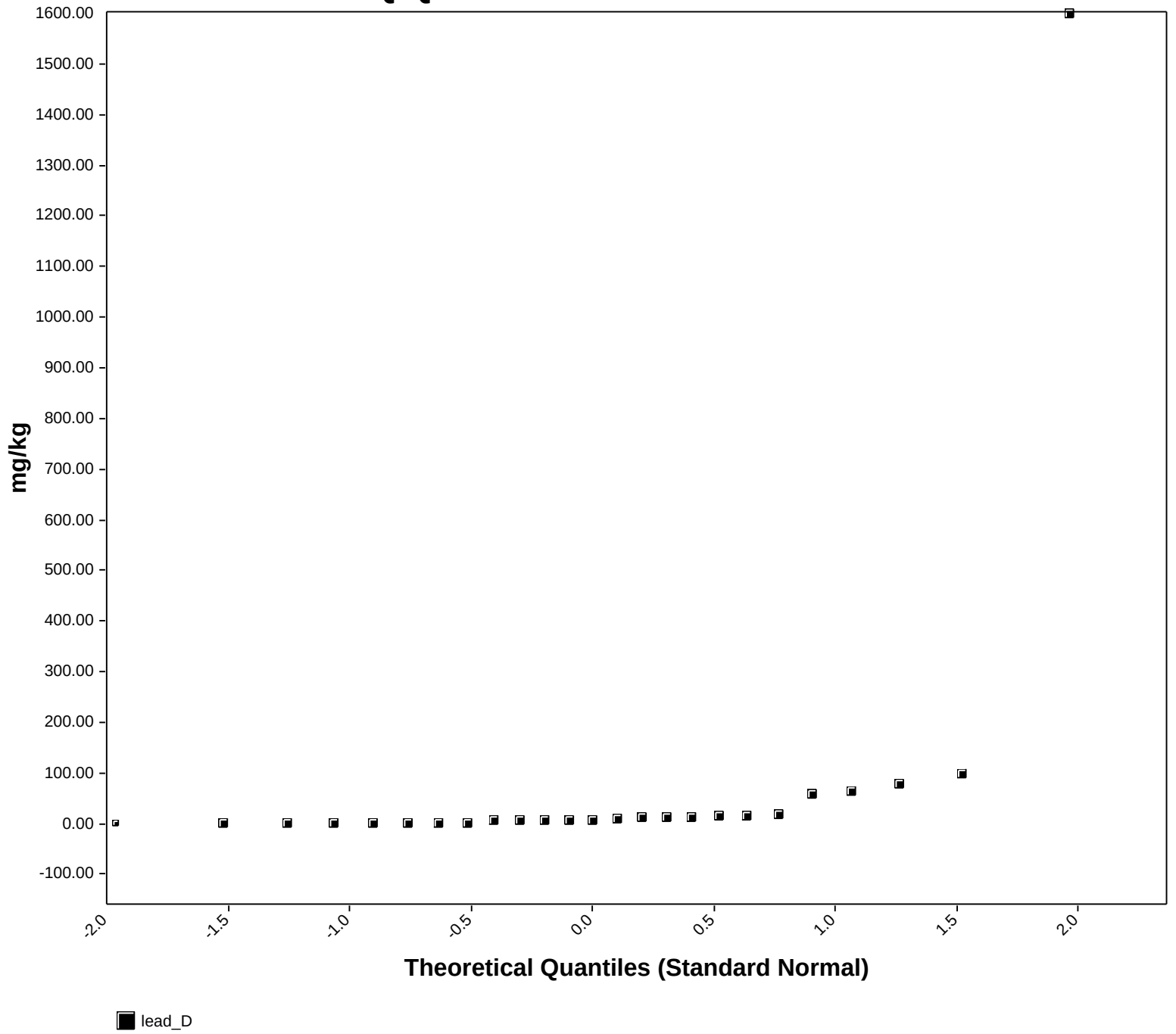
Analyte: Chloroform	Matrix: Soil Gas	Exposure Area Ib		
Null Hypothesis = Site median ≥ threshold (or RBC)		RBC = 4953 ug/L		s = 747.6 ug/L
Threshold = 1.0	No. Samples = 4	α = 5%	α = 10%	α = 15%
MDD = 10% (0.56)	β = 15%	21	16	12
	β = 20%	18	13	10
	β = 25%	16	12	9
MDD = 20% (1.1)	β = 15%	7	5	4
	β = 20%	6	4	3
	β = 25%	6	4	3
MDD = 30% (1.67)	β = 15%	4	3	2
	β = 20%	4	3	2
	β = 25%	4	3	2

α = Type I error rate
β = Type II error rate
s = standard deviation of sample data
RBC =Risk Based Concentration

ATTACHMENT 3

Q-Q PLOTS

Q-Q Plot with NDs for Lead Area D



lead_D

Total Number of Data = 25

Number of Non-Detects = 1

Number of Detects = 24

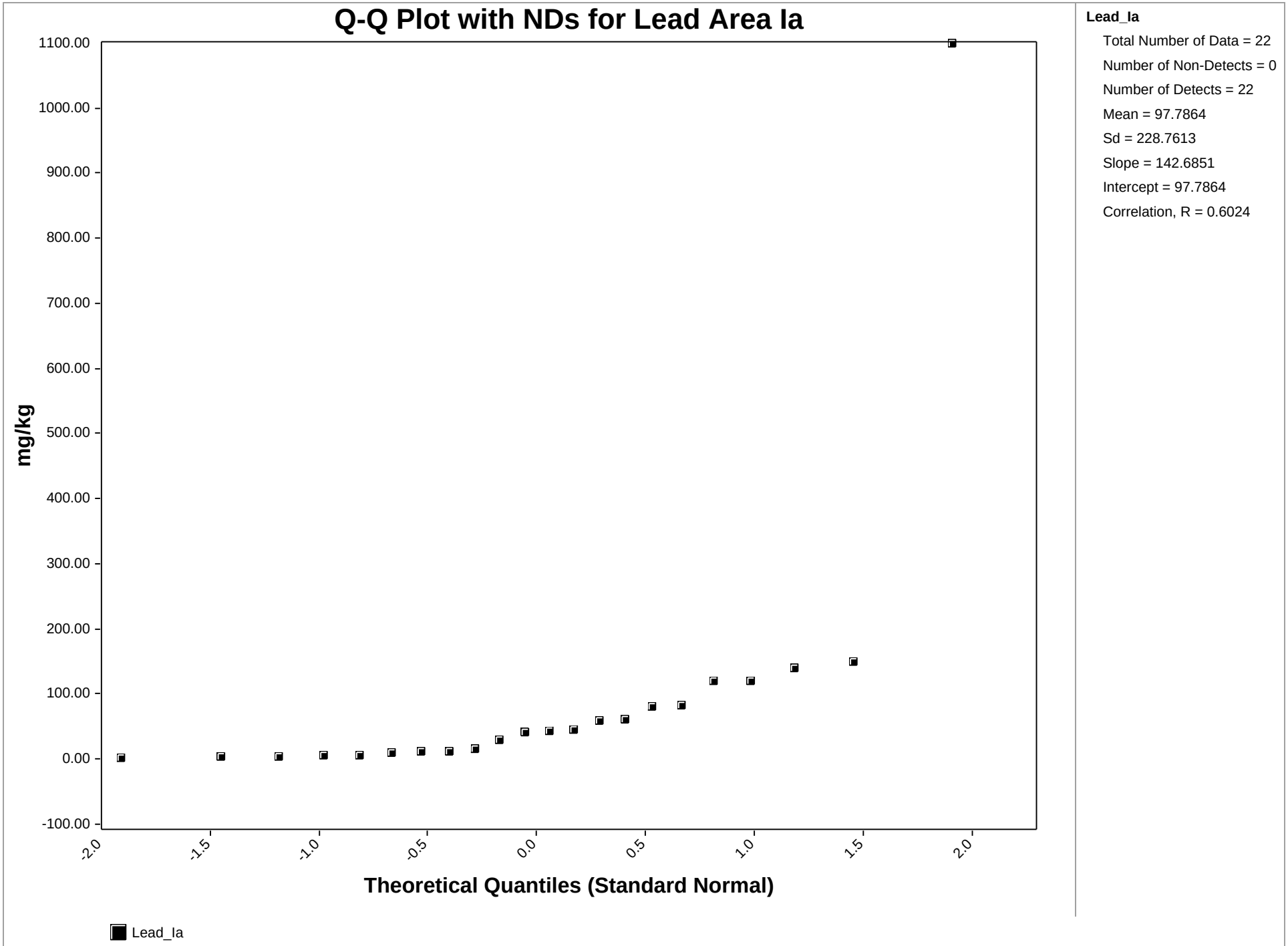
Mean = 82.1840

Sd = 317.3197

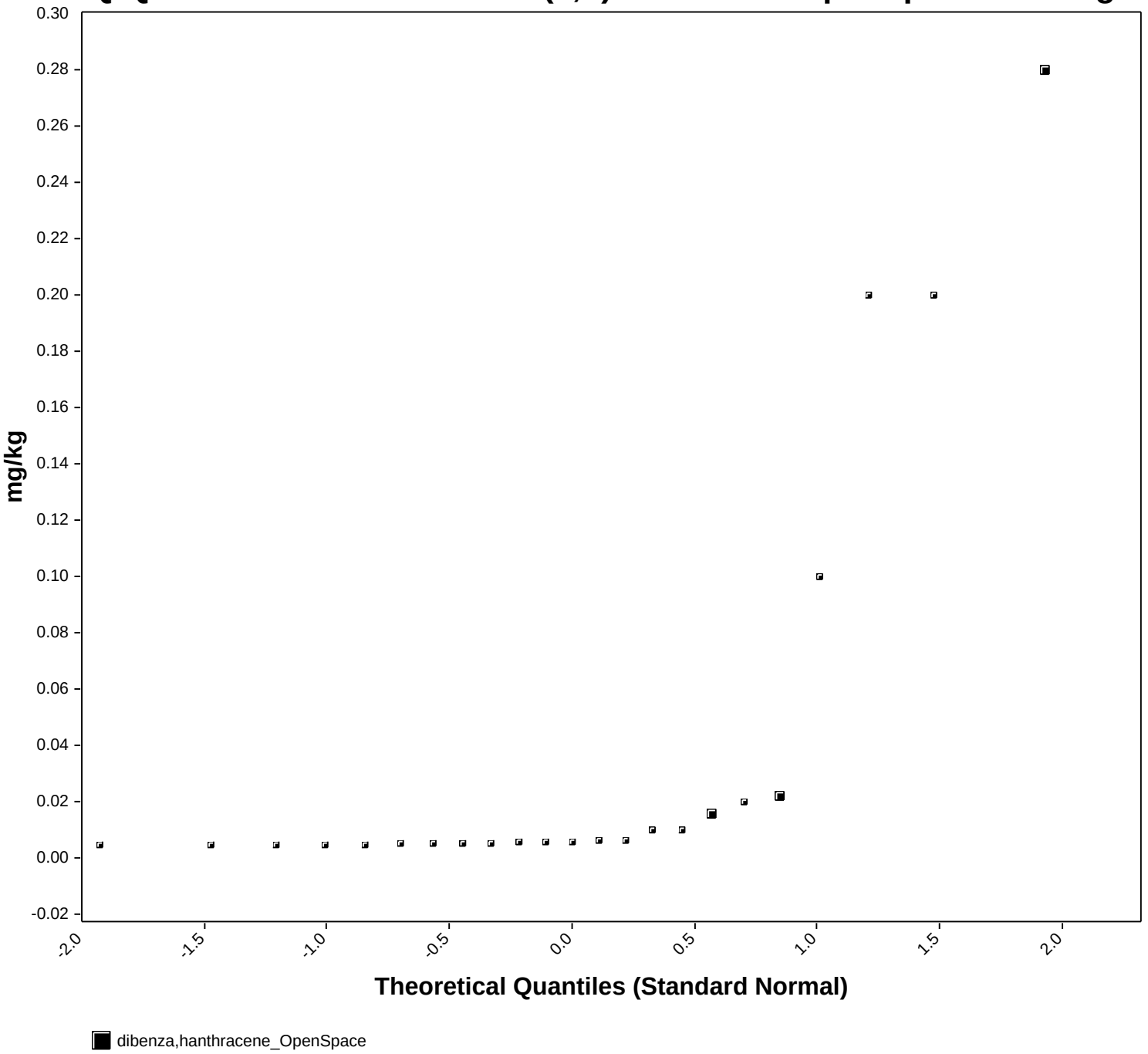
Slope = 156.9264

Intercept = 82.1840

Correlation, R = 0.4791


Q-Q Plot with NDs for Lead Area Ia
1100.00
1000.00
900.00
800.00
700.00
600.00
500.00
400.00
300.00
200.00
100.00
0.00
-100.00
mg/kg
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
Theoretical Quantiles (Standard Normal)
Lead_Ia
Lead_Ia
Total Number of Data = 22
Number of Non-Detects = 0
Number of Detects = 22
Mean = 97.7864
Sd = 228.7613
Slope = 142.6851
Intercept = 97.7864
Correlation, R = 0.6024

Q-Q Plot with NDs for Dibenz(a,h)anthracene OpenSpace 0-2 ft bgs



dibenza,hanthracene_OpenSpace

Total Number of Data = 23

Number of Non-Detects = 20

Number of Detects = 3

Mean = 0.0406

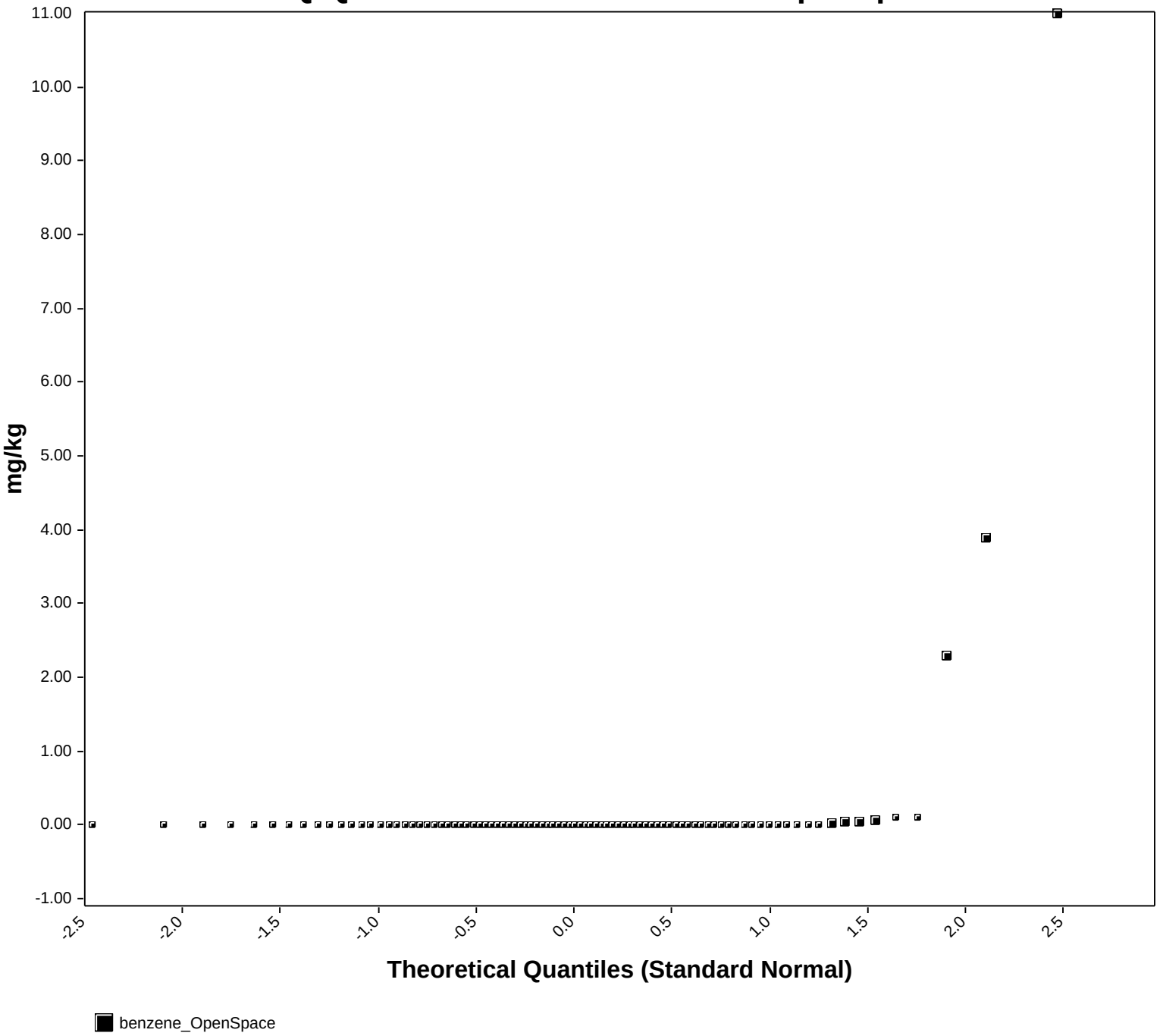
Sd = 0.0775

Slope = 0.0576

Intercept = 0.0406

Correlation, R = 0.7188

Q-Q Plot with NDs for Benzene OpenSpace



benzene_OpenSpace

Total Number of Data = 91

Number of Non-Detects = 84

Number of Detects = 7

Mean = 0.1969

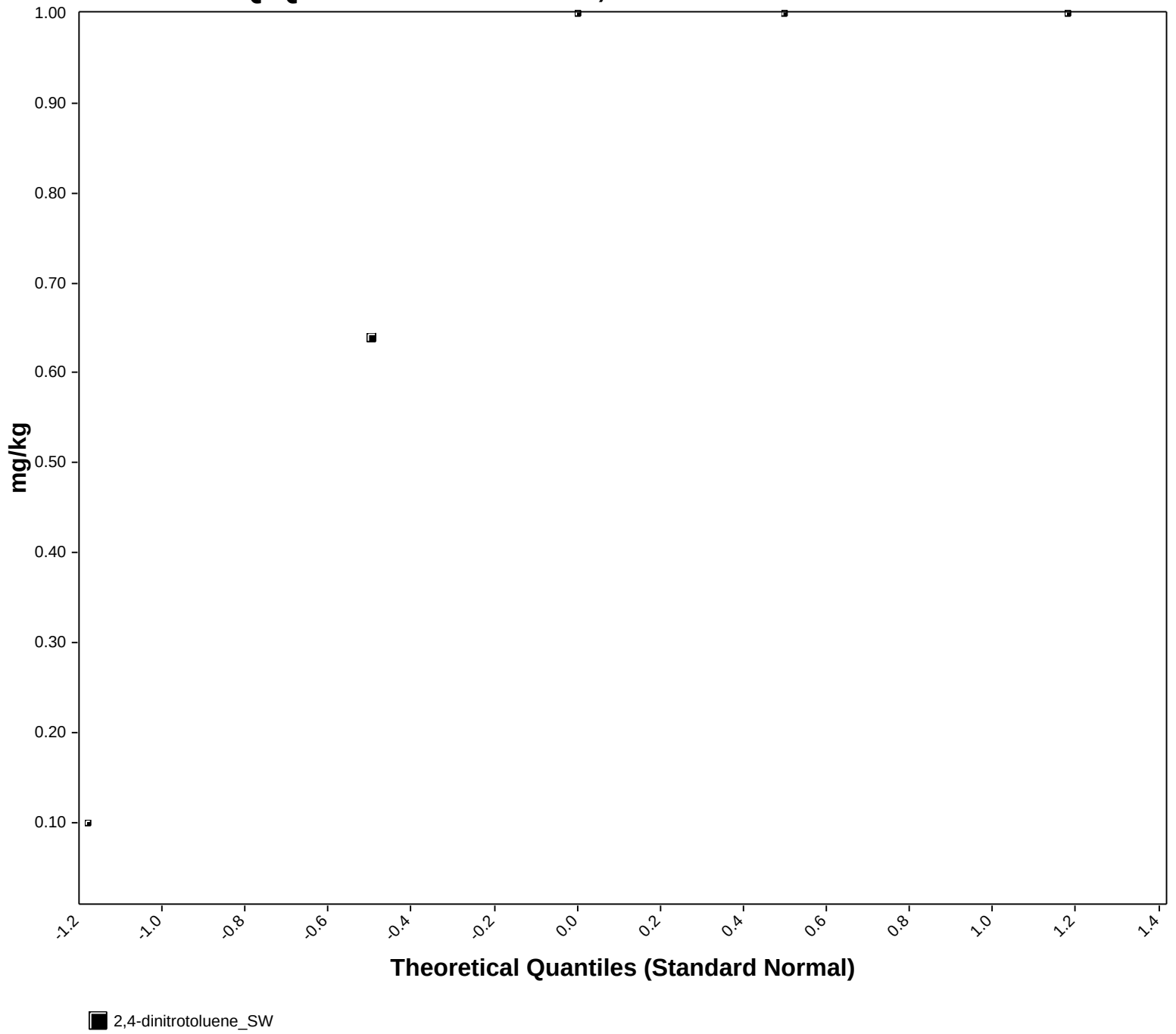
Sd = 1.2383

Slope = 0.4582

Intercept = 0.1969

Correlation, R = 0.3657

Q-Q Plot with NDs for 2,4-dinitrotoluene Site-Wide



2,4-dinitrotoluene_SW

Total Number of Data = 5

Number of Non-Detects = 4

Number of Detects = 1

Mean = 0.7478

Sd = 0.3948

Slope = 0.3789

Intercept = 0.7478

Correlation, R = 0.8688

ATTACHMENT 12

Analysis of Background Metals
(McDaniel Lambert Inc. 2008)

ANALYSIS OF BACKGROUND METALS

The Metal COPC Selection Process for the Supplemental Human Health Risk Assessment, Avila Tank Farm Property, Avila Beach, CA

August, 2008
Revised September, 2009

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1.0 INTRODUCTION

On behalf of Chevron Inc., this report documents the chemical of potential concern (COPC) selection process for metals at the Avila Tank Farm Property (the Site). As requested by San Luis Obispo County Environmental Health Services (SLO County EHS), the August 2008 version of this report compared onsite and background metal concentrations for each individual exposure area at the Site. SLO County EHS and Neptune and Company, Inc. (N&C) commented that the "background comparison tests should be performed first by geology and then by evaluation area if necessary" (N&C, 2008). When multiple geologies are present, background comparison tests may be confounded by the effect of geology on metal concentrations. As described in a June 2009 memorandum to N&C, this revised analysis of background metals includes background comparison tests by geology (McDaniel Lambert, 2009a). The process for the metal COPC selection process includes multiple lines of evidence as summarized below:

Site-wide one-tenth residential CHHSL screen – As recommended by SLO County Health, the maximum site-wide concentration is compared to one-tenth of the residential California Human Health Screening Level (CHHSL). If the maximum site-wide concentration exceeds one-tenth of the residential CHHSL, then the metal is further evaluated using background comparison tests.

Site-wide background comparison tests by geology – N&C commented that the statistical background comparisons should take into account the influence of multiple geologies at the Site (N&C 2008), particularly given the correlations between the Obispo formation and arsenic concentrations established in previous background evaluations for this Site (Avocet 2004, McDaniel Lambert 2008). Background comparison tests are conducted by geology according to the "Gilbert Toolbox" approach, as recommended by N&C (N&C 2008). The Gilbert Toolbox consists of four statistical hypothesis tests: the parametric t-test, non-parametric Wilcoxon Rank Sum/Gehan, quantile and slippage tests.

Spatial intensity plots – Graphical displays of the data using spatial intensity plots may reveal potential source areas of a metal when the statistical tests do not show evidence of elevated concentrations. If the spatial plots show evidence of systematic contamination in specific exposure areas, statistical comparisons will be conducted for individual exposure areas as necessary.

Influence of site geology – Avocet (2004) and England & Associates (1998) have conducted extensive investigations of the Site geology. A striking attribute of the local geology is the Obispo Formation, which is visible at the surface and along the cliffs of the Site. Avocet's background metals evaluation indicates that some metals may occur preferentially in the Obispo Formation, especially arsenic (Avocet 2004). Electron probe microanalysis established a geogenic source for elevated arsenic concentrations found in the onsite Obispo formation at depth; this provides an additional line of evidence in the background evaluation for arsenic.

The statistical methods for the background comparison tests by geology were further clarified in a memorandum to N&C on July 15, 2009 (McDaniel Lambert 2009b). In order to compare the site-wide and background data sets by geologic unit, N&C recommended that statistical evidence be used to justify whether or not (1) Obispo-related and Pismo-related geologies can be grouped together, and (2) onsite data at depth (>10 feet below ground surface, or bgs) can be used to expand the background data set if necessary. As detailed in the July memorandum, there is statistical evidence that Obispo-related and Pismo-related geologies can be grouped together for arsenic (McDaniel Lambert, Inc. 2009b). Also, it is reasonable to expand the area background data for arsenic using onsite Obispo-related samples at depth (McDaniel Lambert, Inc 2009b). N&C agreed that the statistical evidence presented in the July 2009 memorandum indicates arsenic is not elevated above background levels. The results for arsenic using the agreed upon approach, as well as for the other CAM 17 metals, are presented in this report.

2.0 METHODS

A state-certified laboratory analyzed background and site samples from soil and bedrock soil for 19 California Assessment Manual (CAM) metals; 17 of which were collected in the 0-10 ft soil horizon. Since the last background evaluation of metals at the Site (Avocet, 2004), additional sampling has been conducted to provide an updated data set for COPC selection. The onsite data set includes 318 samples for each metal, except 431 samples for lead. The background data set consists of 17 samples for each metal. Utilizing the more recent CAM 17 metals data set, this background evaluation supports the metal COPC selection process for the sHHRA. Unlike the previous version of the metals background evaluation (McDaniel Lambert, Inc. 2008), this report identifies metal COPCs by geology on a site-wide basis. Then, the analysis is refined to specific exposure areas if evidence of systematic contamination is identified on the spatial plots.

2.1 Site-wide Residential CHHSL Screen

As recommended by SLO County EHS during the development of the metals background evaluation for the Avila Tank Farm version 1.1 of the sHHRA (McDaniel Lambert Inc., 2008), the first step in the metals COPC selection process is to compare the maximum site-wide metal concentration detected in the 0-10 foot soil horizon onsite with one-tenth of the residential CHHSL. Metals that have a maximum site-wide concentration below one-tenth of the residential CHHSL are assumed not to pose a human health risk, and therefore are not carried forward as COPCs. Metals for which the maximum detected concentration exceeds one-tenth of the CHHSL are retained for background comparison tests by geology. Metals without an appropriate CHHSL (i.e. total chromium) are also retained for background comparison tests by geology.

2.2 Site-wide Background Comparison Tests by Geology

2.2.1 Geologic Units

Before conducting background comparison tests between site-wide and background data sets, the data is pooled according to similar geology. The Site is directly underlain by bedrock and unconsolidated sediments. At the time of sample collection, each sample was identified as either soil or rock, and as to the likely geogenic source – Pismo or Obispo Formation (Avocet 2004). A small number of soil samples were also identified as containing an asphaltic component. The following descriptions of the geologic units are based on reports by England & Associates (1998) and Avocet (2004).

Miocene Obispo Formation: The older of the two bedrock units, the Obispo Formation, consists of pyroclastic materials and has been subject to considerable faulting, folding and other deformation processes; it outcrops primarily along the south, east and northwest margins. The following three geologic units in the site-wide data are associated with the Obispo Formation:

1. *Obispo* – Obispo Formation
2. *Soil-O* – Soil collected above the Obispo Formation
3. *Asph/Soil-O* – Soil collected above the Obispo Formation that contains a significant asphaltic component.

Pliocene Gragg Member of the Pismo Formation: The Gragg Member unconformably overlies the Obispo Formation; it consists of a basal conglomerate, which grades upward into a poorly bedded, locally diatomaceous, fine-grained silty sandstone and siltstone. The central portion of the Site is underlain by bedrock of the Gragg Member. Similar to the Obispo Formation, the following three geologic units in the site-wide data are associated with the Gragg Member:

1. *Pismo* – Gragg Member of the Pismo Formation
2. *Soil-P* – Soil collected above the Gragg Member
3. *Asph/Soil-P* – Soil collected above the Gragg Member that contains a significant asphaltic component.

Unconsolidated Sediment: Three additional geologic units associated with unconsolidated surficial sediments are described in the site-wide data set. Samples collected from these geologic units represent a small percentage of the total site-wide data set, and are typically confined to one exposure area.

1. *Colluvium* – Colluvium is an admixture of gravel, sand, silt, and clay that forms at the base of slopes, and typically reflects the adjacent geology. Colluvium fills the north-south and east-

west drainages in the central part of the Site. Three colluvium samples at the Site were analyzed for metals, all of which are located in Exposure Area M.

2. *Alluvium* – Unconsolidated alluvium occurs in the northeast corner of the Site where the floodplain of the San Luis Obispo Creek encroaches upon the Site. There are six alluvium samples at the Site that were analyzed for metals, all of which are located in Exposure Area N.
3. *Artificial Fill* – Artificial fill is found in the northwest corner of the Site near the Front Street Gate, where the artificial fill was used as backfill to reconstruct part of the slope in 1984. The source of this fill is unknown. There are a total of nine artificial samples at the Site, which were all collected from Open Space, except for one in Exposure Area I.

Background samples were collected from the Pismo and Obispo Formation, specifically from four of the geologic units described above: *Pismo, Soil-P, Obispo* and *Soil-O*. To conduct the background comparison tests, it is necessary to pool the site-wide and background data according to the two bedrock units – Obispo and Pismo Formations. It is reasonable to assume that *Obispo, Soil-O,* and *Asph/Soil-O* are similar, because they are derived from the same Obispo Formation; and the same assumption can be made for the Pismo Formation geologic units. At the request of N&C, statistical evidence is also presented for each metal to justify pooling data that are associated with the same bedrock unit (see Section 3.2). To test whether metal concentrations are similar between the three Pismo-related geologic units or between the three Obispo-related geologic units, two multisample hypothesis tests are performed: a parametric and a nonparametric analysis of variance.

Single-factor Analysis of Variance (ANOVA): The single-factor ANOVA tests whether the mean metal concentrations are equal across all of the sample groups. Although identical sample sizes are not required for this test, the power of the test is increased by having similar sample sizes. The ANOVA test is fairly robust to deviations from normality, especially as sample size increases. It is assumed that the population variances are equal. If there are severe deviations from the underlying assumptions, then a nonparametric procedure like the Kruskal-Wallis test is more appropriate.

Kruskal-Wallis: The Kruskal-Wallis single-factor ANOVA by ranks may be used in any situation where the parametric single-factor ANOVA is applicable, but the underlying assumptions of normality and equal variances are not met. The test assumes that the sampled populations have the same dispersions and shapes, but is little affected if this is not the case.

The p-values from the analysis of variance tests are compared to a significance level of 0.05. If the p-value exceeds 0.05, then there is statistical evidence supporting that the similar geologic units can be pooled together. Along with these statistical tests exploratory data analysis (EDA), in the form of descriptive statistics, box-plots and normal quantile plots, is also used to examine the relationship between geologic units (see Attachments 1 and 2). If the metal concentrations in the three data sets

differ, then pooling the data may not be appropriate. The statistical and graphical evidence are weighed along with metal-specific source information. Given the small sample size for soils with an asphaltic component, the potential association between trace metals and petroleum production is taken into consideration. Elevated concentrations of antimony, magnesium, nickel, and vanadium have been associated with the asphaltic fraction of crude petroleum (Abu-Elgheit, 1981). A weight-of-evidence argument is presented for each metal to determine the appropriate pooling of data by geology.

2.2.2 Statistical Hypothesis Tests

Once the data are pooled by geology, exploratory data analysis (EDA) is first conducted to gain an understanding of the data and any potential differences between site and background data. The EDA includes descriptive statistics, normal quantile plots, and box-and-whisker plots. The descriptive statistics consist of separate summaries for non-detected and detected values; this allows for a cleaner interpretation of the data. A set of four two-sample statistical hypothesis tests, known as the Gilbert Toolbox, are run concurrently to determine if site concentrations are similar to or greater than background concentrations: the t-test, Wilcoxon Rank Sum, quantile, and slippage tests. The parametric t-test and the nonparametric Wilcoxon Rank Sum statistical analyses compare the central tendencies, while the quantile and slippage tests compare the right tails of the distributions. These four tests are performed in conjunction with EDA, and if any one of the tests is statistically significant, then the metal is considered to be elevated above background levels.

t-test: The two-sample t-test performs a parametric test for a difference between two population means. This test assumes that the two populations are independent and approximately normally distributed or the sample sizes are large (at least 30 samples). If these assumptions are violated, then the non-parametric Wilcoxon Rank Sum test is an appropriate alternative. The t-test is robust to moderate deviations from normality, but sensitive to outliers in the data sets. For these background comparisons, half the detection limit is substituted for non-detect values.

Wilcoxon Rank Sum (WRS)/Gehan test: The WRS test performs a nonparametric test for a difference between two population medians, which relies on the relative ranks of data values. Although the two populations are not assumed to be normally distributed, the distributions are assumed to be similar. The test statistic is computed using the Gehan approach, which accounts for non-detects in the data set. If there are many tied data values (or many non-detects), the WRS test results may be misleading. If there are no non-detects, the Gehan test defaults to the Wilcoxon Rank Sum Test.

Quantile Test: The quantile test performs a test for a difference between the right-tails of two distributions by evaluating if the values in the right-tail of the site distribution are larger than the desired quantile percentage of the background data. The quantile value for these background

comparisons is 0.75. It is assumed that the two populations have similar dispersions and shapes. If the percentage of non-detects is large, then the test cannot be performed.

Slippage test: The slippage test performs a test for a difference between the right-tails of two distributions by evaluating if there are values in the site distribution greater than the maximum value of the background distribution. In comparing extreme tails of the two distributions, large outliers can dramatically affect the results.

These tests are performed separately for Obispo-related and Pismo-related geologies. The unconsolidated sediments at the Site account for only 5% of the site-wide data, therefore they are not subject to statistical hypothesis tests; but rather discussed qualitatively. A p-value is reported for each statistical hypothesis test to determine statistical significance of the result. The reported p-value is compared to the desired significance level, which is determined by assessing the consequences if a decision error is made. There is statistical evidence that site concentrations are elevated relative to background if the reported p-value is less than the desired significance level (typically 0.5). As recommended by Neptune and Company, each comparison test is compared to a significance level of 0.025 to provide an approximate family-wise error rate of 0.05 (email communication, Paul Black, June 28, 2008). Because setting a significance level is somewhat subjective, p-values should not be strictly interpreted. A p-value much smaller than 0.025 indicates that site concentrations are elevated relative to background, while a p-value close to 0.025 may indicate there is insufficient data. If the p-value approaches unity, there is reason to suspect that the background data does not correspond to the site data.

2.2.3 Other Considerations

2.2.3.1 Background Sample Size

The background data set consists of 19 soil samples collected from 11 off-site locations; 17 of which were collected in the top 10 feet below ground surface (bgs). Of these 17 samples, 10 are Obispo-related samples and 7 are Pismo-related samples. Once the background data set is subdivided by geology, sample sizes may be too small to properly conduct the statistical hypothesis tests. If sample size issues become apparent in the EDA, then the background data set is expanded to include onsite samples at depth and offsite samples at depth. A specific example of this is arsenic – arsenic concentrations in the background data set do not correspond to naturally occurring arsenic concentrations observed in the Obispo Formation at the Site. To expand the background data set, 12 onsite Obispo-related samples collected at depth (15 to 180 ft bgs) and 2 offsite Obispo-related samples collected at depth (25 and 45 ft bgs) are added to the original background data set. The possibility of subsurface petroleum contamination near any of these sample locations at depth does not preclude the use of these deep samples as background, because arsenic is not a metal usually

associated with petroleum products (WHO 1989). In a study that assessed the occurrence and concentrations of trace metals in crude oils, arsenic was found to be present in amounts ranging from less than 10 to 37 ppb (Stigter 2000). Based on the lack of arsenic sources at depth, samples below 10 feet bgs at the Site are considered to be representative of background levels for arsenic. To include the onsite Obispo-related samples at depth as background for metals that may be associated with TPH contamination (i.e. nickel, vanadium), the onsite sample locations at depth are examined for impacts from total petroleum hydrocarbon (TPH) contamination. If the expanded background data set is necessary for nickel and vanadium, TPH-impacted samples are excluded.

2.2.3.2 Depth Profile

Before adding the soil samples at depth to the background data set, statistical evidence is required to show that there is not a pattern in metal concentrations across depth. If deeper samples are associated with lower/higher concentrations, then adding deeper samples to the background data set will bias the background comparison test. Regression models are used to test whether or not there is an association between depth and metal concentration. This depth analysis is used for any metal that requires the expanded background data set.

2.2.3.3 Non-detects

For purposes of the graphical analyses and statistical hypothesis tests that require substitution (i.e. t-test), one-half of the detection limit is substituted for non-detect values. For some metals, the frequency of detection is too low to reasonably conduct the statistical hypothesis tests. In such cases, the metal is simply carried forward as a COPC.

2.3 Spatial Intensity Plots

To recognize the potential for systematic contamination, the data for each metal (0-10 ft bgs) are color-coded and plotted on the Site map (Figures 1 through 11). The data are divided into five groups, and color-coded green, blue, yellow, orange and red (in order of increasing concentrations). There are fewer than five groups if there are a large number of non-detects. At data points with multiple samples, the data point is color-coded according to the highest concentration detected. Each plot is examined for evidence of systematic metals contamination in specific exposure areas. If there is a cluster of higher concentrations (orange/red dots) that corresponds with a possible source area, the corresponding exposure area is compared to background data using the statistical hypothesis tests.

2.4 Influence of Site Geology

In addition to the statistical evidence presented in the form of the background comparison test results, a qualitative discussion of geology and its relevance to background levels is presented. This post-hoc

discussion of geology is most relevant to arsenic, for which geochemical analyses show is detected at levels up to 310 mg/kg in the Obispo Formation.

3.0 RESULTS

3.1 Site-wide Residential CHHSL Screen

The comparisons of maximum concentrations to one-tenth of the residential CHHSL are summarized in Table 1. The maximum concentrations of five metals are below one-tenth of the residential CHHSL: beryllium, cobalt, molybdenum, selenium, silver and zinc. Therefore statistical comparisons of site-wide concentrations by geology are necessary for antimony, arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, thallium and vanadium.

3.2 Additional Metal COPC Selection Steps

To account for multiple geologies at the Site, background comparisons for all metals are conducted initially by geology on a site-wide basis. Summary statistics for Site and background data are presented for each metal by geologic unit in Tables 2 and 3, respectively. The EDA plots that depict comparisons between onsite Obispo-related groups and between onsite Pismo-related groups are presented in Attachments 1 and 2. The associated analysis of variance test results are presented in Attachments 3 and 4. The EDA plots that compare site-wide with background data by geology are presented in Attachments 5 and 6, and the results of the background comparison tests are presented in Table 5. If background comparison tests are required for a specific exposure area, as identified by the spatial analysis, the summary statistics are presented in Table 6. For each metal with a maximum concentration above one-tenth of the CHHSL, the additional metal COPC selection steps include the following lines of evidence:

- Site-wide background comparison tests by geology
- Visual inspection of spatial intensity plots for areas with systematic contamination
- Exposure area background comparison tests by geology, where there is potentially systematic contamination as identified in the spatial analysis.

3.2.1 Antimony

3.2.1.1 Site-wide Background Comparison Tests

Antimony was not detected in background samples above the detection limit of 5 mg/kg. Antimony was detected in six of 318 total Site samples, with results ranging from 0.28 mg/kg to 46 mg/kg. Of these six detections, the maximum detect of 46 mg/kg is the only sample that exceeds 2 mg/kg. The statistical hypothesis tests cannot be reasonably conducted due to the low frequency of detection, therefore it should be included as a COPC in areas where it was detected.

3.2.1.2 Spatial Intensity Plot

Inspection of the antimony spatial intensity plot (Figure 1) reveals that low levels (< 2 mg/kg) are detected in a group of samples collected from the slope in the southwest corner of the Site. Five of the 6 detections occur on this slope area in Open Space and one occurs in Exposure Area D. The maximum detect of 46 mg/kg is Exposure Area D is surrounded by "green dots," representing the lowest range of non-detects (<9 mg/kg). Therefore, antimony should be included as a COPC in Exposure Area D and Open Space.

3.2.2 Arsenic

3.2.2.1 Site-wide Background Comparison Tests

Arsenic was detected in 91% of onsite Obispo-related samples and 78% of onsite Pismo-related samples. Arsenic was detected in all of the background samples. The EDA plots indicate arsenic concentrations are slightly higher in *Asph/Soil-O* than *Obispo* and *Soil-O*, and the Kruskal-Wallis test results confirm that arsenic in the Obispo-related geologic types may be from different populations (p-value = 0.035). However higher arsenic concentrations are not observed in *Asph/Soil-P* when compared to *Pismo* and *Soil-P*, suggesting that the asphaltic component does not confound the presence of arsenic. There is no reason to suspect that arsenic would occur preferentially in samples with an asphaltic component, because petroleum processing is not usually associated with arsenic contamination. For the background data, statistical hypothesis tests do not provide evidence that arsenic concentrations in *Obispo* are different than *Soil-O*, or that those in *Pismo* are different than *Soil-P*. Overall, statistical evidence supports that Obispo-related and Pismo-related samples can be pooled together.

For Obispo-related samples, the EDA plots show that the distribution of Site data is more similar to the expanded background data set than the original background data set. Because onsite data at depth and offsite data at depth are added to the background data set, regression analysis is used to determine whether or not there is a relationship between arsenic concentrations and depth. With

depth as a continuous variable, a linear regression model shows depth is not a predictor for arsenic concentrations (p=0.557) or log-transformed arsenic concentrations (p=0.554). Likewise, when depth is grouped by quartiles, a linear regression model shows no significant association between any of the depth categories and arsenic concentrations. As expected, due to the variable nature of the Obispo rock formation, the regression models do not show depth as a predictor for arsenic concentrations. This lack of association is further illustrated in the plots in Attachment 7 where depth (x-axis) is plotted against arsenic concentration (y-axis). Arsenic concentrations appear to be scattered randomly across depth.

Obispo Formation – With the expanded background data set, there is no evidence of elevated arsenic in the Obispo-related samples.

Pismo Formation – It is not necessary to expand the background data set for samples associated with the Pismo Formation, because the background and site data distributions are similar. There is no evidence of elevated arsenic concentrations in the Pismo-related samples.

Artificial fill - The maximum arsenic concentration in artificial fill is 9 mg/kg and the mean is 6.8 mg/kg. Arsenic in the artificial fill samples is not included as a COPC, because these samples were collected from a slope area in Open Space that is unlikely to be accessed frequently; therefore arsenic is not included as a COPC.

Unconsolidated Colluvium - Colluvium forms at the base of slopes, and typically reflects the adjacent geology. There are a total of 6 samples across the Site labeled as colluviums. The mean arsenic concentration is 1.3 mg/kg and the maximum is 1.6 mg/kg. These arsenic concentrations are considered to be nominal; therefore arsenic is not included as a COPC.

Unconsolidated Alluvium – Alluvium is deposited by flowing water, and may be transported a significant distance prior to deposition. There are only 3 samples across the Site labeled as alluvium. The mean arsenic concentration is 1.3 mg/kg and the maximum is 1.4 mg/kg. These arsenic concentrations are considered to be nominal; therefore arsenic is not included as a COPC.

3.2.2.2 Spatial Intensity Plot

The arsenic spatial plot (Figure 2) demonstrates that most of the higher arsenic concentrations (15 to 30 mg/kg and ≥ 30 mg/kg, shown in orange and red, respectively) are surrounded by lower arsenic concentrations, with the exception of a clustering of higher arsenic concentrations along the northwestern cliffs. Samples in this clustering are labeled as Obispo rock or soil derived, and are located near surface expressions of the Obispo formation. It is important to consider potential anthropogenic sources of arsenic, such as pesticides, that may have been used at the Site. The only

available information regarding historical weed management is a report by England & Associates (1998) that cites a 1982 weed abatement contract for the application of oil (also referred to as asphalt) to large portions of the property as a means of weed and erosion control. Analyses of pesticides in Site soils further support the limited use of pesticides; only one pesticide (gamma-BHC) was detected in one of 12 soil samples collected site-wide. Furthermore, arsenic is not a metal usually associated with petroleum products (WHO 1989). There is some evidence of arsenic being present in crude oil in the parts-per-billion range (Stigter 2000), which is nominal compared to the minimum background concentration in Obispo. The absence of operational practices using arsenic makes it difficult to attribute the arsenic detected along the northwestern cliffside to anthropogenic sources; therefore this subarea of the Site is not further evaluated with background comparison tests.

3.2.2.3 Influence of Site Geology

The three highest arsenic soil concentrations found at any depth onsite (110, 220, and 310 mg/kg) were obtained from a boring in the Obispo formation (B-76, B-76A) at depths of 15 to 25 feet. Because metals contamination rarely reaches substantial depth, it is unlikely that these concentrations are the result of anthropomorphic activities (Avocet, 2004). Electron probe analysis of sample B-76A indicates a geogenic source of one of the highest arsenic concentrations found in the onsite Obispo formation. This geochemical analysis supports the propensity for arsenic to occur naturally within the volcaniclastic rocks of the Obispo formation.

3.2.3 Barium

3.2.3.1 Site-wide Background Comparison Tests

Barium was detected in all Site and background samples. In the EDA, barium concentrations are higher in soil samples with an asphaltic component (*Asph/Soil-O* and *Asph/Soil-P*). The ANOVA and Kruskal-Wallis test results also provide statistical evidence that barium concentrations in Obispo-related geologic units are different (p-value < 0.001), and those in Pismo-related geologic units are different (p-value < 0.001). However, the high variability in the asphalt soil sample data sets makes it difficult to conclude that higher barium concentrations are representative of all soil samples with an asphaltic component. Barium is not a metal typically associated with petroleum products, therefore the asphalt soil samples are not excluded from the Obispo- and Pismo-related groups.

Obispo Formation – There is evidence that background concentrations are greater than site-wide concentrations. The p-values approach unity suggesting that the background data may not be representative of naturally occurring barium concentrations at the Site.

Pismo Formation – There is evidence that background concentrations are greater than site-wide concentrations. The p-values approach unity, suggesting that the background data may not be representative of naturally occurring barium concentrations at the Site.

Artificial Fill – With 9 samples total, barium concentrations in artificial fill range from 48 mg/kg to 210 mg/kg. The mean concentration (106 mg/kg) is less than the background mean for all samples (152 mg/kg).

Unconsolidated Colluvium - With 3 samples total, barium concentrations range from 64 mg/kg to 140 mg/kg. The mean concentration (96 mg/kg) is similar to the mean for onsite Obispo-related samples (90 mg/kg).

Unconsolidated Alluvium – With 6 samples total, barium concentrations range from 91 to 170 mg/kg. The mean concentration (128 mg/kg) is less than the background mean for all samples (152 mg/kg).

3.2.3.2 Spatial Intensity Plot

The spatial intensity plot of barium concentrations (Figure 3) shows a cluster of barium concentrations in Open Space on the slope in the southwest corner of the Site and between Exposure Areas I and M. Therefore, statistical hypothesis tests are used to compare the Open Space and background data according to geology.

Open Space Background Comparisons – Both Obispo and Pismo geologies are prevalent in Open Space. With p-values well above the significance level, there is no statistical evidence to support that Open Space concentrations are elevated above background.

3.2.4 Cadmium

3.2.4.1 Site-wide Background Comparison Tests

Cadmium has a low frequency of detection in onsite and background samples: cadmium was detected in 19% of onsite Obispo-related samples, 10% of onsite Pismo-related samples, 40% of background Obispo-related samples, and 14% of background Pismo-related samples. Statistical hypothesis tests are not valid due to the low frequency of detection.

3.2.4.2 Spatial Intensity Plots

The spatial intensity plot for cadmium (Figure 4) provides evidence that there may be systematic contamination in Exposure Area D. Four of 20 samples in Area D detected cadmium, ranging from 2.3

mg/kg to 4.3 mg/kg. The frequency of detection is too low to conduct the statistical hypothesis tests for Exposure Area D. Cadmium should be included as a COPC in any exposure area that it is detected, including Exposure Area D.

3.2.5 Chromium

3.2.5.1 Site-wide Background Comparison Tests

Chromium was detected in all site and background samples. In the EDA, chromium in *Asph/Soil-O* appears higher than the other Obispo-related geologic units. This difference observed between Obispo-related groups is confirmed by the ANOVA and Kruskal-Wallis test results. Although the range for chromium concentrations in Soil-P is larger than the range for *Pismo* and *Asph/Soil-P*, chromium concentrations in all three of the Pismo-related geologic units generally appear very similar; there is also statistical evidence from the ANOVA and Kruskal-Wallis tests that chromium concentrations are similar between Pismo-related groups. Because chromium is not a metal typically associated with the asphaltic fraction of crude oil, the asphaltic soil samples are not excluded from the geology groups.

Onsite data at depth and offsite data at depth are added to the Obispo-related background data set, because the p-value results suggest there may be insufficient data to make a defensible conclusion. Because data at depth is being added to background, regression analysis is used to determine whether or not there is a relationship between chromium concentrations and depth. With depth as a continuous variable, a linear regression model shows depth is not a predictor for chromium concentrations (p=0.64) or log-transformed chromium concentrations (p=0.15). Graphs of chromium verse depth also depict the lack of association (Attachment 7).

Obispo Formation – Chromium concentrations appear to be elevated onsite using the original offsite background data. The results of the statistical hypothesis tests suggest that there may be insufficient data to conclude whether or not onsite concentrations are elevated. When the expanded background data set is compared to the onsite Obispo-related samples, the statistically hypothesis tests show that the onsite median is higher than the background median. Therefore, the statistical evidence supports that chromium is elevated above background in exposure areas with Obispo Formation present.

Pismo Formation – In the EDA, site and background concentrations do not appear to be different. This is confirmed by the statistical hypothesis tests, which provide evidence that chromium concentrations are not elevated in Pismo-related samples.

Artificial Fill – With 9 samples, chromium concentrations range from 18 mg/kg to 49 mg/kg. The maximum concentration does not exceed the background maximum detect of 69 mg/kg.

Unconsolidated Colluvium – With 3 samples, chromium concentrations range from 13 to 15 mg/kg; these are representative of onsite mean concentrations for Pismo-related samples, which were not found to be elevated above background.

Unconsolidated Alluvium – With 6 samples, chromium concentrations range from 6.7 to 13 mg/kg; these are also representative of onsite mean concentrations for Pismo-related samples, which were not found to be elevated above background.

3.2.6.2 Spatial Intensity Plots

Although the Pismo samples are not elevated across the site, inspection of the spatial intensity plot for chromium (Figure 5) reveals that there may be systematic contamination in Exposure Areas D, E, and Open Space. Therefore Pismo-related samples in these areas are compared to background with the statistical hypothesis tests.

Exposure Area D Background Comparisons – Exposure Area D consists only of Pismo-related samples. With 20 out of 20 detected values, there is no statistical evidence that concentrations are elevated above background.

Exposure Area E Background Comparisons – Exposure Area E consists only of Pismo-related samples. With 27 out of 27 detected values, there is no statistical evidence that concentrations are elevated above background.

Open Space Background Comparisons – Open Space consists of both Obispo-related and Pismo-related samples. Obispo-related samples are considered to be above background based on the site-wide comparison results presented above. With 79 out of 79 detected values, there is not statistical evidence that concentrations in Pismo-related samples are elevated about background. Because the statistical hypothesis tests for one of the two geologies are significant, chromium should be carried forward as a COPC in Open Space.

3.2.6 Copper

3.2.6.1 Site-wide Background Comparison Tests

Copper was detected in the majority of Site and background data. Copper concentrations in soil samples associated with asphalt appear to be elevated, but this is based on a limited number of *Asph/Soil-O* and *Asph/Soil-P* samples. The ANOVA and Kruskal-Wallis tests show statistical evidence that copper concentrations between Obispo-related groups and between Pismo-related groups are not

similar. Because copper is not typically associated with asphalt, the asphaltic samples are not excluded from the Obispo-related or Pismo-related groups.

Obispo Formation – Other than one extreme outlier in the Obispo-related data set (500 mg/kg), background concentrations do not appear to be elevated above background. This is confirmed by the statistical hypothesis tests that report p-values near one, suggesting that the background data set may not be representative of naturally occurring Site concentrations.

Pismo Formation – There is no statistical evidence that Site concentrations are elevated above background.

Artificial Fill – With 9 samples detected onsite, copper concentrations range from 4.5 mg/kg to 23 mg/kg. The mean concentration (16.8 mg/kg) is similar to the mean concentration for background Obispo-related concentrations (17.7 mg/g).

Unconsolidated Colluvium – With 3 samples detected onsite, copper concentrations range from 5.4 mg/kg to 9.7 mg/kg. The mean concentration (7.8 mg/kg) is much lower than the background mean concentrations for Obispo-related and Pismo-related concentrations combined (14.4 mg/kg).

Unconsolidated Alluvium – With 6 samples detected onsite, copper concentrations range from 9.4 mg/kg to 11 mg/kg; this range is much lower than Obispo-related or Pismo-related concentrations typically found onsite, which have been determined not to be elevated compared to background.

3.2.6.2 Spatial Intensity Plots

Although the statistical evidence supports that copper is not elevated across the Site when compared to background, inspection of the spatial intensity plot for copper (Figure 6) suggests there may be systematic contamination in Exposure Area D and Open Space. These areas are compared to background using the statistical hypothesis tests.

Exposure Area D Background Comparisons – Exposure Area D consists only of Pismo-related samples. With 20 out of 20 detected values, there is no statistical evidence that concentrations exceed background.

Open Space Background Comparisons – Open Space consists of Obispo-related and Pismo-related samples, which were tested separately. With 69 out of 71 detected values, there is no evidence that Obispo-related concentrations are elevated above background. With 78 out of 79 detected values, there is no evidence that Pismo-related concentrations are elevated above

background. Because the statistical hypothesis tests were not significant for either geology, copper should not be carried forward as a COPC.

3.2.7 Lead

3.2.7.1 Site-wide Background Comparison Tests

Lead was detected in the majority of Site and background samples. The ANOVA and Kruskal-Wallis tests provide statistical evidence that lead concentrations between Obispo groups and between Pismo groups are not similar. The EDA shows that lead concentrations are higher in *Soil-P*, which is likely a function of contamination; most of the *Soil-P* samples were collected from the central portion of the Site, coinciding with the known areas of lead contamination. Lead concentrations also appear to be elevated in asphaltic Obispo soil samples, but this difference is not as pronounced in asphaltic Pismo soil samples. Considering that lead is not consistently elevated in asphaltic soil samples and differences between groups are likely a result of site-related contamination, Obispo-related and Pismo-related geologies are grouped together for the statistical hypothesis tests.

Obispo Formation – There is statistical evidence that shows Site concentrations are elevated above background.

Pismo Formation – There is statistical evidence that Site concentrations are not elevated above background.

Artificial Fill – With 9 detected values onsite, concentrations range from 6.4 mg/kg to 24 mg/kg; this appears representative of background values which range from 2 mg/kg to 50 mg/kg.

Unconsolidated Colluvium – With 3 detected values onsite, concentrations range from 3 mg/kg to 6.2 mg/kg; this is much lower than the range of detected background values.

Unconsolidated Alluvium – With 6 detected values onsite, concentrations range from 2.7 mg/kg to 5.9 mg/kg; this is much lower than the range of detected background values.

3.2.7.2 Spatial Intensity Plots

Although the Pismo samples are not elevated across the site, inspection of the spatial intensity plot for lead (Figure 7) reveals that there may be systematic contamination in Exposure Areas D, I, J, L and Open Space. These areas are compared to background with the statistical comparison tests for the Pismo Formation.

Exposure Area D Background Comparisons – With 19 out of 20 samples detected, there is no statistical evidence that lead is elevated above background levels.

Exposure Area I Background Comparisons – With 25 out of 25 detected values, there is no statistical evidence that lead is above background.

Exposure Area J Background Comparisons – With 41 out of 41 detected values, there is no statistical evidence that lead is elevated above background levels.

Open Space Background Comparisons – There is no statistical evidence that lead in Pismo-related samples is elevated above background. There is statistical evidence that lead in Obispo-related samples exceeds background, which confirms the site-wide results that lead should be carried forward as a COPC in areas where the Obispo Formation is present.

3.2.8 Mercury

3.2.8.1 Site-wide Background Comparison Tests

Mercury has a low frequency of detection with 32% of onsite samples detected and 14% of background samples detected. The statistical hypothesis tests are not valid due to the low frequency of detection. Although there are a very large number of non-detects, the EDA and analysis of variance tests suggest concentration are not similar between Obispo and between Pismo groups. Mercury concentrations in asphaltic soil samples are considerably higher in both Obispo and Pismo groups. Mercury detection limits range from 0.02 mg/kg to 0.1 mg/kg for site data, and equal 0.1 for background data. Because there is only one sample detected in the background data set, comparison tests cannot be reasonably conducted, and mercury should be included as a COPC.

3.2.8.2 Spatial Intensity Plots

Inspection of the spatial intensity plot for mercury (Figure 8) reveals that higher concentrations of mercury appear to be clustered in Open Space on the slope in the southwest corner of the Site. The frequency of detection in the background data set is too low to allow for comparison tests. Mercury should be carried forward as a COPC in every exposure area that is detected, including Open Space.

3.2.9 Nickel

3.2.9.1 Site-wide Background Comparison Tests

Nickel was detected in the majority of Site and background samples. The EDA plots show that nickel may occur preferentially in soil samples with an asphaltic component, and considering the association between petroleum processing and nickel this observation cannot be considered anomalous. The

ANOVA and Kruskal-Wallis test results provide statistical evidence that nickel concentrations are not similar between Obispo and between Pismo groups. To prevent the effect of asphaltic material from impacting the Obispo and Pismo Formation comparisons, *Asph/Soil-O* and *Asph/Soil-P* are compared separately to background concentrations – the results are below.

Obispo Formation – There is no statistical evidence that Site concentrations exceed background concentrations. The p-values are near unity, indicating that the background data set may not be representative of naturally occurring Site concentrations.

Pismo Formation – There is no statistical evidence that Site concentrations exceed background concentrations.

Asph/Soil-O and Asph/Soil-P – These geologic types are limited to samples collected in the Open Space area. With 9 out of 9 detects, there is no statistical evidence that concentrations in *Asph/Soil-O* samples exceed background. With 4 out of 4 detects, there is no statistical evidence that concentrations in *Asph/Soil-P* samples exceed background. Therefore nickel should not be carried forward as a COPC in Open Space.

Artificial Fill –With 9 detected values in the Site data set, concentrations range from 10 mg/kg to 130 mg/kg; this is very similar to the range detected in the background data set (1.8 mg/kg to 130 mg/kg).

Unconsolidated Colluvium – With 3 detected values in the Site data set, concentrations range from 10 mg/kg to 13 mg/kg; this range is considerably lower than typically background values.

Unconsolidated Alluvium – With 6 detected values in the Site data set, concentrations range from 7.5 mg/kg to 15 mg/kg; this is much lower than typical background values.

3.2.10.2 Spatial Intensity Plots

The spatial intensity plot for nickel (Figure 9) indicates that there may be systematic contamination in Exposure Area D and Open Space. The concentrations in these exposure areas are compared to background using the statistical hypothesis tests.

Exposure Area D Background Comparisons – Exposure Area D consists only of Pismo-related samples. With 20 out of 20 detected values, there is no statistical evidence that site-wide concentrations are above background.

Open Space Background Comparisons – The Open Space exposure area consists of both Pismo-related and Obispo-related samples. With 71 out of 71 detected values for Obispo-related samples and 79 out of 79 detected values for Pismo-related samples, there is no statistical evidence for either geology that concentrations are above background.

3.2.10 Thallium

3.2.10.1 Site-wide Background Comparison Tests

Thallium has a low frequency of detection in both Site and background data sets: only 2% of onsite samples detected thallium and no background samples detected thallium. The statistical hypothesis tests are not valid due to the low frequency of detection.

3.2.11.2 Spatial Intensity Plots

The spatial intensity plot (Figure 10) shows that all seven thallium detections are located in Open Space, which are visually identified on the slope in the southwestern corner of the Site. To address the potential area of contamination, thallium should be evaluated in Open Space. However, the lack of detected values in the background data set prevents the statistical comparison tests from being reasonably performed. There are not enough detected values to conduct valid statistical hypothesis tests; therefore thallium should be carried forward as a COPC in Open Space.

3.2.11 Vanadium

3.2.11.1 Site-wide Background Comparison Tests

Vanadium was detected in all of the Site and background samples. The EDA plots show that vanadium may occur preferentially in soil samples with an asphaltic component; this is supported by the ANOVA and Kruskal-Wallis results that indicate vanadium concentrations are not similar between Obispo and between Pismo groups. Vanadium is also known to be associated with the asphaltic fraction of crude oil (Abu-Elgheit 1981). To prevent the effect of asphaltic material from impacting the Obispo and Pismo Formation comparisons, *Asph/Soil-O* and *Asph/Soil-P* are compared separately to background concentrations – the results are below.

Obispo Formation – There is no statistical evidence that Site concentrations exceed background concentrations.

Pismo Formation – There is statistical evidence that Site concentrations exceed background concentrations.

Asph/Soil-O and Asph/Soil-P – These geology types are limited to samples collected in Open Space. There is no statistical evidence that concentrations in *Asph/Soil-O* exceed background, but the t-test p-value indicates there may not be a large enough sample size to make a conclusion. There is statistical evidence that concentrations in *Asph/Soil-P* exceed background. Regardless, vanadium will be evaluated in Open Space as a COPC as a result of the site-wide statistical hypothesis tests for the Pismo Formation.

Artificial Fill –With 9 detected values in the Site data set, concentrations range from 14 mg/kg to 33 mg/kg. Eight out of 9 artificial fill samples were collected from Open Space, and one was collected from Exposure Area I. Thallium detected in artificial fill samples will be carried forward ito the sHHRA, because the Pismo Formation also occurs in Open Space and Exposure Area I.

Unconsolidated Colluvium – With 3 detected values in the Site data set, concentrations range from 19 mg/kg to 29 mg/kg. Thallium detected in colluvium will be carried forward into the sHHRA, because the Pismo Formation occurs in the same exposure areas as colluvium.

Unconsolidated Alluvium – With 6 detected values in the Site data set, concentrations range from 36 mg/kg to 48 mg/kg; this is higher than the range of background values (3.1 mg/kg to 35 mg/kg). Thallium detected in alluvium will be carried forward into the sHHRA, because the Pismo Formation occurs in the same exposure areas.

3.2.11.2 Spatial Intensity Plots

There does not appear to be systematic contamination, with the exception of Exposure Area D and Open Space. These areas identified on the spatial intensity plot for vanadium (Figure 11) coincide with known source areas – the former refinery area in Exposure Area D and a waste disposal area in Open Space. These areas are further evaluated by comparing the exposure area data sets to background.

Exposure Area D Background Comparisons – This area only consists of samples associated with the Pismo Formation, therefore vanadium will be carried forward as a COPC in this area as a result of the statistical hypothesis tests conducted specifically for the Pismo geology.

Open Space Background Comparisons – This area consists of samples associated with both the Obispo Formation and Pismo Formation. There is no statistical evidence that vanadium concentrations in the Obispo-related samples are above background, but vanadium should be carried forward as a COPC in Open Space based on the site-wide background comparison results for the Pismo Formation.

4.0 CONCLUSIONS

Multiple lines of evidence are used to support the metals COPC selection process, which takes into account the different geologies present at the Site and is summarized in Table 6. These include:

- Comparison to one-tenth of the residential CHHSL
- Site-wide background comparison tests by geology
- Visual inspection of spatial intensity plots for areas with systematic contamination
- Exposure area background comparison tests by geology, where there is potentially systematic contamination as identified in the spatial analysis.

In the first step of the COPC selection process that compares the maximum onsite metal concentration to one-tenth of the residential CHHSL, the following five metals are excluded as COPCs: beryllium, cobalt, molybdenum, selenium, silver and zinc.

Antimony, cadmium, mercury, and thallium have low frequencies of detection, which prevents the statistical hypothesis tests from reasonably being conducted. Due to the low frequency of detection, these metals should simply be carried forward as COPCs in areas where they are detected. Specifically, these metals should be included as COPCs for the following exposure areas:

- *Antimony* – Exposure Area D, Open Space, Site-wide
- *Beryllium* – Exposure Areas B, C, E, F, Ia, L, M, Open Space, Parking and Site-wide
- *Cadmium* – Exposure Areas A, C, D, E, F, Ia, Open Space, Parking, Native Gardens and Site-wide
- *Mercury* – All Exposure Areas except Exposure Area G
- *Thallium* – Open Space, Site-wide

Of the remaining seven metals, the statistical hypothesis tests collectively known as the Gilbert Toolbox provide statistical evidence that onsite metal concentrations are not elevated above background for arsenic, barium, copper, and nickel. Evaluation of spatial intensity plots and the associated exposure area-specific background comparison tests (as appropriate) supports the conclusion that these metals are not elevated above background.

Based on site-wide statistical hypothesis tests, three metals are elevated above background in at least one of the two dominant geologies onsite:

- *Obispo Formation* – Chromium and lead
- *Pismo Formation* – Vanadium

Because site-related activities associated with these metals are not limited to a specific geology, these metals should be carried forward as COPCs in every exposure area at the Site.

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FIGURES

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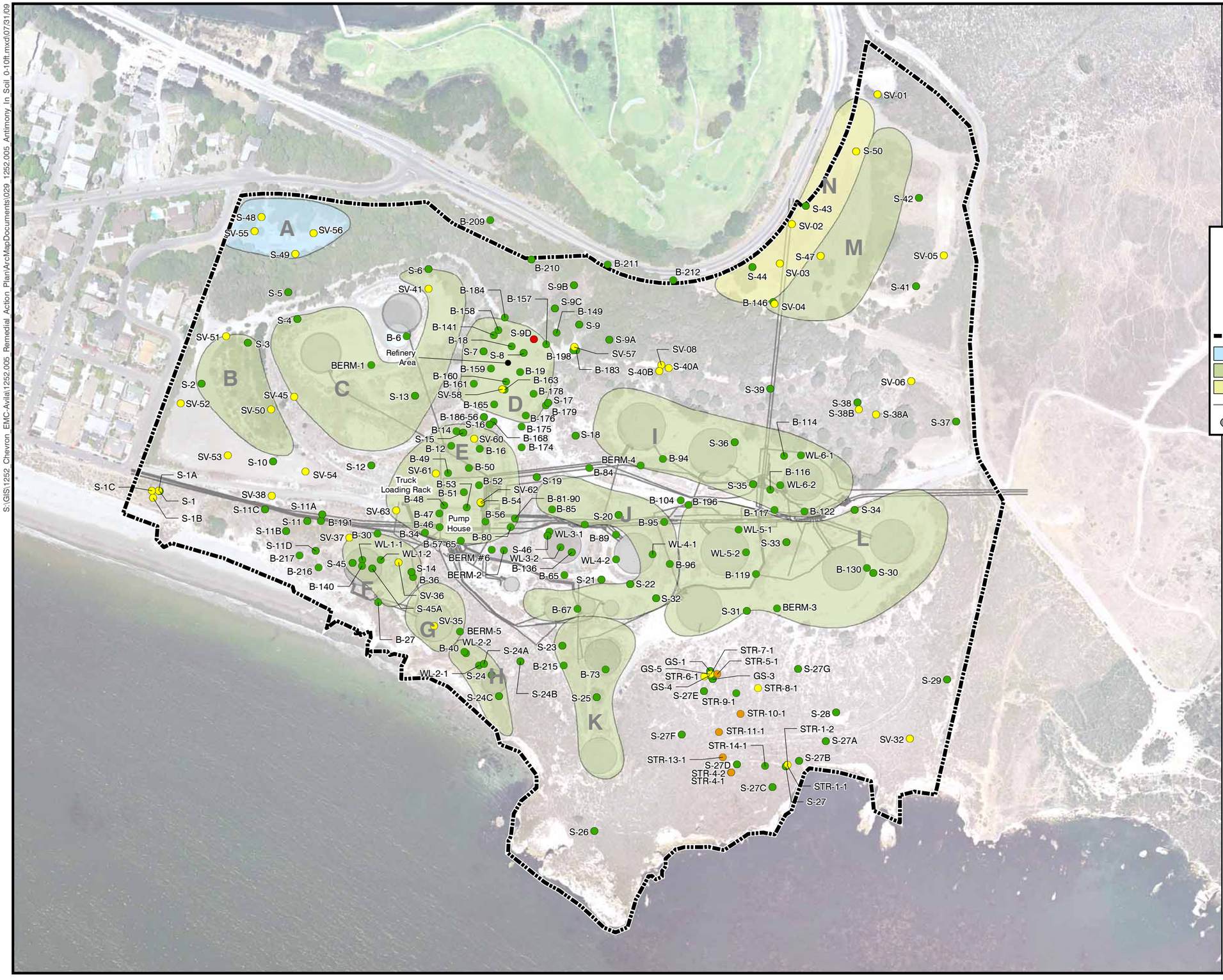

FIGURE 1

DISTRIBUTION OF ANTIMONY IN SOIL 0 TO 10 FEET DEEP

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON CORPORATION
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

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FIGURE 2

DISTRIBUTION OF ARSENIC IN SOIL 0 TO 10 FEET DEEP

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

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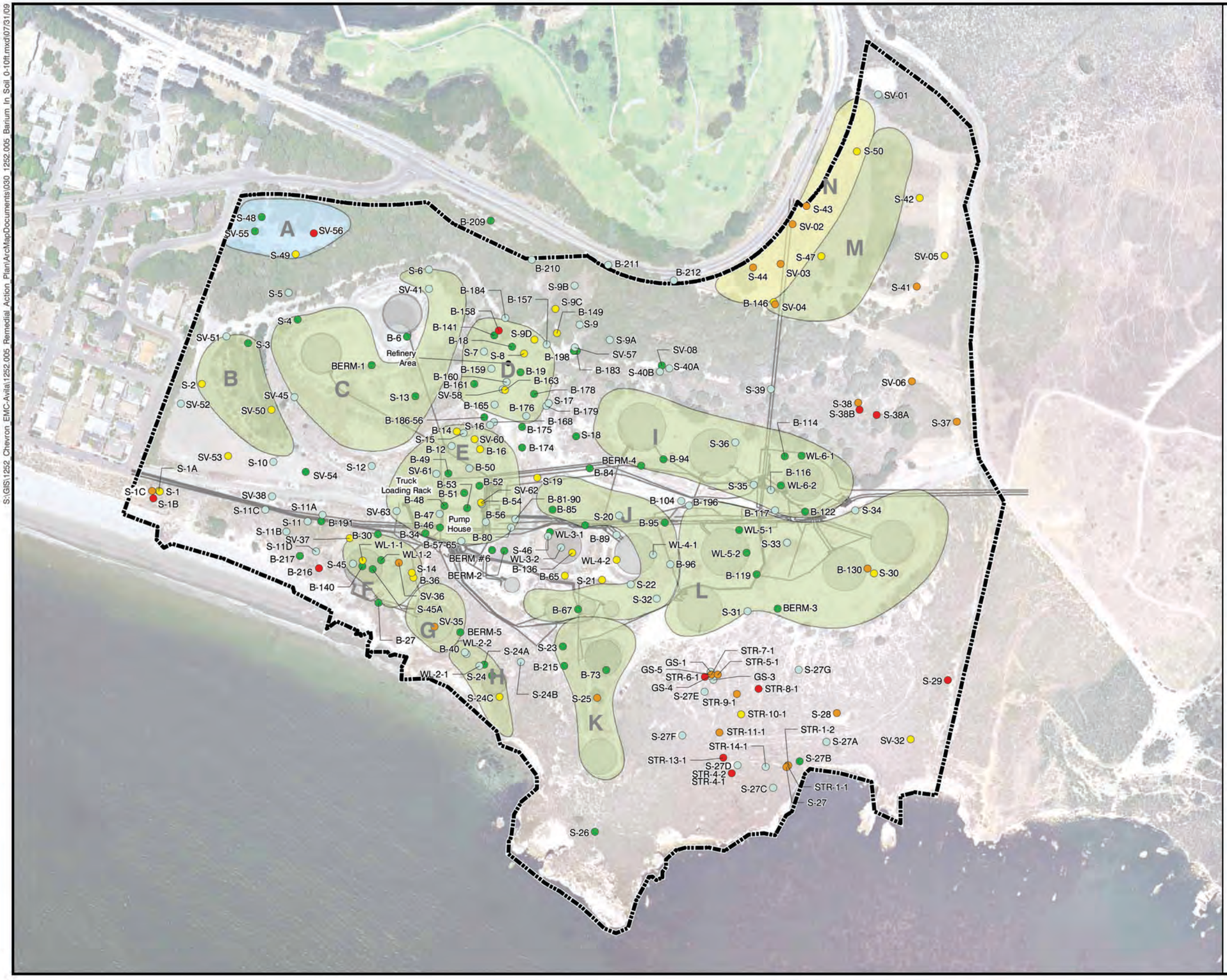

FIGURE 3

DISTRIBUTION OF BARIUM IN SOIL 0 TO 10 FEET DEEP

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Explanation

- Soil Sample 0 to 10 Feet with All Non-Detects Beryllium
- Soil Sample 0 to 10 Feet with Beryllium 0 to <1.0 mg/kg
- Soil Sample 0 to 10 Feet with Beryllium ≥1.0
- Approximate Site Boundary
- Residential
- Commercial Use with Potentially Occupied Structure
- Parking
- Diesel / Gas / Crude Oil Pipeline
- Storage Tanks / Areas

FIGURE 4

DISTRIBUTION OF BERYLLIUM IN SOIL 0 TO 10 FEET DEEP

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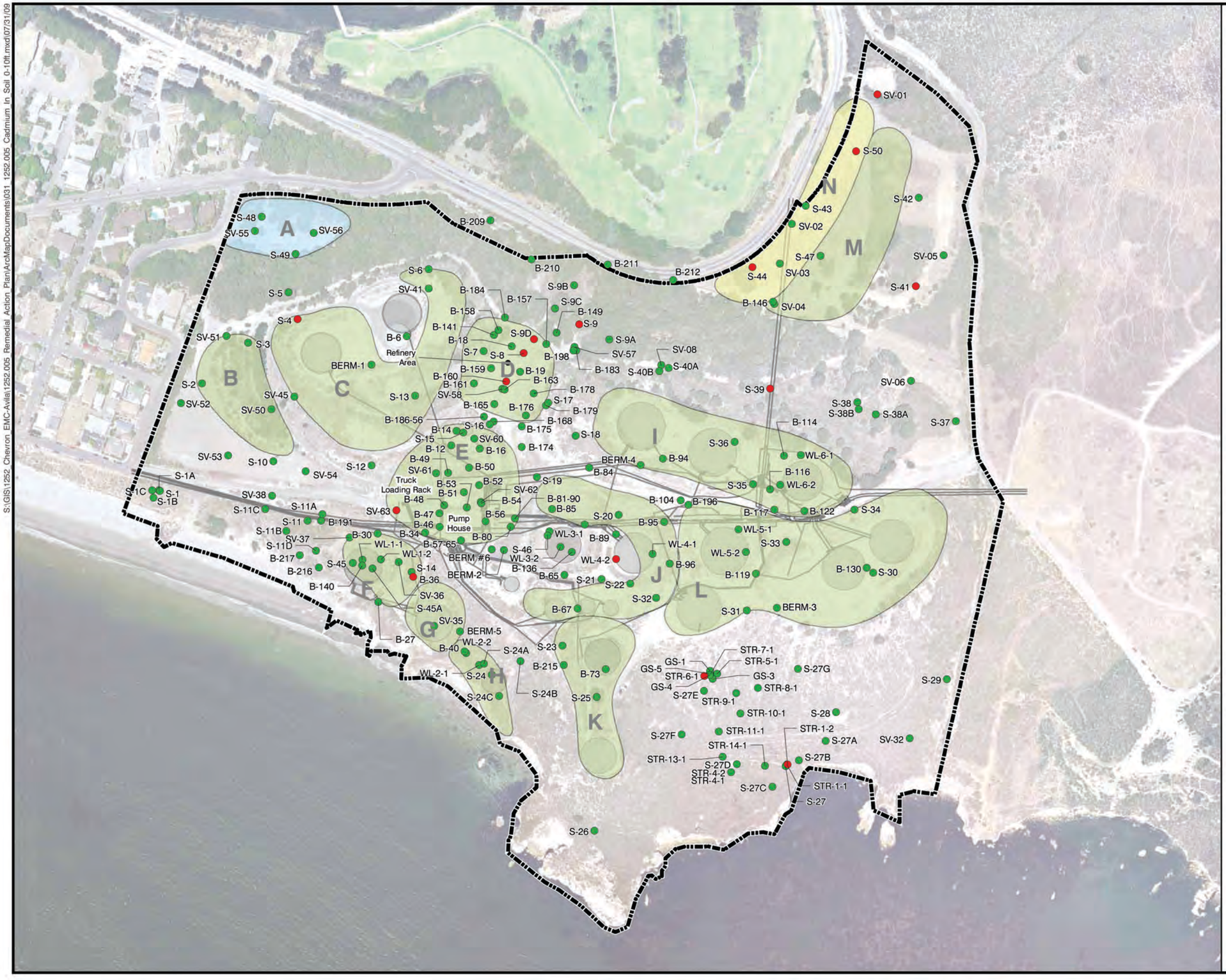

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Explanation

- Soil Sample 0 to 10 Feet with Cadmium 0 to <1.1 mg/kg
- Soil Sample 0 to 10 Feet with Cadmium ≥1.1 mg/kg
- Approximate Site Boundary
- Residential
- Commercial Use with Potentially Occupied Structure
- Parking
- Diesel / Gas / Crude Oil Pipeline
- Storage Tanks / Areas

0 150 300 600 FEET

Approximate Scale

FIGURE 5

DISTRIBUTION OF CADMIUM IN SOIL 0 TO 10 FEET DEEP

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

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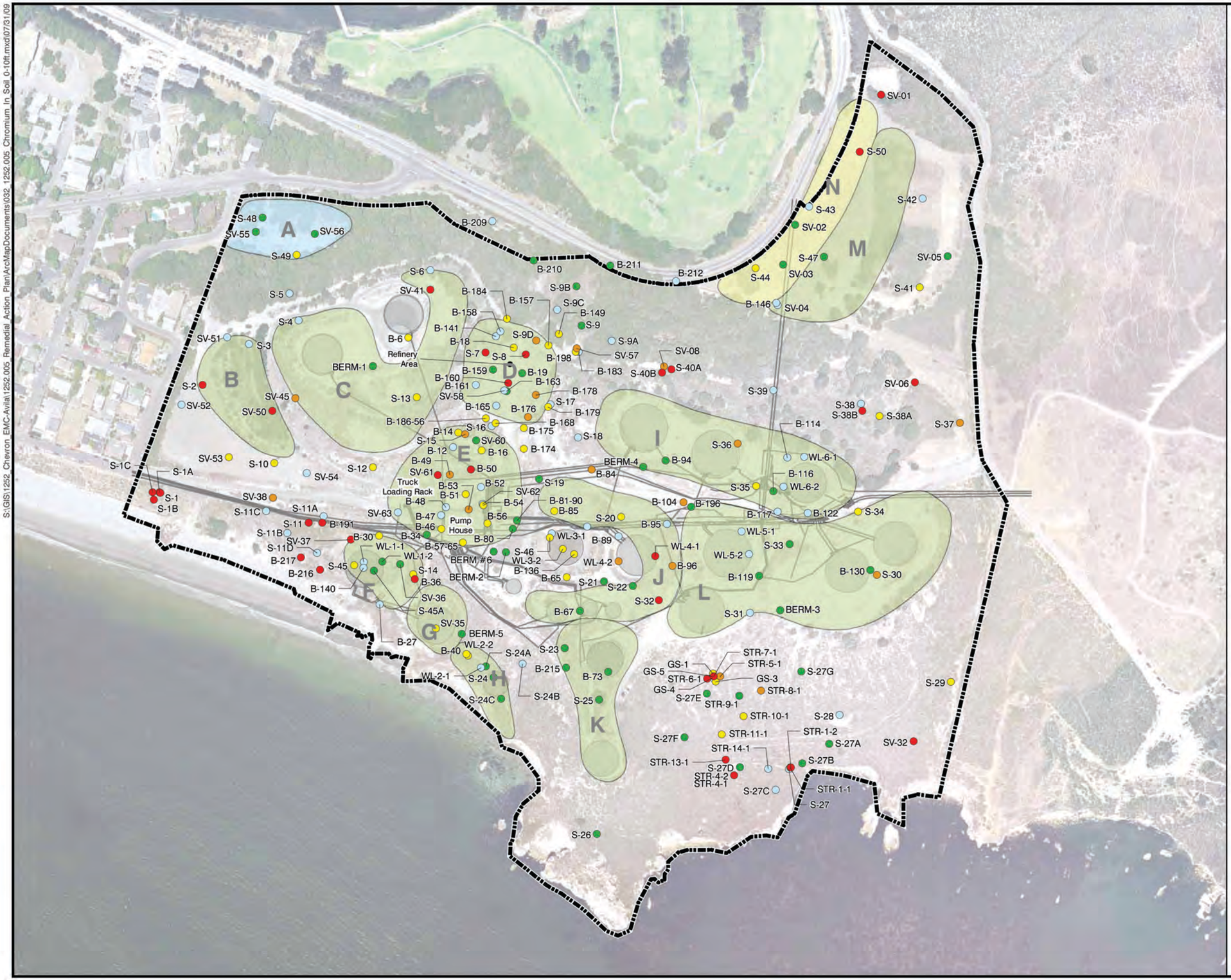

FIGURE 6

DISTRIBUTION OF CHROMIUM IN SOIL 0 TO 10 FEET DEEP

FORMER AVILA TANK FARM
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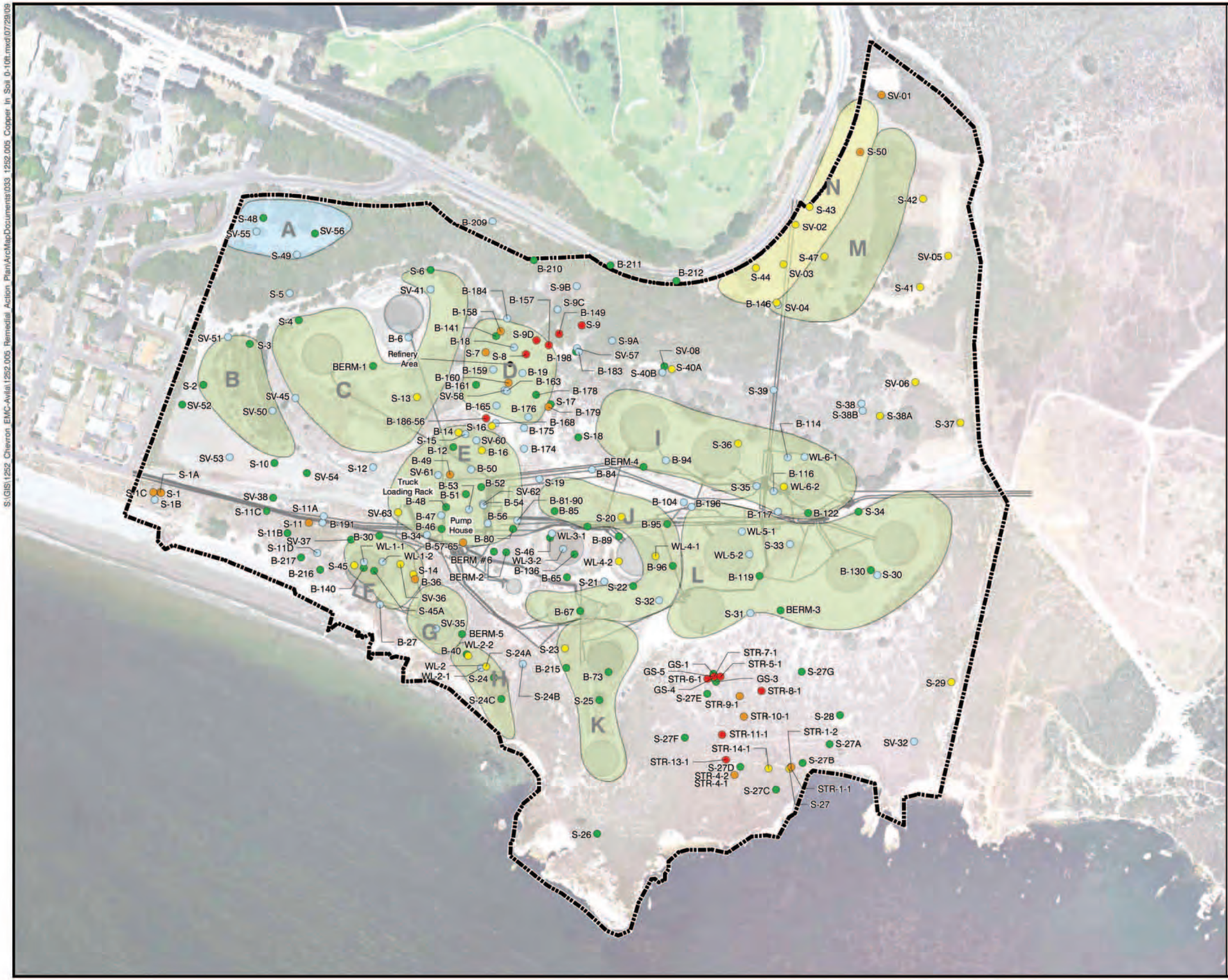

FIGURE 7

DISTRIBUTION OF COPPER IN SOIL 0 TO 10 FEET DEEP

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

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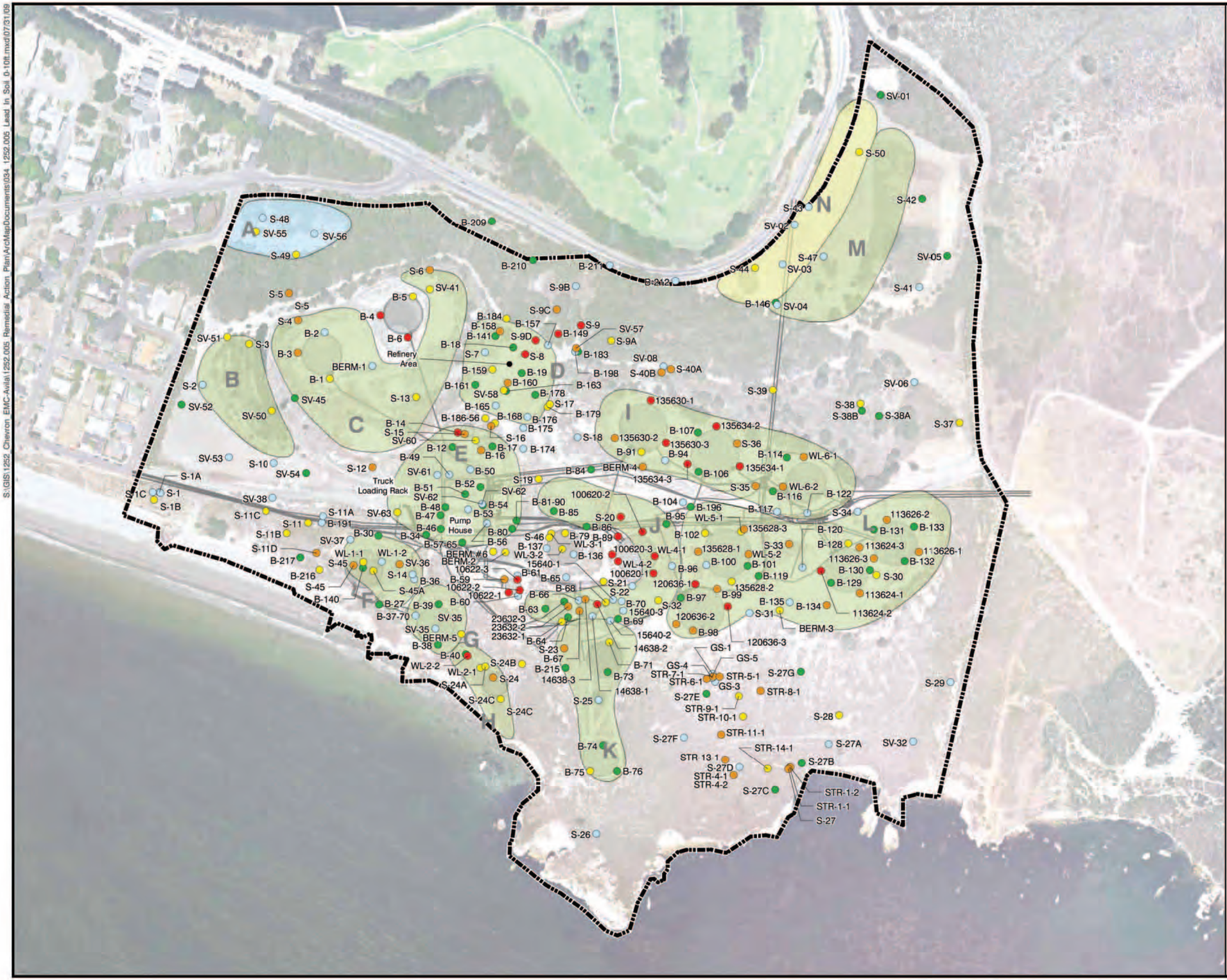

Explanation

- Soil Sample 0 to 10 Feet with Lead 0 to <5 mg/kg
- Soil Sample 0 to 10 Feet with Lead 5 to <10 mg/kg
- Soil Sample 0 to 10 Feet with Lead 10 to <30 mg/kg
- Soil Sample 0 to 10 Feet with Lead 30 to <100 mg/kg
- Soil Sample 0 to 10 Feet with Lead ≥100 mg/kg
- Approximate Site Boundary
- Residential
- Commercial Use with Potentially Occupied Structure
- Parking
- Diesel / Gas / Crude Oil Pipeline
- Storage Tanks / Areas

0 150 300 600 FEET

Approximate Scale

FIGURE 8

DISTRIBUTION OF LEAD IN SOIL 0 TO 10 FEET DEEP

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

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FIGURE 9

DISTRIBUTION OF MERCURY IN SOIL 0 TO 10 FEET DEEP

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

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Explanation

- Soil Sample 0 to 10 Feet with Nickel 0 to 10 mg/kg
- Soil Sample 0 to 10 Feet with Nickel 10 to <20 mg/kg
- Soil Sample 0 to 10 Feet with Nickel 20 to <50 mg/kg
- Soil Sample 0 to 10 Feet with Nickel >50 mg/kg
- Approximate Site Boundary
- Residential
- Commercial Use with Potentially Occupied Structure
- Parking
- Diesel / Gas / Crude Oil Pipeline
- Storage Tanks / Areas

N

0 150 300 600 FEET

Approximate Scale

FIGURE 10

DISTRIBUTION OF NICKEL IN SOIL 0 TO 10 FEET DEEP

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

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Explanation

- Soil Sample 0 to 10 Feet with Thallium Non-Detects 0 to <5 mg/kg
- Soil Sample 0 to 10 Feet with Thallium Non-Detects 5 to <25 mg/kg
- Soil Sample 0 to 10 Feet with Thallium 0 to <1 mg/kg
- Soil Sample 0 to 10 Feet with Thallium ≥1 mg/kg
- Approximate Site Boundary
- Residential
- Commercial Use with Potentially Occupied Structure
- Parking
- Diesel / Gas / Crude Oil Pipeline
- Storage Tanks / Areas

FIGURE 11

DISTRIBUTION OF THALLIUM IN SOIL 0 TO 10 FEET DEEP

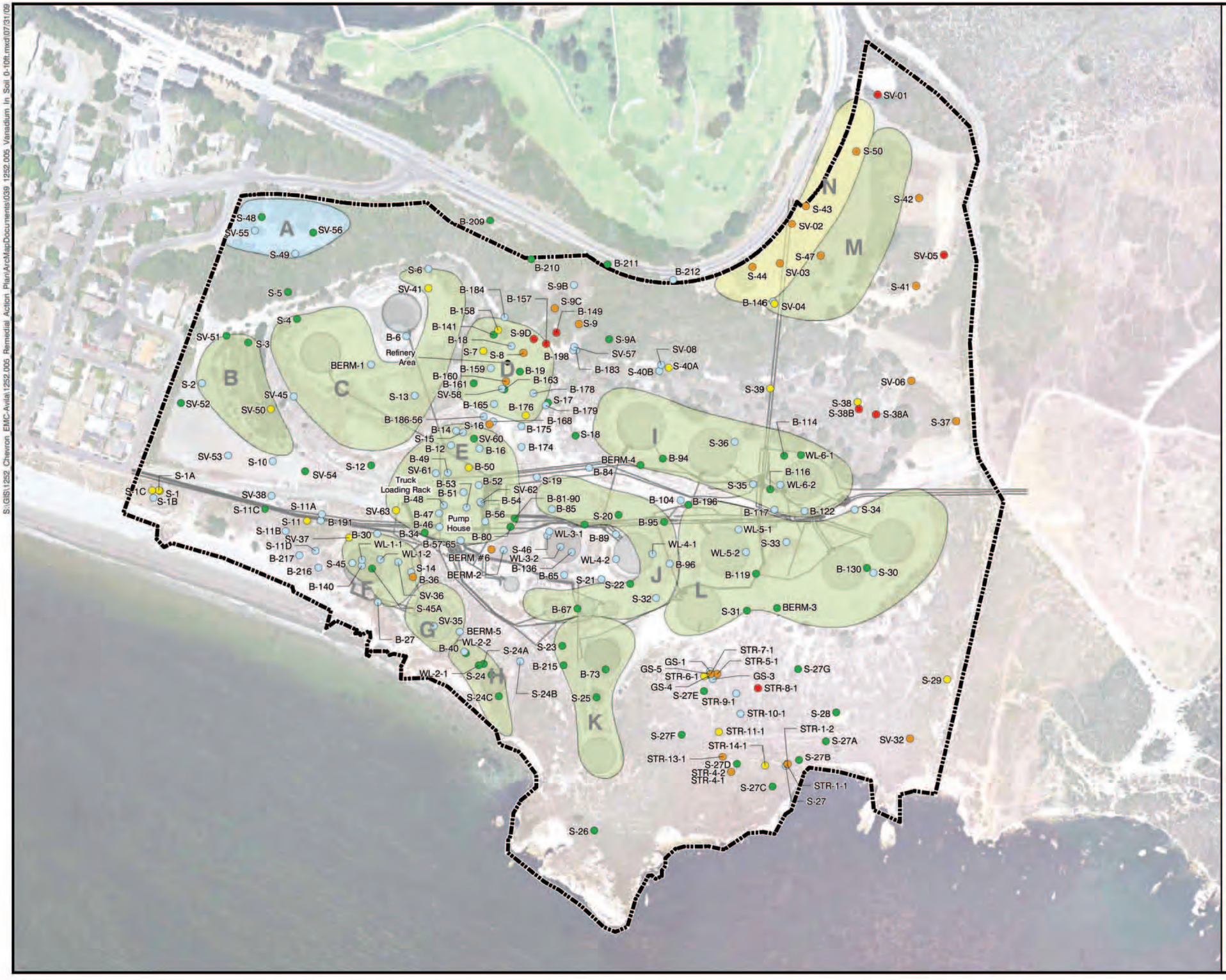
FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON CORPORATION
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

S:\GIS\1252 Chevron EMC-Avila\1252.005 Remedial Action Plan\ArcMapDocuments\039 1252.005 Vanadium In Soil 0-10ft.mxd 07/31/09



Explanation

- Soil Sample 0 to 10 Feet with Vanadium 0 to <15 mg/kg
- Soil Sample 0 to 10 Feet with Vanadium 15 to <30 mg/kg
- Soil Sample 0 to 10 Feet with Vanadium 30 to <50 mg/kg
- Soil Sample 0 to 10 Feet with Vanadium 50 to <100 mg/kg
- Soil Sample 0 to 10 Feet with Vanadium ≥100 mg/kg
- Approximate Site Boundary
- Residential
- Commercial Use with Potentially Occupied Structure
- Parking
- Diesel / Gas / Crude Oil Pipeline
- Storage Tanks / Areas

FIGURE 12

DISTRIBUTION OF VANADIUM IN SOIL 0 TO 10 FEET DEEP

FORMER AVILA TANK FARM
AVILA BEACH, CALIFORNIA

PREPARED FOR

CHEVRON CORPORATION
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

TABLES

Table 1. Comparison to one-tenth of the residential CHHSL (California Human Health Screening Level). Grey shading highlights metals with a maximum concentration below one-tenth of the residential CHHSL.

Metals	One-tenth of the Residential CHHSL (mg/kg)*	Site Wide Maximum Detection (mg/kg)	Max below 1/10th CHHSL?
Antimony	3	46	No
Arsenic	0.007	57	No
Barium	520	970	No
Beryllium	15	2	Yes
Cadmium	0.17	4.3	No
Chromium (total)	NA	140	NA
Cobalt	66	46	Yes
Copper	300	500	No
Lead	15	1600	No
Mercury	1.8	72	No
Molybdenum	38	37	Yes
Nickel	160	400	No
Selenium	38	0.5	Yes
Silver	38	0.19	Yes
Thallium	0.5	16	No
Vanadium	53	270	No
Zinc	2300	570	Yes

*CalEPA, 2005. Use of CHHSLs in the Evaluation of Contaminated Properties.

Table 2. Descriptive statistics by geologic unit for site-wide data

	Geologic Unit	N	Num Det	Min ND	Max ND	Min Det	Det Median	Det Mean	Max Det	Det SD
Antimony										
Obispo-related	Soil-O	82	1	5	20	0.36	0.36	0.36	0.36	NA
	Obispo	22	0	5	20	NA	NA	NA	NA	NA
	Asph/Soil-O	9	3	5	100	0.34	0.68	0.84	1.5	0.60
	All Obispo	**113**	**4**	**5**	**100**	**0.34**	**.52**	**0.72**	**1.5**	**0.54**
Pismo-related	Soil-P	134	1	5	10	46	46	46	46	NA
	Pismo	49	0	5	10	NA	NA	NA	NA	NA
	Asph/Soil-P	4	1	5	25	0.28	0.28	0.28	0.28	NA
	All Pismo	**187**	**2**	**5**	**25**	**0.28**	**23.14**	**23**	**46**	**32**
Other	Artificial Fill	9	0	5	10	NA	NA	NA	NA	NA
	Colluvium	3	0	9.9	10	NA	NA	NA	NA	NA
	Alluvium	6	0	10	10	NA	NA	NA	NA	NA
Arsenic										
Obispo-related	Soil-O	82	76	0.5	5	0.8	2.9	7.1	57	9.7
	Obispo	22	18	0.5	0.5	0.8	2.4	6.6	54	12.5
	Asph/Soil-O	9	9	NA	NA	2	6.8	11.6	40	11.8
	All Obispo	**113**	**103**	**0.5**	**5**	**0.8**	**3.2**	**7.97**	**57**	**10.71**
Pismo-related	Soil-P	134	104	0.5	5	0.6	3.3	4.85	23	4.46
	Pismo	49	38	0.5	5	1.6	4	5.3	23	4.2
	Asph/Soil-P	4	4	NA	NA	3.1	3.6	5.1	10	3.3
	All Pismo	**187**	**146**	**0.5**	**5**	**0.6**	**3.8**	**5.21**	**23**	**4.4**
Other	Artificial Fill	9	9	NA	NA	5.0	5.9	6.8	9.3	1.7
	Colluvium	3	3	NA	NA	1.1	1.3	1.3	1.4	0.15
	Alluvium	6	6	NA	NA	1.1	1.2	1.3	1.6	0.20
Barium										
Obispo-related	Soil-O	82	82	NA	NA	18	65	86	540	77
	Obispo	22	22	NA	NA	5.9	37	54	230	53
	Asph/Soil-O	9	9	NA	NA	52	130	217	560	175
	All Obispo	**113**	**113**	**NA**	**NA**	**5.9**	**64**	**91.15**	**560**	**92.77**
Pismo-related	Soil-P	134	134	NA	NA	1.3	55	61	500	42
	Pismo	49	49	NA	NA	22	44	49	180	25
	Asph/Soil-P	4	4	NA	NA	53	129	320	970	436
	All Pismo	**187**	**187**	**NA**	**NA**	**1.3**	**53**	**63.53**	**970**	**77.34**
Other	Artificial Fill	9	9	NA	NA	48	80	106	210	61
	Colluvium	3	3	NA	NA	64	85	96	140	39
	Alluvium	6	6	NA	NA	91	130	128	170	31

Table 2. Descriptive statistics by geologic unit for site-wide data

	Geologic Unit	N	Num Det	Min ND	Max ND	Min Det	Det Median	Det Mean	Max Det	Det SD
Beryllium										
Obispo-related	Soil-O	82	11	0.5	1	0.5	1.1	0.78	1.8	0.4
	Obispo	22	4	0.5	1	0.6	0.98	0.96	1.4	0.33
	Asph/Soil-O	9	9	NA	NA	0.19	0.38	0.43	1	0.25
	All Obispo	**113**	**24**	**0.5**	**1**	**0.19**	**0.6**	**0.68**	**1.8**	**0.38**
Pismo-related	Soil-P	134	14	0.49	0.51	0.5	1.1	1.21	2	0.49
	Pismo	49	8	0.5	0.5	0.5	0.7	0.87	1.6	0.47
	Asph/Soil-P	4	3	0.5	0.5	0.04	0.15	0.18	0.34	0.15
	All Pismo	**187**	**25**	**0.49**	**0.51**	**0.04**	**1**	**0.98**	**2**	**0.56**
Other	Artificial Fill	9	8	0.5	0.5	0.61	0.77	0.84	1.2	0.23
	Colluvium	3	0	0.5	0.5	NA	NA	NA	NA	NA
	Alluvium	6	5	0.5	0.5	0.53	0.57	0.57	0.62	0.03
Cadmium										
Obispo-related	Soil-O	82	9	0.5	1	0.25	1	1.248	3.5	0.97
	Obispo	22	5	0.5	1	0.72	1.7	1.76	2.6	0.76
	Asph/Soil-O	9	7	2.5	10	0.16	0.54	0.53	0.86	0.26
	All Obispo	**113**	**21**	**0.5**	**10**	**1.16**	**0.81**	**1.13**	**3.5**	**0.86**
Pismo-related	Soil-P	134	15	0.49	1	0.51	1.15	1.56	4.3	1.03
	Pismo	49	1	0.5	1	1	1	1	1	NA
	Asph/Soil-P	4	3	1	1	0.14	0.34	0.41	0.74	0.31
	All Pismo	**187**	**19**	**0.49**	**1**	**0.14**	**1**	**1.36**	**4.3**	**1.02**
Other	Artificial Fill	9	0	0.5	1	NA	NA	NA	NA	NA
	Colluvium	3	0	0.5	0.5	NA	NA	NA	NA	NA
	Alluvium	6	0	0.5	0.5	NA	NA	NA	NA	NA
Chromium										
Obispo-related	Soil-O	82	82	NA	NA	2.6	16	19.47	97	14.2
	Obispo	22	22	NA	NA	1.6	13	21.32	58	18.41
	Asph/Soil-O	9	9	NA	NA	16	19	44.44	140	37.55
	All Obispo	**113**	**113**	**NA**	**NA**	**1.6**	**16**	**21.82**	**140**	**18.85**
Pismo-related	Soil-P	134	133	1	1	6.3	17	19.29	61	8.56
	Pismo	49	49	NA	NA	3.5	19	19.94	39	8.1
	Asph/Soil-P	4	4	NA	NA	10	19	19.5	30	9.98
	All Pismo	**187**	**186**	**1**	**1**	**3.5**	**18**	**19.47**	**61**	**8.43**
Other	Artificial Fill	9	9	NA	NA	18	35	34.89	49	11.01
	Colluvium	3	3	NA	NA	13	14	14	15	1
	Alluvium	6	6	NA	NA	6.7	9.5	9.98	13	2.56

Table 2. Descriptive statistics by geologic unit for site-wide data

	Geologic Unit	N	Num Det	Min ND	Max ND	Min Det	Det Median	Det Mean	Max Det	Det SD
Copper										
Obispo-related	Soil-O	82	81	0.5	0.5	0.8	5.15	7.25	23	5.51
	Obispo	22	18	2	4	2.4	12	10.92	27	7.48
	Asph/Soil-O	9	9	NA	NA	12	39	86.67	500	156.2
	All Obispo	**113**	**108**	**0.5**	**4**	**0.8**	**7.15**	**14.48**	**500**	**48.32**
Pismo-related	Soil-P	134	133	0.5	0.5	0.5	5.8	10	120	15.56
	Pismo	49	48	0.5	0.5	1	4.4	4.78	18	2.93
	Asph/Soil-P	4	4	NA	NA	3.7	21	23.42	48	18.32
	All Pismo	**187**	**185**	**0.5**	**0.5**	**0.5**	**5.7**	**8.94**	**120**	**13.83**
Other	Artificial Fill	9	9	NA	NA	4.5	22	16.8	23	8.36
	Colluvium	3	3	NA	NA	5.4	8.4	7.83	9.7	2.2
	Alluvium	6	6	NA	NA	9.4	10.5	10.4	11	0.69
Lead										
Obispo-related	Soil-O	89	87	4	4	1.3	6.4	14.45	170	22.96
	Obispo	27	21	2	4	2.2	3.65	5.71	25	5.48
	Asph/Soil-O	9	9	NA	NA	11	58	51.78	86	25.77
	All Obispo	**125**	**117**	**2**	**4**	**1.3**	**6.1**	**15.75**	**170**	**23.7**
Pismo-related	Soil-P	192	191	1	1	1.2	9.8	56.78	1600	162
	Pismo	83	80	1	2	1.2	5.2	11.04	73	14.44
	Asph/Soil-P	4	4	NA	NA	3.8	21	36.2	99	42.77
	All Pismo	**287**	**283**	**1**	**2**	**1.2**	**8.5**	**43.82**	**1600**	**135.3**
Other	Artificial Fill	9	9	NA	NA	6.4	8.6	10.29	24	5.28
	Colluvium	3	3	NA	NA	3	3.5	4.23	6.2	1.72
	Alluvium	6	6	NA	NA	2.7	3.05	3.83	5.8	1.49
Mercury										
Obispo-related	Soil-O	82	23	0.02	0.1	0.02	0.1	0.49	5.1	1.1
	Obispo	22	5	0.02	0.1	0.04	0.07	0.13	0.4	0.15
	Asph/Soil-O	9	9	NA	NA	0.12	5.4	13.75	72	23.19
	All Obispo	**113**	**37**	**0.02**	**0.1**	**0.02**	**0.12**	**3.67**	**72**	**12.4**
Pismo-related	Soil-P	134	40	0.02	0.1	0.02	0.14	0.28	1.5	0.33
	Pismo	49	10	0.02	0.1	0.02	0.05	0.07	0.2	0.06
	Asph/Soil-P	4	3	0.1	0.1	11	11	18	32	12.12
	All Pismo	**187**	**53**	**0.02**	**0.1**	**0.02**	**0.1**	**1.24**	**32**	**4.79**
Other	Artificial Fill	9	8	0.1	0.1	0.09	0.61	0.59	1	0.35
	Colluvium	3	1	0.02	0.02	0.03	0.03	0.01	0.03	NA
	Alluvium	6	3	0.02	0.02	0.02	0.03	0.03	0.04	0.01

Table 2. Descriptive statistics by geologic unit for site-wide data

	Geologic Unit	N	Num Det	Min ND	Max ND	Min Det	Det Median	Det Mean	Max Det	Det SD
Nickel										
Obispo-related	Soil-O	82	81	2	2	2.1	10.5	17.67	17.47	34.66
	Obispo	22	19	2	4	2.4	19	41.04	400	89.27
	Asph/Soil-O	9	9	NA	NA	28	37	74	300	87.04
	All Obispo	**113**	**109**	**2**	**4**	**2.1**	**11**	**26.4**	**4**	**55.34**
Pismo-related	Soil-P	134	133	1	1	2.8	12	17.32	170	21.12
	Pismo	49	49	NA	NA	1.9	9.4	10.04	26	4.96
	Asph/Soil-P	4	4	NA	NA	8.3	21	34.58	88	36.15
	All Pismo	**187**	**186**	**1**	**1**	**1.9**	**11**	**15.77**	**170**	**19.08**
Other	Artificial Fill	9	9	NA	NA	10	63	60	130	39.9
	Colluvium	3	3	NA	NA	10	12	11.67	13	1.53
	Alluvium	6	6	NA	NA	7.5	9.4	10.55	15	2.83
Thallium										
Obispo-related	Soil-O	82	1	5	20	0.75	0.75	0.75	0.75	NA
	Obispo	22	0	5	20	NA	NA	NA	NA	NA
	Asph/Soil-O	9	5	5	25	0.74	1.6	4.46	16	6.53
	All Obispo	**113**	**6**	**5**	**25**	**0.74**	**1.18**	**3.84**	**16**	**6.03**
Pismo-related	Soil-P	134	0	5	10	NA	NA	NA	NA	NA
	Pismo	49	0	5	10	NA	NA	NA	NA	NA
	Asph/Soil-P	4	1	5	25	0.86	0.86	0.86	0.86	NA
	All Pismo	**187**	**1**	**5**	**25**	**0.86**	**0.86**	**0.86**	**0.86**	**NA**
Other	Artificial Fill	9	0	5	10	NA	NA	NA	NA	NA
	Colluvium	3	0	9.9	10	NA	NA	NA	NA	NA
	Alluvium	6	0	10	10	NA	NA	NA	NA	NA
Vanadium										
Obispo-related	Soil-O	82	82	NA	NA	3	16	27.64	120	26.25
	Obispo	22	22	NA	NA	1.1	19.5	44.14	130	44.38
	Asph/Soil-O	9	9	NA	NA	41	56	58.78	87	15.9
	All Obispo	**113**	**113**	**NA**	**NA**	**1.1**	**18**	**33.33**	**130**	**31.38**
Pismo-related	Soil-P	134	133	1	1	7.1	17	23.88	270	30.07
	Pismo	49	49	NA	NA	3.2	15	15.53	34	7.42
	Asph/Soil-P	4	4	NA	NA	8.5	21	47.62	140	61.87
	All Pismo	**187**	**186**	**1**	**1**	**3.2**	**16**	**22.19**	**270**	**27.38**
Other	Artificial Fill	9	9	NA	NA	14	33	32.56	49	10.5
	Colluvium	3	3	NA	NA	19	29	29	39	10
	Alluvium	6	6	NA	NA	36	48	48	57	7.46

Table 3. Descriptive statistics by geologic unit for background data.

	Geologic Unit	N	Num Det	Min ND	Max ND	Min Det	Det Median	Det Mean	Max Det	Det SD
Antimony										
Obispo-related	Soil-O	3	0	5	5	NA	NA	NA	NA	NA
	Obispo	7	0	5	5	NA	NA	NA	NA	NA
	All Obispo	**10**	**0**	**5**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**
Pismo-related	Soil-P	4	0	5	5	NA	NA	NA	NA	NA
	Pismo	3	0	5	5	NA	NA	NA	NA	NA
	All Pismo	**7**	**0**	**5**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**
Arsenic										
Obispo-related	Soil-O	3	3	NA	NA	1.9	2.9	4.3	8.2	3.4
	Obispo	7	7	NA	NA	1.9	8	7.2	15	4.6
	All Obispo	**10**	**10**	**NA**	**NA**	**1.9**	**6.6**	**6.3**	**15**	**4.3**
Pismo-related	Soil-P	4	4	NA	NA	2.1	2.8	3.0	4.4	1.0
	Pismo	3	3	NA	NA	1.4	1.6	5	12	6.0
	All Pismo	**7**	**7**	**NA**	**NA**	**1.4**	**2.4**	**3.9**	**12**	**3.7**
Barium										
Obispo-related	Soil-O	3	3	NA	NA	81	160	330	750	365.6
	Obispo	7	7	NA	NA	8.5	91	153.6	500	173.2
	All Obispo	**10**	**10**	**NA**	**NA**	**8.5**	**126**	**207**	**750**	**239**
Pismo-related	Soil-P	4	4	NA	NA	33	100	85.75	110	35.48
	Pismo	3	3	NA	NA	11	66	57	94	42.23
	All Pismo	**7**	**7**	**NA**	**NA**	**11**	**94**	**73**	**110**	**38**
Beryllium										
Obispo-related	Soil-O	3	3	NA	NA	0.6	0.9	0.9	1.2	0.3
	Obispo	7	6	0.5	0.5	0.7	0.85	3.7	14	5.3
	All Obispo	**10**	**9**	**0.5**	**0.5**	**0.6**	**1**	**2.77**	**14**	**4.4**
Pismo-related	Soil-P	4	2	0.5	0.5	0.5	0.6	0.6	0.7	0.14
	Pismo	3	1	0.5	0.5	0.6	0.6	0.6	0.6	NA
	All Pismo	**7**	**3**	**0.5**	**0.5**	**0.5**	**0.6**	**0.6**	**0.7**	**0.10**
Cadmium										
Obispo-related	Soil-O	3	0	1	1	NA	NA	NA	NA	NA
	Obispo	7	4	1	1	1.3	1.55	1.75	2.6	0.59
	All Obispo	**10**	**4**	**1**	**1**	**1.3**	**1.55**	**1.75**	**2.6**	**0.59**
Pismo-related	Soil-P	4	1	1	1	1.1	1.1	1.1	1.1	NA
	Pismo	3	0	1	1	NA	NA	NA	NA	NA
	All Pismo	**7**	**1**	**1**	**1**	**1.1**	**1.1**	**1.1**	**1.1**	**NA**
Chromium										
Obispo-related	Soil-O	3	3	NA	NA	6.5	8.6	8.4	10	1.8
	Obispo	7	7	NA	NA	5.3	9.8	16.8	35	12
	All Obispo	**10**	**10**	**NA**	**NA**	**5.3**	**9.2**	**14.3**	**35**	**10.6**
Pismo-related	Soil-P	4	4	NA	NA	8.8	20.5	22	38	12
	Pismo	3	3	NA	NA	3.9	24	32.3	69	33
	All Pismo	**7**	**7**	**NA**	**NA**	**3.9**	**24**	**26.4**	**69**	**21.9**

Table 3. Descriptive statistics by geologic unit for background data.

	Geologic Unit	N	Num Det	Min ND	Max ND	Min Det	Det Median	Det Mean	Max Det	Det SD
Copper										
Obispo-related	Soil-O	3	3	NA	NA	3.9	9	9.6	16	6.1
	Obispo	7	7	NA	NA	12	14	21.1	55	15.9
	All Obispo	**10**	**10**	**NA**	**NA**	**3.9**	**13**	**17.7**	**55**	**14.4**
Pismo-related	Soil-P	4	4	NA	NA	1.9	9	10.5	22	10.5
	Pismo	3	2	0.5	0.5	2.8	5.4	5.4	8	3.7
	All Pismo	**7**	**6**	**0.5**	**0.5**	**1.9**	**8.3**	**8.8**	**22**	**7.2**
Lead										
Obispo-related	Soil-O	3	3	NA	NA	3.1	3.8	11.6	28	14
	Obispo	7	7	NA	NA	2	2.6	3.8	6	1.7
	All Obispo	**10**	**10**	**NA**	**NA**	**2**	**3.2**	**5.9**	**28**	**7.9**
Pismo-related	Soil-P	4	4	NA	NA	3.4	20	50.9	160	73.2
	Pismo	3	2	1	1	4.5	4.5	4.9	5.2	0.5
	All Pismo	**7**	**6**	**1**	**1**	**3.4**	**12.6**	**35.5**	**160**	**61.5**
Mercury										
Obispo-related	Soil-O	3	0	0.1	0.1	NA	NA	NA	NA	NA
	Obispo	7	0	0.1	0.1	NA	NA	NA	NA	NA
	All Obispo	**10**	**0**	**0.1**	**0.1**	**NA**	**NA**	**NA**	**NA**	**NA**
Pismo-related	Soil-P	4	1	0.1	0.1	0.2	0.2	0.2	0.2	NA
	Pismo	3	0	0.1	0.1	NA	NA	NA	NA	NA
	All Pismo	**7**	**1**	**0.1**	**0.1**	**0.2**	**0.2**	**0.2**	**0.2**	**NA**
Nickel										
Obispo-related	Soil-P	3	3	NA	NA	6.8	14	31	71	35.2
	Pismo	7	7	NA	NA	1.8	36	57.4	130	53.8
	All Obispo	**10**	**10**	**NA**	**NA**	**1.8**	**31.5**	**49.3**	**130**	**48.7**
Pismo-related	Soil-P	4	4	NA	NA	6.3	21	18.3	25	18.3
	Pismo	3	2	1	1	14	24	24	34	14.1
	All Pismo	**7**	**6**	**1**	**1**	**6.3**	**21**	**20.2**	**34**	**9.5**
Thallium										
Obispo-related	Soil-P	3	0	5	5	NA	NA	NA	NA	NA
	Pismo	7	0	5	5	NA	NA	NA	NA	NA
	All Obispo	**10**	**0**	**5**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**
Pismo-related	Soil-P	3	0	5	5	NA	NA	NA	NA	NA
	Pismo	4	0	5	5	NA	NA	NA	NA	NA
	All Pismo	**7**	**0**	**5**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**
Vanadium										
Obispo-related	Soil-P	3	3	NA	NA	4.2	30	39.4	84	40.72
	Pismo	7	7	NA	NA	4.1	35	35.9	94	30.21
	All Obispo	**10**	**10**	**NA**	**NA**	**4.1**	**32.5**	**36.95**	**94**	**31.3**
Pismo-related	Soil-P	4	4	NA	NA	7.1	15	13.78	18	4.74
	Pismo	3	3	NA	NA	3.1	14	11.37	17	7.32
	All Pismo	**7**	**7**	**NA**	**NA**	**3.1**	**14**	**12.74**	**18**	**5.54**

Table 4. P-values for background comparison tests.

	Geology Group	t-test	Gehan Test	Quantile Test (0.75)	Slippage Test
Antimony					
Site-wide	All Obispo	NA	NA	NA	NA
	All Pismo	NA	NA	NA	NA
Open Space	All Obispo	NA	NA	NA	NA
	All Pismo	NA	NA	NA	NA
Arsenic					
Site-wide	All Obispo	0.2761	0.7973	0.5161	0.2581
	All Obispo – expanded	0.2068	0.6267	0.5057	0.1798
	All Pismo bkgd	0.3278	0.2096	0.4352	0.6863
Barium					
Site-wide	All Obispo	0.9206	0.9400	0.9839	1.0000
	All Pismo	0.7295	0.9321	0.9911	0.7700
Open Space	All Obispo	0.8980	0.9019	0.9934	1.0000
	All Pismo	0.6030	0.9270	0.9914	0.8430
Beryllium					
Site-wide	All Obispo	NA	NA	NA	NA
	All Pismo	NA	NA	NA	NA
Cadmium					
Site-wide	All Obispo	NA	NA	NA	NA
	All Pismo	NA	NA	NA	NA
Area D	All Pismo	NA	NA	NA	NA
Chromium					
Site-wide	All Obispo	0.0334*	0.0304*	0.5671	0.2342
	All Obispo – expanded bkgd	0.1276	0.0108**	0.7689	1.0000
	All Pismo	0.7856	0.7439	0.8062	1.0000
Area D	All Pismo	0.6464	0.5769	0.7595	1.0000
Area E	All Pismo	0.7436	0.6415	0.7412	1.0000
Open Space	All Pismo	0.8072	0.7517	0.9892	1.0000
Copper					
Site-wide	All Obispo	0.7228	0.9954	0.9839	0.8434
	All Pismo	0.3361	0.4645	0.9307	0.6602
Area D	All Pismo	0.0464*	0.1595	0.3928	0.1920
Open Space	All Obispo	0.4930	0.9825	0.9508	0.7670
	All Pismo	0.3378	0.4528	0.9325	0.6471
Lead					
Site-wide	All Obispo	0.0052***	0.0080***	0.2460	0.2265
	All Pismo	0.2997	0.3223	0.4385	0.7447
Area D	All Pismo	0.2063	0.5768	0.4976	0.7407
Area I	All Pismo	0.1171	0.0662	0.4227	0.7812

Table 4. P-values for background comparison tests.

	Geology Group	t-test	Gehan Test	Quantile Test (0.75)	Slippage Test
Area J	All Pismo	0.3600	0.2894	0.4308	0.6163
Area L	All Pismo	0.1643	0.0943	0.4446	0.6231
Open Space	All Pismo	0.5136	0.3544	0.4325	0.8079
Mercury					
Site-wide	All Obispo	NA	NA	NA	NA
	All Pismo	NA	NA	NA	NA
Open Space	All Obispo	NA	NA	NA	NA
	All Pismo	NA	NA	NA	NA
Nickel[†]					
Site-wide	All Obispo	0.9446	0.9590	0.9980	0.8315
	Asph/Soil-O	0.2334	0.8366	0.8158	0.4737
	All Pismo	0.6415	0.8601	0.9880	0.6105
	Asph/Soil-P	0.2085	0.7146	0.7879	0.2761
Area D	All Pismo	0.1897	0.5660	0.7595	0.3636
Open Space	All Obispo	0.8166	0.8625	0.9385	0.6699
	All Pismo	0.5536	0.8422	0.9892	0.5395
Thallium					
Site-wide	All Obispo	NA	NA	NA	NA
	All Pismo	NA	NA	NA	NA
Open Space	All Obispo	NA	NA	NA	NA
	All Pismo	NA	NA	NA	NA
Vanadium[†]					
Site-wide	All Obispo	0.7071	0.7377	0.5085	0.4680
	Asph/Soil-O	0.0364*	0.9814	0.4443	1.0000
	All Pismo	0.0020***	0.0719	0.1384	0.0305*
	Asph/Soil-P	0.1709	0.9559	0.0242**	0.0242**
Open Space	All Obispo	0.4252	0.3953	0.5305	0.3825

NA = Statistical hypothesis tests are not applicable due to low frequency of detections.
* $P < 0.05$
** $P < 0.025$
*** $P < 0.01$
[†]Obispo-related and Pismo-related groups do not include soil samples with an asphaltic component; these are compared separately

Table 5. Descriptive statistics by geology for specific exposure areas at the Site. These exposure areas include those that require background comparison tests based on visual inspection of spatial intensity plots.

	Geology	N	Num Det	Min ND	Max ND	Min Det	Det Median	Det Mean	Max Det	Det SD
Antimony										
Open Space	Obispo-related	71	4	5	100	0.34	0.52	0.72	1.5	0.54
	Pismo-related	79	1	5	25	0.28	0.28	0.28	0.28	NA
Barium										
Open Space	Obispo-related	71	71	NA	NA	18	64	102.2	560	108.7
	Pismo-related	79	79	NA	NA	22	54	68.5	970	104.6
Beryllium										
Open Space	Obispo-related	71	21	0.5	1.0	0.19	0.59	0.68	1.8	0.41
	Pismo-related	79	9	0.5	0.5	0.035	0.5	0.59	1.1	0.39
Cadmium										
Area D	Pismo-related	20	4	0.5	1	1	2.5	2.58	4.3	1.36
Chromium										
Area D	Pismo-related	20	20	NA	NA	8.1	19	22.96	61	13.22
Area E	Pismo-related	27	27	NA	NA	8.5	19	20.57	38	7.65
Open Space	Obispo-related	71	71	NA	NA	2.6	17	25.03	140	21.6
	Pismo-related	79	79	NA	NA	8.3	18	18.64	32	6.35
Copper										
Area D	Pismo-related	20	20	NA	NA	0.5	7.55	19.01	100	26.57
Open Space	Obispo-related	71	69	0.5	4	0.8	8.7	18.32	500	60.14
	Pismo-related	79	78	0.5	0.5	1.6	4.5	9.05	120	15.05
Lead										
Area D	Pismo-related	20	19	1	1	2	7.3	104.4	1600	363.4
Area I	Pismo-related	25	25	NA	NA	1.8	42	89.14	1100	215.4
Area J	Pismo-related	41	41	NA	NA	1.3	9	39.64	320	74.86
Area L	Obispo-related	9	9	NA	NA	2.6	9.1	28.23	75	28.97
	Pismo-related	42	42	NA	NA	1.7	24	60.02	690	127.8
Open Space	Obispo-related	71	64	2	4	2.2	5.5	14.2	86	19.37
	Pismo-related	96	94	1	2	1.2	7.2	30.33	400	61.49
Mercury										
Open Space	Obispo-related	71	26	0.02	0.1	0.03	0.16	5.14	72	14.63
	Pismo-related	79	26	0.02	0.1	0.02	0.1	2.33	32	6.72
Nickel										
Area D	Pismo-related	20	20	NA	NA	2.8	13.5	24.96	140	32.49
Open Space	Obispo-related	71	71	NA	NA	2.1	12	33.17	400	67.29
	Pismo-related	79	79	NA	NA	2.9	11	16.71	170	22.13
Thallium										
Open Space	Obispo-related	71	6	5	25	0.74	1.18	3.84	16	6.03
	Pismo-related	79	1	5	25	0.86	0.86	0.86	0.86	NA
Vanadium										
Open Space	Obispo-related	71	71	NA	NA	4.1	28	39	130	33.34
	Pismo-related	79	79	NA	NA	5.8	17	23.49	270	32.76

Table 6. Summary of metals COPC selection process.

Metal (1/10th CHHSL)	Descriptive Statistics									Background Comparison Tests (p-value)					COPC?	COPC Selection Process Decision Point
	N	N Detect	Min ND	Max ND	Min Detect	Detect Median	Detect Mean	Max Detect	Detect SD	T-test	Gehan	Quantile (75%)	Slippage	Elevated above bkgd?		
Antimony (3 mg/kg)																
All Obispo															Yes - Open space, Site-wide	Low site-wide frequncy of detect; COPC when detected in exposure areas
Background	10	0	5	5	NA	NA	NA	NA	NA							
Site-Wide	113	4	5	100	0.34	0.52	0.72	1.5	0.54							
All Pismo																
Background	7	0	5	5	NA	NA	NA	NA	NA							
Site-Wide	187	2	5	25	0.28	23.1	23	**46**	32							
All Other																
Site-Wide	18	0	5	10	NA	NA	NA	NA	NA							
Arsenic (0.007 mg/kg)																
All Obispo															No	Passes all site-wide background comparison tests
Background†	24	20	1	5	1.2	7.7	22.6	220	52.1	-	-	-	-	No		
Site-Wide	113	103	0.5	5	0.8	3.2	7.97	**57**	10.7	0.2068	0.6267	0.5057	0.1798			
All Pismo																
Background	7	7	NA	NA	1.4	2.4	3.9	12	3.7	-	-	-	-	No		
Site-Wide	187	146	0.5	5	0.6	3.8	5.21	23	4.4	0.3278	0.2096	0.4352	0.6863			
All Other																
Site-Wide	18	17	5	5	1.1	1.6	3.98	9.3	3.16							
Barium (520 mg/kg)																
All Obispo															No	Passes all site-wide background comparison tests
Background	10	10	NA	NA	8.5	126	207	750	239	-	-	-	-	No		
Site-Wide	113	113	NA	NA	5.9	64	91.2	560	92.8	0.9206	0.9400	0.9839	1.0000			
All Pismo																
Background	7	7	NA	NA	11	94	73	110	38	-	-	-	-	No		
Site-Wide	187	187	NA	NA	1.3	53	63.5	**970**	77.3	0.7195	0.9321	0.9911	0.7700			
All Other																
Site-Wide	18	18	NA	NA	48	94	111.7	210	48.4							
Beryllium (15 mg/kg)																
Site-Wide	318	62	0.49	1	0.04	0.66	0.81	**2**	0.46						No	Site-wide max detect does not exceed 1/10th residential CHSSL
Cadmium (0.17 mg/kg)																
All Obispo															Yes- Exposure Areas A, C, D, E,F, Ia, Open Space, Parking	Low site-wide frequncy of detect; COPC detected in exposure areas
Background	10	4	1	1	1.3	1.6	1.75	2.6	0.59							
Site-Wide	113	21	0.5	10	1.16	0.81	1.13	3.5	0.86							
All Pismo																
Background	7	1	1	1	1.1	1.1	1.1	1.1	NA							
Site-Wide	187	19	0.49	1	0.14	1	1.36	**4.3**	1.02							
All Other																
Site-Wide	18	0	0.5	1	NA	NA	NA	NA	NA							

Table 6. Summary of metals COPC selection process.

Metal (1/10th CHHSL)	Descriptive Statistics									Background Comparison Tests (p-value)					COPC?	COPC Selection Process Decision Point
	N	N Detect	Min ND	Max ND	Min Detect	Detect Median	Detect Mean	Max Detect	Detect SD	T-test	Gehan	Quantile (75%)	Slippage	Elevated above bkgd?		
Chromium (NA)																
All Obispo															Yes	Fails site-wide Obispo background comparison tests
Background†	24	23	1	1	1	10	23.8	190	39.6	0.1276	0.0108	0.7689	1.0000	Yes		
Site-Wide	113	113	NA	NA	1.6	16	21.8	**140**	18.9	0.0334	0.0304	0.5671	0.2342			
All Pismo																
Background	7	7	NA	NA	3.9	24	26.4	69	21.9	-	-	-	-	No		
Site-Wide	187	186	1	1	3.5	18	19.5	61	8.43	0.7856	0.7439	0.8062	1.0000			
All Other																
Site-Wide	18	18	NA	NA	6.7	16.5	23.1	49	14.4							
Cobalt (66 mg/kg)																
Site-Wide	318	247	0.99	2	1	2.3	4.35	**46**	5.27						No	Site-wide max detect does not exceed 1/10th residential CHSSL
Copper (300 mg/kg)																
All Obispo															No	Passes all site-wide background comparison tests
Background	10	10	NA	NA	3.9	13	17.7	55	14.4	-	-	-	-	No		
Site-Wide	113	108	0.5	4	0.8	7.15	14.5	**500**	48.3	0.7228	0.9954	0.9839	0.8434			
All Pismo																
Background	7	6	0.5	0.5	1.9	8.3	8.8	22	7.2	-	-	-	-	No		
Site-Wide	187	185	0.5	0.5	0.5	5.7	8.9	120	13.8	0.3361	0.4645	0.9307	0.6602			
All Other																
Site-Wide	18	18	NA	NA	4.5	10.5	13.2	23	6.95							
Lead (150 mg/kg)																
All Obispo															Yes	Fails site-wide Obispo background comparison tests
Background	10	10	NA	NA	2	3.2	5.9	28	7.9	-	-	-	-	Yes		
Site-Wide	125	117	2	4	1.3	6.1	15.8	170	23.7	0.0052	0.0080	0.2460	0.2265			
All Pismo																
Background	7	6	1	1	3.4	12.6	35.5	160	61.5	-	-	-	-	Yes		
Site-Wide	287	283	1	2	1.2	8.5	43.8	**1600**	135.3	0.2997	0.3223	0.4385	0.7447			
All Other																
Site-Wide	18	18	NA	NA	2.7	6.3	7.13	24	4.97							
Mercury (1.8 mg/kg)																
All Obispo															Yes - all Exposure Areas except "G"	Low site-wide frequncy of detect; COPC detected in exposure areas
Background	10	0	0.1	0.1	NA	NA	NA	NA	NA							
Site-Wide	113	37	0.02	0.1	0.02	0.12	3.67	**72**	12.4							
All Pismo																
Background	7	1	0.1	0.1	0.2	0.2	0.2	0.2	NA							
Site-Wide	187	53	0.02	0.1	0.02	0.1	1.24	32	4.8							
All Other																
Site-Wide	18	12	0.02	0.1	0.02	0.31	0.40	1	0.39							
Molybdenum (38 mg/kg)																
Site-Wide	318	59	1	12	1	1.9	3.8	37	5.2						No	Site-wide max detect does not exceed 1/10th residential CHSSL

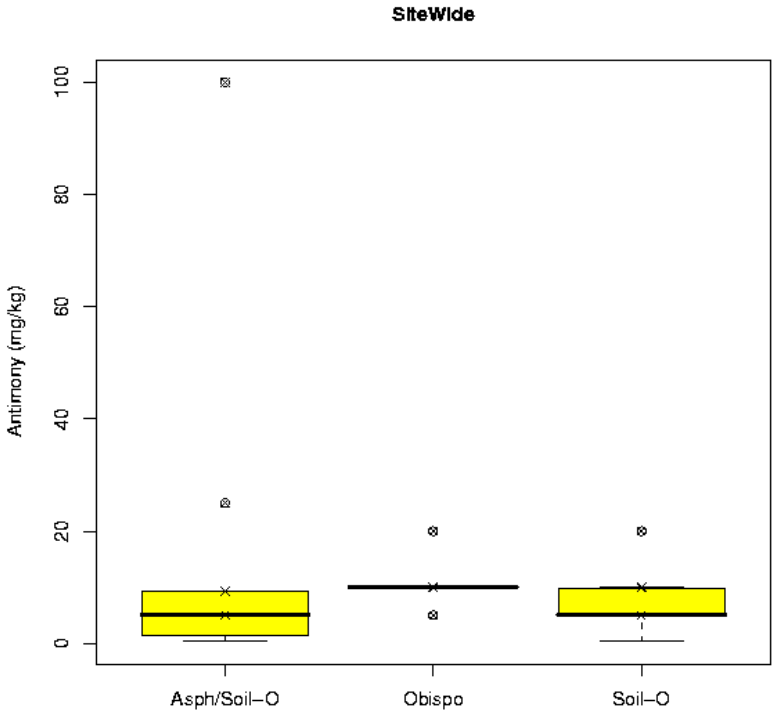
Table 6. Summary of metals COPC selection process.

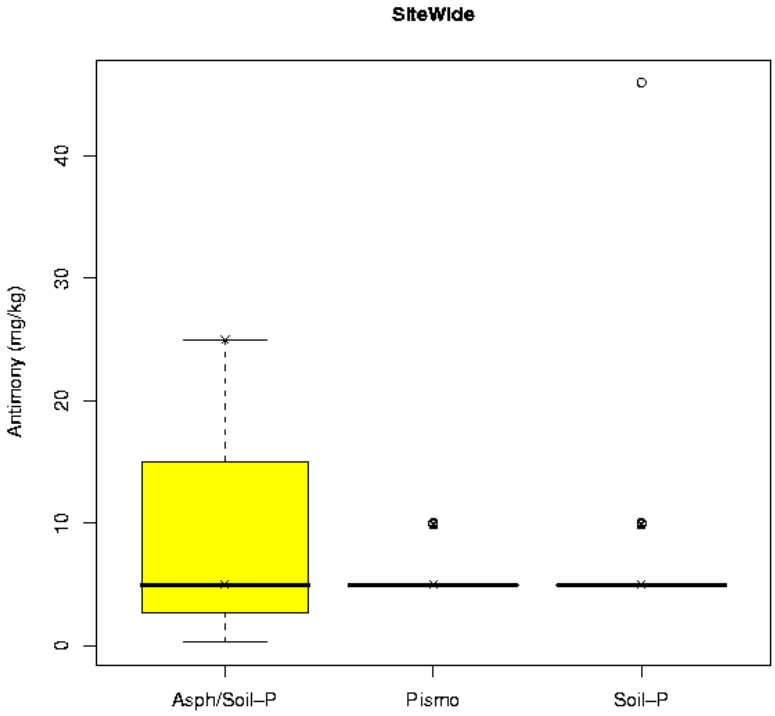
Metal (1/10th CHHSL)	Descriptive Statistics									Background Comparison Tests (p-value)					COPC?	COPC Selection Process Decision Point
	N	N Detect	Min ND	Max ND	Min Detect	Detect Median	Detect Mean	Max Detect	Detect SD	T-test	Gehan	Quantile (75%)	Slippage	Elevated above bkgd?		
Nickel (160 mg/kg)																
All Obispo															No	Passes all site-wide background comparison tests
Background	10	10	NA	NA	1.8	31.5	49.3	130	48.7	-	-	-	-	No		
Site-Wide	113	109	2	4	2.1	11	26.4	**400**	55.3	0.9446	0.9590	0.9980	0.8315			
All Pismo																
Background	7	6	1	1	6.3	21	20.2	34	9.5	-	-	-	-	No		
Site-Wide	187	186	1	1	1.9	11	15.8	170	19.1	0.6415	0.8601	0.9880	0.6105			
All Other																
Site-Wide	18	18	NA	NA	7.5	14	35.5	130	37.3							
Selenium (38 mg/kg)																
Site-Wide	318	3	0.5	10	0.38	0.46	0.45	**0.5**	0.061						No	Site-wide max detect does not exceed 1/10th residential CHSSL
Silver (38 mg/kg)																
Site-Wide	318	2	0.5	10	0.069	0.13	0.13	**0.19**	0.086						No	Site-wide max detect does not exceed 1/10th residential CHSSL
Thallium (0.5 mg/kg)																
All Obispo															Yes - Open space, Site-wide	Low site-wide frequncy of detect; COPC detected in exposure areas
Background	10	0	5	5	NA	NA	NA	NA	NA							
Site-Wide	113	6	5	25	0.74	1.18	3.84	**16**	6.03							
All Pismo																
Background	7	0	5	5	NA	NA	NA	NA	NA							
Site-Wide	187	1	5	25	0.86	0.86	0.86	0.86	NA							
All Other																
Site-Wide	18	0	5	10	NA	NA	NA	NA	NA							
Vanadium (53 mg/kg)																
All Obispo															Yes	Fails site-wide Pismo background comparison tests
Background	10	10	NA	NA	4.1	32.5	37.0	94	31.3	-	-	-	-	No		
Site-Wide	113	113	NA	NA	1.1	18	33.3	130	31.4	0.7071	0.7377	0.5085	0.4680			
All Pismo																
Background	7	7	NA	NA	3.1	14	12.7	18	5.54	-	-	-	-	Yes		
Site-Wide	187	186	1	1	3.2	16	22.2	**270**	27.4	0.0020	0.0709	0.1384	0.0305			
All Other																
Site-Wide	18	18	NA	NA	14	37.5	37.1	57	12.02							
Zinc (2300 mg/kg)																
Site-Wide	318	309	1	5	4.2	22	39.6	**570**	56.2						No	Site-wide max detect does not exceed 1/10th residential CHSSL

*CalEPA, 2005. Use of CHHSLs in the Evaluation of Contaminated Properties.
†Background data set includes onsite data at depth

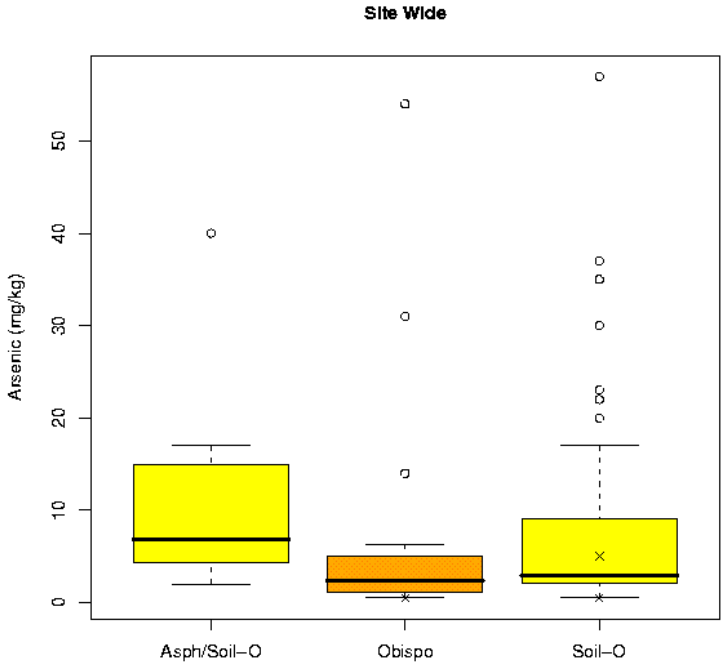
ATTACHMENTS

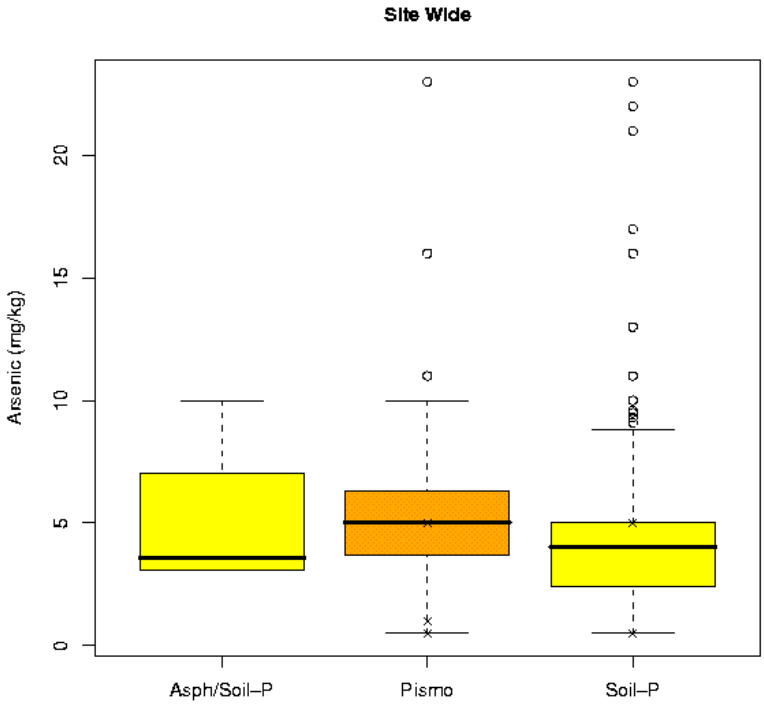
Attachment 1. Boxplots of metal concentrations by geologic unit for Site data. For each metal, the top boxplot compares Obispo-related samples; the bottom boxplot compares Pismo-related samples.



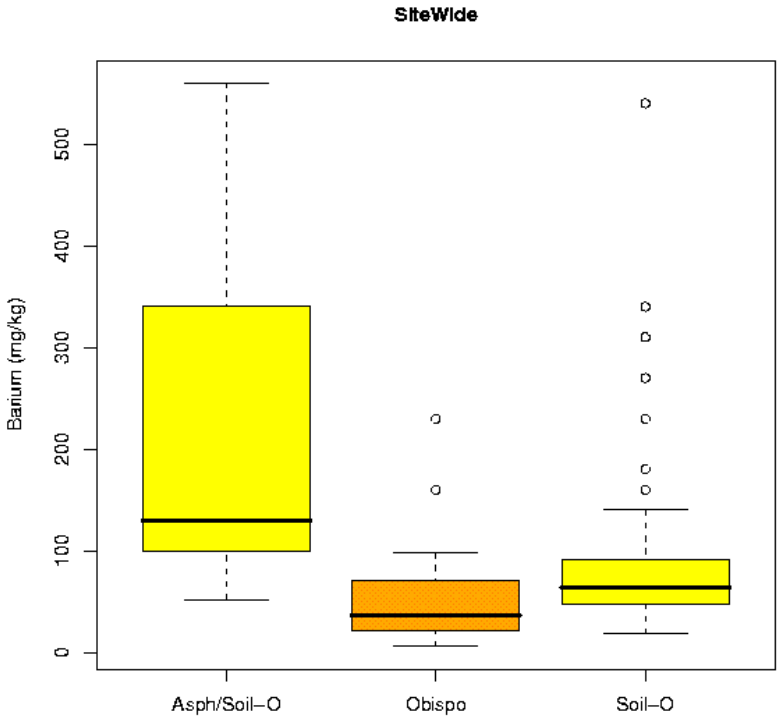


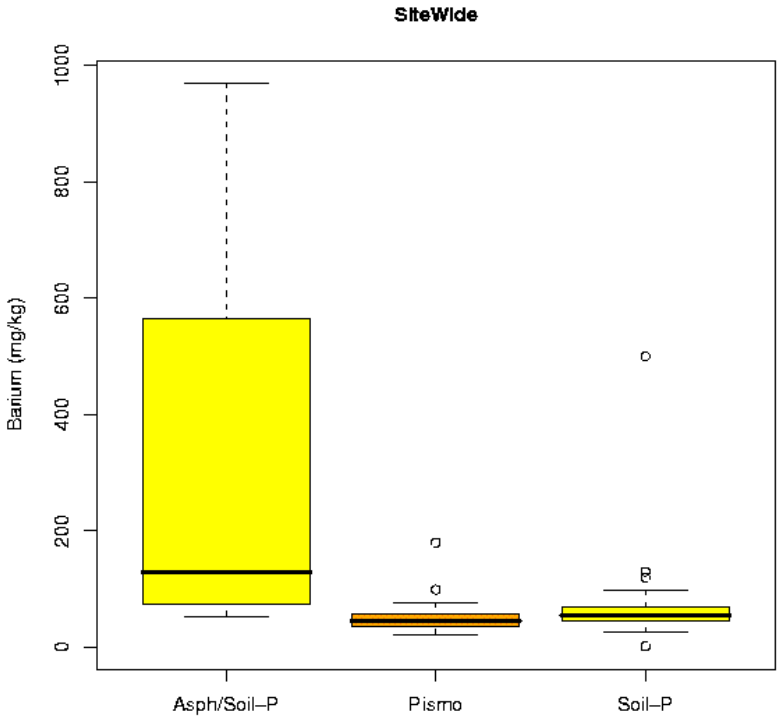
Attachment 1. Boxplots of metal concentrations by geologic unit for Site data. For each metal, the top boxplot compares Obispo-related samples; the bottom boxplot compares Pismo-related samples.



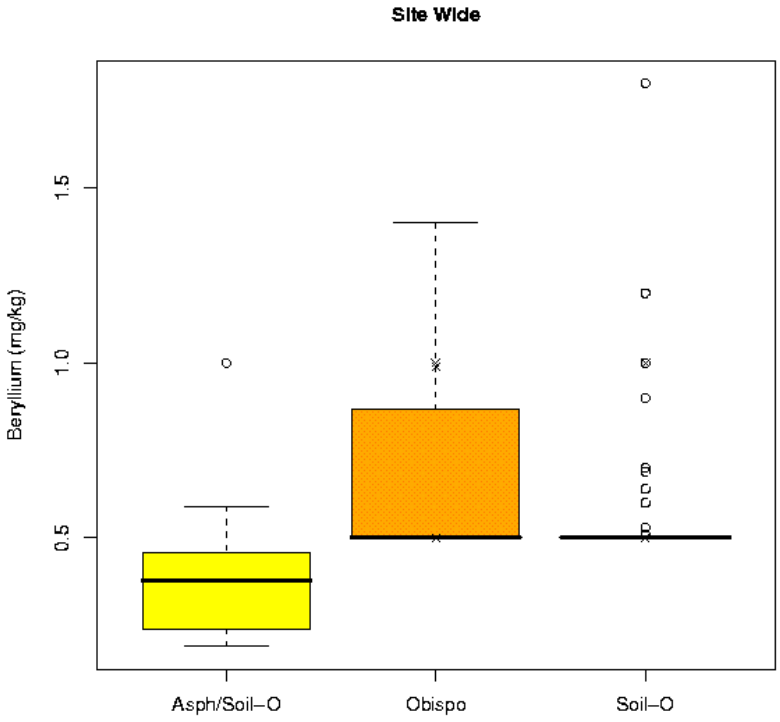


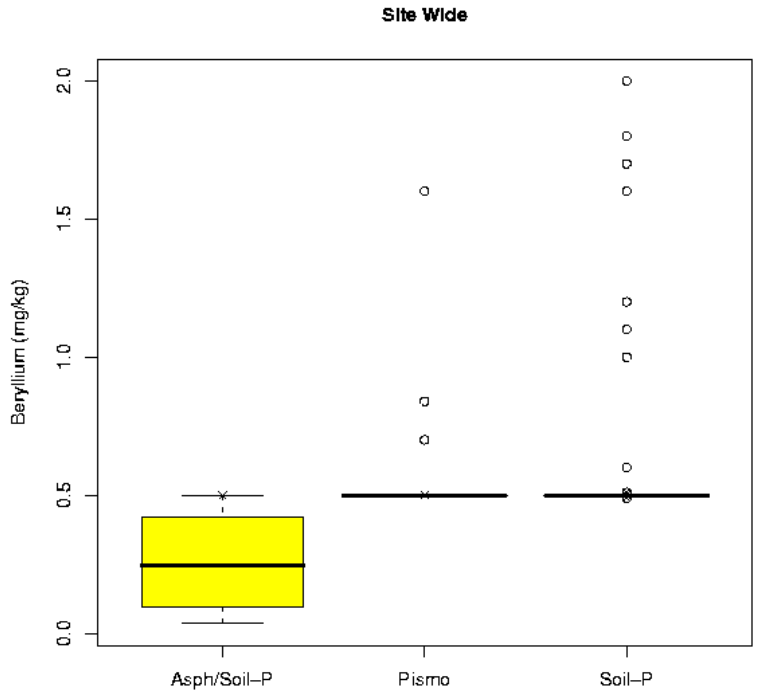
Attachment 1. Boxplots of metal concentrations by geologic unit for Site data. For each metal, the top boxplot compares Obispo-related samples; the bottom boxplot compares Pismo-related samples.





Attachment 1. Boxplots of metal concentrations by geologic unit for Site data. For each metal, the top boxplot compares Obispo-related samples; the bottom boxplot compares Pismo-related samples.





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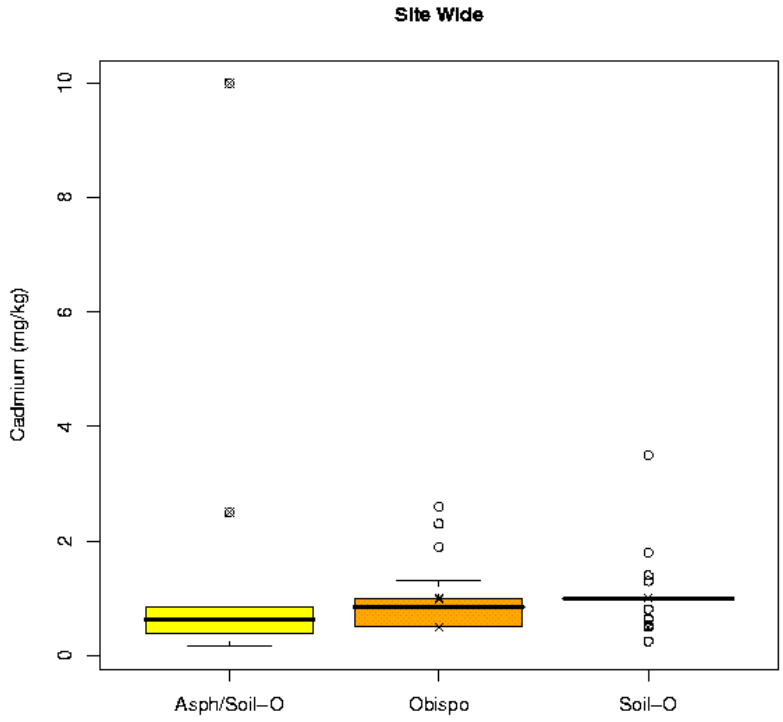

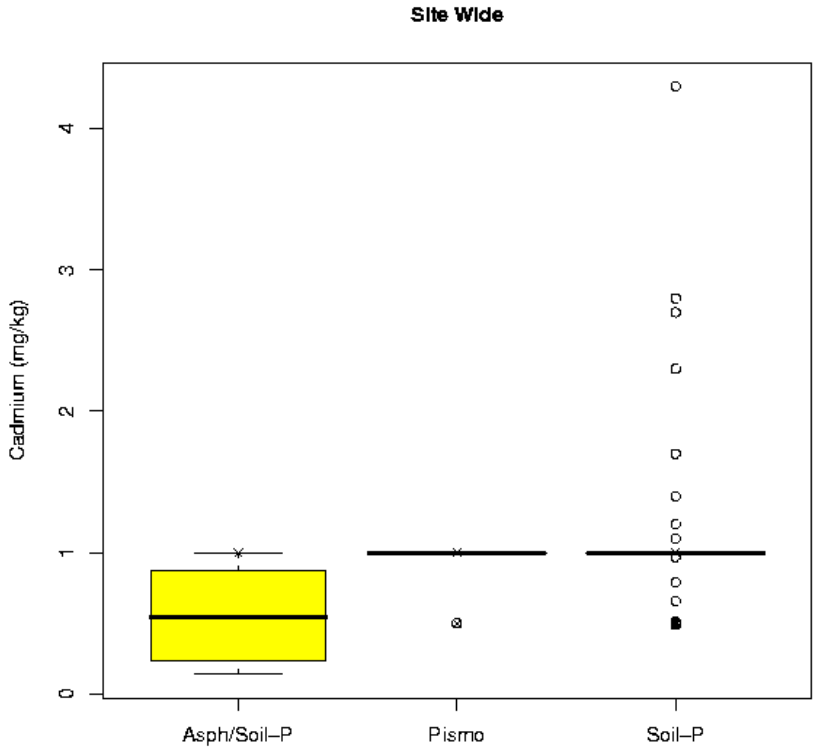

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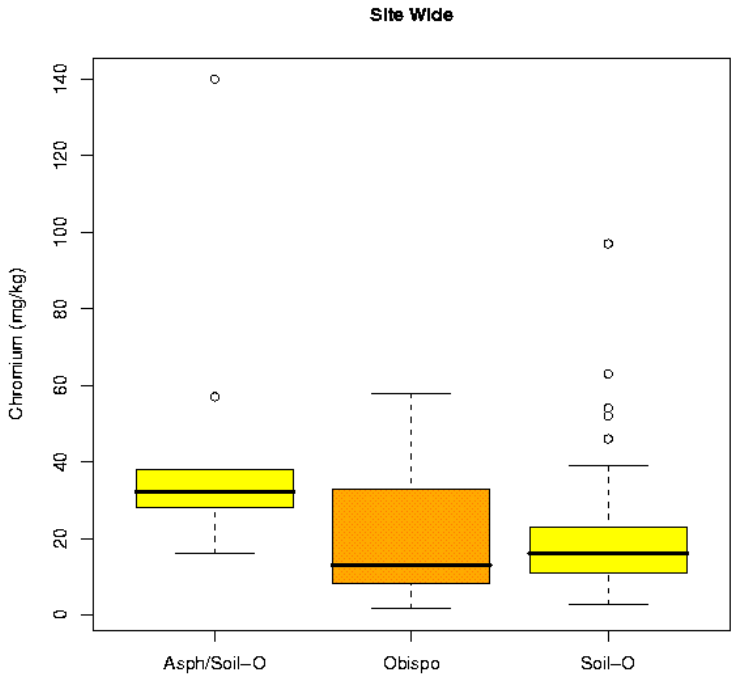

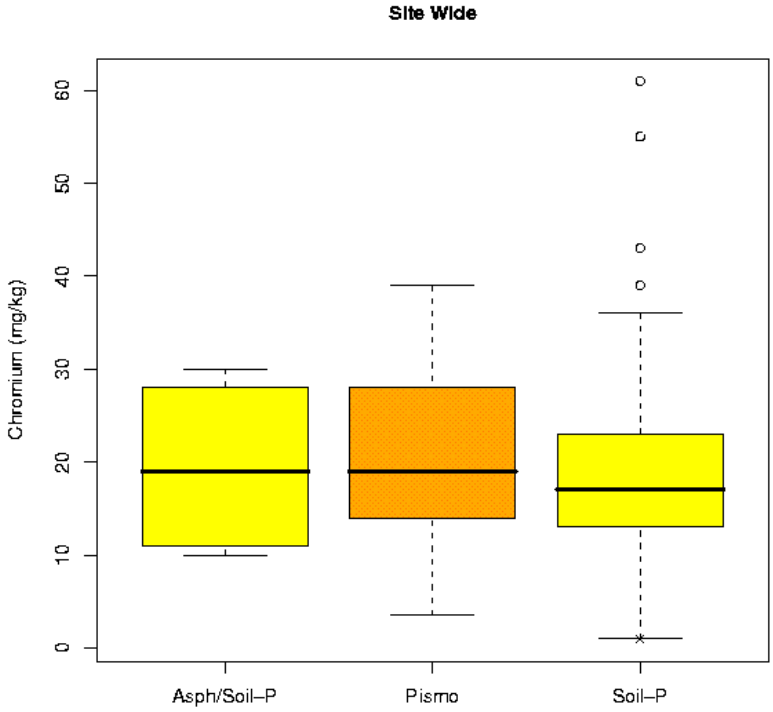

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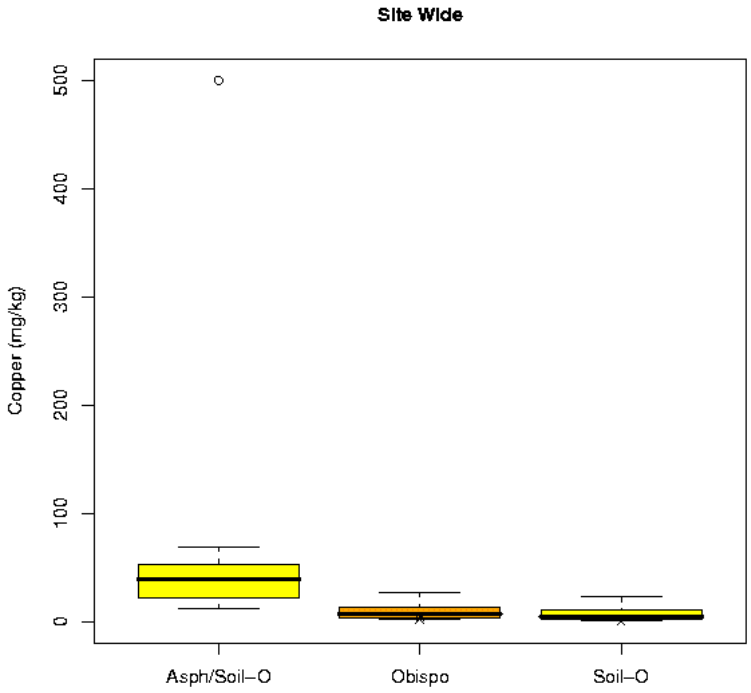

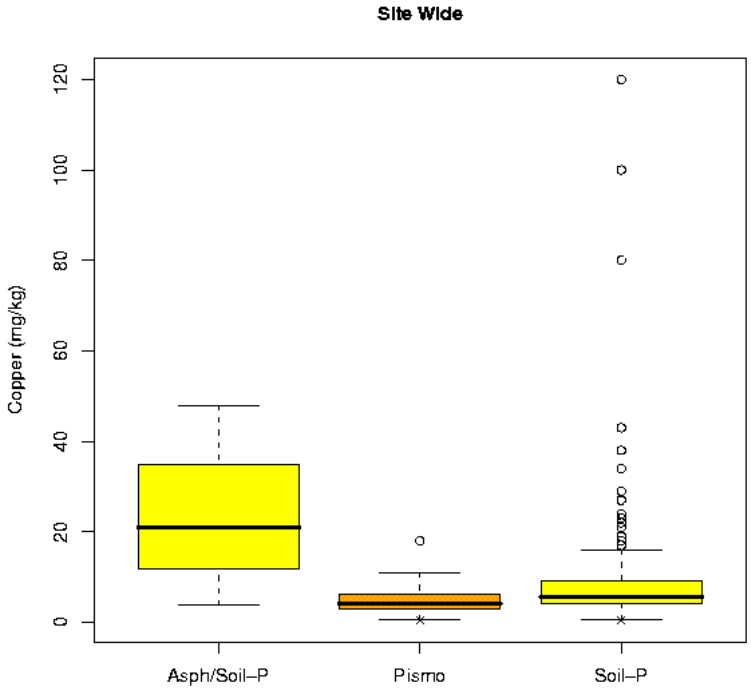

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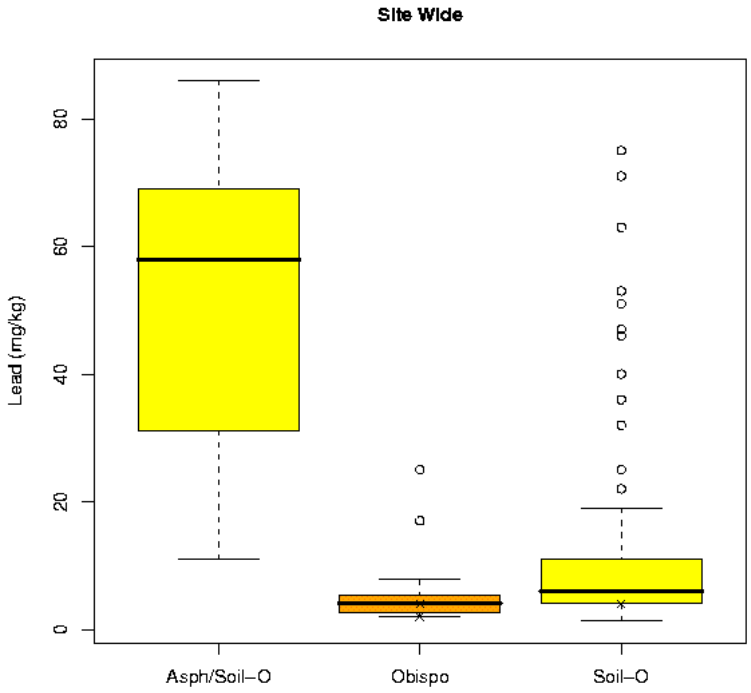

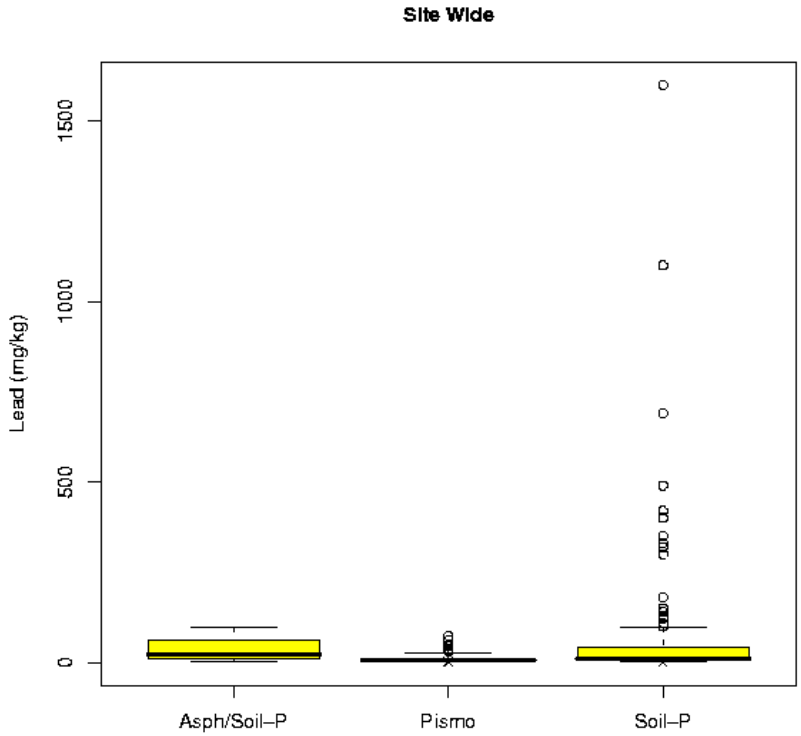

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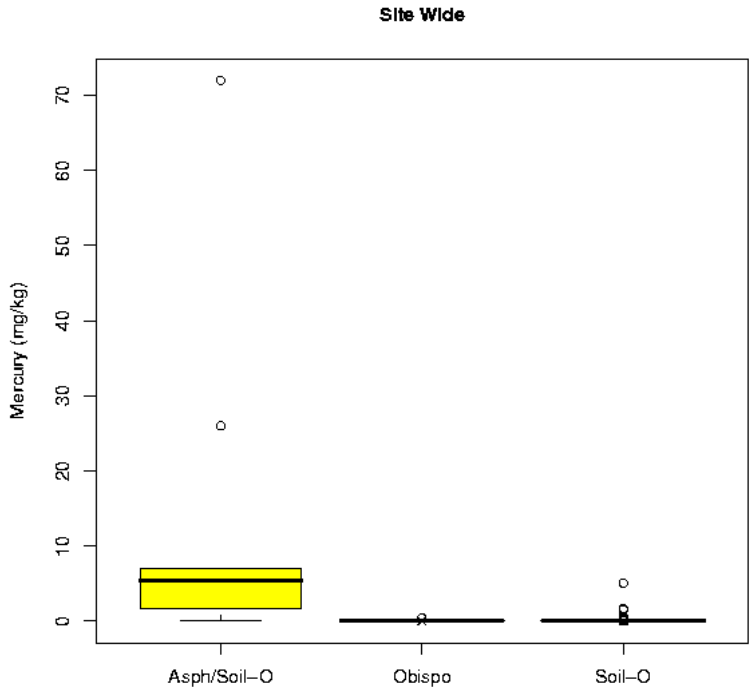

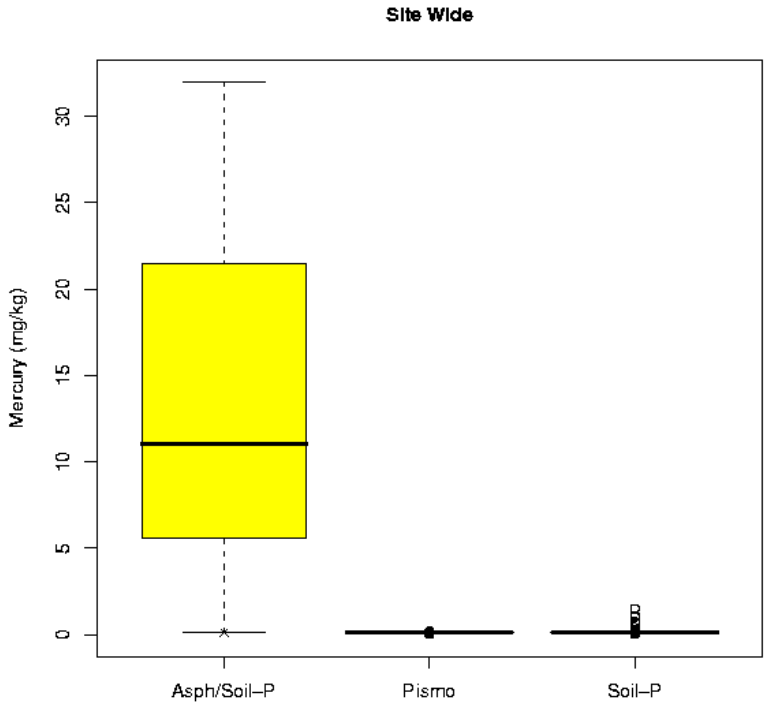

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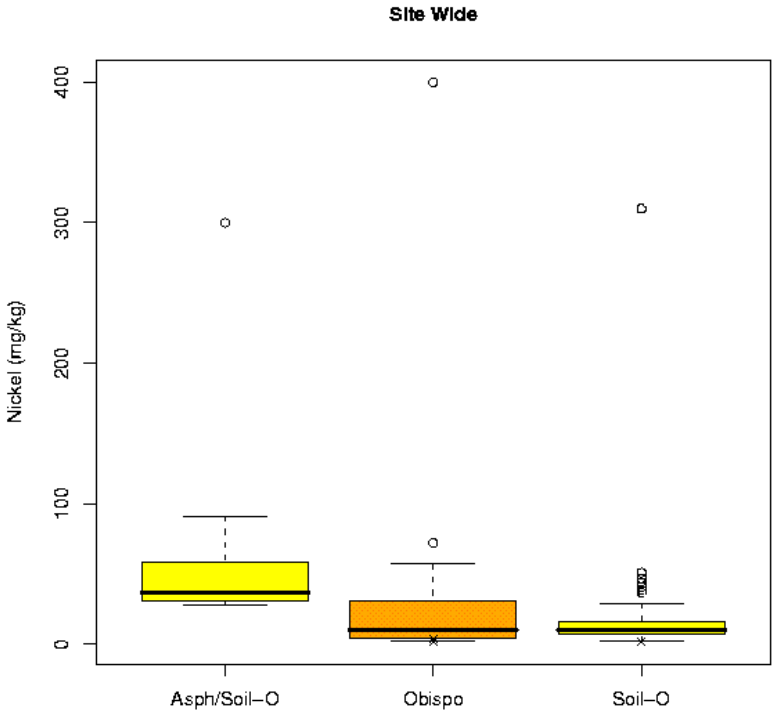

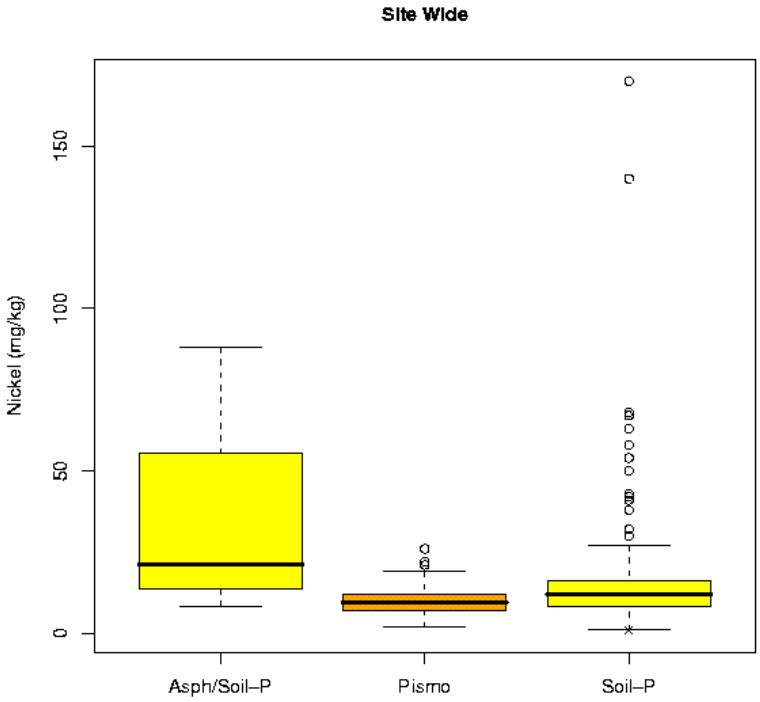

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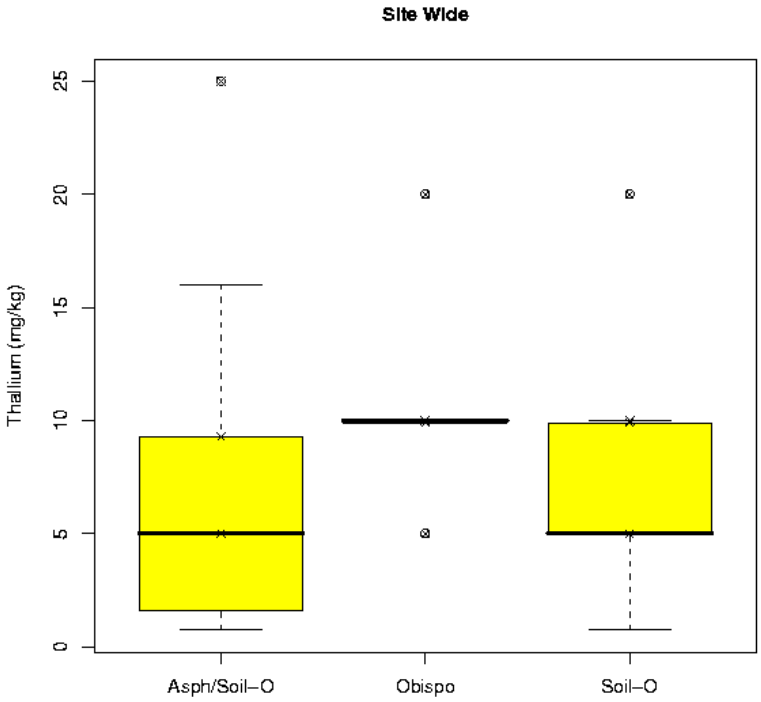

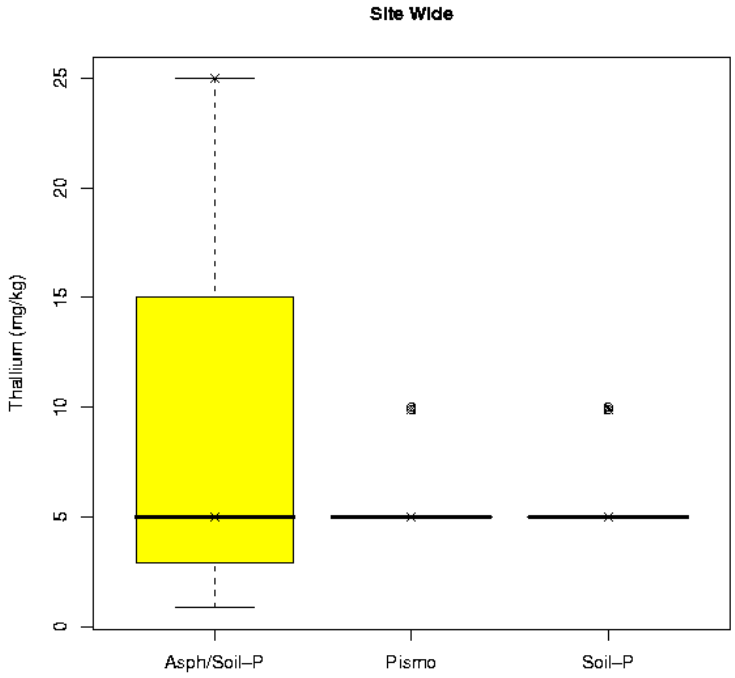

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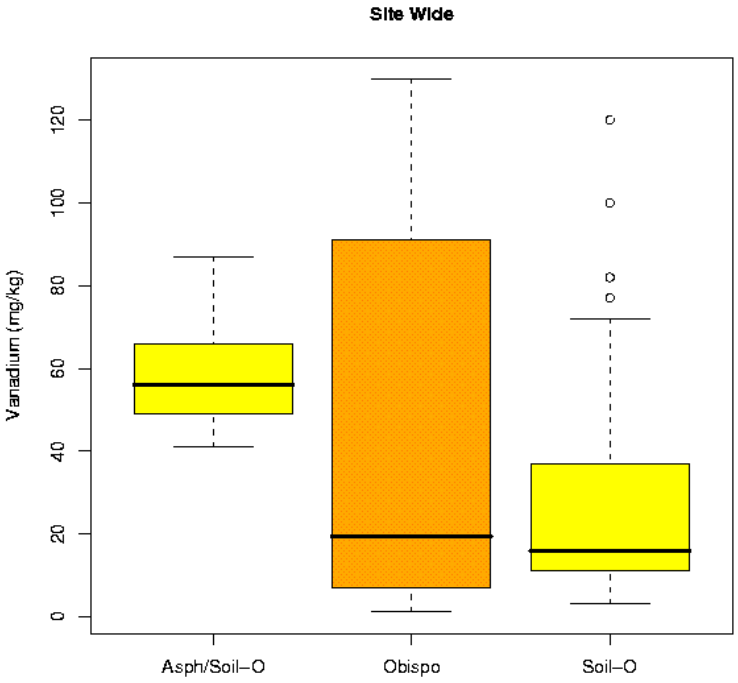

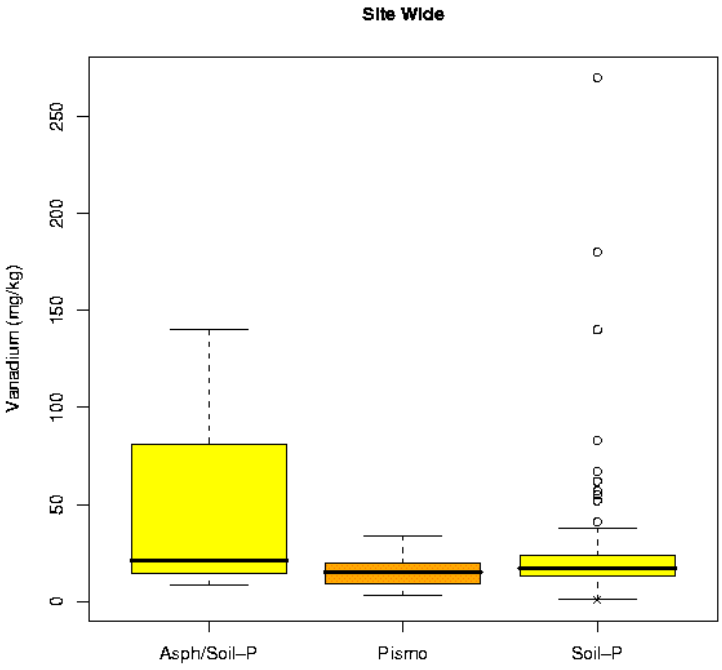

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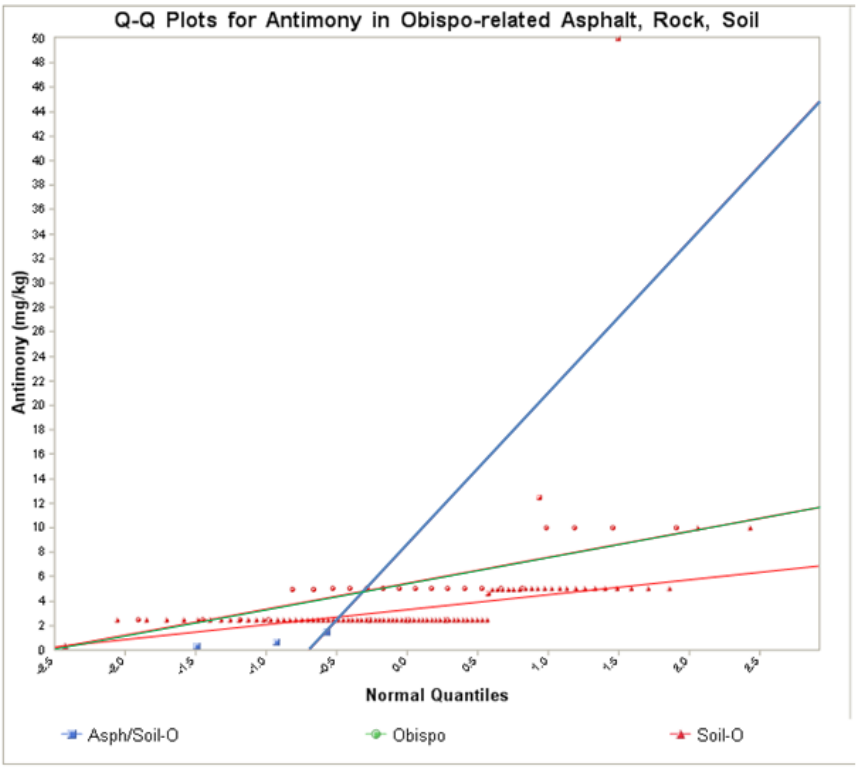

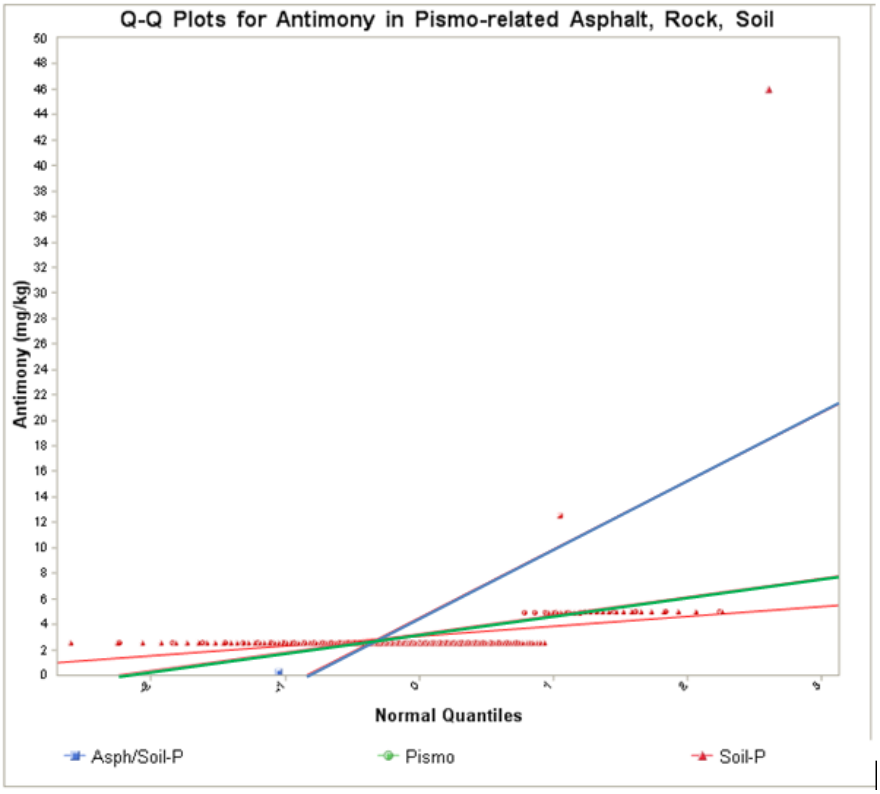

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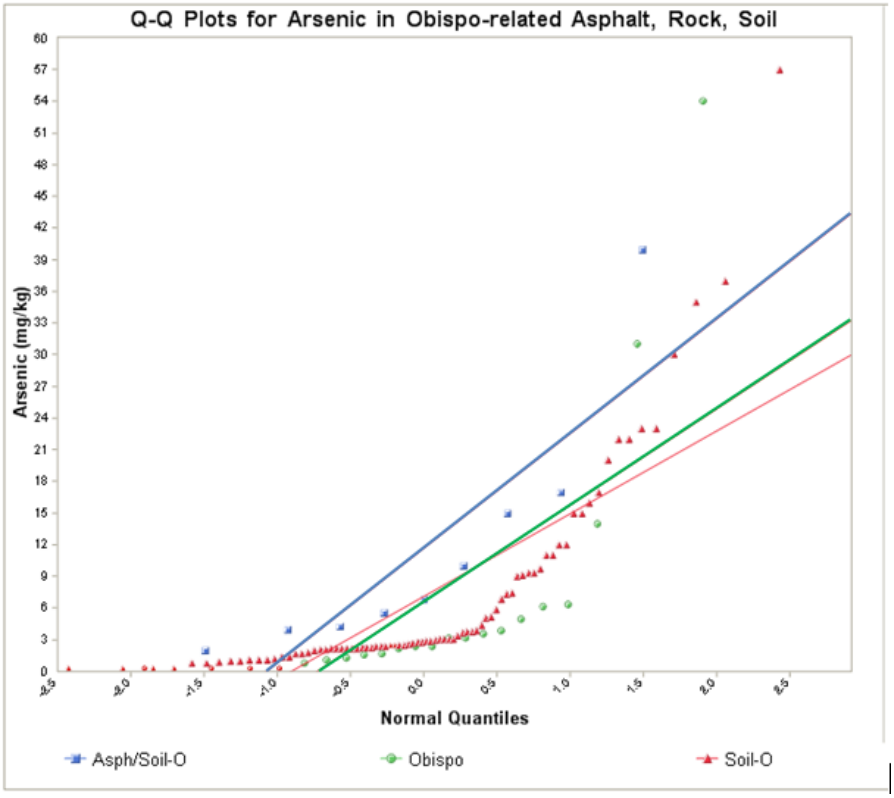

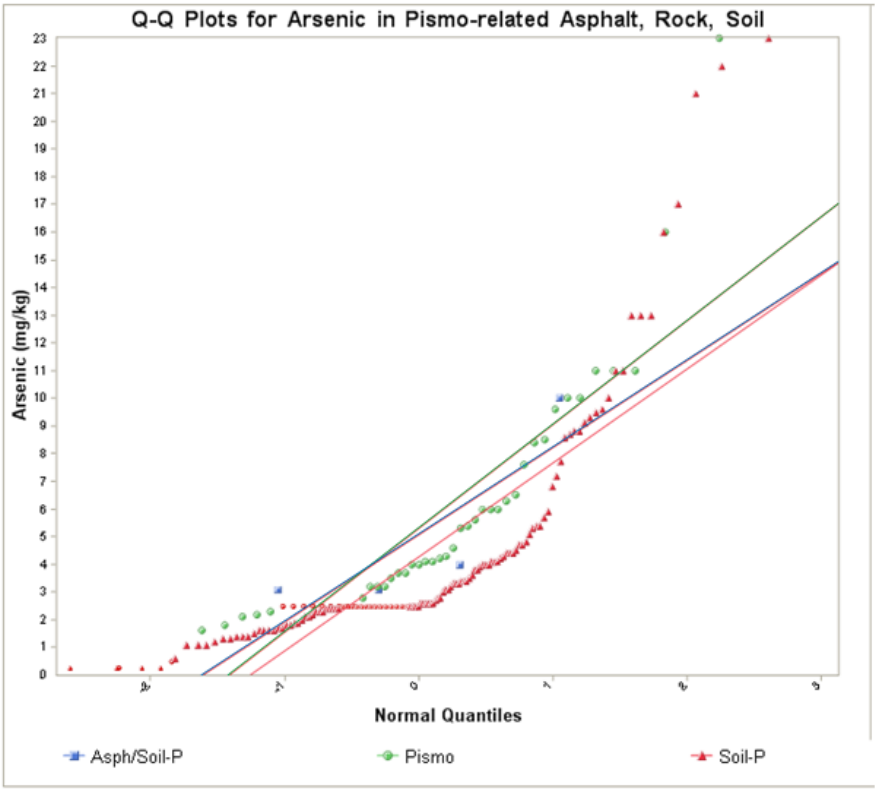

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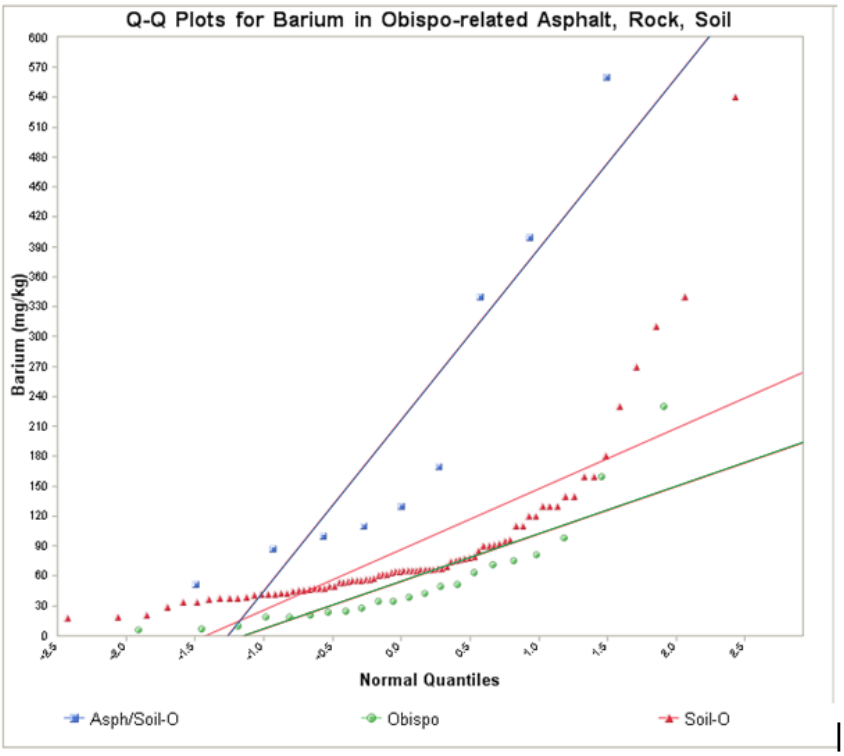

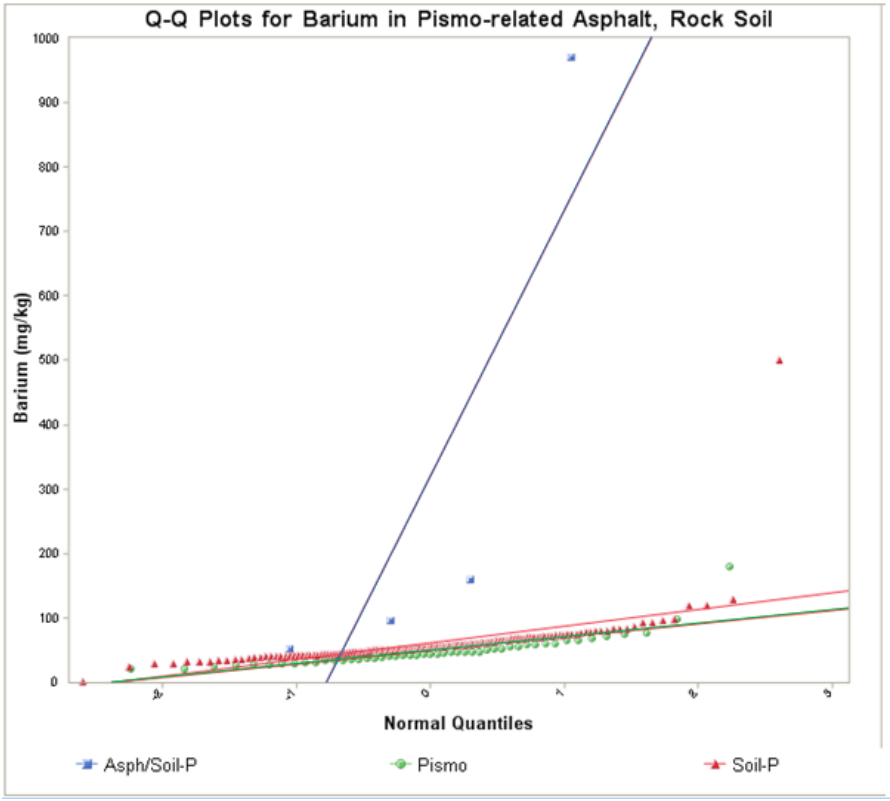

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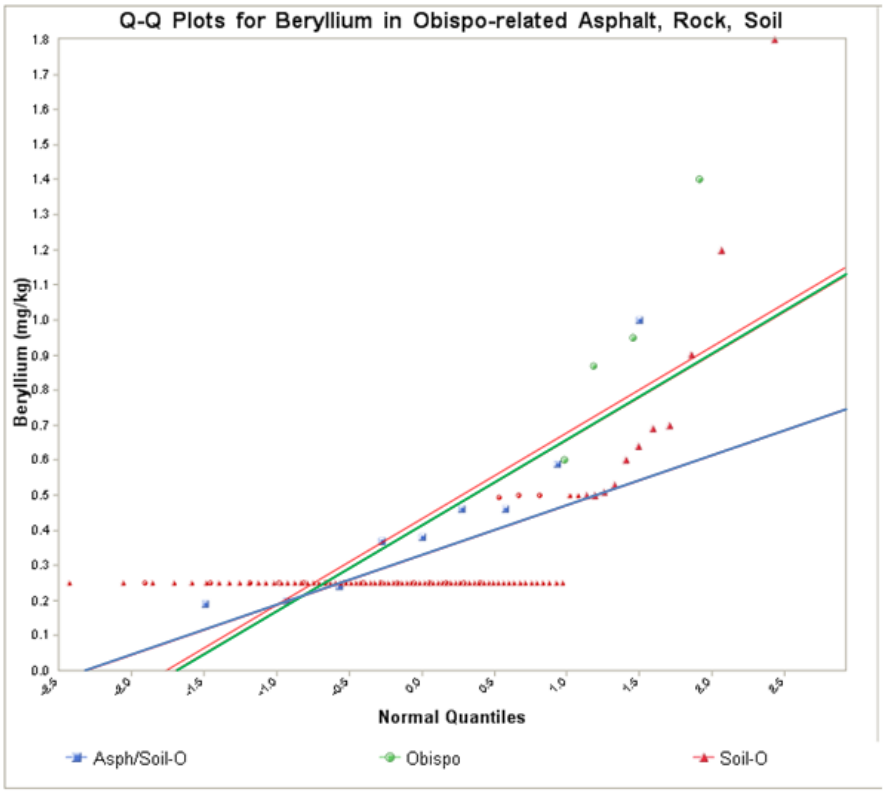

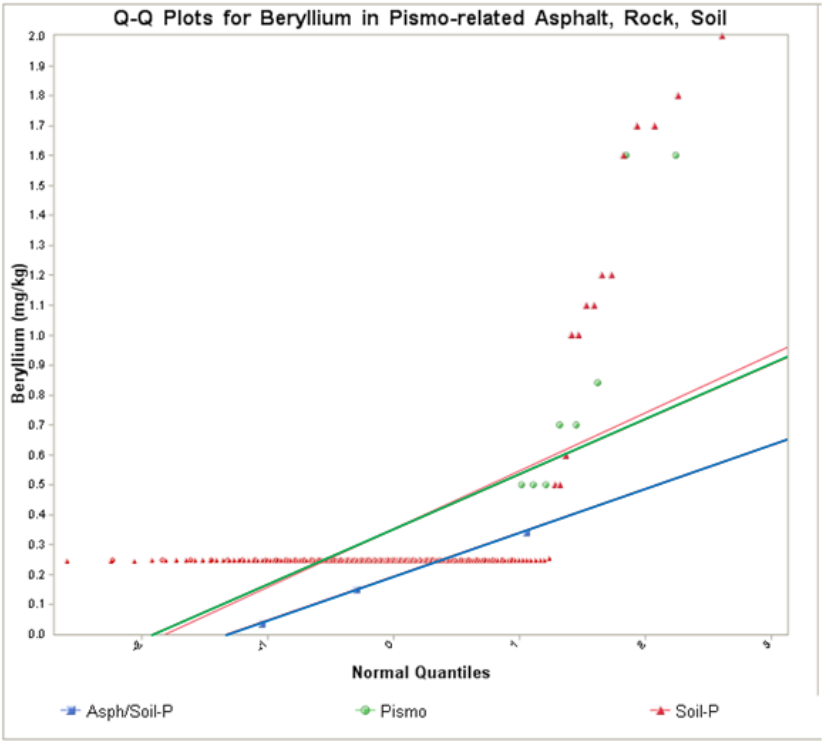

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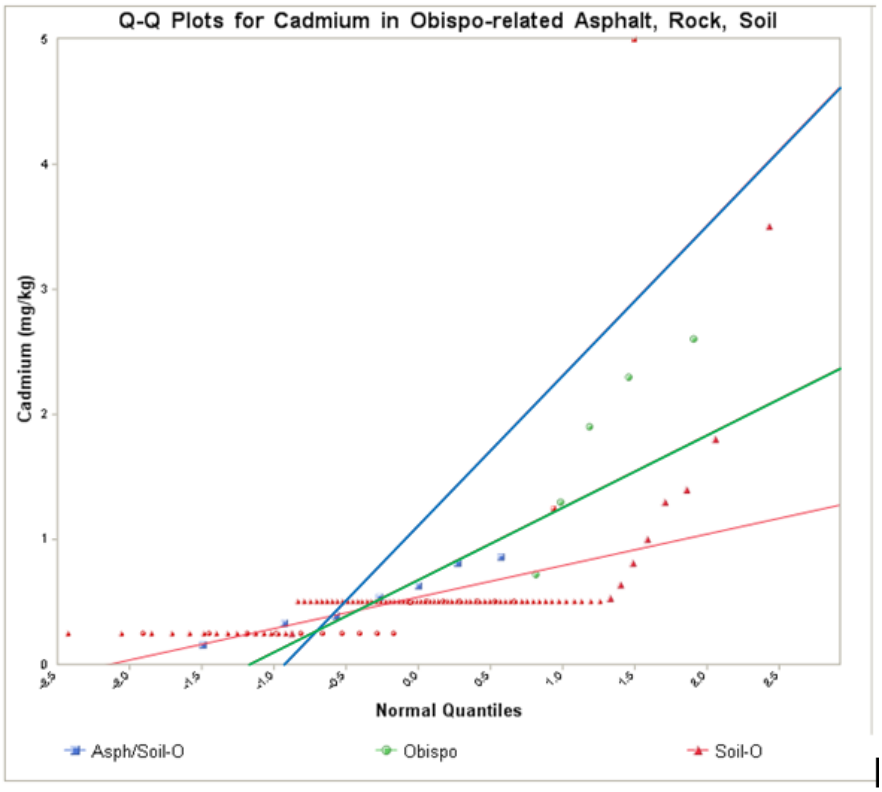

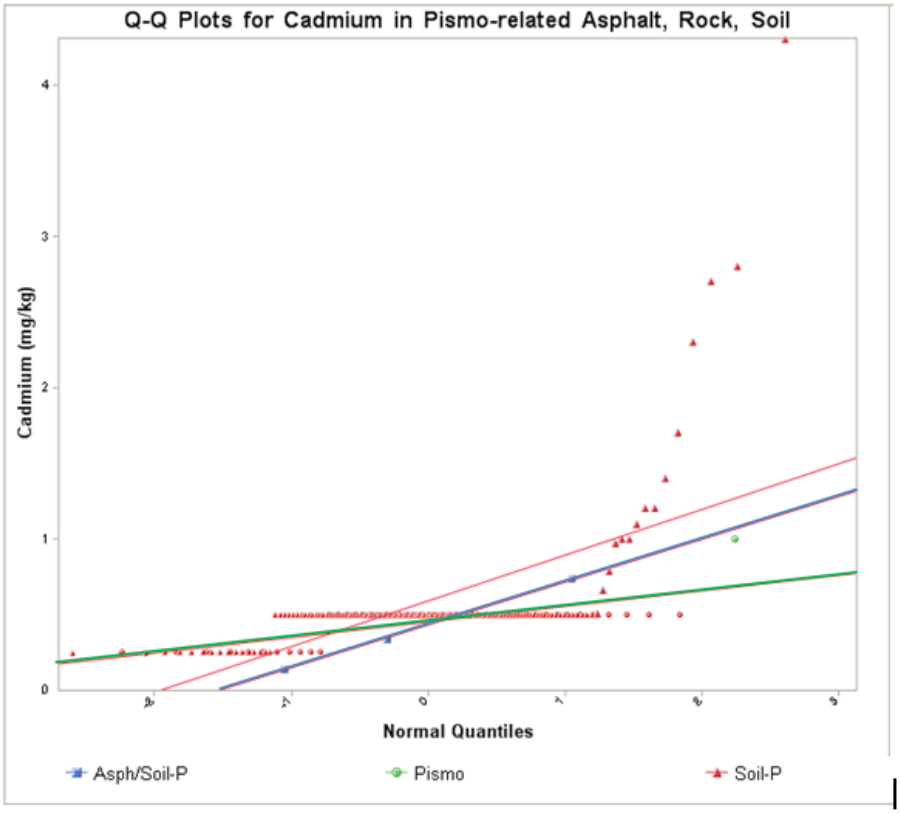

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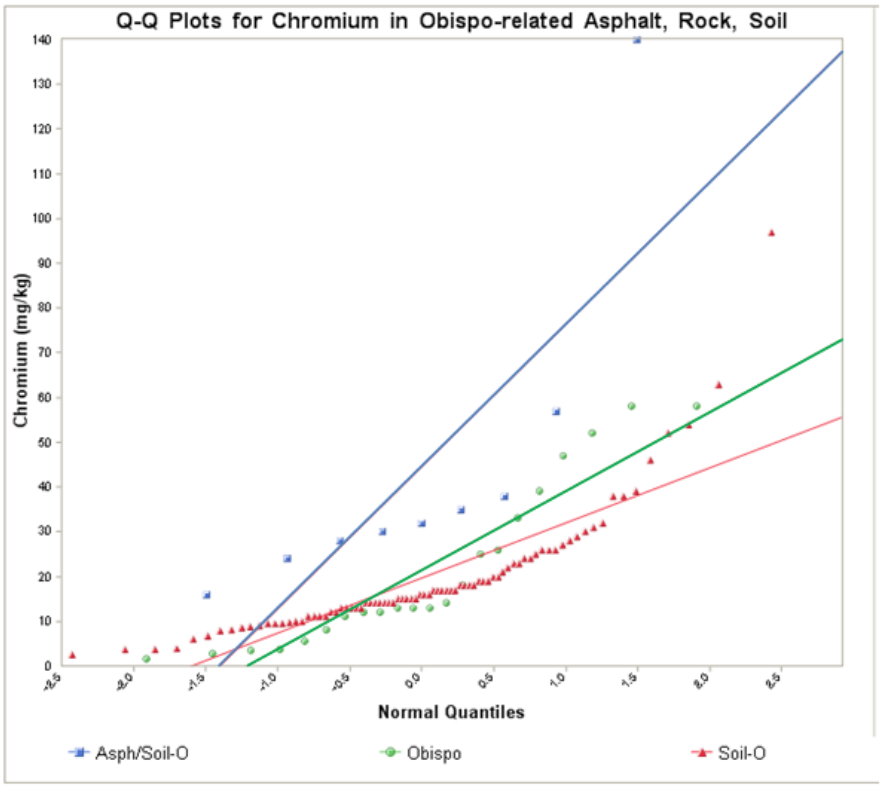

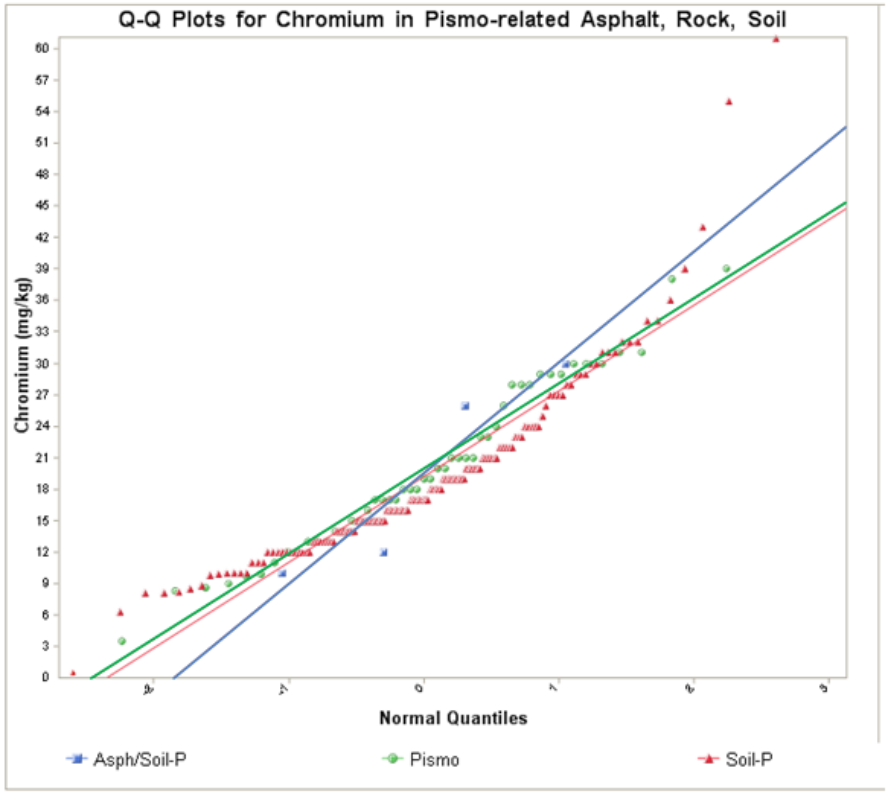

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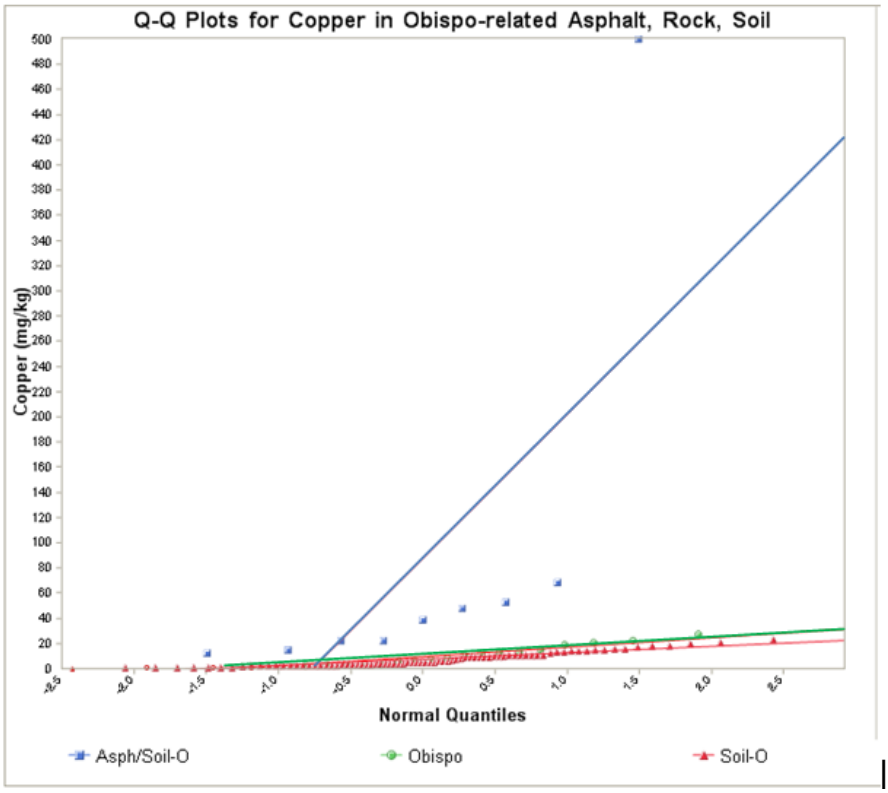

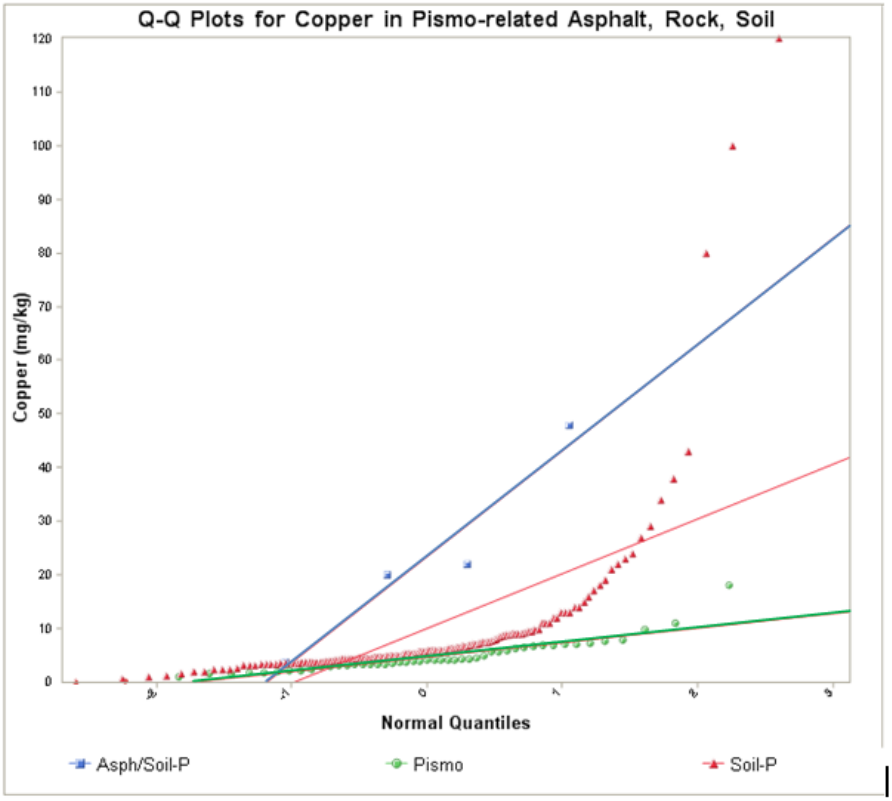

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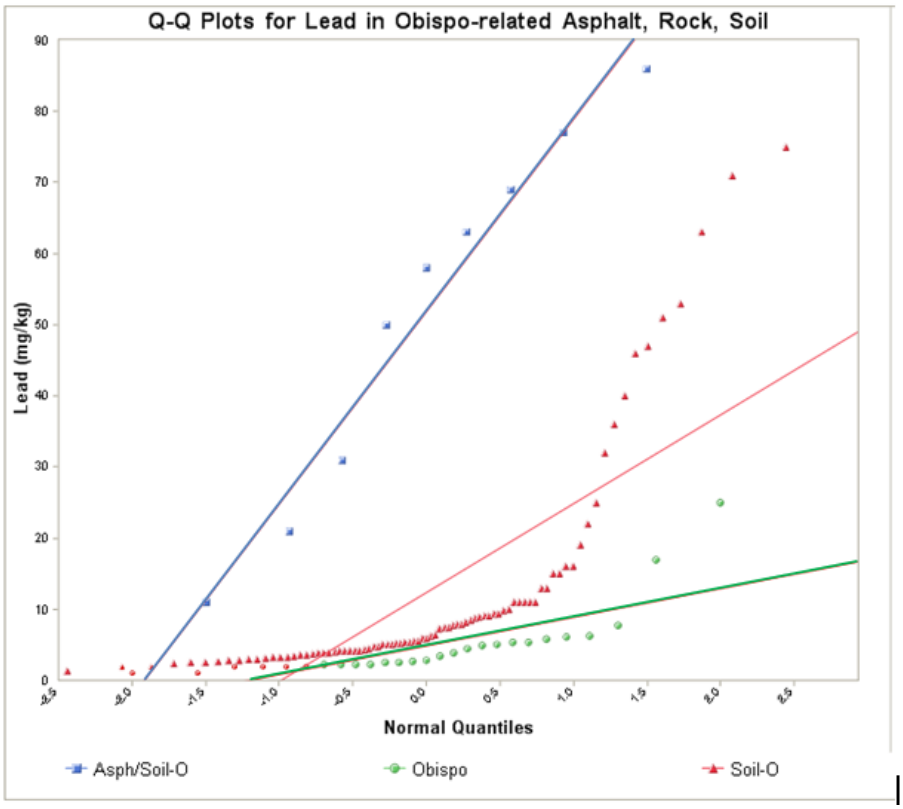

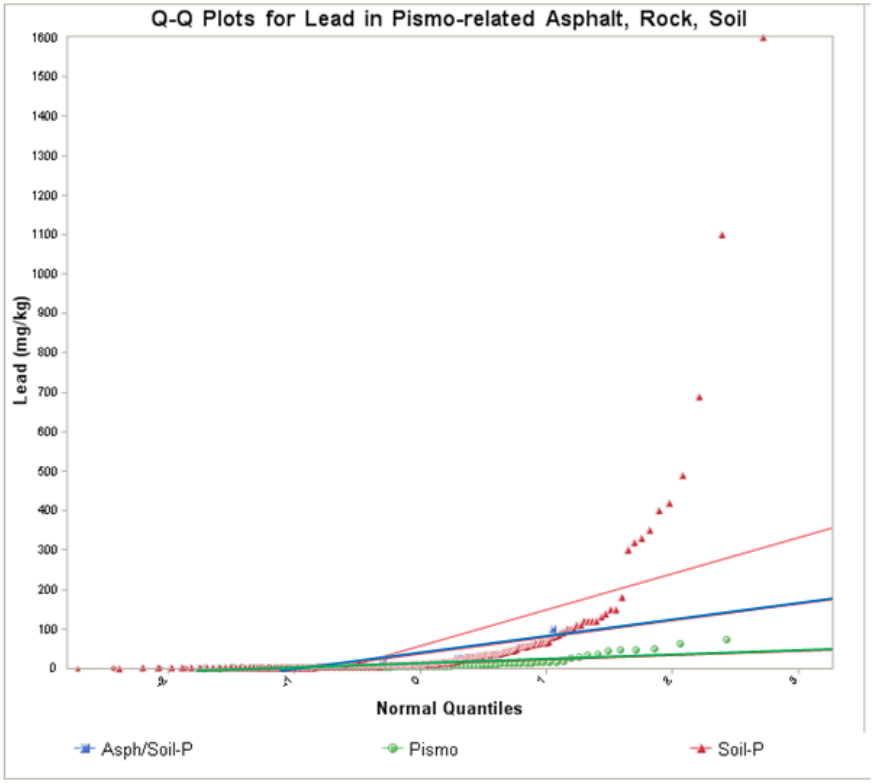

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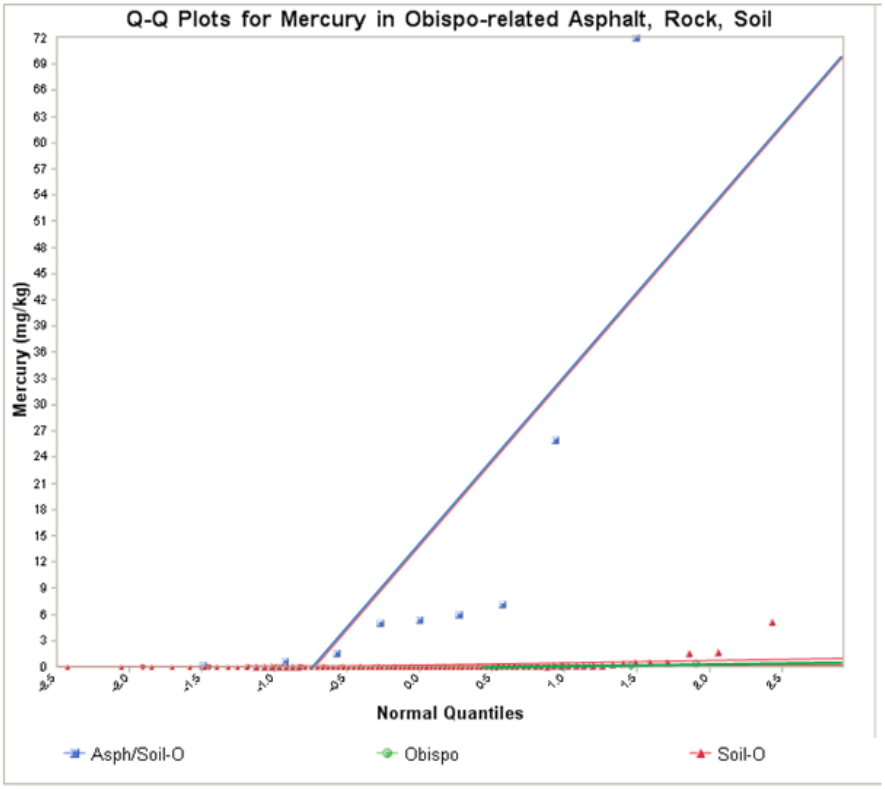

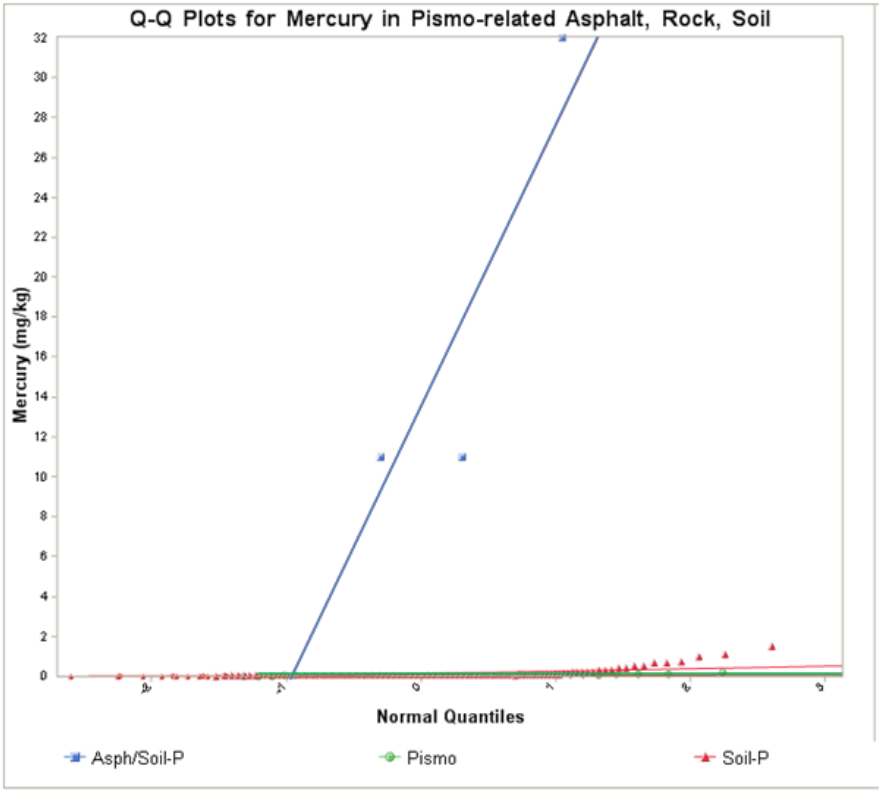

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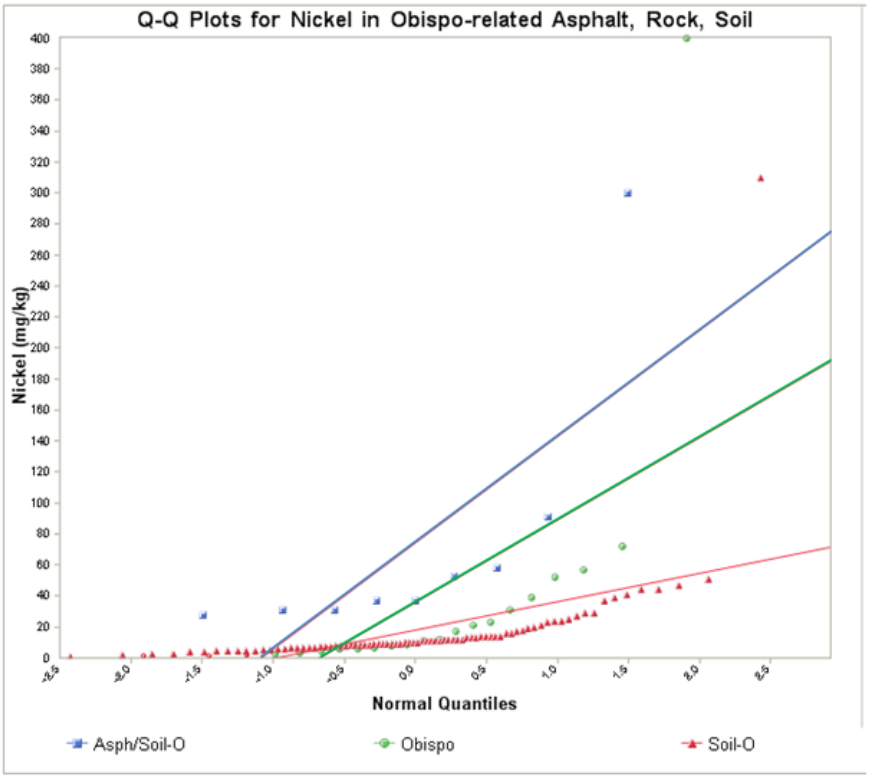

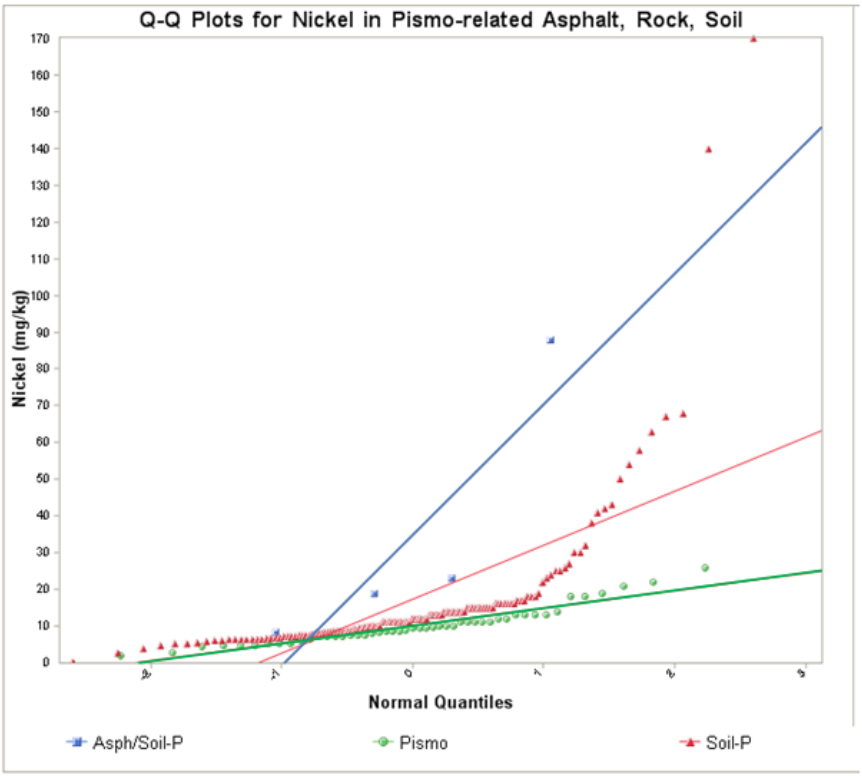

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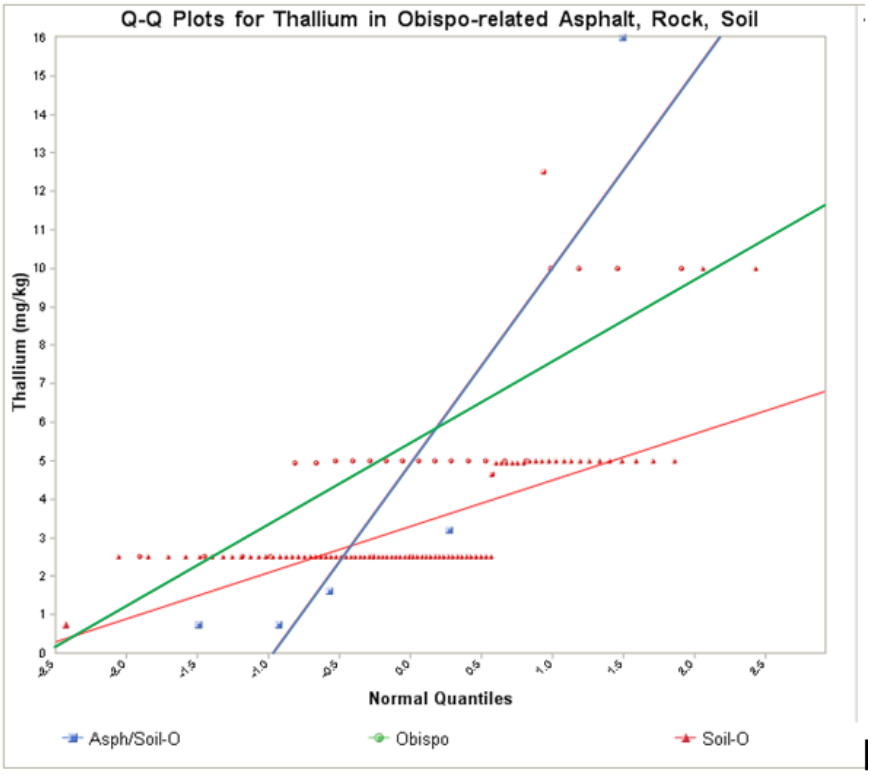

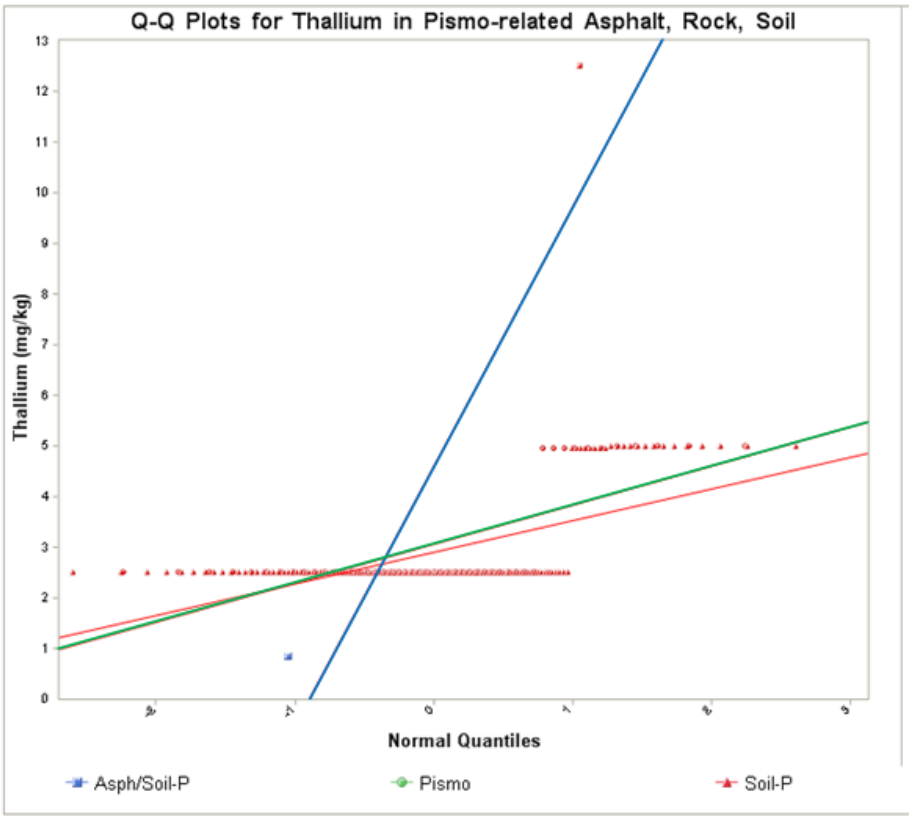

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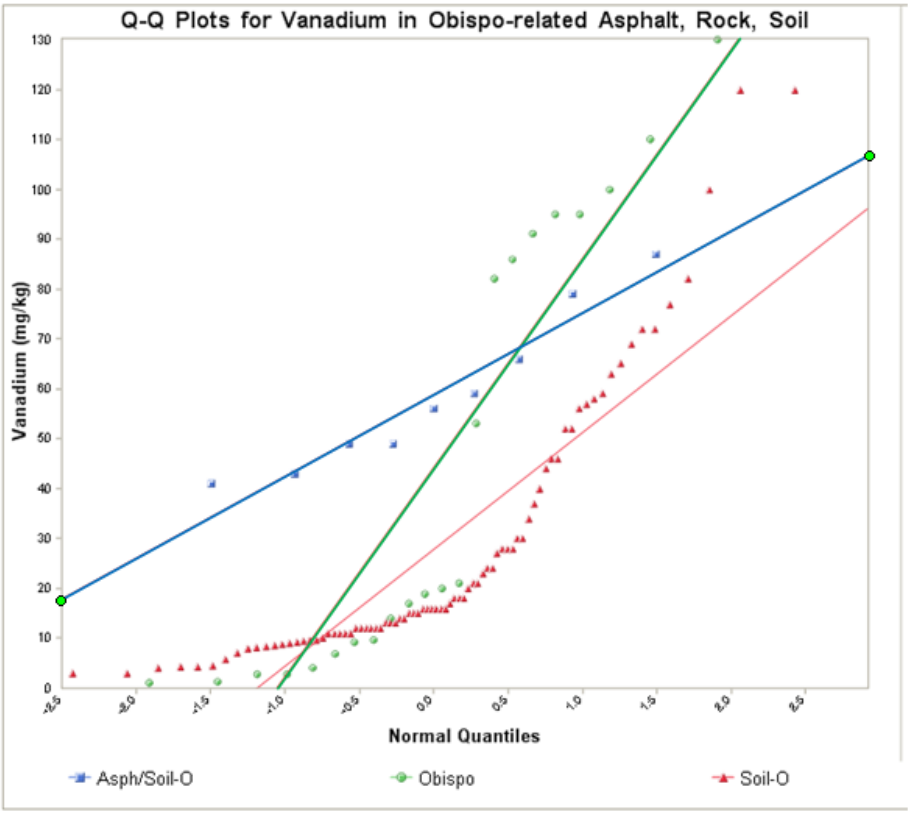
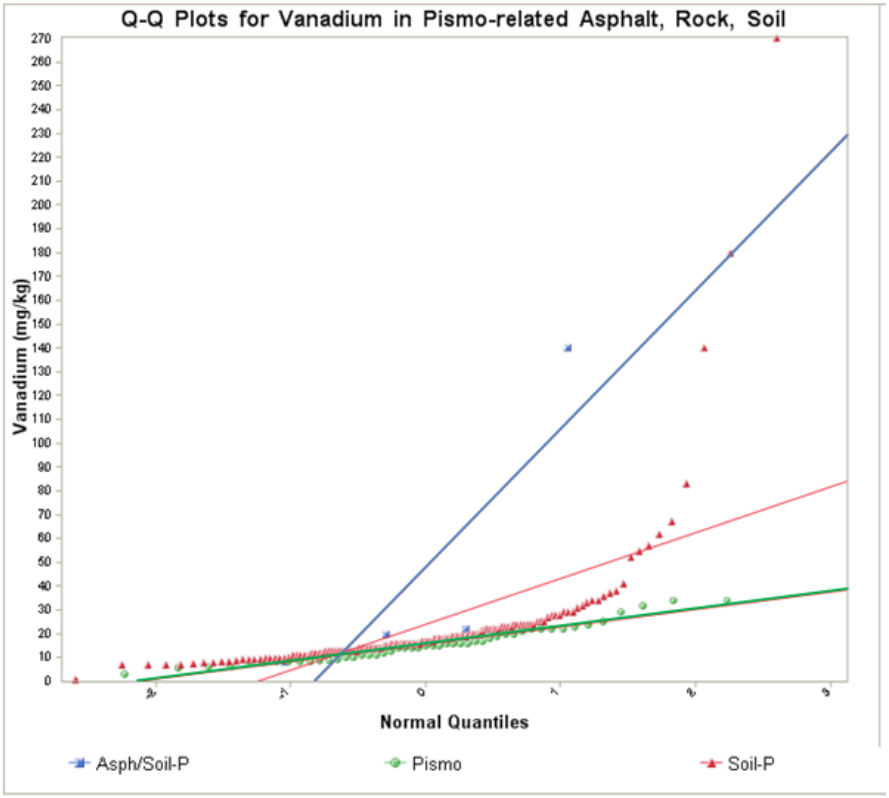




Attachment 3. ANOVA Output.

SUMMARY for Antimony in Obispo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-O	9	77.17	8.574444	254.7201
Obispo	22	119.9	5.45	5.740476
Soil-O	82	270.06	3.293415	2.410186

ANOVA results for Antimony in Obispo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	273.4986	2	136.7493	6.391415	0.002366	3.078819
Within Groups	2353.536	110	21.39578			
Total	2627.034	112				

SUMMARY for Antimony in Pismo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-P	4	17.78	4.445	29.9321
Pismo	49	149.7	3.055102	1.086796
Soil-P	134	433.1	3.23209	14.70641

ANOVA results for Antimony in Pismo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	7.341447	2	3.670723	0.321945	0.725145	3.04504
Within Groups	2097.915	184	11.40171			
Total	2105.256	186				

Attachment 3. ANOVA Output.

SUMMARY for Arsenic in Obispo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-O	9	104.7	11.6333	139.01
Obispo	22	144.82	6.582727	156.9463
Soil-O	82	578.72	7.057561	93.67608

ANOVA for Arsenic in Obispo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	185.0395	2	92.51976	0.848401	0.430881	3.078819
Within Groups	11995.71	110	109.0519			
Total	12180.75	112				

SUMMARY for Arsenic in Pismo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-P	4	20.2	5.05	11.07
Pismo	49	259.05	5.286735	17.24487
Soil-P	134	570.5	4.257463	16.75141

ANOVA results for Arsenic in Pismo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	39.05711	2	19.52856	1.163279	0.314747	3.04504
Within Groups	3088.901	184	16.78751			
Total	3127.959	186				

Attachment 3. ANOVA Output.

SUMMARY for Barium in Obispo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-O	9	1949	216.5556	30663.28
Obispo	22	1190.7	54.12273	2819.375
Soil-O	82	7047	85.93902	5993.49

ANOVA results for Barium in Obispo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	173814.5	2	86907.27	12.10123	1.78E-05	3.078819
Within Groups	789985.8	110	7181.689			
Total	963800.3	112				

SUMMARY for Barium in Pismo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-P	4	1280	320	189706
Pismo	49	2398	48.93878	617.892
Soil-P	134	8201.3	61.20373	1799.816

ANOVA results for Barium in Pismo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	274264.9	2	137132.4	30.10475	4.89E-12	3.04504
Within Groups	838152.3	184	4555.176			
Total	1112417	186				

Attachment 3. ANOVA Output.

SUMMARY for Beryllium in Obispo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-O	9	3.89	0.432222	0.063119
Obispo	22	9.065	0.412045	0.091749
Soil-O	82	26.82	0.327073	0.053174

ANOVA results for Beryllium in Pismo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.188191	2	0.094095	1.535959	0.219829	3.078819
Within Groups	6.738786	110	0.061262			
Total	6.926977	112				

SUMMARY for Beryllium in Pismo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-P	4	0.775	0.19375	0.017223
Pismo	49	17.19	0.350816	0.085158
Soil-P	134	46.99	0.350672	0.110955

ANOVA results for Beryllium in Pismo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.096439	2	0.04822	0.469531	0.626042	3.04504
Within Groups	18.89628	184	0.102697			
Total	18.99271	186				

Attachment 3. ANOVA Output.

SUMMARY for Cadmium in Obispo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-O	9	9.97	1.107778	2.236094
Obispo	22	14.815	0.673409	0.48866
Soil-O	82	43.98	0.536341	0.165411

ANOVA results for Cadmium in Obispo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	2.763157	2	1.381578	3.657703	0.028978	3.078819
Within Groups	41.54893	110	0.377718			
Total	44.31208	112				

SUMMARY for Cadmium in Pismo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-P	4	1.72	0.43	0.0644
Pismo	49	22.25	0.454082	0.017379
Soil-P	134	78.87	0.588582	0.242457

ANOVA results for Cadmium in Pismo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.707885	2	0.353943	1.957234	0.144178	3.04504
Within Groups	33.27421	184	0.180838			
Total	33.9821	186				

Attachment 3. ANOVA Output.

SUMMARY for Chromium in Obispo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-O	9	400	44.44444	1410.028
Obispo	22	469.1	21.32273	338.9323
Soil-O	82	1596.3	19.46707	201.5837

ANOVA results for Chromium in Obispo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	5066.203	2	2533.101	8.023973	0.000559	3.078819
Within Groups	34726.08	110	315.6917			
Total	39792.28	112				

SUMMARY for Chromium in Pismo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-P	4	78	19.5	99.66667
Pismo	49	977	19.93878	65.58367
Soil-P	134	2566.2	19.15075	75.33455

ANOVA results for Chromium in Pismo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	22.35581	2	11.1779	0.15273	0.858471	3.04504
Within Groups	13466.51	184	73.18756			
Total	13488.87	186				

Attachment 3. ANOVA Output.

SUMMARY for Copper in Obispo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-O	9	780	86.66667	24391.5
Obispo	22	201.5	9.159091	59.83396
Soil-O	82	587.85	7.168902	30.5672

ANOVA results for Copper in Obispo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	51864.58	2	25932.29	14.3442	2.91E-06	3.078819
Within Groups	198864.5	110	1807.859			
Total	250729	112				

SUMMARY for Copper in Pismo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-P	4	93.7	23.425	335.5892
Pismo	49	229.55	4.684694	8.806271
Soil-P	134	1330.3	9.927612	241.1596

ANOVA results for Copper in Pismo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1855.458	2	927.7291	5.095024	0.00702	3.04504
Within Groups	33503.7	184	182.0853			
Total	35359.15	186				

Attachment 3. ANOVA Output.

SUMMARY for Lead in Obispo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-O	9	466	51.77778	664.1944
Obispo	27	129.9	4.811111	26.09949
Soil-O	85	1040.7	12.24353	248.7944

ANOVA results for Lead in Obispo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	15359.22	2	7679.61	33.69894	2.65E-12	3.07309
Within Groups	26890.87	118	227.8887			
Total	42250.09	120				

SUMMARY for Lead in Pismo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-P	4	144.8	36.2	1829.227
Pismo	83	884.9	10.66145	204.5453
Soil-P	192	10846	56.48958	26126.38

ANOVA results for Lead in Pismo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	121870.2	2	60935.08	3.355296	0.036328	3.028485
Within Groups	5012398	276	18160.86			
Total	5134268	278				

Attachment 3. ANOVA Output.

SUMMARY for Mercury in Obispo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-O	9	123.78	13.75333	537.6338
Obispo	22	0.917	0.041682	0.007042
Soil-O	82	13.83	0.168659	0.369858

ANOVA results for Mercury in Obispo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1534.938	2	767.4689	19.4916	5.68E-08	3.078819
Within Groups	4331.177	110	39.37433			
Total	5866.115	112				

SUMMARY for Mercury in Pismo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-P	4	54.05	13.5125	178.5506
Pismo	49	2.485	0.050714	0.000792
Soil-P	134	15.632	0.116657	0.044015

ANOVA results for Mercury in Pismo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	704.4496	2	352.2248	119.6752	5.09E-34	3.04504
Within Groups	541.5439	184	2.943173			
Total	1245.993	186				

Attachment 3. ANOVA Output.

SUMMARY for Nickel in Obispo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-O	9	666	74	7576.75
Obispo	22	783.7	35.62273	7024.564
Soil-O	82	1432.5	17.46951	1190.003

ANOVA results for Nickel in Obispo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	28712.65	2	14356.33	5.185851	0.007043	3.078819
Within Groups	304520.1	110	2768.365			
Total	333232.8	112				

SUMMARY for Nickel in Pismo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-P	4	138.3	34.575	1307.056
Pismo	49	491.9	10.03878	24.64576
Soil-P	134	2304.2	17.19552	444.9507

ANOVA results for Nickel in Pismo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	3295.177	2	1647.588	4.715993	0.010061	3.04504
Within Groups	64282.6	184	349.362			
Total	67577.78	186				

Attachment 3. ANOVA Output.

SUMMARY for Thallium in Obispo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-O	9	44.44	4.937778	30.10597
Obispo	22	119.9	5.45	5.740476
Soil-O	82	270.45	3.298171	2.383793

ANOVA results for Thallium in Obispo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	91.93902	2	45.96951	9.119537	0.000217	3.078819
Within Groups	554.485	110	5.040773			
Total	646.424	112				

SUMMARY for Thallium in Pismo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-P	4	18.36	4.59	28.40573
Pismo	49	149.7	3.055102	1.086796
Soil-P	134	389.6	2.907463	0.851673

ANOVA results for Thallium in Pismo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	11.34898	2	5.674491	4.165496	0.01701	3.04504
Within Groups	250.656	184	1.362261			
Total	262.0049	186				

Attachment 3. ANOVA Output.

SUMMARY for Vanadium in Obispo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-O	9	529	58.77778	252.6944
Obispo	22	971	44.13636	1969.261
Soil-O	82	2266.2	27.63659	689.2826

ANOVA results for Vandaium in Obispo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	11055.44	2	5527.718	6.129036	0.002995	3.078819
Within Groups	99207.94	110	901.8903			
Total	110263.4	112				

SUMMARY for Vanadium in Pismo

Groups	*Count*	*Sum*	*Average*	*Variance*
Asph/Soil-P	4	190.5	47.625	3827.896
Pismo	49	761.1	15.53265	55.05183
Soil-P	134	3176.8	23.70746	901.4763

ANOVA results for Vanadium in Pismo

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	5065.623	2	2532.812	3.477306	0.032936	3.04504
Within Groups	134022.5	184	728.3833			
Total	139088.2	186				

Attachment 4. Kruskal-Wallis Output.

```
##Antimony
Sb.obispo.kw=kruskal.test(Sb.obispo)
> Sb.obispo.kw
Kruskal-Wallis rank sum test
data:  Sb.obispo
Kruskal-Wallis chi-squared = 22.5581, df = 2, p-value = 1.264e-05

> Sb.pismo.kw=kruskal.test(Sb.pismo)
> Sb.pismo.kw
Kruskal-Wallis rank sum test
data:  Sb.pismo
Kruskal-Wallis chi-squared = 1.106, df = 2, p-value = 0.5752

##Arsenic
> As.obispo.kw=kruskal.test(As.obispo)
> As.obispo.kw
data:  As.obispo
Kruskal-Wallis chi-squared = 6.6804, df = 2, p-value = 0.03543

> As.pismo.kw=kruskal.test(As.pismo)
> As.pismo.kw
data:  As.pismo
Kruskal-Wallis chi-squared = 7.8098, df = 2, p-value = 0.02014

##Barium
> Ba.obispo.kw=kruskal.test(Ba.obispo)
> Ba.obispo.kw

data:  Ba.obispo
Kruskal-Wallis chi-squared = 19.6936, df = 2, p-value = 5.292e-05

> Ba.pismo.kw=kruskal.test(Ba.pismo)
> Ba.pismo.kw
data:  Ba.pismo
Kruskal-Wallis chi-squared = 20.9819, df = 2, p-value = 2.779e-05

##Beryllium
> Be.obispo.kw=kruskal.test(Be.obispo)
> Be.obispo.kw
data:  Be.obispo
Kruskal-Wallis chi-squared = 2.9272, df = 2, p-value = 0.2314

> Be.pismo.kw=kruskal.test(Be.pismo)
> Be.pismo.kw
data:  Be.pismo
Kruskal-Wallis chi-squared = 4.4337, df = 2, p-value = 0.1090

##Cadmium
```

Attachment 4. Kruskal-Wallis Output.

```
> Cd.obispo.kw=kruskal.test(Cd.obispo)
> Cd.obispo.kw
data:  Cd.obispo
Kruskal-Wallis chi-squared = 4.6958, df = 2, p-value = 0.09557

> Cd.pismo.kw=kruskal.test(Cd.pismo)
> Cd.pismo.kw

data:  Cd.pismo
Kruskal-Wallis chi-squared = 5.7139, df = 2, p-value = 0.05744

##Chromium
> Cr.obispo.kw=kruskal.test(Cr.obispo)
> Cr.obispo.kw
data:  Cr.obispo
Kruskal-Wallis chi-squared = 11.1792, df = 2, p-value = 0.003736

> Cr.pismo.kw=kruskal.test(Cr.pismo)
> Cr.pismo.kw
data:  Cr.pismo
Kruskal-Wallis chi-squared = 0.7557, df = 2, p-value = 0.6854

##Copper
> Cu.obispo.kw=kruskal.test(Cu.obispo)
> Cu.obispo.kw
data:  Cu.obispo
Kruskal-Wallis chi-squared = 20.9938, df = 2, p-value = 2.762e-05

> Cu.pismo.kw=kruskal.test(Cu.pismo)
> Cu.pismo.kw
data:  Cu.pismo
Kruskal-Wallis chi-squared = 18.4793, df = 2, p-value = 9.711e-05

##Lead
> Pb.obispo.kw=kruskal.test(Pb.obispo)
> Pb.obispo.kw
data:  Pb.obispo
Kruskal-Wallis chi-squared = 32.8995, df = 2, p-value = 7.177e-08

> Pb.pismo.kw=kruskal.test(Pb.pismo)
> Pb.pismo.kw
data:  Pb.pismo
Kruskal-Wallis chi-squared = 24.2474, df = 2, p-value = 5.429e-06

##Mercury
> Hg.obispo.kw=kruskal.test(Hg.obispo)
> Hg.obispo.kw
data:  Hg.obispo
```

Attachment 4. Kruskal-Wallis Output.

Kruskal-Wallis chi-squared = 37.6942, df = 2, p-value = 6.528e-09

> Hg.pismo.kw=kruskal.test(Hg.pismo)
> Hg.pismo.kw
data: Hg.pismo
Kruskal-Wallis chi-squared = 14.1861, df = 2, p-value = 0.0008309

##Nickel
> Ni.obispo.kw=kruskal.test(Ni.obispo)
> Ni.obispo.kw
data: Ni.obispo
Kruskal-Wallis chi-squared = 17.0314, df = 2, p-value = 0.0002003

> Ni.pismo.kw=kruskal.test(Ni.pismo)
> Ni.pismo.kw

data: Ni.pismo
Kruskal-Wallis chi-squared = 12.3483, df = 2, p-value = 0.002083

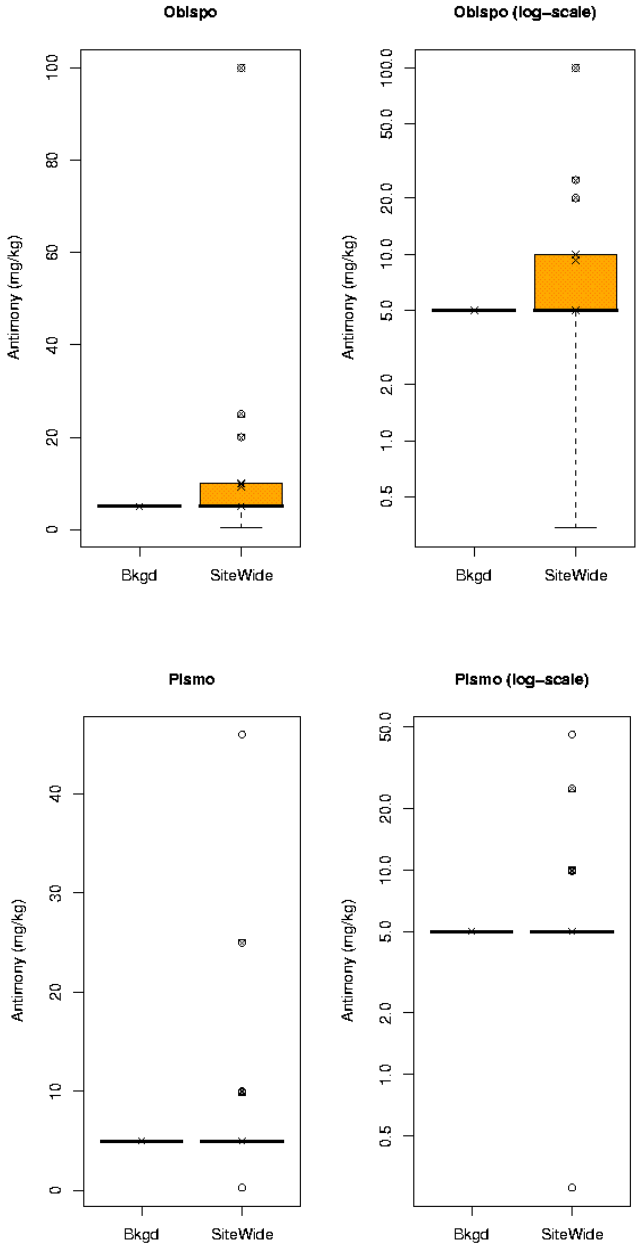
##Thallium
> Tl.obispo.kw=kruskal.test(Tl.obispo)
> Tl.obispo.kw
data: Tl.obispo
Kruskal-Wallis chi-squared = 21.9355, df = 2, p-value = 1.725e-05

> Tl.pismo.kw=kruskal.test(Tl.pismo)
> Tl.pismo.kw
data: Tl.pismo
Kruskal-Wallis chi-squared = 0.8601, df = 2, p-value = 0.6505

##Vanadium
> V.obispo.kw=kruskal.test(V.obispo)
> V.obispo.kw
data: V.obispo
Kruskal-Wallis chi-squared = 9.7239, df = 2, p-value = 0.007735

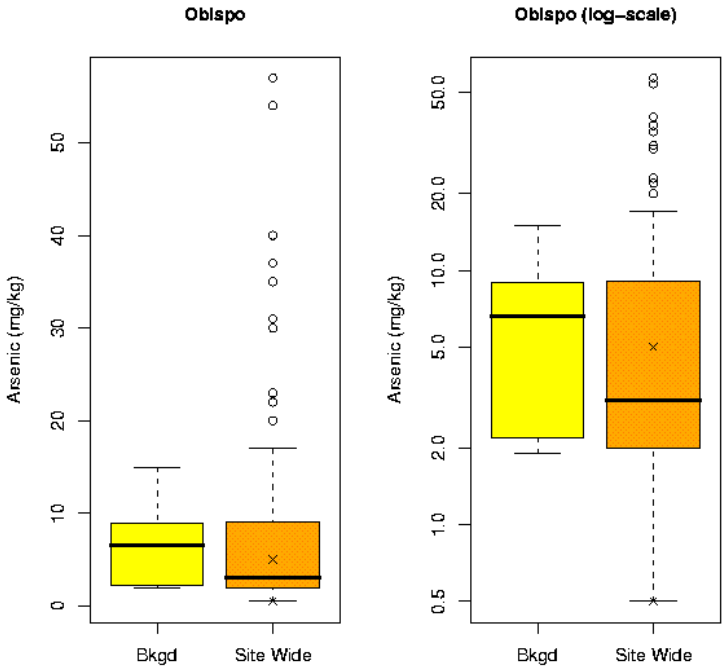
> V.pismo.kw=kruskal.test(V.pismo)
> V.pismo.kw
data: V.pismo
Kruskal-Wallis chi-squared = 6.3193, df = 2, p-value = 0.04244

Attachment 5. Boxplots of metal concentrations by geology – site-wide verse background. Non-detects are shown by an "x" symbol. "Bkgd" represents the original background data set – depicted for all metals; and "Bkgd2" represents the expanded background data set – depicted for arsenic and chromium.



Attachment 5. Boxplots of metal concentrations by geology – site-wide verse background. Non-detects are shown by an "x" symbol. "Bkgd" represents the original background data set – depicted for all metals; and "Bkgd2" represents the expanded background data set – depicted for arsenic and chromium.

Arsenic in Obispo-related samples: site-wide verse original background data set



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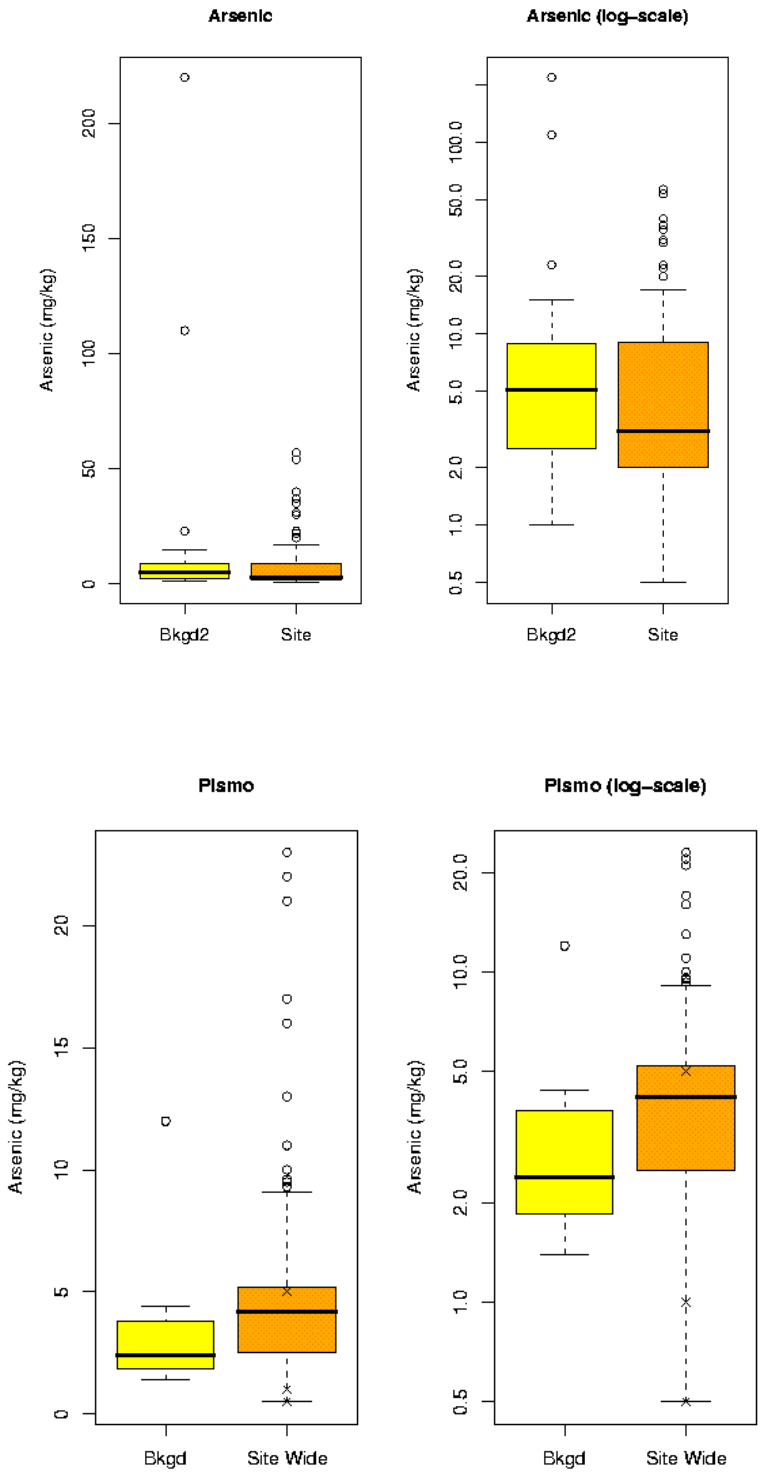

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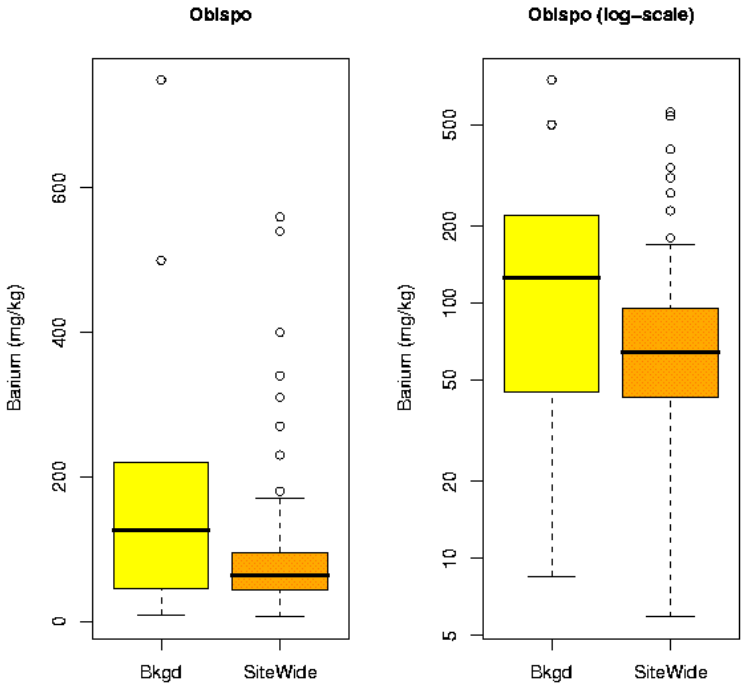

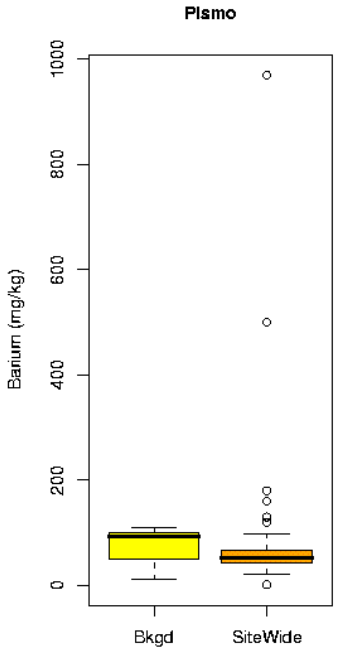

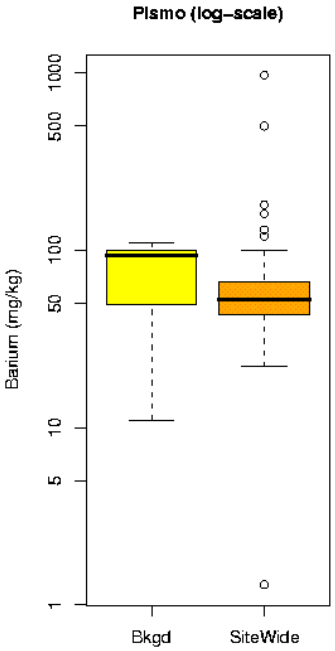

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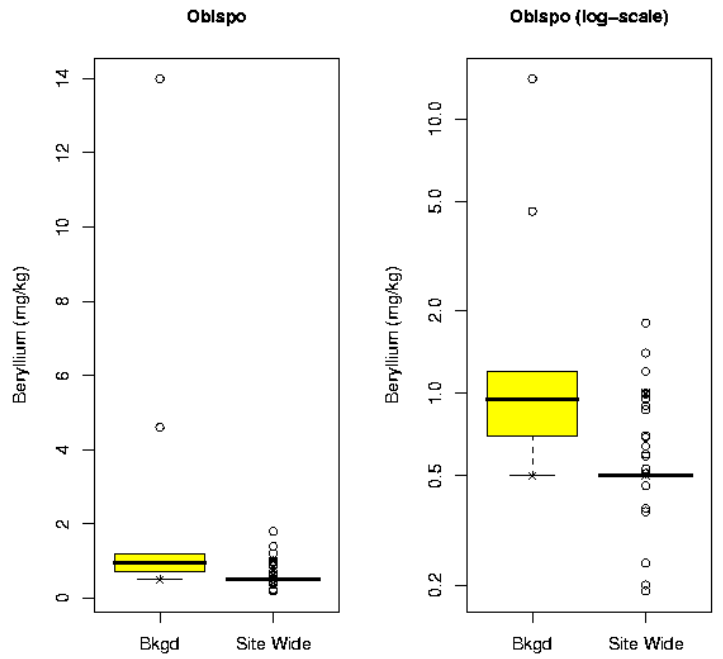
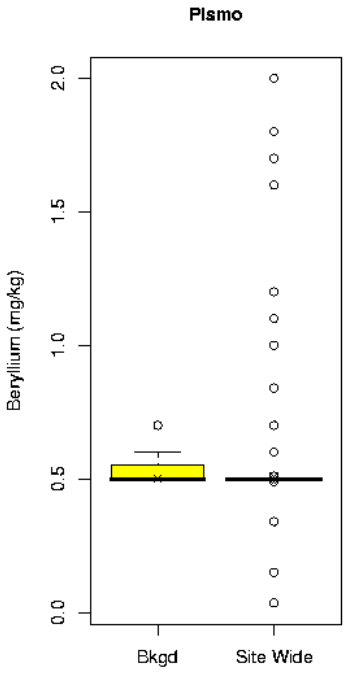
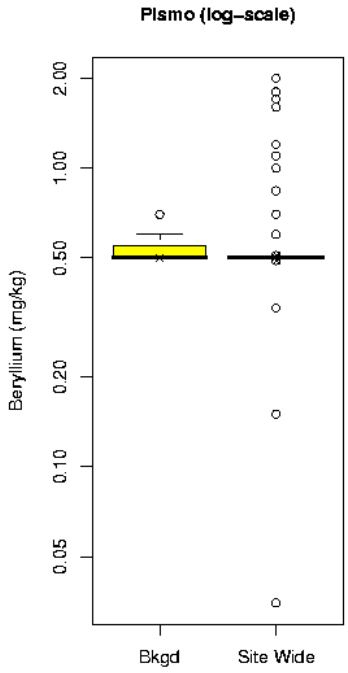
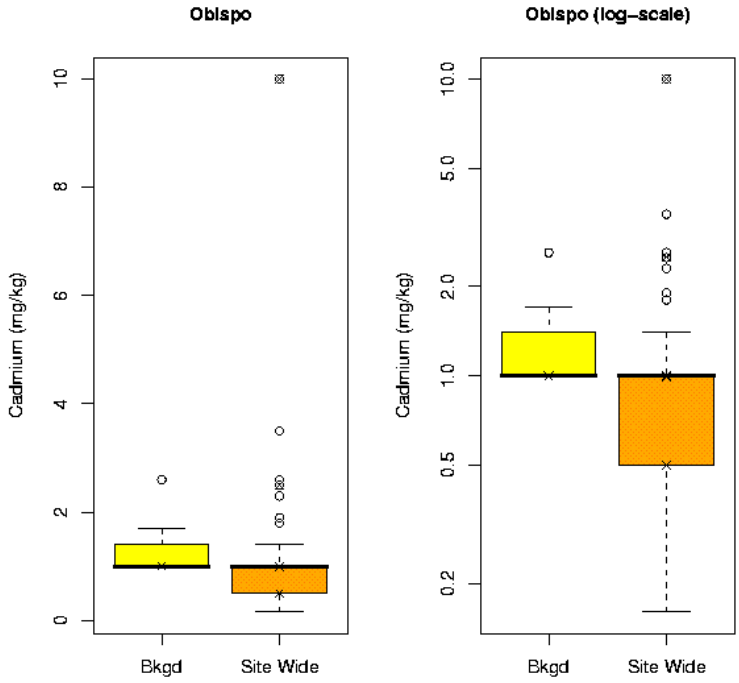
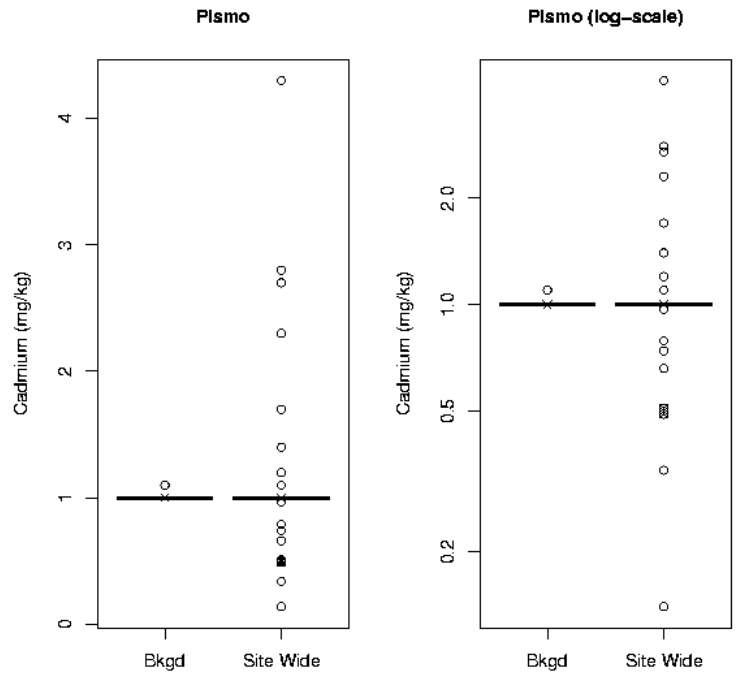




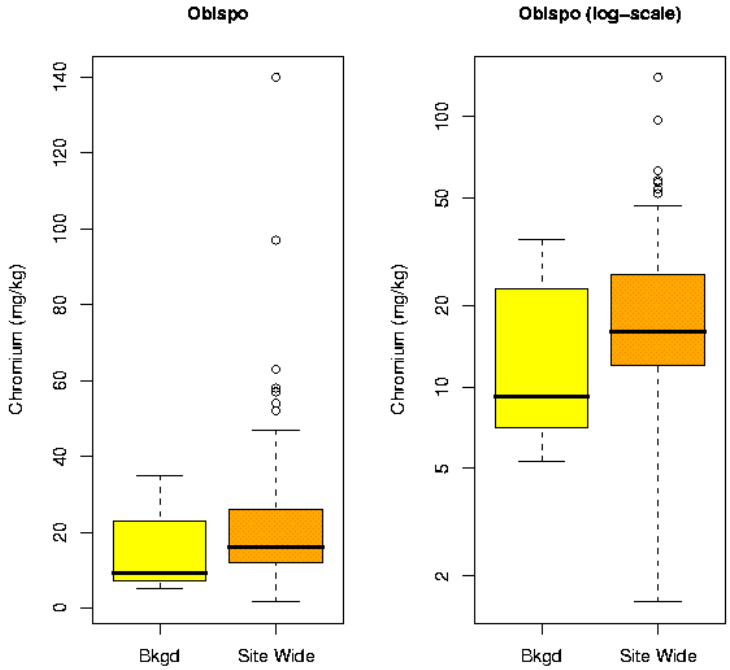


Attachment 5. Boxplots of metal concentrations by geology – site-wide verse background. Non-detects are shown by an "x" symbol. "Bkgd" represents the original background data set – depicted for all metals; and "Bkgd2" represents the expanded background data set – depicted for arsenic and chromium.

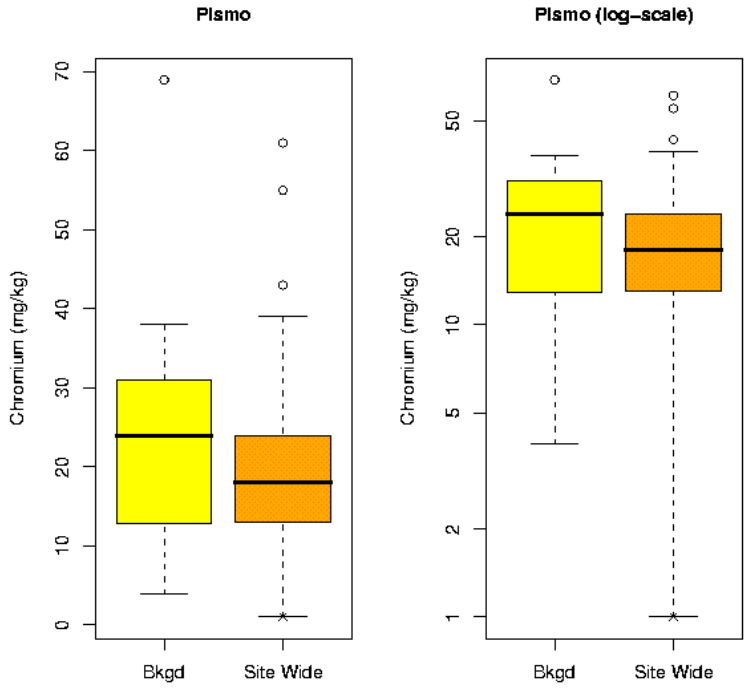


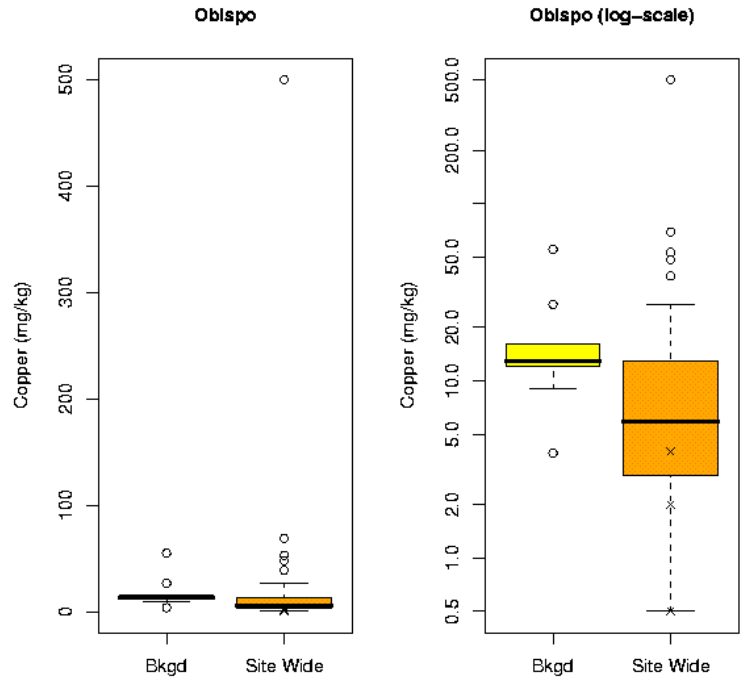


Attachment 5. Boxplots of metal concentrations by geology – site-wide verse background. Non-detects are shown by an "x" symbol. "Bkgd" represents the original background data set – depicted for all metals; and "Bkgd2" represents the expanded background data set – depicted for arsenic and chromium.



Attachment 5. Boxplots of metal concentrations by geology – site-wide verse background. Non-detects are shown by an "x" symbol. "Bkgd" represents the original background data set – depicted for all metals; and "Bkgd2" represents the expanded background data set – depicted for arsenic and chromium.





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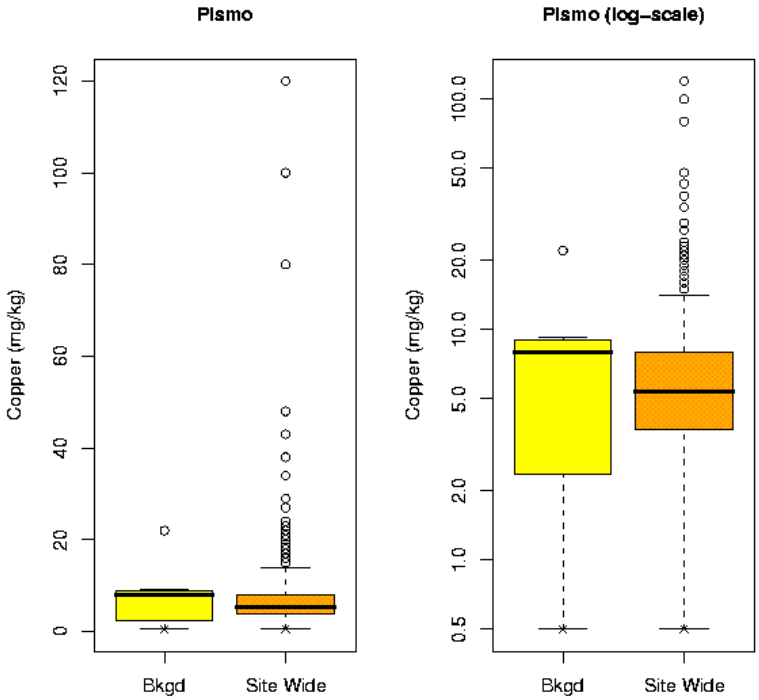

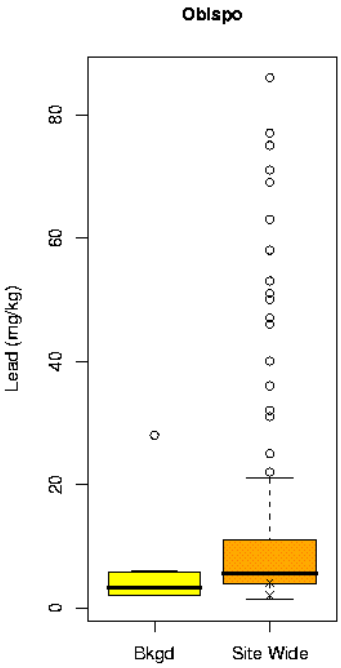

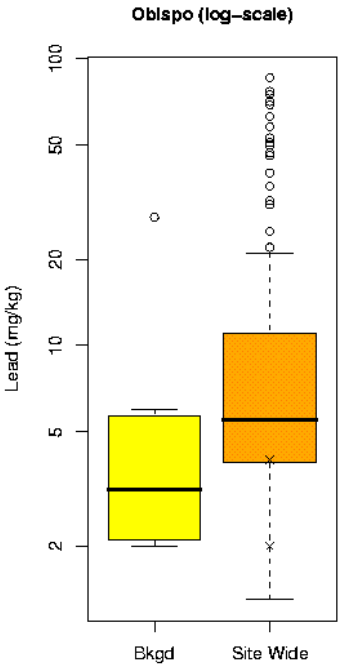

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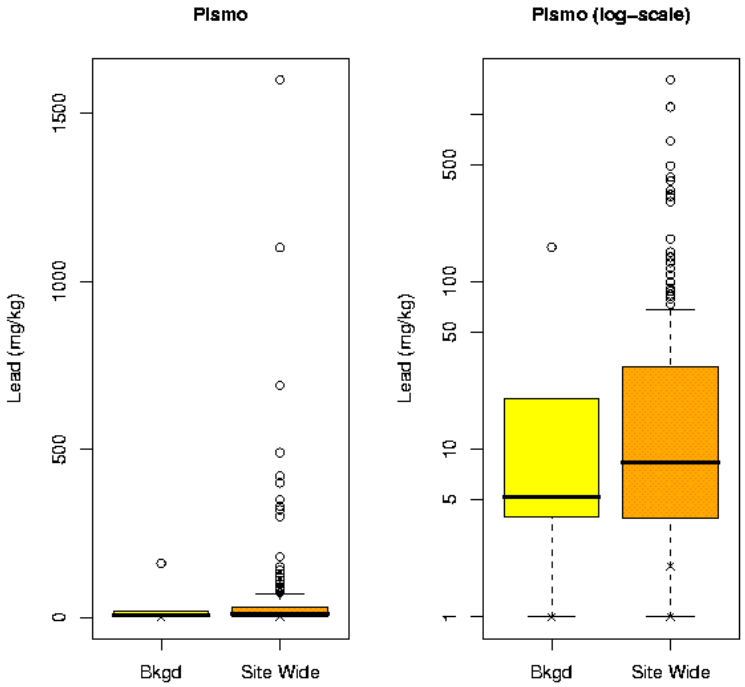

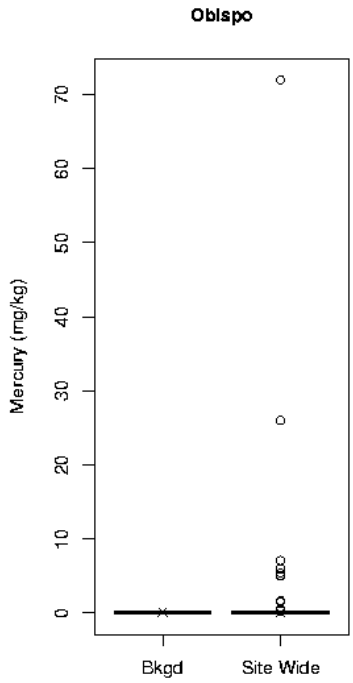

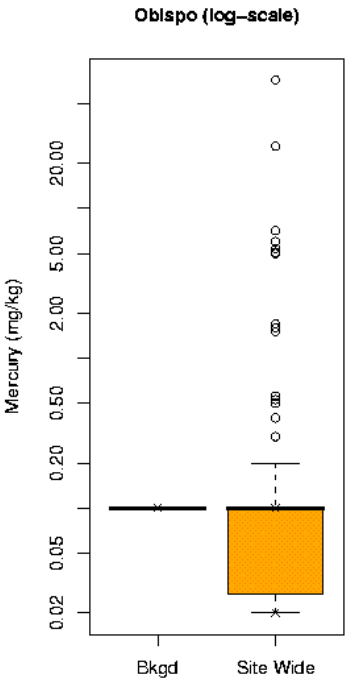

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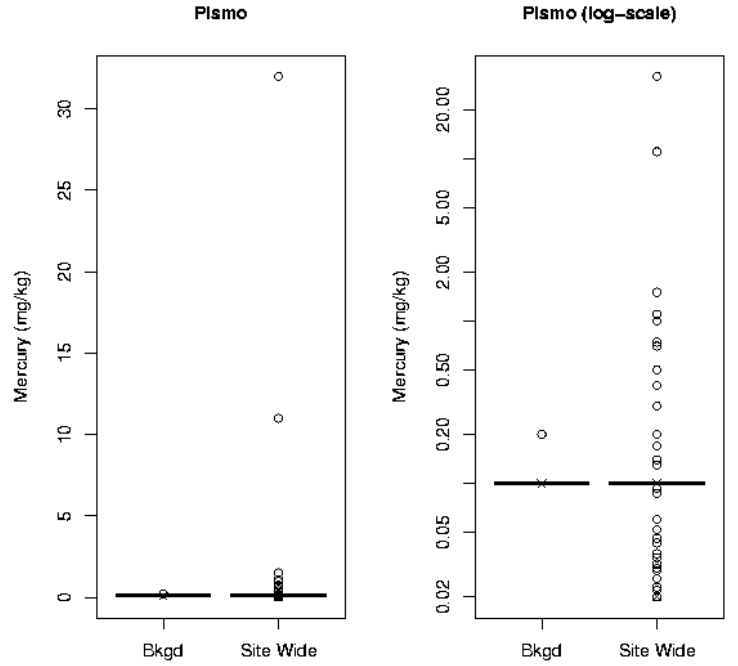

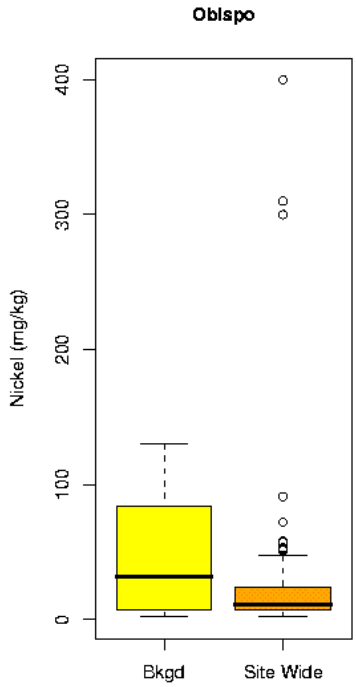

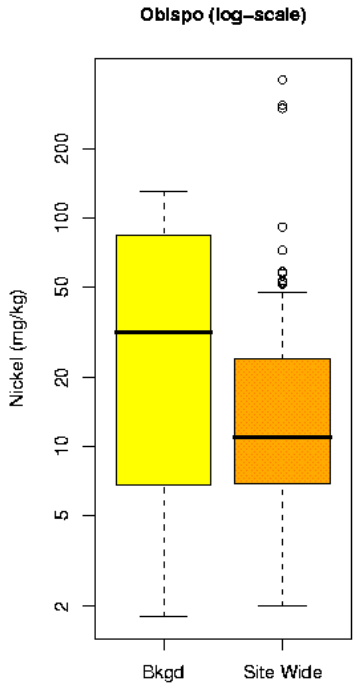

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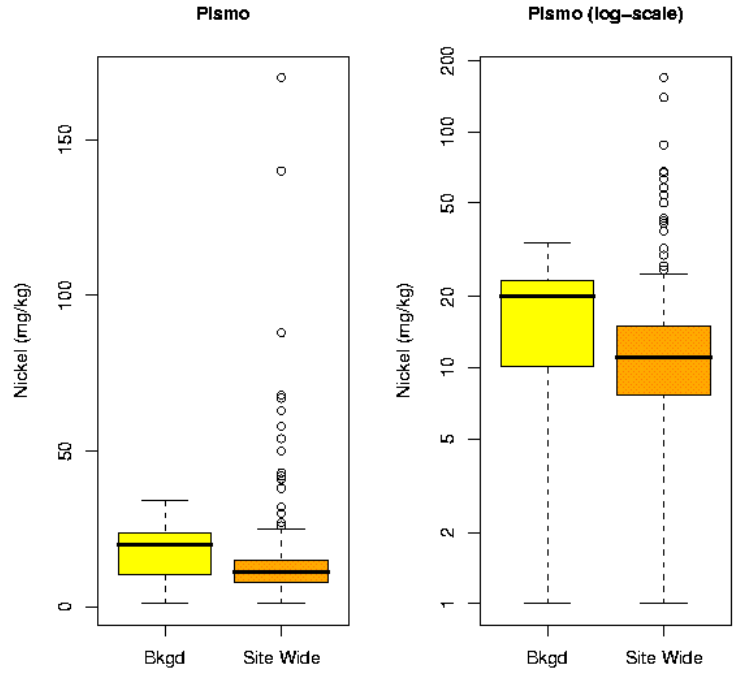

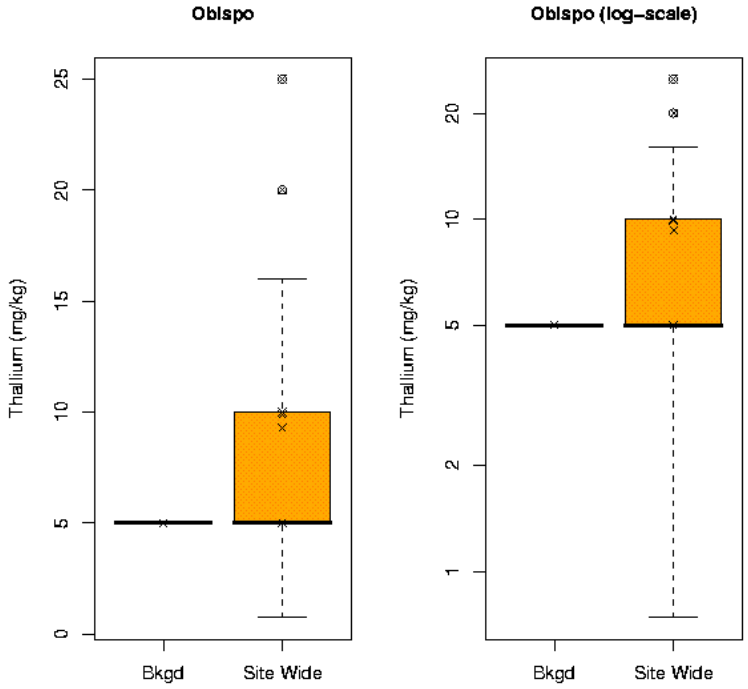

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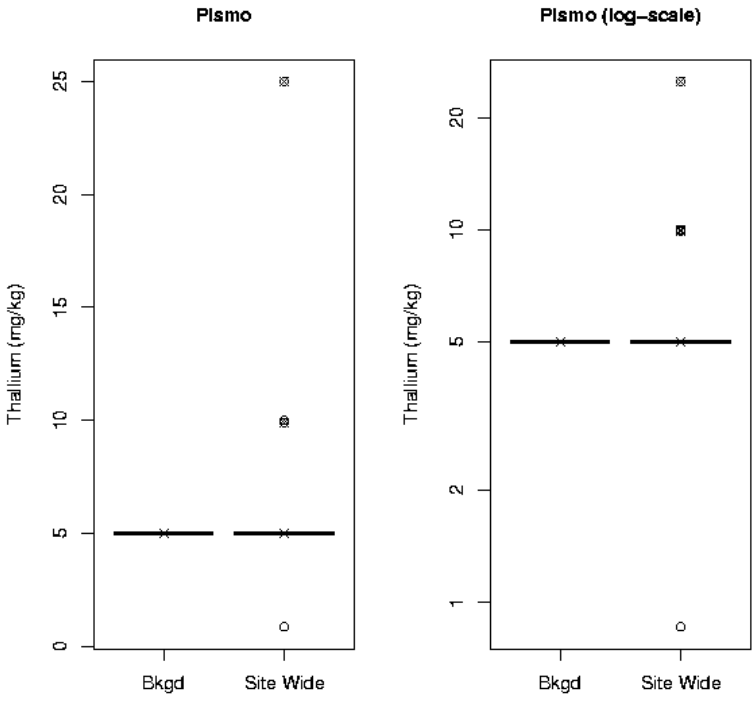

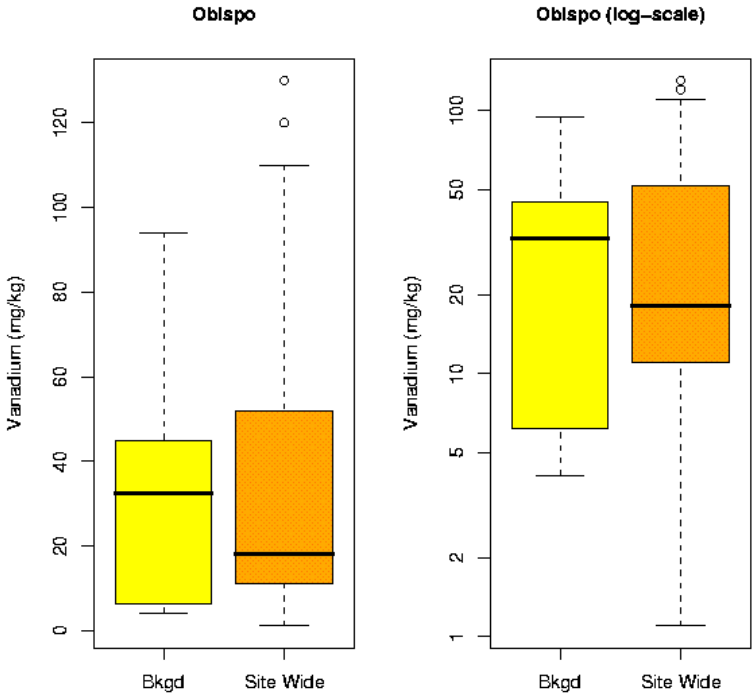

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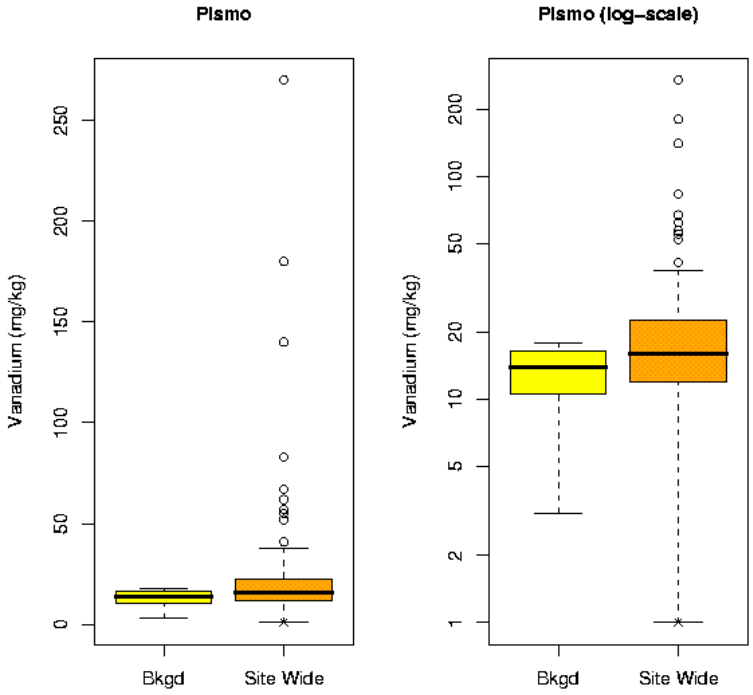

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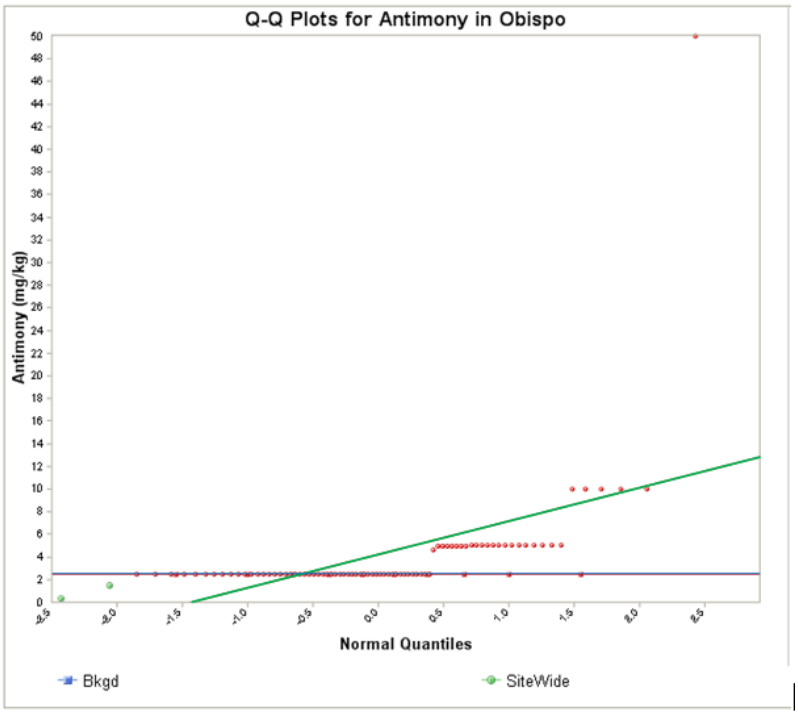

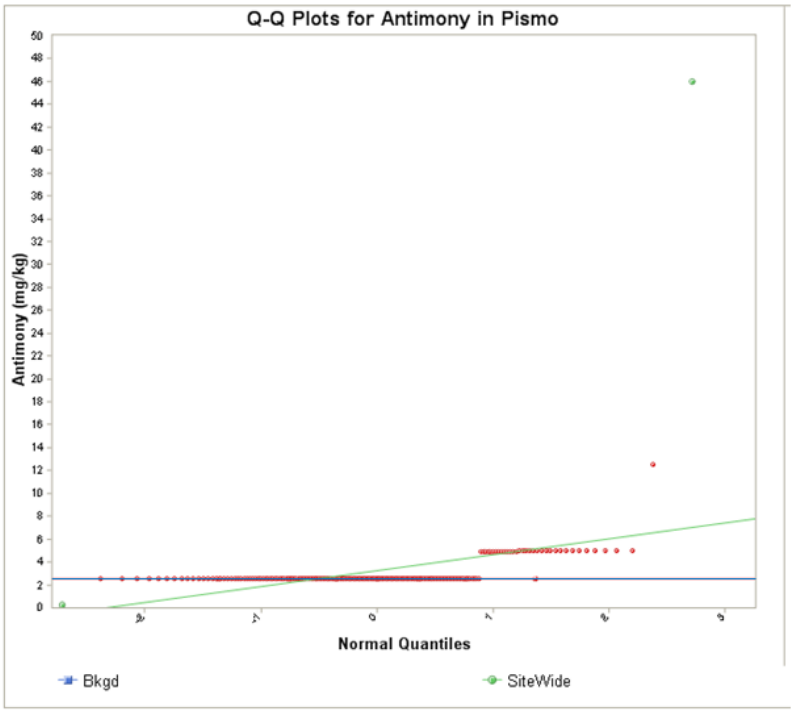

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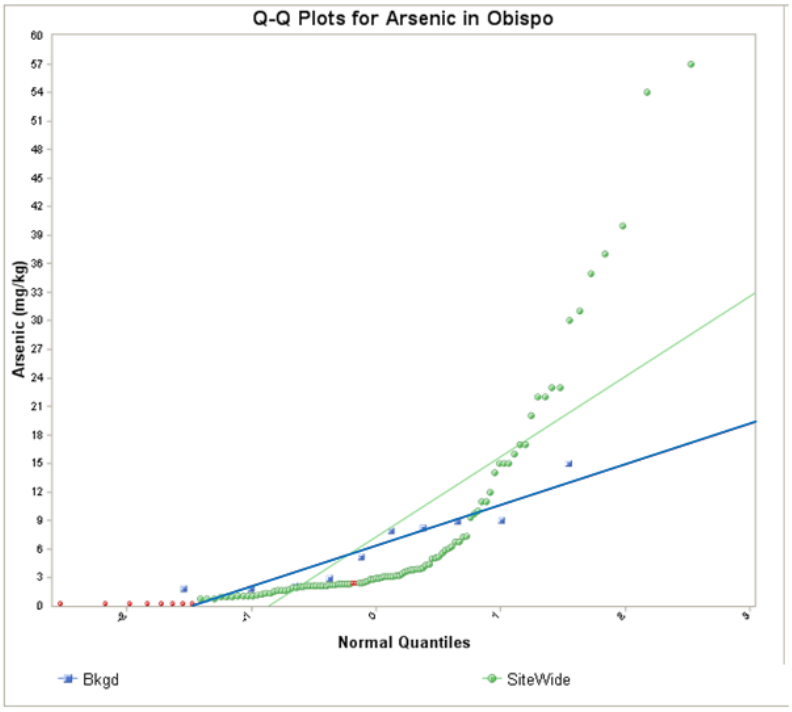

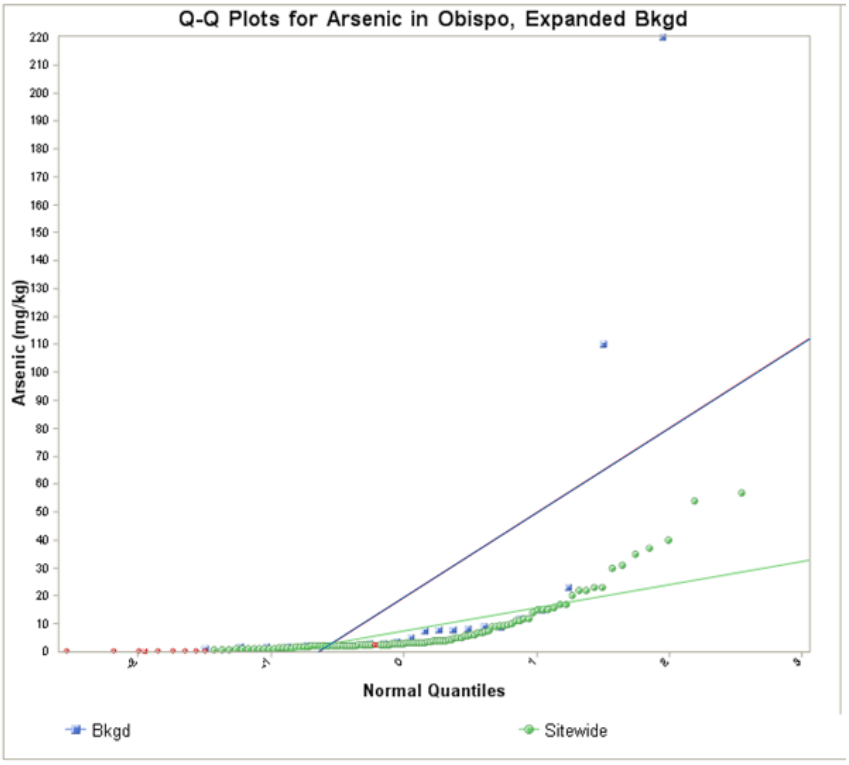

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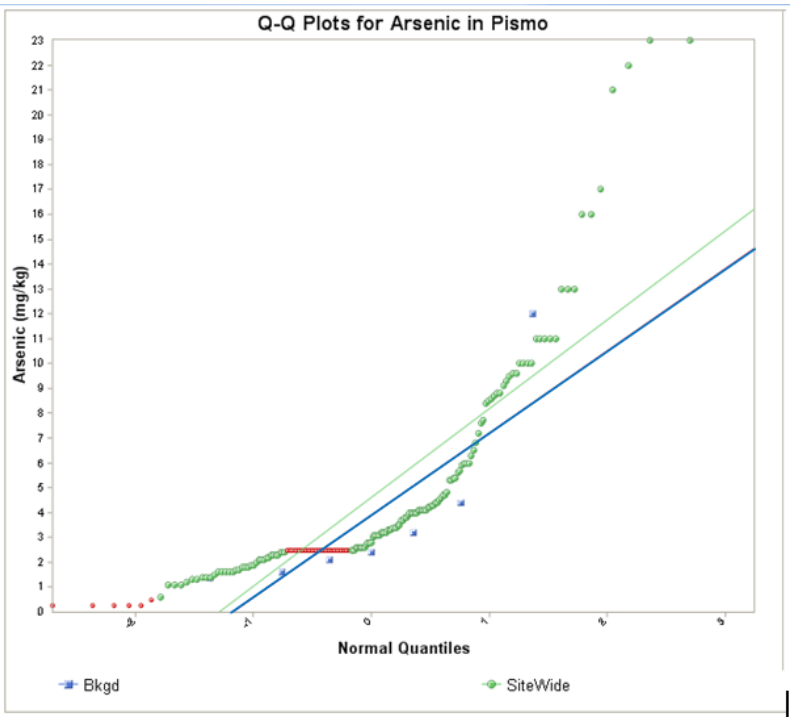

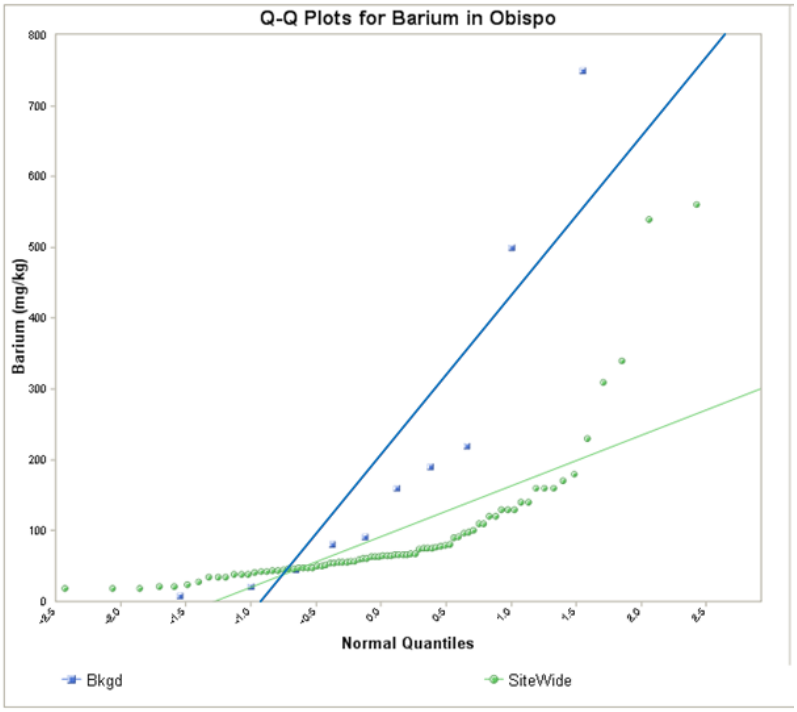

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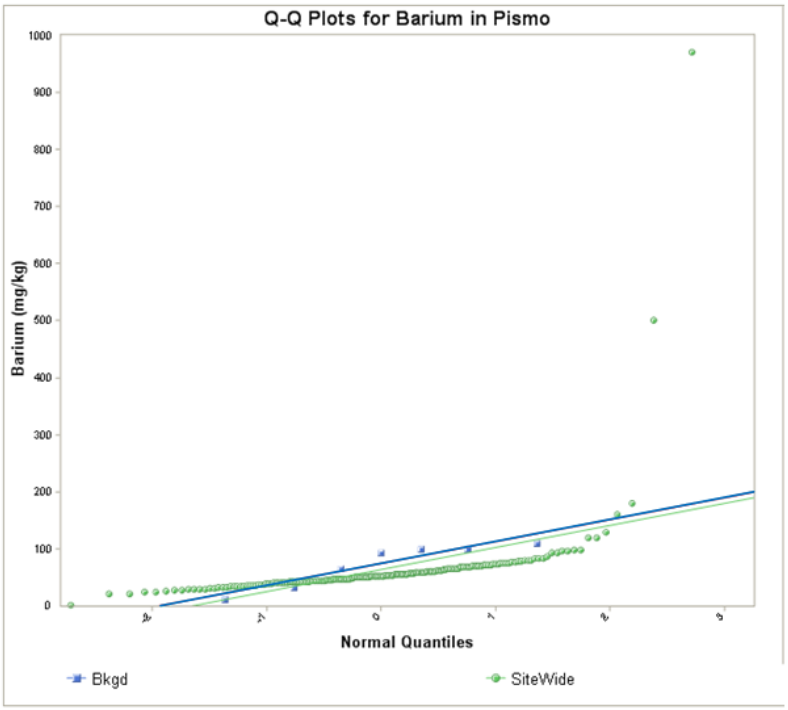

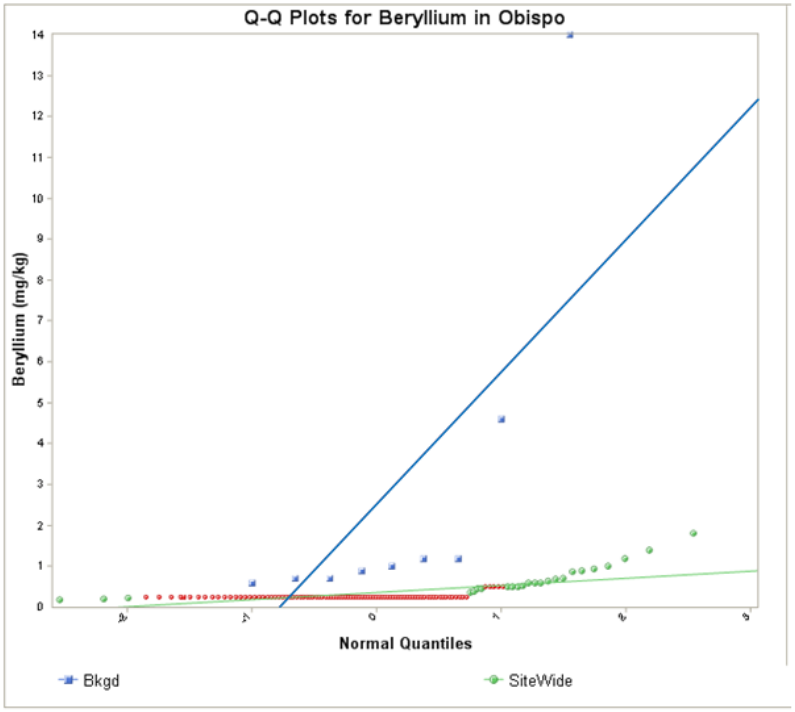

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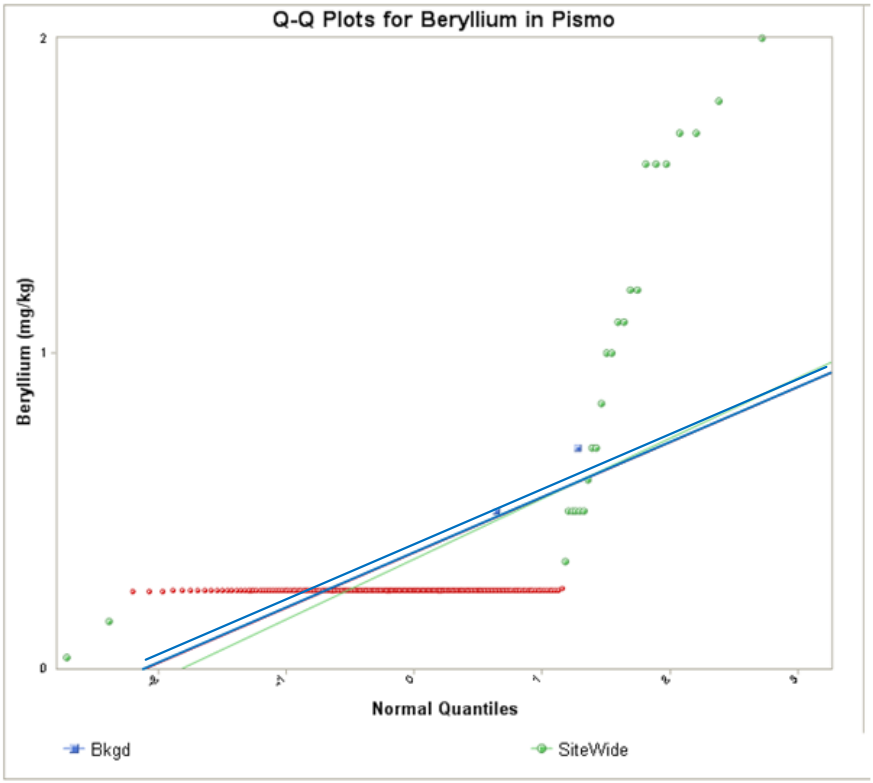

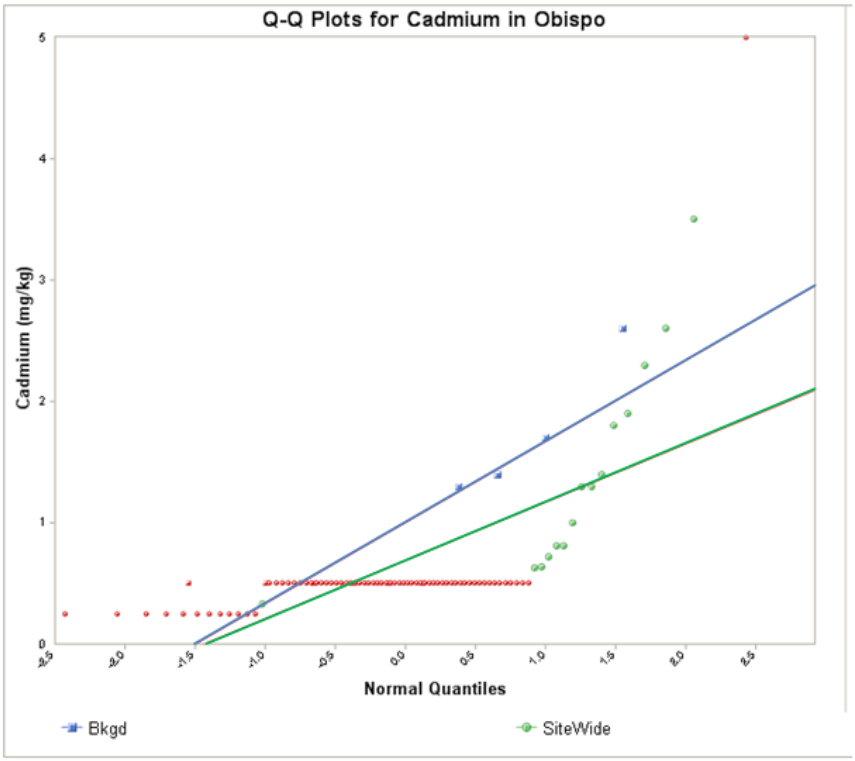

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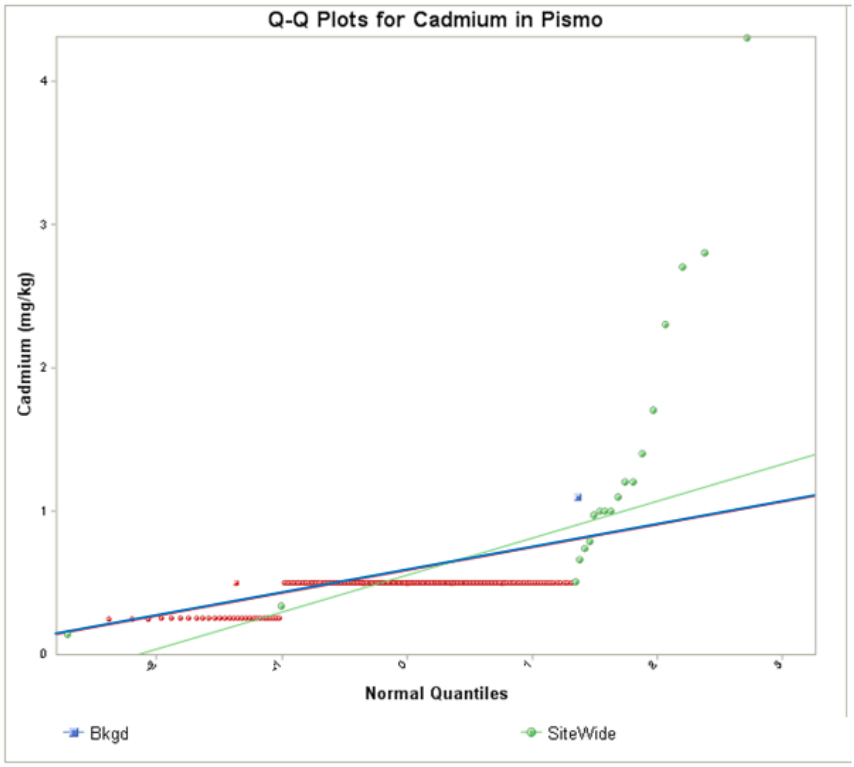

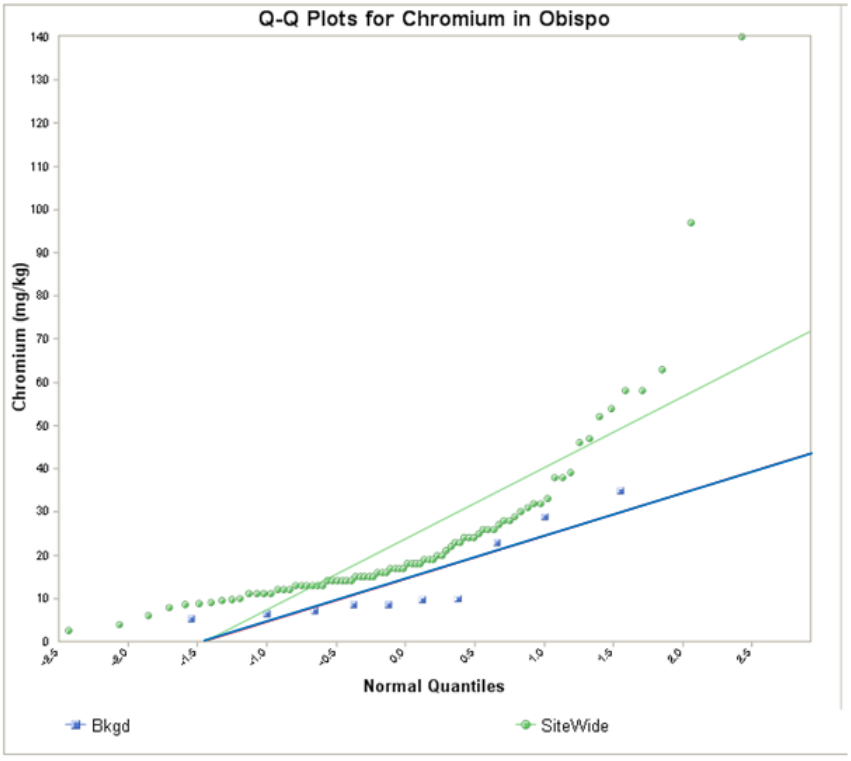

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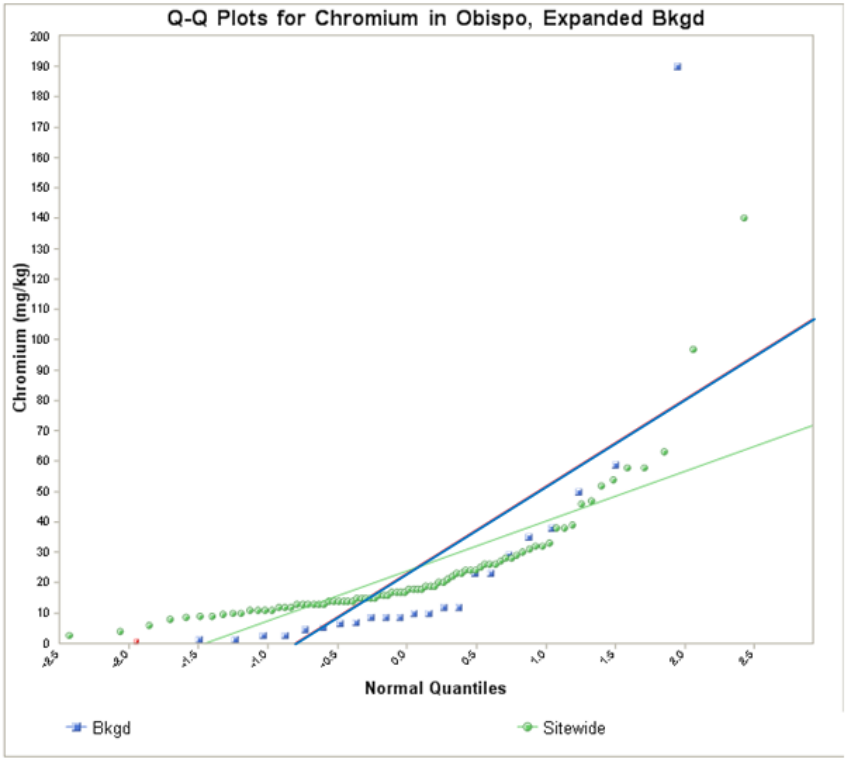

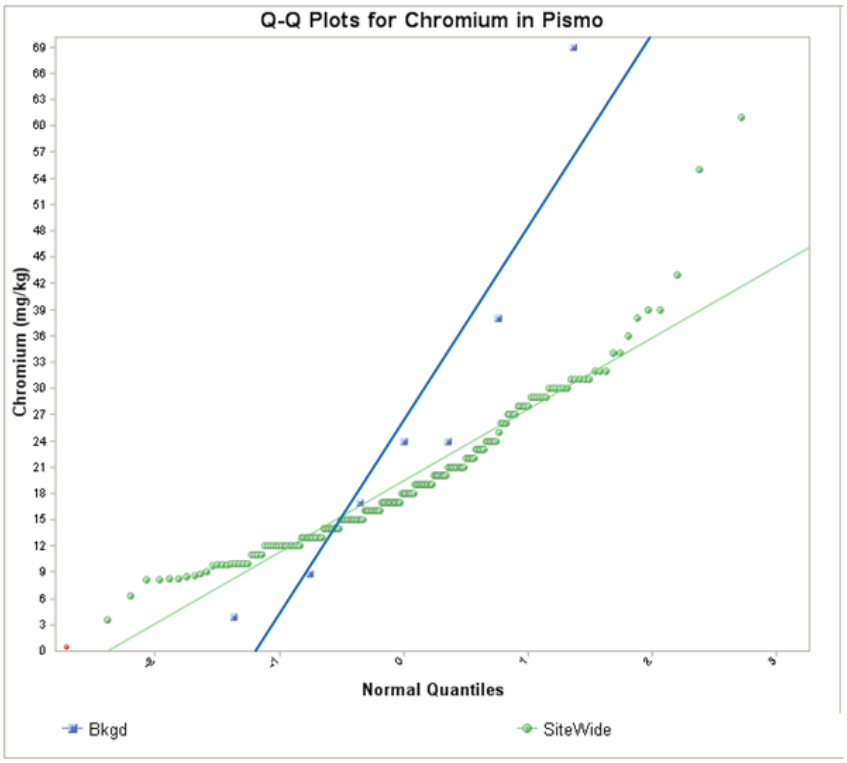

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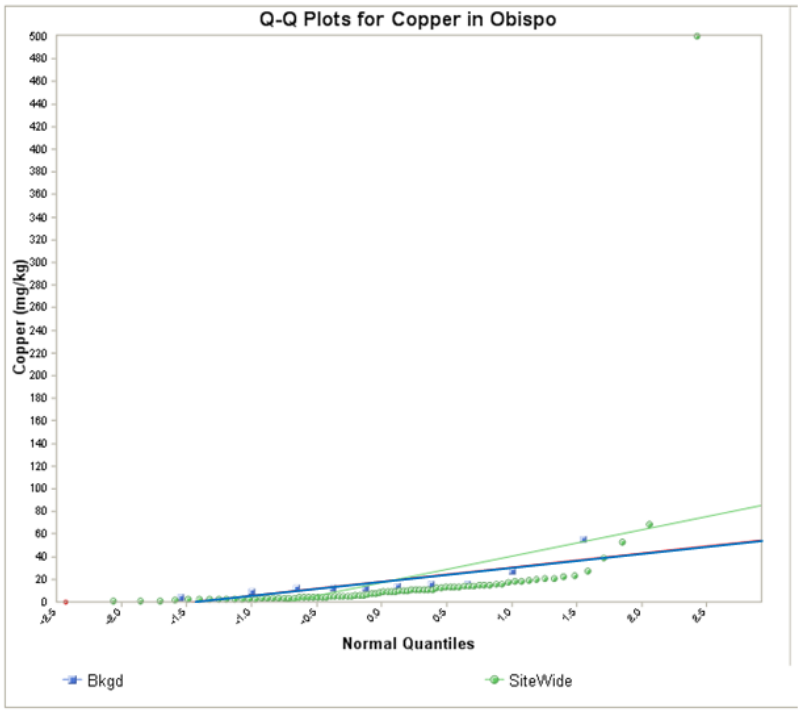

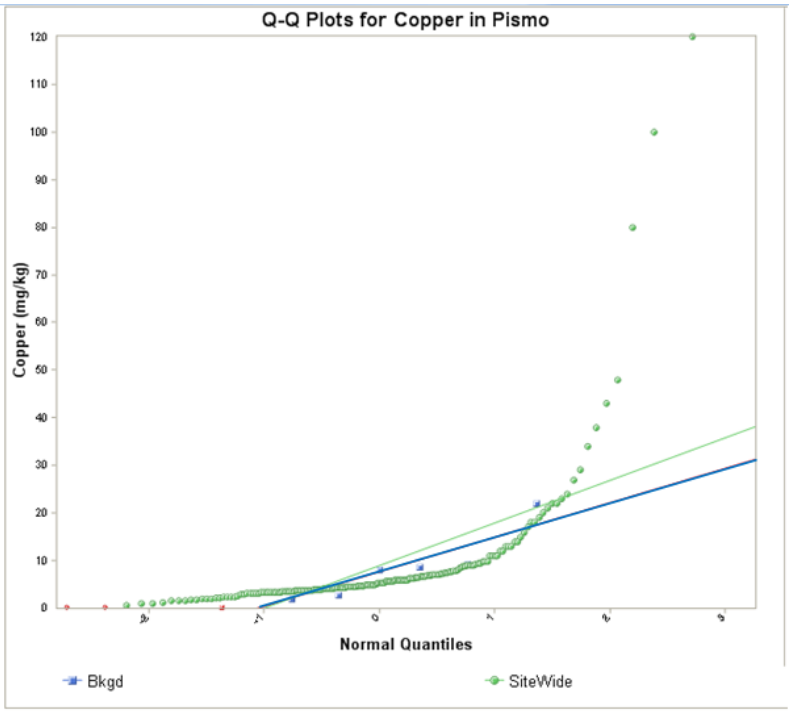

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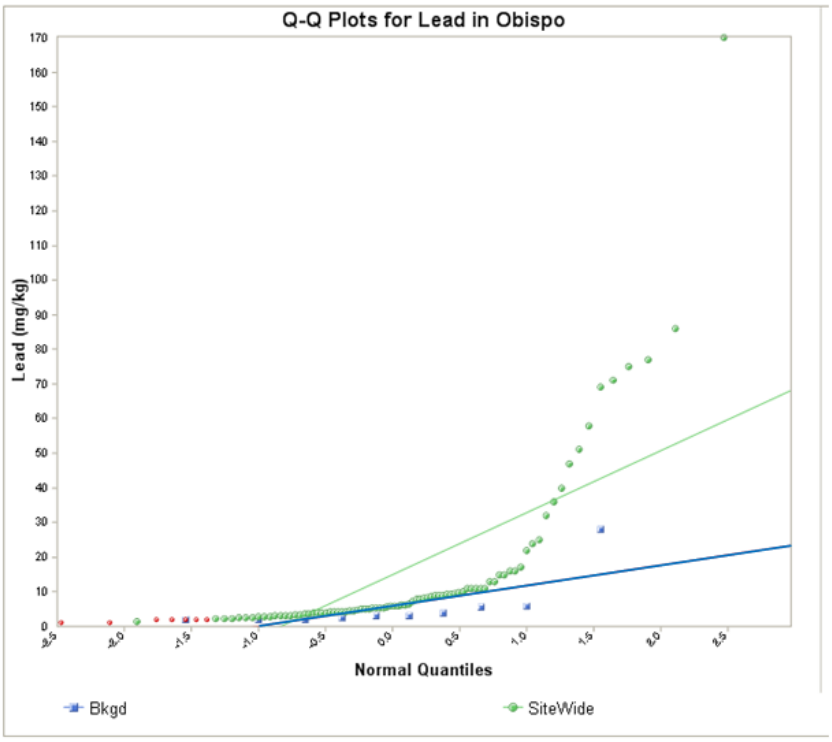

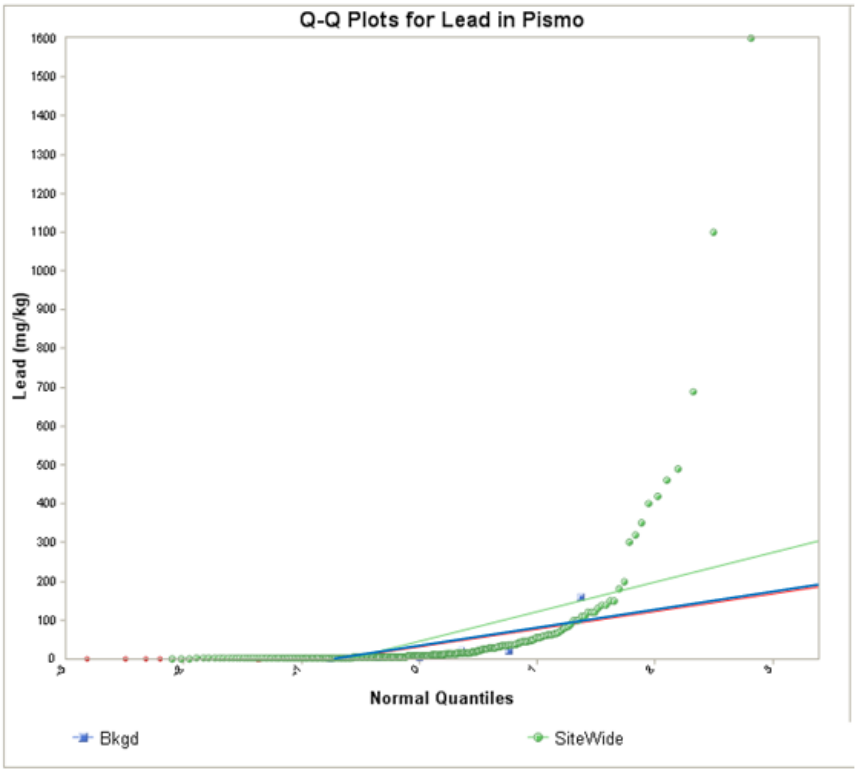

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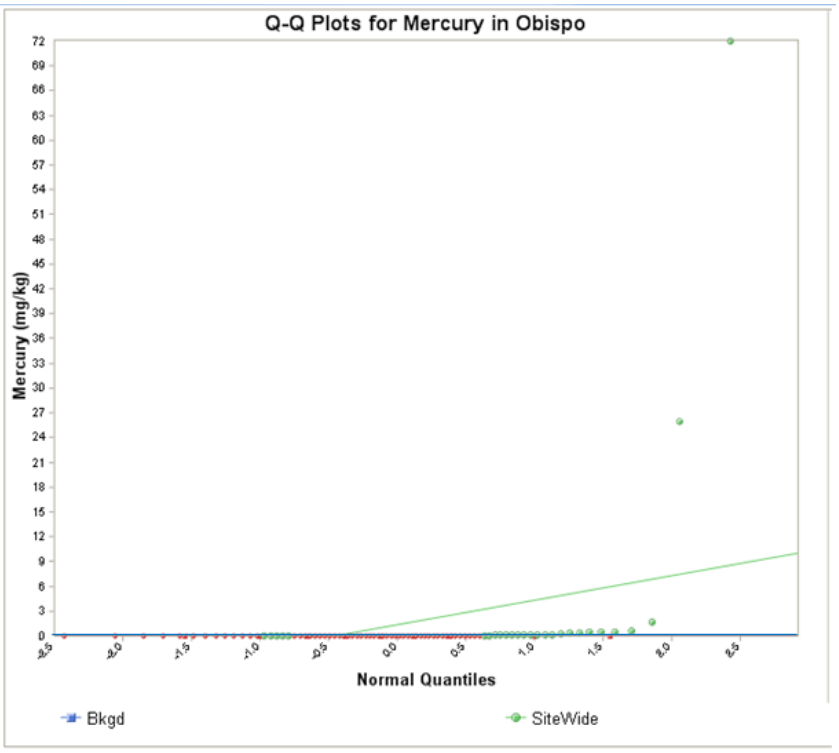

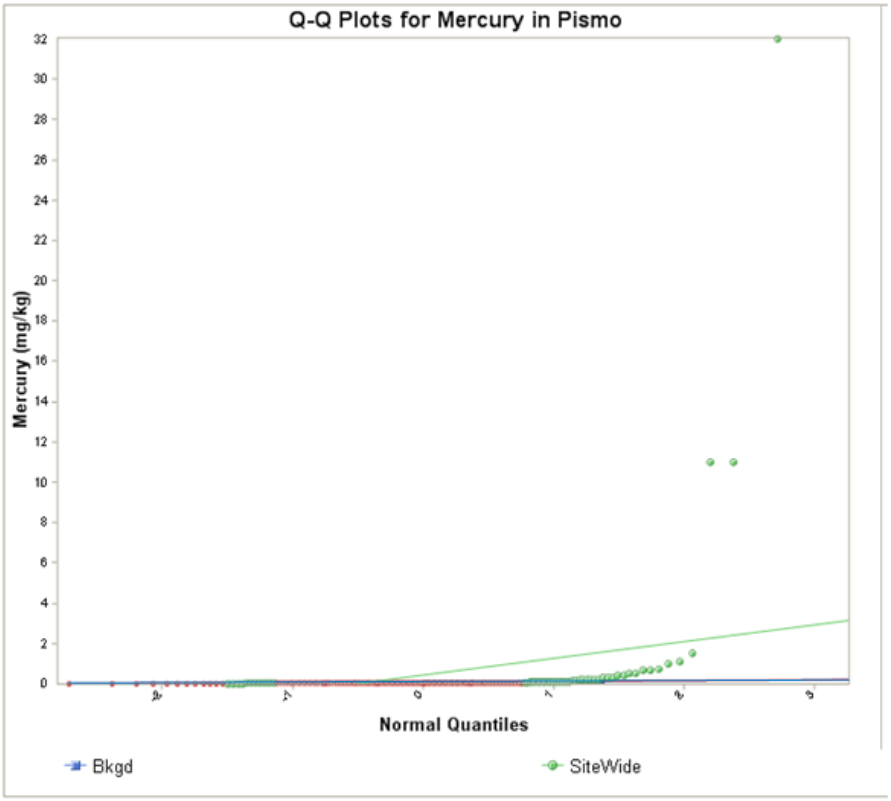

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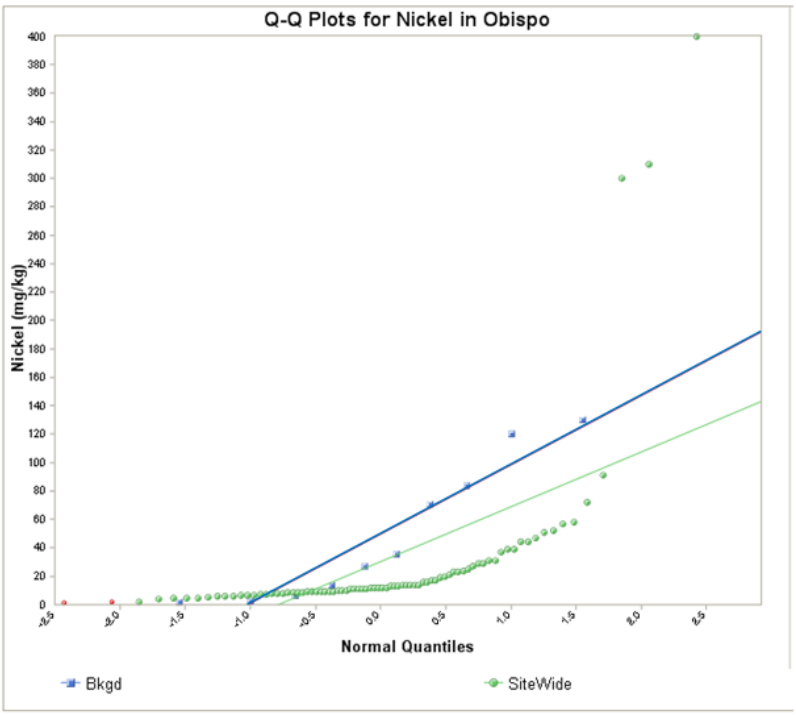

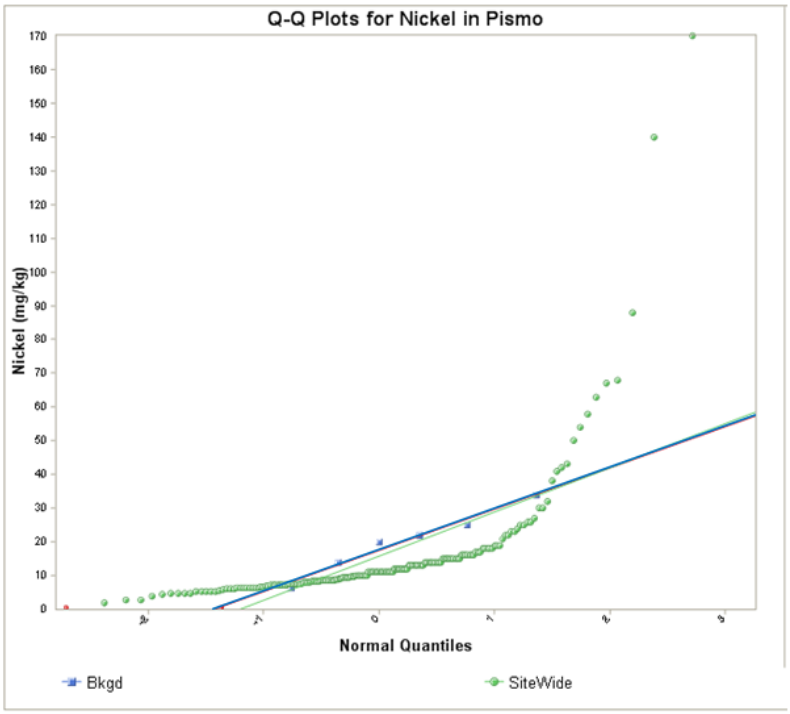

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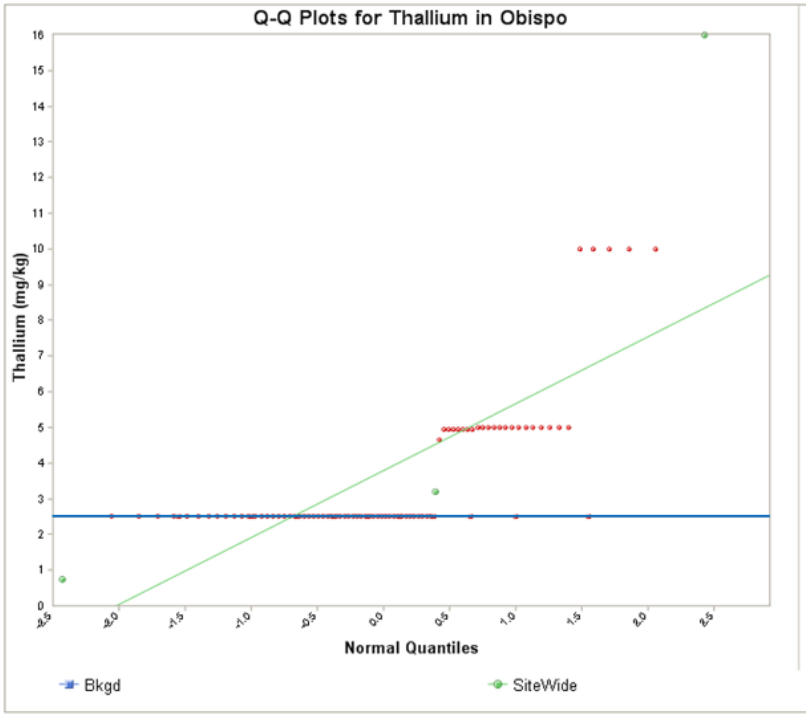

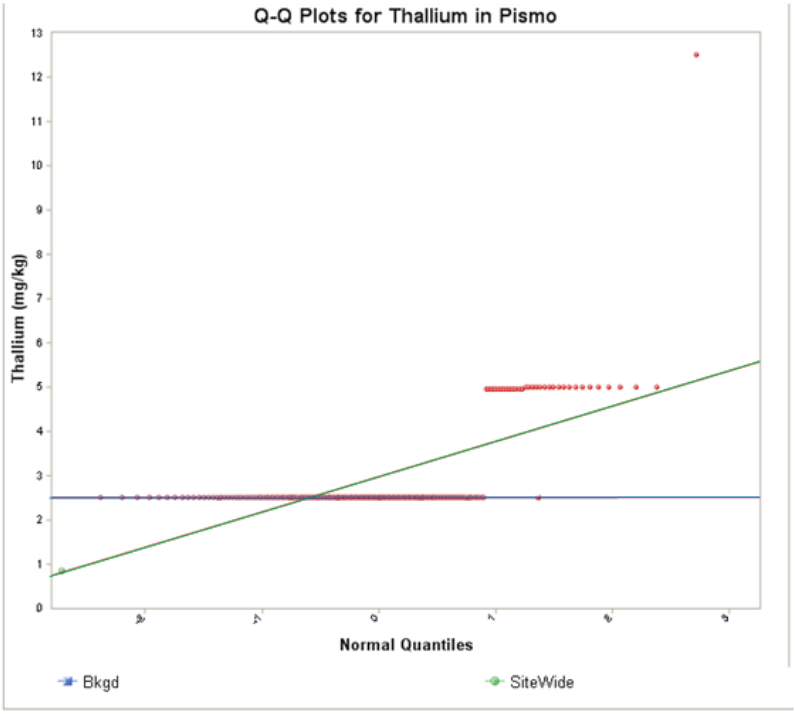

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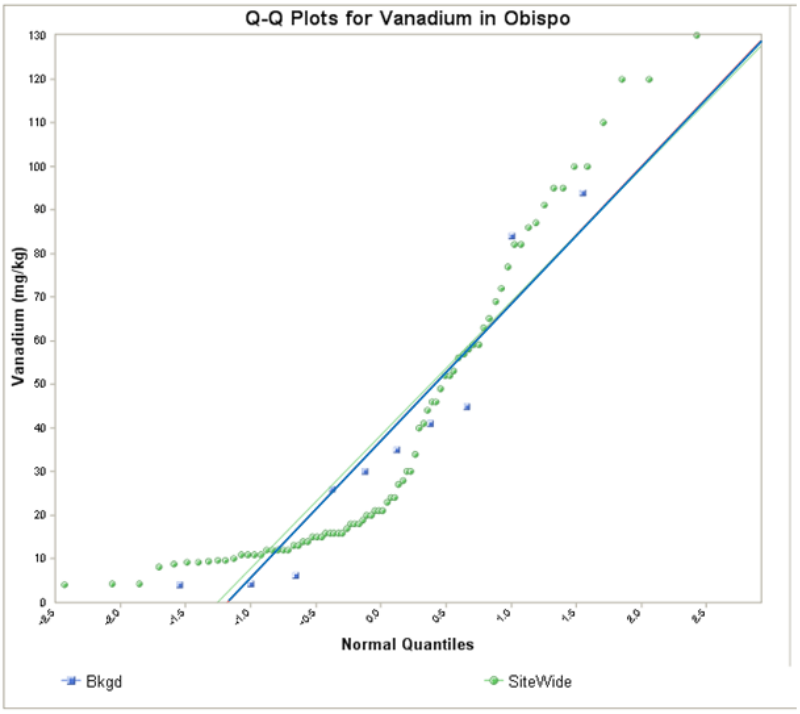
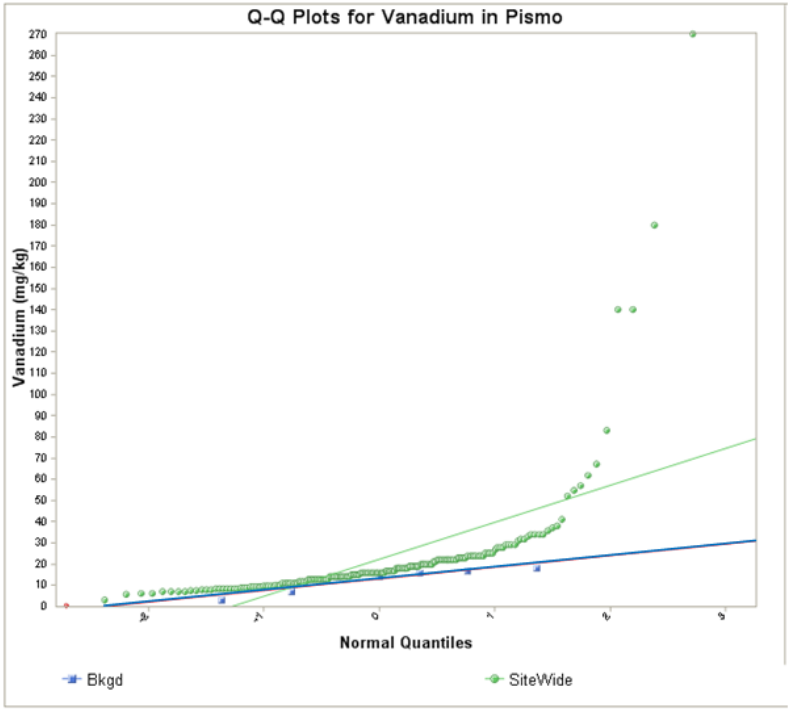
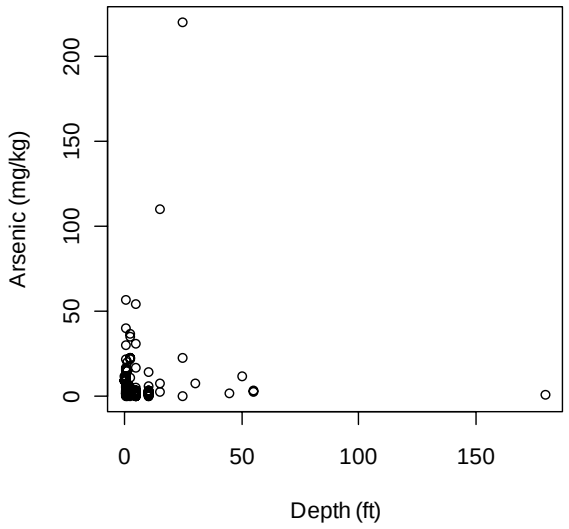
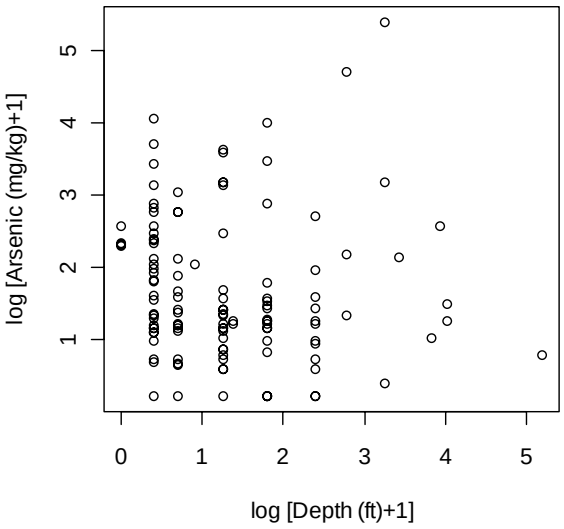
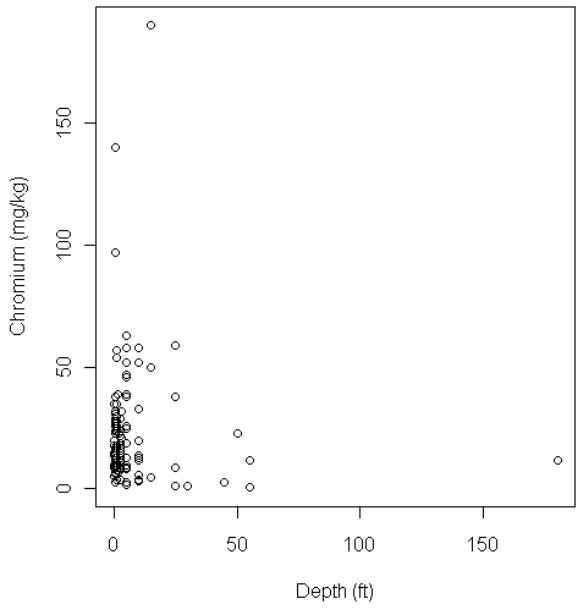


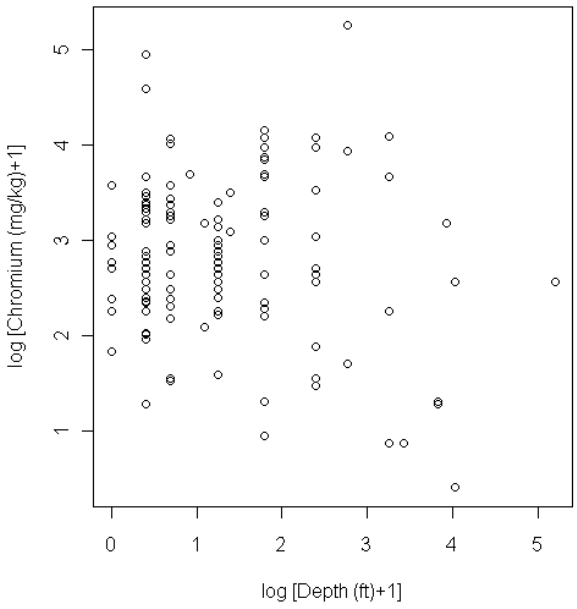


Attachment 7. Plots of Depth (ft) and Metal Concentration in Obispo-related Samples (mg/kg) – arsenic and chromium, arithmetic scale (left) and logarithmic scale (right)









ATTACHMENT 13

Short-term Resident LeadSpread Soil Screening Level Calculation

Short-term Resident LeadSpread Soil Screening Level Calculation

LEAD RISK ASSESSMENT SPREADSHEET

CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

USER'S GUIDE to version 7

INPUT	
MEDIUM	LEVEL
Lead in Air (ug/m^3)	0
Lead in Soil/Dust (ug/g)	960.0
Lead in Water (ug/l)	0
% Home-grown Produce	0%
(ug/m^3)	1.5

OUTPUT

	Percentile Estimate of Blood Pb (ug/dl)					PRG-99	PRG-95
	50th	90th	95th	98th	99th	(ug/g)	(ug/g)
~~BLOOD Pb, ADULT~~	~~0.1~~	~~0.1~~	~~0.2~~	~~0.2~~	~~0.2~~	~~4541~~	~~6281~~
BLOOD Pb, CHILD	0.5	0.996	1.2	1.4	1.6	589	815
BLOOD Pb, PICA CHILD	1.1	2.0	2.3	2.9	3.2	296	409
~~BLOOD Pb, OCCUPATION~~	~~0.6~~	~~1.1~~	~~1.3~~	~~1.6~~	~~1.8~~	~~519~~	~~718~~

EXPOSURE PARAMETERS

	units	adults	children
Days per week	days/wk	0.56	
Days per week, occupational		5	
Geometric Standard Deviation		1.6	
Blood lead level of concern (ug/dl		1	
Skin area, residential	cm^2	5700	2900
Skin area occupational	cm^2	2900	
Soil adherence	ug/cm^2	70	200
Dermal uptake constant	(ug/dl)/(ug/d	0.0001	
Soil ingestion	mg/day	50	100
Soil ingestion, pica	mg/day		200
Ingestion constant	(ug/dl)/(ug/d	0.04	0.16
Bioavailability	unitless	0.44	
Breathing rate	m^3/day	20	6.8
Inhalation constant	(ug/dl)/(ug/d	0.08	0.19
Water ingestion	l/day	0	0
Food ingestion	kg/day	0	0
Lead in market basket	ug/kg	0.0	
Lead in home-grown produce	ug/kg	0.0	

PATHWAYS

~~ADULTS~~	~~Residential~~			~~Occupational~~		
	~~Pathway contribution~~			~~Pathway contribution~~		
~~Pathway~~	~~PEF~~	~~ug/dl~~	~~percent~~	~~PEF~~	~~ug/dl~~	~~percent~~
~~Soil Contact~~	~~3.1E-6~~	~~0.00~~	~~4%~~	~~1.4E-5~~	~~0.01~~	~~2%~~
~~Soil Ingestion~~	~~7.0E-5~~	~~0.07~~	~~96%~~	~~6.3E-4~~	~~0.60~~	~~98%~~
~~Inhalation, bkgrnd~~		~~0.00~~	~~0%~~		~~0.00~~	~~0%~~
~~Inhalation~~	~~2.0E-7~~	~~0.00~~	~~0%~~	~~1.8E-6~~	~~0.00~~	~~0%~~
~~Water Ingestion~~		~~0.00~~	~~0%~~		~~0.00~~	~~0%~~
~~Food Ingestion, bkgrnd~~		~~0.00~~	~~0%~~		~~0.00~~	~~0%~~
~~Food Ingestion~~	~~0.0E+0~~	~~0.00~~	~~0%~~			~~0%~~

CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
Pathway	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	4.5E-6	0.00	1%		0.00	0%
Soil Ingestion	5.6E-4	0.54	99%	1.1E-3	1.08	100%
Inhalation	1.6E-7	0.00	0%		0.00	0%
Inhalation, bkgrnd		0.00	0%		0.00	0%
Water Ingestion		0.00	0%		0.00	0%
Food Ingestion, bkgrnd		0.00	0%		0.00	0%
Food Ingestion	0.0E+0	0.00	0%		0.00	0%

ATTACHMENT 14

ProUCL Output

ProUCL Output
Exposure Area A 0 to 10 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area A.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Chromium

General Statistics

Number of Valid Observations	12	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics	
Minimum	1.6	Minimum of Log Data	0.47
Maximum	25	Maximum of Log Data	3.219
Mean	8.367	Mean of log Data	1.798
Median	4.65	SD of log Data	0.845
SD	7.203		
Coefficient of Variation	0.861		
Skewness	1.313		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.831	Shapiro Wilk Test Statistic	0.943
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	12.1	95% H-UCL	16.92
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	17.64
95% Adjusted-CLT UCL (Chen-1995)	12.63	97.5% Chebyshev (MVUE) UCL	21.67
95% Modified-t UCL (Johnson-1978)	12.23	99% Chebyshev (MVUE) UCL	29.6

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.317	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	6.353		
MLE of Mean	8.367		
MLE of Standard Deviation	7.29		
nu star	31.61		
Approximate Chi Square Value (.05)	19.76	**Nonparametric Statistics**	
Adjusted Level of Significance	0.029	95% CLT UCL	11.79
Adjusted Chi Square Value	18.34	95% Jackknife UCL	12.1
		95% Standard Bootstrap UCL	11.59
Anderson-Darling Test Statistic	0.529	95% Bootstrap-t UCL	14.1
Anderson-Darling 5% Critical Value	0.744	95% Hall's Bootstrap UCL	12.83
Kolmogorov-Smirnov Test Statistic	0.245	95% Percentile Bootstrap UCL	11.87
Kolmogorov-Smirnov 5% Critical Value	0.249	95% BCA Bootstrap UCL	12.36
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	17.43

97.5% Chebyshev(Mean, Sd) UCL	21.35
99% Chebyshev(Mean, Sd) UCL	29.06

Assuming Gamma Distribution

95% Approximate Gamma UCL	13.38
95% Adjusted Gamma UCL	14.42

Potential UCL to Use

Use 95% Approximate Gamma UCL 13.38

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Lead

General Statistics

Number of Valid Observations	12	Number of Distinct Observations	12

Raw Statistics		**Log-transformed Statistics**	
Minimum	2.3	Minimum of Log Data	0.833
Maximum	19	Maximum of Log Data	2.944
Mean	7.308	Mean of log Data	1.785
Median	5.75	SD of log Data	0.646
SD	5.338		
Coefficient of Variation	0.73		
Skewness	1.559		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.788	Shapiro Wilk Test Statistic	0.949
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	10.08	95% H-UCL	11.58
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	13.27
95% Adjusted-CLT UCL (Chen-1995)	10.58	97.5% Chebyshev (MVUE) UCL	15.9
95% Modified-t UCL (Johnson-1978)	10.19	99% Chebyshev (MVUE) UCL	21.06

Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	2.013	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	3.63		
MLE of Mean	7.308		
MLE of Standard Deviation	5.151		
nu star	48.32		
Approximate Chi Square Value (.05)	33.36	**Nonparametric Statistics**	
Adjusted Level of Significance	0.029	95% CLT UCL	9.843
Adjusted Chi Square Value	31.47	95% Jackknife UCL	10.08
		95% Standard Bootstrap UCL	9.809
Anderson-Darling Test Statistic	0.482	95% Bootstrap-t UCL	13.38

Anderson-Darling 5% Critical Value	0.74	95% Hall's Bootstrap UCL	26.32
Kolmogorov-Smirnov Test Statistic	0.21	95% Percentile Bootstrap UCL	9.9
Kolmogorov-Smirnov 5% Critical Value	0.248	95% BCA Bootstrap UCL	10.52
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	14.03
		97.5% Chebyshev(Mean, Sd) UCL	16.93
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	22.64
95% Approximate Gamma UCL	10.58		
95% Adjusted Gamma UCL	11.22		
Potential UCL to Use		Use 95% Approximate Gamma UCL	10.58

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Observations	12	Number of Distinct Observations	12

Raw Statistics		**Log-transformed Statistics**	
Minimum	1.1	Minimum of Log Data	0.0953
Maximum	17	Maximum of Log Data	2.833
Mean	6.733	Mean of log Data	1.532
Median	3.6	SD of log Data	0.94
SD	5.768		
Coefficient of Variation	0.857		
Skewness	0.891		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.836	Shapiro Wilk Test Statistic	0.924
Shapiro Wilk Critical Value	0.859	Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	9.724	95% H-UCL	15.97
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	15.5
95% Adjusted-CLT UCL (Chen-1995)	9.93	97.5% Chebyshev (MVUE) UCL	19.24
95% Modified-t UCL (Johnson-1978)	9.795	99% Chebyshev (MVUE) UCL	26.58
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	1.165	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	5.782		
MLE of Mean	6.733		
MLE of Standard Deviation	6.24		
nu star	27.95		
Approximate Chi Square Value (.05)	16.89	**Nonparametric Statistics**	
Adjusted Level of Significance	0.029	95% CLT UCL	9.472

Adjusted Chi Square Value	15.59	95% Jackknife UCL	9.724
		95% Standard Bootstrap UCL	9.409
Anderson-Darling Test Statistic	0.496	95% Bootstrap-t UCL	10.4
Anderson-Darling 5% Critical Value	0.746	95% Hall's Bootstrap UCL	9.511
Kolmogorov-Smirnov Test Statistic	0.207	95% Percentile Bootstrap UCL	9.525
Kolmogorov-Smirnov 5% Critical Value	0.25	95% BCA Bootstrap UCL	9.808
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	13.99
		97.5% Chebyshev(Mean, Sd) UCL	17.13
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	23.3
95% Approximate Gamma UCL	11.14		
95% Adjusted Gamma UCL	12.07		
Potential UCL to Use		Use 95% Approximate Gamma UCL	11.14

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area C 0 to 10 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area C.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Benzo(a)anthracene

General Statistics

Number of Valid Data	14	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	7
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.013	Minimum Detected	-4.343
Maximum Detected	0.07	Maximum Detected	-2.659
Mean of Detected	0.0329	Mean of Detected	-3.569
SD of Detected	0.0197	SD of Detected	0.605
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	0.04	Maximum Non-Detect	-3.219

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	12
Number treated as Detected	2
Single DL Non-Detect Percentage	85.71%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.904	Shapiro Wilk Test Statistic	0.951
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0191	Mean	-4.565
SD	0.02	SD	1.22
95% DL/2 (t) UCL	0.0286	95% H-Stat (DL/2) UCL	0.0641
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.263
		SD in Log Scale	0.848
		Mean in Original Scale	0.0201
		SD in Original Scale	0.0189
		95% t UCL	0.029
		95% Percentile Bootstrap UCL	0.0282
		95% BCA Bootstrap UCL	0.0305

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	2.051	Data appear Normal at 5% Significance Level

Theta Star	0.016
nu star	28.71
A-D Test Statistic	0.239
5% A-D Critical Value	0.711
K-S Test Statistic	0.711
5% K-S Critical Value	0.313

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.013
Maximum	0.07
Mean	0.0321
Median	0.028
SD	0.0155
k star	3.902
Theta star	0.00822
Nu star	109.3
AppChi2	86.14
95% Gamma Approximate UCL	0.0407
95% Adjusted Gamma UCL	0.042

Note: DL/2 is not a recommended method.

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0233
SD	0.0163
SE of Mean	0.00474
95% KM (t) UCL	0.0317
95% KM (z) UCL	0.0311
95% KM (jackknife) UCL	0.0311
95% KM (bootstrap t) UCL	0.0365
95% KM (BCA) UCL	0.0359
95% KM (Percentile Bootstrap) UCL	0.0333
95% KM (Chebyshev) UCL	0.0439
97.5% KM (Chebyshev) UCL	0.0529
99% KM (Chebyshev) UCL	0.0705

Potential UCLs to Use

95% KM (t) UCL	0.0317
95% KM (Percentile Bootstrap) UCL	0.0333

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics

Number of Valid Data	14	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	8
		Percent Non-Detects	57.14%

Raw Statistics

Minimum Detected	0.014
Maximum Detected	0.15
Mean of Detected	0.058
SD of Detected	0.0515
Minimum Non-Detect	0.005
Maximum Non-Detect	0.0068

Log-transformed Statistics

Minimum Detected	-4.269
Maximum Detected	-1.897
Mean of Detected	-3.188
SD of Detected	0.923
Minimum Non-Detect	-5.298
Maximum Non-Detect	-4.991

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	8
Number treated as Detected	6
Single DL Non-Detect Percentage	57.14%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only | **Lognormal Distribution Test with Detected Values Only**

Shapiro Wilk Test Statistic	0.865
5% Shapiro Wilk Critical Value	0.788

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.0266
SD	0.0427
95% DL/2 (t) UCL	0.0467
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Shapiro Wilk Test Statistic	0.951
5% Shapiro Wilk Critical Value	0.788

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-4.696
SD	1.474
95% H-Stat (DL/2) UCL	0.12
Log ROS Method	
Mean in Log Scale	-4.868
SD in Log Scale	1.647
Mean in Original Scale	0.0262
SD in Original Scale	0.0429
95% t UCL	0.0465
95% Percentile Bootstrap UCL	0.0465
95% BCA Bootstrap UCL	0.0529

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.918
Theta Star	0.0632
nu star	11.02
A-D Test Statistic	0.259
5% A-D Critical Value	0.707
K-S Test Statistic	0.707
5% K-S Critical Value	0.337

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.014
Maximum	0.15
Mean	0.055
Median	0.053
SD	0.0365
k star	2.028
Theta star	0.0271
Nu star	56.78
AppChi2	40.46
95% Gamma Approximate UCL	0.0772
95% Adjusted Gamma UCL	0.0808

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0329
SD	0.0377
SE of Mean	0.011
95% KM (t) UCL	0.0524
95% KM (z) UCL	0.051
95% KM (jackknife) UCL	0.0503
95% KM (bootstrap t) UCL	0.0714
95% KM (BCA) UCL	0.0669
95% KM (Percentile Bootstrap) UCL	0.0578
95% KM (Chebyshev) UCL	0.081
97.5% KM (Chebyshev) UCL	0.102
99% KM (Chebyshev) UCL	0.143

Potential UCLs to Use

95% KM (t) UCL	0.0524
95% KM (Percentile Bootstrap) UCL	0.0578

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics

Number of Valid Data	14	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	4
		Percent Non-Detects	28.57%

Raw Statistics

Minimum Detected	0.0056
Maximum Detected	0.078
Mean of Detected	0.0325
SD of Detected	0.0298
Minimum Non-Detect	0.0061
Maximum Non-Detect	0.0068

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Log-transformed Statistics

Minimum Detected	-5.185
Maximum Detected	-2.551
Mean of Detected	-3.934
SD of Detected	1.126
Minimum Non-Detect	-5.099
Maximum Non-Detect	-4.991
Number treated as Non-Detect	6
Number treated as Detected	8
Single DL Non-Detect Percentage	42.86%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.812
5% Shapiro Wilk Critical Value	0.842

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.0242
SD	0.0283
95% DL/2 (t) UCL	0.0376
Maximum Likelihood Estimate(MLE) Method	
Mean	0.0123
SD	0.0406
95% MLE (t) UCL	0.0315
95% MLE (Tiku) UCL	0.0344

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.851
Theta Star	0.0382
nu star	17.02
A-D Test Statistic	0.814
5% A-D Critical Value	0.746
K-S Test Statistic	0.746
5% K-S Critical Value	0.273

Data follow Appr. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.00272
Maximum	0.078
Mean	0.0265
Median	0.0114
SD	0.0269
k star	0.912
Theta star	0.0291
Nu star	25.53
AppChi2	15.02
95% Gamma Approximate UCL	0.0451
95% Adjusted Gamma UCL	0.0485

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.828
5% Shapiro Wilk Critical Value	0.842

Data not Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-4.444
SD	1.256
95% H-Stat (DL/2) UCL	0.0799
Log ROS Method	
Mean in Log Scale	-4.362
SD in Log Scale	1.178
Mean in Original Scale	0.0245
SD in Original Scale	0.0281
95% t UCL	0.0378
95% Percentile Bootstrap UCL	0.0372
95% BCA Bootstrap UCL	0.0389

Data Distribution Test with Detected Values Only

Data Follow Appr. Gamma Distribution at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0249
SD	0.0268
SE of Mean	0.00754
95% KM (t) UCL	0.0382
95% KM (z) UCL	0.0373
95% KM (jackknife) UCL	0.038
95% KM (bootstrap t) UCL	0.0426
95% KM (BCA) UCL	0.0372
95% KM (Percentile Bootstrap) UCL	0.0374
95% KM (Chebyshev) UCL	0.0578
97.5% KM (Chebyshev) UCL	0.072
99% KM (Chebyshev) UCL	0.0999

Potential UCLs to Use

95% KM (Chebyshev) UCL	0.0578

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics

Number of Valid Data	14	Number of Detected Data	8
Number of Distinct Detected Data	7	Number of Non-Detect Data	6
		Percent Non-Detects	42.86%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0093	Minimum Detected	-4.678
Maximum Detected	0.058	Maximum Detected	-2.847
Mean of Detected	0.0273	Mean of Detected	-3.788
SD of Detected	0.0173	SD of Detected	0.667
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	0.04	Maximum Non-Detect	-3.219

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	12
Number treated as Detected	2
Single DL Non-Detect Percentage	85.71%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.904	Shapiro Wilk Test Statistic	0.933
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0181	Mean	-4.527
SD	0.0174	SD	1.125
95% DL/2 (t) UCL	0.0263	95% H-Stat (DL/2) UCL	0.052
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.399
		SD in Log Scale	0.904
		Mean in Original Scale	0.018
		SD in Original Scale	0.0169
		95% t UCL	0.026
		95% Percentile Bootstrap UCL	0.0256
		95% BCA Bootstrap UCL	0.0276

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.853	Data appear Normal at 5% Significance Level
Theta Star	0.0147	

nu star	29.66
A-D Test Statistic	0.343
5% A-D Critical Value	0.722
K-S Test Statistic	0.722
5% K-S Critical Value	0.296

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.0093
Maximum	0.058
Mean	0.0243
Median	0.0171
SD	0.0144
k star	2.735
Theta star	0.00889
Nu star	76.57
AppChi2	57.42
95% Gamma Approximate UCL	0.0324
95% Adjusted Gamma UCL	0.0337

Note: DL/2 is not a recommended method.

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.02
SD	0.0151
SE of Mean	0.00437
95% KM (t) UCL	0.0277
95% KM (z) UCL	0.0272
95% KM (jackknife) UCL	0.0272
95% KM (bootstrap t) UCL	0.0311
95% KM (BCA) UCL	0.029
95% KM (Percentile Bootstrap) UCL	0.0283
95% KM (Chebyshev) UCL	0.039
97.5% KM (Chebyshev) UCL	0.0472
99% KM (Chebyshev) UCL	0.0634

Potential UCLs to Use

95% KM (t) UCL	0.0277
95% KM (Percentile Bootstrap) UCL	0.0283

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics

Number of Valid Observations	18	Number of Distinct Observations	14

Raw Statistics

Minimum	8.1
Maximum	39
Mean	21.84
Median	17.5
SD	8.97
Coefficient of Variation	0.411
Skewness	0.441

Log-transformed Statistics

Minimum of Log Data	2.092
Maximum of Log Data	3.664
Mean of log Data	3
SD of log Data	0.428

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.93
Shapiro Wilk Critical Value	0.897

Data appear Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.951
Shapiro Wilk Critical Value	0.897

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	25.52

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	25.55
95% Modified-t UCL (Johnson-1978)	25.55

Assuming Lognormal Distribution

95% H-UCL	26.98
95% Chebyshev (MVUE) UCL	31.78
97.5% Chebyshev (MVUE) UCL	36.06
99% Chebyshev (MVUE) UCL	44.46

Gamma Distribution Test

Data Distribution

k star (bias corrected)	5.171
Theta Star	4.223
MLE of Mean	21.84
MLE of Standard Deviation	9.604
nu star	186.2
Approximate Chi Square Value (.05)	155.6
Adjusted Level of Significance	0.0357
Adjusted Chi Square Value	152.9
Anderson-Darling Test Statistic	0.478
Anderson-Darling 5% Critical Value	0.742
Kolmogorov-Smirnov Test Statistic	0.184
Kolmogorov-Smirnov 5% Critical Value	0.204

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	26.13
95% Adjusted Gamma UCL	26.59

Data appear Normal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	25.32
95% Jackknife UCL	25.52
95% Standard Bootstrap UCL	25.12
95% Bootstrap-t UCL	26.07
95% Hall's Bootstrap UCL	25.41
95% Percentile Bootstrap UCL	25.23
95% BCA Bootstrap UCL	25.39
95% Chebyshev(Mean, Sd) UCL	31.05
97.5% Chebyshev(Mean, Sd) UCL	35.04
99% Chebyshev(Mean, Sd) UCL	42.87

Potential UCL to Use

Use 95% Student's-t UCL 25.52

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Chrysene

General Statistics

Number of Valid Data	14	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	6
		Percent Non-Detects	42.86%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.013	Minimum Detected	-4.343
Maximum Detected	0.26	Maximum Detected	-1.347
Mean of Detected	0.0939	Mean of Detected	-2.885
SD of Detected	0.0875	SD of Detected	1.189
Minimum Non-Detect	0.0055	Minimum Non-Detect	-5.203
Maximum Non-Detect	0.0068	Maximum Non-Detect	-4.991

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	6
Number treated as Detected	8
Single DL Non-Detect Percentage	42.86%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.87	Shapiro Wilk Test Statistic	0.882
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.055
SD	0.0794
95% DL/2 (t) UCL	0.0926
Maximum Likelihood Estimate(MLE) Method	
Mean	0.0191
SD	0.115
95% MLE (t) UCL	0.0735
95% MLE (Tiku) UCL	0.0817

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-4.116
SD	1.715
95% H-Stat (DL/2) UCL	0.5
Log ROS Method	
Mean in Log Scale	-4.211
SD in Log Scale	1.824
Mean in Original Scale	0.0548
SD in Original Scale	0.0795
95% t UCL	0.0924
95% Percentile Bootstrap UCL	0.0902
95% BCA Bootstrap UCL	0.1

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.771
Theta Star	0.122
nu star	12.33
A-D Test Statistic	0.451
5% A-D Critical Value	0.734
K-S Test Statistic	0.734
5% K-S Critical Value	0.301
Data appear Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.013
Maximum	0.26
Mean	0.0772
Median	0.0544
SD	0.0684
k star	1.265
Theta star	0.061
Nu star	35.42
AppChi2	22.8
95% Gamma Approximate UCL	0.12
95% Adjusted Gamma UCL	0.127

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0592
SD	0.0737
SE of Mean	0.0211
95% KM (t) UCL	0.0965
95% KM (z) UCL	0.0939
95% KM (jackknife) UCL	0.0951
95% KM (bootstrap t) UCL	0.111
95% KM (BCA) UCL	0.1
95% KM (Percentile Bootstrap) UCL	0.0964
95% KM (Chebyshev) UCL	0.151
97.5% KM (Chebyshev) UCL	0.191
99% KM (Chebyshev) UCL	0.269

Potential UCLs to Use

95% KM (t) UCL	0.0965
95% KM (Percentile Bootstrap) UCL	0.0964

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluoranthene

General Statistics

Number of Valid Data	14	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	9
		Percent Non-Detects	64.29%

Raw Statistics

Minimum Detected	0.006
Maximum Detected	0.095

Log-transformed Statistics

Minimum Detected	-5.116
Maximum Detected	-2.354

Mean of Detected	0.0446
SD of Detected	0.036
Minimum Non-Detect	0.005
Maximum Non-Detect	0.04

Mean of Detected	-3.493
SD of Detected	1.101
Minimum Non-Detect	-5.298
Maximum Non-Detect	-3.219

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	12
Number treated as Detected	2
Single DL Non-Detect Percentage	85.71%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.958
5% Shapiro Wilk Critical Value	0.762

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.0191
SD	0.0284
95% DL/2 (t) UCL	0.0325
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.713
Theta Star	0.0625
nu star	7.132
A-D Test Statistic	0.197
5% A-D Critical Value	0.687
K-S Test Statistic	0.687
5% K-S Critical Value	0.362

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.006
Maximum	0.095
Mean	0.0427
Median	0.0413
SD	0.0212
k star	2.798
Theta star	0.0153

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.95
5% Shapiro Wilk Critical Value	0.762

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-4.841
SD	1.308
95% H-Stat (DL/2) UCL	0.0622
Log ROS Method	
Mean in Log Scale	-5.277
SD in Log Scale	1.548
Mean in Original Scale	0.0173
SD in Original Scale	0.0291
95% t UCL	0.031
95% Percentile Bootstrap UCL	0.0315
95% BCA Bootstrap UCL	0.0331

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0201
SD	0.0267
SE of Mean	0.00802
95% KM (t) UCL	0.0343
95% KM (z) UCL	0.0333
95% KM (jackknife) UCL	0.0327
95% KM (bootstrap t) UCL	0.0369
95% KM (BCA) UCL	0.0693
95% KM (Percentile Bootstrap) UCL	0.047
95% KM (Chebyshev) UCL	0.055
97.5% KM (Chebyshev) UCL	0.0701
99% KM (Chebyshev) UCL	0.0998

Nu star	78.34	**Potential UCLs to Use**	
AppChi2	58.95	95% KM (t) UCL	0.0343
95% Gamma Approximate UCL	0.0568	95% KM (Percentile Bootstrap) UCL	0.047
95% Adjusted Gamma UCL	0.059		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead

General Statistics

Number of Valid Data	21	Number of Detected Data	20
Number of Distinct Detected Data	18	Number of Non-Detect Data	1
		Percent Non-Detects	4.76%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	1.2	Minimum Detected	0.182
Maximum Detected	68	Maximum Detected	4.22
Mean of Detected	17.31	Mean of Detected	2.285
SD of Detected	19.81	SD of Detected	1.099
Minimum Non-Detect	1	Minimum Non-Detect	0
Maximum Non-Detect	1	Maximum Non-Detect	0

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.744	Shapiro Wilk Test Statistic	0.96
5% Shapiro Wilk Critical Value	0.905	5% Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	16.5	Mean	2.143
SD	19.65	SD	1.253
95% DL/2 (t) UCL	23.9	95% H-Stat (DL/2) UCL	42.43
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	15.98	Mean in Log Scale	2.156
SD	19.86	SD in Log Scale	1.224
95% MLE (t) UCL	23.46	Mean in Original Scale	16.51
95% MLE (Tiku) UCL	22.98	SD in Original Scale	19.65
		95% t UCL	23.91
		95% Percentile Bootstrap UCL	23.78
		95% BCA Bootstrap UCL	24.74

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.899	Data appear Gamma Distributed at 5% Significance Level
Theta Star	19.26	
nu star	35.95	
A-D Test Statistic	0.754	**Nonparametric Statistics**
5% A-D Critical Value	0.768	Kaplan-Meier (KM) Method

K-S Test Statistic	0.768	Mean	16.54
5% K-S Critical Value	0.199	SD	19.15
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	4.288
		95% KM (t) UCL	23.93
Assuming Gamma Distribution		95% KM (z) UCL	23.59
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	23.87
Minimum	1E-12	95% KM (bootstrap t) UCL	27.58
Maximum	68	95% KM (BCA) UCL	24.37
Mean	16.48	95% KM (Percentile Bootstrap) UCL	23.82
Median	8.2	95% KM (Chebyshev) UCL	35.23
SD	19.67	97.5% KM (Chebyshev) UCL	43.32
k star	0.329	99% KM (Chebyshev) UCL	59.2
Theta star	50.09		
Nu star	13.82	Potential UCLs to Use	
AppChi2	6.448	95% KM (Chebyshev) UCL	35.23
95% Gamma Approximate UCL	35.32		
95% Adjusted Gamma UCL	37.56		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Mercury

General Statistics

Number of Valid Data	18	Number of Detected Data	9
Number of Distinct Detected Data	7	Number of Non-Detect Data	9
		Percent Non-Detects	50.00%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.023	Minimum Detected	-3.772
Maximum Detected	0.2	Maximum Detected	-1.609
Mean of Detected	0.0694	Mean of Detected	-3.05
SD of Detected	0.0743	SD of Detected	0.842
Minimum Non-Detect	0.02	Minimum Non-Detect	-3.912
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	88.89%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.614	Shapiro Wilk Test Statistic	0.741
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	

DL/2 Substitution Method	
Mean	0.0575
SD	0.0532
95% DL/2 (t) UCL	0.0793
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

DL/2 Substitution Method	
Mean	-3.112
SD	0.688
95% H-Stat (DL/2) UCL	0.0817
Log ROS Method	
Mean in Log Scale	-3.361
SD in Log Scale	0.826
Mean in Original Scale	0.0505
SD in Original Scale	0.0564
95% t UCL	0.0736
95% Percentile Bootstrap UCL	0.074
95% BCA Bootstrap UCL	0.0837

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.041
Theta Star	0.0667
nu star	18.74
A-D Test Statistic	1.405
5% A-D Critical Value	0.735
K-S Test Statistic	0.735
5% K-S Critical Value	0.284

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.023
Maximum	0.2
Mean	0.0693
Median	0.0587
SD	0.0515
k star	2.282
Theta star	0.0304
Nu star	82.14
AppChi2	62.26
95% Gamma Approximate UCL	0.0915
95% Adjusted Gamma UCL	0.094

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0498
SD	0.0536
SE of Mean	0.0135
95% KM (t) UCL	0.0733
95% KM (z) UCL	0.072
95% KM (jackknife) UCL	0.0724
95% KM (bootstrap t) UCL	0.158
95% KM (BCA) UCL	0.0755
95% KM (Percentile Bootstrap) UCL	0.071
95% KM (Chebyshev) UCL	0.109
97.5% KM (Chebyshev) UCL	0.134
99% KM (Chebyshev) UCL	0.184

Potential UCLs to Use

95% KM (t) UCL	0.0733
95% KM (% Bootstrap) UCL	0.071

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Pyrene

General Statistics

Number of Valid Data	14
Number of Distinct Detected Data	7
Number of Detected Data	7
Number of Non-Detect Data	7
Percent Non-Detects	50.00%

Raw Statistics

Minimum Detected	0.007
Maximum Detected	0.1

Log-transformed Statistics

Minimum Detected	-4.962
Maximum Detected	-2.303

Mean of Detected	0.0495
SD of Detected	0.0422
Minimum Non-Detect	0.005
Maximum Non-Detect	0.04

Mean of Detected	-3.519
SD of Detected	1.219
Minimum Non-Detect	-5.298
Maximum Non-Detect	-3.219

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	10
Number treated as Detected	4
Single DL Non-Detect Percentage	71.43%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.835
5% Shapiro Wilk Critical Value	0.803

Data appear Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.813
5% Shapiro Wilk Critical Value	0.803

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method

Mean	0.0275
SD	0.0369
95% DL/2 (t) UCL	0.0449

Maximum Likelihood Estimate(MLE) Method

Mean	0.00938
SD	0.0575
95% MLE (t) UCL	0.0366
95% MLE (Tiku) UCL	0.058

Assuming Lognormal Distribution

DL/2 Substitution Method

Mean	-4.522
SD	1.418
95% H-Stat (DL/2) UCL	0.119

Log ROS Method

Mean in Log Scale	-5.021
SD in Log Scale	1.79
Mean in Original Scale	0.0255
SD in Original Scale	0.0379
95% t UCL	0.0435
95% Percentile Bootstrap UCL	0.0421
95% BCA Bootstrap UCL	0.0447

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.732
Theta Star	0.0676
nu star	10.24
A-D Test Statistic	0.637
5% A-D Critical Value	0.726
K-S Test Statistic	0.726
5% K-S Critical Value	0.319

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	0.007
Maximum	0.1
Mean	0.0467
Median	0.0406
SD	0.0298
k star	1.611
Theta star	0.029

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	0.0283
SD	0.0348
SE of Mean	0.0101
95% KM (t) UCL	0.0461
95% KM (z) UCL	0.0448
95% KM (jackknife) UCL	0.045
95% KM (bootstrap t) UCL	0.0489
95% KM (BCA) UCL	0.0519
95% KM (Percentile Bootstrap) UCL	0.0499
95% KM (Chebyshev) UCL	0.0721
97.5% KM (Chebyshev) UCL	0.091
99% KM (Chebyshev) UCL	0.128

Nu star	45.11
AppChi2	30.7
95% Gamma Approximate UCL	0.0686
95% Adjusted Gamma UCL	0.0723

Potential UCLs to Use

95% KM (t) UCL	0.0461
95% KM (Percentile Bootstrap) UCL	0.0499

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Observations	18
Number of Distinct Observations	14

Raw Statistics

Minimum	6.3
Maximum	34
Mean	17.9
Median	16.5
SD	8.226
Coefficient of Variation	0.46
Skewness	0.484

Log-transformed Statistics

Minimum of Log Data	1.841
Maximum of Log Data	3.526
Mean of log Data	2.778
SD of log Data	0.488

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.948
Shapiro Wilk Critical Value	0.897

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	21.27

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	21.33
95% Modified-t UCL (Johnson-1978)	21.31

Gamma Distribution Test

k star (bias corrected)	4.077
Theta Star	4.39
MLE of Mean	17.9
MLE of Standard Deviation	8.865
nu star	146.8
Approximate Chi Square Value (.05)	119.8
Adjusted Level of Significance	0.0357
Adjusted Chi Square Value	117.4
Anderson-Darling Test Statistic	0.237
Anderson-Darling 5% Critical Value	0.743
Kolmogorov-Smirnov Test Statistic	0.14
Kolmogorov-Smirnov 5% Critical Value	0.204

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	21.94
95% Adjusted Gamma UCL	22.37

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.968
Shapiro Wilk Critical Value	0.897

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

95% H-UCL	22.98
95% Chebyshev (MVUE) UCL	27.3
97.5% Chebyshev (MVUE) UCL	31.33
99% Chebyshev (MVUE) UCL	39.24

Data Distribution

Data appear Normal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	21.09
95% Jackknife UCL	21.27
95% Standard Bootstrap UCL	20.99
95% Bootstrap-t UCL	21.66
95% Hall's Bootstrap UCL	21.33
95% Percentile Bootstrap UCL	20.99
95% BCA Bootstrap UCL	21.23
95% Chebyshev(Mean, Sd) UCL	26.35
97.5% Chebyshev(Mean, Sd) UCL	30.01
99% Chebyshev(Mean, Sd) UCL	37.19

Potential UCL to Use — Use 95% Student's-t UCL 21.27

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

C_TPHd

General Statistics

Number of Valid Data	34	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	24
		Percent Non-Detects	70.59%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	6	Minimum Detected	1.792
Maximum Detected	390	Maximum Detected	5.966
Mean of Detected	123.7	Mean of Detected	4.075
SD of Detected	143.7	SD of Detected	1.387
Minimum Non-Detect	5	Minimum Non-Detect	1.609
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	26
Number treated as Detected	8
Single DL Non-Detect Percentage	76.47%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.774	Shapiro Wilk Test Statistic	0.95
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	39.84	Mean	2.294
SD	93.03	SD	1.394
95% DL/2 (t) UCL	66.84	95% H-Stat (DL/2) UCL	53.78
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	0.888
		SD in Log Scale	2.666
		Mean in Original Scale	37.77
		SD in Original Scale	93.86
		95% t UCL	65.01
		95% Percentile Bootstrap UCL	65.42
		95% BCA Bootstrap UCL	76.09
		95% H-UCL	836.3

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.626	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	197.6		
nu star	12.52		
A-D Test Statistic	0.421	Nonparametric Statistics	
5% A-D Critical Value	0.755	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.755	Mean	40.63
5% K-S Critical Value	0.276	SD	91.35
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	16.51

		95% KM (t) UCL	68.57
Assuming Gamma Distribution		95% KM (z) UCL	67.79
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	64.13
Minimum	0.000001	95% KM (bootstrap t) UCL	97.98
Maximum	390	95% KM (BCA) UCL	86.62
Mean	36.38	95% KM (Percentile Bootstrap) UCL	74.53
Median	0.000001	95% KM (Chebyshev) UCL	112.6
SD	94.38	97.5% KM (Chebyshev) UCL	143.8
k star	0.0832	99% KM (Chebyshev) UCL	204.9
Theta star	437.4		
Nu star	5.656	**Potential UCLs to Use**	
AppChi2	1.467	95% KM (t) UCL	68.57
95% Gamma Approximate UCL (Use when n >= 40)	140.3		
95% Adjusted Gamma UCL (Use when n < 40)	150.8		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

C_TPHm

General Statistics

Number of Valid Data	34	Number of Detected Data	14
Number of Distinct Detected Data	14	Number of Non-Detect Data	20
		Percent Non-Detects	58.82%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	11	Minimum Detected	2.398
Maximum Detected	1700	Maximum Detected	7.438
Mean of Detected	398.2	Mean of Detected	4.866
SD of Detected	564.9	SD of Detected	1.696
Minimum Non-Detect	5	Minimum Non-Detect	1.609
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	20
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	14
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	58.82%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.706	Shapiro Wilk Test Statistic	0.943
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	166.7	Mean	2.889
SD	405.4	SD	1.997
95% DL/2 (t) UCL	284.4	95% H-Stat (DL/2) UCL	506.2
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	1.816
		SD in Log Scale	3.131
		Mean in Original Scale	165.2
		SD in Original Scale	406

95% t UCL	283.1
95% Percentile Bootstrap UCL	291.6
95% BCA Bootstrap UCL	334.5
95% H-UCL	18461

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.485
Theta Star	820.2
nu star	13.59
A-D Test Statistic	0.536
5% A-D Critical Value	0.788
K-S Test Statistic	0.788
5% K-S Critical Value	0.241

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	1700
Mean	164
Median	0.000001
SD	406.6
k star	0.0879
Theta star	1866
Nu star	5.976
AppChi2	1.628
95% Gamma Approximate UCL (Use when n >= 40)	602
95% Adjusted Gamma UCL (Use when n < 40)	645.2

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	170.4
SD	397.9
SE of Mean	70.82
95% KM (t) UCL	290.3
95% KM (z) UCL	286.9
95% KM (jackknife) UCL	287.2
95% KM (bootstrap t) UCL	411.6
95% KM (BCA) UCL	305.7
95% KM (Percentile Bootstrap) UCL	296.7
95% KM (Chebyshev) UCL	479.1
97.5% KM (Chebyshev) UCL	612.7
99% KM (Chebyshev) UCL	875.1

Potential UCLs to Use

95% KM (t) UCL	290.3

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

BaPTEQC

General Statistics

Number of Valid Data	14	Number of Detected Data	11
Number of Distinct Detected Data	11	Number of Non-Detect Data	3
		Percent Non-Detects	21.43%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00398	Minimum Detected	-5.526
Maximum Detected	0.165	Maximum Detected	-1.801
Mean of Detected	0.0411	Mean of Detected	-3.998
SD of Detected	0.0519	SD of Detected	1.388
Minimum Non-Detect	0.0043	Minimum Non-Detect	-5.449
Maximum Non-Detect	0.00479	Maximum Non-Detect	-5.34

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	5
Number treated as Detected	9
Single DL Non-Detect Percentage	35.71%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.764

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.883

5% Shapiro Wilk Critical Value	0.85

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.0328
SD	0.0484
95% DL/2 (t) UCL	0.0557
Maximum Likelihood Estimate(MLE) Method	
Mean	0.0167
SD	0.0639
95% MLE (t) UCL	0.0469
95% MLE (Tiku) UCL	0.0496

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.601
Theta Star	0.0685
nu star	13.22
A-D Test Statistic	0.618
5% A-D Critical Value	0.763
K-S Test Statistic	0.763
5% K-S Critical Value	0.265

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.165
Mean	0.0323
Median	0.00575
SD	0.0488
k star	0.255
Theta star	0.127
Nu star	7.136
AppChi2	2.245
95% Gamma Approximate UCL (Use when n >= 40)	0.103
95% Adjusted Gamma UCL (Use when n < 40)	0.121

Note: DL/2 is not a recommended method.

5% Shapiro Wilk Critical Value	0.85

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-4.443
SD	1.504
95% H-Stat (DL/2) UCL	0.171
Log ROS Method	
Mean in Log Scale	-4.413
SD in Log Scale	1.47
Mean in Original Scale	0.0329
SD in Original Scale	0.0484
95% t UCL	0.0558
95% Percentile Bootstrap UCL	0.0546
95% BCA Bootstrap UCL	0.0599
95% H UCL	0.157

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0332
SD	0.0464
SE of Mean	0.013
95% KM (t) UCL	0.0562
95% KM (z) UCL	0.0546
95% KM (jackknife) UCL	0.056
95% KM (bootstrap t) UCL	0.0738
95% KM (BCA) UCL	0.0547
95% KM (Percentile Bootstrap) UCL	0.0549
95% KM (Chebyshev) UCL	0.0899
97.5% KM (Chebyshev) UCL	0.114
99% KM (Chebyshev) UCL	0.163

Potential UCLs to Use

95% KM (Chebyshev) UCL	0.0899

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area C 0 to 2 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area C.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Lead

General Statistics

Number of Valid Data	12	Number of Detected Data	11
Number of Distinct Detected Data	10	Number of Non-Detect Data	1
		Percent Non-Detects	8.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2.8	Minimum Detected	1.03
Maximum Detected	68	Maximum Detected	4.22
Mean of Detected	23.47	Mean of Detected	2.752
SD of Detected	21.94	SD of Detected	0.977
Minimum Non-Detect	1	Minimum Non-Detect	0
Maximum Non-Detect	1	Maximum Non-Detect	0

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.817	Shapiro Wilk Test Statistic	0.972
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	21.56	Mean	2.465
SD	21.94	SD	1.363
95% DL/2 (t) UCL	32.94	95% H-Stat (DL/2) UCL	131.4
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	20.57	Mean in Log Scale	2.552
SD	22.42	SD in Log Scale	1.161
95% MLE (t) UCL	32.19	Mean in Original Scale	21.64
95% MLE (Tiku) UCL	31.8	SD in Original Scale	21.87
		95% t UCL	32.97
		95% Percentile Bootstrap UCL	32.12
		95% BCA Bootstrap UCL	33.11

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.066	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	22.02		
nu star	23.45		

A-D Test Statistic	0.311
5% A-D Critical Value	0.744
K-S Test Statistic	0.744
5% K-S Critical Value	0.26
Data appear Gamma Distributed at 5% Significance Level	
Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	68
Mean	21.52
Median	13.5
SD	21.99
k star	0.243
Theta star	88.68
Nu star	5.823
AppChi2	1.55
95% Gamma Approximate UCL	80.82
95% Adjusted Gamma UCL	101

Note: DL/2 is not a recommended method.

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	21.75
SD	20.83
SE of Mean	6.306
95% KM (t) UCL	33.07
95% KM (z) UCL	32.12
95% KM (jackknife) UCL	32.93
95% KM (bootstrap t) UCL	42.59
95% KM (BCA) UCL	32.05
95% KM (Percentile Bootstrap) UCL	32.67
95% KM (Chebyshev) UCL	49.24
97.5% KM (Chebyshev) UCL	61.13
99% KM (Chebyshev) UCL	84.49
Potential UCLs to Use	
95% KM (Chebyshev) UCL	49.24

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area D 0 to 10 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area D.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Benzo(a)anthracene

General Statistics

Number of Valid Data	10	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	6
		Percent Non-Detects	60.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0069	Minimum Detected	-4.976
Maximum Detected	0.082	Maximum Detected	-2.501
Mean of Detected	0.0312	Mean of Detected	-3.885
SD of Detected	0.0343	SD of Detected	1.034
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	10
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.783	Shapiro Wilk Test Statistic	0.963
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.216	Mean	-3.406
SD	3.149	SD	2.846
95% DL/2 (t) UCL	3.041	95% H-Stat (DL/2) UCL	2299
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.009
		SD in Log Scale	1.263
		Mean in Original Scale	0.0148
		SD in Original Scale	0.0244
		95% t UCL	0.029
		95% Percentile Bootstrap UCL	0.0293
		95% BCA Bootstrap UCL	0.0379

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.501	Data appear Normal at 5% Significance Level	

Theta Star	0.0623
nu star	4.007
A-D Test Statistic	0.362
5% A-D Critical Value	0.664
K-S Test Statistic	0.664
5% K-S Critical Value	0.4

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.00671
Maximum	0.082
Mean	0.0356
Median	0.0224
SD	0.0286
k star	1.149
Theta star	0.031
Nu star	22.98
AppChi2	13.07
95% Gamma Approximate UCL	0.0626
95% Adjusted Gamma UCL	N/A

Note: DL/2 is not a recommended method.

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0195
SD	0.0242
SE of Mean	0.0099
95% KM (t) UCL	0.0377
95% KM (z) UCL	0.0358
95% KM (jackknife) UCL	0.0354
95% KM (bootstrap t) UCL	0.0713
95% KM (BCA) UCL	0.0515
95% KM (Percentile Bootstrap) UCL	0.0413
95% KM (Chebyshev) UCL	0.0627
97.5% KM (Chebyshev) UCL	0.0814
99% KM (Chebyshev) UCL	0.118

Potential UCLs to Use

95% KM (t) UCL	0.0377
95% KM (Percentile Bootstrap) UCL	0.0413

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics

Number of Valid Data	10	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	6
		Percent Non-Detects	60.00%

Raw Statistics

Minimum Detected	0.022
Maximum Detected	0.075
Mean of Detected	0.037
SD of Detected	0.0254
Minimum Non-Detect	0.005
Maximum Non-Detect	20

Log-transformed Statistics

Minimum Detected	-3.817
Maximum Detected	-2.59
Mean of Detected	-3.437
SD of Detected	0.571
Minimum Non-Detect	-5.298
Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	10
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.704
5% Shapiro Wilk Critical Value	0.748

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	1.218
SD	3.148
95% DL/2 (t) UCL	3.043
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.761
5% Shapiro Wilk Critical Value	0.748

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.157
SD	2.709
95% H-Stat (DL/2) UCL	1050
Log ROS Method	
Mean in Log Scale	-4.035
SD in Log Scale	0.668
Mean in Original Scale	0.0223
SD in Original Scale	0.0196
95% t UCL	0.0337
95% Percentile Bootstrap UCL	0.0333
95% BCA Bootstrap UCL	0.0379

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.097
Theta Star	0.0337
nu star	8.777
A-D Test Statistic	0.703
5% A-D Critical Value	0.659
K-S Test Statistic	0.659
5% K-S Critical Value	0.396

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.022
Maximum	0.075
Mean	0.0415
Median	0.0257
SD	0.0225
k star	2.873
Theta star	0.0144
Nu star	57.46
AppChi2	41.03
95% Gamma Approximate UCL	0.0581
95% Adjusted Gamma UCL	N/A

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0296
SD	0.0172
SE of Mean	0.00704
95% KM (t) UCL	0.0426
95% KM (z) UCL	0.0412
95% KM (jackknife) UCL	0.0412
95% KM (bootstrap t) UCL	0.112
95% KM (BCA) UCL	0.075
95% KM (Percentile Bootstrap) UCL	0.0434
95% KM (Chebyshev) UCL	0.0603
97.5% KM (Chebyshev) UCL	0.0736
99% KM (Chebyshev) UCL	0.0997

Potential UCLs to Use

95% KM (t) UCL	0.0426
95% KM (% Bootstrap) UCL	0.0434

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics

Number of Valid Data	25	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	20
		Percent Non-Detects	80.00%

Raw Statistics	
Minimum Detected	0.73
Maximum Detected	4.3
Mean of Detected	2.206
SD of Detected	1.438
Minimum Non-Detect	0.5
Maximum Non-Detect	1

Log-transformed Statistics	
Minimum Detected	-0.315
Maximum Detected	1.459
Mean of Detected	0.594
SD of Detected	0.732
Minimum Non-Detect	-0.693
Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	21
Number treated as Detected	4
Single DL Non-Detect Percentage	84.00%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.936
5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level	

Assuming Normal Distribution	
DL/2 Substitution Method	
Mean	0.821
SD	0.921
95% DL/2 (t) UCL	1.136
Maximum Likelihood Estimate(MLE) Method	N/A
MLE yields a negative mean	

Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.939
5% Shapiro Wilk Critical Value	0.762
Data appear Lognormal at 5% Significance Level	

Assuming Lognormal Distribution	
DL/2 Substitution Method	
Mean	-0.491
SD	0.657
95% H-Stat (DL/2) UCL	1.007
Log ROS Method	
Mean in Log Scale	-1.162
SD in Log Scale	1.281
Mean in Original Scale	0.682
SD in Original Scale	1.003
95% t UCL	1.025
95% Percentile Bootstrap UCL	1.037
95% BCA Bootstrap UCL	1.086

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	1.21
Theta Star	1.824
nu star	12.1
A-D Test Statistic	0.277
5% A-D Critical Value	0.683
K-S Test Statistic	0.683
5% K-S Critical Value	0.36
Data appear Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	0.73
Maximum	4.3
Mean	2.023

Data Distribution Test with Detected Values Only
Data appear Normal at 5% Significance Level

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	1.025
SD	0.824
SE of Mean	0.184
95% KM (t) UCL	1.341
95% KM (z) UCL	1.328
95% KM (jackknife) UCL	1.294
95% KM (bootstrap t) UCL	1.423
95% KM (BCA) UCL	3.02
95% KM (Percentile Bootstrap) UCL	2.476

Median	2.015	95% KM (Chebyshev) UCL	1.829
SD	0.689	97.5% KM (Chebyshev) UCL	2.176
k star	8.052	99% KM (Chebyshev) UCL	2.859
Theta star	0.251		
Nu star	402.6	**Potential UCLs to Use**	
AppChi2	357.1	95% KM (t) UCL	1.341
95% Gamma Approximate UCL	2.281	95% KM (Percentile Bootstrap) UCL	2.476
95% Adjusted Gamma UCL	2.299		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics

Number of Valid Observations	25	Number of Distinct Observations	20

Raw Statistics		**Log-transformed Statistics**	
Minimum	8.1	Minimum of Log Data	2.092
Maximum	61	Maximum of Log Data	4.111
Mean	23.05	Mean of log Data	3.003
Median	20	SD of log Data	0.522
SD	12.97		
Coefficient of Variation	0.563		
Skewness	1.374		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.874	Shapiro Wilk Test Statistic	0.976
Shapiro Wilk Critical Value	0.918	Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	27.49	95% H-UCL	28.51
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	33.86
95% Adjusted-CLT UCL (Chen-1995)	28.08	97.5% Chebyshev (MVUE) UCL	38.58
95% Modified-t UCL (Johnson-1978)	27.61	99% Chebyshev (MVUE) UCL	47.86

Gamma Distribution Test		**Data Distribution**
k star (bias corrected)	3.443	**Data appear Gamma Distributed at 5% Significance Level**
Theta Star	6.695	
MLE of Mean	23.05	
MLE of Standard Deviation	12.42	
nu star	172.2	
Approximate Chi Square Value (.05)	142.8	**Nonparametric Statistics**
Adjusted Level of Significance	0.0395	95% CLT UCL 27.32
Adjusted Chi Square Value	141	95% Jackknife UCL 27.49
		95% Standard Bootstrap UCL 27.25
Anderson-Darling Test Statistic	0.401	95% Bootstrap-t UCL 28.7
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL 28.74
Kolmogorov-Smirnov Test Statistic	0.131	95% Percentile Bootstrap UCL 27.49
Kolmogorov-Smirnov 5% Critical Value	0.175	95% BCA Bootstrap UCL 27.57
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 34.36
		97.5% Chebyshev(Mean, Sd) UCL 39.25

Assuming Gamma Distribution	99% Chebyshev(Mean, Sd) UCL 48.86
95% Approximate Gamma UCL 27.79	
95% Adjusted Gamma UCL 28.15	
Potential UCL to Use	Use 95% Approximate Gamma UCL 27.79

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Chrysene

General Statistics

Number of Valid Data	10	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	6
		Percent Non-Detects	60.00%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.013	Minimum Detected	-4.343
Maximum Detected	0.12	Maximum Detected	-2.12
Mean of Detected	0.0513	Mean of Detected	-3.278
SD of Detected	0.0471	SD of Detected	0.909
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.82	Shapiro Wilk Test Statistic	0.952
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.224	Mean	-3.163
SD	3.145	SD	2.803
95% DL/2 (t) UCL	3.047	95% H-Stat (DL/2) UCL	2115
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.237
		SD in Log Scale	1.085
		Mean in Original Scale	0.0258
		SD in Original Scale	0.0351
		95% t UCL	0.0462
		95% Percentile Bootstrap UCL	0.0459
		95% BCA Bootstrap UCL	0.0543

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.611
Theta Star	0.0839
nu star	4.887
A-D Test Statistic	0.359
5% A-D Critical Value	0.661
K-S Test Statistic	0.661
5% K-S Critical Value	0.399
Data appear Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	0.013
Maximum	0.12
Mean	0.058
Median	0.0402
SD	0.0401
k star	1.523
Theta star	0.0381
Nu star	30.45
AppChi2	18.85
95% Gamma Approximate UCL	0.0936
95% Adjusted Gamma UCL	N/A

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only
Data appear Normal at 5% Significance Level

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	0.0331
SD	0.0344
SE of Mean	0.0141
95% KM (t) UCL	0.059
95% KM (z) UCL	0.0563
95% KM (jackknife) UCL	0.0569
95% KM (bootstrap t) UCL	0.0804
95% KM (BCA) UCL	0.12
95% KM (Percentile Bootstrap) UCL	0.0669
95% KM (Chebyshev) UCL	0.0947
97.5% KM (Chebyshev) UCL	0.121
99% KM (Chebyshev) UCL	0.174

Potential UCLs to Use	
95% KM (t) UCL	0.059
95% KM (Percentile Bootstrap) UCL	0.0669

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluoranthene

General Statistics

Number of Valid Data	10	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	6
		Percent Non-Detects	60.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.013	Minimum Detected	-4.343
Maximum Detected	0.18	Maximum Detected	-1.715
Mean of Detected	0.0628	Mean of Detected	-3.289
SD of Detected	0.0786	SD of Detected	1.12
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.727
5% Shapiro Wilk Critical Value	0.748

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	1.228
SD	3.144
95% DL/2 (t) UCL	3.051
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.912
5% Shapiro Wilk Critical Value	0.748

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.168
SD	2.829
95% H-Stat (DL/2) UCL	2558
Log ROS Method	
Mean in Log Scale	-4.508
SD in Log Scale	1.369
Mean in Original Scale	0.0288
SD in Original Scale	0.0541
95% t UCL	0.0601
95% Percentile Bootstrap UCL	0.0618
95% BCA Bootstrap UCL	0.0781

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.441
Theta Star	0.142
nu star	3.527
A-D Test Statistic	0.487
5% A-D Critical Value	0.666
K-S Test Statistic	0.666
5% K-S Critical Value	0.402

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.00887
Maximum	0.18
Mean	0.0721
Median	0.0378
SD	0.065
k star	0.917
Theta star	0.0786
Nu star	18.34
AppChi2	9.635
95% Gamma Approximate UCL	0.137
95% Adjusted Gamma UCL	N/A

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0385
SD	0.054
SE of Mean	0.0221
95% KM (t) UCL	0.079
95% KM (z) UCL	0.0748
95% KM (jackknife) UCL	0.0741
95% KM (bootstrap t) UCL	0.208
95% KM (BCA) UCL	0.108
95% KM (Percentile Bootstrap) UCL	0.0881
95% KM (Chebyshev) UCL	0.135
97.5% KM (Chebyshev) UCL	0.176
99% KM (Chebyshev) UCL	0.258

Potential UCLs to Use

95% KM (t) UCL	0.079

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead

General Statistics

Number of Valid Data	25	Number of Detected Data	24

Number of Distinct Detected Data	22	Number of Non-Detect Data	1
		Percent Non-Detects	4.00%

Raw Statistics

Minimum Detected	2
Maximum Detected	1600
Mean of Detected	85.57
SD of Detected	323.7
Minimum Non-Detect	1
Maximum Non-Detect	1

Log-transformed Statistics

Minimum Detected	0.693
Maximum Detected	7.378
Mean of Detected	2.465
SD of Detected	1.571
Minimum Non-Detect	0
Maximum Non-Detect	0

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.264
5% Shapiro Wilk Critical Value	0.916

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.875
5% Shapiro Wilk Critical Value	0.916

Data not Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	82.16
SD	317.3
95% DL/2 (t) UCL	190.7
Maximum Likelihood Estimate(MLE) Method	
Mean	73
SD	318.5
95% MLE (t) UCL	182
95% MLE (Tiku) UCL	170.1

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	2.339
SD	1.663
95% H-Stat (DL/2) UCL	133
Log ROS Method	
Mean in Log Scale	2.316
SD in Log Scale	1.709
Mean in Original Scale	82.16
SD in Original Scale	317.3
95% t UCL	190.7
95% Percentile Bootstrap UCL	207.3
95% BCA Bootstrap UCL	278.9

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.326
Theta Star	262.7
nu star	15.63
A-D Test Statistic	3.481
5% A-D Critical Value	0.842
K-S Test Statistic	0.842
5% K-S Critical Value	0.192

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	1600
Mean	82.14
Median	7.9
SD	317.3
k star	0.228
Theta star	360.1
Nu star	11.41
AppChi2	4.838
95% Gamma Approximate UCL	193.7
95% Adjusted Gamma UCL	206

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	82.22
SD	310.9
SE of Mean	63.52
95% KM (t) UCL	190.9
95% KM (z) UCL	186.7
95% KM (jackknife) UCL	190.8
95% KM (bootstrap t) UCL	1161
95% KM (BCA) UCL	210
95% KM (Percentile Bootstrap) UCL	206.8
95% KM (Chebyshev) UCL	359.1
97.5% KM (Chebyshev) UCL	478.9
99% KM (Chebyshev) UCL	714.2

Potential UCLs to Use

99% KM (Chebyshev) UCL	714.2

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Mercury

General Statistics

Number of Valid Data	25	Number of Detected Data	7
Number of Distinct Detected Data	6	Number of Non-Detect Data	18
		Percent Non-Detects	72.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.1	Minimum Detected	-2.303
Maximum Detected	1	Maximum Detected	0
Mean of Detected	0.361	Mean of Detected	-1.293
SD of Detected	0.312	SD of Detected	0.788
Minimum Non-Detect	0.02	Minimum Non-Detect	-3.912
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	18
Number treated as Detected	7
Single DL Non-Detect Percentage	72.00%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.811	Shapiro Wilk Test Statistic	0.969
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.135	Mean	-2.587
SD	0.212	SD	0.967
95% DL/2 (t) UCL	0.208	95% H-Stat (DL/2) UCL	0.195
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.533
		SD in Log Scale	1.782
		Mean in Original Scale	0.116
		SD in Original Scale	0.221
		95% t UCL	0.192
		95% Percentile Bootstrap UCL	0.199
		95% BCA Bootstrap UCL	0.226

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	1.218	Data appear Normal at 5% Significance Level
Theta Star	0.297	

nu star	17.05
A-D Test Statistic	0.289
5% A-D Critical Value	0.715
K-S Test Statistic	0.715
5% K-S Critical Value	0.315

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	0.1
Maximum	1
Mean	0.325
Median	0.302
SD	0.165
k star	4.995
Theta star	0.0651
Nu star	249.7
AppChi2	214.1
95% Gamma Approximate UCL	0.379
95% Adjusted Gamma UCL	0.383

Note: DL/2 is not a recommended method.

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	0.173
SD	0.193
SE of Mean	0.0416
95% KM (t) UCL	0.244
95% KM (z) UCL	0.242
95% KM (jackknife) UCL	0.231
95% KM (bootstrap t) UCL	0.31
95% KM (BCA) UCL	0.344
95% KM (Percentile Bootstrap) UCL	0.304
95% KM (Chebyshev) UCL	0.355
97.5% KM (Chebyshev) UCL	0.433
99% KM (Chebyshev) UCL	0.587

Potential UCLs to Use

95% KM (t) UCL	0.244
95% KM (Percentile Bootstrap) UCL	0.304

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics

Number of Valid Data	10	Number of Detected Data	5
Number of Distinct Detected Data	3	Number of Non-Detect Data	5
		Percent Non-Detects	50.00%

Raw Statistics

Minimum Detected	0.012
Maximum Detected	0.072
Mean of Detected	0.0268
SD of Detected	0.0255
Minimum Non-Detect	0.005
Maximum Non-Detect	20

Log-transformed Statistics

Minimum Detected	-4.423
Maximum Detected	-2.631
Mean of Detected	-3.881
SD of Detected	0.735
Minimum Non-Detect	-5.298
Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	10
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.664
5% Shapiro Wilk Critical Value	0.762

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	1.216
SD	3.148
95% DL/2 (t) UCL	3.041
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.783
5% Shapiro Wilk Critical Value	0.762

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.193
SD	2.686
95% H-Stat (DL/2) UCL	857.7
Log ROS Method	
Mean in Log Scale	-4.367
SD in Log Scale	0.805
Mean in Original Scale	0.0178
SD in Original Scale	0.0197
95% t UCL	0.0292
95% Percentile Bootstrap UCL	0.0298
95% BCA Bootstrap UCL	0.0361

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.959
Theta Star	0.0279
nu star	9.591
A-D Test Statistic	0.757
5% A-D Critical Value	0.684
K-S Test Statistic	0.684
5% K-S Critical Value	0.36

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.00689
Maximum	0.072
Mean	0.0255
Median	0.019
SD	0.0201
k star	1.481
Theta star	0.0172
Nu star	29.62
AppChi2	18.19
95% Gamma Approximate UCL	0.0416
95% Adjusted Gamma UCL	0.0454

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0215
SD	0.0193
SE of Mean	0.00765
95% KM (t) UCL	0.0356
95% KM (z) UCL	0.0341
95% KM (jackknife) UCL	0.0352
95% KM (bootstrap t) UCL	0.0827
95% KM (BCA) UCL	0.0377
95% KM (Percentile Bootstrap) UCL	0.0345
95% KM (Chebyshev) UCL	0.0549
97.5% KM (Chebyshev) UCL	0.0693
99% KM (Chebyshev) UCL	0.0977

Potential UCLs to Use

95% KM (t) UCL	0.0356
95% KM (% Bootstrap) UCL	0.0345

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Pyrene

General Statistics

Number of Valid Data	10	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	6
		Percent Non-Detects	60.00%

Raw Statistics	
Minimum Detected	0.018
Maximum Detected	0.19
Mean of Detected	0.0683
SD of Detected	0.0815
Minimum Non-Detect	0.005
Maximum Non-Detect	20

Log-transformed Statistics	
Minimum Detected	-4.017
Maximum Detected	-1.661
Mean of Detected	-3.133
SD of Detected	1.021
Minimum Non-Detect	-5.298
Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	10
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.708
5% Shapiro Wilk Critical Value	0.748

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.855
5% Shapiro Wilk Critical Value	0.748

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method

Mean	1.231
SD	3.143
95% DL/2 (t) UCL	3.052

Maximum Likelihood Estimate(MLE) Method N/A

MLE method failed to converge properly

Assuming Lognormal Distribution

DL/2 Substitution Method

Mean	-3.105
SD	2.815
95% H-Stat (DL/2) UCL	2440

Log ROS Method

Mean in Log Scale	-4.23
SD in Log Scale	1.235
Mean in Original Scale	0.0324
SD in Original Scale	0.0564
95% t UCL	0.0651
95% Percentile Bootstrap UCL	0.0663
95% BCA Bootstrap UCL	0.0798

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.48
Theta Star	0.142
nu star	3.843
A-D Test Statistic	0.592
5% A-D Critical Value	0.664
K-S Test Statistic	0.664
5% K-S Critical Value	0.401

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	0.0106
Maximum	0.19
Mean	0.0785
Median	0.0417

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	0.0437
SD	0.0557
SE of Mean	0.0227
95% KM (t) UCL	0.0854
95% KM (z) UCL	0.0811
95% KM (jackknife) UCL	0.0803
95% KM (bootstrap t) UCL	0.366
95% KM (BCA) UCL	0.19
95% KM (Percentile Bootstrap) UCL	0.091
95% KM (Chebyshev) UCL	0.143

SD	0.0679
k star	1.007
Theta star	0.078
Nu star	20.14
AppChi2	10.95
95% Gamma Approximate UCL	0.144
95% Adjusted Gamma UCL	N/A

97.5% KM (Chebyshev) UCL	0.186
99% KM (Chebyshev) UCL	0.27

Potential UCLs to Use

95% KM (t) UCL	0.0854

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Observations	25	Number of Distinct Observations	20

Raw Statistics

Minimum	7.1
Maximum	180
Mean	35.72
Median	23
SD	41.8
Coefficient of Variation	1.17
Skewness	2.549

Log-transformed Statistics

Minimum of Log Data	1.96
Maximum of Log Data	5.193
Mean of log Data	3.164
SD of log Data	0.854

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.642
Shapiro Wilk Critical Value	0.918

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.935
Shapiro Wilk Critical Value	0.918

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	50.02

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	54.02
95% Modified-t UCL (Johnson-1978)	50.73

Assuming Lognormal Distribution

95% H-UCL	51.09
95% Chebyshev (MVUE) UCL	61.02
97.5% Chebyshev (MVUE) UCL	72.95
99% Chebyshev (MVUE) UCL	96.38

Gamma Distribution Test

k star (bias corrected)	1.222
Theta Star	29.22
MLE of Mean	35.72
MLE of Standard Deviation	32.31
nu star	61.11
Approximate Chi Square Value (.05)	44.13
Adjusted Level of Significance	0.0395
Adjusted Chi Square Value	43.15
Anderson-Darling Test Statistic	1.222
Anderson-Darling 5% Critical Value	0.765
Kolmogorov-Smirnov Test Statistic	0.211
Kolmogorov-Smirnov 5% Critical Value	0.178

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Data Distribution

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	49.47
95% Jackknife UCL	50.02
95% Standard Bootstrap UCL	49.27
95% Bootstrap-t UCL	66.48
95% Hall's Bootstrap UCL	102.3
95% Percentile Bootstrap UCL	50.76
95% BCA Bootstrap UCL	54.21
95% Chebyshev(Mean, Sd) UCL	72.15
97.5% Chebyshev(Mean, Sd) UCL	87.92
99% Chebyshev(Mean, Sd) UCL	118.9

95% Approximate Gamma UCL 49.46
95% Adjusted Gamma UCL 50.58

Potential UCL to Use Use 95% H-UCL 51.09

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

D_TPHd

General Statistics

Number of Valid Data	53	Number of Detected Data	27
Number of Distinct Detected Data	25	Number of Non-Detect Data	26
		Percent Non-Detects	49.06%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	9.6	Minimum Detected	2.262
Maximum Detected	11000	Maximum Detected	9.306
Mean of Detected	601.7	Mean of Detected	4.321
SD of Detected	2112	SD of Detected	1.74
Minimum Non-Detect	10	Minimum Non-Detect	2.303
Maximum Non-Detect	10	Maximum Non-Detect	2.303

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.298	Shapiro Wilk Test Statistic	0.895
5% Shapiro Wilk Critical Value	0.923	5% Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	309	Mean	2.991
SD	1523	SD	1.84
95% DL/2 (t) UCL	659.4	95% H-Stat (DL/2) UCL	257.4
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	2.288
		SD in Log Scale	2.65
		Mean in Original Scale	307.8
		SD in Original Scale	1524
		95% t UCL	658.3
		95% Percentile Bootstrap UCL	708.7
		95% BCA Bootstrap UCL	976.1
		95% H-UCL	1792

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.315	Data do not follow a Discernable Distribution (0.05)
Theta Star	1907	
nu star	17.03	

A-D Test Statistic	3.247	**Nonparametric Statistics**	
5% A-D Critical Value	0.847	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.847	Mean	311.2
5% K-S Critical Value	0.182	SD	1509
Data not Gamma Distributed at 5% Significance Level		SE of Mean	211.2
		95% KM (t) UCL	664.9
Assuming Gamma Distribution		95% KM (z) UCL	658.6
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	660.9
Minimum	0.000001	95% KM (bootstrap t) UCL	2457
Maximum	11000	95% KM (BCA) UCL	727.1
Mean	306.5	95% KM (Percentile Bootstrap) UCL	717.6
Median	9.6	95% KM (Chebyshev) UCL	1232
SD	1524	97.5% KM (Chebyshev) UCL	1630
k star	0.0889	99% KM (Chebyshev) UCL	2412
Theta star	3449		
Nu star	9.421	**Potential UCLs to Use**	
AppChi2	3.583	97.5% KM (Chebyshev) UCL	1630
95% Gamma Approximate UCL (Use when n >= 40)	805.9		
95% Adjusted Gamma UCL (Use when n < 40)	829.1		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

D_TPHm

General Statistics

Number of Valid Data	53	Number of Detected Data	29
Number of Distinct Detected Data	29	Number of Non-Detect Data	24
		Percent Non-Detects	45.28%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	16	Minimum Detected	2.773
Maximum Detected	13000	Maximum Detected	9.473
Mean of Detected	825.9	Mean of Detected	5.159
SD of Detected	2410	SD of Detected	1.635
Minimum Non-Detect	10	Minimum Non-Detect	2.303
Maximum Non-Detect	50	Maximum Non-Detect	3.912

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	31
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	22
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	58.49%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.346	Shapiro Wilk Test Statistic	0.954
5% Shapiro Wilk Critical Value	0.926	5% Shapiro Wilk Critical Value	0.926
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	456.1	Mean	3.704
SD	1815	SD	2.06
95% DL/2 (t) UCL	873.7	95% H-Stat (DL/2) UCL	975.5

Maximum Likelihood Estimate(MLE) Method	N/A
MLE yields a negative mean	

Log ROS Method	
Mean in Log Scale	3.256
SD in Log Scale	2.601
Mean in Original Scale	454.3
SD in Original Scale	1816
95% t UCL	872
95% Percentile Bootstrap UCL	927.4
95% BCA Bootstrap UCL	1185
95% H-UCL	3912

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.399
Theta Star	2070
nu star	23.14
A-D Test Statistic	2.068
5% A-D Critical Value	0.83
K-S Test Statistic	0.83
5% K-S Critical Value	0.174
Data not Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	13000
Mean	451.9
Median	21
SD	1817
k star	0.0943
Theta star	4795
Nu star	9.991
AppChi2	3.936
95% Gamma Approximate UCL (Use when n >= 40)	1147
95% Adjusted Gamma UCL (Use when n < 40)	1179

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	459.4
SD	1797
SE of Mean	251.3
95% KM (t) UCL	880.2
95% KM (z) UCL	872.7
95% KM (jackknife) UCL	875.3
95% KM (bootstrap t) UCL	2113
95% KM (BCA) UCL	925.5
95% KM (Percentile Bootstrap) UCL	924.4
95% KM (Chebyshev) UCL	1555
97.5% KM (Chebyshev) UCL	2029
99% KM (Chebyshev) UCL	2960

Potential UCLs to Use

97.5% KM (Chebyshev) UCL	2029

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area D 0 to 2 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area D.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

D_TPHd

General Statistics

Number of Valid Observations	11	Number of Distinct Observations	11

Raw Statistics

Minimum	11
Maximum	11000
Mean	1067
Geometric Mean	78.86
Median	53
SD	3295
Std. Error of Mean	993.5
Coefficient of Variation	3.089
Skewness	3.314

Log-transformed Statistics

Minimum of Log Data	2.398
Maximum of Log Data	9.306
Mean of log Data	4.368
SD of log Data	1.882

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.362
Shapiro Wilk Critical Value	0.85

Data not Normal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	2868

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	3762
95% Modified-t UCL (Johnson-1978)	3033

Gamma Distribution Test

k star (bias corrected)	0.257
Theta Star	4159
MLE of Mean	1067
MLE of Standard Deviation	2106
nu star	5.644
Approximate Chi Square Value (.05)	1.461
Adjusted Level of Significance	0.0278
Adjusted Chi Square Value	1.144
Anderson-Darling Test Statistic	2.14
Anderson-Darling 5% Critical Value	0.832
Kolmogorov-Smirnov Test Statistic	0.395
Kolmogorov-Smirnov 5% Critical Value	0.278

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	4122
95% Adjusted Gamma UCL (Use when n < 40)	5264

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.814
Shapiro Wilk Critical Value	0.85

Data not Lognormal at 5% Significance Level

Assuming Lognormal Distribution

95% H-UCL	8463
95% Chebyshev (MVUE) UCL	1211
97.5% Chebyshev (MVUE) UCL	1591
99% Chebyshev (MVUE) UCL	2336

Data Distribution

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

95% CLT UCL	2701
95% Jackknife UCL	2868
95% Standard Bootstrap UCL	2636
95% Bootstrap-t UCL	74695
95% Hall's Bootstrap UCL	48479
95% Percentile Bootstrap UCL	3047
95% BCA Bootstrap UCL	4029
95% Chebyshev(Mean, Sd) UCL	5398
97.5% Chebyshev(Mean, Sd) UCL	7272
99% Chebyshev(Mean, Sd) UCL	10952

Potential UCL to Use

Use 99% Chebyshev (Mean, Sd) UCL 10952

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

D_TPHm

General Statistics

Number of Valid Observations	11	Number of Distinct Observations	11

Raw Statistics

Log-transformed Statistics

Minimum	38
Maximum	13000
Mean	1605
Geometric Mean	360.3
Median	330
SD	3817
Std. Error of Mean	1151
Coefficient of Variation	2.379
Skewness	3.202

Minimum of Log Data	3.638
Maximum of Log Data	9.473
Mean of log Data	5.887
SD of log Data	1.64

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.451
Shapiro Wilk Critical Value	0.85

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.934
Shapiro Wilk Critical Value	0.85

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	3691

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	4685
95% Modified-t UCL (Johnson-1978)	3876

Assuming Lognormal Distribution

95% H-UCL	13123
95% Chebyshev (MVUE) UCL	3663
97.5% Chebyshev (MVUE) UCL	4770
99% Chebyshev (MVUE) UCL	6945

Gamma Distribution Test

k star (bias corrected)	0.377
Theta Star	4259
MLE of Mean	1605
MLE of Standard Deviation	2614
nu star	8.289
Approximate Chi Square Value (.05)	2.903
Adjusted Level of Significance	0.0278
Adjusted Chi Square Value	2.409
Anderson-Darling Test Statistic	1.123
Anderson-Darling 5% Critical Value	0.794
Kolmogorov-Smirnov Test Statistic	0.324
Kolmogorov-Smirnov 5% Critical Value	0.271

Data not Gamma Distributed at 5% Significance Level

Data Distribution

Data appear Lognormal at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	4581
95% Adjusted Gamma UCL (Use when n < 40)	5520

Nonparametric Statistics

95% CLT UCL	3498
95% Jackknife UCL	3691
95% Standard Bootstrap UCL	3395
95% Bootstrap-t UCL	15824
95% Hall's Bootstrap UCL	13913
95% Percentile Bootstrap UCL	3846
95% BCA Bootstrap UCL	5078
95% Chebyshev(Mean, Sd) UCL	6621
97.5% Chebyshev(Mean, Sd) UCL	8792
99% Chebyshev(Mean, Sd) UCL	13056

Potential UCL to Use Use 99% Chebyshev (Mean, Sd) UCL 13056

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area E 0 to 10 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area E.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

1,3,5-Trimethylbenzene

General Statistics

Number of Valid Data	33	Number of Detected Data	15
Number of Distinct Detected Data	14	Number of Non-Detect Data	18
		Percent Non-Detects	54.55%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.002	Minimum Detected	-6.215
Maximum Detected	8.3	Maximum Detected	2.116
Mean of Detected	1.318	Mean of Detected	-1.234
SD of Detected	2.312	SD of Detected	2.132
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	24
Number treated as Detected	9
Single DL Non-Detect Percentage	72.73%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.619	Shapiro Wilk Test Statistic	0.96
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.608	Mean	-3.458
SD	1.665	SD	2.722
95% DL/2 (t) UCL	1.099	95% H-Stat (DL/2) UCL	14.14
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-4.089
		SD in Log Scale	3.211
		Mean in Original Scale	0.601
		SD in Original Scale	1.667
		95% t UCL	1.093
		95% Percentile Bootstrap UCL	1.142
		95% BCA Bootstrap UCL	1.369

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.389	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.389		
nu star	11.67		
A-D Test Statistic	0.416	**Nonparametric Statistics**	
5% A-D Critical Value	0.808	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.808	Mean	0.602
5% K-S Critical Value	0.236	SD	1.642

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.002
Maximum	8.3
Mean	1.324
Median	1.172
SD	1.536
k star	0.794
Theta star	1.668
Nu star	52.4
AppChi2	36.77
95% Gamma Approximate UCL	1.886
95% Adjusted Gamma UCL	1.922

Note: DL/2 is not a recommended method.

SE of Mean	0.296
95% KM (t) UCL	1.103
95% KM (z) UCL	1.088
95% KM (jackknife) UCL	1.074
95% KM (bootstrap t) UCL	2.192
95% KM (BCA) UCL	1.151
95% KM (Percentile Bootstrap) UCL	1.127
95% KM (Chebyshev) UCL	1.891
97.5% KM (Chebyshev) UCL	2.449
99% KM (Chebyshev) UCL	3.545

Potential UCLs to Use

95% KM (t) UCL	1.103

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthene

General Statistics

Number of Valid Data	42	Number of Detected Data	25
Number of Distinct Detected Data	21	Number of Non-Detect Data	17
		Percent Non-Detects	40.48%

Raw Statistics

Minimum Detected	0.01
Maximum Detected	3.2
Mean of Detected	0.391
SD of Detected	0.638
Minimum Non-Detect	0.0055
Maximum Non-Detect	4

Log-transformed Statistics

Minimum Detected	-4.605
Maximum Detected	1.163
Mean of Detected	-1.744
SD of Detected	1.38
Minimum Non-Detect	-5.203
Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	42
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.538
5% Shapiro Wilk Critical Value	0.918

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.335
SD	0.592
95% DL/2 (t) UCL	0.489
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.968
5% Shapiro Wilk Critical Value	0.918

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-2.389
SD	1.857
95% H-Stat (DL/2) UCL	1.401
Log ROS Method	
Mean in Log Scale	-2.688
SD in Log Scale	1.674
Mean in Original Scale	0.244

SD in Original Scale	0.521
95% t UCL	0.379
95% Percentile Bootstrap UCL	0.382
95% BCA Bootstrap UCL	0.455
95% H-UCL	0.637

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.682
Theta Star	0.573
nu star	34.11
A-D Test Statistic	0.466
5% A-D Critical Value	0.784
K-S Test Statistic	0.784
5% K-S Critical Value	0.181

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	3.2
Mean	0.242
Median	0.063
SD	0.524
k star	0.174
Theta star	1.389
Nu star	14.64
AppChi2	7.01
95% Gamma Approximate UCL (Use when n >= 40)	0.505
95% Adjusted Gamma UCL (Use when n < 40)	0.519

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.257
SD	0.522
SE of Mean	0.0839
95% KM (t) UCL	0.398
95% KM (z) UCL	0.395
95% KM (jackknife) UCL	0.396
95% KM (bootstrap t) UCL	0.555
95% KM (BCA) UCL	0.442
95% KM (Percentile Bootstrap) UCL	0.406
95% KM (Chebyshev) UCL	0.622
97.5% KM (Chebyshev) UCL	0.781
99% KM (Chebyshev) UCL	1.091

Potential UCLs to Use

95% KM (BCA) UCL	0.442

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics

Number of Valid Data	42
Number of Distinct Detected Data	14
Number of Detected Data	19
Number of Non-Detect Data	23
Percent Non-Detects	54.76%

Raw Statistics

Minimum Detected	0.015
Maximum Detected	0.42
Mean of Detected	0.123
SD of Detected	0.11
Minimum Non-Detect	0.005
Maximum Non-Detect	4

Log-transformed Statistics

Minimum Detected	-4.2
Maximum Detected	-0.868
Mean of Detected	-2.479
SD of Detected	0.956
Minimum Non-Detect	-5.298
Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	42
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.829
5% Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level	

Assuming Normal Distribution	
DL/2 Substitution Method	
Mean	0.165
SD	0.346
95% DL/2 (t) UCL	0.255
Maximum Likelihood Estimate(MLE) Method	N/A
MLE method failed to converge properly	

Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.963
5% Shapiro Wilk Critical Value	0.901
Data appear Lognormal at 5% Significance Level	

Assuming Lognormal Distribution	
DL/2 Substitution Method	
Mean	-2.988
SD	1.611
95% H-Stat (DL/2) UCL	0.403
Log ROS Method	
Mean in Log Scale	-3.453
SD in Log Scale	1.204
Mean in Original Scale	0.0656
SD in Original Scale	0.0909
95% t UCL	0.0892
95% Percentile Bootstrap UCL	0.0893
95% BCA Bootstrap UCL	0.094
95% H-UCL	0.106

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	1.246
Theta Star	0.099
nu star	47.36
A-D Test Statistic	0.263
5% A-D Critical Value	0.758
K-S Test Statistic	0.758
5% K-S Critical Value	0.202
Data appear Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.42
Mean	0.0606
Median	0.012
SD	0.0951
k star	0.161
Theta star	0.378
Nu star	13.49
AppChi2	6.22
95% Gamma Approximate UCL (Use when n >= 40)	0.131
95% Adjusted Gamma UCL (Use when n < 40)	0.135

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only
Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	0.0724
SD	0.0924
SE of Mean	0.0155
95% KM (t) UCL	0.0985
95% KM (z) UCL	0.098
95% KM (jackknife) UCL	0.0979
95% KM (bootstrap t) UCL	0.108
95% KM (BCA) UCL	0.0996
95% KM (Percentile Bootstrap) UCL	0.1
95% KM (Chebyshev) UCL	0.14
97.5% KM (Chebyshev) UCL	0.169
99% KM (Chebyshev) UCL	0.227
Potential UCLs to Use	
95% KM (t) UCL	0.0985

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Anthracene

General Statistics

Number of Valid Data	42	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	32

Percent Non-Detects	76.19%

Raw Statistics

Minimum Detected	0.0077
Maximum Detected	3.5
Mean of Detected	0.568
SD of Detected	1.088
Minimum Non-Detect	0.005
Maximum Non-Detect	4

Log-transformed Statistics

Minimum Detected	-4.867
Maximum Detected	1.253
Mean of Detected	-1.921
SD of Detected	1.777
Minimum Non-Detect	-5.298
Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	42
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.571
5% Shapiro Wilk Critical Value	0.842

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.985
5% Shapiro Wilk Critical Value	0.842

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.253
SD	0.639
95% DL/2 (t) UCL	0.419
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.053
SD	1.761
95% H-Stat (DL/2) UCL	0.555
Log ROS Method	
Mean in Log Scale	-5.359
SD in Log Scale	2.496
Mean in Original Scale	0.139
SD in Original Scale	0.565
95% t UCL	0.285
95% Percentile Bootstrap UCL	0.294
95% BCA Bootstrap UCL	0.406
95% H-UCL	0.583

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.397
Theta Star	1.43
nu star	7.95
A-D Test Statistic	0.58
5% A-D Critical Value	0.782
K-S Test Statistic	0.782
5% K-S Critical Value	0.282

Data appear Gamma Distributed at 5% Significance Level

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	3.5
Mean	0.135
Median	0.000001
SD	0.566
k star	0.101
Theta star	1.343
Nu star	8.463

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.15
SD	0.564
SE of Mean	0.093
95% KM (t) UCL	0.306
95% KM (z) UCL	0.303
95% KM (jackknife) UCL	0.291
95% KM (bootstrap t) UCL	1.164
95% KM (BCA) UCL	0.376
95% KM (Percentile Bootstrap) UCL	0.323
95% KM (Chebyshev) UCL	0.555
97.5% KM (Chebyshev) UCL	0.731
99% KM (Chebyshev) UCL	1.076

Potential UCLs to Use

AppChi2	3.006	95% KM (t) UCL	0.306
95% Gamma Approximate UCL (Use when n >= 40)	0.381		
95% Adjusted Gamma UCL (Use when n < 40)	0.396		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzene

General Statistics

Number of Valid Data	70	Number of Detected Data	18
Number of Distinct Detected Data	16	Number of Non-Detect Data	52
		Percent Non-Detects	74.29%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0064	Minimum Detected	-5.051
Maximum Detected	19	Maximum Detected	2.944
Mean of Detected	2.262	Mean of Detected	-1.62
SD of Detected	5.055	SD of Detected	2.541
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

		Number treated as Non-Detect	60
		Number treated as Detected	10
		Single DL Non-Detect Percentage	85.71%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.514	Shapiro Wilk Test Statistic	0.945
5% Shapiro Wilk Critical Value	0.897	5% Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.602	Mean	-3.773
SD	2.695	SD	2.252
95% DL/2 (t) UCL	1.139	95% H-Stat (DL/2) UCL	0.656
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-7.294
		SD in Log Scale	4.566
		Mean in Original Scale	0.584
		SD in Original Scale	2.699
		95% t UCL	1.122
		95% Percentile Bootstrap UCL	1.169
		95% BCA Bootstrap UCL	1.477

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.275	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	8.231	
nu star	9.895	

A-D Test Statistic	0.926	**Nonparametric Statistics**	
5% A-D Critical Value	0.848	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.848	Mean	0.588
5% K-S Critical Value	0.221	SD	2.679
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.329
		95% KM (t) UCL	1.138
Assuming Gamma Distribution		95% KM (z) UCL	1.13
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.126
Minimum	1E-12	95% KM (bootstrap t) UCL	3.198
Maximum	105.2	95% KM (BCA) UCL	1.203
Mean	12.47	95% KM (Percentile Bootstrap) UCL	1.183
Median	2.37	95% KM (Chebyshev) UCL	2.024
SD	21.97	97.5% KM (Chebyshev) UCL	2.646
k star	0.132	99% KM (Chebyshev) UCL	3.866
Theta star	94.72		
Nu star	18.44	**Potential UCLs to Use**	
AppChi2	9.708	95% KM (t) UCL	1.138
95% Gamma Approximate UCL	23.69		
95% Adjusted Gamma UCL	24.02		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics

Number of Valid Data	42	Number of Detected Data	13
Number of Distinct Detected Data	12	Number of Non-Detect Data	29
		Percent Non-Detects	69.05%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.007	Minimum Detected	-4.962
Maximum Detected	0.85	Maximum Detected	-0.163
Mean of Detected	0.192	Mean of Detected	-2.485
SD of Detected	0.244	SD of Detected	1.448
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.757	Shapiro Wilk Test Statistic	0.965
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.174	Mean	-3.06
SD	0.365	SD	1.599
95% DL/2 (t) UCL	0.269	95% H-Stat (DL/2) UCL	0.365
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	

MLE method failed to converge properly

Mean in Log Scale	-4.426
SD in Log Scale	1.834
Mean in Original Scale	0.0659
SD in Original Scale	0.157
95% t UCL	0.107
95% Percentile Bootstrap UCL	0.112
95% BCA Bootstrap UCL	0.124
95% H-UCL	0.171

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.608
Theta Star	0.315
nu star	15.8
A-D Test Statistic	0.399
5% A-D Critical Value	0.772
K-S Test Statistic	0.772
5% K-S Critical Value	0.246

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.85
Mean	0.0665
Median	0.000001
SD	0.159
k star	0.131
Theta star	0.506
Nu star	11.04
AppChi2	4.602
95% Gamma Approximate UCL (Use when n >= 40)	0.159
95% Adjusted Gamma UCL (Use when n < 40)	0.165

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0745
SD	0.161
SE of Mean	0.0273
95% KM (t) UCL	0.121
95% KM (z) UCL	0.119
95% KM (jackknife) UCL	0.116
95% KM (bootstrap t) UCL	0.163
95% KM (BCA) UCL	0.133
95% KM (Percentile Bootstrap) UCL	0.124
95% KM (Chebyshev) UCL	0.194
97.5% KM (Chebyshev) UCL	0.245
99% KM (Chebyshev) UCL	0.346

Potential UCLs to Use

95% KM (t) UCL	0.121

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics

Number of Valid Data	42
Number of Distinct Detected Data	13
Number of Detected Data	13
Number of Non-Detect Data	29
Percent Non-Detects	69.05%

Raw Statistics

Minimum Detected	0.019
Maximum Detected	0.4
Mean of Detected	0.12
SD of Detected	0.105
Minimum Non-Detect	0.005
Maximum Non-Detect	4

Log-transformed Statistics

Minimum Detected	-3.963
Maximum Detected	-0.916
Mean of Detected	-2.408
SD of Detected	0.789
Minimum Non-Detect	-5.298
Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),

Number treated as Non-Detect	42
Number treated as Detected	0

Observations < Largest ND are treated as NDs

Single DL Non-Detect Percentage 100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.785
5% Shapiro Wilk Critical Value	0.866

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.156
SD	0.344
95% DL/2 (t) UCL	0.245
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.976
5% Shapiro Wilk Critical Value	0.866

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-2.964
SD	1.48
95% H-Stat (DL/2) UCL	0.304
Log ROS Method	
Mean in Log Scale	-3.515
SD in Log Scale	1.037
Mean in Original Scale	0.0531
SD in Original Scale	0.0742
95% t UCL	0.0723
95% Percentile Bootstrap UCL	0.0734
95% BCA Bootstrap UCL	0.0794
95% H-UCL	0.0751

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.491
Theta Star	0.0807
nu star	38.76
A-D Test Statistic	0.414
5% A-D Critical Value	0.745
K-S Test Statistic	0.745
5% K-S Critical Value	0.24

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.4
Mean	0.0449
Median	0.000001
SD	0.0803
k star	0.138
Theta star	0.324
Nu star	11.63
AppChi2	4.982
95% Gamma Approximate UCL (Use when n >= 40)	0.105
95% Adjusted Gamma UCL (Use when n < 40)	0.108

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.06
SD	0.0755
SE of Mean	0.0132
95% KM (t) UCL	0.0822
95% KM (z) UCL	0.0817
95% KM (jackknife) UCL	0.0794
95% KM (bootstrap t) UCL	0.0948
95% KM (BCA) UCL	0.1
95% KM (Percentile Bootstrap) UCL	0.0931
95% KM (Chebyshev) UCL	0.118
97.5% KM (Chebyshev) UCL	0.142
99% KM (Chebyshev) UCL	0.191

Potential UCLs to Use

95% KM (t) UCL	0.0822

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics

Number of Valid Data	42	Number of Detected Data	14
Number of Distinct Detected Data	13	Number of Non-Detect Data	28
		Percent Non-Detects	66.67%

Raw Statistics

Minimum Detected	0.0073
Maximum Detected	0.76
Mean of Detected	0.15
SD of Detected	0.215
Minimum Non-Detect	0.005
Maximum Non-Detect	4

Log-transformed Statistics

Minimum Detected	-4.92
Maximum Detected	-0.274
Mean of Detected	-2.606
SD of Detected	1.218
Minimum Non-Detect	-5.298
Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	42
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.64
5% Shapiro Wilk Critical Value	0.874

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.973
5% Shapiro Wilk Critical Value	0.874

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.167
SD	0.36
95% DL/2 (t) UCL	0.26
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-2.981
SD	1.491
95% H-Stat (DL/2) UCL	0.307
Log ROS Method	
Mean in Log Scale	-3.941
SD in Log Scale	1.429
Mean in Original Scale	0.0603
SD in Original Scale	0.137
95% t UCL	0.096
95% Percentile Bootstrap UCL	0.0982
95% BCA Bootstrap UCL	0.119
95% H-UCL	0.102

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.703
Theta Star	0.213
nu star	19.68
A-D Test Statistic	0.663
5% A-D Critical Value	0.767
K-S Test Statistic	0.767
5% K-S Critical Value	0.237

Data appear Gamma Distributed at 5% Significance Level

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.76
Mean	0.0613
Median	0.000001
SD	0.14

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0679
SD	0.142
SE of Mean	0.0241
95% KM (t) UCL	0.108
95% KM (z) UCL	0.108
95% KM (jackknife) UCL	0.104
95% KM (bootstrap t) UCL	0.176
95% KM (BCA) UCL	0.121
95% KM (Percentile Bootstrap) UCL	0.114
95% KM (Chebyshev) UCL	0.173
97.5% KM (Chebyshev) UCL	0.218

k star	0.142	99% KM (Chebyshev) UCL	0.308
Theta star	0.43		
Nu star	11.97	**Potential UCLs to Use**	
AppChi2	5.207	95% KM (t) UCL	0.108
95% Gamma Approximate UCL (Use when n >= 40)	0.141		
95% Adjusted Gamma UCL (Use when n < 40)	0.145		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics

Number of Valid Data	42	Number of Detected Data	13
Number of Distinct Detected Data	13	Number of Non-Detect Data	29
		Percent Non-Detects	69.05%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0065	Minimum Detected	-5.036
Maximum Detected	0.65	Maximum Detected	-0.431
Mean of Detected	0.113	Mean of Detected	-2.921
SD of Detected	0.178	SD of Detected	1.207
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.587	Shapiro Wilk Test Statistic	0.964
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.155	Mean	-3.055
SD	0.353	SD	1.457
95% DL/2 (t) UCL	0.246	95% H-Stat (DL/2) UCL	0.264
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.024
		SD in Log Scale	1.286
		Mean in Original Scale	0.0468
		SD in Original Scale	0.107
		95% t UCL	0.0747
		95% Percentile Bootstrap UCL	0.0756
		95% BCA Bootstrap UCL	0.0922
		95% H-UCL	0.0702

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.668	**Data appear Lognormal at 5% Significance Level**
Theta Star	0.169	

nu star	17.38
A-D Test Statistic	0.781
5% A-D Critical Value	0.768
K-S Test Statistic	0.768
5% K-S Critical Value	0.245

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.65
Mean	0.0512
Median	0.00536
SD	0.112
k star	0.155
Theta star	0.331
Nu star	12.99
AppChi2	5.886
95% Gamma Approximate UCL (Use when n >= 40)	0.113
95% Adjusted Gamma UCL (Use when n < 40)	0.116

Note: DL/2 is not a recommended method.

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0523
SD	0.11
SE of Mean	0.019
95% KM (t) UCL	0.0843
95% KM (z) UCL	0.0836
95% KM (jackknife) UCL	0.0812
95% KM (bootstrap t) UCL	0.137
95% KM (BCA) UCL	0.0931
95% KM (Percentile Bootstrap) UCL	0.0882
95% KM (Chebyshev) UCL	0.135
97.5% KM (Chebyshev) UCL	0.171
99% KM (Chebyshev) UCL	0.241

Potential UCLs to Use

95% KM (BCA) UCL	0.0931

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics

Number of Valid Data	42	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	33
		Percent Non-Detects	78.57%

Raw Statistics

Minimum Detected	0.0058
Maximum Detected	0.4
Mean of Detected	0.105
SD of Detected	0.127
Minimum Non-Detect	0.005
Maximum Non-Detect	4

Log-transformed Statistics

Minimum Detected	-5.15
Maximum Detected	-0.916
Mean of Detected	-2.977
SD of Detected	1.385
Minimum Non-Detect	-5.298
Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	42
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.784

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.959

5% Shapiro Wilk Critical Value	0.829

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.143
SD	0.347
95% DL/2 (t) UCL	0.233
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.617
Theta Star	0.171
nu star	11.11
A-D Test Statistic	0.284
5% A-D Critical Value	0.749
K-S Test Statistic	0.749
5% K-S Critical Value	0.289

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.4
Mean	0.0298
Median	0.000001
SD	0.0721
k star	0.13
Theta star	0.23
Nu star	10.88
AppChi2	4.5
95% Gamma Approximate UCL (Use when n >= 40)	0.0721
95% Adjusted Gamma UCL (Use when n < 40)	0.0745

Note: DL/2 is not a recommended method.

5% Shapiro Wilk Critical Value	0.829

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.251
SD	1.555
95% H-Stat (DL/2) UCL	0.271
Log ROS Method	
Mean in Log Scale	-5.021
SD in Log Scale	1.608
Mean in Original Scale	0.0281
SD in Original Scale	0.0699
95% t UCL	0.0462
95% Percentile Bootstrap UCL	0.047
95% BCA Bootstrap UCL	0.0551
95% H-UCL	0.0524

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0339
SD	0.0721
SE of Mean	0.0127
95% KM (t) UCL	0.0554
95% KM (z) UCL	0.0549
95% KM (jackknife) UCL	0.0518
95% KM (bootstrap t) UCL	0.0693
95% KM (BCA) UCL	0.067
95% KM (Percentile Bootstrap) UCL	0.0605
95% KM (Chebyshev) UCL	0.0894
97.5% KM (Chebyshev) UCL	0.113
99% KM (Chebyshev) UCL	0.161

Potential UCLs to Use

95% KM (t) UCL	0.0554

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics

Number of Valid Observations	40	Number of Distinct Observations	21

Raw Statistics

Minimum	8.5
Maximum	38

Log-transformed Statistics

Minimum of Log Data	2.14
Maximum of Log Data	3.638

Mean	20.41
Median	19
SD	7.074
Coefficient of Variation	0.347
Skewness	0.691

Mean of log Data	2.958
SD of log Data	0.346

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.95
Shapiro Wilk Critical Value	0.94

Data appear Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.985
Shapiro Wilk Critical Value	0.94

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	22.3

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	22.38
95% Modified-t UCL (Johnson-1978)	22.32

Assuming Lognormal Distribution

95% H-UCL	22.62
95% Chebyshev (MVUE) UCL	25.41
97.5% Chebyshev (MVUE) UCL	27.57
99% Chebyshev (MVUE) UCL	31.81

Gamma Distribution Test

k star (bias corrected)	8.175
Theta Star	2.497
MLE of Mean	20.41
MLE of Standard Deviation	7.139
nu star	654
Approximate Chi Square Value (.05)	595.7
Adjusted Level of Significance	0.044
Adjusted Chi Square Value	593.6
Anderson-Darling Test Statistic	0.233
Anderson-Darling 5% Critical Value	0.749
Kolmogorov-Smirnov Test Statistic	0.0969
Kolmogorov-Smirnov 5% Critical Value	0.14

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	22.41
95% Adjusted Gamma UCL	22.49

Data Distribution

Data appear Normal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	22.25
95% Jackknife UCL	22.3
95% Standard Bootstrap UCL	22.2
95% Bootstrap-t UCL	22.52
95% Hall's Bootstrap UCL	22.3
95% Percentile Bootstrap UCL	22.24
95% BCA Bootstrap UCL	22.3
95% Chebyshev(Mean, Sd) UCL	25.29
97.5% Chebyshev(Mean, Sd) UCL	27.4
99% Chebyshev(Mean, Sd) UCL	31.54

Potential UCL to Use

Use 95% Student's-t UCL 22.3

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Chrysene

General Statistics

Number of Valid Data	42	Number of Detected Data	18
Number of Distinct Detected Data	15	Number of Non-Detect Data	24
		Percent Non-Detects	57.14%

Raw Statistics

Minimum Detected	0.009
Maximum Detected	2.3
Mean of Detected	0.368
SD of Detected	0.553
Minimum Non-Detect	0.0055

Log-transformed Statistics

Minimum Detected	-4.711
Maximum Detected	0.833
Mean of Detected	-1.813
SD of Detected	1.348
Minimum Non-Detect	-5.203

Maximum Non-Detect	4	Maximum Non-Detect	1.386
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.632	Shapiro Wilk Test Statistic	0.975
5% Shapiro Wilk Critical Value	0.897	5% Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.268	Mean	-2.644
SD	0.497	SD	1.727
95% DL/2 (t) UCL	0.397	95% H-Stat (DL/2) UCL	0.762
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.386
		SD in Log Scale	1.786
		Mean in Original Scale	0.167
		SD in Original Scale	0.397
		95% t UCL	0.27
		95% Percentile Bootstrap UCL	0.275
		95% BCA Bootstrap UCL	0.323
		95% H-UCL	0.424

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.652	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.564		
nu star	23.46		
A-D Test Statistic	0.65	**Nonparametric Statistics**	
5% A-D Critical Value	0.779	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.779	Mean	0.179
5% K-S Critical Value	0.212	SD	0.399
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0649
		95% KM (t) UCL	0.288
Assuming Gamma Distribution		95% KM (z) UCL	0.286
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.278
Minimum	0.000001	95% KM (bootstrap t) UCL	0.384
Maximum	2.3	95% KM (BCA) UCL	0.313
Mean	0.16	95% KM (Percentile Bootstrap) UCL	0.298
Median	0.000001	95% KM (Chebyshev) UCL	0.462
SD	0.4	97.5% KM (Chebyshev) UCL	0.584
k star	0.128	99% KM (Chebyshev) UCL	0.825
Theta star	1.253		
Nu star	10.75	**Potential UCLs to Use**	
AppChi2	4.415	95% KM (t) UCL	0.288
95% Gamma Approximate UCL (Use when n >= 40)	0.39		
95% Adjusted Gamma UCL (Use when n < 40)	0.404		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Ethylbenzene

General Statistics

Number of Valid Data	70	Number of Detected Data	20
Number of Distinct Detected Data	17	Number of Non-Detect Data	50
		Percent Non-Detects	71.43%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0032	Minimum Detected	-5.745
Maximum Detected	32	Maximum Detected	3.466
Mean of Detected	3.202	Mean of Detected	-1.096
SD of Detected	7.47	SD of Detected	2.51
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	56
Number treated as Detected	14
Single DL Non-Detect Percentage	80.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.485	Shapiro Wilk Test Statistic	0.98
5% Shapiro Wilk Critical Value	0.905	5% Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.932	Mean	-3.647
SD	4.178	SD	2.472
95% DL/2 (t) UCL	1.765	95% H-Stat (DL/2) UCL	1.326
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-6.565
		SD in Log Scale	4.539
		Mean in Original Scale	0.917
		SD in Original Scale	4.182
		95% t UCL	1.75
		95% Percentile Bootstrap UCL	1.836
		95% BCA Bootstrap UCL	2.524

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.292	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	10.96		
nu star	11.68		
A-D Test Statistic	0.771	Nonparametric Statistics	
5% A-D Critical Value	0.844	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.844	Mean	0.918
5% K-S Critical Value	0.21	SD	4.151
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.509
		95% KM (t) UCL	1.767
Assuming Gamma Distribution		95% KM (z) UCL	1.756
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.75
Minimum	0.0032	95% KM (bootstrap t) UCL	3.14

Maximum	32	95% KM (BCA) UCL	1.943
Mean	5.319	95% KM (Percentile Bootstrap) UCL	1.839
Median	2.57	95% KM (Chebyshev) UCL	3.137
SD	6.531	97.5% KM (Chebyshev) UCL	4.097
k star	0.626	99% KM (Chebyshev) UCL	5.983
Theta star	8.495		
Nu star	87.66	Potential UCLs to Use	
AppChi2	67.07	95% KM (t) UCL	1.767
95% Gamma Approximate UCL	6.951		
95% Adjusted Gamma UCL	6.991		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluoranthene

General Statistics

Number of Valid Data	42	Number of Detected Data	12
Number of Distinct Detected Data	10	Number of Non-Detect Data	30
		Percent Non-Detects	71.43%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	1.1	Maximum Detected	0.0953
Mean of Detected	0.192	Mean of Detected	-2.642
SD of Detected	0.315	SD of Detected	1.477
Minimum Non-Detect	0.0055	Minimum Non-Detect	-5.203
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.619	Shapiro Wilk Test Statistic	0.96
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.174	Mean	-3.03
SD	0.377	SD	1.542
95% DL/2 (t) UCL	0.272	95% H-Stat (DL/2) UCL	0.329
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.259
		SD in Log Scale	1.587
		Mean in Original Scale	0.064
		SD in Original Scale	0.183
		95% t UCL	0.111
		95% Percentile Bootstrap UCL	0.118
		95% BCA Bootstrap UCL	0.142
		95% H-UCL	0.107

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.521	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.369		
nu star	12.5		
A-D Test Statistic	0.696	**Nonparametric Statistics**	
5% A-D Critical Value	0.776	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.776	Mean	0.0708
5% K-S Critical Value	0.257	SD	0.185
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0308
		95% KM (t) UCL	0.123
Assuming Gamma Distribution		95% KM (z) UCL	0.121
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.119
Minimum	0.000001	95% KM (bootstrap t) UCL	0.195
Maximum	1.1	95% KM (BCA) UCL	0.146
Mean	0.0688	95% KM (Percentile Bootstrap) UCL	0.129
Median	0.000001	95% KM (Chebyshev) UCL	0.205
SD	0.185	97.5% KM (Chebyshev) UCL	0.263
k star	0.132	99% KM (Chebyshev) UCL	0.378
Theta star	0.523		
Nu star	11.06	Potential UCLs to Use	
AppChi2	4.614	95% KM (t) UCL	0.123
95% Gamma Approximate UCL (Use when n >= 40)	0.165		
95% Adjusted Gamma UCL (Use when n < 40)	0.17		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluorene

General Statistics

Number of Valid Data	42	Number of Detected Data	29
Number of Distinct Detected Data	26	Number of Non-Detect Data	13
		Percent Non-Detects	30.95%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.028	Minimum Detected	-3.576
Maximum Detected	7.1	Maximum Detected	1.96
Mean of Detected	1.183	Mean of Detected	-0.645
SD of Detected	1.612	SD of Detected	1.43
Minimum Non-Detect	0.0055	Minimum Non-Detect	-5.203
Maximum Non-Detect	4	Maximum Non-Detect	1.386
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	40
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.24%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.691	Shapiro Wilk Test Statistic	0.957
5% Shapiro Wilk Critical Value	0.926	5% Shapiro Wilk Critical Value	0.926
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	

DL/2 Substitution Method	
Mean	0.915
SD	1.428
95% DL/2 (t) UCL	1.286

Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

DL/2 Substitution Method	
Mean	-1.479
SD	2.159
95% H-Stat (DL/2) UCL	8.67

Log ROS Method	
Mean in Log Scale	-1.389
SD in Log Scale	1.712
Mean in Original Scale	0.84
SD in Original Scale	1.43
95% t UCL	1.212
95% Percentile Bootstrap UCL	1.238
95% BCA Bootstrap UCL	1.3
95% H-UCL	2.574

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.685
Theta Star	1.728
nu star	39.71
A-D Test Statistic	0.553
5% A-D Critical Value	0.785
K-S Test Statistic	0.785
5% K-S Critical Value	0.169

Data follow Appr. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	7.1
Mean	0.834
Median	0.325
SD	1.435
k star	0.197
Theta star	4.228
Nu star	16.57
AppChi2	8.365
95% Gamma Approximate UCL (Use when n >= 40)	1.652
95% Adjusted Gamma UCL (Use when n < 40)	1.694

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data Follow Appr. Gamma Distribution at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.859
SD	1.414
SE of Mean	0.223
95% KM (t) UCL	1.235
95% KM (z) UCL	1.226
95% KM (jackknife) UCL	1.232
95% KM (bootstrap t) UCL	1.452
95% KM (BCA) UCL	1.231
95% KM (Percentile Bootstrap) UCL	1.245
95% KM (Chebyshev) UCL	1.832
97.5% KM (Chebyshev) UCL	2.254
99% KM (Chebyshev) UCL	3.081

Potential UCLs to Use

95% KM (BCA) UCL	1.231

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics

Number of Valid Data	42
Number of Distinct Detected Data	8

Number of Detected Data	9
Number of Non-Detect Data	33
Percent Non-Detects	78.57%

Raw Statistics

Minimum Detected	0.0066
Maximum Detected	0.3
Mean of Detected	0.081
SD of Detected	0.119

Log-transformed Statistics

Minimum Detected	-5.021
Maximum Detected	-1.204
Mean of Detected	-3.368
SD of Detected	1.308

Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	4	Maximum Non-Detect	1.386
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 9 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.614	Shapiro Wilk Test Statistic	0.855
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.138	Mean	-3.312
SD	0.347	SD	1.503
95% DL/2 (t) UCL	0.228	95% H-Stat (DL/2) UCL	0.226
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.787
		SD in Log Scale	1.335
		Mean in Original Scale	0.025
		SD in Original Scale	0.0611
		95% t UCL	0.0409
		95% Percentile Bootstrap UCL	0.043
		95% BCA Bootstrap UCL	0.0502
		95% H-UCL	0.0361
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.545	Data appear Lognormal at 5% Significance Level	
Theta Star	0.149		
nu star	9.813		
A-D Test Statistic	1.107	**Nonparametric Statistics**	
5% A-D Critical Value	0.755	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.755	Mean	0.0288
5% K-S Critical Value	0.29	SD	0.0623
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0109
		95% KM (t) UCL	0.0472
Assuming Gamma Distribution		95% KM (z) UCL	0.0467
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0447
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0958
Maximum	0.3	95% KM (BCA) UCL	0.0546
Mean	0.0295	95% KM (Percentile Bootstrap) UCL	0.0489
Median	0.000001	95% KM (Chebyshev) UCL	0.0764
SD	0.0664	97.5% KM (Chebyshev) UCL	0.097
k star	0.137	99% KM (Chebyshev) UCL	0.137
Theta star	0.216		
Nu star	11.48	Potential UCLs to Use	

AppChi2	4.887	95% KM (BCA) UCL	0.0546
95% Gamma Approximate UCL (Use when n >= 40)	0.0693		
95% Adjusted Gamma UCL (Use when n < 40)	0.0716		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Isopropylbenzene

General Statistics

Number of Valid Data	33	Number of Detected Data	22
Number of Distinct Detected Data	16	Number of Non-Detect Data	11
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0033	Minimum Detected	-5.714
Maximum Detected	4.4	Maximum Detected	1.482
Mean of Detected	0.723	Mean of Detected	-1.506
SD of Detected	1.067	SD of Detected	1.91
Minimum Non-Detect	0.0021	Minimum Non-Detect	-6.166
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	16
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	51.52%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.682	Shapiro Wilk Test Statistic	0.948
5% Shapiro Wilk Critical Value	0.911	5% Shapiro Wilk Critical Value	0.911
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.484	Mean	-2.963
SD	0.93	SD	2.664
95% DL/2 (t) UCL	0.759	95% H-Stat (DL/2) UCL	18.05
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.927
		SD in Log Scale	2.637
		Mean in Original Scale	0.484
		SD in Original Scale	0.93
		95% t UCL	0.758
		95% Percentile Bootstrap UCL	0.752
		95% BCA Bootstrap UCL	0.834

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.49	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.477		
nu star	21.56		
A-D Test Statistic	0.306	Nonparametric Statistics	
5% A-D Critical Value	0.802	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.802	Mean	0.484

5% K-S Critical Value	0.195	SD	0.916
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.163
		95% KM (t) UCL	0.76
Assuming Gamma Distribution		95% KM (z) UCL	0.752
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.756
Minimum	1E-12	95% KM (bootstrap t) UCL	1.006
Maximum	4.4	95% KM (BCA) UCL	0.797
Mean	0.51	95% KM (Percentile Bootstrap) UCL	0.766
Median	0.18	95% KM (Chebyshev) UCL	1.195
SD	0.92	97.5% KM (Chebyshev) UCL	1.503
k star	0.133	99% KM (Chebyshev) UCL	2.108
Theta star	3.843		
Nu star	8.756	**Potential UCLs to Use**	
AppChi2	3.18	95% KM (BCA) UCL	0.797
95% Gamma Approximate UCL	1.404		
95% Adjusted Gamma UCL	1.484		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead

General Statistics

Number of Valid Observations	41	Number of Distinct Observations	33

Raw Statistics		**Log-transformed Statistics**	
Minimum	1.4	Minimum of Log Data	0.336
Maximum	490	Maximum of Log Data	6.194
Mean	22.66	Mean of log Data	2.023
Median	5.6	SD of log Data	1.101
SD	76.32		
Coefficient of Variation	3.367		
Skewness	6.041		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.266	Shapiro Wilk Test Statistic	0.867
Shapiro Wilk Critical Value	0.941	Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	42.73	95% H-UCL	21.29
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	25.68
95% Adjusted-CLT UCL (Chen-1995)	54.28	97.5% Chebyshev (MVUE) UCL	30.93
95% Modified-t UCL (Johnson-1978)	44.61	99% Chebyshev (MVUE) UCL	41.24

Gamma Distribution Test		**Data Distribution**
k star (bias corrected)	0.542	Data do not follow a Discernable Distribution (0.05)
Theta Star	41.81	
MLE of Mean	22.66	
MLE of Standard Deviation	30.78	
nu star	44.45	
Approximate Chi Square Value (.05)	30.16	**Nonparametric Statistics**
Adjusted Level of Significance	0.0441	95% CLT UCL 42.27

Adjusted Chi Square Value	29.73	95% Jackknife UCL	42.73
		95% Standard Bootstrap UCL	41.31
Anderson-Darling Test Statistic	5.225	95% Bootstrap-t UCL	153.7
Anderson-Darling 5% Critical Value	0.807	95% Hall's Bootstrap UCL	113
Kolmogorov-Smirnov Test Statistic	0.267	95% Percentile Bootstrap UCL	46.3
Kolmogorov-Smirnov 5% Critical Value	0.145	95% BCA Bootstrap UCL	58.68
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	74.62
		97.5% Chebyshev(Mean, Sd) UCL	97.1
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	141.3
95% Approximate Gamma UCL	33.4		
95% Adjusted Gamma UCL	33.89		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	74.62

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics

Number of Valid Data	40	Number of Detected Data	9
Number of Distinct Detected Data	7	Number of Non-Detect Data	31
		Percent Non-Detects	77.50%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.03	Minimum Detected	-3.507
Maximum Detected	0.7	Maximum Detected	-0.357
Mean of Detected	0.201	Mean of Detected	-2.018
SD of Detected	0.216	SD of Detected	0.931
Minimum Non-Detect	0.02	Minimum Non-Detect	-3.912
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	34
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	6
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	85.00%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.717	Shapiro Wilk Test Statistic	0.907
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0778	Mean	-3.02
SD	0.12	SD	0.893
95% DL/2 (t) UCL	0.11	95% H-Stat (DL/2) UCL	0.101

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.868
		SD in Log Scale	1.454
		Mean in Original Scale	0.0609
		SD in Original Scale	0.125
		95% t UCL	0.0944
		95% Percentile Bootstrap UCL	0.0984
		95% BCA Bootstrap UCL	0.11

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.979	**Data appear Lognormal at 5% Significance Level**	
Theta Star	0.205		
nu star	17.63		
A-D Test Statistic	0.748	**Nonparametric Statistics**	
5% A-D Critical Value	0.737	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.737	Mean	0.076
5% K-S Critical Value	0.285	SD	0.119
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0209
		95% KM (t) UCL	0.111
Assuming Gamma Distribution		95% KM (z) UCL	0.11
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.112
Minimum	0.03	95% KM (bootstrap t) UCL	0.133
Maximum	0.7	95% KM (BCA) UCL	0.148
Mean	0.206	95% KM (Percentile Bootstrap) UCL	0.138
Median	0.189	95% KM (Chebyshev) UCL	0.167
SD	0.13	97.5% KM (Chebyshev) UCL	0.206
k star	2.563	99% KM (Chebyshev) UCL	0.284
Theta star	0.0802		
Nu star	205.1	**Potential UCLs to Use**	
AppChi2	172.9	95% KM (t) UCL	0.111
95% Gamma Approximate UCL	0.244	95% KM (% Bootstrap) UCL	0.138
95% Adjusted Gamma UCL	0.245		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Naphthalene

General Statistics

Number of Valid Data	48	Number of Detected Data	29
Number of Distinct Detected Data	25	Number of Non-Detect Data	19
		Percent Non-Detects	39.58%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0079	Minimum Detected	-4.841
Maximum Detected	11	Maximum Detected	2.398
Mean of Detected	1.336	Mean of Detected	-0.646
SD of Detected	2.13	SD of Detected	1.581
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended

Number treated as Non-Detect 47

For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Detected	1
Single DL Non-Detect Percentage	97.92%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.586
5% Shapiro Wilk Critical Value	0.926

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.895
SD	1.762
95% DL/2 (t) UCL	1.321
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.971
5% Shapiro Wilk Critical Value	0.926

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-2.008
SD	2.561
95% H-Stat (DL/2) UCL	18.49
Log ROS Method	
Mean in Log Scale	-1.854
SD in Log Scale	2.037
Mean in Original Scale	0.823
SD in Original Scale	1.765
95% t UCL	1.25
95% Percentile Bootstrap UCL	1.29
95% BCA Bootstrap UCL	1.508
95% H-UCL	3.694

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.608
Theta Star	2.198
nu star	35.25
A-D Test Statistic	0.33
5% A-D Critical Value	0.795
K-S Test Statistic	0.795
5% K-S Critical Value	0.17

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	11
Mean	0.807
Median	0.125
SD	1.772
k star	0.143
Theta star	5.64
Nu star	13.74
AppChi2	6.392
95% Gamma Approximate UCL (Use when n >= 40)	1.735
95% Adjusted Gamma UCL (Use when n < 40)	1.778

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.837
SD	1.749
SE of Mean	0.258
95% KM (t) UCL	1.27
95% KM (z) UCL	1.262
95% KM (jackknife) UCL	1.263
95% KM (bootstrap t) UCL	1.614
95% KM (BCA) UCL	1.29
95% KM (Percentile Bootstrap) UCL	1.297
95% KM (Chebyshev) UCL	1.962
97.5% KM (Chebyshev) UCL	2.448
99% KM (Chebyshev) UCL	3.404

Potential UCLs to Use

95% KM (BCA) UCL	1.29

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

n-Butylbenzene

General Statistics

Number of Valid Data	33	Number of Detected Data	14
Number of Distinct Detected Data	10	Number of Non-Detect Data	19
		Percent Non-Detects	57.58%

Raw Statistics

Minimum Detected	0.043
Maximum Detected	4.3
Mean of Detected	0.655
SD of Detected	1.086
Minimum Non-Detect	0.0048
Maximum Non-Detect	0.1

Log-transformed Statistics

Minimum Detected	-3.147
Maximum Detected	1.459
Mean of Detected	-1.1
SD of Detected	1.125
Minimum Non-Detect	-5.339
Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	20
Number treated as Detected	13
Single DL Non-Detect Percentage	60.61%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.522
5% Shapiro Wilk Critical Value	0.874

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.969
5% Shapiro Wilk Critical Value	0.874

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method

Mean	0.284
SD	0.764
95% DL/2 (t) UCL	0.509

Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Assuming Lognormal Distribution

DL/2 Substitution Method

Mean	-3.547
SD	2.404
95% H-Stat (DL/2) UCL	3.477

Log ROS Method

Mean in Log Scale	-2.99
SD in Log Scale	1.907
Mean in Original Scale	0.287
SD in Original Scale	0.763
95% t UCL	0.512
95% Percentile Bootstrap UCL	0.531
95% BCA Bootstrap UCL	0.686

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.73
Theta Star	0.897
nu star	20.43
A-D Test Statistic	0.774
5% A-D Critical Value	0.766
K-S Test Statistic	0.766
5% K-S Critical Value	0.236

Data follow Appr. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	0.043
Maximum	4.3
Mean	0.655
Median	0.65
SD	0.693
k star	1.73

Data Distribution Test with Detected Values Only

Data Follow Appr. Gamma Distribution at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	0.302
SD	0.745
SE of Mean	0.135
95% KM (t) UCL	0.531
95% KM (z) UCL	0.524
95% KM (jackknife) UCL	0.503
95% KM (bootstrap t) UCL	1.002
95% KM (BCA) UCL	0.627
95% KM (Percentile Bootstrap) UCL	0.563
95% KM (Chebyshev) UCL	0.889
97.5% KM (Chebyshev) UCL	1.143
99% KM (Chebyshev) UCL	1.642

Theta star	0.379
Nu star	114.2
AppChi2	90.54
95% Gamma Approximate UCL	0.826
95% Adjusted Gamma UCL	0.836

Potential UCLs to Use

95% KM (t) UCL 0.531

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

n-Propylbenzene

General Statistics

Number of Valid Data	33	Number of Detected Data	15
Number of Distinct Detected Data	15	Number of Non-Detect Data	18
		Percent Non-Detects	54.55%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	6.3	Maximum Detected	1.841
Mean of Detected	1.286	Mean of Detected	-1.054
SD of Detected	1.697	SD of Detected	2.153
Minimum Non-Detect	0.0021	Minimum Non-Detect	-6.166
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	22
Number treated as Detected	11
Single DL Non-Detect Percentage	66.67%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.758	Shapiro Wilk Test Statistic	0.925
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.595	Mean	-3.187
SD	1.293	SD	2.677
95% DL/2 (t) UCL	0.976	95% H-Stat (DL/2) UCL	15.28
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-4.054
		SD in Log Scale	3.365
		Mean in Original Scale	0.587
		SD in Original Scale	1.296
		95% t UCL	0.969
		95% Percentile Bootstrap UCL	0.979
		95% BCA Bootstrap UCL	1.115

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.435	**Data appear Gamma Distributed at 5% Significance Level**
Theta Star	2.954	
nu star	13.06	

A-D Test Statistic	0.265	**Nonparametric Statistics**	
5% A-D Critical Value	0.795	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.795	Mean	0.589
5% K-S Critical Value	0.234	SD	1.276
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.23
		95% KM (t) UCL	0.978
Assuming Gamma Distribution		95% KM (z) UCL	0.967
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.968
Minimum	1E-12	95% KM (bootstrap t) UCL	1.313
Maximum	6.3	95% KM (BCA) UCL	1.052
Mean	1.101	95% KM (Percentile Bootstrap) UCL	1.002
Median	0.652	95% KM (Chebyshev) UCL	1.591
SD	1.348	97.5% KM (Chebyshev) UCL	2.024
k star	0.367	99% KM (Chebyshev) UCL	2.876
Theta star	2.999		
Nu star	24.23	**Potential UCLs to Use**	
AppChi2	14.02	95% KM (t) UCL	0.978
95% Gamma Approximate UCL	1.902		
95% Adjusted Gamma UCL	1.958		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics

Number of Valid Data	42	Number of Detected Data	34
Number of Distinct Detected Data	31	Number of Non-Detect Data	8
		Percent Non-Detects	19.05%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.011	Minimum Detected	-4.51
Maximum Detected	5.7	Maximum Detected	1.74
Mean of Detected	1.159	Mean of Detected	-0.86
SD of Detected	1.41	SD of Detected	1.794
Minimum Non-Detect	0.0055	Minimum Non-Detect	-5.203
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	40
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.24%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.766	Shapiro Wilk Test Statistic	0.909
5% Shapiro Wilk Critical Value	0.933	5% Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.036	Mean	-1.127
SD	1.323	SD	1.977
95% DL/2 (t) UCL	1.379	95% H-Stat (DL/2) UCL	6.986

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-1.261
		SD in Log Scale	1.904
		Mean in Original Scale	0.957
		SD in Original Scale	1.334
		95% t UCL	1.304
		95% Percentile Bootstrap UCL	1.326
		95% BCA Bootstrap UCL	1.364
		95% H-UCL	4.938

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.577	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	2.007		
nu star	39.26		
A-D Test Statistic	0.436	**Nonparametric Statistics**	
5% A-D Critical Value	0.801	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.801	Mean	0.985
5% K-S Critical Value	0.158	SD	1.319
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.209
		95% KM (t) UCL	1.336
Assuming Gamma Distribution		95% KM (z) UCL	1.328
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.335
Minimum	0.000001	95% KM (bootstrap t) UCL	1.449
Maximum	5.7	95% KM (BCA) UCL	1.342
Mean	0.97	95% KM (Percentile Bootstrap) UCL	1.333
Median	0.537	95% KM (Chebyshev) UCL	1.895
SD	1.329	97.5% KM (Chebyshev) UCL	2.288
k star	0.287	99% KM (Chebyshev) UCL	3.062
Theta star	3.376		
Nu star	24.14	**Potential UCLs to Use**	
AppChi2	13.95	95% KM (Chebyshev) UCL	1.895
95% Gamma Approximate UCL (Use when n >= 40)	1.678		
95% Adjusted Gamma UCL (Use when n < 40)	1.712		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

p-Isopropyltoluene

General Statistics

Number of Valid Data	31	Number of Detected Data	13
Number of Distinct Detected Data	10	Number of Non-Detect Data	18
		Percent Non-Detects	58.06%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.019	Minimum Detected	-3.963
Maximum Detected	3.3	Maximum Detected	1.194
Mean of Detected	0.597	Mean of Detected	-1.398
SD of Detected	0.905	SD of Detected	1.458
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10

Observations < Largest ND are treated as NDs

Single DL Non-Detect Percentage 67.74%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.641
5% Shapiro Wilk Critical Value	0.866

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.259
SD	0.643
95% DL/2 (t) UCL	0.455
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.978
5% Shapiro Wilk Critical Value	0.866

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.646
SD	2.429
95% H-Stat (DL/2) UCL	3.627
Log ROS Method	
Mean in Log Scale	-3.821
SD in Log Scale	2.485
Mean in Original Scale	0.255
SD in Original Scale	0.644
95% t UCL	0.451
95% Percentile Bootstrap UCL	0.46
95% BCA Bootstrap UCL	0.56

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.58
Theta Star	1.03
nu star	15.08
A-D Test Statistic	0.386
5% A-D Critical Value	0.775
K-S Test Statistic	0.775
5% K-S Critical Value	0.247

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.019
Maximum	3.3
Mean	0.625
Median	0.554
SD	0.622
k star	1.176
Theta star	0.531
Nu star	72.9
AppChi2	54.24
95% Gamma Approximate UCL	0.839
95% Adjusted Gamma UCL	0.853

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.262
SD	0.631
SE of Mean	0.118
95% KM (t) UCL	0.462
95% KM (z) UCL	0.456
95% KM (jackknife) UCL	0.447
95% KM (bootstrap t) UCL	0.878
95% KM (BCA) UCL	0.536
95% KM (Percentile Bootstrap) UCL	0.482
95% KM (Chebyshev) UCL	0.776
97.5% KM (Chebyshev) UCL	0.999
99% KM (Chebyshev) UCL	1.436

Potential UCLs to Use

95% KM (t) UCL	0.462

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Pyrene

General Statistics

Number of Valid Data	42	Number of Detected Data	21

Number of Distinct Detected Data	18	Number of Non-Detect Data	21
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	1	Maximum Detected	0
Mean of Detected	0.252	Mean of Detected	-1.923
SD of Detected	0.262	SD of Detected	1.198
Minimum Non-Detect	0.0055	Minimum Non-Detect	-5.203
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	42
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.799	Shapiro Wilk Test Statistic	0.96
5% Shapiro Wilk Critical Value	0.908	5% Shapiro Wilk Critical Value	0.908
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.234	Mean	-2.583
SD	0.381	SD	1.684
95% DL/2 (t) UCL	0.333	95% H-Stat (DL/2) UCL	0.725
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.016
		SD in Log Scale	1.504
		Mean in Original Scale	0.138
		SD in Original Scale	0.217
		95% t UCL	0.194
		95% Percentile Bootstrap UCL	0.195
		95% BCA Bootstrap UCL	0.204
		95% H-UCL	0.305

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.934	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.27		
nu star	39.23		
A-D Test Statistic	0.207	Nonparametric Statistics	
5% A-D Critical Value	0.768	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.768	Mean	0.145
5% K-S Critical Value	0.195	SD	0.222
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0367
		95% KM (t) UCL	0.207
Assuming Gamma Distribution		95% KM (z) UCL	0.205
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.2
Minimum	0.000001	95% KM (bootstrap t) UCL	0.227
Maximum	1	95% KM (BCA) UCL	0.218
Mean	0.131	95% KM (Percentile Bootstrap) UCL	0.212
Median	0.022	95% KM (Chebyshev) UCL	0.305
SD	0.222	97.5% KM (Chebyshev) UCL	0.374
k star	0.155	99% KM (Chebyshev) UCL	0.51
Theta star	0.844		

Nu star	13	Potential UCLs to Use	
AppChi2	5.894	95% KM (t) UCL	0.207
95% Gamma Approximate UCL (Use when n >= 40)	0.288		
95% Adjusted Gamma UCL (Use when n < 40)	0.297		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

sec-Butylbenzene

General Statistics

Number of Valid Data	33	Number of Detected Data	13
Number of Distinct Detected Data	12	Number of Non-Detect Data	20
		Percent Non-Detects	60.61%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0025	Minimum Detected	-5.991
Maximum Detected	2.8	Maximum Detected	1.03
Mean of Detected	0.637	Mean of Detected	-1.454
SD of Detected	0.784	SD of Detected	1.906
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	10
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	69.70%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.779	Shapiro Wilk Test Statistic	0.924
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.261	Mean	-3.608
SD	0.57	SD	2.372
95% DL/2 (t) UCL	0.429	95% H-Stat (DL/2) UCL	2.902
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-4.027
		SD in Log Scale	2.66
		Mean in Original Scale	0.255
		SD in Original Scale	0.573
		95% t UCL	0.424
		95% Percentile Bootstrap UCL	0.427
		95% BCA Bootstrap UCL	0.492

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.523	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.216		
nu star	13.61		
A-D Test Statistic	0.139	Nonparametric Statistics	

5% A-D Critical Value	0.781	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.781	Mean	0.253
5% K-S Critical Value	0.248	SD	0.565
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.102
		95% KM (t) UCL	0.427
Assuming Gamma Distribution		95% KM (z) UCL	0.421
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.41
Minimum	0.0025	95% KM (bootstrap t) UCL	0.538
Maximum	2.8	95% KM (BCA) UCL	0.488
Mean	0.655	95% KM (Percentile Bootstrap) UCL	0.448
Median	0.581	95% KM (Chebyshev) UCL	0.699
SD	0.536	97.5% KM (Chebyshev) UCL	0.892
k star	1.146	99% KM (Chebyshev) UCL	1.272
Theta star	0.571		
Nu star	75.6	Potential UCLs to Use	
AppChi2	56.58	95% KM (t) UCL	0.427
95% Gamma Approximate UCL	0.875		
95% Adjusted Gamma UCL	0.888		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Toluene

General Statistics

Number of Valid Data	70	Number of Detected Data	9
Number of Distinct Detected Data	8	Number of Non-Detect Data	61
		Percent Non-Detects	87.14%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0026	Minimum Detected	-5.952
Maximum Detected	34	Maximum Detected	3.526
Mean of Detected	4.013	Mean of Detected	-2.13
SD of Detected	11.25	SD of Detected	2.998
Minimum Non-Detect	0.002	Minimum Non-Detect	-6.215
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	68
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	97.14%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.415	Shapiro Wilk Test Statistic	0.931
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution | **Assuming Lognormal Distribution**

DL/2 Substitution Method	
Mean	0.546
SD	4.06
95% DL/2 (t) UCL	1.355
Maximum Likelihood Estimate(MLE) Method	N/A
MLE method failed to converge properly	

DL/2 Substitution Method	
Mean	-4.178
SD	1.993
95% H-Stat (DL/2) UCL	0.223
Log ROS Method	
Mean in Log Scale	-10.86
SD in Log Scale	5.233
Mean in Original Scale	0.516
SD in Original Scale	4.063
95% t UCL	1.326
95% Percentile Bootstrap UCL	1.483
95% BCA Bootstrap UCL	2.457

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.213
Theta Star	18.87
nu star	3.827
A-D Test Statistic	0.977
5% A-D Critical Value	0.842
K-S Test Statistic	0.842
5% K-S Critical Value	0.307
Data not Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	34
Mean	3.452
Median	4.15
SD	4.165
k star	0.198
Theta star	17.41
Nu star	27.76
AppChi2	16.74
95% Gamma Approximate UCL	5.724
95% Adjusted Gamma UCL	5.786

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.518
SD	4.034
SE of Mean	0.511
95% KM (t) UCL	1.371
95% KM (z) UCL	1.36
95% KM (jackknife) UCL	1.326
95% KM (bootstrap t) UCL	46.14
95% KM (BCA) UCL	1.503
95% KM (Percentile Bootstrap) UCL	1.484
95% KM (Chebyshev) UCL	2.748
97.5% KM (Chebyshev) UCL	3.712
99% KM (Chebyshev) UCL	5.607

Potential UCLs to Use

97.5% KM (Chebyshev) UCL	3.712

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Observations	40	Number of Distinct Observations	21

Raw Statistics

Minimum	9.6
Maximum	57
Mean	19.71
Median	17.5
SD	8.676
Coefficient of Variation	0.44

Log-transformed Statistics

Minimum of Log Data	2.262
Maximum of Log Data	4.043
Mean of log Data	2.907
SD of log Data	0.375

Skewness 2.306

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.809	Shapiro Wilk Test Statistic	0.959
Shapiro Wilk Critical Value	0.94	Shapiro Wilk Critical Value	0.94
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	22.02	95% H-UCL	21.92
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	24.81
95% Adjusted-CLT UCL (Chen-1995)	22.5	97.5% Chebyshev (MVUE) UCL	27.06
95% Modified-t UCL (Johnson-1978)	22.1	99% Chebyshev (MVUE) UCL	31.48

Gamma Distribution Test		Data Distribution
k star (bias corrected)	6.444	Data appear Gamma Distributed at 5% Significance Level
Theta Star	3.058	
MLE of Mean	19.71	
MLE of Standard Deviation	7.763	
nu star	515.5	
Approximate Chi Square Value (.05)	463.9	**Nonparametric Statistics**
Adjusted Level of Significance	0.044	95% CLT UCL 21.96
Adjusted Chi Square Value	462	95% Jackknife UCL 22.02
		95% Standard Bootstrap UCL 21.92
Anderson-Darling Test Statistic	0.679	95% Bootstrap-t UCL 22.87
Anderson-Darling 5% Critical Value	0.75	95% Hall's Bootstrap UCL 24.11
Kolmogorov-Smirnov Test Statistic	0.129	95% Percentile Bootstrap UCL 22.18
Kolmogorov-Smirnov 5% Critical Value	0.14	95% BCA Bootstrap UCL 22.57
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 25.69
		97.5% Chebyshev(Mean, Sd) UCL 28.27
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 33.36
95% Approximate Gamma UCL	21.9	
95% Adjusted Gamma UCL	21.99	

Potential UCL to Use — Use 95% Approximate Gamma UCL 21.9

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Xylenes (total)

General Statistics

Number of Valid Data	70	Number of Detected Data	30
Number of Distinct Detected Data	23	Number of Non-Detect Data	40
		Percent Non-Detects	57.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	170	Maximum Detected	5.136
Mean of Detected	8.371	Mean of Detected	-0.859
SD of Detected	31.19	SD of Detected	2.474
Minimum Non-Detect	0.0041	Minimum Non-Detect	-5.497
Maximum Non-Detect	0.4	Maximum Non-Detect	-0.916

Note: Data have multiple DLs - Use of KM Method is recommended — Number treated as Non-Detect 55

For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Detected	15
Single DL Non-Detect Percentage	78.57%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.291
5% Shapiro Wilk Critical Value	0.927

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	3.601
SD	20.65
95% DL/2 (t) UCL	7.715
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.974
5% Shapiro Wilk Critical Value	0.927

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.158
SD	2.809
95% H-Stat (DL/2) UCL	6.591
Log ROS Method	
Mean in Log Scale	-4.685
SD in Log Scale	4.124
Mean in Original Scale	3.59
SD in Original Scale	20.65
95% t UCL	7.704
95% Percentile Bootstrap UCL	8.361
95% BCA Bootstrap UCL	12.44

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.238
Theta Star	35.19
nu star	14.27
A-D Test Statistic	2.515
5% A-D Critical Value	0.88
K-S Test Statistic	0.88
5% K-S Critical Value	0.176

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	170
Mean	7.822
Median	0.2
SD	23.61
k star	0.0823
Theta star	94.99
Nu star	11.53
AppChi2	4.918
95% Gamma Approximate UCL	18.34
95% Adjusted Gamma UCL	18.68

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	3.593
SD	20.5
SE of Mean	2.492
95% KM (t) UCL	7.747
95% KM (z) UCL	7.692
95% KM (jackknife) UCL	7.702
95% KM (bootstrap t) UCL	35.05
95% KM (BCA) UCL	8.597
95% KM (Percentile Bootstrap) UCL	8.421
95% KM (Chebyshev) UCL	14.45
97.5% KM (Chebyshev) UCL	19.16
99% KM (Chebyshev) UCL	28.39

Potential UCLs to Use

97.5% KM (Chebyshev) UCL	19.16

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

1,2,4-Trimethylbenzene

General Statistics

Number of Valid Data	33	Number of Detected Data	16
Number of Distinct Detected Data	15	Number of Non-Detect Data	17
		Percent Non-Detects	51.52%

Raw Statistics

Minimum Detected	0.0048
Maximum Detected	25
Mean of Detected	2.883
SD of Detected	6.106
Minimum Non-Detect	0.002
Maximum Non-Detect	0.2

Log-transformed Statistics

Minimum Detected	-5.339
Maximum Detected	3.219
Mean of Detected	-0.55
SD of Detected	2.293
Minimum Non-Detect	-6.215
Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	21
Number treated as Detected	12
Single DL Non-Detect Percentage	63.64%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.483
5% Shapiro Wilk Critical Value	0.887

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.926
5% Shapiro Wilk Critical Value	0.887

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method

Mean	1.406
SD	4.426
95% DL/2 (t) UCL	2.712

Maximum Likelihood Estimate(MLE) Method N/A

MLE yields a negative mean

Assuming Lognormal Distribution

DL/2 Substitution Method

Mean	-2.982
SD	3.059
95% H-Stat (DL/2) UCL	109.7

Log ROS Method

Mean in Log Scale	-3.456
SD in Log Scale	3.438
Mean in Original Scale	1.4
SD in Original Scale	4.428
95% t UCL	2.706
95% Percentile Bootstrap UCL	2.945
95% BCA Bootstrap UCL	3.848

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.373
Theta Star	7.726
nu star	11.94
A-D Test Statistic	0.389
5% A-D Critical Value	0.815
K-S Test Statistic	0.815
5% K-S Critical Value	0.23

Data appear Gamma Distributed at 5% Significance Level

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	0.0048
Maximum	25
Mean	2.941
Median	2.922
SD	4.19
k star	0.713

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	1.401
SD	4.361
SE of Mean	0.784
95% KM (t) UCL	2.729
95% KM (z) UCL	2.69
95% KM (jackknife) UCL	2.706
95% KM (bootstrap t) UCL	5.6
95% KM (BCA) UCL	2.984
95% KM (Percentile Bootstrap) UCL	2.855
95% KM (Chebyshev) UCL	4.818
97.5% KM (Chebyshev) UCL	6.297
99% KM (Chebyshev) UCL	9.201

Theta star	4.126
Nu star	47.04
AppChi2	32.3
95% Gamma Approximate UCL	4.283
95% Adjusted Gamma UCL	4.368

Potential UCLs to Use

95% KM (t) UCL	2.729

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

2-Methylnaphthalene

General Statistics

Number of Valid Data	10	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	4
		Percent Non-Detects	40.00%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0074	Minimum Detected	-4.906
Maximum Detected	15	Maximum Detected	2.708
Mean of Detected	4.27	Mean of Detected	0.05
SD of Detected	5.511	SD of Detected	2.732
Minimum Non-Detect	0.0055	Minimum Non-Detect	-5.203
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	6
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	60.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.76	Shapiro Wilk Test Statistic	0.85
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.618	Mean	-1.337
SD	4.63	SD	2.978
95% DL/2 (t) UCL	5.302	95% H-Stat (DL/2) UCL	51298
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.099
		SD in Log Scale	3.502
		Mean in Original Scale	2.564
		SD in Original Scale	4.66
		95% t UCL	5.266
		95% Percentile Bootstrap UCL	5.221

95% BCA Bootstrap UCL	6.444
95% H-UCL	2381573

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.341
Theta Star	12.53
nu star	4.089
A-D Test Statistic	0.325
5% A-D Critical Value	0.742
K-S Test Statistic	0.742
5% K-S Critical Value	0.35

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	15
Mean	2.562
Median	0.159
SD	4.662
k star	0.153
Theta star	16.78
Nu star	3.053
AppChi2	0.388
95% Gamma Approximate UCL (Use when n >= 40)	20.14
95% Adjusted Gamma UCL (Use when n < 40)	29.35

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	2.571
SD	4.417
SE of Mean	1.53
95% KM (t) UCL	5.376
95% KM (z) UCL	5.088
95% KM (jackknife) UCL	5.205
95% KM (bootstrap t) UCL	8.143
95% KM (BCA) UCL	6.004
95% KM (Percentile Bootstrap) UCL	5.6
95% KM (Chebyshev) UCL	9.241
97.5% KM (Chebyshev) UCL	12.13
99% KM (Chebyshev) UCL	17.8

Potential UCLs to Use

95% KM (BCA) UCL	6.004

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dibenz(a,h)anthracene

General Statistics

Number of Valid Data	44	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	40
		Percent Non-Detects	90.91%

Raw Statistics

Minimum Detected	0.0096
Maximum Detected	0.049
Mean of Detected	0.0247
SD of Detected	0.0188
Minimum Non-Detect	0.005
Maximum Non-Detect	4

Log-transformed Statistics

Minimum Detected	-4.646
Maximum Detected	-3.016
Mean of Detected	-3.943
SD of Detected	0.813
Minimum Non-Detect	-5.298
Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	44
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.871
5% Shapiro Wilk Critical Value	0.748

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.133
SD	0.343
95% DL/2 (t) UCL	0.22
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.858
5% Shapiro Wilk Critical Value	0.748

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.395
SD	1.54
95% H-Stat (DL/2) UCL	0.224
Log ROS Method	
Mean in Log Scale	-5.555
SD in Log Scale	1.082
Mean in Original Scale	0.00711
SD in Original Scale	0.00963
95% t UCL	0.00955
95% Percentile Bootstrap UCL	0.0096
95% BCA Bootstrap UCL	0.0103
95% H-UCL	0.0104

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.725
Theta Star	0.034
nu star	5.797
A-D Test Statistic	0.433
5% A-D Critical Value	0.66
K-S Test Statistic	0.66
5% K-S Critical Value	0.398

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.049
Mean	0.00568
Median	0.000001
SD	0.0117
k star	0.139
Theta star	0.0409
Nu star	12.22
AppChi2	5.374
95% Gamma Approximate UCL (Use when n >= 40)	0.0129
95% Adjusted Gamma UCL (Use when n < 40)	N/A

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0139
SD	0.011
SE of Mean	0.00341
95% KM (t) UCL	0.0196
95% KM (z) UCL	0.0195
95% KM (jackknife) UCL	0.019
95% KM (bootstrap t) UCL	0.0217
95% KM (BCA) UCL	N/A
95% KM (Percentile Bootstrap) UCL	0.0363
95% KM (Chebyshev) UCL	0.0288
97.5% KM (Chebyshev) UCL	0.0352
99% KM (Chebyshev) UCL	0.0478

Potential UCLs to Use

95% KM (t) UCL	0.0196
95% KM (Percentile Bootstrap) UCL	0.0363

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

E_TPHd

General Statistics

Number of Valid Data	86	Number of Detected Data	77
Number of Distinct Detected Data	66	Number of Non-Detect Data	9
		Percent Non-Detects	10.47%

Raw Statistics

Minimum Detected	6.3
Maximum Detected	19000
Mean of Detected	3175
SD of Detected	4228
Minimum Non-Detect	10
Maximum Non-Detect	10

Log-transformed Statistics

Minimum Detected	1.841
Maximum Detected	9.852
Mean of Detected	6.788
SD of Detected	1.996
Minimum Non-Detect	2.303
Maximum Non-Detect	2.303

UCL Statistics

Normal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.242
5% Lilliefors Critical Value	0.101

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.0839
5% Lilliefors Critical Value	0.101

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method

Mean	2844
SD	4115
95% DL/2 (t) UCL	3582

Maximum Likelihood Estimate(MLE) Method

Mean	2519
SD	4470
95% MLE (t) UCL	3321
95% MLE (Tiku) UCL	3283

Assuming Lognormal Distribution

DL/2 Substitution Method

Mean	6.246
SD	2.471
95% H-Stat (DL/2) UCL	31760

Log ROS Method

Mean in Log Scale	6.341
SD in Log Scale	2.313
Mean in Original Scale	2845
SD in Original Scale	4114
95% t UCL	3583
95% Percentile Bootstrap UCL	3603
95% BCA Bootstrap UCL	3674
95% H UCL	21252

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.488
Theta Star	6512
nu star	75.1
A-D Test Statistic	0.682
5% A-D Critical Value	0.819
K-S Test Statistic	0.819
5% K-S Critical Value	0.108

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	0.000001
Maximum	19000
Mean	2843
Median	715
SD	4116
k star	0.219
Theta star	13001
Nu star	37.61

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	2844
SD	4091
SE of Mean	444
95% KM (t) UCL	3582
95% KM (z) UCL	3574
95% KM (jackknife) UCL	3581
95% KM (bootstrap t) UCL	3694
95% KM (BCA) UCL	3606
95% KM (Percentile Bootstrap) UCL	3590
95% KM (Chebyshev) UCL	4779
97.5% KM (Chebyshev) UCL	5617
99% KM (Chebyshev) UCL	7262

Potential UCLs to Use

AppChi2	24.57	95% KM (Chebyshev) UCL	4779
95% Gamma Approximate UCL (Use when n >= 40)	4352		
95% Adjusted Gamma UCL (Use when n < 40)	4384		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

E_TPHg

General Statistics

Number of Valid Data	86	Number of Detected Data	57
Number of Distinct Detected Data	48	Number of Non-Detect Data	29
		Percent Non-Detects	33.72%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.74	Minimum Detected	-0.301
Maximum Detected	3100	Maximum Detected	8.039
Mean of Detected	417.7	Mean of Detected	4.799
SD of Detected	631.2	SD of Detected	2.072
Minimum Non-Detect	0.38	Minimum Non-Detect	-0.968
Maximum Non-Detect	390	Maximum Non-Detect	5.966

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	67
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	19
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	77.91%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.254	Lilliefors Test Statistic	0.162
5% Lilliefors Critical Value	0.117	5% Lilliefors Critical Value	0.117
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	280.6	Mean	3.653
SD	548	SD	2.44
95% DL/2 (t) UCL	378.9	95% H-Stat (DL/2) UCL	2151
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	3.509
		SD in Log Scale	2.612
		Mean in Original Scale	278.7
		SD in Original Scale	548.5
		95% t UCL	377.1
		95% Percentile Bootstrap UCL	378.4
		95% BCA Bootstrap UCL	406.9
		95% H-UCL	3296

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.497	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	840.7		
nu star	56.64		
A-D Test Statistic	0.373	Nonparametric Statistics	

5% A-D Critical Value	0.814	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.814	Mean	278.3
5% K-S Critical Value	0.125	SD	545.7
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	59.38
		95% KM (t) UCL	377
Assuming Gamma Distribution		95% KM (z) UCL	376
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	376.7
Minimum	0.000001	95% KM (bootstrap t) UCL	424.8
Maximum	3100	95% KM (BCA) UCL	392.4
Mean	276.9	95% KM (Percentile Bootstrap) UCL	388.5
Median	43	95% KM (Chebyshev) UCL	537.1
SD	549.5	97.5% KM (Chebyshev) UCL	649.1
k star	0.116	99% KM (Chebyshev) UCL	869.1
Theta star	2378		
Nu star	20.03	**Potential UCLs to Use**	
AppChi2	10.87	95% KM (BCA) UCL	392.4
95% Gamma Approximate UCL (Use when n >= 40)	510		
95% Adjusted Gamma UCL (Use when n < 40)	515.5		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

E_TPHm

General Statistics

Number of Valid Data	86	Number of Detected Data	75
Number of Distinct Detected Data	59	Number of Non-Detect Data	11
		Percent Non-Detects	12.79%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	10	Minimum Detected	2.303
Maximum Detected	12000	Maximum Detected	9.393
Mean of Detected	1982	Mean of Detected	6.379
SD of Detected	2961	SD of Detected	1.815
Minimum Non-Detect	10	Minimum Non-Detect	2.303
Maximum Non-Detect	10	Maximum Non-Detect	2.303

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.284	Lilliefors Test Statistic	0.0833
5% Lilliefors Critical Value	0.102	5% Lilliefors Critical Value	0.102
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1729	Mean	5.769
SD	2841	SD	2.331
95% DL/2 (t) UCL	2238	95% H-Stat (DL/2) UCL	12664
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1471	Mean in Log Scale	5.857
SD	3107	SD in Log Scale	2.194
95% MLE (t) UCL	2029	Mean in Original Scale	1730

95% MLE (Tiku) UCL	2001

SD in Original Scale	2841
95% t UCL	2239
95% Percentile Bootstrap UCL	2251
95% BCA Bootstrap UCL	2289
95% H UCL	9190

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.508
Theta Star	3897
nu star	76.27
A-D Test Statistic	0.995
5% A-D Critical Value	0.816
K-S Test Statistic	0.816
5% K-S Critical Value	0.109

Data follow Appr. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	12000
Mean	1728
Median	410
SD	2842
k star	0.202
Theta star	8567
Nu star	34.69
AppChi2	22.22
95% Gamma Approximate UCL (Use when n >= 40)	2698
95% Adjusted Gamma UCL (Use when n < 40)	2719

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data Follow Appr. Gamma Distribution at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	1729
SD	2824
SE of Mean	306.6
95% KM (t) UCL	2239
95% KM (z) UCL	2234
95% KM (jackknife) UCL	2239
95% KM (bootstrap t) UCL	2341
95% KM (BCA) UCL	2240
95% KM (Percentile Bootstrap) UCL	2263
95% KM (Chebyshev) UCL	3066
97.5% KM (Chebyshev) UCL	3644
99% KM (Chebyshev) UCL	4780

Potential UCLs to Use

95% KM (Chebyshev) UCL 3066

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

BaPTEQE

General Statistics

Number of Valid Data	42
Number of Distinct Detected Data	21

Number of Detected Data	22
Number of Non-Detect Data	20
Percent Non-Detects	47.62%

Raw Statistics

Minimum Detected	0.00359
Maximum Detected	0.546
Mean of Detected	0.127
SD of Detected	0.129
Minimum Non-Detect	0.00388
Maximum Non-Detect	2.82

Log-transformed Statistics

Minimum Detected	-5.63
Maximum Detected	-0.605
Mean of Detected	-2.649
SD of Detected	1.324
Minimum Non-Detect	-5.553
Maximum Non-Detect	1.037

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	42
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.794
5% Shapiro Wilk Critical Value	0.911

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.144
SD	0.251
95% DL/2 (t) UCL	0.209
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.889
5% Shapiro Wilk Critical Value	0.911

Data not Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-2.94
SD	1.495
95% H-Stat (DL/2) UCL	0.323
Log ROS Method	
Mean in Log Scale	-3.518
SD in Log Scale	1.445
Mean in Original Scale	0.0739
SD in Original Scale	0.108
95% t UCL	0.102
95% Percentile Bootstrap UCL	0.102
95% BCA Bootstrap UCL	0.109
95% H-UCL	0.162

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.887
Theta Star	0.143
nu star	39.02
A-D Test Statistic	0.456
5% A-D Critical Value	0.771
K-S Test Statistic	0.771
5% K-S Critical Value	0.191

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.546
Mean	0.0742
Median	0.0439
SD	0.11
k star	0.195
Theta star	0.38
Nu star	16.4
AppChi2	8.247
95% Gamma Approximate UCL (Use when n >= 40)	0.148
95% Adjusted Gamma UCL (Use when n < 40)	0.151

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0784
SD	0.112
SE of Mean	0.0187
95% KM (t) UCL	0.11
95% KM (z) UCL	0.109
95% KM (jackknife) UCL	0.109
95% KM (bootstrap t) UCL	0.123
95% KM (BCA) UCL	0.11
95% KM (Percentile Bootstrap) UCL	0.112
95% KM (Chebyshev) UCL	0.16
97.5% KM (Chebyshev) UCL	0.195
99% KM (Chebyshev) UCL	0.264

Potential UCLs to Use

95% KM (BCA) UCL	0.11

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area E 0 to 2 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area E.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Chromium

General Statistics

Number of Valid Observations	11	Number of Distinct Observations	9

Raw Statistics

Minimum	12
Maximum	33
Mean	19.45
Median	18
SD	6.624
Coefficient of Variation	0.34
Skewness	1.206

Log-transformed Statistics

Minimum of Log Data	2.485
Maximum of Log Data	3.497
Mean of log Data	2.921
SD of log Data	0.312

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.866
Shapiro Wilk Critical Value	0.85

Data appear Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.935
Shapiro Wilk Critical Value	0.85

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	23.07

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	23.52
95% Modified-t UCL (Johnson-1978)	23.2

Assuming Lognormal Distribution

95% H-UCL	23.66
95% Chebyshev (MVUE) UCL	27.44
97.5% Chebyshev (MVUE) UCL	30.92
99% Chebyshev (MVUE) UCL	37.75

Gamma Distribution Test

k star (bias corrected)	7.952
Theta Star	2.447
MLE of Mean	19.45
MLE of Standard Deviation	6.899
nu star	174.9
Approximate Chi Square Value (.05)	145.4
Adjusted Level of Significance	0.0278
Adjusted Chi Square Value	141
Anderson-Darling Test Statistic	0.452
Anderson-Darling 5% Critical Value	0.729
Kolmogorov-Smirnov Test Statistic	0.179
Kolmogorov-Smirnov 5% Critical Value	0.255

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	23.41
95% Adjusted Gamma UCL	24.15

Data Distribution

Data appear Normal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	22.74
95% Jackknife UCL	23.07
95% Standard Bootstrap UCL	22.63
95% Bootstrap-t UCL	25.56
95% Hall's Bootstrap UCL	31.7
95% Percentile Bootstrap UCL	22.82
95% BCA Bootstrap UCL	23.18
95% Chebyshev(Mean, Sd) UCL	28.16
97.5% Chebyshev(Mean, Sd) UCL	31.93
99% Chebyshev(Mean, Sd) UCL	39.33

Potential UCL to Use

Use 95% Student's-t UCL 23.07

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Lead

General Statistics

Number of Valid Observations	12	Number of Distinct Observations	11

Raw Statistics

Minimum	3
Maximum	490
Mean	63.44
Median	18
SD	136.3
Coefficient of Variation	2.148
Skewness	3.299

Log-transformed Statistics

Minimum of Log Data	1.099
Maximum of Log Data	6.194
Mean of log Data	3.077
SD of log Data	1.373

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.459
Shapiro Wilk Critical Value	0.859

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.936
Shapiro Wilk Critical Value	0.859

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	134.1

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	168.2
95% Modified-t UCL (Johnson-1978)	140.3

Assuming Lognormal Distribution

95% H-UCL	250.7
95% Chebyshev (MVUE) UCL	141.4
97.5% Chebyshev (MVUE) UCL	181.3
99% Chebyshev (MVUE) UCL	259.9

Gamma Distribution Test

k star (bias corrected)	0.49
Theta Star	129.6
MLE of Mean	63.44
MLE of Standard Deviation	90.66
nu star	11.75
Approximate Chi Square Value (.05)	5.065
Adjusted Level of Significance	0.029
Adjusted Chi Square Value	4.413
Anderson-Darling Test Statistic	1.089
Anderson-Darling 5% Critical Value	0.779
Kolmogorov-Smirnov Test Statistic	0.302
Kolmogorov-Smirnov 5% Critical Value	0.257

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	147.2
95% Adjusted Gamma UCL	168.9

Data Distribution

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	128.2
95% Jackknife UCL	134.1
95% Standard Bootstrap UCL	125.9
95% Bootstrap-t UCL	585.1
95% Hall's Bootstrap UCL	425.1
95% Percentile Bootstrap UCL	138.9
95% BCA Bootstrap UCL	182.6
95% Chebyshev(Mean, Sd) UCL	234.9
97.5% Chebyshev(Mean, Sd) UCL	309.1
99% Chebyshev(Mean, Sd) UCL	454.9

Potential UCL to Use

Use 95% Chebyshev (Mean, Sd) UCL 234.9

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics

Number of Valid Data	11	Number of Detected Data	7
Number of Distinct Detected Data	6	Number of Non-Detect Data	4
		Percent Non-Detects	36.36%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.03	Minimum Detected	-3.507
Maximum Detected	0.7	Maximum Detected	-0.357
Mean of Detected	0.187	Mean of Detected	-2.134
SD of Detected	0.232	SD of Detected	0.962
Minimum Non-Detect	0.02	Minimum Non-Detect	-3.912
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	7
Number treated as Detected	4
Single DL Non-Detect Percentage	63.64%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.637	Shapiro Wilk Test Statistic	0.897
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.13	Mean	-2.74
SD	0.197	SD	1.233
95% DL/2 (t) UCL	0.237	95% H-Stat (DL/2) UCL	0.533
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.76
		SD in Log Scale	1.197
		Mean in Original Scale	0.128
		SD in Original Scale	0.198
		95% t UCL	0.236
		95% Percentile Bootstrap UCL	0.236
		95% BCA Bootstrap UCL	0.282

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.803	Data appear Lognormal at 5% Significance Level
Theta Star	0.232	
nu star	11.24	
A-D Test Statistic	0.733	Nonparametric Statistics

5% A-D Critical Value	0.725
K-S Test Statistic	0.725
5% K-S Critical Value	0.318
Data not Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.03
Maximum	0.7
Mean	0.173
Median	0.1
SD	0.183
k star	1.328
Theta star	0.13
Nu star	29.21
AppChi2	17.87
95% Gamma Approximate UCL	0.282
95% Adjusted Gamma UCL	0.307

Note: DL/2 is not a recommended method.

Kaplan-Meier (KM) Method	
Mean	0.134
SD	0.185
SE of Mean	0.0606
95% KM (t) UCL	0.244
95% KM (z) UCL	0.234
95% KM (jackknife) UCL	0.234
95% KM (bootstrap t) UCL	0.571
95% KM (BCA) UCL	0.264
95% KM (Percentile Bootstrap) UCL	0.247
95% KM (Chebyshev) UCL	0.398
97.5% KM (Chebyshev) UCL	0.512
99% KM (Chebyshev) UCL	0.737

Potential UCLs to Use

95% KM (BCA) UCL	0.264

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Observations	11	Number of Distinct Observations	9

Raw Statistics

Minimum	13
Maximum	57
Mean	23.64
Median	21
SD	13.12
Coefficient of Variation	0.555
Skewness	1.961

Log-transformed Statistics

Minimum of Log Data	2.565
Maximum of Log Data	4.043
Mean of log Data	3.057
SD of log Data	0.455

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.76
Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level	

Assuming Normal Distribution

95% Student's-t UCL	30.81

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	32.65
95% Modified-t UCL (Johnson-1978)	31.2

Gamma Distribution Test

k star (bias corrected)	3.602
Theta Star	6.562
MLE of Mean	23.64
MLE of Standard Deviation	12.45
nu star	79.24

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.89
Shapiro Wilk Critical Value	0.85
Data appear Lognormal at 5% Significance Level	

Assuming Lognormal Distribution

95% H-UCL	31.98
95% Chebyshev (MVUE) UCL	37.54
97.5% Chebyshev (MVUE) UCL	43.68
99% Chebyshev (MVUE) UCL	55.75

Data Distribution

Data appear Gamma Distributed at 5% Significance Level

Approximate Chi Square Value (.05)	59.73
Adjusted Level of Significance	0.0278
Adjusted Chi Square Value	56.98
Anderson-Darling Test Statistic	0.667
Anderson-Darling 5% Critical Value	0.732
Kolmogorov-Smirnov Test Statistic	0.245
Kolmogorov-Smirnov 5% Critical Value	0.256

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	31.36
95% Adjusted Gamma UCL	32.87

Nonparametric Statistics

95% CLT UCL	30.15
95% Jackknife UCL	30.81
95% Standard Bootstrap UCL	29.73
95% Bootstrap-t UCL	40.6
95% Hall's Bootstrap UCL	67.02
95% Percentile Bootstrap UCL	30.45
95% BCA Bootstrap UCL	31.82
95% Chebyshev(Mean, Sd) UCL	40.89
97.5% Chebyshev(Mean, Sd) UCL	48.35
99% Chebyshev(Mean, Sd) UCL	63.01

Potential UCL to Use

Use 95% Approximate Gamma UCL 31.36

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

For additional insight, the user may want to consult a statistician.

E_TPHd

General Statistics

Number of Valid Observations	14	Number of Distinct Observations	13

Raw Statistics

Minimum	6.3
Maximum	10000
Mean	3637
Geometric Mean	818.4
Median	1160
SD	4336
Std. Error of Mean	1159
Coefficient of Variation	1.192
Skewness	0.691

Log-transformed Statistics

Minimum of Log Data	1.841
Maximum of Log Data	9.21
Mean of log Data	6.707
SD of log Data	2.352

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.738
Shapiro Wilk Critical Value	0.874

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.906
Shapiro Wilk Critical Value	0.874

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	5689

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	5772
95% Modified-t UCL (Johnson-1978)	5725

Assuming Lognormal Distribution

95% H-UCL	438905
95% Chebyshev (MVUE) UCL	31248
97.5% Chebyshev (MVUE) UCL	41417
99% Chebyshev (MVUE) UCL	61393

Gamma Distribution Test

k star (bias corrected)	0.39
Theta Star	9336
MLE of Mean	3637
MLE of Standard Deviation	5827
nu star	10.91
Approximate Chi Square Value (.05)	4.517

Data Distribution

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Adjusted Level of Significance	0.0312	95% CLT UCL	5543
Adjusted Chi Square Value	3.986	95% Jackknife UCL	5689
		95% Standard Bootstrap UCL	5473
Anderson-Darling Test Statistic	0.603	95% Bootstrap-t UCL	6054
Anderson-Darling 5% Critical Value	0.806	95% Hall's Bootstrap UCL	5255
Kolmogorov-Smirnov Test Statistic	0.191	95% Percentile Bootstrap UCL	5570
Kolmogorov-Smirnov 5% Critical Value	0.244	95% BCA Bootstrap UCL	5516
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	8688
		97.5% Chebyshev(Mean, Sd) UCL	10874
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	15167
95% Approximate Gamma UCL (Use when n >= 40)	8783		
95% BCA Bootstrap UCL	9955		
Potential UCL to Use		Use 95% Adjusted Gamma UCL	9955

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

E_TPHg

General Statistics

Number of Valid Data	14	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	7
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.87	Minimum Detected	-0.139
Maximum Detected	46	Maximum Detected	3.829
Mean of Detected	9.881	Mean of Detected	1.403
SD of Detected	16.3	SD of Detected	1.351
Minimum Non-Detect	0.38	Minimum Non-Detect	-0.968
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	85.71%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.62	Shapiro Wilk Test Statistic	0.938
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	6.411	Mean	0.813
SD	11.77	SD	1.612
95% DL/2 (t) UCL	11.98	95% H-Stat (DL/2) UCL	47.41

Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Log ROS Method	
Mean in Log Scale	0.298
SD in Log Scale	1.679
Mean in Original Scale	5.373
SD in Original Scale	12.04
95% t UCL	11.07
95% Percentile Bootstrap UCL	11.3
95% BCA Bootstrap UCL	16.26
95% H-UCL	36.19

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.486
Theta Star	20.35
nu star	6.799
A-D Test Statistic	0.581
5% A-D Critical Value	0.74
K-S Test Statistic	0.74
5% K-S Critical Value	0.324

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	46
Mean	5.525
Median	1.135
SD	12.14
k star	0.14
Theta star	39.51
Nu star	3.915
AppChi2	0.688
95% Gamma Approximate UCL (Use when n >= 40)	31.42
95% Adjusted Gamma UCL (Use when n < 40)	40.48

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	5.655
SD	11.5
SE of Mean	3.33
95% KM (t) UCL	11.55
95% KM (z) UCL	11.13
95% KM (jackknife) UCL	11.2
95% KM (bootstrap t) UCL	35.23
95% KM (BCA) UCL	12.11
95% KM (Percentile Bootstrap) UCL	11.9
95% KM (Chebyshev) UCL	20.17
97.5% KM (Chebyshev) UCL	26.45
99% KM (Chebyshev) UCL	38.79

Potential UCLs to Use

95% KM (t) UCL	11.55

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

E_TPHm

General Statistics

Number of Valid Observations	14	Number of Distinct Observations	12

Raw Statistics

Minimum	13
Maximum	12000
Mean	4697
Geometric Mean	1892
Median	1750
SD	4821
Std. Error of Mean	1288
Coefficient of Variation	1.026
Skewness	0.604

Log-transformed Statistics

Minimum of Log Data	2.565
Maximum of Log Data	9.393
Mean of log Data	7.546
SD of log Data	1.86

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.779
Shapiro Wilk Critical Value	0.874

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.841
Shapiro Wilk Critical Value	0.874

Data not Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	6979

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	7039
95% Modified-t UCL (Johnson-1978)	7014

Assuming Lognormal Distribution

95% H-UCL	102783
95% Chebyshev (MVUE) UCL	28334
97.5% Chebyshev (MVUE) UCL	37046
99% Chebyshev (MVUE) UCL	54157

Gamma Distribution Test

k star (bias corrected)	0.573
Theta Star	8195
MLE of Mean	4697
MLE of Standard Deviation	6204
nu star	16.05
Approximate Chi Square Value (.05)	7.997
Adjusted Level of Significance	0.0312
Adjusted Chi Square Value	7.254
Anderson-Darling Test Statistic	0.635
Anderson-Darling 5% Critical Value	0.778
Kolmogorov-Smirnov Test Statistic	0.184
Kolmogorov-Smirnov 5% Critical Value	0.239

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	9427
95% Adjusted Gamma UCL (Use when n < 40)	10393

Data Distribution

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	6817
95% Jackknife UCL	6979
95% Standard Bootstrap UCL	6750
95% Bootstrap-t UCL	7428
95% Hall's Bootstrap UCL	6544
95% Percentile Bootstrap UCL	6849
95% BCA Bootstrap UCL	7002
95% Chebyshev(Mean, Sd) UCL	10314
97.5% Chebyshev(Mean, Sd) UCL	12744
99% Chebyshev(Mean, Sd) UCL	17517

Potential UCL to Use

Use 95% Approximate Gamma UCL 9427

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area G 0 to 10 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area G.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

G_TPHd

General Statistics

Number of Valid Data	16	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	11
		Percent Non-Detects	68.75%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	17	Minimum Detected	2.833
Maximum Detected	3300	Maximum Detected	8.102
Mean of Detected	1026	Mean of Detected	5.321
SD of Detected	1434	SD of Detected	2.416
Minimum Non-Detect	5	Minimum Non-Detect	1.609
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	5
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	68.75%

Warning: There are only 5 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.798	Shapiro Wilk Test Statistic	0.886
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	323.8	Mean	2.725
SD	887.3	SD	2.203
95% DL/2 (t) UCL	712.7	95% H-Stat (DL/2) UCL	2733
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.993
		SD in Log Scale	5.247
		Mean in Original Scale	320.7

SD in Original Scale	888.5
95% t UCL	710.1
95% Percentile Bootstrap UCL	722.2
95% BCA Bootstrap UCL	937.2
95% H-UCL	9.938E+11

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.296
Theta Star	3463
nu star	2.961
A-D Test Statistic	0.378
5% A-D Critical Value	0.724
K-S Test Statistic	0.724
5% K-S Critical Value	0.375

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	3300
Mean	320.5
Median	0.000001
SD	888.6
k star	0.0928
Theta star	3454
Nu star	2.969
AppChi2	0.363
95% Gamma Approximate UCL (Use when n >= 40)	2619
95% Adjusted Gamma UCL (Use when n < 40)	3352

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	332.2
SD	856
SE of Mean	239.3
95% KM (t) UCL	751.6
95% KM (z) UCL	725.7
95% KM (jackknife) UCL	717.4
95% KM (bootstrap t) UCL	4634
95% KM (BCA) UCL	1600
95% KM (Percentile Bootstrap) UCL	861.9
95% KM (Chebyshev) UCL	1375
97.5% KM (Chebyshev) UCL	1826
99% KM (Chebyshev) UCL	2713

Potential UCLs to Use

95% KM (t) UCL	751.6
95% KM (Percentile Bootstrap) UCL	861.9

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

G_TPHm

General Statistics

Number of Valid Data	16
Number of Distinct Detected Data	5
Number of Detected Data	5
Number of Non-Detect Data	11
Percent Non-Detects	68.75%

Raw Statistics

Minimum Detected	36
Maximum Detected	1500
Mean of Detected	659.2
SD of Detected	726.8
Minimum Non-Detect	5

Log-transformed Statistics

Minimum Detected	3.584
Maximum Detected	7.313
Mean of Detected	5.673
SD of Detected	1.62
Minimum Non-Detect	1.609

Maximum Non-Detect	50	Maximum Non-Detect	3.912
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	75.00%

Warning: There are only 5 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.78	Shapiro Wilk Test Statistic	0.911
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	219.3	Mean	3.639
SD	484.5	SD	1.794
95% DL/2 (t) UCL	431.6	95% H-Stat (DL/2) UCL	1258
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	2.306
		SD in Log Scale	2.83
		Mean in Original Scale	210.4
		SD in Original Scale	488.5
		95% t UCL	424.5
		95% Percentile Bootstrap UCL	418.2
		95% BCA Bootstrap UCL	494.9
		95% H-UCL	46780

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.427	**Data appear Normal at 5% Significance Level**	
Theta Star	1545		
nu star	4.268		
A-D Test Statistic	0.41	**Nonparametric Statistics**	
5% A-D Critical Value	0.699	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.699	Mean	230.8
5% K-S Critical Value	0.367	SD	464.2
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	129.8
		95% KM (t) UCL	458.2
Assuming Gamma Distribution		95% KM (z) UCL	444.2
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	416.9
Minimum	0.000001	95% KM (bootstrap t) UCL	1283
Maximum	1500	95% KM (BCA) UCL	1406

Mean	206	95% KM (Percentile Bootstrap) UCL	562.5
Median	0.000001	95% KM (Chebyshev) UCL	796.4
SD	490.4	97.5% KM (Chebyshev) UCL	1041
k star	0.0947	99% KM (Chebyshev) UCL	1522
Theta star	2174		
Nu star	3.032	**Potential UCLs to Use**	
AppChi2	0.382	95% KM (t) UCL	458.2
95% Gamma Approximate UCL (Use when n >= 40)	1635	95% KM (Percentile Bootstrap) UCL	562.5
95% Adjusted Gamma UCL (Use when n < 40)	2090		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area Ia 0 to 10 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area Ia.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Lead

General Statistics

Number of Valid Observations	22	Number of Distinct Observations	21

Raw Statistics		Log-transformed Statistics	
Minimum	1.8	Minimum of Log Data	0.588
Maximum	1100	Maximum of Log Data	7.003
Mean	97.79	Mean of log Data	3.438
Median	42.5	SD of log Data	1.521
SD	228.8		
Coefficient of Variation	2.339		
Skewness	4.373		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.391	Shapiro Wilk Test Statistic	0.972
Shapiro Wilk Critical Value	0.911	Shapiro Wilk Critical Value	0.911
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	181.7	95% H-UCL	303.3
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	243.2
95% Adjusted-CLT UCL (Chen-1995)	226.6	97.5% Chebyshev (MVUE) UCL	309.7
95% Modified-t UCL (Johnson-1978)	189.3	99% Chebyshev (MVUE) UCL	440.3

Gamma Distribution Test		Data Distribution
k star (bias corrected)	0.503	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	194.4	
MLE of Mean	97.79	
MLE of Standard Deviation	137.9	
nu star	22.13	
Approximate Chi Square Value (.05)	12.43	
Adjusted Level of Significance	0.0386	
Adjusted Chi Square Value	11.89	
Anderson-Darling Test Statistic	0.934	
Anderson-Darling 5% Critical Value	0.8	
Kolmogorov-Smirnov Test Statistic	0.172	
Kolmogorov-Smirnov 5% Critical Value	0.195	
Data follow Appr. Gamma Distribution at 5% Significance Level		

Assuming Gamma Distribution	
95% Approximate Gamma UCL	174
95% Adjusted Gamma UCL	181.9

Nonparametric Statistics	
95% CLT UCL	178
95% Jackknife UCL	181.7
95% Standard Bootstrap UCL	176.6
95% Bootstrap-t UCL	431.7
95% Hall's Bootstrap UCL	473.4
95% Percentile Bootstrap UCL	190.5
95% BCA Bootstrap UCL	250.8
95% Chebyshev(Mean, Sd) UCL	310.4
97.5% Chebyshev(Mean, Sd) UCL	402.4
99% Chebyshev(Mean, Sd) UCL	583.1

Potential UCL to Use	
Use 95% Approximate Gamma UCL	174

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Ia_TPHd

General Statistics

Number of Valid Data	16	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	6
		Percent Non-Detects	37.50%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	13	Minimum Detected	2.565
Maximum Detected	1100	Maximum Detected	7.003
Mean of Detected	234.9	Mean of Detected	4.667
SD of Detected	327.3	SD of Detected	1.387
Minimum Non-Detect	10	Minimum Non-Detect	2.303
Maximum Non-Detect	10	Maximum Non-Detect	2.303

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.684	Shapiro Wilk Test Statistic	0.964
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	148.7	Mean	3.521
SD	278.4	SD	1.869
95% DL/2 (t) UCL	270.7	95% H-Stat (DL/2) UCL	1485
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	43.2	Mean in Log Scale	3.296
SD	373.6	SD in Log Scale	2.201
95% MLE (t) UCL	206.9	Mean in Original Scale	148.3
95% MLE (Tiku) UCL	223.3	SD in Original Scale	278.6
		95% t UCL	270.4
		95% Percentile Bootstrap UCL	271.3
		95% BCA Bootstrap UCL	332.4
		95% H UCL	4807

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.595	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	394.5		
nu star	11.91		
A-D Test Statistic	0.367	Nonparametric Statistics	
5% A-D Critical Value	0.757	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.757	Mean	151.7
5% K-S Critical Value	0.276	SD	268
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	70.62
		95% KM (t) UCL	275.5
Assuming Gamma Distribution		95% KM (z) UCL	267.8
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	270.3
Minimum	0.000001	95% KM (bootstrap t) UCL	430.5
Maximum	1100	95% KM (BCA) UCL	289.2

Mean	146.8	95% KM (Percentile Bootstrap) UCL	279.6
Median	32.5	95% KM (Chebyshev) UCL	459.5
SD	279.4	97.5% KM (Chebyshev) UCL	592.7
k star	0.131	99% KM (Chebyshev) UCL	854.3
Theta star	1117		
Nu star	4.207	**Potential UCLs to Use**	
AppChi2	0.805	95% KM (BCA) UCL	289.2
95% Gamma Approximate UCL (Use when n >= 40)	767		
95% Adjusted Gamma UCL (Use when n < 40)	943.2		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Ia_TPHm

General Statistics

Number of Valid Data	16	Number of Detected Data	10
Number of Distinct Detected Data	9	Number of Non-Detect Data	6
		Percent Non-Detects	37.50%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	17	Minimum Detected	2.833
Maximum Detected	2200	Maximum Detected	7.696
Mean of Detected	754.6	Mean of Detected	5.804
SD of Detected	752.6	SD of Detected	1.63
Minimum Non-Detect	10	Minimum Non-Detect	2.303
Maximum Non-Detect	10	Maximum Non-Detect	2.303

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.869	Shapiro Wilk Test Statistic	0.903
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	473.5	Mean	4.231
SD	693	SD	2.448
95% DL/2 (t) UCL	777.2	95% H-Stat (DL/2) UCL	40108
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	216.2	Mean in Log Scale	4.284
SD	954.3	SD in Log Scale	2.475
95% MLE (t) UCL	634.4	Mean in Original Scale	474.9
95% MLE (Tiku) UCL	677.6	SD in Original Scale	692
		95% t UCL	778.2
		95% Percentile Bootstrap UCL	772.8
		95% BCA Bootstrap UCL	815.9
		95% H UCL	48547

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.578	Data appear Normal at 5% Significance Level
Theta Star	1305	

nu star	11.56
A-D Test Statistic	0.477
5% A-D Critical Value	0.759
K-S Test Statistic	0.759
5% K-S Critical Value	0.276
Data appear Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	2200
Mean	471.6
Median	74.5
SD	694.4
k star	0.127
Theta star	3721
Nu star	4.056
AppChi2	0.744
95% Gamma Approximate UCL (Use when n >= 40)	2571
95% Adjusted Gamma UCL (Use when n < 40)	3178

Note: DL/2 is not a recommended method.

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	478
SD	667.9
SE of Mean	176
95% KM (t) UCL	786.6
95% KM (z) UCL	767.5
95% KM (jackknife) UCL	768
95% KM (bootstrap t) UCL	877
95% KM (BCA) UCL	814.1
95% KM (Percentile Bootstrap) UCL	785.4
95% KM (Chebyshev) UCL	1245
97.5% KM (Chebyshev) UCL	1577
99% KM (Chebyshev) UCL	2229

Potential UCLs to Use

95% KM (t) UCL	786.6
95% KM (Percentile Bootstrap) UCL	785.4

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area Ia 0 to 2 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area Ia.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Lead

General Statistics

Number of Valid Observations	18	Number of Distinct Observations	17

Raw Statistics		Log-transformed Statistics	
Minimum	1.8	Minimum of Log Data	0.588
Maximum	1100	Maximum of Log Data	7.003
Mean	115.6	Mean of log Data	3.64
Median	51	SD of log Data	1.569
SD	250.5		
Coefficient of Variation	2.168		
Skewness	3.978		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.423	Shapiro Wilk Test Statistic	0.965
Shapiro Wilk Critical Value	0.897	Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	218.3	95% H-UCL	504
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	332.8
95% Adjusted-CLT UCL (Chen-1995)	271.8	97.5% Chebyshev (MVUE) UCL	427.2
95% Modified-t UCL (Johnson-1978)	227.5	99% Chebyshev (MVUE) UCL	612.7

Gamma Distribution Test		Data Distribution
k star (bias corrected)	0.506	**Data appear Gamma Distributed at 5% Significance Level**
Theta Star	228.5	
MLE of Mean	115.6	
MLE of Standard Deviation	162.5	
nu star	18.2	
Approximate Chi Square Value (.05)	9.538	**Nonparametric Statistics**
Adjusted Level of Significance	0.0357	95% CLT UCL 212.7
Adjusted Chi Square Value	8.939	95% Jackknife UCL 218.3
		95% Standard Bootstrap UCL 209.4
Anderson-Darling Test Statistic	0.735	95% Bootstrap-t UCL 527.9
Anderson-Darling 5% Critical Value	0.795	95% Hall's Bootstrap UCL 582.5
Kolmogorov-Smirnov Test Statistic	0.204	95% Percentile Bootstrap UCL 227
Kolmogorov-Smirnov 5% Critical Value	0.214	95% BCA Bootstrap UCL 295.3
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 372.9
		97.5% Chebyshev(Mean, Sd) UCL 484.3

Assuming Gamma Distribution

95% Approximate Gamma UCL 220.5

95% Adjusted Gamma UCL 235.3

99% Chebyshev(Mean, Sd) UCL 703

Potential UCL to Use

Use 95% Approximate Gamma UCL 220.5

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area Ib 0 to 10 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area Ib.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Benzene

General Statistics

Number of Valid Data	18	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	14
		Percent Non-Detects	77.78%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.007	Minimum Detected	-4.962
Maximum Detected	0.7	Maximum Detected	-0.357
Mean of Detected	0.208	Mean of Detected	-2.827
SD of Detected	0.33	SD of Detected	1.973
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	88.89%

Warning: There are only 4 Distinct Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.729	Shapiro Wilk Test Statistic	0.988
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0561	Mean	-4.789
SD	0.163	SD	1.759
95% DL/2 (t) UCL	0.123	95% H-Stat (DL/2) UCL	0.205
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-8.485
		SD in Log Scale	4.032
		Mean in Original Scale	0.0465

SD in Original Scale	0.165
95% t UCL	0.114
95% Percentile Bootstrap UCL	0.12
95% BCA Bootstrap UCL	0.2

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.293
Theta Star	0.71
nu star	2.342
A-D Test Statistic	0.308
5% A-D Critical Value	0.681
K-S Test Statistic	0.681
5% K-S Critical Value	0.41

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	22.63
Mean	5.239
Median	1.09
SD	7.427
k star	0.223
Theta star	23.44
Nu star	8.046
AppChi2	2.761
95% Gamma Approximate UCL	15.27
95% Adjusted Gamma UCL	N/A

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0519
SD	0.159
SE of Mean	0.0432
95% KM (t) UCL	0.127
95% KM (z) UCL	0.123
95% KM (jackknife) UCL	0.111
95% KM (bootstrap t) UCL	0.338
95% KM (BCA) UCL	N/A
95% KM (Percentile Bootstrap) UCL	0.2
95% KM (Chebyshev) UCL	0.24
97.5% KM (Chebyshev) UCL	0.322
99% KM (Chebyshev) UCL	0.482

Potential UCLs to Use

95% KM (t) UCL	0.127

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Ethylbenzene

General Statistics

Number of Valid Data	18	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	11
		Percent Non-Detects	61.11%

Raw Statistics

Minimum Detected	0.011
Maximum Detected	4.7
Mean of Detected	1.593
SD of Detected	1.928
Minimum Non-Detect	0.005
Maximum Non-Detect	0.1

Log-transformed Statistics

Minimum Detected	-4.51
Maximum Detected	1.548
Mean of Detected	-0.947
SD of Detected	2.353
Minimum Non-Detect	-5.298
Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	13
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	5
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	72.22%

Warning: There are only 7 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.823	Shapiro Wilk Test Statistic	0.918
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.624	Mean	-3.863
SD	1.395	SD	2.857
95% DL/2 (t) UCL	1.196	95% H-Stat (DL/2) UCL	74.71
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-5.365
		SD in Log Scale	4.342
		Mean in Original Scale	0.621
		SD in Original Scale	1.396
		95% t UCL	1.193
		95% Percentile Bootstrap UCL	1.208
		95% BCA Bootstrap UCL	1.359

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.356	**Data appear Normal at 5% Significance Level**	
Theta Star	4.477		
nu star	4.983		
A-D Test Statistic	0.28	**Nonparametric Statistics**	
5% A-D Critical Value	0.759	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.759	Mean	0.626
5% K-S Critical Value	0.329	SD	1.354
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.345
		95% KM (t) UCL	1.226
Assuming Gamma Distribution		95% KM (z) UCL	1.194
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.188
Minimum	1E-12	95% KM (bootstrap t) UCL	1.915
Maximum	13.86	95% KM (BCA) UCL	1.446
Mean	3.229	95% KM (Percentile Bootstrap) UCL	1.31
Median	1.925	95% KM (Chebyshev) UCL	2.129

SD	3.919	97.5% KM (Chebyshev) UCL	2.78
k star	0.248	99% KM (Chebyshev) UCL	4.057
Theta star	13.02		
Nu star	8.925	**Potential UCLs to Use**	
AppChi2	3.282	95% KM (t) UCL	1.226
95% Gamma Approximate UCL	8.781	95% KM (Percentile Bootstrap) UCL	1.31
95% Adjusted Gamma UCL	9.732		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Xylenes (total)

General Statistics

Number of Valid Data	18	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	11
		Percent Non-Detects	61.11%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.009	Minimum Detected	-4.711
Maximum Detected	20	Maximum Detected	2.996
Mean of Detected	5.87	Mean of Detected	0.0214
SD of Detected	8.022	SD of Detected	2.718
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	6
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	66.67%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.779	Shapiro Wilk Test Statistic	0.938
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.287	Mean	-3.487
SD	5.6	SD	3.373

95% DL/2 (t) UCL	4.583	95% H-Stat (DL/2) UCL	2543
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-5.21
		SD in Log Scale	5.127
		Mean in Original Scale	2.284
		SD in Original Scale	5.602
		95% t UCL	4.581
		95% Percentile Bootstrap UCL	4.643
		95% BCA Bootstrap UCL	5.555

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.312	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	18.81		
nu star	4.37		
A-D Test Statistic	0.247	**Nonparametric Statistics**	
5% A-D Critical Value	0.771	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.771	Mean	2.288
5% K-S Critical Value	0.332	SD	5.442
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.385
		95% KM (t) UCL	4.698
Assuming Gamma Distribution		95% KM (z) UCL	4.567
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	4.501
Minimum	1E-12	95% KM (bootstrap t) UCL	10.18
Maximum	66.12	95% KM (BCA) UCL	5.854
Mean	13.39	95% KM (Percentile Bootstrap) UCL	4.831
Median	5.958	95% KM (Chebyshev) UCL	8.327
SD	18.42	97.5% KM (Chebyshev) UCL	10.94
k star	0.179	99% KM (Chebyshev) UCL	16.07
Theta star	74.97		
Nu star	6.428	**Potential UCLs to Use**	
AppChi2	1.862	95% KM (t) UCL	4.698
95% Gamma Approximate UCL	46.2		
95% Adjusted Gamma UCL	52.57		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

lb_TPHd

General Statistics

Number of Valid Data	18	Number of Detected Data	13
Number of Distinct Detected Data	13	Number of Non-Detect Data	5
		Percent Non-Detects	27.78%

Raw Statistics **Log-transformed Statistics**

Minimum Detected	70
Maximum Detected	20000
Mean of Detected	4196
SD of Detected	6709
Minimum Non-Detect	10
Maximum Non-Detect	10

Minimum Detected	4.248
Maximum Detected	9.903
Mean of Detected	6.637
SD of Detected	2.18
Minimum Non-Detect	2.303
Maximum Non-Detect	2.303

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.674
5% Shapiro Wilk Critical Value	0.866

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.867
5% Shapiro Wilk Critical Value	0.866

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	3032
SD	5959
95% DL/2 (t) UCL	5475
Maximum Likelihood Estimate(MLE) Method	
Mean	1575
SD	7247
95% MLE (t) UCL	4547
95% MLE (Tiku) UCL	4625

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	5.24
SD	2.954
95% H-Stat (DL/2) UCL	1161539
Log ROS Method	
Mean in Log Scale	5.167
SD in Log Scale	3.11
Mean in Original Scale	3032
SD in Original Scale	5958
95% t UCL	5475
95% Percentile Bootstrap UCL	5456
95% BCA Bootstrap UCL	6169
95% H UCL	2737706

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.35
Theta Star	12003
nu star	9.089
A-D Test Statistic	0.772
5% A-D Critical Value	0.812
K-S Test Statistic	0.812
5% K-S Critical Value	0.253

Data appear Gamma Distributed at 5% Significance Level

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	20000
Mean	3030
Median	103.5
SD	5959
k star	0.131
Theta star	23069

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	3050
SD	5781
SE of Mean	1418
95% KM (t) UCL	5517
95% KM (z) UCL	5383
95% KM (jackknife) UCL	5487
95% KM (bootstrap t) UCL	9758
95% KM (BCA) UCL	5583
95% KM (Percentile Bootstrap) UCL	5483
95% KM (Chebyshev) UCL	9232
97.5% KM (Chebyshev) UCL	11907
99% KM (Chebyshev) UCL	17162

Nu star	4.729	**Potential UCLs to Use**	
AppChi2	1.029	95% KM (Chebyshev) UCL	9232
95% Gamma Approximate UCL (Use when n >= 40)	13926		
95% Adjusted Gamma UCL (Use when n < 40)	16348		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Ib_TPHg

General Statistics

Number of Valid Data	18	Number of Detected Data	8
Number of Distinct Detected Data	7	Number of Non-Detect Data	10
		Percent Non-Detects	55.56%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	10	Minimum Detected	2.303
Maximum Detected	1200	Maximum Detected	7.09
Mean of Detected	440	Mean of Detected	4.925
SD of Detected	483.3	SD of Detected	2.062
Minimum Non-Detect	10	Minimum Non-Detect	2.303
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.84	Shapiro Wilk Test Statistic	0.839
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	198.3	Mean	3.083
SD	381.6	SD	2.151
95% DL/2 (t) UCL	354.8	95% H-Stat (DL/2) UCL	2414
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	1.578
		SD in Log Scale	3.69
		Mean in Original Scale	196.2

SD in Original Scale	382.8
95% t UCL	353.2
95% Percentile Bootstrap UCL	343.2
95% BCA Bootstrap UCL	385.4
95% H-UCL	3616955

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.421
Theta Star	1045
nu star	6.736
A-D Test Statistic	0.469
5% A-D Critical Value	0.76
K-S Test Statistic	0.76
5% K-S Critical Value	0.308

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	1200
Mean	195.6
Median	0.000001
SD	383.1
k star	0.102
Theta star	1920
Nu star	3.666
AppChi2	0.594
95% Gamma Approximate UCL (Use when n >= 40)	1206
95% Adjusted Gamma UCL (Use when n < 40)	1457

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	201.1
SD	369.4
SE of Mean	93.09
95% KM (t) UCL	363.1
95% KM (z) UCL	354.2
95% KM (jackknife) UCL	357
95% KM (bootstrap t) UCL	533.7
95% KM (BCA) UCL	396.7
95% KM (Percentile Bootstrap) UCL	375
95% KM (Chebyshev) UCL	606.9
97.5% KM (Chebyshev) UCL	782.5
99% KM (Chebyshev) UCL	1127

Potential UCLs to Use

95% KM (t) UCL	363.1
95% KM (Percentile Bootstrap) UCL	375

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Ib_TPHm

General Statistics

Number of Valid Data	18
Number of Distinct Detected Data	13
Number of Detected Data	14
Number of Non-Detect Data	4
Percent Non-Detects	22.22%

Raw Statistics

Minimum Detected	15
Maximum Detected	9100
Mean of Detected	2073
SD of Detected	3035
Minimum Non-Detect	10

Log-transformed Statistics

Minimum Detected	2.708
Maximum Detected	9.116
Mean of Detected	6.297
SD of Detected	1.97
Minimum Non-Detect	2.303

Maximum Non-Detect	10	Maximum Non-Detect	2.303

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.706	Shapiro Wilk Test Statistic	0.962
5% Shapiro Wilk Critical Value	0.874	5% Shapiro Wilk Critical Value	0.874
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1613	Mean	5.256
SD	2797	SD	2.644
95% DL/2 (t) UCL	2760	95% H-Stat (DL/2) UCL	215224
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1120	Mean in Log Scale	5.254
SD	3243	SD in Log Scale	2.678
95% MLE (t) UCL	2450	Mean in Original Scale	1614
95% MLE (Tiku) UCL	2445	SD in Original Scale	2797
		95% t UCL	2761
		95% Percentile Bootstrap UCL	2734
		95% BCA Bootstrap UCL	2975
		95% H UCL	256567

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.423	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	4901		
nu star	11.84		
A-D Test Statistic	0.389	**Nonparametric Statistics**	
5% A-D Critical Value	0.798	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.798	Mean	1616
5% K-S Critical Value	0.242	SD	2717
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	664.6
		95% KM (t) UCL	2772
Assuming Gamma Distribution		95% KM (z) UCL	2709
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2756
Minimum	0.000001	95% KM (bootstrap t) UCL	4199
Maximum	9100	95% KM (BCA) UCL	2821
Mean	1612	95% KM (Percentile Bootstrap) UCL	2762
Median	240	95% KM (Chebyshev) UCL	4513
SD	2798	97.5% KM (Chebyshev) UCL	5766
k star	0.153	99% KM (Chebyshev) UCL	8228
Theta star	10505		
Nu star	5.525	**Potential UCLs to Use**	
AppChi2	1.402	95% KM (Chebyshev) UCL	4513
95% Gamma Approximate UCL (Use when n >= 40)	6353		
95% Adjusted Gamma UCL (Use when n < 40)	7335		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area J 0 to 10 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area J.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Acenaphthene

General Statistics

Number of Valid Data	23	Number of Detected Data	7
Number of Distinct Detected Data	6	Number of Non-Detect Data	16
		Percent Non-Detects	69.57%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.054	Minimum Detected	-2.919
Maximum Detected	0.8	Maximum Detected	-0.223
Mean of Detected	0.221	Mean of Detected	-2.002
SD of Detected	0.27	SD of Detected	1.002
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 7 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.696	Shapiro Wilk Test Statistic	0.882
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.334	Mean	-3.634
SD	1.049	SD	2.209
95% DL/2 (t) UCL	0.71	95% H-Stat (DL/2) UCL	2.407
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.404
		SD in Log Scale	1.929
		Mean in Original Scale	0.0717
		SD in Original Scale	0.173
		95% t UCL	0.134
		95% Percentile Bootstrap UCL	0.134
		95% BCA Bootstrap UCL	0.168

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.757	Data appear Gamma Distributed at 5% Significance Level

Theta Star	0.291
nu star	10.6
A-D Test Statistic	0.578
5% A-D Critical Value	0.726
K-S Test Statistic	0.726
5% K-S Critical Value	0.319

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.054
Maximum	0.8
Mean	0.217
Median	0.212
SD	0.142
k star	3.045
Theta star	0.0714
Nu star	140.1
AppChi2	113.7
95% Gamma Approximate UCL	0.268
95% Adjusted Gamma UCL	0.272

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.11
SD	0.164
SE of Mean	0.0387
95% KM (t) UCL	0.176
95% KM (z) UCL	0.173
95% KM (jackknife) UCL	0.17
95% KM (bootstrap t) UCL	0.374
95% KM (BCA) UCL	0.212
95% KM (Percentile Bootstrap) UCL	0.192
95% KM (Chebyshev) UCL	0.278
97.5% KM (Chebyshev) UCL	0.351
99% KM (Chebyshev) UCL	0.495

Potential UCLs to Use

95% KM (t) UCL	0.176

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics

Number of Valid Data	23	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	17
		Percent Non-Detects	73.91%

Raw Statistics

Minimum Detected	0.018
Maximum Detected	0.5
Mean of Detected	0.203
SD of Detected	0.199
Minimum Non-Detect	0.005
Maximum Non-Detect	10

Log-transformed Statistics

Minimum Detected	-4.017
Maximum Detected	-0.693
Mean of Detected	-2.133
SD of Detected	1.256
Minimum Non-Detect	-5.298
Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	23
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only | **Lognormal Distribution Test with Detected Values Only**

Shapiro Wilk Test Statistic	0.855
5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level	

Shapiro Wilk Test Statistic	0.954
5% Shapiro Wilk Critical Value	0.788
Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.321
SD	1.046
95% DL/2 (t) UCL	0.695
Maximum Likelihood Estimate(MLE) Method	N/A
MLE method failed to converge properly	

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.742
SD	2.172
95% H-Stat (DL/2) UCL	1.873
Log ROS Method	
Mean in Log Scale	-5.367
SD in Log Scale	2.369
Mean in Original Scale	0.0551
SD in Original Scale	0.131
95% t UCL	0.102
95% Percentile Bootstrap UCL	0.106
95% BCA Bootstrap UCL	0.12

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.644
Theta Star	0.315
nu star	7.723
A-D Test Statistic	0.254
5% A-D Critical Value	0.714
K-S Test Statistic	0.714
5% K-S Critical Value	0.34
Data appear Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	0.516
Mean	0.227
Median	0.178
SD	0.174
k star	0.402
Theta star	0.564
Nu star	18.51
AppChi2	9.762
95% Gamma Approximate UCL	0.43
95% Adjusted Gamma UCL	0.451

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0709
SD	0.128
SE of Mean	0.0306
95% KM (t) UCL	0.123
95% KM (z) UCL	0.121
95% KM (jackknife) UCL	0.114
95% KM (bootstrap t) UCL	0.196
95% KM (BCA) UCL	0.189
95% KM (Percentile Bootstrap) UCL	0.17
95% KM (Chebyshev) UCL	0.204
97.5% KM (Chebyshev) UCL	0.262
99% KM (Chebyshev) UCL	0.375

Potential UCLs to Use

95% KM (t) UCL	0.123
95% KM (Percentile Bootstrap) UCL	0.17

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzene

General Statistics

Number of Valid Data	63
Number of Distinct Detected Data	7
Number of Detected Data	8
Number of Non-Detect Data	55
Percent Non-Detects	87.30%

Raw Statistics	
Minimum Detected	0.006
Maximum Detected	0.8
Mean of Detected	0.243
SD of Detected	0.349
Minimum Non-Detect	0.005
Maximum Non-Detect	0.1

Log-transformed Statistics	
Minimum Detected	-5.116
Maximum Detected	-0.223
Mean of Detected	-2.794
SD of Detected	2.002
Minimum Non-Detect	-5.298
Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	60
Number treated as Detected	3
Single DL Non-Detect Percentage	95.24%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.686
5% Shapiro Wilk Critical Value	0.818

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.892
5% Shapiro Wilk Critical Value	0.818

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution	
DL/2 Substitution Method	
Mean	0.0353
SD	0.142
95% DL/2 (t) UCL	0.0653
Maximum Likelihood Estimate(MLE) Method	
Mean	0.664
SD	0.283
95% MLE (t) UCL	0.723
95% MLE (Tiku) UCL	0.934

Assuming Lognormal Distribution	
DL/2 Substitution Method	
Mean	-5.443
SD	1.378
95% H-Stat (DL/2) UCL	0.0168
Log ROS Method	
Mean in Log Scale	-10.91
SD in Log Scale	4.851
Mean in Original Scale	0.0311
SD in Original Scale	0.143
95% t UCL	0.0612
95% Percentile Bootstrap UCL	0.0611
95% BCA Bootstrap UCL	0.083

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.374
Theta Star	0.65
nu star	5.987
A-D Test Statistic	0.508
5% A-D Critical Value	0.768
K-S Test Statistic	0.768
5% K-S Critical Value	0.31

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	136
Mean	33.51
Median	15.31

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	0.0362
SD	0.141
SE of Mean	0.019
95% KM (t) UCL	0.0679
95% KM (z) UCL	0.0674
95% KM (jackknife) UCL	0.0653
95% KM (bootstrap t) UCL	0.171
95% KM (BCA) UCL	0.0892
95% KM (Percentile Bootstrap) UCL	0.0766
95% KM (Chebyshev) UCL	0.119

SD	39.78	97.5% KM (Chebyshev) UCL	0.155
k star	0.269	99% KM (Chebyshev) UCL	0.225
Theta star	124.5		
Nu star	33.91	**Potential UCLs to Use**	
AppChi2	21.59	95% KM (t) UCL	0.0679
95% Gamma Approximate UCL	52.63		
95% Adjusted Gamma UCL	53.2		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics

Number of Valid Data	23	Number of Detected Data	10
Number of Distinct Detected Data	8	Number of Non-Detect Data	13
		Percent Non-Detects	56.52%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	0.3	Maximum Detected	-1.204
Mean of Detected	0.0789	Mean of Detected	-3.414
SD of Detected	0.0989	SD of Detected	1.446
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.755	Shapiro Wilk Test Statistic	0.829
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.316	Mean	-3.389
SD	1.043	SD	1.965
95% DL/2 (t) UCL	0.69	95% H-Stat (DL/2) UCL	1.238
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.55
		SD in Log Scale	1.59
		Mean in Original Scale	0.0382
		SD in Original Scale	0.0732
		95% t UCL	0.0644
		95% Percentile Bootstrap UCL	0.0648
		95% BCA Bootstrap UCL	0.0728

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.551	**Data do not follow a Discernable Distribution (0.05)**
Theta Star	0.143	

nu star	11.02
A-D Test Statistic	1.006
5% A-D Critical Value	0.762
K-S Test Statistic	0.762
5% K-S Critical Value	0.277

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	0.3
Mean	0.0688
Median	0.0151
SD	0.0788
k star	0.169
Theta star	0.407
Nu star	7.78
AppChi2	2.609
95% Gamma Approximate UCL	0.205
95% Adjusted Gamma UCL	0.223

Note: DL/2 is not a recommended method.

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0445
SD	0.0757
SE of Mean	0.018
95% KM (t) UCL	0.0755
95% KM (z) UCL	0.0742
95% KM (jackknife) UCL	0.0737
95% KM (bootstrap t) UCL	0.096
95% KM (BCA) UCL	0.0778
95% KM (Percentile Bootstrap) UCL	0.0781
95% KM (Chebyshev) UCL	0.123
97.5% KM (Chebyshev) UCL	0.157
99% KM (Chebyshev) UCL	0.224

Potential UCLs to Use

95% KM (BCA) UCL	0.0778

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics

Number of Valid Data	23	Number of Detected Data	8
Number of Distinct Detected Data	6	Number of Non-Detect Data	15
		Percent Non-Detects	65.22%

Raw Statistics

Minimum Detected	0.005
Maximum Detected	0.16
Mean of Detected	0.0391
SD of Detected	0.0557
Minimum Non-Detect	0.005
Maximum Non-Detect	10

Log-transformed Statistics

Minimum Detected	-5.298
Maximum Detected	-1.833
Mean of Detected	-3.955
SD of Detected	1.178
Minimum Non-Detect	-5.298
Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	23
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.648

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.811

5% Shapiro Wilk Critical Value	0.818

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.297
SD	1.046
95% DL/2 (t) UCL	0.672
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

5% Shapiro Wilk Critical Value	0.818

Data not Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.62
SD	1.879
95% H-Stat (DL/2) UCL	0.732
Log ROS Method	
Mean in Log Scale	-4.972
SD in Log Scale	1.235
Mean in Original Scale	0.0173
SD in Original Scale	0.0356
95% t UCL	0.03
95% Percentile Bootstrap UCL	0.0302
95% BCA Bootstrap UCL	0.0382

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.601
Theta Star	0.0651
nu star	9.612
A-D Test Statistic	1.124
5% A-D Critical Value	0.742
K-S Test Statistic	0.742
5% K-S Critical Value	0.303

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	0.16
Mean	0.043
Median	0.0181
SD	0.046
k star	0.21
Theta star	0.205
Nu star	9.659
AppChi2	3.73
95% Gamma Approximate UCL	0.111
95% Adjusted Gamma UCL	0.12

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0207
SD	0.0374
SE of Mean	0.00919
95% KM (t) UCL	0.0365
95% KM (z) UCL	0.0358
95% KM (jackknife) UCL	0.0346
95% KM (bootstrap t) UCL	0.134
95% KM (BCA) UCL	0.0406
95% KM (Percentile Bootstrap) UCL	0.0382
95% KM (Chebyshev) UCL	0.0608
97.5% KM (Chebyshev) UCL	0.0781
99% KM (Chebyshev) UCL	0.112

Potential UCLs to Use

95% KM (BCA) UCL	0.0406

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics

Number of Valid Data	23	Number of Detected Data	8
Number of Distinct Detected Data	7	Number of Non-Detect Data	15
		Percent Non-Detects	65.22%

Raw Statistics | **Log-transformed Statistics**

Minimum Detected	0.005
Maximum Detected	0.069
Mean of Detected	0.0311
SD of Detected	0.0248
Minimum Non-Detect	0.005
Maximum Non-Detect	10

Minimum Detected	-5.298
Maximum Detected	-2.674
Mean of Detected	-3.809
SD of Detected	0.935
Minimum Non-Detect	-5.298
Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	23
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.872
5% Shapiro Wilk Critical Value	0.818

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.294
SD	1.047
95% DL/2 (t) UCL	0.669
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.927
5% Shapiro Wilk Critical Value	0.818

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.66
SD	1.895
95% H-Stat (DL/2) UCL	0.742
Log ROS Method	
Mean in Log Scale	-4.756
SD in Log Scale	1.06
Mean in Original Scale	0.0151
SD in Original Scale	0.0188
95% t UCL	0.0218
95% Percentile Bootstrap UCL	0.0217
95% BCA Bootstrap UCL	0.0233

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.096
Theta Star	0.0284
nu star	17.54
A-D Test Statistic	0.374
5% A-D Critical Value	0.727
K-S Test Statistic	0.727
5% K-S Critical Value	0.299

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.00191
Maximum	0.0766
Mean	0.0345
Median	0.031
SD	0.0219

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0183
SD	0.0199
SE of Mean	0.00522
95% KM (t) UCL	0.0272
95% KM (z) UCL	0.0269
95% KM (jackknife) UCL	0.0263
95% KM (bootstrap t) UCL	0.0292
95% KM (BCA) UCL	0.0319
95% KM (Percentile Bootstrap) UCL	0.0286
95% KM (Chebyshev) UCL	0.041
97.5% KM (Chebyshev) UCL	0.0509

k star	1.619	99% KM (Chebyshev) UCL	0.0702
Theta star	0.0213		
Nu star	74.5	**Potential UCLs to Use**	
AppChi2	55.62	95% KM (t) UCL	0.0272
95% Gamma Approximate UCL	0.0463	95% KM (Percentile Bootstrap) UCL	0.0286
95% Adjusted Gamma UCL	0.0473		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics

Number of Valid Observations	23	Number of Distinct Observations	16

Raw Statistics		**Log-transformed Statistics**	
Minimum	6.3	Minimum of Log Data	1.841
Maximum	55	Maximum of Log Data	4.007
Mean	21.42	Mean of log Data	2.964
Median	21	SD of log Data	0.469
SD	10.09		
Coefficient of Variation	0.471		
Skewness	1.566		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.886	Shapiro Wilk Test Statistic	0.968
Shapiro Wilk Critical Value	0.914	Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	25.03	95% H-UCL	26.27
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	31
95% Adjusted-CLT UCL (Chen-1995)	25.61	97.5% Chebyshev (MVUE) UCL	35.11
95% Modified-t UCL (Johnson-1978)	25.14	99% Chebyshev (MVUE) UCL	43.18

Gamma Distribution Test		**Data Distribution**
k star (bias corrected)	4.487	Data appear Gamma Distributed at 5% Significance Level
Theta Star	4.773	
MLE of Mean	21.42	
MLE of Standard Deviation	10.11	
nu star	206.4	
Approximate Chi Square Value (.05)	174.2	**Nonparametric Statistics**
Adjusted Level of Significance	0.0389	95% CLT UCL 24.88
Adjusted Chi Square Value	172	95% Jackknife UCL 25.03
		95% Standard Bootstrap UCL 24.83
Anderson-Darling Test Statistic	0.283	95% Bootstrap-t UCL 26.13
Anderson-Darling 5% Critical Value	0.746	95% Hall's Bootstrap UCL 27.91
Kolmogorov-Smirnov Test Statistic	0.106	95% Percentile Bootstrap UCL 25.23
Kolmogorov-Smirnov 5% Critical Value	0.182	95% BCA Bootstrap UCL 25.6
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 30.59
		97.5% Chebyshev(Mean, Sd) UCL 34.55
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 42.34
95% Approximate Gamma UCL	25.38	
95% Adjusted Gamma UCL	25.7	

Potential UCL to Use Use 95% Approximate Gamma UCL 25.38

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Chrysene

General Statistics

Number of Valid Data	23	Number of Detected Data	12
Number of Distinct Detected Data	12	Number of Non-Detect Data	11
		Percent Non-Detects	47.83%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.007	Minimum Detected	-4.962
Maximum Detected	0.58	Maximum Detected	-0.545
Mean of Detected	0.0802	Mean of Detected	-3.405
SD of Detected	0.16	SD of Detected	1.2
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	23
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.472	Shapiro Wilk Test Statistic	0.926
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.323	Mean	-3.17
SD	1.045	SD	1.751
95% DL/2 (t) UCL	0.698	95% H-Stat (DL/2) UCL	0.758
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.87
		SD in Log Scale	1.123
		Mean in Original Scale	0.0494
		SD in Original Scale	0.118
		95% t UCL	0.0916
		95% Percentile Bootstrap UCL	0.0961
		95% BCA Bootstrap UCL	0.123

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.571	**Data appear Lognormal at 5% Significance Level**	
Theta Star	0.14		
nu star	13.7		
A-D Test Statistic	1.103	**Nonparametric Statistics**	
5% A-D Critical Value	0.77	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.77	Mean	0.0539
5% K-S Critical Value	0.256	SD	0.12

Data not Gamma Distributed at 5% Significance Level

SE of Mean	0.0275
95% KM (t) UCL	0.101
95% KM (z) UCL	0.0992
95% KM (jackknife) UCL	0.1
95% KM (bootstrap t) UCL	0.268
95% KM (BCA) UCL	0.112
95% KM (Percentile Bootstrap) UCL	0.104
95% KM (Chebyshev) UCL	0.174
97.5% KM (Chebyshev) UCL	0.226
99% KM (Chebyshev) UCL	0.328

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	0.58
Mean	0.0734
Median	0.039
SD	0.12
k star	0.204
Theta star	0.36
Nu star	9.377
AppChi2	3.556
95% Gamma Approximate UCL	0.193
95% Adjusted Gamma UCL	0.209

Potential UCLs to Use

97.5% KM (Chebyshev) UCL	0.226

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Ethylbenzene

General Statistics

Number of Valid Data	63	Number of Detected Data	18
Number of Distinct Detected Data	17	Number of Non-Detect Data	45
		Percent Non-Detects	71.43%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.007	Minimum Detected	-4.962
Maximum Detected	120	Maximum Detected	4.787
Mean of Detected	7.198	Mean of Detected	-2.158
SD of Detected	28.18	SD of Detected	2.629
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	56
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	7
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	88.89%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.277	Shapiro Wilk Test Statistic	0.893
5% Shapiro Wilk Critical Value	0.897	5% Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.059	Mean	-4.849
SD	15.12	SD	2.232
95% DL/2 (t) UCL	5.239	95% H-Stat (DL/2) UCL	0.238
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-8.632
		SD in Log Scale	5.356
		Mean in Original Scale	2.057

SD in Original Scale	15.12
95% t UCL	5.237
95% Percentile Bootstrap UCL	5.826
95% BCA Bootstrap UCL	9.628

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.188
Theta Star	38.33
nu star	6.76
A-D Test Statistic	2.763
5% A-D Critical Value	0.892
K-S Test Statistic	0.892
5% K-S Critical Value	0.226

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	8074
Mean	968.2
Median	20.46
SD	1889
k star	0.0976
Theta star	9924
Nu star	12.29
AppChi2	5.421
95% Gamma Approximate UCL	2196
95% Adjusted Gamma UCL	2240

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	2.062
SD	14.99
SE of Mean	1.944
95% KM (t) UCL	5.308
95% KM (z) UCL	5.259
95% KM (jackknife) UCL	5.242
95% KM (bootstrap t) UCL	107.7
95% KM (BCA) UCL	5.957
95% KM (Percentile Bootstrap) UCL	5.833
95% KM (Chebyshev) UCL	10.54
97.5% KM (Chebyshev) UCL	14.2
99% KM (Chebyshev) UCL	21.4

Potential UCLs to Use

97.5% KM (Chebyshev) UCL	14.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluoranthene

General Statistics

Number of Valid Data	23	Number of Detected Data	5
Number of Distinct Detected Data	4	Number of Non-Detect Data	18
		Percent Non-Detects	78.26%

Raw Statistics

Minimum Detected	0.01
Maximum Detected	0.25
Mean of Detected	0.0654
SD of Detected	0.104
Minimum Non-Detect	0.005
Maximum Non-Detect	10

Log-transformed Statistics

Minimum Detected	-4.605
Maximum Detected	-1.386
Mean of Detected	-3.593
SD of Detected	1.366
Minimum Non-Detect	-5.298
Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	23
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.646
5% Shapiro Wilk Critical Value	0.762

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.298
SD	1.046
95% DL/2 (t) UCL	0.673
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.828
5% Shapiro Wilk Critical Value	0.762

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.777
SD	2
95% H-Stat (DL/2) UCL	0.953
Log ROS Method	
Mean in Log Scale	-5.907
SD in Log Scale	1.707
Mean in Original Scale	0.0162
SD in Original Scale	0.0518
95% t UCL	0.0348
95% Percentile Bootstrap UCL	0.0374
95% BCA Bootstrap UCL	0.0535

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.413
Theta Star	0.159
nu star	4.126
A-D Test Statistic	0.667
5% A-D Critical Value	0.701
K-S Test Statistic	0.701
5% K-S Critical Value	0.368

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	0.649
Mean	0.135
Median	0.108
SD	0.155
k star	0.168
Theta star	0.8
Nu star	7.74
AppChi2	2.585
95% Gamma Approximate UCL	0.403
95% Adjusted Gamma UCL	0.439

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0248
SD	0.0523
SE of Mean	0.0132
95% KM (t) UCL	0.0474
95% KM (z) UCL	0.0464
95% KM (jackknife) UCL	0.0456
95% KM (bootstrap t) UCL	0.33
95% KM (BCA) UCL	0.0542
95% KM (Percentile Bootstrap) UCL	0.0519
95% KM (Chebyshev) UCL	0.0821
97.5% KM (Chebyshev) UCL	0.107
99% KM (Chebyshev) UCL	0.156

Potential UCLs to Use

95% KM (t) UCL	0.0474

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluorene

General Statistics

Number of Valid Data	23	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	17
		Percent Non-Detects	73.91%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.16	Minimum Detected	-1.833
Maximum Detected	3.2	Maximum Detected	1.163
Mean of Detected	0.833	Mean of Detected	-0.765
SD of Detected	1.175	SD of Detected	1.069
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	23
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.636	Shapiro Wilk Test Statistic	0.889
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.485	Mean	-3.385
SD	1.2	SD	2.49
95% DL/2 (t) UCL	0.915	95% H-Stat (DL/2) UCL	10.02
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.317
		SD in Log Scale	1.862
		Mean in Original Scale	0.234
		SD in Original Scale	0.668
		95% t UCL	0.473
		95% Percentile Bootstrap UCL	0.497
		95% BCA Bootstrap UCL	0.65

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.607	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.373		
nu star	7.284		
A-D Test Statistic	0.66	Nonparametric Statistics	
5% A-D Critical Value	0.715	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.715	Mean	0.346
5% K-S Critical Value	0.341	SD	0.635
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.149

95% KM (t) UCL	0.601
95% KM (z) UCL	0.59
95% KM (jackknife) UCL	0.551
95% KM (bootstrap t) UCL	1.831
95% KM (BCA) UCL	0.783
95% KM (Percentile Bootstrap) UCL	0.693
95% KM (Chebyshev) UCL	0.993
97.5% KM (Chebyshev) UCL	1.273
99% KM (Chebyshev) UCL	1.824

Potential UCLs to Use

95% KM (t) UCL	0.601

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	1E-12
Maximum	3.2
Mean	0.892
Median	0.689
SD	0.862
k star	0.195
Theta star	4.572
Nu star	8.971
AppChi2	3.31
95% Gamma Approximate UCL	2.417
95% Adjusted Gamma UCL	2.61

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead

General Statistics

Number of Valid Observations	69	Number of Distinct Observations	59

Raw Statistics

Minimum	1.2
Maximum	350
Mean	43.82
Median	11
SD	74.81
Coefficient of Variation	1.707
Skewness	2.68

Log-transformed Statistics

Minimum of Log Data	0.182
Maximum of Log Data	5.858
Mean of log Data	2.682
SD of log Data	1.487

Relevant UCL Statistics

Normal Distribution Test

Lilliefors Test Statistic	0.284
Lilliefors Critical Value	0.107

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Lilliefors Test Statistic	0.106
Lilliefors Critical Value	0.107

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	58.84

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	61.74
95% Modified-t UCL (Johnson-1978)	59.33

Assuming Lognormal Distribution

95% H-UCL	67.06
95% Chebyshev (MVUE) UCL	87.97
97.5% Chebyshev (MVUE) UCL	107.5
99% Chebyshev (MVUE) UCL	146

Gamma Distribution Test

k star (bias corrected)	0.552
Theta Star	79.33
MLE of Mean	43.82
MLE of Standard Deviation	58.96
nu star	76.23
Approximate Chi Square Value (.05)	57.12
Adjusted Level of Significance	0.0465
Adjusted Chi Square Value	56.77

Data Distribution

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	58.64
95% Jackknife UCL	58.84

Anderson-Darling Test Statistic	2.922
Anderson-Darling 5% Critical Value	0.81
Kolmogorov-Smirnov Test Statistic	0.156
Kolmogorov-Smirnov 5% Critical Value	0.113

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	58.49
95% Adjusted Gamma UCL	58.85

95% Standard Bootstrap UCL	58.66
95% Bootstrap-t UCL	63.79
95% Hall's Bootstrap UCL	62.47
95% Percentile Bootstrap UCL	59.47
95% BCA Bootstrap UCL	63.32
95% Chebyshev(Mean, Sd) UCL	83.08
97.5% Chebyshev(Mean, Sd) UCL	100.1
99% Chebyshev(Mean, Sd) UCL	133.4

Potential UCL to Use

Use 95% H-UCL 67.06

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Naphthalene

General Statistics

Number of Valid Data	25	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	19
		Percent Non-Detects	76.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.064	Minimum Detected	-2.749
Maximum Detected	11	Maximum Detected	2.398
Mean of Detected	2.237	Mean of Detected	-0.581
SD of Detected	4.319	SD of Detected	1.762
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	24
Number treated as Detected	1
Single DL Non-Detect Percentage	96.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.581	Shapiro Wilk Test Statistic	0.938
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution	Assuming Lognormal Distribution
DL/2 Substitution Method	DL/2 Substitution Method

Mean	0.78
SD	2.363
95% DL/2 (t) UCL	1.589
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Mean	-3.965
SD	2.834
95% H-Stat (DL/2) UCL	23.45
Log ROS Method	
Mean in Log Scale	-5.093
SD in Log Scale	3.314
Mean in Original Scale	0.542
SD in Original Scale	2.198
95% t UCL	1.294
95% Percentile Bootstrap UCL	1.394
95% BCA Bootstrap UCL	1.944

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.343
Theta Star	6.525
nu star	4.114
A-D Test Statistic	0.635
5% A-D Critical Value	0.741
K-S Test Statistic	0.741
5% K-S Critical Value	0.35

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	142.3
Mean	30.95
Median	11
SD	39.84
k star	0.2
Theta star	154.4
Nu star	10.02
AppChi2	3.956
95% Gamma Approximate UCL	78.42
95% Adjusted Gamma UCL	83.87

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.593
SD	2.143
SE of Mean	0.47
95% KM (t) UCL	1.397
95% KM (z) UCL	1.366
95% KM (jackknife) UCL	1.252
95% KM (bootstrap t) UCL	11.05
95% KM (BCA) UCL	1.784
95% KM (Percentile Bootstrap) UCL	1.6
95% KM (Chebyshev) UCL	2.641
97.5% KM (Chebyshev) UCL	3.527
99% KM (Chebyshev) UCL	5.268

Potential UCLs to Use

95% KM (t) UCL	1.397

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Pyrene

General Statistics

Number of Valid Data	23
Number of Distinct Detected Data	7
Number of Detected Data	8
Number of Non-Detect Data	15
Percent Non-Detects	65.22%

Raw Statistics

Minimum Detected	0.007
Maximum Detected	0.35
Mean of Detected	0.0689
SD of Detected	0.116
Minimum Non-Detect	0.005

Log-transformed Statistics

Minimum Detected	-4.962
Maximum Detected	-1.05
Mean of Detected	-3.527
SD of Detected	1.314
Minimum Non-Detect	-5.298

Maximum Non-Detect	10	Maximum Non-Detect	2.303
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 8 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.581	Shapiro Wilk Test Statistic	0.924
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.307	Mean	-3.541
SD	1.045	SD	1.929
95% DL/2 (t) UCL	0.681	95% H-Stat (DL/2) UCL	0.94
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.86
		SD in Log Scale	1.442
		Mean in Original Scale	0.0274
		SD in Original Scale	0.0722
		95% t UCL	0.0533
		95% Percentile Bootstrap UCL	0.0557
		95% BCA Bootstrap UCL	0.0761

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.526	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	0.131		
nu star	8.421		
A-D Test Statistic	0.604	**Nonparametric Statistics**	
5% A-D Critical Value	0.748	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.748	Mean	0.0337
5% K-S Critical Value	0.305	SD	0.0745
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0179
		95% KM (t) UCL	0.0644
Assuming Gamma Distribution		95% KM (z) UCL	0.0631
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0633
Minimum	1E-12	95% KM (bootstrap t) UCL	0.145
Maximum	0.35	95% KM (BCA) UCL	0.0741
Mean	0.0798	95% KM (Percentile Bootstrap) UCL	0.0649
Median	0.0487	95% KM (Chebyshev) UCL	0.112
SD	0.0921	97.5% KM (Chebyshev) UCL	0.145
k star	0.171	99% KM (Chebyshev) UCL	0.212
Theta star	0.467		
Nu star	7.867	**Potential UCLs to Use**	
AppChi2	2.658	95% KM (t) UCL	0.0644
95% Gamma Approximate UCL	0.236		

95% Adjusted Gamma UCL	0.257

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Toluene

General Statistics

Number of Valid Data	63	Number of Detected Data	11
Number of Distinct Detected Data	9	Number of Non-Detect Data	52
		Percent Non-Detects	82.54%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	38	Maximum Detected	3.638
Mean of Detected	3.508	Mean of Detected	-2.729
SD of Detected	11.44	SD of Detected	2.369
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	60
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.24%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.349	Shapiro Wilk Test Statistic	0.779
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.618	Mean	-5.184
SD	4.786	SD	1.69
95% DL/2 (t) UCL	1.625	95% H-Stat (DL/2) UCL	0.0417
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-9.967
		SD in Log Scale	4.85
		Mean in Original Scale	0.613
		SD in Original Scale	4.786
		95% t UCL	1.62
		95% Percentile Bootstrap UCL	1.819
		95% BCA Bootstrap UCL	2.429

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.196	Data do not follow a Discernable Distribution (0.05)	
Theta Star	17.86		
nu star	4.321		
A-D Test Statistic	2.423	**Nonparametric Statistics**	
5% A-D Critical Value	0.865	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.865	Mean	0.618
5% K-S Critical Value	0.283	SD	4.748

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	45995
Mean	7008
Median	454.4
SD	12143
k star	0.124
Theta star	56625
Nu star	15.59
AppChi2	7.677
95% Gamma Approximate UCL	14236
95% Adjusted Gamma UCL	14482

Note: DL/2 is not a recommended method.

SE of Mean	0.627
95% KM (t) UCL	1.665
95% KM (z) UCL	1.65
95% KM (jackknife) UCL	1.62
95% KM (bootstrap t) UCL	158.8
95% KM (BCA) UCL	2.427
95% KM (Percentile Bootstrap) UCL	1.825
95% KM (Chebyshev) UCL	3.352
97.5% KM (Chebyshev) UCL	4.535
99% KM (Chebyshev) UCL	6.86

Potential UCLs to Use

97.5% KM (Chebyshev) UCL 4.535

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Observations	23	Number of Distinct Observations	15

Raw Statistics

Minimum	6.4
Maximum	27
Mean	15.6
Median	15
SD	5.481
Coefficient of Variation	0.351
Skewness	0.298

Log-transformed Statistics

Minimum of Log Data	1.856
Maximum of Log Data	3.296
Mean of log Data	2.682
SD of log Data	0.379

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.966
Shapiro Wilk Critical Value	0.914

Data appear Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.956
Shapiro Wilk Critical Value	0.914

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL 17.56

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	17.55
95% Modified-t UCL (Johnson-1978)	17.57

Assuming Lognormal Distribution

95% H-UCL	18.29
95% Chebyshev (MVUE) UCL	21.19
97.5% Chebyshev (MVUE) UCL	23.58
99% Chebyshev (MVUE) UCL	28.28

Gamma Distribution Test

k star (bias corrected)	6.91
Theta Star	2.257
MLE of Mean	15.6
MLE of Standard Deviation	5.933
nu star	317.9
Approximate Chi Square Value (.05)	277.6
Adjusted Level of Significance	0.0389
Adjusted Chi Square Value	274.8

Data Distribution

Data appear Normal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	17.48
95% Jackknife UCL	17.56

Anderson-Darling Test Statistic	0.305
Anderson-Darling 5% Critical Value	0.745
Kolmogorov-Smirnov Test Statistic	0.125
Kolmogorov-Smirnov 5% Critical Value	0.182

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	17.86
95% Adjusted Gamma UCL	18.04

95% Standard Bootstrap UCL	17.44
95% Bootstrap-t UCL	17.72
95% Hall's Bootstrap UCL	17.57
95% Percentile Bootstrap UCL	17.41
95% BCA Bootstrap UCL	17.55
95% Chebyshev(Mean, Sd) UCL	20.58
97.5% Chebyshev(Mean, Sd) UCL	22.73
99% Chebyshev(Mean, Sd) UCL	26.97

Potential UCL to Use

Use 95% Student's-t UCL 17.56

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Xylenes (total)

General Statistics

Number of Valid Data	63	Number of Detected Data	19
Number of Distinct Detected Data	19	Number of Non-Detect Data	44
		Percent Non-Detects	69.84%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.029	Minimum Detected	-3.54
Maximum Detected	940	Maximum Detected	6.846
Mean of Detected	50.59	Mean of Detected	-0.917
SD of Detected	215.4	SD of Detected	2.426
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	49
Number treated as Detected	14
Single DL Non-Detect Percentage	77.78%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.251	Shapiro Wilk Test Statistic	0.818
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901

Data not Normal at 5% Significance Level

Data not Lognormal at 5% Significance Level

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	15.26	Mean	-4.414
SD	118.4	SD	2.686
95% DL/2 (t) UCL	40.17	95% H-Stat (DL/2) UCL	1.493
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-6.534
		SD in Log Scale	4.791
		Mean in Original Scale	15.26
		SD in Original Scale	118.4
		95% t UCL	40.17
		95% Percentile Bootstrap UCL	45.06
		95% BCA Bootstrap UCL	60.41

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.168	Data do not follow a Discernable Distribution (0.05)	
Theta Star	301.5		
nu star	6.377		
A-D Test Statistic	4.229	Nonparametric Statistics	
5% A-D Critical Value	0.903	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.903	Mean	15.28
5% K-S Critical Value	0.221	SD	117.5
Data not Gamma Distributed at 5% Significance Level		SE of Mean	15.2
		95% KM (t) UCL	40.66
Assuming Gamma Distribution		95% KM (z) UCL	40.28
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	40.18
Minimum	1E-12	95% KM (bootstrap t) UCL	5531
Maximum	69800	95% KM (BCA) UCL	45.13
Mean	7450	95% KM (Percentile Bootstrap) UCL	45.08
Median	45.58	95% KM (Chebyshev) UCL	81.55
SD	15689	97.5% KM (Chebyshev) UCL	110.2
k star	0.0875	99% KM (Chebyshev) UCL	166.5
Theta star	85146		
Nu star	11.02	Potential UCLs to Use	
AppChi2	4.591	97.5% KM (Chebyshev) UCL	110.2
95% Gamma Approximate UCL	17886		
95% Adjusted Gamma UCL	18273		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

J_TPHd

General Statistics

Number of Valid Data	64	Number of Detected Data	34
Number of Distinct Detected Data	31	Number of Non-Detect Data	30
		Percent Non-Detects	46.88%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	10	Minimum Detected	2.303
Maximum Detected	24000	Maximum Detected	10.09
Mean of Detected	2547	Mean of Detected	5.819
SD of Detected	6012	SD of Detected	2.118
Minimum Non-Detect	10	Minimum Non-Detect	2.303
Maximum Non-Detect	10	Maximum Non-Detect	2.303

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.463	Shapiro Wilk Test Statistic	0.961
5% Shapiro Wilk Critical Value	0.933	5% Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	

Mean	1356
SD	4535
95% DL/2 (t) UCL	2302
Maximum Likelihood Estimate(MLE) Method	N/A
MLE yields a negative mean	

Mean	3.846
SD	2.614
95% H-Stat (DL/2) UCL	4355
Log ROS Method	
Mean in Log Scale	3.151
SD in Log Scale	3.514
Mean in Original Scale	1355
SD in Original Scale	4535
95% t UCL	2301
95% Percentile Bootstrap UCL	2395
95% BCA Bootstrap UCL	2741
95% H-UCL	88354

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.325
Theta Star	7843
nu star	22.09
A-D Test Statistic	1.922
5% A-D Critical Value	0.848
K-S Test Statistic	0.848
5% K-S Critical Value	0.163
Data not Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	24000
Mean	1353
Median	17.5
SD	4536
k star	0.0856
Theta star	15813
Nu star	10.95
AppChi2	4.547
95% Gamma Approximate UCL (Use when n >= 40)	3261
95% Adjusted Gamma UCL (Use when n < 40)	3330

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	1358
SD	4499
SE of Mean	570.8
95% KM (t) UCL	2311
95% KM (z) UCL	2297
95% KM (jackknife) UCL	2303
95% KM (bootstrap t) UCL	3648
95% KM (BCA) UCL	2343
95% KM (Percentile Bootstrap) UCL	2359
95% KM (Chebyshev) UCL	3846
97.5% KM (Chebyshev) UCL	4923
99% KM (Chebyshev) UCL	7037

Potential UCLs to Use

97.5% KM (Chebyshev) UCL	4923

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

J_TPHg

General Statistics

Number of Valid Data	64
Number of Distinct Detected Data	11

Number of Detected Data	11
Number of Non-Detect Data	53
Percent Non-Detects	82.81%

Raw Statistics

Minimum Detected	11
Maximum Detected	6600
Mean of Detected	847.3
SD of Detected	1941

Log-transformed Statistics

Minimum Detected	2.398
Maximum Detected	8.795
Mean of Detected	5.043
SD of Detected	1.928

Minimum Non-Detect	10	Minimum Non-Detect	2.303
Maximum Non-Detect	10	Maximum Non-Detect	2.303

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.483	Shapiro Wilk Test Statistic	0.969
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	149.8	Mean	2.2
SD	837.1	SD	1.515
95% DL/2 (t) UCL	324.4	95% H-Stat (DL/2) UCL	45.61
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.354
		SD in Log Scale	4.933
		Mean in Original Scale	146.2
		SD in Original Scale	837.7
		95% t UCL	321.1
		95% Percentile Bootstrap UCL	350.9
		95% BCA Bootstrap UCL	471.3
		95% H-UCL	1189372

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.344	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2466		
nu star	7.559		
A-D Test Statistic	0.721	**Nonparametric Statistics**	
5% A-D Critical Value	0.803	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.803	Mean	154.7
5% K-S Critical Value	0.273	SD	829.7
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	108.8
		95% KM (t) UCL	336.3
Assuming Gamma Distribution		95% KM (z) UCL	333.6
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	325.4
Minimum	0.000001	95% KM (bootstrap t) UCL	1499
Maximum	6600	95% KM (BCA) UCL	395
Mean	145.6	95% KM (Percentile Bootstrap) UCL	361.3
Median	0.000001	95% KM (Chebyshev) UCL	628.9
SD	837.8	97.5% KM (Chebyshev) UCL	834
k star	0.0635	99% KM (Chebyshev) UCL	1237
Theta star	2293		
Nu star	8.129	**Potential UCLs to Use**	
AppChi2	2.81	95% KM (t) UCL	336.3
95% Gamma Approximate UCL (Use when n >= 40)	421.3		
95% Adjusted Gamma UCL (Use when n < 40)	432.3		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

J_TPHm

General Statistics

Number of Valid Data	64	Number of Detected Data	34
Number of Distinct Detected Data	30	Number of Non-Detect Data	30
		Percent Non-Detects	46.88%

Raw Statistics

Minimum Detected	14
Maximum Detected	13000
Mean of Detected	1110
SD of Detected	2369
Minimum Non-Detect	10
Maximum Non-Detect	100

Log-transformed Statistics

Minimum Detected	2.639
Maximum Detected	9.473
Mean of Detected	5.756
SD of Detected	1.711
Minimum Non-Detect	2.303
Maximum Non-Detect	4.605

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	39
Number treated as Detected	25
Single DL Non-Detect Percentage	60.94%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.465
5% Shapiro Wilk Critical Value	0.933

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.961
5% Shapiro Wilk Critical Value	0.933

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	592.8
SD	1802
95% DL/2 (t) UCL	968.9
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	3.848
SD	2.409
95% H-Stat (DL/2) UCL	2309
Log ROS Method	
Mean in Log Scale	3.681
SD in Log Scale	2.748
Mean in Original Scale	593.5
SD in Original Scale	1802
95% t UCL	969.5
95% Percentile Bootstrap UCL	984.7
95% BCA Bootstrap UCL	1234
95% H-UCL	5915

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.48
Theta Star	2314
nu star	32.63
A-D Test Statistic	0.87
5% A-D Critical Value	0.811
K-S Test Statistic	0.811
5% K-S Critical Value	0.159

Data follow Appr. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	13000
Mean	589.8

Data Distribution Test with Detected Values Only

Data Follow Appr. Gamma Distribution at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	596.4
SD	1787
SE of Mean	226.7
95% KM (t) UCL	974.9
95% KM (z) UCL	969.4
95% KM (jackknife) UCL	968.4
95% KM (bootstrap t) UCL	1654
95% KM (BCA) UCL	1070
95% KM (Percentile Bootstrap) UCL	1006

Median	24	95% KM (Chebyshev) UCL	1585
SD	1803	97.5% KM (Chebyshev) UCL	2012
k star	0.091	99% KM (Chebyshev) UCL	2852
Theta star	6478		
Nu star	11.65	**Potential UCLs to Use**	
AppChi2	4.999	95% KM (BCA) UCL	1070
95% Gamma Approximate UCL (Use when n >= 40)	1375		
95% Adjusted Gamma UCL (Use when n < 40)	1403		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

BaPTEQJ

General Statistics

Number of Valid Data	23	Number of Detected Data	13
Number of Distinct Detected Data	13	Number of Non-Detect Data	10
		Percent Non-Detects	43.48%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.00359	Minimum Detected	-5.63
Maximum Detected	0.308	Maximum Detected	-1.176
Mean of Detected	0.0716	Mean of Detected	-3.618
SD of Detected	0.0975	SD of Detected	1.51
Minimum Non-Detect	0.00353	Minimum Non-Detect	-5.648
Maximum Non-Detect	7.05	Maximum Non-Detect	1.953

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.723	Shapiro Wilk Test Statistic	0.902
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.238	Mean	-3.42
SD	0.733	SD	1.879
95% DL/2 (t) UCL	0.501	95% H-Stat (DL/2) UCL	0.894
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.226
		SD in Log Scale	1.491
		Mean in Original Scale	0.0447
		SD in Original Scale	0.0787
		95% t UCL	0.0729
		95% Percentile Bootstrap UCL	0.0719
		95% BCA Bootstrap UCL	0.078
		95% H-UCL	0.124

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.532	**Data appear Lognormal at 5% Significance Level**

Theta Star	0.135
nu star	13.84
A-D Test Statistic	0.919
5% A-D Critical Value	0.78
K-S Test Statistic	0.78
5% K-S Critical Value	0.248

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.308
Mean	0.0464
Median	0.0143
SD	0.0786
k star	0.277
Theta star	0.168
Nu star	12.72
AppChi2	5.708
95% Gamma Approximate UCL (Use when n >= 40)	0.103
95% Adjusted Gamma UCL (Use when n < 40)	0.11

Note: DL/2 is not a recommended method.

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0499
SD	0.0816
SE of Mean	0.0191
95% KM (t) UCL	0.0826
95% KM (z) UCL	0.0812
95% KM (jackknife) UCL	0.0823
95% KM (bootstrap t) UCL	0.107
95% KM (BCA) UCL	0.0857
95% KM (Percentile Bootstrap) UCL	0.0821
95% KM (Chebyshev) UCL	0.133
97.5% KM (Chebyshev) UCL	0.169
99% KM (Chebyshev) UCL	0.24

Potential UCLs to Use

99% KM (Chebyshev) UCL	0.24

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area J 0 to 2 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area J.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Chromium

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	8

Raw Statistics		Log-transformed Statistics	
Minimum	6.3	Minimum of Log Data	1.841
Maximum	55	Maximum of Log Data	4.007
Mean	24.23	Mean of log Data	3.048
Median	22	SD of log Data	0.583
SD	13.29		
Coefficient of Variation	0.548		
Skewness	1.303		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.895	Shapiro Wilk Test Statistic	0.944
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	31.93	95% H-UCL	39.39
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	44.67
95% Adjusted-CLT UCL (Chen-1995)	32.99	97.5% Chebyshev (MVUE) UCL	53.4
95% Modified-t UCL (Johnson-1978)	32.22	99% Chebyshev (MVUE) UCL	70.53

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.688	Data appear Normal at 5% Significance Level	
Theta Star	9.015		
MLE of Mean	24.23		
MLE of Standard Deviation	14.78		
nu star	53.75		
Approximate Chi Square Value (.05)	37.91	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0267	95% CLT UCL	31.14
Adjusted Chi Square Value	35.61	95% Jackknife UCL	31.93
		95% Standard Bootstrap UCL	30.73
Anderson-Darling Test Statistic	0.31	95% Bootstrap-t UCL	34.93
Anderson-Darling 5% Critical Value	0.73	95% Hall's Bootstrap UCL	64.95
Kolmogorov-Smirnov Test Statistic	0.191	95% Percentile Bootstrap UCL	31.13
Kolmogorov-Smirnov 5% Critical Value	0.268	95% BCA Bootstrap UCL	32.7
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	42.54
		97.5% Chebyshev(Mean, Sd) UCL	50.47
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	66.03
95% Approximate Gamma UCL	34.36		
95% Adjusted Gamma UCL	36.58		

Potential UCL to Use	
Use 95% Student's-t UCL	31.93

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Ethylbenzene

General Statistics

Number of Valid Data	18	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	10
		Percent Non-Detects	55.56%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.007	Minimum Detected	-4.962
Maximum Detected	120	Maximum Detected	4.787
Mean of Detected	15.02	Mean of Detected	-2.899
SD of Detected	42.42	SD of Detected	3.211
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	0.005	Maximum Non-Detect	-5.298

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.419	Shapiro Wilk Test Statistic	0.648
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	6.679	Mean	-4.617
SD	28.28	SD	2.597
95% DL/2 (t) UCL	18.27	95% H-Stat (DL/2) UCL	8.746
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-7.79
		SD in Log Scale	5.439
		Mean in Original Scale	6.677
		SD in Original Scale	28.28
		95% t UCL	18.27
		95% Percentile Bootstrap UCL	20.01
		95% BCA Bootstrap UCL	26.68

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.17	Data do not follow a Discernable Distribution (0.05)	
Theta Star	88.4		
nu star	2.719		
A-D Test Statistic	1.981	Nonparametric Statistics	
5% A-D Critical Value	0.858	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.858	Mean	6.681

5% K-S Critical Value	0.327	SD	27.48
Data not Gamma Distributed at 5% Significance Level		SE of Mean	6.925
		95% KM (t) UCL	18.73
Assuming Gamma Distribution		95% KM (z) UCL	18.07
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	18.28
Minimum	1E-12	95% KM (bootstrap t) UCL	30833
Maximum	392	95% KM (BCA) UCL	20.01
Mean	48.41	95% KM (Percentile Bootstrap) UCL	20.01
Median	0.019	95% KM (Chebyshev) UCL	36.87
SD	103	97.5% KM (Chebyshev) UCL	49.93
k star	0.0975	99% KM (Chebyshev) UCL	75.59
Theta star	496.3		
Nu star	3.511	**Potential UCLs to Use**	
AppChi2	0.539	99% KM (Chebyshev) UCL	75.59
95% Gamma Approximate UCL	315.5		
95% Adjusted Gamma UCL	383		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead

General Statistics

Number of Valid Observations	56	Number of Distinct Observations	48

Raw Statistics		**Log-transformed Statistics**	
Minimum	1.5	Minimum of Log Data	0.405
Maximum	350	Maximum of Log Data	5.858
Mean	51.32	Mean of log Data	2.97
Median	17	SD of log Data	1.407
SD	80.39		
Coefficient of Variation	1.567		
Skewness	2.42		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Lilliefors Test Statistic	0.292	Lilliefors Test Statistic	0.0932
Lilliefors Critical Value	0.118	Lilliefors Critical Value	0.118
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	69.29	95% H-UCL	91.62
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	105.1
95% Adjusted-CLT UCL (Chen-1995)	72.7	97.5% Chebyshev (MVUE) UCL	128.7
95% Modified-t UCL (Johnson-1978)	69.87	99% Chebyshev (MVUE) UCL	174.9

Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.611	Data appear Lognormal at 5% Significance Level	
Theta Star	83.93		
MLE of Mean	51.32		
MLE of Standard Deviation	65.63		
nu star	68.48		
Approximate Chi Square Value (.05)	50.43	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0457	95% CLT UCL	68.99

Adjusted Chi Square Value	50.03	95% Jackknife UCL	69.29
		95% Standard Bootstrap UCL	68.74
Anderson-Darling Test Statistic	2.109	95% Bootstrap-t UCL	73.65
Anderson-Darling 5% Critical Value	0.803	95% Hall's Bootstrap UCL	74.57
Kolmogorov-Smirnov Test Statistic	0.135	95% Percentile Bootstrap UCL	69.74
Kolmogorov-Smirnov 5% Critical Value	0.125	95% BCA Bootstrap UCL	73.82
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	98.15
		97.5% Chebyshev(Mean, Sd) UCL	118.4
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	158.2
95% Approximate Gamma UCL	69.68		
95% Adjusted Gamma UCL	70.25		
Potential UCL to Use		Use 95% H-UCL	91.62

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	9

Raw Statistics		**Log-transformed Statistics**	
Minimum	7.2	Minimum of Log Data	1.974
Maximum	24	Maximum of Log Data	3.178
Mean	16.59	Mean of log Data	2.753
Median	17.5	SD of log Data	0.374
SD	5.256		
Coefficient of Variation	0.317		
Skewness	-0.462		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.951	Shapiro Wilk Test Statistic	0.888
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	19.64	95% H-UCL	21.75
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	25.41
95% Adjusted-CLT UCL (Chen-1995)	19.06	97.5% Chebyshev (MVUE) UCL	29.17
95% Modified-t UCL (Johnson-1978)	19.6	99% Chebyshev (MVUE) UCL	36.57

Gamma Distribution Test		**Data Distribution**
k star (bias corrected)	6.451	Data appear Normal at 5% Significance Level
Theta Star	2.572	
MLE of Mean	16.59	
MLE of Standard Deviation	6.532	
nu star	129	

Approximate Chi Square Value (.05)	103.8
Adjusted Level of Significance	0.0267
Adjusted Chi Square Value	99.86
Anderson-Darling Test Statistic	0.444
Anderson-Darling 5% Critical Value	0.726
Kolmogorov-Smirnov Test Statistic	0.201
Kolmogorov-Smirnov 5% Critical Value	0.267

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	20.62
95% Adjusted Gamma UCL	21.44

Nonparametric Statistics

95% CLT UCL	19.32
95% Jackknife UCL	19.64
95% Standard Bootstrap UCL	19.16
95% Bootstrap-t UCL	19.38
95% Hall's Bootstrap UCL	19.11
95% Percentile Bootstrap UCL	19.2
95% BCA Bootstrap UCL	19
95% Chebyshev(Mean, Sd) UCL	23.84
97.5% Chebyshev(Mean, Sd) UCL	26.97
99% Chebyshev(Mean, Sd) UCL	33.13

Potential UCL to Use Use 95% Student's-t UCL 19.64

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Xylenes (total)

General Statistics

Number of Valid Data	18	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	9
		Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.029	Minimum Detected	-3.54
Maximum Detected	940	Maximum Detected	6.846
Mean of Detected	104.6	Mean of Detected	-1.298
SD of Detected	313.3	SD of Detected	3.168
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	0.005	Maximum Non-Detect	-5.298

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.39	Shapiro Wilk Test Statistic	0.643
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	52.29	Mean	-3.645
SD	221.5	SD	3.248
95% DL/2 (t) UCL	143.1	95% H-Stat (DL/2) UCL	965.3
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	

MLE yields a negative mean

Mean in Log Scale	-5.304
SD in Log Scale	5.005
Mean in Original Scale	52.29
SD in Original Scale	221.5
95% t UCL	143.1
95% Percentile Bootstrap UCL	156.7
95% BCA Bootstrap UCL	209

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.162
Theta Star	646.2
nu star	2.913
A-D Test Statistic	2.318
5% A-D Critical Value	0.87
K-S Test Statistic	0.87
5% K-S Critical Value	0.311

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	940
Mean	119.5
Median	0.0895
SD	278.9
k star	0.0956
Theta star	1250
Nu star	3.441
AppChi2	0.514
95% Gamma Approximate UCL	799.8
95% Adjusted Gamma UCL	972.9

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	52.3
SD	215.3
SE of Mean	53.82
95% KM (t) UCL	145.9
95% KM (z) UCL	140.8
95% KM (jackknife) UCL	143.1
95% KM (bootstrap t) UCL	250177
95% KM (BCA) UCL	156.8
95% KM (Percentile Bootstrap) UCL	156.7
95% KM (Chebyshev) UCL	286.9
97.5% KM (Chebyshev) UCL	388.4
99% KM (Chebyshev) UCL	587.8

Potential UCLs to Use

99% KM (Chebyshev) UCL	587.8

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Toluene

General Statistics

Number of Valid Data	18	Number of Detected Data	9
Number of Distinct Detected Data	7	Number of Non-Detect Data	9
		Percent Non-Detects	50.00%

Raw Statistics

Minimum Detected	0.006
Maximum Detected	38
Mean of Detected	4.255
SD of Detected	12.65
Minimum Non-Detect	0.005
Maximum Non-Detect	0.005

Log-transformed Statistics

Minimum Detected	-5.116
Maximum Detected	3.638
Mean of Detected	-2.889
SD of Detected	2.611
Minimum Non-Detect	-5.298
Maximum Non-Detect	-5.298

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.392
5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level	
Assuming Normal Distribution	
DL/2 Substitution Method	
Mean	2.129
SD	8.952
95% DL/2 (t) UCL	5.799
Maximum Likelihood Estimate(MLE) Method	N/A
MLE yields a negative mean	

Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.719
5% Shapiro Wilk Critical Value	0.829
Data not Lognormal at 5% Significance Level	
Assuming Lognormal Distribution	
DL/2 Substitution Method	
Mean	-4.44
SD	2.399
95% H-Stat (DL/2) UCL	3.949
Log ROS Method	
Mean in Log Scale	-6.344
SD in Log Scale	4.282
Mean in Original Scale	2.128
SD in Original Scale	8.953
95% t UCL	5.798
95% Percentile Bootstrap UCL	6.345
95% BCA Bootstrap UCL	8.459

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.19
Theta Star	22.43
nu star	3.415
A-D Test Statistic	2.093
5% A-D Critical Value	0.855
K-S Test Statistic	0.855
5% K-S Critical Value	0.309
Data not Gamma Distributed at 5% Significance Level	
Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	38
Mean	4.897
Median	0.0265
SD	11.07
k star	0.105
Theta star	46.83
Nu star	3.765
AppChi2	0.631
95% Gamma Approximate UCL	29.22
95% Adjusted Gamma UCL	35.2

Data Distribution Test with Detected Values Only	
Data do not follow a Discernable Distribution (0.05)	
Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	2.131
SD	8.7
SE of Mean	2.175
95% KM (t) UCL	5.914
95% KM (z) UCL	5.708
95% KM (jackknife) UCL	5.798
95% KM (bootstrap t) UCL	1476
95% KM (BCA) UCL	6.362
95% KM (Percentile Bootstrap) UCL	6.35
95% KM (Chebyshev) UCL	11.61
97.5% KM (Chebyshev) UCL	15.71
99% KM (Chebyshev) UCL	23.77
Potential UCLs to Use	
99% KM (Chebyshev) UCL	23.77

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

J_TPHd

General Statistics

Number of Valid Data	18	Number of Detected Data	14
Number of Distinct Detected Data	13	Number of Non-Detect Data	4
		Percent Non-Detects	22.22%

Raw Statistics

Minimum Detected	13
Maximum Detected	750
Mean of Detected	187.6
SD of Detected	225.7
Minimum Non-Detect	10
Maximum Non-Detect	10

Log-transformed Statistics

Minimum Detected	2.565
Maximum Detected	6.62
Mean of Detected	4.509
SD of Detected	1.309
Minimum Non-Detect	2.303
Maximum Non-Detect	2.303

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.769
5% Shapiro Wilk Critical Value	0.874

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.938
5% Shapiro Wilk Critical Value	0.874

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method

Mean	147.1
SD	212.3
95% DL/2 (t) UCL	234.1

Maximum Likelihood Estimate(MLE) Method

Mean	111.7
SD	246.5
95% MLE (t) UCL	212.8
95% MLE (Tiku) UCL	213

Assuming Lognormal Distribution

DL/2 Substitution Method

Mean	3.864
SD	1.688
95% H-Stat (DL/2) UCL	922.8

Log ROS Method

Mean in Log Scale	3.81
SD in Log Scale	1.787
Mean in Original Scale	146.9
SD in Original Scale	212.3
95% t UCL	234
95% Percentile Bootstrap UCL	232.3
95% BCA Bootstrap UCL	249.1
95% H UCL	1226

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.688
Theta Star	272.6
nu star	19.28
A-D Test Statistic	0.532
5% A-D Critical Value	0.768
K-S Test Statistic	0.768
5% K-S Critical Value	0.237

Data appear Gamma Distributed at 5% Significance Level

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	0.000001
Maximum	750
Mean	145.9
Median	42
SD	213.1
k star	0.176
Theta star	830.4

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	148.8
SD	205.1
SE of Mean	50.16
95% KM (t) UCL	236.1
95% KM (z) UCL	231.3
95% KM (jackknife) UCL	234
95% KM (bootstrap t) UCL	287.2
95% KM (BCA) UCL	246.2
95% KM (Percentile Bootstrap) UCL	234.4
95% KM (Chebyshev) UCL	367.5
97.5% KM (Chebyshev) UCL	462.1
99% KM (Chebyshev) UCL	647.9

Nu star	6.327
AppChi2	1.809
95% Gamma Approximate UCL (Use when n >= 40)	510.4
95% Adjusted Gamma UCL (Use when n < 40)	581.6

Potential UCLs to Use

95% KM (Chebyshev) UCL	367.5

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

J_TPHm

General Statistics

Number of Valid Data	18	Number of Detected Data	16
Number of Distinct Detected Data	15	Number of Non-Detect Data	2
		Percent Non-Detects	11.11%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	14	Minimum Detected	2.639
Maximum Detected	2700	Maximum Detected	7.901
Mean of Detected	523.6	Mean of Detected	5.192
SD of Detected	738.8	SD of Detected	1.661
Minimum Non-Detect	10	Minimum Non-Detect	2.303
Maximum Non-Detect	10	Maximum Non-Detect	2.303

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.723	Shapiro Wilk Test Statistic	0.938
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	466	Mean	4.794
SD	714	SD	1.943
95% DL/2 (t) UCL	758.8	95% H-Stat (DL/2) UCL	5803
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	413.6	Mean in Log Scale	4.756
SD	753.8	SD in Log Scale	2.014
95% MLE (t) UCL	722.7	Mean in Original Scale	465.9
95% MLE (Tiku) UCL	706.6	SD in Original Scale	714.1
		95% t UCL	758.7
		95% Percentile Bootstrap UCL	764.7
		95% BCA Bootstrap UCL	850
		95% H UCL	7374

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.514	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1019		
nu star	16.44		
A-D Test Statistic	0.501	Nonparametric Statistics	
5% A-D Critical Value	0.789	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.789	Mean	467

5% K-S Critical Value	0.226	SD	693.2
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	168.8
		95% KM (t) UCL	760.6
Assuming Gamma Distribution		95% KM (z) UCL	744.6
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	758.6
Minimum	0.000001	95% KM (bootstrap t) UCL	988.3
Maximum	2700	95% KM (BCA) UCL	791.7
Mean	465.4	95% KM (Percentile Bootstrap) UCL	756.8
Median	146	95% KM (Chebyshev) UCL	1203
SD	714.4	97.5% KM (Chebyshev) UCL	1521
k star	0.232	99% KM (Chebyshev) UCL	2146
Theta star	2004		
Nu star	8.363	Potential UCLs to Use	
AppChi2	2.947	95% KM (Chebyshev) UCL	1203
95% Gamma Approximate UCL (Use when n >= 40)	1321		
95% Adjusted Gamma UCL (Use when n < 40)	1471		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area K 0 to 10 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area K.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Lead

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	9

Raw Statistics		Log-transformed Statistics	
Minimum	2.7	Minimum of Log Data	0.993
Maximum	56	Maximum of Log Data	4.025
Mean	12.86	Mean of log Data	2.028
Median	6.35	SD of log Data	1.029
SD	16.25		
Coefficient of Variation	1.264		
Skewness	2.454		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.659	Shapiro Wilk Test Statistic	0.871
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	22.28	95% H-UCL	38.19
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	29.9
95% Adjusted-CLT UCL (Chen-1995)	25.57	97.5% Chebyshev (MVUE) UCL	37.64
95% Modified-t UCL (Johnson-1978)	22.94	99% Chebyshev (MVUE) UCL	52.84

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.827	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	15.54		
MLE of Mean	12.86		
MLE of Standard Deviation	14.14		
nu star	16.55		
Approximate Chi Square Value (.05)	8.351	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0267	95% CLT UCL	21.31
Adjusted Chi Square Value	7.361	95% Jackknife UCL	22.28
		95% Standard Bootstrap UCL	21.08
Anderson-Darling Test Statistic	0.723	95% Bootstrap-t UCL	34.84
Anderson-Darling 5% Critical Value	0.747	95% Hall's Bootstrap UCL	51.2
Kolmogorov-Smirnov Test Statistic	0.234	95% Percentile Bootstrap UCL	21.92
Kolmogorov-Smirnov 5% Critical Value	0.273	95% BCA Bootstrap UCL	25.73
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	35.26

97.5% Chebyshev(Mean, Sd) UCL	44.95
99% Chebyshev(Mean, Sd) UCL	63.99

Assuming Gamma Distribution

95% Approximate Gamma UCL	25.48
95% Adjusted Gamma UCL	28.91

Potential UCL to Use — Use 95% Approximate Gamma UCL 25.48

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

K_TPHd

General Statistics

Number of Valid Data	12	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	7
		Percent Non-Detects	58.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	110	Minimum Detected	4.7
Maximum Detected	980	Maximum Detected	6.888
Mean of Detected	486	Mean of Detected	5.853
SD of Detected	406.2	SD of Detected	0.946
Minimum Non-Detect	10	Minimum Non-Detect	2.303
Maximum Non-Detect	100	Maximum Non-Detect	4.605

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	7
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	5
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	58.33%

Warning: There are only 5 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.824	Shapiro Wilk Test Statistic	0.902
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	209.2	Mean	3.569
SD	346.2	SD	2.191
95% DL/2 (t) UCL	388.7	95% H-Stat (DL/2) UCL	13697

Maximum Likelihood Estimate(MLE) Method	N/A
MLE yields a negative mean	

Log ROS Method	
Mean in Log Scale	4.038
SD in Log Scale	1.849
Mean in Original Scale	215.3
SD in Original Scale	342.5
95% t UCL	392.9
95% Percentile Bootstrap UCL	384.6
95% BCA Bootstrap UCL	440.1
95% H-UCL	4143

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.792
Theta Star	613.6
nu star	7.921
A-D Test Statistic	0.44
5% A-D Critical Value	0.686
K-S Test Statistic	0.686
5% K-S Critical Value	0.361
Data appear Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	980
Mean	202.5
Median	0.000001
SD	350.2
k star	0.113
Theta star	1791
Nu star	2.714
AppChi2	0.293
95% Gamma Approximate UCL (Use when n >= 40)	1876
95% Adjusted Gamma UCL (Use when n < 40)	2619

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	266.7
SD	299
SE of Mean	96.49
95% KM (t) UCL	439.9
95% KM (z) UCL	425.4
95% KM (jackknife) UCL	414.6
95% KM (bootstrap t) UCL	892.4
95% KM (BCA) UCL	888.3
95% KM (Percentile Bootstrap) UCL	498.3
95% KM (Chebyshev) UCL	687.2
97.5% KM (Chebyshev) UCL	869.2
99% KM (Chebyshev) UCL	1227

Potential UCLs to Use

95% KM (t) UCL	439.9
95% KM (Percentile Bootstrap) UCL	498.3

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

K_TPHm

General Statistics

Number of Valid Data	12
Number of Distinct Detected Data	8

Number of Detected Data	8
Number of Non-Detect Data	4
Percent Non-Detects	33.33%

Raw Statistics

Minimum Detected	10

Log-transformed Statistics

Minimum Detected	2.303

Maximum Detected	2000	Maximum Detected	7.601
Mean of Detected	424.3	Mean of Detected	4.931
SD of Detected	665.1	SD of Detected	1.774
Minimum Non-Detect	10	Minimum Non-Detect	2.303
Maximum Non-Detect	100	Maximum Non-Detect	4.605

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	7
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	5
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	58.33%

Warning: There are only 8 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.667	Shapiro Wilk Test Statistic	0.978
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	288.3	Mean	4.016
SD	567.5	SD	2.048
95% DL/2 (t) UCL	582.4	95% H-Stat (DL/2) UCL	10297
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	3.593
		SD in Log Scale	2.496
		Mean in Original Scale	284
		SD in Original Scale	569.6
		95% t UCL	579.3
		95% Percentile Bootstrap UCL	566.7
		95% BCA Bootstrap UCL	717.2
		95% H-UCL	78151

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.432	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	981.7		
nu star	6.915		
A-D Test Statistic	0.237	**Nonparametric Statistics**	
5% A-D Critical Value	0.758	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.758	Mean	286.9
5% K-S Critical Value	0.308	SD	543.9
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	167.9
		95% KM (t) UCL	588.4

Assuming Gamma Distribution			
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	579.3
Minimum	0.000001	95% KM (bootstrap t) UCL	1217
Maximum	2000	95% KM (BCA) UCL	592.8
Mean	282.8	95% KM (Percentile Bootstrap) UCL	579.2
Median	37	95% KM (Chebyshev) UCL	1019
SD	570.2	97.5% KM (Chebyshev) UCL	1335
k star	0.142	99% KM (Chebyshev) UCL	1957
Theta star	1999		
Nu star	3.396	**Potential UCLs to Use**	
AppChi2	0.499	95% KM (BCA) UCL	592.8
95% Gamma Approximate UCL (Use when n >= 40)	1925		
95% Adjusted Gamma UCL (Use when n < 40)	2643		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area L 0 to 10 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area L.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Benzene

General Statistics

Number of Valid Data	45	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	39
		Percent Non-Detects	86.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0064	Minimum Detected	-5.051
Maximum Detected	0.015	Maximum Detected	-4.2
Mean of Detected	0.00952	Mean of Detected	-4.698
SD of Detected	0.00318	SD of Detected	0.316
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	45
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.913	Shapiro Wilk Test Statistic	0.958
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.00871	Mean	-5.486
SD	0.015	SD	0.999
95% DL/2 (t) UCL	0.0125	95% H-Stat (DL/2) UCL	0.00976
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.129
		SD in Log Scale	0.881
		Mean in Original Scale	0.00316
		SD in Original Scale	0.00303
		95% t UCL	0.00392
		95% Percentile Bootstrap UCL	0.0039
		95% BCA Bootstrap UCL	0.00413

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	5.995	Data appear Normal at 5% Significance Level	

Theta Star	0.00159
nu star	71.94
A-D Test Statistic	0.248
5% A-D Critical Value	0.698
K-S Test Statistic	0.698
5% K-S Critical Value	0.332

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.00505
Maximum	0.0244
Mean	0.0171
Median	0.0181
SD	0.00559
k star	6.956
Theta star	0.00246
Nu star	626
AppChi2	569
95% Gamma Approximate UCL	0.0188
95% Adjusted Gamma UCL	0.0189

Note: DL/2 is not a recommended method.

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.00687
SD	0.00158
SE of Mean	0.00027412
95% KM (t) UCL	0.00733
95% KM (z) UCL	0.00732
95% KM (jackknife) UCL	0.00733
95% KM (bootstrap t) UCL	0.00753
95% KM (BCA) UCL	0.01
95% KM (Percentile Bootstrap) UCL	0.0086
95% KM (Chebyshev) UCL	0.00806
97.5% KM (Chebyshev) UCL	0.00858
99% KM (Chebyshev) UCL	0.00959

Potential UCLs to Use

95% KM (t) UCL	0.00733
95% KM (Percentile Bootstrap) UCL	0.0086

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics

Number of Valid Data	12	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	7
		Percent Non-Detects	58.33%

Raw Statistics

Minimum Detected	0.013
Maximum Detected	0.19
Mean of Detected	0.0662
SD of Detected	0.071
Minimum Non-Detect	0.005
Maximum Non-Detect	20

Log-transformed Statistics

Minimum Detected	-4.343
Maximum Detected	-1.661
Mean of Detected	-3.114
SD of Detected	0.98
Minimum Non-Detect	-5.298
Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	12
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only | **Lognormal Distribution Test with Detected Values Only**

Shapiro Wilk Test Statistic	0.764
5% Shapiro Wilk Critical Value	0.762

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.877
SD	2.874
95% DL/2 (t) UCL	2.366
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.692
Theta Star	0.0956
nu star	6.922
A-D Test Statistic	0.336
5% A-D Critical Value	0.687
K-S Test Statistic	0.687
5% K-S Critical Value	0.362

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.00228
Maximum	0.19
Mean	0.0599
Median	0.049
SD	0.0535
k star	0.951
Theta star	0.063
Nu star	22.84
AppChi2	12.97
95% Gamma Approximate UCL	0.106
95% Adjusted Gamma UCL	0.116

Note: DL/2 is not a recommended method.

Shapiro Wilk Test Statistic	0.976
5% Shapiro Wilk Critical Value	0.762

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.103
SD	2.03
95% H-Stat (DL/2) UCL	7.656
Log ROS Method	
Mean in Log Scale	-3.856
SD in Log Scale	1.015
Mean in Original Scale	0.0363
SD in Original Scale	0.0507
95% t UCL	0.0626
95% Percentile Bootstrap UCL	0.0609
95% BCA Bootstrap UCL	0.0756

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0423
SD	0.0514
SE of Mean	0.0184
95% KM (t) UCL	0.0753
95% KM (z) UCL	0.0725
95% KM (jackknife) UCL	0.0719
95% KM (bootstrap t) UCL	0.115
95% KM (BCA) UCL	0.0893
95% KM (Percentile Bootstrap) UCL	0.0793
95% KM (Chebyshev) UCL	0.122
97.5% KM (Chebyshev) UCL	0.157
99% KM (Chebyshev) UCL	0.225

Potential UCLs to Use

95% KM (t) UCL	0.0753
95% KM (Percentile Bootstrap) UCL	0.0793

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics

Number of Valid Data	12	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	7
		Percent Non-Detects	58.33%

Raw Statistics	
Minimum Detected	0.013
Maximum Detected	0.074
Mean of Detected	0.036
SD of Detected	0.0241
Minimum Non-Detect	0.005
Maximum Non-Detect	20

Log-transformed Statistics	
Minimum Detected	-4.343
Maximum Detected	-2.604
Mean of Detected	-3.507
SD of Detected	0.686
Minimum Non-Detect	-5.298
Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	12
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.908
5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level	

Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.966
5% Shapiro Wilk Critical Value	0.762
Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution	
DL/2 Substitution Method	
Mean	0.865
SD	2.877
95% DL/2 (t) UCL	2.357
Maximum Likelihood Estimate(MLE) Method	N/A
MLE method failed to converge properly	

Assuming Lognormal Distribution	
DL/2 Substitution Method	
Mean	-3.19
SD	1.958
95% H-Stat (DL/2) UCL	4.97
Log ROS Method	
Mean in Log Scale	-3.84
SD in Log Scale	0.646
Mean in Original Scale	0.0261
SD in Original Scale	0.0182
95% t UCL	0.0355
95% Percentile Bootstrap UCL	0.0348
95% BCA Bootstrap UCL	0.036

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	1.29
Theta Star	0.0279
nu star	12.9
A-D Test Statistic	0.244
5% A-D Critical Value	0.683
K-S Test Statistic	0.683
5% K-S Critical Value	0.36
Data appear Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	0.00453
Maximum	0.074
Mean	0.0343
Median	0.0375

Data Distribution Test with Detected Values Only
Data appear Normal at 5% Significance Level

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	0.0288
SD	0.0186
SE of Mean	0.00741
95% KM (t) UCL	0.0421
95% KM (z) UCL	0.041
95% KM (jackknife) UCL	0.042
95% KM (bootstrap t) UCL	0.0455
95% KM (BCA) UCL	0.0449
95% KM (Percentile Bootstrap) UCL	0.0438
95% KM (Chebyshev) UCL	0.0611

SD	0.02	97.5% KM (Chebyshev) UCL	0.0751
k star	1.875	99% KM (Chebyshev) UCL	0.103
Theta star	0.0183		
Nu star	45.01	**Potential UCLs to Use**	
AppChi2	30.62	95% KM (t) UCL	0.0421
95% Gamma Approximate UCL	0.0505	95% KM (Percentile Bootstrap) UCL	0.0438
95% Adjusted Gamma UCL	0.0536		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics

Number of Valid Data	12	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	9
		Percent Non-Detects	75.00%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.005	Minimum Detected	-5.298
Maximum Detected	0.093	Maximum Detected	-2.375
Mean of Detected	0.0367	Mean of Detected	-4.032
SD of Detected	0.0489	SD of Detected	1.5
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.809	Shapiro Wilk Test Statistic	0.949
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.865	Mean	-3.413
SD	2.877	SD	2.139
95% DL/2 (t) UCL	2.356	95% H-Stat (DL/2) UCL	9.671
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.22
		SD in Log Scale	1.191

Mean in Original Scale	0.0127
SD in Original Scale	0.0255
95% t UCL	0.0259
95% Percentile Bootstrap UCL	0.0268
95% BCA Bootstrap UCL	0.0343

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	N/A
Theta Star	N/A
nu star	N/A
A-D Test Statistic	N/A
5% A-D Critical Value	N/A
K-S Test Statistic	N/A
5% K-S Critical Value	N/A

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	N/A
Maximum	N/A
Mean	N/A
Median	N/A
SD	N/A
k star	N/A
Theta star	N/A
Nu star	N/A
AppChi2	N/A
95% Gamma Approximate UCL	N/A
95% Adjusted Gamma UCL	N/A

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.018
SD	0.0285
SE of Mean	0.0124
95% KM (t) UCL	0.0404
95% KM (z) UCL	0.0385
95% KM (jackknife) UCL	0.0371
95% KM (bootstrap t) UCL	0.106
95% KM (BCA) UCL	0.093
95% KM (Percentile Bootstrap) UCL	0.093
95% KM (Chebyshev) UCL	0.0723
97.5% KM (Chebyshev) UCL	0.0957
99% KM (Chebyshev) UCL	0.142

Potential UCLs to Use

95% KM (t) UCL	0.0404
95% KM (Percentile Bootstrap) UCL	0.093

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics

Number of Valid Data	17	Number of Detected Data	16
Number of Distinct Detected Data	11	Number of Non-Detect Data	1
		Percent Non-Detects	5.88%

Raw Statistics

Minimum Detected	9.9
Maximum Detected	47
Mean of Detected	21.62
SD of Detected	11.03
Minimum Non-Detect	1
Maximum Non-Detect	1

Log-transformed Statistics

Minimum Detected	2.293
Maximum Detected	3.85
Mean of Detected	2.965
SD of Detected	0.469
Minimum Non-Detect	0
Maximum Non-Detect	0

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.849
5% Shapiro Wilk Critical Value	0.887

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.919
5% Shapiro Wilk Critical Value	0.887

Data not Normal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	20.38
SD	11.84
95% DL/2 (t) UCL	25.39
Maximum Likelihood Estimate(MLE) Method	
Mean	20.1
SD	12.05
95% MLE (t) UCL	25.21
95% MLE (Tiku) UCL	25.24

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	2.75
SD	0.997
95% H-Stat (DL/2) UCL	49.92
Log ROS Method	
Mean in Log Scale	2.898
SD in Log Scale	0.531
Mean in Original Scale	20.71
SD in Original Scale	11.31
95% t UCL	25.5
95% Percentile Bootstrap UCL	25.41
95% BCA Bootstrap UCL	25.88

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	3.921
Theta Star	5.514
nu star	125.5
A-D Test Statistic	0.759
5% A-D Critical Value	0.741
K-S Test Statistic	0.741
5% K-S Critical Value	0.216

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.581
Maximum	47
Mean	20.38
Median	16
SD	11.83
k star	1.773
Theta star	11.49
Nu star	60.3
AppChi2	43.44
95% Gamma Approximate UCL	28.29
95% Adjusted Gamma UCL	29.3

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	20.93
SD	10.72
SE of Mean	2.685
95% KM (t) UCL	25.62
95% KM (z) UCL	25.35
95% KM (jackknife) UCL	25.54
95% KM (bootstrap t) UCL	26.85
95% KM (BCA) UCL	25.75
95% KM (Percentile Bootstrap) UCL	25.53
95% KM (Chebyshev) UCL	32.63
97.5% KM (Chebyshev) UCL	37.7
99% KM (Chebyshev) UCL	47.65

Potential UCLs to Use

95% KM (Chebyshev) UCL	32.63

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chrysene

General Statistics

Number of Valid Data	12	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	5
		Percent Non-Detects	41.67%

Raw Statistics

Minimum Detected	0.024

Log-transformed Statistics

Minimum Detected	-3.73

Maximum Detected	0.099
Mean of Detected	0.0583
SD of Detected	0.0288
Minimum Non-Detect	0.005
Maximum Non-Detect	20

Maximum Detected	-2.313
Mean of Detected	-2.96
SD of Detected	0.539
Minimum Non-Detect	-5.298
Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	12
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.925
5% Shapiro Wilk Critical Value	0.803

Data appear Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.934
5% Shapiro Wilk Critical Value	0.803

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.88
SD	2.872
95% DL/2 (t) UCL	2.369
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-2.841
SD	1.906
95% H-Stat (DL/2) UCL	5.523
Log ROS Method	
Mean in Log Scale	-3.223
SD in Log Scale	0.582
Mean in Original Scale	0.0464
SD in Original Scale	0.0268
95% t UCL	0.0602
95% Percentile Bootstrap UCL	0.0588
95% BCA Bootstrap UCL	0.0611

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	2.621
Theta Star	0.0222
nu star	36.69
A-D Test Statistic	0.303
5% A-D Critical Value	0.71
K-S Test Statistic	0.71
5% K-S Critical Value	0.313

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.024
Maximum	0.099
Mean	0.0575
Median	0.0572
SD	0.0242
k star	4.228

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0493
SD	0.0265
SE of Mean	0.00917
95% KM (t) UCL	0.0657
95% KM (z) UCL	0.0643
95% KM (jackknife) UCL	0.0653
95% KM (bootstrap t) UCL	0.0689
95% KM (BCA) UCL	0.0674
95% KM (Percentile Bootstrap) UCL	0.0656
95% KM (Chebyshev) UCL	0.0892
97.5% KM (Chebyshev) UCL	0.107
99% KM (Chebyshev) UCL	0.14

Theta star	0.0136		
Nu star	101.5	**Potential UCLs to Use**	
AppChi2	79.24	95% KM (t) UCL	0.0657
95% Gamma Approximate UCL	0.0737	95% KM (Percentile Bootstrap) UCL	0.0656
95% Adjusted Gamma UCL	0.0766		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Ethylbenzene

General Statistics

Number of Valid Data	45	Number of Detected Data	7
Number of Distinct Detected Data	6	Number of Non-Detect Data	38
		Percent Non-Detects	84.44%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.042	Minimum Detected	-3.17
Maximum Detected	0.36	Maximum Detected	-1.022
Mean of Detected	0.175	Mean of Detected	-2.028
SD of Detected	0.123	SD of Detected	0.88
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	40
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	5
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	88.89%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.922	Shapiro Wilk Test Statistic	0.888
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0314	Mean	-5.242
SD	0.0778	SD	1.562
95% DL/2 (t) UCL	0.0509	95% H-Stat (DL/2) UCL	0.0369
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-5.445
		SD in Log Scale	2.171
		Mean in Original Scale	0.0326
		SD in Original Scale	0.0772
		95% t UCL	0.0519
		95% Percentile Bootstrap UCL	0.0533
		95% BCA Bootstrap UCL	0.0564

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.188
Theta Star	0.147
nu star	16.63
A-D Test Statistic	0.338
5% A-D Critical Value	0.716
K-S Test Statistic	0.716
5% K-S Critical Value	0.315

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.00075618
Maximum	1.594
Mean	0.745
Median	0.714
SD	0.493
k star	1.162
Theta star	0.641
Nu star	104.6
AppChi2	81.99
95% Gamma Approximate UCL	0.95
95% Adjusted Gamma UCL	0.958

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0627
SD	0.066
SE of Mean	0.0106
95% KM (t) UCL	0.0805
95% KM (z) UCL	0.0801
95% KM (jackknife) UCL	0.0794
95% KM (bootstrap t) UCL	0.0862
95% KM (BCA) UCL	0.199
95% KM (Percentile Bootstrap) UCL	0.125
95% KM (Chebyshev) UCL	0.109
97.5% KM (Chebyshev) UCL	0.129
99% KM (Chebyshev) UCL	0.168

Potential UCLs to Use

95% KM (t) UCL	0.0805
95% KM (Percentile Bootstrap) UCL	0.125

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead

General Statistics

Number of Valid Observations	56	Number of Distinct Observations	50

Raw Statistics

Minimum	1.7
Maximum	690
Mean	50.01
Median	12
SD	112.4
Coefficient of Variation	2.248
Skewness	4.415

Log-transformed Statistics

Minimum of Log Data	0.531
Maximum of Log Data	6.537
Mean of log Data	2.783
SD of log Data	1.449

Relevant UCL Statistics

Normal Distribution Test

Lilliefors Test Statistic	0.334
Lilliefors Critical Value	0.118

Data not Normal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	75.14

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	84.18
95% Modified-t UCL (Johnson-1978)	76.61

Lognormal Distribution Test

Lilliefors Test Statistic	0.105
Lilliefors Critical Value	0.118

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

95% H-UCL	82.97
95% Chebyshev (MVUE) UCL	94.33
97.5% Chebyshev (MVUE) UCL	115.9
99% Chebyshev (MVUE) UCL	158.2

Gamma Distribution Test

k star (bias corrected)	0.536
Theta Star	93.27
MLE of Mean	50.01
MLE of Standard Deviation	68.29
nu star	60.05
Approximate Chi Square Value (.05)	43.23
Adjusted Level of Significance	0.0457
Adjusted Chi Square Value	42.85
Anderson-Darling Test Statistic	2.489
Anderson-Darling 5% Critical Value	0.81
Kolmogorov-Smirnov Test Statistic	0.164
Kolmogorov-Smirnov 5% Critical Value	0.125

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	69.46
95% Adjusted Gamma UCL	70.07

Data Distribution

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	74.71
95% Jackknife UCL	75.14
95% Standard Bootstrap UCL	74.6
95% Bootstrap-t UCL	105.9
95% Hall's Bootstrap UCL	93.52
95% Percentile Bootstrap UCL	76.63
95% BCA Bootstrap UCL	86.21
95% Chebyshev(Mean, Sd) UCL	115.5
97.5% Chebyshev(Mean, Sd) UCL	143.8
99% Chebyshev(Mean, Sd) UCL	199.5

Potential UCL to Use Use 95% H-UCL 82.97

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Naphthalene

General Statistics

Number of Valid Data	18	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	13
		Percent Non-Detects	72.22%

Raw Statistics

Minimum Detected	0.06
Maximum Detected	2.4
Mean of Detected	1.142
SD of Detected	0.913
Minimum Non-Detect	0.005
Maximum Non-Detect	0.1

Log-transformed Statistics

Minimum Detected	-2.813
Maximum Detected	0.875
Mean of Detected	-0.384
SD of Detected	1.446
Minimum Non-Detect	-5.298
Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	14
Number treated as Detected	4
Single DL Non-Detect Percentage	77.78%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.955
5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level	

Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.839
5% Shapiro Wilk Critical Value	0.762
Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution	
DL/2 Substitution Method	
Mean	0.323
SD	0.685
95% DL/2 (t) UCL	0.604
Maximum Likelihood Estimate(MLE) Method	N/A
MLE yields a negative mean	

Assuming Lognormal Distribution	
DL/2 Substitution Method	
Mean	-4.062
SD	2.599
95% H-Stat (DL/2) UCL	15.35
Log ROS Method	
Mean in Log Scale	-3.999
SD in Log Scale	2.804
Mean in Original Scale	0.326
SD in Original Scale	0.684
95% t UCL	0.606
95% Percentile Bootstrap UCL	0.604
95% BCA Bootstrap UCL	0.692

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.575
Theta Star	1.985
nu star	5.754
A-D Test Statistic	0.348
5% A-D Critical Value	0.69
K-S Test Statistic	0.69
5% K-S Critical Value	0.364
Data appear Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	0.06
Maximum	7.983
Mean	2.666
Median	2.402
SD	2.236
k star	0.975
Theta star	2.735
Nu star	35.09
AppChi2	22.54
95% Gamma Approximate UCL	4.151
95% Adjusted Gamma UCL	4.336

Data Distribution Test with Detected Values Only
Data appear Normal at 5% Significance Level

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	0.361
SD	0.648
SE of Mean	0.171
95% KM (t) UCL	0.658
95% KM (z) UCL	0.642
95% KM (jackknife) UCL	0.8
95% KM (bootstrap t) UCL	0.639
95% KM (BCA) UCL	1.778
95% KM (Percentile Bootstrap) UCL	1.133
95% KM (Chebyshev) UCL	1.105
97.5% KM (Chebyshev) UCL	1.427
99% KM (Chebyshev) UCL	2.06
Potential UCLs to Use	
95% KM (t) UCL	0.658
95% KM (Percentile Bootstrap) UCL	1.133

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics

Number of Valid Data	12	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	6

Percent Non-Detects	50.00%

Raw Statistics	
Minimum Detected	0.013
Maximum Detected	1.2
Mean of Detected	0.435
SD of Detected	0.494
Minimum Non-Detect	0.005
Maximum Non-Detect	20

Log-transformed Statistics	
Minimum Detected	-4.343
Maximum Detected	0.182
Mean of Detected	-2.008
SD of Detected	2.036
Minimum Non-Detect	-5.298
Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	12
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.859
5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level	

Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.857
5% Shapiro Wilk Critical Value	0.788
Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution	
DL/2 Substitution Method	
Mean	1.055
SD	2.844
95% DL/2 (t) UCL	2.53
Maximum Likelihood Estimate(MLE) Method	N/A
MLE method failed to converge properly	

Assuming Lognormal Distribution	
DL/2 Substitution Method	
Mean	-2.794
SD	2.565
95% H-Stat (DL/2) UCL	200.6
Log ROS Method	
Mean in Log Scale	-3.72
SD in Log Scale	2.409
Mean in Original Scale	0.221
SD in Original Scale	0.401
95% t UCL	0.429
95% Percentile Bootstrap UCL	0.42
95% BCA Bootstrap UCL	0.468

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.379
Theta Star	1.148
nu star	4.543
A-D Test Statistic	0.452
5% A-D Critical Value	0.734
K-S Test Statistic	0.734
5% K-S Critical Value	0.348
Data appear Gamma Distributed at 5% Significance Level	

Data Distribution Test with Detected Values Only
Data appear Normal at 5% Significance Level

Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	0.013
Maximum	1.2

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	0.243
SD	0.394
SE of Mean	0.13
95% KM (t) UCL	0.477
95% KM (z) UCL	0.457
95% KM (jackknife) UCL	0.467
95% KM (bootstrap t) UCL	0.654
95% KM (BCA) UCL	0.527

Mean	0.422	95% KM (Percentile Bootstrap) UCL	0.527
Median	0.36	95% KM (Chebyshev) UCL	0.81
SD	0.345	97.5% KM (Chebyshev) UCL	1.055
k star	0.773	99% KM (Chebyshev) UCL	1.537
Theta star	0.547		
Nu star	18.54	**Potential UCLs to Use**	
AppChi2	9.783	95% KM (t) UCL	0.477
95% Gamma Approximate UCL	0.8	95% KM (Percentile Bootstrap) UCL	0.527
95% Adjusted Gamma UCL	0.887		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Pyrene

General Statistics

Number of Valid Data	12	Number of Detected Data	7
Number of Distinct Detected Data	6	Number of Non-Detect Data	5
		Percent Non-Detects	41.67%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.019	Minimum Detected	-3.963
Maximum Detected	0.11	Maximum Detected	-2.207
Mean of Detected	0.0447	Mean of Detected	-3.317
SD of Detected	0.0335	SD of Detected	0.677
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.813	Shapiro Wilk Test Statistic	0.892
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.872	Mean	-3.049
SD	2.875	SD	1.952
95% DL/2 (t) UCL	2.362	95% H-Stat (DL/2) UCL	5.566
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.567
		SD in Log Scale	0.68
		Mean in Original Scale	0.0353

SD in Original Scale	0.0279
95% t UCL	0.0498
95% Percentile Bootstrap UCL	0.0493
95% BCA Bootstrap UCL	0.0527

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.55
Theta Star	0.0289
nu star	21.7
A-D Test Statistic	0.452
5% A-D Critical Value	0.713
K-S Test Statistic	0.713
5% K-S Critical Value	0.314

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	0.019
Maximum	0.11
Mean	0.0446
Median	0.0405
SD	0.0252
k star	3.089
Theta star	0.0144
Nu star	74.13
AppChi2	55.3
95% Gamma Approximate UCL	0.0598
95% Adjusted Gamma UCL	0.0626

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	0.0384
SD	0.028
SE of Mean	0.00971
95% KM (t) UCL	0.0558
95% KM (z) UCL	0.0543
95% KM (jackknife) UCL	0.0556
95% KM (bootstrap t) UCL	0.0726
95% KM (BCA) UCL	0.0569
95% KM (Percentile Bootstrap) UCL	0.0558
95% KM (Chebyshev) UCL	0.0807
97.5% KM (Chebyshev) UCL	0.099
99% KM (Chebyshev) UCL	0.135

Potential UCLs to Use

95% KM (t) UCL	0.0558
95% KM (Percentile Bootstrap) UCL	0.0558

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

sec-Butylbenzene

General Statistics

Number of Valid Data	13	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	10
		Percent Non-Detects	76.92%

Raw Statistics

Minimum Detected	0.073
Maximum Detected	1.3
Mean of Detected	0.494
SD of Detected	0.698
Minimum Non-Detect	0.005
Maximum Non-Detect	0.005

Log-transformed Statistics

Minimum Detected	-2.617
Maximum Detected	0.262
Mean of Detected	-1.521
SD of Detected	1.558
Minimum Non-Detect	-5.298
Maximum Non-Detect	-5.298

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.

However, results obtained using 4 to 9 distinct values may not be reliable.

It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.773
5% Shapiro Wilk Critical Value	0.767

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.116
SD	0.357
95% DL/2 (t) UCL	0.293
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.854
5% Shapiro Wilk Critical Value	0.767

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-4.96
SD	2.061
95% H-Stat (DL/2) UCL	1.11
Log ROS Method	
Mean in Log Scale	-7.289
SD in Log Scale	4.24
Mean in Original Scale	0.115
SD in Original Scale	0.358
95% t UCL	0.292
95% Percentile Bootstrap UCL	0.306
95% BCA Bootstrap UCL	0.411

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	N/A
Theta Star	N/A
nu star	N/A
A-D Test Statistic	N/A
5% A-D Critical Value	N/A
K-S Test Statistic	N/A
5% K-S Critical Value	N/A

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	N/A
Maximum	N/A
Mean	N/A
Median	N/A
SD	N/A
k star	N/A
Theta star	N/A
Nu star	N/A
AppChi2	N/A
95% Gamma Approximate UCL	N/A
95% Adjusted Gamma UCL	N/A

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.17
SD	0.326
SE of Mean	0.111
95% KM (t) UCL	0.368
95% KM (z) UCL	0.353
95% KM (jackknife) UCL	0.321
95% KM (bootstrap t) UCL	3.483
95% KM (BCA) UCL	1.3
95% KM (Percentile Bootstrap) UCL	1.3
95% KM (Chebyshev) UCL	0.653
97.5% KM (Chebyshev) UCL	0.862
99% KM (Chebyshev) UCL	1.273

Potential UCLs to Use

95% KM (t) UCL	0.368
95% KM (Percentile Bootstrap) UCL	1.3

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

For additional insight, the user may want to consult a statistician.

Toluene

General Statistics

Number of Valid Data	45	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	40
		Percent Non-Detects	88.89%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0084	Minimum Detected	-4.78
Maximum Detected	0.2	Maximum Detected	-1.609
Mean of Detected	0.0632	Mean of Detected	-3.43
SD of Detected	0.0795	SD of Detected	1.331
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	44
Number treated as Detected	1
Single DL Non-Detect Percentage	97.78%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.772	Shapiro Wilk Test Statistic	0.924
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0135	Mean	-5.441
SD	0.0328	SD	1.188
95% DL/2 (t) UCL	0.0217	95% H-Stat (DL/2) UCL	0.014
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-8.701
		SD in Log Scale	3.014
		Mean in Original Scale	0.00755
		SD in Original Scale	0.0312
		95% t UCL	0.0154
		95% Percentile Bootstrap UCL	0.0161
		95% BCA Bootstrap UCL	0.024

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.485	Data appear Normal at 5% Significance Level	
Theta Star	0.13		
nu star	4.846		
A-D Test Statistic	0.335	**Nonparametric Statistics**	
5% A-D Critical Value	0.695	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.695	Mean	0.0147
5% K-S Critical Value	0.366	SD	0.0294
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.00492

		95% KM (t) UCL	0.0229
Assuming Gamma Distribution		95% KM (z) UCL	0.0228
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0215
Minimum	1E-12	95% KM (bootstrap t) UCL	0.0355
Maximum	11.28	95% KM (BCA) UCL	0.2
Mean	3.452	95% KM (Percentile Bootstrap) UCL	0.0479
Median	2.223	95% KM (Chebyshev) UCL	0.0361
SD	3.501	97.5% KM (Chebyshev) UCL	0.0454
k star	0.383	99% KM (Chebyshev) UCL	0.0637
Theta star	9.009		
Nu star	34.49	**Potential UCLs to Use**	
AppChi2	22.06	95% KM (t) UCL	0.0229
95% Gamma Approximate UCL	5.399	95% KM (Percentile Bootstrap) UCL	0.0479
95% Adjusted Gamma UCL	5.481		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Data	17	Number of Detected Data	16
Number of Distinct Detected Data	13	Number of Non-Detect Data	1
		Percent Non-Detects	5.88%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	8.2	Minimum Detected	2.104
Maximum Detected	28	Maximum Detected	3.332
Mean of Detected	16.83	Mean of Detected	2.748
SD of Detected	6.529	SD of Detected	0.41
Minimum Non-Detect	1	Minimum Non-Detect	0
Maximum Non-Detect	1	Maximum Non-Detect	0

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.937	Shapiro Wilk Test Statistic	0.935
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	15.87	Mean	2.545
SD	7.46	SD	0.924
95% DL/2 (t) UCL	19.03	95% H-Stat (DL/2) UCL	35.28
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	15.73	Mean in Log Scale	2.689
SD	7.576	SD in Log Scale	0.465
95% MLE (t) UCL	18.94	Mean in Original Scale	16.18
95% MLE (Tiku) UCL	19	SD in Original Scale	6.872
		95% t UCL	19.09
		95% Percentile Bootstrap UCL	18.84
		95% BCA Bootstrap UCL	18.97

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	5.552
Theta Star	3.032
nu star	177.7
A-D Test Statistic	0.361
5% A-D Critical Value	0.741
K-S Test Statistic	0.741
5% K-S Critical Value	0.216
Data appear Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	2.408
Maximum	28
Mean	15.98
Median	16
SD	7.225
k star	3.249
Theta star	4.92
Nu star	110.5
AppChi2	87.2
95% Gamma Approximate UCL	20.25
95% Adjusted Gamma UCL	20.76

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only
Data appear Normal at 5% Significance Level

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	16.32
SD	6.461
SE of Mean	1.618
95% KM (t) UCL	19.15
95% KM (z) UCL	18.99
95% KM (jackknife) UCL	19.13
95% KM (bootstrap t) UCL	19.48
95% KM (BCA) UCL	18.92
95% KM (Percentile Bootstrap) UCL	18.92
95% KM (Chebyshev) UCL	23.38
97.5% KM (Chebyshev) UCL	26.43
99% KM (Chebyshev) UCL	32.43

Potential UCLs to Use	
95% KM (t) UCL	19.15
95% KM (Percentile Bootstrap) UCL	18.92

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Xylenes (total)

General Statistics			
Number of Valid Data	45	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	36
		Percent Non-Detects	80.00%

Raw Statistics	
Minimum Detected	0.018
Maximum Detected	1.6
Mean of Detected	0.75
SD of Detected	0.537
Minimum Non-Detect	0.005
Maximum Non-Detect	0.1

Log-transformed Statistics	
Minimum Detected	-4.017
Maximum Detected	0.47
Mean of Detected	-0.823
SD of Detected	1.452
Minimum Non-Detect	-5.298
Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	37
Number treated as Detected	8
Single DL Non-Detect Percentage	82.22%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.923
5% Shapiro Wilk Critical Value	0.829

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.153
SD	0.379
95% DL/2 (t) UCL	0.248
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.801
5% Shapiro Wilk Critical Value	0.829

Data not Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-4.891
SD	2.194
95% H-Stat (DL/2) UCL	0.31
Log ROS Method	
Mean in Log Scale	-4.932
SD in Log Scale	2.894
Mean in Original Scale	0.159
SD in Original Scale	0.377
95% t UCL	0.253
95% Percentile Bootstrap UCL	0.257
95% BCA Bootstrap UCL	0.27

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.787
Theta Star	0.953
nu star	14.17
A-D Test Statistic	0.669
5% A-D Critical Value	0.742
K-S Test Statistic	0.742
5% K-S Critical Value	0.286

Data follow Appr. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.018
Maximum	8.904
Mean	3.367
Median	2.747
SD	2.744
k star	0.935
Theta star	3.603
Nu star	84.11
AppChi2	63.97
95% Gamma Approximate UCL	4.427
95% Adjusted Gamma UCL	4.467

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.164
SD	0.37
SE of Mean	0.0585
95% KM (t) UCL	0.263
95% KM (z) UCL	0.261
95% KM (jackknife) UCL	0.26
95% KM (bootstrap t) UCL	0.27
95% KM (BCA) UCL	0.845
95% KM (Percentile Bootstrap) UCL	0.386
95% KM (Chebyshev) UCL	0.419
97.5% KM (Chebyshev) UCL	0.53
99% KM (Chebyshev) UCL	0.746

Potential UCLs to Use

95% KM (t) UCL	0.263
95% KM (Percentile Bootstrap) UCL	0.386

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

BaPTEQL

General Statistics

Number of Valid Data	12	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	4
		Percent Non-Detects	33.33%

Raw Statistics	
Minimum Detected	0.0161
Maximum Detected	0.204
Mean of Detected	0.0579
SD of Detected	0.0607
Minimum Non-Detect	0.00353
Maximum Non-Detect	14.1

Log-transformed Statistics	
Minimum Detected	-4.127
Maximum Detected	-1.592
Mean of Detected	-3.165
SD of Detected	0.782
Minimum Non-Detect	-5.648
Maximum Non-Detect	2.646

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	12
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 8 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.647
5% Shapiro Wilk Critical Value	0.818

Data not Normal at 5% Significance Level

Assuming Normal Distribution	
DL/2 Substitution Method	
Mean	0.634
SD	2.021
95% DL/2 (t) UCL	1.681
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.901
5% Shapiro Wilk Critical Value	0.818

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution	
DL/2 Substitution Method	
Mean	-3.033
SD	1.94
95% H-Stat (DL/2) UCL	5.328
Log ROS Method	
Mean in Log Scale	-3.467
SD in Log Scale	0.845
Mean in Original Scale	0.0452
SD in Original Scale	0.0523
95% t UCL	0.0723
95% Percentile Bootstrap UCL	0.0734
95% BCA Bootstrap UCL	0.0871
95% H-UCL	0.0874

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	1.166
Theta Star	0.0497
nu star	18.65
A-D Test Statistic	0.675
5% A-D Critical Value	0.726
K-S Test Statistic	0.726
5% K-S Critical Value	0.298

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.204

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	0.0481
SD	0.0514
SE of Mean	0.0167
95% KM (t) UCL	0.078
95% KM (z) UCL	0.0755
95% KM (jackknife) UCL	0.0773
95% KM (bootstrap t) UCL	0.138
95% KM (BCA) UCL	0.0804

Mean	0.0447	95% KM (Percentile Bootstrap) UCL	0.0782
Median	0.038	95% KM (Chebyshev) UCL	0.121
SD	0.0534	97.5% KM (Chebyshev) UCL	0.152
k star	0.326	99% KM (Chebyshev) UCL	0.214
Theta star	0.137		
Nu star	7.821	**Potential UCLs to Use**	
AppChi2	2.632	95% KM (Percentile Bootstrap) UCL	0.0782
95% Gamma Approximate UCL (Use when n >= 40)	0.133		
95% Adjusted Gamma UCL (Use when n < 40)	0.159		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

L_TPHd

General Statistics

Number of Valid Data	61	Number of Detected Data	37
Number of Distinct Detected Data	33	Number of Non-Detect Data	24
		Percent Non-Detects	39.34%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	12	Minimum Detected	2.485
Maximum Detected	31000	Maximum Detected	10.34
Mean of Detected	2892	Mean of Detected	6.408
SD of Detected	5850	SD of Detected	1.96
Minimum Non-Detect	10	Minimum Non-Detect	2.303
Maximum Non-Detect	10	Maximum Non-Detect	2.303

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.538	Shapiro Wilk Test Statistic	0.97
5% Shapiro Wilk Critical Value	0.936	5% Shapiro Wilk Critical Value	0.936
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1756	Mean	4.52
SD	4749	SD	2.809
95% DL/2 (t) UCL	2772	95% H-Stat (DL/2) UCL	19071
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	4.488
		SD in Log Scale	3.002
		Mean in Original Scale	1758
		SD in Original Scale	4749
		95% t UCL	2774
		95% Percentile Bootstrap UCL	2815
		95% BCA Bootstrap UCL	3395
		95% H-UCL	39988

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.402	**Data appear Lognormal at 5% Significance Level**
Theta Star	7186	
nu star	29.78	

A-D Test Statistic	1.288	**Nonparametric Statistics**	
5% A-D Critical Value	0.831	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.831	Mean	1759
5% K-S Critical Value	0.155	SD	4709
Data not Gamma Distributed at 5% Significance Level		SE of Mean	611.3
		95% KM (t) UCL	2780
Assuming Gamma Distribution		95% KM (z) UCL	2765
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2774
Minimum	0.000001	95% KM (bootstrap t) UCL	3854
Maximum	31000	95% KM (BCA) UCL	2839
Mean	1754	95% KM (Percentile Bootstrap) UCL	2888
Median	130	95% KM (Chebyshev) UCL	4424
SD	4750	97.5% KM (Chebyshev) UCL	5577
k star	0.0975	99% KM (Chebyshev) UCL	7841
Theta star	17985		
Nu star	11.9	**Potential UCLs to Use**	
AppChi2	5.161	97.5% KM (Chebyshev) UCL	5577
95% Gamma Approximate UCL (Use when n >= 40)	4045		
95% Adjusted Gamma UCL (Use when n < 40)	4131		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

L_TPHg

General Statistics

Number of Valid Data	61	Number of Detected Data	16
Number of Distinct Detected Data	16	Number of Non-Detect Data	45
		Percent Non-Detects	73.77%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	1.8	Minimum Detected	0.588
Maximum Detected	1000	Maximum Detected	6.908
Mean of Detected	158.9	Mean of Detected	3.793
SD of Detected	252.4	SD of Detected	1.974
Minimum Non-Detect	0.48	Minimum Non-Detect	-0.734
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	49
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	12
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	80.33%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.643	Shapiro Wilk Test Statistic	0.935
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	44.76	Mean	1.789
SD	143.7	SD	1.848
95% DL/2 (t) UCL	75.49	95% H-Stat (DL/2) UCL	66.59

Maximum Likelihood Estimate(MLE) Method	N/A
MLE yields a negative mean	

Log ROS Method	
Mean in Log Scale	-0.246
SD in Log Scale	3.344
Mean in Original Scale	42.7
SD in Original Scale	144.3
95% t UCL	73.57
95% Percentile Bootstrap UCL	75.7
95% BCA Bootstrap UCL	92.16
95% H-UCL	1534

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.447
Theta Star	355.9
nu star	14.29
A-D Test Statistic	0.254
5% A-D Critical Value	0.797
K-S Test Statistic	0.797
5% K-S Critical Value	0.227
Data appear Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	1000
Mean	43.07
Median	0.000001
SD	144.4
k star	0.0769
Theta star	559.7
Nu star	9.387
AppChi2	3.563
95% Gamma Approximate UCL (Use when n >= 40)	113.5
95% Adjusted Gamma UCL (Use when n < 40)	116.3

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	43.22
SD	142.9
SE of Mean	18.9
95% KM (t) UCL	74.79
95% KM (z) UCL	74.31
95% KM (jackknife) UCL	73.83
95% KM (bootstrap t) UCL	114.9
95% KM (BCA) UCL	77.37
95% KM (Percentile Bootstrap) UCL	77.2
95% KM (Chebyshev) UCL	125.6
97.5% KM (Chebyshev) UCL	161.3
99% KM (Chebyshev) UCL	231.3

Potential UCLs to Use

95% KM (t) UCL	74.79

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

L_TPHm

General Statistics

Number of Valid Data	61	Number of Detected Data	40
Number of Distinct Detected Data	39	Number of Non-Detect Data	21
		Percent Non-Detects	34.43%

Raw Statistics

Minimum Detected	10
Maximum Detected	12000
Mean of Detected	2083
SD of Detected	2973
Minimum Non-Detect	10
Maximum Non-Detect	10

Log-transformed Statistics

Minimum Detected	2.303
Maximum Detected	9.393
Mean of Detected	6.354
SD of Detected	1.925
Minimum Non-Detect	2.303
Maximum Non-Detect	2.303

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.718
5% Shapiro Wilk Critical Value	0.94

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	1368
SD	2595
95% DL/2 (t) UCL	1923
Maximum Likelihood Estimate(MLE) Method	
Mean	476
SD	3456
95% MLE (t) UCL	1215
95% MLE (Tiku) UCL	1270

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.474
Theta Star	4396
nu star	37.91
A-D Test Statistic	0.529
5% A-D Critical Value	0.814
K-S Test Statistic	0.814
5% K-S Critical Value	0.148

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	12000
Mean	1366
Median	130
SD	2596
k star	0.109
Theta star	12489
Nu star	13.34
AppChi2	6.125
95% Gamma Approximate UCL (Use when n >= 40)	2976
95% Adjusted Gamma UCL (Use when n < 40)	3035

Note: DL/2 is not a recommended method.

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.957
5% Shapiro Wilk Critical Value	0.94

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	4.721
SD	2.752
95% H-Stat (DL/2) UCL	18822
Log ROS Method	
Mean in Log Scale	4.779
SD in Log Scale	2.8
Mean in Original Scale	1370
SD in Original Scale	2594
95% t UCL	1925
95% Percentile Bootstrap UCL	1890
95% BCA Bootstrap UCL	2006
95% H UCL	23854

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	1369
SD	2573
SE of Mean	333.6
95% KM (t) UCL	1927
95% KM (z) UCL	1918
95% KM (jackknife) UCL	1924
95% KM (bootstrap t) UCL	2097
95% KM (BCA) UCL	1981
95% KM (Percentile Bootstrap) UCL	1967
95% KM (Chebyshev) UCL	2824
97.5% KM (Chebyshev) UCL	3453
99% KM (Chebyshev) UCL	4689

Potential UCLs to Use

95% KM (BCA) UCL	1981

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area L 0 to 2 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area L.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Lead

General Statistics

Number of Valid Observations	45	Number of Distinct Observations	39

Raw Statistics

Minimum	1.9
Maximum	690
Mean	61.15
Median	31
SD	123.1
Coefficient of Variation	2.013
Skewness	3.971

Log-transformed Statistics

Minimum of Log Data	0.642
Maximum of Log Data	6.537
Mean of log Data	3.136
SD of log Data	1.379

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.472
Shapiro Wilk Critical Value	0.945

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.961
Shapiro Wilk Critical Value	0.945

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	91.97

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	102.9
95% Modified-t UCL (Johnson-1978)	93.78

Assuming Lognormal Distribution

95% H-UCL	107.2
95% Chebyshev (MVUE) UCL	122.9
97.5% Chebyshev (MVUE) UCL	151.3
99% Chebyshev (MVUE) UCL	207.2

Gamma Distribution Test

k star (bias corrected)	0.601
Theta Star	101.8
MLE of Mean	61.15
MLE of Standard Deviation	78.88
nu star	54.08
Approximate Chi Square Value (.05)	38.18
Adjusted Level of Significance	0.0447
Adjusted Chi Square Value	37.74
Anderson-Darling Test Statistic	1.779
Anderson-Darling 5% Critical Value	0.801
Kolmogorov-Smirnov Test Statistic	0.167
Kolmogorov-Smirnov 5% Critical Value	0.138

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Data Distribution

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	91.32
95% Jackknife UCL	91.97
95% Standard Bootstrap UCL	90.45
95% Bootstrap-t UCL	129.3
95% Hall's Bootstrap UCL	111.1
95% Percentile Bootstrap UCL	92.38
95% BCA Bootstrap UCL	105.4
95% Chebyshev(Mean, Sd) UCL	141.1
97.5% Chebyshev(Mean, Sd) UCL	175.7
99% Chebyshev(Mean, Sd) UCL	243.7

95% Approximate Gamma UCL	86.6
95% Adjusted Gamma UCL	87.62

Potential UCL to Use Use 95% H-UCL 107.2

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

L_TPHd

General Statistics

Number of Valid Data	12	Number of Detected Data	10
Number of Distinct Detected Data	8	Number of Non-Detect Data	2
		Percent Non-Detects	16.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	13	Minimum Detected	2.565
Maximum Detected	1500	Maximum Detected	7.313
Mean of Detected	414.8	Mean of Detected	5.436
SD of Detected	438.9	SD of Detected	1.335
Minimum Non-Detect	10	Minimum Non-Detect	2.303
Maximum Non-Detect	10	Maximum Non-Detect	2.303

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.794	Shapiro Wilk Test Statistic	0.924
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	346.5	Mean	4.798
SD	427.8	SD	1.918
95% DL/2 (t) UCL	568.3	95% H-Stat (DL/2) UCL	12116
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	299.6	Mean in Log Scale	4.929
SD	469	SD in Log Scale	1.697
95% MLE (t) UCL	542.8	Mean in Original Scale	347.6
95% MLE (Tiku) UCL	539.6	SD in Original Scale	426.9
		95% t UCL	568.9
		95% Percentile Bootstrap UCL	559.8
		95% BCA Bootstrap UCL	641.1

95% H UCL	5296

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.751	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	552.3		
nu star	15.02		
A-D Test Statistic	0.301	Nonparametric Statistics	
5% A-D Critical Value	0.749	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.749	Mean	347.8
5% K-S Critical Value	0.274	SD	408.5
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	124.3
		95% KM (t) UCL	571.1
Assuming Gamma Distribution		95% KM (z) UCL	552.3
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	563.3
Minimum	0.000001	95% KM (bootstrap t) UCL	743.6
Maximum	1500	95% KM (BCA) UCL	572.9
Mean	345.7	95% KM (Percentile Bootstrap) UCL	579.2
Median	150	95% KM (Chebyshev) UCL	889.7
SD	428.6	97.5% KM (Chebyshev) UCL	1124
k star	0.208	99% KM (Chebyshev) UCL	1585
Theta star	1664		
Nu star	4.986	Potential UCLs to Use	
AppChi2	1.146	95% KM (Chebyshev) UCL	889.7
95% Gamma Approximate UCL (Use when n >= 40)	1504		
95% Adjusted Gamma UCL (Use when n < 40)	1930		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

L_TPHm

General Statistics

Number of Valid Data	12	Number of Detected Data	11
Number of Distinct Detected Data	11	Number of Non-Detect Data	1
		Percent Non-Detects	8.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	36	Minimum Detected	3.584
Maximum Detected	7400	Maximum Detected	8.909
Mean of Detected	1698	Mean of Detected	6.631
SD of Detected	2105	SD of Detected	1.605
Minimum Non-Detect	10	Minimum Non-Detect	2.303
Maximum Non-Detect	10	Maximum Non-Detect	2.303

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.74
5% Shapiro Wilk Critical Value	0.85

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	1557
SD	2066
95% DL/2 (t) UCL	2627
Maximum Likelihood Estimate(MLE) Method	
Mean	1453
SD	2107
95% MLE (t) UCL	2545
95% MLE (Tiku) UCL	2488

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.923
5% Shapiro Wilk Critical Value	0.85

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	6.212
SD	2.108
95% H-Stat (DL/2) UCL	125036
Log ROS Method	
Mean in Log Scale	6.315
SD in Log Scale	1.88
Mean in Original Scale	1558
SD in Original Scale	2065
95% t UCL	2628
95% Percentile Bootstrap UCL	2600
95% BCA Bootstrap UCL	2993
95% H UCL	46538

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.601
Theta Star	2824
nu star	13.23
A-D Test Statistic	0.192
5% A-D Critical Value	0.763
K-S Test Statistic	0.763
5% K-S Critical Value	0.265

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	7400
Mean	1556
Median	900
SD	2066
k star	0.271
Theta star	5752
Nu star	6.494
AppChi2	1.897
95% Gamma Approximate UCL (Use when n >= 40)	5327
95% Adjusted Gamma UCL (Use when n < 40)	6550

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	1559
SD	1976
SE of Mean	598.1
95% KM (t) UCL	2633
95% KM (z) UCL	2543
95% KM (jackknife) UCL	2628
95% KM (bootstrap t) UCL	3726
95% KM (BCA) UCL	2589
95% KM (Percentile Bootstrap) UCL	2604
95% KM (Chebyshev) UCL	4166
97.5% KM (Chebyshev) UCL	5295
99% KM (Chebyshev) UCL	7511

Potential UCLs to Use

95% KM (Chebyshev) UCL	4166

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area M 0 to 10 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area M.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

M_TPHd

General Statistics

Number of Valid Data	14	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	8
		Percent Non-Detects	57.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	12	Minimum Detected	2.485
Maximum Detected	7600	Maximum Detected	8.936
Mean of Detected	2432	Mean of Detected	5.654
SD of Detected	3468	SD of Detected	2.85
Minimum Non-Detect	5	Minimum Non-Detect	1.609
Maximum Non-Detect	100	Maximum Non-Detect	4.605

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	78.57%

Warning: There are only 6 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.736	Shapiro Wilk Test Statistic	0.878
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1051	Mean	3.573
SD	2483	SD	2.723
95% DL/2 (t) UCL	2226	95% H-Stat (DL/2) UCL	151913
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	1.393
		SD in Log Scale	4.516
		Mean in Original Scale	1043
		SD in Original Scale	2487
		95% t UCL	2220
		95% Percentile Bootstrap UCL	2173
		95% BCA Bootstrap UCL	2566
		95% H-UCL	2.865E+10

Gamma Distribution Test with Detected Values Only

Data Distribution Test with Detected Values Only

k star (bias corrected)	0.27
Theta Star	8991
nu star	3.246
A-D Test Statistic	0.481
5% A-D Critical Value	0.764
K-S Test Statistic	0.764
5% K-S Critical Value	0.356

Data appear Gamma Distributed at 5% Significance Level

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	7600
Mean	1042
Median	0.000001
SD	2487
k star	0.101
Theta star	10287
Nu star	2.837
AppChi2	0.326
95% Gamma Approximate UCL (Use when n >= 40)	9076
95% Adjusted Gamma UCL (Use when n < 40)	12130

Note: DL/2 is not a recommended method.

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	1050
SD	2393
SE of Mean	700.7
95% KM (t) UCL	2291
95% KM (z) UCL	2202
95% KM (jackknife) UCL	2222
95% KM (bootstrap t) UCL	12055
95% KM (BCA) UCL	2568
95% KM (Percentile Bootstrap) UCL	2358
95% KM (Chebyshev) UCL	4104
97.5% KM (Chebyshev) UCL	5426
99% KM (Chebyshev) UCL	8021

Potential UCLs to Use

95% KM (t) UCL	2291

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

M_TPHm

General Statistics

Number of Valid Data	14
Number of Distinct Detected Data	7
Number of Detected Data	7
Number of Non-Detect Data	7
Percent Non-Detects	50.00%

Raw Statistics

Minimum Detected	10
Maximum Detected	5200
Mean of Detected	1227
SD of Detected	1968
Minimum Non-Detect	5
Maximum Non-Detect	100

Log-transformed Statistics

Minimum Detected	2.303
Maximum Detected	8.556
Mean of Detected	5.253
SD of Detected	2.446
Minimum Non-Detect	1.609
Maximum Non-Detect	4.605

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	10
Number treated as Detected	4
Single DL Non-Detect Percentage	71.43%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.715
5% Shapiro Wilk Critical Value	0.803

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	622
SD	1477
95% DL/2 (t) UCL	1321
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.932
5% Shapiro Wilk Critical Value	0.803

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	3.661
SD	2.503
95% H-Stat (DL/2) UCL	46823
Log ROS Method	
Mean in Log Scale	2.231
SD in Log Scale	3.724
Mean in Original Scale	614.1
SD in Original Scale	1481
95% t UCL	1315
95% Percentile Bootstrap UCL	1303
95% BCA Bootstrap UCL	1717
95% H-UCL	49436981

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.301
Theta Star	4076
nu star	4.214
A-D Test Statistic	0.378
5% A-D Critical Value	0.774
K-S Test Statistic	0.774
5% K-S Critical Value	0.333

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	5200
Mean	613.4
Median	5
SD	1481
k star	0.109
Theta star	5626
Nu star	3.053
AppChi2	0.388
95% Gamma Approximate UCL (Use when n >= 40)	4823
95% Adjusted Gamma UCL (Use when n < 40)	6420

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	619.5
SD	1425
SE of Mean	411.2
95% KM (t) UCL	1348
95% KM (z) UCL	1296
95% KM (jackknife) UCL	1317
95% KM (bootstrap t) UCL	5041
95% KM (BCA) UCL	1432
95% KM (Percentile Bootstrap) UCL	1325
95% KM (Chebyshev) UCL	2412
97.5% KM (Chebyshev) UCL	3188
99% KM (Chebyshev) UCL	4711

Potential UCLs to Use

95% KM (t) UCL	1348

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area N 0 to 10 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area N.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Cadmium

General Statistics

Number of Valid Data	11	Number of Detected Data	4
Number of Distinct Detected Data	3	Number of Non-Detect Data	7
		Percent Non-Detects	63.64%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1	Minimum Detected	0
Maximum Detected	1.8	Maximum Detected	0.588
Mean of Detected	1.35	Mean of Detected	0.278
SD of Detected	0.332	SD of Detected	0.241
Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	7
Number treated as Detected	4
Single DL Non-Detect Percentage	63.64%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.916	Shapiro Wilk Test Statistic	0.939
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.695	Mean	-0.655
SD	0.558	SD	0.796
95% DL/2 (t) UCL	1	95% H-Stat (DL/2) UCL	1.38
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.817	Mean in Log Scale	-0.277
SD	0.519	SD in Log Scale	0.505
95% MLE (t) UCL	1.1	Mean in Original Scale	0.853
95% MLE (Tiku) UCL	1.244	SD in Original Scale	0.449
		95% t UCL	1.098
		95% Percentile Bootstrap UCL	1.077
		95% BCA Bootstrap UCL	1.131

Gamma Distribution Test with Detected Values Only	Data Distribution Test with Detected Values Only

k star (bias corrected)	5.896
Theta Star	0.229
nu star	47.17
A-D Test Statistic	0.351
5% A-D Critical Value	0.657
K-S Test Statistic	0.657
5% K-S Critical Value	0.394

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.966
Maximum	1.812
Mean	1.414
Median	1.3
SD	0.296
k star	17.58
Theta star	0.0804
Nu star	386.8
AppChi2	342.2
95% Gamma Approximate UCL	1.598
95% Adjusted Gamma UCL	N/A

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	1.127
SD	0.242
SE of Mean	0.0841
95% KM (t) UCL	1.28
95% KM (z) UCL	1.266
95% KM (jackknife) UCL	1.33
95% KM (bootstrap t) UCL	1.279
95% KM (BCA) UCL	1.436
95% KM (Percentile Bootstrap) UCL	1.436
95% KM (Chebyshev) UCL	1.494
97.5% KM (Chebyshev) UCL	1.652
99% KM (Chebyshev) UCL	1.964

Potential UCLs to Use

95% KM (t) UCL	1.28
95% KM (Percentile Bootstrap) UCL	1.436

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics

Number of Valid Observations	11
Number of Distinct Observations	11

Raw Statistics

Minimum	7.8
Maximum	46
Mean	17.64
Median	12
SD	12.57
Coefficient of Variation	0.713
Skewness	1.47

Log-transformed Statistics

Minimum of Log Data	2.054
Maximum of Log Data	3.829
Mean of log Data	2.681
SD of log Data	0.613

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.784
Shapiro Wilk Critical Value	0.85

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.878
Shapiro Wilk Critical Value	0.85

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	24.51

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	25.67
95% Modified-t UCL (Johnson-1978)	24.79

Assuming Lognormal Distribution

95% H-UCL	27.69
95% Chebyshev (MVUE) UCL	31.61
97.5% Chebyshev (MVUE) UCL	37.81
99% Chebyshev (MVUE) UCL	49.99

Gamma Distribution Test

Data Distribution

k star (bias corrected)	2.098
Theta Star	8.408
MLE of Mean	17.64
MLE of Standard Deviation	12.18
nu star	46.15
Approximate Chi Square Value (.05)	31.56
Adjusted Level of Significance	0.0278
Adjusted Chi Square Value	29.61
Anderson-Darling Test Statistic	0.752
Anderson-Darling 5% Critical Value	0.735
Kolmogorov-Smirnov Test Statistic	0.247
Kolmogorov-Smirnov 5% Critical Value	0.257

Data follow Appr. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	25.79
95% Adjusted Gamma UCL	27.49

Potential UCL to Use

Data Follow Appr. Gamma Distribution at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	23.87
95% Jackknife UCL	24.51
95% Standard Bootstrap UCL	23.54
95% Bootstrap-t UCL	28.29
95% Hall's Bootstrap UCL	24.66
95% Percentile Bootstrap UCL	23.73
95% BCA Bootstrap UCL	26.25
95% Chebyshev(Mean, Sd) UCL	34.16
97.5% Chebyshev(Mean, Sd) UCL	41.31
99% Chebyshev(Mean, Sd) UCL	55.35

Use 95% Approximate Gamma UCL 25.79

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Lead

General Statistics

Number of Valid Data	11	Number of Detected Data	10
Number of Distinct Detected Data	9	Number of Non-Detect Data	1
		Percent Non-Detects	9.09%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	2.2	Minimum Detected	0.788
Maximum Detected	13	Maximum Detected	2.565
Mean of Detected	5.52	Mean of Detected	1.519
SD of Detected	3.747	SD of Detected	0.633
Minimum Non-Detect	4	Minimum Non-Detect	1.386
Maximum Non-Detect	4	Maximum Non-Detect	1.386

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.831	Shapiro Wilk Test Statistic	0.896
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	5.2	Mean	1.444
SD	3.709	SD	0.65
95% DL/2 (t) UCL	7.227	95% H-Stat (DL/2) UCL	8.551
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.429	Mean in Log Scale	1.477
SD	5.536	SD in Log Scale	0.616

95% MLE (t) UCL	6.454
95% MLE (Tiku) UCL	7.36

Mean in Original Scale	5.28
SD in Original Scale	3.643
95% t UCL	7.27
95% Percentile Bootstrap UCL	7.091
95% BCA Bootstrap UCL	7.352

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	2.025
Theta Star	2.726
nu star	40.49
A-D Test Statistic	0.611
5% A-D Critical Value	0.733
K-S Test Statistic	0.733
5% K-S Critical Value	0.269

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	2.2
Maximum	13
Mean	5.333
Median	3.462
SD	3.608
k star	2.194
Theta star	2.43
Nu star	48.27
AppChi2	33.33
95% Gamma Approximate UCL	7.725
95% Adjusted Gamma UCL	8.222

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	5.267
SD	3.483
SE of Mean	1.108
95% KM (t) UCL	7.275
95% KM (z) UCL	7.089
95% KM (jackknife) UCL	7.265
95% KM (bootstrap t) UCL	8.039
95% KM (BCA) UCL	7.027
95% KM (Percentile Bootstrap) UCL	7.136
95% KM (Chebyshev) UCL	10.1
97.5% KM (Chebyshev) UCL	12.18
99% KM (Chebyshev) UCL	16.29

Potential UCLs to Use

95% KM (BCA) UCL 7.027

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Observations 11

Number of Distinct Observations 10

Raw Statistics

Minimum	45
Maximum	91
Mean	60.91
Median	57
SD	14.74
Coefficient of Variation	0.242
Skewness	1.095

Log-transformed Statistics

Minimum of Log Data	3.807
Maximum of Log Data	4.511
Mean of log Data	4.085
SD of log Data	0.226

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.875
Shapiro Wilk Critical Value	0.85

Data appear Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.916
Shapiro Wilk Critical Value	0.85

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

Assuming Lognormal Distribution

95% Student's-t UCL	68.96

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	69.79
95% Modified-t UCL (Johnson-1978)	69.21

Gamma Distribution Test

k star (bias corrected)	15.15
Theta Star	4.021
MLE of Mean	60.91
MLE of Standard Deviation	15.65
nu star	333.2
Approximate Chi Square Value (.05)	291.9
Adjusted Level of Significance	0.0278
Adjusted Chi Square Value	285.6
Anderson-Darling Test Statistic	0.516
Anderson-Darling 5% Critical Value	0.729
Kolmogorov-Smirnov Test Statistic	0.256
Kolmogorov-Smirnov 5% Critical Value	0.255

Data follow Appr. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	69.52
95% Adjusted Gamma UCL	71.06

95% H-UCL	69.78
95% Chebyshev (MVUE) UCL	79.02
97.5% Chebyshev (MVUE) UCL	86.89
99% Chebyshev (MVUE) UCL	102.3

Data Distribution

Data appear Normal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	68.22
95% Jackknife UCL	68.96
95% Standard Bootstrap UCL	67.94
95% Bootstrap-t UCL	72.63
95% Hall's Bootstrap UCL	73.28
95% Percentile Bootstrap UCL	68.27
95% BCA Bootstrap UCL	69.45
95% Chebyshev(Mean, Sd) UCL	80.28
97.5% Chebyshev(Mean, Sd) UCL	88.67
99% Chebyshev(Mean, Sd) UCL	105.1

Potential UCL to Use

Use 95% Student's-t UCL 68.96

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area O 0 to 10 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Area O.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Cadmium

General Statistics

Number of Valid Data	10	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	6
		Percent Non-Detects	60.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.4	Minimum Detected	0.336
Maximum Detected	3.5	Maximum Detected	1.253
Mean of Detected	2.45	Mean of Detected	0.844
SD of Detected	0.866	SD of Detected	0.382
Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	6
Number treated as Detected	4
Single DL Non-Detect Percentage	60.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.991
5% Shapiro Wilk Critical Value	0.748

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	1.23
SD	1.167
95% DL/2 (t) UCL	1.906
Maximum Likelihood Estimate(MLE) Method	
Mean	0.643
SD	1.784
95% MLE (t) UCL	1.678
95% MLE (Tiku) UCL	2.091

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	2.627
Theta Star	0.933
nu star	21.01
A-D Test Statistic	0.237
5% A-D Critical Value	0.657
K-S Test Statistic	0.657
5% K-S Critical Value	0.395

Data appear Gamma Distributed at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.967
5% Shapiro Wilk Critical Value	0.748

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-0.217
SD	0.977
95% H-Stat (DL/2) UCL	3.507
Log ROS Method	
Mean in Log Scale	0.0589
SD in Log Scale	0.764
Mean in Original Scale	1.379
SD in Original Scale	1.063
95% t UCL	1.995
95% Percentile Bootstrap UCL	1.938
95% BCA Bootstrap UCL	2.034

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	1.82
SD	0.7
SE of Mean	0.255
95% KM (t) UCL	2.288

Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	1.4
Maximum	3.5
Mean	2.451
Median	2.453
SD	0.5
k star	17.11
Theta star	0.143
Nu star	342.3
AppChi2	300.4
95% Gamma Approximate UCL	2.793
95% Adjusted Gamma UCL	N/A

Note: DL/2 is not a recommended method.

95% KM (z) UCL	2.24
95% KM (jackknife) UCL	2.434
95% KM (bootstrap t) UCL	2.165
95% KM (BCA) UCL	2.96
95% KM (Percentile Bootstrap) UCL	2.78
95% KM (Chebyshev) UCL	2.934
97.5% KM (Chebyshev) UCL	3.416
99% KM (Chebyshev) UCL	4.362

Potential UCLs to Use

95% KM (t) UCL	2.288
95% KM (Percentile Bootstrap) UCL	2.78

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics

Number of Valid Observations 10

Number of Distinct Observations 10

Raw Statistics

Minimum	8.6
Maximum	58
Mean	25.36
Median	16.5
SD	18.27
Coefficient of Variation	0.72
Skewness	1.102

Log-transformed Statistics

Minimum of Log Data	2.152
Maximum of Log Data	4.06
Mean of log Data	3.021
SD of log Data	0.67

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.806
Shapiro Wilk Critical Value	0.842

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.91
Shapiro Wilk Critical Value	0.842

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	35.95

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	37.01
95% Modified-t UCL (Johnson-1978)	36.29

Assuming Lognormal Distribution

95% H-UCL	44.66
95% Chebyshev (MVUE) UCL	48.76
97.5% Chebyshev (MVUE) UCL	59.04
99% Chebyshev (MVUE) UCL	79.24

Gamma Distribution Test

k star (bias corrected)	1.823
Theta Star	13.91
MLE of Mean	25.36
MLE of Standard Deviation	18.78
nu star	36.45
Approximate Chi Square Value (.05)	23.63
Adjusted Level of Significance	0.0267
Adjusted Chi Square Value	21.85
Anderson-Darling Test Statistic	0.605
Anderson-Darling 5% Critical Value	0.734
Kolmogorov-Smirnov Test Statistic	0.246
Kolmogorov-Smirnov 5% Critical Value	0.269

Data appear Gamma Distributed at 5% Significance Level

Data Distribution

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	39.12
95% Adjusted Gamma UCL	42.3

Nonparametric Statistics

95% CLT UCL	34.86
95% Jackknife UCL	35.95
95% Standard Bootstrap UCL	34.54
95% Bootstrap-t UCL	41.44
95% Hall's Bootstrap UCL	35.4
95% Percentile Bootstrap UCL	35.1
95% BCA Bootstrap UCL	37.1
95% Chebyshev(Mean, Sd) UCL	50.54
97.5% Chebyshev(Mean, Sd) UCL	61.44
99% Chebyshev(Mean, Sd) UCL	82.84

Potential UCL to Use — Use 95% Approximate Gamma UCL 39.12

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Lead

General Statistics

Number of Valid Data	10	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	3
		Percent Non-Detects	30.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2.2	Minimum Detected	0.788
Maximum Detected	6.3	Maximum Detected	1.841
Mean of Detected	4.043	Mean of Detected	1.344
SD of Detected	1.39	SD of Detected	0.356
Minimum Non-Detect	2	Minimum Non-Detect	0.693
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	6
Number treated as Detected	4
Single DL Non-Detect Percentage	60.00%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.983	Shapiro Wilk Test Statistic	0.989
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.23	Mean	1.01
SD	1.754	SD	0.64
95% DL/2 (t) UCL	4.247	95% H-Stat (DL/2) UCL	5.659
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.615	Mean in Log Scale	1.123
SD	1.429	SD in Log Scale	0.472
95% MLE (t) UCL	4.443	Mean in Original Scale	3.391
95% MLE (Tiku) UCL	4.787	SD in Original Scale	1.56
		95% t UCL	4.295
		95% Percentile Bootstrap UCL	4.176
		95% BCA Bootstrap UCL	4.213

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	5.606	Data appear Normal at 5% Significance Level	
Theta Star	0.721		
nu star	78.48		
A-D Test Statistic	0.141	**Nonparametric Statistics**	
5% A-D Critical Value	0.709	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.709	Mean	3.526
5% K-S Critical Value	0.312	SD	1.346
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.463
		95% KM (t) UCL	4.375
Assuming Gamma Distribution		95% KM (z) UCL	4.288

Gamma ROS Statistics using Extrapolated Data	
Minimum	2.095
Maximum	6.3
Mean	3.732
Median	3.627
SD	1.316
k star	6.467
Theta star	0.577
Nu star	129.3
AppChi2	104.1
95% Gamma Approximate UCL	4.638
95% Adjusted Gamma UCL	4.82

Note: DL/2 is not a recommended method.

95% KM (jackknife) UCL	4.34
95% KM (bootstrap t) UCL	4.471
95% KM (BCA) UCL	4.58
95% KM (Percentile Bootstrap) UCL	4.423
95% KM (Chebyshev) UCL	5.544
97.5% KM (Chebyshev) UCL	6.418
99% KM (Chebyshev) UCL	8.133

Potential UCLs to Use

95% KM (t) UCL	4.375
95% KM (Percentile Bootstrap) UCL	4.423

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Observations 10

Number of Distinct Observations 9

Raw Statistics

Minimum	52
Maximum	130
Mean	87
Median	86
SD	28
Coefficient of Variation	0.322
Skewness	0.171

Log-transformed Statistics

Minimum of Log Data	3.951
Maximum of Log Data	4.868
Mean of log Data	4.417
SD of log Data	0.334

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.936
Shapiro Wilk Critical Value	0.842

Data appear Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.93
Shapiro Wilk Critical Value	0.842

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	103.2

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	102.1
95% Modified-t UCL (Johnson-1978)	103.3

Assuming Lognormal Distribution

95% H-UCL	109.6
95% Chebyshev (MVUE) UCL	127.6
97.5% Chebyshev (MVUE) UCL	145.1
99% Chebyshev (MVUE) UCL	179.5

Gamma Distribution Test

k star (bias corrected)	7.328
Theta Star	11.87
MLE of Mean	87
MLE of Standard Deviation	32.14
nu star	146.6
Approximate Chi Square Value (.05)	119.6
Adjusted Level of Significance	0.0267
Adjusted Chi Square Value	115.3
Anderson-Darling Test Statistic	0.303
Anderson-Darling 5% Critical Value	0.725
Kolmogorov-Smirnov Test Statistic	0.152
Kolmogorov-Smirnov 5% Critical Value	0.267

Data appear Gamma Distributed at 5% Significance Level

Data Distribution

Data appear Normal at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL	106.6
95% Adjusted Gamma UCL	110.5

Nonparametric Statistics

95% CLT UCL	101.6
95% Jackknife UCL	103.2
95% Standard Bootstrap UCL	100.8
95% Bootstrap-t UCL	104.7
95% Hall's Bootstrap UCL	100.8
95% Percentile Bootstrap UCL	100.6
95% BCA Bootstrap UCL	101.1
95% Chebyshev(Mean, Sd) UCL	125.6
97.5% Chebyshev(Mean, Sd) UCL	142.3
99% Chebyshev(Mean, Sd) UCL	175.1

Potential UCL to Use	Use 95% Student's-t UCL 103.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area Open Space 0 to 10 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	OPEN 0-10.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Acenaphthylene

General Statistics

Number of Valid Data	45	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	41
		Percent Non-Detects	91.11%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.02	Minimum Detected	-3.912
Maximum Detected	0.1	Maximum Detected	-2.303
Mean of Detected	0.055	Mean of Detected	-3.117
SD of Detected	0.0385	SD of Detected	0.784
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	45
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.892	Shapiro Wilk Test Statistic	0.891
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0145	Mean	-5.262
SD	0.0274	SD	1.204
95% DL/2 (t) UCL	0.0214	95% H-Stat (DL/2) UCL	0.0172
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.359
		SD in Log Scale	1.362
		Mean in Original Scale	0.00657

SD in Original Scale	0.0184
95% t UCL	0.0112
95% Percentile Bootstrap UCL	0.0114
95% BCA Bootstrap UCL	0.0136
95% H-UCL	0.00778

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.782
Theta Star	0.0703
nu star	6.259
A-D Test Statistic	0.394
5% A-D Critical Value	0.66
K-S Test Statistic	0.66
5% K-S Critical Value	0.397

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.1
Mean	0.00489
Median	0.000001
SD	0.0188
k star	0.114
Theta star	0.0427
Nu star	10.3
AppChi2	4.131
95% Gamma Approximate UCL (Use when n >= 40)	0.0122
95% Adjusted Gamma UCL (Use when n < 40)	N/A

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0233
SD	0.0145
SE of Mean	0.00257
95% KM (t) UCL	0.0277
95% KM (z) UCL	0.0276
95% KM (jackknife) UCL	0.0279
95% KM (bootstrap t) UCL	0.0265
95% KM (BCA) UCL	N/A
95% KM (Percentile Bootstrap) UCL	0.0752
95% KM (Chebyshev) UCL	0.0345
97.5% KM (Chebyshev) UCL	0.0394
99% KM (Chebyshev) UCL	0.0489

Potential UCLs to Use

95% KM (t) UCL	0.0277
95% KM (Percentile Bootstrap) UCL	0.0752

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Anthracene

General Statistics

Number of Valid Data	45
Number of Distinct Detected Data	3
Number of Detected Data	3
Number of Non-Detect Data	42
Percent Non-Detects	93.33%

Raw Statistics

Minimum Detected	0.006
Maximum Detected	0.024
Mean of Detected	0.0137
SD of Detected	0.00929
Minimum Non-Detect	0.0049

Log-transformed Statistics

Minimum Detected	-5.116
Maximum Detected	-3.73
Mean of Detected	-4.452
SD of Detected	0.695
Minimum Non-Detect	-5.319

Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	45
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.938	Shapiro Wilk Test Statistic	0.995
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0118	Mean	-5.317
SD	0.0229	SD	1.081
95% DL/2 (t) UCL	0.0176	95% H-Stat (DL/2) UCL	0.0131
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-7.678
		SD in Log Scale	1.22
		Mean in Original Scale	0.0014
		SD in Original Scale	0.00389
		95% t UCL	0.00237
		95% Percentile Bootstrap UCL	0.00244
		95% BCA Bootstrap UCL	0.00311
		95% H-UCL	0.00158

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	N/A	**Data appear Normal at 5% Significance Level**	
Theta Star	N/A		
nu star	N/A		
A-D Test Statistic	N/A	**Nonparametric Statistics**	
5% A-D Critical Value	N/A	Kaplan-Meier (KM) Method	
K-S Test Statistic	N/A	Mean	0.00659
5% K-S Critical Value	N/A	SD	0.00293
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0005762
		95% KM (t) UCL	0.00756
Assuming Gamma Distribution		95% KM (z) UCL	0.00754
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.00981

Minimum	N/A	95% KM (bootstrap t) UCL	0.00766
Maximum	N/A	95% KM (BCA) UCL	0.024
Mean	N/A	95% KM (Percentile Bootstrap) UCL	0.024
Median	N/A	95% KM (Chebyshev) UCL	0.0091
SD	N/A	97.5% KM (Chebyshev) UCL	0.0102
k star	N/A	99% KM (Chebyshev) UCL	0.0123
Theta star	N/A		
Nu star	N/A	**Potential UCLs to Use**	
AppChi2	N/A	95% KM (t) UCL	0.00756
95% Gamma Approximate UCL (Use when n >= 40)	N/A	95% KM (Percentile Bootstrap) UCL	0.024
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

BaP TEQ

General Statistics

Number of Valid Data	45	Number of Detected Data	20
Number of Distinct Detected Data	20	Number of Non-Detect Data	25
		Percent Non-Detects	55.56%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.00363	Minimum Detected	-5.62
Maximum Detected	0.541	Maximum Detected	-0.614
Mean of Detected	0.122	Mean of Detected	-3.188
SD of Detected	0.163	SD of Detected	1.643
Minimum Non-Detect	0.00345	Minimum Non-Detect	-5.668
Maximum Non-Detect	0.0705	Maximum Non-Detect	-2.652

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	36
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	9
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	80.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.751	Shapiro Wilk Test Statistic	0.916
5% Shapiro Wilk Critical Value	0.905	5% Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.057	Mean	-4.736
SD	0.123	SD	1.864
95% DL/2 (t) UCL	0.0878	95% H-Stat (DL/2) UCL	0.133
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	

MLE yields a negative mean

Mean in Log Scale	-5.517
SD in Log Scale	2.463
Mean in Original Scale	0.0549
SD in Original Scale	0.124
95% t UCL	0.0859
95% Percentile Bootstrap UCL	0.0871
95% BCA Bootstrap UCL	0.093
95% H-UCL	0.423

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.52
Theta Star	0.236
nu star	20.78
A-D Test Statistic	0.922
5% A-D Critical Value	0.796
K-S Test Statistic	0.796
5% K-S Critical Value	0.204

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.541
Mean	0.0544
Median	0.000001
SD	0.124
k star	0.134
Theta star	0.407
Nu star	12.02
AppChi2	5.243
95% Gamma Approximate UCL (Use when n >= 40)	0.125
95% Adjusted Gamma UCL (Use when n < 40)	0.128

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0566
SD	0.121
SE of Mean	0.0186
95% KM (t) UCL	0.0878
95% KM (z) UCL	0.0871
95% KM (jackknife) UCL	0.0871
95% KM (bootstrap t) UCL	0.106
95% KM (BCA) UCL	0.0922
95% KM (Percentile Bootstrap) UCL	0.0895
95% KM (Chebyshev) UCL	0.138
97.5% KM (Chebyshev) UCL	0.173
99% KM (Chebyshev) UCL	0.241

Potential UCLs to Use

95% KM (Chebyshev) UCL	0.138

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics

Number of Valid Data	45	Number of Detected Data	8
Number of Distinct Detected Data	8	Number of Non-Detect Data	37
		Percent Non-Detects	82.22%

Raw Statistics

Minimum Detected	0.005
Maximum Detected	0.91

Log-transformed Statistics

Minimum Detected	-5.298
Maximum Detected	-0.0943

Mean of Detected	0.178	Mean of Detected	-3.035
SD of Detected	0.309	SD of Detected	1.814
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	43
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.56%

Warning: There are only 8 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.633	Shapiro Wilk Test Statistic	0.96
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0415	Mean	-4.98
SD	0.141	SD	1.532
95% DL/2 (t) UCL	0.0767	95% H-Stat (DL/2) UCL	0.0447
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-8.255
		SD in Log Scale	2.962
		Mean in Original Scale	0.0318
		SD in Original Scale	0.141
		95% t UCL	0.0671
		95% Percentile Bootstrap UCL	0.0726
		95% BCA Bootstrap UCL	0.0983
		95% H-UCL	0.207

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.388	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	0.457		
nu star	6.215		
A-D Test Statistic	0.392	**Nonparametric Statistics**	
5% A-D Critical Value	0.764	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.764	Mean	0.0361
5% K-S Critical Value	0.309	SD	0.139
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0221
		95% KM (t) UCL	0.0732
Assuming Gamma Distribution		95% KM (z) UCL	0.0724

Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0692
Minimum	0.000001	95% KM (bootstrap t) UCL	0.221
Maximum	0.91	95% KM (BCA) UCL	0.0961
Mean	0.0316	95% KM (Percentile Bootstrap) UCL	0.0801
Median	0.000001	95% KM (Chebyshev) UCL	0.132
SD	0.141	97.5% KM (Chebyshev) UCL	0.174
k star	0.105	99% KM (Chebyshev) UCL	0.256
Theta star	0.301		
Nu star	9.448	**Potential UCLs to Use**	
AppChi2	3.6	95% KM (t) UCL	0.0732
95% Gamma Approximate UCL (Use when n >= 40)	0.0828		
95% Adjusted Gamma UCL (Use when n < 40)	0.0857		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics

Number of Valid Data	45	Number of Detected Data	17
Number of Distinct Detected Data	15	Number of Non-Detect Data	28
		Percent Non-Detects	62.22%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.007	Minimum Detected	-4.962
Maximum Detected	0.5	Maximum Detected	-0.693
Mean of Detected	0.109	Mean of Detected	-3.119
SD of Detected	0.142	SD of Detected	1.495
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	39
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	6
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	86.67%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.746	Shapiro Wilk Test Statistic	0.891
5% Shapiro Wilk Critical Value	0.892	5% Shapiro Wilk Critical Value	0.892
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0453	Mean	-4.685
SD	0.0998	SD	1.64
95% DL/2 (t) UCL	0.0703	95% H-Stat (DL/2) UCL	0.0777

Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Log ROS Method	
Mean in Log Scale	-5.662
SD in Log Scale	2.296
Mean in Original Scale	0.042
SD in Original Scale	0.101
95% t UCL	0.0672
95% Percentile Bootstrap UCL	0.0675
95% BCA Bootstrap UCL	0.0751
95% H-UCL	0.202

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.591
Theta Star	0.185
nu star	20.11
A-D Test Statistic	0.759
5% A-D Critical Value	0.783
K-S Test Statistic	0.783
5% K-S Critical Value	0.218

Data follow Appr. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.5
Mean	0.0413
Median	0.000001
SD	0.101
k star	0.127
Theta star	0.325
Nu star	11.44
AppChi2	4.86
95% Gamma Approximate UCL (Use when n >= 40)	0.0973
95% Adjusted Gamma UCL (Use when n < 40)	0.1

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data Follow Appr. Gamma Distribution at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.046
SD	0.0981
SE of Mean	0.0151
95% KM (t) UCL	0.0714
95% KM (z) UCL	0.0708
95% KM (jackknife) UCL	0.0709
95% KM (bootstrap t) UCL	0.0941
95% KM (BCA) UCL	0.0729
95% KM (Percentile Bootstrap) UCL	0.0717
95% KM (Chebyshev) UCL	0.112
97.5% KM (Chebyshev) UCL	0.14
99% KM (Chebyshev) UCL	0.196

Potential UCLs to Use

95% KM (t) UCL	0.0714

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics

Number of Valid Data	45	Number of Detected Data	15
Number of Distinct Detected Data	14	Number of Non-Detect Data	30
		Percent Non-Detects	66.67%

Raw Statistics

Minimum Detected	0.0056

Log-transformed Statistics

Minimum Detected	-5.185

Maximum Detected	0.89	Maximum Detected	-0.117
Mean of Detected	0.116	Mean of Detected	-3.359
SD of Detected	0.227	SD of Detected	1.536
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.33%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.532	Shapiro Wilk Test Statistic	0.923
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0468	Mean	-4.746
SD	0.139	SD	1.603
95% DL/2 (t) UCL	0.0817	95% H-Stat (DL/2) UCL	0.0668
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-6.202
		SD in Log Scale	2.376
		Mean in Original Scale	0.0391
		SD in Original Scale	0.14
		95% t UCL	0.074
		95% Percentile Bootstrap UCL	0.0773
		95% BCA Bootstrap UCL	0.105
		95% H-UCL	0.156

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.464	**Data appear Lognormal at 5% Significance Level**	
Theta Star	0.249		
nu star	13.93		
A-D Test Statistic	0.991	**Nonparametric Statistics**	
5% A-D Critical Value	0.791	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.791	Mean	0.0429
5% K-S Critical Value	0.233	SD	0.137
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0212
		95% KM (t) UCL	0.0785
Assuming Gamma Distribution		95% KM (z) UCL	0.0777
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0774
Minimum	0.000001	95% KM (bootstrap t) UCL	0.15
Maximum	0.89	95% KM (BCA) UCL	0.0897
Mean	0.0385	95% KM (Percentile Bootstrap) UCL	0.0797
Median	0.000001	95% KM (Chebyshev) UCL	0.135
SD	0.14	97.5% KM (Chebyshev) UCL	0.175

k star	0.12	99% KM (Chebyshev) UCL	0.254
Theta star	0.32		
Nu star	10.83	**Potential UCLs to Use**	
AppChi2	4.464	95% KM (Chebyshev) UCL	0.135
95% Gamma Approximate UCL (Use when n >= 40)	0.0935		
95% Adjusted Gamma UCL (Use when n < 40)	0.0964		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics

Number of Valid Data	45	Number of Detected Data	18
Number of Distinct Detected Data	17	Number of Non-Detect Data	27
		Percent Non-Detects	60.00%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0054	Minimum Detected	-5.221
Maximum Detected	0.6	Maximum Detected	-0.511
Mean of Detected	0.0794	Mean of Detected	-3.465
SD of Detected	0.147	SD of Detected	1.289
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	43
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.56%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.53	Shapiro Wilk Test Statistic	0.944
5% Shapiro Wilk Critical Value	0.897	5% Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0377	Mean	-4.697
SD	0.0991	SD	1.507
95% DL/2 (t) UCL	0.0625	95% H-Stat (DL/2) UCL	0.0562
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.446
		SD in Log Scale	1.93
		Mean in Original Scale	0.0327
		SD in Original Scale	0.0992
		95% t UCL	0.0575

95% Percentile Bootstrap UCL	0.0589
95% BCA Bootstrap UCL	0.0756
95% H-UCL	0.0789

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.583
Theta Star	0.136
nu star	20.99
A-D Test Statistic	1.189
5% A-D Critical Value	0.786
K-S Test Statistic	0.786
5% K-S Critical Value	0.213

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.6
Mean	0.0317
Median	0.000001
SD	0.0995
k star	0.133
Theta star	0.239
Nu star	11.96
AppChi2	5.199
95% Gamma Approximate UCL (Use when n >= 40)	0.073
95% Adjusted Gamma UCL (Use when n < 40)	0.0752

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0356
SD	0.0973
SE of Mean	0.0149
95% KM (t) UCL	0.0608
95% KM (z) UCL	0.0602
95% KM (jackknife) UCL	0.06
95% KM (bootstrap t) UCL	0.126
95% KM (BCA) UCL	0.0637
95% KM (Percentile Bootstrap) UCL	0.0609
95% KM (Chebyshev) UCL	0.101
97.5% KM (Chebyshev) UCL	0.129
99% KM (Chebyshev) UCL	0.184

Potential UCLs to Use

95% KM (BCA) UCL	0.0637

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics

Number of Valid Data	45	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	38
		Percent Non-Detects	84.44%

Raw Statistics

Minimum Detected	0.006
Maximum Detected	0.21
Mean of Detected	0.0611
SD of Detected	0.0723
Minimum Non-Detect	0.0049
Maximum Non-Detect	0.2

Log-transformed Statistics

Minimum Detected	-5.116
Maximum Detected	-1.561
Mean of Detected	-3.434
SD of Detected	1.281
Minimum Non-Detect	-5.319
Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	44
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	97.78%

Warning: There are only 7 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.792
5% Shapiro Wilk Critical Value	0.803

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.02
SD	0.0393
95% DL/2 (t) UCL	0.0299
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.967
5% Shapiro Wilk Critical Value	0.803

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-5.055
SD	1.332
95% H-Stat (DL/2) UCL	0.027
Log ROS Method	
Mean in Log Scale	-7.285
SD in Log Scale	2.039
Mean in Original Scale	0.01
SD in Original Scale	0.0347
95% t UCL	0.0187
95% Percentile Bootstrap UCL	0.0193
95% BCA Bootstrap UCL	0.0234
95% H-UCL	0.0173

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.617
Theta Star	0.099
nu star	8.639
A-D Test Statistic	0.248
5% A-D Critical Value	0.73
K-S Test Statistic	0.73
5% K-S Critical Value	0.321

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.21
Mean	0.00951
Median	0.000001

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0151
SD	0.0334
SE of Mean	0.00546
95% KM (t) UCL	0.0243
95% KM (z) UCL	0.0241
95% KM (jackknife) UCL	0.0223
95% KM (bootstrap t) UCL	0.0325
95% KM (BCA) UCL	0.066
95% KM (Percentile Bootstrap) UCL	0.0358
95% KM (Chebyshev) UCL	0.0389

SD	0.0348	97.5% KM (Chebyshev) UCL	0.0492
k star	0.114	99% KM (Chebyshev) UCL	0.0695
Theta star	0.0831		
Nu star	10.3	**Potential UCLs to Use**	
AppChi2	4.13	95% KM (t) UCL	0.0243
95% Gamma Approximate UCL (Use when n >= 40)	0.0237		
95% Adjusted Gamma UCL (Use when n < 40)	0.0245		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics

Number of Valid Data	103	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	97
		Percent Non-Detects	94.17%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.64	Minimum Detected	-0.446
Maximum Detected	1.4	Maximum Detected	0.336
Mean of Detected	0.888	Mean of Detected	-0.162
SD of Detected	0.302	SD of Detected	0.313
Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	101
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	98.06%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.845	Shapiro Wilk Test Statistic	0.881
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.479	Mean	-0.783
SD	0.155	SD	0.313

95% DL/2 (t) UCL	0.504
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

95% H-Stat (DL/2) UCL	0.506
Log ROS Method	
Mean in Log Scale	-0.994
SD in Log Scale	0.489
Mean in Original Scale	0.417
SD in Original Scale	0.218
95% t UCL	0.453
95% Percentile Bootstrap UCL	0.452
95% BCA Bootstrap UCL	0.456
95% H-UCL	0.456

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	5.989
Theta Star	0.148
nu star	71.87
A-D Test Statistic	0.461
5% A-D Critical Value	0.698
K-S Test Statistic	0.698
5% K-S Critical Value	0.332

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	1.4
Mean	0.163
Median	0.000001
SD	0.327
k star	0.099
Theta star	1.643
Nu star	20.39
AppChi2	11.14
95% Gamma Approximate UCL (Use when n >= 40)	0.298
95% Adjusted Gamma UCL (Use when n < 40)	0.3

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.664
SD	0.0932
SE of Mean	0.0127
95% KM (t) UCL	0.685
95% KM (z) UCL	0.685
95% KM (jackknife) UCL	0.682
95% KM (bootstrap t) UCL	0.686
95% KM (BCA) UCL	1.1
95% KM (Percentile Bootstrap) UCL	0.75
95% KM (Chebyshev) UCL	0.719
97.5% KM (Chebyshev) UCL	0.743
99% KM (Chebyshev) UCL	0.79

Potential UCLs to Use

95% KM (t) UCL	0.685
95% KM (Percentile Bootstrap) UCL	0.75

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics

Number of Valid Observations 103

Number of Distinct Observations 42

Raw Statistics

Minimum 2.6

Log-transformed Statistics

Minimum of Log Data 0.956

Maximum	63
Mean	18.61
Geometric Mean	16.24
Median	16
SD	10.78
Std. Error of Mean	1.062
Coefficient of Variation	0.579
Skewness	1.808

Maximum of Log Data	4.143
Mean of log Data	2.787
SD of log Data	0.52

Relevant UCL Statistics

Normal Distribution Test

Lilliefors Test Statistic	0.212
Lilliefors Critical Value	0.0873

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Lilliefors Test Statistic	0.111
Lilliefors Critical Value	0.0873

Data not Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	20.38

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	20.56
95% Modified-t UCL (Johnson-1978)	20.41

Assuming Lognormal Distribution

95% H-UCL	20.44
95% Chebyshev (MVUE) UCL	22.96
97.5% Chebyshev (MVUE) UCL	24.86
99% Chebyshev (MVUE) UCL	28.6

Gamma Distribution Test

k star (bias corrected)	3.719
Theta Star	5.005
MLE of Mean	18.61
MLE of Standard Deviation	9.651
nu star	766.1
Approximate Chi Square Value (.05)	702.8
Adjusted Level of Significance	0.0477
Adjusted Chi Square Value	702
Anderson-Darling Test Statistic	2.208
Anderson-Darling 5% Critical Value	0.757
Kolmogorov-Smirnov Test Statistic	0.147
Kolmogorov-Smirnov 5% Critical Value	0.089

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	20.29
95% Adjusted Gamma UCL (Use when n < 40)	20.31

Data Distribution

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

95% CLT UCL	20.36
95% Jackknife UCL	20.38
95% Standard Bootstrap UCL	20.38
95% Bootstrap-t UCL	20.8
95% Hall's Bootstrap UCL	20.62
95% Percentile Bootstrap UCL	20.42
95% BCA Bootstrap UCL	20.58
95% Chebyshev(Mean, Sd) UCL	23.24
97.5% Chebyshev(Mean, Sd) UCL	25.25
99% Chebyshev(Mean, Sd) UCL	29.18

Potential UCL to Use

Use 95% Chebyshev (Mean, Sd) UCL 23.24

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Chrysene

General Statistics

Number of Valid Data	45	Number of Detected Data	18
Number of Distinct Detected Data	18	Number of Non-Detect Data	27
		Percent Non-Detects	60.00%

Raw Statistics

Minimum Detected	0.0056
Maximum Detected	3.6
Mean of Detected	0.331
SD of Detected	0.835
Minimum Non-Detect	0.0049
Maximum Non-Detect	0.1

Log-transformed Statistics

Minimum Detected	-5.185
Maximum Detected	1.281
Mean of Detected	-2.755
SD of Detected	1.843
Minimum Non-Detect	-5.319
Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	37
Number treated as Detected	8
Single DL Non-Detect Percentage	82.22%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.414
5% Shapiro Wilk Critical Value	0.897

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.94
5% Shapiro Wilk Critical Value	0.897

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method

Mean	0.136
SD	0.543
95% DL/2 (t) UCL	0.273

Maximum Likelihood Estimate(MLE) Method N/A

MLE yields a negative mean

Assuming Lognormal Distribution

DL/2 Substitution Method

Mean	-4.49
SD	1.928
95% H-Stat (DL/2) UCL	0.204

Log ROS Method

Mean in Log Scale	-5.818
SD in Log Scale	2.917
Mean in Original Scale	0.133
SD in Original Scale	0.544
95% t UCL	0.269
95% Percentile Bootstrap UCL	0.287
95% BCA Bootstrap UCL	0.406
95% H-UCL	1.941

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.369
Theta Star	0.897
nu star	13.3
A-D Test Statistic	1.078
5% A-D Critical Value	0.821
K-S Test Statistic	0.821
5% K-S Critical Value	0.218

Data follow Appr. Gamma Distribution at 5% Significance Level

Data Distribution Test with Detected Values Only

Data Follow Appr. Gamma Distribution at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	0.136
SD	0.537
SE of Mean	0.0824
95% KM (t) UCL	0.275

Assuming Gamma Distribution			
Gamma ROS Statistics using Extrapolated Data		95% KM (z) UCL	0.272
Minimum	0.000001	95% KM (jackknife) UCL	0.272
Maximum	3.6	95% KM (bootstrap t) UCL	0.733
Mean	0.133	95% KM (BCA) UCL	0.306
Median	0.000001	95% KM (Percentile Bootstrap) UCL	0.294
SD	0.544	95% KM (Chebyshev) UCL	0.495
k star	0.117	97.5% KM (Chebyshev) UCL	0.651
Theta star	1.138	99% KM (Chebyshev) UCL	0.956
Nu star	10.49		
AppChi2	4.248	Potential UCLs to Use	
95% Gamma Approximate UCL (Use when n >= 40)	0.327	95% KM (t) UCL	0.275
95% Adjusted Gamma UCL (Use when n < 40)	0.338		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dibenz(a,h)anthracene

General Statistics

Number of Valid Data	45	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	40
		Percent Non-Detects	88.89%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	0.28	Maximum Detected	-1.273
Mean of Detected	0.0728	Mean of Detected	-3.512
SD of Detected	0.116	SD of Detected	1.428
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	44
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	97.78%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.65	Shapiro Wilk Test Statistic	0.945
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.0183
SD	0.0461
95% DL/2 (t) UCL	0.0299
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-5.212
SD	1.255
95% H-Stat (DL/2) UCL	0.0199
Log ROS Method	
Mean in Log Scale	-8.891
SD in Log Scale	2.458
Mean in Original Scale	0.00826
SD in Original Scale	0.042
95% t UCL	0.0188
95% Percentile Bootstrap UCL	0.0203
95% BCA Bootstrap UCL	0.0283
95% H-UCL	0.0142

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.405
Theta Star	0.18
nu star	4.055
A-D Test Statistic	0.512
5% A-D Critical Value	0.702
K-S Test Statistic	0.702
5% K-S Critical Value	0.368

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.28
Mean	0.00809
Median	0.000001
SD	0.0421
k star	0.111
Theta star	0.0729
Nu star	9.987
AppChi2	3.934
95% Gamma Approximate UCL (Use when n >= 40)	0.0205
95% Adjusted Gamma UCL (Use when n < 40)	0.0212

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0136
SD	0.0406
SE of Mean	0.00678
95% KM (t) UCL	0.025
95% KM (z) UCL	0.0247
95% KM (jackknife) UCL	0.0231
95% KM (bootstrap t) UCL	0.0665
95% KM (BCA) UCL	0.0507
95% KM (Percentile Bootstrap) UCL	0.04
95% KM (Chebyshev) UCL	0.0431
97.5% KM (Chebyshev) UCL	0.0559
99% KM (Chebyshev) UCL	0.081

Potential UCLs to Use

95% KM (t) UCL	0.025

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluoranthene

General Statistics

Number of Valid Data	45	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	35
		Percent Non-Detects	77.78%

Raw Statistics

Minimum Detected	0.0062
Maximum Detected	0.58
Mean of Detected	0.12
SD of Detected	0.188
Minimum Non-Detect	0.0049
Maximum Non-Detect	0.2

Log-transformed Statistics

Minimum Detected	-5.083
Maximum Detected	-0.545
Mean of Detected	-3.267
SD of Detected	1.627
Minimum Non-Detect	-5.319
Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	43
Number treated as Detected	2
Single DL Non-Detect Percentage	95.56%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.683
5% Shapiro Wilk Critical Value	0.842

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.906
5% Shapiro Wilk Critical Value	0.842

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method

Mean	0.0364
SD	0.0987
95% DL/2 (t) UCL	0.0611

Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Assuming Lognormal Distribution

DL/2 Substitution Method

Mean	-4.914
SD	1.519
95% H-Stat (DL/2) UCL	0.0465

Log ROS Method

Mean in Log Scale	-7.434
SD in Log Scale	2.662
Mean in Original Scale	0.0269
SD in Original Scale	0.0986
95% t UCL	0.0516
95% Percentile Bootstrap UCL	0.0539
95% BCA Bootstrap UCL	0.0702
95% H-UCL	0.133

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.449
Theta Star	0.267
nu star	8.99
A-D Test Statistic	0.652
5% A-D Critical Value	0.773
K-S Test Statistic	0.773
5% K-S Critical Value	0.28

Data appear Gamma Distributed at 5% Significance Level

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	0.032
SD	0.0963
SE of Mean	0.0152

		95% KM (t) UCL	0.0575
Assuming Gamma Distribution		95% KM (z) UCL	0.0569
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0559
Minimum	0.000001	95% KM (bootstrap t) UCL	0.111
Maximum	0.58	95% KM (BCA) UCL	0.0626
Mean	0.0266	95% KM (Percentile Bootstrap) UCL	0.0586
Median	0.000001	95% KM (Chebyshev) UCL	0.0981
SD	0.0987	97.5% KM (Chebyshev) UCL	0.127
k star	0.111	99% KM (Chebyshev) UCL	0.183
Theta star	0.24		
Nu star	9.995	**Potential UCLs to Use**	
AppChi2	3.938	95% KM (t) UCL	0.0575
95% Gamma Approximate UCL (Use when n >= 40)	0.0676		
95% Adjusted Gamma UCL (Use when n < 40)	0.0698		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluorene

General Statistics

Number of Valid Data	45	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	40
		Percent Non-Detects	88.89%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.013	Minimum Detected	-4.343
Maximum Detected	2.1	Maximum Detected	0.742
Mean of Detected	0.56	Mean of Detected	-2.04
SD of Detected	0.884	SD of Detected	2.198
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	43
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.56%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.724	Shapiro Wilk Test Statistic	0.917

5% Shapiro Wilk Critical Value	0.762

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.0714
SD	0.319
95% DL/2 (t) UCL	0.151
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.311
Theta Star	1.802
nu star	3.107
A-D Test Statistic	0.312
5% A-D Critical Value	0.719
K-S Test Statistic	0.719
5% K-S Critical Value	0.374

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	2.1
Mean	0.0622
Median	0.000001
SD	0.32
k star	0.0943
Theta star	0.66
Nu star	8.483
AppChi2	3.018
95% Gamma Approximate UCL (Use when n >= 40)	0.175
95% Adjusted Gamma UCL (Use when n < 40)	0.181

Note: DL/2 is not a recommended method.

5% Shapiro Wilk Critical Value	0.762

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-5.102
SD	1.589
95% H-Stat (DL/2) UCL	0.0452
Log ROS Method	
Mean in Log Scale	-11.42
SD in Log Scale	4.261
Mean in Original Scale	0.0622
SD in Original Scale	0.32
95% t UCL	0.142
95% Percentile Bootstrap UCL	0.153
95% BCA Bootstrap UCL	0.211
95% H-UCL	9.685

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0739
SD	0.315
SE of Mean	0.0524
95% KM (t) UCL	0.162
95% KM (z) UCL	0.16
95% KM (jackknife) UCL	0.151
95% KM (bootstrap t) UCL	0.552
95% KM (BCA) UCL	0.571
95% KM (Percentile Bootstrap) UCL	0.313
95% KM (Chebyshev) UCL	0.302
97.5% KM (Chebyshev) UCL	0.401
99% KM (Chebyshev) UCL	0.596

Potential UCLs to Use

95% KM (t) UCL	0.162

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics

Number of Valid Data	45	Number of Detected Data	7
Number of Distinct Detected Data	6	Number of Non-Detect Data	38
		Percent Non-Detects	84.44%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.012	Minimum Detected	-4.423
Maximum Detected	0.3	Maximum Detected	-1.204
Mean of Detected	0.0764	Mean of Detected	-3.203
SD of Detected	0.103	SD of Detected	1.18
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	44
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	97.78%

Warning: There are only 7 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.691	Shapiro Wilk Test Statistic	0.926
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0218	Mean	-5.085
SD	0.0502	SD	1.362
95% DL/2 (t) UCL	0.0344	95% H-Stat (DL/2) UCL	0.0279
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-7.028
		SD in Log Scale	2.038
		Mean in Original Scale	0.0126
		SD in Original Scale	0.047
		95% t UCL	0.0244
		95% Percentile Bootstrap UCL	0.0257
		95% BCA Bootstrap UCL	0.0349
		95% H-UCL	0.0223

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.622	**Data appear Gamma Distributed at 5% Significance Level**

Theta Star	0.123
nu star	8.712
A-D Test Statistic	0.429
5% A-D Critical Value	0.73
K-S Test Statistic	0.73
5% K-S Critical Value	0.321

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.3
Mean	0.0119
Median	0.000001
SD	0.0472
k star	0.112
Theta star	0.106
Nu star	10.11
AppChi2	4.009
95% Gamma Approximate UCL (Use when n >= 40)	0.03
95% Adjusted Gamma UCL (Use when n < 40)	0.031

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0225
SD	0.0444
SE of Mean	0.0072
95% KM (t) UCL	0.0346
95% KM (z) UCL	0.0343
95% KM (jackknife) UCL	0.0338
95% KM (bootstrap t) UCL	0.0617
95% KM (BCA) UCL	0.0577
95% KM (Percentile Bootstrap) UCL	0.0432
95% KM (Chebyshev) UCL	0.0539
97.5% KM (Chebyshev) UCL	0.0675
99% KM (Chebyshev) UCL	0.0941

Potential UCLs to Use

95% KM (t) UCL	0.0346

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead

General Statistics

Number of Valid Data	108	Number of Detected Data	103
Number of Distinct Detected Data	71	Number of Non-Detect Data	5
		Percent Non-Detects	4.63%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	1.3	Minimum Detected	0.262
Maximum Detected	400	Maximum Detected	5.991
Mean of Detected	15.66	Mean of Detected	2.028
SD of Detected	42.94	SD of Detected	0.938
Minimum Non-Detect	1	Minimum Non-Detect	0
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	30
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	78
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	27.78%

UCL Statistics

Normal Distribution Test with Detected Values Only | **Lognormal Distribution Test with Detected Values Only**

Lilliefors Test Statistic	0.369
5% Lilliefors Critical Value	0.0873

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	15.01
SD	42.03
95% DL/2 (t) UCL	21.73
Maximum Likelihood Estimate(MLE) Method	
Mean	4.063
SD	50.89
95% MLE (t) UCL	12.19
95% MLE (Tiku) UCL	12.39

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.801
Theta Star	19.55
nu star	165
A-D Test Statistic	9.327
5% A-D Critical Value	0.792
K-S Test Statistic	0.792
5% K-S Critical Value	0.0919

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	400
Mean	14.94
Median	5.8
SD	42.06
k star	0.451
Theta star	33.15
Nu star	97.33
AppChi2	75.57
95% Gamma Approximate UCL (Use when n >= 40)	19.24
95% Adjusted Gamma UCL (Use when n < 40)	19.3

Note: DL/2 is not a recommended method.

Lilliefors Test Statistic	0.133
5% Lilliefors Critical Value	0.0873

Data not Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	1.953
SD	0.984
95% H-Stat (DL/2) UCL	14.1
Log ROS Method	
Mean in Log Scale	1.962
SD in Log Scale	0.972
Mean in Original Scale	15.04
SD in Original Scale	42.02
95% t UCL	21.74
95% Percentile Bootstrap UCL	22.48
95% BCA Bootstrap UCL	27.43
95% H UCL	14.01

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	15.06
SD	41.82
SE of Mean	4.044
95% KM (t) UCL	21.77
95% KM (z) UCL	21.71
95% KM (jackknife) UCL	21.76
95% KM (bootstrap t) UCL	36.18
95% KM (BCA) UCL	23.68
95% KM (Percentile Bootstrap) UCL	22.21
95% KM (Chebyshev) UCL	32.69
97.5% KM (Chebyshev) UCL	40.31
99% KM (Chebyshev) UCL	55.3

Potential UCLs to Use

95% KM (BCA) UCL	23.68

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Mercury

General Statistics

Number of Valid Data	103	Number of Detected Data	34
Number of Distinct Detected Data	24	Number of Non-Detect Data	69
		Percent Non-Detects	66.99%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.021	Minimum Detected	-3.863
Maximum Detected	5.1	Maximum Detected	1.629
Mean of Detected	0.435	Mean of Detected	-1.837
SD of Detected	0.906	SD of Detected	1.337
Minimum Non-Detect	0.02	Minimum Non-Detect	-3.912
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	82
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	21
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	79.61%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.462	Shapiro Wilk Test Statistic	0.922
5% Shapiro Wilk Critical Value	0.933	5% Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.175	Mean	-2.723
SD	0.547	SD	1.062
95% DL/2 (t) UCL	0.264	95% H-Stat (DL/2) UCL	0.147
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.338
		SD in Log Scale	1.668
		Mean in Original Scale	0.165
		SD in Original Scale	0.55
		95% t UCL	0.255
		95% Percentile Bootstrap UCL	0.26
		95% BCA Bootstrap UCL	0.345
		95% H-UCL	0.231

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.578	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	0.753		
nu star	39.32		
A-D Test Statistic	2.233	**Nonparametric Statistics**	
5% A-D Critical Value	0.801	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.801	Mean	0.171

5% K-S Critical Value	0.158	SD	0.546
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0547
		95% KM (t) UCL	0.262
Assuming Gamma Distribution		95% KM (z) UCL	0.261
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.259
Minimum	0.000001	95% KM (bootstrap t) UCL	0.38
Maximum	5.1	95% KM (BCA) UCL	0.28
Mean	0.18	95% KM (Percentile Bootstrap) UCL	0.267
Median	0.000001	95% KM (Chebyshev) UCL	0.41
SD	0.554	97.5% KM (Chebyshev) UCL	0.513
k star	0.13	99% KM (Chebyshev) UCL	0.716
Theta star	1.384		
Nu star	26.84	**Potential UCLs to Use**	
AppChi2	16.03	95% KM (BCA) UCL	0.28
95% Gamma Approximate UCL (Use when n >= 40)	0.302		
95% Adjusted Gamma UCL (Use when n < 40)	0.304		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Naphthalene

General Statistics

Number of Valid Data	71	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	66
		Percent Non-Detects	92.96%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0079	Minimum Detected	-4.841
Maximum Detected	9.8	Maximum Detected	2.282
Mean of Detected	3.826	Mean of Detected	-0.695
SD of Detected	4.315	SD of Detected	3.354
Minimum Non-Detect	0.0047	Minimum Non-Detect	-5.36
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	68
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	95.77%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.885
5% Shapiro Wilk Critical Value	0.762

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.272
SD	1.426
95% DL/2 (t) UCL	0.555
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.828
5% Shapiro Wilk Critical Value	0.762

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-5.569
SD	1.611
95% H-Stat (DL/2) UCL	0.0245
Log ROS Method	
Mean in Log Scale	-19.17
SD in Log Scale	8.796
Mean in Original Scale	0.27
SD in Original Scale	1.427
95% t UCL	0.552
95% Percentile Bootstrap UCL	0.576
95% BCA Bootstrap UCL	0.72
95% H-UCL	2.528E+14

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.266
Theta Star	14.36
nu star	2.665
A-D Test Statistic	0.473
5% A-D Critical Value	0.735
K-S Test Statistic	0.735
5% K-S Critical Value	0.379

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	9.8
Mean	0.269
Median	0.000001
SD	1.427
k star	0.0791
Theta star	3.406
Nu star	11.23
AppChi2	4.727
95% Gamma Approximate UCL (Use when n >= 40)	0.64
95% Adjusted Gamma UCL (Use when n < 40)	0.652

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.277
SD	1.415
SE of Mean	0.188
95% KM (t) UCL	0.59
95% KM (z) UCL	0.586
95% KM (jackknife) UCL	0.546
95% KM (bootstrap t) UCL	0.859
95% KM (BCA) UCL	6.787
95% KM (Percentile Bootstrap) UCL	2.962
95% KM (Chebyshev) UCL	1.095
97.5% KM (Chebyshev) UCL	1.45
99% KM (Chebyshev) UCL	2.146

Potential UCLs to Use

95% KM (t) UCL	0.59
95% KM (Percentile Bootstrap) UCL	2.962

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics

Number of Valid Data	45	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	36
		Percent Non-Detects	80.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0055	Minimum Detected	-5.203
Maximum Detected	1.4	Maximum Detected	0.336
Mean of Detected	0.311	Mean of Detected	-2.564
SD of Detected	0.483	SD of Detected	1.955
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.33%

Warning: There are only 9 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.71	Shapiro Wilk Test Statistic	0.947
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0711	Mean	-4.885
SD	0.24	SD	1.709
95% DL/2 (t) UCL	0.131	95% H-Stat (DL/2) UCL	0.0757
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.97	Mean in Log Scale	-8.237
SD	0.438	SD in Log Scale	3.4
95% MLE (t) UCL	1.08	Mean in Original Scale	0.0624
95% MLE (Tiku) UCL	1.388	SD in Original Scale	0.241
		95% t UCL	0.123
		95% Percentile Bootstrap UCL	0.13
		95% BCA Bootstrap UCL	0.159
		95% H UCL	1.684

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.381
Theta Star	0.817
nu star	6.859
A-D Test Statistic	0.411
5% A-D Critical Value	0.778
K-S Test Statistic	0.778
5% K-S Critical Value	0.296
Data appear Gamma Distributed at 5% Significance Level	
Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	1.4
Mean	0.0623
Median	0.000001
SD	0.241
k star	0.102
Theta star	0.611
Nu star	9.163
AppChi2	3.426
95% Gamma Approximate UCL (Use when n >= 40)	0.167
95% Adjusted Gamma UCL (Use when n < 40)	0.172

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only	
Data appear Gamma Distributed at 5% Significance Level	
Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	0.067
SD	0.237
SE of Mean	0.0376
95% KM (t) UCL	0.13
95% KM (z) UCL	0.129
95% KM (jackknife) UCL	0.122
95% KM (bootstrap t) UCL	0.312
95% KM (BCA) UCL	0.156
95% KM (Percentile Bootstrap) UCL	0.139
95% KM (Chebyshev) UCL	0.231
97.5% KM (Chebyshev) UCL	0.302
99% KM (Chebyshev) UCL	0.441
Potential UCLs to Use	
95% KM (t) UCL	0.13

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Pyrene

General Statistics

Number of Valid Data	45	Number of Detected Data	15
Number of Distinct Detected Data	14	Number of Non-Detect Data	30
		Percent Non-Detects	66.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0074	Minimum Detected	-4.906
Maximum Detected	3.2	Maximum Detected	1.163
Mean of Detected	0.301	Mean of Detected	-2.89
SD of Detected	0.811	SD of Detected	1.695
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	42
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.33%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.393
5% Shapiro Wilk Critical Value	0.881

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.109
SD	0.478
95% DL/2 (t) UCL	0.229
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.887
5% Shapiro Wilk Critical Value	0.881

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-4.573
SD	1.785
95% H-Stat (DL/2) UCL	0.126
Log ROS Method	
Mean in Log Scale	-6.07
SD in Log Scale	2.628
Mean in Original Scale	0.101
SD in Original Scale	0.479
95% t UCL	0.221
95% Percentile Bootstrap UCL	0.243
95% BCA Bootstrap UCL	0.334
95% H-UCL	0.456

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.357
Theta Star	0.843
nu star	10.72
A-D Test Statistic	1.602
5% A-D Critical Value	0.816
K-S Test Statistic	0.816
5% K-S Critical Value	0.237

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	3.2
Mean	0.1
Median	0.000001
SD	0.479
k star	0.111
Theta star	0.906
Nu star	9.966
AppChi2	3.921
95% Gamma Approximate UCL (Use when n >= 40)	0.255
95% Adjusted Gamma UCL (Use when n < 40)	0.264

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.106
SD	0.473
SE of Mean	0.073
95% KM (t) UCL	0.229
95% KM (z) UCL	0.226
95% KM (jackknife) UCL	0.224
95% KM (bootstrap t) UCL	0.89
95% KM (BCA) UCL	0.26
95% KM (Percentile Bootstrap) UCL	0.242
95% KM (Chebyshev) UCL	0.424
97.5% KM (Chebyshev) UCL	0.562
99% KM (Chebyshev) UCL	0.832

Potential UCLs to Use

95% KM (Chebyshev) UCL	0.424

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Observations	103	Number of Distinct Observations	61

Raw Statistics

Minimum	4.1
Maximum	120
Mean	21.94
Geometric Mean	16.4
Median	14
SD	20.55
Std. Error of Mean	2.025
Coefficient of Variation	0.937
Skewness	2.488

Log-transformed Statistics

Minimum of Log Data	1.411
Maximum of Log Data	4.787
Mean of log Data	2.797
SD of log Data	0.721

Relevant UCL Statistics

Normal Distribution Test

Lilliefors Test Statistic	0.236
Lilliefors Critical Value	0.0873

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Lilliefors Test Statistic	0.125
Lilliefors Critical Value	0.0873

Data not Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	25.3

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	25.8
95% Modified-t UCL (Johnson-1978)	25.38

Assuming Lognormal Distribution

95% H-UCL	24.49
95% Chebyshev (MVUE) UCL	28.49
97.5% Chebyshev (MVUE) UCL	31.64
99% Chebyshev (MVUE) UCL	37.84

Gamma Distribution Test

k star (bias corrected)	1.821
Theta Star	12.04
MLE of Mean	21.94
MLE of Standard Deviation	16.25
nu star	375.2
Approximate Chi Square Value (.05)	331.3
Adjusted Level of Significance	0.0477
Adjusted Chi Square Value	330.8
Anderson-Darling Test Statistic	3.453
Anderson-Darling 5% Critical Value	0.766
Kolmogorov-Smirnov Test Statistic	0.175
Kolmogorov-Smirnov 5% Critical Value	0.09

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	24.84
95% Adjusted Gamma UCL (Use when n < 40)	24.89

Data Distribution

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

95% CLT UCL	25.27
95% Jackknife UCL	25.3
95% Standard Bootstrap UCL	25.27
95% Bootstrap-t UCL	25.89
95% Hall's Bootstrap UCL	25.87
95% Percentile Bootstrap UCL	25.3
95% BCA Bootstrap UCL	25.78
95% Chebyshev(Mean, Sd) UCL	30.76
97.5% Chebyshev(Mean, Sd) UCL	34.58
99% Chebyshev(Mean, Sd) UCL	42.08

Potential UCL to Use Use 95% Chebyshev (Mean, Sd) UCL 30.76

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Open Space_TPHd

General Statistics

Number of Valid Data	155	Number of Detected Data	70
Number of Distinct Detected Data	62	Number of Non-Detect Data	85
Number of Missing Values	1	Percent Non-Detects	54.84%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.57	Minimum Detected	-0.562
Maximum Detected	8400	Maximum Detected	9.036
Mean of Detected	328.7	Mean of Detected	3.132
SD of Detected	1137	SD of Detected	2.331
Minimum Non-Detect	1	Minimum Non-Detect	0
Maximum Non-Detect	11	Maximum Non-Detect	2.398

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	115
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	40
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	74.19%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.417	Lilliefors Test Statistic	0.0676
5% Lilliefors Critical Value	0.106	5% Lilliefors Critical Value	0.106
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	150.5	Mean	2.039
SD	778.3	SD	1.942
95% DL/2 (t) UCL	254	95% H-Stat (DL/2) UCL	84.02
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	1.399
		SD in Log Scale	2.567
		Mean in Original Scale	150
		SD in Original Scale	778.4
		95% t UCL	253.5
		95% Percentile Bootstrap UCL	255.9
		95% BCA Bootstrap UCL	311.8
		95% H-UCL	250.5

Gamma Distribution Test with Detected Values Only **Data Distribution Test with Detected Values Only**

k star (bias corrected)	0.263	**Data appear Lognormal at 5% Significance Level**	
Theta Star	1252		
nu star	36.75		
A-D Test Statistic	5.194	**Nonparametric Statistics**	
5% A-D Critical Value	0.881	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.881	Mean	149.6
5% K-S Critical Value	0.116	SD	776
Data not Gamma Distributed at 5% Significance Level		SE of Mean	62.78
		95% KM (t) UCL	253.5
Assuming Gamma Distribution		95% KM (z) UCL	252.8
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	253.1
Minimum	0.000001	95% KM (bootstrap t) UCL	384.9
Maximum	8400	95% KM (BCA) UCL	262.7
Mean	150.2	95% KM (Percentile Bootstrap) UCL	261.6
Median	0.000001	95% KM (Chebyshev) UCL	423.2
SD	778.5	97.5% KM (Chebyshev) UCL	541.6
k star	0.0809	99% KM (Chebyshev) UCL	774.2
Theta star	1857		
Nu star	25.07	**Potential UCLs to Use**	
AppChi2	14.66	97.5% KM (Chebyshev) UCL	541.6
95% Gamma Approximate UCL (Use when n >= 40)	256.8		
95% Adjusted Gamma UCL (Use when n < 40)	258.1		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Open Space_TPHg

General Statistics

Number of Valid Data	112	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	105
		Percent Non-Detects	93.75%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	37	Minimum Detected	3.611
Maximum Detected	3800	Maximum Detected	8.243
Mean of Detected	1266	Mean of Detected	5.754
SD of Detected	1585	SD of Detected	2.061
Minimum Non-Detect	0.37	Minimum Non-Detect	-0.994
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	105
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	7
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.75%

Warning: There are only 7 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.788
5% Shapiro Wilk Critical Value	0.803

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	82.46
SD	479.7
95% DL/2 (t) UCL	157.6
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.806
5% Shapiro Wilk Critical Value	0.803

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	0.97
SD	1.94
95% H-Stat (DL/2) UCL	31.47
Log ROS Method	
Mean in Log Scale	-6.857
SD in Log Scale	5.978
Mean in Original Scale	79.45
SD in Original Scale	480.2
95% t UCL	154.7
95% Percentile Bootstrap UCL	164
95% BCA Bootstrap UCL	197.5
95% H-UCL	8509531

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.36
Theta Star	3521
nu star	5.035
A-D Test Statistic	0.773
5% A-D Critical Value	0.758
K-S Test Statistic	0.758
5% K-S Critical Value	0.329

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	3800
Mean	79.13
Median	0.000001
SD	480.2
k star	0.056
Theta star	1412
Nu star	12.55
AppChi2	5.592

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	113.8
SD	472.4
SE of Mean	48.21
95% KM (t) UCL	193.8
95% KM (z) UCL	193.1
95% KM (jackknife) UCL	175.5
95% KM (bootstrap t) UCL	259.3
95% KM (BCA) UCL	276.2
95% KM (Percentile Bootstrap) UCL	216
95% KM (Chebyshev) UCL	324
97.5% KM (Chebyshev) UCL	414.9
99% KM (Chebyshev) UCL	593.5

Potential UCLs to Use

97.5% KM (Chebyshev) UCL	414.9

95% Gamma Approximate UCL (Use when n >= 40)	177.6
95% Adjusted Gamma UCL (Use when n < 40)	179.6

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Open Space_TPHm

General Statistics

Number of Valid Data	155	Number of Detected Data	83
Number of Distinct Detected Data	70	Number of Non-Detect Data	72
Number of Missing Values	1	Percent Non-Detects	46.45%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.5	Minimum Detected	-0.693
Maximum Detected	11000	Maximum Detected	9.306
Mean of Detected	517.4	Mean of Detected	3.718
SD of Detected	1819	SD of Detected	2.145
Minimum Non-Detect	1	Minimum Non-Detect	0
Maximum Non-Detect	50	Maximum Non-Detect	3.912

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	119
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	36
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	76.77%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.399	Lilliefors Test Statistic	0.0692
5% Lilliefors Critical Value	0.0973	5% Lilliefors Critical Value	0.0973
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	278.9	Mean	2.438
SD	1352	SD	2.201
95% DL/2 (t) UCL	458.6	95% H-Stat (DL/2) UCL	242.6
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	1.565
		SD in Log Scale	3.062
		Mean in Original Scale	277.6
		SD in Original Scale	1352
		95% t UCL	457.3
		95% Percentile Bootstrap UCL	469.4
		95% BCA Bootstrap UCL	548.3
		95% H-UCL	1643

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.274
Theta Star	1887
nu star	45.53
A-D Test Statistic	7.365
5% A-D Critical Value	0.876
K-S Test Statistic	0.876
5% K-S Critical Value	0.107
Data not Gamma Distributed at 5% Significance Level	
Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	11000
Mean	277
Median	1.6
SD	1352
k star	0.0854
Theta star	3245
Nu star	26.47
AppChi2	15.74
95% Gamma Approximate UCL (Use when n >= 40)	465.9
95% Adjusted Gamma UCL (Use when n < 40)	468.2

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only	
Data appear Lognormal at 5% Significance Level	
Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	277.7
SD	1347
SE of Mean	108.9
95% KM (t) UCL	457.9
95% KM (z) UCL	456.8
95% KM (jackknife) UCL	457.3
95% KM (bootstrap t) UCL	672.8
95% KM (BCA) UCL	463.1
95% KM (Percentile Bootstrap) UCL	470.8
95% KM (Chebyshev) UCL	752.4
97.5% KM (Chebyshev) UCL	957.8
99% KM (Chebyshev) UCL	1361
Potential UCLs to Use	
97.5% KM (Chebyshev) UCL	957.8

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

1,2,4-Trimethylbenzene

General Statistics

Number of Valid Data	66	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	60
		Percent Non-Detects	90.91%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00096	Minimum Detected	-6.949
Maximum Detected	54	Maximum Detected	3.989
Mean of Detected	13.58	Mean of Detected	-0.511
SD of Detected	21.15	SD of Detected	4.34
Minimum Non-Detect	0.0019	Minimum Non-Detect	-6.266
Maximum Non-Detect	0.005	Maximum Non-Detect	-5.298

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	61
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	5
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	92.42%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.742	Shapiro Wilk Test Statistic	0.919

5% Shapiro Wilk Critical Value	0.788

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	1.237
SD	7.062
95% DL/2 (t) UCL	2.687
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

5% Shapiro Wilk Critical Value	0.788

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-5.798
SD	2.112
95% H-Stat (DL/2) UCL	0.0633
Log ROS Method	
Mean in Log Scale	-7.406
SD in Log Scale	4.079
Mean in Original Scale	1.244
SD in Original Scale	7.061
95% t UCL	2.694
95% Percentile Bootstrap UCL	2.806
95% BCA Bootstrap UCL	3.918

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.226
Theta Star	59.99
nu star	2.717
A-D Test Statistic	0.241
5% A-D Critical Value	0.792
K-S Test Statistic	0.792
5% K-S Critical Value	0.362

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.00096
Maximum	54
Mean	13.9
Median	13.34
SD	5.978
k star	1.817
Theta star	7.649
Nu star	239.9
AppChi2	205
95% Gamma Approximate UCL	16.27
95% Adjusted Gamma UCL	16.32

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	1.236
SD	7.009
SE of Mean	0.945
95% KM (t) UCL	2.813
95% KM (z) UCL	2.79
95% KM (jackknife) UCL	2.674
95% KM (bootstrap t) UCL	8.666
95% KM (BCA) UCL	9.491
95% KM (Percentile Bootstrap) UCL	4.394
95% KM (Chebyshev) UCL	5.355
97.5% KM (Chebyshev) UCL	7.138
99% KM (Chebyshev) UCL	10.64

Potential UCLs to Use

95% KM (t) UCL	2.813

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

1,3,5-Trimethylbenzene

General Statistics

Number of Valid Data	66
Number of Distinct Detected Data	5
Number of Detected Data	5
Number of Non-Detect Data	61
Percent Non-Detects	92.42%

Raw Statistics

Minimum Detected	0.0071
Maximum Detected	8.7
Mean of Detected	3.318
SD of Detected	3.748
Minimum Non-Detect	0.0019
Maximum Non-Detect	0.005

Log-transformed Statistics

Minimum Detected	-4.948
Maximum Detected	2.163
Mean of Detected	-0.542
SD of Detected	3.056
Minimum Non-Detect	-6.266
Maximum Non-Detect	-5.298

Note: Data have multiple DLs - Use of KM Method is recommended	
For all methods (except KM, DL/2, and ROS Methods),	
Observations < Largest ND are treated as NDs	
Number treated as Non-Detect	61
Number treated as Detected	5
Single DL Non-Detect Percentage	92.42%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.893
5% Shapiro Wilk Critical Value	0.762

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.253
SD	1.283
95% DL/2 (t) UCL	0.517
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.879
5% Shapiro Wilk Critical Value	0.762

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-5.884
SD	1.767
95% H-Stat (DL/2) UCL	0.0241
Log ROS Method	
Mean in Log Scale	-17.99
SD in Log Scale	8.474
Mean in Original Scale	0.251
SD in Original Scale	1.283
95% t UCL	0.515
95% Percentile Bootstrap UCL	0.538
95% BCA Bootstrap UCL	0.697

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.286
Theta Star	11.62
nu star	2.857
A-D Test Statistic	0.343
5% A-D Critical Value	0.728
K-S Test Statistic	0.728
5% K-S Critical Value	0.377

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.0071
Maximum	8.7
Mean	3.576
Median	3.11
SD	1.408
k star	3.004
Theta star	1.191
Nu star	396.5
AppChi2	351.3
95% Gamma Approximate UCL	4.036
95% Adjusted Gamma UCL	4.046

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.258
SD	1.272
SE of Mean	0.175
95% KM (t) UCL	0.55
95% KM (z) UCL	0.546
95% KM (jackknife) UCL	0.478
95% KM (bootstrap t) UCL	0.838
95% KM (BCA) UCL	8.7
95% KM (Percentile Bootstrap) UCL	2.639
95% KM (Chebyshev) UCL	1.021
97.5% KM (Chebyshev) UCL	1.351
99% KM (Chebyshev) UCL	2

Potential UCLs to Use

95% KM (t) UCL	0.55
95% KM (Percentile Bootstrap) UCL	2.639

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzene

General Statistics

Number of Valid Data	90
Number of Distinct Detected Data	7

Number of Detected Data	7
Number of Non-Detect Data	83
Percent Non-Detects	92.22%

Raw Statistics

Minimum Detected	0.031
Maximum Detected	11
Mean of Detected	2.482
SD of Detected	4.049
Minimum Non-Detect	0.0019
Maximum Non-Detect	0.1

Log-transformed Statistics

Minimum Detected	-3.474
Maximum Detected	2.398
Mean of Detected	-1.146
SD of Detected	2.554
Minimum Non-Detect	-6.266
Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	87
Number treated as Detected	3
Single DL Non-Detect Percentage	96.67%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.704
5% Shapiro Wilk Critical Value	0.803

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.196
SD	1.245
95% DL/2 (t) UCL	0.414
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.805
5% Shapiro Wilk Critical Value	0.803

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-5.782
SD	1.629
95% H-Stat (DL/2) UCL	0.0193
Log ROS Method	
Mean in Log Scale	-14.55
SD in Log Scale	6.642
Mean in Original Scale	0.193
SD in Original Scale	1.246
95% t UCL	0.412
95% Percentile Bootstrap UCL	0.436
95% BCA Bootstrap UCL	0.639

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.284
Theta Star	8.742
nu star	3.976
A-D Test Statistic	0.7
5% A-D Critical Value	0.779
K-S Test Statistic	0.779
5% K-S Critical Value	0.334

Data follow Appr. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	11
Mean	2.229
Median	2.636
SD	1.383
k star	0.37
Theta star	6.026
Nu star	66.58
AppChi2	48.8
95% Gamma Approximate UCL	3.041
95% Adjusted Gamma UCL	3.056

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data Follow Appr. Gamma Distribution at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.222
SD	1.235
SE of Mean	0.141
95% KM (t) UCL	0.455
95% KM (z) UCL	0.453
95% KM (jackknife) UCL	0.432
95% KM (bootstrap t) UCL	1.049
95% KM (BCA) UCL	0.54
95% KM (Percentile Bootstrap) UCL	0.509
95% KM (Chebyshev) UCL	0.834
97.5% KM (Chebyshev) UCL	1.099
99% KM (Chebyshev) UCL	1.62

Potential UCLs to Use

95% KM (t) UCL	0.455

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Ethylbenzene

General Statistics

Number of Valid Data	91	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	84
		Percent Non-Detects	92.31%

Raw Statistics

Minimum Detected	0.072
Maximum Detected	15
Mean of Detected	4.142
SD of Detected	5.99
Minimum Non-Detect	0.0019

Log-transformed Statistics

Minimum Detected	-2.631
Maximum Detected	2.708
Mean of Detected	-0.286
SD of Detected	2.301
Minimum Non-Detect	-6.266

Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	85
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	6
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.41%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.755	Shapiro Wilk Test Statistic	0.849
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.321	Mean	-5.752
SD	1.903	SD	1.77
95% DL/2 (t) UCL	0.653	95% H-Stat (DL/2) UCL	0.0272
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-13.34
		SD in Log Scale	6.491
		Mean in Original Scale	0.319
		SD in Original Scale	1.904
		95% t UCL	0.651
		95% Percentile Bootstrap UCL	0.682
		95% BCA Bootstrap UCL	0.87
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.317	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	13.08		
nu star	4.432		
A-D Test Statistic	0.596	**Nonparametric Statistics**	
5% A-D Critical Value	0.77	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.77	Mean	0.385
5% K-S Critical Value	0.332	SD	1.882
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.213
		95% KM (t) UCL	0.739
Assuming Gamma Distribution		95% KM (z) UCL	0.736
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.692
Minimum	1E-12	95% KM (bootstrap t) UCL	1.767
Maximum	15	95% KM (BCA) UCL	0.952
Mean	3.668	95% KM (Percentile Bootstrap) UCL	0.79
Median	4.36	95% KM (Chebyshev) UCL	1.314
SD	2.273	97.5% KM (Chebyshev) UCL	1.716
k star	0.289	99% KM (Chebyshev) UCL	2.505
Theta star	12.7		
Nu star	52.58	**Potential UCLs to Use**	
AppChi2	36.92	95% KM (t) UCL	0.739
95% Gamma Approximate UCL	5.224		
95% Adjusted Gamma UCL	5.254		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Isopropylbenzene

General Statistics

Number of Valid Data	66	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	61
		Percent Non-Detects	92.42%

Raw Statistics	
Minimum Detected	0.0023
Maximum Detected	4.1
Mean of Detected	1.572
SD of Detected	1.711
Minimum Non-Detect	0.0019
Maximum Non-Detect	0.005

Log-transformed Statistics	
Minimum Detected	-6.075
Maximum Detected	1.411
Mean of Detected	-1.265
SD of Detected	3.151
Minimum Non-Detect	-6.266
Maximum Non-Detect	-5.298

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	62
Number treated as Detected	4
Single DL Non-Detect Percentage	93.94%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.91
5% Shapiro Wilk Critical Value	0.762

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.121
SD	0.596
95% DL/2 (t) UCL	0.243
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.864
5% Shapiro Wilk Critical Value	0.762

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-5.953
SD	1.618
95% H-Stat (DL/2) UCL	0.016
Log ROS Method	
Mean in Log Scale	-17.36
SD in Log Scale	7.875
Mean in Original Scale	0.119
SD in Original Scale	0.596
95% t UCL	0.242
95% Percentile Bootstrap UCL	0.251
95% BCA Bootstrap UCL	0.326

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.288
Theta Star	5.469
nu star	2.875
A-D Test Statistic	0.364
5% A-D Critical Value	0.727
K-S Test Statistic	0.727
5% K-S Critical Value	0.376

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.0023
Maximum	8.263
Mean	1.85
Median	1.015
SD	2.018
k star	0.815
Theta star	2.27
Nu star	107.6
AppChi2	84.62
95% Gamma Approximate UCL	2.351
95% Adjusted Gamma UCL	2.364

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.121
SD	0.592
SE of Mean	0.0814
95% KM (t) UCL	0.257
95% KM (z) UCL	0.255
95% KM (jackknife) UCL	0.221
95% KM (bootstrap t) UCL	0.295
95% KM (BCA) UCL	4.1
95% KM (Percentile Bootstrap) UCL	1.564
95% KM (Chebyshev) UCL	0.476
97.5% KM (Chebyshev) UCL	0.63
99% KM (Chebyshev) UCL	0.931

Potential UCLs to Use

95% KM (t) UCL	0.257
95% KM (Percentile Bootstrap) UCL	1.564

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

n-Butylbenzene

General Statistics

Number of Valid Data	66	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	63
		Percent Non-Detects	95.45%

Raw Statistics

Minimum Detected	0.069
Maximum Detected	2.1
Mean of Detected	1.223
SD of Detected	1.043
Minimum Non-Detect	0.0046
Maximum Non-Detect	0.1

Log-transformed Statistics

Minimum Detected	-2.674
Maximum Detected	0.742
Mean of Detected	-0.509
SD of Detected	1.882
Minimum Non-Detect	-5.382
Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	64
Number treated as Detected	2
Single DL Non-Detect Percentage	96.97%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.947
5% Shapiro Wilk Critical Value	0.767

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method

Mean	0.0589
SD	0.315
95% DL/2 (t) UCL	0.124

Maximum Likelihood Estimate(MLE) Method N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.823
5% Shapiro Wilk Critical Value	0.767

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method

Mean	-5.654
SD	1.246
95% H-Stat (DL/2) UCL	0.0106

Log ROS Method

Mean in Log Scale	-13.19
SD in Log Scale	5.371
Mean in Original Scale	0.0561
SD in Original Scale	0.315
95% t UCL	0.121
95% Percentile Bootstrap UCL	0.121
95% BCA Bootstrap UCL	0.164

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	N/A
Theta Star	N/A
nu star	N/A
A-D Test Statistic	N/A
5% A-D Critical Value	N/A
K-S Test Statistic	N/A
5% K-S Critical Value	N/A

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	N/A
Maximum	N/A
Mean	N/A
Median	N/A
SD	N/A
k star	N/A
Theta star	N/A
Nu star	N/A
AppChi2	N/A
95% Gamma Approximate UCL	N/A
95% Adjusted Gamma UCL	N/A

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	0.121
SD	0.301
SE of Mean	0.0454
95% KM (t) UCL	0.197
95% KM (z) UCL	0.196
95% KM (jackknife) UCL	1.037
95% KM (bootstrap t) UCL	0.15
95% KM (BCA) UCL	N/A
95% KM (Percentile Bootstrap) UCL	2.1
95% KM (Chebyshev) UCL	0.319
97.5% KM (Chebyshev) UCL	0.405
99% KM (Chebyshev) UCL	0.573

Potential UCLs to Use

95% KM (t) UCL	0.197
95% KM (Percentile Bootstrap) UCL	2.1

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

sec-Butylbenzene

General Statistics

Number of Valid Data	66	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	62
		Percent Non-Detects	93.94%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.049	Minimum Detected	-3.016
Maximum Detected	0.93	Maximum Detected	-0.0726
Mean of Detected	0.605	Mean of Detected	-0.939
SD of Detected	0.389	SD of Detected	1.393
Minimum Non-Detect	0.0046	Minimum Non-Detect	-5.382
Maximum Non-Detect	0.011	Maximum Non-Detect	-4.51

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	62
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.94%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.88	Shapiro Wilk Test Statistic	0.729
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0392	Mean	-5.643
SD	0.167	SD	1.253
95% DL/2 (t) UCL	0.0735	95% H-Stat (DL/2) UCL	0.0109
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-8.712
		SD in Log Scale	3.558
		Mean in Original Scale	0.0388
		SD in Original Scale	0.167
		95% t UCL	0.0732
		95% Percentile Bootstrap UCL	0.0755
		95% BCA Bootstrap UCL	0.0888

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.488	**Data appear Normal at 5% Significance Level**	
Theta Star	1.239		
nu star	3.906		
A-D Test Statistic	0.652	**Nonparametric Statistics**	
5% A-D Critical Value	0.664	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.664	Mean	0.0827
5% K-S Critical Value	0.401	SD	0.156
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0222
		95% KM (t) UCL	0.12
Assuming Gamma Distribution		95% KM (z) UCL	0.119
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.455
Minimum	0.049	95% KM (bootstrap t) UCL	0.101
Maximum	1.021	95% KM (BCA) UCL	0.93
Mean	0.634	95% KM (Percentile Bootstrap) UCL	0.804
Median	0.596	95% KM (Chebyshev) UCL	0.18
SD	0.174	97.5% KM (Chebyshev) UCL	0.222

k star	9.172	99% KM (Chebyshev) UCL	0.304
Theta star	0.0691		
Nu star	1211	**Potential UCLs to Use**	
AppChi2	1131	95% KM (t) UCL	0.12
95% Gamma Approximate UCL	0.679	95% KM (Percentile Bootstrap) UCL	0.804
95% Adjusted Gamma UCL	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Xylenes (total)

General Statistics

Number of Valid Data	91	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	82
		Percent Non-Detects	90.11%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0056	Minimum Detected	-5.185
Maximum Detected	150	Maximum Detected	5.011
Mean of Detected	23.65	Mean of Detected	-0.00576
SD of Detected	50.16	SD of Detected	3.343
Minimum Non-Detect	0.0037	Minimum Non-Detect	-5.599
Maximum Non-Detect	0.0085	Maximum Non-Detect	-4.768

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	83
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	8
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	91.21%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.563	Shapiro Wilk Test Statistic	0.972
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.341	Mean	-5.434
SD	16.55	SD	2.07
95% DL/2 (t) UCL	5.225	95% H-Stat (DL/2) UCL	0.0795
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-16.95
		SD in Log Scale	8.893
		Mean in Original Scale	2.339
		SD in Original Scale	16.55
		95% t UCL	5.223
		95% Percentile Bootstrap UCL	5.558
		95% BCA Bootstrap UCL	7.726

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.226	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	104.7		
nu star	4.064		
A-D Test Statistic	0.46	**Nonparametric Statistics**	
5% A-D Critical Value	0.835	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.835	Mean	2.344
5% K-S Critical Value	0.306	SD	16.46
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.83
		95% KM (t) UCL	5.386
Assuming Gamma Distribution		95% KM (z) UCL	5.354

Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	5.187
Minimum	1E-12	95% KM (bootstrap t) UCL	54.19
Maximum	150	95% KM (BCA) UCL	5.677
Mean	21.28	95% KM (Percentile Bootstrap) UCL	5.683
Median	27.13	95% KM (Chebyshev) UCL	10.32
SD	19.4	97.5% KM (Chebyshev) UCL	13.77
k star	0.141	99% KM (Chebyshev) UCL	20.56
Theta star	151.4		
Nu star	25.58	**Potential UCLs to Use**	
AppChi2	15.05	95% KM (t) UCL	5.386
95% Gamma Approximate UCL	36.16		
95% Adjusted Gamma UCL	36.48		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Toluene

General Statistics

Number of Valid Data	91	Number of Detected Data	5
Number of Distinct Detected Data	4	Number of Non-Detect Data	86
		Percent Non-Detects	94.51%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.2	Minimum Detected	-1.609
Maximum Detected	62	Maximum Detected	4.127
Mean of Detected	14.08	Mean of Detected	0.537
SD of Detected	26.96	SD of Detected	2.443
Minimum Non-Detect	0.0019	Minimum Non-Detect	-6.266
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	86
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	5
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	94.51%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.629	Shapiro Wilk Test Statistic	0.855
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.776	Mean	-5.832
SD	6.536	SD	1.708
95% DL/2 (t) UCL	1.915	95% H-Stat (DL/2) UCL	0.0217
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-17.01
		SD in Log Scale	8.071
		Mean in Original Scale	0.774
		SD in Original Scale	6.536
		95% t UCL	1.913
		95% Percentile Bootstrap UCL	2.062
		95% BCA Bootstrap UCL	3.407

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.263	**Data appear Gamma Distributed at 5% Significance Level**
Theta Star	53.61	
nu star	2.626	
A-D Test Statistic	0.593	**Nonparametric Statistics**

5% A-D Critical Value	0.736	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.736	Mean	0.963
5% K-S Critical Value	0.379	SD	6.478
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.759
		95% KM (t) UCL	2.224
Assuming Gamma Distribution		95% KM (z) UCL	2.211
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1.955
Minimum	1E-12	95% KM (bootstrap t) UCL	120.1
Maximum	110.1	95% KM (BCA) UCL	8.6
Mean	18.87	95% KM (Percentile Bootstrap) UCL	3.785
Median	3.097	95% KM (Chebyshev) UCL	4.272
SD	28.51	97.5% KM (Chebyshev) UCL	5.704
k star	0.074	99% KM (Chebyshev) UCL	8.516
Theta star	255		
Nu star	13.47	**Potential UCLs to Use**	
AppChi2	6.21	95% KM (t) UCL	2.224
95% Gamma Approximate UCL	40.93		
95% Adjusted Gamma UCL	41.47		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area Open Space 0 to 2 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	OPEN 0-2.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

BaP TEQ

General Statistics

Number of Valid Data	23	Number of Detected Data	13
Number of Distinct Detected Data	13	Number of Non-Detect Data	10
		Percent Non-Detects	43.48%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00905	Minimum Detected	-4.705
Maximum Detected	0.541	Maximum Detected	-0.614
Mean of Detected	0.143	Mean of Detected	-2.76
SD of Detected	0.162	SD of Detected	1.479
Minimum Non-Detect	0.00345	Minimum Non-Detect	-5.668
Maximum Non-Detect	0.00451	Maximum Non-Detect	-5.401

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	13
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	43.48%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.823	Shapiro Wilk Test Statistic	0.887
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0819	Mean	-4.274
SD	0.14	SD	2.076
95% DL/2 (t) UCL	0.132	95% H-Stat (DL/2) UCL	0.764
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0128	Mean in Log Scale	-4.376
SD	0.206	SD in Log Scale	2.195
95% MLE (t) UCL	0.0866	Mean in Original Scale	0.0818
95% MLE (Tiku) UCL	0.0982	SD in Original Scale	0.14
		95% t UCL	0.132
		95% Percentile Bootstrap UCL	0.135
		95% BCA Bootstrap UCL	0.145
		95% H UCL	1.085

Gamma Distribution Test with Detected Values Only	Data Distribution Test with Detected Values Only

k star (bias corrected)	0.616	**Data appear Gamma Distributed at 5% Significance Level**
Theta Star	0.233	
nu star	16.01	
A-D Test Statistic	0.609	**Nonparametric Statistics**
5% A-D Critical Value	0.772	Kaplan-Meier (KM) Method
K-S Test Statistic	0.772	Mean 0.085
5% K-S Critical Value	0.246	SD 0.135
Data appear Gamma Distributed at 5% Significance Level		SE of Mean 0.0293
		95% KM (t) UCL 0.135
Assuming Gamma Distribution		95% KM (z) UCL 0.133
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL 0.134
Minimum	0.000001	95% KM (bootstrap t) UCL 0.16
Maximum	0.541	95% KM (BCA) UCL 0.143
Mean	0.081	95% KM (Percentile Bootstrap) UCL 0.136
Median	0.00968	95% KM (Chebyshev) UCL 0.213
SD	0.14	97.5% KM (Chebyshev) UCL 0.268
k star	0.161	99% KM (Chebyshev) UCL 0.376
Theta star	0.503	
Nu star	7.405	**Potential UCLs to Use**
AppChi2	2.396	95% KM (BCA) UCL 0.143
95% Gamma Approximate UCL (Use when n >= 40)	0.251	
95% Adjusted Gamma UCL (Use when n < 40)	0.274	

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics

Number of Valid Data	23	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	16
		Percent Non-Detects	69.57%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.005	Minimum Detected	-5.298
Maximum Detected	0.91	Maximum Detected	-0.0943
Mean of Detected	0.164	Mean of Detected	-3.281
SD of Detected	0.331	SD of Detected	1.809
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	22
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	95.65%

Warning: There are only 7 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.554
5% Shapiro Wilk Critical Value	0.803

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.0627
SD	0.188
95% DL/2 (t) UCL	0.13
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.94
5% Shapiro Wilk Critical Value	0.803

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-4.582
SD	1.694
95% H-Stat (DL/2) UCL	0.155
Log ROS Method	
Mean in Log Scale	-6.182
SD in Log Scale	2.341
Mean in Original Scale	0.0507
SD in Original Scale	0.189
95% t UCL	0.118
95% Percentile Bootstrap UCL	0.126
95% BCA Bootstrap UCL	0.172
95% H-UCL	0.321

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.346
Theta Star	0.474
nu star	4.849
A-D Test Statistic	0.601
5% A-D Critical Value	0.761
K-S Test Statistic	0.761
5% K-S Critical Value	0.33

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.91
Mean	0.05
Median	0.000001
SD	0.189
k star	0.121
Theta star	0.413
Nu star	5.569
AppChi2	1.424

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0547
SD	0.184
SE of Mean	0.0416
95% KM (t) UCL	0.126
95% KM (z) UCL	0.123
95% KM (jackknife) UCL	0.121
95% KM (bootstrap t) UCL	0.482
95% KM (BCA) UCL	0.145
95% KM (Percentile Bootstrap) UCL	0.132
95% KM (Chebyshev) UCL	0.236
97.5% KM (Chebyshev) UCL	0.314
99% KM (Chebyshev) UCL	0.468

Potential UCLs to Use

95% KM (t) UCL	0.126

95% Gamma Approximate UCL (Use when n >= 40)	0.196
95% Adjusted Gamma UCL (Use when n < 40)	0.218

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics

Number of Valid Data	23	Number of Detected Data	12
Number of Distinct Detected Data	11	Number of Non-Detect Data	11
		Percent Non-Detects	47.83%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.007	Minimum Detected	-4.962
Maximum Detected	0.5	Maximum Detected	-0.693
Mean of Detected	0.115	Mean of Detected	-2.917
SD of Detected	0.14	SD of Detected	1.403
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.01	Maximum Non-Detect	-4.605

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	11
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	52.17%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.749	Shapiro Wilk Test Statistic	0.906
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0615	Mean	-4.314
SD	0.115	SD	1.797
95% DL/2 (t) UCL	0.103	95% H-Stat (DL/2) UCL	0.279
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-4.648
		SD in Log Scale	2.118
		Mean in Original Scale	0.0608
		SD in Original Scale	0.115
		95% t UCL	0.102
		95% Percentile Bootstrap UCL	0.0996
		95% BCA Bootstrap UCL	0.119
		95% H-UCL	0.614

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.646
Theta Star	0.178
nu star	15.51
A-D Test Statistic	0.519
5% A-D Critical Value	0.764
K-S Test Statistic	0.764
5% K-S Critical Value	0.254
Data appear Gamma Distributed at 5% Significance Level	

Data Distribution Test with Detected Values Only
Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.5
Mean	0.0601
Median	0.007
SD	0.115
k star	0.155
Theta star	0.387
Nu star	7.142
AppChi2	2.249
95% Gamma Approximate UCL (Use when n >= 40)	0.191
95% Adjusted Gamma UCL (Use when n < 40)	0.209

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	0.0634
SD	0.111
SE of Mean	0.0242
95% KM (t) UCL	0.105
95% KM (z) UCL	0.103
95% KM (jackknife) UCL	0.102
95% KM (bootstrap t) UCL	0.139
95% KM (BCA) UCL	0.113
95% KM (Percentile Bootstrap) UCL	0.104
95% KM (Chebyshev) UCL	0.169
97.5% KM (Chebyshev) UCL	0.214
99% KM (Chebyshev) UCL	0.304
Potential UCLs to Use	
95% KM (BCA) UCL	0.113

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics

Number of Valid Data	23	Number of Detected Data	11
Number of Distinct Detected Data	10	Number of Non-Detect Data	12
		Percent Non-Detects	52.17%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	0.89	Maximum Detected	-0.117
Mean of Detected	0.131	Mean of Detected	-3.281
SD of Detected	0.26	SD of Detected	1.586
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	2
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	91.30%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.534
5% Shapiro Wilk Critical Value	0.85

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.0723
SD	0.186
95% DL/2 (t) UCL	0.139
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.925
5% Shapiro Wilk Critical Value	0.85

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-4.331
SD	1.783
95% H-Stat (DL/2) UCL	0.263
Log ROS Method	
Mean in Log Scale	-5.186
SD in Log Scale	2.237
Mean in Original Scale	0.0633
SD in Original Scale	0.187
95% t UCL	0.13
95% Percentile Bootstrap UCL	0.134
95% BCA Bootstrap UCL	0.181
95% H-UCL	0.57

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.431
Theta Star	0.303
nu star	9.476
A-D Test Statistic	0.782
5% A-D Critical Value	0.78
K-S Test Statistic	0.78
5% K-S Critical Value	0.269

Data follow Appr. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.89
Mean	0.0624
Median	0.000001
SD	0.187
k star	0.143
Theta star	0.438
Nu star	6.556
AppChi2	1.93
95% Gamma Approximate UCL (Use when n >= 40)	0.212
95% Adjusted Gamma UCL (Use when n < 40)	0.233

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data Follow Appr. Gamma Distribution at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0669
SD	0.182
SE of Mean	0.0399
95% KM (t) UCL	0.135
95% KM (z) UCL	0.132
95% KM (jackknife) UCL	0.133
95% KM (bootstrap t) UCL	0.334
95% KM (BCA) UCL	0.155
95% KM (Percentile Bootstrap) UCL	0.14
95% KM (Chebyshev) UCL	0.241
97.5% KM (Chebyshev) UCL	0.316
99% KM (Chebyshev) UCL	0.464

Potential UCLs to Use

95% KM (t) UCL	0.135

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics

Number of Valid Data	23	Number of Detected Data	13
Number of Distinct Detected Data	12	Number of Non-Detect Data	10
		Percent Non-Detects	43.48%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	0.6	Maximum Detected	-0.511
Mean of Detected	0.0978	Mean of Detected	-3.26
SD of Detected	0.17	SD of Detected	1.314
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	91.30%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.579	Shapiro Wilk Test Statistic	0.923
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0607	Mean	-4.248
SD	0.134	SD	1.672
95% DL/2 (t) UCL	0.109	95% H-Stat (DL/2) UCL	0.203
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.548
		SD in Log Scale	1.821
		Mean in Original Scale	0.0563
		SD in Original Scale	0.135
		95% t UCL	0.105
		95% Percentile Bootstrap UCL	0.107
		95% BCA Bootstrap UCL	0.141
		95% H-UCL	0.239

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.553	**Data appear Lognormal at 5% Significance Level**	
Theta Star	0.177		
nu star	14.38		
A-D Test Statistic	1.081	**Nonparametric Statistics**	

5% A-D Critical Value	0.778	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.778	Mean	0.0586
5% K-S Critical Value	0.247	SD	0.131
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0284
		95% KM (t) UCL	0.107
Assuming Gamma Distribution		95% KM (z) UCL	0.105
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.105
Minimum	0.000001	95% KM (bootstrap t) UCL	0.289
Maximum	0.6	95% KM (BCA) UCL	0.113
Mean	0.0553	95% KM (Percentile Bootstrap) UCL	0.11
Median	0.011	95% KM (Chebyshev) UCL	0.182
SD	0.135	97.5% KM (Chebyshev) UCL	0.236
k star	0.163	99% KM (Chebyshev) UCL	0.341
Theta star	0.339		
Nu star	7.512	**Potential UCLs to Use**	
AppChi2	2.456	97.5% KM (Chebyshev) UCL	0.236
95% Gamma Approximate UCL (Use when n >= 40)	0.169		
95% Adjusted Gamma UCL (Use when n < 40)	0.185		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics

Number of Valid Data	23	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	18
		Percent Non-Detects	78.26%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	0.087	Maximum Detected	-2.442
Mean of Detected	0.0365	Mean of Detected	-3.825
SD of Detected	0.037	SD of Detected	1.18
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	23
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.825
5% Shapiro Wilk Critical Value	0.762

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.0219
SD	0.0333
95% DL/2 (t) UCL	0.0339
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.898
5% Shapiro Wilk Critical Value	0.762

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-4.828
SD	1.37
95% H-Stat (DL/2) UCL	0.0498
Log ROS Method	
Mean in Log Scale	-6.655
SD in Log Scale	1.754
Mean in Original Scale	0.00859
SD in Original Scale	0.0218
95% t UCL	0.0164
95% Percentile Bootstrap UCL	0.0164
95% BCA Bootstrap UCL	0.0192
95% H-UCL	0.0235

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.576
Theta Star	0.0635
nu star	5.757
A-D Test Statistic	0.443
5% A-D Critical Value	0.69
K-S Test Statistic	0.69
5% K-S Critical Value	0.364

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.087
Mean	0.00794
Median	0.000001
SD	0.0221
k star	0.131
Theta star	0.0608
Nu star	6.009
AppChi2	1.644
95% Gamma Approximate UCL (Use when n >= 40)	0.029
95% Adjusted Gamma UCL (Use when n < 40)	0.0321

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0137
SD	0.0212
SE of Mean	0.00529
95% KM (t) UCL	0.0228
95% KM (z) UCL	0.0224
95% KM (jackknife) UCL	0.0209
95% KM (bootstrap t) UCL	0.0562
95% KM (BCA) UCL	0.068
95% KM (Percentile Bootstrap) UCL	0.0273
95% KM (Chebyshev) UCL	0.0368
97.5% KM (Chebyshev) UCL	0.0468
99% KM (Chebyshev) UCL	0.0664

Potential UCLs to Use

95% KM (t) UCL	0.0228
95% KM (Percentile Bootstrap) UCL	0.0273

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics

Number of Valid Data	45	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	40
		Percent Non-Detects	88.89%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.64	Minimum Detected	-0.446
Maximum Detected	1.4	Maximum Detected	0.336
Mean of Detected	0.922	Mean of Detected	-0.128
SD of Detected	0.324	SD of Detected	0.338
Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	43
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.56%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.888	Shapiro Wilk Test Statistic	0.907
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.497	Mean	-0.769
SD	0.206	SD	0.373
95% DL/2 (t) UCL	0.549	95% H-Stat (DL/2) UCL	0.55
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-0.909
		SD in Log Scale	0.518
		Mean in Original Scale	0.46
		SD in Original Scale	0.257
		95% t UCL	0.525
		95% Percentile Bootstrap UCL	0.522
		95% BCA Bootstrap UCL	0.53

95% H-UCL	0.535

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	4.46
Theta Star	0.207
nu star	44.6
A-D Test Statistic	0.355
5% A-D Critical Value	0.679
K-S Test Statistic	0.679
5% K-S Critical Value	0.358

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	1.4
Mean	0.23
Median	0.000001
SD	0.384
k star	0.113
Theta star	2.04
Nu star	10.13
AppChi2	4.025
95% Gamma Approximate UCL (Use when n >= 40)	0.578
95% Adjusted Gamma UCL (Use when n < 40)	0.597

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.682
SD	0.134
SE of Mean	0.0255
95% KM (t) UCL	0.725
95% KM (z) UCL	0.724
95% KM (jackknife) UCL	0.716
95% KM (bootstrap t) UCL	0.731
95% KM (BCA) UCL	1.4
95% KM (Percentile Bootstrap) UCL	1.1
95% KM (Chebyshev) UCL	0.794
97.5% KM (Chebyshev) UCL	0.842
99% KM (Chebyshev) UCL	0.936

Potential UCLs to Use

95% KM (t) UCL	0.725
95% KM (Percentile Bootstrap) UCL	1.1

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics

Number of Valid Observations	45	Number of Distinct Observations	27

Raw Statistics

Minimum	2.6
Maximum	49
Mean	17.53
Geometric Mean	15.21
Median	15
SD	10.13
Std. Error of Mean	1.51
Coefficient of Variation	0.578
Skewness	1.635

Log-transformed Statistics

Minimum of Log Data	0.956
Maximum of Log Data	3.892
Mean of log Data	2.722
SD of log Data	0.544

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.832
Shapiro Wilk Critical Value	0.945

Data not Normal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	20.07

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	20.41
95% Modified-t UCL (Johnson-1978)	20.13

Gamma Distribution Test

k star (bias corrected)	3.452
Theta Star	5.078
MLE of Mean	17.53
MLE of Standard Deviation	9.436
nu star	310.7
Approximate Chi Square Value (.05)	270.9
Adjusted Level of Significance	0.0447
Adjusted Chi Square Value	269.6
Anderson-Darling Test Statistic	1.079
Anderson-Darling 5% Critical Value	0.754
Kolmogorov-Smirnov Test Statistic	0.166
Kolmogorov-Smirnov 5% Critical Value	0.132

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	20.11
95% Adjusted Gamma UCL (Use when n < 40)	20.2

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.956
Shapiro Wilk Critical Value	0.945

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

95% H-UCL	20.68
95% Chebyshev (MVUE) UCL	24.14
97.5% Chebyshev (MVUE) UCL	26.98
99% Chebyshev (MVUE) UCL	32.57

Data Distribution

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	20.01
95% Jackknife UCL	20.07
95% Standard Bootstrap UCL	20.02
95% Bootstrap-t UCL	20.52
95% Hall's Bootstrap UCL	20.5
95% Percentile Bootstrap UCL	20.02
95% BCA Bootstrap UCL	20.29
95% Chebyshev(Mean, Sd) UCL	24.11
97.5% Chebyshev(Mean, Sd) UCL	26.96
99% Chebyshev(Mean, Sd) UCL	32.56

Potential UCL to Use

Use 95% H-UCL 20.68

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Chrysene

General Statistics

Number of Valid Data	23	Number of Detected Data	12
Number of Distinct Detected Data	12	Number of Non-Detect Data	11
		Percent Non-Detects	47.83%

Raw Statistics	
Minimum Detected	0.01
Maximum Detected	3.6
Mean of Detected	0.446
SD of Detected	1.01
Minimum Non-Detect	0.0049
Maximum Non-Detect	0.0064

Log-transformed Statistics	
Minimum Detected	-4.605
Maximum Detected	1.281
Mean of Detected	-2.319
SD of Detected	1.775
Minimum Non-Detect	-5.319
Maximum Non-Detect	-5.051

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	11
Number treated as Detected	12
Single DL Non-Detect Percentage	47.83%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.473
5% Shapiro Wilk Critical Value	0.859

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.953
5% Shapiro Wilk Critical Value	0.859

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.234
SD	0.749
95% DL/2 (t) UCL	0.502
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-4.027
SD	2.214
95% H-Stat (DL/2) UCL	1.66
Log ROS Method	
Mean in Log Scale	-4.629
SD in Log Scale	2.794
Mean in Original Scale	0.233
SD in Original Scale	0.75
95% t UCL	0.501
95% Percentile Bootstrap UCL	0.533
95% BCA Bootstrap UCL	0.708
95% H-UCL	12.08

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.378
Theta Star	1.178
nu star	9.08
A-D Test Statistic	0.765
5% A-D Critical Value	0.798
K-S Test Statistic	0.798
5% K-S Critical Value	0.261

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	3.6
Mean	0.233

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.237
SD	0.732
SE of Mean	0.159
95% KM (t) UCL	0.511
95% KM (z) UCL	0.5
95% KM (jackknife) UCL	0.504
95% KM (bootstrap t) UCL	1.67
95% KM (BCA) UCL	0.558
95% KM (Percentile Bootstrap) UCL	0.54

Median	0.01	95% KM (Chebyshev) UCL	0.932
SD	0.75	97.5% KM (Chebyshev) UCL	1.233
k star	0.137	99% KM (Chebyshev) UCL	1.823
Theta star	1.698		
Nu star	6.299	**Potential UCLs to Use**	
AppChi2	1.794	95% KM (BCA) UCL	0.558
95% Gamma Approximate UCL (Use when n >= 40)	0.816		
95% Adjusted Gamma UCL (Use when n < 40)	0.901		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluoranthene

General Statistics

Number of Valid Data	23	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	16
		Percent Non-Detects	69.57%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.007	Minimum Detected	-4.962
Maximum Detected	0.58	Maximum Detected	-0.545
Mean of Detected	0.124	Mean of Detected	-3.192
SD of Detected	0.207	SD of Detected	1.604
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	22
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.65%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.638	Shapiro Wilk Test Statistic	0.927
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0502	Mean	-4.579

SD	0.122	SD	1.676
95% DL/2 (t) UCL	0.094	95% H-Stat (DL/2) UCL	0.147
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.167
		SD in Log Scale	2.292
		Mean in Original Scale	0.0382
		SD in Original Scale	0.123
		95% t UCL	0.0821
		95% Percentile Bootstrap UCL	0.0883
		95% BCA Bootstrap UCL	0.114
		95% H-UCL	0.267

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.419	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	0.295		
nu star	5.862		
A-D Test Statistic	0.498	**Nonparametric Statistics**	
5% A-D Critical Value	0.747	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.747	Mean	0.0439
5% K-S Critical Value	0.326	SD	0.119
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0268
		95% KM (t) UCL	0.0899
Assuming Gamma Distribution		95% KM (z) UCL	0.088
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0854
Minimum	0.000001	95% KM (bootstrap t) UCL	0.214
Maximum	0.58	95% KM (BCA) UCL	0.102
Mean	0.0376	95% KM (Percentile Bootstrap) UCL	0.0937
Median	0.000001	95% KM (Chebyshev) UCL	0.161
SD	0.123	97.5% KM (Chebyshev) UCL	0.211
k star	0.125	99% KM (Chebyshev) UCL	0.311
Theta star	0.302		
Nu star	5.729	**Potential UCLs to Use**	
AppChi2	1.503	95% KM (t) UCL	0.0899
95% Gamma Approximate UCL (Use when n >= 40)	0.143		
95% Adjusted Gamma UCL (Use when n < 40)	0.159		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics

Number of Valid Data	23	Number of Detected Data	6
Number of Distinct Detected Data	5	Number of Non-Detect Data	17

Percent Non-Detects	73.91%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.012	Minimum Detected	-4.423
Maximum Detected	0.3	Maximum Detected	-1.204
Mean of Detected	0.0737	Mean of Detected	-3.341
SD of Detected	0.112	SD of Detected	1.229
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	22
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	95.65%

Warning: There are only 6 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.633	Shapiro Wilk Test Statistic	0.879
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.032	Mean	-4.74
SD	0.0656	SD	1.523
95% DL/2 (t) UCL	0.0555	95% H-Stat (DL/2) UCL	0.0809
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.084
		SD in Log Scale	1.878
		Mean in Original Scale	0.0201
		SD in Original Scale	0.0627
		95% t UCL	0.0425
		95% Percentile Bootstrap UCL	0.0449
		95% BCA Bootstrap UCL	0.0655
		95% H-UCL	0.0622

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.515	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	0.143		
nu star	6.184		
A-D Test Statistic	0.613	**Nonparametric Statistics**	
5% A-D Critical Value	0.72	Kaplan-Meier (KM) Method	

K-S Test Statistic	0.72	Mean	0.0286
5% K-S Critical Value	0.343	SD	0.059
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0135
		95% KM (t) UCL	0.0519
Assuming Gamma Distribution		95% KM (z) UCL	0.0509
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0503
Minimum	0.000001	95% KM (bootstrap t) UCL	0.142
Maximum	0.3	95% KM (BCA) UCL	0.0652
Mean	0.0192	95% KM (Percentile Bootstrap) UCL	0.0553
Median	0.000001	95% KM (Chebyshev) UCL	0.0875
SD	0.0629	97.5% KM (Chebyshev) UCL	0.113
k star	0.127	99% KM (Chebyshev) UCL	0.163
Theta star	0.152		
Nu star	5.822	**Potential UCLs to Use**	
AppChi2	1.549	95% KM (t) UCL	0.0519
95% Gamma Approximate UCL (Use when n >= 40)	0.0722		
95% Adjusted Gamma UCL (Use when n < 40)	0.0801		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead

General Statistics

Number of Valid Observations	45	Number of Distinct Observations	40

Raw Statistics		**Log-transformed Statistics**	
Minimum	2.6	Minimum of Log Data	0.956
Maximum	400	Maximum of Log Data	5.991
Mean	26.61	Mean of log Data	2.397
Geometric Mean	10.99	SD of log Data	1.13
Median	8.9		
SD	63.28		
Std. Error of Mean	9.433		
Coefficient of Variation	2.378		
Skewness	5.149		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.385	Shapiro Wilk Test Statistic	0.916
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	42.46	95% H-UCL	31.96
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	38.39
95% Adjusted-CLT UCL (Chen-1995)	49.86	97.5% Chebyshev (MVUE) UCL	46.2

95% Modified-t UCL (Johnson-1978)	43.67	99% Chebyshev (MVUE) UCL	61.54

Gamma Distribution Test

k star (bias corrected)	0.655
Theta Star	40.66
MLE of Mean	26.61
MLE of Standard Deviation	32.89
nu star	58.91
Approximate Chi Square Value (.05)	42.26
Adjusted Level of Significance	0.0447
Adjusted Chi Square Value	41.79
Anderson-Darling Test Statistic	3.361
Anderson-Darling 5% Critical Value	0.796
Kolmogorov-Smirnov Test Statistic	0.229
Kolmogorov-Smirnov 5% Critical Value	0.138

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	37.09
95% Adjusted Gamma UCL (Use when n < 40)	37.51

Data Distribution

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

95% CLT UCL	42.13
95% Jackknife UCL	42.46
95% Standard Bootstrap UCL	41.73
95% Bootstrap-t UCL	80.24
95% Hall's Bootstrap UCL	104.5
95% Percentile Bootstrap UCL	43.62
95% BCA Bootstrap UCL	54.64
95% Chebyshev(Mean, Sd) UCL	67.73
97.5% Chebyshev(Mean, Sd) UCL	85.52
99% Chebyshev(Mean, Sd) UCL	120.5

Potential UCL to Use

Use 95% Chebyshev (Mean, Sd) UCL 67.73

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Mercury

General Statistics

Number of Valid Data	45	Number of Detected Data	22
Number of Distinct Detected Data	13	Number of Non-Detect Data	23
		Percent Non-Detects	51.11%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.028	Minimum Detected	-3.576
Maximum Detected	5.1	Maximum Detected	1.629
Mean of Detected	0.54	Mean of Detected	-1.596
SD of Detected	1.094	SD of Detected	1.313
Minimum Non-Detect	0.02	Minimum Non-Detect	-3.912
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	28
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	17
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	62.22%

UCL Statistics

Normal Distribution Test with Detected Values Only

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.472
5% Shapiro Wilk Critical Value	0.911

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.287
SD	0.796
95% DL/2 (t) UCL	0.486
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.571
Theta Star	0.945
nu star	25.14
A-D Test Statistic	1.637
5% A-D Critical Value	0.793
K-S Test Statistic	0.793
5% K-S Critical Value	0.194

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	5.1
Mean	0.265
Median	0.028
SD	0.803
k star	0.132
Theta star	2.007
Nu star	11.89
AppChi2	5.154
95% Gamma Approximate UCL (Use when n >= 40)	0.612
95% Adjusted Gamma UCL (Use when n < 40)	0.63

Note: DL/2 is not a recommended method.

Shapiro Wilk Test Statistic	0.918
5% Shapiro Wilk Critical Value	0.911

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-2.419
SD	1.28
95% H-Stat (DL/2) UCL	0.341
Log ROS Method	
Mean in Log Scale	-2.934
SD in Log Scale	1.798
Mean in Original Scale	0.277
SD in Original Scale	0.799
95% t UCL	0.477
95% Percentile Bootstrap UCL	0.498
95% BCA Bootstrap UCL	0.61
95% H-UCL	0.673

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.286
SD	0.787
SE of Mean	0.12
95% KM (t) UCL	0.488
95% KM (z) UCL	0.484
95% KM (jackknife) UCL	0.485
95% KM (bootstrap t) UCL	0.919
95% KM (BCA) UCL	0.538
95% KM (Percentile Bootstrap) UCL	0.499
95% KM (Chebyshev) UCL	0.81
97.5% KM (Chebyshev) UCL	1.037
99% KM (Chebyshev) UCL	1.482

Potential UCLs to Use

95% KM (BCA) UCL	0.538

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics

Number of Valid Data	23	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	18
		Percent Non-Detects	78.26%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.013	Minimum Detected	-4.343
Maximum Detected	1.4	Maximum Detected	0.336
Mean of Detected	0.33	Mean of Detected	-2.455
SD of Detected	0.6	SD of Detected	1.806
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	22
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	95.65%

Warning: There are only 5 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.628	Shapiro Wilk Test Statistic	0.947
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0848	Mean	-4.632
SD	0.29	SD	1.795
95% DL/2 (t) UCL	0.188	95% H-Stat (DL/2) UCL	0.202
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-7.049
		SD in Log Scale	2.798
		Mean in Original Scale	0.0722
		SD in Original Scale	0.291
		95% t UCL	0.177
		95% Percentile Bootstrap UCL	0.19
		95% BCA Bootstrap UCL	0.313
		95% H-UCL	1.098

Gamma Distribution Test with Detected Values Only	Data Distribution Test with Detected Values Only

k star (bias corrected)	0.323	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	1.022		
nu star	3.234		
A-D Test Statistic	0.499	**Nonparametric Statistics**	
5% A-D Critical Value	0.714	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.714	Mean	0.083
5% K-S Critical Value	0.373	SD	0.282
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0659
		95% KM (t) UCL	0.196
Assuming Gamma Distribution		95% KM (z) UCL	0.191
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.178
Minimum	0.000001	95% KM (bootstrap t) UCL	1.175
Maximum	1.4	95% KM (BCA) UCL	N/A
Mean	0.0718	95% KM (Percentile Bootstrap) UCL	0.215
Median	0.000001	95% KM (Chebyshev) UCL	0.37
SD	0.291	97.5% KM (Chebyshev) UCL	0.494
k star	0.111	99% KM (Chebyshev) UCL	0.739
Theta star	0.649		
Nu star	5.091	**Potential UCLs to Use**	
AppChi2	1.194	95% KM (t) UCL	0.196
95% Gamma Approximate UCL (Use when n >= 40)	0.306		
95% Adjusted Gamma UCL (Use when n < 40)	0.343		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Pyrene

General Statistics

Number of Valid Data	23	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	13
		Percent Non-Detects	56.52%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.01	Minimum Detected	-4.605
Maximum Detected	3.2	Maximum Detected	1.163
Mean of Detected	0.392	Mean of Detected	-2.774
SD of Detected	0.991	SD of Detected	1.795
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	21
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	91.30%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.439
5% Shapiro Wilk Critical Value	0.842

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.181
SD	0.662
95% DL/2 (t) UCL	0.418
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.861
5% Shapiro Wilk Critical Value	0.842

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-4.198
SD	1.982
95% H-Stat (DL/2) UCL	0.587
Log ROS Method	
Mean in Log Scale	-5.231
SD in Log Scale	2.578
Mean in Original Scale	0.171
SD in Original Scale	0.664
95% t UCL	0.409
95% Percentile Bootstrap UCL	0.447
95% BCA Bootstrap UCL	0.593
95% H-UCL	2.36

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.321
Theta Star	1.22
nu star	6.426
A-D Test Statistic	1.281
5% A-D Critical Value	0.802
K-S Test Statistic	0.802
5% K-S Critical Value	0.286

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	3.2
Mean	0.17
Median	0.000001
SD	0.664
k star	0.125
Theta star	1.361
Nu star	5.759
AppChi2	1.518
95% Gamma Approximate UCL (Use when n >= 40)	0.646
95% Adjusted Gamma UCL (Use when n < 40)	0.718

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.178
SD	0.648
SE of Mean	0.142
95% KM (t) UCL	0.422
95% KM (z) UCL	0.412
95% KM (jackknife) UCL	0.412
95% KM (bootstrap t) UCL	2.685
95% KM (BCA) UCL	0.455
95% KM (Percentile Bootstrap) UCL	0.453
95% KM (Chebyshev) UCL	0.799
97.5% KM (Chebyshev) UCL	1.067
99% KM (Chebyshev) UCL	1.595

Potential UCLs to Use

97.5% KM (Chebyshev) UCL	1.067

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Observations	45	Number of Distinct Observations	35

Raw Statistics		Log-transformed Statistics	
Minimum	4.2	Minimum of Log Data	1.435
Maximum	63	Maximum of Log Data	4.143
Mean	21.59	Mean of log Data	2.835
Geometric Mean	17.04	SD of log Data	0.709
Median	15		
SD	15.11		
Std. Error of Mean	2.253		
Coefficient of Variation	0.7		
Skewness	1.071		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.873	Shapiro Wilk Test Statistic	0.963
Shapiro Wilk Critical Value	0.945	Shapiro Wilk Critical Value	0.945
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	25.37	95% H-UCL	27.35
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	32.71
95% Adjusted-CLT UCL (Chen-1995)	25.68	97.5% Chebyshev (MVUE) UCL	37.45
95% Modified-t UCL (Johnson-1978)	25.43	99% Chebyshev (MVUE) UCL	46.76

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	2.128	**Data Follow Appr. Gamma Distribution at 5% Significance Level**	
Theta Star	10.15		
MLE of Mean	21.59		
MLE of Standard Deviation	14.8		
nu star	191.5		
Approximate Chi Square Value (.05)	160.5	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0447	95% CLT UCL	25.29
Adjusted Chi Square Value	159.5	95% Jackknife UCL	25.37
		95% Standard Bootstrap UCL	25.19
Anderson-Darling Test Statistic	0.646	95% Bootstrap-t UCL	25.97
Anderson-Darling 5% Critical Value	0.759	95% Hall's Bootstrap UCL	25.7
Kolmogorov-Smirnov Test Statistic	0.135	95% Percentile Bootstrap UCL	25.36
Kolmogorov-Smirnov 5% Critical Value	0.133	95% BCA Bootstrap UCL	25.76
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	31.41
		97.5% Chebyshev(Mean, Sd) UCL	35.66
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	44
95% Approximate Gamma UCL (Use when n >= 40)	25.76		
95% Adjusted Gamma UCL (Use when n < 40)	25.91		

Potential UCL to Use Use 95% Approximate Gamma UCL 25.76

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Open Space_TPHd

General Statistics

Number of Valid Data	64	Number of Detected Data	36
Number of Distinct Detected Data	35	Number of Non-Detect Data	28
Number of Missing Values	1	Percent Non-Detects	43.75%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.57	Minimum Detected	-0.562
Maximum Detected	8400	Maximum Detected	9.036
Mean of Detected	452.6	Mean of Detected	2.671
SD of Detected	1518	SD of Detected	2.563
Minimum Non-Detect	1	Minimum Non-Detect	0
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	47
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	17
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	73.44%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.347	Shapiro Wilk Test Statistic	0.917
5% Shapiro Wilk Critical Value	0.935	5% Shapiro Wilk Critical Value	0.935
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	255.9	Mean	1.868
SD	1153	SD	2.208
95% DL/2 (t) UCL	496.6	95% H-Stat (DL/2) UCL	181
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	1.452
		SD in Log Scale	2.581
		Mean in Original Scale	255.6
		SD in Original Scale	1153
		95% t UCL	496.3
		95% Percentile Bootstrap UCL	526.8
		95% BCA Bootstrap UCL	671.6
		95% H-UCL	355.9

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.213	**Data do not follow a Discernable Distribution (0.05)**

Theta Star	2128
nu star	15.31
A-D Test Statistic	4.167
5% A-D Critical Value	0.895
K-S Test Statistic	0.895
5% K-S Critical Value	0.162

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	8400
Mean	255.4
Median	0.655
SD	1153
k star	0.091
Theta star	2807
Nu star	11.64
AppChi2	4.994
95% Gamma Approximate UCL (Use when n >= 40)	595.5
95% Adjusted Gamma UCL (Use when n < 40)	607.7

Note: DL/2 is not a recommended method.

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	255.3
SD	1144
SE of Mean	145.1
95% KM (t) UCL	497.5
95% KM (z) UCL	494
95% KM (jackknife) UCL	496
95% KM (bootstrap t) UCL	1019
95% KM (BCA) UCL	561.3
95% KM (Percentile Bootstrap) UCL	529.9
95% KM (Chebyshev) UCL	887.7
97.5% KM (Chebyshev) UCL	1161
99% KM (Chebyshev) UCL	1699

Potential UCLs to Use

97.5% KM (Chebyshev) UCL	1161

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Open Space_TPHm

General Statistics

Number of Valid Data	64	Number of Detected Data	43
Number of Distinct Detected Data	41	Number of Non-Detect Data	21
Number of Missing Values	1	Percent Non-Detects	32.81%

Raw Statistics

Minimum Detected	0.5
Maximum Detected	11000
Mean of Detected	848.9
SD of Detected	2477
Minimum Non-Detect	1
Maximum Non-Detect	10

Log-transformed Statistics

Minimum Detected	-0.693
Maximum Detected	9.306
Mean of Detected	3.655
SD of Detected	2.436
Minimum Non-Detect	0
Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	34
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	30
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	53.13%

UCL Statistics

Normal Distribution Test with Detected Values Only | **Lognormal Distribution Test with Detected Values Only**

Shapiro Wilk Test Statistic	0.391
5% Shapiro Wilk Critical Value	0.943

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	571.1
SD	2062
95% DL/2 (t) UCL	1001
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.232
Theta Star	3661
nu star	19.94
A-D Test Statistic	4.695
5% A-D Critical Value	0.89
K-S Test Statistic	0.89
5% K-S Critical Value	0.148

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	11000
Mean	570.3
Median	6.85
SD	2062
k star	0.103
Theta star	5555
Nu star	13.14
AppChi2	5.989
95% Gamma Approximate UCL (Use when n >= 40)	1252
95% Adjusted Gamma UCL (Use when n < 40)	1275

Note: DL/2 is not a recommended method.

Shapiro Wilk Test Statistic	0.944
5% Shapiro Wilk Critical Value	0.943

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	2.545
SD	2.623
95% H-Stat (DL/2) UCL	1223
Log ROS Method	
Mean in Log Scale	2.035
SD in Log Scale	3.198
Mean in Original Scale	570.6
SD in Original Scale	2062
95% t UCL	1001
95% Percentile Bootstrap UCL	1045
95% BCA Bootstrap UCL	1173
95% H-UCL	6968

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	570.7
SD	2046
SE of Mean	258.8
95% KM (t) UCL	1003
95% KM (z) UCL	996.4
95% KM (jackknife) UCL	1001
95% KM (bootstrap t) UCL	1509
95% KM (BCA) UCL	1068
95% KM (Percentile Bootstrap) UCL	1030
95% KM (Chebyshev) UCL	1699
97.5% KM (Chebyshev) UCL	2187
99% KM (Chebyshev) UCL	3145

Potential UCLs to Use

97.5% KM (Chebyshev) UCL	2187

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area Site Wide 0 to 10 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	SITEWIDE 0-10.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

1-Methylnaphthalene

General Statistics

Number of Valid Data	89	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	79
		Percent Non-Detects	88.76%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0053	Minimum Detected	-5.24
Maximum Detected	5.5	Maximum Detected	1.705
Mean of Detected	1.355	Mean of Detected	-1.372
SD of Detected	1.785	SD of Detected	2.675
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.062	Maximum Non-Detect	-2.781

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	82
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	7
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	92.13%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.789	Shapiro Wilk Test Statistic	0.85
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.156	Mean	-5.208
SD	0.714	SD	1.686
95% DL/2 (t) UCL	0.282	95% H-Stat (DL/2) UCL	0.0388
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-11.33
		SD in Log Scale	4.748
		Mean in Original Scale	0.152
		SD in Original Scale	0.715
		95% t UCL	0.278
		95% Percentile Bootstrap UCL	0.284
		95% BCA Bootstrap UCL	0.349
		95% H-UCL	35.36

Gamma Distribution Test with Detected Values Only	Data Distribution Test with Detected Values Only

k star (bias corrected)	0.342	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	3.96		
nu star	6.844		
A-D Test Statistic	0.393	**Nonparametric Statistics**	
5% A-D Critical Value	0.796	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.796	Mean	0.157
5% K-S Critical Value	0.285	SD	0.71
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0793
		95% KM (t) UCL	0.289
Assuming Gamma Distribution		95% KM (z) UCL	0.287
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.281
Minimum	0.000001	95% KM (bootstrap t) UCL	0.445
Maximum	5.5	95% KM (BCA) UCL	0.45
Mean	0.152	95% KM (Percentile Bootstrap) UCL	0.442
Median	0.000001	95% KM (Chebyshev) UCL	0.503
SD	0.715	97.5% KM (Chebyshev) UCL	0.652
k star	0.0841	99% KM (Chebyshev) UCL	0.946
Theta star	1.811		
Nu star	14.97	**Potential UCLs to Use**	
AppChi2	7.238	95% KM (t) UCL	0.289
95% Gamma Approximate UCL (Use when n >= 40)	0.315		
95% Adjusted Gamma UCL (Use when n < 40)	0.319		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

2-Methylnaphthalene

General Statistics

Number of Valid Data	94	Number of Detected Data	15
Number of Distinct Detected Data	15	Number of Non-Detect Data	79
		Percent Non-Detects	84.04%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0063	Minimum Detected	-5.067
Maximum Detected	15	Maximum Detected	2.708
Mean of Detected	2.729	Mean of Detected	-1.061
SD of Detected	4.131	SD of Detected	2.906
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	87
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	7
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	92.55%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.7
5% Shapiro Wilk Critical Value	0.881

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.445
SD	1.89
95% DL/2 (t) UCL	0.769
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.851
5% Shapiro Wilk Critical Value	0.881

Data not Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-4.868
SD	2.146
95% H-Stat (DL/2) UCL	0.171
Log ROS Method	
Mean in Log Scale	-10.51
SD in Log Scale	5.133
Mean in Original Scale	0.436
SD in Original Scale	1.892
95% t UCL	0.76
95% Percentile Bootstrap UCL	0.776
95% BCA Bootstrap UCL	0.956
95% H-UCL	893.5

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.308
Theta Star	8.873
nu star	9.227
A-D Test Statistic	0.598
5% A-D Critical Value	0.829
K-S Test Statistic	0.829
5% K-S Critical Value	0.239

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	15
Mean	0.435
Median	0.000001
SD	1.892
k star	0.0812
Theta star	5.362
Nu star	15.27
AppChi2	7.449
95% Gamma Approximate UCL (Use when n >= 40)	0.893
95% Adjusted Gamma UCL (Use when n < 40)	0.903

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.441
SD	1.88
SE of Mean	0.201
95% KM (t) UCL	0.774
95% KM (z) UCL	0.771
95% KM (jackknife) UCL	0.764
95% KM (bootstrap t) UCL	1.26
95% KM (BCA) UCL	0.774
95% KM (Percentile Bootstrap) UCL	0.792
95% KM (Chebyshev) UCL	1.316
97.5% KM (Chebyshev) UCL	1.695
99% KM (Chebyshev) UCL	2.438

Potential UCLs to Use

95% KM (t) UCL	0.774

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthene

General Statistics

Number of Valid Data	214	Number of Detected Data	40
Number of Distinct Detected Data	29	Number of Non-Detect Data	174
		Percent Non-Detects	81.31%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.01	Minimum Detected	-4.605
Maximum Detected	3.2	Maximum Detected	1.163
Mean of Detected	0.348	Mean of Detected	-1.771
SD of Detected	0.538	SD of Detected	1.244
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	214
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.563	Shapiro Wilk Test Statistic	0.98
5% Shapiro Wilk Critical Value	0.94	5% Shapiro Wilk Critical Value	0.94
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.236	Mean	-4.324
SD	1.075	SD	2.057
95% DL/2 (t) UCL	0.358	95% H-Stat (DL/2) UCL	0.173
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.21
		SD in Log Scale	2.153
		Mean in Original Scale	0.0694
		SD in Original Scale	0.266
		95% t UCL	0.0995
		95% Percentile Bootstrap UCL	0.102
		95% BCA Bootstrap UCL	0.114
		95% H-UCL	0.0906

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.782	**Data appear Lognormal at 5% Significance Level**	
Theta Star	0.444		
nu star	62.6		
A-D Test Statistic	0.824	**Nonparametric Statistics**	
5% A-D Critical Value	0.786	Kaplan-Meier (KM) Method	

K-S Test Statistic	0.786	Mean	0.0764
5% K-S Critical Value	0.145	SD	0.269
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.019
		95% KM (t) UCL	0.108
Assuming Gamma Distribution		95% KM (z) UCL	0.108
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.106
Minimum	0.000001	95% KM (bootstrap t) UCL	0.128
Maximum	3.2	95% KM (BCA) UCL	0.121
Mean	0.065	95% KM (Percentile Bootstrap) UCL	0.116
Median	0.000001	95% KM (Chebyshev) UCL	0.159
SD	0.267	97.5% KM (Chebyshev) UCL	0.195
k star	0.0946	99% KM (Chebyshev) UCL	0.265
Theta star	0.686		
Nu star	40.51	**Potential UCLs to Use**	
AppChi2	26.92	95% KM (BCA) UCL	0.121
95% Gamma Approximate UCL (Use when n >= 40)	0.0977		
95% Adjusted Gamma UCL (Use when n < 40)	0.098		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics

Number of Valid Data	214	Number of Detected Data	41
Number of Distinct Detected Data	29	Number of Non-Detect Data	173
		Percent Non-Detects	80.84%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0055	Minimum Detected	-5.203
Maximum Detected	0.6	Maximum Detected	-0.511
Mean of Detected	0.128	Mean of Detected	-2.797
SD of Detected	0.161	SD of Detected	1.31
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	214
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.715	Shapiro Wilk Test Statistic	0.957
5% Shapiro Wilk Critical Value	0.941	5% Shapiro Wilk Critical Value	0.941
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution	**Assuming Lognormal Distribution**

DL/2 Substitution Method	
Mean	0.197
SD	1.051
95% DL/2 (t) UCL	0.316
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

DL/2 Substitution Method	
Mean	-4.426
SD	1.862
95% H-Stat (DL/2) UCL	0.0992
Log ROS Method	
Mean in Log Scale	-6.332
SD in Log Scale	2.258
Mean in Original Scale	0.026
SD in Original Scale	0.0856
95% t UCL	0.0357
95% Percentile Bootstrap UCL	0.0358
95% BCA Bootstrap UCL	0.0383
95% H-UCL	0.0388

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.759
Theta Star	0.169
nu star	62.23
A-D Test Statistic	0.752
5% A-D Critical Value	0.787
K-S Test Statistic	0.787
5% K-S Critical Value	0.143

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.6
Mean	0.0246
Median	0.000001
SD	0.086
k star	0.104
Theta star	0.238
Nu star	44.32
AppChi2	30.05
95% Gamma Approximate UCL (Use when n >= 40)	0.0363
95% Adjusted Gamma UCL (Use when n < 40)	0.0364

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0308
SD	0.0866
SE of Mean	0.00617
95% KM (t) UCL	0.041
95% KM (z) UCL	0.0409
95% KM (jackknife) UCL	0.0406
95% KM (bootstrap t) UCL	0.0445
95% KM (BCA) UCL	0.0428
95% KM (Percentile Bootstrap) UCL	0.0414
95% KM (Chebyshev) UCL	0.0577
97.5% KM (Chebyshev) UCL	0.0693
99% KM (Chebyshev) UCL	0.0922

Potential UCLs to Use

95% KM (t) UCL	0.041

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Anthracene

General Statistics

Number of Valid Data	214	Number of Detected Data	19

Number of Distinct Detected Data	18	Number of Non-Detect Data	195
		Percent Non-Detects	91.12%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	3.5	Maximum Detected	1.253
Mean of Detected	0.32	Mean of Detected	-2.881
SD of Detected	0.816	SD of Detected	1.835
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	214
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.424	Shapiro Wilk Test Statistic	0.929
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.208	Mean	-4.483
SD	1.077	SD	1.832
95% DL/2 (t) UCL	0.329	95% H-Stat (DL/2) UCL	0.0878
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-9.872
		SD in Log Scale	3.37
		Mean in Original Scale	0.0287
		SD in Original Scale	0.254
		95% t UCL	0.0574
		95% Percentile Bootstrap UCL	0.0613
		95% BCA Bootstrap UCL	0.089
		95% H-UCL	0.0459

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.356	**Data appear Lognormal at 5% Significance Level**	
Theta Star	0.899		
nu star	13.52		
A-D Test Statistic	1.407	**Nonparametric Statistics**	
5% A-D Critical Value	0.827	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.827	Mean	0.0353
5% K-S Critical Value	0.213	SD	0.257
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0183
		95% KM (t) UCL	0.0656
Assuming Gamma Distribution		95% KM (z) UCL	0.0654
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0646

Minimum	0.000001	95% KM (bootstrap t) UCL	0.229
Maximum	3.5	95% KM (BCA) UCL	0.0723
Mean	0.0284	95% KM (Percentile Bootstrap) UCL	0.0688
Median	0.000001	95% KM (Chebyshev) UCL	0.115
SD	0.254	97.5% KM (Chebyshev) UCL	0.15
k star	0.0906	99% KM (Chebyshev) UCL	0.218
Theta star	0.313		
Nu star	38.79	**Potential UCLs to Use**	
AppChi2	25.53	95% KM (Chebyshev) UCL	0.115
95% Gamma Approximate UCL (Use when n >= 40)	0.0432		
95% Adjusted Gamma UCL (Use when n < 40)	0.0433		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics

Number of Valid Data	214	Number of Detected Data	47
Number of Distinct Detected Data	39	Number of Non-Detect Data	167
		Percent Non-Detects	78.04%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.005	Minimum Detected	-5.298
Maximum Detected	0.91	Maximum Detected	-0.0943
Mean of Detected	0.101	Mean of Detected	-3.303
SD of Detected	0.192	SD of Detected	1.316
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	214
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.528	Shapiro Wilk Test Statistic	0.923
5% Shapiro Wilk Critical Value	0.946	5% Shapiro Wilk Critical Value	0.946
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.2	Mean	-4.285
SD	1.052	SD	1.82
95% DL/2 (t) UCL	0.319	95% H-Stat (DL/2) UCL	0.104
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	

MLE method failed to converge properly

Mean in Log Scale	-6.206
SD in Log Scale	2.081
Mean in Original Scale	0.024
SD in Original Scale	0.0981
95% t UCL	0.0351
95% Percentile Bootstrap UCL	0.0359
95% BCA Bootstrap UCL	0.0393
95% H-UCL	0.0279

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.585
Theta Star	0.173
nu star	54.95
A-D Test Statistic	3.238
5% A-D Critical Value	0.804
K-S Test Statistic	0.804
5% K-S Critical Value	0.136

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.91
Mean	0.0239
Median	0.000001
SD	0.0988
k star	0.109
Theta star	0.22
Nu star	46.52
AppChi2	31.87
95% Gamma Approximate UCL (Use when n >= 40)	0.0348
95% Adjusted Gamma UCL (Use when n < 40)	0.0349

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0285
SD	0.1
SE of Mean	0.00712
95% KM (t) UCL	0.0403
95% KM (z) UCL	0.0402
95% KM (jackknife) UCL	0.0391
95% KM (bootstrap t) UCL	0.0463
95% KM (BCA) UCL	0.0446
95% KM (Percentile Bootstrap) UCL	0.0416
95% KM (Chebyshev) UCL	0.0595
97.5% KM (Chebyshev) UCL	0.073
99% KM (Chebyshev) UCL	0.0994

Potential UCLs to Use

95% KM (BCA) UCL	0.0446

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics

Number of Valid Data	214	Number of Detected Data	77
Number of Distinct Detected Data	59	Number of Non-Detect Data	137
		Percent Non-Detects	64.02%

Raw Statistics

Minimum Detected	0.006
Maximum Detected	0.5

Log-transformed Statistics

Minimum Detected	-5.116
Maximum Detected	-0.693

Mean of Detected	0.08
SD of Detected	0.0933
Minimum Non-Detect	0.0049
Maximum Non-Detect	20

Mean of Detected	-3.089
SD of Detected	1.106
Minimum Non-Detect	-5.319
Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	214
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.215
5% Lilliefors Critical Value	0.101

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.107
5% Lilliefors Critical Value	0.101

Data not Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.205
SD	1.049
95% DL/2 (t) UCL	0.323
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.978
SD	1.845
95% H-Stat (DL/2) UCL	0.15
Log ROS Method	
Mean in Log Scale	-4.697
SD in Log Scale	1.588
Mean in Original Scale	0.0327
SD in Original Scale	0.0664
95% t UCL	0.0402
95% Percentile Bootstrap UCL	0.0408
95% BCA Bootstrap UCL	0.0413
95% H-UCL	0.0432

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.991
Theta Star	0.0806
nu star	152.7
A-D Test Statistic	1.019
5% A-D Critical Value	0.781
K-S Test Statistic	0.781
5% K-S Critical Value	0.105

Data follow Appr. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.5
Mean	0.0314
Median	0.000001
SD	0.0679
k star	0.134

Data Distribution Test with Detected Values Only

Data Follow Appr. Gamma Distribution at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0362
SD	0.0678
SE of Mean	0.00486
95% KM (t) UCL	0.0442
95% KM (z) UCL	0.0442
95% KM (jackknife) UCL	0.044
95% KM (bootstrap t) UCL	0.0459
95% KM (BCA) UCL	0.0452
95% KM (Percentile Bootstrap) UCL	0.0445
95% KM (Chebyshev) UCL	0.0574
97.5% KM (Chebyshev) UCL	0.0665
99% KM (Chebyshev) UCL	0.0846

Theta star	0.235
Nu star	57.23
AppChi2	40.84
95% Gamma Approximate UCL (Use when n >= 40)	0.0441
95% Adjusted Gamma UCL (Use when n < 40)	0.0442

Potential UCLs to Use

95% KM (t) UCL	0.0442

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics

Number of Valid Data	214	Number of Detected Data	77
Number of Distinct Detected Data	52	Number of Non-Detect Data	137
		Percent Non-Detects	64.02%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.005	Minimum Detected	-5.298
Maximum Detected	0.89	Maximum Detected	-0.117
Mean of Detected	0.0789	Mean of Detected	-3.323
SD of Detected	0.143	SD of Detected	1.207
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	214
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.303	Lilliefors Test Statistic	0.0657
5% Lilliefors Critical Value	0.101	5% Lilliefors Critical Value	0.101
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.205	Mean	-4.013
SD	1.051	SD	1.816
95% DL/2 (t) UCL	0.324	95% H-Stat (DL/2) UCL	0.136
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.011
		SD in Log Scale	1.707
		Mean in Original Scale	0.0316
		SD in Original Scale	0.0927
		95% t UCL	0.042
		95% Percentile Bootstrap UCL	0.0433

95% BCA Bootstrap UCL	0.0465
95% H-UCL	0.0398

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.741
Theta Star	0.107
nu star	114.1
A-D Test Statistic	2.197
5% A-D Critical Value	0.792
K-S Test Statistic	0.792
5% K-S Critical Value	0.106

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.89
Mean	0.0317
Median	0.000001
SD	0.0938
k star	0.134
Theta star	0.236
Nu star	57.39
AppChi2	40.98
95% Gamma Approximate UCL (Use when n >= 40)	0.0444
95% Adjusted Gamma UCL (Use when n < 40)	0.0445

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0352
SD	0.0946
SE of Mean	0.00672
95% KM (t) UCL	0.0463
95% KM (z) UCL	0.0463
95% KM (jackknife) UCL	0.046
95% KM (bootstrap t) UCL	0.0525
95% KM (BCA) UCL	0.0485
95% KM (Percentile Bootstrap) UCL	0.0471
95% KM (Chebyshev) UCL	0.0645
97.5% KM (Chebyshev) UCL	0.0772
99% KM (Chebyshev) UCL	0.102

Potential UCLs to Use

95% KM (BCA) UCL	0.0485

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics

Number of Valid Data	214	Number of Detected Data	83
Number of Distinct Detected Data	56	Number of Non-Detect Data	131
		Percent Non-Detects	61.21%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.005	Minimum Detected	-5.298
Maximum Detected	0.65	Maximum Detected	-0.431
Mean of Detected	0.0605	Mean of Detected	-3.464
SD of Detected	0.104	SD of Detected	1.077
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect 214

For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.296
5% Lilliefors Critical Value	0.0973

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.201
SD	1.05
95% DL/2 (t) UCL	0.319
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.0592
5% Lilliefors Critical Value	0.0973

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.988
SD	1.757
95% H-Stat (DL/2) UCL	0.123
Log ROS Method	
Mean in Log Scale	-4.78
SD in Log Scale	1.471
Mean in Original Scale	0.0274
SD in Original Scale	0.0698
95% t UCL	0.0352
95% Percentile Bootstrap UCL	0.0354
95% BCA Bootstrap UCL	0.0378
95% H-UCL	0.0321

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.865
Theta Star	0.0699
nu star	143.6
A-D Test Statistic	2.591
5% A-D Critical Value	0.787
K-S Test Statistic	0.787
5% K-S Critical Value	0.101

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.65
Mean	0.0276
Median	0.000001
SD	0.0712
k star	0.145
Theta star	0.19
Nu star	62.18
AppChi2	45.04
95% Gamma Approximate UCL (Use when n >= 40)	0.0381
95% Adjusted Gamma UCL (Use when n < 40)	0.0382

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0301
SD	0.0713
SE of Mean	0.00509
95% KM (t) UCL	0.0386
95% KM (z) UCL	0.0385
95% KM (jackknife) UCL	0.0385
95% KM (bootstrap t) UCL	0.043
95% KM (BCA) UCL	0.0399
95% KM (Percentile Bootstrap) UCL	0.0389
95% KM (Chebyshev) UCL	0.0523
97.5% KM (Chebyshev) UCL	0.0619
99% KM (Chebyshev) UCL	0.0808

Potential UCLs to Use

95% KM (BCA) UCL	0.0399

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics

Number of Valid Data	214	Number of Detected Data	33
Number of Distinct Detected Data	30	Number of Non-Detect Data	181
		Percent Non-Detects	84.58%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0058	Minimum Detected	-5.15
Maximum Detected	0.4	Maximum Detected	-0.916
Mean of Detected	0.0581	Mean of Detected	-3.479
SD of Detected	0.0798	SD of Detected	1.118
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	214
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.648	Shapiro Wilk Test Statistic	0.953
5% Shapiro Wilk Critical Value	0.931	5% Shapiro Wilk Critical Value	0.931
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.188	Mean	-4.406
SD	1.051	SD	1.77
95% DL/2 (t) UCL	0.307	95% H-Stat (DL/2) UCL	0.0831
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.576
		SD in Log Scale	1.876
		Mean in Original Scale	0.0105
		SD in Original Scale	0.0371
		95% t UCL	0.0147
		95% Percentile Bootstrap UCL	0.0152
		95% BCA Bootstrap UCL	0.0164
		95% H-UCL	0.0119

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.856	**Data appear Lognormal at 5% Significance Level**
Theta Star	0.068	

nu star	56.48

A-D Test Statistic	1.025
5% A-D Critical Value	0.78
K-S Test Statistic	0.78
5% K-S Critical Value	0.158

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.4
Mean	0.00977
Median	0.000001
SD	0.0377
k star	0.11
Theta star	0.0886
Nu star	47.19
AppChi2	32.42
95% Gamma Approximate UCL (Use when n >= 40)	0.0142
95% Adjusted Gamma UCL (Use when n < 40)	0.0143

Note: DL/2 is not a recommended method.

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0153
SD	0.0376
SE of Mean	0.00274
95% KM (t) UCL	0.0198
95% KM (z) UCL	0.0198
95% KM (jackknife) UCL	0.0196
95% KM (bootstrap t) UCL	0.0221
95% KM (BCA) UCL	0.0216
95% KM (Percentile Bootstrap) UCL	0.0206
95% KM (Chebyshev) UCL	0.0272
97.5% KM (Chebyshev) UCL	0.0324
99% KM (Chebyshev) UCL	0.0425

Potential UCLs to Use

95% KM (BCA) UCL	0.0216

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics

Number of Valid Data	313	Number of Detected Data	34
Number of Distinct Detected Data	27	Number of Non-Detect Data	279
		Percent Non-Detects	89.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.32	Minimum Detected	-1.139
Maximum Detected	4.3	Maximum Detected	1.459
Mean of Detected	1.404	Mean of Detected	0.161
SD of Detected	0.918	SD of Detected	0.597
Minimum Non-Detect	0.49	Minimum Non-Detect	-0.713
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	292
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	21
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	93.29%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.848	Shapiro Wilk Test Statistic	0.979

5% Shapiro Wilk Critical Value	0.933

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.544
SD	0.436
95% DL/2 (t) UCL	0.585
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

5% Shapiro Wilk Critical Value	0.933

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-0.751
SD	0.468
95% H-Stat (DL/2) UCL	0.552
Log ROS Method	
Mean in Log Scale	-1.413
SD in Log Scale	0.984
Mean in Original Scale	0.398
SD in Original Scale	0.505
95% t UCL	0.445
95% Percentile Bootstrap UCL	0.446
95% BCA Bootstrap UCL	0.453
95% H-UCL	0.444

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	2.718
Theta Star	0.517
nu star	184.8
A-D Test Statistic	0.653
5% A-D Critical Value	0.754
K-S Test Statistic	0.754
5% K-S Critical Value	0.152

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	4.3
Mean	0.378
Median	0.000001
SD	0.616
k star	0.112
Theta star	3.362
Nu star	70.34
AppChi2	52.03
95% Gamma Approximate UCL (Use when n >= 40)	0.511
95% Adjusted Gamma UCL (Use when n < 40)	0.511

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.478
SD	0.457
SE of Mean	0.0295
95% KM (t) UCL	0.526
95% KM (z) UCL	0.526
95% KM (jackknife) UCL	0.581
95% KM (bootstrap t) UCL	0.528
95% KM (BCA) UCL	0.742
95% KM (Percentile Bootstrap) UCL	0.691
95% KM (Chebyshev) UCL	0.606
97.5% KM (Chebyshev) UCL	0.662
99% KM (Chebyshev) UCL	0.771

Potential UCLs to Use

95% KM (t) UCL	0.526

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics

Number of Valid Data	313	Number of Detected Data	312
Number of Distinct Detected Data	71	Number of Non-Detect Data	1
		Percent Non-Detects	0.32%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.6	Minimum Detected	0.47
Maximum Detected	97	Maximum Detected	4.575
Mean of Detected	19.98	Mean of Detected	2.847
SD of Detected	11.61	SD of Detected	0.559
Minimum Non-Detect	1	Minimum Non-Detect	0
Maximum Non-Detect	1	Maximum Non-Detect	0

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.151	Lilliefors Test Statistic	0.0853
5% Lilliefors Critical Value	0.0502	5% Lilliefors Critical Value	0.0502
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	19.92	Mean	2.836
SD	11.64	SD	0.593
95% DL/2 (t) UCL	21	95% H-Stat (DL/2) UCL	21.61
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	19.9	Mean in Log Scale	2.842
SD	11.65	SD in Log Scale	0.566
95% MLE (t) UCL	20.99	Mean in Original Scale	19.93
95% MLE (Tiku) UCL	20.97	SD in Original Scale	11.63
		95% t UCL	21.01
		95% Percentile Bootstrap UCL	21.06
		95% BCA Bootstrap UCL	21.15
		95% H UCL	21.34

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	3.514	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	5.685		
nu star	2193		
A-D Test Statistic	2.502	**Nonparametric Statistics**	
5% A-D Critical Value	0.759	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.759	Mean	19.92
5% K-S Critical Value	0.0516	SD	11.61
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.658
		95% KM (t) UCL	21.01
Assuming Gamma Distribution		95% KM (z) UCL	21

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	97
Mean	19.92
Median	17
SD	11.64
k star	2.662
Theta star	7.483
Nu star	1666
AppChi2	1572
95% Gamma Approximate UCL (Use when n >= 40)	21.11
95% Adjusted Gamma UCL (Use when n < 40)	21.11

95% KM (jackknife) UCL	21
95% KM (bootstrap t) UCL	21.15
95% KM (BCA) UCL	21.04
95% KM (Percentile Bootstrap) UCL	21
95% KM (Chebyshev) UCL	22.79
97.5% KM (Chebyshev) UCL	24.03
99% KM (Chebyshev) UCL	26.46
Potential UCLs to Use	
95% KM (BCA) UCL	21.04

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chrysene

General Statistics

Number of Valid Data	214	Number of Detected Data	94
Number of Distinct Detected Data	63	Number of Non-Detect Data	120
		Percent Non-Detects	56.07%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0056	Minimum Detected	-5.185
Maximum Detected	3.6	Maximum Detected	1.281
Mean of Detected	0.194	Mean of Detected	-2.756
SD of Detected	0.458	SD of Detected	1.433
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	214
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.34	Lilliefors Test Statistic	0.0683
5% Lilliefors Critical Value	0.0914	5% Lilliefors Critical Value	0.0914
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.258	Mean	-3.761
SD	1.086	SD	2.002
95% DL/2 (t) UCL	0.38	95% H-Stat (DL/2) UCL	0.266

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.532
		SD in Log Scale	2.031
		Mean in Original Scale	0.0883
		SD in Original Scale	0.317
		95% t UCL	0.124
		95% Percentile Bootstrap UCL	0.126
		95% BCA Bootstrap UCL	0.137
		95% H-UCL	0.132

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.548	**Data appear Lognormal at 5% Significance Level**	
Theta Star	0.354		
nu star	103.1		
A-D Test Statistic	3.719	**Nonparametric Statistics**	
5% A-D Critical Value	0.813	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.813	Mean	0.0938
5% K-S Critical Value	0.0972	SD	0.321
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0224
		95% KM (t) UCL	0.131
Assuming Gamma Distribution		95% KM (z) UCL	0.131
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.131
Minimum	0.000001	95% KM (bootstrap t) UCL	0.172
Maximum	3.6	95% KM (BCA) UCL	0.133
Mean	0.088	95% KM (Percentile Bootstrap) UCL	0.132
Median	0.000001	95% KM (Chebyshev) UCL	0.192
SD	0.318	97.5% KM (Chebyshev) UCL	0.234
k star	0.13	99% KM (Chebyshev) UCL	0.317
Theta star	0.678		
Nu star	55.54	**Potential UCLs to Use**	
AppChi2	39.41	95% KM (BCA) UCL	0.133
95% Gamma Approximate UCL (Use when n >= 40)	0.124		
95% Adjusted Gamma UCL (Use when n < 40)	0.124		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dibenz(a,h)anthracene

General Statistics

Number of Valid Data	214	Number of Detected Data	22
Number of Distinct Detected Data	19	Number of Non-Detect Data	192
		Percent Non-Detects	89.72%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.006	Minimum Detected	-5.116

Maximum Detected	0.28
Mean of Detected	0.0328
SD of Detected	0.0585
Minimum Non-Detect	0.0049
Maximum Non-Detect	20

Maximum Detected	-1.273
Mean of Detected	-4.024
SD of Detected	0.952
Minimum Non-Detect	-5.319
Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	214
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.456
5% Shapiro Wilk Critical Value	0.911

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.184
SD	1.051
95% DL/2 (t) UCL	0.302
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.896
5% Shapiro Wilk Critical Value	0.911

Data not Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-4.515
SD	1.729
95% H-Stat (DL/2) UCL	0.0684
Log ROS Method	
Mean in Log Scale	-7.038
SD in Log Scale	1.607
Mean in Original Scale	0.00457
SD in Original Scale	0.0208
95% t UCL	0.00692
95% Percentile Bootstrap UCL	0.00728
95% BCA Bootstrap UCL	0.00878
95% H-UCL	0.00431

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.855
Theta Star	0.0384
nu star	37.61
A-D Test Statistic	1.72
5% A-D Critical Value	0.773
K-S Test Statistic	0.773
5% K-S Critical Value	0.191

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.28
Mean	0.00388
Median	0.000001
SD	0.0212

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.00947
SD	0.021
SE of Mean	0.00155
95% KM (t) UCL	0.012
95% KM (z) UCL	0.012
95% KM (jackknife) UCL	0.012
95% KM (bootstrap t) UCL	0.0155
95% KM (BCA) UCL	0.0127
95% KM (Percentile Bootstrap) UCL	0.0124
95% KM (Chebyshev) UCL	0.0162
97.5% KM (Chebyshev) UCL	0.0191

k star	0.115	99% KM (Chebyshev) UCL	0.0249
Theta star	0.0339		
Nu star	49.05	**Potential UCLs to Use**	
AppChi2	33.97	95% KM (t) UCL	0.012
95% Gamma Approximate UCL (Use when n >= 40)	0.00561	95% KM (% Bootstrap) UCL	0.0124
95% Adjusted Gamma UCL (Use when n < 40)	0.00562		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluoranthene

General Statistics

Number of Valid Data	214	Number of Detected Data	55
Number of Distinct Detected Data	42	Number of Non-Detect Data	159
		Percent Non-Detects	74.30%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	1.1	Maximum Detected	0.0953
Mean of Detected	0.0926	Mean of Detected	-3.257
SD of Detected	0.177	SD of Detected	1.229
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	214
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.312	Lilliefors Test Statistic	0.0825
5% Lilliefors Critical Value	0.119	5% Lilliefors Critical Value	0.119
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.202	Mean	-4.182
SD	1.052	SD	1.829
95% DL/2 (t) UCL	0.321	95% H-Stat (DL/2) UCL	0.118
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.638
		SD in Log Scale	1.871
		Mean in Original Scale	0.0263
		SD in Original Scale	0.0974
		95% t UCL	0.0373

95% Percentile Bootstrap UCL	0.0387
95% BCA Bootstrap UCL	0.043
95% H-UCL	0.0301

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.665
Theta Star	0.139
nu star	73.1
A-D Test Statistic	2.802
5% A-D Critical Value	0.798
K-S Test Statistic	0.798
5% K-S Critical Value	0.125

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	1.1
Mean	0.0259
Median	0.000001
SD	0.0984
k star	0.114
Theta star	0.227
Nu star	48.89
AppChi2	33.84
95% Gamma Approximate UCL (Use when n >= 40)	0.0374
95% Adjusted Gamma UCL (Use when n < 40)	0.0375

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.031
SD	0.0988
SE of Mean	0.00701
95% KM (t) UCL	0.0426
95% KM (z) UCL	0.0426
95% KM (jackknife) UCL	0.0425
95% KM (bootstrap t) UCL	0.0519
95% KM (BCA) UCL	0.0449
95% KM (Percentile Bootstrap) UCL	0.0434
95% KM (Chebyshev) UCL	0.0616
97.5% KM (Chebyshev) UCL	0.0748
99% KM (Chebyshev) UCL	0.101

Potential UCLs to Use

95% KM (BCA) UCL	0.0449

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). For additional insight, the user may want to consult a statistician.

Fluorene

General Statistics

Number of Valid Data	214	Number of Detected Data	52
Number of Distinct Detected Data	43	Number of Non-Detect Data	162
		Percent Non-Detects	75.70%

Raw Statistics

Minimum Detected	0.0033
Maximum Detected	7.1
Mean of Detected	0.962
SD of Detected	1.349
Minimum Non-Detect	0.0049
Maximum Non-Detect	20

Log-transformed Statistics

Minimum Detected	-5.714
Maximum Detected	1.96
Mean of Detected	-0.972
SD of Detected	1.624
Minimum Non-Detect	-5.319
Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	214
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.299
5% Lilliefors Critical Value	0.123

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.404
SD	1.278
95% DL/2 (t) UCL	0.548
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.106
5% Lilliefors Critical Value	0.123

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.963
SD	2.416
95% H-Stat (DL/2) UCL	0.643
Log ROS Method	
Mean in Log Scale	-4.345
SD in Log Scale	2.444
Mean in Original Scale	0.241
SD in Original Scale	0.777
95% t UCL	0.329
95% Percentile Bootstrap UCL	0.33
95% BCA Bootstrap UCL	0.352
95% H-UCL	0.476

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.629
Theta Star	1.529
nu star	65.44
A-D Test Statistic	0.525
5% A-D Critical Value	0.801
K-S Test Statistic	0.801
5% K-S Critical Value	0.129

Data follow Appr. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	7.1
Mean	0.234
Median	0.000001
SD	0.779
k star	0.091
Theta star	2.568
Nu star	38.95
AppChi2	25.65
95% Gamma Approximate UCL (Use when n >= 40)	0.355
95% Adjusted Gamma UCL (Use when n < 40)	0.356

Data Distribution Test with Detected Values Only

Data Follow Appr. Gamma Distribution at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.244
SD	0.784
SE of Mean	0.0548
95% KM (t) UCL	0.335
95% KM (z) UCL	0.334
95% KM (jackknife) UCL	0.328
95% KM (bootstrap t) UCL	0.357
95% KM (BCA) UCL	0.365
95% KM (Percentile Bootstrap) UCL	0.344
95% KM (Chebyshev) UCL	0.483
97.5% KM (Chebyshev) UCL	0.586
99% KM (Chebyshev) UCL	0.789

Potential UCLs to Use

95% KM (t) UCL	0.335

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics

Number of Valid Data	214	Number of Detected Data	39
Number of Distinct Detected Data	27	Number of Non-Detect Data	175
		Percent Non-Detects	81.78%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0066	Minimum Detected	-5.021
Maximum Detected	0.3	Maximum Detected	-1.204
Mean of Detected	0.0504	Mean of Detected	-3.573
SD of Detected	0.0745	SD of Detected	0.991
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	214
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.55	Shapiro Wilk Test Statistic	0.92
5% Shapiro Wilk Critical Value	0.939	5% Shapiro Wilk Critical Value	0.939
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.188	Mean	-4.383
SD	1.051	SD	1.756
95% DL/2 (t) UCL	0.307	95% H-Stat (DL/2) UCL	0.0826
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.017
		SD in Log Scale	1.616
		Mean in Original Scale	0.0114
		SD in Original Scale	0.0366
		95% t UCL	0.0155
		95% Percentile Bootstrap UCL	0.0159
		95% BCA Bootstrap UCL	0.0176
		95% H-UCL	0.0122

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only
k star (bias corrected)	0.927	Data do not follow a Discernable Distribution (0.05)

Theta Star	0.0544
nu star	72.32
A-D Test Statistic	2.236
5% A-D Critical Value	0.779
K-S Test Statistic	0.779
5% K-S Critical Value	0.146

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.3
Mean	0.0103
Median	0.000001
SD	0.0375
k star	0.114
Theta star	0.0897
Nu star	48.96
AppChi2	33.89
95% Gamma Approximate UCL (Use when n >= 40)	0.0148
95% Adjusted Gamma UCL (Use when n < 40)	0.0149

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0161
SD	0.037
SE of Mean	0.00268
95% KM (t) UCL	0.0205
95% KM (z) UCL	0.0205
95% KM (jackknife) UCL	0.0198
95% KM (bootstrap t) UCL	0.0229
95% KM (BCA) UCL	0.0227
95% KM (Percentile Bootstrap) UCL	0.0214
95% KM (Chebyshev) UCL	0.0278
97.5% KM (Chebyshev) UCL	0.0328
99% KM (Chebyshev) UCL	0.0427

Potential UCLs to Use

95% KM (t) UCL	0.0205
95% KM (% Bootstrap) UCL	0.0214

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead

General Statistics

Number of Valid Data	396	Number of Detected Data	384
Number of Distinct Detected Data	149	Number of Non-Detect Data	12
		Percent Non-Detects	3.03%

Raw Statistics

Minimum Detected	1.2
Maximum Detected	1600
Mean of Detected	31.49
SD of Detected	116.1
Minimum Non-Detect	1
Maximum Non-Detect	4

Log-transformed Statistics

Minimum Detected	0.182
Maximum Detected	7.378
Mean of Detected	2.227
SD of Detected	1.241
Minimum Non-Detect	0
Maximum Non-Detect	1.386

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	119
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	277
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	30.05%

UCL Statistics

Normal Distribution Test with Detected Values Only | **Lognormal Distribution Test with Detected Values Only**

Lilliefors Test Statistic	0.397
5% Lilliefors Critical Value	0.0452

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	30.58
SD	114.4
95% DL/2 (t) UCL	40.05
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lilliefors Test Statistic	0.131
5% Lilliefors Critical Value	0.0452

Data not Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	2.164
SD	1.276
95% H-Stat (DL/2) UCL	22.9
Log ROS Method	
Mean in Log Scale	2.16
SD in Log Scale	1.289
Mean in Original Scale	30.58
SD in Original Scale	114.4
95% t UCL	40.06
95% Percentile Bootstrap UCL	40.84
95% BCA Bootstrap UCL	45.05
95% H-UCL	23.23

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.514
Theta Star	61.21
nu star	395.1
A-D Test Statistic	38.31
5% A-D Critical Value	0.821
K-S Test Statistic	0.821
5% K-S Critical Value	0.0489

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	1600
Mean	30.53
Median	6.4
SD	114.4
k star	0.392
Theta star	77.91
Nu star	310.4
AppChi2	270.6
95% Gamma Approximate UCL (Use when n >= 40)	35.03
95% Adjusted Gamma UCL (Use when n < 40)	35.04

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	30.6
SD	114.3
SE of Mean	5.749
95% KM (t) UCL	40.08
95% KM (z) UCL	40.05
95% KM (jackknife) UCL	40.07
95% KM (bootstrap t) UCL	46.8
95% KM (BCA) UCL	41.87
95% KM (Percentile Bootstrap) UCL	40.63
95% KM (Chebyshev) UCL	55.66
97.5% KM (Chebyshev) UCL	66.5
99% KM (Chebyshev) UCL	87.8

Potential UCLs to Use

95% KM (Chebyshev) UCL	55.66

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Mercury

General Statistics

Number of Valid Data	313	Number of Detected Data	92
Number of Distinct Detected Data	50	Number of Non-Detect Data	221
		Percent Non-Detects	70.61%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.012	Minimum Detected	-4.423
Maximum Detected	5.1	Maximum Detected	1.629
Mean of Detected	0.297	Mean of Detected	-2.111
SD of Detected	0.604	SD of Detected	1.283
Minimum Non-Detect	0.02	Minimum Non-Detect	-3.912
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	259
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	54
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	82.75%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.318	Lilliefors Test Statistic	0.157
5% Lilliefors Critical Value	0.0924	5% Lilliefors Critical Value	0.0924
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.117	Mean	-2.952
SD	0.346	SD	1.029
95% DL/2 (t) UCL	0.15	95% H-Stat (DL/2) UCL	0.1
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.885
		SD in Log Scale	1.761
		Mean in Original Scale	0.102
		SD in Original Scale	0.35
		95% t UCL	0.135
		95% Percentile Bootstrap UCL	0.138
		95% BCA Bootstrap UCL	0.155
		95% H-UCL	0.128

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.662	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	0.449		
nu star	121.8		
A-D Test Statistic	3.746	**Nonparametric Statistics**	
5% A-D Critical Value	0.801	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.801	Mean	0.105

5% K-S Critical Value	0.0974	SD	0.349
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0199
		95% KM (t) UCL	0.137
Assuming Gamma Distribution		95% KM (z) UCL	0.137
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.137
Minimum	0.000001	95% KM (bootstrap t) UCL	0.16
Maximum	5.1	95% KM (BCA) UCL	0.145
Mean	0.111	95% KM (Percentile Bootstrap) UCL	0.14
Median	0.000001	95% KM (Chebyshev) UCL	0.191
SD	0.354	97.5% KM (Chebyshev) UCL	0.229
k star	0.123	99% KM (Chebyshev) UCL	0.303
Theta star	0.902		
Nu star	76.78	**Potential UCLs to Use**	
AppChi2	57.59	95% KM (BCA) UCL	0.145
95% Gamma Approximate UCL (Use when n >= 40)	0.148		
95% Adjusted Gamma UCL (Use when n < 40)	0.148		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Naphthalene

General Statistics

Number of Valid Data	279	Number of Detected Data	57
Number of Distinct Detected Data	45	Number of Non-Detect Data	222
		Percent Non-Detects	79.57%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0064	Minimum Detected	-5.051
Maximum Detected	11	Maximum Detected	2.398
Mean of Detected	1.52	Mean of Detected	-1.035
SD of Detected	2.621	SD of Detected	2.062
Minimum Non-Detect	0.0046	Minimum Non-Detect	-5.382
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	279
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.282	Lilliefors Test Statistic	0.109
5% Lilliefors Critical Value	0.117	5% Lilliefors Critical Value	0.117
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution	**Assuming Lognormal Distribution**
DL/2 Substitution Method	DL/2 Substitution Method

Mean	0.402
SD	1.485
95% DL/2 (t) UCL	0.548
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Mean	-4.651
SD	2.406
95% H-Stat (DL/2) UCL	0.29
Log ROS Method	
Mean in Log Scale	-6.435
SD in Log Scale	3.763
Mean in Original Scale	0.313
SD in Original Scale	1.326
95% t UCL	0.444
95% Percentile Bootstrap UCL	0.451
95% BCA Bootstrap UCL	0.494
95% H-UCL	6.22

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.433
Theta Star	3.509
nu star	49.39
A-D Test Statistic	0.714
5% A-D Critical Value	0.829
K-S Test Statistic	0.829
5% K-S Critical Value	0.126

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	11
Mean	0.311
Median	0.000001
SD	1.327
k star	0.0843
Theta star	3.685
Nu star	47.04
AppChi2	32.3
95% Gamma Approximate UCL (Use when n >= 40)	0.452
95% Adjusted Gamma UCL (Use when n < 40)	0.453

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.32
SD	1.328
SE of Mean	0.0805
95% KM (t) UCL	0.453
95% KM (z) UCL	0.453
95% KM (jackknife) UCL	0.451
95% KM (bootstrap t) UCL	0.509
95% KM (BCA) UCL	0.467
95% KM (Percentile Bootstrap) UCL	0.457
95% KM (Chebyshev) UCL	0.671
97.5% KM (Chebyshev) UCL	0.823
99% KM (Chebyshev) UCL	1.121

Potential UCLs to Use

95% KM (t) UCL	0.453

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics

Number of Valid Data	214	Number of Detected Data	83
Number of Distinct Detected Data	62	Number of Non-Detect Data	131

Percent Non-Detects	61.21%

Raw Statistics

Minimum Detected	0.0055
Maximum Detected	11
Mean of Detected	0.919
SD of Detected	1.713
Minimum Non-Detect	0.0049
Maximum Non-Detect	20

Log-transformed Statistics

Minimum Detected	-5.203
Maximum Detected	2.398
Mean of Detected	-1.691
SD of Detected	2.068
Minimum Non-Detect	-5.319
Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	214
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.297
5% Lilliefors Critical Value	0.0973

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.113
5% Lilliefors Critical Value	0.0973

Data not Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.502
SD	1.492
95% DL/2 (t) UCL	0.67
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.656
SD	2.471
95% H-Stat (DL/2) UCL	1.023
Log ROS Method	
Mean in Log Scale	-4.824
SD in Log Scale	3.074
Mean in Original Scale	0.358
SD in Original Scale	1.153
95% t UCL	0.489
95% Percentile Bootstrap UCL	0.492
95% BCA Bootstrap UCL	0.526
95% H-UCL	2.305

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.401
Theta Star	2.29
nu star	66.64
A-D Test Statistic	1.961
5% A-D Critical Value	0.84
K-S Test Statistic	0.84
5% K-S Critical Value	0.105

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.369
SD	1.157
SE of Mean	0.0802
95% KM (t) UCL	0.502
95% KM (z) UCL	0.501
95% KM (jackknife) UCL	0.501
95% KM (bootstrap t) UCL	0.553

Maximum	11	95% KM (BCA) UCL	0.515
Mean	0.356	95% KM (Percentile Bootstrap) UCL	0.513
Median	0.000001	95% KM (Chebyshev) UCL	0.719
SD	1.154	97.5% KM (Chebyshev) UCL	0.87
k star	0.102	99% KM (Chebyshev) UCL	1.167
Theta star	3.49		
Nu star	43.72	**Potential UCLs to Use**	
AppChi2	29.55	97.5% KM (Chebyshev) UCL	0.87
95% Gamma Approximate UCL (Use when n >= 40)	0.527		
95% Adjusted Gamma UCL (Use when n < 40)	0.529		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Pyrene

General Statistics

Number of Valid Data	214	Number of Detected Data	85
Number of Distinct Detected Data	65	Number of Non-Detect Data	129
		Percent Non-Detects	60.28%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.005	Minimum Detected	-5.298
Maximum Detected	3.2	Maximum Detected	1.163
Mean of Detected	0.156	Mean of Detected	-2.911
SD of Detected	0.377	SD of Detected	1.384
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	214
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.345	Lilliefors Test Statistic	0.0796
5% Lilliefors Critical Value	0.0961	5% Lilliefors Critical Value	0.0961
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.236	Mean	-3.879
SD	1.071	SD	1.939
95% DL/2 (t) UCL	0.357	95% H-Stat (DL/2) UCL	0.204
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.796

SD in Log Scale	1.983
Mean in Original Scale	0.0647
SD in Original Scale	0.248
95% t UCL	0.0927
95% Percentile Bootstrap UCL	0.094
95% BCA Bootstrap UCL	0.112
95% H-UCL	0.0904

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.577
Theta Star	0.27
nu star	98.07
A-D Test Statistic	3.064
5% A-D Critical Value	0.81
K-S Test Statistic	0.81
5% K-S Critical Value	0.102

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	3.2
Mean	0.0643
Median	0.000001
SD	0.249
k star	0.126
Theta star	0.509
Nu star	54.13
AppChi2	38.23
95% Gamma Approximate UCL (Use when n >= 40)	0.0911
95% Adjusted Gamma UCL (Use when n < 40)	0.0913

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0694
SD	0.251
SE of Mean	0.0176
95% KM (t) UCL	0.0985
95% KM (z) UCL	0.0984
95% KM (jackknife) UCL	0.0979
95% KM (bootstrap t) UCL	0.129
95% KM (BCA) UCL	0.102
95% KM (Percentile Bootstrap) UCL	0.1
95% KM (Chebyshev) UCL	0.146
97.5% KM (Chebyshev) UCL	0.179
99% KM (Chebyshev) UCL	0.245

Potential UCLs to Use

95% KM (BCA) UCL	0.102

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Data	313
Number of Distinct Detected Data	101
Number of Detected Data	312
Number of Non-Detect Data	1
Percent Non-Detects	0.32%

Raw Statistics

Minimum Detected	1.1
Maximum Detected	270
Mean of Detected	25.52

Log-transformed Statistics

Minimum Detected	0.0953
Maximum Detected	5.598
Mean of Detected	2.91

SD of Detected	27.67	SD of Detected	0.775
Minimum Non-Detect	1	Minimum Non-Detect	0
Maximum Non-Detect	1	Maximum Non-Detect	0

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.248	Lilliefors Test Statistic	0.0891
5% Lilliefors Critical Value	0.0502	5% Lilliefors Critical Value	0.0502
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	25.44	Mean	2.899
SD	27.66	SD	0.8
95% DL/2 (t) UCL	28.02	95% H-Stat (DL/2) UCL	27.32
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	25.4	Mean in Log Scale	2.903
SD	27.68	SD in Log Scale	0.785
95% MLE (t) UCL	27.98	Mean in Original Scale	25.45
95% MLE (Tiku) UCL	27.79	SD in Original Scale	27.66
		95% t UCL	28.03
		95% Percentile Bootstrap UCL	28.07
		95% BCA Bootstrap UCL	28.42
		95% H UCL	27.05

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	1.651	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	15.46		
nu star	1030		
A-D Test Statistic	9.505	**Nonparametric Statistics**	
5% A-D Critical Value	0.77	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.77	Mean	25.45
5% K-S Critical Value	0.0521	SD	27.62
Data not Gamma Distributed at 5% Significance Level		SE of Mean	1.564
		95% KM (t) UCL	28.03
Assuming Gamma Distribution		95% KM (z) UCL	28.02
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	28.03
Minimum	0.000001	95% KM (bootstrap t) UCL	28.4
Maximum	270	95% KM (BCA) UCL	28.47
Mean	25.44	95% KM (Percentile Bootstrap) UCL	28.18
Median	17	95% KM (Chebyshev) UCL	32.26
SD	27.66	97.5% KM (Chebyshev) UCL	35.21
k star	1.449	99% KM (Chebyshev) UCL	41
Theta star	17.56		
Nu star	907.2	**Potential UCLs to Use**	
AppChi2	838.3	95% KM (BCA) UCL	28.47
95% Gamma Approximate UCL (Use when n >= 40)	27.53		

95% Adjusted Gamma UCL (Use when n < 40)	27.54

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

BaPTEQsitewide

General Statistics

Number of Valid Data	214	Number of Detected Data	111
Number of Distinct Detected Data	109	Number of Non-Detect Data	103
		Percent Non-Detects	48.13%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.00359	Minimum Detected	-5.63
Maximum Detected	0.546	Maximum Detected	-0.605
Mean of Detected	0.0836	Mean of Detected	-3.264
SD of Detected	0.108	SD of Detected	1.355
Minimum Non-Detect	0.00345	Minimum Non-Detect	-5.668
Maximum Non-Detect	14.1	Maximum Non-Detect	2.646

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	214
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.23	Lilliefors Test Statistic	0.0809
5% Lilliefors Critical Value	0.0841	5% Lilliefors Critical Value	0.0841
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.165	Mean	-3.984
SD	0.74	SD	1.925
95% DL/2 (t) UCL	0.248	95% H-Stat (DL/2) UCL	0.178
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.505
		SD in Log Scale	1.772
		Mean in Original Scale	0.0459
		SD in Original Scale	0.0873
		95% t UCL	0.0558
		95% Percentile Bootstrap UCL	0.0559
		95% BCA Bootstrap UCL	0.0577
		95% H-UCL	0.0757

Gamma Distribution Test with Detected Values Only | **Data Distribution Test with Detected Values Only**

k star (bias corrected)	0.748
Theta Star	0.112
nu star	166.1
A-D Test Statistic	1.156
5% A-D Critical Value	0.795
K-S Test Statistic	0.795
5% K-S Critical Value	0.09

Data follow Appr. Gamma Distribution at 5% Significance Level

Data Follow Appr. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.546
Mean	0.0462
Median	0.00575
SD	0.088
k star	0.163
Theta star	0.283
Nu star	69.88
AppChi2	51.64
95% Gamma Approximate UCL (Use when n >= 40)	0.0625
95% Adjusted Gamma UCL (Use when n < 40)	0.0626

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0487
SD	0.089
SE of Mean	0.00631
95% KM (t) UCL	0.0591
95% KM (z) UCL	0.0591
95% KM (jackknife) UCL	0.0591
95% KM (bootstrap t) UCL	0.0611
95% KM (BCA) UCL	0.0594
95% KM (Percentile Bootstrap) UCL	0.0598
95% KM (Chebyshev) UCL	0.0762
97.5% KM (Chebyshev) UCL	0.0881
99% KM (Chebyshev) UCL	0.111

Potential UCLs to Use

95% KM (BCA) UCL	0.0594

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

TPHd

General Statistics

Number of Valid Data	597	Number of Detected Data	311
Number of Distinct Detected Data	189	Number of Non-Detect Data	286
		Percent Non-Detects	47.91%

Raw Statistics

Minimum Detected	0.57
Maximum Detected	31000
Mean of Detected	1817
SD of Detected	4091
Minimum Non-Detect	1
Maximum Non-Detect	100

Log-transformed Statistics

Minimum Detected	-0.562
Maximum Detected	10.34
Mean of Detected	5.255
SD of Detected	2.467
Minimum Non-Detect	0
Maximum Non-Detect	4.605

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	407
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	190
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	68.17%

UCL Statistics

Normal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.329
5% Lilliefors Critical Value	0.0502

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	948.9
SD	3086
95% DL/2 (t) UCL	1157
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.0441
5% Lilliefors Critical Value	0.0502

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	3.416
SD	2.647
95% H-Stat (DL/2) UCL	1558
Log ROS Method	
Mean in Log Scale	2.772
SD in Log Scale	3.452
Mean in Original Scale	948.4
SD in Original Scale	3086
95% t UCL	1156
95% Percentile Bootstrap UCL	1168
95% BCA Bootstrap UCL	1202
95% H-UCL	12181

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.305
Theta Star	5963
nu star	189.5
A-D Test Statistic	9.813
5% A-D Critical Value	0.869
K-S Test Statistic	0.869
5% K-S Critical Value	0.0557

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	31000
Mean	946.6
Median	2.8
SD	3087
k star	0.0787
Theta star	12032
Nu star	93.93
AppChi2	72.58
95% Gamma Approximate UCL (Use when n >= 40)	1225
95% Adjusted Gamma UCL (Use when n < 40)	1226

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	947.7
SD	3084
SE of Mean	126.4
95% KM (t) UCL	1156
95% KM (z) UCL	1156
95% KM (jackknife) UCL	1156
95% KM (bootstrap t) UCL	1207
95% KM (BCA) UCL	1155
95% KM (Percentile Bootstrap) UCL	1160
95% KM (Chebyshev) UCL	1499
97.5% KM (Chebyshev) UCL	1737
99% KM (Chebyshev) UCL	2206

Potential UCLs to Use

97.5% KM (Chebyshev) UCL	1737

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

TPHg

General Statistics

Number of Valid Data	553	Number of Detected Data	104
Number of Distinct Detected Data	80	Number of Non-Detect Data	449
Number of Missing Values	44	Percent Non-Detects	81.19%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.7	Minimum Detected	-0.357
Maximum Detected	6600	Maximum Detected	8.795
Mean of Detected	468	Mean of Detected	4.659
SD of Detected	914.7	SD of Detected	2.096
Minimum Non-Detect	0.37	Minimum Non-Detect	-0.994
Maximum Non-Detect	390	Maximum Non-Detect	5.966

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	521
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	32
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	94.21%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.305	Lilliefors Test Statistic	0.0954
5% Lilliefors Critical Value	0.0869	5% Lilliefors Critical Value	0.0869
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	91.37	Mean	1.503
SD	434.8	SD	2.179
95% DL/2 (t) UCL	121.8	95% H-Stat (DL/2) UCL	65.65
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.206
		SD in Log Scale	4.066
		Mean in Original Scale	88.94
		SD in Original Scale	435.3
		95% t UCL	119.4
		95% Percentile Bootstrap UCL	120.4
		95% BCA Bootstrap UCL	128.6
		95% H-UCL	3035

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.43	**Data Follow Appr. Gamma Distribution at 5% Significance Level**	
Theta Star	1089		
nu star	89.39		
A-D Test Statistic	0.869	**Nonparametric Statistics**	
5% A-D Critical Value	0.834	Kaplan-Meier (KM) Method	

K-S Test Statistic	0.834	Mean	88.7
5% K-S Critical Value	0.0943	SD	434.9
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	18.58
		95% KM (t) UCL	119.3
Assuming Gamma Distribution		95% KM (z) UCL	119.3
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	119.2
Minimum	0.000001	95% KM (bootstrap t) UCL	132
Maximum	6600	95% KM (BCA) UCL	121
Mean	88.01	95% KM (Percentile Bootstrap) UCL	122.4
Median	0.000001	95% KM (Chebyshev) UCL	169.7
SD	435.4	97.5% KM (Chebyshev) UCL	204.8
k star	0.0591	99% KM (Chebyshev) UCL	273.6
Theta star	1489		
Nu star	65.37	**Potential UCLs to Use**	
AppChi2	47.77	95% KM (t) UCL	119.3
95% Gamma Approximate UCL (Use when n >= 40)	120.4		
95% Adjusted Gamma UCL (Use when n < 40)	120.5		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

TPHm

General Statistics

Number of Valid Data	597	Number of Detected Data	341
Number of Distinct Detected Data	175	Number of Non-Detect Data	256
		Percent Non-Detects	42.88%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.5	Minimum Detected	-0.693
Maximum Detected	13000	Maximum Detected	9.473
Mean of Detected	1203	Mean of Detected	5.309
SD of Detected	2459	SD of Detected	2.136
Minimum Non-Detect	1	Minimum Non-Detect	0
Maximum Non-Detect	100	Maximum Non-Detect	4.605

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	382
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	215
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	63.99%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.312	Lilliefors Test Statistic	0.0413
5% Lilliefors Critical Value	0.048	5% Lilliefors Critical Value	0.048
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	

DL/2 Substitution Method	
Mean	690.1
SD	1950
95% DL/2 (t) UCL	821.5
Maximum Likelihood Estimate(MLE) Method	N/A
MLE yields a negative mean	

DL/2 Substitution Method	
Mean	3.659
SD	2.554
95% H-Stat (DL/2) UCL	1521
Log ROS Method	
Mean in Log Scale	3.182
SD in Log Scale	3.163
Mean in Original Scale	689.1
SD in Original Scale	1950
95% t UCL	820.6
95% Percentile Bootstrap UCL	823.2
95% BCA Bootstrap UCL	833
95% H-UCL	6365

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.372
Theta Star	3238
nu star	253.5
A-D Test Statistic	9.014
5% A-D Critical Value	0.853
K-S Test Statistic	0.853
5% K-S Critical Value	0.053
Data not Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	13000
Mean	687.4
Median	16
SD	1951
k star	0.0883
Theta star	7789
Nu star	105.4
AppChi2	82.69
95% Gamma Approximate UCL (Use when n >= 40)	876
95% Adjusted Gamma UCL (Use when n < 40)	876.6

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	688.2
SD	1949
SE of Mean	79.88
95% KM (t) UCL	819.8
95% KM (z) UCL	819.6
95% KM (jackknife) UCL	819.6
95% KM (bootstrap t) UCL	837.1
95% KM (BCA) UCL	820.1
95% KM (Percentile Bootstrap) UCL	824.4
95% KM (Chebyshev) UCL	1036
97.5% KM (Chebyshev) UCL	1187
99% KM (Chebyshev) UCL	1483

Potential UCLs to Use

97.5% KM (Chebyshev) UCL	1187

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Toluene

General Statistics

Number of Valid Data	481	Number of Detected Data	35
Number of Distinct Detected Data	27	Number of Non-Detect Data	446
		Percent Non-Detects	92.72%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0026	Minimum Detected	-5.952
Maximum Detected	62	Maximum Detected	4.127
Mean of Detected	4.4	Mean of Detected	-2.143
SD of Detected	13.16	SD of Detected	2.681
Minimum Non-Detect	0.0019	Minimum Non-Detect	-6.266
Maximum Non-Detect	1	Maximum Non-Detect	0
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	475
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	6
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	98.75%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.391	Shapiro Wilk Test Statistic	0.918
5% Shapiro Wilk Critical Value	0.934	5% Shapiro Wilk Critical Value	0.934
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.328	Mean	-5.572
SD	3.684	SD	1.564
95% DL/2 (t) UCL	0.605	95% H-Stat (DL/2) UCL	0.0156
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-15.14
		SD in Log Scale	6.707
		Mean in Original Scale	0.32
		SD in Original Scale	3.684
		95% t UCL	0.597
		95% Percentile Bootstrap UCL	0.636
		95% BCA Bootstrap UCL	0.747

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.204	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	21.53		
nu star	14.3		
A-D Test Statistic	4.201	**Nonparametric Statistics**	
5% A-D Critical Value	0.898	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.898	Mean	0.323
5% K-S Critical Value	0.165	SD	3.68
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.17
		95% KM (t) UCL	0.603
Assuming Gamma Distribution		95% KM (z) UCL	0.603
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.599
Minimum	1E-12	95% KM (bootstrap t) UCL	0.85
Maximum	62	95% KM (BCA) UCL	0.644
Mean	3.662	95% KM (Percentile Bootstrap) UCL	0.629
Median	4.437	95% KM (Chebyshev) UCL	1.065
SD	3.84	97.5% KM (Chebyshev) UCL	1.386
k star	0.257	99% KM (Chebyshev) UCL	2.017
Theta star	14.24		
Nu star	247.4	**Potential UCLs to Use**	
AppChi2	212	97.5% KM (Chebyshev) UCL	1.386
95% Gamma Approximate UCL	4.274		
95% Adjusted Gamma UCL	4.276		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Xylenes (total)

General Statistics

Number of Valid Data	481	Number of Detected Data	79
Number of Distinct Detected Data	58	Number of Non-Detect Data	402
		Percent Non-Detects	83.58%

Raw Statistics		Log-transformed Statistics	

Minimum Detected	0.0056	Minimum Detected	-5.185
Maximum Detected	940	Maximum Detected	6.846
Mean of Detected	18.66	Mean of Detected	-0.791
SD of Detected	108.2	SD of Detected	2.451
Minimum Non-Detect	0.0037	Minimum Non-Detect	-5.599
Maximum Non-Detect	0.4	Maximum Non-Detect	-0.916

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	442
Number treated as Detected	39
Single DL Non-Detect Percentage	91.89%

UCL Statistics

Normal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.434
5% Lilliefors Critical Value	0.0997

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	3.069
SD	44.14
95% DL/2 (t) UCL	6.386
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.106
5% Lilliefors Critical Value	0.0997

Data not Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-5.051
SD	2.217
95% H-Stat (DL/2) UCL	0.105
Log ROS Method	
Mean in Log Scale	-9.148
SD in Log Scale	5.416
Mean in Original Scale	3.066
SD in Original Scale	44.14
95% t UCL	6.383
95% Percentile Bootstrap UCL	6.858
95% BCA Bootstrap UCL	9.344

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.199
Theta Star	93.7
nu star	31.47
A-D Test Statistic	9.952
5% A-D Critical Value	0.912
K-S Test Statistic	0.912
5% K-S Critical Value	0.111

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	940
Mean	18.39
Median	21.26
SD	44.15
k star	0.287
Theta star	64.1
Nu star	276
AppChi2	238.6
95% Gamma Approximate UCL	21.28
95% Adjusted Gamma UCL	21.29

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	3.07
SD	44.1
SE of Mean	2.024
95% KM (t) UCL	6.405
95% KM (z) UCL	6.398
95% KM (jackknife) UCL	6.387
95% KM (bootstrap t) UCL	25.47
95% KM (BCA) UCL	7.435
95% KM (Percentile Bootstrap) UCL	6.997
95% KM (Chebyshev) UCL	11.89
97.5% KM (Chebyshev) UCL	15.71
99% KM (Chebyshev) UCL	23.2

Potential UCLs to Use

97.5% KM (Chebyshev) UCL	15.71

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

1,2,4-Trimethylbenzene

General Statistics

Number of Valid Data	235	Number of Detected Data	26
Number of Distinct Detected Data	24	Number of Non-Detect Data	209
		Percent Non-Detects	88.94%

Raw Statistics

Minimum Detected	0.00096
Maximum Detected	54

Log-transformed Statistics

Minimum Detected	-6.949
Maximum Detected	3.989

Mean of Detected	5.114	Mean of Detected	-0.754
SD of Detected	11.62	SD of Detected	2.917
Minimum Non-Detect	0.0019	Minimum Non-Detect	-6.266
Maximum Non-Detect	0.2	Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	217
Number treated as Detected	18
Single DL Non-Detect Percentage	92.34%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.493
5% Shapiro Wilk Critical Value	0.92

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.569
SD	4.123
95% DL/2 (t) UCL	1.013
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.952
5% Shapiro Wilk Critical Value	0.92

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-5.641
SD	2.082
95% H-Stat (DL/2) UCL	0.0483
Log ROS Method	
Mean in Log Scale	-8.928
SD in Log Scale	4.763
Mean in Original Scale	0.568
SD in Original Scale	4.123
95% t UCL	1.012
95% Percentile Bootstrap UCL	1.09
95% BCA Bootstrap UCL	1.293

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.283
Theta Star	18.09
nu star	14.7
A-D Test Statistic	0.441
5% A-D Critical Value	0.856
K-S Test Statistic	0.856
5% K-S Critical Value	0.186

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	54
Mean	4.127
Median	4.899
SD	4.399
k star	0.178
Theta star	23.15
Nu star	83.79
AppChi2	63.69
95% Gamma Approximate UCL	5.43
95% Adjusted Gamma UCL	5.439

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.567
SD	4.115
SE of Mean	0.274
95% KM (t) UCL	1.019
95% KM (z) UCL	1.017
95% KM (jackknife) UCL	1.009
95% KM (bootstrap t) UCL	1.937
95% KM (BCA) UCL	1.099
95% KM (Percentile Bootstrap) UCL	1.058
95% KM (Chebyshev) UCL	1.76
97.5% KM (Chebyshev) UCL	2.276
99% KM (Chebyshev) UCL	3.29

Potential UCLs to Use

95% KM (t) UCL	1.019

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Isopropylbenzene

General Statistics

Number of Valid Data	235	Number of Detected Data	32
Number of Distinct Detected Data	24	Number of Non-Detect Data	203
		Percent Non-Detects	86.38%

Raw Statistics

Minimum Detected	0.0023
Maximum Detected	4.4
Mean of Detected	0.807
SD of Detected	1.146

Log-transformed Statistics

Minimum Detected	-6.075
Maximum Detected	1.482
Mean of Detected	-1.474
SD of Detected	1.992

Minimum Non-Detect	0.0019	Minimum Non-Detect	-6.266
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	212
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	23
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	90.21%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.71	Shapiro Wilk Test Statistic	0.947
5% Shapiro Wilk Critical Value	0.93	5% Shapiro Wilk Critical Value	0.93
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.112	Mean	-5.665
SD	0.501	SD	1.876
95% DL/2 (t) UCL	0.166	95% H-Stat (DL/2) UCL	0.0292
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-8.584
		SD in Log Scale	4.303
		Mean in Original Scale	0.111
		SD in Original Scale	0.501
		95% t UCL	0.165
		95% Percentile Bootstrap UCL	0.169
		95% BCA Bootstrap UCL	0.194
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.477	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	1.692		
nu star	30.55		
A-D Test Statistic	0.323	**Nonparametric Statistics**	
5% A-D Critical Value	0.81	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.81	Mean	0.112
5% K-S Critical Value	0.164	SD	0.5
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0331
		95% KM (t) UCL	0.167
Assuming Gamma Distribution		95% KM (z) UCL	0.166
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.165
Minimum	0.0023	95% KM (bootstrap t) UCL	0.195
Maximum	4.4	95% KM (BCA) UCL	0.174
Mean	0.729	95% KM (Percentile Bootstrap) UCL	0.173
Median	0.748	95% KM (Chebyshev) UCL	0.256
SD	0.443	97.5% KM (Chebyshev) UCL	0.319
k star	2.672	99% KM (Chebyshev) UCL	0.441
Theta star	0.273		
Nu star	1256	**Potential UCLs to Use**	
AppChi2	1174	95% KM (t) UCL	0.167
95% Gamma Approximate UCL	0.779		
95% Adjusted Gamma UCL	0.78		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

n-Butylbenzene

General Statistics

Number of Valid Data	235	Number of Detected Data	20
Number of Distinct Detected Data	15	Number of Non-Detect Data	215
		Percent Non-Detects	91.49%
Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.043	Minimum Detected	-3.147
Maximum Detected	4.3	Maximum Detected	1.459
Mean of Detected	0.73	Mean of Detected	-1.031
SD of Detected	1.016	SD of Detected	1.228
Minimum Non-Detect	0.0046	Minimum Non-Detect	-5.382

Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	217
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	18
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	92.34%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.669	Shapiro Wilk Test Statistic	0.978
5% Shapiro Wilk Critical Value	0.905	5% Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0653	Mean	-5.49
SD	0.354	SD	1.467
95% DL/2 (t) UCL	0.103	95% H-Stat (DL/2) UCL	0.0155
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-7.218
		SD in Log Scale	3.212
		Mean in Original Scale	0.0662
		SD in Original Scale	0.354
		95% t UCL	0.104
		95% Percentile Bootstrap UCL	0.108
		95% BCA Bootstrap UCL	0.122
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.735	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	0.993		
nu star	29.39		
A-D Test Statistic	0.617	**Nonparametric Statistics**	
5% A-D Critical Value	0.776	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.776	Mean	0.101
5% K-S Critical Value	0.201	SD	0.347
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0232
		95% KM (t) UCL	0.14
Assuming Gamma Distribution		95% KM (z) UCL	0.14
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.132
Minimum	0.043	95% KM (bootstrap t) UCL	0.162
Maximum	4.3	95% KM (BCA) UCL	0.202
Mean	0.797	95% KM (Percentile Bootstrap) UCL	0.176
Median	0.758	95% KM (Chebyshev) UCL	0.203
SD	0.501	97.5% KM (Chebyshev) UCL	0.246
k star	2.415	99% KM (Chebyshev) UCL	0.332
Theta star	0.33		
Nu star	1135	**Potential UCLs to Use**	
AppChi2	1058	95% KM (t) UCL	0.14
95% Gamma Approximate UCL	0.855		
95% Adjusted Gamma UCL	0.856		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

n-Propylbenzene

General Statistics

Number of Valid Data	235	Number of Detected Data	23
Number of Distinct Detected Data	22	Number of Non-Detect Data	212
		Percent Non-Detects	90.21%
Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	6.3	Maximum Detected	1.841
Mean of Detected	1.246	Mean of Detected	-1.098
SD of Detected	1.62	SD of Detected	2.104
Minimum Non-Detect	0.0019	Minimum Non-Detect	-6.266
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	218
Number treated as Detected	17
Single DL Non-Detect Percentage	92.77%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.775
5% Shapiro Wilk Critical Value	0.914

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.125
SD	0.619
95% DL/2 (t) UCL	0.192
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.93
5% Shapiro Wilk Critical Value	0.914

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-5.719
SD	1.803
95% H-Stat (DL/2) UCL	0.0236
Log ROS Method	
Mean in Log Scale	-10.06
SD in Log Scale	4.878
Mean in Original Scale	0.123
SD in Original Scale	0.62
95% t UCL	0.19
95% Percentile Bootstrap UCL	0.188
95% BCA Bootstrap UCL	0.215

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.45
Theta Star	2.769
nu star	20.7
A-D Test Statistic	0.373
5% A-D Critical Value	0.809
K-S Test Statistic	0.809
5% K-S Critical Value	0.192

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	6.3
Mean	0.981
Median	1.103
SD	0.759
k star	0.19
Theta star	5.152
Nu star	89.48
AppChi2	68.67
95% Gamma Approximate UCL	1.278
95% Adjusted Gamma UCL	1.28

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.127
SD	0.618
SE of Mean	0.0412
95% KM (t) UCL	0.195
95% KM (z) UCL	0.195
95% KM (jackknife) UCL	0.194
95% KM (bootstrap t) UCL	0.224
95% KM (BCA) UCL	0.215
95% KM (Percentile Bootstrap) UCL	0.2
95% KM (Chebyshev) UCL	0.307
97.5% KM (Chebyshev) UCL	0.385
99% KM (Chebyshev) UCL	0.537

Potential UCLs to Use

95% KM (t) UCL	0.195

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

p-Isopropyltoluene

General Statistics

Number of Valid Data	235
Number of Distinct Detected Data	15
Number of Detected Data	20
Number of Non-Detect Data	215
Percent Non-Detects	91.49%

Raw Statistics

Minimum Detected	0.0044
Maximum Detected	3.3
Mean of Detected	0.576
SD of Detected	0.813
Minimum Non-Detect	0.0019
Maximum Non-Detect	0.1

Log-transformed Statistics

Minimum Detected	-5.426
Maximum Detected	1.194
Mean of Detected	-1.609
SD of Detected	1.758
Minimum Non-Detect	-6.266
Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	220
Number treated as Detected	15
Single DL Non-Detect Percentage	93.62%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.703
5% Shapiro Wilk Critical Value	0.905

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.052
SD	0.282
95% DL/2 (t) UCL	0.0824
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.967
5% Shapiro Wilk Critical Value	0.905

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-5.842
SD	1.547
95% H-Stat (DL/2) UCL	0.0126
Log ROS Method	
Mean in Log Scale	-9.822
SD in Log Scale	4.309
Mean in Original Scale	0.05
SD in Original Scale	0.282
95% t UCL	0.0803
95% Percentile Bootstrap UCL	0.0819
95% BCA Bootstrap UCL	0.0946

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.532
Theta Star	1.082
nu star	21.28
A-D Test Statistic	0.23
5% A-D Critical Value	0.795
K-S Test Statistic	0.795
5% K-S Critical Value	0.204

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	3.3
Mean	0.461
Median	0.506
SD	0.346
k star	0.261
Theta star	1.767
Nu star	122.5
AppChi2	97.96
95% Gamma Approximate UCL	0.576
95% Adjusted Gamma UCL	0.577

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.053
SD	0.281
SE of Mean	0.0188
95% KM (t) UCL	0.0841
95% KM (z) UCL	0.084
95% KM (jackknife) UCL	0.079
95% KM (bootstrap t) UCL	0.107
95% KM (BCA) UCL	0.104
95% KM (Percentile Bootstrap) UCL	0.0965
95% KM (Chebyshev) UCL	0.135
97.5% KM (Chebyshev) UCL	0.17
99% KM (Chebyshev) UCL	0.24

Potential UCLs to Use

95% KM (t) UCL	0.0841

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

sec-Butylbenzene

General Statistics

Number of Valid Data	235
Number of Distinct Detected Data	17
Number of Detected Data	21
Number of Non-Detect Data	214
Percent Non-Detects	91.06%

Raw Statistics

Minimum Detected	0.0025
Maximum Detected	2.8
Mean of Detected	0.585
SD of Detected	0.674
Minimum Non-Detect	0.0046
Maximum Non-Detect	0.1

Log-transformed Statistics

Minimum Detected	-5.991
Maximum Detected	1.03
Mean of Detected	-1.402
SD of Detected	1.671
Minimum Non-Detect	-5.382
Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended

Number treated as Non-Detect	219

For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Detected 16
Single DL Non-Detect Percentage 93.19%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.787
5% Shapiro Wilk Critical Value	0.908

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.0559
SD	0.258
95% DL/2 (t) UCL	0.0837
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.924
5% Shapiro Wilk Critical Value	0.908

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-5.483
SD	1.456
95% H-Stat (DL/2) UCL	0.0153
Log ROS Method	
Mean in Log Scale	-6.373
SD in Log Scale	2.727
Mean in Original Scale	0.0582
SD in Original Scale	0.258
95% t UCL	0.086
95% Percentile Bootstrap UCL	0.0866
95% BCA Bootstrap UCL	0.0984

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.63
Theta Star	0.929
nu star	26.47
A-D Test Statistic	0.35
5% A-D Critical Value	0.787
K-S Test Statistic	0.787
5% K-S Critical Value	0.198

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.0025
Maximum	2.8
Mean	0.622
Median	0.573
SD	0.36
k star	2.574
Theta star	0.242
Nu star	1210
AppChi2	1130
95% Gamma Approximate UCL	0.666
95% Adjusted Gamma UCL	0.667

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0546
SD	0.257
SE of Mean	0.0172
95% KM (t) UCL	0.083
95% KM (z) UCL	0.0829
95% KM (jackknife) UCL	0.08
95% KM (bootstrap t) UCL	0.0917
95% KM (BCA) UCL	0.123
95% KM (Percentile Bootstrap) UCL	0.109
95% KM (Chebyshev) UCL	0.13
97.5% KM (Chebyshev) UCL	0.162
99% KM (Chebyshev) UCL	0.226

Potential UCLs to Use

95% KM (t) UCL	0.083

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

1,3,5-Trimethylbenzene

General Statistics

Number of Valid Data	235	Number of Detected Data	24
Number of Distinct Detected Data	23	Number of Non-Detect Data	211
		Percent Non-Detects	89.79%

Raw Statistics

Minimum Detected	0.002
Maximum Detected	8.7
Mean of Detected	1.544
SD of Detected	2.597
Minimum Non-Detect	0.0019
Maximum Non-Detect	0.2

Log-transformed Statistics

Minimum Detected	-6.215
Maximum Detected	2.163
Mean of Detected	-1.321
SD of Detected	2.285
Minimum Non-Detect	-6.266
Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),

Number treated as Non-Detect 221
Number treated as Detected 14

Observations < Largest ND are treated as NDs

Single DL Non-Detect Percentage 94.04%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.64
5% Shapiro Wilk Critical Value	0.916

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.161
SD	0.939
95% DL/2 (t) UCL	0.262
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.972
5% Shapiro Wilk Critical Value	0.916

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-5.743
SD	1.785
95% H-Stat (DL/2) UCL	0.0222
Log ROS Method	
Mean in Log Scale	-11.19
SD in Log Scale	5.431
Mean in Original Scale	0.158
SD in Original Scale	0.939
95% t UCL	0.259
95% Percentile Bootstrap UCL	0.266
95% BCA Bootstrap UCL	0.292

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.359
Theta Star	4.305
nu star	17.22
A-D Test Statistic	0.598
5% A-D Critical Value	0.834
K-S Test Statistic	0.834
5% K-S Critical Value	0.191

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	8.7
Mean	1.21
Median	1.406
SD	1.069
k star	0.175
Theta star	6.917
Nu star	82.2
AppChi2	62.3
95% Gamma Approximate UCL	1.596
95% Adjusted Gamma UCL	1.599

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.16
SD	0.937
SE of Mean	0.0624
95% KM (t) UCL	0.263
95% KM (z) UCL	0.262
95% KM (jackknife) UCL	0.256
95% KM (bootstrap t) UCL	0.317
95% KM (BCA) UCL	0.284
95% KM (Percentile Bootstrap) UCL	0.268
95% KM (Chebyshev) UCL	0.432
97.5% KM (Chebyshev) UCL	0.549
99% KM (Chebyshev) UCL	0.781

Potential UCLs to Use

95% KM (t) UCL	0.263

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzene

General Statistics

Number of Valid Data	481
Number of Distinct Detected Data	38
Number of Detected Data	47
Number of Non-Detect Data	434
Percent Non-Detects	90.23%

Raw Statistics

Minimum Detected	0.006
Maximum Detected	19
Mean of Detected	1.334
SD of Detected	3.576
Minimum Non-Detect	0.0019
Maximum Non-Detect	0.2

Log-transformed Statistics

Minimum Detected	-5.116
Maximum Detected	2.944
Mean of Detected	-2.275
SD of Detected	2.356
Minimum Non-Detect	-6.266
Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect 462
Number treated as Detected 19
Single DL Non-Detect Percentage 96.05%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.431
5% Shapiro Wilk Critical Value	0.946

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.136
SD	1.175
95% DL/2 (t) UCL	0.225
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.907
5% Shapiro Wilk Critical Value	0.946

Data not Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-5.529
SD	1.602
95% H-Stat (DL/2) UCL	0.0174
Log ROS Method	
Mean in Log Scale	-12.58
SD in Log Scale	5.741
Mean in Original Scale	0.131
SD in Original Scale	1.176
95% t UCL	0.219
95% Percentile Bootstrap UCL	0.227
95% BCA Bootstrap UCL	0.26

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.27
Theta Star	4.94
nu star	25.37
A-D Test Statistic	3.444
5% A-D Critical Value	0.874
K-S Test Statistic	0.874
5% K-S Critical Value	0.141

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.006
Maximum	19
Mean	2.151
Median	1.026
SD	2.4
k star	0.871
Theta star	2.469
Nu star	838.2
AppChi2	772
95% Gamma Approximate UCL	2.335
95% Adjusted Gamma UCL	2.336

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.136
SD	1.174
SE of Mean	0.0541
95% KM (t) UCL	0.225
95% KM (z) UCL	0.225
95% KM (jackknife) UCL	0.224
95% KM (bootstrap t) UCL	0.323
95% KM (BCA) UCL	0.238
95% KM (Percentile Bootstrap) UCL	0.235
95% KM (Chebyshev) UCL	0.372
97.5% KM (Chebyshev) UCL	0.474
99% KM (Chebyshev) UCL	0.674

Potential UCLs to Use

97.5% KM (Chebyshev) UCL	0.474

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Ethylbenzene

General Statistics

Number of Valid Data	481	Number of Detected Data	63
Number of Distinct Detected Data	47	Number of Non-Detect Data	418
		Percent Non-Detects	86.90%

Raw Statistics

Minimum Detected	0.0032
Maximum Detected	120
Mean of Detected	3.759
SD of Detected	15.65
Minimum Non-Detect	0.0019
Maximum Non-Detect	0.2

Log-transformed Statistics

Minimum Detected	-5.745
Maximum Detected	4.787
Mean of Detected	-1.479
SD of Detected	2.375
Minimum Non-Detect	-6.266
Maximum Non-Detect	-1.609

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	448
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	33
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	93.14%

UCL Statistics

Normal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.405
5% Lilliefors Critical Value	0.112
Data not Normal at 5% Significance Level	
Assuming Normal Distribution	
DL/2 Substitution Method	
Mean	0.497
SD	5.766
95% DL/2 (t) UCL	0.93
Maximum Likelihood Estimate(MLE) Method	N/A
MLE yields a negative mean	

Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.0889
5% Lilliefors Critical Value	0.112
Data appear Lognormal at 5% Significance Level	
Assuming Lognormal Distribution	
DL/2 Substitution Method	
Mean	-5.373
SD	1.922
95% H-Stat (DL/2) UCL	0.0383
Log ROS Method	
Mean in Log Scale	-10.57
SD in Log Scale	5.497
Mean in Original Scale	0.493
SD in Original Scale	5.766
95% t UCL	0.926
95% Percentile Bootstrap UCL	0.999
95% BCA Bootstrap UCL	1.336

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.251
Theta Star	14.95
nu star	31.69
A-D Test Statistic	4.653
5% A-D Critical Value	0.886
K-S Test Statistic	0.886
5% K-S Critical Value	0.123
Data not Gamma Distributed at 5% Significance Level	
Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	0.0032
Maximum	120
Mean	3.726
Median	3.877
SD	5.637
k star	1.479
Theta star	2.52
Nu star	1422
AppChi2	1336
95% Gamma Approximate UCL	3.968
95% Adjusted Gamma UCL	3.969

Data Distribution Test with Detected Values Only	
Data appear Lognormal at 5% Significance Level	
Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	0.495
SD	5.76
SE of Mean	0.265
95% KM (t) UCL	0.932
95% KM (z) UCL	0.931
95% KM (jackknife) UCL	0.926
95% KM (bootstrap t) UCL	2.448
95% KM (BCA) UCL	1.086
95% KM (Percentile Bootstrap) UCL	0.984
95% KM (Chebyshev) UCL	1.649
97.5% KM (Chebyshev) UCL	2.149
99% KM (Chebyshev) UCL	3.129
Potential UCLs to Use	
97.5% KM (Chebyshev) UCL	2.149

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

tert-Butylbenzene

General Statistics

Number of Valid Data	235	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	230
		Percent Non-Detects	97.87%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.011	Minimum Detected	-4.51
Maximum Detected	0.24	Maximum Detected	-1.427
Mean of Detected	0.122	Mean of Detected	-2.465
SD of Detected	0.0822	SD of Detected	1.189
Minimum Non-Detect	0.0046	Minimum Non-Detect	-5.382
Maximum Non-Detect	2.5	Maximum Non-Detect	0.916

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	235
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 5 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.968
5% Shapiro Wilk Critical Value	0.762

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.0144
SD	0.0856
95% DL/2 (t) UCL	0.0237
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.803
5% Shapiro Wilk Critical Value	0.762

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-5.651
SD	1.006
95% H-Stat (DL/2) UCL	0.00672
Log ROS Method	
Mean in Log Scale	-11.89
SD in Log Scale	3.661
Mean in Original Scale	0.00292
SD in Original Scale	0.0207
95% t UCL	0.00515
95% Percentile Bootstrap UCL	0.00515
95% BCA Bootstrap UCL	0.00646

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.742
Theta Star	0.165
nu star	7.423
A-D Test Statistic	0.458
5% A-D Critical Value	0.686
K-S Test Statistic	0.686
5% K-S Critical Value	0.362

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.011
Maximum	0.24
Mean	0.136
Median	0.131
SD	0.0493
k star	6.851
Theta star	0.0198
Nu star	3220
AppChi2	3089
95% Gamma Approximate UCL	0.141
95% Adjusted Gamma UCL	0.141

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0134
SD	0.0194
SE of Mean	0.00142
95% KM (t) UCL	0.0157
95% KM (z) UCL	0.0157
95% KM (jackknife) UCL	0.0702
95% KM (bootstrap t) UCL	0.0154
95% KM (BCA) UCL	0.141
95% KM (Percentile Bootstrap) UCL	0.122
95% KM (Chebyshev) UCL	0.0196
97.5% KM (Chebyshev) UCL	0.0223
99% KM (Chebyshev) UCL	0.0275

Potential UCLs to Use

95% KM (t) UCL	0.0157
95% KM (Percentile Bootstrap) UCL	0.122

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area Site Wide 0 to 2 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	SITEWIDE 0-2.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

1-Methylnaphthalene

General Statistics

Number of Valid Data	38	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	33
		Percent Non-Detects	86.84%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0053	Minimum Detected	-5.24
Maximum Detected	1.6	Maximum Detected	0.47
Mean of Detected	0.43	Mean of Detected	-3.045
SD of Detected	0.692	SD of Detected	2.736
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	0.056	Maximum Non-Detect	-2.882

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	36
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	94.74%

Warning: There are only 5 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.734	Shapiro Wilk Test Statistic	0.784
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.061	Mean	-5.298
SD	0.27	SD	1.407
95% DL/2 (t) UCL	0.135	95% H-Stat (DL/2) UCL	0.0263
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-10.51
		SD in Log Scale	3.622
		Mean in Original Scale	0.0566
		SD in Original Scale	0.271

95% t UCL	0.131
95% Percentile Bootstrap UCL	0.14
95% BCA Bootstrap UCL	0.211
95% H-UCL	0.805

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.258
Theta Star	1.667
nu star	2.579
A-D Test Statistic	0.635
5% A-D Critical Value	0.738
K-S Test Statistic	0.738
5% K-S Critical Value	0.379

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	1.6
Mean	0.0566
Median	0.000001
SD	0.271
k star	0.0974
Theta star	0.581
Nu star	7.405
AppChi2	2.396
95% Gamma Approximate UCL (Use when n >= 40)	0.175
95% Adjusted Gamma UCL (Use when n < 40)	0.184

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0612
SD	0.267
SE of Mean	0.0483
95% KM (t) UCL	0.143
95% KM (z) UCL	0.141
95% KM (jackknife) UCL	0.134
95% KM (bootstrap t) UCL	20.87
95% KM (BCA) UCL	0.558
95% KM (Percentile Bootstrap) UCL	0.175
95% KM (Chebyshev) UCL	0.272
97.5% KM (Chebyshev) UCL	0.363
99% KM (Chebyshev) UCL	0.542

Potential UCLs to Use

95% KM (t) UCL	0.143

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

2-Methylnaphthalene

General Statistics

Number of Valid Data	39	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	32
		Percent Non-Detects	82.05%

Raw Statistics

Minimum Detected	0.0063
Maximum Detected	2.9
Mean of Detected	0.489
SD of Detected	1.077
Minimum Non-Detect	0.0049
Maximum Non-Detect	1

Log-transformed Statistics

Minimum Detected	-5.067
Maximum Detected	1.065
Mean of Detected	-3.349
SD of Detected	2.474
Minimum Non-Detect	-5.319
Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	38
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	97.44%

Warning: There are only 7 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.545	Shapiro Wilk Test Statistic	0.736
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.105	Mean	-5.089
SD	0.472	SD	1.622
95% DL/2 (t) UCL	0.232	95% H-Stat (DL/2) UCL	0.0535
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-10.33
		SD in Log Scale	3.833
		Mean in Original Scale	0.0879
		SD in Original Scale	0.468
		95% t UCL	0.214
		95% Percentile Bootstrap UCL	0.236
		95% BCA Bootstrap UCL	0.348
		95% H-UCL	3.126

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.248	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	1.976		
nu star	3.468		
A-D Test Statistic	1.127	**Nonparametric Statistics**	
5% A-D Critical Value	0.796	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.796	Mean	0.0934
5% K-S Critical Value	0.337	SD	0.462
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0799
		95% KM (t) UCL	0.228
Assuming Gamma Distribution		95% KM (z) UCL	0.225
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.219
Minimum	0.000001	95% KM (bootstrap t) UCL	22.56
Maximum	2.9	95% KM (BCA) UCL	0.266
Mean	0.0878	95% KM (Percentile Bootstrap) UCL	0.242

Median	0.000001	95% KM (Chebyshev) UCL	0.441
SD	0.468	97.5% KM (Chebyshev) UCL	0.592
k star	0.0973	99% KM (Chebyshev) UCL	0.888
Theta star	0.903		
Nu star	7.592	**Potential UCLs to Use**	
AppChi2	2.501	99% KM (Chebyshev) UCL	0.888
95% Gamma Approximate UCL (Use when n >= 40)	0.267		
95% Adjusted Gamma UCL (Use when n < 40)	0.279		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Acenaphthylene

General Statistics

Number of Valid Data	83	Number of Detected Data	12
Number of Distinct Detected Data	11	Number of Non-Detect Data	71
		Percent Non-Detects	85.54%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0059	Minimum Detected	-5.133
Maximum Detected	0.052	Maximum Detected	-2.957
Mean of Detected	0.0194	Mean of Detected	-4.125
SD of Detected	0.0128	SD of Detected	0.638
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	83
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.864	Shapiro Wilk Test Statistic	0.968
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.132	Mean	-4.997
SD	1.097	SD	1.292
95% DL/2 (t) UCL	0.332	95% H-Stat (DL/2) UCL	0.0223
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.974
		SD in Log Scale	1.002
		Mean in Original Scale	0.00474
		SD in Original Scale	0.00778

95% t UCL	0.00616
95% Percentile Bootstrap UCL	0.00627
95% BCA Bootstrap UCL	0.0064
95% H-UCL	0.00539

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	2.226
Theta Star	0.00872
nu star	53.43
A-D Test Statistic	0.216
5% A-D Critical Value	0.739
K-S Test Statistic	0.739
5% K-S Critical Value	0.248

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.052
Mean	0.00283
Median	0.000001
SD	0.0083
k star	0.126
Theta star	0.0225
Nu star	20.93
AppChi2	11.54
95% Gamma Approximate UCL (Use when n >= 40)	0.00514
95% Adjusted Gamma UCL (Use when n < 40)	0.00519

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.00827
SD	0.00711
SE of Mean	0.0008816
95% KM (t) UCL	0.00973
95% KM (z) UCL	0.00972
95% KM (jackknife) UCL	0.00961
95% KM (bootstrap t) UCL	0.0102
95% KM (BCA) UCL	0.0153
95% KM (Percentile Bootstrap) UCL	0.0139
95% KM (Chebyshev) UCL	0.0121
97.5% KM (Chebyshev) UCL	0.0138
99% KM (Chebyshev) UCL	0.017

Potential UCLs to Use

95% KM (t) UCL	0.00973
95% KM (Percentile Bootstrap) UCL	0.0139

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Anthracene

General Statistics

Number of Valid Data	83	Number of Detected Data	10
Number of Distinct Detected Data	10	Number of Non-Detect Data	73
		Percent Non-Detects	87.95%

Raw Statistics

Minimum Detected	0.006
Maximum Detected	3.5
Mean of Detected	0.375
SD of Detected	1.099
Minimum Non-Detect	0.0049
Maximum Non-Detect	20

Log-transformed Statistics

Minimum Detected	-5.116
Maximum Detected	1.253
Mean of Detected	-3.721
SD of Detected	1.997
Minimum Non-Detect	-5.319
Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	83
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.391	Shapiro Wilk Test Statistic	0.712
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.175	Mean	-4.952
SD	1.157	SD	1.458
95% DL/2 (t) UCL	0.386	95% H-Stat (DL/2) UCL	0.0317
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-9.519
		SD in Log Scale	2.959
		Mean in Original Scale	0.0454
		SD in Original Scale	0.384
		95% t UCL	0.116
		95% Percentile Bootstrap UCL	0.129
		95% BCA Bootstrap UCL	0.213
		95% H-UCL	0.0265
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.247	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	1.518		
nu star	4.943		
A-D Test Statistic	2.104	**Nonparametric Statistics**	
5% A-D Critical Value	0.831	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.831	Mean	0.0512
5% K-S Critical Value	0.29	SD	0.384
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0447
		95% KM (t) UCL	0.126
Assuming Gamma Distribution		95% KM (z) UCL	0.125
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.122
Minimum	0.000001	95% KM (bootstrap t) UCL	5.879
Maximum	3.5	95% KM (BCA) UCL	0.138
Mean	0.0452	95% KM (Percentile Bootstrap) UCL	0.136
Median	0.000001	95% KM (Chebyshev) UCL	0.246
SD	0.384	97.5% KM (Chebyshev) UCL	0.33
k star	0.0918	99% KM (Chebyshev) UCL	0.496
Theta star	0.492		
Nu star	15.24	**Potential UCLs to Use**	
AppChi2	7.431	95% KM (Chebyshev) UCL	0.246
95% Gamma Approximate UCL (Use when n >= 40)	0.0927		

95% Adjusted Gamma UCL (Use when n < 40)	0.094

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics

Number of Valid Data	83	Number of Detected Data	31
Number of Distinct Detected Data	29	Number of Non-Detect Data	52
		Percent Non-Detects	62.65%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.005	Minimum Detected	-5.298
Maximum Detected	0.91	Maximum Detected	-0.0943
Mean of Detected	0.1	Mean of Detected	-3.483
SD of Detected	0.222	SD of Detected	1.326
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	83
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.452	Shapiro Wilk Test Statistic	0.878
5% Shapiro Wilk Critical Value	0.929	5% Shapiro Wilk Critical Value	0.929
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.165	Mean	-4.494
SD	1.102	SD	1.6
95% DL/2 (t) UCL	0.366	95% H-Stat (DL/2) UCL	0.0668
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.471
		SD in Log Scale	1.889
		Mean in Original Scale	0.0385
		SD in Original Scale	0.142
		95% t UCL	0.0645
		95% Percentile Bootstrap UCL	0.0665
		95% BCA Bootstrap UCL	0.0778
		95% H-UCL	0.0491

Gamma Distribution Test with Detected Values Only	**Data Distribution Test with Detected Values Only**

k star (bias corrected)	0.503	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	0.199		
nu star	31.17		
A-D Test Statistic	3.464	**Nonparametric Statistics**	
5% A-D Critical Value	0.807	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.807	Mean	0.0417
5% K-S Critical Value	0.166	SD	0.142
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0159
		95% KM (t) UCL	0.0682
Assuming Gamma Distribution		95% KM (z) UCL	0.0679
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.067
Minimum	0.000001	95% KM (bootstrap t) UCL	0.117
Maximum	0.91	95% KM (BCA) UCL	0.0718
Mean	0.0373	95% KM (Percentile Bootstrap) UCL	0.0697
Median	0.000001	95% KM (Chebyshev) UCL	0.111
SD	0.143	97.5% KM (Chebyshev) UCL	0.141
k star	0.123	99% KM (Chebyshev) UCL	0.2
Theta star	0.304		
Nu star	20.38	**Potential UCLs to Use**	
AppChi2	11.13	95% KM (BCA) UCL	0.0718
95% Gamma Approximate UCL (Use when n >= 40)	0.0683		
95% Adjusted Gamma UCL (Use when n < 40)	0.0691		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics

Number of Valid Data	83	Number of Detected Data	49
Number of Distinct Detected Data	42	Number of Non-Detect Data	34
		Percent Non-Detects	40.96%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	0.5	Maximum Detected	-0.693
Mean of Detected	0.0795	Mean of Detected	-3.058
SD of Detected	0.0879	SD of Detected	1.099
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	83
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.737
5% Shapiro Wilk Critical Value	0.947

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.169
SD	1.095
95% DL/2 (t) UCL	0.369
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.951
5% Shapiro Wilk Critical Value	0.947

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-4.043
SD	1.728
95% H-Stat (DL/2) UCL	0.139
Log ROS Method	
Mean in Log Scale	-4.069
SD in Log Scale	1.523
Mean in Original Scale	0.0488
SD in Original Scale	0.0768
95% t UCL	0.0629
95% Percentile Bootstrap UCL	0.0632
95% BCA Bootstrap UCL	0.0673
95% H-UCL	0.0872

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.034
Theta Star	0.0769
nu star	101.4
A-D Test Statistic	0.638
5% A-D Critical Value	0.777
K-S Test Statistic	0.777
5% K-S Critical Value	0.13

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.5
Mean	0.0469
Median	0.013
SD	0.0779
k star	0.175
Theta star	0.268
Nu star	29.12
AppChi2	17.8
95% Gamma Approximate UCL (Use when n >= 40)	0.0768
95% Adjusted Gamma UCL (Use when n < 40)	0.0775

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.05
SD	0.0763
SE of Mean	0.00851
95% KM (t) UCL	0.0642
95% KM (z) UCL	0.064
95% KM (jackknife) UCL	0.064
95% KM (bootstrap t) UCL	0.0694
95% KM (BCA) UCL	0.0652
95% KM (Percentile Bootstrap) UCL	0.0659
95% KM (Chebyshev) UCL	0.0871
97.5% KM (Chebyshev) UCL	0.103
99% KM (Chebyshev) UCL	0.135

Potential UCLs to Use

95% KM (t) UCL	0.0642

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics

Number of Valid Data	83	Number of Detected Data	51
Number of Distinct Detected Data	40	Number of Non-Detect Data	32
		Percent Non-Detects	38.55%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.005	Minimum Detected	-5.298
Maximum Detected	0.89	Maximum Detected	-0.117
Mean of Detected	0.0858	Mean of Detected	-3.256
SD of Detected	0.16	SD of Detected	1.232
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	83
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.306	Lilliefors Test Statistic	0.0858
5% Lilliefors Critical Value	0.124	5% Lilliefors Critical Value	0.124
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.177	Mean	-4.012
SD	1.099	SD	1.712
95% DL/2 (t) UCL	0.378	95% H-Stat (DL/2) UCL	0.138
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.228
		SD in Log Scale	1.624
		Mean in Original Scale	0.0543
		SD in Original Scale	0.131
		95% t UCL	0.0782
		95% Percentile Bootstrap UCL	0.0788
		95% BCA Bootstrap UCL	0.0899
		95% H-UCL	0.0919

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.718	**Data Follow Appr. Gamma Distribution at 5% Significance Level**	
Theta Star	0.12		
nu star	73.19		
A-D Test Statistic	1.512	**Nonparametric Statistics**	
5% A-D Critical Value	0.793	Kaplan-Meier (KM) Method	

K-S Test Statistic	0.793	Mean	0.0562
5% K-S Critical Value	0.129	SD	0.131
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.0146
		95% KM (t) UCL	0.0804
Assuming Gamma Distribution		95% KM (z) UCL	0.0802
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0802
Minimum	0.000001	95% KM (bootstrap t) UCL	0.119
Maximum	0.89	95% KM (BCA) UCL	0.0844
Mean	0.0535	95% KM (Percentile Bootstrap) UCL	0.0814
Median	0.012	95% KM (Chebyshev) UCL	0.12
SD	0.131	97.5% KM (Chebyshev) UCL	0.147
k star	0.178	99% KM (Chebyshev) UCL	0.201
Theta star	0.301		
Nu star	29.49	**Potential UCLs to Use**	
AppChi2	18.09	95% KM (BCA) UCL	0.0844
95% Gamma Approximate UCL (Use when n >= 40)	0.0872		
95% Adjusted Gamma UCL (Use when n < 40)	0.088		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics

Number of Valid Data	83	Number of Detected Data	58
Number of Distinct Detected Data	45	Number of Non-Detect Data	25
		Percent Non-Detects	30.12%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.005	Minimum Detected	-5.298
Maximum Detected	0.65	Maximum Detected	-0.431
Mean of Detected	0.068	Mean of Detected	-3.375
SD of Detected	0.117	SD of Detected	1.105
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	83
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.296	Lilliefors Test Statistic	0.0647
5% Lilliefors Critical Value	0.116	5% Lilliefors Critical Value	0.116
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution | **Assuming Lognormal Distribution**

DL/2 Substitution Method	
Mean	0.17
SD	1.097
95% DL/2 (t) UCL	0.371
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

DL/2 Substitution Method	
Mean	-3.922
SD	1.578
95% H-Stat (DL/2) UCL	0.113
Log ROS Method	
Mean in Log Scale	-4.016
SD in Log Scale	1.387
Mean in Original Scale	0.049
SD in Original Scale	0.102
95% t UCL	0.0676
95% Percentile Bootstrap UCL	0.0685
95% BCA Bootstrap UCL	0.074
95% H-UCL	0.0706

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.824
Theta Star	0.0825
nu star	95.6
A-D Test Statistic	1.968
5% A-D Critical Value	0.787
K-S Test Statistic	0.787
5% K-S Critical Value	0.121

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.65
Mean	0.048
Median	0.018
SD	0.102
k star	0.229
Theta star	0.21
Nu star	38
AppChi2	24.89
95% Gamma Approximate UCL (Use when n >= 40)	0.0733
95% Adjusted Gamma UCL (Use when n < 40)	0.0738

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0501
SD	0.102
SE of Mean	0.0113
95% KM (t) UCL	0.0689
95% KM (z) UCL	0.0687
95% KM (jackknife) UCL	0.0689
95% KM (bootstrap t) UCL	0.0842
95% KM (BCA) UCL	0.0709
95% KM (Percentile Bootstrap) UCL	0.0699
95% KM (Chebyshev) UCL	0.0995
97.5% KM (Chebyshev) UCL	0.121
99% KM (Chebyshev) UCL	0.163

Potential UCLs to Use

95% KM (Chebyshev) UCL	0.0995

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics

Number of Valid Data	83	Number of Detected Data	27

Number of Distinct Detected Data	25	Number of Non-Detect Data	56
		Percent Non-Detects	67.47%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	0.4	Maximum Detected	-0.916
Mean of Detected	0.0503	Mean of Detected	-3.582
SD of Detected	0.0766	SD of Detected	1.04
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	83
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.537	Shapiro Wilk Test Statistic	0.945
5% Shapiro Wilk Critical Value	0.923	5% Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.144	Mean	-4.653
SD	1.096	SD	1.492
95% DL/2 (t) UCL	0.344	95% H-Stat (DL/2) UCL	0.0457
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-5.412
		SD in Log Scale	1.542
		Mean in Original Scale	0.018
		SD in Original Scale	0.0487
		95% t UCL	0.0269
		95% Percentile Bootstrap UCL	0.0274
		95% BCA Bootstrap UCL	0.0316
		95% H-UCL	0.0236

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.895	**Data appear Lognormal at 5% Significance Level**	
Theta Star	0.0562		
nu star	48.32		
A-D Test Statistic	1.045	**Nonparametric Statistics**	
5% A-D Critical Value	0.774	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.774	Mean	0.0213
5% K-S Critical Value	0.173	SD	0.048
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00542
		95% KM (t) UCL	0.0303
Assuming Gamma Distribution		95% KM (z) UCL	0.0302
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0294

Minimum	0.000001	95% KM (bootstrap t) UCL	0.0397
Maximum	0.4	95% KM (BCA) UCL	0.033
Mean	0.0164	95% KM (Percentile Bootstrap) UCL	0.0315
Median	0.000001	95% KM (Chebyshev) UCL	0.0449
SD	0.0492	97.5% KM (Chebyshev) UCL	0.0551
k star	0.127	99% KM (Chebyshev) UCL	0.0752
Theta star	0.128		
Nu star	21.16	**Potential UCLs to Use**	
AppChi2	11.71	95% KM (BCA) UCL	0.033
95% Gamma Approximate UCL (Use when n >= 40)	0.0295		
95% Adjusted Gamma UCL (Use when n < 40)	0.0299		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Cadmium

General Statistics

Number of Valid Data	120	Number of Detected Data	22
Number of Distinct Detected Data	18	Number of Non-Detect Data	98
		Percent Non-Detects	81.67%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.51	Minimum Detected	-0.673
Maximum Detected	3.5	Maximum Detected	1.253
Mean of Detected	1.331	Mean of Detected	0.143
SD of Detected	0.801	SD of Detected	0.53
Minimum Non-Detect	0.49	Minimum Non-Detect	-0.713
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	106
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	14
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	88.33%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.826	Shapiro Wilk Test Statistic	0.954
5% Shapiro Wilk Critical Value	0.911	5% Shapiro Wilk Critical Value	0.911
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.594	Mean	-0.702
SD	0.497	SD	0.54
95% DL/2 (t) UCL	0.669	95% H-Stat (DL/2) UCL	0.629
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	

MLE yields a negative mean

Mean in Log Scale	-1.215
SD in Log Scale	0.977
Mean in Original Scale	0.478
SD in Original Scale	0.559
95% t UCL	0.562
95% Percentile Bootstrap UCL	0.567
95% BCA Bootstrap UCL	0.581
95% H-UCL	0.582

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	3.176
Theta Star	0.419
nu star	139.7
A-D Test Statistic	0.673
5% A-D Critical Value	0.748
K-S Test Statistic	0.748
5% K-S Critical Value	0.186

Data appear Gamma Distributed at 5% Significance Level

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	3.5
Mean	0.321
Median	0.000001
SD	0.636
k star	0.0983
Theta star	3.27
Nu star	23.6
AppChi2	13.54
95% Gamma Approximate UCL (Use when n >= 40)	0.56
95% Adjusted Gamma UCL (Use when n < 40)	0.564

Note: DL/2 is not a recommended method.

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.687
SD	0.461
SE of Mean	0.0451
95% KM (t) UCL	0.761
95% KM (z) UCL	0.761
95% KM (jackknife) UCL	0.751
95% KM (bootstrap t) UCL	0.773
95% KM (BCA) UCL	0.873
95% KM (Percentile Bootstrap) UCL	0.816
95% KM (Chebyshev) UCL	0.883
97.5% KM (Chebyshev) UCL	0.968
99% KM (Chebyshev) UCL	1.135

Potential UCLs to Use

95% KM (t) UCL	0.761

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chromium

General Statistics

Number of Valid Observations	120	Number of Distinct Observations	48

Raw Statistics

Minimum	2.6
Maximum	97
Mean	20.05
Geometric Mean	17.13

Log-transformed Statistics

Minimum of Log Data	0.956
Maximum of Log Data	4.575
Mean of log Data	2.841
SD of log Data	0.571

Median	17
SD	12.65
Std. Error of Mean	1.155
Coefficient of Variation	0.631
Skewness	2.671

Relevant UCL Statistics

Normal Distribution Test

Lilliefors Test Statistic	0.167
Lilliefors Critical Value	0.0809

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Lilliefors Test Statistic	0.0997
Lilliefors Critical Value	0.0809

Data not Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	21.97

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	22.26
95% Modified-t UCL (Johnson-1978)	22.02

Assuming Lognormal Distribution

95% H-UCL	22.25
95% Chebyshev (MVUE) UCL	25.03
97.5% Chebyshev (MVUE) UCL	27.15
99% Chebyshev (MVUE) UCL	31.32

Gamma Distribution Test

k star (bias corrected)	3.254
Theta Star	6.163
MLE of Mean	20.05
MLE of Standard Deviation	11.12
nu star	780.9
Approximate Chi Square Value (.05)	717
Adjusted Level of Significance	0.048
Adjusted Chi Square Value	716.3
Anderson-Darling Test Statistic	1.326
Anderson-Darling 5% Critical Value	0.758
Kolmogorov-Smirnov Test Statistic	0.101
Kolmogorov-Smirnov 5% Critical Value	0.0848

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	21.84
95% Adjusted Gamma UCL (Use when n < 40)	21.86

Data Distribution

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

95% CLT UCL	21.95
95% Jackknife UCL	21.97
95% Standard Bootstrap UCL	21.99
95% Bootstrap-t UCL	22.45
95% Hall's Bootstrap UCL	22.51
95% Percentile Bootstrap UCL	22.05
95% BCA Bootstrap UCL	22.17
95% Chebyshev(Mean, Sd) UCL	25.09
97.5% Chebyshev(Mean, Sd) UCL	27.27
99% Chebyshev(Mean, Sd) UCL	31.55

Potential UCL to Use

Use 95% Chebyshev (Mean, Sd) UCL 25.09

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Chrysene

General Statistics

Number of Valid Data	83	Number of Detected Data	53
Number of Distinct Detected Data	40	Number of Non-Detect Data	30

Percent Non-Detects	36.14%

Raw Statistics

Minimum Detected	0.007
Maximum Detected	3.6
Mean of Detected	0.218
SD of Detected	0.58
Minimum Non-Detect	0.0049
Maximum Non-Detect	20

Log-transformed Statistics

Minimum Detected	-4.962
Maximum Detected	1.281
Mean of Detected	-2.75
SD of Detected	1.398
Minimum Non-Detect	-5.319
Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	83
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.37
5% Lilliefors Critical Value	0.122

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.089
5% Lilliefors Critical Value	0.122

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method

Mean	0.261
SD	1.181
95% DL/2 (t) UCL	0.476

Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Assuming Lognormal Distribution

DL/2 Substitution Method

Mean	-3.74
SD	1.956
95% H-Stat (DL/2) UCL	0.329

Log ROS Method

Mean in Log Scale	-3.887
SD in Log Scale	1.924
Mean in Original Scale	0.14
SD in Original Scale	0.473
95% t UCL	0.227
95% Percentile Bootstrap UCL	0.233
95% BCA Bootstrap UCL	0.283
95% H-UCL	0.262

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.499
Theta Star	0.436
nu star	52.94
A-D Test Statistic	3.561
5% A-D Critical Value	0.813
K-S Test Statistic	0.813
5% K-S Critical Value	0.129

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	0.000001

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	0.143
SD	0.473
SE of Mean	0.0527
95% KM (t) UCL	0.231
95% KM (z) UCL	0.23
95% KM (jackknife) UCL	0.23
95% KM (bootstrap t) UCL	0.426

Maximum	3.6	95% KM (BCA) UCL	0.245
Mean	0.139	95% KM (Percentile Bootstrap) UCL	0.231
Median	0.019	95% KM (Chebyshev) UCL	0.373
SD	0.474	97.5% KM (Chebyshev) UCL	0.472
k star	0.162	99% KM (Chebyshev) UCL	0.667
Theta star	0.859		
Nu star	26.85	**Potential UCLs to Use**	
AppChi2	16.04	95% KM (Chebyshev) UCL	0.373
95% Gamma Approximate UCL (Use when n >= 40)	0.233		
95% Adjusted Gamma UCL (Use when n < 40)	0.235		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Dibenz(a,h)anthracene

General Statistics

Number of Valid Data	83	Number of Detected Data	16
Number of Distinct Detected Data	15	Number of Non-Detect Data	67
		Percent Non-Detects	80.72%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	0.28	Maximum Detected	-1.273
Mean of Detected	0.0401	Mean of Detected	-3.813
SD of Detected	0.0672	SD of Detected	0.958
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	83
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.497	Shapiro Wilk Test Statistic	0.898
5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.136	Mean	-4.892
SD	1.096	SD	1.382
95% DL/2 (t) UCL	0.337	95% H-Stat (DL/2) UCL	0.0292
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.255

SD in Log Scale	1.513
Mean in Original Scale	0.00898
SD in Original Scale	0.0326
95% t UCL	0.0149
95% Percentile Bootstrap UCL	0.0155
95% BCA Bootstrap UCL	0.0207
95% H-UCL	0.00959

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.83
Theta Star	0.0483
nu star	26.57
A-D Test Statistic	1.423
5% A-D Critical Value	0.765
K-S Test Statistic	0.765
5% K-S Critical Value	0.221

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.28
Mean	0.00774
Median	0.000001
SD	0.0329
k star	0.118
Theta star	0.0658
Nu star	19.52
AppChi2	10.5
95% Gamma Approximate UCL (Use when n >= 40)	0.0144
95% Adjusted Gamma UCL (Use when n < 40)	0.0145

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0131
SD	0.0319
SE of Mean	0.00366
95% KM (t) UCL	0.0192
95% KM (z) UCL	0.0192
95% KM (jackknife) UCL	0.018
95% KM (bootstrap t) UCL	0.0311
95% KM (BCA) UCL	0.0236
95% KM (Percentile Bootstrap) UCL	0.0212
95% KM (Chebyshev) UCL	0.0291
97.5% KM (Chebyshev) UCL	0.036
99% KM (Chebyshev) UCL	0.0495

Potential UCLs to Use

95% KM (t) UCL	0.0192
95% KM (% Bootstrap) UCL	0.0212

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). For additional insight, the user may want to consult a statistician.

Fluoranthene

General Statistics

Number of Valid Data	83	Number of Detected Data	37
Number of Distinct Detected Data	32	Number of Non-Detect Data	46
		Percent Non-Detects	55.42%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.006	Minimum Detected	-5.116
Maximum Detected	0.58	Maximum Detected	-0.545
Mean of Detected	0.0735	Mean of Detected	-3.287

SD of Detected	0.114	SD of Detected	1.107
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	83
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.58	Shapiro Wilk Test Statistic	0.966
5% Shapiro Wilk Critical Value	0.936	5% Shapiro Wilk Critical Value	0.936
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.159	Mean	-4.293
SD	1.096	SD	1.622
95% DL/2 (t) UCL	0.36	95% H-Stat (DL/2) UCL	0.0856
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.708
		SD in Log Scale	1.568
		Mean in Original Scale	0.0348
		SD in Original Scale	0.0835
		95% t UCL	0.05
		95% Percentile Bootstrap UCL	0.0509
		95% BCA Bootstrap UCL	0.0561
		95% H-UCL	0.0504

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.815	**Data appear Lognormal at 5% Significance Level**	
Theta Star	0.0902		
nu star	60.32		
A-D Test Statistic	1.47	**Nonparametric Statistics**	
5% A-D Critical Value	0.783	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.783	Mean	0.0375
5% K-S Critical Value	0.15	SD	0.0828
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0093
		95% KM (t) UCL	0.053
Assuming Gamma Distribution		95% KM (z) UCL	0.0528
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0524
Minimum	0.000001	95% KM (bootstrap t) UCL	0.0669
Maximum	0.58	95% KM (BCA) UCL	0.0549
Mean	0.0329	95% KM (Percentile Bootstrap) UCL	0.0548
Median	0.000001	95% KM (Chebyshev) UCL	0.0781
SD	0.0842	97.5% KM (Chebyshev) UCL	0.0956
k star	0.142	99% KM (Chebyshev) UCL	0.13
Theta star	0.232		

Nu star	23.56	**Potential UCLs to Use**	
AppChi2	13.51	95% KM (BCA) UCL	0.0549
95% Gamma Approximate UCL (Use when n >= 40)	0.0574		
95% Adjusted Gamma UCL (Use when n < 40)	0.058		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Fluorene

General Statistics

Number of Valid Data	83	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	76
		Percent Non-Detects	91.57%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.013	Minimum Detected	-4.343
Maximum Detected	7.1	Maximum Detected	1.96
Mean of Detected	1.662	Mean of Detected	-1.283
SD of Detected	2.544	SD of Detected	2.588
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	83
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.718	Shapiro Wilk Test Statistic	0.872
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.269	Mean	-4.891
SD	1.362	SD	1.77
95% DL/2 (t) UCL	0.518	95% H-Stat (DL/2) UCL	0.0657
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	

MLE method failed to converge properly

Mean in Log Scale	-13.88
SD in Log Scale	5.531
Mean in Original Scale	0.14
SD in Original Scale	0.83
95% t UCL	0.292
95% Percentile Bootstrap UCL	0.319
95% BCA Bootstrap UCL	0.446
95% H-UCL	623.4

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.308
Theta Star	5.4
nu star	4.308
A-D Test Statistic	0.397
5% A-D Critical Value	0.772
K-S Test Statistic	0.772
5% K-S Critical Value	0.332

Data appear Gamma Distributed at 5% Significance Level

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	7.1
Mean	0.14
Median	0.000001
SD	0.83
k star	0.0828
Theta star	1.693
Nu star	13.74
AppChi2	6.395
95% Gamma Approximate UCL (Use when n >= 40)	0.301
95% Adjusted Gamma UCL (Use when n < 40)	0.305

Note: DL/2 is not a recommended method.

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.154
SD	0.828
SE of Mean	0.0988
95% KM (t) UCL	0.318
95% KM (z) UCL	0.316
95% KM (jackknife) UCL	0.302
95% KM (bootstrap t) UCL	0.599
95% KM (BCA) UCL	0.844
95% KM (Percentile Bootstrap) UCL	0.67
95% KM (Chebyshev) UCL	0.584
97.5% KM (Chebyshev) UCL	0.771
99% KM (Chebyshev) UCL	1.137

Potential UCLs to Use

95% KM (t) UCL	0.318

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics

Number of Valid Data	83	Number of Detected Data	32
Number of Distinct Detected Data	22	Number of Non-Detect Data	51
		Percent Non-Detects	61.45%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0078	Minimum Detected	-4.854
Maximum Detected	0.3	Maximum Detected	-1.204

Mean of Detected	0.0451	Mean of Detected	-3.606
SD of Detected	0.067	SD of Detected	0.897
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	83
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.51	Shapiro Wilk Test Statistic	0.913
5% Shapiro Wilk Critical Value	0.93	5% Shapiro Wilk Critical Value	0.93
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.144	Mean	-4.569
SD	1.096	SD	1.477
95% DL/2 (t) UCL	0.344	95% H-Stat (DL/2) UCL	0.0482
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.957
		SD in Log Scale	1.309
		Mean in Original Scale	0.0196
		SD in Original Scale	0.0459
		95% t UCL	0.028
		95% Percentile Bootstrap UCL	0.0288
		95% BCA Bootstrap UCL	0.031
		95% H-UCL	0.024

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	1.04	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	0.0433		
nu star	66.57		
A-D Test Statistic	1.937	**Nonparametric Statistics**	
5% A-D Critical Value	0.773	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.773	Mean	0.023
5% K-S Critical Value	0.16	SD	0.045
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.00507
		95% KM (t) UCL	0.0314
Assuming Gamma Distribution		95% KM (z) UCL	0.0313
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0308
Minimum	0.000001	95% KM (bootstrap t) UCL	0.044
Maximum	0.3	95% KM (BCA) UCL	0.032
Mean	0.0174	95% KM (Percentile Bootstrap) UCL	0.0319
Median	0.000001	95% KM (Chebyshev) UCL	0.045
SD	0.0467	97.5% KM (Chebyshev) UCL	0.0546
k star	0.141	99% KM (Chebyshev) UCL	0.0734

Theta star	0.124
Nu star	23.33
AppChi2	13.34
95% Gamma Approximate UCL (Use when n >= 40)	0.0304
95% Adjusted Gamma UCL (Use when n < 40)	0.0307

Potential UCLs to Use

95% KM (t) UCL	0.0314
95% KM (% Bootstrap) UCL	0.0319

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Lead

General Statistics

Number of Valid Data	198	Number of Detected Data	197
Number of Distinct Detected Data	115	Number of Non-Detect Data	1
		Percent Non-Detects	0.51%

Raw Statistics

Minimum Detected	1.5
Maximum Detected	1600
Mean of Detected	53.58
SD of Detected	158.5
Minimum Non-Detect	1
Maximum Non-Detect	1

Log-transformed Statistics

Minimum Detected	0.405
Maximum Detected	7.378
Mean of Detected	2.769
SD of Detected	1.352
Minimum Non-Detect	0
Maximum Non-Detect	0

UCL Statistics

Normal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.371
5% Lilliefors Critical Value	0.0631

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.106
5% Lilliefors Critical Value	0.0631

Data not Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	53.31
SD	158.1
95% DL/2 (t) UCL	71.88
Maximum Likelihood Estimate(MLE) Method	
Mean	52.76
SD	158.2
95% MLE (t) UCL	71.35
95% MLE (Tiku) UCL	69.12

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	2.751
SD	1.371
95% H-Stat (DL/2) UCL	51.29
Log ROS Method	
Mean in Log Scale	2.749
SD in Log Scale	1.376
Mean in Original Scale	53.31
SD in Original Scale	158.1
95% t UCL	71.88
95% Percentile Bootstrap UCL	73.48
95% BCA Bootstrap UCL	78.15
95% H UCL	51.65

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.516
Theta Star	103.8
nu star	203.3
A-D Test Statistic	13.65
5% A-D Critical Value	0.819
K-S Test Statistic	0.819
5% K-S Critical Value	0.068
Data not Gamma Distributed at 5% Significance Level	
Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	1600
Mean	53.31
Median	11.5
SD	158.1
k star	0.489
Theta star	109
Nu star	193.6
AppChi2	162.4
95% Gamma Approximate UCL (Use when n >= 40)	63.55
95% Adjusted Gamma UCL (Use when n < 40)	63.63

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only	
Data do not follow a Discernable Distribution (0.05)	
Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	53.32
SD	157.7
SE of Mean	11.24
95% KM (t) UCL	71.89
95% KM (z) UCL	71.8
95% KM (jackknife) UCL	71.89
95% KM (bootstrap t) UCL	82.91
95% KM (BCA) UCL	74.04
95% KM (Percentile Bootstrap) UCL	73.09
95% KM (Chebyshev) UCL	102.3
97.5% KM (Chebyshev) UCL	123.5
99% KM (Chebyshev) UCL	165.1
Potential UCLs to Use	
95% KM (Chebyshev) UCL	102.3

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Mercury

General Statistics

Number of Valid Data	120	Number of Detected Data	58
Number of Distinct Detected Data	33	Number of Non-Detect Data	62
		Percent Non-Detects	51.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.02	Minimum Detected	-3.912
Maximum Detected	5.1	Maximum Detected	1.629
Mean of Detected	0.357	Mean of Detected	-1.902
SD of Detected	0.725	SD of Detected	1.246
Minimum Non-Detect	0.02	Minimum Non-Detect	-3.912
Maximum Non-Detect	0.1	Maximum Non-Detect	-2.303

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	80
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	40
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	66.67%

UCL Statistics

Normal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.321
5% Lilliefors Critical Value	0.116

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.195
SD	0.526
95% DL/2 (t) UCL	0.274
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.161
5% Lilliefors Critical Value	0.116

Data not Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-2.615
SD	1.191
95% H-Stat (DL/2) UCL	0.194
Log ROS Method	
Mean in Log Scale	-3.129
SD in Log Scale	1.69
Mean in Original Scale	0.185
SD in Original Scale	0.529
95% t UCL	0.265
95% Percentile Bootstrap UCL	0.276
95% BCA Bootstrap UCL	0.317
95% H-UCL	0.289

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.669
Theta Star	0.534
nu star	77.64
A-D Test Statistic	2.745
5% A-D Critical Value	0.798
K-S Test Statistic	0.798
5% K-S Critical Value	0.122

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	5.1
Mean	0.181
Median	0.0295
SD	0.531
k star	0.145
Theta star	1.253
Nu star	34.71
AppChi2	22.23
95% Gamma Approximate UCL (Use when n >= 40)	0.283
95% Adjusted Gamma UCL (Use when n < 40)	0.284

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.19
SD	0.526
SE of Mean	0.0485
95% KM (t) UCL	0.27
95% KM (z) UCL	0.269
95% KM (jackknife) UCL	0.269
95% KM (bootstrap t) UCL	0.357
95% KM (BCA) UCL	0.282
95% KM (Percentile Bootstrap) UCL	0.276
95% KM (Chebyshev) UCL	0.401
97.5% KM (Chebyshev) UCL	0.492
99% KM (Chebyshev) UCL	0.672

Potential UCLs to Use

95% KM (BCA) UCL	0.282

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

For additional insight, the user may want to consult a statistician.

Naphthalene

General Statistics

Number of Valid Data	97	Number of Detected Data	9
Number of Distinct Detected Data	7	Number of Non-Detect Data	88
		Percent Non-Detects	90.72%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0064	Minimum Detected	-5.051
Maximum Detected	1	Maximum Detected	0
Mean of Detected	0.136	Mean of Detected	-3.825
SD of Detected	0.327	SD of Detected	1.742
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	97
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 9 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.47	Shapiro Wilk Test Statistic	0.723
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.118	Mean	-5.7
SD	1.019	SD	1.151
95% DL/2 (t) UCL	0.29	95% H-Stat (DL/2) UCL	0.0086
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-12.67
		SD in Log Scale	4.746
		Mean in Original Scale	0.0127
		SD in Original Scale	0.102
		95% t UCL	0.03
		95% Percentile Bootstrap UCL	0.0332
		95% BCA Bootstrap UCL	0.0454
		95% H-UCL	8.088

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.317
Theta Star	0.429
nu star	5.712
A-D Test Statistic	1.619
5% A-D Critical Value	0.795
K-S Test Statistic	0.795
5% K-S Critical Value	0.299
Data not Gamma Distributed at 5% Significance Level	
Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	1
Mean	0.0126
Median	0.000001
SD	0.102
k star	0.0998
Theta star	0.127
Nu star	19.36
AppChi2	10.38
95% Gamma Approximate UCL (Use when n >= 40)	0.0235
95% Adjusted Gamma UCL (Use when n < 40)	0.0238

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only
Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	0.0186
SD	0.102
SE of Mean	0.011
95% KM (t) UCL	0.0368
95% KM (z) UCL	0.0367
95% KM (jackknife) UCL	0.0347
95% KM (bootstrap t) UCL	0.658
95% KM (BCA) UCL	0.0492
95% KM (Percentile Bootstrap) UCL	0.0393
95% KM (Chebyshev) UCL	0.0666
97.5% KM (Chebyshev) UCL	0.0873
99% KM (Chebyshev) UCL	0.128
Potential UCLs to Use	
95% KM (Chebyshev) UCL	0.0666

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Phenanthrene

General Statistics

Number of Valid Data	83	Number of Detected Data	30
Number of Distinct Detected Data	23	Number of Non-Detect Data	53
		Percent Non-Detects	63.86%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0059	Minimum Detected	-5.133
Maximum Detected	3.3	Maximum Detected	1.194
Mean of Detected	0.201	Mean of Detected	-3.305
SD of Detected	0.638	SD of Detected	1.485
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	83
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	0
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.331
5% Shapiro Wilk Critical Value	0.927

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.2
SD	1.157
95% DL/2 (t) UCL	0.411
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.871
5% Shapiro Wilk Critical Value	0.927

Data not Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-4.464
SD	1.688
95% H-Stat (DL/2) UCL	0.0834
Log ROS Method	
Mean in Log Scale	-5.672
SD in Log Scale	2.167
Mean in Original Scale	0.0734
SD in Original Scale	0.391
95% t UCL	0.145
95% Percentile Bootstrap UCL	0.153
95% BCA Bootstrap UCL	0.211
95% H-UCL	0.0849

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.372
Theta Star	0.538
nu star	22.35
A-D Test Statistic	4.069
5% A-D Critical Value	0.834
K-S Test Statistic	0.834
5% K-S Critical Value	0.172

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	3.3
Mean	0.0725
Median	0.000001
SD	0.391
k star	0.113
Theta star	0.643
Nu star	18.72
AppChi2	9.916
95% Gamma Approximate UCL (Use when n >= 40)	0.137
95% Adjusted Gamma UCL (Use when n < 40)	0.138

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0778
SD	0.391
SE of Mean	0.0439
95% KM (t) UCL	0.151
95% KM (z) UCL	0.15
95% KM (jackknife) UCL	0.149
95% KM (bootstrap t) UCL	0.745
95% KM (BCA) UCL	0.161
95% KM (Percentile Bootstrap) UCL	0.159
95% KM (Chebyshev) UCL	0.269
97.5% KM (Chebyshev) UCL	0.352
99% KM (Chebyshev) UCL	0.514

Potential UCLs to Use

95% KM (BCA) UCL	0.161

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Pyrene

General Statistics

Number of Valid Data	83	Number of Detected Data	48
Number of Distinct Detected Data	42	Number of Non-Detect Data	35
		Percent Non-Detects	42.17%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.007	Minimum Detected	-4.962
Maximum Detected	3.2	Maximum Detected	1.163
Mean of Detected	0.15	Mean of Detected	-3.039
SD of Detected	0.464	SD of Detected	1.295
Minimum Non-Detect	0.0049	Minimum Non-Detect	-5.319
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	83
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.3	Shapiro Wilk Test Statistic	0.949
5% Shapiro Wilk Critical Value	0.947	5% Shapiro Wilk Critical Value	0.947
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.212	Mean	-3.954
SD	1.145	SD	1.791
95% DL/2 (t) UCL	0.421	95% H-Stat (DL/2) UCL	0.176
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-4.222
		SD in Log Scale	1.77
		Mean in Original Scale	0.0887
		SD in Original Scale	0.359
		95% t UCL	0.154
		95% Percentile Bootstrap UCL	0.164
		95% BCA Bootstrap UCL	0.211
		95% H-UCL	0.128

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.527	**Data appear Lognormal at 5% Significance Level**	
Theta Star	0.285		
nu star	50.58		

A-D Test Statistic	3.343
5% A-D Critical Value	0.81
K-S Test Statistic	0.81
5% K-S Critical Value	0.135

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	3.2
Mean	0.0874
Median	0.016
SD	0.359
k star	0.155
Theta star	0.563
Nu star	25.77
AppChi2	15.2
95% Gamma Approximate UCL (Use when n >= 40)	0.148
95% Adjusted Gamma UCL (Use when n < 40)	0.15

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0917
SD	0.358
SE of Mean	0.04
95% KM (t) UCL	0.158
95% KM (z) UCL	0.157
95% KM (jackknife) UCL	0.158
95% KM (bootstrap t) UCL	0.342
95% KM (BCA) UCL	0.168
95% KM (Percentile Bootstrap) UCL	0.171
95% KM (Chebyshev) UCL	0.266
97.5% KM (Chebyshev) UCL	0.341
99% KM (Chebyshev) UCL	0.489

Potential UCLs to Use

95% KM (Chebyshev) UCL	0.266

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics

Number of Valid Observations	120	Number of Distinct Observations	59

Raw Statistics

Minimum	3
Maximum	140
Mean	25.35
Geometric Mean	19.41
Median	18.5
SD	21.33
Std. Error of Mean	1.947
Coefficient of Variation	0.841
Skewness	2.522

Log-transformed Statistics

Minimum of Log Data	1.099
Maximum of Log Data	4.942
Mean of log Data	2.966
SD of log Data	0.73

Relevant UCL Statistics

Normal Distribution Test

Lilliefors Test Statistic	0.2
Lilliefors Critical Value	0.0809

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Lilliefors Test Statistic	0.0665
Lilliefors Critical Value	0.0809

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	28.58

Assuming Lognormal Distribution

95% H-UCL	28.97

95% UCLs (Adjusted for Skewness)	
95% Adjusted-CLT UCL (Chen-1995)	29.03
95% Modified-t UCL (Johnson-1978)	28.65

95% Chebyshev (MVUE) UCL	33.46
97.5% Chebyshev (MVUE) UCL	37.01
99% Chebyshev (MVUE) UCL	43.97

Gamma Distribution Test	
k star (bias corrected)	1.979
Theta Star	12.81
MLE of Mean	25.35
MLE of Standard Deviation	18.02
nu star	475
Approximate Chi Square Value (.05)	425.5
Adjusted Level of Significance	0.048
Adjusted Chi Square Value	424.9
Anderson-Darling Test Statistic	1.807
Anderson-Darling 5% Critical Value	0.765
Kolmogorov-Smirnov Test Statistic	0.111
Kolmogorov-Smirnov 5% Critical Value	0.0854

Data not Gamma Distributed at 5% Significance Level

Data Distribution

Data appear Lognormal at 5% Significance Level

Assuming Gamma Distribution	
95% Approximate Gamma UCL (Use when n >= 40)	28.3
95% Adjusted Gamma UCL (Use when n < 40)	28.34

Nonparametric Statistics	
95% CLT UCL	28.55
95% Jackknife UCL	28.58
95% Standard Bootstrap UCL	28.48
95% Bootstrap-t UCL	29.11
95% Hall's Bootstrap UCL	29.42
95% Percentile Bootstrap UCL	28.55
95% BCA Bootstrap UCL	29.18
95% Chebyshev(Mean, Sd) UCL	33.84
97.5% Chebyshev(Mean, Sd) UCL	37.51
99% Chebyshev(Mean, Sd) UCL	44.72

Potential UCL to Use	
Use 95% H-UCL	28.97

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

BaPTEQsitewide

General Statistics

Number of Valid Data	83	Number of Detected Data	61
Number of Distinct Detected Data	61	Number of Non-Detect Data	22
		Percent Non-Detects	26.51%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.00414	Minimum Detected	-5.487
Maximum Detected	0.541	Maximum Detected	-0.614
Mean of Detected	0.0867	Mean of Detected	-3.189
SD of Detected	0.104	SD of Detected	1.331
Minimum Non-Detect	0.00345	Minimum Non-Detect	-5.668
Maximum Non-Detect	14.1	Maximum Non-Detect	2.646

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	83
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.214
5% Lilliefors Critical Value	0.113

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.149
SD	0.773
95% DL/2 (t) UCL	0.29
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.77
Theta Star	0.113
nu star	93.97
A-D Test Statistic	0.835
5% A-D Critical Value	0.79
K-S Test Statistic	0.79
5% K-S Critical Value	0.118

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	0.541
Mean	0.0641
Median	0.0182
SD	0.097
k star	0.229
Theta star	0.279
Nu star	38.1
AppChi2	24.96
95% Gamma Approximate UCL (Use when n >= 40)	0.0978

Lognormal Distribution Test with Detected Values Only

Lilliefors Test Statistic	0.0913
5% Lilliefors Critical Value	0.113

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-3.893
SD	1.863
95% H-Stat (DL/2) UCL	0.223
Log ROS Method	
Mean in Log Scale	-3.937
SD in Log Scale	1.72
Mean in Original Scale	0.0646
SD in Original Scale	0.0967
95% t UCL	0.0822
95% Percentile Bootstrap UCL	0.0829
95% BCA Bootstrap UCL	0.0865
95% H-UCL	0.152

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0656
SD	0.0963
SE of Mean	0.0107
95% KM (t) UCL	0.0834
95% KM (z) UCL	0.0832
95% KM (jackknife) UCL	0.0832
95% KM (bootstrap t) UCL	0.0884
95% KM (BCA) UCL	0.0842
95% KM (Percentile Bootstrap) UCL	0.0841
95% KM (Chebyshev) UCL	0.112
97.5% KM (Chebyshev) UCL	0.133
99% KM (Chebyshev) UCL	0.172

Potential UCLs to Use

95% KM (Chebyshev) UCL	0.112

95% Adjusted Gamma UCL (Use when n < 40)	0.0985

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

TPHd

General Statistics

Number of Valid Data	159	Number of Detected Data	110
Number of Distinct Detected Data	92	Number of Non-Detect Data	49
		Percent Non-Detects	30.82%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.57	Minimum Detected	-0.562
Maximum Detected	11000	Maximum Detected	9.306
Mean of Detected	840.5	Mean of Detected	4.228
SD of Detected	2302	SD of Detected	2.385
Minimum Non-Detect	1	Minimum Non-Detect	0
Maximum Non-Detect	20	Maximum Non-Detect	2.996

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	80
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	79
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	50.31%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.401	Lilliefors Test Statistic	0.0517
5% Lilliefors Critical Value	0.0845	5% Lilliefors Critical Value	0.0845
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	582.6	Mean	3.263
SD	1951	SD	2.495
95% DL/2 (t) UCL	838.6	95% H-Stat (DL/2) UCL	1282
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	2.969
		SD in Log Scale	2.857
		Mean in Original Scale	582.2
		SD in Original Scale	1951
		95% t UCL	838.3
		95% Percentile Bootstrap UCL	869.5
		95% BCA Bootstrap UCL	924.6
		95% H-UCL	3130

Gamma Distribution Test with Detected Values Only	**Data Distribution Test with Detected Values Only**

k star (bias corrected)	0.277	**Data appear Lognormal at 5% Significance Level**	
Theta Star	3034		
nu star	60.94		
A-D Test Statistic	6.964	**Nonparametric Statistics**	
5% A-D Critical Value	0.877	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.877	Mean	582.1
5% K-S Critical Value	0.0947	SD	1945
Data not Gamma Distributed at 5% Significance Level		SE of Mean	155
		95% KM (t) UCL	838.5
Assuming Gamma Distribution		95% KM (z) UCL	837
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	838.2
Minimum	0.000001	95% KM (bootstrap t) UCL	927.7
Maximum	11000	95% KM (BCA) UCL	880
Mean	581.5	95% KM (Percentile Bootstrap) UCL	858.8
Median	18	95% KM (Chebyshev) UCL	1258
SD	1952	97.5% KM (Chebyshev) UCL	1550
k star	0.107	99% KM (Chebyshev) UCL	2124
Theta star	5430		
Nu star	34.05	**Potential UCLs to Use**	
AppChi2	21.7	97.5% KM (Chebyshev) UCL	1550
95% Gamma Approximate UCL (Use when n >= 40)	912.2		
95% Adjusted Gamma UCL (Use when n < 40)	916		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

TPHg

General Statistics

Number of Valid Data	131	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	122
Number of Missing Values	28	Percent Non-Detects	93.13%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.7	Minimum Detected	-0.357
Maximum Detected	6600	Maximum Detected	8.795
Mean of Detected	741.1	Mean of Detected	2.029
SD of Detected	2197	SD of Detected	2.854
Minimum Non-Detect	0.38	Minimum Non-Detect	-0.968
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	128
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	3
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	97.71%

Warning: There are only 9 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.394
5% Shapiro Wilk Critical Value	0.829

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	53.86
SD	576.4
95% DL/2 (t) UCL	137.3
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.786
5% Shapiro Wilk Critical Value	0.829

Data not Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	0.511
SD	1.696
95% H-Stat (DL/2) UCL	10.84
Log ROS Method	
Mean in Log Scale	-7.245
SD in Log Scale	4.949
Mean in Original Scale	51.1
SD in Original Scale	576.6
95% t UCL	134.6
95% Percentile Bootstrap UCL	151.8
95% BCA Bootstrap UCL	203.1
95% H-UCL	3264

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.184
Theta Star	4020
nu star	3.319
A-D Test Statistic	1.813
5% A-D Critical Value	0.857
K-S Test Statistic	0.857
5% K-S Critical Value	0.309

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	6600
Mean	71.84
Median	0.000001
SD	590.3
k star	0.057
Theta star	1261
Nu star	14.93
AppChi2	7.213

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	51.66
SD	574.3
SE of Mean	53.22
95% KM (t) UCL	139.8
95% KM (z) UCL	139.2
95% KM (jackknife) UCL	135
95% KM (bootstrap t) UCL	23600
95% KM (BCA) UCL	153.3
95% KM (Percentile Bootstrap) UCL	152.4
95% KM (Chebyshev) UCL	283.7
97.5% KM (Chebyshev) UCL	384
99% KM (Chebyshev) UCL	581.2

Potential UCLs to Use

97.5% KM (Chebyshev) UCL	384

95% Gamma Approximate UCL (Use when n >= 40)	148.7
95% Adjusted Gamma UCL (Use when n < 40)	149.9

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

TPHm

General Statistics

Number of Valid Data	159	Number of Detected Data	125
Number of Distinct Detected Data	91	Number of Non-Detect Data	34
		Percent Non-Detects	21.38%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.5	Minimum Detected	-0.693
Maximum Detected	13000	Maximum Detected	9.473
Mean of Detected	1282	Mean of Detected	5.112
SD of Detected	2801	SD of Detected	2.307
Minimum Non-Detect	1	Minimum Non-Detect	0
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	47
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	112
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	29.56%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.324	Lilliefors Test Statistic	0.0627
5% Lilliefors Critical Value	0.0792	5% Lilliefors Critical Value	0.0792
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1008	Mean	4.16
SD	2536	SD	2.781
95% DL/2 (t) UCL	1341	95% H-Stat (DL/2) UCL	7937
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	290.2	Mean in Log Scale	4.07
SD	3177	SD in Log Scale	2.92
95% MLE (t) UCL	707	Mean in Original Scale	1008
95% MLE (Tiku) UCL	722.1	SD in Original Scale	2536
		95% t UCL	1341
		95% Percentile Bootstrap UCL	1362
		95% BCA Bootstrap UCL	1419
		95% H UCL	11780

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.329
Theta Star	3893
nu star	82.3
A-D Test Statistic	4.024
5% A-D Critical Value	0.86
K-S Test Statistic	0.86
5% K-S Critical Value	0.0897
Data not Gamma Distributed at 5% Significance Level	
Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	13000
Mean	1007
Median	60
SD	2536
k star	0.135
Theta star	7450
Nu star	43
AppChi2	28.97
95% Gamma Approximate UCL (Use when n >= 40)	1496
95% Adjusted Gamma UCL (Use when n < 40)	1501

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only	
Data appear Lognormal at 5% Significance Level	
Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	1008
SD	2528
SE of Mean	201.3
95% KM (t) UCL	1341
95% KM (z) UCL	1339
95% KM (jackknife) UCL	1341
95% KM (bootstrap t) UCL	1407
95% KM (BCA) UCL	1339
95% KM (Percentile Bootstrap) UCL	1352
95% KM (Chebyshev) UCL	1885
97.5% KM (Chebyshev) UCL	2265
99% KM (Chebyshev) UCL	3011
Potential UCLs to Use	
97.5% KM (Chebyshev) UCL	2265

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

1,2,4-Trimethylbenzene

General Statistics

Number of Valid Data	96	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	92
		Percent Non-Detects	95.83%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0026	Minimum Detected	-5.952
Maximum Detected	0.14	Maximum Detected	-1.966
Mean of Detected	0.0406	Mean of Detected	-4.364
SD of Detected	0.0665	SD of Detected	1.756
Minimum Non-Detect	0.0019	Minimum Non-Detect	-6.266
Maximum Non-Detect	0.005	Maximum Non-Detect	-5.298

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	94
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	2
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	97.92%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.697	Shapiro Wilk Test Statistic	0.928

5% Shapiro Wilk Critical Value	0.748

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.00355
SD	0.0142
95% DL/2 (t) UCL	0.00595
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

5% Shapiro Wilk Critical Value	0.748

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-6.248
SD	0.663
95% H-Stat (DL/2) UCL	0.00276
Log ROS Method	
Mean in Log Scale	-12.67
SD in Log Scale	3.853
Mean in Original Scale	0.00182
SD in Original Scale	0.0144
95% t UCL	0.00426
95% Percentile Bootstrap UCL	0.0047
95% BCA Bootstrap UCL	0.00774

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.302
Theta Star	0.134
nu star	2.415
A-D Test Statistic	0.45
5% A-D Critical Value	0.679
K-S Test Statistic	0.679
5% K-S Critical Value	0.409

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	0.14
Mean	0.0337
Median	0.0427
SD	0.0262
k star	0.139
Theta star	0.243
Nu star	26.6
AppChi2	15.84
95% Gamma Approximate UCL	0.0566
95% Adjusted Gamma UCL	N/A

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.00422
SD	0.014
SE of Mean	0.00165
95% KM (t) UCL	0.00696
95% KM (z) UCL	0.00693
95% KM (jackknife) UCL	0.00636
95% KM (bootstrap t) UCL	0.0189
95% KM (BCA) UCL	0.14
95% KM (Percentile Bootstrap) UCL	0.0189
95% KM (Chebyshev) UCL	0.0114
97.5% KM (Chebyshev) UCL	0.0145
99% KM (Chebyshev) UCL	0.0206

Potential UCLs to Use

95% KM (t) UCL	0.00696

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

1,3,5-Trimethylbenzene

General Statistics

Number of Valid Data	96
Number of Distinct Detected Data	4
Number of Detected Data	4
Number of Non-Detect Data	92
Percent Non-Detects	95.83%

Raw Statistics

Minimum Detected	0.002
Maximum Detected	0.047
Mean of Detected	0.0173
SD of Detected	0.0203
Minimum Non-Detect	0.0019
Maximum Non-Detect	0.005

Log-transformed Statistics

Minimum Detected	-6.215
Maximum Detected	-3.058
Mean of Detected	-4.641
SD of Detected	1.312
Minimum Non-Detect	-6.266
Maximum Non-Detect	-5.298

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	93
Number treated as Detected	3
Single DL Non-Detect Percentage	96.88%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.822
5% Shapiro Wilk Critical Value	0.748

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.00258
SD	0.0048
95% DL/2 (t) UCL	0.0034
Maximum Likelihood Estimate(MLE) Method	
Mean	0.0322
SD	0.0176
95% MLE (t) UCL	0.0352
95% MLE (Tiku) UCL	0.0487

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.998
5% Shapiro Wilk Critical Value	0.748

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-6.26
SD	0.597
95% H-Stat (DL/2) UCL	0.00257
Log ROS Method	
Mean in Log Scale	-13.15
SD in Log Scale	3.84
Mean in Original Scale	0.0007823
SD in Original Scale	0.005
95% t UCL	0.00163
95% Percentile Bootstrap UCL	0.00178
95% BCA Bootstrap UCL	0.00243

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.415
Theta Star	0.0417
nu star	3.318
A-D Test Statistic	0.243
5% A-D Critical Value	0.667
K-S Test Statistic	0.667
5% K-S Critical Value	0.403

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	0.047
Mean	0.0143
Median	0.0166
SD	0.00856
k star	0.297
Theta star	0.0481
Nu star	57.08
AppChi2	40.71
95% Gamma Approximate UCL	0.02
95% Adjusted Gamma UCL	N/A

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.00264
SD	0.00471
SE of Mean	0.0005555
95% KM (t) UCL	0.00356
95% KM (z) UCL	0.00355
95% KM (jackknife) UCL	0.00592
95% KM (bootstrap t) UCL	0.00444
95% KM (BCA) UCL	0.047
95% KM (Percentile Bootstrap) UCL	0.0137
95% KM (Chebyshev) UCL	0.00506
97.5% KM (Chebyshev) UCL	0.00611
99% KM (Chebyshev) UCL	0.00816

Potential UCLs to Use

95% KM (t) UCL	0.00356
95% KM (Percentile Bootstrap) UCL	0.0137

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Ethylbenzene

General Statistics

Number of Valid Data	106
Number of Distinct Detected Data	10
Number of Detected Data	10
Number of Non-Detect Data	96
Percent Non-Detects	90.57%

Raw Statistics

Minimum Detected	0.0032
Maximum Detected	120
Mean of Detected	12.02
SD of Detected	37.94
Minimum Non-Detect	0.0019
Maximum Non-Detect	0.005

Log-transformed Statistics

Minimum Detected	-5.745
Maximum Detected	4.787
Mean of Detected	-3.211
SD of Detected	2.97
Minimum Non-Detect	-6.266
Maximum Non-Detect	-5.298

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),

Number treated as Non-Detect	97
Number treated as Detected	9

Observations < Largest ND are treated as NDs

Single DL Non-Detect Percentage 91.51%

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.367
5% Shapiro Wilk Critical Value	0.842

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	1.136
SD	11.66
95% DL/2 (t) UCL	3.015
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.683
5% Shapiro Wilk Critical Value	0.842

Data not Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-6.041
SD	1.333
95% H-Stat (DL/2) UCL	0.00805
Log ROS Method	
Mean in Log Scale	-16.63
SD in Log Scale	7.258
Mean in Original Scale	1.134
SD in Original Scale	11.66
95% t UCL	3.013
95% Percentile Bootstrap UCL	3.398
95% BCA Bootstrap UCL	5.661

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.162
Theta Star	74.06
nu star	3.247
A-D Test Statistic	2.532
5% A-D Critical Value	0.876
K-S Test Statistic	0.876
5% K-S Critical Value	0.297

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	1E-12
Maximum	120
Mean	9.624
Median	12.5
SD	12.4
k star	0.127
Theta star	75.67
Nu star	26.96
AppChi2	16.12
95% Gamma Approximate UCL	16.09
95% Adjusted Gamma UCL	16.21

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	1.137
SD	11.6
SE of Mean	1.188
95% KM (t) UCL	3.108
95% KM (z) UCL	3.091
95% KM (jackknife) UCL	3.012
95% KM (bootstrap t) UCL	3014
95% KM (BCA) UCL	4.535
95% KM (Percentile Bootstrap) UCL	3.403
95% KM (Chebyshev) UCL	6.314
97.5% KM (Chebyshev) UCL	8.554
99% KM (Chebyshev) UCL	12.95

Potential UCLs to Use

97.5% KM (Chebyshev) UCL	8.554

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

p-Isopropyltoluene

General Statistics

Number of Valid Data	96
Number of Distinct Detected Data	3
Number of Detected Data	3
Number of Non-Detect Data	93
Percent Non-Detects	96.88%

Raw Statistics

Minimum Detected	0.0044
Maximum Detected	0.019
Mean of Detected	0.0115
SD of Detected	0.00731
Minimum Non-Detect	0.0019
Maximum Non-Detect	0.005

Log-transformed Statistics

Minimum Detected	-5.426
Maximum Detected	-3.963
Mean of Detected	-4.633
SD of Detected	0.739
Minimum Non-Detect	-6.266
Maximum Non-Detect	-5.298

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect 94
Number treated as Detected 2
Single DL Non-Detect Percentage 97.92%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.997
5% Shapiro Wilk Critical Value	0.767

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.00223
SD	0.0021
95% DL/2 (t) UCL	0.00259
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.979
5% Shapiro Wilk Critical Value	0.767

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-6.283
SD	0.539
95% H-Stat (DL/2) UCL	0.0024
Log ROS Method	
Mean in Log Scale	-9.604
SD in Log Scale	2.13
Mean in Original Scale	0.0006252
SD in Original Scale	0.0023
95% t UCL	0.00102
95% Percentile Bootstrap UCL	0.00104
95% BCA Bootstrap UCL	0.00124

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	N/A
Theta Star	N/A
nu star	N/A
A-D Test Statistic	N/A
5% A-D Critical Value	N/A
K-S Test Statistic	N/A
5% K-S Critical Value	N/A

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	N/A
Maximum	N/A
Mean	N/A
Median	N/A
SD	N/A
k star	N/A
Theta star	N/A
Nu star	N/A
AppChi2	N/A
95% Gamma Approximate UCL	N/A
95% Adjusted Gamma UCL	N/A

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.00462
SD	0.00162
SE of Mean	0.0002025
95% KM (t) UCL	0.00496
95% KM (z) UCL	0.00495
95% KM (jackknife) UCL	0.00885
95% KM (bootstrap t) UCL	0.00478
95% KM (BCA) UCL	0.019
95% KM (Percentile Bootstrap) UCL	0.019
95% KM (Chebyshev) UCL	0.0055
97.5% KM (Chebyshev) UCL	0.00589
99% KM (Chebyshev) UCL	0.00664

Potential UCLs to Use

95% KM (t) UCL	0.00496
95% KM (Percentile Bootstrap) UCL	0.019

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

sec-Butylbenzene

General Statistics

Number of Valid Data	96	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	94
		Percent Non-Detects	97.92%

Raw Statistics

Minimum Detected	0.0025

Log-transformed Statistics

Minimum Detected	-5.991

Maximum Detected	0.031	Maximum Detected	-3.474
Mean of Detected	0.0168	Mean of Detected	-4.733
SD of Detected	0.0202	SD of Detected	1.78
Minimum Non-Detect	0.0046	Minimum Non-Detect	-5.382
Maximum Non-Detect	0.011	Maximum Non-Detect	-4.51

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	95
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	1
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	98.96%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A

Data not Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.00283
SD	0.00292
95% DL/2 (t) UCL	0.00333
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A

Data not Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-5.955
SD	0.269
95% H-Stat (DL/2) UCL	0.00282
Log ROS Method	
Mean in Log Scale	N/A
SD in Log Scale	N/A
Mean in Original Scale	N/A
SD in Original Scale	N/A
95% t UCL	N/A
95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	N/A
Theta Star	N/A
nu star	N/A
A-D Test Statistic	N/A
5% A-D Critical Value	N/A
K-S Test Statistic	N/A
5% K-S Critical Value	N/A

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	N/A
Maximum	N/A
Mean	N/A
Median	N/A
SD	N/A
k star	N/A
Theta star	N/A
Nu star	N/A
AppChi2	N/A
95% Gamma Approximate UCL	N/A
95% Adjusted Gamma UCL	N/A

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0028
SD	0.00289
SE of Mean	0.0004177
95% KM (t) UCL	0.00349
95% KM (z) UCL	0.00348
95% KM (jackknife) UCL	0.0213
95% KM (bootstrap t) UCL	0.0028
95% KM (BCA) UCL	0.031
95% KM (Percentile Bootstrap) UCL	0.031
95% KM (Chebyshev) UCL	0.00462
97.5% KM (Chebyshev) UCL	0.00541
99% KM (Chebyshev) UCL	0.00695

Potential UCLs to Use

95% KM (Chebyshev) UCL	0.00462

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Xylenes (total)

General Statistics

Number of Valid Data	106	Number of Detected Data	11
Number of Distinct Detected Data	11	Number of Non-Detect Data	95
		Percent Non-Detects	89.62%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.015	Minimum Detected	-4.2
Maximum Detected	940	Maximum Detected	6.846
Mean of Detected	85.57	Mean of Detected	-1.691
SD of Detected	283.4	SD of Detected	2.984
Minimum Non-Detect	0.0037	Minimum Non-Detect	-5.599
Maximum Non-Detect	0.0085	Maximum Non-Detect	-4.768

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	95
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	11
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	89.62%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.345	Shapiro Wilk Test Statistic	0.651
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	8.882	Mean	-5.614
SD	91.3	SD	1.631
95% DL/2 (t) UCL	23.6	95% H-Stat (DL/2) UCL	0.0218
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-14.66
		SD in Log Scale	7.125
		Mean in Original Scale	8.88
		SD in Original Scale	91.3
		95% t UCL	23.6
		95% Percentile Bootstrap UCL	26.61
		95% BCA Bootstrap UCL	44.35

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.154	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	556.7		
nu star	3.381		
A-D Test Statistic	2.948	**Nonparametric Statistics**	
5% A-D Critical Value	0.885	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.885	Mean	8.893
5% K-S Critical Value	0.285	SD	90.87
Data not Gamma Distributed at 5% Significance Level		SE of Mean	9.257
		95% KM (t) UCL	24.25
Assuming Gamma Distribution		95% KM (z) UCL	24.12
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	23.6
Minimum	1E-12	95% KM (bootstrap t) UCL	40300
Maximum	940	95% KM (BCA) UCL	26.7
Mean	73.42	95% KM (Percentile Bootstrap) UCL	26.63
Median	94.75	95% KM (Chebyshev) UCL	49.24
SD	95.11	97.5% KM (Chebyshev) UCL	66.7
k star	0.14	99% KM (Chebyshev) UCL	101
Theta star	524.8		
Nu star	29.66	**Potential UCLs to Use**	
AppChi2	18.22	97.5% KM (Chebyshev) UCL	66.7
95% Gamma Approximate UCL	119.5		
95% Adjusted Gamma UCL	120.3		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Toluene

General Statistics

Number of Valid Data	106	Number of Detected Data	11
Number of Distinct Detected Data	9	Number of Non-Detect Data	95
		Percent Non-Detects	89.62%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.0026	Minimum Detected	-5.952
Maximum Detected	38	Maximum Detected	3.638
Mean of Detected	3.482	Mean of Detected	-3.375
SD of Detected	11.45	SD of Detected	2.579
Minimum Non-Detect	0.0019	Minimum Non-Detect	-6.266
Maximum Non-Detect	0.005	Maximum Non-Detect	-5.298

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	96
Number treated as Detected	10
Single DL Non-Detect Percentage	90.57%

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.347	Shapiro Wilk Test Statistic	0.76
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.363	Mean	-6.031
SD	3.69	SD	1.279
95% DL/2 (t) UCL	0.958	95% H-Stat (DL/2) UCL	0.00742
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-14.94
		SD in Log Scale	6.413
		Mean in Original Scale	0.361
		SD in Original Scale	3.691
		95% t UCL	0.956
		95% Percentile Bootstrap UCL	1.078
		95% BCA Bootstrap UCL	1.797

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.18	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	19.35		
nu star	3.959		
A-D Test Statistic	2.535	**Nonparametric Statistics**	
5% A-D Critical Value	0.873	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.873	Mean	0.364
5% K-S Critical Value	0.283	SD	3.673
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.374
		95% KM (t) UCL	0.985
Assuming Gamma Distribution		95% KM (z) UCL	0.979
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.956
Minimum	1E-12	95% KM (bootstrap t) UCL	229.1
Maximum	38	95% KM (BCA) UCL	1.439
Mean	2.729	95% KM (Percentile Bootstrap) UCL	1.083
Median	3.433	95% KM (Chebyshev) UCL	1.995
SD	3.871	97.5% KM (Chebyshev) UCL	2.7
k star	0.132	99% KM (Chebyshev) UCL	4.087
Theta star	20.63		
Nu star	28.05	**Potential UCLs to Use**	
AppChi2	16.96	97.5% KM (Chebyshev) UCL	2.7
95% Gamma Approximate UCL	4.512		
95% Adjusted Gamma UCL	4.544		

Note: DL/2 is not a recommended method.

**Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.**

ProUCL Output
Exposure Area Native Gardens

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Native_Garden_TPH.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

TPHm_0to10

General Statistics

Number of Valid Data	16	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	12
		Percent Non-Detects	75.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	11	Minimum Detected	2.398
Maximum Detected	260	Maximum Detected	5.561
Mean of Detected	89	Mean of Detected	3.86
SD of Detected	115.1	SD of Detected	1.303
Minimum Non-Detect	5	Minimum Non-Detect	1.609
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	12
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	75.00%

Warning: There are only 4 Distinct Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.753	Shapiro Wilk Test Statistic	0.965
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	25.22	Mean	1.956
SD	63.99	SD	1.313
95% DL/2 (t) UCL	53.26	95% H-Stat (DL/2) UCL	49.72
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.472
		SD in Log Scale	3.187
		Mean in Original Scale	22.68

SD in Original Scale	64.9
95% t UCL	51.12
95% Percentile Bootstrap UCL	52.24
95% BCA Bootstrap UCL	71.61
95% H-UCL	26756

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.398
Theta Star	223.4
nu star	3.187
A-D Test Statistic	0.371
5% A-D Critical Value	0.668
K-S Test Statistic	0.668
5% K-S Critical Value	0.403

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	260
Mean	22.25
Median	0.000001
SD	65.05
k star	0.0969
Theta star	229.7
Nu star	3.1
AppChi2	0.403
95% Gamma Approximate UCL (Use when n >= 40)	171.3
95% Adjusted Gamma UCL (Use when n < 40)	N/A

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	30.5
SD	60.19
SE of Mean	17.37
95% KM (t) UCL	60.96
95% KM (z) UCL	59.08
95% KM (jackknife) UCL	56.46
95% KM (bootstrap t) UCL	118.9
95% KM (BCA) UCL	260
95% KM (Percentile Bootstrap) UCL	79.5
95% KM (Chebyshev) UCL	106.2
97.5% KM (Chebyshev) UCL	139
99% KM (Chebyshev) UCL	203.4

Potential UCLs to Use

95% KM (t) UCL	60.96
95% KM (Percentile Bootstrap) UCL	79.5

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

TPHm_0to5

General Statistics

Number of Valid Data	12
Number of Distinct Detected Data	4
Number of Detected Data	4
Number of Non-Detect Data	8
Percent Non-Detects	66.67%

Raw Statistics

Minimum Detected	11
Maximum Detected	260
Mean of Detected	89
SD of Detected	115.1
Minimum Non-Detect	5

Log-transformed Statistics

Minimum Detected	2.398
Maximum Detected	5.561
Mean of Detected	3.86
SD of Detected	1.303
Minimum Non-Detect	1.609

Maximum Non-Detect	10	Maximum Non-Detect	2.303
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	66.67%

Warning: There are only 4 Distinct Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.753	Shapiro Wilk Test Statistic	0.965
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	31.96	Mean	2.071
SD	73.39	SD	1.514
95% DL/2 (t) UCL	70	95% H-Stat (DL/2) UCL	149.5
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	0.504
		SD in Log Scale	2.873
		Mean in Original Scale	30.16
		SD in Original Scale	74.16
		95% t UCL	68.6
		95% Percentile Bootstrap UCL	69.5
		95% BCA Bootstrap UCL	92.7
		95% H-UCL	40651

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.398	**Data appear Normal at 5% Significance Level**	
Theta Star	223.4		
nu star	3.187		
A-D Test Statistic	0.371	**Nonparametric Statistics**	
5% A-D Critical Value	0.668	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.668	Mean	37
5% K-S Critical Value	0.403	SD	68.27
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	22.76
		95% KM (t) UCL	77.87
Assuming Gamma Distribution		95% KM (z) UCL	74.43
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	70.66
Minimum	0.000001	95% KM (bootstrap t) UCL	155.5
Maximum	260	95% KM (BCA) UCL	260

Mean	29.67	95% KM (Percentile Bootstrap) UCL	94
Median	0.000001	95% KM (Chebyshev) UCL	136.2
SD	74.37	97.5% KM (Chebyshev) UCL	179.1
k star	0.111	99% KM (Chebyshev) UCL	263.4
Theta star	266.5		
Nu star	2.671	**Potential UCLs to Use**	
AppChi2	0.282	95% KM (t) UCL	77.87
95% Gamma Approximate UCL (Use when n >= 40)	280.9	95% KM (Percentile Bootstrap) UCL	94
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ProUCL Output
Exposure Area Drainage 0 to 10 ft bgs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Drainage.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Drainage_TPHd

General Statistics

Number of Valid Data	10	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	3
		Percent Non-Detects	30.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	25	Minimum Detected	3.219
Maximum Detected	4300	Maximum Detected	8.366
Mean of Detected	945	Mean of Detected	5.751
SD of Detected	1533	SD of Detected	1.695
Minimum Non-Detect	10	Minimum Non-Detect	2.303
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.661	Shapiro Wilk Test Statistic	0.991
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	663	Mean	4.509
SD	1332	SD	2.433
95% DL/2 (t) UCL	1435	95% H-Stat (DL/2) UCL	328286
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	308.6	Mean in Log Scale	4.419
SD	1615	SD in Log Scale	2.596
95% MLE (t) UCL	1245	Mean in Original Scale	663
95% MLE (Tiku) UCL	1284	SD in Original Scale	1332
		95% t UCL	1435
		95% Percentile Bootstrap UCL	1451
		95% BCA Bootstrap UCL	1856
		95% H UCL	911987

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.419	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2256		
nu star	5.865		
A-D Test Statistic	0.316	**Nonparametric Statistics**	
5% A-D Critical Value	0.747	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.747	Mean	669
5% K-S Critical Value	0.326	SD	1260
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	430.4
		95% KM (t) UCL	1458
Assuming Gamma Distribution		95% KM (z) UCL	1377
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1423
Minimum	0.000001	95% KM (bootstrap t) UCL	4765
Maximum	4300	95% KM (BCA) UCL	1457

Mean	661.5	95% KM (Percentile Bootstrap) UCL	1430
Median	120	95% KM (Chebyshev) UCL	2545
SD	1332	97.5% KM (Chebyshev) UCL	3357
k star	0.151	99% KM (Chebyshev) UCL	4951
Theta star	4392		
Nu star	3.012	**Potential UCLs to Use**	
AppChi2	0.376	95% KM (BCA) UCL	1457
95% Gamma Approximate UCL (Use when n >= 40)	5299		
95% Adjusted Gamma UCL (Use when n < 40)	7728		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Drainage_TPHm

General Statistics

Number of Valid Data	10	Number of Detected Data	7
Number of Distinct Detected Data	7	Number of Non-Detect Data	3
		Percent Non-Detects	30.00%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	110	Minimum Detected	4.7
Maximum Detected	12000	Maximum Detected	9.393
Mean of Detected	2117	Mean of Detected	6.383
SD of Detected	4369	SD of Detected	1.537
Minimum Non-Detect	10	Minimum Non-Detect	2.303
Maximum Non-Detect	10	Maximum Non-Detect	2.303

Warning: There are only 7 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.52	Shapiro Wilk Test Statistic	0.894
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1484	Mean	4.951
SD	3710	SD	2.625
95% DL/2 (t) UCL	3634	95% H-Stat (DL/2) UCL	1910967
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	467.2	Mean in Log Scale	5.217
SD	4454	SD in Log Scale	2.297
95% MLE (t) UCL	3049	Mean in Original Scale	1487
95% MLE (Tiku) UCL	3151	SD in Original Scale	3709
		95% t UCL	3637
		95% Percentile Bootstrap UCL	3792
		95% BCA Bootstrap UCL	5013
		95% H UCL	278889

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**
k star (bias corrected)	0.38	Data appear Lognormal at 5% Significance Level
Theta Star	5569	
nu star	5.322	

A-D Test Statistic	0.892	**Nonparametric Statistics**	
5% A-D Critical Value	0.752	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.752	Mean	1515
5% K-S Critical Value	0.327	SD	3507
Data not Gamma Distributed at 5% Significance Level		SE of Mean	1198
		95% KM (t) UCL	3711
Assuming Gamma Distribution		95% KM (z) UCL	3485
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	3638
Minimum	0.000001	95% KM (bootstrap t) UCL	22349
Maximum	12000	95% KM (BCA) UCL	4009
Mean	1482	95% KM (Percentile Bootstrap) UCL	3825
Median	220	95% KM (Chebyshev) UCL	6737
SD	3711	97.5% KM (Chebyshev) UCL	8996
k star	0.147	99% KM (Chebyshev) UCL	13434
Theta star	10100		
Nu star	2.935	**Potential UCLs to Use**	
AppChi2	0.353	99% KM (Chebyshev) UCL	13434
95% Gamma Approximate UCL (Use when n >= 40)	12309		
95% Adjusted Gamma UCL (Use when n < 40)	17984		

Warning: Recommended UCL exceeds the maximum observation

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

ATTACHMENT 15

Intrusive Utility Worker PEF and VF Calculations

Volatilization Factor and Particulate Emission Factor Inputs for Intrusive Utility Worker Scenario
Exposure Area A

Chemical	Diffusivity in Air (cm^2/sec) (D_i)	Diffusivity in Water (cm^2/sec) (D_w)	Henry's Law Constant (unitless) (H_o)	Partition Coefficient (mL/g) (Koc)	Apparent Diffusivity (cm^2/sec) (D_A)	Volatilization Factor (m^3/kg) (VF)	Chemical Specific Data Reference
Benzene	8.95E-02	1.03E-05	2.27E-01	1.46E+02	1.02E-03	3.39E+02	USEPA RSL (WATER9)
Ethylbenzene	6.85E-02	8.46E-06	3.22E-01	4.46E+02	4.89E-04	4.89E+02	USEPA RSL (WATER9)
Toluene	7.78E-02	9.20E-06	2.71E-01	2.34E+02	7.70E-04	3.90E+02	USEPA RSL (WATER9)
Xylenes (total)	8.47E-02	9.90E-06	2.12E-01	3.83E+02	4.58E-04	5.06E+02	USEPA RSL (WATER9)
n-Butylbenzene	5.28E-02	7.33E-06	6.50E-01	1.48E+03	2.60E-04	6.71E+02	USEPA RSL (WATER9)
sec-Butylbenzene	7.50E-02	7.80E-06	7.67E-01	2.15E+03	3.07E-04	6.17E+02	USEPA Region IX
tert-Butylbenzene	7.50E-02	7.80E-06	5.17E-01	2.15E+03	2.09E-04	7.49E+02	USEPA Region IX
Chloroform	7.69E-02	1.09E-05	1.50E-01	3.18E+01	1.14E-03	3.20E+02	USEPA RSL (WATER9)
1,2-Dichlorobenzene	5.62E-02	8.92E-06	7.85E-02	3.83E+02	1.15E-04	1.01E+03	USEPA RSL (WATER9)
1,3-Dichlorobenzene	6.90E-02	7.90E-06	7.79E-02	6.17E+02	9.36E-05	1.12E+03	USEPA Region IX
1,4-Dichlorobenzene	5.50E-02	8.68E-06	9.85E-02	3.75E+02	1.43E-04	9.03E+02	USEPA RSL (WATER9)
Isopropylbenzene	6.03E-02	7.86E-06	4.70E-01	6.98E+02	4.25E-04	5.24E+02	USEPA RSL (WATER9)
p-Isopropyltoluene					*4.58E-04*	*5.06E+02*	*Xylenes (total)*
Methylene Chloride	9.99E-02	1.25E-05	1.33E-01	2.17E+01	1.45E-03	2.84E+02	USEPA RSL (WATER9)
Methyl tert-butyl ether	7.53E-02	8.59E-06	2.40E-02	1.16E+01	2.38E-04	7.01E+02	USEPA RSL (WATER9)
n-Propylbenzene					*2.60E-04*	*6.71E+02*	*n-Butylbenzene*
1,2,4-Trimethylbenzene	6.07E-02	7.92E-06	2.52E-01	6.14E+02	2.62E-04	6.69E+02	USEPA RSL (WATER9)
1,3,5-Trimethylbenzene	6.02E-02	7.84E-06	3.59E-01	6.02E+02	3.72E-04	5.61E+02	USEPA RSL (WATER9)
Acenaphthene	5.06E-02	8.33E-06	7.52E-03	5.03E+03	9.30E-07	1.12E+04	USEPA RSL (WATER9)
Acenaphthylene	5.06E-02	8.33E-06	4.63E-04	5.03E+03	*9.30E-07*	*1.12E+04*	*Acenapthene*
Anthracene	3.90E-02	7.85E-06	2.27E-03	1.64E+04	7.14E-08	4.05E+04	USEPA RSL (WATER9)
2-Chloronaphthalene	4.47E-02	7.73E-06	1.31E-02	2.48E+03	2.83E-06	6.43E+03	USEPA RSL (WATER9)
Dibenzofuran	4.10E-02	7.38E-06	8.71E-03	9.16E+03	4.82E-07	1.56E+04	USEPA RSL (WATER9)
Fluorene	4.40E-02	7.89E-06	3.93E-03	9.16E+03	2.39E-07	2.21E+04	USEPA RSL (WATER9)
Naphthalene	6.05E-02	8.38E-06	1.80E-02	1.54E+03	8.25E-06	3.77E+03	USEPA RSL (WATER9)
1-Methylnaphthalene					*8.25E-06*	*3.77E+03*	*Naphthalene*
2-Methylnaphthalene					*8.25E-06*	*3.77E+03*	*Naphthalene*
Phenanthrene					*7.14E-08*	*4.05E+04*	*Anthracene*
Pyrene	2.78E-02	7.25E-06	4.87E-04	5.43E+04	4.57E-09	1.60E+05	USEPA RSL (WATER9)

Sources:
USEPA Region IX = Region IX PRGs (USEPA 2004a)
Italics indicate value for surrogate compound applied.

Construction Worker Volatilization Factor (and apparent diffusivity): calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns 5-14 and 5-15

Where: $Q/Csa = A \times \exp\left[\frac{(\ln \text{Asite} - B)^2}{C}\right.$

Input Parameters

VFsc=		calculated	m^3/kg	Construction worker subchronic volatilization factor (Eqn 5-14)
Da=		calculated	cm2/s	Apparent diffusivity (Eqn 5-14)
T =	7.78E+06	site-specific	sec	Total time over which construction activities occurs (including time not worked)
rhob=	1.41	site-specific	g/cm^3	Dry soil bulk density; average of Obispo samples (see Table 5-34)
Q/Csa=	11.58	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd=	0.188	calculated	unitless	Dispersion correction factor for averaging times less than one year (default = 0.185, Eqns 5-14, E-16)
Thours =	2.16E+03	site-specific	hours	Total time over which construction activities occurs, in hours (for Fd calculation; Eqn E-16)
q_{as} =	0.21	qt-qws	unitless	Air-filled soil porosity (USEPA 2002)
q_T =	0.41	1-(rhob/rhos)	unitless	Total soil porosity (USEPA 2002)
q_{ws} =	0.202	site-specific	unitless	Water-filled soil porosity; average of Obispo samples (see Table 5-34)
rhos=	2.38	site-specific	g/cm3	Soil particle density; average of Obispo samples (Avocet 2008b)
Di=	chemical specific		cm2/sec	Diffusivity in air
Dw=	chemical specific		cm2/sec	Diffusivity in water
Ho=	chemical specific		unitless	Henry's Law Constant
Kd=	chemical specific	Koc*foc (orgs)	cm3/g	Soil-water partition coefficient
Koc=	chemical specific		ml/g (l/kg)	Organic carbon partition coefficient
Foc =	0.002	site-specific	unitless	Fraction organic carbon; average of Obispo samples (Avocet 2008b)
A_{site} =	1.550	site-specific	acres	Areal extent of contamination
A =	*2.4538*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
B =	*17.566*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
C =	*189.0426*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)

Construction Worker Particulate Emission Factor, Wind Erosion and Dumping of Excavated Soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns E-25 and E-26

$PEF_{sc} = Q/Csa \times 1/Fd \times 1/Jt$

$Jt = (Mwind + Mexcav + Mdoz + Mgrade + Mtill) / (Asite(meters) \times T)$

Where:

PEF_{sc} =	3.65E+07	calculated	m^3/kg	Construction worker particulate emission factor due to activities other than unpaved road traffic
Q/C_{sa} =	11.58	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd =	0.188	calculated	unitless	Dispersion correction factor (default = 0.185, Eqns 5-5 and E-16)
T =	2.6E+06	site-specific	sec	Duration of construction during which workers may be exposure; active work time
Jt =	1.69E-06	calculated	g/m^2-sec	Total time-averaged PM10 unit emission flux for construction activities other than unpaved road traffic
A_{site} =	1.55	site-specific	acres	Areal extent of contamination
Asite meters =	6272.70	calculated	m^2	Areal extent of contamination

Construction Worker Non-traffic PEF: Mass from wind erosion: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--20

Mwind =	2.72E+04	calculated	grams	Mass emitted from wind erosion
RPF =	*0.036*	*default*	$g/m^2/hr$	Respirable particle fraction
V =	*0.0*	*default*	unitless	Fraction vegetative cover
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
Ut =	*11.32*	*default*	m/sec	Equivalent threshold value of wind speed at 7 m (default USEPA 2002)
x =	2.138	calculated	unitless	Function of Ut/Um; x = 0.886 × (Ut/Um)
Fx =	0.193	calculated	unitless	Function of x; Fx = 0.18 × ($8x^3 + 12x$) × $\exp(-x^2)$
ED =	8760	default	hours	Exposure duration

Construction Worker Non-traffic PEF: Mass from dumping of excavated soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--21

Mexcav =	2.50E+02	calculated	grams	Mass emitted from dumping of excavated soils
PM =	*0.35*	*default*	unitless	PM10 particle size multiplier (default, USEPA 2002)
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
M =	14	site-specific	%	Gravimetric soil moisture content; average of Obispo samples (Avocet 2008b)
rhos=	1.61	site-specific	Mg/m^3	In situ soil density (includes water); average of Obispo samples (Avocet 2008b)
A_{excav} =	0.10	site-specific	acres	Areal extent of excavation; site-specific assumption for trenching
A_{excav} =	404.69	calculated	m^2	Areal extent of excavation
d_{excav} =	2	site-specific	m	Average depth of excavation
N =	*2*	*default*	unitless	Number of times soil is dumped (default, USEPA 2002)

Volatilization Factor and Particulate Emission Factor Inputs for Intrusive Utility Worker Scenario
Exposure Area C

Chemical	Diffusivity in Air (cm^2/sec) (D_i)	Diffusivity in Water (cm^2/sec) (D_w)	Henry's Law Constant (unitless) (H_o)	Partition Coefficient (mL/g) (Koc)	Apparent Diffusivity (cm^2/sec) (D_A)	Volatilization Factor (m^3/kg) (VF)	Chemical Specific Data Reference
Benzene	8.95E-02	1.03E-05	2.27E-01	1.46E+02	8.71E-04	3.09E+02	USEPA RSL (WATER9)
Ethylbenzene	6.85E-02	8.46E-06	3.22E-01	4.46E+02	3.84E-04	4.65E+02	USEPA RSL (WATER9)
Toluene	7.78E-02	9.20E-06	2.71E-01	2.34E+02	6.32E-04	3.63E+02	USEPA RSL (WATER9)
Xylenes (total)	8.47E-02	9.90E-06	2.12E-01	3.83E+02	3.61E-04	4.80E+02	USEPA RSL (WATER9)
n-Butylbenzene	5.28E-02	7.33E-06	6.50E-01	1.48E+03	1.96E-04	6.51E+02	USEPA RSL (WATER9)
sec-Butylbenzene	7.50E-02	7.80E-06	7.67E-01	2.15E+03	2.30E-04	6.02E+02	USEPA Region IX
tert-Butylbenzene	7.50E-02	7.80E-06	5.17E-01	2.15E+03	1.56E-04	7.31E+02	USEPA Region IX
Chloroform	7.69E-02	1.09E-05	1.50E-01	3.18E+01	1.14E-03	2.70E+02	USEPA RSL (WATER9)
1,2-Dichlorobenzene	5.62E-02	8.92E-06	7.85E-02	3.83E+02	9.03E-05	9.60E+02	USEPA RSL (WATER9)
1,3-Dichlorobenzene	6.90E-02	7.90E-06	7.79E-02	6.17E+02	7.17E-05	1.08E+03	USEPA Region IX
1,4-Dichlorobenzene	5.50E-02	8.68E-06	9.85E-02	3.75E+02	1.13E-04	8.59E+02	USEPA RSL (WATER9)
Isopropylbenzene	6.03E-02	7.86E-06	4.70E-01	6.98E+02	3.28E-04	5.03E+02	USEPA RSL (WATER9)
p-Isopropyltoluene					*3.61E-04*	*4.80E+02*	*Xylenes (total)*
Methylene Chloride	9.99E-02	1.25E-05	1.33E-01	2.17E+01	1.49E-03	2.36E+02	USEPA RSL (WATER9)
Methyl tert-butyl ether	7.53E-02	8.59E-06	2.40E-02	1.16E+01	2.55E-04	5.71E+02	USEPA RSL (WATER9)
n-Propylbenzene					*1.96E-04*	*6.51E+02*	*n-Butylbenzene*
1,2,4-Trimethylbenzene	6.07E-02	7.92E-06	2.52E-01	6.14E+02	2.02E-04	6.42E+02	USEPA RSL (WATER9)
1,3,5-Trimethylbenzene	6.02E-02	7.84E-06	3.59E-01	6.02E+02	2.88E-04	5.38E+02	USEPA RSL (WATER9)
Acenaphthene	5.06E-02	8.33E-06	7.52E-03	5.03E+03	6.84E-07	1.10E+04	USEPA RSL (WATER9)
Acenaphthylene	5.06E-02	8.33E-06	4.63E-04	5.03E+03	*6.84E-07*	*1.10E+04*	*Acenapthene*
Anthracene	3.90E-02	7.85E-06	2.27E-03	1.64E+04	5.19E-08	4.00E+04	USEPA RSL (WATER9)
2-Chloronaphthalene	4.47E-02	7.73E-06	1.31E-02	2.48E+03	2.09E-06	6.30E+03	USEPA RSL (WATER9)
Dibenzofuran	4.10E-02	7.38E-06	8.71E-03	9.16E+03	3.53E-07	1.53E+04	USEPA RSL (WATER9)
Fluorene	4.40E-02	7.89E-06	3.93E-03	9.16E+03	1.75E-07	2.18E+04	USEPA RSL (WATER9)
Naphthalene	6.05E-02	8.38E-06	1.80E-02	1.54E+03	6.15E-06	3.68E+03	USEPA RSL (WATER9)
1-Methylnaphthalene					*6.15E-06*	*3.68E+03*	*Naphthalene*
2-Methylnaphthalene					*6.15E-06*	*3.68E+03*	*Naphthalene*
Phenanthrene					*5.19E-08*	*4.00E+04*	*Anthracene*
Pyrene	2.78E-02	7.25E-06	4.87E-04	5.43E+04	3.23E-09	1.60E+05	USEPA RSL (WATER9)

Sources:
USEPA Region IX = Region IX PRGs (USEPA 2004a)
Italics indicate value for surrogate compound applied.

Construction Worker Volatilization Factor (and apparent diffusivity): calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns 5-14 and 5-15

Where: $Q/Csa = A \times \exp\left[\frac{(\ln \text{Asite} - B)^2}{C}\right]$

Input Parameters

VFsc=		calculated	m^3/kg	Construction worker subchronic volatilization factor (Eqn 5-14)
Da=		calculated	cm2/s	Apparent diffusivity (Eqn 5-14)
T =	7.78E+06	site-specific	sec	Total time over which construction activities occurs (including time not worked)
rhob=	1.23	site-specific	g/cm^3	Dry soil bulk density; average of Pismo samples (see Table 5-34)
Q/Csa=	8.52	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd=	0.188	calculated	unitless	Dispersion correction factor for averaging times less than one year (default = 0.185, Eqns 5-14, E-16)
Thours =	2.16E+03	site-specific	hours	Total time over which construction activities occurs, in hours (for Fd calculation; Eqn E-16)
q_{as} =	0.25	qt-qws	unitless	Air-filled soil porosity (USEPA 2002)
q_T =	0.49	1-(rhob/rhos)	unitless	Total soil porosity (USEPA 2002)
q_{ws} =	0.240	site-specific	unitless	Water-filled soil porosity; average of Pismo samples (see Table 5-34)
rhos=	2.43	site-specific	g/cm3	Soil particle density; average of Pismo samples (Avocet 2008b)
Di=	chemical specific		cm2/sec	Diffusivity in air
Dw=	chemical specific		cm2/sec	Diffusivity in water
Ho=	chemical specific		unitless	Henry's Law Constant
Kd=	chemical specific	Koc*foc (orgs)	cm3/g	Soil-water partition coefficient
Koc=	chemical specific		ml/g (l/kg)	Organic carbon partition coefficient
Foc =	0.004	site-specific	unitless	Fraction organic carbon; average of Pismo samples (Avocet 2008b)
A_{site} =	9.27	site-specific	acres	Areal extent of contamination
A =	*2.4538*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
B =	*17.566*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
C =	*189.0426*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)

Construction Worker Particulate Emission Factor, Wind Erosion and Dumping of Excavated Soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns E-25 and E-26

$PEF_{sc} = Q/Csa \times 1/Fd \times 1/Jt$

$Jt = (Mwind + Mexcav + Mdoz + Mgrade + Mtill) / (Asite(meters) \times T)$

Where:

PEF_{sc} =	2.71E+07	calculated	m^3/kg	Construction worker particulate emission factor due to activities other than unpaved road traffic
Q/C_{sa} =	8.52	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd =	0.188	calculated	unitless	Dispersion correction factor (default = 0.185, Eqns 5-5 and E-16)
T =	2.6E+06	site-specific	sec	Duration of construction during which workers may be exposure; active work time
Jt =	1.67E-06	calculated	g/m^2-sec	Total time-averaged PM10 unit emission flux for construction activities other than unpaved road traffic
A_{site} =	9.27	site-specific	acres	Areal extent of contamination
Asite meters =	37514.76	calculated	m^2	Areal extent of contamination

Construction Worker Non-traffic PEF: Mass from wind erosion: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--20

Mwind =	1.63E+05	calculated	grams	Mass emitted from wind erosion
RPF =	*0.036*	*default*	$g/m^2/hr$	Respirable particle fraction
V =	*0.0*	*default*	unitless	Fraction vegetative cover
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
Ut =	*11.32*	*default*	m/sec	Equivalent threshold value of wind speed at 7 m (default USEPA 2002)
x =	2.138	calculated	unitless	Function of Ut/Um; x = 0.886 × (Ut/Um)
Fx =	0.193	calculated	unitless	Function of x; Fx = 0.18 × ($8x^3 + 12x$) × $\exp(-x^2)$
ED =	8760	default	hours	Exposure duration

Construction Worker Non-traffic PEF: Mass from dumping of excavated soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--21

Mexcav =	1.46E+02	calculated	grams	Mass emitted from dumping of excavated soils
PM =	*0.35*	*default*	unitless	PM10 particle size multiplier (default, USEPA 2002)
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
M =	20	site-specific	%	Gravimetric soil moisture content; average of Pismo samples (Avocet 2008b)
rhos=	1.46	site-specific	Mg/m^3	In situ soil density (includes water); average of Pismo samples (Avocet 2008b)
A_{excav} =	0.10	site-specific	acres	Areal extent of excavation; site-specific assumption for trenching
A_{excav} =	404.69	calculated	m^2	Areal extent of excavation
d_{excav} =	2	site-specific	m	Average depth of excavation
N =	*2*	*default*	unitless	Number of times soil is dumped (default, USEPA 2002)

Volatilization Factor and Particulate Emission Factor Inputs for Intrusive Utility Worker Scenario
Exposure Area D

Chemical	Diffusivity in Air (cm^2/sec) (D_i)	Diffusivity in Water (cm^2/sec) (D_w)	Henry's Law Constant (unitless) (H_o)	Partition Coefficient (mL/g) (Koc)	Apparent Diffusivity (cm^2/sec) (D_A)	Volatilization Factor (m^3/kg) (VF)	Chemical Specific Data Reference
Benzene	8.95E-02	1.03E-05	2.27E-01	1.46E+02	2.12E-04	6.43E+02	USEPA RSL (WATER9)
Ethylbenzene	6.85E-02	8.46E-06	3.22E-01	4.46E+02	1.03E-04	9.22E+02	USEPA RSL (WATER9)
Toluene	7.78E-02	9.20E-06	2.71E-01	2.34E+02	1.62E-04	7.37E+02	USEPA RSL (WATER9)
Xylenes (total)	8.47E-02	9.90E-06	2.12E-01	3.83E+02	9.60E-05	9.56E+02	USEPA RSL (WATER9)
n-Butylbenzene	5.28E-02	7.33E-06	6.50E-01	1.48E+03	5.52E-05	1.26E+03	USEPA RSL (WATER9)
sec-Butylbenzene	7.50E-02	7.80E-06	7.67E-01	2.15E+03	6.51E-05	1.16E+03	USEPA Region IX
tert-Butylbenzene	7.50E-02	7.80E-06	5.17E-01	2.15E+03	4.41E-05	1.41E+03	USEPA Region IX
Chloroform	7.69E-02	1.09E-05	1.50E-01	3.18E+01	2.30E-04	6.17E+02	USEPA RSL (WATER9)
1,2-Dichlorobenzene	5.62E-02	8.92E-06	7.85E-02	3.83E+02	2.43E-05	1.90E+03	USEPA RSL (WATER9)
1,3-Dichlorobenzene	6.90E-02	7.90E-06	7.79E-02	6.17E+02	1.97E-05	2.11E+03	USEPA Region IX
1,4-Dichlorobenzene	5.50E-02	8.68E-06	9.85E-02	3.75E+02	3.01E-05	1.71E+03	USEPA RSL (WATER9)
Isopropylbenzene	6.03E-02	7.86E-06	4.70E-01	6.98E+02	9.03E-05	9.86E+02	USEPA RSL (WATER9)
p-Isopropyltoluene					*9.60E-05*	*9.56E+02*	*Xylenes (total)*
Methylene Chloride	9.99E-02	1.25E-05	1.33E-01	2.17E+01	2.89E-04	5.51E+02	USEPA RSL (WATER9)
Methyl tert-butyl ether	7.53E-02	8.59E-06	2.40E-02	1.16E+01	4.68E-05	1.37E+03	USEPA RSL (WATER9)
n-Propylbenzene					*5.52E-05*	*1.26E+03*	*n-Butylbenzene*
1,2,4-Trimethylbenzene	6.07E-02	7.92E-06	2.52E-01	6.14E+02	5.52E-05	1.26E+03	USEPA RSL (WATER9)
1,3,5-Trimethylbenzene	6.02E-02	7.84E-06	3.59E-01	6.02E+02	7.86E-05	1.06E+03	USEPA RSL (WATER9)
Acenaphthene	5.06E-02	8.33E-06	7.52E-03	5.03E+03	2.35E-07	1.93E+04	USEPA RSL (WATER9)
Acenaphthylene	5.06E-02	8.33E-06	4.63E-04	5.03E+03	*2.35E-07*	*1.93E+04*	*Acenapthene*
Anthracene	3.90E-02	7.85E-06	2.27E-03	1.64E+04	2.67E-08	5.74E+04	USEPA RSL (WATER9)
2-Chloronaphthalene	4.47E-02	7.73E-06	1.31E-02	2.48E+03	6.66E-07	1.15E+04	USEPA RSL (WATER9)
Dibenzofuran	4.10E-02	7.38E-06	8.71E-03	9.16E+03	1.21E-07	2.70E+04	USEPA RSL (WATER9)
Fluorene	4.40E-02	7.89E-06	3.93E-03	9.16E+03	7.10E-08	3.52E+04	USEPA RSL (WATER9)
Naphthalene	6.05E-02	8.38E-06	1.80E-02	1.54E+03	1.85E-06	6.89E+03	USEPA RSL (WATER9)
1-Methylnaphthalene					*1.85E-06*	*6.89E+03*	*Naphthalene*
2-Methylnaphthalene					*1.85E-06*	*6.89E+03*	*Naphthalene*
Phenanthrene					*2.67E-08*	*5.74E+04*	*Anthracene*
Pyrene	2.78E-02	7.25E-06	4.87E-04	5.43E+04	4.21E-09	1.44E+05	USEPA RSL (WATER9)

Sources:
USEPA Region IX = Region IX PRGs (USEPA 2004a)
Italics indicate value for surrogate compound applied.

Construction Worker Volatilization Factor (and apparent diffusivity): calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns 5-14 and 5-15

Where: $Q/Csa = A \times \exp\left[\frac{(\ln Asite - B)^2}{C}\right.$

Input Parameters

VFsc=		calculated	m^3/kg	Construction worker subchronic volatilization factor (Eqn 5-14)
Da=		calculated	cm2/s	Apparent diffusivity (Eqn 5-14)
T =	7.78E+06	site-specific	sec	Total time over which construction activities occurs (including time not worked)
rhob=	1.47	site-specific	g/cm^3	Dry soil bulk density; average of Soil samples (see Table 5-34)
Q/Csa=	10.46	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd=	0.188	calculated	unitless	Dispersion correction factor for averaging times less than one year (default = 0.185, Eqns 5-14, E-16)
Thours =	2.16E+03	site-specific	hours	Total time over which construction activities occurs, in hours (for Fd calculation; Eqn E-16)
q_{as} =	0.14	qt-qws	unitless	Air-filled soil porosity (USEPA 2002)
q_T =	0.41	1-(rhob/rhos)	unitless	Total soil porosity (USEPA 2002)
q_{ws} =	0.276	site-specific	unitless	Water-filled soil porosity; average of Soil samples (see Table 5-34)
rhos=	2.50	site-specific	g/cm3	Soil particle density; average of Soil samples (Avocet 2008b)
Di=	chemical specific		cm2/sec	Diffusivity in air
Dw=	chemical specific		cm2/sec	Diffusivity in water
Ho=	chemical specific		unitless	Henry's Law Constant
Kd=	chemical specific	Koc*foc (orgs)	cm3/g	Soil-water partition coefficient
Koc=	chemical specific		ml/g (l/kg)	Organic carbon partition coefficient
Foc =	0.002	site-specific	unitless	Fraction organic carbon; average of Soil samples (Avocet 2008b)
A_{site} =	2.74	site-specific	acres	Areal extent of contamination
A =	*2.4538*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
B =	*17.566*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
C =	*189.0426*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)

Construction Worker Particulate Emission Factor, Wind Erosion and Dumping of Excavated Soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns E-25 and E-26

$PEF_{sc} = Q/Csa \times 1/Fd \times 1/Jt$

$Jt = (Mwind + Mexcav + Mdoz + Mgrade + Mtill) / (Asite(meters) \times T)$

Where:

PEF_{sc} =	3.32E+07	calculated	m^3/kg	Construction worker particulate emission factor due to activities other than unpaved road traffic
Q/C_{sa} =	10.46	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd =	0.188	calculated	unitless	Dispersion correction factor (default = 0.185, Eqns 5-5 and E-16)
T =	2.6E+06	site-specific	sec	Duration of construction during which workers may be exposure; active work time
Jt =	1.68E-06	calculated	g/m^2-sec	Total time-averaged PM10 unit emission flux for construction activities other than unpaved road traffic
A_{site} =	2.74	site-specific	acres	Areal extent of contamination
Asite meters =	11088.51	calculated	m^2	Areal extent of contamination

Construction Worker Non-traffic PEF: Mass from wind erosion: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--20

Mwind =	4.81E+04	calculated	grams	Mass emitted from wind erosion
RPF =	*0.036*	*default*	$g/m^2/hr$	Respirable particle fraction
V =	*0.0*	*default*	unitless	Fraction vegetative cover
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
Ut =	*11.32*	*default*	m/sec	Equivalent threshold value of wind speed at 7 m (default USEPA 2002)
x =	2.138	calculated	unitless	Function of Ut/Um; x = 0.886 × (Ut/Um)
Fx =	0.193	calculated	unitless	Function of x; Fx = 0.18 × ($8x^3 + 12x$) × exp($-x^2$)
ED =	8760	default	hours	Exposure duration

Construction Worker Non-traffic PEF: Mass from dumping of excavated soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--21

Mexcav =	1.84E+02	calculated	grams	Mass emitted from dumping of excavated soils
PM =	*0.35*	*default*	unitless	PM10 particle size multiplier (default, USEPA 2002)
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
M =	19	site-specific	%	Gravimetric soil moisture content; average of Soil samples (Avocet 2008b)
rhos=	1.75	site-specific	Mg/m^3	In situ soil density (includes water); average of Soil samples (Avocet 2008b)
A_{excav} =	0.10	site-specific	acres	Areal extent of excavation; site-specific assumption for trenching
A_{excav} =	404.69	calculated	m^2	Areal extent of excavation
d_{excav} =	2	site-specific	m	Average depth of excavation
N =	*2*	*default*	unitless	Number of times soil is dumped (default, USEPA 2002)

Volatilization Factor and Particulate Emission Factor Inputs for Intrusive Utility Worker Scenario
Exposure Area E

Chemical	Diffusivity in Air (cm^2/sec) (D_i)	Diffusivity in Water (cm^2/sec) (D_w)	Henry's Law Constant (unitless) (H_o)	Partition Coefficient (mL/g) (Koc)	Apparent Diffusivity (cm^2/sec) (D_A)	Volatilization Factor (m^3/kg) (VF)	Chemical Specific Data Reference
Benzene	8.95E-02	1.03E-05	2.27E-01	1.46E+02	2.12E-04	5.91E+02	USEPA RSL (WATER9)
Ethylbenzene	6.85E-02	8.46E-06	3.22E-01	4.46E+02	1.03E-04	8.47E+02	USEPA RSL (WATER9)
Toluene	7.78E-02	9.20E-06	2.71E-01	2.34E+02	1.62E-04	6.77E+02	USEPA RSL (WATER9)
Xylenes (total)	8.47E-02	9.90E-06	2.12E-01	3.83E+02	9.60E-05	8.79E+02	USEPA RSL (WATER9)
n-Butylbenzene	5.28E-02	7.33E-06	6.50E-01	1.48E+03	5.52E-05	1.16E+03	USEPA RSL (WATER9)
sec-Butylbenzene	7.50E-02	7.80E-06	7.67E-01	2.15E+03	6.51E-05	1.07E+03	USEPA Region IX
tert-Butylbenzene	7.50E-02	7.80E-06	5.17E-01	2.15E+03	4.41E-05	1.30E+03	USEPA Region IX
Chloroform	7.69E-02	1.09E-05	1.50E-01	3.18E+01	2.30E-04	5.67E+02	USEPA RSL (WATER9)
1,2-Dichlorobenzene	5.62E-02	8.92E-06	7.85E-02	3.83E+02	2.43E-05	1.75E+03	USEPA RSL (WATER9)
1,3-Dichlorobenzene	6.90E-02	7.90E-06	7.79E-02	6.17E+02	1.97E-05	1.94E+03	USEPA Region IX
1,4-Dichlorobenzene	5.50E-02	8.68E-06	9.85E-02	3.75E+02	3.01E-05	1.57E+03	USEPA RSL (WATER9)
Isopropylbenzene	6.03E-02	7.86E-06	4.70E-01	6.98E+02	9.03E-05	9.06E+02	USEPA RSL (WATER9)
p-Isopropyltoluene					*9.60E-05*	*8.79E+02*	*Xylenes (total)*
Methylene Chloride	9.99E-02	1.25E-05	1.33E-01	2.17E+01	2.89E-04	5.06E+02	USEPA RSL (WATER9)
Methyl tert-butyl ether	7.53E-02	8.59E-06	2.40E-02	1.16E+01	4.68E-05	1.26E+03	USEPA RSL (WATER9)
n-Propylbenzene					*5.52E-05*	*1.16E+03*	*n-Butylbenzene*
1,2,4-Trimethylbenzene	6.07E-02	7.92E-06	2.52E-01	6.14E+02	5.52E-05	1.16E+03	USEPA RSL (WATER9)
1,3,5-Trimethylbenzene	6.02E-02	7.84E-06	3.59E-01	6.02E+02	7.86E-05	9.71E+02	USEPA RSL (WATER9)
Acenaphthene	5.06E-02	8.33E-06	7.52E-03	5.03E+03	2.35E-07	1.78E+04	USEPA RSL (WATER9)
Acenaphthylene	5.06E-02	8.33E-06	4.63E-04	5.03E+03	*2.35E-07*	*1.78E+04*	*Acenapthene*
Anthracene	3.90E-02	7.85E-06	2.27E-03	1.64E+04	2.67E-08	5.27E+04	USEPA RSL (WATER9)
2-Chloronaphthalene	4.47E-02	7.73E-06	1.31E-02	2.48E+03	6.66E-07	1.05E+04	USEPA RSL (WATER9)
Dibenzofuran	4.10E-02	7.38E-06	8.71E-03	9.16E+03	1.21E-07	2.48E+04	USEPA RSL (WATER9)
Fluorene	4.40E-02	7.89E-06	3.93E-03	9.16E+03	7.10E-08	3.23E+04	USEPA RSL (WATER9)
Naphthalene	6.05E-02	8.38E-06	1.80E-02	1.54E+03	1.85E-06	6.33E+03	USEPA RSL (WATER9)
1-Methylnaphthalene					*1.85E-06*	*6.33E+03*	*Naphthalene*
2-Methylnaphthalene					*1.85E-06*	*6.33E+03*	*Naphthalene*
Phenanthrene					*2.67E-08*	*5.27E+04*	*Anthracene*
Pyrene	2.78E-02	7.25E-06	4.87E-04	5.43E+04	4.21E-09	1.33E+05	USEPA RSL (WATER9)

Sources:
USEPA Region IX = Region IX PRGs (USEPA 2004a)
Italics indicate value for surrogate compound applied.

Construction Worker Volatilization Factor (and apparent diffusivity): calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns 5-14 and 5-15

Where: $Q/Csa = A \times \exp\left[\frac{(\ln Asite - B)^2}{C}\right.$

Input Parameters

VFsc=		calculated	m^3/kg	Construction worker subchronic volatilization factor (Eqn 5-14)
Da=		calculated	cm2/s	Apparent diffusivity (Eqn 5-14)
T =	7.78E+06	site-specific	sec	Total time over which construction activities occurs (including time not worked)
rhob=	1.47	site-specific	g/cm^3	Dry soil bulk density; average of Soil samples (see Table 5-34)
Q/Csa=	9.61	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd=	0.188	calculated	unitless	Dispersion correction factor for averaging times less than one year (default = 0.185, Eqns 5-14, E-16)
Thours =	2.16E+03	site-specific	hours	Total time over which construction activities occurs, in hours (for Fd calculation; Eqn E-16)
q_{as} =	0.14	qt-qws	unitless	Air-filled soil porosity (USEPA 2002)
q_T =	0.41	1-(rhob/rhos)	unitless	Total soil porosity (USEPA 2002)
q_{ws} =	0.276	site-specific	unitless	Water-filled soil porosity; average of Soil samples (see Table 5-34)
rhos=	2.50	site-specific	g/cm3	Soil particle density; average of Soil samples (Avocet 2008b)
Di=	chemical specific		cm2/sec	Diffusivity in air
Dw=	chemical specific		cm2/sec	Diffusivity in water
Ho=	chemical specific		unitless	Henry's Law Constant
Kd=	chemical specific	Koc*foc (orgs)	cm3/g	Soil-water partition coefficient
Koc=	chemical specific		ml/g (l/kg)	Organic carbon partition coefficient
Foc =	0.002	site-specific	unitless	Fraction organic carbon; average of Soil samples (Avocet 2008b)
A_{site} =	4.48	site-specific	acres	Areal extent of contamination
A =	*2.4538*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
B =	*17.566*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
C =	*189.0426*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)

Construction Worker Particulate Emission Factor, Wind Erosion and Dumping of Excavated Soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns E-25 and E-26

$PEF_{sc} = Q/Csa \times 1/Fd \times 1/Jt$

$Jt = (Mwind + Mexcav + Mdoz + Mgrade + Mtill) / (Asite(meters) \times T)$

Where:

PEF_{sc} =	3.05E+07	calculated	m^3/kg	Construction worker particulate emission factor due to activities other than unpaved road traffic
Q/C_{sa} =	9.61	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd =	0.188	calculated	unitless	Dispersion correction factor (default = 0.185, Eqns 5-5 and E-16)
T =	2.6E+06	site-specific	sec	Duration of construction during which workers may be exposure; active work time
Jt =	1.68E-06	calculated	g/m^2-sec	Total time-averaged PM10 unit emission flux for construction activities other than unpaved road traffic
A_{site} =	4.48	site-specific	acres	Areal extent of contamination
Asite meters =	18130.11	calculated	m^2	Areal extent of contamination

Construction Worker Non-traffic PEF: Mass from wind erosion: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--20

Mwind =	7.86E+04	calculated	grams	Mass emitted from wind erosion
RPF =	*0.036*	*default*	$g/m^2/hr$	Respirable particle fraction
V =	*0.0*	*default*	unitless	Fraction vegetative cover
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
Ut =	*11.32*	*default*	m/sec	Equivalent threshold value of wind speed at 7 m (default USEPA 2002)
x =	2.138	calculated	unitless	Function of Ut/Um; x = 0.886 × (Ut/Um)
Fx =	0.193	calculated	unitless	Function of x; Fx = 0.18 × ($8x^3 + 12x$) × $\exp(-x^2)$
ED =	8760	default	hours	Exposure duration

Construction Worker Non-traffic PEF: Mass from dumping of excavated soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--21

Mexcav =	1.84E+02	calculated	grams	Mass emitted from dumping of excavated soils
PM =	*0.35*	*default*	unitless	PM10 particle size multiplier (default, USEPA 2002)
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
M =	19	site-specific	%	Gravimetric soil moisture content; average of Soil samples (Avocet 2008b)
rhos=	1.75	site-specific	Mg/m^3	In situ soil density (includes water); average of Soil samples (Avocet 2008b)
A_{excav} =	0.10	site-specific	acres	Areal extent of excavation; site-specific assumption for trenching
A_{excav} =	404.69	calculated	m^2	Areal extent of excavation
d_{excav} =	2	site-specific	m	Average depth of excavation
N =	*2*	*default*	unitless	Number of times soil is dumped (default, USEPA 2002)

Volatilization Factor and Particulate Emission Factor Inputs for Intrusive Utility Worker Scenario
Exposure Area G

Chemical	Diffusivity in Air (cm^2/sec) (D_i)	Diffusivity in Water (cm^2/sec) (D_w)	Henry's Law Constant (unitless) (H_o)	Partition Coefficient (mL/g) (Koc)	Apparent Diffusivity (cm^2/sec) (D_A)	Volatilization Factor (m^3/kg) (VF)	Chemical Specific Data Reference
Benzene	8.95E-02	1.03E-05	2.27E-01	1.46E+02	2.12E-04	7.67E+02	USEPA RSL (WATER9)
Ethylbenzene	6.85E-02	8.46E-06	3.22E-01	4.46E+02	1.03E-04	1.10E+03	USEPA RSL (WATER9)
Toluene	7.78E-02	9.20E-06	2.71E-01	2.34E+02	1.62E-04	8.79E+02	USEPA RSL (WATER9)
Xylenes (total)	8.47E-02	9.90E-06	2.12E-01	3.83E+02	9.60E-05	1.14E+03	USEPA RSL (WATER9)
n-Butylbenzene	5.28E-02	7.33E-06	6.50E-01	1.48E+03	5.52E-05	1.50E+03	USEPA RSL (WATER9)
sec-Butylbenzene	7.50E-02	7.80E-06	7.67E-01	2.15E+03	6.51E-05	1.39E+03	USEPA Region IX
tert-Butylbenzene	7.50E-02	7.80E-06	5.17E-01	2.15E+03	4.41E-05	1.68E+03	USEPA Region IX
Chloroform	7.69E-02	1.09E-05	1.50E-01	3.18E+01	2.30E-04	7.36E+02	USEPA RSL (WATER9)
1,2-Dichlorobenzene	5.62E-02	8.92E-06	7.85E-02	3.83E+02	2.43E-05	2.27E+03	USEPA RSL (WATER9)
1,3-Dichlorobenzene	6.90E-02	7.90E-06	7.79E-02	6.17E+02	1.97E-05	2.52E+03	USEPA Region IX
1,4-Dichlorobenzene	5.50E-02	8.68E-06	9.85E-02	3.75E+02	3.01E-05	2.04E+03	USEPA RSL (WATER9)
Isopropylbenzene	6.03E-02	7.86E-06	4.70E-01	6.98E+02	9.03E-05	1.18E+03	USEPA RSL (WATER9)
p-Isopropyltoluene					*9.60E-05*	*1.14E+03*	*Xylenes (total)*
Methylene Chloride	9.99E-02	1.25E-05	1.33E-01	2.17E+01	2.89E-04	6.57E+02	USEPA RSL (WATER9)
Methyl tert-butyl ether	7.53E-02	8.59E-06	2.40E-02	1.16E+01	4.68E-05	1.63E+03	USEPA RSL (WATER9)
n-Propylbenzene					*5.52E-05*	*1.50E+03*	*n-Butylbenzene*
1,2,4-Trimethylbenzene	6.07E-02	7.92E-06	2.52E-01	6.14E+02	5.52E-05	1.51E+03	USEPA RSL (WATER9)
1,3,5-Trimethylbenzene	6.02E-02	7.84E-06	3.59E-01	6.02E+02	7.86E-05	1.26E+03	USEPA RSL (WATER9)
Acenaphthene	5.06E-02	8.33E-06	7.52E-03	5.03E+03	2.35E-07	2.31E+04	USEPA RSL (WATER9)
Acenaphthylene	5.06E-02	8.33E-06	4.63E-04	5.03E+03	*2.35E-07*	*2.31E+04*	*Acenapthene*
Anthracene	3.90E-02	7.85E-06	2.27E-03	1.64E+04	2.67E-08	6.85E+04	USEPA RSL (WATER9)
2-Chloronaphthalene	4.47E-02	7.73E-06	1.31E-02	2.48E+03	6.66E-07	1.37E+04	USEPA RSL (WATER9)
Dibenzofuran	4.10E-02	7.38E-06	8.71E-03	9.16E+03	1.21E-07	3.22E+04	USEPA RSL (WATER9)
Fluorene	4.40E-02	7.89E-06	3.93E-03	9.16E+03	7.10E-08	4.20E+04	USEPA RSL (WATER9)
Naphthalene	6.05E-02	8.38E-06	1.80E-02	1.54E+03	1.85E-06	8.22E+03	USEPA RSL (WATER9)
1-Methylnaphthalene					*1.85E-06*	*8.22E+03*	*Naphthalene*
2-Methylnaphthalene					*1.85E-06*	*8.22E+03*	*Naphthalene*
Phenanthrene					*2.67E-08*	*6.85E+04*	*Anthracene*
Pyrene	2.78E-02	7.25E-06	4.87E-04	5.43E+04	4.21E-09	1.72E+05	USEPA RSL (WATER9)

Sources:
USEPA Region IX = Region IX PRGs (USEPA 2004a)
Italics indicate value for surrogate compound applied.

Construction Worker Volatilization Factor (and apparent diffusivity): calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns 5-14 and 5-15

Where: $Q/Csa = A \times \exp\left[\frac{(\ln Asite - B)^2}{C}\right.$

Input Parameters

VFsc=		calculated	m^3/kg	Construction worker subchronic volatilization factor (Eqn 5-14)
Da=		calculated	cm2/s	Apparent diffusivity (Eqn 5-14)
T =	7.78E+06	site-specific	sec	Total time over which construction activities occurs (including time not worked)
rhob=	1.47	site-specific	g/cm^3	Dry soil bulk density; average of Soil samples (see Table 5-34)
Q/Csa=	12.48	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd=	0.188	calculated	unitless	Dispersion correction factor for averaging times less than one year (default = 0.185, Eqns 5-14, E-16)
Thours =	2.16E+03	site-specific	hours	Total time over which construction activities occurs, in hours (for Fd calculation; Eqn E-16)
q_{as} =	0.14	qt-qws	unitless	Air-filled soil porosity (USEPA 2002)
q_T =	0.41	1-(rhob/rhos)	unitless	Total soil porosity (USEPA 2002)
q_{ws} =	0.276	site-specific	unitless	Water-filled soil porosity; average of Soil samples (see Table 5-34)
rhos=	2.50	site-specific	g/cm3	Soil particle density; average of Soil samples (Avocet 2008b)
Di=	chemical specific		cm2/sec	Diffusivity in air
Dw=	chemical specific		cm2/sec	Diffusivity in water
Ho=	chemical specific		unitless	Henry's Law Constant
Kd=	chemical specific	Koc*foc (orgs)	cm3/g	Soil-water partition coefficient
Koc=	chemical specific		ml/g (l/kg)	Organic carbon partition coefficient
Foc =	0.002	site-specific	unitless	Fraction organic carbon; average of Soil samples (Avocet 2008b)
A_{site} =	1.03	site-specific	acres	Areal extent of contamination
A =	*2.4538*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
B =	*17.566*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
C =	*189.0426*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)

Construction Worker Particulate Emission Factor, Wind Erosion and Dumping of Excavated Soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns E-25 and E-26

$PEF_{sc} = Q/Csa \times 1/Fd \times 1/Jt$

$Jt = (Mwind + Mexcav + Mdoz + Mgrade + Mtill) / (Asite(meters) \times T)$

Where:

PEF_{sc} =	3.93E+07	calculated	m^3/kg	Construction worker particulate emission factor due to activities other than unpaved road traffic
Q/C_{sa} =	12.48	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd =	0.188	calculated	unitless	Dispersion correction factor (default = 0.185, Eqns 5-5 and E-16)
T =	2.6E+06	site-specific	sec	Duration of construction during which workers may be exposure; active work time
Jt =	1.69E-06	calculated	g/m^2-sec	Total time-averaged PM10 unit emission flux for construction activities other than unpaved road traffic
A_{site} =	1.03	site-specific	acres	Areal extent of contamination
Asite meters =	4168.31	calculated	m^2	Areal extent of contamination

Construction Worker Non-traffic PEF: Mass from wind erosion: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--20

Mwind =	1.81E+04	calculated	grams	Mass emitted from wind erosion
RPF =	*0.036*	*default*	$g/m^2/hr$	Respirable particle fraction
V =	*0.0*	*default*	unitless	Fraction vegetative cover
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
Ut =	*11.32*	*default*	m/sec	Equivalent threshold value of wind speed at 7 m (default USEPA 2002)
x =	2.138	calculated	unitless	Function of Ut/Um; x = 0.886 × (Ut/Um)
Fx =	0.193	calculated	unitless	Function of x; Fx = 0.18 × ($8x^3 + 12x$) × $\exp(-x^2)$
ED =	8760	default	hours	Exposure duration

Construction Worker Non-traffic PEF: Mass from dumping of excavated soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--21

Mexcav =	1.84E+02	calculated	grams	Mass emitted from dumping of excavated soils
PM =	*0.35*	*default*	unitless	PM10 particle size multiplier (default, USEPA 2002)
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
M =	19	site-specific	%	Gravimetric soil moisture content; average of Soil samples (Avocet 2008b)
rhos=	1.75	site-specific	Mg/m^3	In situ soil density (includes water); average of Soil samples (Avocet 2008b)
A_{excav} =	0.10	site-specific	acres	Areal extent of excavation; site-specific assumption for trenching
A_{excav} =	404.69	calculated	m^2	Areal extent of excavation
d_{excav} =	2	site-specific	m	Average depth of excavation
N =	*2*	*default*	unitless	Number of times soil is dumped (default, USEPA 2002)

Volatilization Factor and Particulate Emission Factor Inputs for Intrusive Utility Worker Scenario
Exposure Area Ia

Chemical	Diffusivity in Air (cm^2/sec) (D_i)	Diffusivity in Water (cm^2/sec) (D_w)	Henry's Law Constant (unitless) (H_o)	Partition Coefficient (mL/g) (Koc)	Apparent Diffusivity (cm^2/sec) (D_A)	Volatilization Factor (m^3/kg) (VF)	Chemical Specific Data Reference
Benzene	8.95E-02	1.03E-05	2.27E-01	1.46E+02	8.71E-04	3.63E+02	USEPA RSL (WATER9)
Ethylbenzene	6.85E-02	8.46E-06	3.22E-01	4.46E+02	3.84E-04	5.47E+02	USEPA RSL (WATER9)
Toluene	7.78E-02	9.20E-06	2.71E-01	2.34E+02	6.32E-04	4.26E+02	USEPA RSL (WATER9)
Xylenes (total)	8.47E-02	9.90E-06	2.12E-01	3.83E+02	3.61E-04	5.64E+02	USEPA RSL (WATER9)
n-Butylbenzene	5.28E-02	7.33E-06	6.50E-01	1.48E+03	1.96E-04	7.66E+02	USEPA RSL (WATER9)
sec-Butylbenzene	7.50E-02	7.80E-06	7.67E-01	2.15E+03	2.30E-04	7.07E+02	USEPA Region IX
tert-Butylbenzene	7.50E-02	7.80E-06	5.17E-01	2.15E+03	1.56E-04	8.59E+02	USEPA Region IX
Chloroform	7.69E-02	1.09E-05	1.50E-01	3.18E+01	1.14E-03	3.17E+02	USEPA RSL (WATER9)
1,2-Dichlorobenzene	5.62E-02	8.92E-06	7.85E-02	3.83E+02	9.03E-05	1.13E+03	USEPA RSL (WATER9)
1,3-Dichlorobenzene	6.90E-02	7.90E-06	7.79E-02	6.17E+02	7.17E-05	1.27E+03	USEPA Region IX
1,4-Dichlorobenzene	5.50E-02	8.68E-06	9.85E-02	3.75E+02	1.13E-04	1.01E+03	USEPA RSL (WATER9)
Isopropylbenzene	6.03E-02	7.86E-06	4.70E-01	6.98E+02	3.28E-04	5.92E+02	USEPA RSL (WATER9)
p-Isopropyltoluene					*3.61E-04*	*5.64E+02*	*Xylenes (total)*
Methylene Chloride	9.99E-02	1.25E-05	1.33E-01	2.17E+01	1.49E-03	2.77E+02	USEPA RSL (WATER9)
Methyl tert-butyl ether	7.53E-02	8.59E-06	2.40E-02	1.16E+01	2.55E-04	6.71E+02	USEPA RSL (WATER9)
n-Propylbenzene					*1.96E-04*	*7.66E+02*	*n-Butylbenzene*
1,2,4-Trimethylbenzene	6.07E-02	7.92E-06	2.52E-01	6.14E+02	2.02E-04	7.55E+02	USEPA RSL (WATER9)
1,3,5-Trimethylbenzene	6.02E-02	7.84E-06	3.59E-01	6.02E+02	2.88E-04	6.32E+02	USEPA RSL (WATER9)
Acenaphthene	5.06E-02	8.33E-06	7.52E-03	5.03E+03	6.84E-07	1.30E+04	USEPA RSL (WATER9)
Acenaphthylene	5.06E-02	8.33E-06	4.63E-04	5.03E+03	*6.84E-07*	*1.30E+04*	*Acenapthene*
Anthracene	3.90E-02	7.85E-06	2.27E-03	1.64E+04	5.19E-08	4.70E+04	USEPA RSL (WATER9)
2-Chloronaphthalene	4.47E-02	7.73E-06	1.31E-02	2.48E+03	2.09E-06	7.41E+03	USEPA RSL (WATER9)
Dibenzofuran	4.10E-02	7.38E-06	8.71E-03	9.16E+03	3.53E-07	1.80E+04	USEPA RSL (WATER9)
Fluorene	4.40E-02	7.89E-06	3.93E-03	9.16E+03	1.75E-07	2.57E+04	USEPA RSL (WATER9)
Naphthalene	6.05E-02	8.38E-06	1.80E-02	1.54E+03	6.15E-06	4.32E+03	USEPA RSL (WATER9)
1-Methylnaphthalene					*6.15E-06*	*4.32E+03*	*Naphthalene*
2-Methylnaphthalene					*6.15E-06*	*4.32E+03*	*Naphthalene*
Phenanthrene					*5.19E-08*	*4.70E+04*	*Anthracene*
Pyrene	2.78E-02	7.25E-06	4.87E-04	5.43E+04	3.23E-09	1.89E+05	USEPA RSL (WATER9)

Sources:
USEPA Region IX = Region IX PRGs (USEPA 2004a)
Italics indicate value for surrogate compound applied.

Construction Worker Volatilization Factor (and apparent diffusivity): calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns 5-14 and 5-15

Where: $Q/Csa = A \times \exp\left[\frac{(\ln Asite - B)^2}{C}\right.$

Input Parameters

VFsc=		calculated	m^3/kg	Construction worker subchronic volatilization factor (Eqn 5-14)
Da=		calculated	cm2/s	Apparent diffusivity (Eqn 5-14)
T =	7.78E+06	site-specific	sec	Total time over which construction activities occurs (including time not worked)
rhob=	1.23	site-specific	g/cm^3	Dry soil bulk density; average of Pismo samples (see Table 5-34)
Q/Csa=	10.01	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd=	0.188	calculated	unitless	Dispersion correction factor for averaging times less than one year (default = 0.185, Eqns 5-14, E-16)
Thours =	2.16E+03	site-specific	hours	Total time over which construction activities occurs, in hours (for Fd calculation; Eqn E-16)
q_{as} =	0.25	qt-qws	unitless	Air-filled soil porosity (USEPA 2002)
q_T =	0.49	1-(rhob/rhos)	unitless	Total soil porosity (USEPA 2002)
q_{ws} =	0.240	site-specific	unitless	Water-filled soil porosity; average of Pismo samples (see Table 5-34)
rhos=	2.43	site-specific	g/cm3	Soil particle density; average of Pismo samples (Avocet 2008b)
Di=	chemical specific		cm2/sec	Diffusivity in air
Dw=	chemical specific		cm2/sec	Diffusivity in water
Ho=	chemical specific		unitless	Henry's Law Constant
Kd=	chemical specific	Koc*foc (orgs)	cm3/g	Soil-water partition coefficient
Koc=	chemical specific		ml/g (l/kg)	Organic carbon partition coefficient
Foc =	0.004	site-specific	unitless	Fraction organic carbon; average of Pismo samples (Avocet 2008b)
A_{site} =	3.53	site-specific	acres	Areal extent of contamination
A =	*2.4538*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
B =	*17.566*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
C =	*189.0426*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)

Construction Worker Particulate Emission Factor, Wind Erosion and Dumping of Excavated Soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns E-25 and E-26

$PEF_{sc} = Q/Csa \times 1/Fd \times 1/Jt$

$Jt = (Mwind + Mexcav + Mdoz + Mgrade + Mtill) / (Asite(meters) \times T)$

Where:

PEF_{sc} =	3.18E+07	calculated	m^3/kg	Construction worker particulate emission factor due to activities other than unpaved road traffic
Q/C_{sa} =	10.01	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd =	0.188	calculated	unitless	Dispersion correction factor (default = 0.185, Eqns 5-5 and E-16)
T =	2.6E+06	site-specific	sec	Duration of construction during which workers may be exposure; active work time
Jt =	1.68E-06	calculated	g/m^2-sec	Total time-averaged PM10 unit emission flux for construction activities other than unpaved road traffic
A_{site} =	3.53	site-specific	acres	Areal extent of contamination
Asite meters =	14285.56	calculated	m^2	Areal extent of contamination

Construction Worker Non-traffic PEF: Mass from wind erosion: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--20

Mwind =	6.20E+04	calculated	grams	Mass emitted from wind erosion
RPF =	*0.036*	*default*	$g/m^2/hr$	Respirable particle fraction
V =	*0.0*	*default*	unitless	Fraction vegetative cover
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
Ut =	*11.32*	*default*	m/sec	Equivalent threshold value of wind speed at 7 m (default USEPA 2002)
x =	2.138	calculated	unitless	Function of Ut/Um; x = 0.886 × (Ut/Um)
Fx =	0.193	calculated	unitless	Function of x; Fx = 0.18 × ($8x^3 + 12x$) × $\exp(-x^2)$
ED =	8760	default	hours	Exposure duration

Construction Worker Non-traffic PEF: Mass from dumping of excavated soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--21

Mexcav =	1.46E+02	calculated	grams	Mass emitted from dumping of excavated soils
PM =	*0.35*	*default*	unitless	PM10 particle size multiplier (default, USEPA 2002)
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
M =	20	site-specific	%	Gravimetric soil moisture content; average of Psimo samples (Avocet 2008b)
rhos=	1.46	site-specific	Mg/m^3	In situ soil density (includes water); average of Pismo samples (Avocet 2008b)
A_{excav} =	0.10	site-specific	acres	Areal extent of excavation; site-specific assumption for trenching
A_{excav} =	404.69	calculated	m^2	Areal extent of excavation
d_{excav} =	2	site-specific	m	Average depth of excavation
N =	*2*	*default*	unitless	Number of times soil is dumped (default, USEPA 2002)

Volatilization Factor and Particulate Emission Factor Inputs for Intrusive Utility Worker Scenario
Exposure Area Ib

Chemical	Diffusivity in Air (cm^2/sec) (D_i)	Diffusivity in Water (cm^2/sec) (D_w)	Henry's Law Constant (unitless) (H_o)	Partition Coefficient (mL/g) (Koc)	Apparent Diffusivity (cm^2/sec) (D_A)	Volatilization Factor (m^3/kg) (VF)	Chemical Specific Data Reference
Benzene	8.95E-02	1.03E-05	2.27E-01	1.46E+02	8.71E-04	4.27E+02	USEPA RSL (WATER9)
Ethylbenzene	6.85E-02	8.46E-06	3.22E-01	4.46E+02	3.84E-04	6.43E+02	USEPA RSL (WATER9)
Toluene	7.78E-02	9.20E-06	2.71E-01	2.34E+02	6.32E-04	5.02E+02	USEPA RSL (WATER9)
Xylenes (total)	8.47E-02	9.90E-06	2.12E-01	3.83E+02	3.61E-04	6.64E+02	USEPA RSL (WATER9)
n-Butylbenzene	5.28E-02	7.33E-06	6.50E-01	1.48E+03	1.96E-04	9.01E+02	USEPA RSL (WATER9)
sec-Butylbenzene	7.50E-02	7.80E-06	7.67E-01	2.15E+03	2.30E-04	8.32E+02	USEPA Region IX
tert-Butylbenzene	7.50E-02	7.80E-06	5.17E-01	2.15E+03	1.56E-04	1.01E+03	USEPA Region IX
Chloroform	7.69E-02	1.09E-05	1.50E-01	3.18E+01	1.14E-03	3.74E+02	USEPA RSL (WATER9)
1,2-Dichlorobenzene	5.62E-02	8.92E-06	7.85E-02	3.83E+02	9.03E-05	1.33E+03	USEPA RSL (WATER9)
1,3-Dichlorobenzene	6.90E-02	7.90E-06	7.79E-02	6.17E+02	7.17E-05	1.49E+03	USEPA Region IX
1,4-Dichlorobenzene	5.50E-02	8.68E-06	9.85E-02	3.75E+02	1.13E-04	1.19E+03	USEPA RSL (WATER9)
Isopropylbenzene	6.03E-02	7.86E-06	4.70E-01	6.98E+02	3.28E-04	6.96E+02	USEPA RSL (WATER9)
p-Isopropyltoluene					*3.61E-04*	*6.64E+02*	*Xylenes (total)*
Methylene Chloride	9.99E-02	1.25E-05	1.33E-01	2.17E+01	1.49E-03	3.26E+02	USEPA RSL (WATER9)
Methyl tert-butyl ether	7.53E-02	8.59E-06	2.40E-02	1.16E+01	2.55E-04	7.90E+02	USEPA RSL (WATER9)
n-Propylbenzene					*1.96E-04*	*9.01E+02*	*n-Butylbenzene*
1,2,4-Trimethylbenzene	6.07E-02	7.92E-06	2.52E-01	6.14E+02	2.02E-04	8.88E+02	USEPA RSL (WATER9)
1,3,5-Trimethylbenzene	6.02E-02	7.84E-06	3.59E-01	6.02E+02	2.88E-04	7.43E+02	USEPA RSL (WATER9)
Acenaphthene	5.06E-02	8.33E-06	7.52E-03	5.03E+03	6.84E-07	1.53E+04	USEPA RSL (WATER9)
Acenaphthylene	5.06E-02	8.33E-06	4.63E-04	5.03E+03	*6.84E-07*	*1.53E+04*	*Acenapthene*
Anthracene	3.90E-02	7.85E-06	2.27E-03	1.64E+04	5.19E-08	5.53E+04	USEPA RSL (WATER9)
2-Chloronaphthalene	4.47E-02	7.73E-06	1.31E-02	2.48E+03	2.09E-06	8.72E+03	USEPA RSL (WATER9)
Dibenzofuran	4.10E-02	7.38E-06	8.71E-03	9.16E+03	3.53E-07	2.12E+04	USEPA RSL (WATER9)
Fluorene	4.40E-02	7.89E-06	3.93E-03	9.16E+03	1.75E-07	3.02E+04	USEPA RSL (WATER9)
Naphthalene	6.05E-02	8.38E-06	1.80E-02	1.54E+03	6.15E-06	5.09E+03	USEPA RSL (WATER9)
1-Methylnaphthalene					*6.15E-06*	*5.09E+03*	*Naphthalene*
2-Methylnaphthalene					*6.15E-06*	*5.09E+03*	*Naphthalene*
Phenanthrene					*5.19E-08*	*5.53E+04*	*Anthracene*
Pyrene	2.78E-02	7.25E-06	4.87E-04	5.43E+04	3.23E-09	2.22E+05	USEPA RSL (WATER9)

Sources:
USEPA Region IX = Region IX PRGs (USEPA 2004a)
Italics indicate value for surrogate compound applied.

Construction Worker Volatilization Factor (and apparent diffusivity): calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns 5-14 and 5-15

Where: $Q/Csa = A \times \exp\left[\frac{(\ln Asite - B)^2}{C}\right.$

Input Parameters

VFsc=		calculated	m^3/kg	Construction worker subchronic volatilization factor (Eqn 5-14)
Da=		calculated	cm2/s	Apparent diffusivity (Eqn 5-14)
T =	7.78E+06	site-specific	sec	Total time over which construction activities occurs (including time not worked)
rhob=	1.23	site-specific	g/cm^3	Dry soil bulk density; average of Pismo samples (see Table 5-34)
Q/Csa=	11.78	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd=	0.188	calculated	unitless	Dispersion correction factor for averaging times less than one year (default = 0.185, Eqns 5-14, E-16)
Thours =	2.16E+03	site-specific	hours	Total time over which construction activities occurs, in hours (for Fd calculation; Eqn E-16)
q_{as} =	0.25	qt-qws	unitless	Air-filled soil porosity (USEPA 2002)
q_T =	0.49	1-(rhob/rhos)	unitless	Total soil porosity (USEPA 2002)
q_{ws} =	0.240	site-specific	unitless	Water-filled soil porosity; average of Pismo samples (see Table 5-34)
rhos=	2.43	site-specific	g/cm3	Soil particle density; average of Pismo samples (Avocet 2008b)
Di=	chemical specific		cm2/sec	Diffusivity in air
Dw=	chemical specific		cm2/sec	Diffusivity in water
Ho=	chemical specific		unitless	Henry's Law Constant
Kd=	chemical specific	Koc*foc (orgs)	cm3/g	Soil-water partition coefficient
Koc=	chemical specific		ml/g (l/kg)	Organic carbon partition coefficient
Foc =	0.004	site-specific	unitless	Fraction organic carbon; average of Pismo samples (Avocet 2008b)
A_{site} =	1.41	site-specific	acres	Areal extent of contamination
A =	*2.4538*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
B =	*17.566*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
C =	*189.0426*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)

Construction Worker Particulate Emission Factor, Wind Erosion and Dumping of Excavated Soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns E-25 and E-26

$PEF_{sc} = Q/Csa \times 1/Fd \times 1/Jt$

$Jt = (Mwind + Mexcav + Mdoz + Mgrade + Mtill) / (Asite(meters) \times T)$

Where:

PEF_{sc} =	3.73E+07	calculated	m^3/kg	Construction worker particulate emission factor due to activities other than unpaved road traffic
Q/C_{sa} =	11.78	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd =	0.188	calculated	unitless	Dispersion correction factor (default = 0.185, Eqns 5-5 and E-16)
T =	2.6E+06	site-specific	sec	Duration of construction during which workers may be exposure; active work time
Jt =	1.68E-06	calculated	g/m^2-sec	Total time-averaged PM10 unit emission flux for construction activities other than unpaved road traffic
A_{site} =	1.41	site-specific	acres	Areal extent of contamination
Asite meters =	5706.13	calculated	m^2	Areal extent of contamination

Construction Worker Non-traffic PEF: Mass from wind erosion: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--20

Mwind =	2.48E+04	calculated	grams	Mass emitted from wind erosion
RPF =	*0.036*	*default*	$g/m^2/hr$	Respirable particle fraction
V =	*0.0*	*default*	unitless	Fraction vegetative cover
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
Ut =	*11.32*	*default*	m/sec	Equivalent threshold value of wind speed at 7 m (default USEPA 2002)
x =	2.138	calculated	unitless	Function of Ut/Um; x = 0.886 × (Ut/Um)
Fx =	0.193	calculated	unitless	Function of x; Fx = 0.18 × ($8x^3 + 12x$) × $\exp(-x^2)$
ED =	8760	default	hours	Exposure duration

Construction Worker Non-traffic PEF: Mass from dumping of excavated soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--21

Mexcav =	1.46E+02	calculated	grams	Mass emitted from dumping of excavated soils
PM =	*0.35*	*default*	unitless	PM10 particle size multiplier (default, USEPA 2002)
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
M =	20	site-specific	%	Gravimetric soil moisture content; average of Psimo samples (Avocet 2008b)
rhos=	1.46	site-specific	Mg/m^3	In situ soil density (includes water); average of Pismo samples (Avocet 2008b)
A_{excav} =	0.10	site-specific	acres	Areal extent of excavation; site-specific assumption for trenching
A_{excav} =	404.69	calculated	m^2	Areal extent of excavation
d_{excav} =	2	site-specific	m	Average depth of excavation
N =	*2*	*default*	unitless	Number of times soil is dumped (default, USEPA 2002)

Volatilization Factor and Particulate Emission Factor Inputs for Intrusive Utility Worker Scenario
Exposure Area J

Chemical	Diffusivity in Air (cm^2/sec) (D_i)	Diffusivity in Water (cm^2/sec) (D_w)	Henry's Law Constant (unitless) (H_o)	Partition Coefficient (mL/g) (Koc)	Apparent Diffusivity (cm^2/sec) (D_A)	Volatilization Factor (m^3/kg) (VF)	Chemical Specific Data Reference
Benzene	8.95E-02	1.03E-05	2.27E-01	1.46E+02	8.71E-04	3.30E+02	USEPA RSL (WATER9)
Ethylbenzene	6.85E-02	8.46E-06	3.22E-01	4.46E+02	3.84E-04	4.98E+02	USEPA RSL (WATER9)
Toluene	7.78E-02	9.20E-06	2.71E-01	2.34E+02	6.32E-04	3.88E+02	USEPA RSL (WATER9)
Xylenes (total)	8.47E-02	9.90E-06	2.12E-01	3.83E+02	3.61E-04	5.13E+02	USEPA RSL (WATER9)
n-Butylbenzene	5.28E-02	7.33E-06	6.50E-01	1.48E+03	1.96E-04	6.97E+02	USEPA RSL (WATER9)
sec-Butylbenzene	7.50E-02	7.80E-06	7.67E-01	2.15E+03	2.30E-04	6.43E+02	USEPA Region IX
tert-Butylbenzene	7.50E-02	7.80E-06	5.17E-01	2.15E+03	1.56E-04	7.82E+02	USEPA Region IX
Chloroform	7.69E-02	1.09E-05	1.50E-01	3.18E+01	1.14E-03	2.89E+02	USEPA RSL (WATER9)
1,2-Dichlorobenzene	5.62E-02	8.92E-06	7.85E-02	3.83E+02	9.03E-05	1.03E+03	USEPA RSL (WATER9)
1,3-Dichlorobenzene	6.90E-02	7.90E-06	7.79E-02	6.17E+02	7.17E-05	1.15E+03	USEPA Region IX
1,4-Dichlorobenzene	5.50E-02	8.68E-06	9.85E-02	3.75E+02	1.13E-04	9.19E+02	USEPA RSL (WATER9)
Isopropylbenzene	6.03E-02	7.86E-06	4.70E-01	6.98E+02	3.28E-04	5.38E+02	USEPA RSL (WATER9)
p-Isopropyltoluene					*3.61E-04*	*5.13E+02*	*Xylenes (total)*
Methylene Chloride	9.99E-02	1.25E-05	1.33E-01	2.17E+01	1.49E-03	2.52E+02	USEPA RSL (WATER9)
Methyl tert-butyl ether	7.53E-02	8.59E-06	2.40E-02	1.16E+01	2.55E-04	6.11E+02	USEPA RSL (WATER9)
n-Propylbenzene					*1.96E-04*	*6.97E+02*	*n-Butylbenzene*
1,2,4-Trimethylbenzene	6.07E-02	7.92E-06	2.52E-01	6.14E+02	2.02E-04	6.87E+02	USEPA RSL (WATER9)
1,3,5-Trimethylbenzene	6.02E-02	7.84E-06	3.59E-01	6.02E+02	2.88E-04	5.75E+02	USEPA RSL (WATER9)
Acenaphthene	5.06E-02	8.33E-06	7.52E-03	5.03E+03	6.84E-07	1.18E+04	USEPA RSL (WATER9)
Acenaphthylene	5.06E-02	8.33E-06	4.63E-04	5.03E+03	*6.84E-07*	*1.18E+04*	*Acenapthene*
Anthracene	3.90E-02	7.85E-06	2.27E-03	1.64E+04	5.19E-08	4.28E+04	USEPA RSL (WATER9)
2-Chloronaphthalene	4.47E-02	7.73E-06	1.31E-02	2.48E+03	2.09E-06	6.74E+03	USEPA RSL (WATER9)
Dibenzofuran	4.10E-02	7.38E-06	8.71E-03	9.16E+03	3.53E-07	1.64E+04	USEPA RSL (WATER9)
Fluorene	4.40E-02	7.89E-06	3.93E-03	9.16E+03	1.75E-07	2.33E+04	USEPA RSL (WATER9)
Naphthalene	6.05E-02	8.38E-06	1.80E-02	1.54E+03	6.15E-06	3.93E+03	USEPA RSL (WATER9)
1-Methylnaphthalene					*6.15E-06*	*3.93E+03*	*Naphthalene*
2-Methylnaphthalene					*6.15E-06*	*3.93E+03*	*Naphthalene*
Phenanthrene					*5.19E-08*	*4.28E+04*	*Anthracene*
Pyrene	2.78E-02	7.25E-06	4.87E-04	5.43E+04	3.23E-09	1.72E+05	USEPA RSL (WATER9)

Sources:
USEPA Region IX = Region IX PRGs (USEPA 2004a)
Italics indicate value for surrogate compound applied.

Construction Worker Volatilization Factor (and apparent diffusivity): calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns 5-14 and 5-15

Where: $Q/Csa = A \times \exp\left[\frac{(\ln Asite - B)^2}{C}\right]$

Input Parameters

VFsc=		calculated	m^3/kg	Construction worker subchronic volatilization factor (Eqn 5-14)
Da=		calculated	cm2/s	Apparent diffusivity (Eqn 5-14)
T =	7.78E+06	site-specific	sec	Total time over which construction activities occurs (including time not worked)
rhob=	1.23	site-specific	g/cm^3	Dry soil bulk density; average of Pismo samples (see Table 5-34)
Q/Csa=	9.11	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd=	0.188	calculated	unitless	Dispersion correction factor for averaging times less than one year (default = 0.185, Eqns 5-14, E-16)
Thours =	2.16E+03	site-specific	hours	Total time over which construction activities occurs, in hours (for Fd calculation; Eqn E-16)
q_{as} =	0.25	qt-qws	unitless	Air-filled soil porosity (USEPA 2002)
q_T =	0.49	1-(rhob/rhos)	unitless	Total soil porosity (USEPA 2002)
q_{ws} =	0.240	site-specific	unitless	Water-filled soil porosity; average of Pismo samples (see Table 5-34)
rhos=	2.43	site-specific	g/cm3	Soil particle density; average of Pismo samples (Avocet 2008b)
Di=	chemical specific		cm2/sec	Diffusivity in air
Dw=	chemical specific		cm2/sec	Diffusivity in water
Ho=	chemical specific		unitless	Henry's Law Constant
Kd=	chemical specific	Koc*foc (orgs)	cm3/g	Soil-water partition coefficient
Koc=	chemical specific		ml/g (l/kg)	Organic carbon partition coefficient
Foc =	0.004	site-specific	unitless	Fraction organic carbon; average of Pismo samples (Avocet 2008b)
A_{site} =	6.16	site-specific	acres	Areal extent of contamination
A =	*2.4538*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
B =	*17.566*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
C =	*189.0426*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)

Construction Worker Particulate Emission Factor, Wind Erosion and Dumping of Excavated Soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns E-25 and E-26

$PEF_{sc} = Q/Csa \times 1/Fd \times 1/Jt$

$Jt = (Mwind + Mexcav + Mdoz + Mgrade + Mtill) / (Asite(meters) \times T)$

Where:

PEF_{sc} =	2.90E+07	calculated	m^3/kg	Construction worker particulate emission factor due to activities other than unpaved road traffic
Q/C_{sa} =	9.11	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd =	0.188	calculated	unitless	Dispersion correction factor (default = 0.185, Eqns 5-5 and E-16)
T =	2.6E+06	site-specific	sec	Duration of construction during which workers may be exposure; active work time
Jt =	1.68E-06	calculated	g/m^2-sec	Total time-averaged PM10 unit emission flux for construction activities other than unpaved road traffic
A_{site} =	6.16	site-specific	acres	Areal extent of contamination
Asite meters =	24928.90	calculated	m^2	Areal extent of contamination

Construction Worker Non-traffic PEF: Mass from wind erosion: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--20

Mwind =	1.08E+05	calculated	grams	Mass emitted from wind erosion
RPF =	*0.036*	*default*	$g/m^2/hr$	Respirable particle fraction
V =	*0.0*	*default*	unitless	Fraction vegetative cover
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
Ut =	*11.32*	*default*	m/sec	Equivalent threshold value of wind speed at 7 m (default USEPA 2002)
x =	2.138	calculated	unitless	Function of Ut/Um; x = 0.886 × (Ut/Um)
Fx =	0.193	calculated	unitless	Function of x; Fx = 0.18 × ($8x^3 + 12x$) × exp($-x^2$)
ED =	8760	default	hours	Exposure duration

Construction Worker Non-traffic PEF: Mass from dumping of excavated soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--21

Mexcav =	1.46E+02	calculated	grams	Mass emitted from dumping of excavated soils
PM =	*0.35*	*default*	unitless	PM10 particle size multiplier (default, USEPA 2002)
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
M =	20	site-specific	%	Gravimetric soil moisture content; average of Psimo samples (Avocet 2008b)
rhos=	1.46	site-specific	Mg/m^3	In situ soil density (includes water); average of Pismo samples (Avocet 2008b)
A_{excav} =	0.10	site-specific	acres	Areal extent of excavation; site-specific assumption for trenching
A_{excav} =	404.69	calculated	m^2	Areal extent of excavation
d_{excav} =	2	site-specific	m	Average depth of excavation
N =	*2*	*default*	unitless	Number of times soil is dumped (default, USEPA 2002)

Volatilization Factor and Particulate Emission Factor Inputs for Intrusive Utility Worker Scenario
Exposure Area K

Chemical	Diffusivity in Air (cm^2/sec) (D_i)	Diffusivity in Water (cm^2/sec) (D_w)	Henry's Law Constant (unitless) (H_o)	Partition Coefficient (mL/g) (Koc)	Apparent Diffusivity (cm^2/sec) (D_A)	Volatilization Factor (m^3/kg) (VF)	Chemical Specific Data Reference
Benzene	8.95E-02	1.03E-05	2.27E-01	1.46E+02	8.71E-04	3.89E+02	USEPA RSL (WATER9)
Ethylbenzene	6.85E-02	8.46E-06	3.22E-01	4.46E+02	3.84E-04	5.85E+02	USEPA RSL (WATER9)
Toluene	7.78E-02	9.20E-06	2.71E-01	2.34E+02	6.32E-04	4.56E+02	USEPA RSL (WATER9)
Xylenes (total)	8.47E-02	9.90E-06	2.12E-01	3.83E+02	3.61E-04	6.04E+02	USEPA RSL (WATER9)
n-Butylbenzene	5.28E-02	7.33E-06	6.50E-01	1.48E+03	1.96E-04	8.20E+02	USEPA RSL (WATER9)
sec-Butylbenzene	7.50E-02	7.80E-06	7.67E-01	2.15E+03	2.30E-04	7.57E+02	USEPA Region IX
tert-Butylbenzene	7.50E-02	7.80E-06	5.17E-01	2.15E+03	1.56E-04	9.19E+02	USEPA Region IX
Chloroform	7.69E-02	1.09E-05	1.50E-01	3.18E+01	1.14E-03	3.40E+02	USEPA RSL (WATER9)
1,2-Dichlorobenzene	5.62E-02	8.92E-06	7.85E-02	3.83E+02	9.03E-05	1.21E+03	USEPA RSL (WATER9)
1,3-Dichlorobenzene	6.90E-02	7.90E-06	7.79E-02	6.17E+02	7.17E-05	1.35E+03	USEPA Region IX
1,4-Dichlorobenzene	5.50E-02	8.68E-06	9.85E-02	3.75E+02	1.13E-04	1.08E+03	USEPA RSL (WATER9)
Isopropylbenzene	6.03E-02	7.86E-06	4.70E-01	6.98E+02	3.28E-04	6.33E+02	USEPA RSL (WATER9)
p-Isopropyltoluene					*3.61E-04*	*6.04E+02*	*Xylenes (total)*
Methylene Chloride	9.99E-02	1.25E-05	1.33E-01	2.17E+01	1.49E-03	2.97E+02	USEPA RSL (WATER9)
Methyl tert-butyl ether	7.53E-02	8.59E-06	2.40E-02	1.16E+01	2.55E-04	7.19E+02	USEPA RSL (WATER9)
n-Propylbenzene					*1.96E-04*	*8.20E+02*	*n-Butylbenzene*
1,2,4-Trimethylbenzene	6.07E-02	7.92E-06	2.52E-01	6.14E+02	2.02E-04	8.08E+02	USEPA RSL (WATER9)
1,3,5-Trimethylbenzene	6.02E-02	7.84E-06	3.59E-01	6.02E+02	2.88E-04	6.76E+02	USEPA RSL (WATER9)
Acenaphthene	5.06E-02	8.33E-06	7.52E-03	5.03E+03	6.84E-07	1.39E+04	USEPA RSL (WATER9)
Acenaphthylene	5.06E-02	8.33E-06	4.63E-04	5.03E+03	*6.84E-07*	*1.39E+04*	*Acenapthene*
Anthracene	3.90E-02	7.85E-06	2.27E-03	1.64E+04	5.19E-08	5.03E+04	USEPA RSL (WATER9)
2-Chloronaphthalene	4.47E-02	7.73E-06	1.31E-02	2.48E+03	2.09E-06	7.93E+03	USEPA RSL (WATER9)
Dibenzofuran	4.10E-02	7.38E-06	8.71E-03	9.16E+03	3.53E-07	1.93E+04	USEPA RSL (WATER9)
Fluorene	4.40E-02	7.89E-06	3.93E-03	9.16E+03	1.75E-07	2.75E+04	USEPA RSL (WATER9)
Naphthalene	6.05E-02	8.38E-06	1.80E-02	1.54E+03	6.15E-06	4.63E+03	USEPA RSL (WATER9)
1-Methylnaphthalene					*6.15E-06*	*4.63E+03*	*Naphthalene*
2-Methylnaphthalene					*6.15E-06*	*4.63E+03*	*Naphthalene*
Phenanthrene					*5.19E-08*	*5.03E+04*	*Anthracene*
Pyrene	2.78E-02	7.25E-06	4.87E-04	5.43E+04	3.23E-09	2.02E+05	USEPA RSL (WATER9)

Sources:
USEPA Region IX = Region IX PRGs (USEPA 2004a)
Italics indicate value for surrogate compound applied.

Construction Worker Volatilization Factor (and apparent diffusivity): calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns 5-14 and 5-15

Where: $Q/Csa = A \times \exp\left[\frac{(\ln Asite - B)^2}{C}\right.$

Input Parameters

VFsc=		calculated	m^3/kg	Construction worker subchronic volatilization factor (Eqn 5-14)
Da=		calculated	cm2/s	Apparent diffusivity (Eqn 5-14)
T =	7.78E+06	site-specific	sec	Total time over which construction activities occurs (including time not worked)
rhob=	1.23	site-specific	g/cm^3	Dry soil bulk density; average of Pismo samples (see Table 5-34)
Q/Csa=	10.72	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd=	0.188	calculated	unitless	Dispersion correction factor for averaging times less than one year (default = 0.185, Eqns 5-14, E-16)
Thours =	2.16E+03	site-specific	hours	Total time over which construction activities occurs, in hours (for Fd calculation; Eqn E-16)
q_{as} =	0.25	qt-qws	unitless	Air-filled soil porosity (USEPA 2002)
q_T =	0.49	1-(rhob/rhos)	unitless	Total soil porosity (USEPA 2002)
q_{ws} =	0.240	site-specific	unitless	Water-filled soil porosity; average of Pismo samples (see Table 5-34)
rhos=	2.43	site-specific	g/cm3	Soil particle density; average of Pismo samples (Avocet 2008b)
Di=	chemical specific		cm2/sec	Diffusivity in air
Dw=	chemical specific		cm2/sec	Diffusivity in water
Ho=	chemical specific		unitless	Henry's Law Constant
Kd=	chemical specific	Koc*foc (orgs)	cm3/g	Soil-water partition coefficient
Koc=	chemical specific		ml/g (l/kg)	Organic carbon partition coefficient
Foc =	0.004	site-specific	unitless	Fraction organic carbon; average of Pismo samples (Avocet 2008b)
A_{site} =	2.39	site-specific	acres	Areal extent of contamination
A =	*2.4538*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
B =	*17.566*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
C =	*189.0426*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)

Construction Worker Particulate Emission Factor, Wind Erosion and Dumping of Excavated Soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns E-25 and E-26

$PEF_{sc} = Q/Csa \times 1/Fd \times 1/Jt$

$Jt = (Mwind + Mexcav + Mdoz + Mgrade + Mtill) / (Asite(meters) \times T)$

Where:

PEF_{sc} =	3.40E+07	calculated	m^3/kg	Construction worker particulate emission factor due to activities other than unpaved road traffic
Q/C_{sa} =	10.72	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd =	0.188	calculated	unitless	Dispersion correction factor (default = 0.185, Eqns 5-5 and E-16)
T =	2.6E+06	site-specific	sec	Duration of construction during which workers may be exposure; active work time
Jt =	1.68E-06	calculated	g/m^2-sec	Total time-averaged PM10 unit emission flux for construction activities other than unpaved road traffic
A_{site} =	2.39	site-specific	acres	Areal extent of contamination
Asite meters =	9672.09	calculated	m^2	Areal extent of contamination

Construction Worker Non-traffic PEF: Mass from wind erosion: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--20

Mwind =	4.20E+04	calculated	grams	Mass emitted from wind erosion
RPF =	*0.036*	*default*	$g/m^2/hr$	Respirable particle fraction
V =	*0.0*	*default*	unitless	Fraction vegetative cover
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
Ut =	*11.32*	*default*	m/sec	Equivalent threshold value of wind speed at 7 m (default USEPA 2002)
x =	2.138	calculated	unitless	Function of Ut/Um; x = 0.886 × (Ut/Um)
Fx =	0.193	calculated	unitless	Function of x; Fx = 0.18 × ($8x^3 + 12x$) × $\exp(-x^2)$
ED =	8760	default	hours	Exposure duration

Construction Worker Non-traffic PEF: Mass from dumping of excavated soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--21

Mexcav =	1.46E+02	calculated	grams	Mass emitted from dumping of excavated soils
PM =	*0.35*	*default*	unitless	PM10 particle size multiplier (default, USEPA 2002)
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
M =	20	site-specific	%	Gravimetric soil moisture content; average of Psimo samples (Avocet 2008b)
rhos=	1.46	site-specific	Mg/m^3	In situ soil density (includes water); average of Pismo samples (Avocet 2008b)
A_{excav} =	0.10	site-specific	acres	Areal extent of excavation; site-specific assumption for trenching
A_{excav} =	404.69	calculated	m^2	Areal extent of excavation
d_{excav} =	2	site-specific	m	Average depth of excavation
N =	*2*	*default*	unitless	Number of times soil is dumped (default, USEPA 2002)

Volatilization Factor and Particulate Emission Factor Inputs for Intrusive Utility Worker Scenario
Exposure Area L

Chemical	Diffusivity in Air (cm^2/sec) (D_i)	Diffusivity in Water (cm^2/sec) (D_w)	Henry's Law Constant (unitless) (H_o)	Partition Coefficient (mL/g) (Koc)	Apparent Diffusivity (cm^2/sec) (D_A)	Volatilization Factor (m^3/kg) (VF)	Chemical Specific Data Reference
Benzene	8.95E-02	1.03E-05	2.27E-01	1.46E+02	8.71E-04	3.10E+02	USEPA RSL (WATER9)
Ethylbenzene	6.85E-02	8.46E-06	3.22E-01	4.46E+02	3.84E-04	4.67E+02	USEPA RSL (WATER9)
Toluene	7.78E-02	9.20E-06	2.71E-01	2.34E+02	6.32E-04	3.64E+02	USEPA RSL (WATER9)
Xylenes (total)	8.47E-02	9.90E-06	2.12E-01	3.83E+02	3.61E-04	4.81E+02	USEPA RSL (WATER9)
n-Butylbenzene	5.28E-02	7.33E-06	6.50E-01	1.48E+03	1.96E-04	6.54E+02	USEPA RSL (WATER9)
sec-Butylbenzene	7.50E-02	7.80E-06	7.67E-01	2.15E+03	2.30E-04	6.04E+02	USEPA Region IX
tert-Butylbenzene	7.50E-02	7.80E-06	5.17E-01	2.15E+03	1.56E-04	7.33E+02	USEPA Region IX
Chloroform	7.69E-02	1.09E-05	1.50E-01	3.18E+01	1.14E-03	2.71E+02	USEPA RSL (WATER9)
1,2-Dichlorobenzene	5.62E-02	8.92E-06	7.85E-02	3.83E+02	9.03E-05	9.63E+02	USEPA RSL (WATER9)
1,3-Dichlorobenzene	6.90E-02	7.90E-06	7.79E-02	6.17E+02	7.17E-05	1.08E+03	USEPA Region IX
1,4-Dichlorobenzene	5.50E-02	8.68E-06	9.85E-02	3.75E+02	1.13E-04	8.62E+02	USEPA RSL (WATER9)
Isopropylbenzene	6.03E-02	7.86E-06	4.70E-01	6.98E+02	3.28E-04	5.05E+02	USEPA RSL (WATER9)
p-Isopropyltoluene					*3.61E-04*	*4.81E+02*	*Xylenes (total)*
Methylene Chloride	9.99E-02	1.25E-05	1.33E-01	2.17E+01	1.49E-03	2.37E+02	USEPA RSL (WATER9)
Methyl tert-butyl ether	7.53E-02	8.59E-06	2.40E-02	1.16E+01	2.55E-04	5.73E+02	USEPA RSL (WATER9)
n-Propylbenzene					*1.96E-04*	*6.54E+02*	*n-Butylbenzene*
1,2,4-Trimethylbenzene	6.07E-02	7.92E-06	2.52E-01	6.14E+02	2.02E-04	6.44E+02	USEPA RSL (WATER9)
1,3,5-Trimethylbenzene	6.02E-02	7.84E-06	3.59E-01	6.02E+02	2.88E-04	5.39E+02	USEPA RSL (WATER9)
Acenaphthene	5.06E-02	8.33E-06	7.52E-03	5.03E+03	6.84E-07	1.11E+04	USEPA RSL (WATER9)
Acenaphthylene	5.06E-02	8.33E-06	4.63E-04	5.03E+03	*6.84E-07*	*1.11E+04*	*Acenapthene*
Anthracene	3.90E-02	7.85E-06	2.27E-03	1.64E+04	5.19E-08	4.02E+04	USEPA RSL (WATER9)
2-Chloronaphthalene	4.47E-02	7.73E-06	1.31E-02	2.48E+03	2.09E-06	6.33E+03	USEPA RSL (WATER9)
Dibenzofuran	4.10E-02	7.38E-06	8.71E-03	9.16E+03	3.53E-07	1.54E+04	USEPA RSL (WATER9)
Fluorene	4.40E-02	7.89E-06	3.93E-03	9.16E+03	1.75E-07	2.19E+04	USEPA RSL (WATER9)
Naphthalene	6.05E-02	8.38E-06	1.80E-02	1.54E+03	6.15E-06	3.69E+03	USEPA RSL (WATER9)
1-Methylnaphthalene					*6.15E-06*	*3.69E+03*	*Naphthalene*
2-Methylnaphthalene					*6.15E-06*	*3.69E+03*	*Naphthalene*
Phenanthrene					*5.19E-08*	*4.02E+04*	*Anthracene*
Pyrene	2.78E-02	7.25E-06	4.87E-04	5.43E+04	3.23E-09	1.61E+05	USEPA RSL (WATER9)

Sources:
USEPA Region IX = Region IX PRGs (USEPA 2004a)
Italics indicate value for surrogate compound applied.

Construction Worker Volatilization Factor (and apparent diffusivity): calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns 5-14 and 5-15

Where: $Q/Csa = A \times \exp\left[\frac{(\ln Asite - B)^2}{C}\right]$

Input Parameters

VFsc=		calculated	m^3/kg	Construction worker subchronic volatilization factor (Eqn 5-14)
Da=		calculated	cm2/s	Apparent diffusivity (Eqn 5-14)
T =	7.78E+06	site-specific	sec	Total time over which construction activities occurs (including time not worked)
rhob=	1.23	site-specific	g/cm^3	Dry soil bulk density; average of Pismo samples (see Table 5-34)
Q/Csa=	8.55	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd=	0.188	calculated	unitless	Dispersion correction factor for averaging times less than one year (default = 0.185, Eqns 5-14, E-16)
Thours =	2.16E+03	site-specific	hours	Total time over which construction activities occurs, in hours (for Fd calculation; Eqn E-16)
q_{as} =	0.25	qt-qws	unitless	Air-filled soil porosity (USEPA 2002)
q_T =	0.49	1-(rhob/rhos)	unitless	Total soil porosity (USEPA 2002)
q_{ws} =	0.240	site-specific	unitless	Water-filled soil porosity; average of Pismo samples (see Table 5-34)
rhos=	2.43	site-specific	g/cm3	Soil particle density; average of Pismo samples (Avocet 2008b)
Di=	chemical specific		cm2/sec	Diffusivity in air
Dw=	chemical specific		cm2/sec	Diffusivity in water
Ho=	chemical specific		unitless	Henry's Law Constant
Kd=	chemical specific	Koc*foc (orgs)	cm3/g	Soil-water partition coefficient
Koc=	chemical specific		ml/g (l/kg)	Organic carbon partition coefficient
Foc =	0.004	site-specific	unitless	Fraction organic carbon; average of Pismo samples (Avocet 2008b)
A_{site} =	9.07	site-specific	acres	Areal extent of contamination
A =	*2.4538*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
B =	*17.566*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
C =	*189.0426*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)

Construction Worker Particulate Emission Factor, Wind Erosion and Dumping of Excavated Soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns E-25 and E-26

$PEF_{sc} = Q/Csa \times 1/Fd \times 1/Jt$

$Jt = (Mwind + Mexcav + Mdoz + Mgrade + Mtill) / (Asite(meters) \times T)$

Where:

PEF_{sc} =	2.72E+07	calculated	m^3/kg	Construction worker particulate emission factor due to activities other than unpaved road traffic
Q/C_{sa} =	8.55	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd =	0.188	calculated	unitless	Dispersion correction factor (default = 0.185, Eqns 5-5 and E-16)
T =	2.6E+06	site-specific	sec	Duration of construction during which workers may be exposure; active work time
Jt =	1.67E-06	calculated	g/m^2-sec	Total time-averaged PM10 unit emission flux for construction activities other than unpaved road traffic
A_{site} =	9.07	site-specific	acres	Areal extent of contamination
Asite meters =	36705.38	calculated	m^2	Areal extent of contamination

Construction Worker Non-traffic PEF: Mass from wind erosion: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--20

Mwind =	1.59E+05	calculated	grams	Mass emitted from wind erosion
RPF =	*0.036*	*default*	$g/m^2/hr$	Respirable particle fraction
V =	*0.0*	*default*	unitless	Fraction vegetative cover
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
Ut =	*11.32*	*default*	m/sec	Equivalent threshold value of wind speed at 7 m (default USEPA 2002)
x =	2.138	calculated	unitless	Function of Ut/Um; x = 0.886 × (Ut/Um)
Fx =	0.193	calculated	unitless	Function of x; Fx = 0.18 × ($8x^3 + 12x$) × $\exp(-x^2)$
ED =	8760	default	hours	Exposure duration

Construction Worker Non-traffic PEF: Mass from dumping of excavated soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--21

Mexcav =	1.46E+02	calculated	grams	Mass emitted from dumping of excavated soils
PM =	*0.35*	*default*	unitless	PM10 particle size multiplier (default, USEPA 2002)
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
M =	20	site-specific	%	Gravimetric soil moisture content; average of Pismo samples (Avocet 2008b)
rhos=	1.46	site-specific	Mg/m^3	In situ soil density (includes water); average of Pismo samples (Avocet 2008b)
A_{excav} =	0.10	site-specific	acres	Areal extent of excavation; site-specific assumption for trenching
A_{excav} =	404.69	calculated	m^2	Areal extent of excavation
d_{excav} =	2	site-specific	m	Average depth of excavation
N =	*2*	*default*	unitless	Number of times soil is dumped (default, USEPA 2002)

Volatilization Factor and Particulate Emission Factor Inputs for Intrusive Utility Worker Scenario
Exposure Area M

Chemical	Diffusivity in Air (cm^2/sec) (D_i)	Diffusivity in Water (cm^2/sec) (D_w)	Henry's Law Constant (unitless) (H_o)	Partition Coefficient (mL/g) (Koc)	Apparent Diffusivity (cm^2/sec) (D_A)	Volatilization Factor (m^3/kg) (VF)	Chemical Specific Data Reference
Benzene	8.95E-02	1.03E-05	2.27E-01	1.46E+02	1.02E-03	3.55E+02	USEPA RSL (WATER9)
Ethylbenzene	6.85E-02	8.46E-06	3.22E-01	4.46E+02	4.89E-04	5.12E+02	USEPA RSL (WATER9)
Toluene	7.78E-02	9.20E-06	2.71E-01	2.34E+02	7.70E-04	4.08E+02	USEPA RSL (WATER9)
Xylenes (total)	8.47E-02	9.90E-06	2.12E-01	3.83E+02	4.58E-04	5.30E+02	USEPA RSL (WATER9)
n-Butylbenzene	5.28E-02	7.33E-06	6.50E-01	1.48E+03	2.60E-04	7.03E+02	USEPA RSL (WATER9)
sec-Butylbenzene	7.50E-02	7.80E-06	7.67E-01	2.15E+03	3.07E-04	6.47E+02	USEPA Region IX
tert-Butylbenzene	7.50E-02	7.80E-06	5.17E-01	2.15E+03	2.09E-04	7.85E+02	USEPA Region IX
Chloroform	7.69E-02	1.09E-05	1.50E-01	3.18E+01	1.14E-03	3.35E+02	USEPA RSL (WATER9)
1,2-Dichlorobenzene	5.62E-02	8.92E-06	7.85E-02	3.83E+02	1.15E-04	1.06E+03	USEPA RSL (WATER9)
1,3-Dichlorobenzene	6.90E-02	7.90E-06	7.79E-02	6.17E+02	9.36E-05	1.17E+03	USEPA Region IX
1,4-Dichlorobenzene	5.50E-02	8.68E-06	9.85E-02	3.75E+02	1.43E-04	9.46E+02	USEPA RSL (WATER9)
Isopropylbenzene	6.03E-02	7.86E-06	4.70E-01	6.98E+02	4.25E-04	5.50E+02	USEPA RSL (WATER9)
p-Isopropyltoluene					*4.58E-04*	*5.30E+02*	*Xylenes (total)*
Methylene Chloride	9.99E-02	1.25E-05	1.33E-01	2.17E+01	1.45E-03	2.98E+02	USEPA RSL (WATER9)
Methyl tert-butyl ether	7.53E-02	8.59E-06	2.40E-02	1.16E+01	2.38E-04	7.34E+02	USEPA RSL (WATER9)
n-Propylbenzene					*2.60E-04*	*7.03E+02*	*n-Butylbenzene*
1,2,4-Trimethylbenzene	6.07E-02	7.92E-06	2.52E-01	6.14E+02	2.62E-04	7.01E+02	USEPA RSL (WATER9)
1,3,5-Trimethylbenzene	6.02E-02	7.84E-06	3.59E-01	6.02E+02	3.72E-04	5.88E+02	USEPA RSL (WATER9)
Acenaphthene	5.06E-02	8.33E-06	7.52E-03	5.03E+03	9.30E-07	1.17E+04	USEPA RSL (WATER9)
Acenaphthylene	5.06E-02	8.33E-06	4.63E-04	5.03E+03	*9.30E-07*	*1.17E+04*	*Acenapthene*
Anthracene	3.90E-02	7.85E-06	2.27E-03	1.64E+04	7.14E-08	4.24E+04	USEPA RSL (WATER9)
2-Chloronaphthalene	4.47E-02	7.73E-06	1.31E-02	2.48E+03	2.83E-06	6.74E+03	USEPA RSL (WATER9)
Dibenzofuran	4.10E-02	7.38E-06	8.71E-03	9.16E+03	4.82E-07	1.63E+04	USEPA RSL (WATER9)
Fluorene	4.40E-02	7.89E-06	3.93E-03	9.16E+03	2.39E-07	2.32E+04	USEPA RSL (WATER9)
Naphthalene	6.05E-02	8.38E-06	1.80E-02	1.54E+03	8.25E-06	3.95E+03	USEPA RSL (WATER9)
1-Methylnaphthalene					*8.25E-06*	*3.95E+03*	*Naphthalene*
2-Methylnaphthalene					*8.25E-06*	*3.95E+03*	*Naphthalene*
Phenanthrene					*7.14E-08*	*4.24E+04*	*Anthracene*
Pyrene	2.78E-02	7.25E-06	4.87E-04	5.43E+04	4.57E-09	1.68E+05	USEPA RSL (WATER9)

Sources:
USEPA Region IX = Region IX PRGs (USEPA 2004a)
Italics indicate value for surrogate compound applied.

Construction Worker Volatilization Factor (and apparent diffusivity): calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns 5-14 and 5-15

Where: $Q/Csa = A \times \exp\left[\frac{(\ln Asite - B)^2}{C}\right]$

Input Parameters

VFsc=		calculated	m^3/kg	Construction worker subchronic volatilization factor (Eqn 5-14)
Da=		calculated	cm2/s	Apparent diffusivity (Eqn 5-14)
T =	7.78E+06	site-specific	sec	Total time over which construction activities occurs (including time not worked)
rhob=	1.41	site-specific	g/cm^3	Dry soil bulk density; average of Obispo samples (see Table 5-34)
Q/Csa=	12.14	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd=	0.188	calculated	unitless	Dispersion correction factor for averaging times less than one year (default = 0.185, Eqns 5-14, E-16)
Thours =	2.16E+03	site-specific	hours	Total time over which construction activities occurs, in hours (for Fd calculation; Eqn E-16)
q_{as} =	0.21	qt-qws	unitless	Air-filled soil porosity (USEPA 2002)
q_T =	0.41	1-(rhob/rhos)	unitless	Total soil porosity (USEPA 2002)
q_{ws} =	0.202	site-specific	unitless	Water-filled soil porosity; average of Obispo samples (see Table 5-34)
rhos=	2.38	site-specific	g/cm3	Soil particle density; average of Obispo samples (Avocet 2008b)
Di=	chemical specific		cm2/sec	Diffusivity in air
Dw=	chemical specific		cm2/sec	Diffusivity in water
Ho=	chemical specific		unitless	Henry's Law Constant
Kd=	chemical specific	Koc*foc (orgs)	cm3/g	Soil-water partition coefficient
Koc=	chemical specific		ml/g (l/kg)	Organic carbon partition coefficient
Foc =	0.002	site-specific	unitless	Fraction organic carbon; average of Obispo samples (Avocet 2008b)
A_{site} =	1.20	site-specific	acres	Areal extent of contamination
A =	*2.4538*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
B =	*17.566*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
C =	*189.0426*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)

Construction Worker Particulate Emission Factor, Wind Erosion and Dumping of Excavated Soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns E-25 and E-26

$PEF_{sc} = Q/Csa \times 1/Fd \times 1/Jt$

$Jt = (Mwind + Mexcav + Mdoz + Mgrade + Mtill) / (Asite(meters) \times T)$

Where:

PEF_{sc} =	3.82E+07	calculated	m^3/kg	Construction worker particulate emission factor due to activities other than unpaved road traffic
Q/C_{sa} =	12.14	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd =	0.188	calculated	unitless	Dispersion correction factor (default = 0.185, Eqns 5-5 and E-16)
T =	2.6E+06	site-specific	sec	Duration of construction during which workers may be exposure; active work time
Jt =	1.69E-06	calculated	g/m^2-sec	Total time-averaged PM10 unit emission flux for construction activities other than unpaved road traffic
A_{site} =	1.20	site-specific	acres	Areal extent of contamination
Asite meters =	4856.28	calculated	m^2	Areal extent of contamination

Construction Worker Non-traffic PEF: Mass from wind erosion: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--20

Mwind =	2.11E+04	calculated	grams	Mass emitted from wind erosion
RPF =	*0.036*	*default*	$g/m^2/hr$	Respirable particle fraction
V =	*0.0*	*default*	unitless	Fraction vegetative cover
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
Ut =	*11.32*	*default*	m/sec	Equivalent threshold value of wind speed at 7 m (default USEPA 2002)
x =	2.138	calculated	unitless	Function of Ut/Um; x = 0.886 × (Ut/Um)
Fx =	0.193	calculated	unitless	Function of x; Fx = 0.18 × ($8x^3 + 12x$) × $\exp(-x^2)$
ED =	8760	default	hours	Exposure duration

Construction Worker Non-traffic PEF: Mass from dumping of excavated soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--21

Mexcav =	2.50E+02	calculated	grams	Mass emitted from dumping of excavated soils
PM =	*0.35*	*default*	unitless	PM10 particle size multiplier (default, USEPA 2002)
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
M =	14	site-specific	%	Gravimetric soil moisture content; average of Obispo samples (Avocet 2008b)
rhos=	1.61	site-specific	Mg/m^3	In situ soil density (includes water); average of Obispo samples (Avocet 2008b)
A_{excav} =	0.10	site-specific	acres	Areal extent of excavation; site-specific assumption for trenching
A_{excav} =	404.69	calculated	m^2	Areal extent of excavation
d_{excav} =	2	site-specific	m	Average depth of excavation
N =	*2*	*default*	unitless	Number of times soil is dumped (default, USEPA 2002)

Volatilization Factor and Particulate Emission Factor Inputs for Intrusive Utility Worker Scenario
Exposure Area N

Chemical	Diffusivity in Air (cm^2/sec) (D_i)	Diffusivity in Water (cm^2/sec) (D_w)	Henry's Law Constant (unitless) (H_o)	Partition Coefficient (mL/g) (Koc)	Apparent Diffusivity (cm^2/sec) (D_A)	Volatilization Factor (m^3/kg) (VF)	Chemical Specific Data Reference
Benzene	8.95E-02	1.03E-05	2.27E-01	1.46E+02	2.12E-04	6.70E+02	USEPA RSL (WATER9)
Ethylbenzene	6.85E-02	8.46E-06	3.22E-01	4.46E+02	1.03E-04	9.61E+02	USEPA RSL (WATER9)
Toluene	7.78E-02	9.20E-06	2.71E-01	2.34E+02	1.62E-04	7.68E+02	USEPA RSL (WATER9)
Xylenes (total)	8.47E-02	9.90E-06	2.12E-01	3.83E+02	9.60E-05	9.97E+02	USEPA RSL (WATER9)
n-Butylbenzene	5.28E-02	7.33E-06	6.50E-01	1.48E+03	5.52E-05	1.31E+03	USEPA RSL (WATER9)
sec-Butylbenzene	7.50E-02	7.80E-06	7.67E-01	2.15E+03	6.51E-05	1.21E+03	USEPA Region IX
tert-Butylbenzene	7.50E-02	7.80E-06	5.17E-01	2.15E+03	4.41E-05	1.47E+03	USEPA Region IX
Chloroform	7.69E-02	1.09E-05	1.50E-01	3.18E+01	2.30E-04	6.43E+02	USEPA RSL (WATER9)
1,2-Dichlorobenzene	5.62E-02	8.92E-06	7.85E-02	3.83E+02	2.43E-05	1.98E+03	USEPA RSL (WATER9)
1,3-Dichlorobenzene	6.90E-02	7.90E-06	7.79E-02	6.17E+02	1.97E-05	2.20E+03	USEPA Region IX
1,4-Dichlorobenzene	5.50E-02	8.68E-06	9.85E-02	3.75E+02	3.01E-05	1.78E+03	USEPA RSL (WATER9)
Isopropylbenzene	6.03E-02	7.86E-06	4.70E-01	6.98E+02	9.03E-05	1.03E+03	USEPA RSL (WATER9)
p-Isopropyltoluene					*9.60E-05*	*9.97E+02*	*Xylenes (total)*
Methylene Chloride	9.99E-02	1.25E-05	1.33E-01	2.17E+01	2.89E-04	5.74E+02	USEPA RSL (WATER9)
Methyl tert-butyl ether	7.53E-02	8.59E-06	2.40E-02	1.16E+01	4.68E-05	1.43E+03	USEPA RSL (WATER9)
n-Propylbenzene					*5.52E-05*	*1.31E+03*	*n-Butylbenzene*
1,2,4-Trimethylbenzene	6.07E-02	7.92E-06	2.52E-01	6.14E+02	5.52E-05	1.31E+03	USEPA RSL (WATER9)
1,3,5-Trimethylbenzene	6.02E-02	7.84E-06	3.59E-01	6.02E+02	7.86E-05	1.10E+03	USEPA RSL (WATER9)
Acenaphthene	5.06E-02	8.33E-06	7.52E-03	5.03E+03	2.35E-07	2.01E+04	USEPA RSL (WATER9)
Acenaphthylene	5.06E-02	8.33E-06	4.63E-04	5.03E+03	*2.35E-07*	*2.01E+04*	*Acenapthene*
Anthracene	3.90E-02	7.85E-06	2.27E-03	1.64E+04	2.67E-08	5.98E+04	USEPA RSL (WATER9)
2-Chloronaphthalene	4.47E-02	7.73E-06	1.31E-02	2.48E+03	6.66E-07	1.20E+04	USEPA RSL (WATER9)
Dibenzofuran	4.10E-02	7.38E-06	8.71E-03	9.16E+03	1.21E-07	2.81E+04	USEPA RSL (WATER9)
Fluorene	4.40E-02	7.89E-06	3.93E-03	9.16E+03	7.10E-08	3.66E+04	USEPA RSL (WATER9)
Naphthalene	6.05E-02	8.38E-06	1.80E-02	1.54E+03	1.85E-06	7.18E+03	USEPA RSL (WATER9)
1-Methylnaphthalene					*1.85E-06*	*7.18E+03*	*Naphthalene*
2-Methylnaphthalene					*1.85E-06*	*7.18E+03*	*Naphthalene*
Phenanthrene					*2.67E-08*	*5.98E+04*	*Anthracene*
Pyrene	2.78E-02	7.25E-06	4.87E-04	5.43E+04	4.21E-09	1.51E+05	USEPA RSL (WATER9)

Sources:
USEPA Region IX = Region IX PRGs (USEPA 2004a)
Italics indicate value for surrogate compound applied.

Construction Worker Volatilization Factor (and apparent diffusivity): calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns 5-14 and 5-15

Where: $Q/Csa = A \times \exp\left[\frac{(\ln \text{Asite} - B)^2}{C}\right.$

Input Parameters

VFsc=		calculated	m^3/kg	Construction worker subchronic volatilization factor (Eqn 5-14)
Da=		calculated	cm2/s	Apparent diffusivity (Eqn 5-14)
T =	7.78E+06	site-specific	sec	Total time over which construction activities occurs (including time not worked)
rhob=	1.47	site-specific	g/cm^3	Dry soil bulk density; average of Soil samples (see Table 5-34)
Q/Csa=	10.90	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd=	0.188	calculated	unitless	Dispersion correction factor for averaging times less than one year (default = 0.185, Eqns 5-14, E-16)
Thours =	2.16E+03	site-specific	hours	Total time over which construction activities occurs, in hours (for Fd calculation; Eqn E-16)
q_{as} =	0.14	qt-qws	unitless	Air-filled soil porosity (USEPA 2002)
q_T =	0.41	1-(rhob/rhos)	unitless	Total soil porosity (USEPA 2002)
q_{ws} =	0.276	site-specific	unitless	Water-filled soil porosity; average of Soil samples (see Table 5-34)
rhos=	2.50	site-specific	g/cm3	Soil particle density; average of Soil samples (Avocet 2008b)
Di=	chemical specific		cm2/sec	Diffusivity in air
Dw=	chemical specific		cm2/sec	Diffusivity in water
Ho=	chemical specific		unitless	Henry's Law Constant
Kd=	chemical specific	Koc*foc (orgs)	cm3/g	Soil-water partition coefficient
Koc=	chemical specific		ml/g (l/kg)	Organic carbon partition coefficient
Foc =	0.002	site-specific	unitless	Fraction organic carbon; average of Soil samples (Avocet 2008b)
A_{site} =	2.17	site-specific	acres	Areal extent of contamination
A =	*2.4538*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
B =	*17.566*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
C =	*189.0426*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)

Construction Worker Particulate Emission Factor, Wind Erosion and Dumping of Excavated Soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns E-25 and E-26

$PEF_{sc} = Q/Csa \times 1/Fd \times 1/Jt$

$Jt = (Mwind + Mexcav + Mdoz + Mgrade + Mtill) / (Asite(meters) \times T)$

Where:

PEF_{sc} =	3.46E+07	calculated	m^3/kg	Construction worker particulate emission factor due to activities other than unpaved road traffic
Q/C_{sa} =	10.90	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd =	0.188	calculated	unitless	Dispersion correction factor (default = 0.185, Eqns 5-5 and E-16)
T =	2.6E+06	site-specific	sec	Duration of construction during which workers may be exposure; active work time
Jt =	1.68E-06	calculated	g/m^2-sec	Total time-averaged PM10 unit emission flux for construction activities other than unpaved road traffic
A_{site} =	2.17	site-specific	acres	Areal extent of contamination
Asite meters =	8781.77	calculated	m^2	Areal extent of contamination

Construction Worker Non-traffic PEF: Mass from wind erosion: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--20

Mwind =	3.81E+04	calculated	grams	Mass emitted from wind erosion
RPF =	*0.036*	*default*	$g/m^2/hr$	Respirable particle fraction
V =	*0.0*	*default*	unitless	Fraction vegetative cover
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
Ut =	*11.32*	*default*	m/sec	Equivalent threshold value of wind speed at 7 m (default USEPA 2002)
x =	2.138	calculated	unitless	Function of Ut/Um; x = 0.886 × (Ut/Um)
Fx =	0.193	calculated	unitless	Function of x; Fx = 0.18 × ($8x^3 + 12x$) × $\exp(-x^2)$
ED =	8760	default	hours	Exposure duration

Construction Worker Non-traffic PEF: Mass from dumping of excavated soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--21

Mexcav =	1.84E+02	calculated	grams	Mass emitted from dumping of excavated soils
PM =	*0.35*	*default*	unitless	PM10 particle size multiplier (default, USEPA 2002)
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
M =	19	site-specific	%	Gravimetric soil moisture content; average of Soil samples (Avocet 2008b)
rhos=	1.75	site-specific	Mg/m^3	In situ soil density (includes water); average of Soil samples (Avocet 2008b)
A_{excav} =	0.10	site-specific	acres	Areal extent of excavation; site-specific assumption for trenching
A_{excav} =	404.69	calculated	m^2	Areal extent of excavation
d_{excav} =	2	site-specific	m	Average depth of excavation
N =	*2*	*default*	unitless	Number of times soil is dumped (default, USEPA 2002)

Volatilization Factor and Particulate Emission Factor Inputs for Intrusive Utility Worker Scenario
Exposure Area O

Chemical	Diffusivity in Air (cm^2/sec) (D_i)	Diffusivity in Water (cm^2/sec) (D_w)	Henry's Law Constant (unitless) (H_o)	Partition Coefficient (mL/g) (Koc)	Apparent Diffusivity (cm^2/sec) (D_A)	Volatilization Factor (m^3/kg) (VF)	Chemical Specific Data Reference
Benzene	8.95E-02	1.03E-05	2.27E-01	1.46E+02	1.02E-03	2.67E+02	USEPA RSL (WATER9)
Ethylbenzene	6.85E-02	8.46E-06	3.22E-01	4.46E+02	4.89E-04	3.86E+02	USEPA RSL (WATER9)
Toluene	7.78E-02	9.20E-06	2.71E-01	2.34E+02	7.70E-04	3.08E+02	USEPA RSL (WATER9)
Xylenes (total)	8.47E-02	9.90E-06	2.12E-01	3.83E+02	4.58E-04	3.99E+02	USEPA RSL (WATER9)
n-Butylbenzene	5.28E-02	7.33E-06	6.50E-01	1.48E+03	2.60E-04	5.30E+02	USEPA RSL (WATER9)
sec-Butylbenzene	7.50E-02	7.80E-06	7.67E-01	2.15E+03	3.07E-04	4.87E+02	USEPA Region IX
tert-Butylbenzene	7.50E-02	7.80E-06	5.17E-01	2.15E+03	2.09E-04	5.91E+02	USEPA Region IX
Chloroform	7.69E-02	1.09E-05	1.50E-01	3.18E+01	1.14E-03	2.53E+02	USEPA RSL (WATER9)
1,2-Dichlorobenzene	5.62E-02	8.92E-06	7.85E-02	3.83E+02	1.15E-04	7.95E+02	USEPA RSL (WATER9)
1,3-Dichlorobenzene	6.90E-02	7.90E-06	7.79E-02	6.17E+02	9.36E-05	8.82E+02	USEPA Region IX
1,4-Dichlorobenzene	5.50E-02	8.68E-06	9.85E-02	3.75E+02	1.43E-04	7.13E+02	USEPA RSL (WATER9)
Isopropylbenzene	6.03E-02	7.86E-06	4.70E-01	6.98E+02	4.25E-04	4.14E+02	USEPA RSL (WATER9)
p-Isopropyltoluene					*4.58E-04*	*3.99E+02*	*Xylenes (total)*
Methylene Chloride	9.99E-02	1.25E-05	1.33E-01	2.17E+01	1.45E-03	2.24E+02	USEPA RSL (WATER9)
Methyl tert-butyl ether	7.53E-02	8.59E-06	2.40E-02	1.16E+01	2.38E-04	5.53E+02	USEPA RSL (WATER9)
n-Propylbenzene					*2.60E-04*	*5.30E+02*	*n-Butylbenzene*
1,2,4-Trimethylbenzene	6.07E-02	7.92E-06	2.52E-01	6.14E+02	2.62E-04	5.28E+02	USEPA RSL (WATER9)
1,3,5-Trimethylbenzene	6.02E-02	7.84E-06	3.59E-01	6.02E+02	3.72E-04	4.43E+02	USEPA RSL (WATER9)
Acenaphthene	5.06E-02	8.33E-06	7.52E-03	5.03E+03	9.30E-07	8.85E+03	USEPA RSL (WATER9)
Acenaphthylene	5.06E-02	8.33E-06	4.63E-04	5.03E+03	*9.30E-07*	*8.85E+03*	*Acenapthene*
Anthracene	3.90E-02	7.85E-06	2.27E-03	1.64E+04	7.14E-08	3.20E+04	USEPA RSL (WATER9)
2-Chloronaphthalene	4.47E-02	7.73E-06	1.31E-02	2.48E+03	2.83E-06	5.08E+03	USEPA RSL (WATER9)
Dibenzofuran	4.10E-02	7.38E-06	8.71E-03	9.16E+03	4.82E-07	1.23E+04	USEPA RSL (WATER9)
Fluorene	4.40E-02	7.89E-06	3.93E-03	9.16E+03	2.39E-07	1.75E+04	USEPA RSL (WATER9)
Naphthalene	6.05E-02	8.38E-06	1.80E-02	1.54E+03	8.25E-06	2.97E+03	USEPA RSL (WATER9)
1-Methylnaphthalene					*8.25E-06*	*2.97E+03*	*Naphthalene*
2-Methylnaphthalene					*8.25E-06*	*2.97E+03*	*Naphthalene*
Phenanthrene					*7.14E-08*	*3.20E+04*	*Anthracene*
Pyrene	2.78E-02	7.25E-06	4.87E-04	5.43E+04	4.57E-09	1.26E+05	USEPA RSL (WATER9)

Sources:
USEPA Region IX = Region IX PRGs (USEPA 2004a)
Italics indicate value for surrogate compound applied.

Construction Worker Volatilization Factor (and apparent diffusivity): calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns 5-14 and 5-15

Where: $Q/Csa = A \times \exp\left[\frac{(\ln Asite - B)^2}{C}\right]$

Input Parameters

VFsc=		calculated	m^3/kg	Construction worker subchronic volatilization factor (Eqn 5-14)
Da=		calculated	cm2/s	Apparent diffusivity (Eqn 5-14)
T =	7.78E+06	site-specific	sec	Total time over which construction activities occurs (including time not worked)
rhob=	1.41	site-specific	g/cm^3	Dry soil bulk density; average of Obispo samples (see Table 5-34)
Q/Csa=	9.14	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd=	0.188	calculated	unitless	Dispersion correction factor for averaging times less than one year (default = 0.185, Eqns 5-14, E-16)
Thours =	2.16E+03	site-specific	hours	Total time over which construction activities occurs, in hours (for Fd calculation; Eqn E-16)
q_{as} =	0.21	qt-qws	unitless	Air-filled soil porosity (USEPA 2002)
q_T =	0.41	1-(rhob/rhos)	unitless	Total soil porosity (USEPA 2002)
q_{ws} =	0.202	site-specific	unitless	Water-filled soil porosity; average of Obispo samples (see Table 5-34)
rhos=	2.38	site-specific	g/cm3	Soil particle density; average of Obispo samples (Avocet 2008b)
Di=	chemical specific		cm2/sec	Diffusivity in air
Dw=	chemical specific		cm2/sec	Diffusivity in water
Ho=	chemical specific		unitless	Henry's Law Constant
Kd=	chemical specific	Koc*foc (orgs)	cm3/g	Soil-water partition coefficient
Koc=	chemical specific		ml/g (l/kg)	Organic carbon partition coefficient
Foc =	0.002	site-specific	unitless	Fraction organic carbon; average of Obispo samples (Avocet 2008b)
A_{site} =	6.03	site-specific	acres	Areal extent of contamination
A =	*2.4538*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
B =	*17.566*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
C =	*189.0426*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)

Construction Worker Particulate Emission Factor, Wind Erosion and Dumping of Excavated Soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns E-25 and E-26

$PEF_{sc} = Q/Csa \times 1/Fd \times 1/Jt$

$Jt = (Mwind + Mexcav + Mdoz + Mgrade + Mtill) / (Asite(meters) \times T)$

Where:

PEF_{sc} =	2.90E+07	calculated	m^3/kg	Construction worker particulate emission factor due to activities other than unpaved road traffic
Q/C_{sa} =	9.14	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd =	0.188	calculated	unitless	Dispersion correction factor (default = 0.185, Eqns 5-5 and E-16)
T =	2.6E+06	site-specific	sec	Duration of construction during which workers may be exposure; active work time
Jt =	1.68E-06	calculated	g/m^2-sec	Total time-averaged PM10 unit emission flux for construction activities other than unpaved road traffic
A_{site} =	6.03	site-specific	acres	Areal extent of contamination
Asite meters =	24402.81	calculated	m^2	Areal extent of contamination

Construction Worker Non-traffic PEF: Mass from wind erosion: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--20

Mwind =	1.06E+05	calculated	grams	Mass emitted from wind erosion
RPF =	*0.036*	*default*	$g/m^2/hr$	Respirable particle fraction
V =	*0.0*	*default*	unitless	Fraction vegetative cover
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
Ut =	*11.32*	*default*	m/sec	Equivalent threshold value of wind speed at 7 m (default USEPA 2002)
x =	2.138	calculated	unitless	Function of Ut/Um; x = 0.886 × (Ut/Um)
Fx =	0.193	calculated	unitless	Function of x; Fx = 0.18 × ($8x^3 + 12x$) × $\exp(-x^2)$
ED =	8760	default	hours	Exposure duration

Construction Worker Non-traffic PEF: Mass from dumping of excavated soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--21

Mexcav =	2.50E+02	calculated	grams	Mass emitted from dumping of excavated soils
PM =	*0.35*	*default*	unitless	PM10 particle size multiplier (default, USEPA 2002)
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
M =	14	site-specific	%	Gravimetric soil moisture content; average of Obispo samples (Avocet 2008b)
rhos=	1.61	site-specific	Mg/m^3	In situ soil density (includes water); average of Obispo samples (Avocet 2008b)
A_{excav} =	0.10	site-specific	acres	Areal extent of excavation; site-specific assumption for trenching
A_{excav} =	404.69	calculated	m^2	Areal extent of excavation
d_{excav} =	2	site-specific	m	Average depth of excavation
N =	*2*	*default*	unitless	Number of times soil is dumped (default, USEPA 2002)

Volatilization Factor and Particulate Emission Factor Inputs for Intrusive Utility Worker Scenario
Drainage Area

Chemical	Diffusivity in Air (cm^2/sec) (D_i)	Diffusivity in Water (cm^2/sec) (D_w)	Henry's Law Constant (unitless) (H_o)	Partition Coefficient (mL/g) (Koc)	Apparent Diffusivity (cm^2/sec) (D_A)	Volatilization Factor (m^3/kg) (VF)	Chemical Specific Data Reference
Benzene	8.95E-02	1.03E-05	2.27E-01	1.46E+02	1.02E-03	3.73E+02	USEPA RSL (WATER9)
Ethylbenzene	6.85E-02	8.46E-06	3.22E-01	4.46E+02	4.89E-04	5.38E+02	USEPA RSL (WATER9)
Toluene	7.78E-02	9.20E-06	2.71E-01	2.34E+02	7.70E-04	4.29E+02	USEPA RSL (WATER9)
Xylenes (total)	8.47E-02	9.90E-06	2.12E-01	3.83E+02	4.58E-04	5.56E+02	USEPA RSL (WATER9)
n-Butylbenzene	5.28E-02	7.33E-06	6.50E-01	1.48E+03	2.60E-04	7.38E+02	USEPA RSL (WATER9)
sec-Butylbenzene	7.50E-02	7.80E-06	7.67E-01	2.15E+03	3.07E-04	6.79E+02	USEPA Region IX
tert-Butylbenzene	7.50E-02	7.80E-06	5.17E-01	2.15E+03	2.09E-04	8.24E+02	USEPA Region IX
Chloroform	7.69E-02	1.09E-05	1.50E-01	3.18E+01	1.14E-03	3.52E+02	USEPA RSL (WATER9)
1,2-Dichlorobenzene	5.62E-02	8.92E-06	7.85E-02	3.83E+02	1.15E-04	1.11E+03	USEPA RSL (WATER9)
1,3-Dichlorobenzene	6.90E-02	7.90E-06	7.79E-02	6.17E+02	9.36E-05	1.23E+03	USEPA Region IX
1,4-Dichlorobenzene	5.50E-02	8.68E-06	9.85E-02	3.75E+02	1.43E-04	9.93E+02	USEPA RSL (WATER9)
Isopropylbenzene	6.03E-02	7.86E-06	4.70E-01	6.98E+02	4.25E-04	5.77E+02	USEPA RSL (WATER9)
p-Isopropyltoluene					*4.58E-04*	*5.56E+02*	*Xylenes (total)*
Methylene Chloride	9.99E-02	1.25E-05	1.33E-01	2.17E+01	1.45E-03	3.12E+02	USEPA RSL (WATER9)
Methyl tert-butyl ether	7.53E-02	8.59E-06	2.40E-02	1.16E+01	2.38E-04	7.71E+02	USEPA RSL (WATER9)
n-Propylbenzene					*2.60E-04*	*7.38E+02*	*n-Butylbenzene*
1,2,4-Trimethylbenzene	6.07E-02	7.92E-06	2.52E-01	6.14E+02	2.62E-04	7.35E+02	USEPA RSL (WATER9)
1,3,5-Trimethylbenzene	6.02E-02	7.84E-06	3.59E-01	6.02E+02	3.72E-04	6.17E+02	USEPA RSL (WATER9)
Acenaphthene	5.06E-02	8.33E-06	7.52E-03	5.03E+03	9.30E-07	1.23E+04	USEPA RSL (WATER9)
Acenaphthylene	5.06E-02	8.33E-06	4.63E-04	5.03E+03	*9.30E-07*	*1.23E+04*	*Acenapthene*
Anthracene	3.90E-02	7.85E-06	2.27E-03	1.64E+04	7.14E-08	4.45E+04	USEPA RSL (WATER9)
2-Chloronaphthalene	4.47E-02	7.73E-06	1.31E-02	2.48E+03	2.83E-06	7.07E+03	USEPA RSL (WATER9)
Dibenzofuran	4.10E-02	7.38E-06	8.71E-03	9.16E+03	4.82E-07	1.71E+04	USEPA RSL (WATER9)
Fluorene	4.40E-02	7.89E-06	3.93E-03	9.16E+03	2.39E-07	2.43E+04	USEPA RSL (WATER9)
Naphthalene	6.05E-02	8.38E-06	1.80E-02	1.54E+03	8.25E-06	4.14E+03	USEPA RSL (WATER9)
1-Methylnaphthalene					*8.25E-06*	*4.14E+03*	*Naphthalene*
2-Methylnaphthalene					*8.25E-06*	*4.14E+03*	*Naphthalene*
Phenanthrene					*7.14E-08*	*4.45E+04*	*Anthracene*
Pyrene	2.78E-02	7.25E-06	4.87E-04	5.43E+04	4.57E-09	1.76E+05	USEPA RSL (WATER9)

Sources:
USEPA Region IX = Region IX PRGs (USEPA 2004a)
Italics indicate value for surrogate compound applied.

Construction Worker Volatilization Factor (and apparent diffusivity): calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns 5-14 and 5-15

Where: $\frac{Q}{Csa} = A \times \exp\left[\frac{(\ln Asite - B)^2}{C}\right.$

Input Parameters

VFsc=		calculated	m^3/kg	Construction worker subchronic volatilization factor (Eqn 5-14)
Da=		calculated	cm2/s	Apparent diffusivity (Eqn 5-14)
T =	7.78E+06	site-specific	sec	Total time over which construction activities occurs (including time not worked)
rhob=	1.41	site-specific	g/cm^3	Dry soil bulk density; average of Obispo samples (see Table 5-34)
Q/Csa=	12.74	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd=	0.188	calculated	unitless	Dispersion correction factor for averaging times less than one year (default = 0.185, Eqns 5-14, E-16)
Thours =	2.16E+03	site-specific	hours	Total time over which construction activities occurs, in hours (for Fd calculation; Eqn E-16)
q_{as} =	0.21	qt-qws	unitless	Air-filled soil porosity (USEPA 2002)
q_T =	0.41	1-(rhob/rhos)	unitless	Total soil porosity (USEPA 2002)
q_{ws} =	0.202	site-specific	unitless	Water-filled soil porosity; average of Obispo samples (see Table 5-34)
rhos=	2.38	site-specific	g/cm3	Soil particle density; average of Obispo samples (Avocet 2008b)
Di=	chemical specific		cm2/sec	Diffusivity in air
Dw=	chemical specific		cm2/sec	Diffusivity in water
Ho=	chemical specific		unitless	Henry's Law Constant
Kd=	chemical specific	Koc*foc (orgs)	cm3/g	Soil-water partition coefficient
Koc=	chemical specific		ml/g (l/kg)	Organic carbon partition coefficient
Foc =	0.002	site-specific	unitless	Fraction organic carbon; average of Obispo samples (Avocet 2008b)
A_{site} =	0.92	site-specific	acres	Areal extent of contamination
A =	*2.4538*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
B =	*17.566*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)
C =	*189.0426*	*constant - default*	unitless	constant (USEPA 2002) - default for Q/Csa calc (see App E, E-15)

Construction Worker Particulate Emission Factor, Wind Erosion and Dumping of Excavated Soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqns E-25 and E-26

$PEF_{sc} = Q/Csa \times 1/Fd \times 1/Jt$

$Jt = (Mwind + Mexcav + Mdoz + Mgrade + Mtill) / (Asite(meters) \times T)$

Where:

PEF_{sc} =	3.99E+07	calculated	m^3/kg	Construction worker particulate emission factor due to activities other than unpaved road traffic
Q/C_{sa} =	12.74	calculated	$(g/m^2/sec)/(kg/m^3)$	Subchronic dispersion factor for a ground level area emission source - construction worker (USEPA Eqns 5-15 and E-15)
Fd =	0.188	calculated	unitless	Dispersion correction factor (default = 0.185, Eqns 5-5 and E-16)
T =	2.6E+06	site-specific	sec	Duration of construction during which workers may be exposure; active work time
Jt =	1.70E-06	calculated	g/m^2-sec	Total time-averaged PM10 unit emission flux for construction activities other than unpaved road traffic
A_{site} =	0.92	site-specific	acres	Areal extent of contamination
Asite meters =	3739.34	calculated	m^2	Areal extent of contamination

Construction Worker Non-traffic PEF: Mass from wind erosion: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--20

Mwind =	1.62E+04	calculated	grams	Mass emitted from wind erosion
RPF =	*0.036*	*default*	$g/m^2/hr$	Respirable particle fraction
V =	*0.0*	*default*	unitless	Fraction vegetative cover
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
Ut =	*11.32*	*default*	m/sec	Equivalent threshold value of wind speed at 7 m (default USEPA 2002)
x =	2.138	calculated	unitless	Function of Ut/Um; x = 0.886 × (Ut/Um)
Fx =	0.193	calculated	unitless	Function of x; Fx = 0.18 × ($8x^3 + 12x$) × $\exp(-x^2)$
ED =	8760	default	hours	Exposure duration

Construction Worker Non-traffic PEF: Mass from dumping of excavated soils: calculated according to USEPA (2002a) Supplemental Soil Screening Guidance, Eqn E--21

Mexcav =	2.50E+02	calculated	grams	Mass emitted from dumping of excavated soils
PM =	*0.35*	*default*	unitless	PM10 particle size multiplier (default, USEPA 2002)
Um =	*4.69*	*default*	m/sec	Mean annual wind speed (default, USEPA 2002)
M =	14	site-specific	%	Gravimetric soil moisture content; average of Obispo samples (Avocet 2008b)
rhos=	1.61	site-specific	Mg/m^3	In situ soil density (includes water); average of Obispo samples (Avocet 2008b)
A_{excav} =	0.10	site-specific	acres	Areal extent of excavation; site-specific assumption for trenching
A_{excav} =	404.69	calculated	m^2	Areal extent of excavation
d_{excav} =	2	site-specific	m	Average depth of excavation
N =	*2*	*default*	unitless	Number of times soil is dumped (default, USEPA 2002)

ATTACHMENT 16

J & E Modeling

Exposure Area A

J&E Output

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	9.60E+01			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	9.60E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	1.83E-03	1.74E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.60E+01	1.25	8.33E+01	9.80E-03	5.00E+03	4.46E+06	1.57E-04	1.50E-02	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108678	2.00E+01			1,3,5-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	2.00E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,587	3.42E-03	1.44E-01	1.78E-04	9.73E-03	1.21E-03	1.82E-03	1.73E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.00E+01	1.25	8.33E+01	9.73E-03	5.00E+03	4.94E+06	1.56E-04	3.11E-03	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	3.00E+01			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	3.00E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	2.62E-03	2.50E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.00E+01	1.25	8.33E+01	1.31E-02	5.00E+03	9.69E+04	2.12E-04	6.37E-03	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	1.00E+02			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	1.00E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	2.32E-03	2.21E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.00E+02	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	1.92E-04	1.92E-02	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	4.10E+01			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	4.10E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	2.65E-03	2.53E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.10E+01	1.25	8.33E+01	1.42E-02	5.00E+03	3.80E+04	2.15E-04	8.81E-03	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75274	1.00E+01			Bromodichloromethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	1.00E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,596	1.07E-03	4.49E-02	1.78E-04	4.82E-03	6.02E-04	9.05E-04	8.63E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.00E+01	1.25	8.33E+01	4.82E-03	5.00E+03	3.33E+13	8.28E-05	8.28E-04	3.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

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Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	1.40E+01			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	1.40E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	3.13E-03	2.99E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+01	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.46E-04	3.44E-03	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	3.40E+01			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	3.40E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	3.13E-03	3.09E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.40E+01	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	9.38E-05	3.19E-03	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	3.00E+01			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	3.00E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	3.14E-03	2.99E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.00E+01	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.46E-04	7.39E-03	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	1.40E+01			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	1.40E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	2.41E-03	2.30E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+01	1.25	8.33E+01	1.29E-02	5.00E+03	1.09E+05	1.98E-04	2.78E-03	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	2.00E+02			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	2.00E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	2.26E-03	2.16E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.00E+02	1.25	8.33E+01	1.21E-02	5.00E+03	2.36E+05	1.88E-04	3.76E-02	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	1.00E+02			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	1.00E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	6.03E-03	5.93E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.00E+02	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	1.69E-04	1.69E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	1.60E+01			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	1.60E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	1.96E-03	1.87E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+01	1.25	8.33E+01	1.05E-02	5.00E+03	1.58E+06	1.66E-04	2.66E-03	NA	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	2.90E+02			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	2.90E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	2.32E-03	2.21E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.90E+02	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	1.92E-04	5.57E-02	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	6.60E+00			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	6.60E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	6.03E-03	5.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.60E+00	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	4.01E-04	2.64E-03	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	4.00E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	4.00E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	6.03E-03	5.93E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.00E+01	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	1.69E-04	6.75E-03	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	3.60E+01			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	3.60E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	1.81E-03	1.73E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.60E+01	1.25	8.33E+01	9.72E-03	5.00E+03	5.07E+06	1.55E-04	5.59E-03	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95476	1.30E+02			o-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	1.30E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,325	3.20E-03	1.34E-01	1.78E-04	1.41E-02	1.75E-03	2.62E-03	2.50E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+02	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	2.13E-04	2.77E-02	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
109999	4.40E+00			Tetrahydrofuran

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	4.40E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,613	4.91E-05	2.06E-03	1.78E-04	1.58E-02	2.07E-03	3.11E-03	2.97E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.40E+00	1.25	8.33E+01	1.58E-02	5.00E+03	1.29E+04	2.44E-04	1.08E-03	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	3.60E+02			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	3.60E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	2.62E-03	2.50E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.60E+02	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	2.13E-04	7.66E-02	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

J and E Modeled Indoor Air Concentrations
Exposure Area A
5 ft, Default Commercial

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
100414	Ethylbenzene		11	152.4	3.15E-04	3.46E-03
100425	Styrene		2.9	152.4	3.02E-04	8.76E-04
103651	n-Propylbenzene		2.3	152.4	2.66E-04	6.11E-04
108101	Methylisobutylketone (4-methyl-2-pentanone)		40	152.4	3.18E-04	1.27E-02
108678	1,3,5-Trimethylbenzene		3.7	152.4	2.66E-04	9.84E-04
108883	Toluene		46	152.4	3.51E-04	1.61E-02
109999	Tetrahydrofuran		50	152.4	3.89E-04	1.94E-02
110543	Hexane		5.3	152.4	5.91E-04	3.13E-03
115071	Propylene		5.4	152.4	4.11E-04	2.22E-03
127184	Tetrachloroethylene		7	152.4	3.05E-04	2.14E-03
141786	Ethylacetate		18	152.4	3.13E-04	5.63E-03
110543	*Hexane*	*	4.1	152.4	5.91E-04	2.42E-03
1634044	MTBE		6.4	152.4	3.94E-04	2.52E-03
106423	p-Xylene		290	152.4	3.20E-04	9.29E-02
110543	*Hexane*	*	34	152.4	5.91E-04	2.01E-02
78933	*Methylethylketone (2-butanone)*	*	2.2	152.4	3.42E-04	7.52E-04
106423	*p-Xylene*	*	3.4	152.4	3.20E-04	1.09E-03
630206	1,1,1,2-Tetrachloroethane		5.4	152.4	3.02E-04	1.63E-03
67630	Isopropyl Alcohol (2-propanol)		8.4	152.4	4.40E-04	3.70E-03
67641	Acetone		62	152.4	4.57E-04	2.84E-02
67663	Chloroform		15	152.4	3.97E-04	5.96E-03
71432	Benzene		9.1	152.4	3.53E-04	3.22E-03
74873	Methyl chloride (chloromethane)		0.93	152.4	4.50E-04	4.19E-04
75092	Methylene chloride		6.9	152.4	3.89E-04	2.69E-03
75150	Carbon disulfide		23	152.4	3.97E-04	9.13E-03
1634044	*MTBE*	*	2.3	152.4	3.94E-04	9.05E-04
75694	Trichlorofluoromethane		23	152.4	3.50E-04	8.06E-03
75718	Dichlorodifluoromethane		7.2	152.4	2.87E-04	2.07E-03
78933	Methylethylketone (2-butanone)		110	152.4	3.42E-04	3.76E-02
91203	Naphthalene		3.8	152.4	2.63E-04	9.99E-04
95476	o-Xylene		12	152.4	3.51E-04	4.21E-03
95636	1,2,4-Trimethylbenzene		12	152.4	2.67E-04	3.21E-03
98066	tert-Butylbenzene		2.3	152.4	2.53E-04	5.82E-04
98828	Cumene		31	152.4	2.82E-04	8.75E-03
98828	*Cumene*	*	2.4	152.4	2.82E-04	6.77E-04

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area A
15 ft, Default Commercial

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
100414	Ethylbenzene		2.00E+02	457.2	1.67E-04	3.33E-02
100425	Styrene		3.80E+00	457.2	1.59E-04	6.04E-04
103651	n-Propylbenzene		5.10E+00	457.2	1.37E-04	7.00E-04
108101	Methylisobutylketone (4-methyl-2-pentanone)		4.40E+01	457.2	1.68E-04	7.38E-03
108678	1,3,5-Trimethylbenzene		4.40E+00	457.2	1.37E-04	6.04E-04
108883	Toluene		5.70E+01	457.2	1.89E-04	1.08E-02
109999	Tetrahydrofuran		1.00E+02	457.2	2.12E-04	2.12E-02
110543	Hexane		2.20E+01	457.2	3.63E-04	7.99E-03
115071	Propylene		4.30E+01	457.2	2.29E-04	9.86E-03
127184	Tetrachloroethylene		9.40E+00	457.2	1.61E-04	1.51E-03
141786	Ethylacetate		2.30E+01	457.2	1.64E-04	3.78E-03
110543	*Hexane*	*	2.40E+01	457.2	3.63E-04	8.72E-03
1634044	MTBE		1.10E+01	457.2	2.17E-04	2.39E-03
110543	*Hexane*	*	2.20E+02	457.2	3.63E-04	7.99E-02
78933	*Methylethylketone (2-butanone)*	*	2.40E+00	457.2	1.81E-04	4.34E-04
67641	Acetone		7.90E+01	457.2	2.57E-04	2.03E-02
67663	Chloroform		1.50E+01	457.2	2.19E-04	3.29E-03
71432	Benzene		4.60E+01	457.2	1.91E-04	8.78E-03
74873	Methyl chloride (chloromethane)		1.50E+00	457.2	2.56E-04	3.84E-04
75150	Carbon disulfide		2.80E+01	457.2	2.19E-04	6.14E-03
75694	Trichlorofluoromethane		4.60E+01	457.2	1.89E-04	8.70E-03
75718	Dichlorodifluoromethane		1.00E+01	457.2	1.50E-04	1.50E-03
78933	Methylethylketone (2-butanone)		2.00E+02	457.2	1.81E-04	3.61E-02
95476	o-Xylene		1.20E+01	457.2	1.89E-04	2.27E-03
95636	1,2,4-Trimethylbenzene		1.80E+01	457.2	1.38E-04	2.49E-03
98066	tert-Butylbenzene		2.40E+00	457.2	1.30E-04	3.12E-04
98828	Cumene		3.20E+01	457.2	1.47E-04	4.70E-03

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Exposure Area C

J&E Output

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	1.60E+02			p-Xylene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.60E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	2.77E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+02	0.76	8.33E+01	1.24E-02	1.85E+03	1.35E+14	5.25E-04	8.41E-02	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	1.60E+02			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.60E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	2.77E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+02	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	2.32E-04	3.71E-02	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	4.90E+02			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	4.90E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	2.59E-03	2.19E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.90E+02	0.76	8.33E+01	9.80E-03	1.85E+03	8.50E+17	4.21E-04	2.06E-01	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	4.90E+02			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.90E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	2.59E-03	2.19E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.90E+02	1.25	8.33E+01	9.80E-03	5.00E+03	4.46E+06	1.90E-04	9.32E-02	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108678	1.50E+02			1,3,5-Trimethylbenzene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.50E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	11,587	3.42E-03	1.44E-01	1.78E-04	9.73E-03	1.21E-03	2.57E-03	2.17E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.50E+02	0.76	8.33E+01	9.73E-03	1.85E+03	1.12E+18	4.19E-04	6.28E-02	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108678	1.50E+02			1,3,5-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.50E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,587	3.42E-03	1.44E-01	1.78E-04	9.73E-03	1.21E-03	2.57E-03	2.17E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.50E+02	1.25	8.33E+01	9.73E-03	5.00E+03	4.94E+06	1.89E-04	2.84E-02	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	1.00E+02			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.00E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.17E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.00E+02	0.76	8.33E+01	1.42E-02	1.85E+03	2.22E+12	5.95E-04	5.95E-02	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	1.00E+02			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.00E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.17E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.00E+02	1.25	8.33E+01	1.42E-02	5.00E+03	3.80E+04	2.58E-04	2.58E-02	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	1.40E+02			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.40E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.55E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+02	0.76	8.33E+01	1.42E-02	1.85E+03	2.22E+12	2.26E-04	3.16E-02	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	1.40E+02			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.40E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.55E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+02	1.25	8.33E+01	1.42E-02	5.00E+03	3.80E+04	1.07E-04	1.49E-02	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75274	1.00E+02			Bromodichloromethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.00E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,596	1.07E-03	4.49E-02	1.78E-04	4.82E-03	6.02E-04	1.28E-03	1.08E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.00E+02	0.76	8.33E+01	4.82E-03	1.85E+03	2.88E+36	2.15E-04	2.15E-02	3.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75274	1.00E+02			Bromodichloromethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.00E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,596	1.07E-03	4.49E-02	1.78E-04	4.82E-03	6.02E-04	1.28E-03	1.08E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.00E+02	1.25	8.33E+01	4.82E-03	5.00E+03	3.33E+13	1.02E-04	1.02E-02	3.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75252	7.70E+01			Bromoform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	7.70E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,809	3.55E-04	1.49E-02	1.78E-04	2.41E-03	3.13E-04	6.61E-04	5.59E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.70E+01	0.76	8.33E+01	2.41E-03	1.85E+03	8.18E+72	1.13E-04	8.71E-03	1.1E-06	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75252	7.70E+01			Bromoform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	7.70E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,809	3.55E-04	1.49E-02	1.78E-04	2.41E-03	3.13E-04	6.61E-04	5.59E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.70E+01	1.25	8.33E+01	2.41E-03	5.00E+03	1.10E+27	5.49E-05	4.23E-03	1.1E-06	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
56235	6.80E+01			Carbon tetrachloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	6.80E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,788	2.11E-02	8.86E-01	1.78E-04	1.26E-02	1.56E-03	3.33E-03	2.81E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.80E+01	0.76	8.33E+01	1.26E-02	1.85E+03	8.51E+13	5.32E-04	3.62E-02	4.2E-05	4.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
56235	6.80E+01			Carbon tetrachloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	6.80E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,788	2.11E-02	8.86E-01	1.78E-04	1.26E-02	1.56E-03	3.33E-03	2.81E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.80E+01	1.25	8.33E+01	1.26E-02	5.00E+03	1.47E+05	2.34E-04	1.59E-02	4.2E-05	4.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108907	5.80E+01			Chlorobenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	5.80E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	9,733	2.35E-03	9.85E-02	1.78E-04	1.18E-02	1.47E-03	3.12E-03	2.63E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.80E+01	0.76	8.33E+01	1.18E-02	1.85E+03	7.65E+14	5.01E-04	2.91E-02	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108907	5.80E+01			Chlorobenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	5.80E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,733	2.35E-03	9.85E-02	1.78E-04	1.18E-02	1.47E-03	3.12E-03	2.63E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.80E+01	1.25	8.33E+01	1.18E-02	5.00E+03	3.31E+05	2.22E-04	1.29E-02	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108907	6.50E+01			Chlorobenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	6.50E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	9,733	2.35E-03	9.85E-02	1.78E-04	1.18E-02	1.47E-03	3.12E-03	2.95E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.50E+01	0.76	8.33E+01	1.18E-02	1.85E+03	7.65E+14	1.89E-04	1.23E-02	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108907	6.50E+01			Chlorobenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	6.50E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,733	2.35E-03	9.85E-02	1.78E-04	1.18E-02	1.47E-03	3.12E-03	2.95E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.50E+01	1.25	8.33E+01	1.18E-02	5.00E+03	3.31E+05	8.99E-05	5.84E-03	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75003	1.60E+01			Chloroethane (ethyl chloride)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.60E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	5,823	6.71E-03	2.82E-01	1.78E-04	4.38E-02	5.43E-03	1.16E-02	9.77E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+01	0.76	8.33E+01	4.38E-02	1.85E+03	1.02E+04	1.54E-03	2.47E-02	8.3E-07	1.0E+01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75003	1.60E+01			Chloroethane (ethyl chloride)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.60E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	5,823	6.71E-03	2.82E-01	1.78E-04	4.38E-02	5.43E-03	1.16E-02	9.77E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+01	1.25	8.33E+01	4.38E-02	5.00E+03	3.07E+01	5.61E-04	8.98E-03	8.3E-07	1.0E+01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75003	4.00E+01			Chloroethane (ethyl chloride)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	4.00E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	5,823	6.71E-03	2.82E-01	1.78E-04	4.38E-02	5.43E-03	1.16E-02	1.09E-02	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.00E+01	0.76	8.33E+01	4.38E-02	1.85E+03	1.02E+04	6.49E-04	2.60E-02	8.3E-07	1.0E+01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75003	4.00E+01			Chloroethane (ethyl chloride)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.00E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	5,823	6.71E-03	2.82E-01	1.78E-04	4.38E-02	5.43E-03	1.16E-02	1.09E-02	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.00E+01	1.25	8.33E+01	4.38E-02	5.00E+03	3.07E+01	2.80E-04	1.12E-02	8.3E-07	1.0E+01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	3.50E+03			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.50E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.50E+03	0.76	8.33E+01	1.68E-02	1.85E+03	2.80E+10	6.91E-04	2.42E+00	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	3.50E+03			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.50E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.50E+03	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.94E-04	1.03E+00	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	6.70E+01			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	6.70E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	2.78E-03	2.34E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.70E+01	0.76	8.33E+01	1.05E-02	1.85E+03	5.20E+16	4.50E-04	3.01E-02	NA	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	6.70E+01			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	6.70E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	2.78E-03	2.34E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.70E+01	1.25	8.33E+01	1.05E-02	5.00E+03	1.58E+06	2.02E-04	1.35E-02	NA	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	4.10E+02			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	4.10E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	3.42E-03	2.88E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.10E+02	0.76	8.33E+01	1.29E-02	1.85E+03	3.82E+13	5.45E-04	2.23E-01	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	4.10E+02			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.10E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	3.42E-03	2.88E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.10E+02	1.25	8.33E+01	1.29E-02	5.00E+03	1.09E+05	2.39E-04	9.80E-02	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
124481	6.20E+01			Chlorodibromomethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	6.20E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	6,737	5.71E-04	2.40E-02	1.78E-04	3.17E-03	4.02E-04	8.53E-04	7.20E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.20E+01	0.76	8.33E+01	3.17E-03	1.85E+03	2.70E+55	1.45E-04	8.99E-03	2.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
124481	6.20E+01			Chlorodibromomethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	6.20E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,737	5.71E-04	2.40E-02	1.78E-04	3.17E-03	4.02E-04	8.53E-04	7.20E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.20E+01	1.25	8.33E+01	3.17E-03	5.00E+03	3.62E+20	6.99E-05	4.33E-03	2.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	2.30E+02			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.30E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	4.44E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.30E+02	0.76	8.33E+01	1.68E-02	1.85E+03	2.80E+10	6.91E-04	1.59E-01	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	2.30E+02			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.30E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	4.44E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.30E+02	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.94E-04	6.75E-02	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	1.10E+02			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.10E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	3.21E-03	2.70E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+02	0.76	8.33E+01	1.21E-02	1.85E+03	3.07E+14	5.13E-04	5.65E-02	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	1.10E+02			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.10E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	3.21E-03	2.70E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+02	1.25	8.33E+01	1.21E-02	5.00E+03	2.36E+05	2.27E-04	2.50E-02	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	9.20E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	9.20E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	8.07E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.20E+01	0.76	8.33E+01	3.23E-02	1.85E+03	2.71E+05	4.92E-04	4.52E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	9.20E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	9.20E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	8.07E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.20E+01	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	2.19E-04	2.01E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	2.10E+02			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.10E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	8.07E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.10E+02	0.76	8.33E+01	3.23E-02	1.85E+03	2.71E+05	4.92E-04	1.03E-01	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	2.10E+02			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.10E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	8.07E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.10E+02	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	2.19E-04	4.59E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67630	2.20E+02			Isopropyl Alcohol (2-propanol)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.20E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	12,516	4.52E-06	1.90E-04	1.78E-04	1.59E-02	3.06E-03	6.12E-03	5.25E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.20E+02	0.76	8.33E+01	1.59E-02	1.85E+03	1.18E+11	9.29E-04	2.04E-01	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67630	2.20E+02			Isopropyl Alcohol (2-propanol)

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.20E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,516	4.52E-06	1.90E-04	1.78E-04	1.59E-02	3.06E-03	6.12E-03	5.25E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.20E+02	1.25	8.33E+01	1.59E-02	5.00E+03	1.28E+04	3.75E-04	8.26E-02	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67630	4.60E+02			Isopropyl Alcohol (2-propanol)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	4.60E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	12,516	4.52E-06	1.90E-04	1.78E-04	1.59E-02	3.06E-03	6.12E-03	5.81E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.60E+02	0.76	8.33E+01	1.59E-02	1.85E+03	1.18E+11	3.62E-04	1.66E-01	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67630	4.60E+02			Isopropyl Alcohol (2-propanol)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.60E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,516	4.52E-06	1.90E-04	1.78E-04	1.59E-02	3.06E-03	6.12E-03	5.81E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.60E+02	1.25	8.33E+01	1.59E-02	5.00E+03	1.28E+04	1.66E-04	7.62E-02	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	1.10E+03			Methylethylketone (2-butanone)

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.10E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	3.67E-03	3.11E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+03	0.76	8.33E+01	1.31E-02	1.85E+03	2.78E+13	5.83E-04	6.42E-01	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	1.10E+03			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.10E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	3.67E-03	3.11E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+03	1.25	8.33E+01	1.31E-02	5.00E+03	9.69E+04	2.54E-04	2.79E-01	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	1.80E+03			Methylethylketone (2-butanone)

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.80E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	3.67E-03	3.47E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.80E+03	0.76	8.33E+01	1.31E-02	1.85E+03	2.78E+13	2.21E-04	3.97E-01	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	1.80E+03			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.80E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
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Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.80E+03	1.25	8.33E+01	1.31E-02	5.00E+03	9.69E+04	1.04E-04	1.88E-01	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

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103651	1.60E+02			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.60E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	2.57E-03	2.17E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+02	0.76	8.33E+01	9.72E-03	1.85E+03	1.20E+18	4.18E-04	6.69E-02	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	1.60E+02			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.60E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	2.57E-03	2.17E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+02	1.25	8.33E+01	9.72E-03	5.00E+03	5.07E+06	1.89E-04	3.02E-02	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
127184	2.40E+02			Tetrachloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.40E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	9,482	1.18E-02	4.96E-01	1.78E-04	1.16E-02	1.44E-03	3.08E-03	2.60E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.40E+02	0.76	8.33E+01	1.16E-02	1.85E+03	1.23E+15	4.94E-04	1.19E-01	5.9E-06	3.5E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
127184	2.40E+02			Tetrachloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.40E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,482	1.18E-02	4.96E-01	1.78E-04	1.16E-02	1.44E-03	3.08E-03	2.60E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.40E+02	1.25	8.33E+01	1.16E-02	5.00E+03	3.95E+05	2.19E-04	5.27E-02	5.9E-06	3.5E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
79016	5.60E+01			Trichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	5.60E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,470	6.93E-03	2.91E-01	1.78E-04	1.28E-02	1.58E-03	3.38E-03	2.85E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.60E+01	0.76	8.33E+01	1.28E-02	1.85E+03	5.67E+13	5.39E-04	3.02E-02	2.0E-06	6.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
79016	5.60E+01			Trichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	5.60E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,470	6.93E-03	2.91E-01	1.78E-04	1.28E-02	1.58E-03	3.38E-03	2.85E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.60E+01	1.25	8.33E+01	1.28E-02	5.00E+03	1.26E+05	2.37E-04	1.33E-02	2.0E-06	6.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
1634044	1.30E+03			MTBE

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.30E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,205	4.46E-04	1.87E-02	1.78E-04	1.66E-02	2.06E-03	4.39E-03	3.71E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+03	0.76	8.33E+01	1.66E-02	1.85E+03	4.08E+10	6.84E-04	8.90E-01	2.6E-07	3.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
1634044	1.30E+03			MTBE

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.30E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,205	4.46E-04	1.87E-02	1.78E-04	1.66E-02	2.06E-03	4.39E-03	3.71E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+03	1.25	8.33E+01	1.66E-02	5.00E+03	8.61E+03	2.91E-04	3.79E-01	2.6E-07	3.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
1634044	2.50E+03			MTBE

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.50E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,205	4.46E-04	1.87E-02	1.78E-04	1.66E-02	2.06E-03	4.39E-03	4.15E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.50E+03	0.76	8.33E+01	1.66E-02	1.85E+03	4.08E+10	2.62E-04	6.56E-01	2.6E-07	3.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
1634044	2.50E+03			MTBE

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.50E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,205	4.46E-04	1.87E-02	1.78E-04	1.66E-02	2.06E-03	4.39E-03	4.15E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.50E+03	1.25	8.33E+01	1.66E-02	5.00E+03	8.61E+03	1.23E-04	3.07E-01	2.6E-07	3.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
109999	3.10E+01			Tetrahydrofuran

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.10E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,613	4.91E-05	2.06E-03	1.78E-04	1.58E-02	2.07E-03	4.38E-03	3.70E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.10E+01	0.76	8.33E+01	1.58E-02	1.85E+03	1.22E+11	6.83E-04	2.12E-02	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
109999	3.10E+01			Tetrahydrofuran

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.10E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,613	4.91E-05	2.06E-03	1.78E-04	1.58E-02	2.07E-03	4.38E-03	3.70E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.10E+01	1.25	8.33E+01	1.58E-02	5.00E+03	1.29E+04	2.91E-04	9.01E-03	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
109999	6.10E+01			Tetrahydrofuran

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	6.10E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,613	4.91E-05	2.06E-03	1.78E-04	1.58E-02	2.07E-03	4.38E-03	4.13E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.10E+01	0.76	8.33E+01	1.58E-02	1.85E+03	1.22E+11	2.61E-04	1.59E-02	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
109999	6.10E+01			Tetrahydrofuran

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	6.10E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,613	4.91E-05	2.06E-03	1.78E-04	1.58E-02	2.07E-03	4.38E-03	4.13E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.10E+01	1.25	8.33E+01	1.58E-02	5.00E+03	1.29E+04	1.23E-04	7.47E-03	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	5.10E+01			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	5.10E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.10E+01	0.76	8.33E+01	1.41E-02	1.85E+03	3.08E+12	5.88E-04	3.00E-02	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	5.10E+01			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	5.10E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.10E+01	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	2.56E-04	1.30E-02	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	8.60E+01			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	8.60E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.51E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.60E+01	0.76	8.33E+01	1.41E-02	1.85E+03	3.08E+12	2.23E-04	1.92E-02	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	8.60E+01			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	8.60E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.51E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.60E+01	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	1.06E-04	9.08E-03	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

J and E Modeled Indoorn Air Concentrations
Exposure Area C
5 ft, Bungalow

CAS No.	Analyte		Concentration ($\mu g/m^3$)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
106423	p-Xylene		200	152.4	5.25E-04	1.05E-01
95476	o-Xylene		76	152.4	5.88E-04	4.47E-02
110543	*Hexane*	*	79	152.4	1.21E-03	9.58E-02
110543	Hexane		58	152.4	1.21E-03	7.03E-02
75092	Methylene chloride		120	152.4	6.74E-04	8.09E-02
123911	1,4-Dioxane		24	152.4	9.98E-04	2.40E-02

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area C
5 ft, Default Commercial

CAS No.	Analyte		Concentration ($\mu g/m^3$)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
106423	p-Xylene		200	152.4	2.32E-04	4.63E-02
95476	o-Xylene		76	152.4	2.56E-04	1.94E-02
110543	*Hexane*	*	79	152.4	4.64E-04	3.67E-02
110543	Hexane		58	152.4	4.64E-04	2.69E-02
75092	Methylene chloride		120	152.4	2.87E-04	3.45E-02
123911	1,4-Dioxane		24	152.4	3.98E-04	9.54E-03

Indicated that chemical is a surrogate.

Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area C
15 ft, Bungalow

CAS No.	Analyte		Concentration ($\mu g/m^3$)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
106990	1,3-Butadiene		5.8	457.2	6.01E-04	3.49E-03
74873	Methyl chloride (chloromethane)		48	457.2	3.19E-04	1.53E-02
110543	*Hexane*	*	15	457.2	4.92E-04	7.38E-03

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area C
15 ft, Default Commercial

CAS No.	Analyte		Concentration ($\mu g/m^3$)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
106990	1,3-Butadiene		5.8	457.2	2.62E-04	1.52E-03
74873	Methyl chloride (chloromethane)		48	457.2	1.47E-04	7.07E-03
110543	Hexane	*	15	457.2	2.19E-04	3.28E-03

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Exposure Area D

J&E Output

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	1.30E+03			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.30E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	5.93E-04	7.37E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+03	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	7.14E-05	9.29E-02	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	1.10E+04			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.10E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	5.93E-04	6.33E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+04	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	2.05E-05	2.25E-01	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106990	3.60E+01			1,3-Butadiene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	426	17	19	30	377			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	417	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	3.60E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	5,098	5.79E-02	2.43E+00	1.78E-04	4.03E-02	4.99E-03	1.91E-03	2.05E-03	417

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.60E+01	1.25	8.33E+01	4.03E-02	5.00E+03	4.15E+01	6.85E-05	2.47E-03	1.7E-04	2.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	2.10E+03			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.10E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	4.69E-04	5.83E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.10E+03	1.25	8.33E+01	9.80E-03	5.00E+03	4.46E+06	5.72E-05	1.20E-01	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	1.40E+04			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.40E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	4.69E-04	5.00E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+04	1.25	8.33E+01	9.80E-03	5.00E+03	4.46E+06	1.63E-05	2.28E-01	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108678	1.10E+03			1,3,5-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.10E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,587	3.42E-03	1.44E-01	1.78E-04	9.73E-03	1.21E-03	4.67E-04	5.80E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+03	1.25	8.33E+01	9.73E-03	5.00E+03	4.94E+06	5.69E-05	6.26E-02	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108678	9.60E+03			1,3,5-Trimethylbenzene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	9.60E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,587	3.42E-03	1.44E-01	1.78E-04	9.73E-03	1.21E-03	4.67E-04	4.98E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.60E+03	1.25	8.33E+01	9.73E-03	5.00E+03	4.94E+06	1.62E-05	1.55E-01	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	6.30E+00			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	6.30E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	6.80E-04	8.45E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.30E+00	1.25	8.33E+01	1.42E-02	5.00E+03	3.80E+04	8.12E-05	5.11E-04	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	2.20E+03			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.20E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	6.80E-04	7.25E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.20E+03	1.25	8.33E+01	1.42E-02	5.00E+03	3.80E+04	2.34E-05	5.15E-02	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75274	9.30E+00			Bromodichloromethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	426	17	19	30	377			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	417	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	9.30E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,596	1.07E-03	4.49E-02	1.78E-04	4.82E-03	6.02E-04	2.48E-04	2.65E-04	417

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.30E+00	1.25	8.33E+01	4.82E-03	5.00E+03	3.33E+13	9.30E-06	8.65E-05	3.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	8.10E+00			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	8.10E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	8.05E-04	1.00E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.10E+00	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	9.50E-05	7.69E-04	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	6.60E+01			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	426	17	19	30	377			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	417	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	6.60E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	8.05E-04	8.63E-04	417

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.60E+01	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.98E-05	1.97E-03	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	1.00E+03			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.00E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	5.00E-04	6.22E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.00E+03	1.25	8.33E+01	1.05E-02	5.00E+03	1.58E+06	6.08E-05	6.08E-02	NA	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	3.20E+04			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	3.20E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	5.00E-04	5.34E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.20E+04	1.25	8.33E+01	1.05E-02	5.00E+03	1.58E+06	1.73E-05	5.54E-01	NA	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	2.20E+04			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.20E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	6.14E-04	7.63E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.20E+04	1.25	8.33E+01	1.29E-02	5.00E+03	1.09E+05	7.38E-05	1.62E+00	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	5.10E+05			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	5.10E+05	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	6.14E-04	6.55E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.10E+05	1.25	8.33E+01	1.29E-02	5.00E+03	1.09E+05	2.12E-05	1.08E+01	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	2.40E+01			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.40E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	7.99E-04	9.93E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.40E+01	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	9.43E-05	2.26E-03	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	7.20E+03			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	7.20E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	7.99E-04	8.52E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.20E+03	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.74E-05	1.97E-01	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	2.10E+03			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.10E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	5.78E-04	7.19E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.10E+03	1.25	8.33E+01	1.21E-02	5.00E+03	2.36E+05	6.98E-05	1.46E-01	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	4.90E+04			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	4.90E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	5.78E-04	6.17E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.90E+04	1.25	8.33E+01	1.21E-02	5.00E+03	2.36E+05	2.00E-05	9.79E-01	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	4.90E+03			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	4.90E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	1.53E-03	1.91E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.90E+03	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	1.69E-04	8.30E-01	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	1.10E+05			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.10E+05	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	1.53E-03	1.64E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+05	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	5.16E-05	5.68E+00	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	2.80E+03			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.80E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	1.53E-03	1.91E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.80E+03	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	1.69E-04	4.74E-01	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	6.10E+04			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	6.10E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	1.53E-03	1.64E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.10E+04	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	5.16E-05	3.15E+00	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	2.10E+01			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.10E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	1.12E-03	1.30E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.10E+01	1.25	8.33E+01	1.31E-02	5.00E+03	9.69E+04	1.21E-04	2.53E-03	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	4.40E+01			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	4.40E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	1.12E-03	1.17E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.40E+01	1.25	8.33E+01	1.31E-02	5.00E+03	9.69E+04	3.74E-05	1.64E-03	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75092	6.80E+00			Methylene chloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	426	17	19	30	377			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	417	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	6.80E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,960	1.58E-03	6.64E-02	1.78E-04	1.63E-02	2.03E-03	7.89E-04	8.46E-04	417

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.80E+00	1.25	8.33E+01	1.63E-02	5.00E+03	9.77E+03	2.92E-05	1.99E-04	1.0E-06	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	1.40E+03			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.40E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	4.63E-04	5.76E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+03	1.25	8.33E+01	9.72E-03	5.00E+03	5.07E+06	5.65E-05	7.91E-02	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	3.00E+04			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	3.00E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	4.63E-04	4.94E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.00E+04	1.25	8.33E+01	9.72E-03	5.00E+03	5.07E+06	1.61E-05	4.82E-01	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95476	1.80E+02			o-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.80E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,325	3.20E-03	1.34E-01	1.78E-04	1.41E-02	1.75E-03	6.73E-04	8.36E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.80E+02	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	8.04E-05	1.45E-02	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	1.30E+03			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.30E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	5.93E-04	7.37E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+03	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	7.14E-05	9.29E-02	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	2.50E+04			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.50E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	5.93E-04	6.33E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.50E+04	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	2.05E-05	5.12E-01	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
1634044	2.70E+01			MTBE

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.70E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,205	4.46E-04	1.87E-02	1.78E-04	1.66E-02	2.06E-03	8.31E-04	1.03E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.70E+01	1.25	8.33E+01	1.66E-02	5.00E+03	8.61E+03	9.73E-05	2.63E-03	2.6E-07	3.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
1634044	1.70E+04			MTBE

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.70E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,205	4.46E-04	1.87E-02	1.78E-04	1.66E-02	2.06E-03	8.31E-04	8.85E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.70E+04	1.25	8.33E+01	1.66E-02	5.00E+03	8.61E+03	2.85E-05	4.84E-01	2.6E-07	3.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
109999	5.20E+00			Tetrahydrofuran

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	5.20E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,613	4.91E-05	2.06E-03	1.78E-04	1.58E-02	2.07E-03	1.18E-03	1.40E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.20E+00	1.25	8.33E+01	1.58E-02	5.00E+03	1.29E+04	1.29E-04	6.70E-04	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
109999	7.00E+00			Tetrahydrofuran

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	426	17	19	30	377			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	417	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	7.00E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,613	4.91E-05	2.06E-03	1.78E-04	1.58E-02	2.07E-03	1.18E-03	1.25E-03	417

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.00E+00	1.25	8.33E+01	1.58E-02	5.00E+03	1.29E+04	4.27E-05	2.99E-04	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	1.70E+01			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	426	17	19	30	377			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	417	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.70E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	6.71E-04	7.20E-04	417

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.70E+01	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	2.49E-05	4.24E-04	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

J and E Modeled Indoor Air Concentrations
Exposure Area D
5 ft, bungalow

CAS No.	Analyte		Concentration ($\mu g/m^3$)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
71432	Benzene		6.30E+00	152.4	1.69E-04	1.07E-03
100414	Ethylbenzene		2.10E+03	152.4	1.45E-04	3.04E-01
106423	p-Xylene		1.30E+03	152.4	1.48E-04	1.93E-01
95476	o-Xylene		1.80E+02	152.4	1.68E-04	3.02E-02
78933	Methylethylketone (2-butanone)		2.10E+01	152.4	2.57E-04	5.40E-03
1634044	*MTBE*	*	2.70E+01	152.4	2.05E-04	5.53E-03
75150	Carbon disulfide		2.40E+01	152.4	1.98E-04	4.76E-03
67663	Chloroform		8.10E+00	152.4	2.00E-04	1.62E-03
110827	Cyclohexane		2.20E+04	152.4	1.53E-04	3.37E+00
106423	*p-Xylene*	*	1.30E+03	152.4	1.48E-04	1.93E-01
110543	*Hexane*	*	4.90E+03	152.4	3.71E-04	1.82E+00
110543	Hexane		2.80E+03	152.4	3.71E-04	1.04E+00
98828	Cumene		1.00E+03	152.4	1.25E-04	1.25E-01
103651	n-Propylbenzene		1.40E+03	152.4	1.16E-04	1.63E-01
109999	Tetrahydrofuran		5.20E+00	152.4	2.76E-04	1.44E-03
95636	1,2,4-Trimethylbenzene		2.10E+03	152.4	1.18E-04	2.47E-01
108678	1,3,5-Trimethylbenzene		1.10E+03	152.4	1.17E-04	1.29E-01
95501	1,2-Dichlorobenzene		9.80E+00	152.4	1.36E-04	1.33E-03

* Indicated that chemical is a surrogate

Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area D
14 ft, Bungalow

CAS No.	Analyte	Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
108883	Toluene	1.70E+01	426.72	5.04E-05	8.57E-04
75274	Bromodichloromethane	9.30E+00	426.72	1.87E-05	1.74E-04
106990	1,3-Butadiene	3.60E+01	426.72	1.42E-04	5.10E-03
67663	Chloroform	6.60E+01	426.72	6.04E-05	3.99E-03
75092	Methylene chloride	6.80E+00	426.72	5.92E-05	4.03E-04
109999	Tetrahydrofuran	7.00E+00	426.72	8.71E-05	6.10E-04

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area D
15 ft, Bungalow

CAS No.	Analyte		Concentration (mg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
71432	Benzene		2.20E+03	457.2	4.74E-05	1.04E-01
100414	Ethylbenzene		4.90E+04	457.2	4.04E-05	1.98E+00
106423	p-Xylene		2.50E+04	457.2	4.14E-05	1.04E+00
78933	Methylethylketone (2-butanone)		4.40E+01	457.2	7.62E-05	3.35E-03
1634044	*MTBE*	*	1.70E+04	457.2	5.78E-05	9.82E-01
75150	Carbon disulfide		7.20E+03	457.2	5.56E-05	4.00E-01
110827	Cyclohexane		5.10E+05	457.2	4.28E-05	2.18E+01
106423	*p-Xylene*	*	*1.10E+04*	457.2	4.14E-05	4.55E-01
110543	*Hexane*	*	*1.10E+05*	457.2	1.06E-04	1.17E+01
110543	Hexane		6.10E+04	457.2	1.06E-04	6.47E+00
98828	Cumene		3.20E+04	457.2	3.48E-05	1.11E+00
103651	n-Propylbenzene		3.00E+04	457.2	3.24E-05	9.72E-01
95636	1,2,4-Trimethylbenzene		1.40E+04	457.2	3.28E-05	4.59E-01
108678	1,3,5-Trimethylbenzene		9.60E+03	457.2	3.26E-05	3.13E-01

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Exposure Area E

J&E Output

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	2.80E+02			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.80E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	5.93E-04	7.37E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.80E+02	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	7.14E-05	2.00E-02	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	2.70E+04			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.70E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	5.93E-04	6.33E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.70E+04	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	2.05E-05	5.53E-01	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	7.00E+02			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	7.00E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	4.69E-04	5.83E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.00E+02	1.25	8.33E+01	9.80E-03	5.00E+03	4.46E+06	5.72E-05	4.00E-02	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	4.80E+04			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	4.80E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	4.69E-04	5.00E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.80E+04	1.25	8.33E+01	9.80E-03	5.00E+03	4.46E+06	1.63E-05	7.80E-01	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108678	3.20E+02			1,3,5-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	3.20E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,587	3.42E-03	1.44E-01	1.78E-04	9.73E-03	1.21E-03	4.67E-04	5.80E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.20E+02	1.25	8.33E+01	9.73E-03	5.00E+03	4.94E+06	5.69E-05	1.82E-02	NA	6.0E-03

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108678	2.20E+04			1,3,5-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.20E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,587	3.42E-03	1.44E-01	1.78E-04	9.73E-03	1.21E-03	4.67E-04	4.98E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.20E+04	1.25	8.33E+01	9.73E-03	5.00E+03	4.94E+06	1.62E-05	3.56E-01	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	9.40E+04			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	9.40E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	1.53E-03	1.91E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.40E+04	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	1.69E-04	1.59E+01	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
79345	2.00E+04			1,1,2,2-Tetrachloroethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.00E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,470	2.11E-04	8.88E-03	1.78E-04	1.15E-02	1.44E-03	6.17E-04	6.56E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.00E+04	1.25	8.33E+01	1.15E-02	5.00E+03	4.74E+05	2.12E-05	4.24E-01	5.8E-05	2.1E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	1.60E+05			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.60E+05	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	6.80E-04	8.45E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+05	1.25	8.33E+01	1.42E-02	5.00E+03	3.80E+04	8.12E-05	1.30E+01	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	1.60E+06			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.60E+06	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	6.80E-04	7.25E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+06	1.25	8.33E+01	1.42E-02	5.00E+03	3.80E+04	2.34E-05	3.75E+01	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	1.20E+05			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.20E+05	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	8.05E-04	8.59E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.20E+05	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.76E-05	3.32E+00	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	2.80E+02			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.80E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	5.00E-04	6.22E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.80E+02	1.25	8.33E+01	1.05E-02	5.00E+03	1.58E+06	6.08E-05	1.70E-02	NA	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	3.30E+04			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	3.30E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	5.00E-04	5.34E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.30E+04	1.25	8.33E+01	1.05E-02	5.00E+03	1.58E+06	1.73E-05	5.72E-01	NA	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	1.70E+06			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.70E+06	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	6.14E-04	7.63E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.70E+06	1.25	8.33E+01	1.29E-02	5.00E+03	1.09E+05	7.38E-05	1.25E+02	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	2.20E+06			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.20E+06	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	6.14E-04	6.55E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.20E+06	1.25	8.33E+01	1.29E-02	5.00E+03	1.09E+05	2.12E-05	4.66E+01	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	1.40E+02			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.40E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	7.99E-04	8.52E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+02	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.74E-05	3.84E-03	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	1.10E+04			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.10E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	5.78E-04	7.19E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+04	1.25	8.33E+01	1.21E-02	5.00E+03	2.36E+05	6.98E-05	7.67E-01	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	1.10E+05			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.10E+05	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	5.78E-04	6.17E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+05	1.25	8.33E+01	1.21E-02	5.00E+03	2.36E+05	2.00E-05	2.20E+00	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	3.40E+05			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	3.40E+05	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	1.53E-03	1.91E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.40E+05	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	1.69E-04	5.76E+01	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	1.20E+06			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.20E+06	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	1.53E-03	1.64E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.20E+06	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	5.16E-05	6.20E+01	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	3.20E+06			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	3.20E+06	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	1.53E-03	1.91E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.20E+06	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	1.69E-04	5.42E+02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	6.10E+06			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	6.10E+06	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	1.53E-03	1.64E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.10E+06	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	5.16E-05	3.15E+02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	5.40E+04			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	5.40E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	1.12E-03	1.30E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.40E+04	1.25	8.33E+01	1.31E-02	5.00E+03	9.69E+04	1.21E-04	6.51E+00	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	6.60E+04			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	6.60E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	1.12E-03	1.17E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.60E+04	1.25	8.33E+01	1.31E-02	5.00E+03	9.69E+04	3.74E-05	2.47E+00	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	1.60E+03			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.60E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	4.63E-04	5.76E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+03	1.25	8.33E+01	9.72E-03	5.00E+03	5.07E+06	5.65E-05	9.04E-02	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	3.90E+04			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	3.90E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	4.63E-04	4.94E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.90E+04	1.25	8.33E+01	9.72E-03	5.00E+03	5.07E+06	1.61E-05	6.26E-01	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95476	6.80E+02			o-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	6.80E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,325	3.20E-03	1.34E-01	1.78E-04	1.41E-02	1.75E-03	6.73E-04	8.36E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.80E+02	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	8.04E-05	5.47E-02	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	9.60E+02			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	9.60E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	5.93E-04	7.37E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.60E+02	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	7.14E-05	6.86E-02	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	1.00E+05			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.00E+05	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	5.93E-04	6.33E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.00E+05	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	2.05E-05	2.05E+00	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
1634044	2.90E+05			MTBE

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.90E+05	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,205	4.46E-04	1.87E-02	1.78E-04	1.66E-02	2.06E-03	8.31E-04	1.03E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.90E+05	1.25	8.33E+01	1.66E-02	5.00E+03	8.61E+03	9.73E-05	2.82E+01	2.6E-07	3.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
1634044	8.40E+05			MTBE

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	8.40E+05	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,205	4.46E-04	1.87E-02	1.78E-04	1.66E-02	2.06E-03	8.31E-04	8.85E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.40E+05	1.25	8.33E+01	1.66E-02	5.00E+03	8.61E+03	2.85E-05	2.39E+01	2.6E-07	3.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
109999	5.50E+01			Tetrahydrofuran

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	5.50E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,613	4.91E-05	2.06E-03	1.78E-04	1.58E-02	2.07E-03	1.18E-03	1.40E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.50E+01	1.25	8.33E+01	1.58E-02	5.00E+03	1.29E+04	1.29E-04	7.09E-03	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
109999	1.20E+02			Tetrahydrofuran

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.20E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,613	4.91E-05	2.06E-03	1.78E-04	1.58E-02	2.07E-03	1.18E-03	1.25E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.20E+02	1.25	8.33E+01	1.58E-02	5.00E+03	1.29E+04	3.97E-05	4.76E-03	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	1.00E+01			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.00E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	6.71E-04	8.34E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.00E+01	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	8.02E-05	8.02E-04	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	1.60E+05			Toluene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.60E+05	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	6.71E-04	7.16E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+05	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	2.31E-05	3.70E+00	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

J and E Modeled Indoor Air Concentrations
Exposure Area E
5 ft, Bungalow

CAS No.	Analyte		Concentration (ug/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
100414	Ethylbenzene		1.10E+03	152.4	1.45E-04	1.59E-01
103651	n-Propylbenzene		1.60E+03	152.4	1.16E-04	1.86E-01
108678	1,3,5-Trimethylbenzene		3.20E+02	152.4	1.17E-04	3.75E-02
108883	Toluene		1.00E+01	152.4	1.67E-04	1.67E-03
109999	Tetrahydrofuran		5.50E+01	152.4	2.76E-04	1.52E-02
110543	Hexane		3.20E+06	152.4	3.71E-04	1.19E+03
110827	Cyclohexane		1.70E+06	152.4	1.53E-04	2.61E+02
110543	*Hexane*	*	3.40E+05	152.4	3.71E-04	1.26E+02
106423	p-Xylene		9.60E+02	152.4	1.48E-04	1.42E-01
110543	*Hexane*	*	9.40E+04	152.4	3.71E-04	3.48E+01
106423	*p-Xylene*	*	*2.80E+02*	152.4	1.48E-04	4.15E-02
67641	Acetone		8.40E+05	152.4	3.93E-04	3.30E+02
71432	Benzene		1.60E+05	152.4	1.69E-04	2.71E+01
1634044	*MTBE*	*	2.90E+05	152.4	2.05E-04	5.94E+01
78933	Methylethylketone (2-butanone)		5.40E+04	152.4	2.57E-04	1.39E+01
95476	o-Xylene		6.80E+02	152.4	1.68E-04	1.14E-01
95501	1,2-Dichlorobenzene		9.80E+00	152.4	1.36E-04	1.33E-03
95636	1,2,4-Trimethylbenzene		7.00E+02	152.4	1.18E-04	8.24E-02
98828	Cumene		2.80E+02	152.4	1.25E-04	3.50E-02

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area E
6 ft, Bungalow

CAS No.	Analyte		Concentration (ug/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
107062	1,2-Dichloroethane		4.40E+02	182.88	1.63E-04	7.16E-02
1634044	*MTBE*	*	1.10E+03	182.88	1.63E-04	1.80E-01

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area E
15 ft, Bungalow

CAS No.	Analyte		Concentration (mg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
100414	Ethylbenzene		1.10E+05	457.2	4.04E-05	4.44E+00
103651	n-Propylbenzene		3.90E+04	457.2	3.24E-05	1.26E+00
108678	1,3,5-Trimethylbenzene		2.20E+04	457.2	3.26E-05	7.17E-01
108883	Toluene		1.60E+05	457.2	4.68E-05	7.49E+00
109999	Tetrahydrofuran		1.20E+02	457.2	8.10E-05	9.72E-03
110543	Hexane		6.10E+06	457.2	1.06E-04	6.47E+02
110827	Cyclohexane		2.20E+06	457.2	4.28E-05	9.42E+01
110543	*Hexane*	*	1.20E+06	457.2	1.06E-04	1.27E+02
106423	p-Xylene	*	1.00E+05	457.2	4.14E-05	4.14E+00
106423	*p-Xylene*	*	*2.70E+04*	457.2	4.14E-05	1.12E+00
67641	Acetone		1.30E+06	457.2	1.19E-04	1.54E+02
67663	Chloroform		1.20E+05	457.2	5.61E-05	6.73E+00
71432	Benzene		1.60E+06	457.2	4.74E-05	7.59E+01
75092	Methylene chloride		3.50E+03	457.2	5.49E-05	1.92E-01
75150	Carbon disulfide		1.40E+02	457.2	5.56E-05	7.79E-03
1634044	*MTBE*	*	8.40E+05	457.2	5.78E-05	4.85E+01
78933	Methylethylketone (2-butanone)		6.60E+04	457.2	7.62E-05	5.03E+00
79345	1,1,2,2-Tetrachloroethane		2.00E+04	457.2	4.29E-05	8.58E-01
95476	o-Xylene		1.10E+04	457.2	4.70E-05	5.16E-01
95636	1,2,4-Trimethylbenzene		4.80E+04	457.2	3.28E-05	1.57E+00
98828	Cumene		3.30E+04	457.2	3.48E-05	1.15E+00

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area E
0-15 ft, Commercial

CAS No.	Analyte		Concentration (mg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
75092	Methylene chloride		3.50E+03	457.2	2.71E-05	9.48E-02
95476	o-Xylene		1.10E+04	457.2	2.32E-05	2.55E-01
95501	1,2-Dichlorobenzene		9.80E+00	152.4	6.56E-05	6.43E-04
107062	1,2-Dichloroethane		4.40E+02	182.88	7.81E-05	3.44E-02
110543	*hexane*	*	4.80E+05	426.72	5.55E-05	2.66E+01
1634044	*MTBE*	*	1.10E+03	182.88	7.84E-05	8.62E-02

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Exposure Area G

J&E Output

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	4.50E+02			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	4.50E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	5.93E-04	7.37E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.50E+02	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	7.14E-05	3.22E-02	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	2.30E+02			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.30E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	4.69E-04	5.83E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.30E+02	1.25	8.33E+01	9.80E-03	5.00E+03	4.46E+06	5.72E-05	1.31E-02	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108678	5.10E+02			1,3,5-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	5.10E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,587	3.42E-03	1.44E-01	1.78E-04	9.73E-03	1.21E-03	4.67E-04	5.80E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.10E+02	1.25	8.33E+01	9.73E-03	5.00E+03	4.94E+06	5.69E-05	2.90E-02	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	4.30E+02			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	4.30E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	1.53E-03	1.91E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.30E+02	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	1.69E-04	7.29E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	4.70E+01			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	4.70E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	6.80E-04	8.45E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.70E+01	1.25	8.33E+01	1.42E-02	5.00E+03	3.80E+04	8.12E-05	3.82E-03	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	9.30E+02			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	9.30E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	6.80E-04	7.25E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.30E+02	1.25	8.33E+01	1.42E-02	5.00E+03	3.80E+04	2.34E-05	2.18E-02	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	1.40E+02			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.40E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	8.05E-04	1.00E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+02	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	9.50E-05	1.33E-02	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	9.00E+03			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	9.00E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	8.05E-04	8.59E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.00E+03	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.76E-05	2.49E-01	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	7.50E+01			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	7.50E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	5.00E-04	6.22E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.50E+01	1.25	8.33E+01	1.05E-02	5.00E+03	1.58E+06	6.08E-05	4.56E-03	NA	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	5.90E+02			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	5.90E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	5.00E-04	5.34E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.90E+02	1.25	8.33E+01	1.05E-02	5.00E+03	1.58E+06	1.73E-05	1.02E-02	NA	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	1.20E+03			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.20E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	6.14E-04	7.63E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.20E+03	1.25	8.33E+01	1.29E-02	5.00E+03	1.09E+05	7.38E-05	8.86E-02	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	1.30E+04			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.30E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	6.14E-04	6.55E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+04	1.25	8.33E+01	1.29E-02	5.00E+03	1.09E+05	2.12E-05	2.75E-01	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	1.90E+01			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.90E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	7.99E-04	9.93E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.90E+01	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	9.43E-05	1.79E-03	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	7.00E+01			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	7.00E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	5.78E-04	7.19E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.00E+01	1.25	8.33E+01	1.21E-02	5.00E+03	2.36E+05	6.98E-05	4.88E-03	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	7.80E+02			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	7.80E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	5.78E-04	6.17E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.80E+02	1.25	8.33E+01	1.21E-02	5.00E+03	2.36E+05	2.00E-05	1.56E-02	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	8.40E+02			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	8.40E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	1.53E-03	1.91E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.40E+02	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	1.69E-04	1.42E-01	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	3.60E+03			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	3.60E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	1.53E-03	1.64E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.60E+03	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	5.16E-05	1.86E-01	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	4.80E+02			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	4.80E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	1.53E-03	1.91E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.80E+02	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	1.69E-04	8.13E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	1.10E+04			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.10E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	1.53E-03	1.64E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+04	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	5.16E-05	5.68E-01	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67630	1.30E+01			Isopropyl Alcohol (2-propanol)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.30E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,516	4.52E-06	1.90E-04	1.78E-04	1.59E-02	3.06E-03	5.18E-03	4.72E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+01	1.25	8.33E+01	1.59E-02	5.00E+03	1.28E+04	3.48E-04	4.53E-03	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	1.10E+01			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.10E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	1.12E-03	1.30E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+01	1.25	8.33E+01	1.31E-02	5.00E+03	9.69E+04	1.21E-04	1.33E-03	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75092	8.40E+00			Methylene chloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	8.40E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,960	1.58E-03	6.64E-02	1.78E-04	1.63E-02	2.03E-03	7.89E-04	9.79E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.40E+00	1.25	8.33E+01	1.63E-02	5.00E+03	9.77E+03	9.31E-05	7.82E-04	1.0E-06	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75092	1.60E+02			Methylene chloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.60E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,960	1.58E-03	6.64E-02	1.78E-04	1.63E-02	2.03E-03	7.89E-04	8.41E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+02	1.25	8.33E+01	1.63E-02	5.00E+03	9.77E+03	2.71E-05	4.33E-03	1.0E-06	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
91203	2.70E+01			Naphthalene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.70E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,840	2.65E-04	1.11E-02	1.78E-04	9.54E-03	1.20E-03	5.07E-04	6.24E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.70E+01	1.25	8.33E+01	9.54E-03	5.00E+03	6.76E+06	6.10E-05	1.65E-03	3.4E-05	3.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	1.50E+02			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	1.50E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	4.63E-04	5.76E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.50E+02	1.25	8.33E+01	9.72E-03	5.00E+03	5.07E+06	5.65E-05	8.48E-03	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	2.90E+02			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	2.90E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	4.63E-04	4.94E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.90E+02	1.25	8.33E+01	9.72E-03	5.00E+03	5.07E+06	1.61E-05	4.66E-03	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95476	3.40E+02			o-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	3.40E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,325	3.20E-03	1.34E-01	1.78E-04	1.41E-02	1.75E-03	6.73E-04	8.36E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.40E+02	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	8.04E-05	2.73E-02	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
127184	4.50E+01			Tetrachloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	4.50E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,482	1.18E-02	4.96E-01	1.78E-04	1.16E-02	1.44E-03	5.54E-04	6.88E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.50E+01	1.25	8.33E+01	1.16E-02	5.00E+03	3.95E+05	6.69E-05	3.01E-03	5.9E-06	3.5E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
127184	5.50E+03			Tetrachloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	5.50E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,482	1.18E-02	4.96E-01	1.78E-04	1.16E-02	1.44E-03	5.54E-04	5.91E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.50E+03	1.25	8.33E+01	1.16E-02	5.00E+03	3.95E+05	1.91E-05	1.05E-01	5.9E-06	3.5E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	4.10E+02			p-Xylene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	4.10E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	5.93E-04	7.37E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.10E+02	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	7.14E-05	2.93E-02	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
79016	3.90E+01			Trichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	3.90E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,470	6.93E-03	2.91E-01	1.78E-04	1.28E-02	1.58E-03	6.09E-04	7.56E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.90E+01	1.25	8.33E+01	1.28E-02	5.00E+03	1.26E+05	7.32E-05	2.85E-03	2.0E-06	6.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
79016	7.80E+02			Trichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	7.80E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,470	6.93E-03	2.91E-01	1.78E-04	1.28E-02	1.58E-03	6.09E-04	6.49E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.80E+02	1.25	8.33E+01	1.28E-02	5.00E+03	1.26E+05	2.10E-05	1.64E-02	2.0E-06	6.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
109999	3.40E+00			Tetrahydrofuran

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	3.40E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,613	4.91E-05	2.06E-03	1.78E-04	1.58E-02	2.07E-03	1.18E-03	1.40E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.40E+00	1.25	8.33E+01	1.58E-02	5.00E+03	1.29E+04	1.29E-04	4.38E-04	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	4.90E+01			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	4.90E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	6.71E-04	8.34E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.90E+01	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	8.02E-05	3.93E-03	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	7.10E+01			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.47	0.412	0.276

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.136	#N/A	#N/A	#N/A	#N/A	4,000	7.10E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	6.71E-04	7.16E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.10E+01	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	2.31E-05	1.64E-03	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

Exposure Area Ia

J&E Output

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	6.60E+00			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	6.60E+00	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	2.77E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.60E+00	0.76	8.33E+01	1.24E-02	1.85E+03	1.35E+14	5.25E-04	3.47E-03	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	6.60E+00			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	6.60E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	2.77E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.60E+00	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	2.32E-04	1.53E-03	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	1.50E+01			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.50E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	2.59E-03	2.19E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.50E+01	0.76	8.33E+01	9.80E-03	1.85E+03	8.50E+17	4.21E-04	6.32E-03	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	1.50E+01			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.50E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	2.59E-03	2.19E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.50E+01	1.25	8.33E+01	9.80E-03	5.00E+03	4.46E+06	1.90E-04	2.85E-03	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	1.30E+02			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.30E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	2.59E-03	2.45E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+02	0.76	8.33E+01	9.80E-03	1.85E+03	8.50E+17	1.57E-04	2.04E-02	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	1.30E+02			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.30E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	2.59E-03	2.45E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+02	1.25	8.33E+01	9.80E-03	5.00E+03	4.46E+06	7.56E-05	9.82E-03	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108678	4.70E+02			1,3,5-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	4.70E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	11,587	3.42E-03	1.44E-01	1.78E-04	9.73E-03	1.21E-03	2.57E-03	2.43E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.70E+02	0.76	8.33E+01	9.73E-03	1.85E+03	1.12E+18	1.56E-04	7.34E-02	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108678	4.70E+02			1,3,5-Trimethylbenzene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.70E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,587	3.42E-03	1.44E-01	1.78E-04	9.73E-03	1.21E-03	2.57E-03	2.43E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.70E+02	1.25	8.33E+01	9.73E-03	5.00E+03	4.94E+06	7.51E-05	3.53E-02	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	1.40E+01			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.40E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.17E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+01	0.76	8.33E+01	1.42E-02	1.85E+03	2.22E+12	5.95E-04	8.32E-03	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	1.40E+01			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.40E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.17E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+01	1.25	8.33E+01	1.42E-02	5.00E+03	3.80E+04	2.58E-04	3.61E-03	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	4.20E+01			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	4.20E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.55E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.20E+01	0.76	8.33E+01	1.42E-02	1.85E+03	2.22E+12	2.26E-04	9.49E-03	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	4.20E+01			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.20E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.55E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.20E+01	1.25	8.33E+01	1.42E-02	5.00E+03	3.80E+04	1.07E-04	4.48E-03	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75274	1.50E+01			Bromodichloromethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.50E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,596	1.07E-03	4.49E-02	1.78E-04	4.82E-03	6.02E-04	1.28E-03	1.08E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.50E+01	0.76	8.33E+01	4.82E-03	1.85E+03	2.88E+36	2.15E-04	3.23E-03	3.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75274	1.50E+01			Bromodichloromethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.50E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,596	1.07E-03	4.49E-02	1.78E-04	4.82E-03	6.02E-04	1.28E-03	1.08E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.50E+01	1.25	8.33E+01	4.82E-03	5.00E+03	3.33E+13	1.02E-04	1.53E-03	3.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
56235	3.40E+01			Carbon tetrachloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.40E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,788	2.11E-02	8.86E-01	1.78E-04	1.26E-02	1.56E-03	3.33E-03	2.81E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.40E+01	0.76	8.33E+01	1.26E-02	1.85E+03	8.51E+13	5.32E-04	1.81E-02	4.2E-05	4.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
56235	3.40E+01			Carbon tetrachloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.40E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,788	2.11E-02	8.86E-01	1.78E-04	1.26E-02	1.56E-03	3.33E-03	2.81E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.40E+01	1.25	8.33E+01	1.26E-02	5.00E+03	1.47E+05	2.34E-04	7.96E-03	4.2E-05	4.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	5.30E+02			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	5.30E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.30E+02	0.76	8.33E+01	1.68E-02	1.85E+03	2.80E+10	6.91E-04	3.66E-01	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	5.30E+02			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	5.30E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.30E+02	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.94E-04	1.56E-01	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	2.60E+03			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.60E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	4.20E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.60E+03	0.76	8.33E+01	1.68E-02	1.85E+03	2.80E+10	2.65E-04	6.90E-01	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	2.60E+03			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.60E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	4.20E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.60E+03	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	1.24E-04	3.23E-01	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	4.80E+02			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	4.80E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	2.78E-03	2.62E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.80E+02	0.76	8.33E+01	1.05E-02	1.85E+03	5.20E+16	1.68E-04	8.08E-02	NA	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	4.80E+02			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.80E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	2.78E-03	2.62E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.80E+02	1.25	8.33E+01	1.05E-02	5.00E+03	1.58E+06	8.07E-05	3.87E-02	NA	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	1.40E+01			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.40E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	3.42E-03	2.88E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+01	0.76	8.33E+01	1.29E-02	1.85E+03	3.82E+13	5.45E-04	7.62E-03	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	1.40E+01			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.40E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	3.42E-03	2.88E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+01	1.25	8.33E+01	1.29E-02	5.00E+03	1.09E+05	2.39E-04	3.35E-03	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	5.70E+01			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	5.70E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	3.42E-03	3.23E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.70E+01	0.76	8.33E+01	1.29E-02	1.85E+03	3.82E+13	2.06E-04	1.17E-02	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	5.70E+01			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	5.70E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	3.42E-03	3.23E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.70E+01	1.25	8.33E+01	1.29E-02	5.00E+03	1.09E+05	9.78E-05	5.57E-03	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	1.10E+02			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.10E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	4.44E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+02	0.76	8.33E+01	1.68E-02	1.85E+03	2.80E+10	6.91E-04	7.60E-02	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	1.10E+02			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.10E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	4.44E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+02	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.94E-04	3.23E-02	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	4.20E+01			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	4.20E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	4.44E-03	4.19E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.20E+01	0.76	8.33E+01	1.68E-02	1.85E+03	2.80E+10	2.65E-04	1.11E-02	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	4.20E+01			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.20E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	4.44E-03	4.19E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.20E+01	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	1.24E-04	5.21E-03	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	9.00E+00			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	9.00E+00	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	3.21E-03	2.70E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.00E+00	0.76	8.33E+01	1.21E-02	1.85E+03	3.07E+14	5.13E-04	4.62E-03	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	9.00E+00			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	9.00E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	3.21E-03	2.70E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.00E+00	1.25	8.33E+01	1.21E-02	5.00E+03	2.36E+05	2.27E-04	2.04E-03	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	3.20E+02			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.20E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	3.21E-03	3.03E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.20E+02	0.76	8.33E+01	1.21E-02	1.85E+03	3.07E+14	1.93E-04	6.19E-02	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	3.20E+02			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.20E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	3.21E-03	3.03E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.20E+02	1.25	8.33E+01	1.21E-02	5.00E+03	2.36E+05	9.21E-05	2.95E-02	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	2.70E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.70E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	7.21E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.70E+01	0.76	8.33E+01	3.23E-02	1.85E+03	2.71E+05	1.21E-03	3.27E-02	NA	2.0E-01

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	2.70E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.70E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	7.21E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.70E+01	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	4.64E-04	1.25E-02	NA	2.0E-01

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	7.00E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	7.00E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	8.07E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.00E+01	0.76	8.33E+01	3.23E-02	1.85E+03	2.71E+05	4.92E-04	3.44E-02	NA	2.0E-01

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	7.00E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	7.00E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	8.07E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.00E+01	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	2.19E-04	1.53E-02	NA	2.0E-01

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	2.60E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.60E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	7.21E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.60E+01	0.76	8.33E+01	3.23E-02	1.85E+03	2.71E+05	1.21E-03	3.15E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	2.60E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.60E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	7.21E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.60E+01	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	4.64E-04	1.21E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	9.90E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	9.90E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	8.07E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.90E+01	0.76	8.33E+01	3.23E-02	1.85E+03	2.71E+05	4.92E-04	4.87E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	9.90E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	9.90E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	8.07E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.90E+01	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	2.19E-04	2.17E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67630	1.30E+01			Isopropyl Alcohol (2-propanol)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.30E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	12,516	4.52E-06	1.90E-04	1.78E-04	1.59E-02	3.06E-03	6.12E-03	5.25E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+01	0.76	8.33E+01	1.59E-02	1.85E+03	1.18E+11	9.29E-04	1.21E-02	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67630	1.30E+01			Isopropyl Alcohol (2-propanol)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.30E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,516	4.52E-06	1.90E-04	1.78E-04	1.59E-02	3.06E-03	6.12E-03	5.25E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+01	1.25	8.33E+01	1.59E-02	5.00E+03	1.28E+04	3.75E-04	4.88E-03	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	9.60E+00			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	9.60E+00	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	3.67E-03	3.11E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.60E+00	0.76	8.33E+01	1.31E-02	1.85E+03	2.78E+13	5.83E-04	5.60E-03	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	9.60E+00			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	9.60E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	3.67E-03	3.11E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.60E+00	1.25	8.33E+01	1.31E-02	5.00E+03	9.69E+04	2.54E-04	2.44E-03	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	1.90E+01			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.90E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	3.67E-03	3.47E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.90E+01	0.76	8.33E+01	1.31E-02	1.85E+03	2.78E+13	2.21E-04	4.20E-03	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	1.90E+01			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.90E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	3.67E-03	3.47E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.90E+01	1.25	8.33E+01	1.31E-02	5.00E+03	9.69E+04	1.04E-04	1.99E-03	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	6.50E+02			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	6.50E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	2.57E-03	2.42E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.50E+02	0.76	8.33E+01	9.72E-03	1.85E+03	1.20E+18	1.56E-04	1.01E-01	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	6.50E+02			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	6.50E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	2.57E-03	2.42E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.50E+02	1.25	8.33E+01	9.72E-03	5.00E+03	5.07E+06	7.50E-05	4.87E-02	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95476	7.20E+00			o-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	7.20E+00	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,325	3.20E-03	1.34E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.20E+00	0.76	8.33E+01	1.41E-02	1.85E+03	3.08E+12	5.88E-04	4.24E-03	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95476	7.20E+00			o-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	7.20E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,325	3.20E-03	1.34E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.20E+00	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	2.56E-04	1.84E-03	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
127184	9.30E+00			Tetrachloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	9.30E+00	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	9,482	1.18E-02	4.96E-01	1.78E-04	1.16E-02	1.44E-03	3.08E-03	2.60E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.30E+00	0.76	8.33E+01	1.16E-02	1.85E+03	1.23E+15	4.94E-04	4.60E-03	5.9E-06	3.5E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
127184	9.30E+00			Tetrachloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	9.30E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,482	1.18E-02	4.96E-01	1.78E-04	1.16E-02	1.44E-03	3.08E-03	2.60E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.30E+00	1.25	8.33E+01	1.16E-02	5.00E+03	3.95E+05	2.19E-04	2.04E-03	5.9E-06	3.5E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
127184	1.40E+01			Tetrachloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.40E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	9,482	1.18E-02	4.96E-01	1.78E-04	1.16E-02	1.44E-03	3.08E-03	2.90E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+01	0.76	8.33E+01	1.16E-02	1.85E+03	1.23E+15	1.86E-04	2.60E-03	5.9E-06	3.5E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
127184	1.40E+01			Tetrachloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.40E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,482	1.18E-02	4.96E-01	1.78E-04	1.16E-02	1.44E-03	3.08E-03	2.90E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+01	1.25	8.33E+01	1.16E-02	5.00E+03	3.95E+05	8.87E-05	1.24E-03	5.9E-06	3.5E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	3.00E+01			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.00E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	2.77E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.00E+01	0.76	8.33E+01	1.24E-02	1.85E+03	1.35E+14	5.25E-04	1.58E-02	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	3.00E+01			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.00E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	2.77E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.00E+01	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	2.32E-04	6.95E-03	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	3.20E+01			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.20E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	3.10E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.20E+01	0.76	8.33E+01	1.24E-02	1.85E+03	1.35E+14	1.98E-04	6.34E-03	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	3.20E+01			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.20E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	3.10E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.20E+01	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	9.43E-05	3.02E-03	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
1634044	1.50E+01			MTBE

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.50E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,205	4.46E-04	1.87E-02	1.78E-04	1.66E-02	2.06E-03	4.39E-03	3.71E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.50E+01	0.76	8.33E+01	1.66E-02	1.85E+03	4.08E+10	6.84E-04	1.03E-02	2.6E-07	3.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
1634044	1.50E+01			MTBE

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.50E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,205	4.46E-04	1.87E-02	1.78E-04	1.66E-02	2.06E-03	4.39E-03	3.71E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.50E+01	1.25	8.33E+01	1.66E-02	5.00E+03	8.61E+03	2.91E-04	4.37E-03	2.6E-07	3.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	4.60E+01			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	4.60E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.60E+01	0.76	8.33E+01	1.41E-02	1.85E+03	3.08E+12	5.88E-04	2.71E-02	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	4.60E+01			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.60E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.60E+01	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	2.56E-04	1.18E-02	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

Exposure Area lb

J&E Output

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	4.80E+01			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	4.80E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	3.10E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.80E+01	0.76	8.33E+01	1.24E-02	1.85E+03	1.35E+14	1.98E-04	9.51E-03	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	4.80E+01			p-Xylene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.80E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	3.10E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.80E+01	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	9.43E-05	4.53E-03	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75354	8.50E+02			1,1-Dichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	8.50E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	6,346	1.94E-02	8.14E-01	1.78E-04	1.45E-02	1.80E-03	3.85E-03	3.63E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.50E+02	0.76	8.33E+01	1.45E-02	1.85E+03	1.18E+12	2.31E-04	1.96E-01	NA	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75354	8.50E+02			1,1-Dichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	8.50E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,346	1.94E-02	8.14E-01	1.78E-04	1.45E-02	1.80E-03	3.85E-03	3.63E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.50E+02	1.25	8.33E+01	1.45E-02	5.00E+03	3.00E+04	1.09E-04	9.26E-02	NA	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	1.60E+02			1,2,4-Trimethylbenzene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.60E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	2.59E-03	2.45E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+02	0.76	8.33E+01	9.80E-03	1.85E+03	8.50E+17	1.57E-04	2.52E-02	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	1.60E+02			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.60E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	2.59E-03	2.45E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+02	1.25	8.33E+01	9.80E-03	5.00E+03	4.46E+06	7.56E-05	1.21E-02	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108678	7.90E+01			1,3,5-Trimethylbenzene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	7.90E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	11,587	3.42E-03	1.44E-01	1.78E-04	9.73E-03	1.21E-03	2.57E-03	2.43E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.90E+01	0.76	8.33E+01	9.73E-03	1.85E+03	1.12E+18	1.56E-04	1.23E-02	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108678	7.90E+01			1,3,5-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	7.90E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,587	3.42E-03	1.44E-01	1.78E-04	9.73E-03	1.21E-03	2.57E-03	2.43E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.90E+01	1.25	8.33E+01	9.73E-03	5.00E+03	4.94E+06	7.51E-05	5.93E-03	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	1.80E+02			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.80E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.17E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.80E+02	0.76	8.33E+01	1.42E-02	1.85E+03	2.22E+12	5.95E-04	1.07E-01	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	1.80E+02			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.80E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.17E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.80E+02	1.25	8.33E+01	1.42E-02	5.00E+03	3.80E+04	2.58E-04	4.64E-02	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	2.10E+03			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.10E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.55E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.10E+03	0.76	8.33E+01	1.42E-02	1.85E+03	2.22E+12	2.26E-04	4.74E-01	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	2.10E+03			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.10E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.55E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.10E+03	1.25	8.33E+01	1.42E-02	5.00E+03	3.80E+04	1.07E-04	2.24E-01	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75274	1.70E+04			Bromodichloromethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.70E+04	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,596	1.07E-03	4.49E-02	1.78E-04	4.82E-03	6.02E-04	1.28E-03	1.21E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.70E+04	0.76	8.33E+01	4.82E-03	1.85E+03	2.88E+36	7.87E-05	1.34E+00	3.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75274	1.70E+04			Bromodichloromethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.70E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,596	1.07E-03	4.49E-02	1.78E-04	4.82E-03	6.02E-04	1.28E-03	1.21E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.70E+04	1.25	8.33E+01	4.82E-03	5.00E+03	3.33E+13	3.86E-05	6.56E-01	3.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75252	1.70E+03			Bromoform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.70E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,809	3.55E-04	1.49E-02	1.78E-04	2.41E-03	3.13E-04	6.61E-04	6.24E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.70E+03	0.76	8.33E+01	2.41E-03	1.85E+03	8.18E+72	4.09E-05	6.95E-02	1.1E-06	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75252	1.70E+03			Bromoform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.70E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,809	3.55E-04	1.49E-02	1.78E-04	2.41E-03	3.13E-04	6.61E-04	6.24E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.70E+03	1.25	8.33E+01	2.41E-03	5.00E+03	1.10E+27	2.02E-05	3.44E-02	1.1E-06	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
56235	2.50E+01			Carbon tetrachloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.50E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,788	2.11E-02	8.86E-01	1.78E-04	1.26E-02	1.56E-03	3.33E-03	2.81E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.50E+01	0.76	8.33E+01	1.26E-02	1.85E+03	8.51E+13	5.32E-04	1.33E-02	4.2E-05	4.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
56235	2.50E+01			Carbon tetrachloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.50E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,788	2.11E-02	8.86E-01	1.78E-04	1.26E-02	1.56E-03	3.33E-03	2.81E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.50E+01	1.25	8.33E+01	1.26E-02	5.00E+03	1.47E+05	2.34E-04	5.85E-03	4.2E-05	4.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
56235	6.90E+04			Carbon tetrachloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	6.90E+04	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,788	2.11E-02	8.86E-01	1.78E-04	1.26E-02	1.56E-03	3.33E-03	3.15E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.90E+04	0.76	8.33E+01	1.26E-02	1.85E+03	8.51E+13	2.01E-04	1.39E+01	4.2E-05	4.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
56235	6.90E+04			Carbon tetrachloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	6.90E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,788	2.11E-02	8.86E-01	1.78E-04	1.26E-02	1.56E-03	3.33E-03	3.15E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.90E+04	1.25	8.33E+01	1.26E-02	5.00E+03	1.47E+05	9.55E-05	6.59E+00	4.2E-05	4.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	2.50E+03			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.50E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.50E+03	0.76	8.33E+01	1.68E-02	1.85E+03	2.80E+10	6.91E-04	1.73E+00	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	2.50E+03			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.50E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.50E+03	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.94E-04	7.34E-01	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	1.50E+06			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.50E+06	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	4.20E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.50E+06	0.76	8.33E+01	1.68E-02	1.85E+03	2.80E+10	2.65E-04	3.98E+02	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	1.50E+06			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.50E+06	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	4.20E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.50E+06	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	1.24E-04	1.86E+02	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	2.80E+01			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.80E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	2.78E-03	2.62E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.80E+01	0.76	8.33E+01	1.05E-02	1.85E+03	5.20E+16	1.68E-04	4.71E-03	NA	4.0E-01

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	2.80E+01			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.80E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	2.78E-03	2.62E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.80E+01	1.25	8.33E+01	1.05E-02	5.00E+03	1.58E+06	8.07E-05	2.26E-03	NA	4.0E-01

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	6.00E+04			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	6.00E+04	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	3.42E-03	2.88E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.00E+04	0.76	8.33E+01	1.29E-02	1.85E+03	3.82E+13	5.45E-04	3.27E+01	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	6.00E+04			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	6.00E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	3.42E-03	2.88E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.00E+04	1.25	8.33E+01	1.29E-02	5.00E+03	1.09E+05	2.39E-04	1.43E+01	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
124481	3.80E+03			Chlorodibromomethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.80E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	6,737	5.71E-04	2.40E-02	1.78E-04	3.17E-03	4.02E-04	8.53E-04	8.05E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.80E+03	0.76	8.33E+01	3.17E-03	1.85E+03	2.70E+55	5.26E-05	2.00E-01	2.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
124481	3.80E+03			Chlorodibromomethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.80E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,737	5.71E-04	2.40E-02	1.78E-04	3.17E-03	4.02E-04	8.53E-04	8.05E-04	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.80E+03	1.25	8.33E+01	3.17E-03	5.00E+03	3.62E+20	2.60E-05	9.86E-02	2.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	3.80E+01			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.80E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	4.44E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.80E+01	0.76	8.33E+01	1.68E-02	1.85E+03	2.80E+10	6.91E-04	2.63E-02	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	3.80E+01			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.80E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	4.44E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.80E+01	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.94E-04	1.12E-02	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	5.50E+03			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	5.50E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	4.44E-03	4.19E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.50E+03	0.76	8.33E+01	1.68E-02	1.85E+03	2.80E+10	2.65E-04	1.46E+00	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	5.50E+03			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	5.50E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	4.44E-03	4.19E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.50E+03	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	1.24E-04	6.83E-01	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	1.30E+01			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.30E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	3.21E-03	2.70E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+01	0.76	8.33E+01	1.21E-02	1.85E+03	3.07E+14	5.13E-04	6.67E-03	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	1.30E+01			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.30E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	3.21E-03	2.70E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+01	1.25	8.33E+01	1.21E-02	5.00E+03	2.36E+05	2.27E-04	2.95E-03	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	2.50E+01			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.50E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	3.21E-03	3.03E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.50E+01	0.76	8.33E+01	1.21E-02	1.85E+03	3.07E+14	1.93E-04	4.84E-03	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	2.50E+01			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.50E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	3.21E-03	3.03E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.50E+01	1.25	8.33E+01	1.21E-02	5.00E+03	2.36E+05	9.21E-05	2.30E-03	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	7.70E+03			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	7.70E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	7.21E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.70E+03	0.76	8.33E+01	3.23E-02	1.85E+03	2.71E+05	1.21E-03	9.33E+00	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	7.70E+03			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	7.70E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	7.21E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.70E+03	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	4.64E-04	3.58E+00	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	3.00E+04			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.00E+04	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	7.21E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.00E+04	0.76	8.33E+01	3.23E-02	1.85E+03	2.71E+05	1.21E-03	3.64E+01	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	3.00E+04			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.00E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	7.21E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.00E+04	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	4.64E-04	1.39E+01	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	1.30E+01			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.30E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	3.67E-03	3.11E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+01	0.76	8.33E+01	1.31E-02	1.85E+03	2.78E+13	5.83E-04	7.58E-03	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	1.30E+01			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.30E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	3.67E-03	3.11E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+01	1.25	8.33E+01	1.31E-02	5.00E+03	9.69E+04	2.54E-04	3.30E-03	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	1.40E+04			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.40E+04	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	3.67E-03	3.47E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+04	0.76	8.33E+01	1.31E-02	1.85E+03	2.78E+13	2.21E-04	3.09E+00	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	1.40E+04			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.40E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	3.67E-03	3.47E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+04	1.25	8.33E+01	1.31E-02	5.00E+03	9.69E+04	1.04E-04	1.46E+00	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75092	2.30E+01			Methylene chloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.30E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	6,960	1.58E-03	6.64E-02	1.78E-04	1.63E-02	2.03E-03	4.32E-03	3.65E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.30E+01	0.76	8.33E+01	1.63E-02	1.85E+03	5.72E+10	6.74E-04	1.55E-02	1.0E-06	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75092	2.30E+01			Methylene chloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.30E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,960	1.58E-03	6.64E-02	1.78E-04	1.63E-02	2.03E-03	4.32E-03	3.65E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.30E+01	1.25	8.33E+01	1.63E-02	5.00E+03	9.77E+03	2.87E-04	6.61E-03	1.0E-06	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75092	6.80E+03			Methylene chloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	6.80E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	6,960	1.58E-03	6.64E-02	1.78E-04	1.63E-02	2.03E-03	4.32E-03	4.08E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.80E+03	0.76	8.33E+01	1.63E-02	1.85E+03	5.72E+10	2.58E-04	1.76E+00	1.0E-06	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75092	6.80E+03			Methylene chloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	6.80E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,960	1.58E-03	6.64E-02	1.78E-04	1.63E-02	2.03E-03	4.32E-03	4.08E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.80E+03	1.25	8.33E+01	1.63E-02	5.00E+03	9.77E+03	1.21E-04	8.23E-01	1.0E-06	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	3.80E+01			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.80E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	2.57E-03	2.42E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.80E+01	0.76	8.33E+01	9.72E-03	1.85E+03	1.20E+18	1.56E-04	5.92E-03	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	3.80E+01			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.80E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	2.57E-03	2.42E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.80E+01	1.25	8.33E+01	9.72E-03	5.00E+03	5.07E+06	7.50E-05	2.85E-03	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95476	1.40E+01			o-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.40E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,325	3.20E-03	1.34E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+01	0.76	8.33E+01	1.41E-02	1.85E+03	3.08E+12	5.88E-04	8.24E-03	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95476	1.40E+01			o-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.40E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,325	3.20E-03	1.34E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+01	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	2.56E-04	3.58E-03	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95476	2.90E+01			o-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.90E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,325	3.20E-03	1.34E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.51E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.90E+01	0.76	8.33E+01	1.41E-02	1.85E+03	3.08E+12	2.23E-04	6.48E-03	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95476	2.90E+01			o-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.90E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,325	3.20E-03	1.34E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.51E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.90E+01	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	1.06E-04	3.06E-03	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
127184	3.20E+01			Tetrachloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.20E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	9,482	1.18E-02	4.96E-01	1.78E-04	1.16E-02	1.44E-03	3.08E-03	2.60E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.20E+01	0.76	8.33E+01	1.16E-02	1.85E+03	1.23E+15	4.94E-04	1.58E-02	5.9E-06	3.5E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
127184	3.20E+01			Tetrachloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.20E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,482	1.18E-02	4.96E-01	1.78E-04	1.16E-02	1.44E-03	3.08E-03	2.60E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.20E+01	1.25	8.33E+01	1.16E-02	5.00E+03	3.95E+05	2.19E-04	7.02E-03	5.9E-06	3.5E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
127184	2.50E+04			Tetrachloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.50E+04	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	9,482	1.18E-02	4.96E-01	1.78E-04	1.16E-02	1.44E-03	3.08E-03	2.90E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.50E+04	0.76	8.33E+01	1.16E-02	1.85E+03	1.23E+15	1.86E-04	4.65E+00	5.9E-06	3.5E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
127184	2.50E+04			Tetrachloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.50E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,482	1.18E-02	4.96E-01	1.78E-04	1.16E-02	1.44E-03	3.08E-03	2.90E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.50E+04	1.25	8.33E+01	1.16E-02	5.00E+03	3.95E+05	8.87E-05	2.22E+00	5.9E-06	3.5E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	4.60E+03			p-Xylene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	4.60E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	3.10E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.60E+03	0.76	8.33E+01	1.24E-02	1.85E+03	1.35E+14	1.98E-04	9.12E-01	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	4.60E+03			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.60E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	3.10E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.60E+03	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	9.43E-05	4.34E-01	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100425	3.30E+03			Styrene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.30E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,373	1.69E-03	7.11E-02	1.78E-04	1.15E-02	1.43E-03	3.04E-03	2.87E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.30E+03	0.76	8.33E+01	1.15E-02	1.85E+03	2.01E+15	1.84E-04	6.06E-01	NA	9.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100425	3.30E+03			Styrene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.30E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,373	1.69E-03	7.11E-02	1.78E-04	1.15E-02	1.43E-03	3.04E-03	2.87E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.30E+03	1.25	8.33E+01	1.15E-02	5.00E+03	4.74E+05	8.77E-05	2.89E-01	NA	9.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
79016	1.30E+04			Trichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.30E+04	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,470	6.93E-03	2.91E-01	1.78E-04	1.28E-02	1.58E-03	3.38E-03	3.19E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+04	0.76	8.33E+01	1.28E-02	1.85E+03	5.67E+13	2.03E-04	2.64E+00	2.0E-06	6.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
79016	1.30E+04			Trichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.30E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,470	6.93E-03	2.91E-01	1.78E-04	1.28E-02	1.58E-03	3.38E-03	3.19E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+04	1.25	8.33E+01	1.28E-02	5.00E+03	1.26E+05	9.67E-05	1.26E+00	2.0E-06	6.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
1634044	5.30E+04			MTBE

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	5.30E+04	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,205	4.46E-04	1.87E-02	1.78E-04	1.66E-02	2.06E-03	4.39E-03	4.15E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.30E+04	0.76	8.33E+01	1.66E-02	1.85E+03	4.08E+10	2.62E-04	1.39E+01	2.6E-07	3.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
1634044	5.30E+04			MTBE

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	5.30E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,205	4.46E-04	1.87E-02	1.78E-04	1.66E-02	2.06E-03	4.39E-03	4.15E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.30E+04	1.25	8.33E+01	1.66E-02	5.00E+03	8.61E+03	1.23E-04	6.52E+00	2.6E-07	3.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	1.70E+01			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.70E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.70E+01	0.76	8.33E+01	1.41E-02	1.85E+03	3.08E+12	5.88E-04	1.00E-02	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	1.70E+01			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.70E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.70E+01	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	2.56E-04	4.35E-03	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	1.10E+05			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.10E+05	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.51E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+05	0.76	8.33E+01	1.41E-02	1.85E+03	3.08E+12	2.23E-04	2.46E+01	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	1.10E+05			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.10E+05	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.51E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+05	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	1.06E-04	1.16E+01	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

Exposure Area J

J&E Output

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	6.80E+02			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	6.80E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	2.77E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.80E+02	0.76	8.33E+01	1.24E-02	1.85E+03	1.35E+14	5.25E-04	3.57E-01	NA	1.0E-01

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	6.80E+02			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	6.80E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	2.77E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.80E+02	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	2.32E-04	1.57E-01	NA	1.0E-01

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106990	5.90E+02			1,3-Butadiene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	5.90E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	5,098	5.79E-02	2.43E+00	1.78E-04	4.03E-02	4.99E-03	1.06E-02	1.00E-02	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.90E+02	1.25	8.33E+01	4.03E-02	5.00E+03	4.15E+01	2.62E-04	1.55E-01	1.7E-04	2.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	8.80E+02			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	8.80E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	2.59E-03	2.19E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.80E+02	1.25	8.33E+01	9.80E-03	5.00E+03	4.46E+06	1.90E-04	1.67E-01	NA	6.0E-03

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	8.80E+02			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	8.80E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	2.59E-03	2.19E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.80E+02	0.76	8.33E+01	9.80E-03	1.85E+03	8.50E+17	4.21E-04	3.71E-01	NA	6.0E-03

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
56235	6.90E+02			Carbon tetrachloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	6.90E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,788	2.11E-02	8.86E-01	1.78E-04	1.26E-02	1.56E-03	3.33E-03	2.81E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.90E+02	0.76	8.33E+01	1.26E-02	1.85E+03	8.51E+13	5.32E-04	3.67E-01	4.2E-05	4.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
56235	6.90E+02			Carbon tetrachloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	6.90E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,788	2.11E-02	8.86E-01	1.78E-04	1.26E-02	1.56E-03	3.33E-03	2.81E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.90E+02	1.25	8.33E+01	1.26E-02	5.00E+03	1.47E+05	2.34E-04	1.62E-01	4.2E-05	4.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
56235	4.20E+03			Carbon tetrachloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	4.20E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,788	2.11E-02	8.86E-01	1.78E-04	1.26E-02	1.56E-03	3.33E-03	3.15E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.20E+03	0.76	8.33E+01	1.26E-02	1.85E+03	8.51E+13	2.01E-04	8.44E-01	4.2E-05	4.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
56235	4.10E+03			Carbon tetrachloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.10E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,788	2.11E-02	8.86E-01	1.78E-04	1.26E-02	1.56E-03	3.33E-03	3.15E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.10E+03	1.25	8.33E+01	1.26E-02	5.00E+03	1.47E+05	9.55E-05	3.92E-01	4.2E-05	4.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	3.60E+04			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.60E+04	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.60E+04	0.76	8.33E+01	1.68E-02	1.85E+03	2.80E+10	6.91E-04	2.49E+01	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	3.60E+04			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.60E+04	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.60E+04	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.94E-04	1.06E+01	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	1.30E+06			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.30E+06	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	4.20E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+06	0.76	8.33E+01	1.68E-02	1.85E+03	2.80E+10	2.65E-04	3.45E+02	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	1.30E+06			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.30E+06	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	4.20E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+06	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	1.24E-04	1.61E+02	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	9.40E+01			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	9.40E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	2.78E-03	2.34E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.40E+01	0.76	8.33E+01	1.05E-02	1.85E+03	5.20E+16	4.50E-04	4.23E-02	NA	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	9.40E+01			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	9.40E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	2.78E-03	2.34E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.40E+01	1.25	8.33E+01	1.05E-02	5.00E+03	1.58E+06	2.02E-04	1.89E-02	NA	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	9.10E+03			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	9.10E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	2.78E-03	2.62E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.10E+03	0.76	8.33E+01	1.05E-02	1.85E+03	5.20E+16	1.68E-04	1.53E+00	NA	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	9.10E+03			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	9.10E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	2.78E-03	2.62E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.10E+03	1.25	8.33E+01	1.05E-02	5.00E+03	1.58E+06	8.07E-05	7.34E-01	NA	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	4.00E+01			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	4.00E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	4.44E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.00E+01	0.76	8.33E+01	1.68E-02	1.85E+03	2.80E+10	6.91E-04	2.76E-02	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	4.00E+01			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.00E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	4.44E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.00E+01	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.94E-04	1.17E-02	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75092	3.50E+01			Methylene chloride

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.50E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	6,960	1.58E-03	6.64E-02	1.78E-04	1.63E-02	2.03E-03	4.32E-03	3.65E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.50E+01	0.76	8.33E+01	1.63E-02	1.85E+03	5.72E+10	6.74E-04	2.36E-02	1.0E-06	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75092	2.50E+01			Methylene chloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.50E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,960	1.58E-03	6.64E-02	1.78E-04	1.63E-02	2.03E-03	4.32E-03	3.65E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.50E+01	1.25	8.33E+01	1.63E-02	5.00E+03	9.77E+03	2.87E-04	7.19E-03	1.0E-06	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	2.00E+02			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.00E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	2.57E-03	2.17E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.00E+02	0.76	8.33E+01	9.72E-03	1.85E+03	1.20E+18	4.18E-04	8.36E-02	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	2.00E+02			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.00E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	2.57E-03	2.17E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.00E+02	1.25	8.33E+01	9.72E-03	5.00E+03	5.07E+06	1.89E-04	3.78E-02	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	4.80E+03			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	4.80E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	2.57E-03	2.42E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.80E+03	0.76	8.33E+01	9.72E-03	1.85E+03	1.20E+18	1.56E-04	7.48E-01	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	4.80E+03			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.80E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	2.57E-03	2.42E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.80E+03	1.25	8.33E+01	9.72E-03	5.00E+03	5.07E+06	7.50E-05	3.60E-01	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95476	3.90E+02			o-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.90E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,325	3.20E-03	1.34E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.90E+02	0.76	8.33E+01	1.41E-02	1.85E+03	3.08E+12	5.88E-04	2.29E-01	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95476	3.90E+02			o-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.90E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,325	3.20E-03	1.34E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.90E+02	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	2.56E-04	9.97E-02	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	1.60E+03			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.60E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	2.77E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+03	0.76	8.33E+01	1.24E-02	1.85E+03	1.35E+14	5.25E-04	8.41E-01	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	1.60E+03			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.60E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	2.77E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+03	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	2.32E-04	3.71E-01	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
79016	8.60E+03			Trichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	8.60E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,470	6.93E-03	2.91E-01	1.78E-04	1.28E-02	1.58E-03	3.38E-03	3.19E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.60E+03	0.76	8.33E+01	1.28E-02	1.85E+03	5.67E+13	2.03E-04	1.75E+00	2.0E-06	6.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
79016	8.60E+03			Trichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	8.60E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,470	6.93E-03	2.91E-01	1.78E-04	1.28E-02	1.58E-03	3.38E-03	3.19E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.60E+03	1.25	8.33E+01	1.28E-02	5.00E+03	1.26E+05	9.67E-05	8.31E-01	2.0E-06	6.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
1634044	1.50E+01			MTBE

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.50E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,205	4.46E-04	1.87E-02	1.78E-04	1.66E-02	2.06E-03	4.39E-03	3.71E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.50E+01	0.76	8.33E+01	1.66E-02	1.85E+03	4.08E+10	6.84E-04	1.03E-02	2.6E-07	3.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
1634044	1.50E+01			MTBE

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.50E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,205	4.46E-04	1.87E-02	1.78E-04	1.66E-02	2.06E-03	4.39E-03	3.71E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.50E+01	1.25	8.33E+01	1.66E-02	5.00E+03	8.61E+03	2.91E-04	4.37E-03	2.6E-07	3.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	1.40E+03			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.40E+03	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+03	0.76	8.33E+01	1.41E-02	1.85E+03	3.08E+12	5.88E-04	8.24E-01	NA	3.0E-01

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	1.40E+03			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.40E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+03	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	2.56E-04	3.58E-01	NA	3.0E-01

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

1.25E+00

J and E Modeled Indoor Air Concentrations
Exposure Area J
4 ft, Bungalow

CAS No.	Analyte		Concentration ($\mu g/m^3$)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
71432	Benzene		3.60E+03	121.92	7.11E-04	2.56E+00
100414	Ethylbenzene		5.10E+02	121.92	6.15E-04	3.14E-01
110543	*Hexane*	*	3.80E+03	121.92	1.42E-03	5.40E+00
109999	Tetrahydrofuran		4.00E+00	121.92	8.15E-04	3.26E-03
110543	*Hexane*	*	3.30E+03	121.92	1.42E-03	4.69E+00
156605	trans-1,2-Dichloroethylene		2.50E+02	121.92	5.83E-04	1.46E-01

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area J
4 ft, Default Commercial

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
71432	Benzene		3.60E+03	121.92	3.01E-04	1.08E+00
100414	Ethylbenzene		5.10E+02	121.92	2.66E-04	1.36E-01
110543	*Hexane*	*	3.80E+03	121.92	5.23E-04	1.99E+00
109999	Tetrahydrofuran		4.00E+00	121.92	3.37E-04	1.35E-03
110543	*Hexane*	*	3.30E+03	121.92	5.23E-04	1.73E+00
156605	trans-1,2-Dichloroethylene		2.50E+02	121.92	2.54E-04	6.34E-02

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area J
5 ft, Bungalow

CAS No.	Analyte		Concentration ($\mu g/m^3$)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
75274	Bromodichloromethane		2.70E+02	152.4	2.15E-04	5.81E-02
106990	1,3-Butadiene		1.20E+02	152.4	1.44E-03	1.73E-01
110827	Cyclohexane		3.50E+04	152.4	5.45E-04	1.91E+01
110543	Hexane		6.60E+03	152.4	1.21E-03	8.00E+00
108678	1,3,5-Trimethylbenzene		2.70E+02	152.4	4.19E-04	1.13E-01
156592	cis-1,2-Dichloroethylene		1.00E+03	152.4	5.05E-04	5.05E-01
123911	1,4-Dioxane		5.10E+01	152.4	9.98E-04	5.09E-02

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area J
5 ft, Default Commercial

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
75274	Bromodichloromethane		2.70E+02	152.4	1.02E-04	2.76E-02
106990	1,3-Butadiene		1.20E+02	152.4	5.33E-04	6.39E-02
1634044	*MTBE*	*	1.50E+01	152.4	2.91E-04	4.37E-03
110827	Cyclohexane		3.50E+04	152.4	2.39E-04	8.37E+00
110543	Hexane		6.60E+03	152.4	4.64E-04	3.06E+00
127184	Tetrachloroethylene		4.90E+02	152.4	2.19E-04	1.08E-01
79016	Trichloroethylene		1.20E+02	152.4	2.37E-04	2.84E-02
108678	1,3,5-Trimethylbenzene		2.70E+02	152.4	1.89E-04	5.11E-02
156592	cis-1,2-Dichloroethylene		1.00E+03	152.4	2.24E-04	2.24E-01
75014	Vinyl chloride (chloroethene)		4.50E+01	152.4	2.98E-04	1.34E-02
123911	1,4-Dioxane		5.10E+01	152.4	3.98E-04	2.03E-02

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area J
15 ft, Bungalow

CAS No.	Analyte		Concentration ($\mu g/m^3$)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
71432	Benzene		1.10E+05	457.2	2.26E-04	2.48E+01
100414	Ethylbenzene		2.90E+04	457.2	1.93E-04	5.61E+00
106423	*p-Xylene*	*	5.10E+04	457.2	1.98E-04	1.01E+01
95476	o-Xylene		1.70E+04	457.2	2.23E-04	3.80E+00
75274	Bromodichloromethane		1.50E+03	457.2	7.87E-05	1.18E-01
78933	Methylethylketone (2-butanone)		2.70E+04	457.2	2.21E-04	5.96E+00
1634044	*MTBE*	*	2.80E+05	457.2	2.62E-04	7.35E+01
75150	Carbon disulfide		7.30E+03	457.2	2.65E-04	1.94E+00
110827	Cyclohexane		1.10E+06	457.2	2.06E-04	2.26E+02
106423	p-Xylene		4.70E+03	457.2	1.98E-04	9.31E-01
110543	*Hexane*	*	3.60E+05	457.2	4.92E-04	1.77E+02
110543	Hexane		1.10E+06	457.2	4.92E-04	5.41E+02
75092	Methylene chloride		2.30E+04	457.2	2.58E-04	5.94E+00
95636	1,2,4-Trimethylbenzene		4.80E+03	457.2	1.57E-04	7.55E-01
108678	1,3,5-Trimethylbenzene		2.50E+03	457.2	1.56E-04	3.91E-01
110543	*Hexane*	*	5.00E+03	457.2	4.92E-04	2.46E+00
75343	1,1-Dichloroethane		1.40E+03	457.2	1.91E-04	2.68E-01

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area J
15 ft, Default Commercial

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
71432	Benzene		1.10E+05	457.2	1.07E-04	1.17E+01
100414	Ethylbenzene		2.90E+04	457.2	9.21E-05	2.67E+00
106423	p-Xylene		5.10E+04	457.2	9.43E-05	4.81E+00
95476	o-Xylene		1.70E+04	457.2	1.06E-04	1.80E+00
75274	Bromodichloromethane		1.50E+03	457.2	3.86E-05	5.79E-02
78933	Methylethylketone (2-butanone)		2.70E+04	457.2	1.04E-04	2.82E+00
1634044	*MTBE*	*	2.80E+05	457.2	1.23E-04	3.44E+01
75150	Carbon disulfide		7.30E+03	457.2	1.24E-04	9.06E-01
110827	Cyclohexane		1.10E+06	457.2	9.78E-05	1.08E+02
106423	*p-Xylene*	*	4.70E+03	457.2	9.43E-05	4.43E-01
110543	*Hexane*	*	3.60E+05	457.2	2.19E-04	7.87E+01
110543	Hexane		1.10E+06	457.2	2.19E-04	2.41E+02
75092	Methylene chloride		2.30E+04	457.2	1.21E-04	2.78E+00
95636	1,2,4-Trimethylbenzene		4.80E+03	457.2	7.56E-05	3.63E-01
108678	1,3,5-Trimethylbenzene		2.50E+03	457.2	7.51E-05	1.88E-01
110543	*Hexane*	*	5.00E+03	457.2	2.19E-04	1.09E+00
75343	1,1-Dichloroethane		1.40E+03	457.2	9.13E-05	1.28E-01

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Exposure Area K

J&E Output

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	7.00E+00			p-Xylene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	7.00E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	2.77E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.00E+00	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	2.32E-04	1.62E-03	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	7.30E+00			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	7.30E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	3.10E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.30E+00	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	9.43E-05	6.88E-04	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	1.30E+01			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.30E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	2.59E-03	2.19E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+01	1.25	8.33E+01	9.80E-03	5.00E+03	4.46E+06	1.90E-04	2.47E-03	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	3.20E+01			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.20E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.17E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.20E+01	1.25	8.33E+01	1.42E-02	5.00E+03	3.80E+04	2.58E-04	8.26E-03	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	4.70E+01			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.70E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.55E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.70E+01	1.25	8.33E+01	1.42E-02	5.00E+03	3.80E+04	1.07E-04	5.02E-03	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75274	2.60E+01			Bromodichloromethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.60E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,596	1.07E-03	4.49E-02	1.78E-04	4.82E-03	6.02E-04	1.28E-03	1.08E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.60E+01	1.25	8.33E+01	4.82E-03	5.00E+03	3.33E+13	1.02E-04	2.65E-03	3.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75274	1.30E+03			Bromodichloromethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.30E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,596	1.07E-03	4.49E-02	1.78E-04	4.82E-03	6.02E-04	1.28E-03	1.21E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+03	1.25	8.33E+01	4.82E-03	5.00E+03	3.33E+13	3.86E-05	5.02E-02	3.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
56235	1.10E+01			Carbon tetrachloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.10E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,788	2.11E-02	8.86E-01	1.78E-04	1.26E-02	1.56E-03	3.33E-03	2.81E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+01	1.25	8.33E+01	1.26E-02	5.00E+03	1.47E+05	2.34E-04	2.58E-03	4.2E-05	4.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
56235	1.50E+03			Carbon tetrachloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.50E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,788	2.11E-02	8.86E-01	1.78E-04	1.26E-02	1.56E-03	3.33E-03	3.15E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.50E+03	1.25	8.33E+01	1.26E-02	5.00E+03	1.47E+05	9.55E-05	1.43E-01	4.2E-05	4.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	1.20E+03			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.20E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.20E+03	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.94E-04	3.53E-01	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	1.20E+05			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.20E+05	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	4.20E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.20E+05	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	1.24E-04	1.49E+01	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
74873	8.20E+01			Methyl chloride (chloromethane)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	8.20E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	4,664	7.08E-03	2.97E-01	1.78E-04	2.04E-02	2.53E-03	5.38E-03	5.08E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.20E+01	1.25	8.33E+01	2.04E-02	5.00E+03	1.58E+03	1.47E-04	1.21E-02	1.0E-06	9.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	2.40E+01			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.40E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	3.42E-03	2.88E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.40E+01	1.25	8.33E+01	1.29E-02	5.00E+03	1.09E+05	2.39E-04	5.74E-03	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	9.30E+01			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	9.30E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	3.42E-03	3.23E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.30E+01	1.25	8.33E+01	1.29E-02	5.00E+03	1.09E+05	9.78E-05	9.09E-03	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	5.50E+01			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	5.50E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	4.44E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.50E+01	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.94E-04	1.61E-02	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	8.70E+00			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	8.70E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	3.21E-03	2.70E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.70E+00	1.25	8.33E+01	1.21E-02	5.00E+03	2.36E+05	2.27E-04	1.97E-03	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	4.70E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.70E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	8.07E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.70E+01	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	2.19E-04	1.03E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	1.80E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.80E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	7.21E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.80E+01	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	4.64E-04	8.36E-03	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	9.60E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	9.60E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	8.07E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.60E+01	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	2.19E-04	2.10E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67630	1.00E+03			Isopropyl Alcohol (2-propanol)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.00E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,516	4.52E-06	1.90E-04	1.78E-04	1.59E-02	3.06E-03	6.12E-03	5.81E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.00E+03	1.25	8.33E+01	1.59E-02	5.00E+03	1.28E+04	1.66E-04	1.66E-01	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	2.60E+01			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.60E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	3.67E-03	3.11E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.60E+01	1.25	8.33E+01	1.31E-02	5.00E+03	9.69E+04	2.54E-04	6.60E-03	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	3.20E+01			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.20E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	3.67E-03	3.47E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.20E+01	1.25	8.33E+01	1.31E-02	5.00E+03	9.69E+04	1.04E-04	3.34E-03	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75092	4.90E+00			Methylene chloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.90E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,960	1.58E-03	6.64E-02	1.78E-04	1.63E-02	2.03E-03	4.32E-03	3.65E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.90E+00	1.25	8.33E+01	1.63E-02	5.00E+03	9.77E+03	2.87E-04	1.41E-03	1.0E-06	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95476	8.90E+00			o-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	8.90E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,325	3.20E-03	1.34E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.90E+00	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	2.56E-04	2.28E-03	NA	1.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
127184	5.70E+02			Tetrachloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	5.70E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,482	1.18E-02	4.96E-01	1.78E-04	1.16E-02	1.44E-03	3.08E-03	2.90E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.70E+02	1.25	8.33E+01	1.16E-02	5.00E+03	3.95E+05	8.87E-05	5.06E-02	5.9E-06	3.5E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	3.60E+01			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.60E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,166	4.76E-03	2.00E-01	1.78E-04	1.24E-02	1.54E-03	3.29E-03	2.77E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.60E+01	1.25	8.33E+01	1.24E-02	5.00E+03	1.74E+05	2.32E-04	8.34E-03	NA	1.0E-01

END

Crack width caclulation

crack width=$(A_B*\eta)/2*(L_B+W_B)$

crack width=$(A_B*0.005)/2*(L_B+W_B)$

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	6.20E+01			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	6.20E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.20E+01	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	2.56E-04	1.59E-02	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

J and E Modeled Indoor Air Concentrations
Exposure Area J
15 ft, Default Commercial 2012

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
100414	Ethylbenzene		70	457.2	4.33E-05	3.03E-03
100425	Styrene		2.9	457.2	4.12E-05	1.20E-04
103651	n-Propylbenzene		14	457.2	3.49E-05	4.89E-04
104518	n-Butylbenzene		8.9	457.2	3.32E-05	2.95E-04
108101	Methylisobutylketone (4-methyl-2-pentanone)		51	457.2	4.70E-05	2.40E-03
108678	1,3,5-Trimethylbenzene		2.7	457.2	3.51E-05	9.47E-05
108883	Toluene		29	457.2	5.00E-05	1.45E-03
109999	Tetrahydrofuran		26	457.2	6.53E-05	1.70E-03
110543	Hexane		3.9	457.2	1.09E-04	4.25E-04
115071	Propylene		2300	457.2	6.22E-05	1.43E-01
123911	1,4-Dioxane		3.4	457.2	1.72E-04	5.83E-04
127184	Tetrachloroethylene		1200	457.2	4.16E-05	4.99E-02
135988	sec-Butylbenzene		3.8	457.2	3.41E-05	1.29E-04
141786	Ethylacetate		21	457.2	4.67E-05	9.81E-04
110543	*Hexane*	*	4.1	457.2	1.09E-04	4.47E-04
156592	cis-1,2-Dichloroethylene		40	457.2	4.26E-05	1.71E-03
106423	p-Xylene		23	457.2	4.44E-05	1.02E-03
110543	*Hexane*	*	12	457.2	1.09E-04	1.31E-03
78933	*Methylethylketone (2-butanone)*	*	2.2	457.2	5.74E-05	1.26E-04
106423	p-Xylene	*	3.5	457.2	4.44E-05	1.55E-04
630206	1,1,1,2-Tetrachloroethane		6.6	457.2	4.12E-05	2.72E-04
67630	Isopropyl Alcohol (2-propanol)		11	457.2	1.37E-04	1.51E-03
67641	Acetone		85	457.2	8.69E-05	7.38E-03
67663	Chloroform		62000	457.2	5.93E-05	3.68E+00
71432	Benzene		20	457.2	5.05E-05	1.01E-03
71556	1,1,1-Trichloroethane		16	457.2	4.49E-05	7.19E-04
75092	Methylene chloride		2.4	457.2	5.79E-05	1.39E-04
75150	Carbon disulfide		1000	457.2	5.92E-05	5.92E-02
75274	Bromodichloromethane		810	457.2	1.80E-05	1.46E-02
75343	1,1-Dichloroethane		2.5	457.2	4.29E-05	1.07E-04
75354	1,1-Dichloroethylene		6.4	457.2	5.16E-05	3.30E-04
1634044	*MTBE*	*	2	457.2	5.93E-05	1.19E-04
75694	Trichlorofluoromethane		2.3	457.2	4.99E-05	1.15E-04
75718	Dichlorodifluoromethane		3.2	457.2	3.85E-05	1.23E-04
78933	Methylethylketone (2-butanone)		110	457.2	5.74E-05	6.31E-03
79016	Trichloroethylene		89	457.2	4.55E-05	4.05E-03
79345	1,1,2,2-Tetrachloroethane		2.9	457.2	4.26E-05	1.23E-04
91203	Naphthalene		18	457.2	3.54E-05	6.38E-04
95476	o-Xylene		6.4	457.2	5.00E-05	3.20E-04
95636	1,2,4-Trimethylbenzene		14	457.2	3.53E-05	4.94E-04
96184	1,2,3-Trichloropropane		1.8	457.2	4.24E-05	7.62E-05
98828	Cumene		47	457.2	3.77E-05	1.77E-03

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Exposure Area L

J&E Output

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	3.30E+01			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.30E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	2.59E-03	2.45E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.30E+01	0.76	8.33E+01	9.80E-03	1.85E+03	8.50E+17	1.57E-04	5.19E-03	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	3.30E+01			1,2,4-Trimethylbenzene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.30E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	2.59E-03	2.45E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.30E+01	1.25	8.33E+01	9.80E-03	5.00E+03	4.46E+06	7.56E-05	2.49E-03	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108678	6.80E+00			1,3,5-Trimethylbenzene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	6.80E+00	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	11,587	3.42E-03	1.44E-01	1.78E-04	9.73E-03	1.21E-03	2.57E-03	2.43E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.80E+00	0.76	8.33E+01	9.73E-03	1.85E+03	1.12E+18	1.56E-04	1.06E-03	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108678	6.80E+00			1,3,5-Trimethylbenzene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	6.80E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,587	3.42E-03	1.44E-01	1.78E-04	9.73E-03	1.21E-03	2.57E-03	2.43E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.80E+00	1.25	8.33E+01	9.73E-03	5.00E+03	4.94E+06	7.51E-05	5.11E-04	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	4.80E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	4.80E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	8.07E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.80E+01	0.76	8.33E+01	3.23E-02	1.85E+03	2.71E+05	4.92E-04	2.36E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	4.80E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.80E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	8.07E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.80E+01	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	2.19E-04	1.05E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	3.40E+01			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.40E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.17E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.40E+01	0.76	8.33E+01	1.42E-02	1.85E+03	2.22E+12	5.95E-04	2.02E-02	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	3.40E+01			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.40E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.17E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.40E+01	1.25	8.33E+01	1.42E-02	5.00E+03	3.80E+04	2.58E-04	8.77E-03	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	1.00E+02			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.00E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.55E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.00E+02	0.76	8.33E+01	1.42E-02	1.85E+03	2.22E+12	2.26E-04	2.26E-02	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	1.00E+02			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.00E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,050	3.81E-03	1.60E-01	1.78E-04	1.42E-02	1.77E-03	3.76E-03	3.55E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.00E+02	1.25	8.33E+01	1.42E-02	5.00E+03	3.80E+04	1.07E-04	1.07E-02	2.9E-05	3.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75274	6.00E+01			Bromodichloromethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	6.00E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,596	1.07E-03	4.49E-02	1.78E-04	4.82E-03	6.02E-04	1.28E-03	1.08E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.00E+01	0.76	8.33E+01	4.82E-03	1.85E+03	2.88E+36	2.15E-04	1.29E-02	3.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75274	6.00E+01			Bromodichloromethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	6.00E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,596	1.07E-03	4.49E-02	1.78E-04	4.82E-03	6.02E-04	1.28E-03	1.08E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	6.00E+01	1.25	8.33E+01	4.82E-03	5.00E+03	3.33E+13	1.02E-04	6.12E-03	3.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	3.20E+02			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.20E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.20E+02	0.76	8.33E+01	1.68E-02	1.85E+03	2.80E+10	6.91E-04	2.21E-01	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	3.20E+02			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.20E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	3.75E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.20E+02	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.94E-04	9.40E-02	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	4.00E+02			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	4.00E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	4.20E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.00E+02	0.76	8.33E+01	1.68E-02	1.85E+03	2.80E+10	2.65E-04	1.06E-01	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67663	4.00E+02			Chloroform

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.00E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,482	2.58E-03	1.09E-01	1.78E-04	1.68E-02	2.09E-03	4.45E-03	4.20E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.00E+02	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	1.24E-04	4.97E-02	5.3E-06	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	5.50E+01			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	5.50E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	2.78E-03	2.62E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.50E+01	0.76	8.33E+01	1.05E-02	1.85E+03	5.20E+16	1.68E-04	9.25E-03	NA	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	5.50E+01			Cumene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	5.50E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	12,546	8.14E-03	3.42E-01	1.78E-04	1.05E-02	1.30E-03	2.78E-03	2.62E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.50E+01	1.25	8.33E+01	1.05E-02	5.00E+03	1.58E+06	8.07E-05	4.44E-03	NA	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
124481	1.60E+01			Chlorodibromomethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.60E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	6,737	5.71E-04	2.40E-02	1.78E-04	3.17E-03	4.02E-04	8.53E-04	7.20E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+01	0.76	8.33E+01	3.17E-03	1.85E+03	2.70E+55	1.45E-04	2.32E-03	2.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
124481	1.60E+01			Chlorodibromomethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.60E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,737	5.71E-04	2.40E-02	1.78E-04	3.17E-03	4.02E-04	8.53E-04	7.20E-04	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.60E+01	1.25	8.33E+01	3.17E-03	5.00E+03	3.62E+20	6.99E-05	1.12E-03	2.7E-05	7.0E-02

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	1.80E+02			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.80E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	4.44E-03	4.19E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.80E+02	0.76	8.33E+01	1.68E-02	1.85E+03	2.80E+10	2.65E-04	4.77E-02	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	1.80E+02			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.80E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	4.44E-03	4.19E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.80E+02	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	1.24E-04	2.23E-02	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	1.40E+01			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.40E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	3.21E-03	3.03E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+01	0.76	8.33E+01	1.21E-02	1.85E+03	3.07E+14	1.93E-04	2.71E-03	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	1.40E+01			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.40E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	3.21E-03	3.03E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.40E+01	1.25	8.33E+01	1.21E-02	5.00E+03	2.36E+05	9.21E-05	1.29E-03	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	7.90E+00			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	7.90E+00	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	7.21E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.90E+00	0.76	8.33E+01	3.23E-02	1.85E+03	2.71E+05	1.21E-03	9.58E-03	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	7.90E+00			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	154.2	17	19	30	105.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	145.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	7.90E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	7.22E-03	145.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	7.90E+00	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	4.61E-04	3.64E-03	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	8.40E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	8.40E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	8.07E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.40E+01	0.76	8.33E+01	3.23E-02	1.85E+03	2.71E+05	4.92E-04	4.13E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	8.40E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	8.40E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	8.07E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.40E+01	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	2.19E-04	1.84E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	4.20E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	4.20E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	7.21E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.20E+01	0.76	8.33E+01	3.23E-02	1.85E+03	2.71E+05	1.21E-03	5.09E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	4.20E+01			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	4.20E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	7.21E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	4.20E+01	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	4.64E-04	1.95E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	3.10E+02			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.10E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	8.07E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.10E+02	0.76	8.33E+01	3.23E-02	1.85E+03	2.71E+05	4.92E-04	1.52E-01	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110543	3.10E+02			Hexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.10E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,644	1.16E+00	4.89E+01	1.78E-04	3.23E-02	4.01E-03	8.54E-03	8.07E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.10E+02	1.25	8.33E+01	3.23E-02	5.00E+03	1.03E+02	2.19E-04	6.78E-02	NA	2.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	3.00E+01			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	Thickness of soil stratum B, (Enter value or 0) h_B (cm)	Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	3.00E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	3.67E-03	3.11E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.00E+01	0.76	8.33E+01	1.31E-02	1.85E+03	2.78E+13	5.83E-04	1.75E-02	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	3.00E+01			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	3.00E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	3.67E-03	3.11E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.00E+01	1.25	8.33E+01	1.31E-02	5.00E+03	9.69E+04	2.54E-04	7.61E-03	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	1.10E+02			Methylethylketone (2-butanone)

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	1.10E+02	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	3.67E-03	3.47E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+02	0.76	8.33E+01	1.31E-02	1.85E+03	2.78E+13	2.21E-04	2.43E-02	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	1.10E+02			Methylethylketone (2-butanone)

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	1.10E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	8,332	3.78E-05	1.59E-03	1.78E-04	1.31E-02	1.74E-03	3.67E-03	3.47E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.10E+02	1.25	8.33E+01	1.31E-02	5.00E+03	9.69E+04	1.04E-04	1.15E-02	NA	5.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

Reset to Defaults

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75092	5.30E+00			Methylene chloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	5.30E+00	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	6,960	1.58E-03	6.64E-02	1.78E-04	1.63E-02	2.03E-03	4.32E-03	3.65E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.30E+00	0.76	8.33E+01	1.63E-02	1.85E+03	5.72E+10	6.74E-04	3.57E-03	1.0E-06	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75092	5.30E+00			Methylene chloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	5.30E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,960	1.58E-03	6.64E-02	1.78E-04	1.63E-02	2.03E-03	4.32E-03	3.65E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.30E+00	1.25	8.33E+01	1.63E-02	5.00E+03	9.77E+03	2.87E-04	1.52E-03	1.0E-06	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75092	5.60E+00			Methylene chloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	5.60E+00	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	6,960	1.58E-03	6.64E-02	1.78E-04	1.63E-02	2.03E-03	4.32E-03	4.08E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.60E+00	0.76	8.33E+01	1.63E-02	1.85E+03	5.72E+10	2.58E-04	1.45E-03	1.0E-06	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75092	5.60E+00			Methylene chloride

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	5.60E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,960	1.58E-03	6.64E-02	1.78E-04	1.63E-02	2.03E-03	4.32E-03	4.08E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.60E+00	1.25	8.33E+01	1.63E-02	5.00E+03	9.77E+03	1.21E-04	6.78E-04	1.0E-06	4.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	2.80E+01			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	2.80E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	2.57E-03	2.42E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.80E+01	0.76	8.33E+01	9.72E-03	1.85E+03	1.20E+18	1.56E-04	4.37E-03	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	2.80E+01			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	2.80E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	2.57E-03	2.42E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	2.80E+01	1.25	8.33E+01	9.72E-03	5.00E+03	5.07E+06	7.50E-05	2.10E-03	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
109999	9.60E+00			Tetrahydrofuran

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	9.60E+00	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	7,613	4.91E-05	2.06E-03	1.78E-04	1.58E-02	2.07E-03	4.38E-03	4.13E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.60E+00	0.76	8.33E+01	1.58E-02	1.85E+03	1.22E+11	2.61E-04	2.51E-03	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
109999	9.60E+00			Tetrahydrofuran

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	9.60E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,613	4.91E-05	2.06E-03	1.78E-04	1.58E-02	2.07E-03	4.38E-03	4.13E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	9.60E+00	1.25	8.33E+01	1.58E-02	5.00E+03	1.29E+04	1.23E-04	1.18E-03	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	5.80E+01			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	609	609	244	7.61E-01	0.5	5.0

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	2,436	5.80E+01	1.26E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
3.71E+05	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.80E+01	0.76	8.33E+01	1.41E-02	1.85E+03	3.08E+12	5.88E-04	3.41E-02	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

7.61E-01

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	5.80E+01			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of Ls (cell F24)					
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.23	0.494	0.24

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.254	#N/A	#N/A	#N/A	#N/A	4,000	5.80E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	9,078	4.34E-03	1.82E-01	1.78E-04	1.41E-02	1.75E-03	3.72E-03	3.14E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.80E+01	1.25	8.33E+01	1.41E-02	5.00E+03	4.28E+04	2.56E-04	1.48E-02	NA	3.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

J and E Modeled Indoor Air Concentrations
Exposure Area L
5 ft, Bungalow

CAS No.	Analyte		Concentration ($\mu g/m^3$)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
100414	Ethylbenzene		24	152.4	5.13E-04	1.23E-02
106423	p-Xylene		74	152.4	5.25E-04	3.89E-02
95476	o-Xylene		20	152.4	5.88E-04	1.18E-02
75150	Carbon disulfide		120	152.4	6.91E-04	8.29E-02
110827	Cyclohexane		73	152.4	5.45E-04	3.98E-02
106423	*p-Xylene*	*	15	152.4	5.25E-04	7.88E-03
103651	n-Propylbenzene		6.5	152.4	4.18E-04	2.72E-03
95636	1,2,4-Trimethylbenzene		13	152.4	4.21E-04	5.48E-03
108678	1,3,5-Trimethylbenzene		6.5	152.4	4.19E-04	2.72E-03
110543	*Hexane*	*	12	152.4	1.21E-03	1.45E-02

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area L
5 ft, Default Commercial

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
71432	Benzene		34	152.4	2.58E-04	8.77E-03
100414	Ethylbenzene		24	152.4	2.27E-04	5.45E-03
108883	Toluene		58	152.4	2.56E-04	1.48E-02
106423	p-Xylene		74	152.4	2.32E-04	1.71E-02
95476	o-Xylene		20	152.4	2.56E-04	5.11E-03
75274	Bromodichloromethane		60	152.4	1.02E-04	6.12E-03
78933	Methylethylketone (2-butanone)		30	152.4	2.54E-04	7.61E-03
75150	Carbon disulfide		120	152.4	2.94E-04	3.52E-02
67663	Chloroform		320	152.4	2.94E-04	9.40E-02
110827	Cyclohexane		73	152.4	2.39E-04	1.74E-02
124481	Chlorodibromomethane		16	152.4	6.99E-05	1.12E-03
106423	*p-Xylene*	*	15	152.4	2.32E-04	3.47E-03
110543	*Hexane*	*	7.9	152.4	4.64E-04	3.67E-03
110543	Hexane		42	152.4	4.64E-04	1.95E-02
75092	Methylene chloride		5.3	152.4	2.87E-04	1.52E-03
103651	n-Propylbenzene		6.5	152.4	1.89E-04	1.23E-03
95636	1,2,4-Trimethylbenzene		13	152.4	1.90E-04	2.47E-03
108678	1,3,5-Trimethylbenzene		6.5	152.4	1.89E-04	1.23E-03
110543	*Hexane*	*	12	152.4	4.64E-04	5.57E-03

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area L
15 ft, Bungalow

CAS No.	Analyte		Concentration ($\mu g/m^3$)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
71432	Benzene		1.00E+02	457.2	2.26E-04	2.26E-02
108883	Toluene		8.10E+01	457.2	2.23E-04	1.81E-02
78933	Methylethylketone (2-butanone)		1.10E+02	457.2	2.21E-04	2.43E-02
75150	Carbon disulfide		1.80E+02	457.2	2.65E-04	4.77E-02
67663	Chloroform		4.00E+02	457.2	2.65E-04	1.06E-01
110543	*Hexane*	*	8.40E+01	457.2	4.92E-04	4.13E-02
110543	Hexane		3.10E+02	457.2	4.92E-04	1.52E-01
98828	Cumene		5.50E+01	457.2	1.68E-04	9.25E-03
75092	Methylene chloride		5.60E+00	457.2	2.58E-04	1.45E-03
103651	n-Propylbenzene		2.80E+01	457.2	1.56E-04	4.37E-03
109999	Tetrahydrofuran		9.60E+00	457.2	2.61E-04	2.51E-03
95636	1,2,4-Trimethylbenzene		3.30E+01	457.2	1.57E-04	5.19E-03
108678	1,3,5-Trimethylbenzene		6.80E+00	457.2	1.56E-04	1.06E-03
110543	*Hexane*	*	4.80E+01	457.2	4.92E-04	2.36E-02

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area L
15 ft, Default Commercial

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
71432	Benzene		1.00E+02	457.2	1.07E-04	1.07E-02
100414	Ethylbenzene		2.90E+04	457.2	9.21E-05	2.67E+00
108883	Toluene		8.10E+01	457.2	1.06E-04	8.56E-03
106423	p-Xylene		5.10E+04	457.2	9.43E-05	4.81E+00
95476	o-Xylene		1.70E+04	457.2	1.06E-04	1.80E+00
75274	Bromodichloromethane		1.50E+03	457.2	3.86E-05	5.79E-02
106990	1,3-Butadiene		5.90E+02	457.2	2.62E-04	1.55E-01
78933	Methylethylketone (2-butanone)		2.70E+04	457.2	1.04E-04	2.82E+00
1634044	*MTBE*	*	2.80E+05	457.2	1.23E-04	3.44E+01
75150	Carbon disulfide		7.30E+03	457.2	1.24E-04	9.06E-01
56235	Carbon tetrachloride		4.20E+03	457.2	9.55E-05	4.01E-01
67663	Chloroform		1.30E+06	457.2	1.24E-04	1.61E+02
110827	Cyclohexane		1.10E+06	457.2	9.78E-05	1.08E+02
106423	*p-Xylene*	*	4.70E+03	457.2	9.43E-05	4.43E-01
110543	*Hexane*	*	3.60E+05	457.2	2.19E-04	7.87E+01
110543	Hexane		1.10E+06	457.2	2.19E-04	2.41E+02
98828	Cumene		9.10E+03	457.2	8.06E-05	7.34E-01
75092	Methylene chloride		2.30E+04	457.2	1.21E-04	2.78E+00
103651	n-Propylbenzene		4.80E+03	457.2	7.50E-05	3.60E-01
79016	Trichloroethylene		8.60E+03	457.2	9.67E-05	8.31E-01
95636	1,2,4-Trimethylbenzene		4.80E+03	457.2	7.56E-05	3.63E-01
108678	1,3,5-Trimethylbenzene		2.50E+03	457.2	7.51E-05	1.88E-01
110543	*Hexane*	*	5.00E+03	457.2	2.19E-04	1.09E+00

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Exposure Area M

J&E Output

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95636	5.10E+01			1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	5.10E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,604	3.58E-03	1.50E-01	1.78E-04	9.80E-03	1.22E-03	1.83E-03	1.74E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	5.10E+01	1.25	8.33E+01	9.80E-03	5.00E+03	4.46E+06	1.57E-04	7.98E-03	NA	6.0E-03

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
110827	1.30E+02			Cyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	1.30E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	7,899	1.38E-01	5.82E+00	1.78E-04	1.29E-02	1.60E-03	2.41E-03	2.30E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.30E+02	1.25	8.33E+01	1.29E-02	5.00E+03	1.09E+05	1.98E-04	2.58E-02	NA	NA

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	8.30E+00			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	8.30E+00	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	3.13E-03	2.99E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.30E+00	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	2.46E-04	2.04E-03	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

DATA ENTRY SHEET

SG-ADV Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	1.20E+03			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	1.20E+03	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	6,628	2.22E-02	9.32E-01	1.78E-04	1.68E-02	2.09E-03	3.13E-03	3.09E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	1.20E+03	1.25	8.33E+01	1.68E-02	5.00E+03	7.49E+03	9.38E-05	1.13E-01	NA	7.0E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	3.00E+01			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	152.4	17	19	30	103.4			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	143.4	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	3.00E+01	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	10,075	4.92E-03	2.07E-01	1.78E-04	1.21E-02	1.50E-03	2.26E-03	2.16E-03	143.4

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	3.00E+01	1.25	8.33E+01	1.21E-02	5.00E+03	2.36E+05	1.88E-04	5.64E-03	NA	1.0E+00

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

SG-ADV
Version 3.1; 02/04

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
103651	8.10E+02			n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Totals must add up to value of Ls (cell F24) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
9	457.2	17	19	30	408.2			

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054		1.8	0.3	0.15		1.41	0.405	0.202

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
9	40	1000	1000	244	1.25E+00	1	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

INTERMEDIATE CALCULATIONS SHEET

Exposure duration, τ (sec)	Source-building separation, L_T (cm)	Stratum A soil air-filled porosity, θ_a^A (cm^3/cm^3)	Stratum B soil air-filled porosity, θ_a^B (cm^3/cm^3)	Stratum C soil air-filled porosity, θ_a^C (cm^3/cm^3)	Stratum A effective total fluid saturation, S_{te} (cm^3/cm^3)	Stratum A soil intrinsic permeability, k_i (cm^2)	Stratum A soil relative air permeability, k_{rg} (cm^2)	Stratum A soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
7.88E+08	448.2	0.321	0.150	0.203	#N/A	#N/A	#N/A	#N/A	4,000	8.10E+02	6.78E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Stratum B effective diffusion coefficient, D^{eff}_B (cm^2/s)	Stratum C effective diffusion coefficient, D^{eff}_C (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Diffusion path length, L_d (cm)
1.00E+06	5.00E-03	9	11,277	6.31E-03	2.65E-01	1.78E-04	9.72E-03	1.21E-03	1.81E-03	1.78E-03	448.2

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
9	8.10E+02	1.25	8.33E+01	9.72E-03	5.00E+03	5.07E+06	5.61E-05	4.54E-02	NA	1.4E-01

END

Crack width caclulation

crack width=(A_B*η)/2*(L_B+W_B)

crack width=(A_B*0.005)/2*(L_B+W_B)

1.25E+00

J and E Modeled Indoor Air Concentrations
Exposure Area M
5 ft, Default Commercial

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
100414	Ethylbenzene		3.00E+01	152.4	1.88E-04	5.64E-03
103651	n-Propylbenzene		2.20E+01	152.4	1.55E-04	3.42E-03
108678	1,3,5-Trimethylbenzene		2.70E+01	152.4	1.56E-04	4.20E-03
108883	Toluene		5.00E+01	152.4	2.13E-04	1.06E-02
110543	Hexane		1.20E+02	152.4	4.01E-04	4.81E-02
110827	Cyclohexane		1.30E+02	152.4	1.98E-04	2.58E-02
110543	*Hexane*	*	1.30E+02	152.4	4.01E-04	5.21E-02
106423	p-Xylene		1.00E+02	152.4	1.92E-04	1.92E-02
110543	*Hexane*	*	1.40E+01	152.4	4.01E-04	5.61E-03
78933	Methylethylketone (2-butanone)		8.60E-02	152.4	2.11E-04	1.82E-05
106423	*p-Xylene*	*	4.80E+01	152.4	1.92E-04	9.22E-03
67641	Acetone		3.40E+01	152.4	2.98E-04	0.00E+00
71432	Benzene		1.80E+02	152.4	2.15E-04	3.87E-02
75150	Carbon disulfide		8.30E+00	152.4	2.46E-04	2.04E-03
78933	Methylethylketone (2-butanone)		8.60E+00	152.4	2.11E-04	1.82E-03
95476	o-Xylene		5.90E+01	152.4	2.13E-04	1.26E-02
95636	1,2,4-Trimethylbenzene		5.10E+01	152.4	1.57E-04	7.98E-03
98828	Cumene		3.00E+01	152.4	1.66E-04	4.99E-03

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area M
5 ft, Default Commercial (2012)

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
100414	Ethylbenzene		5.60E+00	152.4	3.15E-04	1.76E-03
100425	Styrene		3.50E+00	152.4	3.02E-04	1.06E-03
108101	Methylisobutylketone (4-methyl-2-pentanone)		5.40E+01	152.4	3.18E-04	1.72E-02
108678	1,3,5-Trimethylbenzene		2.30E+00	152.4	2.66E-04	6.12E-04
108883	Toluene		2.30E+01	152.4	3.51E-04	8.06E-03
109999	Tetrahydrofuran		2.40E+01	152.4	3.89E-04	9.33E-03
110543	Hexane		2.40E+00	152.4	5.91E-04	1.42E-03
115071	Propylene		4.20E+00	152.4	4.11E-04	1.73E-03
127184	Tetrachloroethylene		4.80E+00	152.4	3.05E-04	1.46E-03
141786	Ethylacetate		1.80E+01	152.4	3.13E-04	5.63E-03
110543	*Hexane*	*	1.80E+00	152.4	5.91E-04	1.06E-03
106423	p-Xylene		1.60E+01	152.4	3.20E-04	5.13E-03
110543	*Hexane*	*	1.00E+01	152.4	5.91E-04	5.91E-03
78933	*Methylethylketone (2-butanone)*	*	2.40E+00	152.4	3.42E-04	8.20E-04
106423	*p-Xylene*	*	2.10E+00	152.4	3.20E-04	6.73E-04
630206	1,1,1,2-Tetrachloroethane		2.90E+00	152.4	3.02E-04	8.76E-04
67630	Isopropyl Alcohol (2-propanol)		1.00E+01	152.4	4.40E-04	4.40E-03
67641	Acetone		4.60E+01	152.4	4.57E-04	2.10E-02
67663	Chloroform		5.00E+00	152.4	3.97E-04	1.99E-03
71432	Benzene		5.80E+00	152.4	3.53E-04	2.05E-03
75092	Methylene chloride		3.10E+00	152.4	3.89E-04	1.21E-03
75150	Carbon disulfide		3.30E+00	152.4	3.97E-04	1.31E-03
1634044	*MTBE*	*	1.40E+00	152.4	3.94E-04	5.51E-04
75694	Trichlorofluoromethane		2.70E+00	152.4	3.50E-04	9.46E-04
75718	Dichlorodifluoromethane		3.70E+00	152.4	2.87E-04	1.06E-03
78933	Methylethylketone (2-butanone)		7.70E+01	152.4	3.42E-04	2.63E-02
95476	o-Xylene		5.40E+00	152.4	3.51E-04	1.89E-03
95636	1,2,4-Trimethylbenzene		5.80E+00	152.4	2.67E-04	1.55E-03
98828	Cumene		4.70E+01	152.4	2.82E-04	1.33E-02

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area M
15 ft , Default Commercial

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
100414	Ethylbenzene		2.20E+02	457.2	6.92E-05	1.52E-02
103651	n-Propylbenzene		8.10E+02	457.2	5.61E-05	4.54E-02
108678	1,3,5-Trimethylbenzene		1.20E+02	457.2	5.62E-05	6.74E-03
108883	Toluene		1.10E+02	457.2	7.95E-05	8.75E-03
109999	Tetrahydrofuran		2.50E+01	457.2	9.28E-05	2.32E-03
110543	Hexane		9.90E+02	457.2	1.69E-04	1.67E-01
110827	Cyclohexane		1.40E+03	457.2	7.35E-05	1.03E-01
110543	*Hexane*	*	1.00E+03	457.2	1.69E-04	1.69E-01
106423	p-Xylene		4.70E+02	457.2	7.08E-05	3.33E-02
78933	Methylethylketone (2-butanone)		4.00E+02	457.2	7.88E-05	3.15E-02
106423	*p-Xylene*	*	2.50E+02	457.2	7.08E-05	1.77E-02
71432	Benzene		1.50E+03	457.2	8.04E-05	1.21E-01
74873	Methyl chloride (chloromethane)		1.60E+02	457.2	1.12E-04	1.79E-02
1634044	*MTBE*	*	1.40E+02	457.2	9.29E-05	1.30E-02
75150	Carbon disulfide		1.20E+03	457.2	9.38E-05	1.13E-01
78933	Methylethylketone (2-butanone)		4.00E+02	457.2	7.88E-05	3.15E-02
95476	o-Xylene		4.00E+02	457.2	7.95E-05	3.18E-02
95636	1,2,4-Trimethylbenzene		3.00E+02	457.2	5.65E-05	1.70E-02
98828	Cumene		2.60E+03	457.2	6.04E-05	1.57E-01

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Exposure Area N

J&E Output

J and E Modeled Indoor Air Concentrations
Exposure Area N
5 ft, Default Commercial

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
100414	Ethylbenzene		12	152.4	6.97E-05	8.37E-04
103651	n-Propylbenzene		13	152.4	5.65E-05	7.34E-04
108678	1,3,5-Trimethylbenzene		18	152.4	5.68E-05	1.02E-03
108883	Toluene		26	152.4	8.02E-05	2.08E-03
110543	Hexane		9.1	152.4	1.69E-04	1.54E-03
110827	Cyclohexane		29	152.4	7.38E-05	2.14E-03
110543	*Hexane*	*	31	152.4	1.69E-04	5.25E-03
106423	p-Xylene		47	152.4	7.14E-05	3.36E-03
110543	*Hexane*	*	9.2	152.4	1.69E-04	1.56E-03
106423	*p-Xylene*	*	26	152.4	7.14E-05	1.86E-03
67630	Isopropyl Alcohol (2-propanol)		110	152.4	3.20E-04	3.52E-02
67663	Chloroform		8.7	152.4	9.49E-05	8.26E-04
75150	Carbon disulfide		22	152.4	9.43E-05	2.07E-03
78933	Methylethylketone (2-butanone)		8	152.4	1.16E-04	9.29E-04
95476	o-Xylene		25	152.4	8.04E-05	2.01E-03
95636	1,2,4-Trimethylbenzene		18	152.4	5.71E-05	1.03E-03
98828	Cumene		18	152.4	6.06E-05	1.09E-03

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area N
5 ft, Default Commercial (2012)

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
100414	Ethylbenzene		3.10E+01	152.4	2.50E-04	7.76E-03
100425	Styrene		4.30E+00	152.4	2.40E-04	1.03E-03
103651	n-Propylbenzene		8.50E+00	152.4	2.09E-04	1.78E-03
104518	n-Butylbenzene		5.10E+00	152.4	2.00E-04	1.02E-03
108101	Methylisobutylketone (4-methyl-2-pentanone)		1.00E+02	152.4	2.55E-04	2.55E-02
108678	1,3,5-Trimethylbenzene		3.70E+00	152.4	2.09E-04	7.74E-04
108883	Toluene		4.30E+01	152.4	2.81E-04	1.21E-02
109999	Tetrahydrofuran		5.80E+01	152.4	3.18E-04	1.84E-02
110543	Hexane		3.60E+01	152.4	5.00E-04	1.80E-02
115071	Propylene		1.30E+01	152.4	3.34E-04	4.35E-03
123911	1,4-Dioxane		1.70E+01	152.4	4.19E-04	7.13E-03
127184	Tetrachloroethylene		9.00E+00	152.4	2.42E-04	2.18E-03
135988	sec-Butylbenzene		3.40E+00	152.4	2.01E-04	6.84E-04
141786	Ethylacetate		3.30E+01	152.4	2.51E-04	8.27E-03
110543	*Hexane*	*	4.40E+01	152.4	5.00E-04	2.20E-02
106423	p-Xylene		3.20E+01	152.4	2.55E-04	8.17E-03
110543	*Hexane*	*	3.40E+01	152.4	5.00E-04	1.70E-02
78933	*Methylethylketone (2-butanone)*	*	3.30E+00	152.4	2.78E-04	9.18E-04
106423	*p-Xylene*	*	4.50E+00	152.4	2.55E-04	1.15E-03
630206	1,1,1,2-Tetrachloroethane		4.50E+00	152.4	2.40E-04	1.08E-03
67630	Isopropyl Alcohol (2-propanol)		2.10E+01	152.4	3.96E-04	8.32E-03
67641	Acetone		2.50E+02	152.4	3.82E-04	9.54E-02
67663	Chloroform		9.50E+00	152.4	3.22E-04	3.06E-03
71432	Benzene		1.50E+01	152.4	2.84E-04	4.25E-03
74873	Methyl chloride (chloromethane)		3.40E+00	152.4	3.69E-04	1.26E-03
75014	Vinyl chloride (chloroethene)		1.50E+00	152.4	3.26E-04	4.89E-04
75092	Methylene chloride		4.20E+00	152.4	3.15E-04	1.32E-03
75150	Carbon disulfide		7.00E+00	152.4	3.22E-04	2.25E-03
1634044	*MTBE*	*	1.80E+00	152.4	3.19E-04	5.74E-04
75694	Trichlorofluoromethane		3.20E+00	152.4	2.81E-04	8.99E-04
75718	Dichlorodifluoromethane		4.00E+00	152.4	2.27E-04	9.08E-04
76131	1,1,2-Trichloro-1,2,2-trifluoroethane		3.60E+00	152.4	2.58E-04	9.29E-04
78933	Methylethylketone (2-butanone)		1.80E+02	152.4	2.78E-04	5.01E-02
91203	Naphthalene		6.70E+00	152.4	2.07E-04	1.39E-03
95476	o-Xylene		8.00E+00	152.4	2.81E-04	2.25E-03
95636	1,2,4-Trimethylbenzene		8.30E+00	152.4	2.10E-04	1.75E-03
98066	tert-Butylbenzene		2.30E+00	152.4	1.98E-04	4.56E-04
98828	Cumene		5.30E+01	152.4	2.23E-04	1.18E-02

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area N
15 ft, Default Commercial

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
156592	cis-1,2-Dichloroethylene		1.30E+01	457.2	1.07E-04	1.39E-03
71556	1,1,1-Trichloroethane		3.60E+01	457.2	1.12E-04	4.04E-03
75354	1,1-Dichloroethylene		7.80E+00	457.2	1.28E-04	9.96E-04
79016	Trichloroethylene		1.50E+01	457.2	1.14E-04	1.70E-03
95636	1,2,4-Trimethylbenzene		6.40E+00	457.2	8.91E-05	5.70E-04

* Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

Exposure Area O

J&E Output

J and E Modeled Indoor Air Concentrations
Exposure Area O
5 ft, Default Commercial

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
100414	Ethylbenzene		43	154.2	1.86E-04	8.00E-03
103651	n-Propylbenzene		20	154.2	1.54E-04	3.07E-03
108678	1,3,5-Trimethylbenzene		56	154.2	1.54E-04	8.62E-03
108883	Toluene		25	154.2	2.11E-04	5.27E-03
110543	Hexane		200	154.2	3.97E-04	7.95E-02
110827	Cyclohexane		200	154.2	1.96E-04	3.93E-02
110543	*Hexane*	*	180	154.2	3.97E-04	7.15E-02
1634044	MTBE		7.1	154.2	2.42E-04	1.72E-03
106423	p-Xylene		96	154.2	1.90E-04	1.82E-02
110543	*Hexane*	*	32	154.2	3.97E-04	1.27E-02
106423	*p-Xylene*	*	80	154.2	1.90E-04	1.52E-02
67630	Isopropyl Alcohol (2-propanol)		33	154.2	3.11E-04	1.03E-02
67641	Acetone		77	154.2	2.95E-04	2.27E-02
71432	Benzene		270	154.2	2.13E-04	5.74E-02
75150	Carbon disulfide		18	154.2	2.44E-04	4.39E-03
78933	Methylethylketone (2-butanone)		16	154.2	2.09E-04	3.34E-03
95476	o-Xylene		85	154.2	2.11E-04	1.79E-02
95636	1,2,4-Trimethylbenzene		72	154.2	1.55E-04	1.12E-02
98828	Cumene		11	154.2	1.65E-04	1.81E-03

Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area O
5 ft, Default Commercial 2012

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
100414	Ethylbenzene		8.6	152.4	5.96E-05	5.13E-04
100425	Styrene		2.5	152.4	5.80E-05	1.45E-04
103651	n-Propylbenzene		2.4	152.4	4.82E-05	1.16E-04
104518	n-Butylbenzene		3.1	152.4	4.58E-05	1.42E-04
108101	Methylisobutylketone (4-methyl-2-pentanone)		43	152.4	9.47E-05	4.07E-03
108678	1,3,5-Trimethylbenzene		4.1	152.4	4.89E-05	2.00E-04
108883	Toluene		28	152.4	6.87E-05	1.92E-03
109999	Tetrahydrofuran		22	152.4	1.58E-04	3.47E-03
110543	Hexane		2.6	152.4	1.46E-04	3.79E-04
115071	Propylene		2.1	152.4	8.44E-05	1.77E-04
127184	Tetrachloroethylene		21	152.4	5.70E-05	1.20E-03
141786	Ethylacetate		18	152.4	9.97E-05	1.79E-03
110543	*Hexane*	*	2.4	152.4	1.46E-04	3.50E-04
106423	p-Xylene		29	152.4	6.11E-05	1.77E-03
110543	*Hexane*	*	6.2	152.4	1.46E-04	9.03E-04
78933	*Methylethylketone (2-butanone)*	*	2.6	152.4	1.55E-04	4.02E-04
106423	*p-Xylene*	*	3.3	152.4	6.11E-05	2.02E-04
67630	Isopropyl Alcohol (2-propanol)		8.9	152.4	4.36E-04	3.88E-03
67641	Acetone		49	152.4	2.28E-04	1.12E-02
67663	Chloroform		6.2	152.4	8.19E-05	5.08E-04
71432	Benzene		4.5	152.4	6.97E-05	3.14E-04
74873	Methyl chloride (chloromethane)		1.3	152.4	9.63E-05	1.25E-04
75092	Methylene chloride		2.6	152.4	8.13E-05	2.11E-04
75150	Carbon disulfide		3.5	152.4	8.04E-05	2.82E-04
1634044	*MTBE*	*	1.9	152.4	8.92E-05	1.69E-04
75694	Trichlorofluoromethane		2.5	152.4	6.79E-05	1.70E-04
75718	Dichlorodifluoromethane		3.8	152.4	5.26E-05	2.00E-04
78933	Methylethylketone (2-butanone)		78	152.4	1.55E-04	1.21E-02
91203	Naphthalene		4.1	152.4	5.86E-05	2.40E-04
95476	o-Xylene		9.5	152.4	6.92E-05	6.57E-04
95636	1,2,4-Trimethylbenzene		14	152.4	4.90E-05	6.86E-04
98066	tert-Butylbenzene		3.1	152.4	4.54E-05	1.41E-04
98828	Cumene		37	152.4	5.14E-05	1.90E-03

Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area O
5 ft, Bungalow

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
100414	Ethylbenzene		43	154.2	6.26E-04	2.69E-02
103651	n-Propylbenzene		20	154.2	5.28E-04	1.06E-02
108678	1,3,5-Trimethylbenzene		56	154.2	5.29E-04	2.96E-02
108883	Toluene		25	154.2	6.98E-04	1.74E-02
110543	Hexane		200	154.2	1.18E-03	2.35E-01
110827	Cyclohexane		200	154.2	6.56E-04	1.31E-01
110543	*Hexane*	*	180	154.2	1.18E-03	2.12E-01
1634044	MTBE		7.1	154.2	7.83E-04	5.56E-03
106423	p-Xylene		96	154.2	6.38E-04	6.12E-02
110543	*Hexane*	*	32	154.2	1.18E-03	3.77E-02
106423	*p-Xylene*	*	80	154.2	6.38E-04	5.10E-02
67630	Isopropyl Alcohol (2-propanol)		33	154.2	8.76E-04	2.89E-02
67641	Acetone		77	154.2	9.11E-04	7.01E-02
71432	Benzene		270	154.2	7.03E-04	1.90E-01
75150	Carbon disulfide		18	154.2	7.90E-04	1.42E-02
78933	Methylethylketone (2-butanone)		16	154.2	6.80E-04	1.09E-02
95476	o-Xylene		85	154.2	6.98E-04	5.93E-02
95636	1,2,4-Trimethylbenzene		72	154.2	5.32E-04	3.83E-02
98828	Cumene		11	154.2	5.61E-04	6.17E-03

Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area O
5 ft, Bungalow 2012

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
100414	Ethylbenzene		8.6	152.4	6.29E-04	5.41E-03
100425	Styrene		2.5	152.4	6.04E-04	1.51E-03
103651	n-Propylbenzene		2.4	152.4	5.31E-04	1.27E-03
104518	n-Butylbenzene		3.1	152.4	5.09E-04	1.58E-03
108101	Methylisobutylketone (4-methyl-2-pentanone)		43	152.4	6.36E-04	2.73E-02
108678	1,3,5-Trimethylbenzene		4.1	152.4	5.32E-04	2.18E-03
108883	Toluene		28	152.4	7.01E-04	1.96E-02
109999	Tetrahydrofuran		22	152.4	7.77E-04	1.71E-02
110543	Hexane		2.6	152.4	1.18E-03	3.07E-03
115071	Propylene		2.1	152.4	8.23E-04	1.73E-03
127184	Tetrachloroethylene		21	152.4	6.10E-04	1.28E-02
141786	Ethylacetate		18	152.4	6.26E-04	1.13E-02
110543	*Hexane*	*	2.4	152.4	1.18E-03	2.84E-03
106423	p-Xylene		29	152.4	6.41E-04	1.86E-02
110543	*Hexane*	*	6.2	152.4	1.18E-03	7.32E-03
78933	*Methylethylketone (2-butanone)*	*	2.6	152.4	6.84E-04	1.78E-03
106423	*p-Xylene*	*	3.3	152.4	6.41E-04	2.12E-03
67630	Isopropyl Alcohol (2-propanol)		8.9	152.4	8.81E-04	7.84E-03
67641	Acetone		49	152.4	9.15E-04	4.48E-02
67663	Chloroform		6.2	152.4	7.94E-04	4.92E-03
71432	Benzene		4.5	152.4	7.07E-04	3.18E-03
74873	Methyl chloride (chloromethane)		1.3	152.4	9.00E-04	1.17E-03
75092	Methylene chloride		2.6	152.4	7.79E-04	2.02E-03
75150	Carbon disulfide		3.5	152.4	7.94E-04	2.78E-03
1634044	*MTBE*	*	1.9	152.4	7.87E-04	1.50E-03
75694	Trichlorofluoromethane		2.5	152.4	7.01E-04	1.75E-03
75718	Dichlorodifluoromethane		3.8	152.4	5.74E-04	2.18E-03
78933	Methylethylketone (2-butanone)		78	152.4	6.84E-04	5.33E-02
91203	Naphthalene		4.1	152.4	5.26E-04	2.16E-03
95476	o-Xylene		9.5	152.4	7.01E-04	6.66E-03
95636	1,2,4-Trimethylbenzene		14	152.4	5.35E-04	7.49E-03
98066	tert-Butylbenzene		3.1	152.4	5.06E-04	1.57E-03
98828	Cumene		37	152.4	5.64E-04	2.09E-02

Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area O
15 ft, Default Commercial

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
100414	Ethylbenzene		230	457.2	6.92E-05	1.59E-02
103651	n-Propylbenzene		360	457.2	5.61E-05	2.02E-02
108678	1,3,5-Trimethylbenzene		370	457.2	5.62E-05	2.08E-02
108883	Toluene		45	457.2	7.95E-05	3.58E-03
110543	Hexane		4200	457.2	1.69E-04	7.09E-01
110827	Cyclohexane		3200	457.2	7.35E-05	2.35E-01
110543	*Hexane*	*	7000	457.2	1.69E-04	1.18E+00
156592	cis-1,2-Dichloroethylene		6	457.2	6.80E-05	4.08E-04
1634044	MTBE		5.9	457.2	9.29E-05	5.48E-04
106423	p-Xylene		200	457.2	7.08E-05	1.42E-02
110543	*Hexane*	*	2200	457.2	1.69E-04	3.71E-01
106423	*p-Xylene*	*	370	457.2	7.08E-05	2.62E-02
67630	Isopropyl Alcohol (2-propanol)		32	457.2	1.26E-04	4.02E-03
67641	Acetone		800	457.2	1.17E-04	9.39E-02
71432	Benzene		870	457.2	8.04E-05	6.99E-02
74873	Methyl chloride (chloromethane)		94	457.2	1.12E-04	1.05E-02
75092	Methylene chloride		33	457.2	9.15E-05	3.02E-03
75150	Carbon disulfide		120	457.2	9.38E-05	1.13E-02
78933	Methylethylketone (2-butanone)		280	457.2	7.88E-05	2.21E-02
79016	Trichloroethylene		33	457.2	7.26E-05	2.40E-03
95476	o-Xylene		45	457.2	7.95E-05	3.58E-03
95636	1,2,4-Trimethylbenzene		1300	457.2	5.65E-05	7.35E-02
98828	Cumene		210	457.2	6.04E-05	1.27E-02

Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area O
15 ft, Bungalow

CAS No.	Analyte		Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
100414	Ethylbenzene		230	457.2	3.33E-04	7.66E-02
103651	n-Propylbenzene		360	457.2	2.74E-04	9.88E-02
108678	1,3,5-Trimethylbenzene		370	457.2	2.75E-04	1.02E-01
108883	Toluene		45	457.2	3.78E-04	1.70E-02
110543	Hexane		4200	457.2	7.27E-04	3.05E+00
110827	Cyclohexane		3200	457.2	3.52E-04	1.13E+00
110543	*Hexane*	*	7000	457.2	7.27E-04	5.09E+00
156592	cis-1,2-Dichloroethylene		6	457.2	3.28E-04	1.97E-03
1634044	MTBE		5.9	457.2	4.34E-04	2.56E-03
106423	p-Xylene		200	457.2	3.40E-04	6.81E-02
110543	*Hexane*	*	2200	457.2	7.27E-04	1.60E+00
106423	*p-Xylene*	*	370	457.2	3.40E-04	1.26E-01
67630	Isopropyl Alcohol (2-propanol)		32	457.2	4.58E-04	1.47E-02
67641	Acetone		800	457.2	5.15E-04	4.12E-01
71432	Benzene		870	457.2	3.82E-04	3.32E-01
74873	Methyl chloride (chloromethane)		94	457.2	5.12E-04	4.82E-02
75092	Methylene chloride		33	457.2	4.29E-04	1.41E-02
75150	Carbon disulfide		120	457.2	4.39E-04	5.27E-02
78933	Methylethylketone (2-butanone)		280	457.2	3.61E-04	1.01E-01
79016	Trichloroethylene		33	457.2	3.48E-04	1.15E-02
95476	o-Xylene		45	457.2	3.78E-04	1.70E-02
95636	1,2,4-Trimethylbenzene		1300	457.2	2.76E-04	3.59E-01
98828	Cumene		210	457.2	2.94E-04	6.17E-02

Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area O
15 ft, Default Commercial 2012

Analyte	Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
Styrene	2.9	457.2	1.63E-05	4.73E-05
Tetrahydrofuran	24	457.2	5.10E-05	1.22E-03
Propylene	3	457.2	2.41E-05	7.22E-05
Ethylacetate	19	457.2	3.02E-05	5.74E-04
Isopropyl Alcohol (2-propanol)	9.8	457.2	2.25E-04	2.20E-03
Chloroform	7.7	457.2	2.34E-05	1.80E-04
Methylethylketone (2-butanone)	100	457.2	5.13E-05	5.13E-03
Naphthalene	5.3	457.2	1.67E-05	8.87E-05

Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

J and E Modeled Indoor Air Concentrations
Exposure Area O
15 ft, Bungalow 2012

Analyte	Concentration (µg/m3)	Depth (cm)	Infinite Source Indoor attenuation Coefficient	Infinite Source Building Conc
Styrene	2.9	457.2	3.18E-04	9.21E-04
Tetrahydrofuran	24	457.2	4.23E-04	1.02E-02
Propylene	3	457.2	4.58E-04	1.38E-03
Ethylacetate	19	457.2	3.29E-04	6.25E-03
Isopropyl Alcohol (2-propanol)	9.8	457.2	4.58E-04	4.49E-03
Chloroform	7.7	457.2	4.39E-04	3.38E-03
Methylethylketone (2-butanone)	100	457.2	3.61E-04	3.61E-02
Naphthalene	5.3	457.2	2.71E-04	1.43E-03

Indicated that chemical is a surrogate.
Chemical information for methyl tert-butyl ether used as a surrogate for tert-butylalcohol;p-xylene as a surrogate for 4-ethyltoluene; hexane as a surrogate for n-heptane and 2,2,4-trimethylpentane; 2-butanone as a surrogate for 2-hexanone.

ATTACHMENT 17

TPH Fraction Dermal Permeability Constant (Kp) Calculations

Dermal Permeability Constants for Chemicals in Goundwater

Carbon Group	MW	log Kow	Surrogates	Log Kp	Kp (cm/hr)
aliph C_{5-6}	86.17	4.11		-0.569952	0.2691832
aliph $>C_{6-8}$	114.23	5.15		-0.040688	0.9105672
arom C_{5-7}	78.11	2.13	benzene as surrogate	-1.831616	0.0147361
arom $>C_{7-8}$	106.2	3.13	ethylbenzene as surrogate	-1.32892	0.04689
aliph $>C_{8-10}$	142.29	6.25		0.528176	3.3742402
aliph $>C_{10-12}$	170.33	7.24		1.024552	10.581616
aliph $>C_{12-16}$	226.4	8.25		1.37716	23.831973
arom$>C_{8-10}$	134.22	4.01	isobutylbenzene as surrogate	-0.905032	0.1244423
arom$>C_{10-12}$	162.28	5.52	n-hexylbenzene	-0.065568	0.8598684
arom$>C_{12-16}$	168.24	4.63	4-methylbiphenyl	-0.686344	0.2058998
aliph$>C_{16-35}$	226.4	8.25	n-hexadecane	1.37716	23.831973
arom$>C_{16-35}$	168.24	4.63	4-methylbiphenyl	-0.686344	0.2058998

LogKp = -2.80 + 0.66 logKow - 0.0056*MW (USEPA 2004b, Equation 3.8)
kp = permeability constant in centimeters per hour
Carbon Group Information regarding Kow from TPHCWG, vol 3, p 33 - 38

Chemical	Permeability Constant (cm/hr)
aliphatic TPH	1.54E+01
aromatic TPH	3.49E-01

Aliphatic TPH Kp obtained by averaging Kp values for aliphatic C8-C35
Aromatic TPH Kp obtained by averaging Kp values for aromatic C8-C35